tml
INDUSTRIE LODDO



WE HAVE THE RIGHT FIGURES FOR YOUR THERMAL SOLUTION

2021 General Catalogue

Innovation, quality, passion.



I have always been fascinated by intellectual ideas, I appreciate things of high quality and I put passion in everything I do. Based on these values I have founded TML in the seventies, and I still stick to those values nowadays.
In more than 40 years, together with my sons before, and with my nephews today, we have always worked with the main goal to supply **innovative** products that could adapt to the customer needs, to the development of the MEP sector, to the energy efficiency and to the respect of the environment.
Along the years we have constantly invested in technology, innovation, human resources, and today, we are firmly aiming to invest on process automation in order to increase our production capacity and the quality of our products.
At TML, we pay high attention to the quality: at the beginning of this experience, for me it was extremely important to provide my customers with high **quality** products.
I've always believed that to supply an excellent product was the only way to reward the trust of our customers. Today we live in a very competitive world, nonetheless we have never -and never will – step back to this principle, knowing that the respect towards the clientele is the key for successful long term relationships.
Keeping a high quality standard, it's possible only with the commitment and **passion** that here in TML we dedicate every day in our job. I'm proud to rely on the full support of all our work-force, it's because of them if today we have our share in the market.

Salvatore Loddo
Founder
and CEO

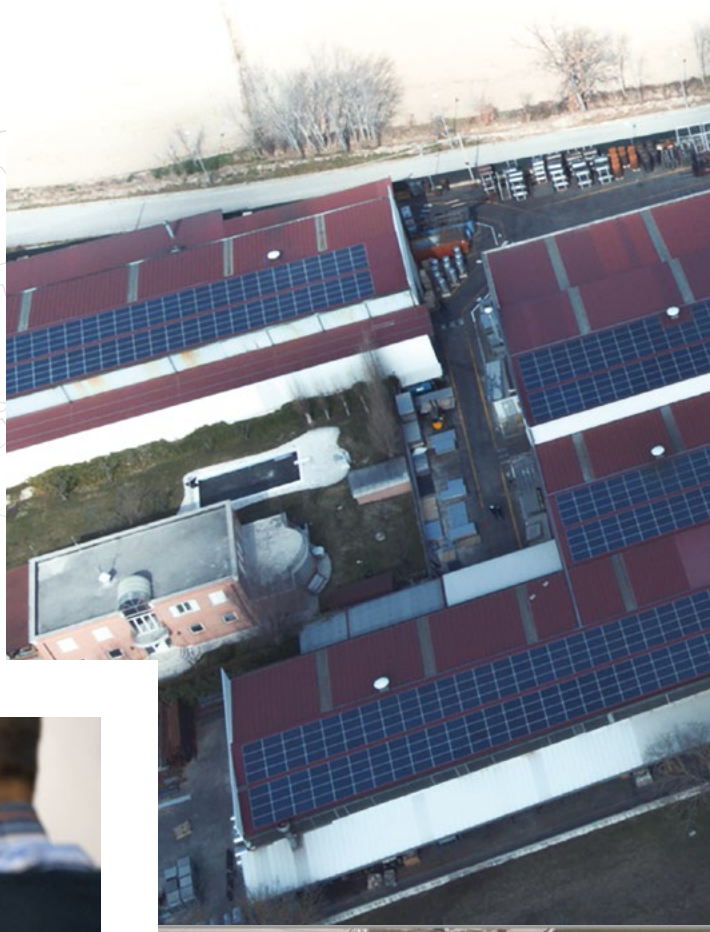
45

years of experience

TML has **3 production facilities in Italy and one branch in Spain.**
During the years, the Company have made continuous investments in technology innovation, process automation, human resources training, research and development, corporate and products certifications.
We use the most advanced technology and materials; we study the needs of the market. We provide a 360° tailored solution to our customers by assisting them in all the stages: design, development and marketing.













1500

hours per year spent in design, research and development

Production facility in **Abbasanta Sardinia**
Total area **5000 m²**
Indoor Area **2500 m²**

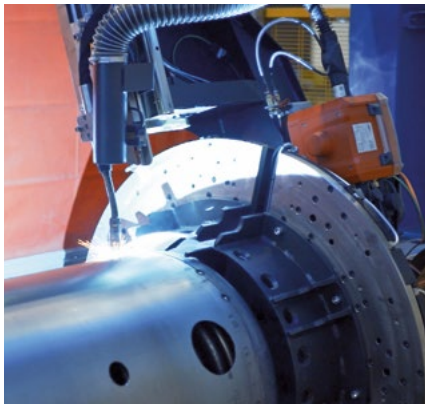


Headquarter and production facility in
Floriano di Campli / Teramo
Total area
44000 m²
Indoor area
6000 m²



84000
sqm of operative area

R&D offices and main production facility in
Favale di Civitella del Tronto / Teramo
Total area
35000 m²
Indoor area
14000 m²



ALBANIA
ALGERIA
ARMENIA
AUSTRIA
BELARUS
BELGIUM
BOLIVIA
CANADA
CHILE
CROATIA
CUBA
CYPRUS
CZECH REPUBLIC
EGYPT
ENGLAND
ESTONIA
FRANCE
GERMANY
GREECE
HOLLAND
IRELAND
JORDAN
LEBANON
LIBYA
LITHUANIA
MACEDONIA
MALTA
MAURITIUS ISLANDS
MOROCCO
NEW ZELAND
NIGERIA
NORWAY
POLAND
PORTUGAL
QATAR
ROMANIA
RUSSIA
SCOTLAND
SIERRA LEONE
SLOVENIA
SPAIN
SWITZERLAND
TUNISIA
UNITED ARAB EMIRATES
USA
VIETNAM

Each one of us has the power to make the world a better place

In TML we are committed to use all the technology solutions that are environment friendly and energy saving.
Our aim is to deliver a healthier and cleaner world to the future generations.

of photovoltaic energy produced

1,5 MW

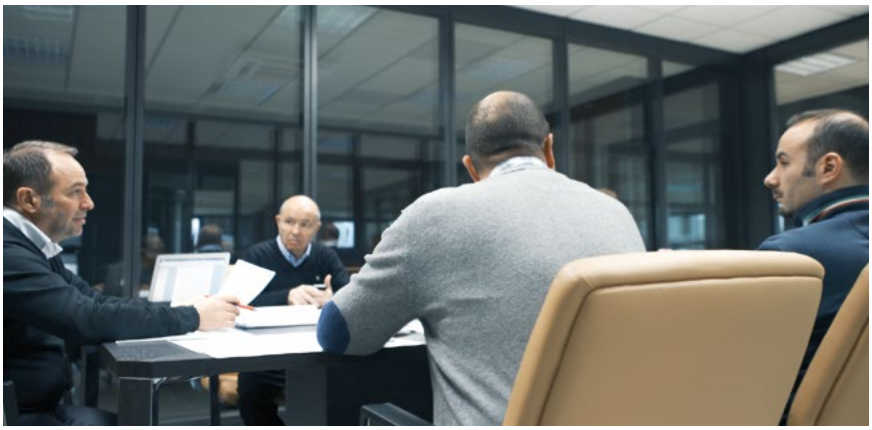




250

tons of steel per month

Wh per year





more than
2000
customers
all over
the world




RINA

CERTIFICATO N. 38922/19/S
CERTIFICATE No.

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI
IT IS HEREBY CERTIFIED THAT THE QUALITY MANAGEMENT SYSTEM OF

T.M.L. S.R.L.

FRAZIONE FAVALE SNC 64010 CIVITELLA DEL TRONTO (TE) ITALIA
NELLE SEGUENTI UNITÀ OPERATIVE / IN THE FOLLOWING OPERATIONAL UNITS

FRAZIONE FAVALE SNC 64010 Civitella Del Tronto (TE) ITALIA
ZONA INDUSTRIALE TERRABIANCA SN 64012 CAMPLI (TE) ITALIA

È CONFORME ALLA NORMA / IS IN COMPLIANCE WITH THE STANDARD
ISO 9001:2015

PER I SEGUENTI CAMPI DI ATTIVITÀ / FOR THE FOLLOWING FIELD(S) OF ACTIVITIES

IAF:17

PROGETTAZIONE E PRODUZIONE DI SERBATOI IN ACCIAIO AL CARBONIO E ACCIAIO INOX. PER LO STOCCAGGIO E PRODUZIONE DI ACQUA CALDA SANITARIA.

DESIGN AND PRODUCTION OF CARBON STEEL AND STAINLESS STEEL TANKS FOR WATER STORAGE AND DOMESTIC HOT WATER PRODUCTION.

Prima emissione First Issue 11.11.2019
Data scadenza Expiry Date 10.11.2022
Data revisione Revision date 11.11.2019

Simone Farinelli
Peschiera Management System Certification, Head

RINA Services S.p.A.
Via Corsica 12 - 16128 Genova Italy

SGQ N° 002 A

CISQ is a member of IQNet

Per informazioni sulla validità del certificato, visitare il sito www.rina.org
For information concerning validity of the certificate, you can visit the site www.rina.org

Per i requisiti della norma non applicabili ai campi di applicazione del sistema di gestione dell'organizzazione, riferirsi alle informazioni documentate relative.
Reference is to be made to the relevant documented information for the requirements of the standard that cannot be applied to the Organization's management system scope

CISQ è la Federazione Italiana di Organismi di Certificazione dei sistemi di gestione aziendale
CISQ is the Italian Federation of management system Certification Bodies

We don't feel that obtaining the ISO 9001:2015 certification is an obligation: it's a choice that makes the difference.

To move from a simple company to a certified company has provided an added value and have improved all internal procedures: purchasing, design, manufacturing, deliveries, etc. all aimed to ensure a higher quality management system for a better satisfaction of our customers.

Our Certifications

Member of CISQ Federation
RINA IQNet
CERTIFIED MANAGEMENT SYSTEM
ISO 9001

ACCIAIO INOSSIDABILE
CENTRO INOX

TÜVRheinland
CERTIFIED

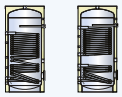
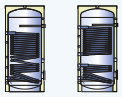
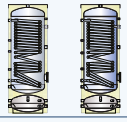
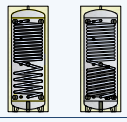
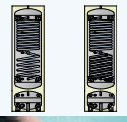
DIN Geprüft
SOLAR KEYMARK
DIN CERTCO
Recognized Testing Laboratory

SVGW SSIGE

INDEX

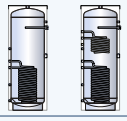
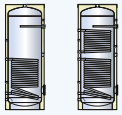
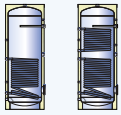


SOLUTIONS FOR HEAT PUMPS

		PAGE
 **WP1X** **WP2X**	AISI 316L Stainless steel calorifiers for heat pumps	22
 **WP1V** **WP2V**	Glass lined calorifiers for heat pumps	34
 **TW1X** **TW1V**	Two-in-one calorifier/buffer store for heat pumps	46
 **SM0HP** **SM1HP**	High performance combined buffer store for heat pumps Smartwarm HP	52
 **TW0HP** **TW1HP**	High performance Two-in-one buffer store for heat pumps Twin HP	56

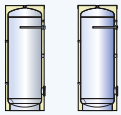
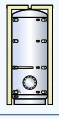
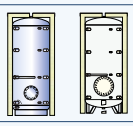
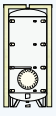


CALORIFIERS WITH FIXED COIL

		PAGE
 **EC01** **EC02**	AISI 316L Stainless steel calorifiers with fixed coil Eco Line	62
 **SFI** **DSFI**	AISI 316L Stainless steel calorifiers with fixed coil	70
 **SFV** **DSFV**	Glass lined calorifiers with fixed coil	80
 **BMX** **BMV**	Wall mounting calorifier AISI316L Stainless steel & glass lined	88

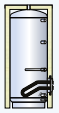
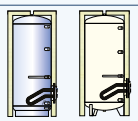
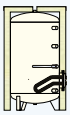
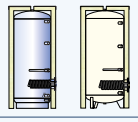
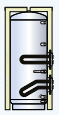
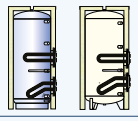
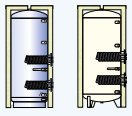
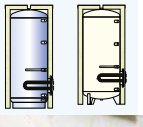


DHW THERMAL STORES

		PAGE
 **ELX** **ELV**	Domestic hot water thermal store AISI316L Stainless steel & glass lined	94
 **ATX**	AISI 316L Stainless steel domestic hot water thermal store	98
 **ATV** **ATK**	DHW thermal store Glass lined & Keramtech lined	102
 **ATKL**	DHW Keramtech lined thermal store Low size	106

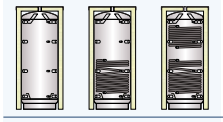
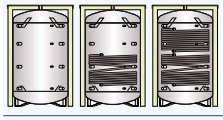
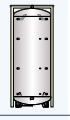
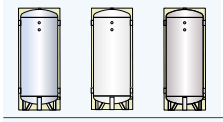
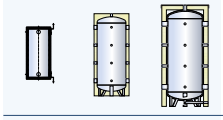
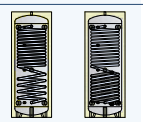


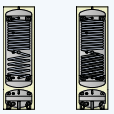
CALORIFIERS WITH REMOVABLE HEAT EXCHANGERS

		PAGE
 **BV1X**	AISI 316L Stainless steel calorifiers with removable heat exchanger	112
 **BV1V** **BV1K**	Calorifiers with removable heat exchanger Glass lined & Keramtech lined	118
 **BV1KL**	Keramtech lined calorifier with removable heat exchanger Low size	124
 **BV1VA** **BV1KA**	Calorifiers with removable copper heat exchanger Glass lined & Keramtech lined	130
 **BV2X**	AISI 316L Stainless steel calorifiers with 2 removable heat exchangers	136
 **BV2V** **BV2K**	Calorifiers with 2 removable heat exchangers Glass lined & Keramtech lined	144
 **BV2VA** **BV2KA**	Calorifiers with 2 removable copper heat exchangers Glass lined & Keramtech	152
 **BV1XS**	AISI 316L Stainless steel calorifiers with steam removable heat exchanger	160
 **BV1VS** **BV1KS**	Calorifiers with steam removable heat exchanger Glass lined & Keramtech lined	164

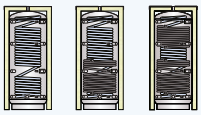


THERMAL & COMBINED BUFFER STORES FOR PRIMARY WATER

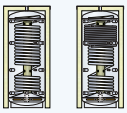
		PAGE
 **PF** **PFS** **PFSS**	Hot water buffer store Pufferspeicher	170
 **PUK** **PUKS** **PUKSS**	Hot water buffer store Low size Pufferspeicher	176
 **PFXXL**	Hot water buffer store Extra Large Pufferspeicher	180
 **ARX** **ARZ** **ARN**	Chilled water buffer store AISI304 Stainless steel, galvanized and painted carbon steel	182
 **ACF**	Heating & Cooling buffer store for heat pumps	186
 **SM0HP** **SM1HP**	High performance combined buffer store for heat pumps Smartwarm HP	190



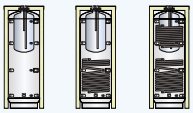
TWOHP TW1HP High performance Two-in-one buffer store for heat pumps Twin HP — 194



MXW Combined buffer store / DHW pipe in pipe Maxiwarm — 198



SMX Combined buffer store / DHW pipe in pipe Solarmax — 204



XPC PC Combined buffer store / DHW tank in tank Kombinox & Kombiglass — 210



SPARE PARTS AND ACCESSORIES

PAGE



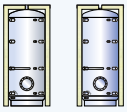
U tube bundle heat exchangers for water and steam — 218

Immersion heaters and other accessories — 222

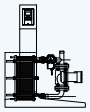


FRESH WATER STATIONS AND PLATE HEAT EXCHANGERS

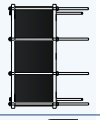
PAGE



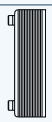
PRX PRV Fresh water stations with plate heat exchanger and thermal store AISI 316L Stainless steel & glass lined — 228



HWP Direct & Indirect fresh water stations — 236



Gasketed plate heat exchangers — 246



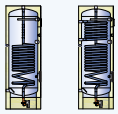
Brazed plate heat exchangers — 248

Plates heat exchangers Selection chart — 250

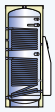


SOLAR SYSTEMS

PAGE



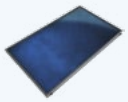
SFV DB DSFV DB Glass lined calorifier for Drain Back solar system — 258



EASY Glass lined calorifier with fixed coils and solar station — 264



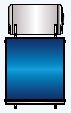
PTML Solar collectors Premium series — 270



PBS Solar collectors Elios series — 274



CS Solar modules — 276



SCN Natural circulation solar kits — 280

GENERAL INFORMATION

PAGE

Form for quotation of bespoke calorifier — 282

Form for quotation of plate heat exchanger — 283

Terms of sales and warranty — 286

At TML we are always committed to the improvement and developing of our products and to adapt them to comply with the most relevant regulations. For these reasons, all the dimensions stated in the present catalogue are subject to variations without prior notice.
In case there are mandatory constraints, please double check all the sizes with our Technical department.

Original Equipment Manufacturer



OEM Production

TML operates as well in the OEM field (Original Equipment Manufacturer), providing to our customers a qualified and experienced technical support for the development of customized products.
Starting from body geometry to the internal equipment, from insulation to finishing, from labelling to packaging: we are able to provide the most detailed level of customizations required and the customer can rely on a fast delivery service, high quality and skilled support.



calorifiers and buffer vessels from **12** to **100000** Litres





Custom Made Products

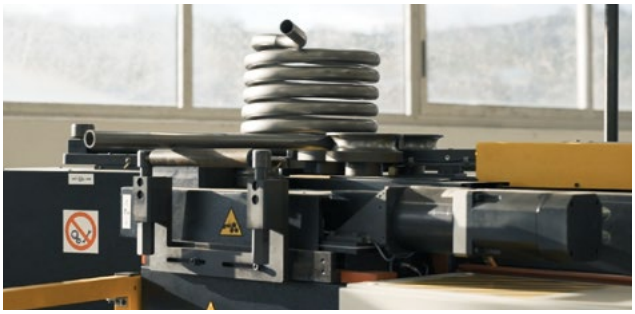


Bespoke production

TML is able to manufacture calorifiers and buffer vessels of every capacity **from 12 to 1000.000 litres** for domestic hot water, heating or cooling applications, industrial plants, heating or cooling districts.
We manufacture **bespoke** cylinders with special connections, for whatever installation where exists a physical constraint or where the project requires specific performances.
Application, material, capacity, working pressure, diameter, height, heat exchanger, immersion heaters, connections: **we are able to satisfy a wide range of needs** with an incomparable advanced and dedicated organization for design and manufacturing.









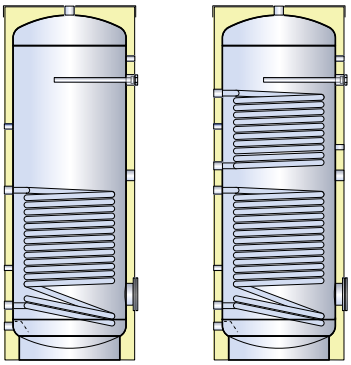


PED certified thermal stores

Where there is a need of store fluids at a high working pressure, we are able to design and manufacture CE marked thermal stores according to **Pressure Equipment Directive 2014/68/UE (PED)** up to **IV category**, complying with all the technical and safety requirements.

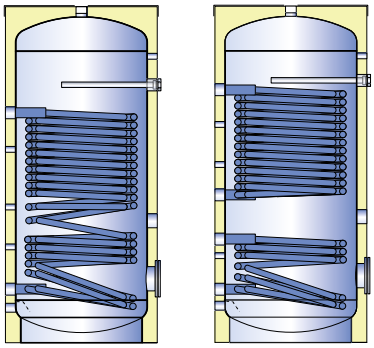
CE

Products for Domestic Hot water



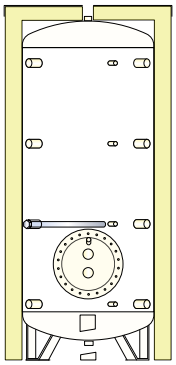
AISI 316L STAINLESS STEEL

Our best-selling products which have contributed to build TML's reputation and reliability. Thanks to our 40-year experience, we are leader for the production of equipments made of chromium-nickel-molybdenum austenitic chrome AISI 316L (1.4404) stainless steel with very low level of carbon.
After being carefully manufactured with a high level of automation, calorifiers and thermal stores are subject to a temperature monitored pickling chemical treatment and then passivated.
They are available with fixed coils or with removable heat exchangers working with water or steam.
Standard capacities from 150 to 5000 litres.



GLASS LINED CARBON STEEL

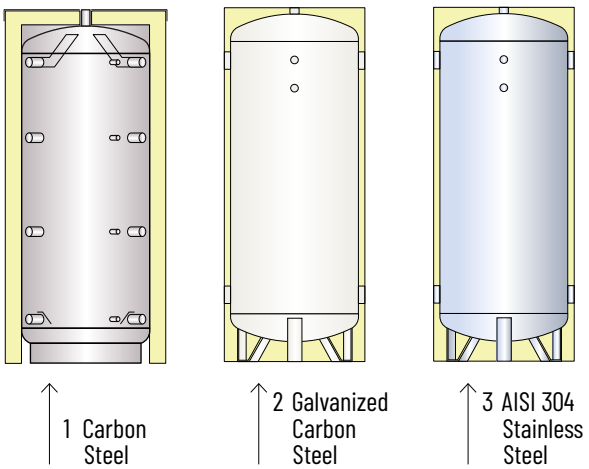
The most cost-effective solution: cylinders are made of S 235 Jr carbon steel with a glass lining protection, suitable to be used in contact with domestic water at high temperatures (up to 95 °C).
They are available with fixed coils or with removable heat exchangers working with water or steam.
Standard capacities from 150 to 2000 litres.



KERAMTECH LINED CARBON STEEL

Mainly used for big capacities (above 2000 litres), the cylinder is made of S 235 Jr carbon steel coated with a ceramic lining, suitable to be used in contact with domestic water at high temperatures (up to 100 °C).
They are available with removable heat exchangers working with water or steam.
Standard capacities from 2000 to 5000 litres.

Products for primary water



PAINTED MILD STEEL, GALVANIZED MILD STEEL, AISI 304 STAINLESS STEEL

They are used for heating and cooling applications in circuits working without oxygen.
They can also be equipped with auxiliary coils or with heat exchangers for instantaneous production of domestic hot water.

1) Carbon steel (for buffer vessels, heating and cooling stores, combined buffer stores)

2) Galvanized carbon steel (for chilled water buffer stores)

3) AISI 304 stainless steel (hot and chilled water buffer stores)

INSULATIONS

At TML, we have always paid attention to provide the right level of insulation, knowing that this is the only way to limit the heat losses.

PROVIDING A WIDE RANGE

We offer to our customer a wide range of technical solutions in order to comply with all energetic requirements.
On demand, TML is able to provide insulations with a high level of fire retardant capacity (Class 0 in Italy, Class M0 in France and Spain, Class A1 in Germany etc.)



HARD POLYURETHANE



POLYESTER



CLOSED CELLS POLYETHYLENE FOR COOLING



SOFT POLYURETHANE



HARD POLYURETHANE FOR COOLING

THERMAL INSULATIONS RANGE PVC EXTERNAL JACKET - GREY COLOR RAL 9006

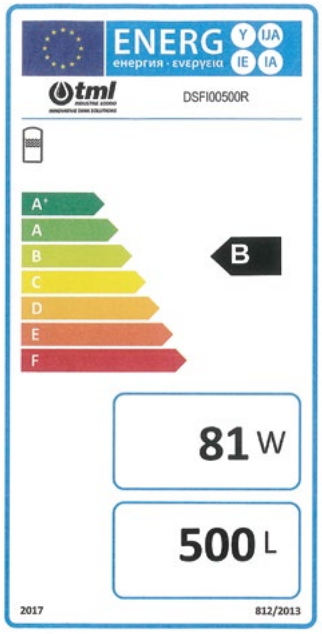
INSULATION TYPE	HARD		SOFT		
MATERIAL	POLYURETHANE INJECTED FOAM	POLYURETHANE FOAMED SHELLS	POLYSTYRENE	POLYESTER	POLYURETHANE
CYLINDER CAPACITY L.	12 ÷ 600	800 ÷ 2000	2500 ÷ 5000	800 ÷ 5000	6000 ÷ 30000
THICKNESS (MM)	20 / 50 / 100	100	100	100 / 130	100
THERMAL CONDUCTIVITY λ	0,023	0,026	0,024	0,036	0,041

COOLING INSULATIONS RANGE PVC EXTERNAL JACKET - NAVY RAL COLOR 5015

INSULATION TYPE	HARD		SOFT		
MATERIAL	POLYURETHANE INJECTED FOAM		PEXL (Closed cells polyethylene)		
CYLINDER CAPACITY L.	100 ÷ 1000		1500 ÷ 5000		
THICKNESS (MM)	30		20		
THERMAL CONDUCTIVITY λ	0,023		0,034		

On demand we provide also insulations with mineral fibers and external cladding in ABS and aluminium.

Improve the comfort through the technology: an ever ending love



Improve energy efficiency

Reduce the environment footprint to achieve a high level of environment protection

To achieve a common benefit for consumers & end users

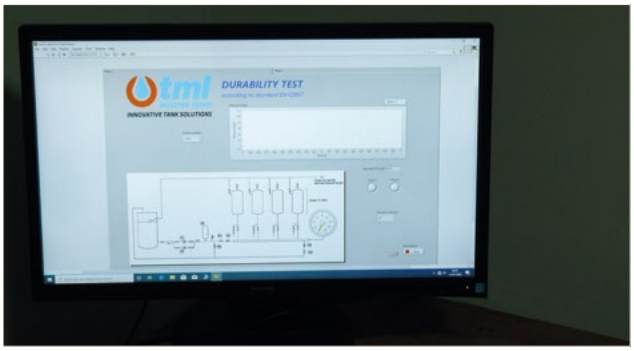
ErP – Energy related Products
The ErP directive enhances all the features of **our products** so that they can demonstrate their rate of efficiency and their energetic properties. All of this is achieved thanks to our commitment on an eco-friendly design aimed to the well being and for energy saving.
All TML products comply with the requirements of the Erp Directive.





DURABILITY TEST ACCORDING TO UNI EN 12897
At TML we dedicate a tireless effort in research and development of new solutions. Our products are carefully controlled to guarantee their compliance with all the relevant regulations.

In our labs, every new product is subject to a strict quality control before to be introduced in the market according to the **UNI EN 12987** that specifies the manufacturing, performance requirements and methods of test for unvented calorifiers.



DOMESTIC HOT WATER PRODUCTION AND STORAGE

		HEAT SOURCE*				HEAT EXCHANGER TYPE						
	MODEL	SOLAR THERMAL	BOILER	HEAT PUMP	STEAM	FIXED COIL	WATER U TUBE BUNDLE	STEAM U TUBE BUNDLE	FINNED COPPER HEAT EXCH.	PLATE HEAT EXCHANGER	CAPACITY	PAG.
AISI 316L Stainless steel	ECO1	✓				✓					150 / 500	62
	ECO2	✓	✓			✓					150 / 500	62
	SFI	✓				✓					150 / 5000	70
	DSFI	✓	✓			✓					200 / 5000	70
	BMX		✓			✓					100 / 200	88
	WP1X			✓		✓					200 / 2000	22
	WP2X	✓		✓		✓					300 / 2000	22
	TW1X			✓		✓					200 / 500	46
	BV1X		✓				✓				200 / 5000	112
	BV2X	✓	✓				✓				200 / 5000	136
	BV1XS				✓			✓			500 / 5000	160
	PRX	✓	✓	✓						✓	200 / 2000	228
Glass lined / Keramtech lined	SFV	✓				✓					150 / 2000	80
	DSFV	✓	✓			✓					200 / 2000	80
	SFVDB	✓				✓					200 / 500	258
	DSFVDB	✓	✓			✓					200 / 500	258
	EASY	✓	✓			✓					200 / 500	264
	BMV		✓			✓					100 / 200	88
	WP1V			✓		✓					200 / 1500	34
	WP2V	✓		✓		✓					300 / 1500	34
	TW1V			✓		✓					200 / 500	46
	BV1V		✓				✓				200 / 2000	118
	BV1K		✓				✓				2000 / 5000	118
	BV2V	✓	✓				✓				200 / 2000	144
	BV2K	✓	✓				✓				2000 / 5000	144
	BV1VA		✓						✓		200 / 2000	130
	BV1KA		✓						✓		2000 / 5000	130
	BV2VA	✓	✓						✓		200 / 2000	152
	BV2KA	✓	✓						✓		2000 / 5000	152
	BV1VS				✓			✓			500 / 2000	164
	BV1KS				✓			✓			2000 / 5000	164
	PRV	✓	✓	✓						✓	200 / 2000	228

** Heat sources are indicative*

DOMESTIC HOT WATER THERMAL STORES

	MATERIAL				
MODEL	AISI 316L STAINLESS STEEL	GLASS LINED STEEL	KERAMTECH LINED STEEL	CAPACITY	PAG.
ELX	✓			200 / 1000	94
ELV		✓		200 / 1000	94
ATX	✓			200 / 5000	98
ATV		✓		200 / 2000	102
ATK			✓	2000 / 5000	102
ATKL			✓	2000 / 5000	106
PRX	✓			200 / 2000	228
PRV		✓		200 / 2000	228

PRIMARY WATER BUFFER STORES

	MATERIAL			HEAT SOURCE*						
MODEL	CARBON STEEL	AISI 304 STAINLESS STEEL	GALVANIZED STEEL	SOLAR THERMAL	GAS BOILER	BIOMASS BOILER	HEAT PUMP	CHILLER	CAPACITY	PAG.
PF	✓				✓	✓	✓		300 / 5000	170
PS	✓			✓	✓	✓	✓		300 / 5000	170
PFSS	✓			✓	✓	✓	✓		300 / 5000	170
PUK	✓				✓	✓	✓		2000 / 5000	176
PUKS	✓			✓	✓	✓	✓		2000 / 5000	176
PUKSS	✓			✓	✓	✓	✓		2000 / 5000	176
PFXXL	✓					✓			6000 / 30000	180
ARX		✓						✓	100 / 5000	182
ARZ			✓					✓	100 / 5000	182
ARN	✓							✓	100 / 5000	182
ACF	✓						✓		12 / 5000	186

** Heat sources are indicative*

PRIMARY WATER BUFFER STORES + DOMESTIC HOT WATER PRODUCTION

	HEAT SOURCE*				DOMESTIC HOT WATER PRODUCTION				
MODEL	SOLAR THERMAL	GAS BOILER	BIOMASS BOILER	HEAT PUMP	INSTANTANEOUS	AISI 316L STAINLESS STEEL WITH STORAGE	GLASS LINED STEEL WITH STORAGE	CAPACITY	PAG.
SM0HP				✓	✓			300 / 400	52
SM1HP	✓			✓	✓			300 / 400	52
TW0HP				✓	✓			300 / 400	56
TW1HP	✓			✓	✓			300 / 400	56
MXW0			✓	✓	✓			600 / 2000	198
MX1W	✓		✓	✓	✓			600 / 2000	198
MX2W	✓	✓	✓	✓	✓			600 / 2000	198
SMX1	✓		✓		✓			600 / 2000	204
SMX2	✓	✓	✓		✓			600 / 2000	204
XPC			✓			✓		600 / 2000	210
XPCS	✓		✓			✓		600 / 2000	210
XPCSS	✓	✓	✓			✓		600 / 2000	210
PC			✓				✓	600 / 2000	210
PCS	✓		✓				✓	600 / 2000	210
PCSS	✓	✓	✓				✓	600 / 2000	210

** Heat sources are indicative*

01 Domestic hot water, why do we store it?

Domestic hot water (DHW) can be instantaneously produced or can be stored.
Instantaneous production is limited to small domestic systems.
The easiest way to explain why it is more convenient to install a calorifier, is to analyse the power needed by a football changing room where every two hours, about 30 persons will shower in a small amount of time. The energy needed for each shower is around 25.200 kCal/h equal to 29 kW. If there are 10 showers working at the same time, to provide hot water to all of them we need a boiler of 290 kW!
If we use a 1000 litres calorifier instead, we can feed the same number of showers just by using a 28 kW boiler.

02 Which is the best product for my application?

When we talk about pressure equipment for domestic hot water (DHW) we are referring to:

CALORIFIER . It's an equipment for the production and storage of DHW. The water is heated in the cylinder by an internal heat exchanger which is indirectly fired from an external heating source.

THERMAL STORE . It's a buffer vessel which only purpose is to store DHW.
Basically, it's a calorifier without heat exchanger where the DHW is produced by an external source (usually a plate heat exchanger).

03 Primary water, what do we need it for?

Primary water it's the fluid that circulates into heating or cooling systems which only purpose is to transfer the heat.

04 Why is it so important to install thermal stores for primary water?

A primary water buffer store has different purposes:
- On systems working with discontinuously heat sources (like biomass boilers), a buffer store allows the heating system to keep working regardless the status of the heat source
- To provide the solar thermal energy to the heating system during night-time
- To help to adjust the flow rate in big systems or in systems working with different zones.

Buffer store are so important that their installation is made mandatory for many governing bodies that provide subsidies for brand new or renovated systems working with solar energy or with biomass boilers.
Whenever there is a need to install a thermal store, it's also convenient to exploit it also for the production of DHW. This is possible to obtain in two different ways:
- PIPE IN TANK combined thermal stores (basically a buffer store with an internal stainless steel corrugated pipe)
- TANK IN TANK combined thermal stores (basically a buffer store with an internal cylinder for the storage of DHW)

05 Chilled water buffer stores

These are products that are used in centralized air conditioning systems and more generally in air conditioning systems with heat pumps.
On HVAC systems with low water content it is necessary to provide a buffer vessel in order to avoid fast and continuous variations of the temperature of the chilled water due to the intermittent adjust (capacity control) and also to limit to an acceptable value, the number of the daily on-off cycles of the chiller/heat pump compressor.
Even though the introduction of inverter-controlled technology on chillers had brought to a decrease of the storage volumes needed, buffer stores are still necessary.
These equipment work also as a low loss headers thus making the heat source flow independent to the flow of the system where it is connected.

APPLICATIONS



DOMESTIC HOT WATER PRODUCTION



HEATING WATER STORAGE AND INSTANTANEOUS DOMESTIC HOT WATER PRODUCTION



HEATING WATER STORAGE



COOLING WATER STORAGE

HEAT SOURCES



SOLAR COLLECTORS



GAS BOILER



HEAT PUMP



BIOMASS BOILER



STEAM BOILER





SOLUTIONS FOR HEAT PUMPS

Modern hydronic heat pumps are revolutionizing the HVAC field. Thanks to their efficient and eco-friendly performances they are replacing traditional heat sources. We offer a wide range of solutions to generate domestic hot water in combination with heat pumps both with the classic air to water exchange system and with the more complex gas to water systems.

AISI 316L Stainless steel calorifier for heat pumps
WP1X – With one coil for heat pumps
WP2X – With two coils for heat pumps and solar systems



Calorifiers made of AISI 316L Stainless steel, designed for the production and storage of domestic hot water (DHW). They are equipped with one or two internal fixed coils that can be fed by a heat pump and by a solar system and/or a boiler.
The special heat exchanger with enhanced exchanging capacity, allows a more efficient spread of the power delivered by the heat pump on the coldest part of the cylinder, thus reducing the number of on-off cycles of the compressor and increasing its lifespan.
The wide range of capacities (from 200 to 2000 litres) allows their installation in several systems, from domestic use to commercial applications.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Rating (P max. / T max.)	6 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Fixed coil for 200 litres capacity Double spiral fixed coil for capacities above 300 litres
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	200 - 2000 L
	Warranty	5 years
	Insulation	- Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



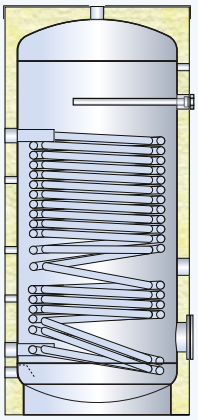
Thermostat



Thermometer



1"½ electric immersion heater

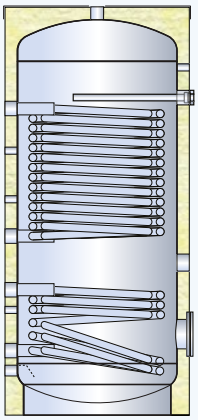


WP1X - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
WP1X 00200 R	50	B	56,7	189,8	1,90 / 18,6
WP1X 00300 R	50	B	69,2	290,3	3,50 / 34,3
WP1X 00400 R	50	B	73,0	414,9	4,50 / 44,1
WP1X 00500 R	50	B	81,6	500,3	5,70 / 55,9
WP1X 00600 R	50	B	90,2	585,7	5,70 / 55,9
WP1X 00800 R	100	C	106,6	749,8	6,00 / 58,8
WP1X 01000 R	100	C	110,5	931,5	6,00 / 58,8
WP1X 01500 R	100	C	133	1474,3	7,50 / 73,5
WP1X 02000 R	100	C	143,3	1951,9	10,40 / 101,9

WP1X - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
WP1X 00800 F	130	C	126,6	749,8	6,00 / 58,8
WP1X 01000 F	130	C	138,4	931,5	6,00 / 58,8
WP1X 01500 F	130	C	168,3	1474,3	7,50 / 73,5
WP1X 02000 F	130	C	181,8	1951,9	10,40 / 101,9



WP2X - Hard insulation with rigid polyurethane foam and PVC jacket

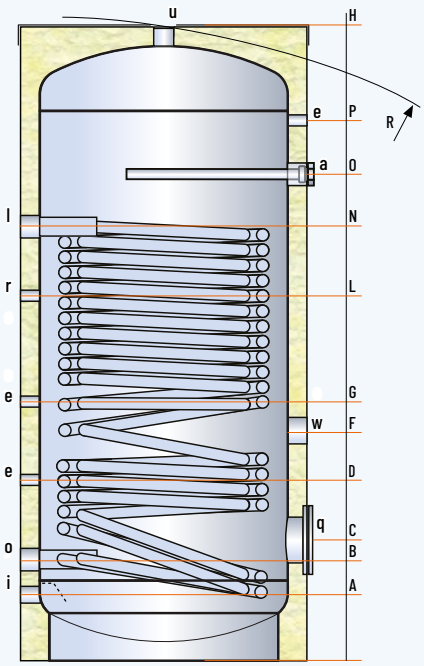
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
WP2X 00300 R	50	B	69,2	290,3	1,00 / 9,8	2,40 / 23,5
WP2X 00400 R	50	B	73,0	414,9	1,20 / 11,8	3,00 / 29,4
WP2X 00500 R	50	B	81,6	500,3	1,50 / 14,7	4,20 / 41,2
WP2X 00600 R	50	B	90,2	585,7	2,00 / 19,6	5,00 / 49,0
WP2X 00800 R	100	C	106,6	749,8	2,00 / 19,6	5,20 / 51,0
WP2X 01000 R	100	C	110,5	931,5	3,30 / 32,3	6,00 / 58,8
WP2X 01500 R	100	C	133	1474,3	3,60 / 35,3	7,50 / 73,5
WP2X 02000 R	100	C	143,3	1951,9	5,50 / 53,9	8,50 / 83,3

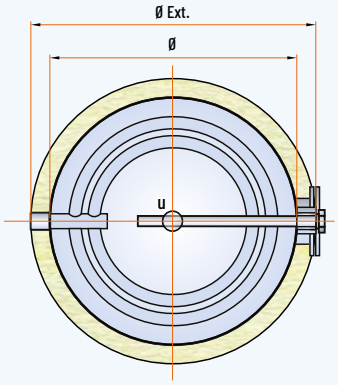
WP2X - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
WP2X 00800 F	130	C	126,6	749,8	2,00 / 19,6	5,20 / 51,0
WP2X 01000 F	130	C	138,4	931,5	3,30 / 32,3	6,00 / 58,8
WP2X 01500 F	130	C	168,3	1474,3	3,60 / 35,3	7,50 / 73,5
WP2X 02000 F	130	C	181,8	1951,9	5,50 / 53,9	8,50 / 83,3

** Volume occupied by the heat exchanger and its support structure*

WP1X

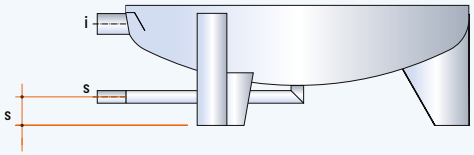




LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **l .** Heat pump flow
- **o .** Heat pump return
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater

Detail of the total drain pipe only for the 2000 litres model



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	WEIGHT (kg)
WP1X 00200 R	450	1305	550	1430	1,90 ***	64
WP1X 00300 R	500	1595	600	1720	3,50	91
WP1X 00400 R	650	1395	750	1600	4,50	110
WP1X 00500 R	650	1645	750	1820	5,70	131
WP1X 00600 R	650	1895	750	2050	5,70	142
WP1X 00800_	790	1750	990/1050	1745	6,00	168
WP1X 01000_	790	2110	990/1050	2095	6,00	188
WP1X 01500_	1000	2115	1200/1260	2145	7,50	271
WP1X 02000_	1100	2465	1300/1360	2465	10,40	362

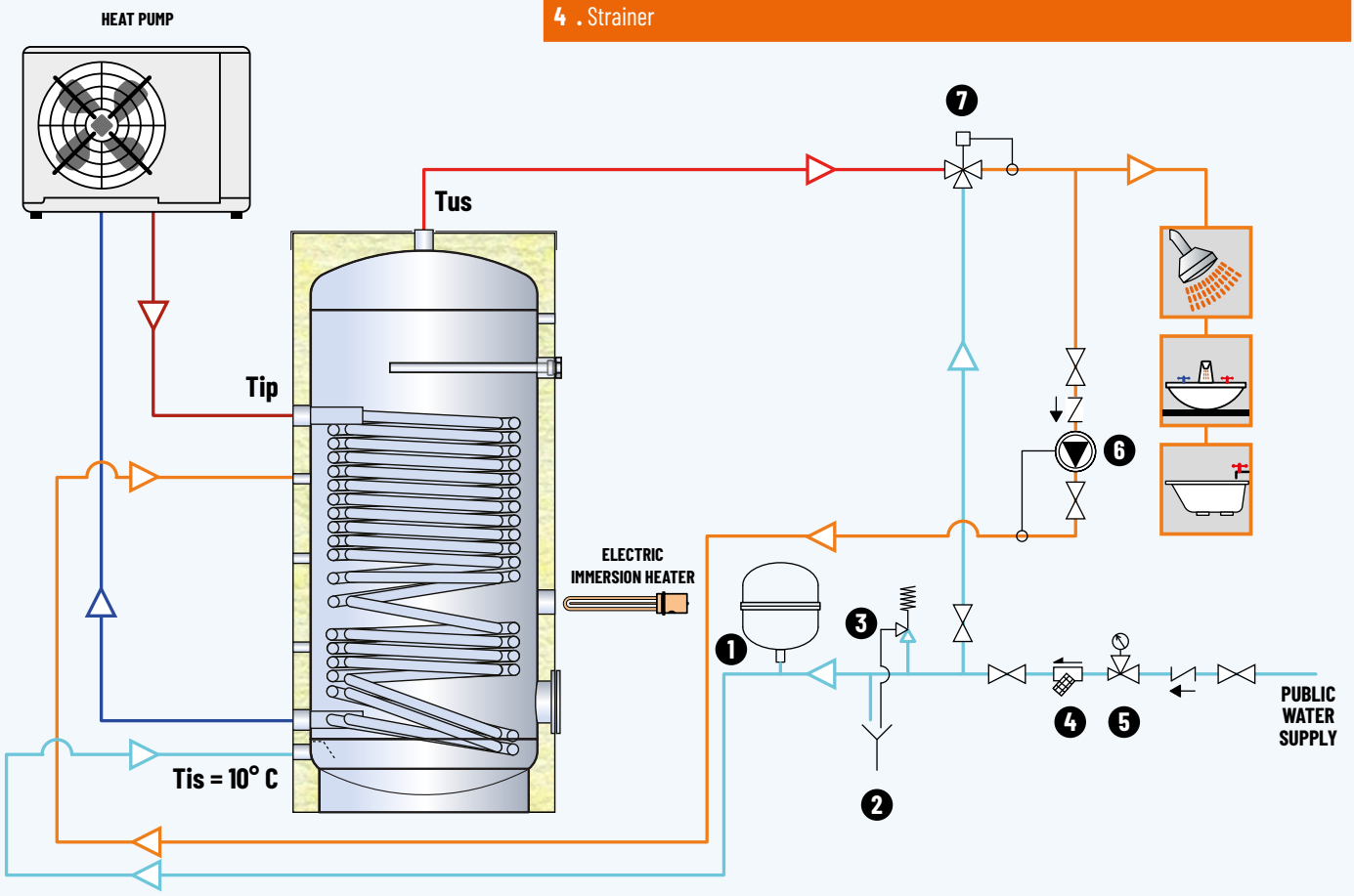
** For capacities from 200 to 600 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 600 litres*
**** Fixed single spiral coil*

MODEL	HEIGHTS (mm) A	B	C	D	F	G	L	N	O	P	S	CONNECTIONS (GAS) a	l o	e	r	i u	s	w	q
WP1X 00200 R	95	187	262	342	623	623	743	1077	953	1087	-	1"¼	1"	½"	½"	1"	-	1"½	120/180
WP1X 00300 R	120	210	300	320	495	780	925	1110	1160	1365	-	1"¼	1"¼	½"	½"	1"	-	1"½	120/180
WP1X 00400 R	145	240	310	340	525	680	870	1005	1030	1140	-	1"¼	1"¼	½"	½"	1"	-	1"½	120/180
WP1X 00500 R	145	240	310	350	570	810	1020	1250	1280	1390	-	1"¼	1"¼	½"	½"	1"	-	1"½	120/180
WP1X 00600 R	145	240	310	390	605	930	1070	1250	1510	1640	-	1"¼	1"¼	½"	½"	1"	-	1"½	120/180
WP1X 00800_	170	275	345	405	620	840	1000	1170	1310	1425	-	1"¼	1"¼	½"	1"	1"½	-	1"½	120/180
WP1X 01000_	170	275	345	475	750	1000	1120	1275	1615	1770	-	1"¼	1"¼	½"	1"	1"½	-	1"½	120/180
WP1X 01500_	230	345	475	535	805	1030	1165	1325	1600	1740	-	1"¼	1"¼	½"	1"	2"	-	1"½	220/290
WP1X 02000_	325	455	585	655	1030	1240	1385	1530	1885	2035	100	1"¼	1"¼	½"	1"	2"	1"	1"½	220/290

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve



Performance

	MODEL	WP1X 00200R				WP1X 00300R				WP1X 00400R			
	HEAT EXCHANGER (m²) [L] [1]	1,9 [13,5]				3,5 [24,9]				4,5 [32,0]			
	PRIMARY FLOW (m³/h)	2				2				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	249	296	413	452	390	462	642	701	546	643	896	977
	LITRES FIRST HOUR [2]	595	872	1193	1425	962	1391	1880	2235	1305	1887	2562	3044
	CONTINUOUS DRAW (L) [3]	437	729	984	1229	722	1173	1565	1938	959	1571	2104	2612
	POWER (kW)	18	30	40	50	29	48	64	79	39	64	86	106
	PREHEATING [3] (min)	29	17	12	10	29	17	12	10	31	18	13	10
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	260	291	-	-	406	455	-	-	568	634
	LITRES FIRST HOUR [2]	-	-	657	846	-	-	1057	1349	-	-	1434	1831
	CONTINUOUS DRAW (L) [3]	-	-	501	701	-	-	822	1129	-	-	1095	1512
	POWER (kW)	-	-	29	41	-	-	48	66	-	-	63,7	87,9
	PREHEATING [3] (min)	-	-	25	18	-	-	25	18	-	-	26	19
	NL [4]	4				11				20			

	MODEL	WP1X 00500R				WP1X 00600R				WP1X 00800_			
	HEAT EXCHANGER (m²) [L] [1]	5,7 [40,5]				5,7 [40,5]				6,0 [42,6]			
	PRIMARY FLOW (m³/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	658	771	1072	1165	739	852	1188	1281	902	1018	1424	1520
	LITRES FIRST HOUR [2]	1571	2247	3037	3595	1652	2329	3153	3711	1851	2548	3458	4032
	CONTINUOUS DRAW (L) [3]	1153	1865	2482	3070	1153	1866	2483	3070	1198	1933	2569	3173
	POWER (kW)	47	76	101	125	47	76	101	125	49	79	105	129
	PREHEATING [3] (min)	32	19	14	11	37	22	16	13	47	27	20	16
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	683	760	-	-	764	841	-	-	928	1007
	LITRES FIRST HOUR [2]	-	-	1721	2182	-	-	1802	2263	-	-	2005	2480
	CONTINUOUS DRAW (L) [3]	-	-	1311	1796	-	-	1311	1796	-	-	1361	1861
	POWER (kW)	-	-	76	104	-	-	76	104	-	-	79,1	108,2
	PREHEATING [3] (min)	-	-	28	19	-	-	32	23	-	-	40	28
	NL [4]	30				34				44			

	MODEL	WP1X 01000_				WP1X 01500_				WP1X 02000_			
	HEAT EXCHANGER (m²) [L] [1]	6,0 [42,6]				7,5 [53,3]				10,4 [73,8]			
	PRIMARY FLOW (m³/h)	3				4				5			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1075	1191	1671	1767	1642	1791	2520	2643	2180	2378	3344	3507
	LITRES FIRST HOUR [2]	2023	2721	3704	4278	2846	3741	5118	5856	3807	4997	6821	7799
	CONTINUOUS DRAW (L) [3]	1198	1933	2568	3173	1522	2464	3281	4058	2056	3308	4391	5421
	POWER (kW)	49	79	105	129	62	100	134	165	84	135	179	221
	PREHEATING [3] (min)	58	34	24	19	71	41	30	24	71	41	30	24
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1100	1180	-	-	1675	1776	-	-	2224	2359
	LITRES FIRST HOUR [2]	-	-	2178	2653	-	-	3045	3655	-	-	4071	4882
	CONTINUOUS DRAW (L) [3]	-	-	1361	1861	-	-	1731	2373	-	-	2333	3187
	POWER (kW)	-	-	79	108	-	-	101	138	-	-	135,7	185,3
	PREHEATING [3] (min)	-	-	50	35	-	-	61	43	-	-	61	43
	NL [4]	53				86				101			

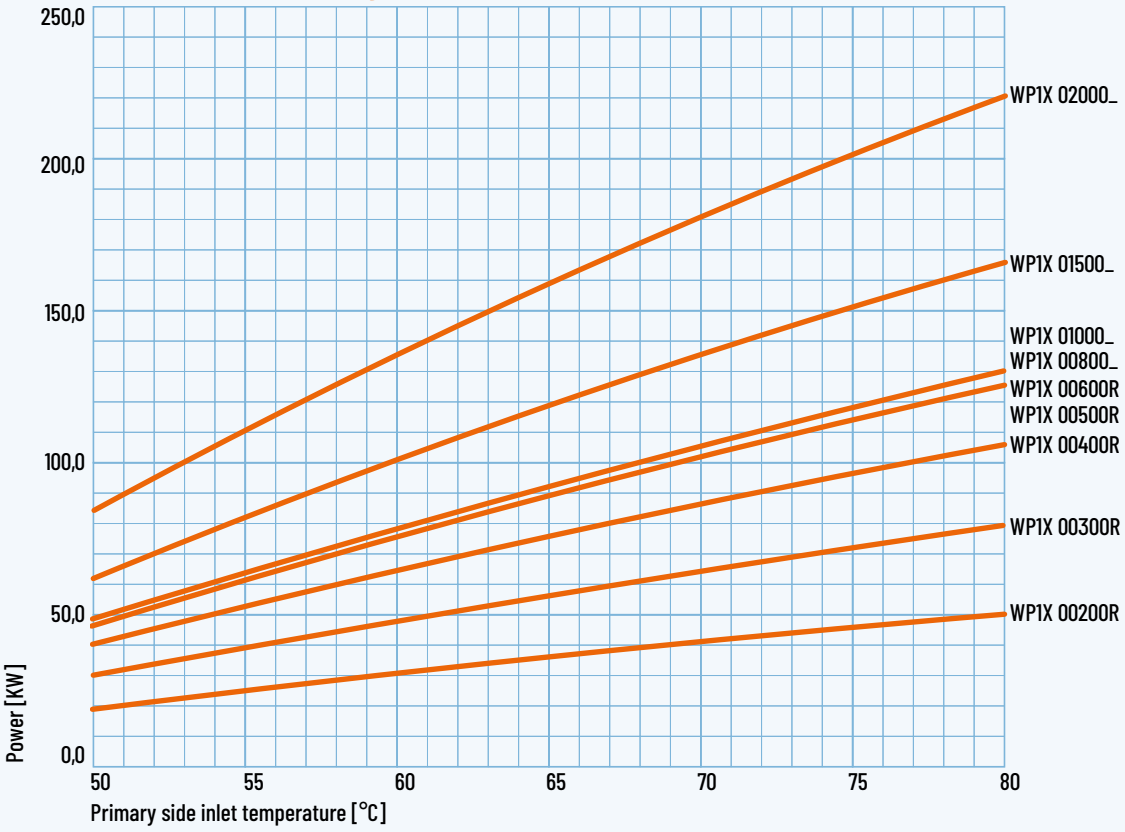
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

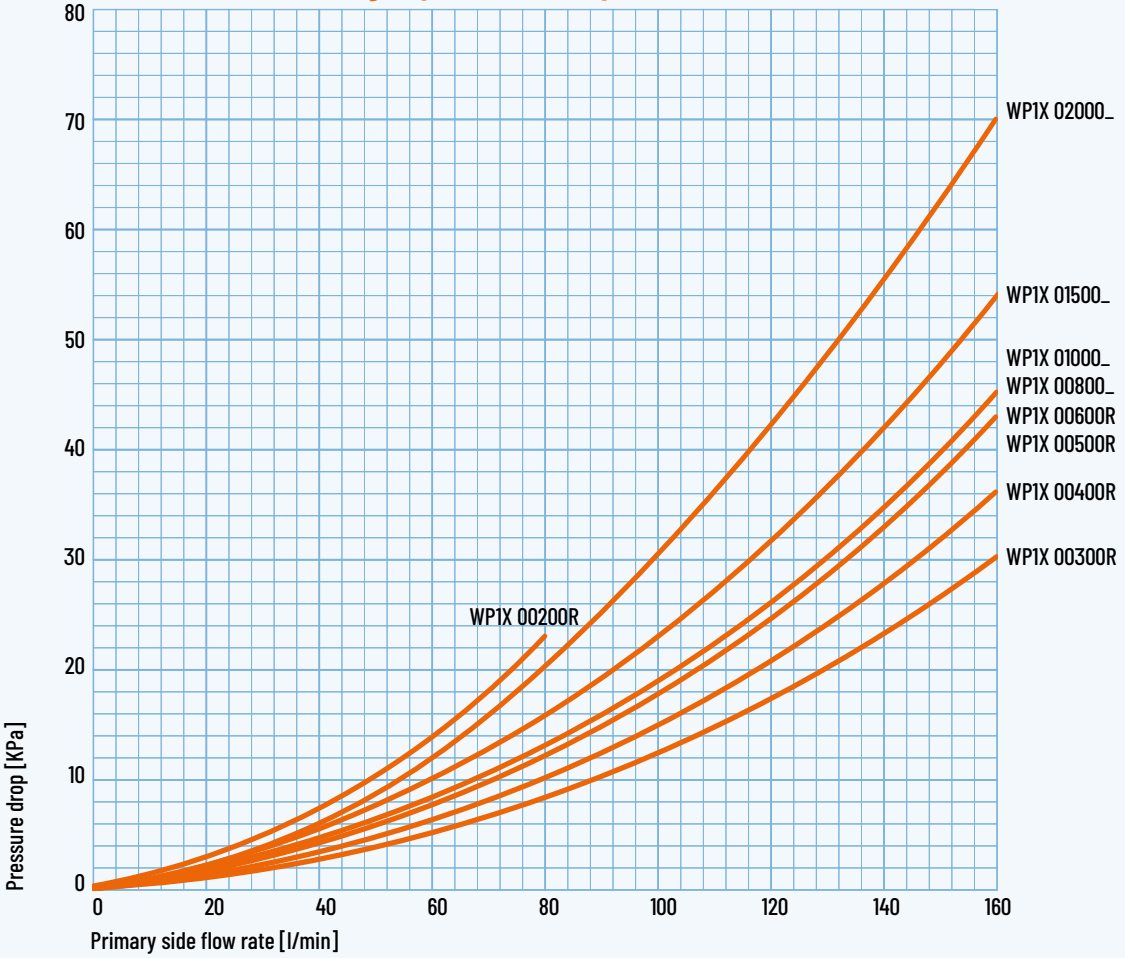
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

WP1X - Heat exchanger powers with secondary side at 10/45 °C

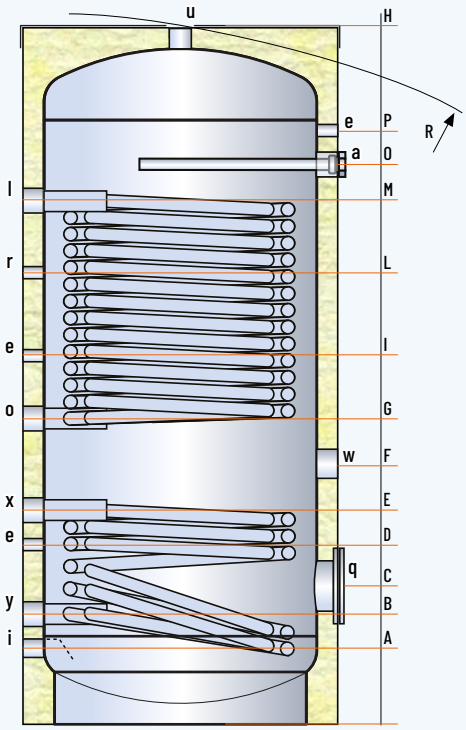


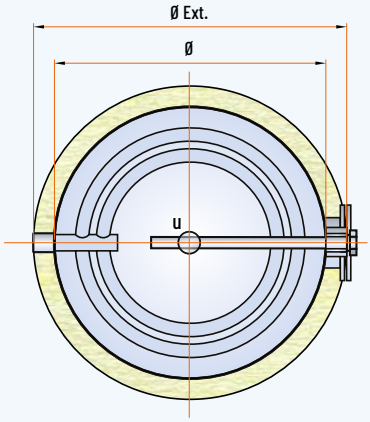
WP1X - Heat exchanger pressure drops



Dimensions and heights

WP2X

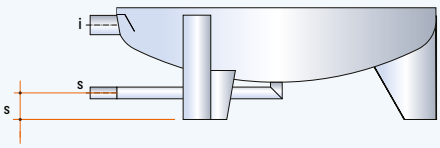




LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **l .** Heat pump flow
- **o .** Heat pump return
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return

Detail of the total drain pipe only for the 2000 litres model



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	WEIGHT (kg)
WP2X 00300 R	500	1595	600	1720	1,00	2,40	90
WP2X 00400 R	650	1395	750	1600	1,20	3,00	107
WP2X 00500 R	650	1645	750	1820	1,50	4,20	131
WP2X 00600 R	650	1895	750	2050	2,00	5,00	154
WP2X 00800_	790	1750	990/1050	1745	2,00	5,20	179
WP2X 01000_	790	2110	990/1050	2095	3,30	6,00	219
WP2X 01500_	1000	2115	1200/1260	2145	3,60	7,50	305
WP2X 02000_	1100	2465	1300/1360	2465	5,50	8,50	396

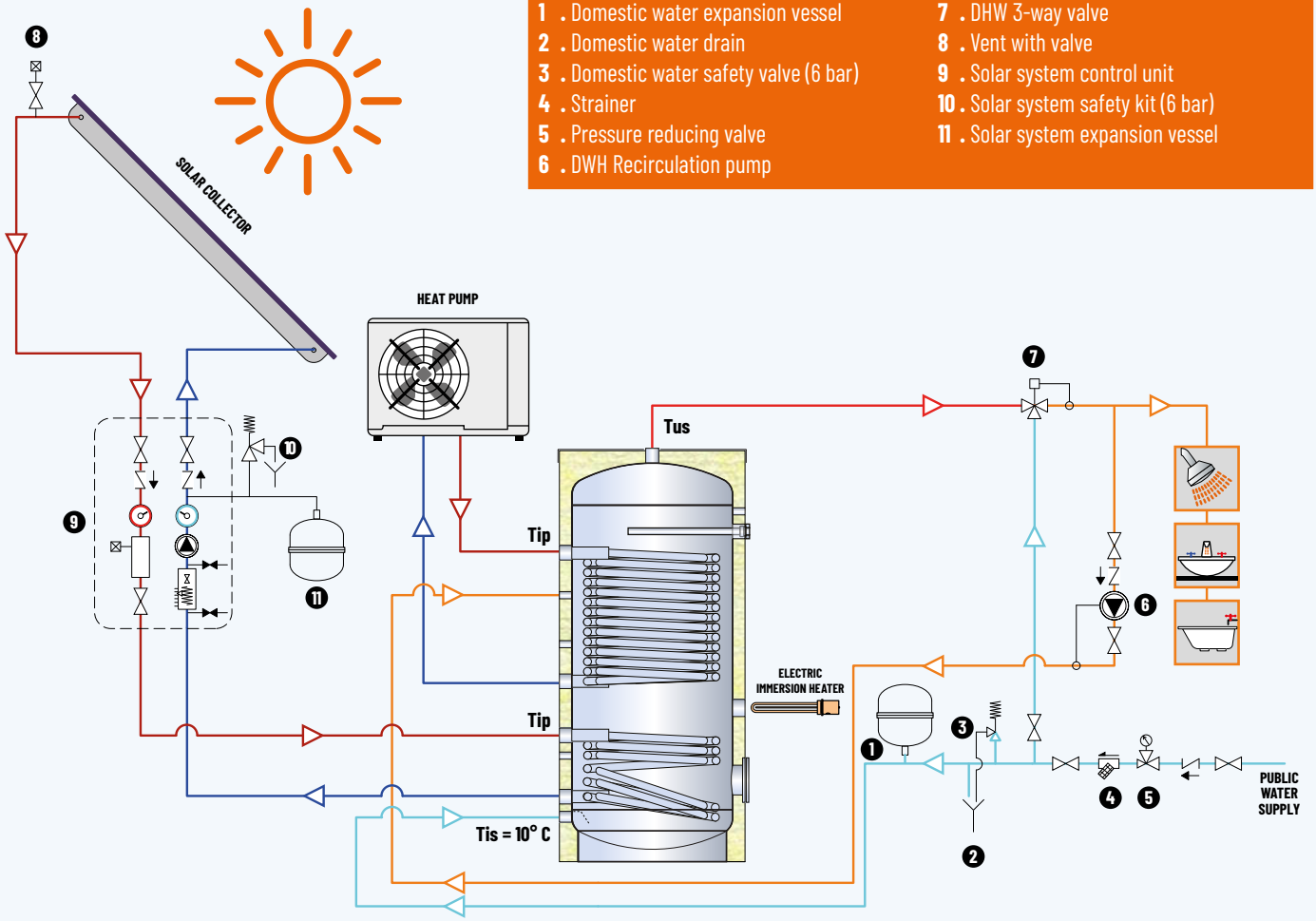
** For capacities from 300 to 600 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 300 to 600 litres*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	O	P	S	CONNECTIONS (GAS) aloxy	e	r	iu	s	w	q
WP2X 00300 R	120	210	300	320	430	495	560	745	925	1110	1160	1365	-	1"¼	½"	½"	1"	-	1"½	120/180
WP2X 00400 R	145	240	310	340	440	525	565	720	870	1005	1030	1140	-	1"¼	½"	½"	1"	-	1"½	120/180
WP2X 00500 R	145	240	310	350	460	570	610	820	1020	1250	1280	1390	-	1"¼	½"	½"	1"	-	1"½	120/180
WP2X 00600 R	145	240	310	390	540	605	670	870	1070	1470	1510	1640	-	1"¼	½"	½"	1"	-	1"½	120/180
WP2X 00800_	170	275	345	405	535	620	665	835	1000	1270	1310	1425	-	1"¼	½"	1"	1"½	-	1"½	120/180
WP2X 01000_	170	275	345	475	675	750	825	975	1120	1575	1615	1770	-	1"¼	½"	1"	1"½	-	1"½	120/180
WP2X 01500_	230	345	475	535	730	805	880	1025	1165	1560	1600	1740	-	1"¼	½"	1"	2"	-	1"½	220/290
WP2X 02000_	325	455	585	655	955	1030	1105	1245	1385	1805	1885	2035	100	1"¼	½"	1"	2"	1"	1"½	220/290

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel





Data related to the lower heat exchanger

	MODEL	WP2X 00300R				WP2X 00400R				WP2X 00500R			
	HEAT EXCHANGER (m²) [L] [1]	1,0 [7,1]				1,2 [8,5]				1,5 [10,6]			
	PRIMARY FLOW (m³/h)	2				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	315	342	484	507	441	475	673	701	534	574	813	848
	LITRES FIRST HOUR [2]	509	671	932	1069	678	877	1222	1391	825	1068	1486	1692
	CONTINUOUS DRAW (L) [3]	245	416	566	711	299	508	693	871	368	623	849	1066
	POWER (kW)	10	17	23	29	12	21	28	35	15	25	35	43
	PREHEATING [3] (min)	75	44	32	25	87	50	37	29	86	50	36	29
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	321	339	-	-	449	471	-	-	542	570
	LITRES FIRST HOUR [2]	-	-	545	655	-	-	722	858	-	-	878	1045
	CONTINUOUS DRAW (L) [3]	-	-	283	400	-	-	345	488	-	-	424	599
	POWER (kW)	-	-	16	23	-	-	20	28	-	-	24,7	34,9
	PREHEATING [3] (min)	-	-	65	45	-	-	75	52	-	-	74	52
	NL [4]	4				6				8			

	MODEL	WP2X 00600R				WP2X 00800_				WP2X 01000_			
	HEAT EXCHANGER (m²) [L] [1]	2,0 [14,2]				2,0 [14,2]				3,3 [23,4]			
	PRIMARY FLOW (m³/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	632	684	968	1012	788	840	1191	1235	1003	1080	1527	1592
	LITRES FIRST HOUR [2]	1011	1322	1835	2098	1167	1478	2058	2321	1591	2056	2842	3232
	CONTINUOUS DRAW (L) [3]	479	806	1095	1372	479	806	1095	1372	743	1233	1661	2071
	POWER (kW)	19	33	45	56	19	33	45	56	30	50	68	84
	PREHEATING [3] (min)	79	46	33	27	101	59	43	34	85	49	36	29
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	644	679	-	-	800	835	-	-	1020	1073
	LITRES FIRST HOUR [2]	-	-	1080	1293	-	-	1236	1449	-	-	1694	2011
	CONTINUOUS DRAW (L) [3]	-	-	551	775	-	-	551	775	-	-	851	1186
	POWER (kW)	-	-	32	45,1	-	-	32	45	-	-	49	69
	PREHEATING [3] (min)	-	-	68	48	-	-	87	61	-	-	73	51
	NL [4]	13				16				29			

	MODEL	WP2X 01500_				WP2X 02000_			
	HEAT EXCHANGER (m²) [L] [1]	3,6 [25,5]				5,5 [39,0]			
	PRIMARY FLOW (m³/h)	4				5			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1533	1621	2299	2373	2050	2180	3087	3196
	LITRES FIRST HOUR [2]	2192	2723	3790	4236	3030	3806	5280	5929
	CONTINUOUS DRAW (L) [3]	833	1392	1883	2353	1238	2055	2769	3452
	POWER (kW)	34	57	77	96	50	84	113	141
	PREHEATING [3] (min)	117	68	50	39	107	62	45	36
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1552	1613	-	-	2079	2167
	LITRES FIRST HOUR [2]	-	-	2310	2673	-	-	3202	3732
	CONTINUOUS DRAW (L) [3]	-	-	957	1339	-	-	1419	1976
	POWER (kW)	-	-	55,6	77,9	-	-	82,5	114,9
	PREHEATING [3] (min)	-	-	101	71	-	-	92	65
	NL [4]	43				51			

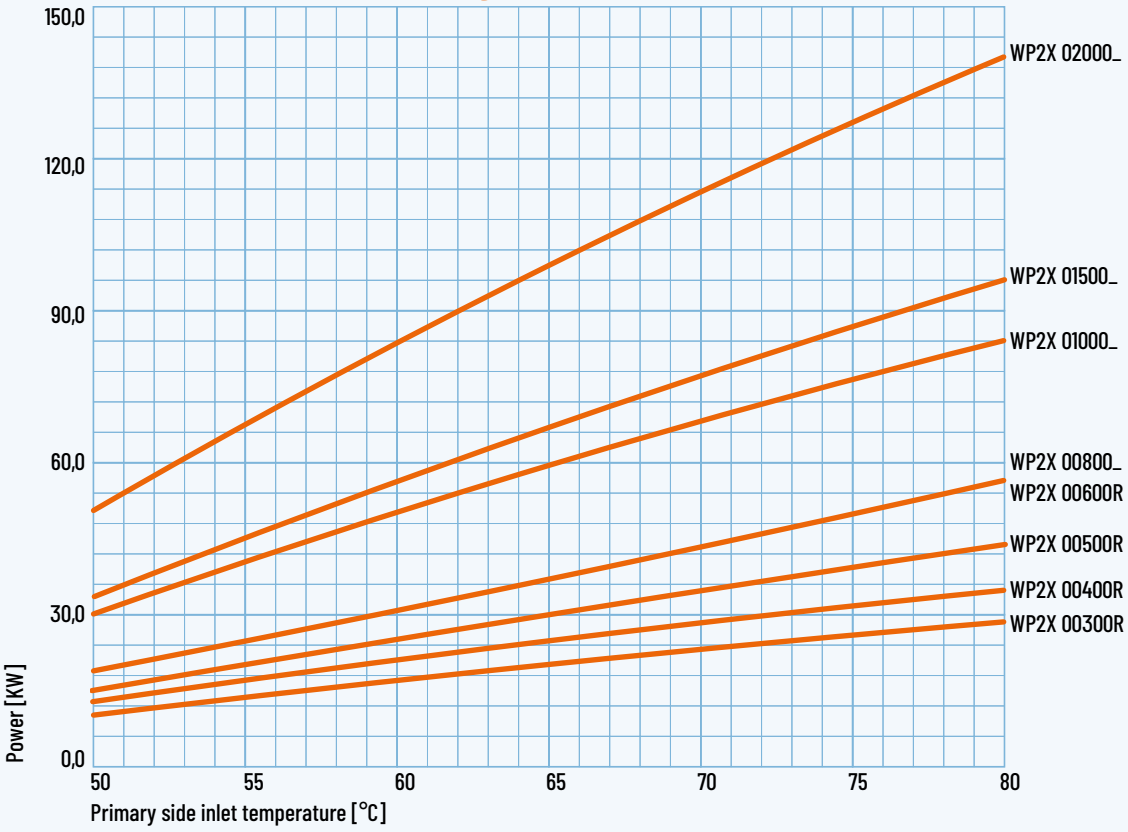
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

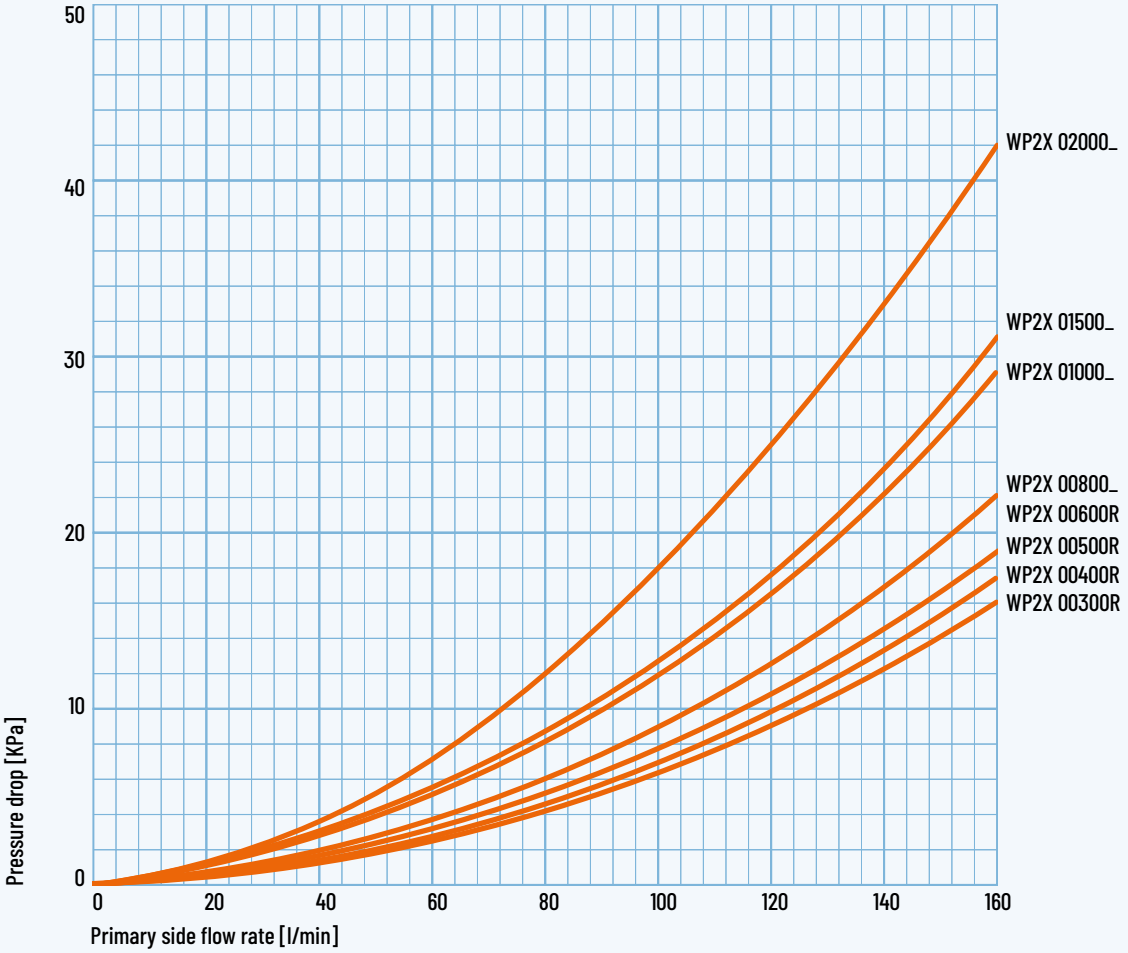
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

WP2X - **Lower heat exchanger** powers with secondary side at 10/45 °C



WP2X - **Lower heat exchanger** pressure drops





Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	WP2X 00300R				WP2X 00400R				WP2X 00500R			
	HEAT EXCHANGER (m²) [L] [1]	2,4 [17,0]				3,0 [21,3]				4,2 [29,8]			
	PRIMARY FLOW (m³/h)	2				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	265	320	445	492	345	417	582	643	445	538	747	824
	LITRES FIRST HOUR [2]	687	1018	1385	1661	888	1320	1801	2164	1164	1718	2330	2792
	CONTINUOUS DRAW (L) [3]	533	881	1186	1477	685	1140	1540	1922	907	1491	2000	2485
	POWER (kW)	22	36	48	60	28	46	63	78	37	61	81	101
	PREHEATING [3] (min)	24	14	10	8	24	14	10	8	24	14	10	8
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	277	315	-	-	361	411	-	-	466	529
	LITRES FIRST HOUR [2]	-	-	760	986	-	-	983	1279	-	-	1286	1665
	CONTINUOUS DRAW (L) [3]	-	-	610	848	-	-	786	1097	-	-	1037	1435
	POWER (kW)	-	-	35	49	-	-	46	64	-	-	60,3	83,4
	PREHEATING [3] (min)	-	-	21	15	-	-	21	15	-	-	21	15
	NL [4]	5				12				19			

	MODEL	WP2X 00600R				WP2X 00800_				WP2X 01000_			
	HEAT EXCHANGER (m²) [L] [1]	5,0 [35,5]				5,2 [36,9]				6,0 [42,6]			
	PRIMARY FLOW (m³/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	526	630	876	961	611	718	1000	1088	717	833	1160	1256
	LITRES FIRST HOUR [2]	1352	1975	2672	3187	1462	2102	2846	3374	1666	2363	3193	3767
	CONTINUOUS DRAW (L) [3]	1042	1699	2269	2812	1075	1748	2332	2888	1198	1933	2568	3173
	POWER (kW)	42	69	92	114	44	71	95	118	49	79	105	129
	PREHEATING [3] (min)	26	15	11	9	31	18	13	11	34	20	15	12
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	550	620	-	-	635	708	-	-	743	822
	LITRES FIRST HOUR [2]	-	-	1490	1915	-	-	1604	2040	-	-	1820	2295
	CONTINUOUS DRAW (L) [3]	-	-	1188	1635	-	-	1224	1683	-	-	1361	1861
	POWER (kW)	-	-	69,1	95,1	-	-	71	98	-	-	79	108
	PREHEATING [3] (min)	-	-	23	16	-	-	27	19	-	-	30	21
	NL [4]	23				29				34			

	MODEL	WP2X 01500_				WP2X 02000_							
	HEAT EXCHANGER (m²) [L] [1]	7,5 [53,2]				8,5 [60,3]							
	PRIMARY FLOW (m³/h)	4				4							
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80				
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1060	1209	1690	1813	1334	1495	2092	2224				
	LITRES FIRST HOUR [2]	2265	3160	4287	5025	2657	3620	4912	5703				
	CONTINUOUS DRAW (L) [3]	1522	2464	3281	4058	1670	2685	3562	4395				
	POWER (kW)	62	100	134	165	68	109	145	179				
	PREHEATING [3] (min)	42	24	18	14	51	29	21	17				
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1093	1195	-	-	1370	1479				
	LITRES FIRST HOUR [2]	-	-	2464	3074	-	-	2871	3527				
	CONTINUOUS DRAW (L) [3]	-	-	1731	2373	-	-	1896	2587				
	POWER (kW)	-	-	100,7	138,0	-	-	110,3	150,4				
	PREHEATING [3] (min)	-	-	36	25	-	-	44	31				
	NL [4]	59				78							

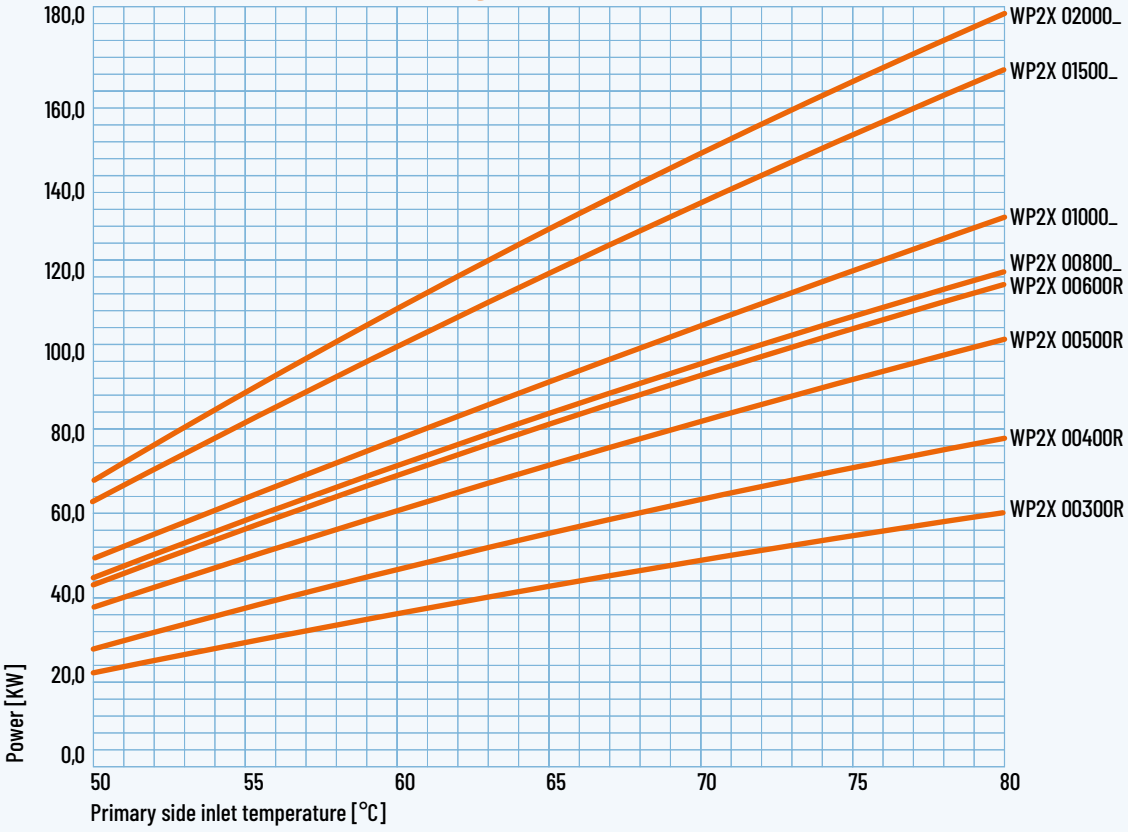
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

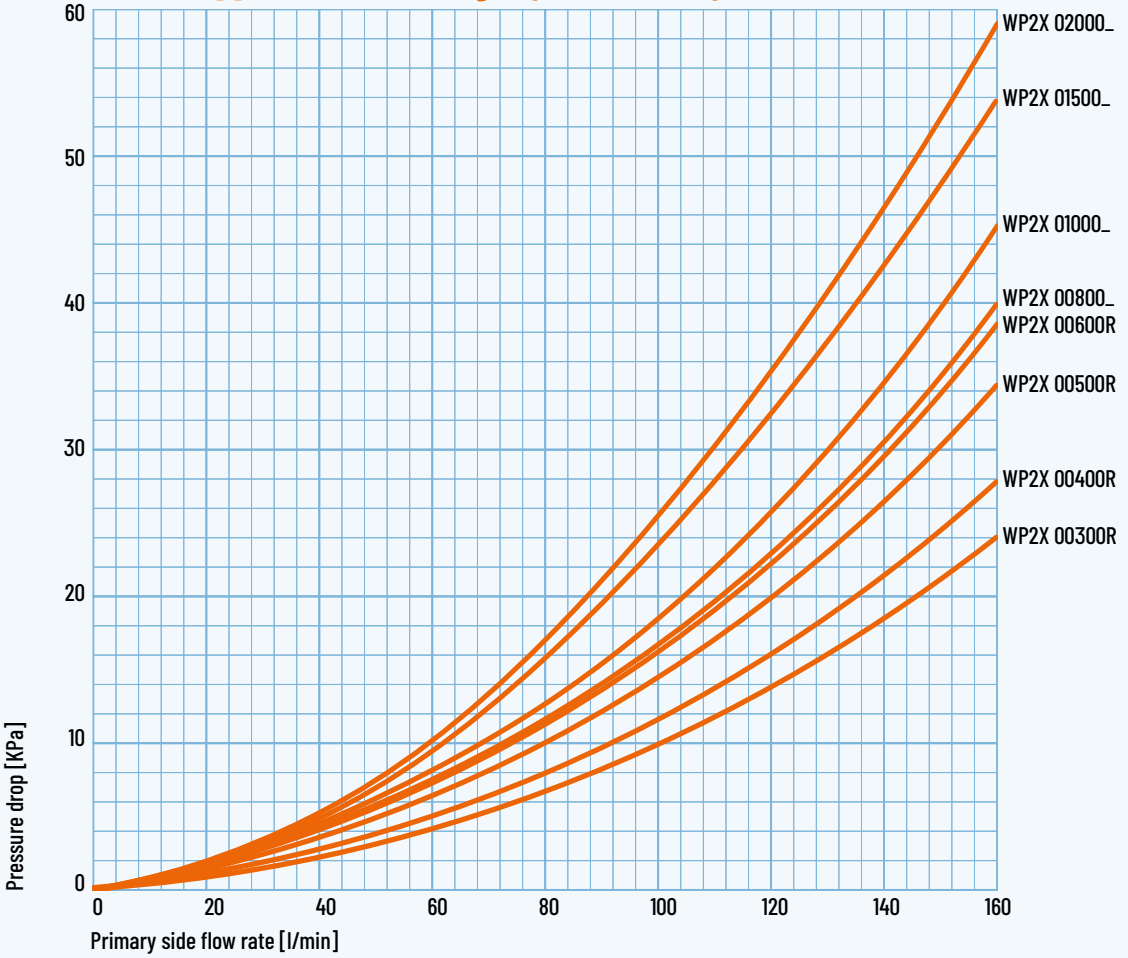
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

WP2X - **Upper heat exchanger** powers with secondary side at 10/45 °C



WP2X - **Upper heat exchanger** pressure drops



Glass lined calorifier for heat pumps
WP1V – With one coil for heat pumps
WP2V – With two coils for heat pumps and solar systems



Calorifiers made of glass lined steel, designed for the production and storage of domestic hot water (DHW). They are equipped with one or two internal fixed coils that can be fed by a heat pump and by a solar system and/or a boiler.
The special heat exchanger with enhanced exchanging capacity, allows a more efficient spread of the power delivered by the heat pump on the coldest part of the cylinder, thus reducing the number of on-off cycles of the compressor and increasing its lifespan.
The wide range of capacities (from 200 to 1500 litres) allows their installation in several systems, from domestic use to commercial applications.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Enamelling according to DIN 4753.3
	Type	Fixed coil for 200 litres capacity Double spiral fixed coil for capacities above 300 litres
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	200 - 1500 L
	Warranty	5 years
	Insulation	- Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



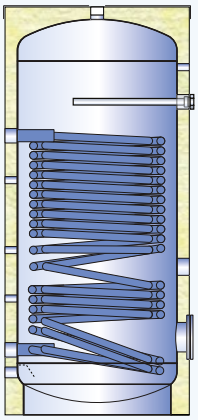
Thermostat



Thermometer



1"½ electric immersion heater

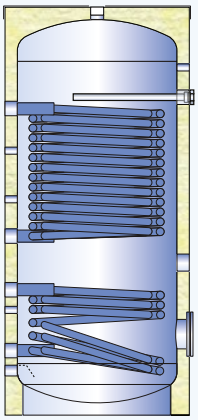


WP1V - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
WP1V 00200 R	50	B	56,7	189,8	2,10 / 20,6
WP1V 00300 R	50	B	69,2	290,3	3,50 / 34,3
WP1V 00400 R	50	B	73,0	414,9	4,50 / 44,1
WP1V 00500 R	50	B	81,6	500,3	5,70 / 55,9
WP1V 00600 R	50	B	90,2	585,7	5,70 / 55,9
WP1V 00800 R	100	C	106,6	749,8	6,00 / 58,8
WP1V 01000 R	100	C	110,5	931,5	6,00 / 58,8
WP1V 01500 R	100	C	133	1474,3	7,50 / 73,5

WP1V - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
WP1V 00800 F	130	C	126,6	749,8	6,00 / 58,8
WP1V 01000 F	130	C	138,4	931,5	6,00 / 58,8
WP1V 01500 F	130	C	168,3	1474,3	7,50 / 73,5



WP2V - Hard insulation with rigid polyurethane foam and PVC jacket

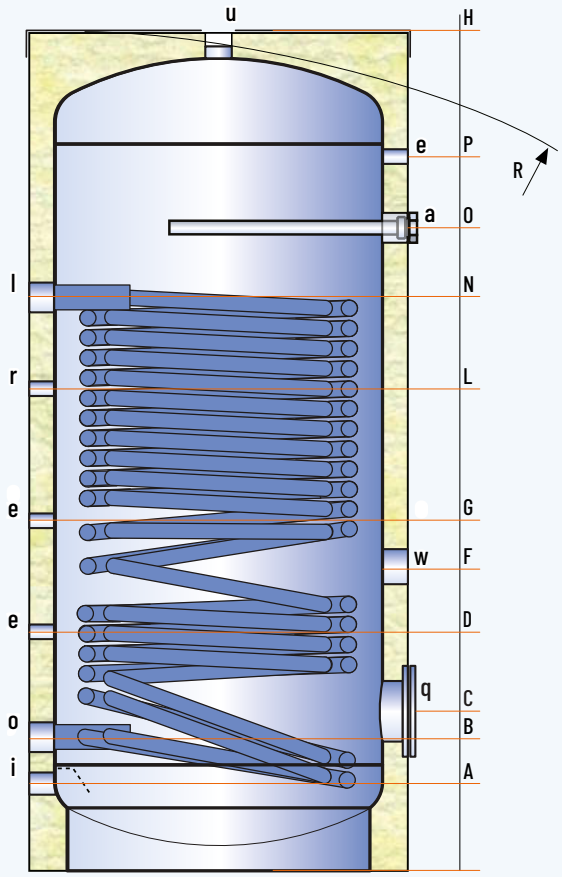
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
WP2V 00300 R	50	B	69,2	290,3	1,00 / 9,8	2,40 / 23,5
WP2V 00400 R	50	B	73,0	414,9	1,20 / 11,8	3,00 / 29,4
WP2V 00500 R	50	B	81,6	500,3	1,50 / 14,7	4,20 / 41,2
WP2V 00600 R	50	B	90,2	585,7	2,00 / 19,6	5,00 / 49,0
WP2V 00800 R	100	C	106,6	749,8	2,00 / 19,6	5,20 / 51,0
WP2V 01000 R	100	C	110,5	931,5	3,30 / 32,3	6,00 / 58,8
WP2V 01500 R	100	C	133	1474,3	3,60 / 35,3	7,50 / 73,5

WP2V - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
WP2V 00800 F	130	C	126,6	749,8	2,00 / 19,6	5,20 / 51,0
WP2V 01000 F	130	C	138,4	931,5	3,30 / 32,3	6,00 / 58,8
WP2V 01500 F	130	C	168,3	1474,3	3,60 / 35,3	7,50 / 73,5

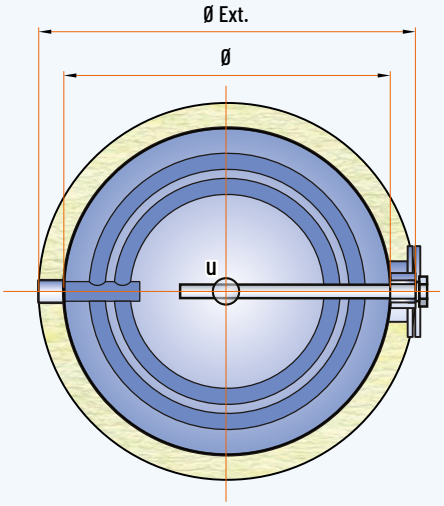
** Volume occupied by the heat exchanger and its support structure*

WP1V



LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **l .** Heat pump flow
- **o .** Heat pump return
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	WEIGHT (kg)
WP1V 00200 R	450	1320	550	1440	2,10 ***	78
WP1V 00300 R	500	1610	600	1730	3,50	110
WP1V 00400 R	650	1410	750	1610	4,50	133
WP1V 00500 R	650	1660	750	1835	5,70	159
WP1V 00600 R	650	1910	750	2065	5,70	167
WP1V 00800_	790	1750	990/1050	1745	6,00	215
WP1V 01000_	790	2110	990/1050	2095	6,00	251
WP1V 01500_	1000	2115	1200/1260	2145	7,50	383

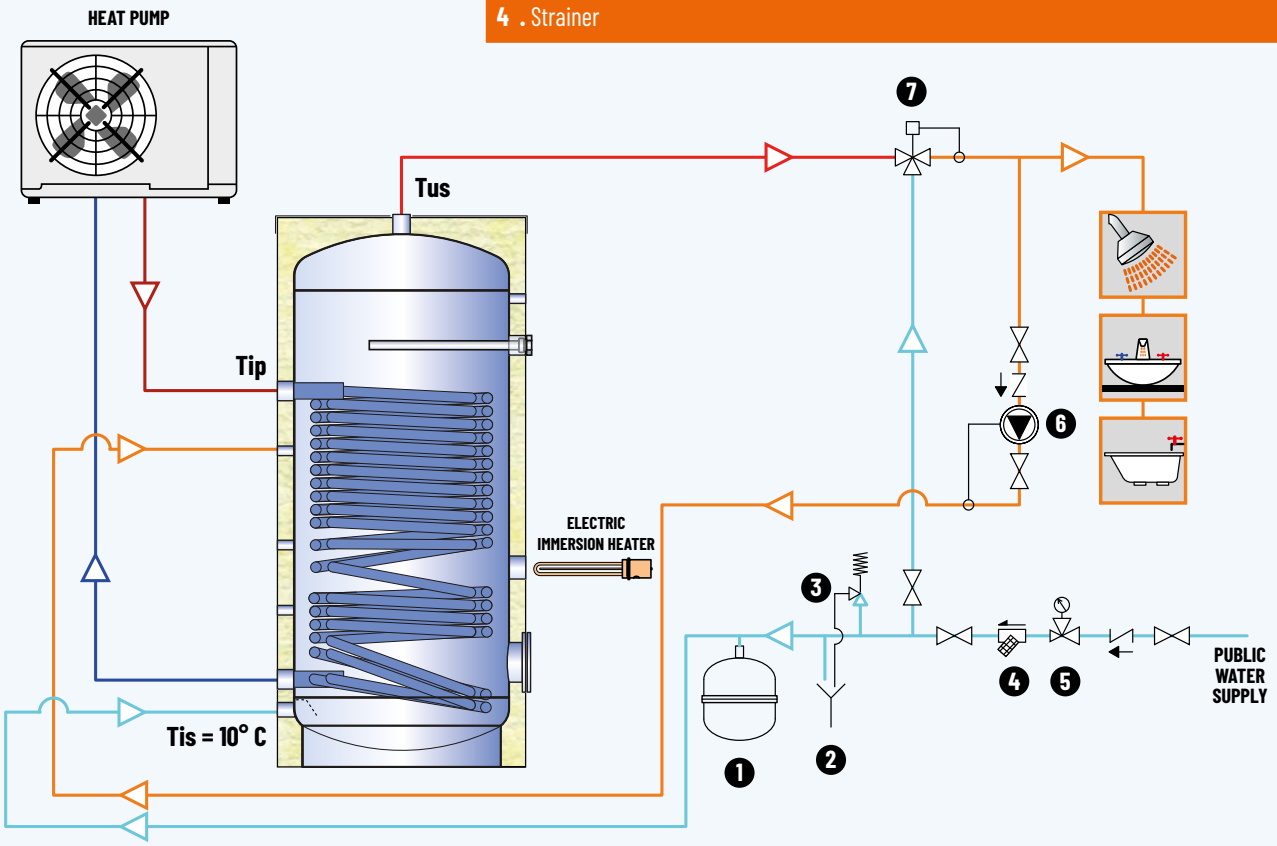
** For capacities from 200 to 600 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 600 litres*
**** Fixed single spiral coil*

MODEL	HEIGHTS (mm) A	B	C	D	F	G	L	N	O	P	CONNECTIONS (GAS) a	l o	e	r	i u	w	q
WP1V 00200 R	95	187	262	342	623	623	743	1077	953	1087	1"¼	1"	½"	½"	1"	1"½	120/180
WP1V 00300 R	120	210	300	320	495	780	925	1110	1160	1365	1"¼	1"¼	½"	½"	1"	1"½	120/180
WP1V 00400 R	145	240	310	340	525	680	870	1005	1030	1140	1"¼	1"¼	½"	½"	1"	1"½	120/180
WP1V 00500 R	145	240	310	350	570	810	1020	1250	1280	1390	1"¼	1"¼	½"	½"	1"	1"½	120/180
WP1V 00600 R	145	240	310	390	605	930	1070	1250	1510	1640	1"¼	1"¼	½"	½"	1"	1"½	120/180
WP1V 00800_	150	275	345	405	620	840	1000	1170	1310	1425	1"¼	1"¼	½"	1"	1"½	1"½	120/180
WP1V 01000_	150	275	345	475	750	1000	1120	1275	1615	1770	1"¼	1"¼	½"	1"	1"½	1"½	120/180
WP1V 01500_	230	345	475	535	805	1030	1165	1325	1600	1740	1"¼	1"¼	½"	1"	2"	1"½	220/290

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve



Performance

	MODEL	WP1V 00200R				WP1V 00300R				WP1V 00400R			
	HEAT EXCHANGER (m^2) [L] [1]	2,1 [14,9]				3,5 [24,9]				4,5 [32,0]			
	PRIMARY FLOW (m^3/h)	2				2				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	216	266	370	412	295	366	505	564	428	525	727	808
	LITRES FIRST HOUR [2]	593	892	1215	1466	866	1295	1744	2099	1187	1769	2393	2875
	CONTINUOUS DRAW (L) [3]	476	791	1067	1332	722	1173	1565	1938	960	1572	2104	2612
	POWER (kW)	19	32	43	54	29	48	64	79	39	64	86	106
	PREHEATING [3] (min)	21	12	9	7	19	11	8	6	21	12	9	7
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	227	261	-	-	310	359	-	-	449	515
	LITRES FIRST HOUR [2]	-	-	659	864	-	-	961	1253	-	-	1316	1712
	CONTINUOUS DRAW (L) [3]	-	-	546	761	-	-	822	1130	-	-	1095	1512
	POWER (kW)	-	-	32	44	-	-	48	66	-	-	63,7	87,9
	PREHEATING [3] (min)	-	-	18	13	-	-	16	12	-	-	18	13
	NL [4]	5				11				20			

	MODEL	WP1V 00500R				WP1V 00600R				WP1V 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	5,7 [40,5]				5,7 [40,5]				6,0 [42,6]			
	PRIMARY FLOW (m^3/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	577	690	956	1049	658	771	1072	1165	902	1018	1424	1520
	LITRES FIRST HOUR [2]	1489	2167	2922	3479	1571	2247	3037	3595	1851	2548	3458	4032
	CONTINUOUS DRAW (L) [3]	1153	1866	2483	3070	1153	1865	2482	3070	1198	1933	2569	3173
	POWER (kW)	47	76	101	125	47	76	101	125	49	79	105	129
	PREHEATING [3] (min)	26	15	11	9	32	19	14	11	47	27	20	16
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	602	679	-	-	683	760	-	-	928	1007
	LITRES FIRST HOUR [2]	-	-	1640	2101	-	-	1721	2182	-	-	2005	2480
	CONTINUOUS DRAW (L) [3]	-	-	1311	1796	-	-	1311	1796	-	-	1361	1861
	POWER (kW)	-	-	76,2	104,5	-	-	76	104	-	-	79	108
	PREHEATING [3] (min)	-	-	23	16	-	-	28	19	-	-	40	28
	NL [4]	30				34				44			

	MODEL	WP1V 01000_				WP1V 01500_			
	HEAT EXCHANGER (m^2) [L] [1]	6,0 [42,6]				7,5 [53,3]			
	PRIMARY FLOW (m^3/h)	3				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1075	1191	1671	1767	1642	1791	2520	2643
	LITRES FIRST HOUR [2]	2023	2721	3704	4278	2846	3741	5118	5856
	CONTINUOUS DRAW (L) [3]	1198	1933	2568	3173	1522	2464	3281	4058
	POWER (kW)	49	79	105	129	62	100	134	165
	PREHEATING [3] (min)	58	34	24	19	71	41	30	24
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1100	1180	-	-	1675	1776
	LITRES FIRST HOUR [2]	-	-	2178	2653	-	-	3045	3655
	CONTINUOUS DRAW (L) [3]	-	-	1361	1861	-	-	1731	2373
	POWER (kW)	-	-	79,2	108,2	-	-	100,7	138,0
	PREHEATING [3] (min)	-	-	50	35	-	-	61	43
	NL [4]	53				86			

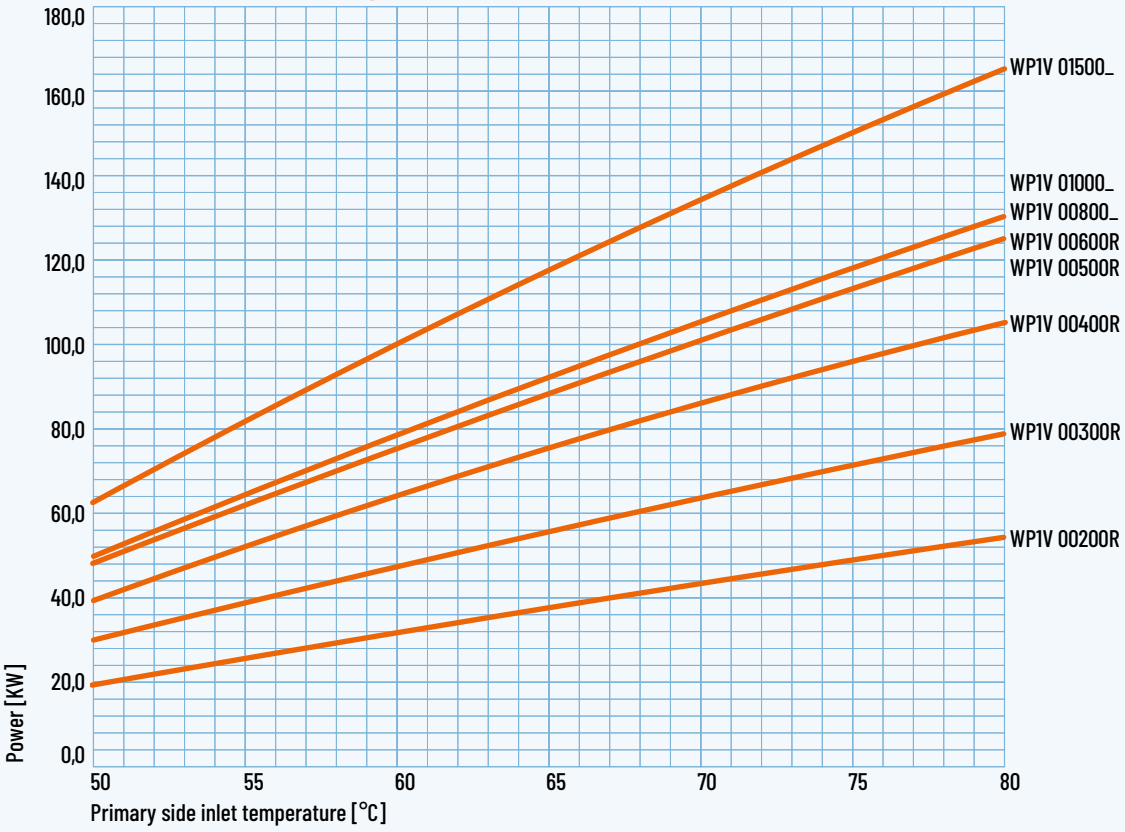
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

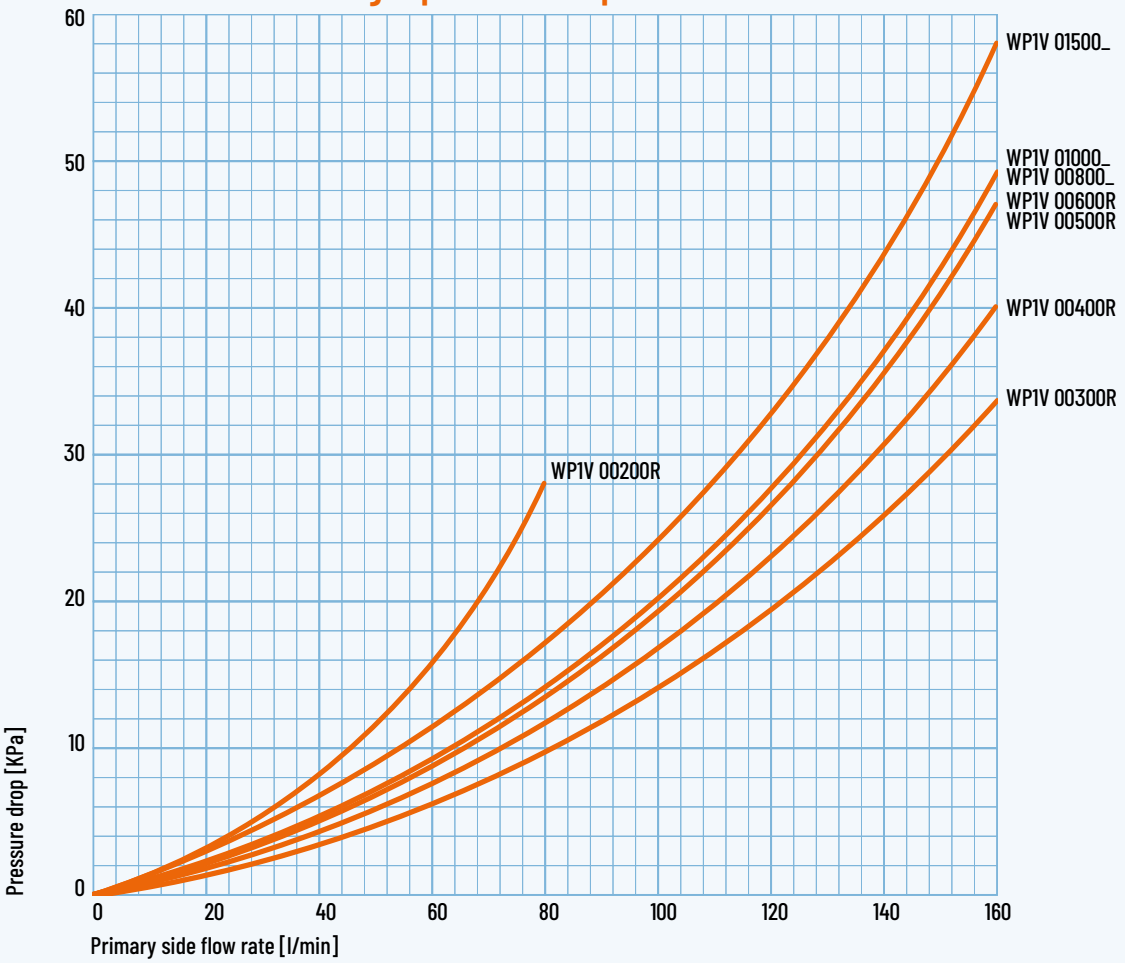
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

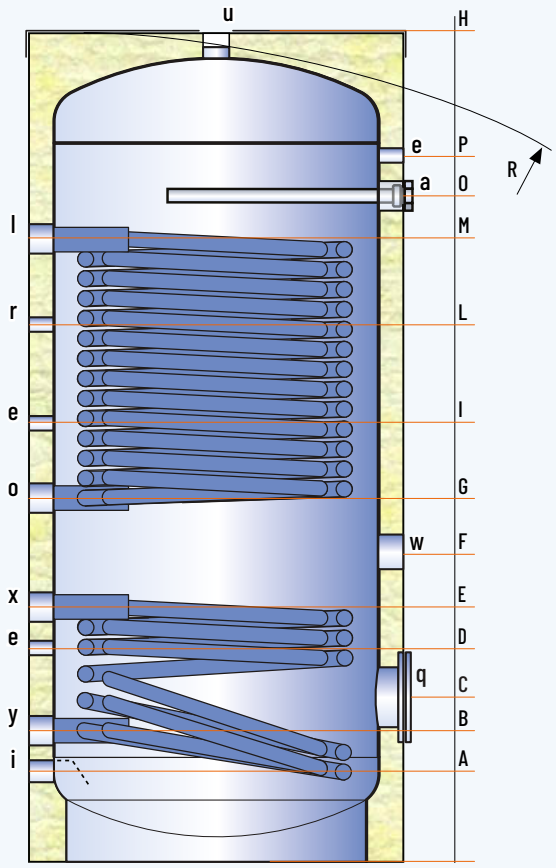
WP1V - Heat exchanger powers with secondary side at 10/45 °C



WP1V - Heat exchanger pressure drops

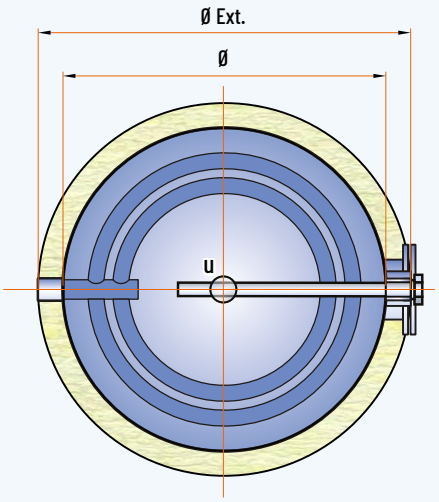


WP2V



LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **l .** Heat pump flow
- **o .** Heat pump return
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	WEIGHT (kg)
WP2V 00300 R	500	1610	600	1730	1,00	2,40	108
WP2V 00400 R	650	1410	750	1610	1,20	3,00	128
WP2V 00500 R	650	1660	750	1835	1,50	4,20	159
WP2V 00600 R	650	1910	750	2065	2,00	5,00	188
WP2V 00800_	790	1750	990/1050	1745	2,00	5,20	234
WP2V 01000_	790	2110	990/1050	2095	3,30	6,00	285
WP2V 01500_	1000	2115	1200/1260	2145	3,60	7,50	417

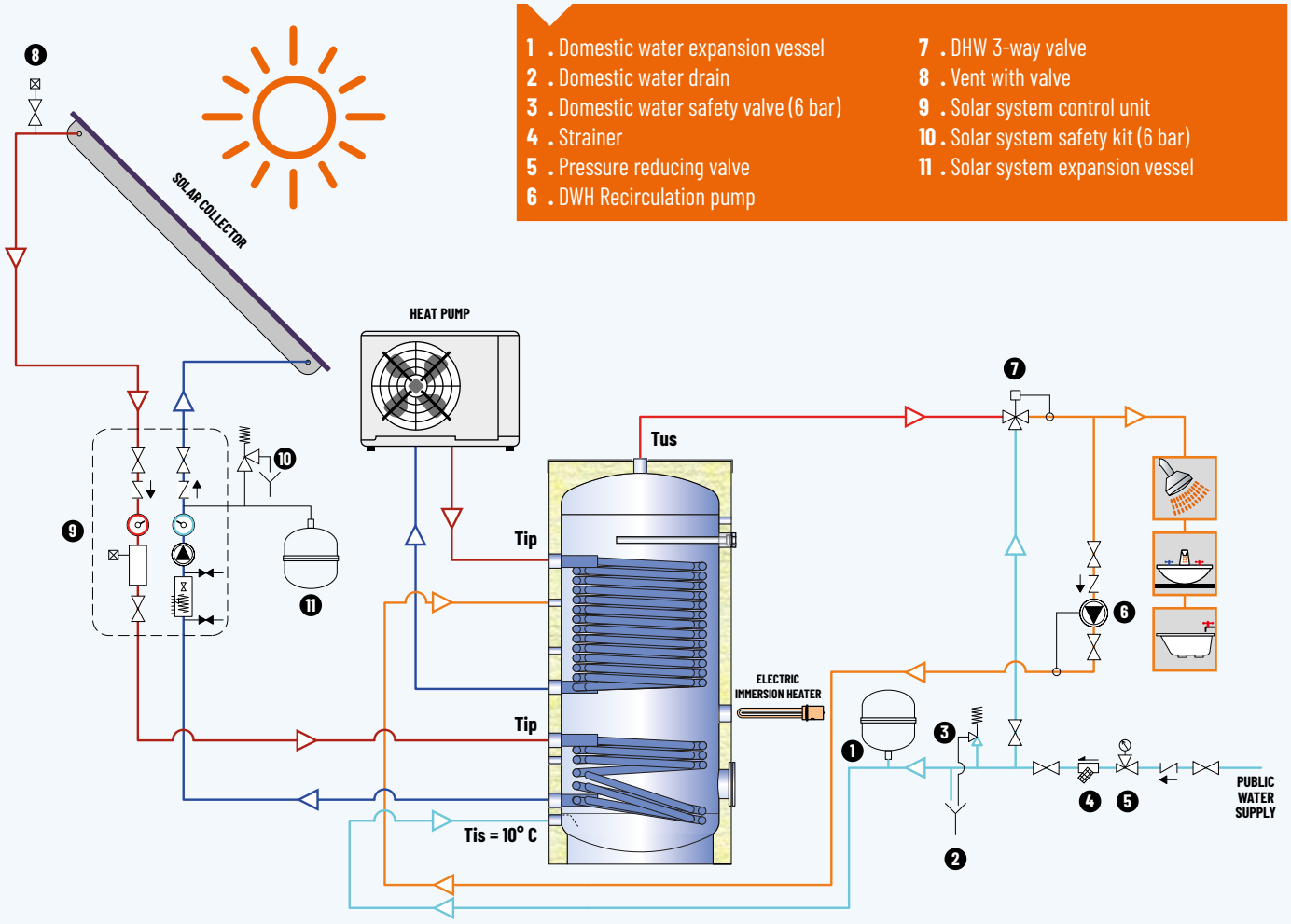
** For capacities from 300 to 600 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 300 to 600 litres*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	O	P	CONNECTIONS (GAS) a l o x y	e	r	i	u	w	q
WP2V 00300 R	120	210	300	320	430	495	560	745	925	1110	1160	1365	1"¼	½"	½"	1"	1"¼	1"½	120/180
WP2V 00400 R	145	240	310	340	440	525	565	720	870	1005	1030	1140	1"¼	½"	½"	1"	1"¼	1"½	120/180
WP2V 00500 R	145	240	310	350	460	570	610	820	1020	1250	1280	1390	1"¼	½"	½"	1"	1"¼	1"½	120/180
WP2V 00600 R	145	240	310	390	540	605	670	870	1070	1470	1510	1640	1"¼	½"	½"	1"	1"¼	1"½	120/180
WP2V 00800_	150	275	345	405	535	620	665	835	1000	1270	1310	1425	1"¼	½"	1"	1"½	1"½	1"½	120/180
WP2V 01000_	150	275	345	475	675	750	825	975	1120	1575	1615	1770	1"¼	½"	1"	1"½	1"½	1"½	120/180
WP2V 01500_	230	345	475	535	730	805	880	1025	1165	1560	1600	1740	1"¼	½"	1"	2"	2"	1"½	220/290

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel





Data related to the lower heat exchanger

	MODEL	WP2V 00300R				WP2V 00400R				WP2V 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	1,0 [7,1]				1,2 [8,5]				1,5 [10,6]			
	PRIMARY FLOW (m^3/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	316	344	487	511	441	475	673	701	534	574	813	848
	LITRES FIRST HOUR [2]	515	683	950	1094	678	877	1222	1391	825	1068	1486	1692
	CONTINUOUS DRAW (L) [3]	251	429	586	737	299	508	693	871	368	623	849	1066
	POWER (kW)	10	17	24	30	12	21	28	35	15	25	35	43
	PREHEATING [3] (min)	72	42	30	24	87	50	37	29	86	50	36	29
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	322	341	-	-	449	471	-	-	542	570
	LITRES FIRST HOUR [2]	-	-	552	667	-	-	722	858	-	-	878	1045
	CONTINUOUS DRAW (L) [3]	-	-	291	412	-	-	345	488	-	-	424	599
	POWER (kW)	-	-	17	24	-	-	20	28	-	-	25	35
	PREHEATING [3] (min)	-	-	62	43	-	-	75	52	-	-	74	52
	NL [4]	4				6				8			

	MODEL	WP2V 00600R				WP2V 00800_				WP2V 01000_			
	HEAT EXCHANGER (m^2) [L] [1]	2,0 [14,2]				2,0 [14,2]				3,3 [23,4]			
	PRIMARY FLOW (m^3/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	632	684	968	1012	788	840	1191	1235	1003	1080	1527	1592
	LITRES FIRST HOUR [2]	1167	1468	1835	2098	1167	1478	2058	2321	1591	2056	2842	3232
	CONTINUOUS DRAW (L) [3]	479	806	1095	1372	479	806	1095	1372	743	1233	1661	2071
	POWER (kW)	19	33	45	56	19	33	45	56	30	50	68	84
	PREHEATING [3] (min)	79	46	33	27	101	59	43	34	85	49	36	29
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	644	679	-	-	800	835	-	-	1020	1073
	LITRES FIRST HOUR [2]	-	-	1080	1293	-	-	1236	1449	-	-	1694	2011
	CONTINUOUS DRAW (L) [3]	-	-	551	775	-	-	551	775	-	-	851	1186
	POWER (kW)	-	-	32	45	-	-	32	45	-	-	49	69
	PREHEATING [3] (min)	-	-	68	48	-	-	87	61	-	-	73	51
	NL [4]	13				16				29			

	MODEL	WP2V 01500_			
	HEAT EXCHANGER (m^2) [L] [1]	3,6 [25,5]			
	PRIMARY FLOW (m^3/h)	4			
	PRIMARY TEMP. (°C)	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1533	2192	2299	2373
	LITRES FIRST HOUR [2]	1621	2723	3790	4236
	CONTINUOUS DRAW (L) [3]	833	1392	1883	2353
	POWER (kW)	34	57	77	96
	PREHEATING [3] (min)	117	68	50	39
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1552	1613
	LITRES FIRST HOUR [2]	-	-	2310	2673
	CONTINUOUS DRAW (L) [3]	-	-	957	1339
	POWER (kW)	-	-	56	78
	PREHEATING [3] (min)	-	-	101	71
	NL [4]	43			

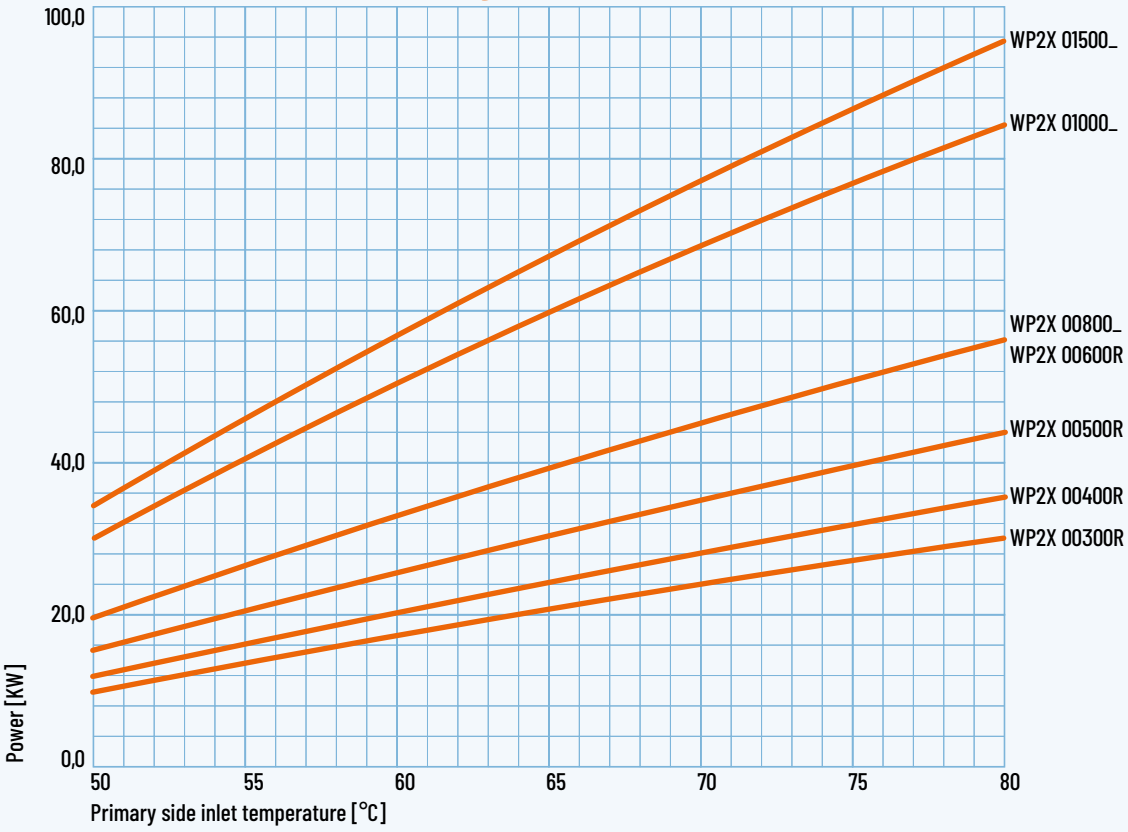
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

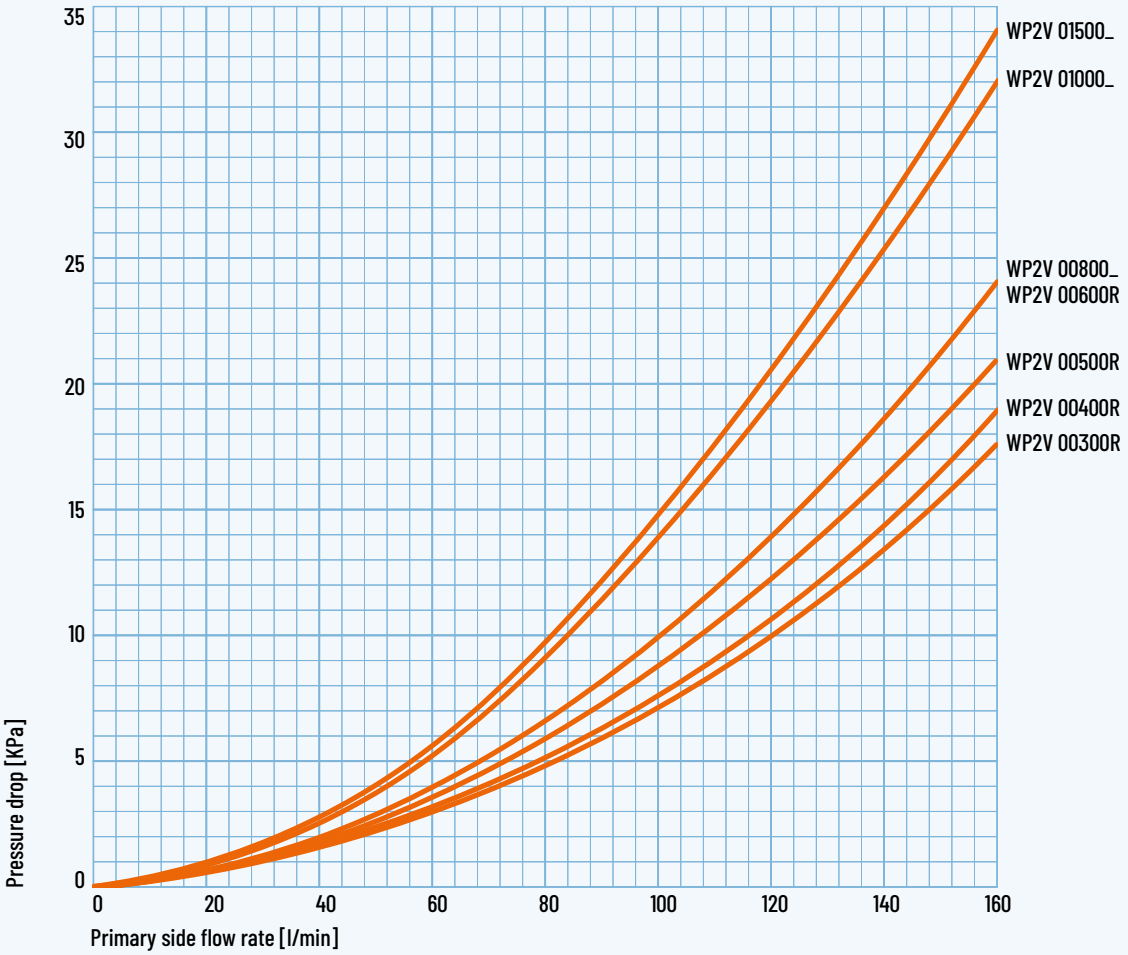
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

WP2V - **Lower heat exchanger** powers with secondary side at 10/45 °C



WP2V - **Lower heat exchanger** pressure drops





Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	WP2V 00300R				WP2V 00400R				WP2V 00500R			
	HEAT EXCHANGER (m²) [L] [1]	2,4 [17,0]				3,0 [21,3]				4,2 [29,8]			
	PRIMARY FLOW (m³/h)	2				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	265	320	445	492	345	417	582	643	445	538	747	824
	LITRES FIRST HOUR [2]	687	1018	1385	1661	888	1320	1801	2164	1164	1718	2330	2792
	CONTINUOUS DRAW (L) [3]	533	881	1186	1477	685	1140	1540	1922	907	1491	2000	2485
	POWER (kW)	22	36	48	60	28	46	63	78	37	61	81	101
	PREHEATING [3] (min)	24	14	10	8	24	14	10	8	24	14	10	8
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	277	315	-	-	361	411	-	-	466	529
	LITRES FIRST HOUR [2]	-	-	760	986	-	-	983	1279	-	-	1286	1665
	CONTINUOUS DRAW (L) [3]	-	-	610	848	-	-	786	1097	-	-	1037	1435
	POWER (kW)	-	-	35,5	49,3	-	-	45,7	63,8	-	-	60,3	83,4
	PREHEATING [3] (min)	-	-	21	15	-	-	21	15	-	-	21	15
	NL [4]	8				12				19			

	MODEL	WP2V 00600R				WP2V 00800_				WP2V 01000_			
	HEAT EXCHANGER (m²) [L] [1]	5,0 [35,5]				5,2 [36,9]				6,0 [42,6]			
	PRIMARY FLOW (m³/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	526	630	876	961	611	718	1000	1088	717	833	1160	1256
	LITRES FIRST HOUR [2]	1352	1975	2672	3187	1462	2102	2846	3374	1666	2363	3193	3767
	CONTINUOUS DRAW (L) [3]	1042	1699	2269	2812	1075	1748	2332	2888	1198	1933	2568	3173
	POWER (kW)	42	69	92	114	44	71	95	118	49	79	105	129
	PREHEATING [3] (min)	26	15	11	9	31	18	13	11	34	20	15	12
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	550	620	-	-	635	708	-	-	743	822
	LITRES FIRST HOUR [2]	-	-	1490	1915	-	-	1604	2040	-	-	1820	2295
	CONTINUOUS DRAW (L) [3]	-	-	1188	1635	-	-	1224	1683	-	-	1361	1861
	POWER (kW)	-	-	69,1	95,1	-	-	71,2	97,9	-	-	79,1	108,2
	PREHEATING [3] (min)	-	-	23	16	-	-	27	19	-	-	30	21
	NL [4]	22				26				31			

	MODEL	WP2V 01500_			
	HEAT EXCHANGER (m²) [L] [1]	7,5 [53,2]			
	PRIMARY FLOW (m³/h)	4			
	PRIMARY TEMP. (°C)	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1060	1209	1690	1813
	LITRES FIRST HOUR [2]	2265	3160	4287	5025
	CONTINUOUS DRAW (L) [3]	1522	2464	3281	4058
	POWER (kW)	62	100	134	165
	PREHEATING [3] (min)	42	24	18	14
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1093	1195
	LITRES FIRST HOUR [2]	-	-	2464	3074
	CONTINUOUS DRAW (L) [3]	-	-	1731	2373
	POWER (kW)	-	-	100,7	138,0
	PREHEATING [3] (min)	-	-	36	25
	NL [4]	47			

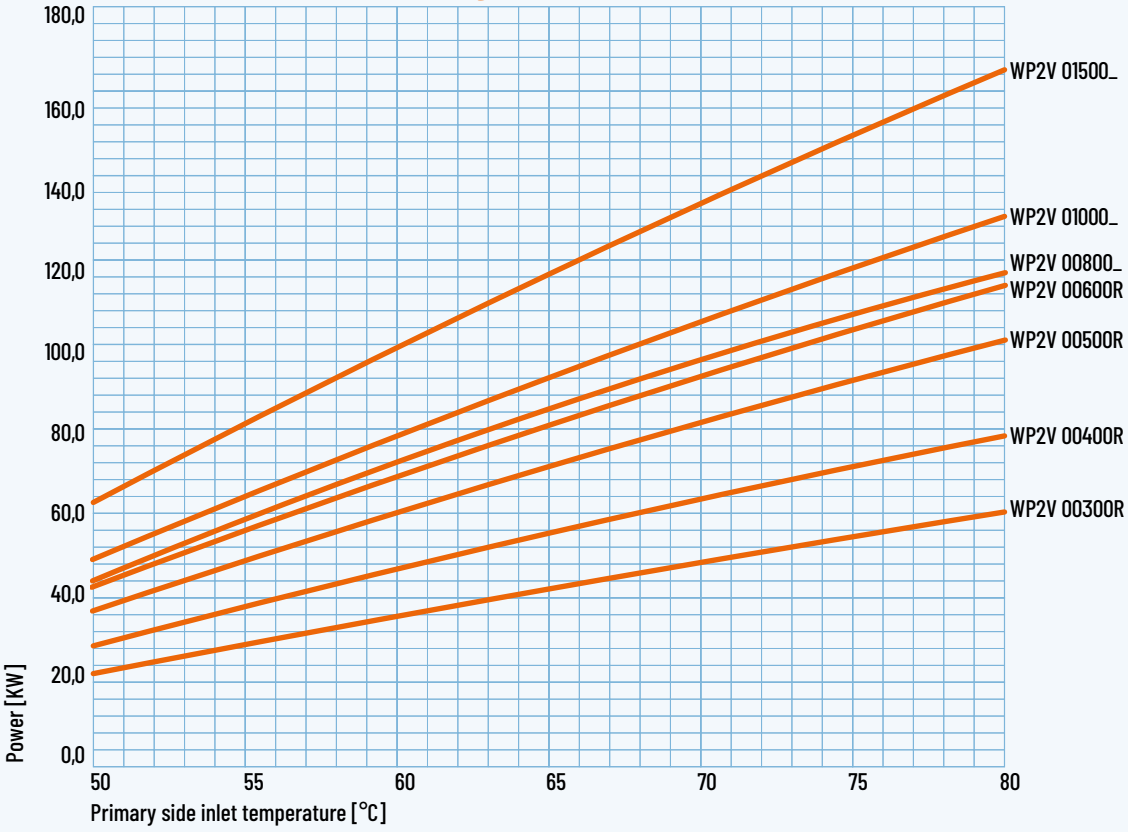
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

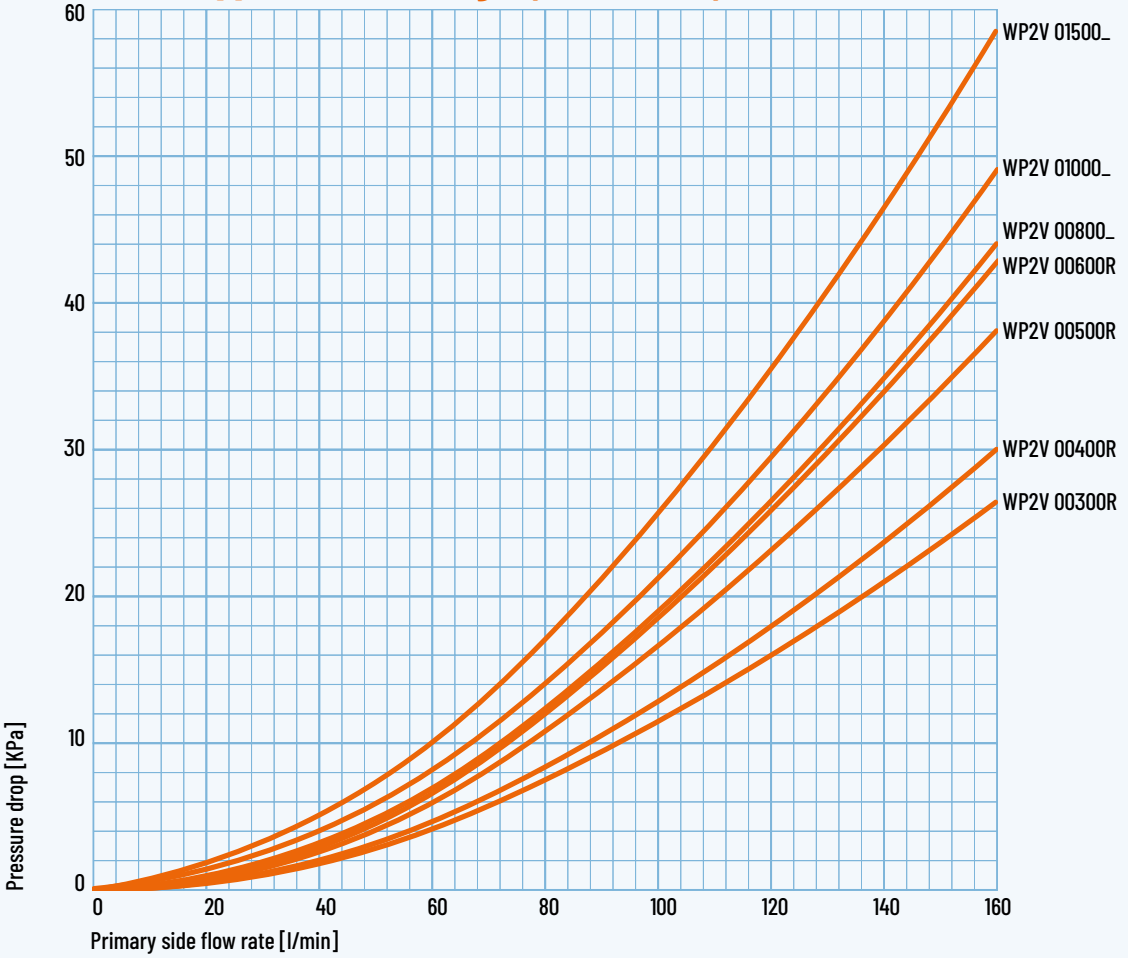
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

WP2V - **Upper heat exchanger** powers with secondary side at 10/45 °C



WP2V - **Upper heat exchanger** pressure drops





TWIN - Two-in-one calorifier/buffer store for heat pumps
TW1X - Made of AISI 316L Stainless steel
TW1V - Made of glass lined steel

The system consists of two cylinders in a single body: the upper tank is a calorifier for the production and storage of domestic hot water (DHW) equipped with a high efficiency heat exchanger that can be powered by a heat pump, while the lower tank is a primary water buffer store for the heating system that is also fed by a heat pump.
The calorifier body is available in stainless steel (mod. TW1X) or glass lined steel (TW1V), the buffer store is made only in carbon steel.
Twin represents a very a cost effective and compact solution that allows to have a complete system by reducing space and installation costs.
It is also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		TW1X	TW1V
DHW cylinder	Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	External protective treatment	Pickling and passivation	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	6 bar / 95°C	8 bar / 95°C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	None
	External protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	Type	Fixed coil for 200 litres capacity Double spiral fixed coil for capacities from 300 to 500 litres	
	Rating (P max. / T max.)	10 bar / 95°C	10 bar / 95°C
Buffer vessel	Material	S 235 Jr Carbon steel	
	Internal protective treatment	None	
	External protective treatment	Anti rust protection + epoxy painting	
	Rating (P max. / T max.)	4 bar / 95°C	
General features	Capacity	DHW cylinder: 200 ÷ 500 L / Buffer vessel: 50 ÷ 80 L	
	Warranty	5 years	
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)

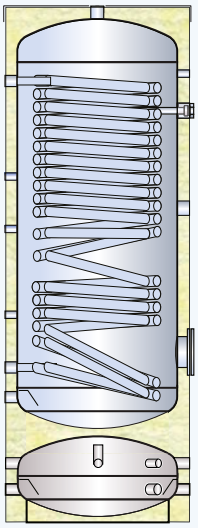

Impressed current electronic anode


Electronic control unit


Thermostat

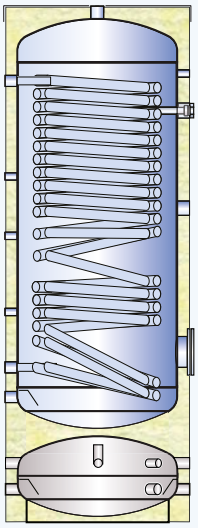

Thermometer


1"½ electric immersion heater



TW1X - Calorifier body in AISI 316L stainless steel
Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *	BUFFER CAPACITY (L)
TW1X 00200 R	50	B	59,9	189,8	1,90 / 18,6	42,0
TW1X 00300 R	50	B	69,2	290,3	3,50 / 34,3	58,0
TW1X 00400 R	50	B	78,0	414,9	4,50 / 44,1	74,0
TW1X 00500 R	50	B	83,0	500,3	5,70 / 55,9	74,0

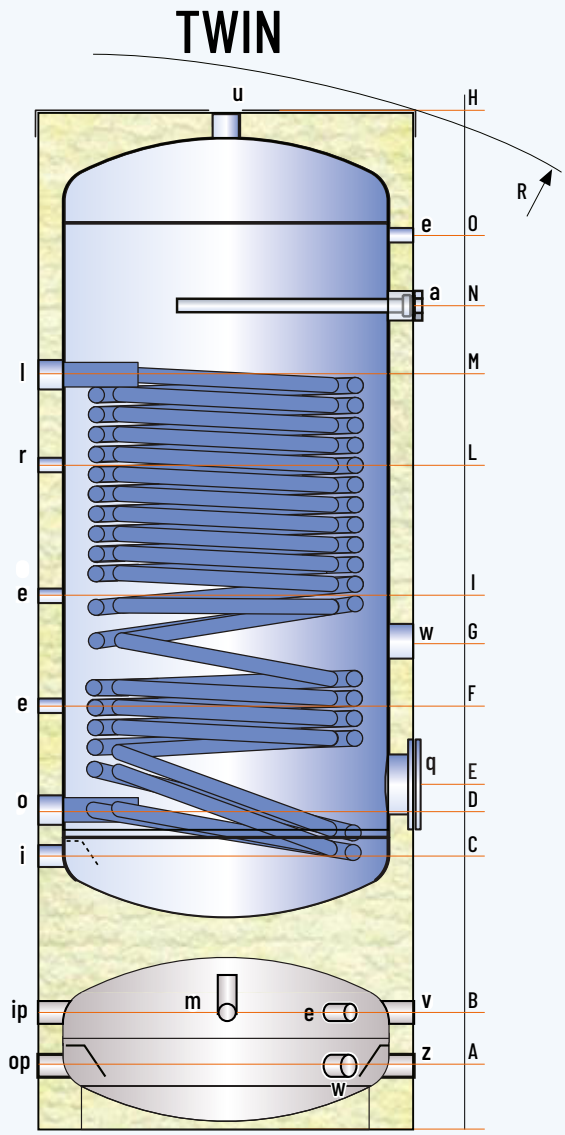


TW1V - Calorifier body in glass lined steel
Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *	BUFFER CAPACITY (L)
TW1V 00200 R	50	B	59,9	189,8	2,10 / 20,6	42,0
TW1V 00300 R	50	B	69,2	290,3	3,50 / 34,3	58,0
TW1V 00400 R	50	B	78,0	414,9	4,50 / 44,1	74,0
TW1V 00500 R	50	B	83,0	500,3	5,70 / 55,9	74,0

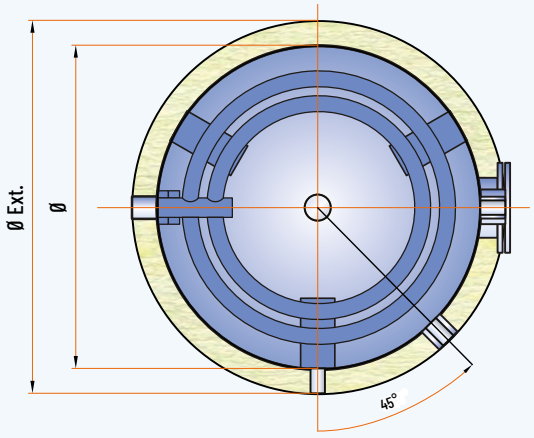
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights



LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **l .** Heat pump flow
- **o .** Heat pump return
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **ip .** Heat pump flow to buffer vessel
- **op .** Heat pump return from buffer vessel
- **m .** Buffer vent
- **v .** Heating system flow
- **z .** Heating system return



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT	R	HEAT EXCHANGER (m^2)	BUFFER VOLUME (L)	SS MODEL WEIGHT (kg)	GLASS LINED MODEL WEIGHT (kg)
TW1X 00200 R	450	1690	550	1790	1,90 *	42	79	-
TW1V 00200 R	450	1690	550	1790	2,10 *	42	-	93
TW1_ 00300 R	500	1980	600	2080	3,50	58	108	127
TW1_ 00400 R	650	1760	750	1925	4,60	74	131	154
TW1_ 00500 R	650	2000	750	2150	5,70	74	152	180

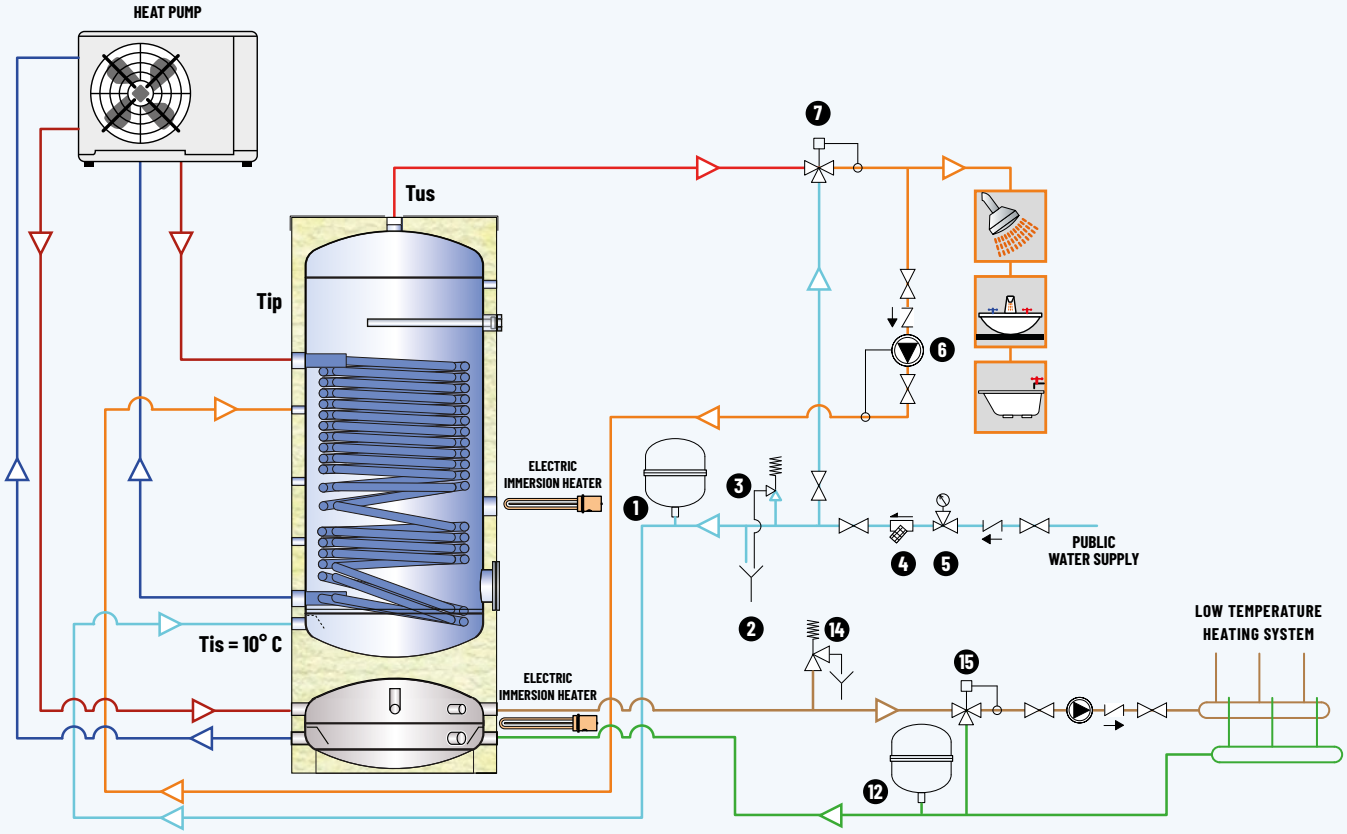
** Fixed single spiral coil*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	N	O	CONNECTIONS (GAS) a	l o	e r m	i u v z i p o p	w	q
TW1_ 00200 R	105	300	487	580	650	730	1015	1015	1135	1470	1346	1480	1"¼	1"	½"	1"	1"½	120/180
TW1_ 00300 R	115	305	510	600	690	710	885	1180	1315	1510	1560	1765	1"¼	1"¼	½"	1"	1"½	120/180
TW1_ 00400 R	145	250	515	610	680	720	895	1050	1240	1375	1400	1510	1"¼	1"¼	½"	1"	1"½	120/180
TW1_ 00500 R	145	250	505	600	670	710	930	1168	1380	1610	1640	1750	1"¼	1"¼	½"	1"	1"½	120/180

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
12 . Heating system expansion vessel
14 . Heating system safety valve
15 . 3-way valve low temperature heating system



	MODEL	TW1X 00200R				TW1V 00200R				TW1_ 00300R			
	HEAT EXCHANGER (m^2) [L] [1]	1,9 [13,5]				2,1 [14,9]				3,5 [24,9]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	249	296	413	452	256	306	427	468	390	462	642	701
	LITRES FIRST HOUR [2]	595	872	1193	1425	633	932	1272	1523	962	1391	1880	2235
	CONTINUOUS DRAW (L) [3]	437	729	984	1229	476	791	1067	1332	722	1173	1565	1938
	POWER (kW)	18	30	40	50	19	32	43	54	29	48	64	79
	PREHEATING [3] (min)	29	17	12	10	27	16	11	9	29	17	12	10
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	260	291	-	-	267	301	-	-	406	455
	LITRES FIRST HOUR [2]	-	-	657	846	-	-	699	903	-	-	1057	1349
	CONTINUOUS DRAW (L) [3]	-	-	501	701	-	-	546	761	-	-	822	1129
	POWER (kW)	-	-	29	41	-	-	32	44	-	-	47,8	65,7
	PREHEATING [3] (min)	-	-	25	18	-	-	23	16	-	-	25	18
	NL [4]	4				4				11			

	MODEL	TW1_ 00400R				TW1_ 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	4,5 [32,0]				5,7 [40,5]			
	PRIMARY FLOW (m^3/h)	3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	546	643	896	977	658	771	1072	1165
	LITRES FIRST HOUR [2]	1305	1887	2562	3044	1571	2247	3037	3595
	CONTINUOUS DRAW (L) [3]	959	1571	2104	2612	1153	1865	2482	3070
	POWER (kW)	39	64	86	106	47	76	101	125
	PREHEATING [3] (min)	31	18	13	10	32	19	14	11
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	568	634	-	-	683	760
	LITRES FIRST HOUR [2]	-	-	1434	1831	-	-	1721	2182
	CONTINUOUS DRAW (L) [3]	-	-	1095	1512	-	-	1311	1796
	POWER (kW)	-	-	64	88	-	-	76,2	104,5
	PREHEATING [3] (min)	-	-	26	19	-	-	28	19
	NL [4]	20				30			

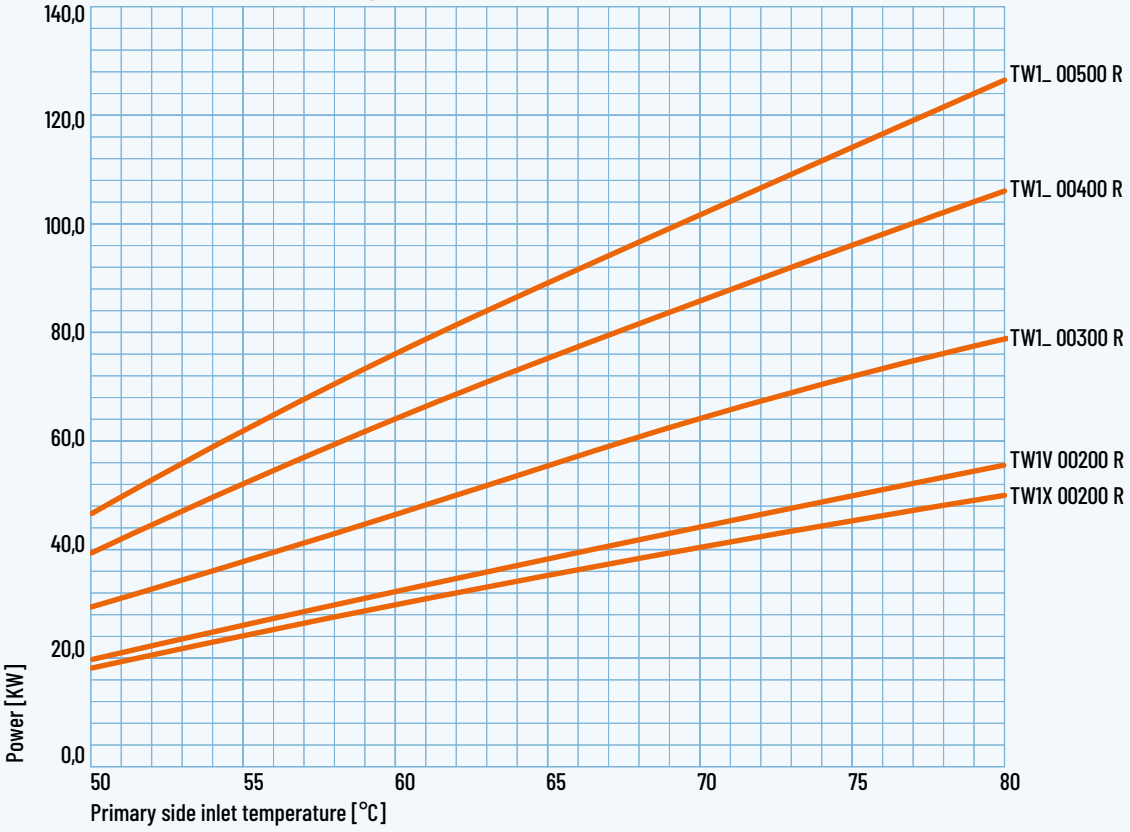
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

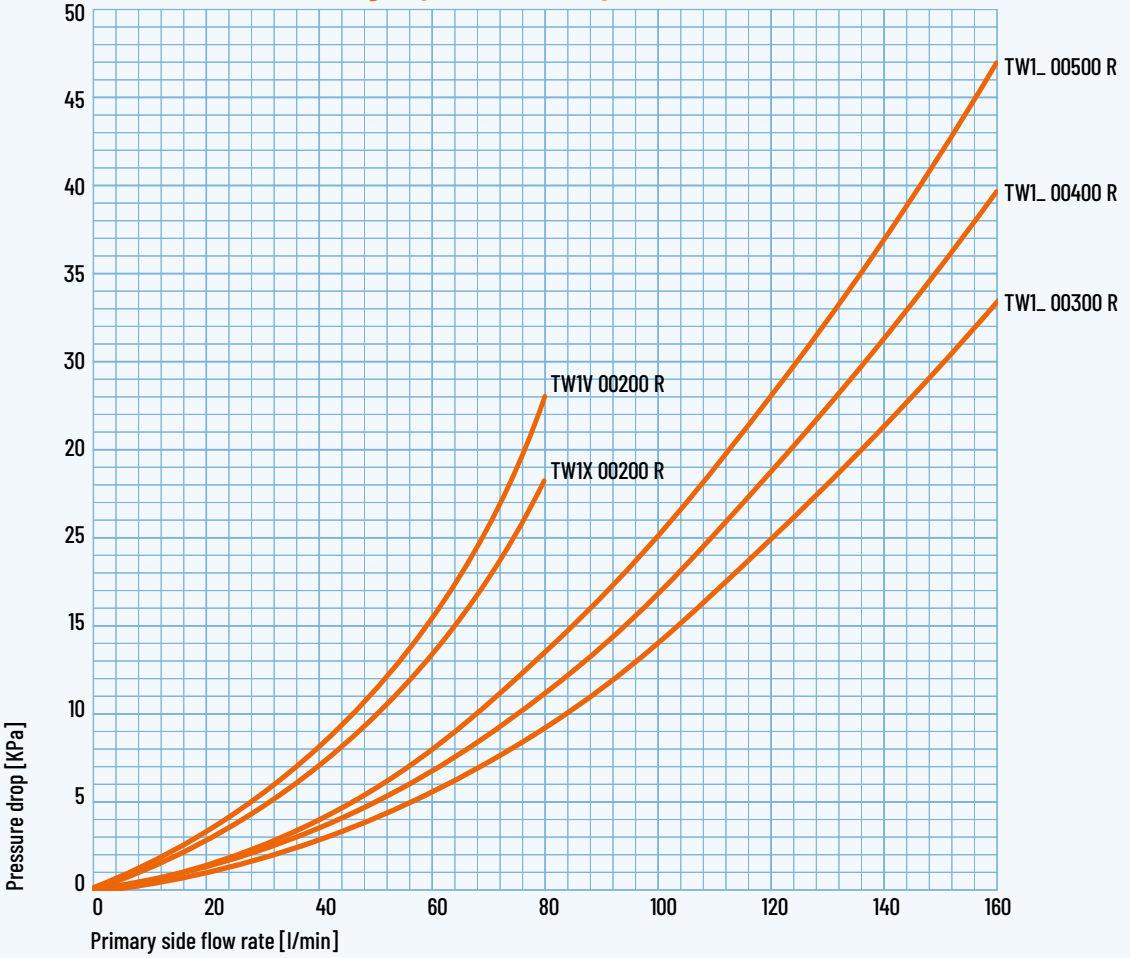
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

TWIN - Heat exchanger powers with secondary side at 10/45 °C



TWIN - Heat exchanger pressure drops





SMHP - High performance combined buffer store for heat pumps Smartwarm HP

Smartwarm HP is a combined buffer store for primary water with instantaneous production of domestic hot water (DHW) through a high efficiency heat exchanger made of a corrugated stainless steel pipe.
It is available in two options: buffer store + DHW production (SM0HP) and buffer store + DWH production and auxiliary heat exchanger (SM1HP).

The high ratio between exchanging area and store volume, allows Smartwarm HP to deliver a high performance of DHW production even in combination with low temperature sources like the modern hydronic heat pumps
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES			
	Primary water buffer vessel	**Material**	S 235 Jr Carbon steel
		Internal protective treatment	None
		External protective treatment	Anti rust protection + epoxy painting
		Rating (P max. / T max.)	3 bar / 95°C
	DHW Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
		Internal protective treatment	Pickling and passivation
		External protective treatment	Pickling and passivation
		Rating (P max. / T max.)	6 bar / 95°C
		Type	Corrugated pipe
	Auxiliary heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
		Internal protective treatment	Pickling and passivation
		External protective treatment	Pickling and passivation
		Type	Corrugated pipe
		Rating (P max. / T max.)	6 bar / 95°C
	General features	**Capacity**	300 - 400 L
		Warranty	5 years
		Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
		In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

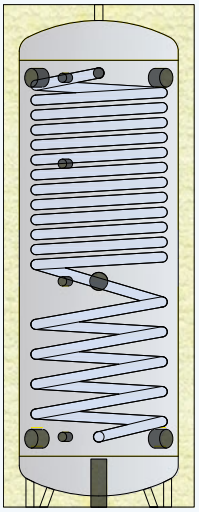
ACCESSORIES (page 218)


Electronic control unit


Thermostat

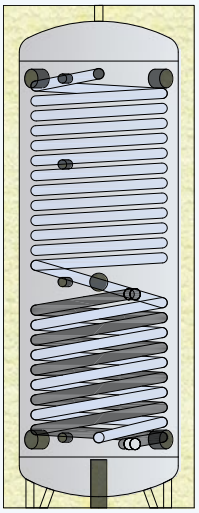

Thermometer


1"½ electric immersion heater



SM0HP - Hard insulation with rigid polyurethane foam and PVC jacket

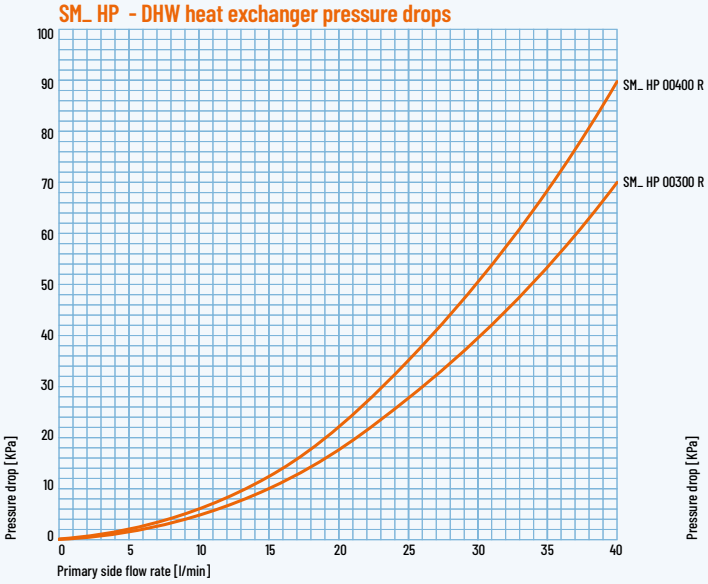
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *
SM0HP 00300 R	50	B	57,3	289,8	4,0 / 17,0
SM0HP 00400 R	50	B	69,8	404,9	5,0 / 20,6



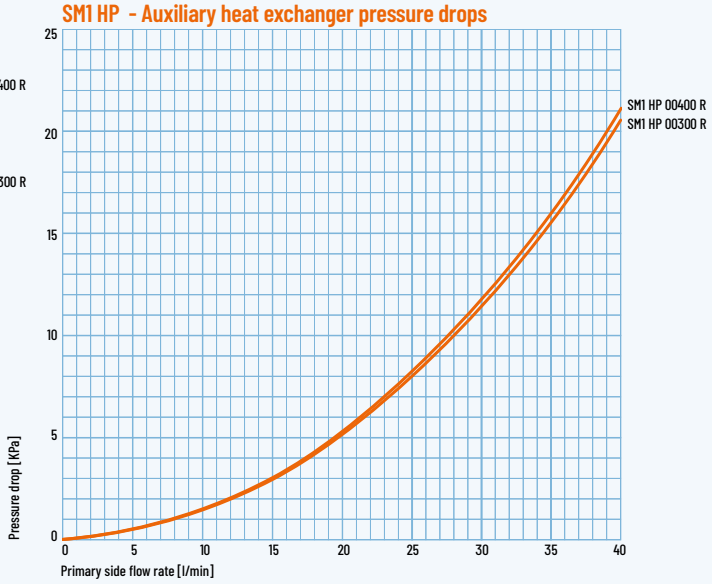
SM1HP - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
SM1HP 00300 R	50	B	57,3	289,8	4,0 / 17,0	1,2 / 4,4
SM1HP 00400 R	50	B	69,8	404,9	5,0 / 20,6	1,4 / 5,3

SM_ HP - DHW heat exchanger pressure drops



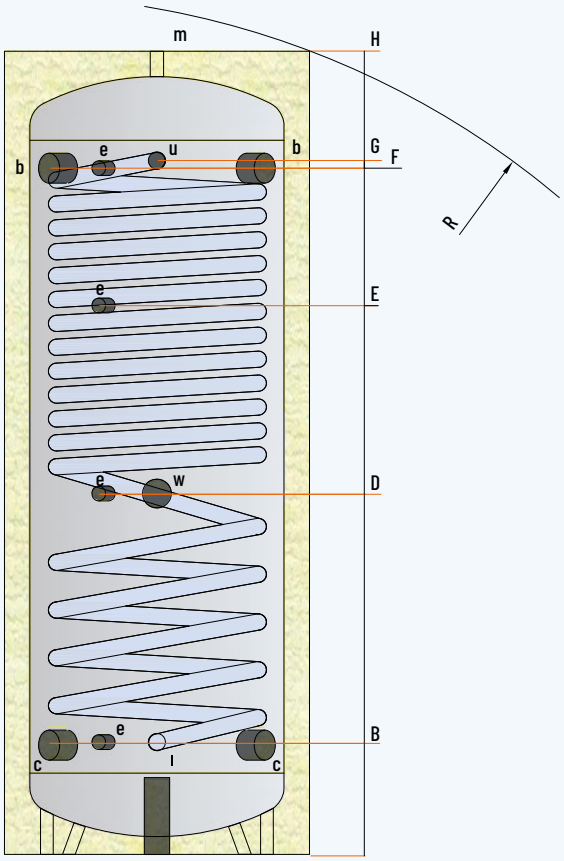
SM1 HP - Auxiliary heat exchanger pressure drops



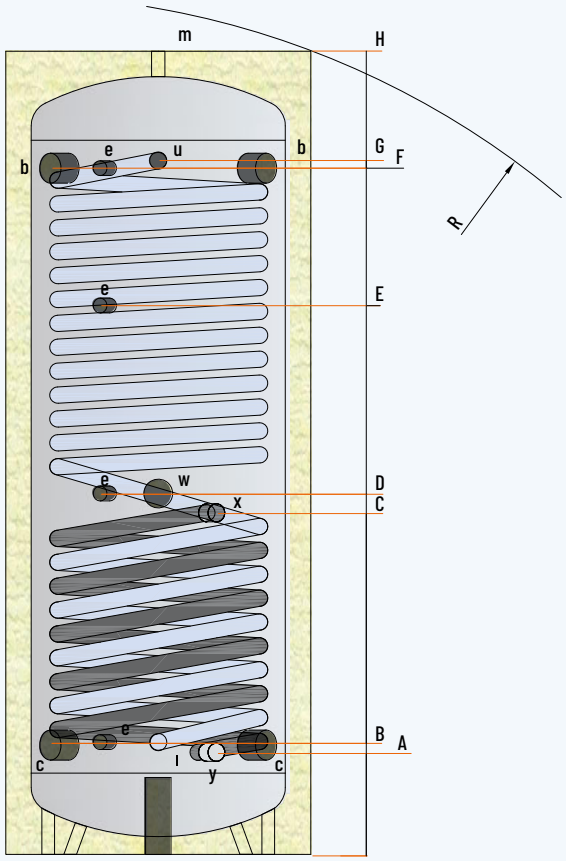
** Volume occupied by the heat exchanger and its support structure*

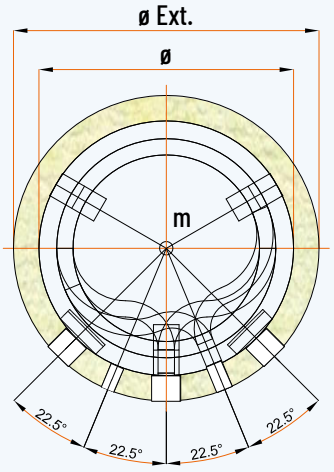
Dimensions and heights

SM0HP



SM1HP





LEGEND

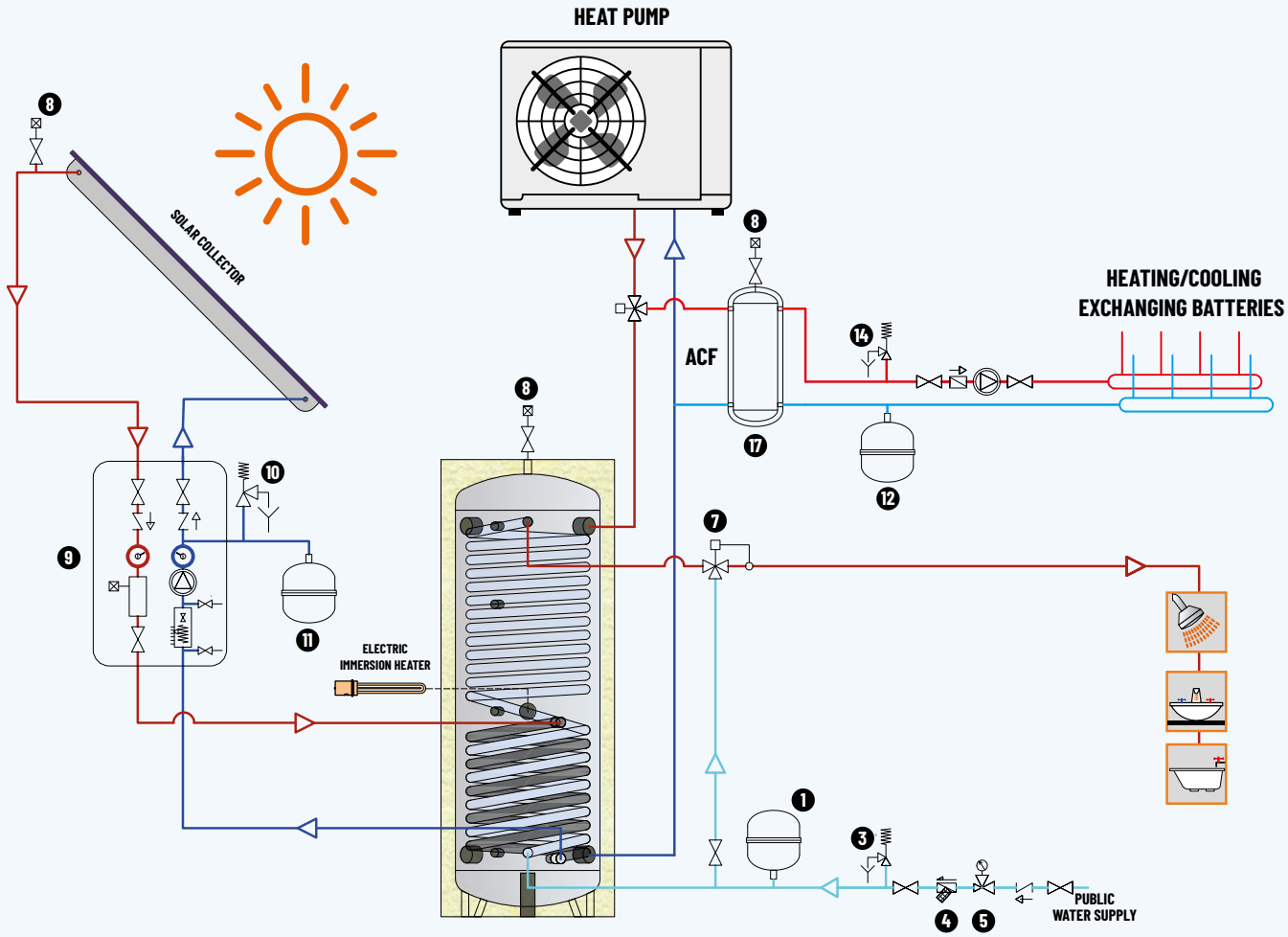
- **b .** Heat source flow
- **c .** Heat source return
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **m .** Buffer vent
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	DHW HEAT EXCHANGER (m^2) / (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L)	WEIGHT (kg)
SM_HP 00300 R	500	1580	600	1520	4,0 / 13,7	1,2 / 4,1	70
SM_HP 00400 R	600	1610	700	1660	5,0 / 17,0	1,4 / 4,8	104

** The insulation is not removable*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	CONNECTIONS (GAS) b c	x y	e	i u	m	w
SM_HP 00300 R	201	221	672	710	1080	1350	1365	1"½	¾"	½"	¾"	½"	1"½
SM_HP 00400 R	210	230	606	644	1090	1350	1365	1"½	¾"	½"	¾"	½"	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit
11 . Solar system expansion vessel
12 . Heating system expansion vessel
14 . Heating system safety valve
17 . Low loss header ACF

SM_ HP Domestic Hot Water performance

CODE	SM_ HP 00300 R	SM_ HP 00300 R
DHW Heat exchanger m² (L)	4,0 (13,6)	5,0 (17,1)
Power (kW)	36,0	45,0
DHW Continuous draw(1) (L/h)	884	1105
DHW(2) producible with a 10 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	82	112
Buffer at 65 °C (L)	185	252
Buffer at 70 °C (L)	269	367
DHW(2) producible with a 20 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	45	61
Buffer at 65 °C (L)	112	153
Buffer at 70 °C (L)	175	139
NL (3)	1	1,2

(1) Average buffer temp. 65 °C, DHW from 10 to 45° C
(2) from 10 to 45 °C
(3) Buffer at 70 °C, DHW from 10 to 45° C

SM1 HP auxiliary heat exchanger performance

CODE	SM1 HP 00300 R	SM1 HP 00300 R
Heat exchanger m² (L)	1,2 (4,1)	1,3 (4,5)
Power (kW)		
ΔT(4) = 10° C	6,3	6,8
ΔT(4) = 15° C	9,5	10,2
ΔT(4) = 20° C	12,6	13,6
ΔT(4) = 25° C	15,8	17,0

(4): difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).



TWHP - High performance Two-in-one buffer store for heat pumps Twin HP

Twin HP consists of two cylinders in a single body:
the upper tank is a buffer store for primary water with instantaneous production of domestic hot water (DHW) through a high efficiency heat exchanger made of a corrugated stainless steel pipe. The lower tank is a buffer store for primary water for the heating system.
It is available in two options: buffer store + DHW production (TWOHP) and buffer store + DWH production and auxiliary heat exchanger (TW1HP).
Twin HP represents a very cost effective and compact solution that allows space savings on domestic applications powered by modern hydronics heat pumps.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES		
Primary water buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	3 bar / 95°C
DHW Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
Auxiliary heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
General features	**Capacity**	300 - 400 L
	Warranty	5 years
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

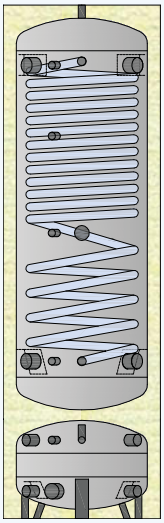
ACCESSORIES (page 218)


Electronic control unit


Thermostat

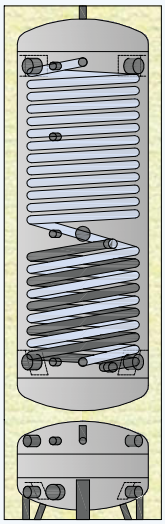

Thermometer


1"½ electric immersion heater



TW0HP - Hard insulation with rigid polyurethane foam and PVC jacket

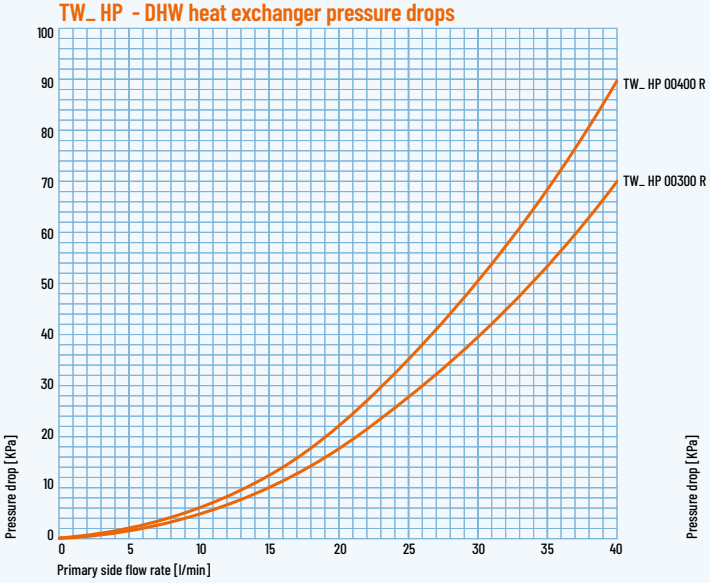
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	UPPER BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	LOWER BUFFER CAPACITY (L) *
TW0HP 00300 R	50	B	57,3	289,8	4,0 / 17,0	58,0
TW0HP 00400 R	50	B	69,8	404,9	5,0 / 20,6	85,0



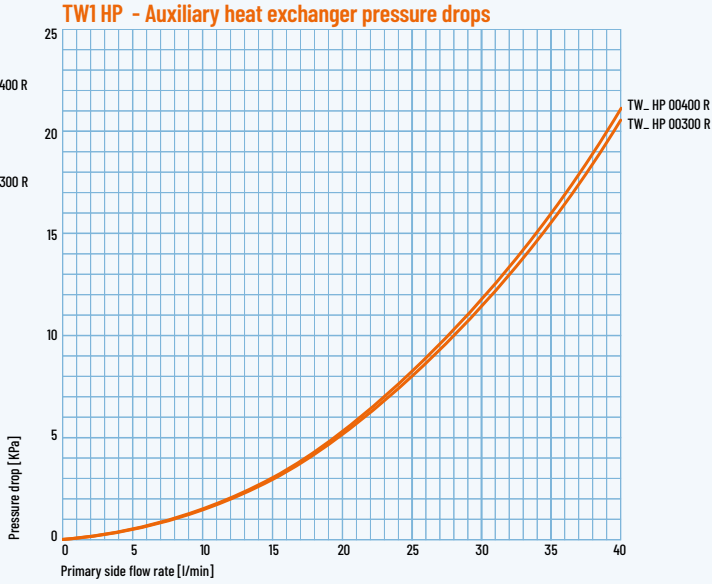
TW1HP - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	UPPER BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER (m^2) / (L) *	LOWER BUFFER CAPACITY (L) *
TW1HP 00300 R	50	B	57,3	289,8	4,0 / 17,0	1,2 / 4,4	58,0
TW1HP 00400 R	50	B	69,8	404,9	5,0 / 20,6	1,4 / 5,3	85,0

TW_ HP - DHW heat exchanger pressure drops



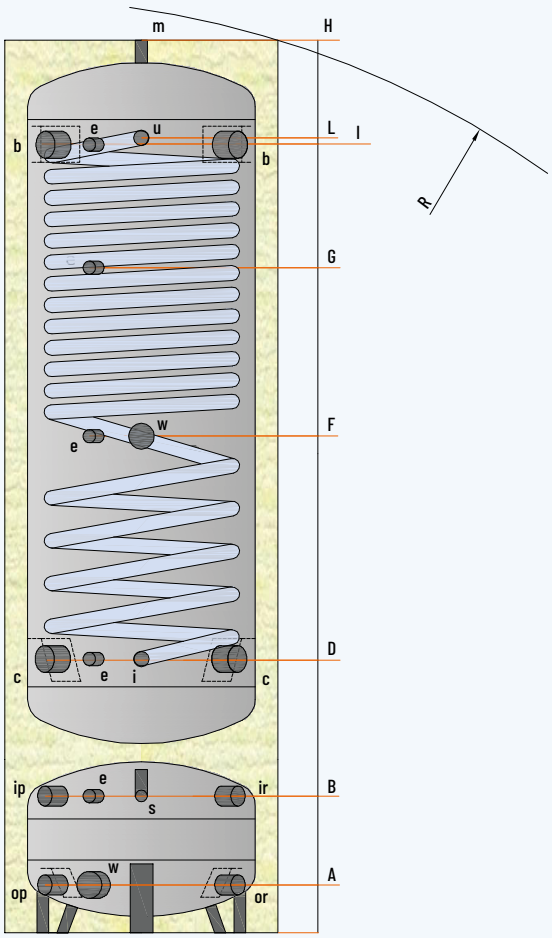
TW1 HP - Auxiliary heat exchanger pressure drops



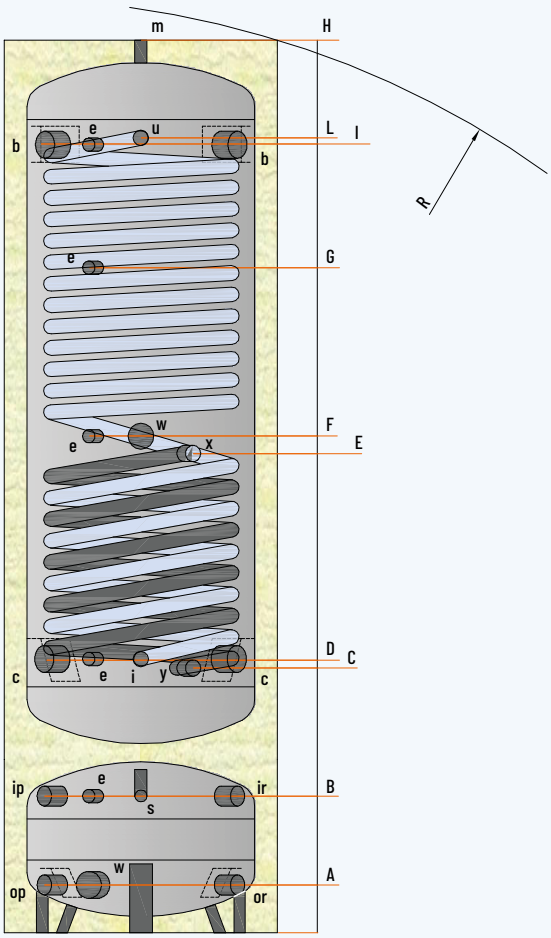
** Volume occupied by the heat exchanger and its support structure*

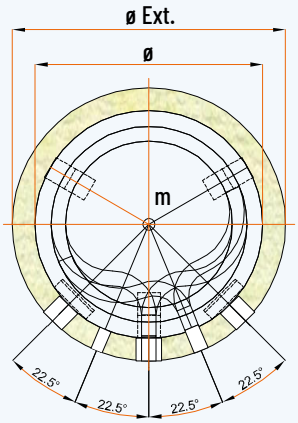
Dimensions and heights

TW0HP



TW1HP





LEGEND

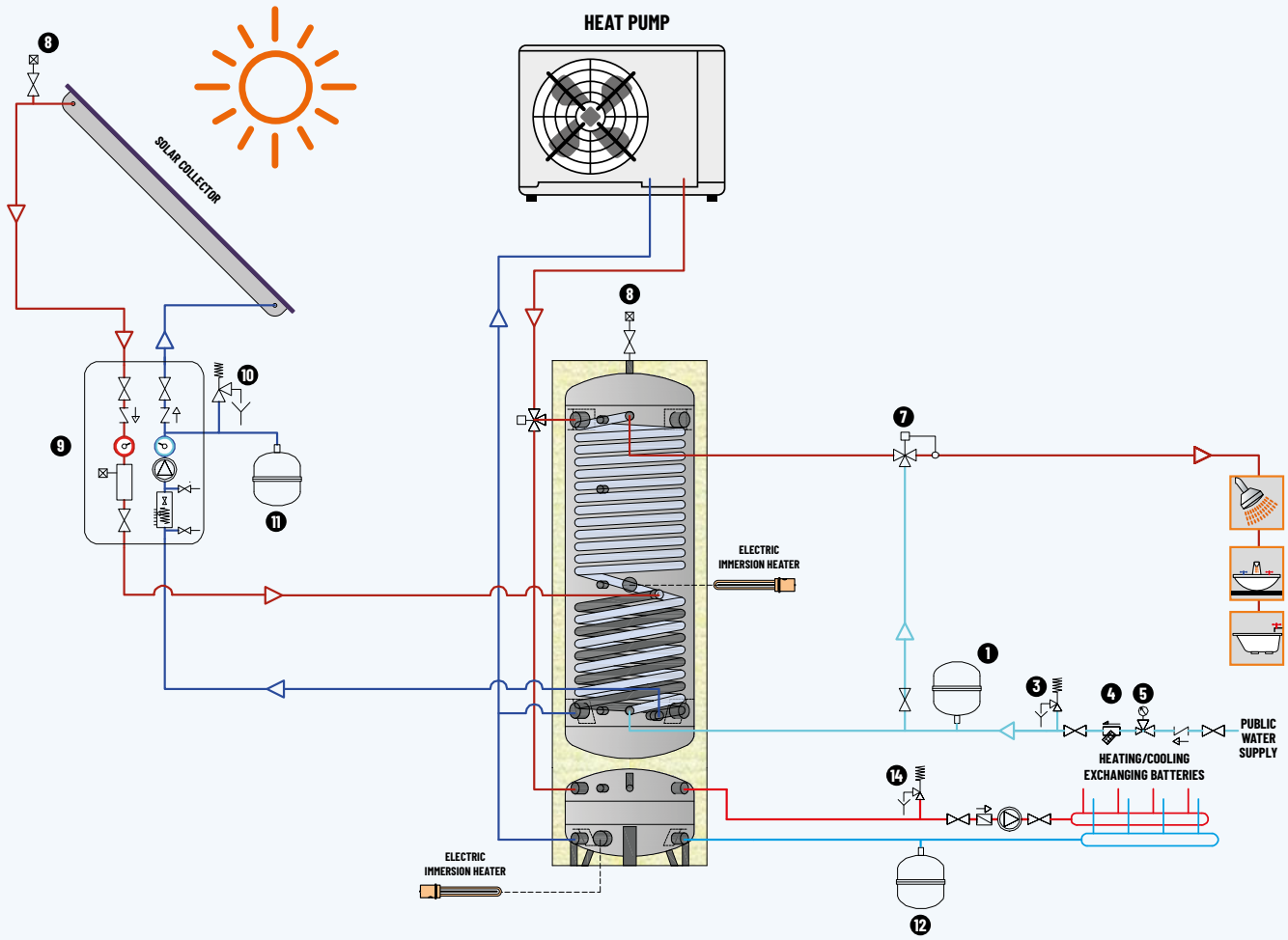
b . Heat source flow
c . Heat source return
e . Thermometer - Sensor
i . Domestic cold water inlet
m . Buffer vent
u . Domestic hot water outlet
w . Opening for immersion heater
x . Solar system flow
y . Solar system return
ip . Heat pump flow to buffer vessel
op . Heat pump return from buffer
ir . Air conditioning system flow
or . Air conditioning system return
s . Buffer vent

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	DHW HEAT EXCHANGER (m^2) / (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L)	BUFFER VOLUME (L)	WEIGHT (kg)
TW_HP 00300 R	500	1980	600	2090	4,0 / 13,7	1,2 / 4,1	58,0	127
TW_HP 00400 R	600	2020	700	2160	5,0 / 15,6	1,4 / 4,8	85,0	154

** The insulation is not removable*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	CONNECTIONS (GAS) b c	x y	e	i u	m s	ip op or ir	w
TW_HP 00300 R	105	300	581	601	1052	1090	1460	1730	1746	1"½	¾"	½"	¾"	½"	1"	1"½
TW_HP 00400 R	125	310	620	640	1016	1054	1500	1760	1775	1"½	¾"	½"	¾"	½"	1"	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit
11 . Solar system expansion vessel
12 . Heating system expansion vessel
14 . Heating system safety valve

TW_ HP Domestic Hot Water performance

CODE	TW_ HP 00300 R	TW_ HP 00400 R
DHW Heat exchanger m² (L)	4,0 (13,7)	5,0 (17,0)
Power (kW)	36,0	45,0
DHW Continuous draw(1) (L/h)	884	1105
DHW(2) producible with a 10 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	82	112
Buffer at 65 °C (L)	185	252
Buffer at 70 °C (L)	269	367
DHW(2) producible with a 20 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	45	61
Buffer at 65 °C (L)	112	153
Buffer at 70 °C (L)	175	139
NL (3)	1	1,2

(1) Average buffer temp. 65 °C, DHW from 10 to 45° C
(2) from 10 to 45 °C
(3) Buffer at 70 °C, DHW from 10 to 45° C

TW1 HP auxiliary heat exchanger performance

CODE	TW1 HP 00300 R	TW1 HP 00400 R
Heat exchanger m² (L)	1,2 (4,1)	1,3 (4,5)
Power (kW)		
ΔT(4) = 10° C	6,3	6,8
ΔT(4) = 15° C	9,5	10,2
ΔT(4) = 20° C	12,6	13,6
ΔT(4) = 25° C	15,8	17,0

(4) ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).



CALORIFIERS WITH FIXED COIL

Whether it's a small, medium or big application, we offer the widest range of solutions available in the market in terms of capacities, materials, configurations and heat sources.
For every system we have the proper solution.



AISI 316L Stainless steel calorifier with fixed coil Eco Line

ECO1 – With one heat exchanger

ECO2 – With two heat exchangers

ECO LINE series calorifiers are made of AISI 316L Stainless steel, designed for the production and storage of domestic hot water (DHW). They are equipped with one or two internal fixed coils of advanced design that can be fed by a solar system and/or a boiler.

Eco-Line is the best entry level solution for domestic use or small applications, thanks to their versatility and compactness.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Rating (P max. / T max.)	6 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	150 - 500 L
	Warranty	5 years
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES
(page 218)



Impressed current electronic anode



Electronic control unit



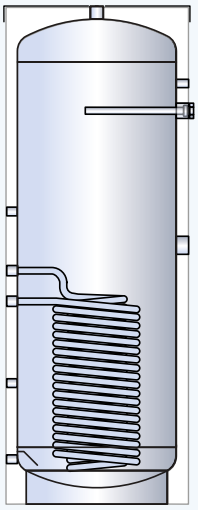
Thermostat



Thermometer

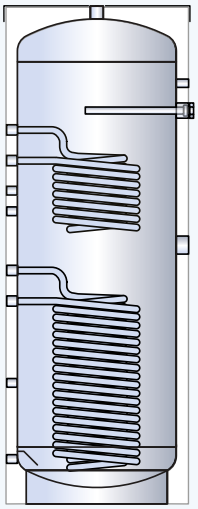


1"½ electric immersion heater



EC01 - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
EC01 00150 R	50	B	46,9	148,0	0,80 / 7,8
EC01 00200 R	50	B	53,9	189,8	0,80 / 7,8
EC01 00300 R	50	B	65,5	290,3	1,20 / 11,8
EC01 00400 R	50	B	69,2	414,9	1,35 / 12,2
EC01 00500 R	50	B	77,8	500,3	1,70 / 16,7



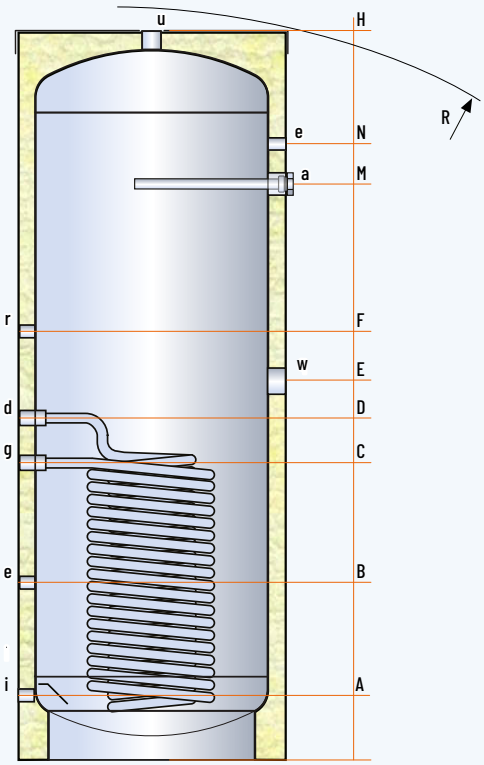
EC02 - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
EC02 00150 R	50	B	46,9	148,0	0,80 / 7,8	0,50 / 4,9
EC02 00200 R	50	B	53,9	189,8	0,80 / 7,8	0,50 / 4,9
EC02 00300 R	50	B	65,5	290,3	1,20 / 11,8	0,80 / 7,8
EC02 00400 R	50	B	69,2	414,9	1,35 / 12,2	0,80 / 7,8
EC02 00500 R	50	B	77,8	500,3	1,70 / 16,7	1,00 / 9,8

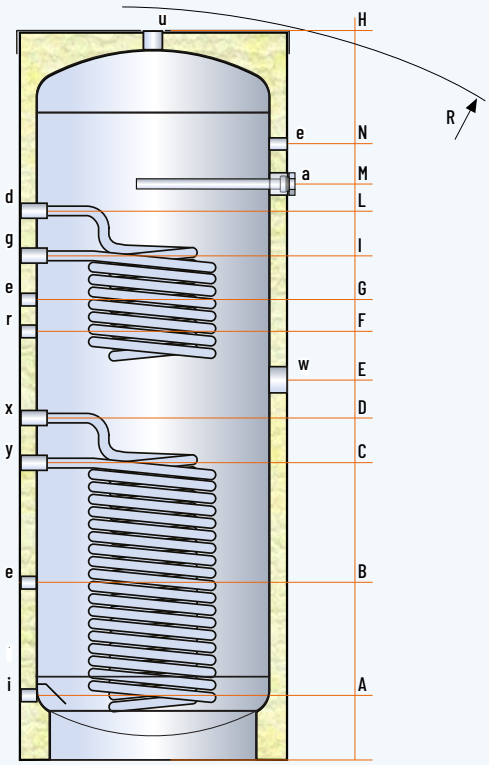
** Volume occupied by the heat exchanger and its support structure*

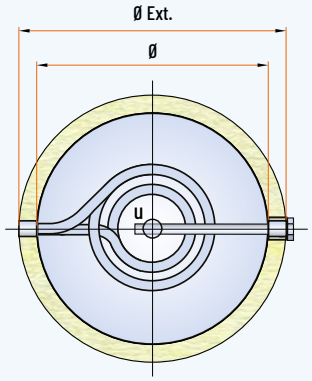
Dimensions and heights

ECO1



ECO2





LEGEND

- **a .** Magnesium anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g.** Boiler return
- **i .** Domestic cold water inlet
- **w.** Opening for immersion heater
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **x .** Solar system flow
- **y .** Solar system return

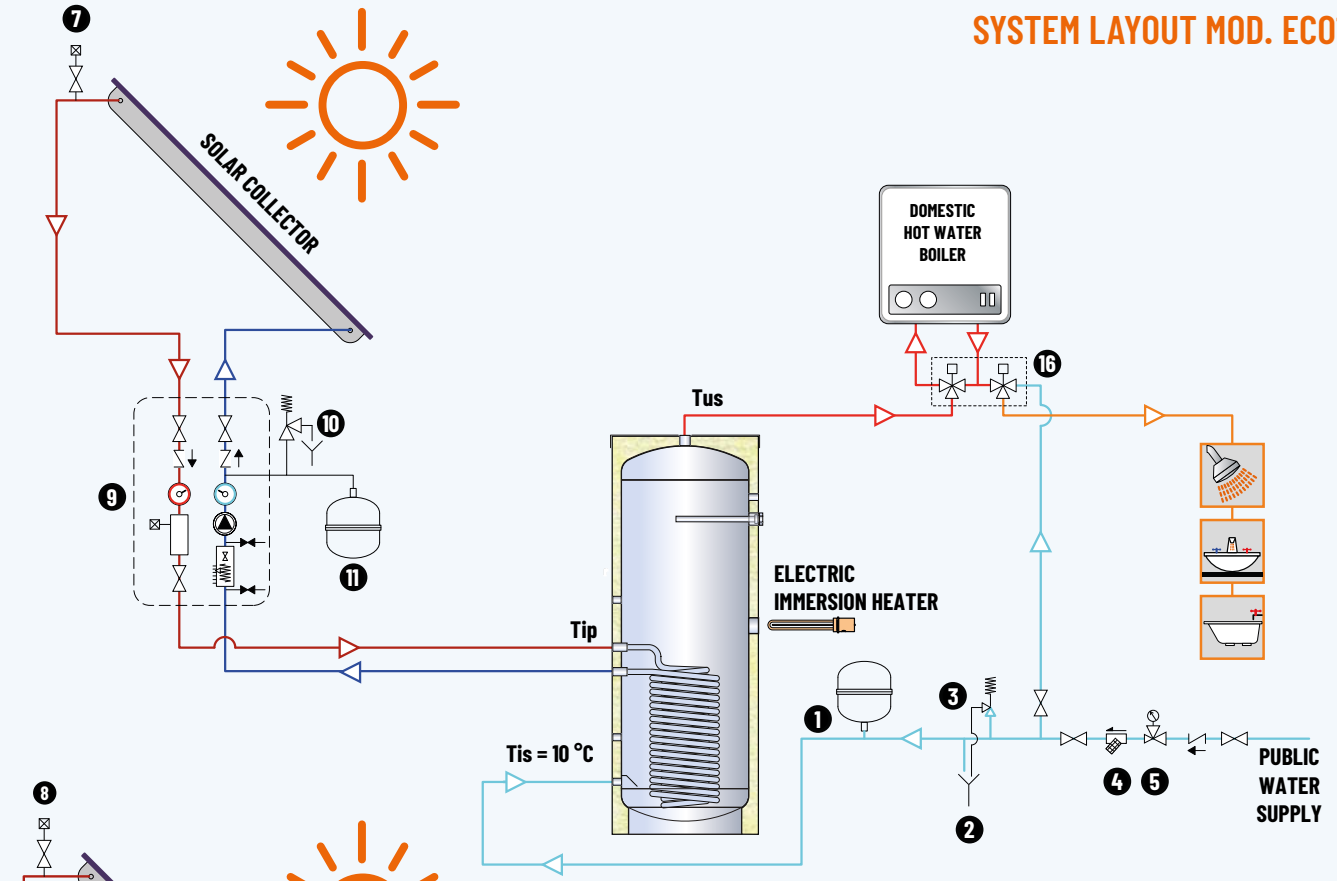
MODEL	DIMENSIONS (mm) Ø	H	Ø EXT	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	WEIGHT ECO1 (kg)	WEIGHT ECO2 (kg)
ECO_ 00150 R	450	1050	550	1190	0,80	0,50	43	46
ECO_ 00200 R	450	1305	550	1430	0,80	0,50	49	52
ECO_ 00300 R	500	1595	600	1720	1,20	0,80	63	68
ECO_ 00400 R	650	1395	750	1600	1,35	0,80	72	77
ECO_ 00500 R	650	1645	750	1820	1,70	1,00	85	91

** The tilt height refers to the cylinder insulated. The insulation is not removable.*

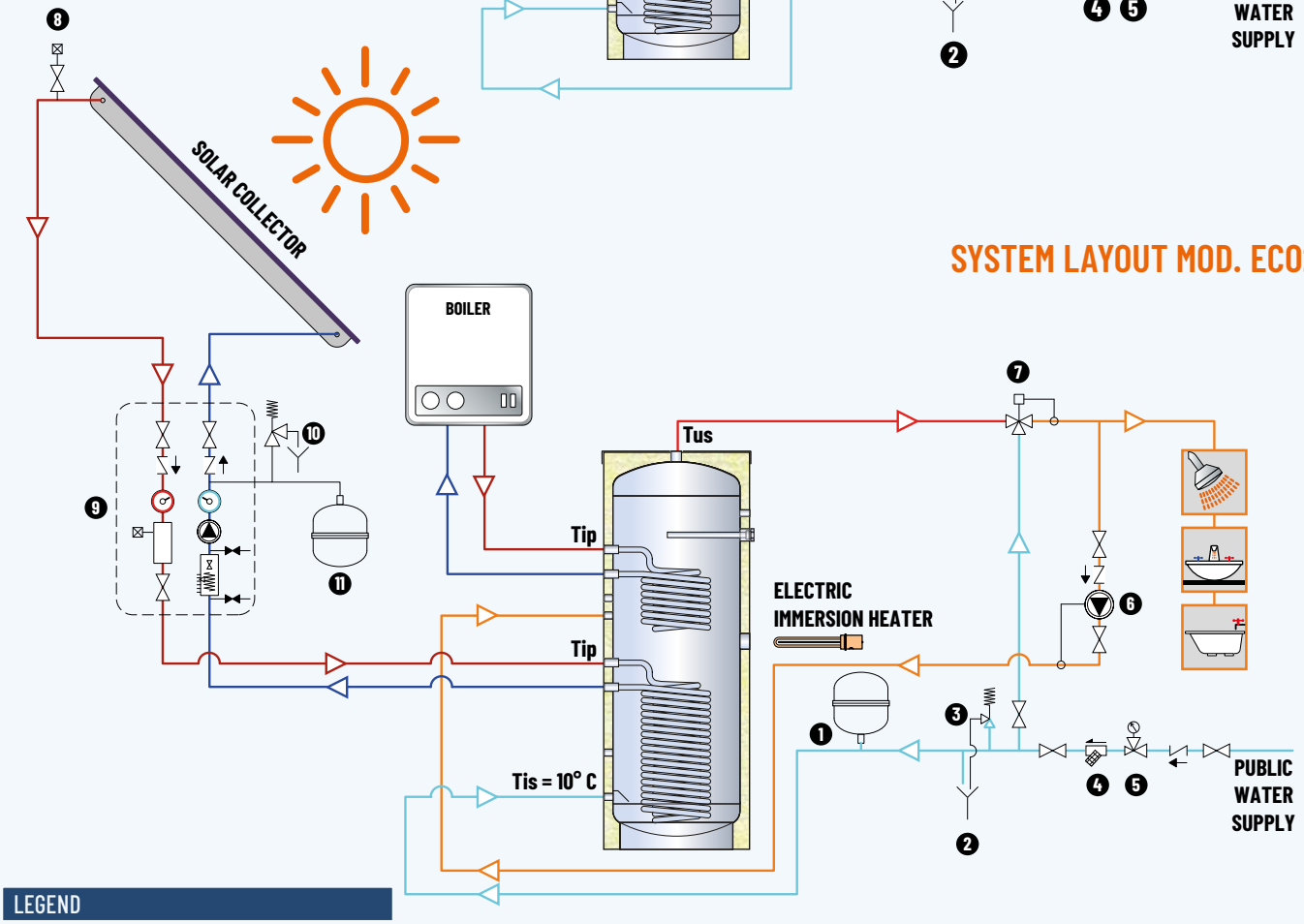
MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	N	CONNECTIONS (GAS) a	e r	i u	d g x y	w
ECO_ 00150 R	110	260	345	445	495	540	635	730	830	750	850	1"¼	½"	1"	¾"	1"½
ECO_ 00200 R	110	280	385	485	570	610	715	830	930	980	1090	1"¼	½"	1"	¾"	1"½
ECO_ 00300 R	120	355	510	610	715	770	925	1085	1185	1240	1370	1"¼	½"	1"	¾"	1"½
ECO_ 00400 R	145	385	550	650	700	775	885	1030	1130	1050	1145	1"¼	½"	1"	¾"	1"½
ECO_ 00500 R	145	455	680	780	845	940	1095	1255	1355	1280	1395	1"¼	½"	1"	¾"	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

SYSTEM LAYOUT MOD. ECO1



SYSTEM LAYOUT MOD. ECO2



LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel
16 . Thermostatic valve boiler-calorifier



Data related to the lower heat exchanger

	MODEL	ECO_ 00150R				ECO_ 00200R				ECO_ 00300R			
	HEAT EXCHANGER (m^2) [L] [1]	0,8 [3,6]				0,8 [3,6]				1,2 [5,4]			
	PRIMARY FLOW (m^3/h)	1,8				1,8				1,8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	172	194	273	292	212	234	330	349	321	352	498	524
	LITRES FIRST HOUR [2]	329	460	636	747	368	499	693	804	549	735	1018	1176
	CONTINUOUS DRAW (L) [3]	198	336	458	575	198	336	458	575	287	484	657	823
	POWER (kW)	8	14	19	23	8	14	19	23	12	20	27	34
	PREHEATING [3] (min)	47	27	20	16	60	35	25	20	65	38	28	22
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	177	192	-	-	216	231	-	-	328	349
	LITRES FIRST HOUR [2]	-	-	358	447	-	-	397	487	-	-	590	718
	CONTINUOUS DRAW (L) [3]	-	-	228	323	-	-	228	323	-	-	331	465
	POWER (kW)	-	-	13	19	-	-	13	19	-	-	19	27
	PREHEATING [3] (min)	-	-	40	28	-	-	52	36	-	-	56	39
	NL [4]	1,4				2				4			

	MODEL	ECO_ 00400R				ECO_ 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	1,4 [6,1]				1,7 [7,7]			
	PRIMARY FLOW (m^3/h)	2,2				2,2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	446	481	681	711	539	582	823	860
	LITRES FIRST HOUR [2]	703	916	1273	1453	856	1114	1545	1763
	CONTINUOUS DRAW (L) [3]	326	550	747	936	401	673	912	1141
	POWER (kW)	13	22	30	38	16	27	37	46
	PREHEATING [3] (min)	82	47	35	27	82	47	34	27
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	454	478	-	-	548	578
	LITRES FIRST HOUR [2]	-	-	751	896	-	-	913	1090
	CONTINUOUS DRAW (L) [3]	-	-	375	528	-	-	461	647
	POWER (kW)	-	-	22	31	-	-	27	38
	PREHEATING [3] (min)	-	-	70	49	-	-	70	49
	NL [4]	7				9			

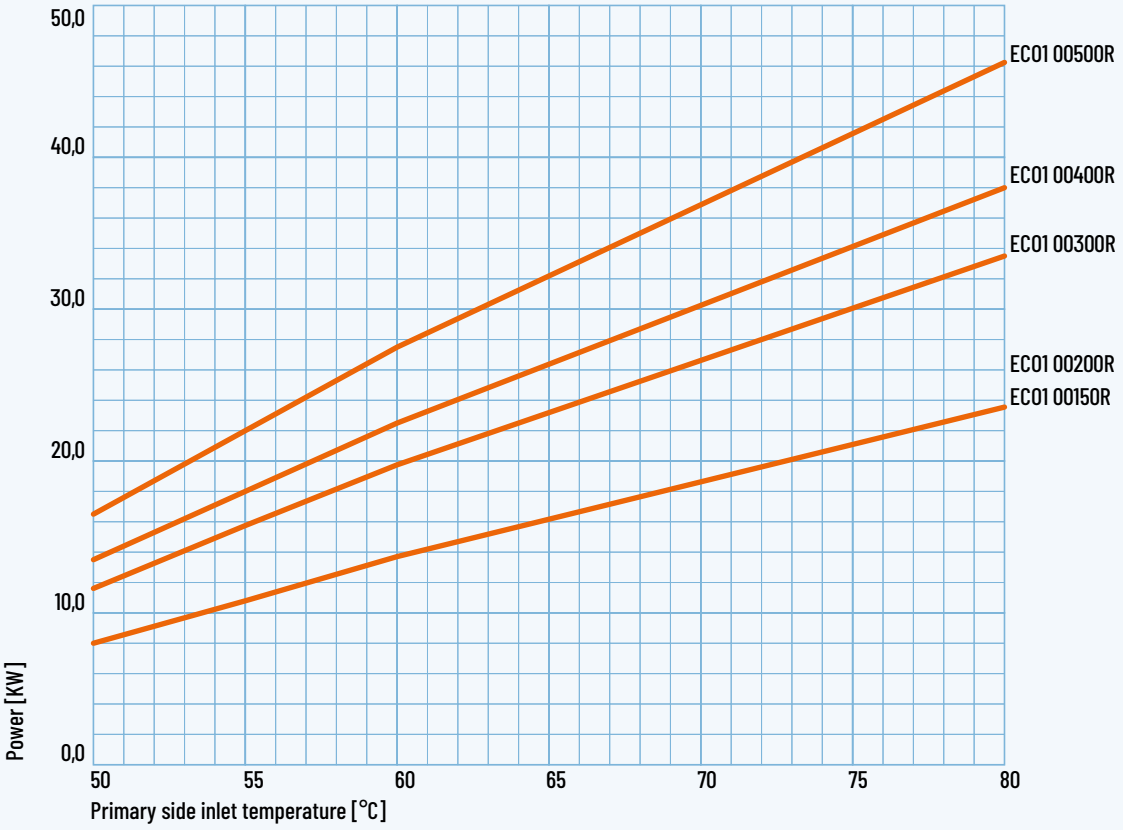
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

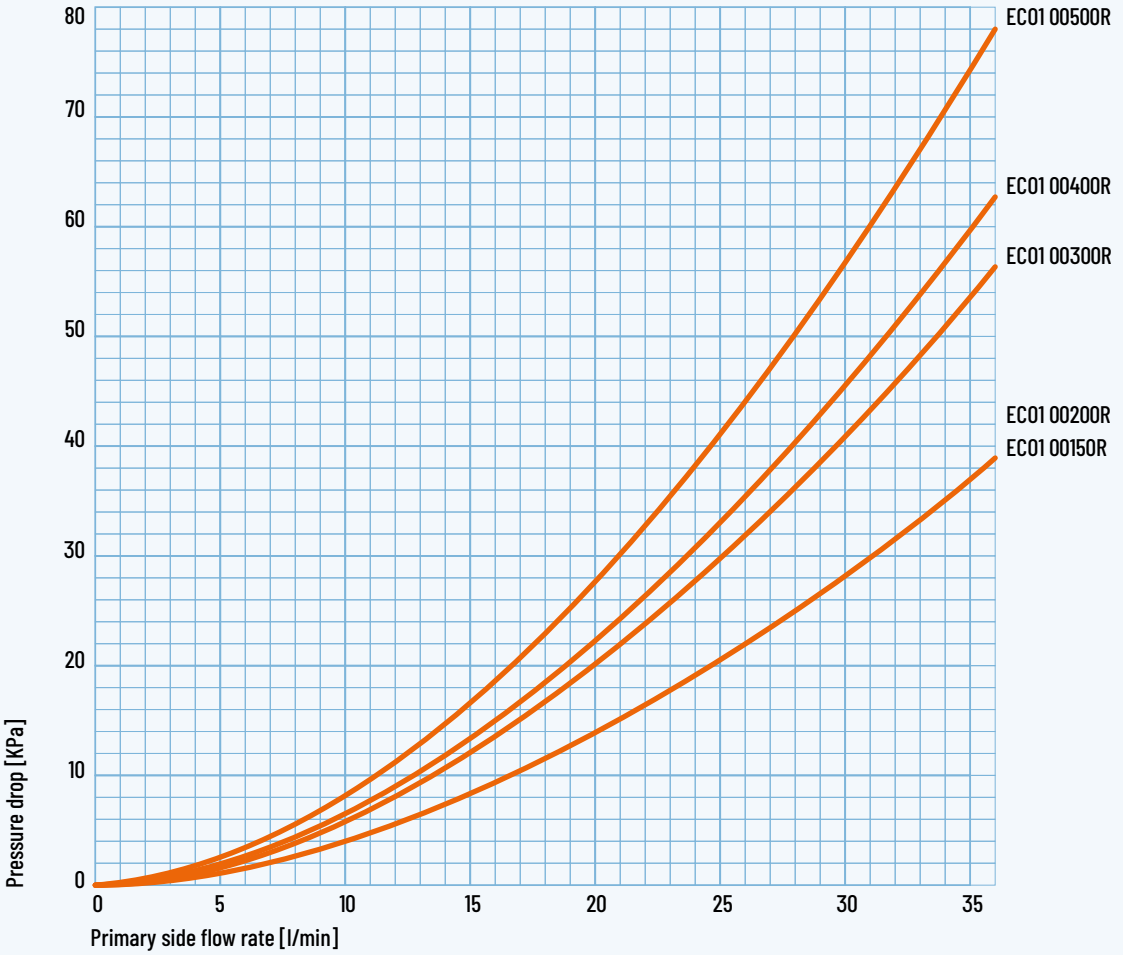
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

ECO - **Lower heat exchanger** powers with secondary side at 10/45 °C



ECO - **Lower heat exchanger** pressure drops





Data related to the upper heat exchanger

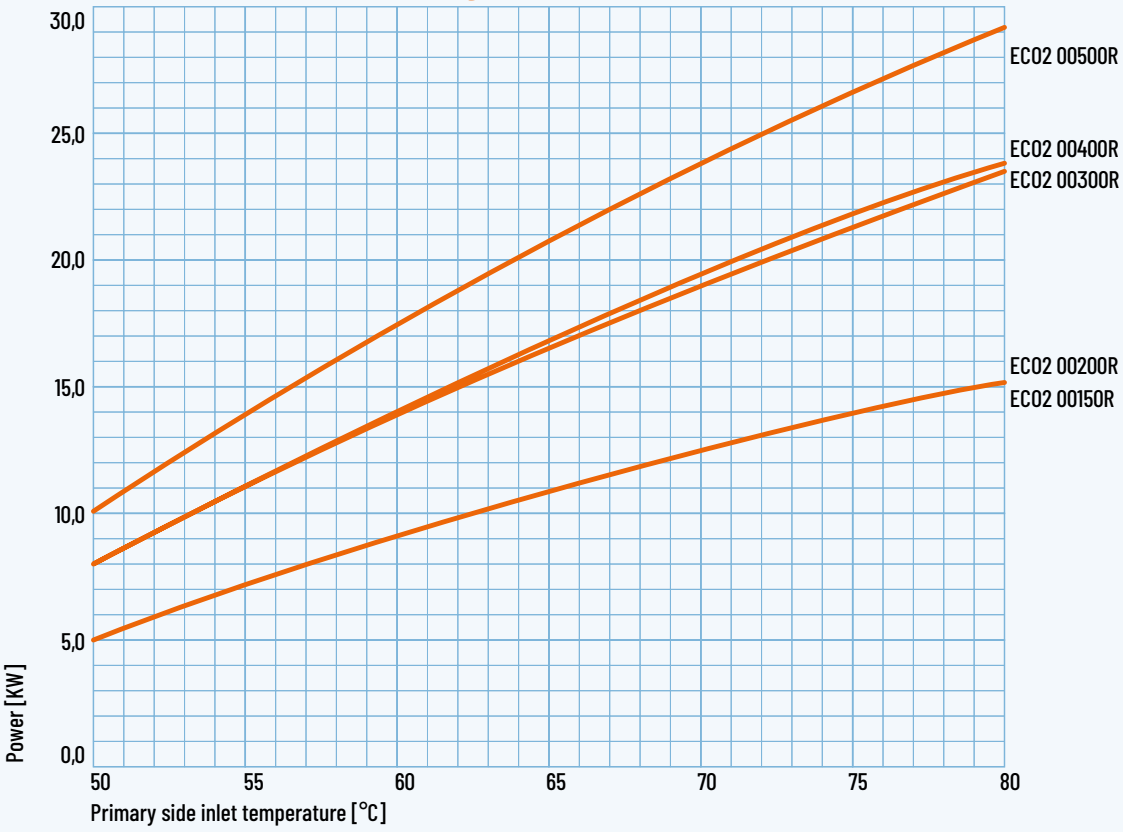
The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	ECO2 00150R				ECO2 00200R				ECO2 00300R			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [2,3]				0,5 [2,3]				0,8 [3,6]			
	PRIMARY FLOW (m^3/h)	1,8				1,8				1,8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	80	180	132	144	105	119	168	180	163	185	261	279
	LITRES FIRST HOUR [2]	94	265	367	439	205	291	403	475	320	451	624	735
	CONTINUOUS DRAW (L) [3]	127	217	296	373	127	217	296	373	198	336	458	575
	POWER (kW)	5	9	12	15	5	9	12	15	8	14	19	23
	PREHEATING [3] (min)	31	18	13	10	43	25	18	15	44	26	19	15
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	83	93	-	-	108	118	-	-	168	183
	LITRES FIRST HOUR [2]	-	-	199	257	-	-	224	283	-	-	349	439
	CONTINUOUS DRAW (L) [3]	-	-	147	208	-	-	147	208	-	-	228	323
	POWER (kW)	-	-	9	12	-	-	9	12	-	-	13	19
	PREHEATING [3] (min)	-	-	26	18	-	-	37	26	-	-	38	27
	NL [4]	1				2				2			

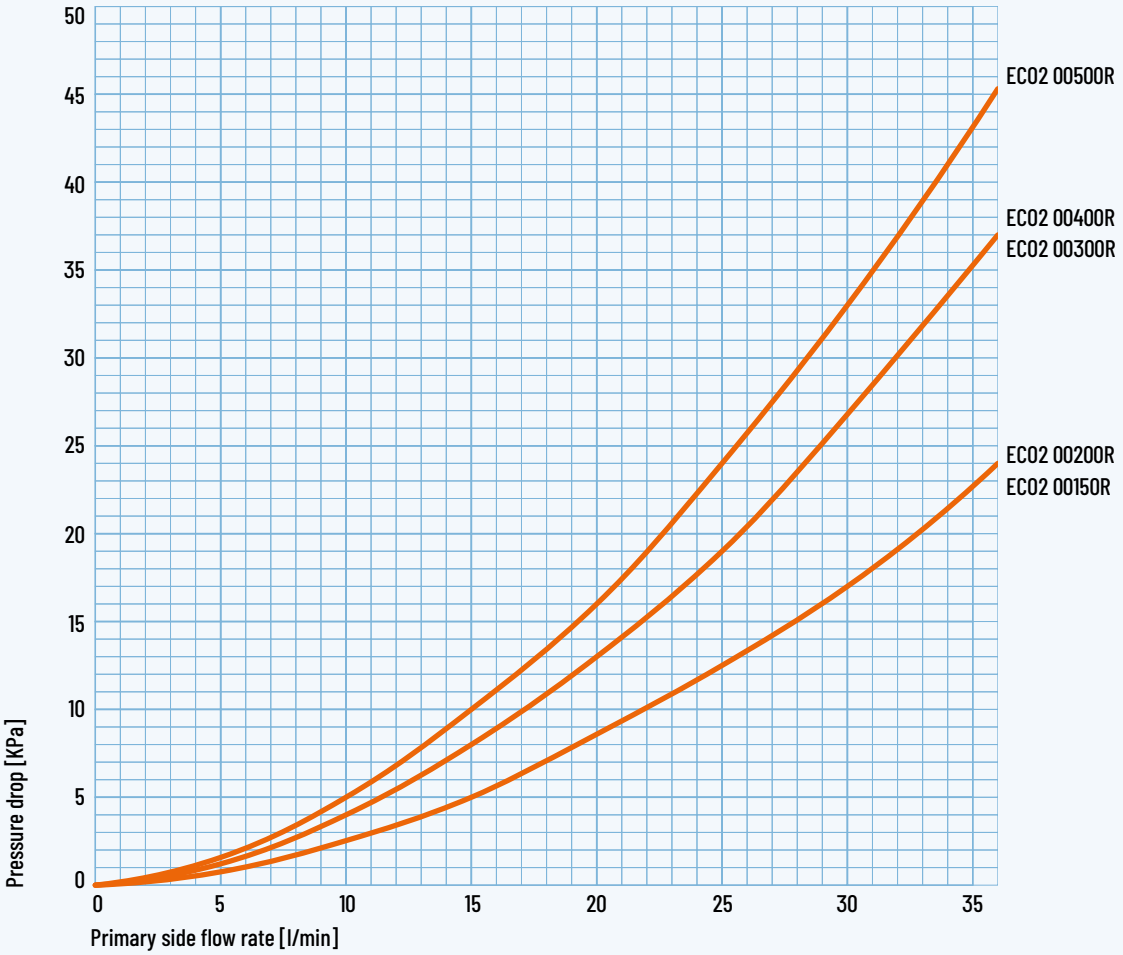
	MODEL	ECO2 00400R				ECO2 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	0,8 [3,6]				1,0 [4,5]			
	PRIMARY FLOW (m^3/h)	2,2				2,2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	205	228	322	341	279	306	433	456
	LITRES FIRST HOUR [2]	364	498	691	804	475	638	886	1025
	CONTINUOUS DRAW (L) [3]	200	341	466	585	247	419	571	718
	POWER (kW)	8	14	19	24	10	17	23	29
	PREHEATING [3] (min)	57	33	24	19	64	37	27	22
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	210	226	-	-	285	304
	LITRES FIRST HOUR [2]	-	-	394	485	-	-	511	623
	CONTINUOUS DRAW (L) [3]	-	-	231	328	-	-	285	403
	POWER (kW)	-	-	13	19	-	-	17	23
	PREHEATING [3] (min)	-	-	49	34	-	-	55	39
	NL [4]	3				4			

(1) Volume of fluid contained in the heat exchanger
(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source
(3) With a proper power heat source generator
(4) Primary side 80 °C - Secondary side 10-45 °C

ECO2 - **Upper heat exchanger** powers with secondary side at 10/45 °C



ECO2 - **Upper heat exchanger** pressure drops





AISI 316L Stainless steel calorifier with fixed coil

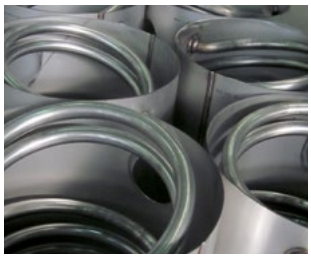
SFI - With one heat exchanger

DSFI - With two heat exchangers

Calorifiers made of AISI 316L Stainless steel, designed for the production and storage of domestic hot water (DHW). They are equipped with one or two internal fixed coils that can be fed by a solar system and/or a boiler. The wide range of capacities (from 150 to 5000 litres) allows their installation in every system, from domestic use to commercial applications that need to rely on a highly reliable product. Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Rating (P max. / T max.)	6 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	150 - 5000 L
	Warranty	5 years
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



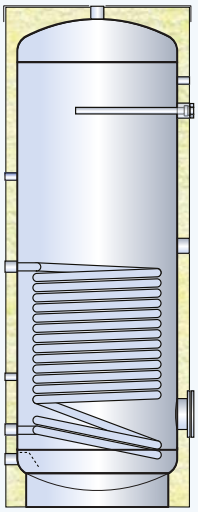
Thermostat



Thermometer



1"½ electric immersion heater



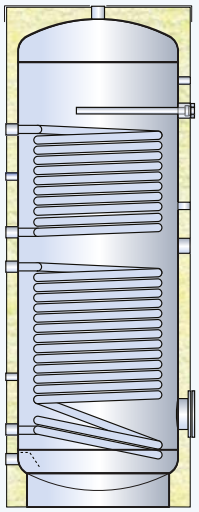
SFI - Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
SFI 00150 R	50	B	49,7	148,0	0,85 / 8,3
SFI 00200 R	50	B	56,7	189,8	0,90 / 8,8
SFI 00300 R	50	B	68,2	290,3	1,30 / 12,7
SFI 00400 R	50	B	72,0	414,9	1,60 / 15,7
SFI 00500 R	50	B	80,6	500,3	1,95 / 19,1
SFI 00800 R	100	C	105,9	749,8	2,70 / 26,5
SFI 01000 R	100	C	109,7	931,5	3,00 / 29,4
SFI 01500 R	100	C	132,3	1474,3	3,70 / 36,3
SFI 02000 R	100	C	142,5	1951,9	4,80 / 47,0
SFI 02500 R	100	-	-	2495,4	6,00 / 58,8
SFI 03000 R	100	-	-	2959,4	8,00 / 78,4
SFI 04000 R	100	-	-	3896,3	10,00 / 98,0
SFI 05000 R	100	-	-	5007,1	10,00 / 98,0

SFI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
SFI 00800 F	130	C	125,9	749,8	2,70 / 26,5
SFI 01000 F	130	C	137,9	931,5	3,00 / 29,4
SFI 01500 F	130	C	168,1	1474,3	3,70 / 36,3
SFI 02000 F	130	C	181,4	1951,9	4,80 / 47,0
SFI 02500 F	100	-	-	2495,4	6,00 / 58,8
SFI 03000 F	100	-	-	2959,4	8,00 / 78,4
SFI 04000 F	100	-	-	3896,3	10,00 / 98,0
SFI 05000 F	100	-	-	5007,1	10,00 / 98,0

** Volume occupied by the heat exchanger and its support structure*



DSFI - Hard insulation and PVC jacket

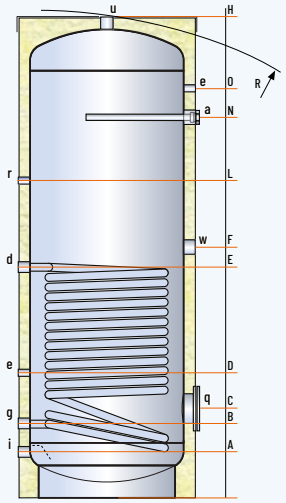
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
DSFI 00200 R	50	B	56,7	189,8	0,90 / 8,8	0,50 / 4,9
DSFI 00300 R	50	B	68,2	290,3	1,30 / 12,7	0,85 / 8,3
DSFI 00400 R	50	B	72,0	414,9	1,60 / 15,7	0,90 / 8,8
DSFI 00500 R	50	B	80,6	500,3	1,95 / 19,1	1,10 / 10,8
DSFI 00800 R	100	C	105,9	749,8	2,70 / 26,5	1,50 / 14,7
DSFI 01000 R	100	C	109,7	931,5	3,00 / 29,4	1,90 / 18,6
DSFI 01500 R	100	C	132,3	1474,3	3,70 / 36,3	2,30 / 22,5
DSFI 02000 R	100	C	142,5	1951,9	4,80 / 47,0	3,00 / 29,4
DSFI 02500 R	100	-	-	2495,4	6,00 / 58,8	3,00 / 29,4
DSFI 03000 R	100	-	-	2959,4	8,00 / 78,4	4,00 / 39,2
DSFI 04000 R	100	-	-	3896,3	10,00 / 98,0	4,00 / 39,2
DSFI 05000 R	100	-	-	5007,1	10,00 / 98,0	4,00 / 39,2

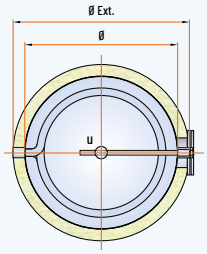
DSFI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
DSFI 00800 F	130	C	125,9	749,8	2,70 / 26,5	1,50 / 14,7
DSFI 01000 F	130	C	137,9	931,5	3,00 / 29,4	1,90 / 18,6
DSFI 01500 F	130	C	168,1	1474,3	3,70 / 36,3	2,30 / 22,5
DSFI 02000 F	130	C	181,4	1951,9	4,80 / 47,0	3,00 / 29,4
DSFI 02500 F	100	-	-	2495,4	6,00 / 58,8	3,00 / 29,4
DSFI 03000 F	100	-	-	2959,4	8,00 / 78,4	4,00 / 39,2
DSFI 04000 F	100	-	-	3896,3	10,00 / 98,0	4,00 / 39,2
DSFI 05000 F	100	-	-	5007,1	10,00 / 98,0	4,00 / 39,2

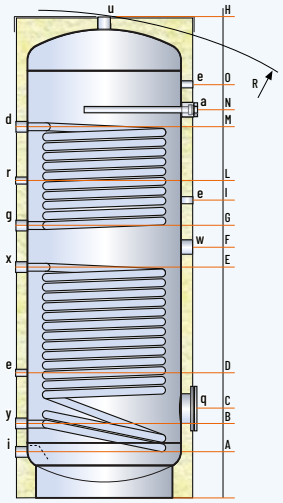
** Volume occupied by the heat exchanger and its support structure*

SFI

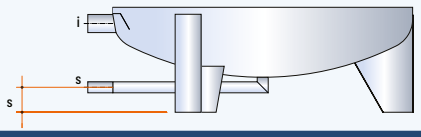




DSFI



Detail of the total drain pipe for models 2000-5000 litres



LEGEND

a . Magnesium anode
d . Boiler flow
e . Thermometer - Sensor
g. Boiler return
i . Domestic cold water inlet
q . DHW inspection hatch
r . Recirculation
s . Drain
u . Domestic hot water outlet
w. Opening for immersion heater
x . Solar system flow
y . Solar system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	WEIGHT SFI (kg)	WEIGHT DSFI (kg)
SFI 00150 R	450	1055	550	1200	0,85	-	46	-
_SFI 00200 R	450	1305	550	1430	0,90	0,50	53	59
_SFI 00300 R	500	1595	600	1720	1,30	0,85	68	78
_SFI 00400 R	650	1395	750	1600	1,60	0,90	78	89
_SFI 00500 R	650	1645	750	1820	1,95	1,10	91	104
SFI 00800	790	1750	990/1050	1745	2,70	1,50	130	148
SFI 01000	790	2100	990/1050	2095	3,00	1,90	150	173
SFI 01500	1000	2115	1200/1260	2145	3,70	2,30	224	252
SFI 02000	1100	2465	1300/1360	2465	4,80	3,00	295	331
SFI 02500	1200	2595	1400	2640	6,00	3,00	344	380
SFI 03000	1250	2795	1450	2835	8,00 ***	4,00	411	459
SFI 04000	1400	2925	1600	2995	10,00 ***	4,00	590	638
SFI 05000	1600	2955	1800	3090	10,00 ***	4,00	675	723

** For capacities from 150 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 150 to 500 litres*
**** Heat exchanger made by a parallel double spiral coil*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	N	O	S	CONNECTIONS (GAS) a	d g	x y	e	i u	r	s****	w	q
SFI 00150 R	110	190	260	300	530	560	-	-	730	-	730	840	-	1"¼	1"	1"	½"	1"	½"	-	1"½	120/180
_SFI 00200 R	110	190	260	340	630	690	740	850	840	950	980	1090	-	1"¼	1"	1"	½"	1"	½"	-	1"½	120/180
_SFI 00300 R	120	230	300	405	790	845	900	1050	1050	1200	1250	1365	-	1"¼	1"	1"	½"	1"	½"	-	1"½	120/180
SFI 00400	145	240	310	375	690	745	800	900	900	1000	1030	1140	-	1"¼	1"	1"	½"	1"	½"	-	1"½	120/180
SFI 00500	145	240	310	395	840	895	950	1095	1095	1250	1280	1390	-	1"¼	1"	1"	½"	1"	½"	-	1"½	120/180
SFI 00800	170	275	345	425	870	940	1010	1095	1200	1385	1250	1425	-	1"¼	1"	1"	½"	1"½	1"	-	1"½	120/180
SFI 01000	170	275	345	430	1020	1090	1160	1280	1400	1635	1450	1770	-	1"¼	1"	1"	½"	1"½	1"	-	1"½	120/180
SFI 01500	230	375	475	530	1110	1180	1250	1345	1460	1675	1490	1740	-	1"¼	1"	1"	½"	2"	1"	-	1"½	220/290
SFI 02000	325	465	585	620	1350	1420	1490	1625	1755	2015	1830	2035	-	1"¼	1"	1"	½"	2"	1"	1"	1"½	220/290
SFI 02500	355	470	585	625	1320	1470	1610	1770	1770	1970	2020	2170	100	1"¼	1"	1"	½"	2"	1"	1"	1"½	220/290
SFI 03000	335	470	630	680	1215	1400	1570	1705	1810	2050	2110	2355	90	1"¼	1"	1"¼	½"	3"	1"¼	1"	1"½	220/290
SFI 04000	430	550	700	750	1335	1520	1690	1825	1890	2090	2170	2435	120	1"¼	1"	1"¼	½"	3"	1"¼	1"	1"½	220/290
SFI 05000	420	555	705	790	1340	1500	1670	1760	1870	2070	2140	2440	100	1"¼	1"	1"¼	½"	3"	1"¼	1"	1"½	220/290

***** Calorifiers with capacities above 2000 litres are equipped with total drain pipe (see detail above)*

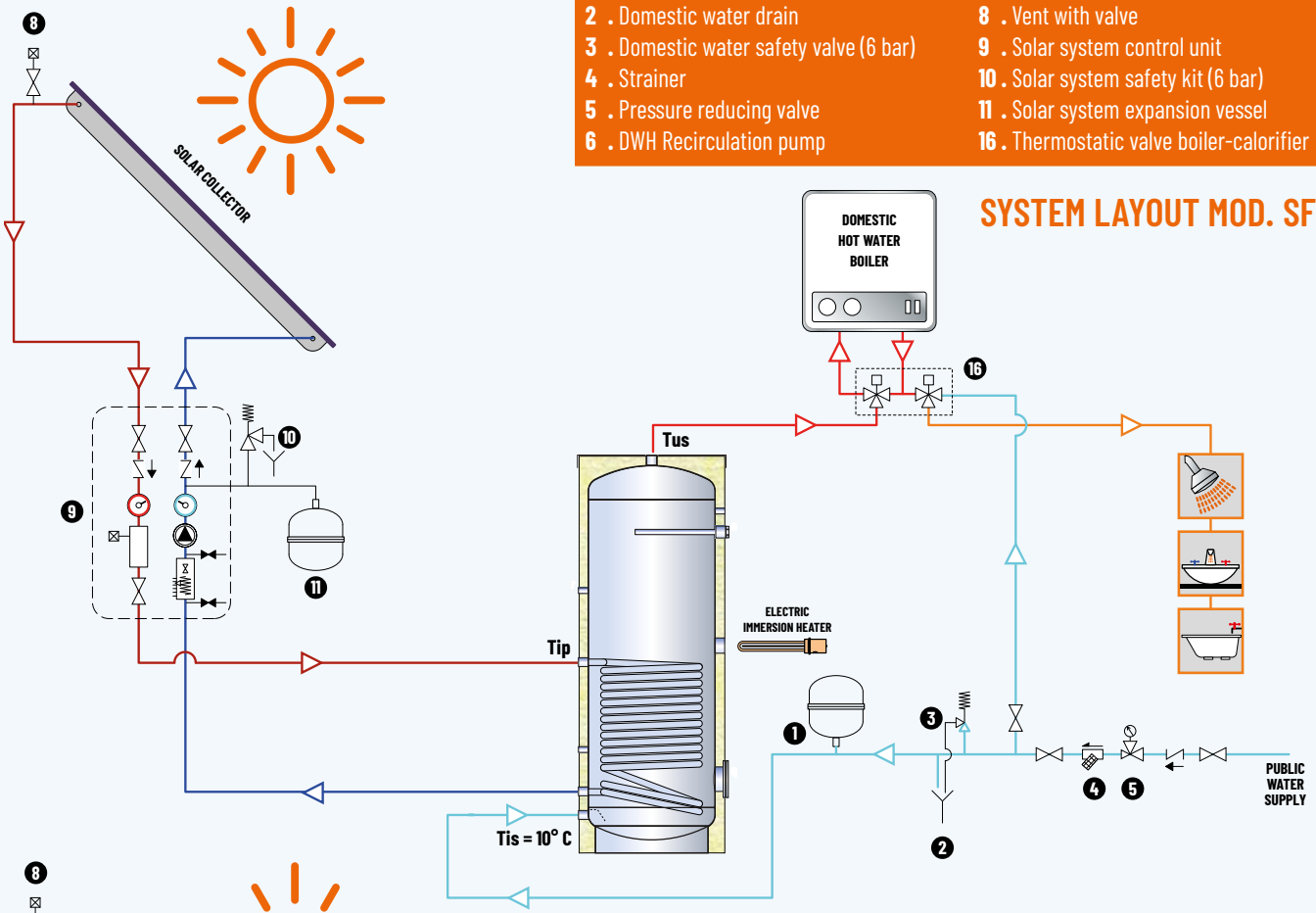
System layout

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

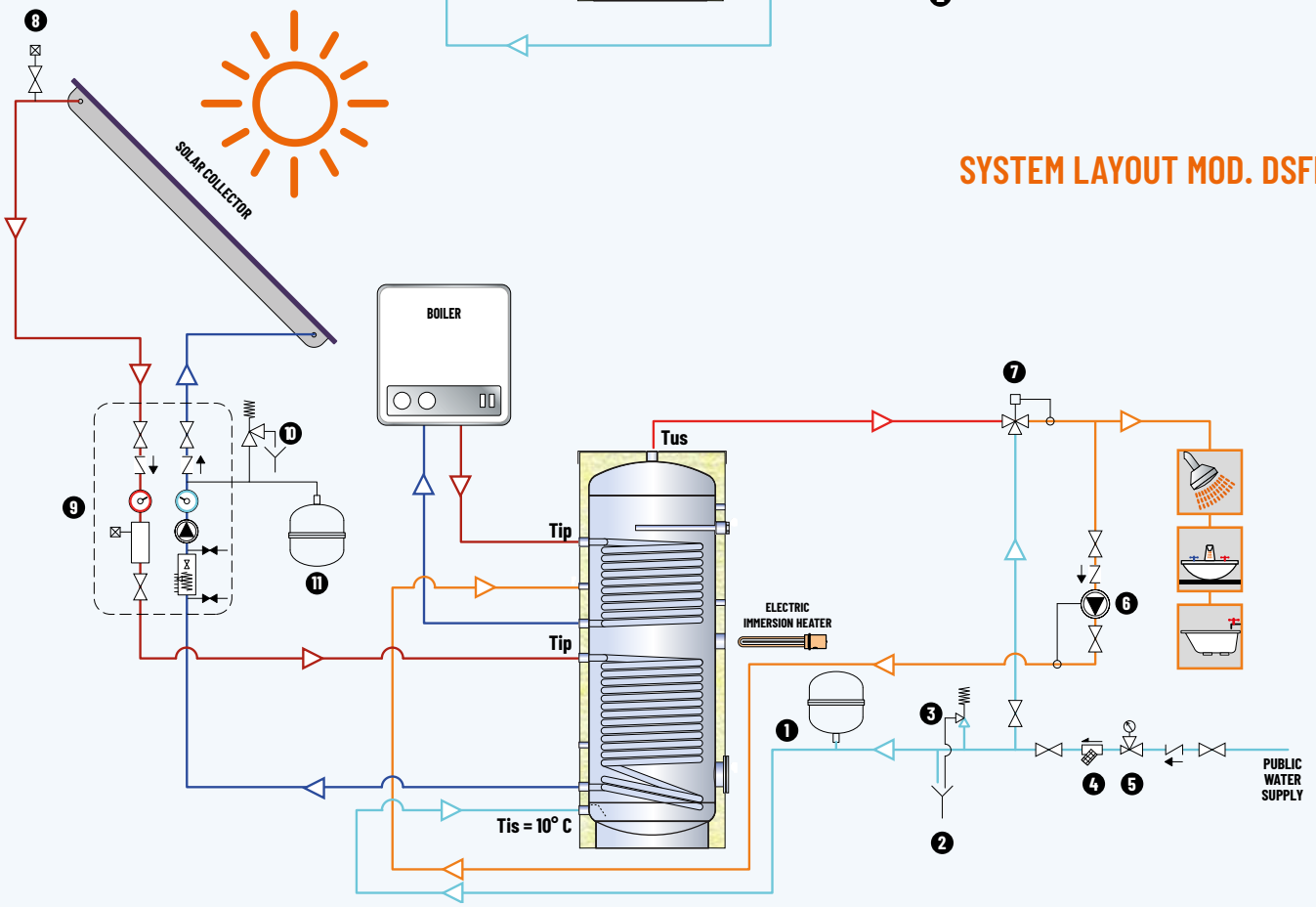
LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel
16 . Thermostatic valve boiler-calorifier

SYSTEM LAYOUT MOD. SFI



SYSTEM LAYOUT MOD. DSFI





Data related to the lower heat exchanger

	MODEL	SFI 00150R				_SFI 00200R				_SFI 00300R			
	HEAT EXCHANGER (m^2) [L] [1]	0,85 [6,0]				0,9 [6,4]				1,3 [9,2]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	174	197	278	298	216	240	339	360	325	359	507	536
	LITRES FIRST HOUR [2]	341	481	665	784	392	539	747	872	572	775	1072	1244
	CONTINUOUS DRAW (L) [3]	211	358	489	614	222	378	515	646	312	526	714	895
	POWER (kW)	9	15	20	25	9	15	21	26	13	21	29	36
	PREHEATING [3] (min)	44	26	19	15	54	31	23	18	60	35	25	20
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	179	195	-	-	221	238	-	-	333	356
	LITRES FIRST HOUR [2]	-	-	372	468	-	-	424	525	-	-	617	756
	CONTINUOUS DRAW (L) [3]	-	-	243	344	-	-	257	363	-	-	359	506
	POWER (kW)	-	-	14	20	-	-	15	21	-	-	20,9	29,4
	PREHEATING [3] (min)	-	-	38	27	-	-	46	32	-	-	52	36
	NL [4]	1,4				2				5			

	MODEL	_SFI 00400R				_SFI 00500R				_SFI 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	1,6 [11,3]				1,95 [13,8]				2,7 [19,2]			
	PRIMARY FLOW (m^3/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	456	499	706	742	549	600	849	892	811	878	1241	1297
	LITRES FIRST HOUR [2]	765	1022	1418	1636	920	1224	1697	1954	1306	1704	2359	2694
	CONTINUOUS DRAW (L) [3]	391	661	900	1129	468	789	1071	1342	625	1044	1413	1765
	POWER (kW)	16	27	37	46	19	32	44	55	25	43	57	72
	PREHEATING [3] (min)	68	39	29	23	69	40	29	23	80	46	34	27
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	465	495	-	-	561	595	-	-	826	871
	LITRES FIRST HOUR [2]	-	-	822	998	-	-	987	1196	-	-	1394	1666
	CONTINUOUS DRAW (L) [3]	-	-	450	635	-	-	539	758	-	-	718	1004
	POWER (kW)	-	-	26	37	-	-	31	44	-	-	41,7	58,4
	PREHEATING [3] (min)	-	-	58	41	-	-	59	42	-	-	68	48
	NL [4]	8				11				20			

	MODEL	_SFI 01000_				_SFI 01500_				_SFI 02000_			
	HEAT EXCHANGER (m^2) [L] [1]	3,0 [21,3]				3,7 [26,3]				4,8 [34,1]			
	PRIMARY FLOW (m^3/h)	3				4				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	993	1065	1508	1568	1536	1626	2306	2382	2023	2133	3025	3117
	LITRES FIRST HOUR [2]	1532	1968	2727	3089	2211	2754	3831	4286	2867	3529	4902	5455
	CONTINUOUS DRAW (L) [3]	685	1140	1539	1921	853	1425	1926	2406	1066	1762	2372	2954
	POWER (kW)	28	46	63	78	35	58	78	98	43	72	97	120
	PREHEATING [3] (min)	91	53	39	31	115	67	49	38	126	73	53	42
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1009	1059	-	-	1556	1618	-	-	2047	2123
	LITRES FIRST HOUR [2]	-	-	1631	1927	-	-	2331	2702	-	-	3013	3465
	CONTINUOUS DRAW (L) [3]	-	-	785	1097	-	-	980	1370	-	-	1220	1696
	POWER (kW)	-	-	46	64	-	-	57	80	-	-	70,9	98,6
	PREHEATING [3] (min)	-	-	79	55	-	-	99	69	-	-	108	76
	NL [4]	27				43				52			

(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C



Data related to the lower heat exchanger

	MODEL	_SFI 02500_				_SFI 03000_				_SFI 04000_			
	HEAT EXCHANGER (m^2) [L] [1]	6,0 [42,6]				8,0 [56,8]				10,0 [71,0]			
	PRIMARY FLOW (m^3/h)	5				1,8				6			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	2582	2719	3856	3971	3088	3266	4627	4776	4032	4239	6006	6178
	LITRES FIRST HOUR [2]	3636	4463	6203	6894	4468	5540	7680	8572	5682	6929	9599	10630
	CONTINUOUS DRAW (L) [3]	1332	2203	2964	3692	1744	2872	3856	4795	2085	3398	4538	5624
	POWER (kW)	54	90	121	150	71	117	157	195	85	138	185	229
	PREHEATING [3] (min)	129	75	54	43	118	69	50	40	135	78	57	45
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	2612	2706	-	-	3127	3249	-	-	4078	4219
	LITRES FIRST HOUR [2]	-	-	3819	4384	-	-	4705	5437	-	-	5959	6808
	CONTINUOUS DRAW (L) [3]	-	-	1525	2119	-	-	1994	2763	-	-	2376	3270
	POWER (kW)	-	-	89	123	-	-	116	161	-	-	138,2	190,2
	PREHEATING [3] (min)	-	-	111	77	-	-	102	71	-	-	116	81
	NL [4]	60				72				93			

	MODEL	_SFI 05000_			
	HEAT EXCHANGER (m^2) [L] [1]	10,0 [71,0]			
	PRIMARY FLOW (m^3/h)	7			
	PRIMARY TEMP. (°C)	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	5097	5316	7545	7727
	LITRES FIRST HOUR [2]	6801	8113	11296	12387
	CONTINUOUS DRAW (L) [3]	2152	3533	4737	5886
	POWER (kW)	88	144	193	240
	PREHEATING [3] (min)	164	95	69	55
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	5146	5295
	LITRES FIRST HOUR [2]	-	-	7092	7987
	CONTINUOUS DRAW (L) [3]	-	-	2458	3400
	POWER (kW)	-	-	143	198
	PREHEATING [3] (min)	-	-	141	99
	NL [4]	109			

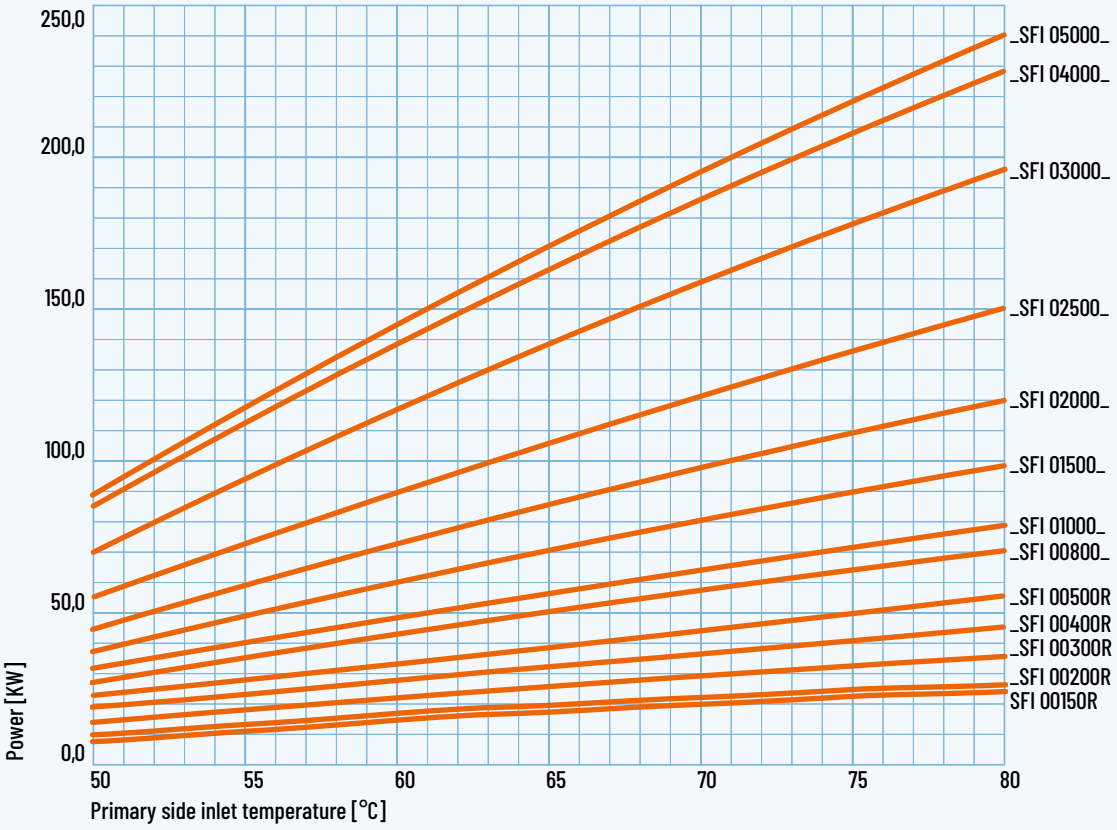
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

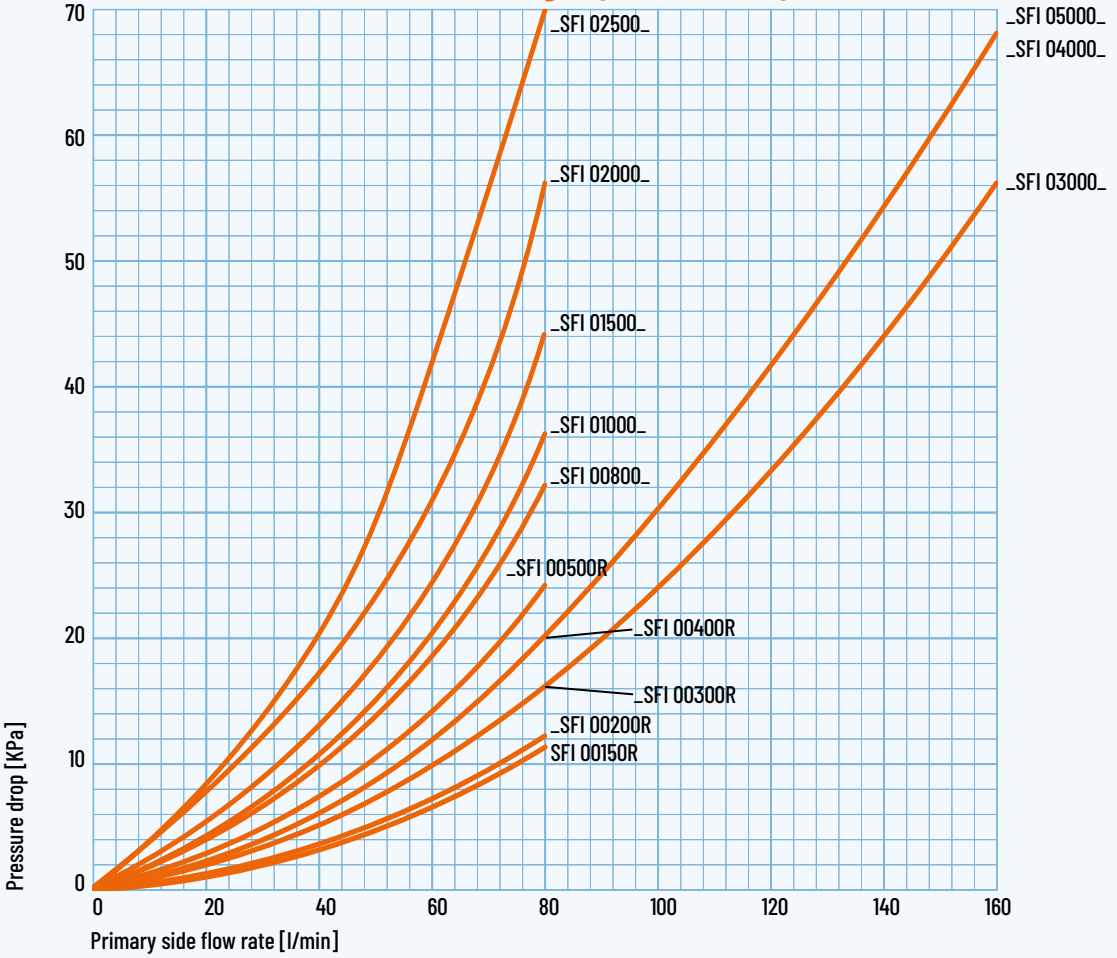
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

SFI & DSFI - **Lower heat exchanger** powers with secondary side at 10/45 °C



SFI & DSFI - **Lower heat exchanger** pressure drops





Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	DSFI 00200R				DSFI 00300R				DSFI 00400R				DSFI 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [3,5]				0,85 [6,0]				0,9 [6,4]				1,1 [7,8]			
	PRIMARY FLOW (m^3/h)	2				2				6				7			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	94	108	243	263	149	173	314	336	197	223	377	403	236	267	531	565
	LITRES FIRST HOUR [2]	195	281	630	749	316	456	735	865	377	530	883	1040	454	638	1203	1409
	CONTINUOUS DRAW (L) [3]	211	358	489	614	227	388	531	668	275	469	640	805	368	623	849	1066
	POWER (kW)	9	15	20	25	9	16	22	27	11	19	26	33	15	25	35	43
	PREHEATING [3] (min)	36	21	15	12	46	27	19	15	46	27	19	15	50	29	21	17
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	155	171	-	-	203	220	-	-	243	264	-	-	344	372
	LITRES FIRST HOUR [2]	-	-	347	443	-	-	411	516	-	-	495	621	-	-	680	847
	CONTINUOUS DRAW (L) [3]	-	-	243	344	-	-	263	373	-	-	318	451	-	-	424	599
	POWER (kW)	-	-	14	20	-	-	15	22	-	-	18,5	26,2	-	-	25	35
	PREHEATING [3] (min)	-	-	31	22	-	-	40	28	-	-	40	28	-	-	43	30
	NL [4]	2				2				3				5			

	MODEL	DSFI 00800_				DSFI 01000_				DSFI 01500_				DSFI 02000_			
	HEAT EXCHANGER (m^2) [L] [1]	1,5 [10,6]				1,9 [13,5]				2,3 [16,3]				3,0 [21,3]			
	PRIMARY FLOW (m^3/h)	3				3				4				7			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	336	376	531	565	441	491	693	735	628	689	974	1025	827	903	1276	1341
	LITRES FIRST HOUR [2]	627	870	1203	1409	803	1101	1522	1774	1069	1435	1989	2299	1388	1846	2556	2942
	CONTINUOUS DRAW (L) [3]	368	623	849	1066	457	771	1047	1312	558	943	1283	1609	710	1192	1616	2022
	POWER (kW)	15	25	35	43	19	31	43	53	23	38	52	65	29	49	66	82
	PREHEATING [3] (min)	50	29	21	17	55	32	23	18	65	38	27	22	69	40	29	23
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	344	372	-	-	452	486	-	-	641	683	-	-	844	896
	LITRES FIRST HOUR [2]	-	-	680	847	-	-	869	1073	-	-	1150	1401	-	-	1490	1803
	CONTINUOUS DRAW (L) [3]	-	-	424	599	-	-	526	741	-	-	643	907	-	-	816	1146
	POWER (kW)	-	-	25	35	-	-	31	43	-	-	37,4	52,7	-	-	47	67
	PREHEATING [3] (min)	-	-	43	30	-	-	47	33	-	-	56	39	-	-	59	42
	NL [4]	5				8				14				22			

	MODEL	DSFI 02500_				DSFI 03000_				DSFI 04000_				DSFI 05000_			
	HEAT EXCHANGER (m^2) [L] [1]	3,0 [21,3]				4,0 [28,4]				4,0 [28,4]				4,0 [28,4]			
	PRIMARY FLOW (m^3/h)	4				4				4				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1006	1082	1532	1596	1390	1486	2104	2184	1689	1795	2546	2627	2259	2395	3352	3437
	LITRES FIRST HOUR [2]	1567	2025	2811	3198	2113	2689	3729	4212	2422	2999	4171	4655	3002	3606	5041	5549
	CONTINUOUS DRAW (L) [3]	710	1192	1616	2023	913	1520	2053	2562	913	1520	2053	2562	939	1575	2133	2669
	POWER (kW)	29	49	66	82	37	62	84	104	37	62	84	104	38	64	87	109
	PREHEATING [3] (min)	86	50	36	29	96	56	41	32	120	70	51	40	155	90	65	52
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1023	1075	-	-	1411	1477	-	-	1720	1786	-	-	2281	2350
	LITRES FIRST HOUR [2]	-	-	1669	1982	-	-	2240	2634	-	-	2550	2944	-	-	3136	3549
	CONTINUOUS DRAW (L) [3]	-	-	816	1146	-	-	1047	1462	-	-	1047	1462	-	-	1080	1514
	POWER (kW)	-	-	47	67	-	-	61	85	-	-	60,9	85	-	-	63	88
	PREHEATING [3] (min)	-	-	74	52	-	-	83	58	-	-	103	72	-	-	133	93
	NL [4]	27				42				48				52			

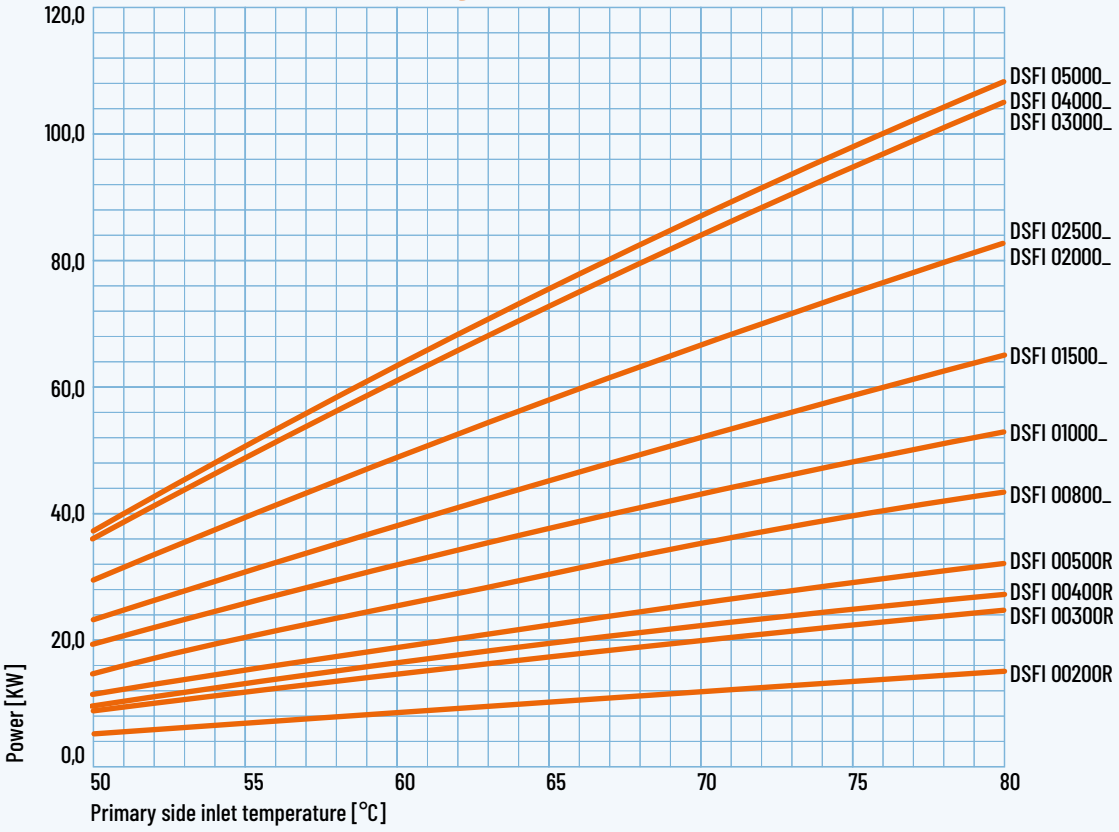
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

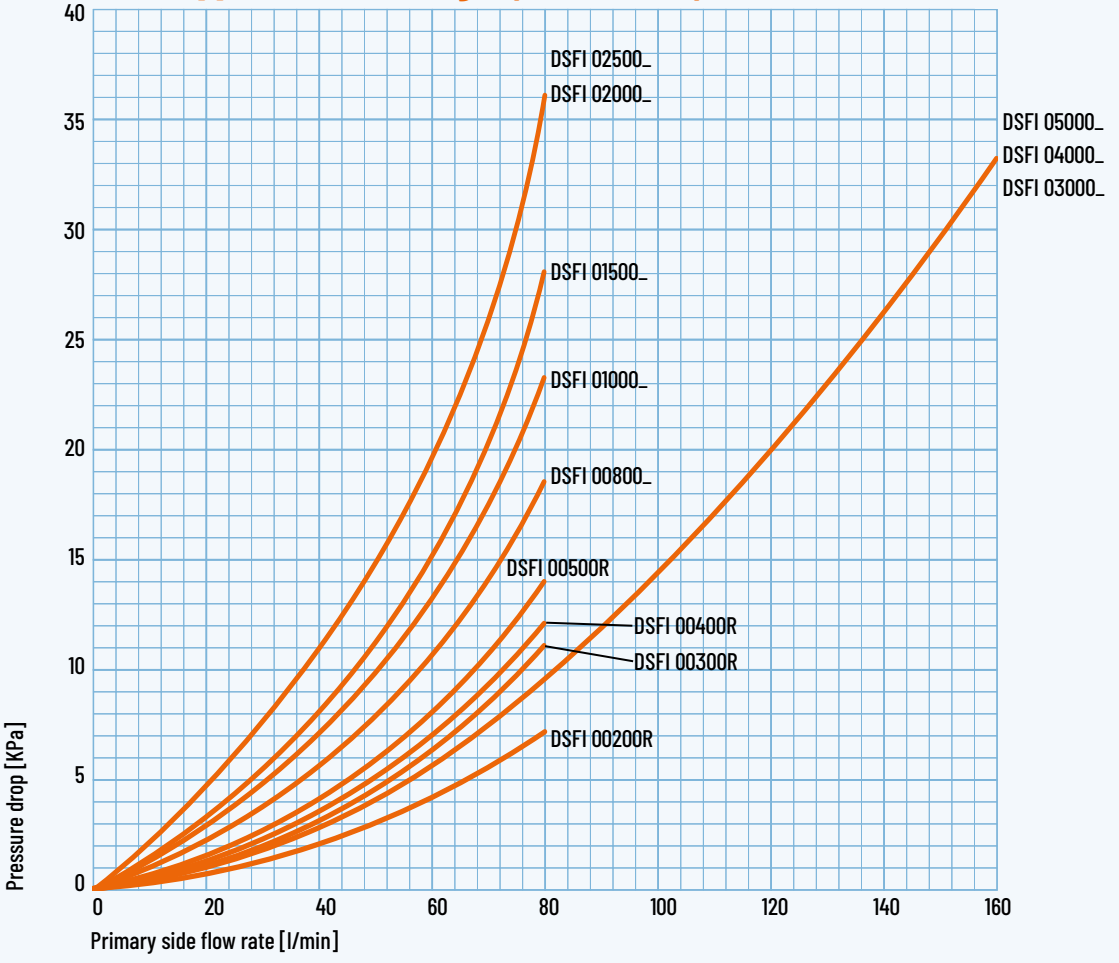
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

DSFI - **Upper heat exchanger** powers with secondary side at 10/45 °C



DSFI - **Upper heat exchanger** pressure drops





Glass lined calorifier with fixed coil
SFV - With one heat exchanger
DSFV - With two heat exchangers

Calorifiers made of glass lined steel designed for the production and storage of domestic hot water (DHW).
They are equipped with one or two internal fixed coils that can be fed by a solar system and/or a boiler.
The wide range of capacities (from 150 to 2000 litres), the high level of quality and its resistance to the high temperatures (up to 95 °C), are the strength points of this product.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Enamelling according to DIN 4753.3
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	150 - 2000 L
	Warranty	5 years
	Insulation	- Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



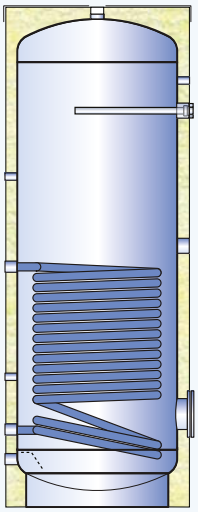
Thermostat



Thermometer



1"½ electric immersion heater

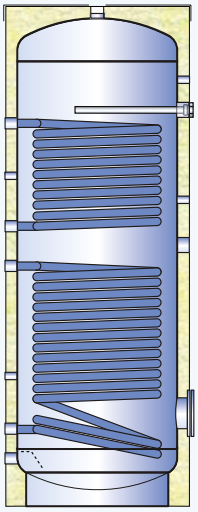


SFV - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
SFV 00150 R	50	B	49,7	148,0	0,85 / 8,3
SFV 00200 R	50	B	56,7	189,8	0,90 / 8,8
SFV 00300 R	50	B	68,2	290,3	1,30 / 12,7
SFV 00400 R	50	B	72,0	414,9	1,60 / 15,7
SFV 00500 R	50	B	80,6	500,3	1,95 / 19,1
SFV 00800 R	100	C	105,9	749,8	2,70 / 26,5
SFV 01000 R	100	C	109,7	931,5	3,00 / 29,4
SFV 01500 R	100	C	132,3	1474,3	3,70 / 36,3
SFV 02000 R	100	C	142,2	1951,9	4,80 / 47,0

SFV - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
SFV 00800 F	130	C	125,9	749,8	2,70 / 26,5
SFV 01000 F	130	C	137,9	931,5	3,00 / 29,4
SFV 01500 F	130	C	168,1	1474,3	3,70 / 36,3
SFV 02000 F	130	C	181,4	1951,9	4,80 / 47,0



DSFV - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
DSFV 00200 R	50	B	56,7	189,8	0,90 / 8,8	0,50 / 4,9
DSFV 00300 R	50	B	68,2	290,3	1,30 / 12,7	0,85 / 8,3
DSFV 00400 R	50	B	72,0	414,9	1,60 / 15,7	0,90 / 8,8
DSFV 00500 R	50	B	80,6	500,3	1,95 / 19,1	1,10 / 10,8
DSFV 00800 R	100	C	105,9	749,8	2,70 / 26,5	1,50 / 14,7
DSFV 01000 R	100	C	109,7	931,5	3,00 / 29,4	1,90 / 18,6
DSFV 01500 R	100	C	132,3	1474,3	3,70 / 36,3	2,30 / 22,5
DSFV 02000 R	100	C	142,2	1951,9	4,80 / 47,0	3,00 / 29,4

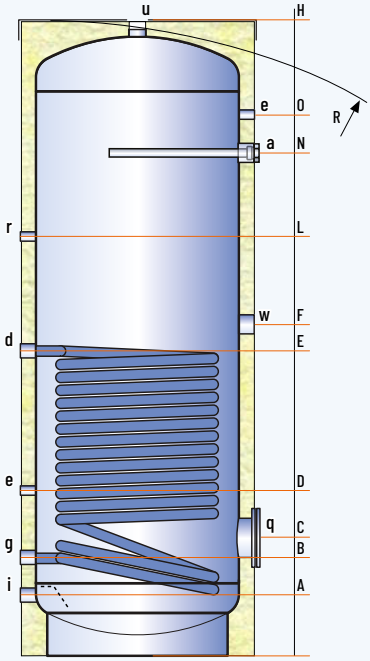
DSFV - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
DSFV 00800 F	130	C	125,9	749,8	2,70 / 26,5	1,50 / 14,7
DSFV 01000 F	130	C	137,9	931,5	3,00 / 29,4	1,90 / 18,6
DSFV 01500 F	130	C	168,1	1474,3	3,70 / 36,3	2,30 / 22,5
DSFV 02000 F	130	C	181,4	1951,9	4,80 / 47,0	3,00 / 29,4

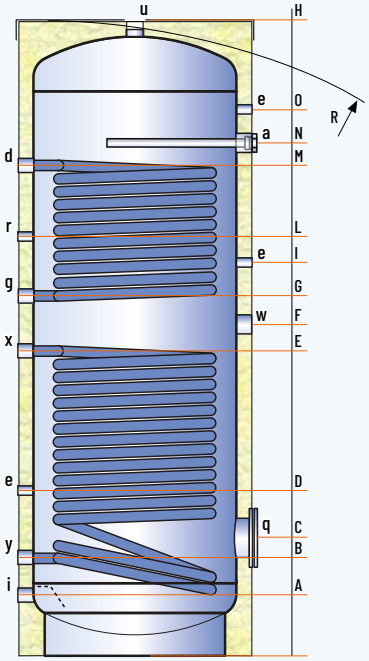
** Volume occupied by the heat exchanger and its support structure*

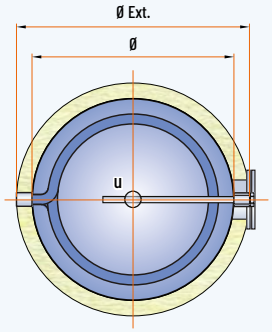
Dimensions and heights

SFV



DSFV





LEGEND

- **a .** Magnesium anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g.** Boiler return
- **i .** Domestic cold water inlet
- **q .** DHW inspection hatch
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	WEIGHT SFV (kg)	WEIGHT DSFV (kg)
SFV 00150 R	450	1065	550	1210	0,85	-	54	-
_SFV 00200 R	450	1320	550	1440	0,90	0,50	64	70
_SFV 00300 R	500	1610	600	1730	1,30	0,85	83	93
_SFV 00400 R	650	1410	750	1610	1,60	0,90	98	109
_SFV 00500 R	650	1660	750	1835	1,95	1,10	112	125
SFV 00800	790	1750	990/1050	1745	2,70	1,50	177	195
SFV 01000	790	2100	990/1050	2095	3,00	1,90	206	229
SFV 01500	1000	2115	1200/1260	2145	3,70	2,30	323	351
SFV 02000	1100	2380	1300/1360	2465	4,80	3,00	452	488

** For capacities from 150 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 150 to 500 litres*

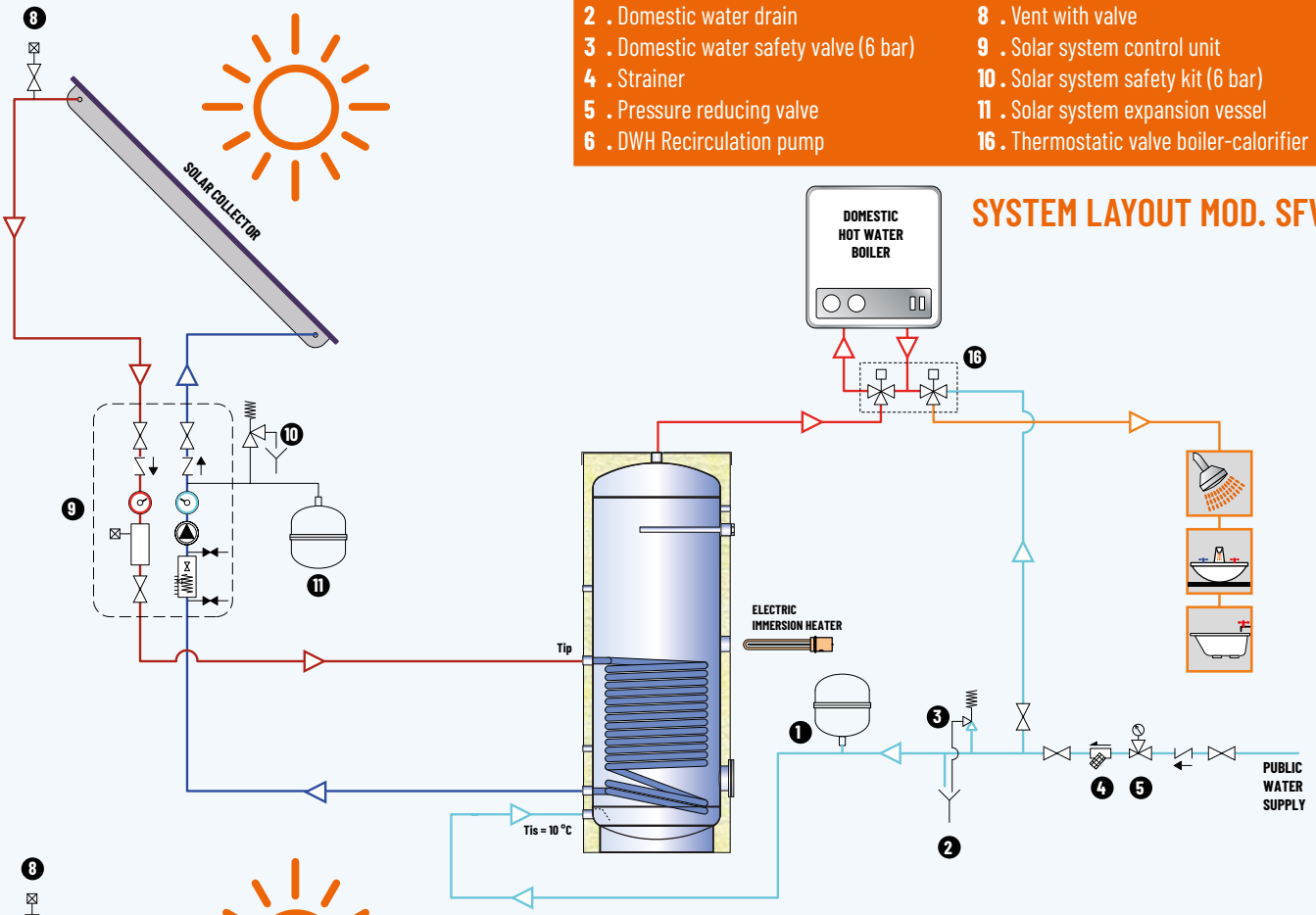
MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	M	N	O	CONNECTIONS (GAS) a	d g x y	e	i	r	u	w	q
SFV 00150 R	110	190	260	300	530	560	-	-	730	-	730	840	1"¼	1"	½"	1"	½"	1"¼	1"½	120/180
_SFV 00200 R	110	190	260	340	630	690	740	850	840	950	980	1090	1"¼	1"	½"	1"	½"	1"¼	1"½	120/180
_SFV 00300 R	120	230	300	405	790	845	900	1050	1050	1200	1250	1365	1"¼	1"	½"	1"	½"	1"¼	1"½	120/180
_SFV 00400 R	145	240	310	375	690	745	800	900	900	1000	1030	1140	1"¼	1"	½"	1"	½"	1"¼	1"½	120/180
_SFV 00500 R	145	240	310	395	840	895	950	1095	1095	1250	1280	1390	1"¼	1"	½"	1"	½"	1"¼	1"½	120/180
SFV 00800	150	275	345	425	870	940	1010	1095	1200	1385	1250	1425	1"¼	1"	½"	1"½	1"	1"½	1"½	120/180
SFV 01000	150	275	345	430	1020	1090	1160	1280	1400	1635	1450	1770	1"¼	1"	½"	1"½	1"	1"½	1"½	120/180
SFV 01500	230	375	475	530	1110	1180	1250	1345	1460	1675	1490	1740	1"¼	1"	½"	2"	1"	2"	1"½	220/290
SFV 02000	255	385	540	540	1270	1340	1410	1545	1675	1935	1750	1955	1"¼	1"	½"	2"	1"	2"	1"½	220/290

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

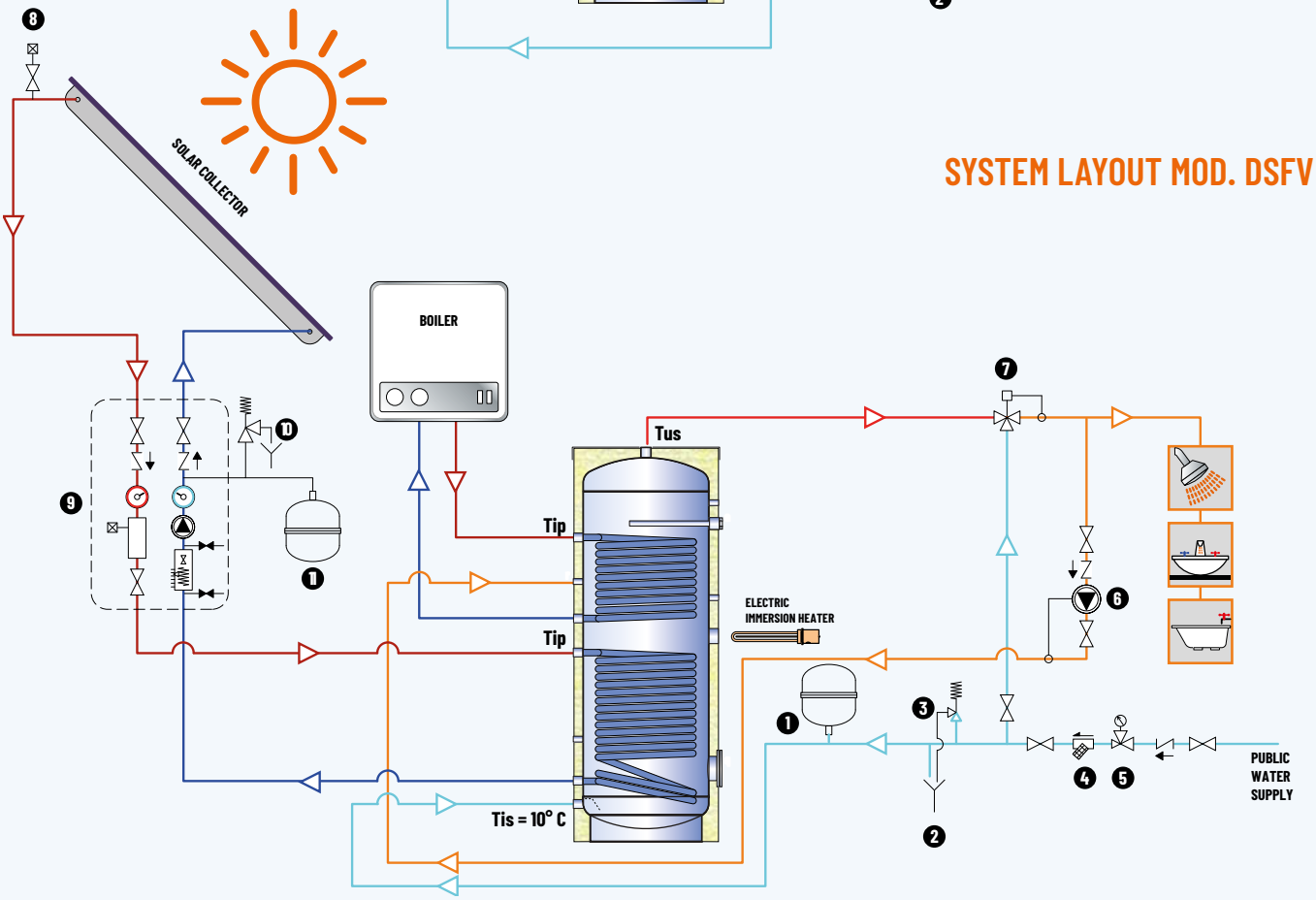
LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel
16 . Thermostatic valve boiler-calorifier

SYSTEM LAYOUT MOD. SFV



SYSTEM LAYOUT MOD. DSFV



Performance



Data related to the lower heat exchanger

	MODEL	SFV 00150R				_SFV 00200R				_SFV 00300R			
	HEAT EXCHANGER (m^2) [L] [1]	0,85 [6,0]				0,9 [6,4]				1,3 [9,2]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	174	197	278	298	216	240	339	360	325	359	507	536
	LITRES FIRST HOUR [2]	341	481	665	784	392	539	747	872	572	775	1072	1244
	CONTINUOUS DRAW (L) [3]	211	358	489	614	222	378	515	646	312	526	714	895
	POWER (kW)	9	15	20	25	9	15	21	26	13	21	29	36
	PREHEATING [3] (min)	44	26	19	15	54	31	23	18	60	35	25	20
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	179	195	-	-	221	238	-	-	333	356
	LITRES FIRST HOUR [2]	-	-	372	468	-	-	424	525	-	-	617	756
	CONTINUOUS DRAW (L) [3]	-	-	243	344	-	-	257	363	-	-	359	506
	POWER (kW)	-	-	14	20	-	-	15	21	-	-	20,9	29,4
	PREHEATING [3] (min)	-	-	38	27	-	-	46	32	-	-	52	36
	NL [4]	1,4				2				5			

	MODEL	_SFV 00400R				_SFV 00500R				_SFV 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	1,6 [11,3]				1,95 [13,8]				2,7 [19,2]			
	PRIMARY FLOW (m^3/h)	3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	456	499	706	742	549	600	849	892	811	878	1241	1297
	LITRES FIRST HOUR [2]	765	1022	1418	1636	920	1224	1697	1954	1306	1704	2359	2694
	CONTINUOUS DRAW (L) [3]	391	661	900	1129	468	789	1071	1342	625	1044	1413	1765
	POWER (kW)	16	27	37	46	19	32	44	55	25	43	57	72
	PREHEATING [3] (min)	68	39	29	23	69	40	29	23	80	46	34	27
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	465	495	-	-	561	595	-	-	826	871
	LITRES FIRST HOUR [2]	-	-	822	998	-	-	987	1196	-	-	1394	1666
	CONTINUOUS DRAW (L) [3]	-	-	450	635	-	-	539	758	-	-	718	1004
	POWER (kW)	-	-	26	37	-	-	31	44	-	-	41,7	58,4
	PREHEATING [3] (min)	-	-	58	41	-	-	59	42	-	-	68	48
	NL [4]	8				11				20			

	MODEL	_SFV 01000_				_SFV 01500_				_SFV 02000_			
	HEAT EXCHANGER (m^2) [L] [1]	3,0 [21,3]				3,7 [26,3]				4,8 [34,1]			
	PRIMARY FLOW (m^3/h)	3				4				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	993	1065	1508	1568	1536	1626	2306	2382	2023	2133	3025	3117
	LITRES FIRST HOUR [2]	1535	1968	2727	3089	2211	2754	3831	4286	2867	3529	4902	5455
	CONTINUOUS DRAW (L) [3]	685	1140	1539	1921	853	1425	1926	2406	1066	1762	2372	2954
	POWER (kW)	28	46	63	78	35	58	78	98	43	72	97	120
	PREHEATING [3] (min)	91	53	39	31	115	67	49	38	126	73	53	42
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1009	1059	-	-	1556	1618	-	-	2047	2123
	LITRES FIRST HOUR [2]	-	-	1631	1927	-	-	2331	2702	-	-	3013	3465
	CONTINUOUS DRAW (L) [3]	-	-	785	1097	-	-	980	1370	-	-	1220	1696
	POWER (kW)	-	-	46	64	-	-	57	80	-	-	70,9	98,6
	PREHEATING [3] (min)	-	-	79	55	-	-	99	69	-	-	108	76
	NL [4]	27				43				52			

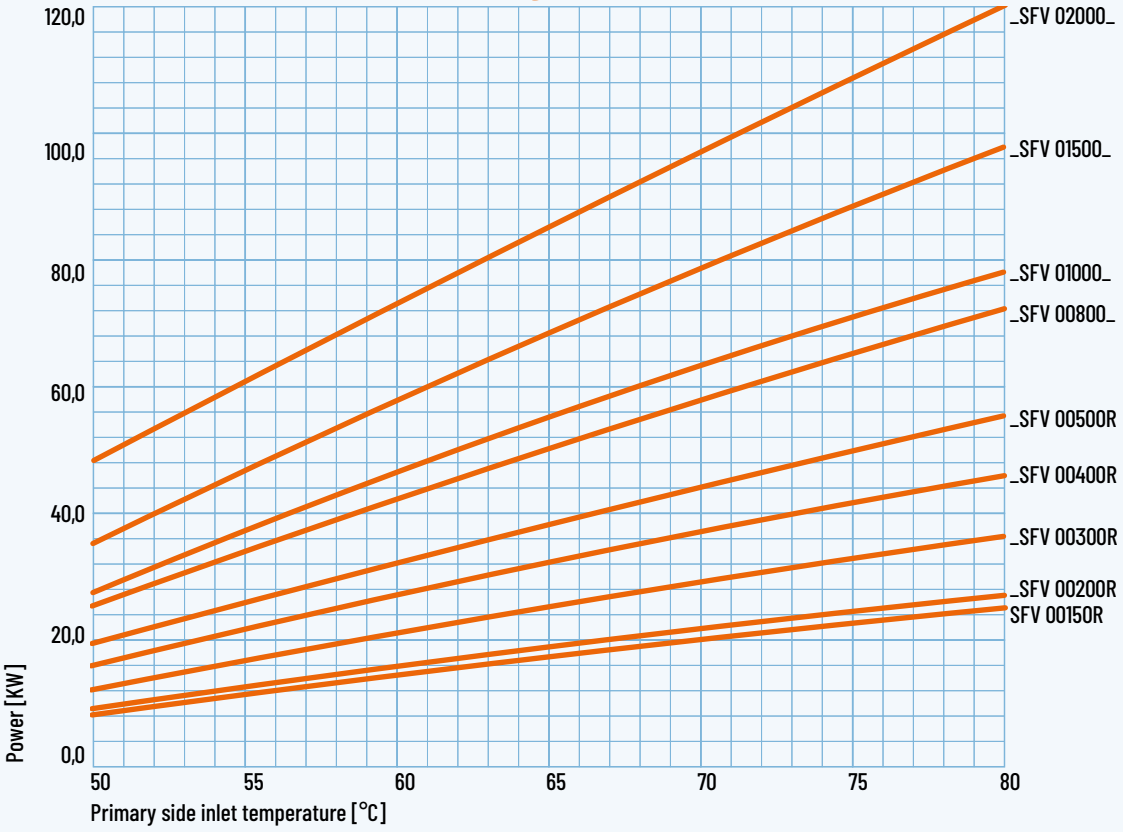
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

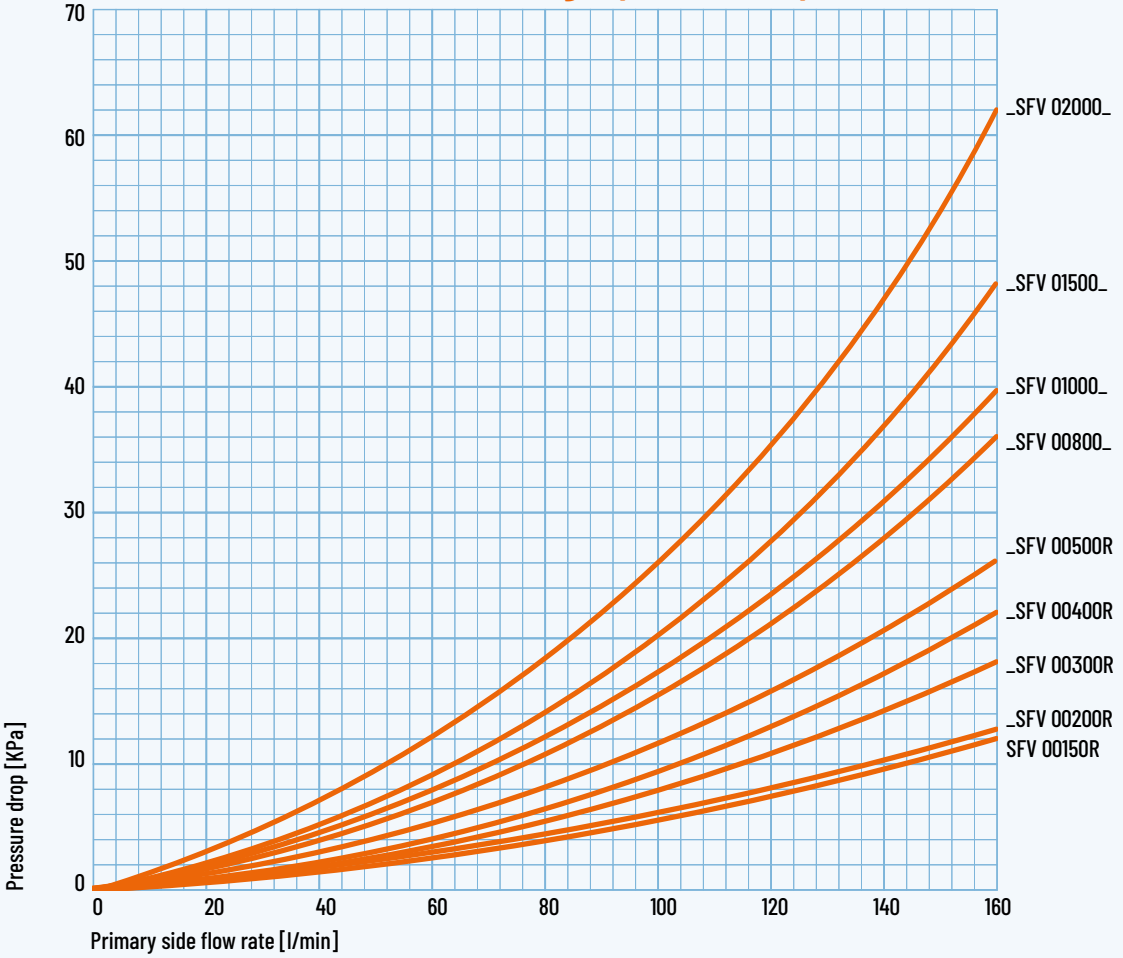
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

SFV & DSFV - **Lower heat exchanger** powers with secondary side at 10/45 °C



SFV & DSFV - **Lower heat exchanger** pressure drops





Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	DSFV 00200R				DSFV 00300R				DSFV 00400R				DSFV 00500R			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [3,5]				0,85 [6,0]				0,9 [6,4]				1,1 [7,8]			
	PRIMARY FLOW (m^3/h)	2				2				2				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	94	108	153	165	149	173	243	263	197	223	314	336	236	267	377	403
	LITRES FIRST HOUR [2]	195	281	389	462	316	456	630	749	377	530	735	865	454	638	883	1040
	CONTINUOUS DRAW (L) [3]	127	218	298	375	211	358	489	614	227	388	531	668	275	469	640	805
	POWER (kW)	5	9	12	15	9	15	20	25	9	16	22	27	11	19	26	33
	PREHEATING [3] (min)	38	22	16	13	36	21	15	12	46	27	19	15	46	27	19	15
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	97	107	-	-	155	171	-	-	203	220	-	-	243	264
	LITRES FIRST HOUR [2]	-	-	214	273	-	-	347	443	-	-	411	516	-	-	495	621
	CONTINUOUS DRAW (L) [3]	-	-	147	209	-	-	243	344	-	-	263	373	-	-	318	451
	POWER (kW)	-	-	8,6	12,2	-	-	14,2	20	-	-	15,3	21,7	-	-	18,5	26,2
	PREHEATING [3] (min)	-	-	32	23	-	-	31	22	-	-	40	28	-	-	40	28
	NL [4]	1				1				1				2			

	MODEL	DSFV 00800_				DSFV 01000_				DSFV 01500_				DSFV 02000_			
	HEAT EXCHANGER (m^2) [L] [1]	1,5 [10,6]				1,9 [13,5]				2,3 [16,3]				3,0 [21,3]			
	PRIMARY FLOW (m^3/h)	3				3				3				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	336	376	531	565	441	491	693	735	625	684	966	1015	827	903	1276	1341
	LITRES FIRST HOUR [2]	627	870	1203	1409	803	1101	1522	1774	1055	1405	1944	2238	1388	1846	2556	2942
	CONTINUOUS DRAW (L) [3]	368	623	849	1066	457	771	1047	1312	543	911	1235	1545	710	1192	1616	2022
	POWER (kW)	15	25	35	43	19	31	43	53	22	37	50	63	29	49	66	82
	PREHEATING [3] (min)	50	29	21	17	55	32	23	18	68	40	29	23	69	40	29	23
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	344	372	-	-	452	486	-	-	638	678	-	-	844	896
	LITRES FIRST HOUR [2]	-	-	680	847	-	-	869	1073	-	-	1132	1371	-	-	1490	1803
	CONTINUOUS DRAW (L) [3]	-	-	424	599	-	-	526	741	-	-	624	876	-	-	816	1146
	POWER (kW)	-	-	24,7	35	-	-	30,6	43,1	-	-	36,3	50,9	-	-	47,5	66,6
	PREHEATING [3] (min)	-	-	43	30	-	-	47	33	-	-	59	41	-	-	59	42
	NL [4]	3				3				6				10			

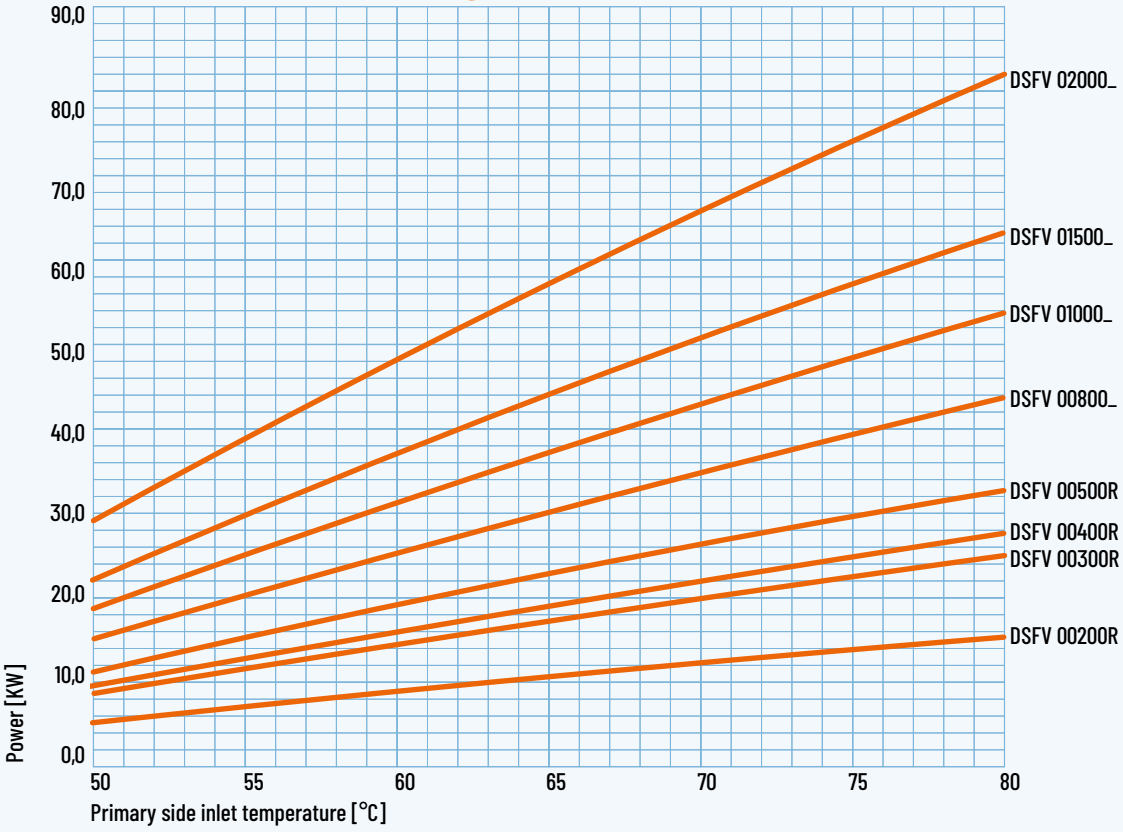
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

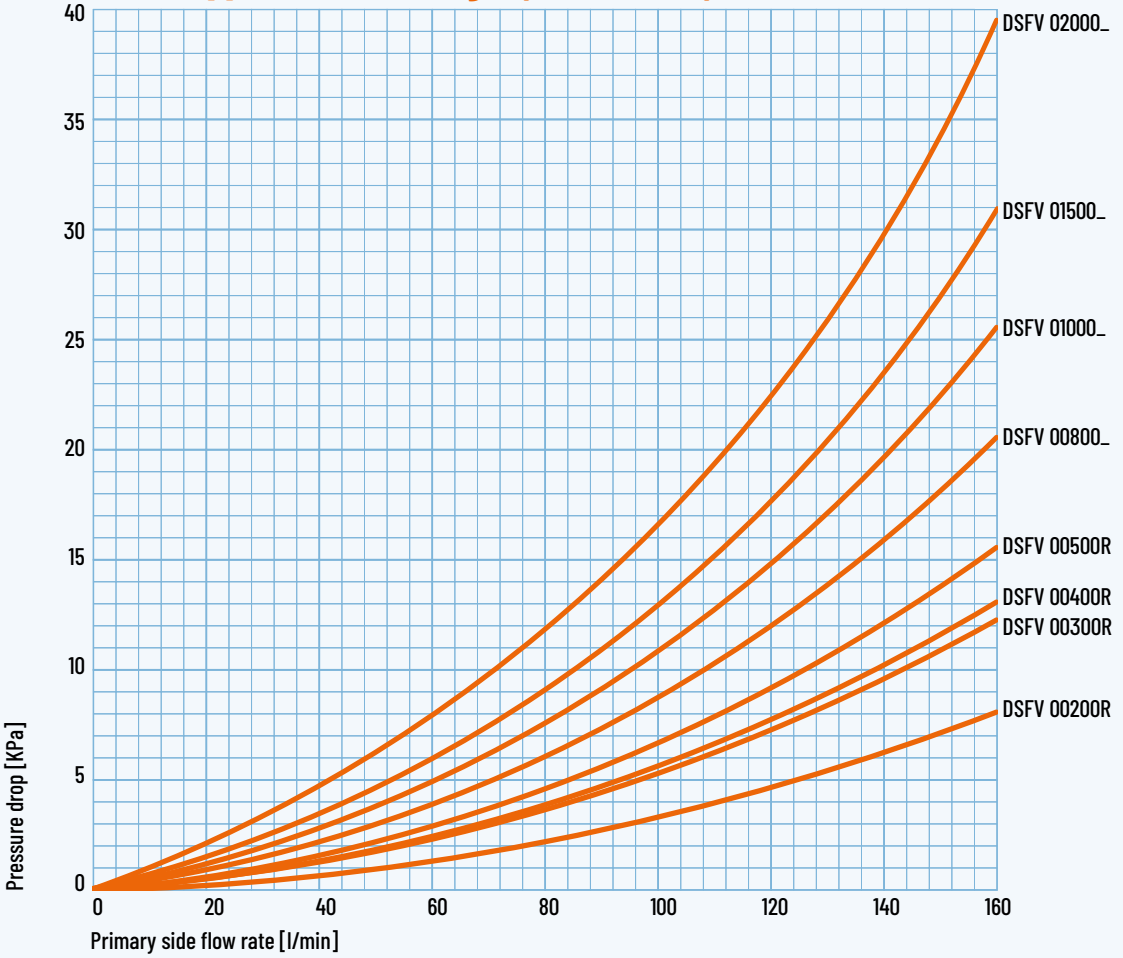
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

DSFV - **Upper heat exchanger** powers with secondary side at 10/45 °C



DSFV - **Upper heat exchanger** pressure drops



BMX - AISI 316L stainless steel wall mounting calorifier

BMV – Glass lined wall mounting calorifier



Calorifier for the production and storage of domestic hot water (DHW) equipped with fixed coil.
It is available in two options: AISI 316L stainless steel (Mod. BMX) and glass lined steel (Mod. BMV). The flexible wall mounting system, allows the product to be installed either in vertical or horizontal position.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		BMX	BMV
DHW cylinder	Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	External protective treatment	Pickling and passivation	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	6 bar / 95°C	8 bar / 95 °C
Heat exchanger	Material	Stainless steel AISI 316L	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	None
	External protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	Type	Fixed coil	Fixed coil
	Rating (P max. / T max.)	10 bar / 95 °C	10 bar / 95 °C
General features	Capacity	100 - 150 - 200 L	
	Warranty	5 years	
	Insulation	25 mm thick injected polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)	
	Cathodic protection	Magnesium anode	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



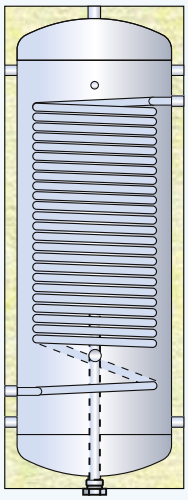
Thermostat



Thermometer



1" ¼ electric immersion heater



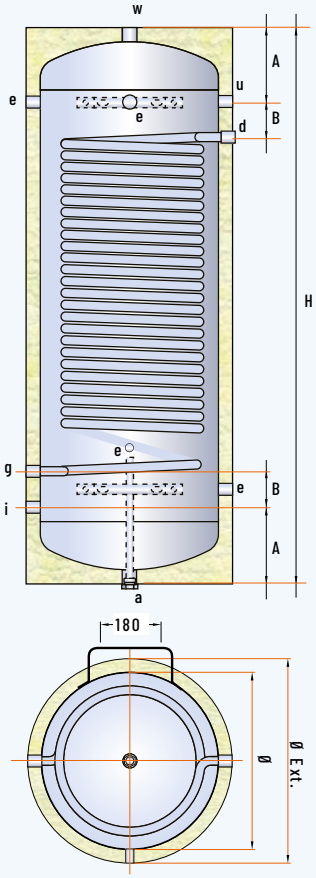
BMX - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BMX 00100 R	25	C	57,1	98,4	0,75 / 6,9
BMX 00150 R	25	C	68,2	147,5	1,10 / 9,8
BMX 00200 R	25	C	82,4	189,3	1,60 / 11,8

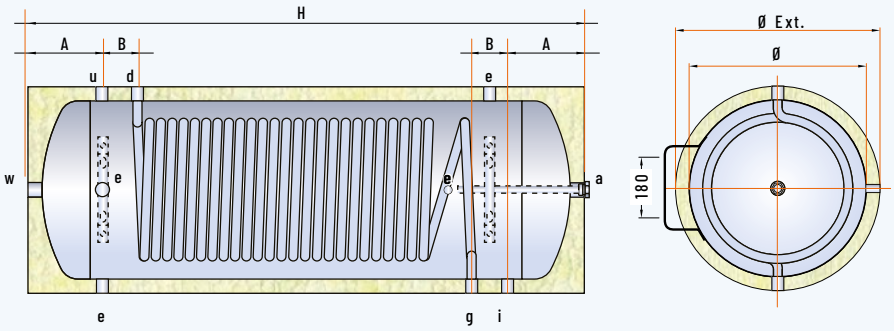
BMV - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BMV 00100 R	25	C	57,1	98,4	0,75 / 6,9
BMV 00150 R	25	C	68,2	147,5	1,10 / 9,8
BMV 00200 R	25	C	82,4	189,3	1,60 / 11,8

BMX
BMV



BMX
BMV



Horizontal installation is not meant to work with natural circulation primary fluids

LEGEND

- **a .** Magnesium anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater

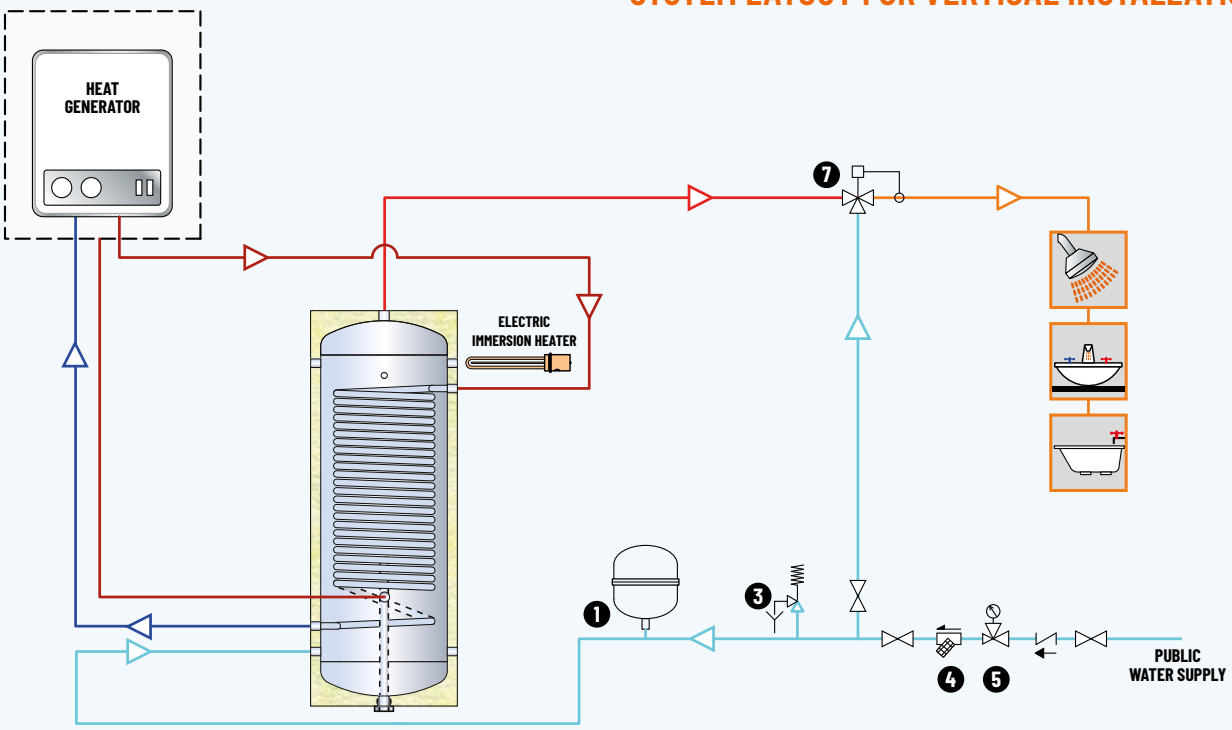
MODEL		H	Ø EXT	HEIGHTS (mm) A	B	CONNECTIONS (GAS) a w i u	d g	e	HEAT EXCHANGER (m^2)	WEIGHT (kg)
BM_ 00100 R	400	870	450	185	90	1"¼	1"	½"	0,75	35
BM_ 00150 R	450	1005	500	200	90	1"¼	1"	½"	1,10	49
BM_ 00200 R	450	1255	500	200	90	1"¼	1"	½"	1,60	57

** Volume occupied by the heat exchanger and its support structure*

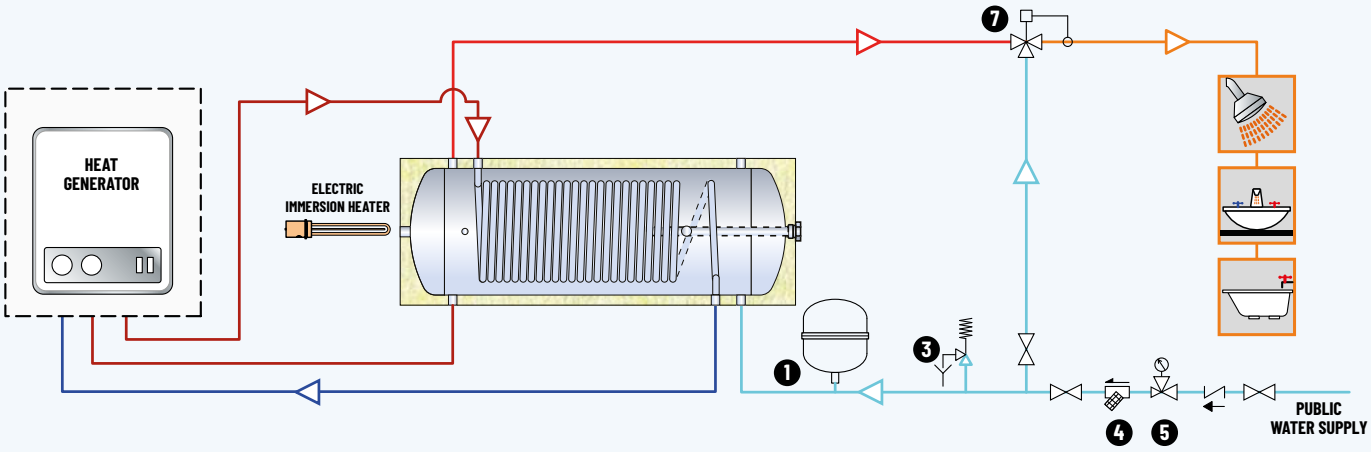
System layout

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

SYSTEM LAYOUT FOR VERTICAL INSTALLATION



SYSTEM LAYOUT FOR HORIZONTAL INSTALLATION



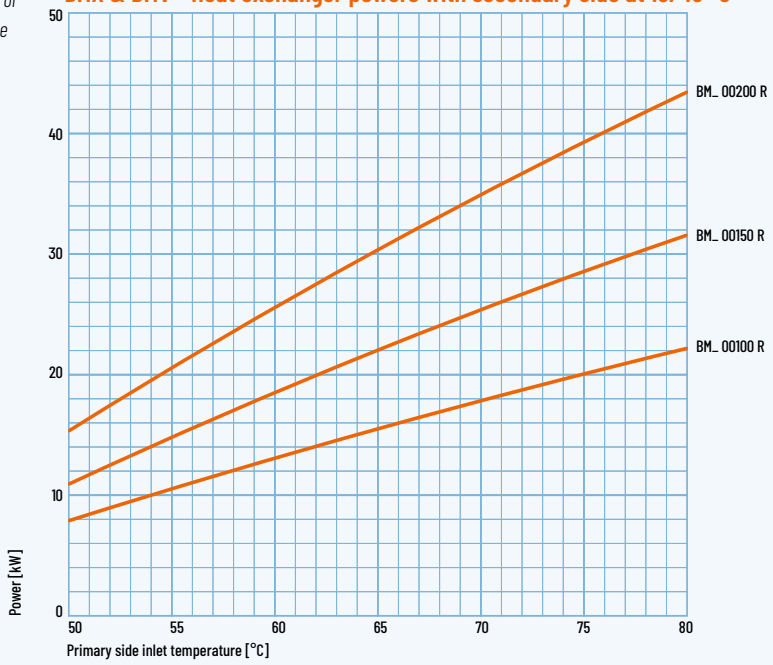
LEGEND

1 . Domestic water expansion vessel
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve

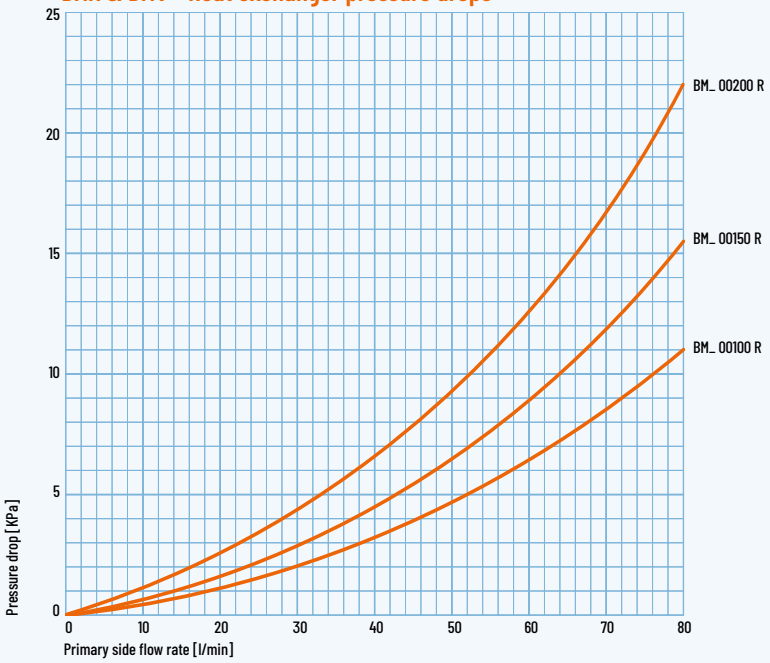
	MODEL	BM_ 00100 R				BM_ 00150 R				BM_ 00150 R			
	HEAT EXCHANGER (m^2) [L] [1]	0,75 [5,3]				1,1 [7,8]				1,6 [11,3]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	123	144	203	220	183	212	298	323	239	280	392	426
	LITRES FIRST HOUR [2]	272	397	547	654	395	571	786	935	537	778	1068	1271
	CONTINUOUS DRAW (L) [3]	187	319	436	548	268	453	617	774	376	630	854	1068
	POWER (kW)	7,6	13,0	17,7	22,3	10,9	18,4	25,1	31,5	15,3	25,6	34,7	43,5
	PREHEATING [3] (min)	33	19	14	11	35	20	15	12	33	19	14	11
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	128	142	-	-	189	209	-	-	248	276
	LITRES FIRST HOUR [2]	-	-	299	385	-	-	433	554	-	-	590	755
	CONTINUOUS DRAW (L) [3]	-	-	216	307	-	-	309	436	-	-	432	606
	POWER (kW)	-	-	12,6	17,8	-	-	18,0	25,3	-	-	25,1	35,2
	PREHEATING [3] (min)	-	-	28	20	-	-	30	21	-	-	28	20
	NL [4]	0,6				1,4				1,8			

(1) Volume of fluid contained in the heat exchanger
(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source
(3) With a proper power heat source generator
(4) Primary side 80 °C - Secondary side 10-45 °C

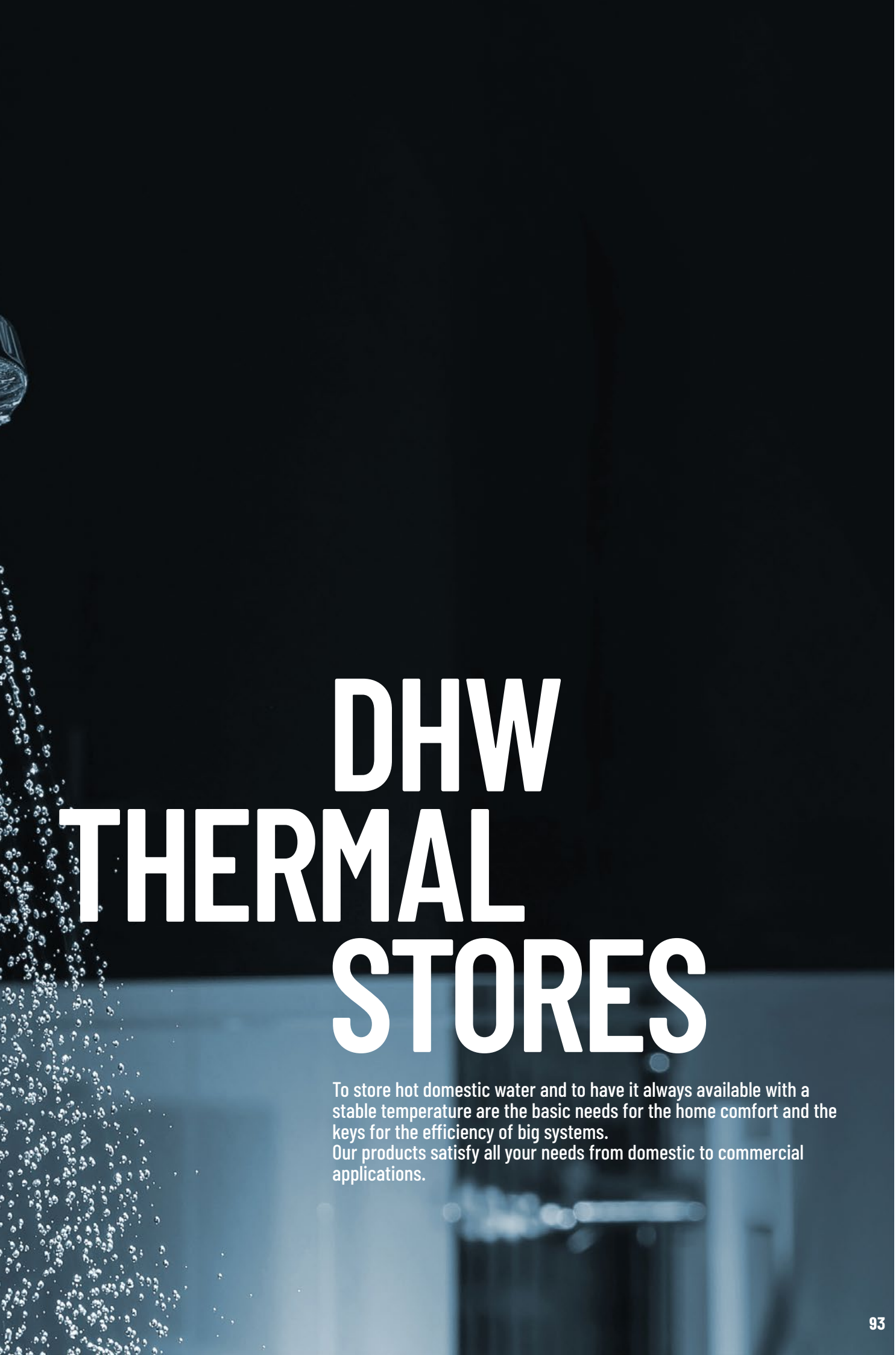
BMX & BMV - Heat exchanger powers with secondary side at 10/45 °C



BMX & BMV - Heat exchanger pressure drops







DHW THERMAL STORES

To store hot domestic water and to have it always available with a stable temperature are the basic needs for the home comfort and the keys for the efficiency of big systems.
Our products satisfy all your needs from domestic to commercial applications.

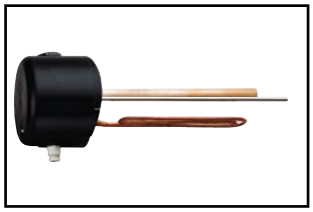


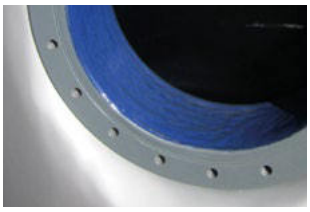
Domestic hot water thermal store
ELX - AISI 316L stainless steel
ELV - Glass lined steel

Buffer vessel for the storage of domestic hot water (DHW) produced by external sources (boilers, PHE).
The cylinder is available in two versions:
- AISI 316L stainless steel (Mod. ELX)
- Glass lined steel (Mod. ELV)

The inspection hatch can be also used to equip the cylinder with high power immersion heaters.

APPLICATION





TECHNICAL FEATURES

DHW cylinder

General features

	ELX	ELV
Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
Internal protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
External protective treatment	Pickling and passivation	Anti rust protection + epoxy painting
Rating (P max. / T max.)	6 bar / 95°C	8 bar / 95°C
Cathodic protection	Magnesium anode	Magnesium anode
Capacity	200 - 1000 L	200 - 1000 L
Warranty	5 years	
Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)	
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



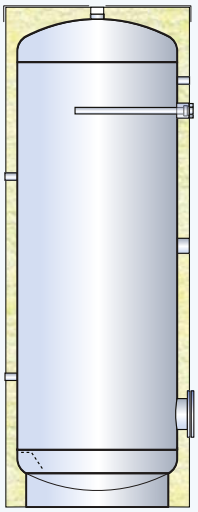
Thermostat



Thermometer



1"½ electric immersion heater

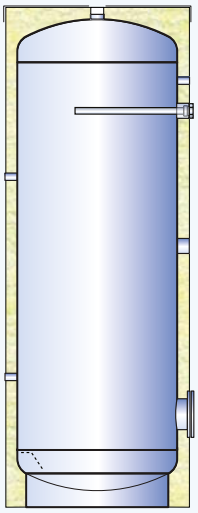


ELX - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ELX 00200 R	50	B	56,7	189,8
ELX 00300 R	50	B	68,2	290,3
ELX 00400 R	50	B	72,0	414,9
ELX 00500 R	50	B	80,6	500,3
ELX 00800 R	100	C	105,9	749,8
ELX 01000 R	100	C	109,7	931,5

ELX - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ELX 00800 F	130	C	125,9	749,8
ELX 01000 F	130	C	137,9	931,5



ELV - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ELV 00200 R	50	B	56,7	189,8
ELV 00300 R	50	B	68,2	290,3
ELV 00400 R	50	B	72,0	414,9
ELV 00500 R	50	B	80,6	500,3
ELV 00800 R	100	C	105,9	749,8
ELV 01000 R	100	C	109,7	931,5

ELV - Soft insulation with polyester and PVC jacket

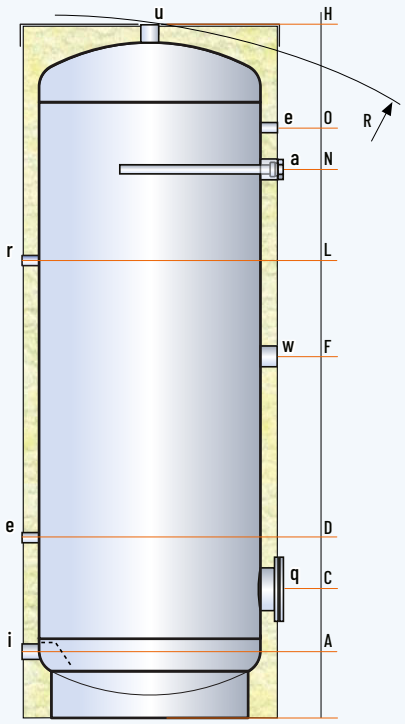
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ELV 00800 F	130	C	125,9	749,8
ELV 01000 F	130	C	137,9	931,5

ELX/ELV - Cylinders/Heaters compatibility chart

BUFFER MODEL	Screwed heaters mounted over flange with sleeve		Heater mounted over a 120/180 mm flange
	FLANGE ADAPTOR CODE	IMMERSION HEATER CODE (PAGE 224)	IMMERSION HEATER CODE (PAGE 225)
ELX 00200 R	CRI 180	REX 30M/30T/40T	R18-25MIN, R18-25TIN, R18-30TIN, R18-33MIN, R18-38TIN, R18-50TIN, R18-60TIN, R18-75TIN, R18-99TIN
ELX 00300 R	CRI 180	REX 30M/30T/40T/50T	
ELX 00400 R	CRI 180	REX 30M/30T/40T/50T	
ELX 00500 R	CRI 180	REX 30M/30T/40T/50T	
ELX 00800_	CRI 180	REX 30M/30T/40T/50T/75T/90T/120T	
ELX 01000_	CRI 180	REX 30M/30T/40T/50T/75T/90T/120T	
ELV 00200 R	CRV 180	REX 30M/30T/40T	R18-25MIN, R18-25TIN, R18-30TIN, R18-33MIN, R18-38TIN, R18-50TIN, R18-60TIN, R18-75TIN, R18-99TIN, R18-20M, R18-25M, R18-25T, R18-30T, R18-33M, R18-38T, R18-50T, R18-60T, R18-75T, R18-99T
ELV 00300 R	CRV 180	REX 30M/30T/40T/50T	
ELV 00400 R	CRV 180	REX 30M/30T/40T/50T	
ELV 00500 R	CRV 180	REX 30M/30T/40T/50T	
ELV 00800_	CRV 180	REX 30M/30T/40T/50T/75T/90T/120T	
ELV 01000_	CRV 180	REX 30M/30T/40T/50T/75T/90T/120T	

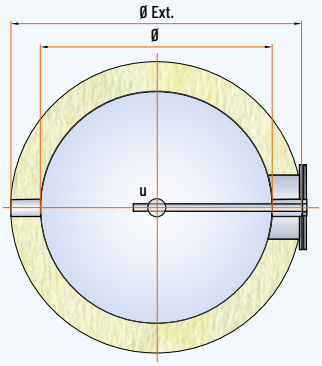
Dimensions and heights

ELX

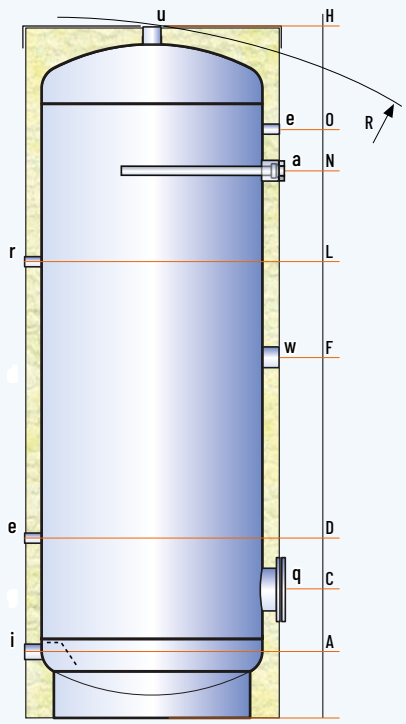


LEGEND

- **a .** Magnesium anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **q .** DHW inspection hatch/ opening for immersion heater
- **r .** Recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



ELV

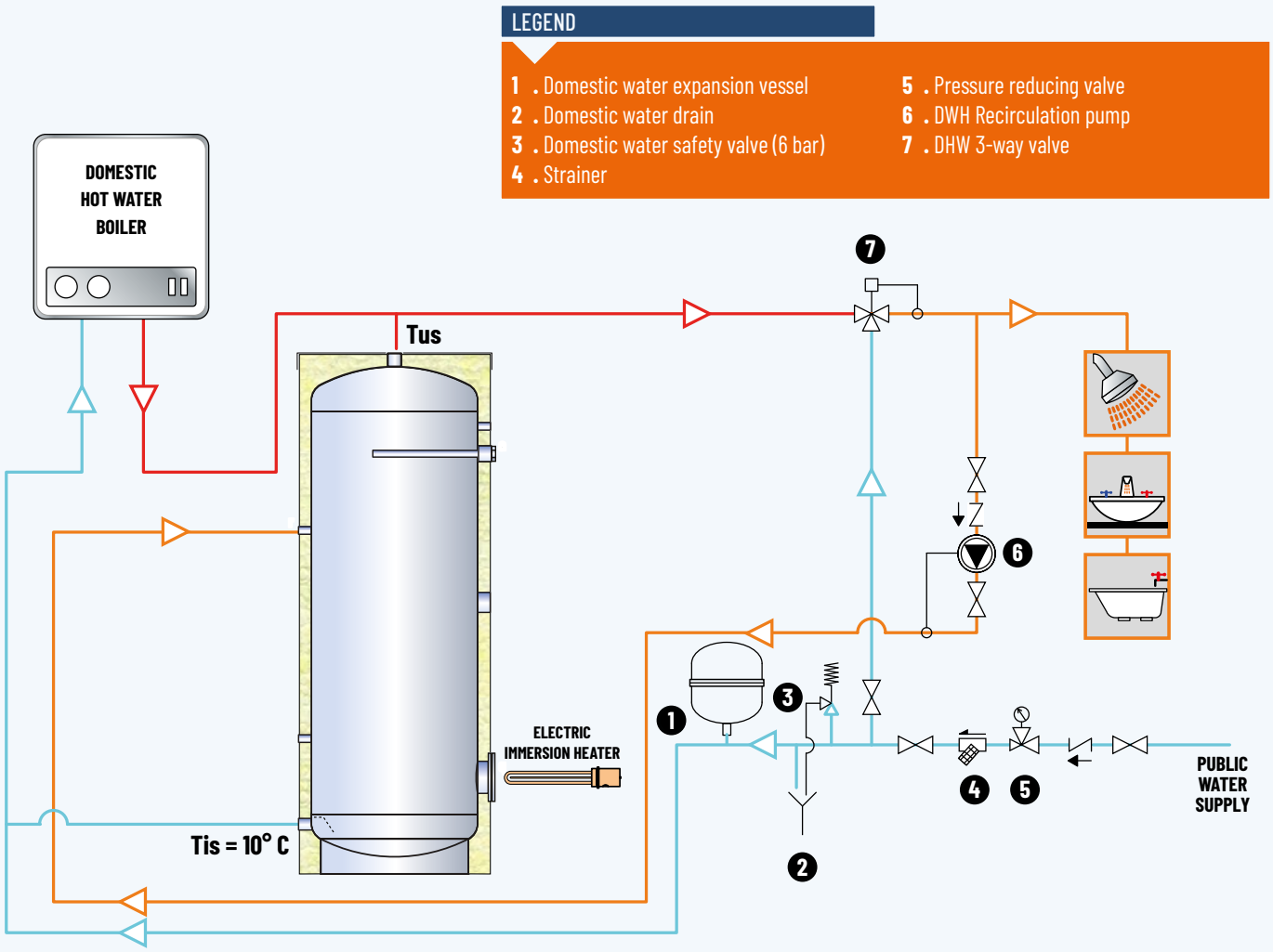


MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	WEIGHT (kg)
ELX 00200 R	450	1305	550	1430	48
ELX 00300 R	500	1595	600	1720	59
ELX 00400 R	650	1395	750	1600	68
ELX 00500 R	650	1645	750	1820	76
ELX 00800_	790	1750	990/1050	1745	111
ELX 01000_	790	2100	990/1050	2095	129
ELV 00200 R	450	1320	550	1430	55
ELV 00300 R	500	1610	600	1730	68
ELV 00400 R	650	1410	750	1610	80
ELV 00500 R	650	1660	750	1835	90
ELV 00800_	790	1750	990/1050	1745	146
ELV 01000_	790	2100	990/1050	2095	171

** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	C	D	F	L	N	O	CONNECTIONS (GAS) a	e	i	u	r	w	q
ELX 00200 R	110	260	340	690	840	980	1090	1"¼	½"	1"	1"	½"	1"½	120/180
ELX 00300 R	120	300	405	845	1050	1250	1365	1"¼	½"	1"	1"	½"	1"½	120/180
ELX 00400 R	145	310	375	745	900	1030	1140	1"¼	½"	1"	1"	½"	1"½	120/180
ELX 00500 R	145	310	395	895	1095	1280	1390	1"¼	½"	1"	1"	½"	1"½	120/180
ELX 00800_	170	345	425	940	1200	1250	1425	1"¼	½"	1"½	1"½	1"	1"½	120/180
ELX 01000_	170	345	430	1090	1400	1450	1770	1"¼	½"	1"½	1"½	1"	1"½	120/180
ELV 00200 R	110	260	340	690	840	980	1090	1"¼	½"	1"	1"¼	½"	1"½	120/180
ELV 00300 R	120	300	405	845	1050	1250	1365	1"¼	½"	1"	1"¼	½"	1"½	120/180
ELV 00400 R	145	310	375	745	900	1030	1140	1"¼	½"	1"	1"¼	½"	1"½	120/180
ELV 00500 R	145	310	395	895	1095	1280	1390	1"¼	½"	1"	1"¼	½"	1"½	120/180
ELV 00800_	150	345	425	940	1200	1250	1425	1"¼	½"	1"½	1"¼	1"	1"½	120/180
ELV 01000_	150	345	430	1090	1400	1450	1770	1"¼	½"	1"½	1"¼	1"	1"½	120/180

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

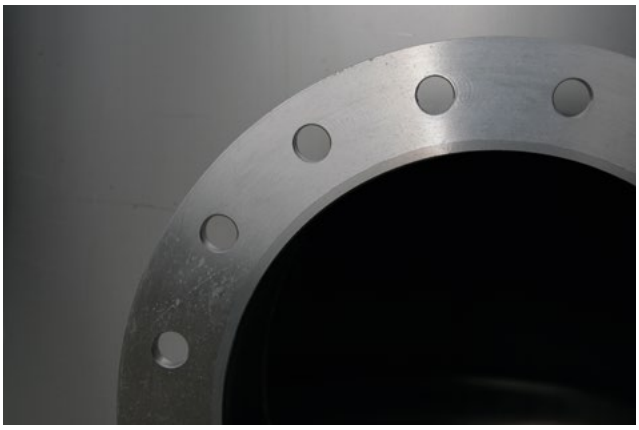




ATX - AISI 316L Stainless steel DHW thermal store

Buffer vessel for the storage of domestic hot water (DHW) produced by external sources (boilers, PHE).
The inspection hatch can be also used to equip the cylinder with an immersion heater.
These buffer vessels can also be combined with our Indirect fresh water units (HWP I at page 236) in order to be used on medium/big size systems for DHW production with storage tanks. For small applications, buffer vessel with on board plate heat exchangers are also available (Mod. PRX at page 228).

APPLICATION



TECHNICAL FEATURES

DHW cylinder

Material	AISI 316L Stainless steel (1.4404)
Internal protective treatment	Pickling and passivation
External protective treatment	Pickling and passivation
Rating (P max. / T max.)	6 bar / 95°C
Cathodic protection	Magnesium anode

General features

Capacity	200 - 5000 L
Warranty	5 years
Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)


Impressed current electronic anode

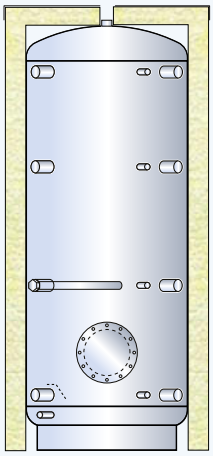

Electronic control unit


Thermostat


Thermometer


1"½ electric immersion heater


Electric immersion heater over flange



ATX - Hard insulation and PVC jacket

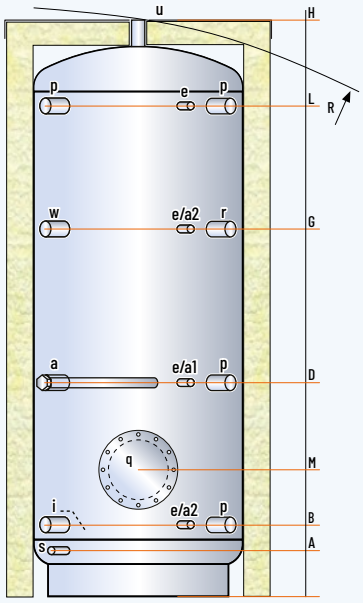
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATX 00200 R	50	C	62,2	191,2
ATX 00300 R	50	C	73,7	291,7
ATX 00500 R	50	C	86,1	501,7
ATX 00800 R	100	C	113,8	754,9
ATX 01000 R	100	C	117,6	936,6
ATX 01500 R	100	C	136,7	1478,0
ATX 02000 R	100	C	149,2	1958,6
ATX 02500 R	100	-	-	2502,1
ATX 03000 R	100	-	-	2966,1
ATX 04000 R	100	-	-	3903,0
ATX 05000 R	100	-	-	5013,8

ATX - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATX 00800 F	130	C	132,6	754,9
ATX 01000 F	130	C	143,9	936,6
ATX 01500 F	130	C	169,2	1478,0
ATX 02000 F	130	C	184,6	1958,6
ATX 02500 F	100	-	-	2502,1
ATX 03000 F	100	-	-	2966,1
ATX 04000 F	100	-	-	3903,0
ATX 05000 F	100	-	-	5013,8

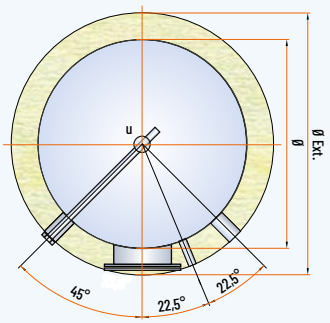
Dimensions and heights

200 - 1500 L

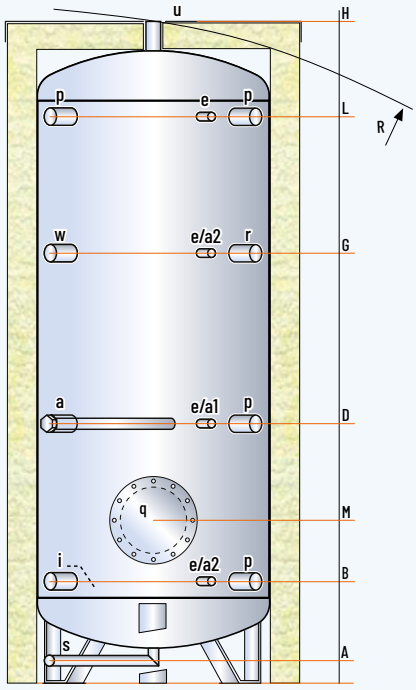


LEGEND

a . Magnesium anode
a1-a2. Opening for electronic anode
e . Thermometer - Sensor
i . Domestic cold water inlet
p . Free connection
q . DHW inspection hatch
r . Recirculation
s . Drain
u . Domestic hot water outlet
w. Opening for immersion heater



2000 - 5000 L

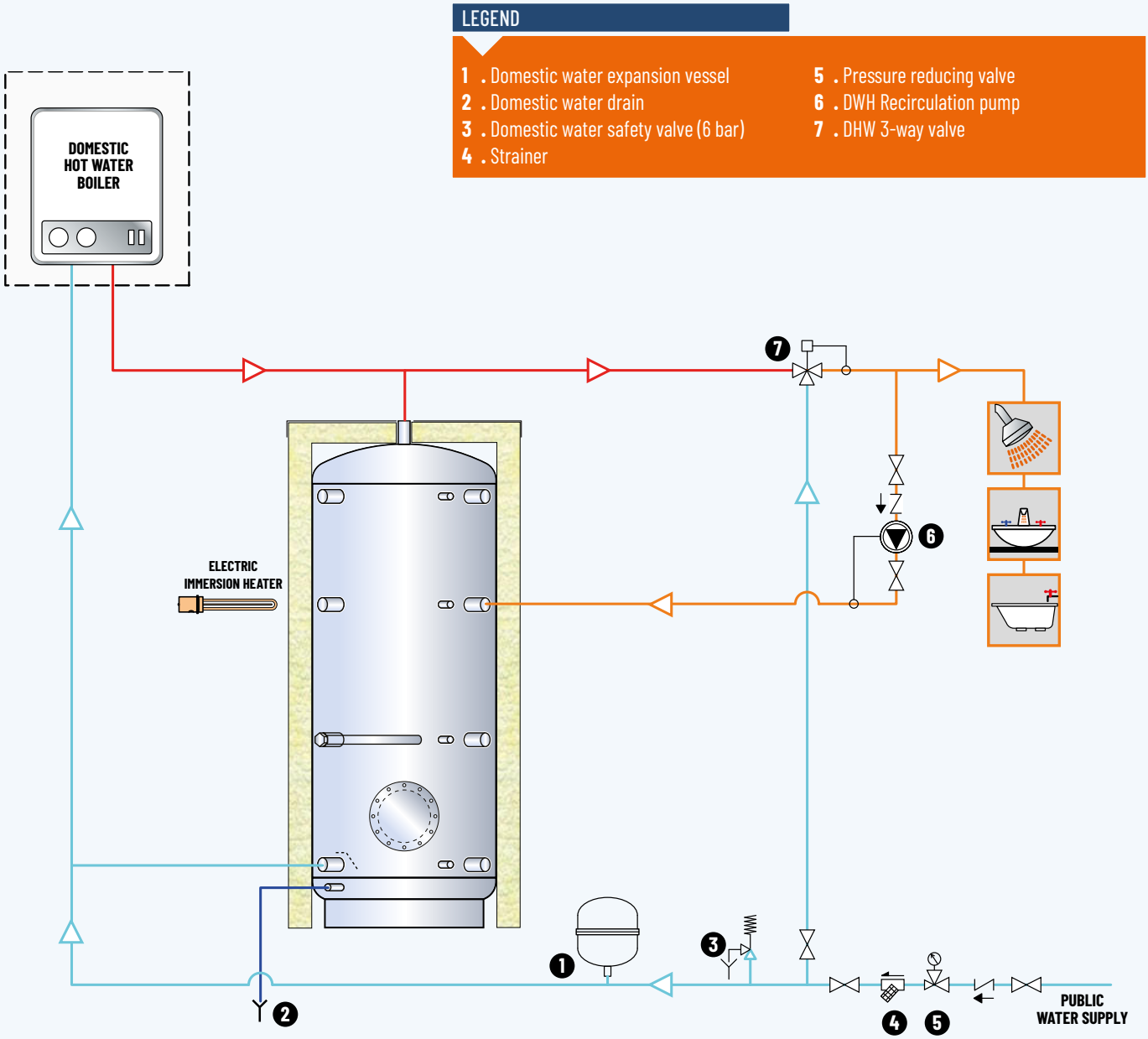


MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	Electronic anode (optional)	WEIGHT (kg)
ATX 00200 R	450	1305	550	1430	a1 (EPS 375/125)	50
ATX 00300 R	500	1595	600	1720	a1 (EPS 375/125)	61
ATX 00500 R	650	1645	750	1820	a1 (EPS 375/125)	78
ATX 00800_	790	1750	990/1050	1745	a1 (EPS 375/125)	116
ATX 01000_	790	2110	990/1050	2095	a1 (EPS 375/125)	134
ATX 01500_	1000	2115	1200/1260	2145	a2 (EPS 375/125)	195
ATX 02000_	1100	2465	1300/1360	2465	a2 (EPS 375/125)	261
ATX 02500_	1200	2595	1400	2640	a2 (EPS 700/200)	307
ATX 03000_	1250	2795	1450	2835	a2 (EPS 700/200)	335
ATX 04000_	1400	2925	1600	2995	a2 (EPS 700/200)	492
ATX 05000_	1600	2955	1800	3090	a2 (EPS 700/200)	576

** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	e	i u	s	w	q
ATX 00200 R	110	190	515	890	1075	350	1"¼	½"	1"¼	1"	1"½	220/290
ATX 00300 R	110	215	595	1080	1350	375	1"¼	½"	1"¼	1"	1"½	220/290
ATX 00500 R	135	240	615	1105	1375	445	1"¼	½"	1"¼	1"	1"½	220/290
ATX 00800_	170	275	655	1145	1410	450	1"¼	½"	1"½	1"	1"½	300/380
ATX 01000_	170	275	810	1355	1755	455	1"¼	½"	1"½	1"	1"½	300/380
ATX 01500_	235	340	765	1400	1725	520	1"¼	½"	2"	1"	1"½	300/380
ATX 02000_	100	475	1010	1515	1975	655	1"¼	½"	2"	1"	1"½	350/430
ATX 02500_	100	505	1040	1600	2105	690	1"¼	½"	2"	1"	1"½	350/430
ATX 03000_	90	515	1100	1730	2300	675	1"¼	½"	3"	1"	1"½	350/430
ATX 04000_	120	595	1190	1815	2380	755	1"¼	½"	3"	1"	1"½	350/430
ATX 05000_	100	600	1185	1815	2385	825	1"¼	½"	3"	1"	1"½	350/430

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



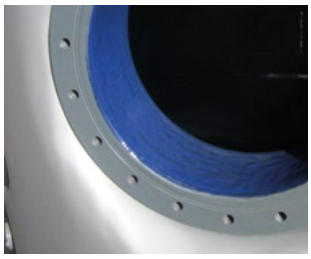


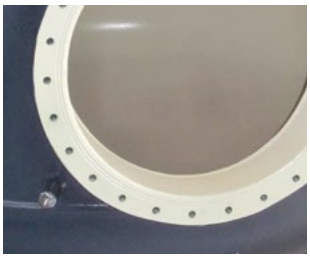
ATV - DHW Glass lined thermal store

ATK - DHW Keramtech lined thermal store

Buffer vessel for the storage of domestic hot water (DHW) produced by external sources (boilers, PHE).
The cylinder is made of carbon steel and is internally protected by glass lining (for capacities up to 2.000 litres) or with Keramtech ceramic lining (for capacities from 2000 to 5000 litres).
The inspection hatch can be also used to equip the cylinder with an immersion heater. These buffer vessels can also be combined with our Indirect fresh water units (HWP I at page 236) in order to be used on medium/big size systems of DHW production with storage tanks. For small applications, buffer vessel with on board plate heat exchangers are also available (Mod. PRV, see page 228).

APPLICATION





TECHNICAL FEATURES

DHW cylinder

General features

	ATV	ATK
Material	Glass lined S 235 Jr Carbon steel	Keramtech lined S235 Jr Carbon steel
Internal protective treatment	Enamelling according to DIN 4753.3	Alimentary epoxy-ceramic lining
External protective treatment	Anti rust protection + epoxy painting	Anti rust protection + epoxy painting
Rating (P max. / T max.)	8 bar / 95°C	6 bar / 100°C
Cathodic protection	Magnesium anode	Magnesium anode
Capacity	200 - 2000 L	2000 - 5000 L
Warranty	5 years	
Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)	
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



Thermostat



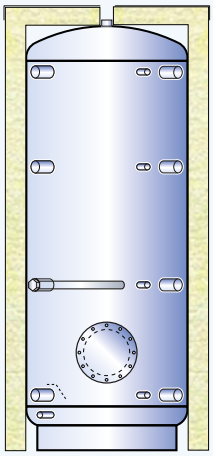
Thermometer



1"½ electric immersion heater



Electric immersion heater over flange

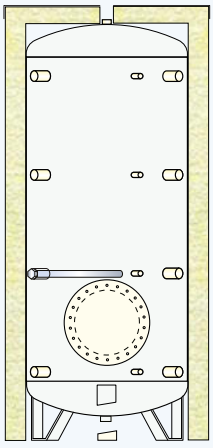


ATV - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATV 00200 R	50	C	62,2	191,2
ATV 00300 R	50	C	73,7	291,7
ATV 00500 R	50	C	86,1	501,7
ATV 00800 R	100	C	113,8	754,9
ATV 01000 R	100	C	117,6	936,6
ATV 01500 R	100	C	136,7	1478,0
ATV 02000 R	100	C	149,2	1958,6

ATV - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATV 00800 F	130	C	132,6	754,9
ATV 01000 F	130	C	143,9	936,6
ATV 01500 F	130	C	169,2	1478,0
ATV 02000 F	130	C	182,7	1958,6



ATK - Hard insulation and PVC jacket

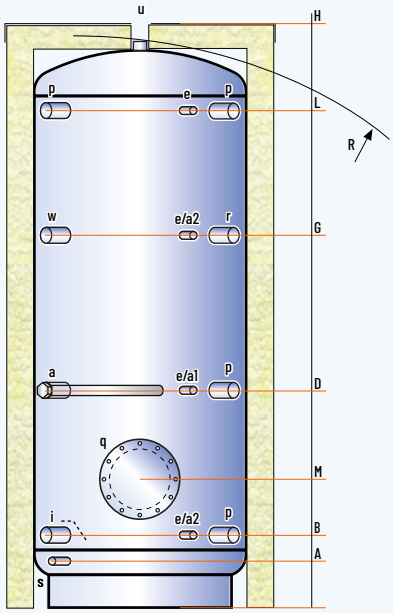
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATK 02000 R	100	C	151,4	1962,5
ATK 02500 R	100	-	-	2506,0
ATK 03000 R	100	-	-	2970,0
ATK 04000 R	100	-	-	3906,9
ATK 05000 R	100	-	-	5017,7

ATK - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATK 02000 F	130	C	185,6	1962,5
ATK 02500 F	100	-	-	2506,0
ATK 03000 F	100	-	-	2970,0
ATK 04000 F	100	-	-	3906,9
ATK 05000 F	100	-	-	5017,7

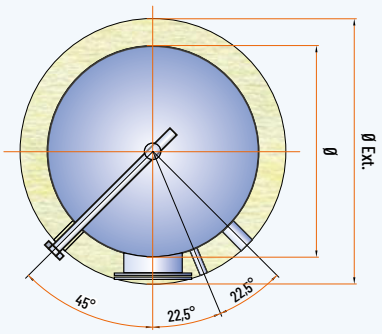
Dimensions and heights

ATV

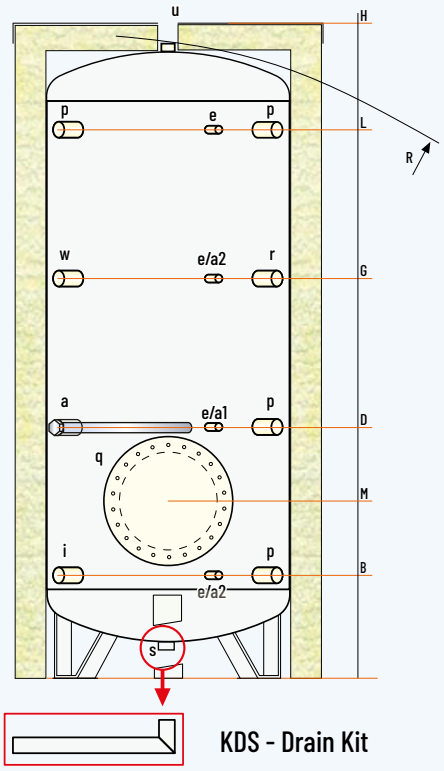


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **p .** Free connection
- **q .** DHW inspection hatch
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



ATK



KDS - Drain Kit

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	Electronic anode (optional)	WEIGHT (kg)
ATV 00200 R	450	1320	550	1440	a1 (EPS 375/125)	56
ATV 00300 R	500	1610	600	1730	a1 (EPS 375/125)	69
ATV 00500 R	650	1660	750	1835	a1 (EPS 375/125)	91
ATV 00800_	790	1750	990/1050	1745	a1 (EPS 375/125)	155
ATV 01000_	790	2110	990/1050	2095	a1 (EPS 375/125)	179
ATV 01500_	1000	2115	1200/1260	2145	a2 (EPS 375/125)	283
ATV 02000_	1100	2380	1300/1360	2465	a2 (EPS 375/125)	399
ATK 02000_	1100	2465	1300/1360	2465	a2 (EPS 375/125)	272
ATK 02500_	1200	2595	1400	2640	a2 (EPS 700/200)	319
ATK 03000_	1250	2795	1450	2835	a2 (EPS 700/200)	347
ATK 04000_	1400	2925	1600	2995	a2 (EPS 700/200)	504
ATK 05000_	1600	2955	1800	3090	a2 (EPS 700/200)	588

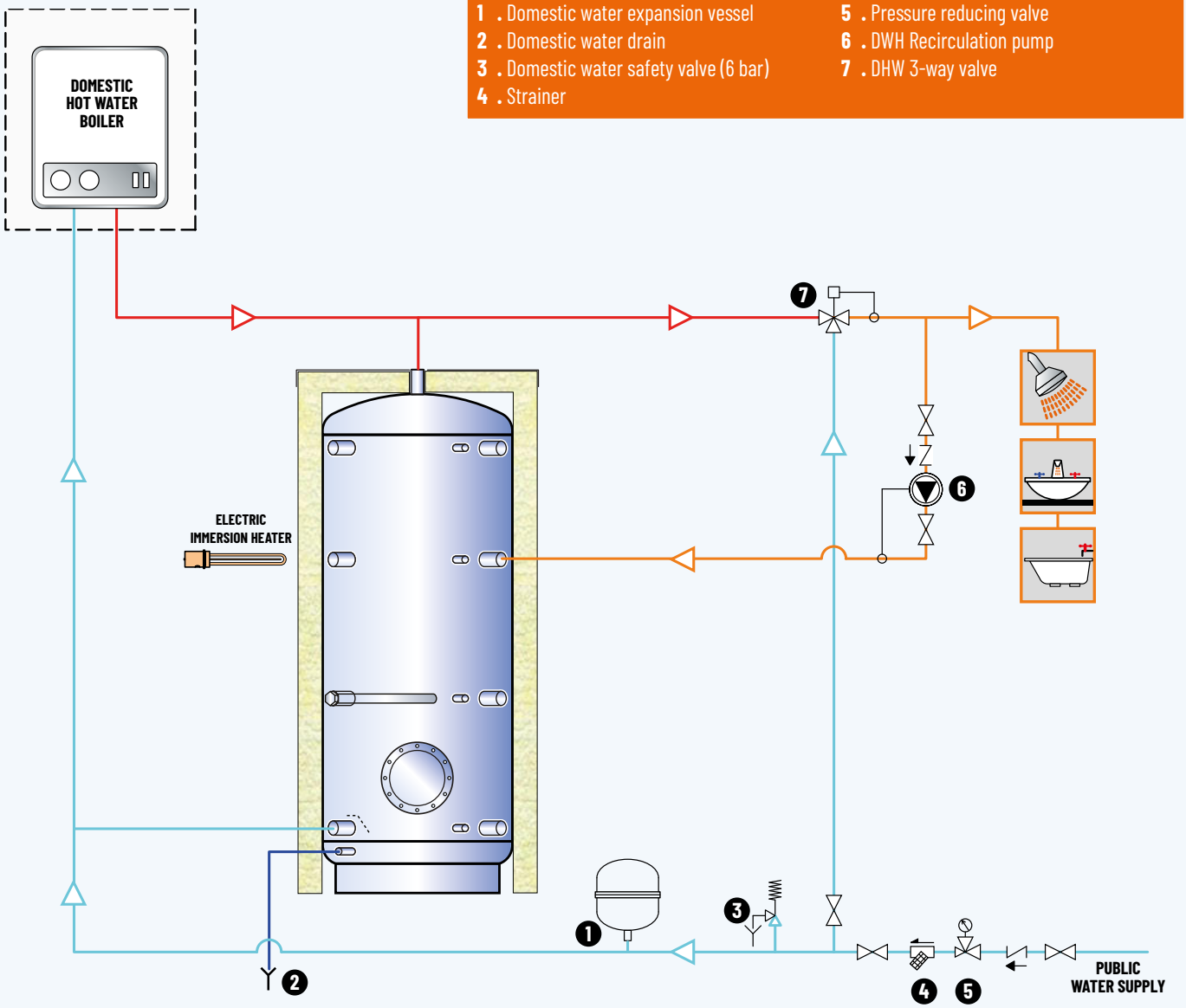
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	e	i u	s	w	q
ATV 00200 R	110	190	515	890	1075	350	1"¼	½"	1"¼	1"	1"½	220/290
ATV 00300 R	110	215	595	1080	1350	375	1"¼	½"	1"¼	1"	1"½	220/290
ATV 00500 R	135	240	615	1105	1375	445	1"¼	½"	1"¼	1"	1"½	220/290
ATV 00800_	150	275	655	1145	1410	450	1"¼	½"	1"½	1"	1"½	300/380
ATV 01000_	150	275	810	1355	1755	455	1"¼	½"	1"½	1"	1"½	300/380
ATV 01500_	235	340	765	1400	1725	520	1"¼	½"	2"	1"	1"½	300/380
ATV 02000_	265	370	930	1435	1945	575	1"¼	½"	2"	1"	1"½	350/430
ATK 02000_	-	475	1010	1515	1975	680	1"¼	½"	2"	1"¼	1"½	400/480
ATK 02500_	-	505	1040	1600	2105	715	1"¼	½"	2"	1"¼	1"½	400/480
ATK 03000_	-	515	1100	1730	2300	700	1"¼	½"	3"	1"¼	1"½	400/480
ATK 04000_	-	595	1190	1815	2380	780	1"¼	½"	3"	1"¼	1"½	400/480
ATK 05000_	-	600	1185	1815	2385	785	1"¼	½"	3"	1"¼	1"½	400/480

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve





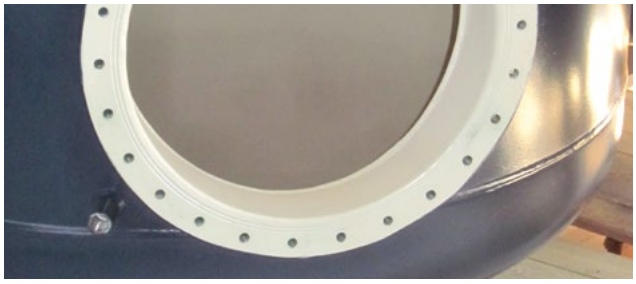
ATKL - DHW Keramtech lined thermal store Low size

Buffer vessel for the storage of domestic hot water (DHW) produced by external sources (boilers, PHE).
The cylinder is made of carbon steel and is internally protected with Keramtech ceramic lining.
The inspection hatch can be also used to equip the cylinder with an immersion heater.
These buffer vessels can also be combined with our Indirect fresh water units (HWP I at page 236) in order to be used on medium/big size systems of DHW production with storage tanks.

APPLICATION

Version with reduced height to allow its shipment in upright position.





TECHNICAL FEATURES

DHW cylinder

General features

Material	Keramtech lined S235 Jr Carbon steel
Internal protective treatment	Alimentary epoxy-ceramic lining
External protective treatment	Anti rust protection + epoxy painting
Rating (P max. / T max.)	6 or 8 bar / 95°C
Cathodic protection	Magnesium anode
Capacity	2000 - 5000 L
Warranty	5 years
Insulation	Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102)
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)


Impressed current electronic anode

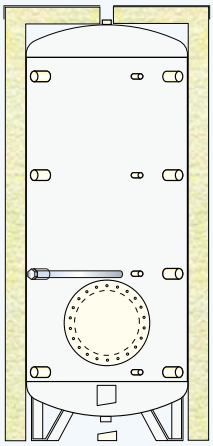

Electronic control unit


Thermostat


Thermometer


1"½ electric immersion heater


Electric immersion heater over flange



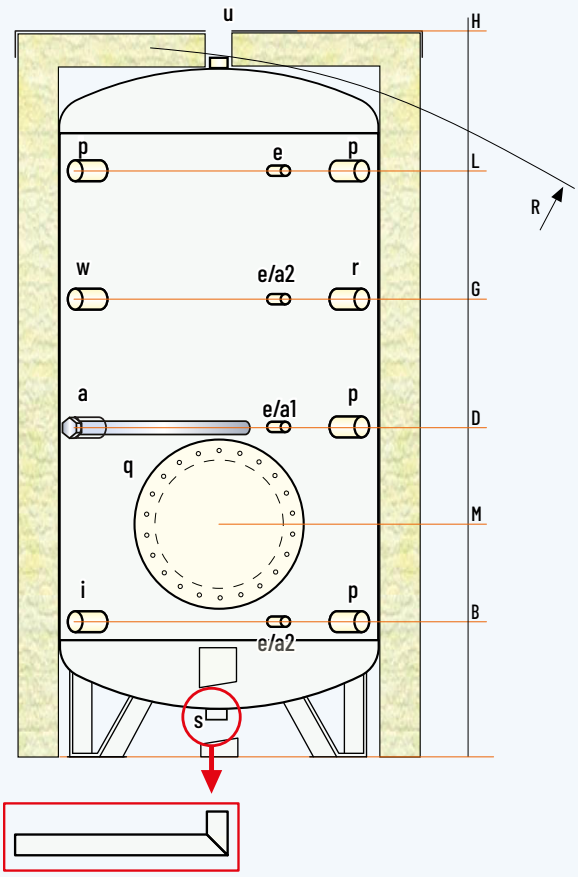
ATKL - Soft insulation with polyester and PVC jacket

CODE	WORKING PRESSURE (bar)	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATKL 02006 F	6	130	C	192,3	2160,4
ATKL 02506 F	6	100	-	-	2558,7
ATKL 03006 F	6	100	-	-	2930,6
ATKL 04006 F	6	100	-	-	3944,3
ATKL 05006 F	6	100	-	-	4905,4

ATKL - Soft insulation with polyester and PVC jacket

CODE	WORKING PRESSURE (bar)	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ATKL 02008 F	8	130	C	192,3	2160,4
ATKL 02508 F	8	100	-	-	2558,7
ATKL 03008 F	8	100	-	-	2930,6
ATKL 04008 F	8	100	-	-	3944,3
ATKL 05008 F	8	100	-	-	4905,4

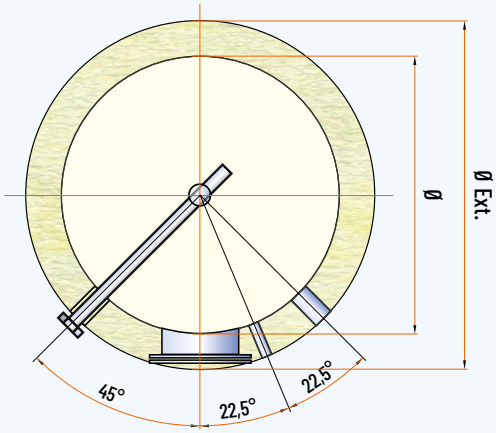
ATKL



KDS - Drain Kit

LEGEND

a . Magnesium anode
a1-a2. Opening for electronic anode
e . Thermometer - Sensor
i . Domestic cold water inlet
p . Free connection
q . DHW inspection hatch
r . Recirculation
s . Drain
u . Domestic hot water outlet
w. Opening for immersion heater



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	Electronic anode (optional)	WEIGHT 6 bar VERS. (kg)	WEIGHT 8 bar VERS. (kg)
ATKL 0200_ F	1200	2345	1460	2390	a2 (EPS 375/125)	262	311
ATKL 0250_ F	1300	2340	1500	2460	a2 (EPS 700/200)	317	384
ATKL 0300_ F	1400	2370	1600	2520	a2 (EPS 700/200)	389	416
ATKL 0400_ F	1600	2370	1800	2610	a2 (EPS 700/200)	457	583
ATKL 0500_ F	1800	2370	2000	2700	a2 (EPS 700/200)	564	645

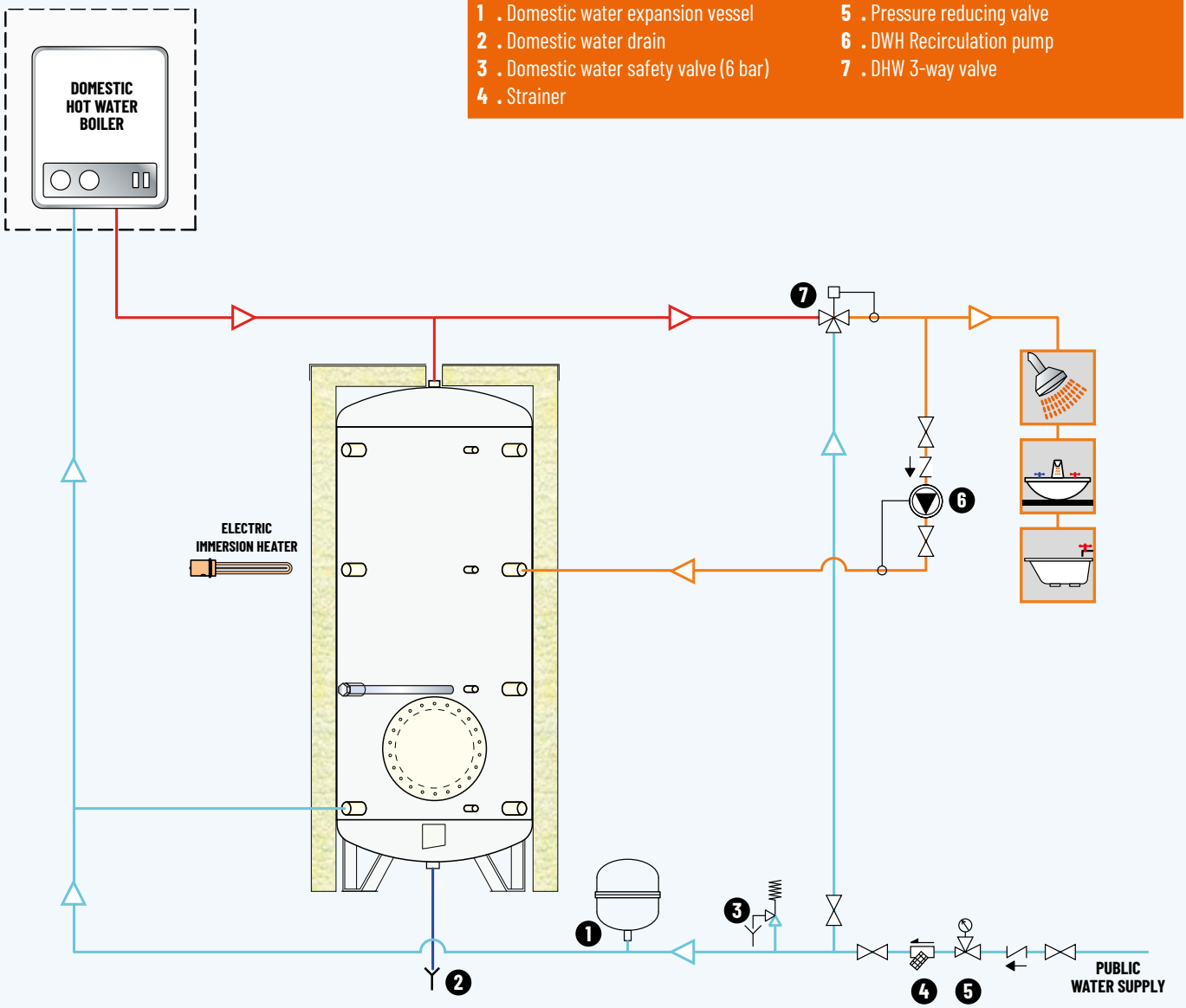
** The insulation is removable*

MODEL	HEIGHTS (mm) B	D	G	L	M	CONNECTIONS (GAS) a p r	e	i u	s	w	q
ATKL 0200_ F	505	950	1410	1825	715	1"¼	½"	2"	1"¼	1"½	400/480
ATKL 0250_ F	510	955	1415	1830	700	1"¼	½"	2"	1"¼	1"½	400/480
ATKL 0300_ F	595	1005	1430	1825	780	1"¼	½"	3"	1"¼	1"½	400/480
ATKL 0400_ F	600	1005	1425	1800	785	1"¼	½"	3"	1"¼	1"½	400/480
ATKL 0500_ F	615	1010	1410	1770	800	1"¼	½"	3"	1"¼	1"½	400/480

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve





CALORIFIERS WITH REMOVABLE HEAT EXCHANGER

Commercial applications need to rely on reliable systems, with a long life span and easy to maintain. TML products are designed and manufactured with the purpose to guarantee un uninterrupted service in the most delicate fields.


CB MEDICAL CENTRE



BV1X - AISI 316L Stainless steel calorifier with removable heat exchanger

AISI 316L Stainless steel calorifier designed for the production and storage of domestic hot water (DHW).
The tank is equipped with an AISI 316L stainless steel U tube bundle removable heat exchanger. The heat exchanger is bent down in order to avoid the growth of bacteria in the coldest part of the cylinder.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION







TECHNICAL FEATURES

DHW cylinder	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Rating (P max. / T max.)	6 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404) over a stainless steel plate
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	U tube bundle expanded over a removable plate
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	200 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)

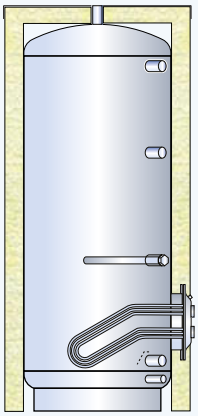

Impressed current electronic anode


Electronic control unit


Thermostat


Thermometer


1"½ electric immersion heater



Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1X 00200 R	50	C	62,2	191,2	0,50 / 2,6
BV1X 00300 R	50	C	73,7	291,7	0,75 / 4,3
BV1X 00500 R	50	C	86,1	501,7	1,00 / 6,1
BV1X 00800 R	100	C	113,8	754,9	1,50 / 6,6
BV1X 01000 R	100	C	117,6	936,6	2,00 / 10,4
BV1X 01500 R	100	C	136,7	1478,0	3,00 / 15,7
BV1X 02000 R	100	C	149,2	1958,6	4,00 / 21,7
BV1X 02500 R	100	-	-	2502,1	5,00 / 27,4
BV1X 03000 R	100	-	-	2966,1	6,00 / 33,1
BV1X 04000 R	100	-	-	3903,0	8,00 / 42,9
BV1X 05000 R	100	-	-	5013,8	10,00 / 51,5

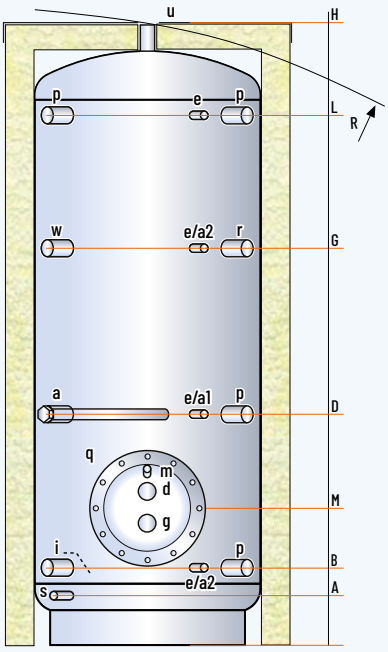
Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1X 00800 F	130	C	132,6	754,9	1,50 / 6,6
BV1X 01000 F	130	C	143,9	936,6	2,00 / 10,4
BV1X 01500 F	130	C	169,2	1478,0	3,00 / 15,7
BV1X 02000 F	130	C	184,6	1958,6	4,00 / 21,7
BV1X 02500 F	100	-	-	2502,1	5,00 / 27,4
BV1X 03000 F	100	-	-	2966,1	6,00 / 33,1
BV1X 04000 F	100	-	-	3903,0	8,00 / 42,9
BV1X 05000 F	100	-	-	5013,8	10,00 / 51,5

** Volume occupied by the heat exchanger and its support structure*

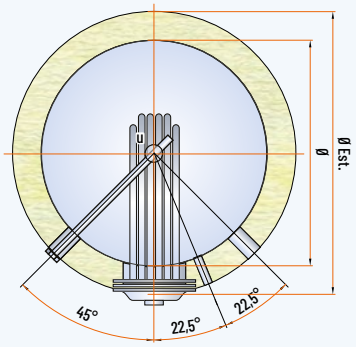
Dimensions and heights

200-1500 L

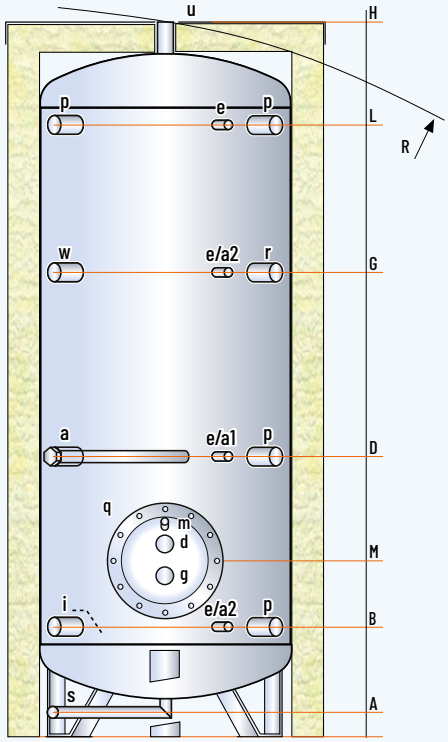


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **m.** Heat exchanger vent
- **p .** Free connection
- **q .** Heat exchanger flange
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



2000-5000 L



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV1X 00200 R	450	1305	550	1430	0,50	a1 (EPS 375/125)	60
BV1X 00300 R	500	1595	600	1720	0,75	a1 (EPS 375/125)	72
BV1X 00500 R	650	1645	750	1820	1,00	a1 (EPS 375/125)	90
BV1X 00800_	790	1750	990/1050	1745	1,50	a1 (EPS 375/125)	138
BV1X 01000_	790	2110	990/1050	2095	2,00	a1 (EPS 375/125)	158
BV1X 01500_	1000	2115	1200/1260	2145	3,00	a2 (EPS 375/125)	226
BV1X 02000_	1100	2465	1300/1360	2465	4,00	a2 (EPS 375/125)	295
BV1X 02500_	1200	2595	1400	2640	5,00	a2 (EPS 700/200)	351
BV1X 03000_	1250	2795	1450	2835	6,00	a2 (EPS 700/200)	395
BV1X 04000_	1400	2925	1600	2995	8,00	a2 (EPS 700/200)	560
BV1X 05000_	1600	2955	1800	3090	10,00	a2 (EPS 700/200)	652

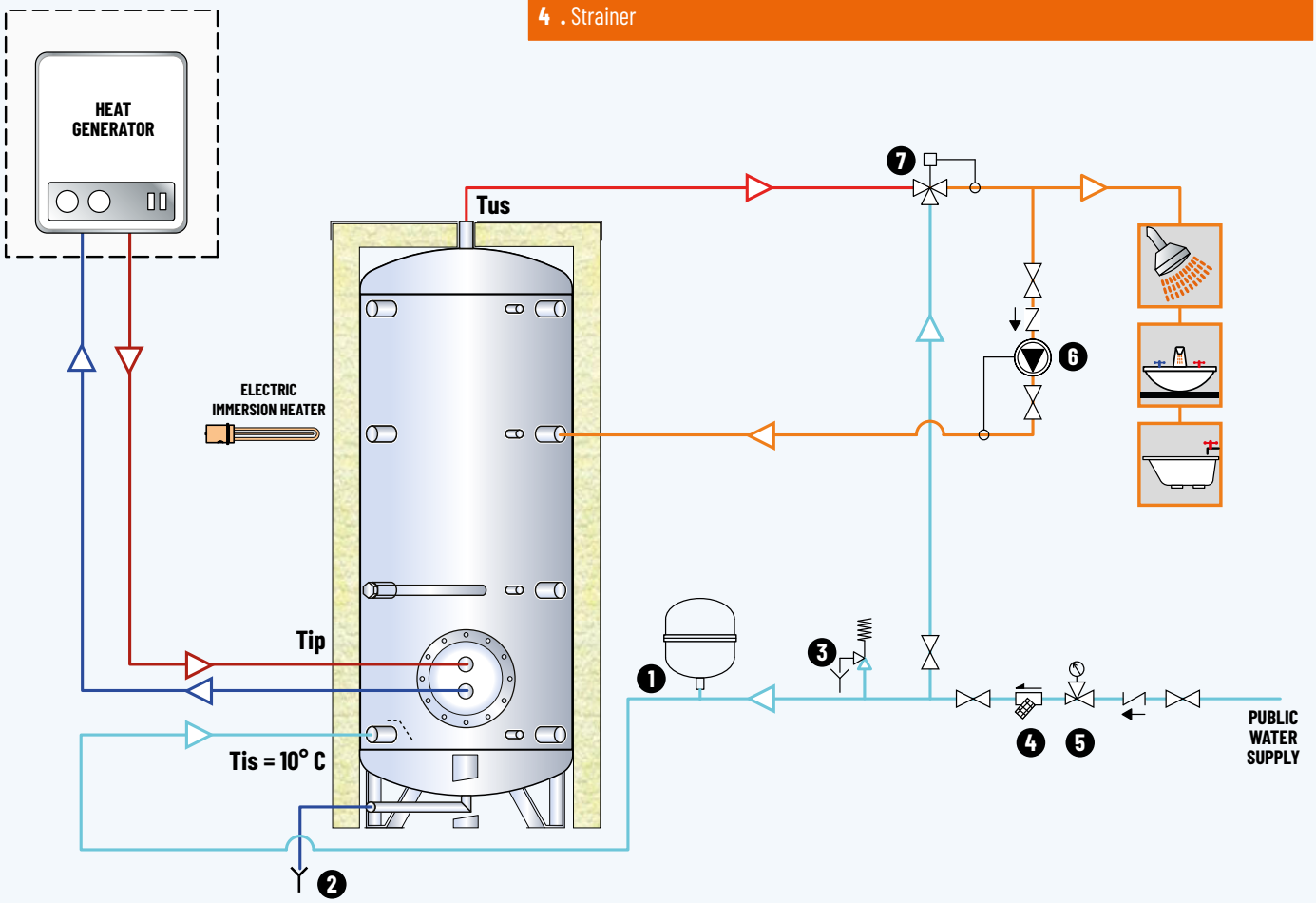
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	d g	e	i u	m	s	w	q
BV1X 00200 R	110	190	515	890	1075	350	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV1X 00300 R	110	215	595	1080	1350	375	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV1X 00500 R	135	240	615	1105	1375	445	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV1X 00800_	170	275	655	1145	1410	450	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380
BV1X 01000_	170	275	810	1355	1755	455	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380
BV1X 01500_	235	340	765	1400	1725	520	1"¼	2"	½"	2"	⅜"	1"	1"½	300/380
BV1X 02000_	100	475	1010	1515	1975	655	1"¼	2"	½"	2"	⅜"	1"	1"½	350/430
BV1X 02500_	100	505	1040	1600	2105	690	1"¼	2"	½"	2"	⅜"	1"	1"½	350/430
BV1X 03000_	90	515	1100	1730	2300	675	1"¼	2"	½"	3"	⅜"	1"	1"½	350/430
BV1X 04000_	120	595	1190	1185	2380	755	1"¼	2"	½"	3"	⅜"	1"	1"½	350/430
BV1X 05000_	100	600	1185	1185	2385	825	1"¼	2"	½"	3"	⅜"	1"	1"½	350/430

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve



Performance

	MODEL	BV1X 00200R				BV1X 00300R				BV1X 00500R				BV1X 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [2,9]				0,75 [3,8]				1,0 [4,7]				1,5 [7,7]			
	PRIMARY FLOW (m^3/h)	2				3				3				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	198	210	298	309	302	319	453	468	509	533	758	778	766	801	1139	1169
	LITRES FIRST HOUR [2]	281	352	493	554	424	528	739	828	674	814	1142	1261	1011	1219	1711	1888
	CONTINUOUS DRAW (L) [3]	105	180	246	310	155	264	361	455	208	355	485	611	310	529	723	909
	POWER (kW)	4,3	7,3	10,0	12,6	6,3	10,8	14,7	18,5	8,4	14,4	19,8	24,9	12,6	21,5	29,4	37,0
	PREHEATING [3] (min)	112	65	47	37	117	68	49	39	149	86	63	50	151	88	64	51
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	201	209	-	-	305	317	-	-	515	531	-	-	774	798
	LITRES FIRST HOUR [2]	-	-	297	346	-	-	447	519	-	-	705	801	-	-	1057	1200
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	179	254	-	-	240	341	-	-	358	508
	POWER (kW)	-	-	7	10	-	-	10	15	-	-	14	20	-	-	21	30
	PREHEATING [3] (min)	-	-	96	67	-	-	100	70	-	-	128	90	-	-	130	91
	NL [4]	0,9				2				5				11			

	MODEL	BV1X 01000_				BV1X 01500_				BV1X 02000_				BV1X 02500_			
	HEAT EXCHANGER (m^2) [L] [1]	2,0 [9,5]				3,0 [13,0]				4,0 [17,2]				5,0 [20,8]			
	PRIMARY FLOW (m^3/h)	5				6				7				8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	955	1001	1423	1462	1501	1568	2230	2287	1988	2077	2953	3029	2536	2646	3762	3855
	LITRES FIRST HOUR [2]	1281	1557	2183	2418	1984	2390	3351	3696	2627	3161	4430	4883	3329	3989	5591	6151
	CONTINUOUS DRAW (L) [3]	412	702	960	1207	610	1037	1416	1779	807	1368	1865	2342	1002	1697	2311	2900
	POWER (kW)	16,8	28,6	39,1	49,1	24,8	42,2	57,6	72,4	32,8	55,7	75,9	95,3	40,8	69,1	94,1	118,1
	PREHEATING [3] (min)	141	82	60	47	152	88	64	51	153	89	65	51	159	92	67	53
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	965	997	-	-	1516	1562	-	-	2008	2069	-	-	2560	2635
	LITRES FIRST HOUR [2]	-	-	1342	1531	-	-	2073	2352	-	-	2745	3110	-	-	3474	3927
	CONTINUOUS DRAW (L) [3]	-	-	476	675	-	-	705	997	-	-	931	1315	-	-	1155	1631
	POWER (kW)	-	-	28	39	-	-	41	58	-	-	54	76	-	-	67	95
	PREHEATING [3] (min)	-	-	121	85	-	-	131	91	-	-	132	92	-	-	136	96
	NL [4]	17				32				38				44			

	MODEL	BV1X 03000_				BV1X 04000_				BV1X 05000_			
	HEAT EXCHANGER (m^2) [L] [1]	6,0 [24,8]				8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m^3/h)	10				12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	3009	3141	4466	4579	3960	4135	5878	6026	5079	5297	7531	7716
	LITRES FIRST HOUR [2]	3963	4759	6671	7346	5223	6271	8785	9673	6657	7967	11165	12275
	CONTINUOUS DRAW (L) [3]	1206	2044	2784	3495	1595	2698	3672	4606	1993	3372	4590	5758
	POWER (kW)	49,1	83,2	113,3	142,3	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	156	90	66	52	156	90	66	52	160	93	68	54
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	3038	3129	-	-	3999	4119	-	-	5127	5276
	LITRES FIRST HOUR [2]	-	-	4139	4684	-	-	5454	6172	-	-	6946	7843
	CONTINUOUS DRAW (L) [3]	-	-	1391	1965	-	-	1838	2594	-	-	2298	3242
	POWER (kW)	-	-	81	114	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	134	94	-	-	134	94	-	-	138	97
	NL [4]	48				55				60			

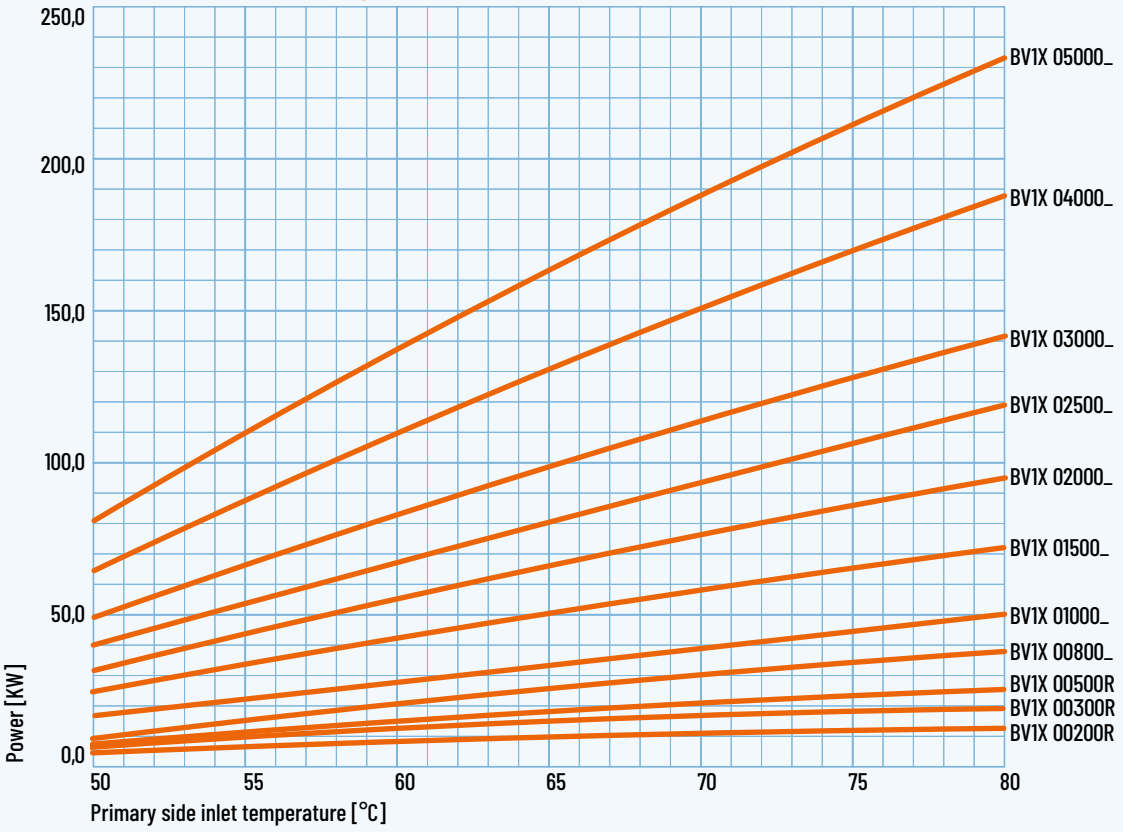
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

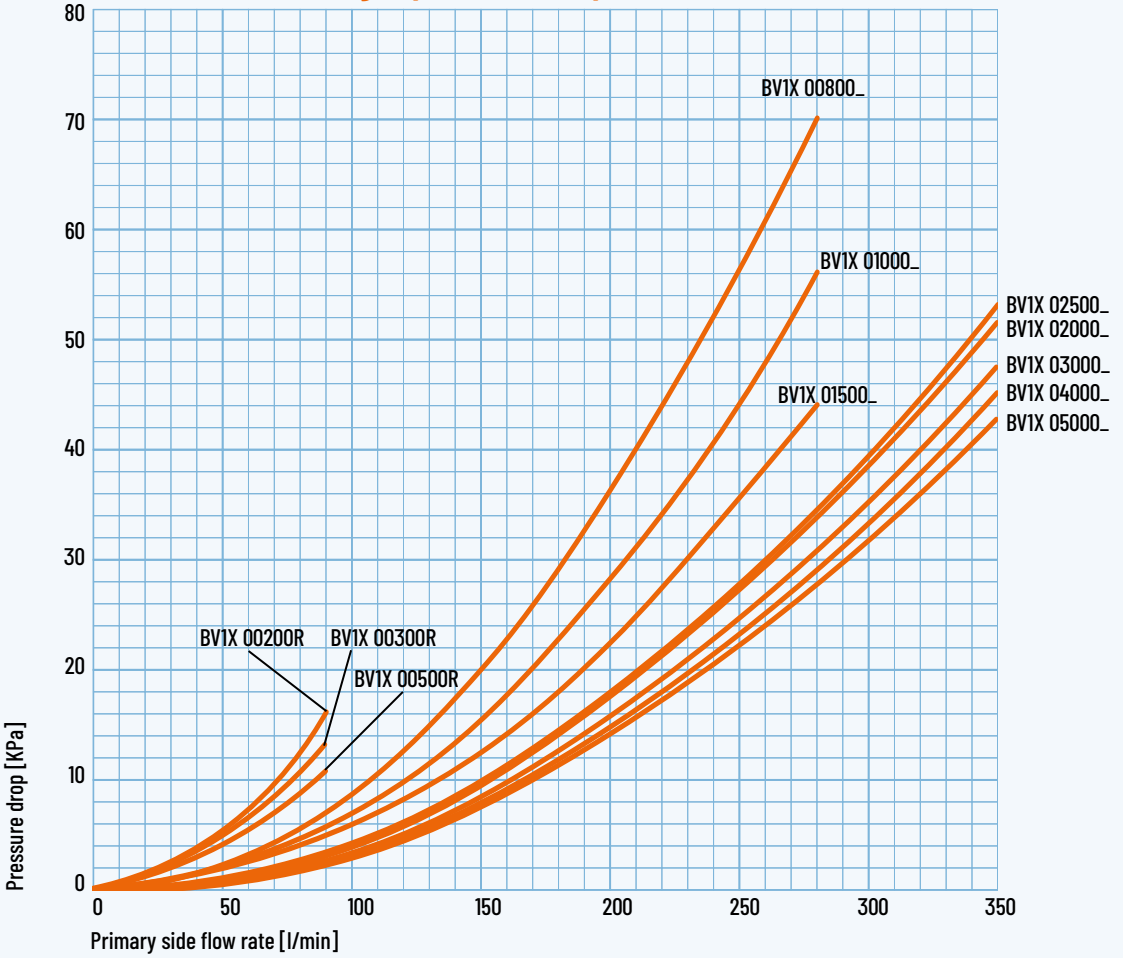
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV1X - Heat exchanger powers with secondary side at 10/45 °C



BV1X - Heat exchanger pressure drops





BV1V - Glass lined calorifier with removable heat exchanger

BV1K - Keramtech lined calorifier with removable heat exchanger

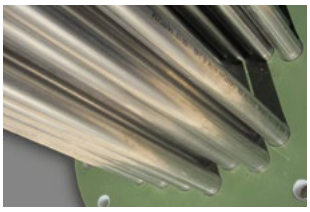
Calorifier for the production and storage of domestic hot water (DHW).
The cylinder is made of carbon steel and is internally protected by glass lining (Mod. BV1V for capacities up to 2.000 litres) or with Keramtech ceramic lining (Mod. BV1K for capacities from 2000 to 5000 litres).

The tank is equipped with a stainless steel U tube bundle removable heat exchanger. The heat exchanger is bent down in order to avoid the growth of bacteria in the coldest part of the cylinder. Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		BV1V	BV1K
DHW cylinder	**Material**	Glass lined S 235 Jr Carbon steel	Keramtech lined S235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3	Alimentary epoxy-ceramic lining
	External protective treatment	Anti rust protection + epoxy painting	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C	6 bar / 100 °C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	**Material**	Stainless steel	
	Type	U tube bundle expanded over a removable plate	
	Rating (P max. / T max.)	10 bar / 95°C	
General features	**Capacity**	200 - 2000 L	2000 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)	
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



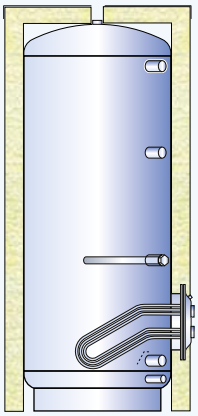
Thermostat



Thermometer



1"½ electric immersion heater

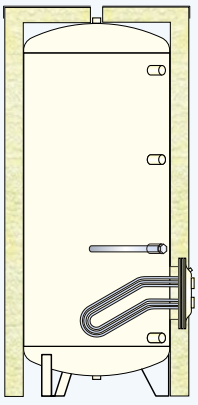


BV1VI - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1VI 00200 R	50	C	62,2	191,2	0,50 / 2,6
BV1VI 00300 R	50	C	73,7	291,7	0,75 / 4,3
BV1VI 00500 R	50	C	86,1	501,7	1,00 / 6,1
BV1VI 00800 R	100	C	113,8	754,9	1,50 / 6,6
BV1VI 01000 R	100	C	117,6	936,6	2,00 / 10,4
BV1VI 01500 R	100	C	136,7	1478,0	3,00 / 15,7
BV1VI 02000 R	100	C	149,0	1958,6	4,00 / 21,7

BV1VI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1VI 00800 F	130	C	132,6	754,9	1,50 / 6,6
BV1VI 01000 F	130	C	143,9	936,6	2,00 / 10,4
BV1VI 01500 F	130	C	169,2	1478,0	3,00 / 15,7
BV1VI 02000 F	130	C	182,7	1958,6	4,00 / 21,7



BV1KI - Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KI 02000 R	100	C	185,6	1962,5	4,00 / 21,7
BV1KI 02500 R	100	-	-	2506,0	5,00 / 27,4
BV1KI 03000 R	100	-	-	2970,0	6,00 / 33,1
BV1KI 04000 R	100	-	-	3906,9	8,00 / 42,9
BV1KI 05000 R	100	-	-	5017,7	10,00 / 51,5

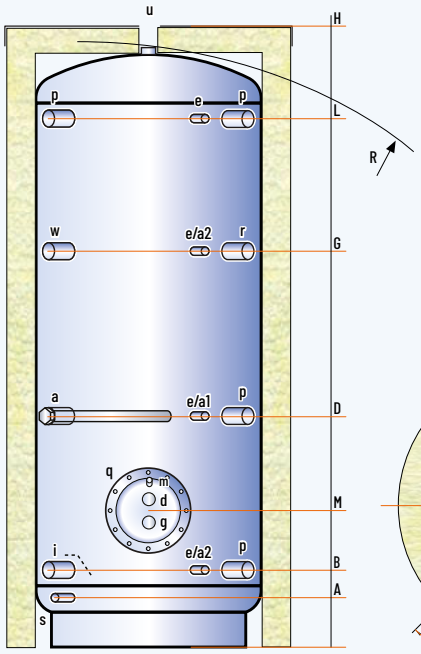
BV1KI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KI 02000 F	130	C	151,4	1962,5	4,00 / 21,7
BV1KI 02500 F	100	-	-	2506,0	5,00 / 27,4
BV1KI 03000 F	100	-	-	2970,0	6,00 / 33,1
BV1KI 04000 F	100	-	-	3906,9	8,00 / 42,9
BV1KI 05000 F	100	-	-	5017,7	10,00 / 51,5

** Volume occupied by the heat exchanger and its support structure*

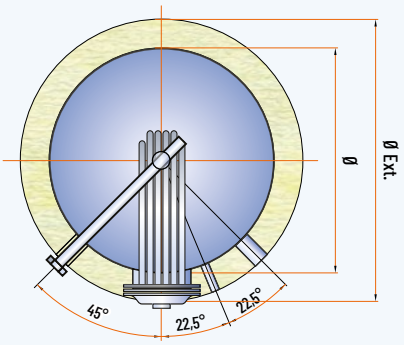
Dimensions and heights

BV1V

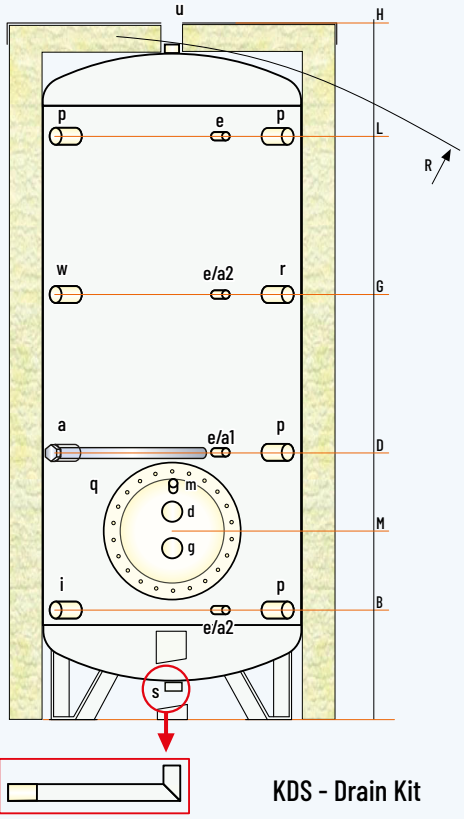


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **m.** Heat exchanger vent
- **p .** Free connection
- **q .** Heat exchanger flange
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



BV1K



KDS - Drain Kit

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV1VI 00200 R	450	1320	550	1440	0,50	a1 (EPS 375/125)	65
BV1VI 00300 R	500	1610	600	1730	0,75	a1 (EPS 375/125)	80
BV1VI 00500 R	650	1660	750	1835	1,00	a1 (EPS 375/125)	104
BV1VI 00800_	790	1750	990/1050	1745	1,50	a1 (EPS 375/125)	177
BV1VI 01000_	790	2110	990/1050	2095	2,00	a1 (EPS 375/125)	203
BV1VI 01500_	1000	2115	1200/1260	2145	3,00	a2 (EPS 375/125)	314
BV1VI 02000_	1100	2380	1300/1360	2465	4,00	a2 (EPS 375/125)	443
BV1KI 02000_	1100	2465	1300/1360	2465	4,00	a2 (EPS 375/125)	301
BV1KI 02500_	1200	2595	1400	2640	5,00	a2 (EPS 700/200)	374
BV1KI 03000_	1250	2795	1450	2835	6,00	a2 (EPS 700/200)	386
BV1KI 04000_	1400	2925	1600	2995	8,00	a2 (EPS 700/200)	564
BV1KI 05000_	1600	2955	1800	3090	10,00	a2 (EPS 700/200)	660

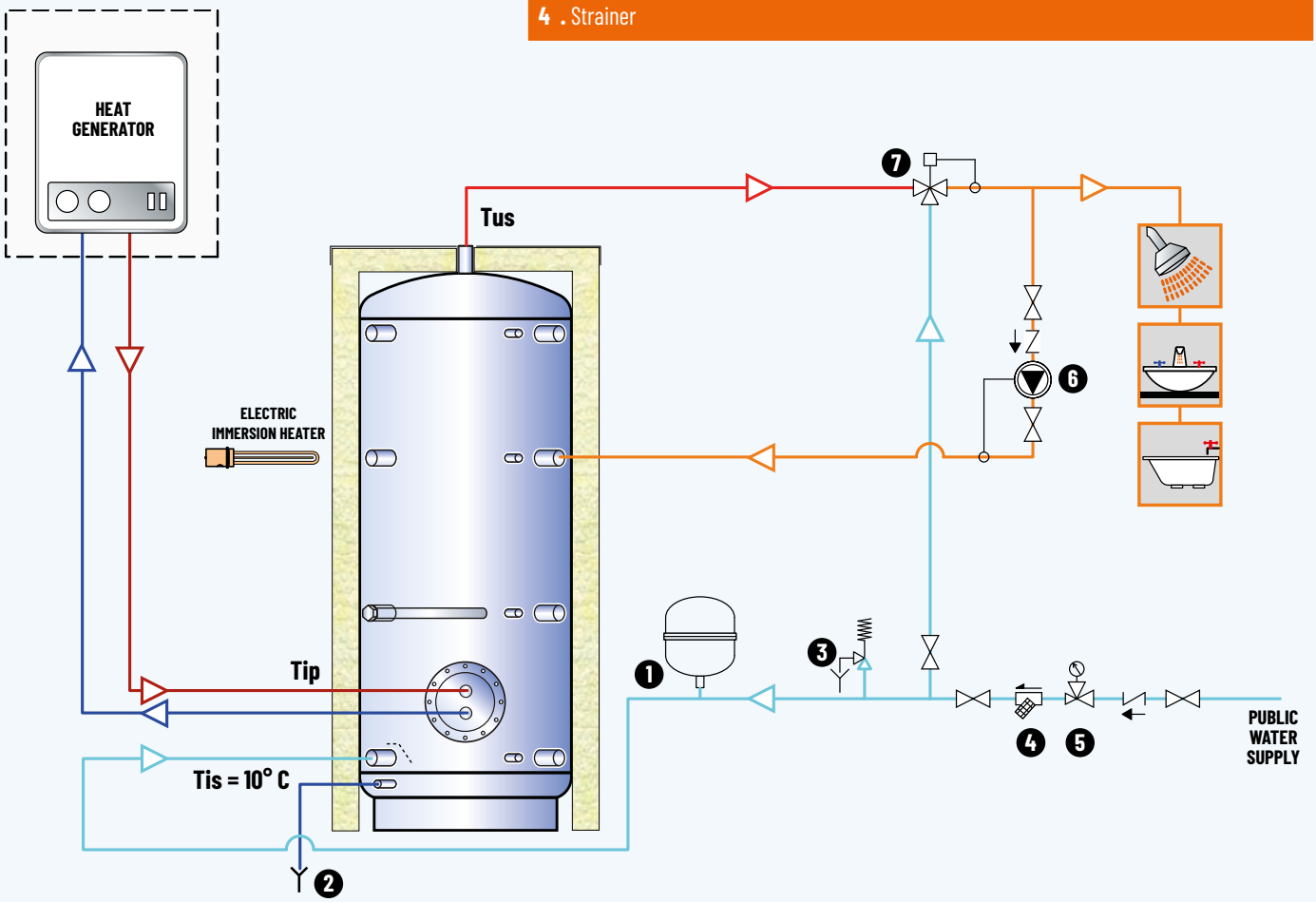
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	d g	e	i u	m	s	w	q
BV1VI 00200 R	110	190	515	890	1075	350	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV1VI 00300 R	110	215	595	1080	1350	375	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV1VI 00500 R	135	240	615	1105	1375	445	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV1VI 00800_	150	275	655	1145	1410	450	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380
BV1VI 01000_	150	275	810	1355	1755	455	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380
BV1VI 01500_	235	340	765	1400	1725	520	1"¼	2"	½"	2"	⅜"	1"	1"½	300/380
BV1VI 02000_	265	370	930	1435	1945	575	1"¼	2"	½"	2"	⅜"	1"	1"½	350/430
BV1KI 02000_	-	475	1010	1515	1975	680	1"¼	2"	½"	2"	⅜"	1"¼	1"½	400/480
BV1KI 02500_	-	505	1040	1600	2105	715	1"¼	2"	½"	2"	⅜"	1"¼	1"½	400/480
BV1KI 03000_	-	515	1100	1730	2300	700	1"¼	2"	½"	3"	⅜"	1"¼	1"½	400/480
BV1KI 04000_	-	595	1190	1815	2380	780	1"¼	2"	½"	3"	⅜"	1"¼	1"½	400/480
BV1KI 05000_	-	600	1185	1815	2385	785	1"¼	2"	½"	3"	⅜"	1"¼	1"½	400/480

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve



Performance

	MODEL	BV1VI 00200R				BV1VI 00300R				BV1VI 00500R				BV1VI 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [2,9]				0,75 [3,8]				1,0 [4,7]				1,5 [7,7]			
	PRIMARY FLOW (m^3/h)	2				3				3				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	198	210	298	309	302	319	453	468	509	533	758	778	766	801	1139	1169
	LITRES FIRST HOUR [2]	281	352	493	554	424	528	739	828	674	814	1142	1261	1011	1219	1711	1888
	CONTINUOUS DRAW (L) [3]	105	180	246	310	155	264	361	455	208	355	485	611	310	529	723	909
	POWER (kW)	4,3	7,3	10,0	12,6	6,3	10,8	14,7	18,5	8,4	14,4	19,8	24,9	12,6	21,5	29,4	37,0
	PREHEATING [3] (min)	112	65	47	37	117	68	49	39	149	86	63	50	151	88	64	51
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	201	209	-	-	305	317	-	-	515	531	-	-	774	798
	LITRES FIRST HOUR [2]	-	-	297	346	-	-	447	519	-	-	705	801	-	-	1057	1200
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	179	254	-	-	240	341	-	-	358	508
	POWER (kW)	-	-	7	10	-	-	10	15	-	-	14	20	-	-	21	30
	PREHEATING [3] (min)	-	-	96	67	-	-	100	70	-	-	128	90	-	-	130	91
	NL [4]	0,9				2				5				11			

	MODEL	BV1VI 01000_				BV1VI 01500_				BV1_I 02000_				BV1KI 02500_			
	HEAT EXCHANGER (m^2) [L] [1]	2,0 [9,5]				3,0 [13,0]				4,0 [17,2]				5,0 [20,8]			
	PRIMARY FLOW (m^3/h)	5				6				7				8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	955	1001	1423	1462	1501	1568	2230	2287	1988	2077	2953	3029	2536	2646	3762	3855
	LITRES FIRST HOUR [2]	1281	1557	2183	2418	1984	2390	3351	3696	2627	3161	4430	4883	3329	3989	5591	6151
	CONTINUOUS DRAW (L) [3]	412	702	960	1207	610	1037	1416	1779	807	1368	1865	2342	1002	1697	2311	2900
	POWER (kW)	16,8	28,6	39,1	49,1	24,8	42,2	57,6	72,4	32,8	55,7	75,9	95,3	40,8	69,1	94,1	118,1
	PREHEATING [3] (min)	141	82	60	47	152	88	64	51	153	89	65	51	159	92	67	53
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	965	997	-	-	1516	1562	-	-	2008	2069	-	-	2560	2635
	LITRES FIRST HOUR [2]	-	-	1342	1531	-	-	2073	2352	-	-	2745	3110	-	-	3474	3927
	CONTINUOUS DRAW (L) [3]	-	-	476	675	-	-	705	997	-	-	931	1315	-	-	1155	1631
	POWER (kW)	-	-	28	39	-	-	41	58	-	-	54	76	-	-	67	95
	PREHEATING [3] (min)	-	-	121	85	-	-	131	91	-	-	132	92	-	-	136	96
	NL [4]	17				32				38				44			

	MODEL	BV1KI 03000_				BV1KI 04000_				BV1KI 05000_			
	HEAT EXCHANGER (m^2) [L] [1]	6,0 [24,8]				8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m^3/h)	10				12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	3009	3141	4466	4579	3960	4135	5878	6026	5079	5297	7531	7716
	LITRES FIRST HOUR [2]	3963	4759	6671	7346	5223	6271	8785	9673	6657	7967	11165	12275
	CONTINUOUS DRAW (L) [3]	1206	2044	2784	3495	1595	2698	3672	4606	1993	3372	4590	5758
	POWER (kW)	49,1	83,2	113,3	142,3	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	156	90	66	52	156	90	66	52	160	93	68	54
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	3038	3129	-	-	3999	4119	-	-	5127	5276
	LITRES FIRST HOUR [2]	-	-	4139	4684	-	-	5454	6172	-	-	6946	7843
	CONTINUOUS DRAW (L) [3]	-	-	1391	1965	-	-	1838	2594	-	-	2298	3242
	POWER (kW)	-	-	81	114	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	134	94	-	-	134	94	-	-	138	97
	NL [4]	48				55				60			

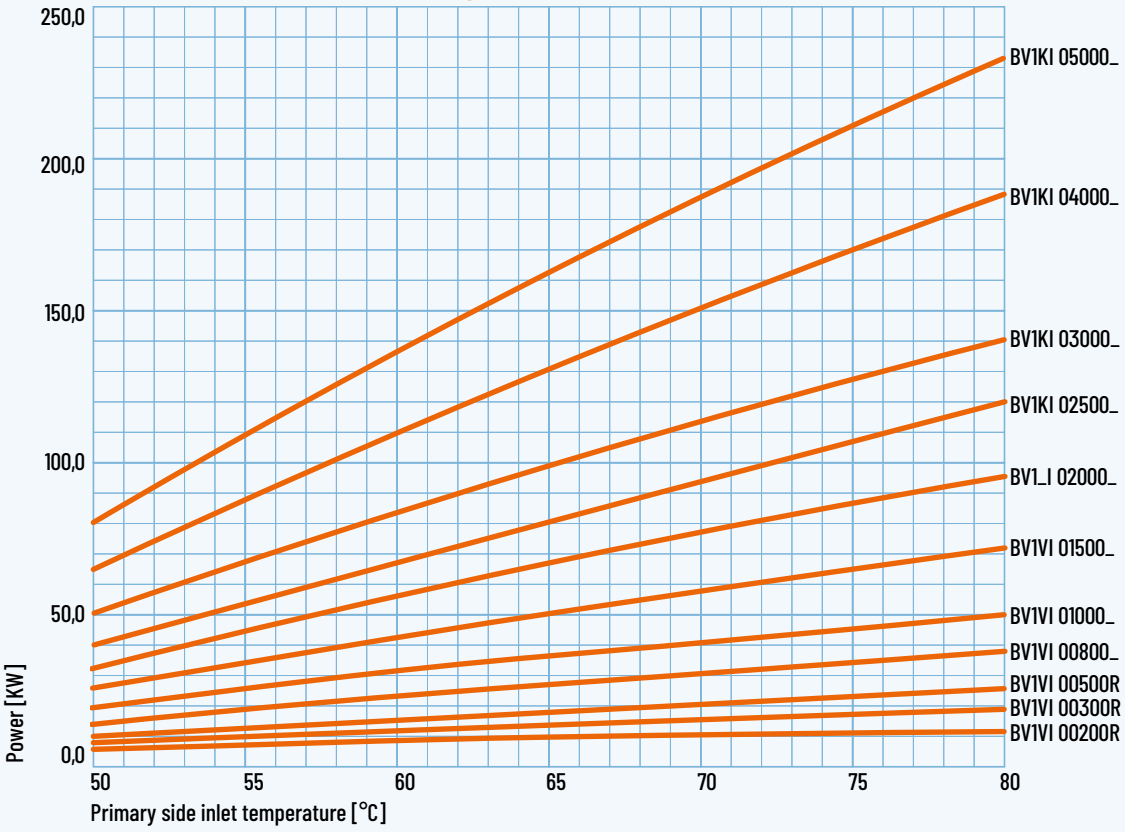
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

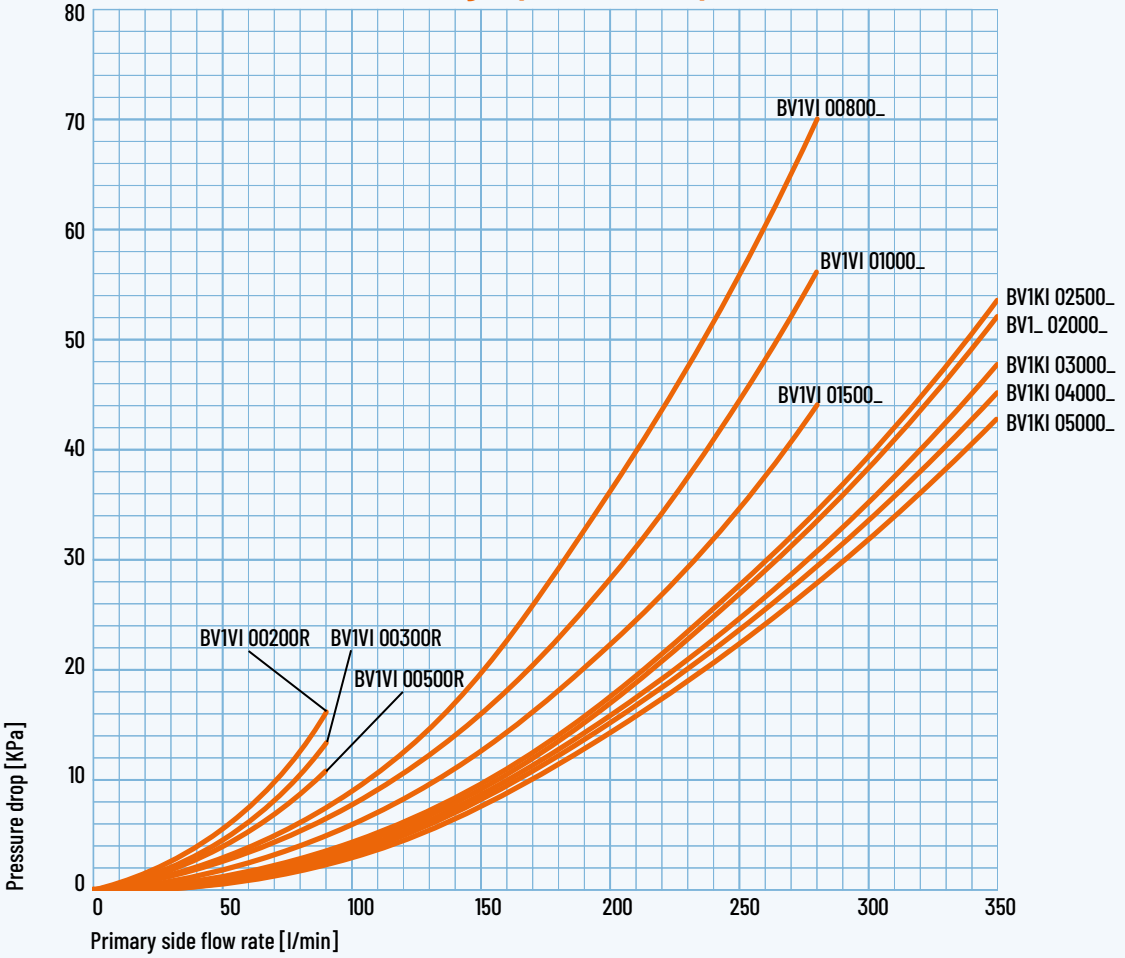
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV1V & BV1K - Heat exchanger powers with secondary side at 10/45 °C



BV1V & BV1K - Heat exchanger pressure drops



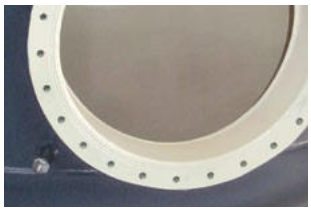


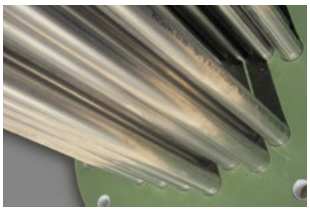
BV1KL - Keramtech lined calorifier with removable heat exchanger Low size

Calorifier for the production and storage of domestic hot water (DHW).
The cylinder is made of carbon steel and is internally protected with Keramtech ceramic lining. The tank is equipped with a stainless steel U tube bundle removable heat exchanger. The heat exchanger is bent down in order to avoid the growth of bacteria in the coldest part of the cylinder.
Cylinders are also prepared to host a backup immersion heater (not supplied).

Version with reduced height to allow its shipment in upright position.







HEAT SOURCE

APPLICATION

TECHNICAL FEATURES

DHW cylinder	**Material**	Keramtech lined S235 Jr Carbon steel
	Internal protective treatment	Alimentary epoxy-ceramic lining
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 100 °C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	Stainless steel
	Type	U tube bundle expanded over a removable plate
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	2000 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



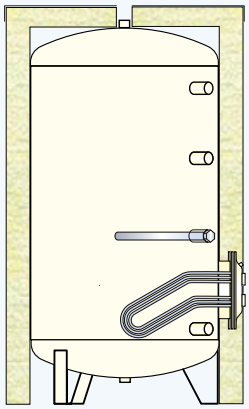
Thermostat



Thermometer



1"½ electric immersion heater

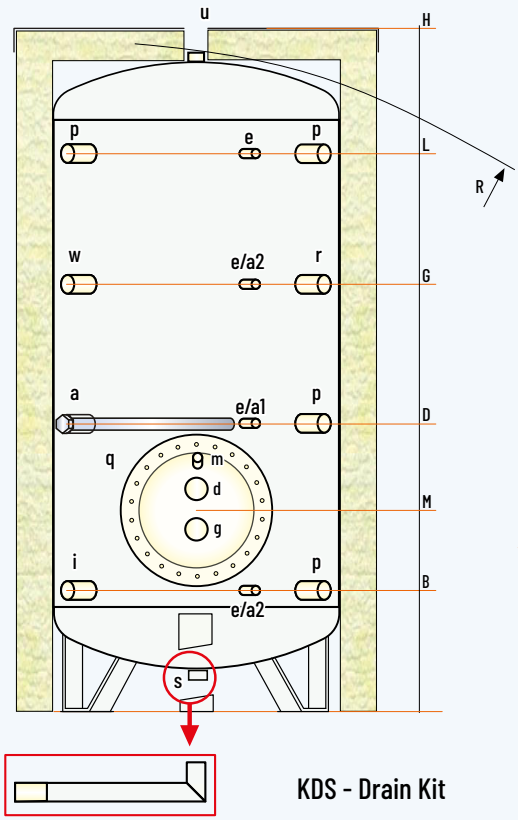


BV1KLI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KLI 02000 F	130	C	192,3	2160,4	4,00 / 21,7
BV1KLI 02500 F	100	-	-	2558,7	5,00 / 27,4
BV1KLI 03000 F	100	-	-	2930,6	6,00 / 27,4
BV1KLI 04000 F	100	-	-	3944,3	8,00 / 42,9
BV1KLI 05000 F	100	-	-	4905,4	10,00 / 51,5

** Volume occupied by the heat exchanger and its support structure*

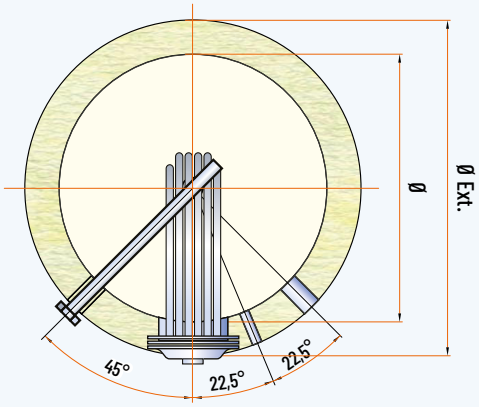
BV1KL



KDS - Drain Kit

LEGEND

a . Magnesium anode
a1-a2. Opening for electronic anode
d . Boiler flow
e . Thermometer - Sensor
g . Boiler return
i . Domestic cold water inlet
m. Heat exchanger vent
p . Free connection
q . Heat exchanger flange
r . Recirculation
s . Drain
u . Domestic hot water outlet
w. Opening for immersion heater



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT * (Hard/Soft ins.)	R	HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV1KLI 02000 F	1200	2345	1400/1460	2390	4,00	a2 (EPS 375/125)	349
BV1KLI 02500 F	1300	2340	1500	2460	5,00	a2 (EPS 700/200)	432
BV1KLI 03000 F	1400	2370	1600	2520	6,00	a2 (EPS 700/200)	476
BV1KLI 04000 F	1600	2370	1800	2610	8,00	a2 (EPS 700/200)	648
BV1KLI 05000 F	1800	2370	2000	2700	10,00	a2 (EPS 700/200)	721

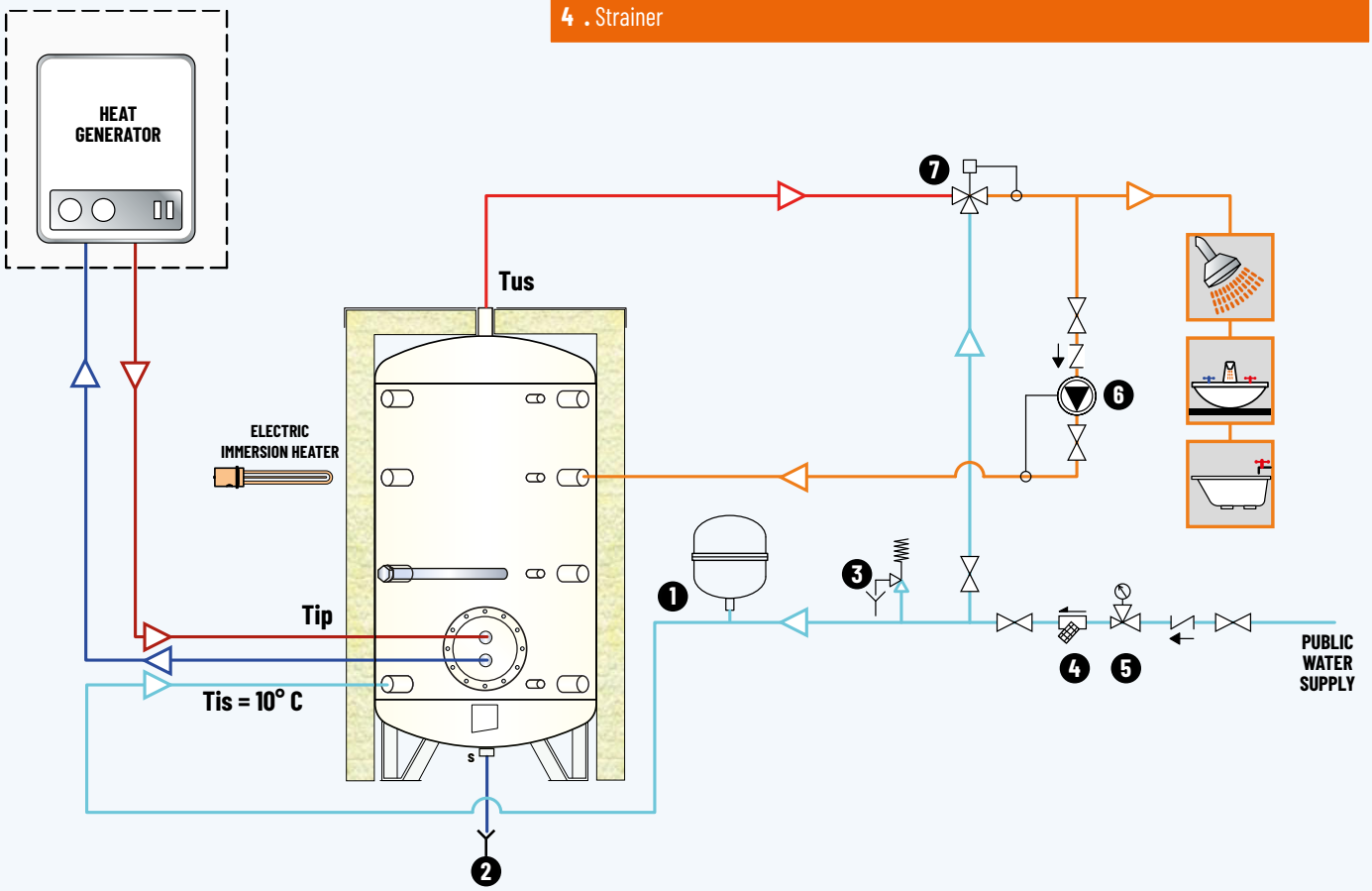
** The insulation is removable*

MODEL	HEIGHTS (mm) B	D	G	L	M	CONNECTIONS (GAS) a p r s	d g	e	i u	w	q
BV1KLI 02000 F	505	950	1410	1825	715	1"¼	2"	½"	2"	1"½	400/480
BV1KLI 02500 F	510	955	1415	1830	700	1"¼	2"	½"	2"	1"½	400/480
BV1KLI 03000 F	595	1005	1430	1825	780	1"¼	2"	½"	3"	1"½	400/480
BV1KLI 04000 F	600	1005	1425	1800	785	1"¼	2"	½"	3"	1"½	400/480
BV1KLI 05000 F	615	1010	1410	1770	800	1"¼	2"	½"	3"	1"½	400/480

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve



	MODEL	BV1KLI 02000F				BV1KLI 02500F				BV1KLI 03000F			
	HEAT EXCHANGER (m^2) [L] [1]	4,0 [17,2]				5,0 [20,8]				6,0 [24,8]			
	PRIMARY FLOW (m^3/h)	7				8				10			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	2180	2269	3227	3303	2589	2699	3838	3932	2975	3108	4418	4531
	LITRES FIRST HOUR [2]	2819	3352	4704	5157	3382	4043	5668	6228	3929	4726	6622	7298
	CONTINUOUS DRAW (L) [3]	807	1368	1865	2342	1002	1697	2311	2900	1206	2044	2784	3495
	POWER (kW)	32,8	55,7	75,9	95,3	40,8	69,1	94,1	118,0	49,1	83,2	113,3	142,3
	PREHEATING [3] (min)	169	98	71	57	162	94	68	54	154	89	65	52
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	2200	2261	-	-	2614	2689	-	-	3004	3095
	LITRES FIRST HOUR [2]	-	-	2937	3302	-	-	3528	3980	-	-	4105	4651
	CONTINUOUS DRAW (L) [3]	-	-	931	1315	-	-	1155	1631	-	-	1391	1965
	POWER (kW)	-	-	54	76	-	-	67	95	-	-	81	114
	PREHEATING [3] (min)	-	-	145	102	-	-	139	98	-	-	132	93
	NL [4]	38				44				48			

	MODEL	BV1KLI 04000F				BV1KLI 05000F			
	HEAT EXCHANGER (m^2) [L] [1]	8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m^3/h)	12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	4000	4174	5934	6082	4976	5194	7384	7569
	LITRES FIRST HOUR [2]	5262	6310	8841	9729	6554	7864	11018	12127
	CONTINUOUS DRAW (L) [3]	1595	2698	3672	4606	1993	3372	4590	5758
	POWER (kW)	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	158	91	67	53	157	91	66	53
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	4038	4158	-	-	5024	5173
	LITRES FIRST HOUR [2]	-	-	5494	6211	-	-	6843	7740
	CONTINUOUS DRAW (L) [3]	-	-	1838	2594	-	-	2289	3242
	POWER (kW)	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	136	95	-	-	135	94
	NL [4]	48				60			

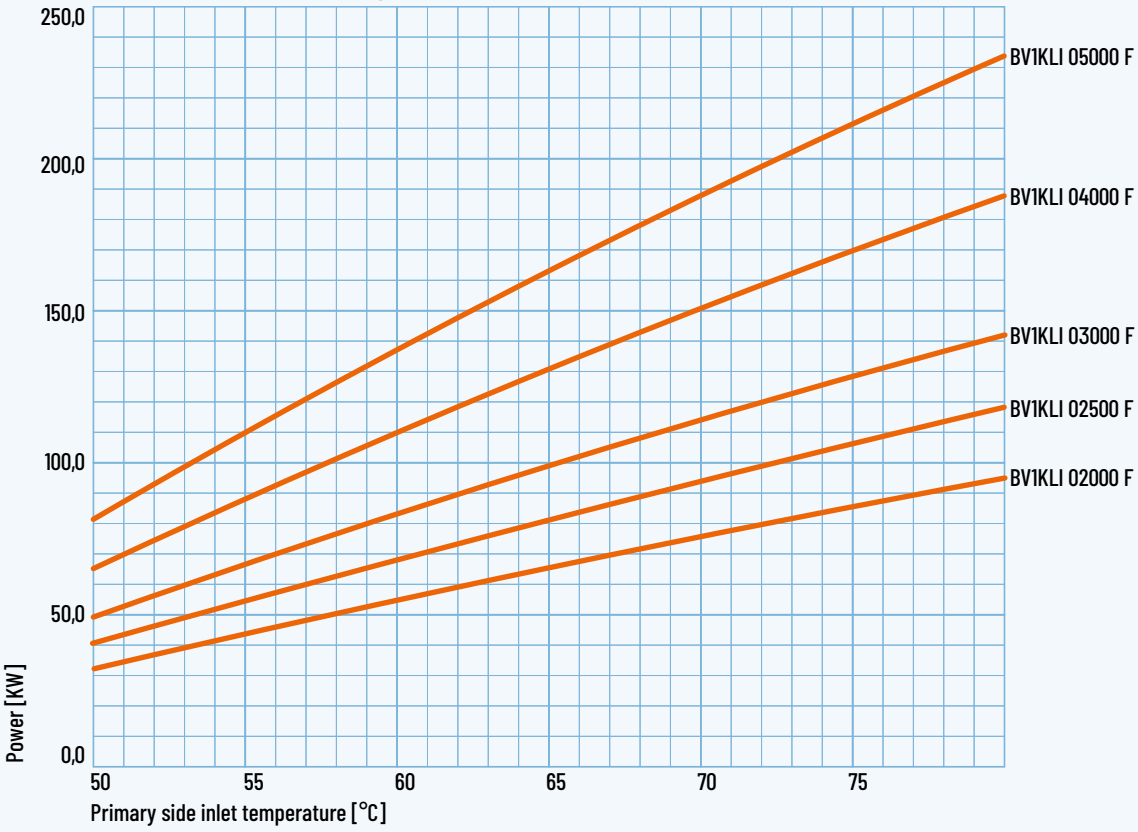
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

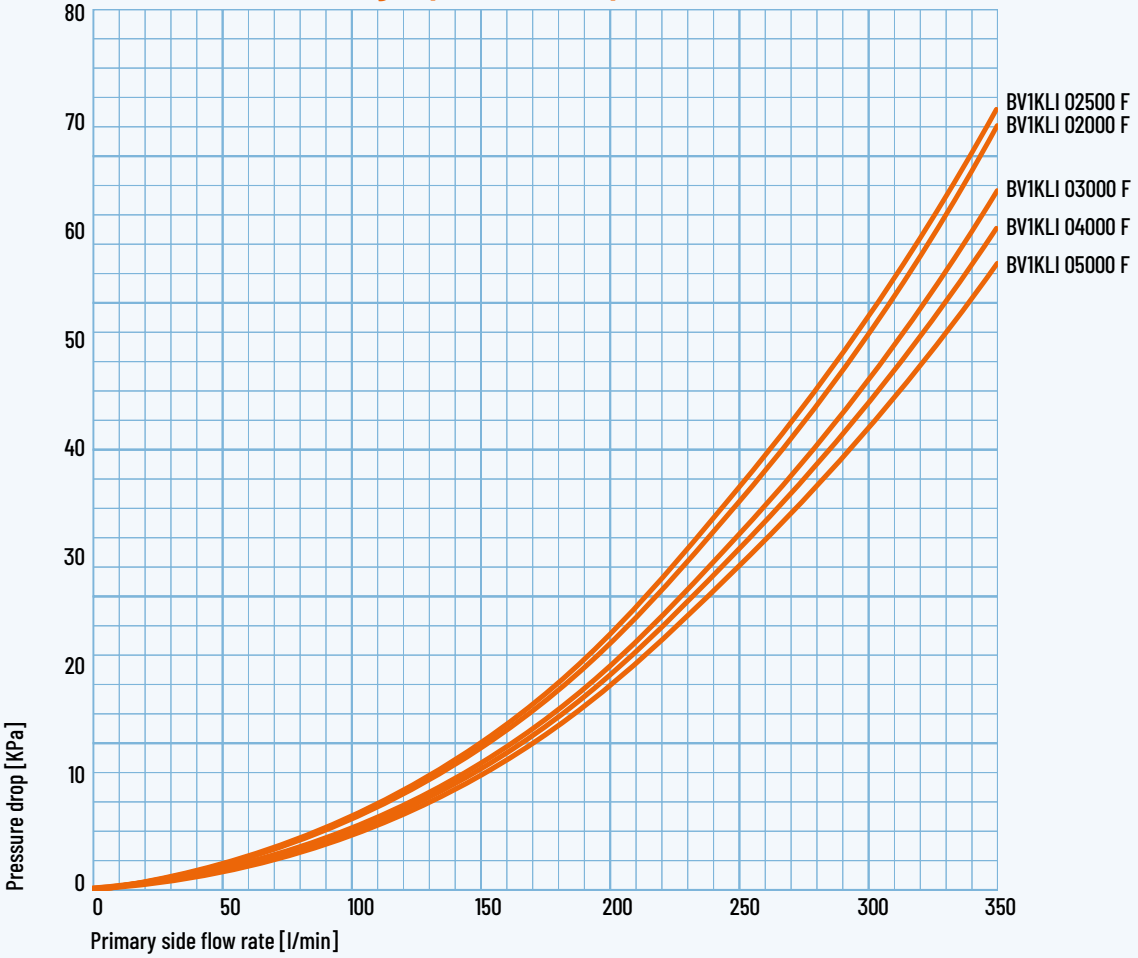
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV1KL - Heat exchanger powers with secondary side at 10/45 °C



BV1KL - Heat exchanger pressure drops





BV1VA - Glass lined calorifier with removable copper heat exchanger

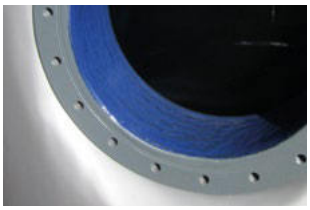
BV1KA - Keramtech calorifier with removable copper heat exchanger

Calorifier for the production and storage of domestic hot water (DHW).
The cylinder is made of carbon steel and is internally protected by glass lining (Mod. BV1VA for capacities up to 2.000 litres) or with Keramtech ceramic lining (Mod. BV1KA for capacities from 2000 to 5000 litres).
The tank is equipped with a tinned finned removable heat exchanger.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		BV1VA	BV1KA
DHW cylinder	**Material**	Glass lined S 235 Jr Carbon steel	Keramtech lined S235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3	Alimentary epoxy-ceramic lining
	External protective treatment	Anti rust protection + epoxy painting	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C	6 bar / 100 °C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	**Material**	Tinned finned copper	
	Internal protective treatment	None	
	External protective treatment	Tinning	
	Type	Finned spiral pipe over a removable plate	
	Rating (P max. / T max.)	10 bar / 95°C	
General features	**Capacity**	200 - 2000 L	2000 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)	
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



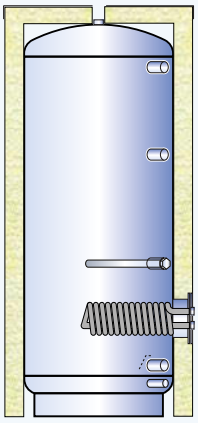
Thermostat



Thermometer



1"½ electric immersion heater

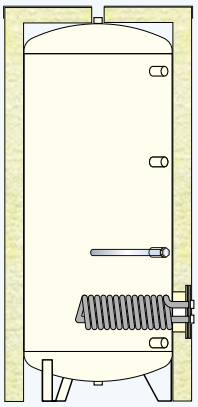


BV1VA - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1VA 00200 R	50	C	62,2	191,2	0,76 / 1,1
BV1VA 00300 R	50	C	73,7	291,7	0,94 / 1,4
BV1VA 00500 R	50	C	86,1	501,7	1,58 / 2,3
BV1VA 00800 R	100	C	113,8	754,9	2,63 / 3,9
BV1VA 01000 R	100	C	117,6	936,6	3,17 / 4,7
BV1VA 01500 R	100	C	136,7	1478,0	4,54 / 6,7
BV1VA 02000 R	100	C	149,0	1958,6	5,26 / 7,8

BV1VA - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1VA 00800 F	130	C	132,6	754,9	2,63 / 3,9
BV1VA 01000 F	130	C	143,9	936,6	3,17 / 4,7
BV1VA 01500 F	130	C	169,2	1478,0	4,54 / 6,7
BV1VA 02000 F	130	C	182,7	1958,6	5,26 / 7,8



BV1KA - Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KA 02000 R	100	C	151,4	1962,5	5,26 / 7,8
BV1KA 02500 R	100	-	-	2506,0	6,34 / 9,4
BV1KA 03000 R	100	-	-	2970,0	6,34 / 9,4
BV1KA 04000 R	100	-	-	3906,9	6,34 / 9,4
BV1KA 05000 R	100	-	-	5017,7	6,34 / 9,4

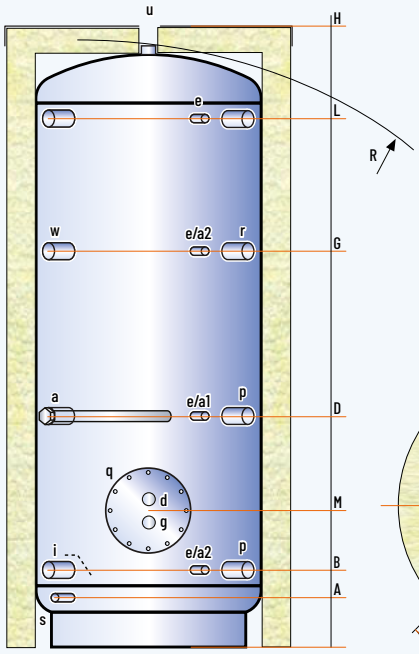
BV1KA - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KA 02000 F	130	C	185,6	1962,5	5,26 / 7,8
BV1KA 02500 F	100	-	-	2506,0	6,34 / 9,4
BV1KA 03000 F	100	-	-	2970,0	6,34 / 9,4
BV1KA 04000 F	100	-	-	3906,9	6,34 / 9,4
BV1KA 05000 F	100	-	-	5017,7	6,34 / 9,4

** Volume occupied by the heat exchanger and its support structure*

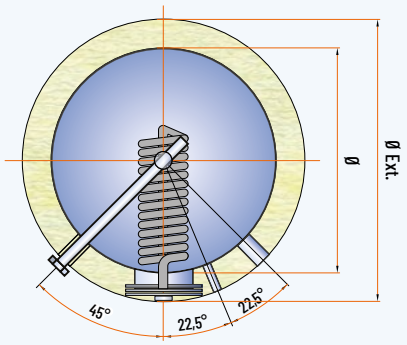
Dimensions and heights

BV1VA

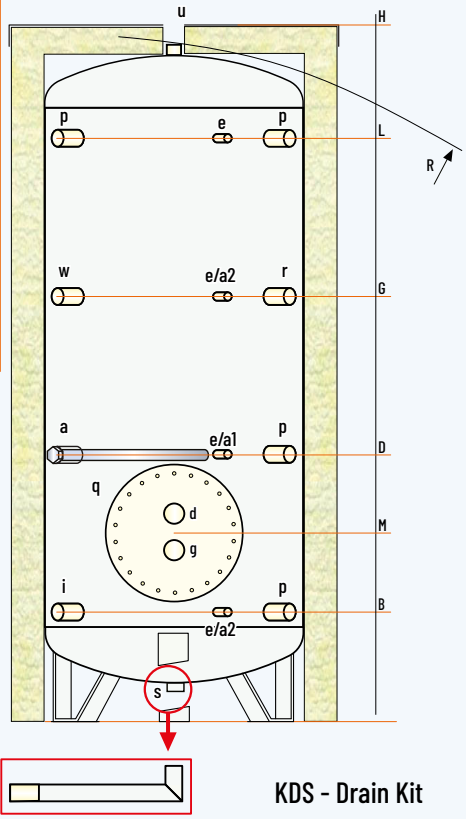


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **p .** Free connection
- **q .** Heat exchanger flange
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



BV1KA



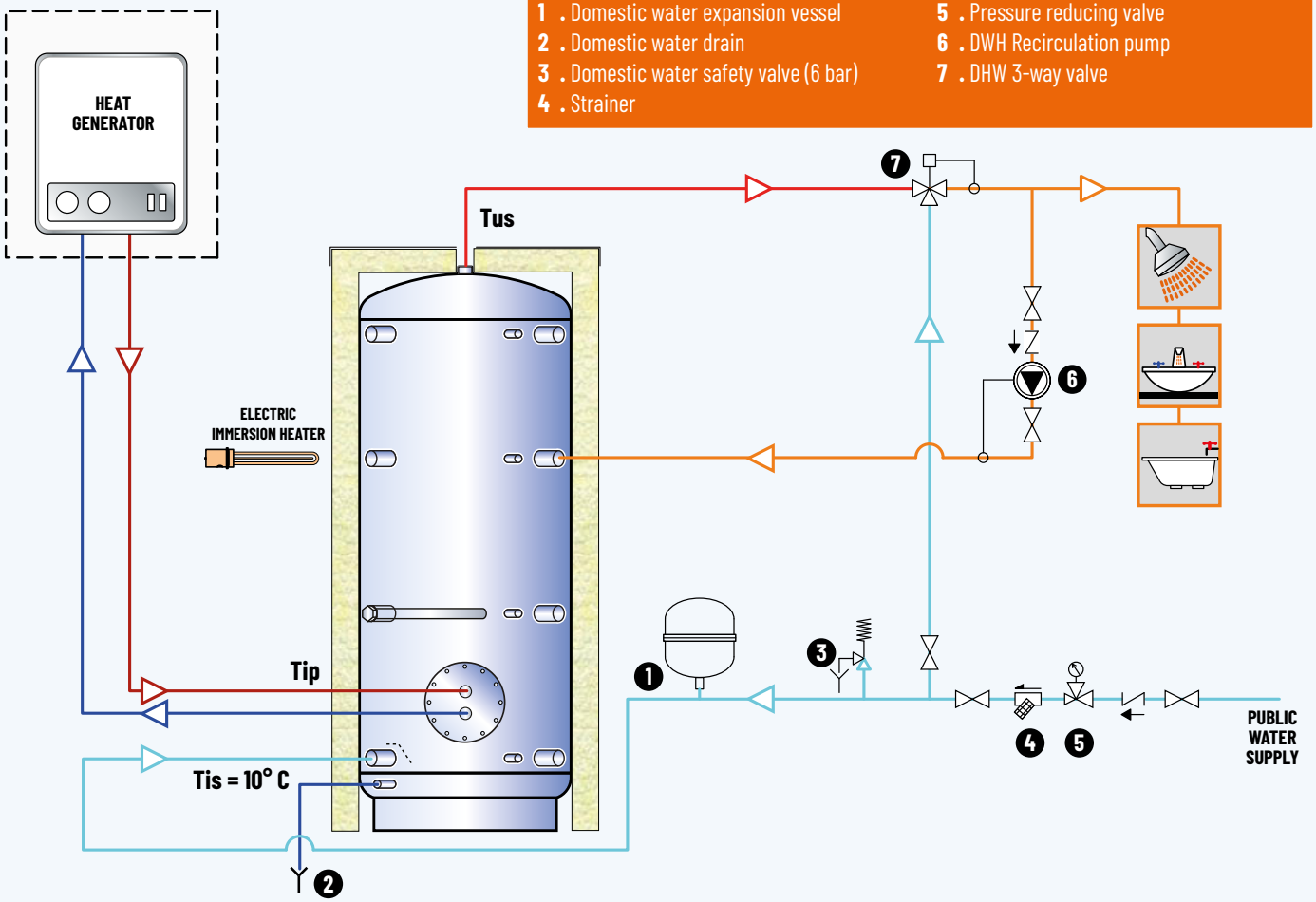
KDS - Drain Kit

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV1VA 00200 R	450	1320	550	1440	0,76	a1 (EPS 375/125)	61
BV1VA 00300 R	500	1610	600	1730	0,94	a1 (EPS 375/125)	77
BV1VA 00500 R	650	1660	750	1835	1,58	a1 (EPS 375/125)	102
BV1VA 00800_	790	1750	990/1050	1745	2,63	a1 (EPS 375/125)	172
BV1VA 01000_	790	2110	990/1050	2095	3,17	a1 (EPS 375/125)	201
BV1VA 01500_	1000	2115	1200/1260	2145	4,54	a2 (EPS 375/125)	315
BV1VA 02000_	1100	2380	1300/1360	2465	5,26	a2 (EPS 375/125)	436
BV1KA 02000_	1100	2465	1300/1360	2445	5,26	a2 (EPS 375/125)	300
BV1KA 02500_	1200	2595	1400	2640	6,34	a2 (EPS 700/200)	348
BV1KA 03000_	1250	2795	1450	2835	6,34	a2 (EPS 700/200)	377
BV1KA 04000_	1400	2925	1600	2995	6,34	a2 (EPS 700/200)	539
BV1KA 05000_	1600	2955	1800	3090	6,34	a2 (EPS 700/200)	623

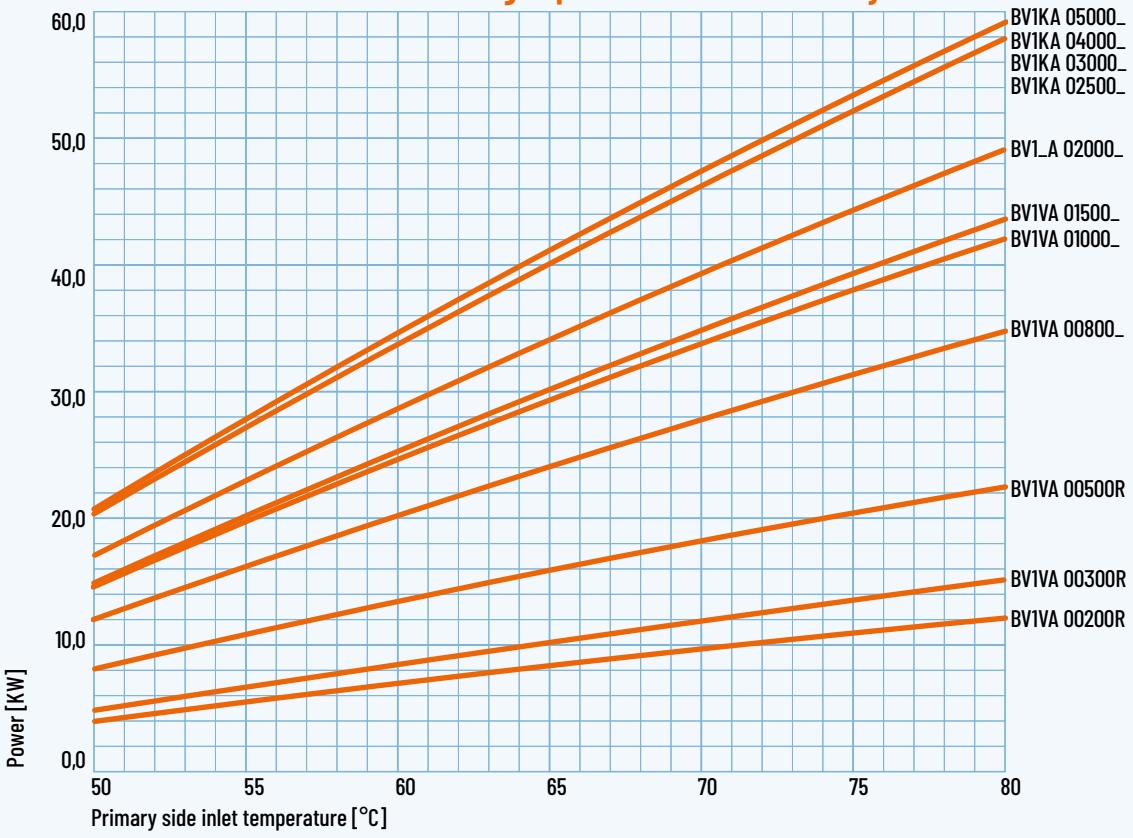
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	d g	e	i u	s	w	q
BV1VA 00200 R	110	190	515	890	1075	350	1"¼	¾" male thread	½"	1"¼	1"	1"½	220/290
BV1VA 00300 R	110	215	595	1080	1350	375	1"¼	¾" male thread	½"	1"¼	1"	1"½	220/290
BV1VA 00500 R	135	240	615	1105	1375	445	1"¼	¾" male thread	½"	1"¼	1"	1"½	220/290
BV1VA 00800_	150	275	655	1145	1410	450	1"¼	¾" male thread	½"	1"½	1"	1"½	300/380
BV1VA 01000_	150	275	810	1355	1755	455	1"¼	¾" male thread	½"	1"½	1"	1"½	300/380
BV1VA 01500_	235	340	765	1400	1725	520	1"¼	1" male thread	½"	2"	1"	1"½	300/380
BV1VA 02000_	265	370	930	1435	1945	575	1"¼	1" male thread	½"	2"	1"	1"½	350/430
BV1KA 02000_	-	475	1010	1515	1975	680	1"¼	1" male thread	½"	2"	1"¼	1"½	400/480
BV1KA 02500_	-	505	1040	1600	2105	715	1"¼	1" male thread	½"	2"	1"¼	1"½	400/480
BV1KA 03000_	-	515	1100	1730	2300	700	1"¼	1" male thread	½"	3"	1"¼	1"½	400/480
BV1KA 04000_	-	595	1190	1815	2380	780	1"¼	1" male thread	½"	3"	1"¼	1"½	400/480
BV1KA 05000_	-	600	1185	1815	2385	785	1"¼	1" male thread	½"	3"	1"¼	1"½	400/480

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



BV1VA & BV1KA - Heat exchanger powers with secondary side at 10/45 °C



Performance

	MODEL	BV1VA 00200R				BV1VA 00300R				BV1VA 00500R				BV1VA 00800_			
	HEAT EXCHANGER (m²) [L] [1]	0,76 [0,70]				0,94 [3,8]				1,58 [1,40]				2,63 [2,30]			
	PRIMARY FLOW (m³/h)	1				1				1,4				1,8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	198	209	297	307	297	311	442	453	507	528	751	769	764	797	1132	1160
	LITRES FIRST HOUR [2]	279	348	486	545	396	479	671	741	659	785	1100	1207	1001	1194	1672	1836
	CONTINUOUS DRAW (L) [3]	103	175	239	300	126	213	290	363	192	325	442	554	299	502	682	854
	POWER (kW)	4,2	7,1	9,7	12,2	5,1	8,7	11,8	14,8	7,8	13,2	18,0	22,5	12,2	20,5	27,8	34,8
	PREHEATING [3] (min)	117	68	49	39	148	86	62	49	167	97	71	56	164	95	69	55
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	200	208	-	-	300	309	-	-	512	526	-	-	772	794
	LITRES FIRST HOUR [2]	-	-	295	341	-	-	415	471	-	-	687	773	-	-	1044	1176
	CONTINUOUS DRAW (L) [3]	-	-	119	168	-	-	145	204	-	-	221	312	-	-	344	483
	POWER (kW)	-	-	7	10	-	-	8	12	-	-	13	18	-	-	20	28
	PREHEATING [3] (min)	-	-	100	70	-	-	127	89	-	-	144	101	-	-	141	99
	NL [4]	0,9				2				5				10			

	MODEL	BV1VA 01000_				BV1VA 01500_				BV1_A 02000_				BV1KA 02500_			
	HEAT EXCHANGER (m²) [L] [1]	3,17 [2,70]				4,54 [3,90]				5,26 [4,50]				6,34 [5,40]			
	PRIMARY FLOW (m³/h)	1,8				3,0				3,0				3,0			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	948	987	1402	1435	1462	1502	2140	2174	1927	1973	2811	2850	2456	2509	3576	3621
	LITRES FIRST HOUR [2]	1237	1471	2057	2253	1752	1994	2810	3015	2259	2535	3575	3808	2849	3172	4475	4747
	CONTINUOUS DRAW (L) [3]	366	611	827	1034	367	621	846	1062	420	709	965	1210	497	837	1136	1423
	POWER (kW)	14,9	24,9	33,7	42,1	14,9	25,3	34,4	43,2	17,1	28,9	39,3	49,3	20,2	34,1	46,2	57,9
	PREHEATING [3] (min)	170	98	72	57	256	148	108	86	298	173	126	100	326	189	138	109
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	956	983	-	-	1471	1499	-	-	1937	1969	-	-	2468	2504
	LITRES FIRST HOUR [2]	-	-	1289	1448	-	-	1806	1971	-	-	2320	2509	-	-	2921	3141
	CONTINUOUS DRAW (L) [3]	-	-	420	588	-	-	423	597	-	-	484	682	-	-	572	805
	POWER (kW)	-	-	24	34	-	-	25	35	-	-	28	40	-	-	33	47
	PREHEATING [3] (min)	-	-	146	102	-	-	220	154	-	-	257	180	-	-	281	197
	NL [4]	15				25				30				35			

	MODEL	BV1KA 03000_				BV1KA 04000_				BV1KA 05000_			
	HEAT EXCHANGER (m²) [L] [1]	6,34 [5,4]				6,34 [5,40]				6,34 [5,40]			
	PRIMARY FLOW (m³/h)	3,0				3,5				3,5			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	2897	2950	4205	4251	3788	3843	5480	5527	4843	4898	6988	7034
	LITRES FIRST HOUR [2]	3290	3613	5105	5377	4187	4517	6398	6677	5242	5573	7905	8184
	CONTINUOUS DRAW (L) [3]	497	837	1136	1423	505	852	1159	1453	505	852	1159	1453
	POWER (kW)	20,2	34,1	46,2	57,9	20,5	34,7	47,2	59,1	20,5	34,7	47,2	59,1
	PREHEATING [3] (min)	387	224	163	129	496	288	209	166	637	369	269	213
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	2908	2945	-	-	3800	3838	-	-	4855	4893
	LITRES FIRST HOUR [2]	-	-	3362	3582	-	-	4260	4486	-	-	5315	5541
	CONTINUOUS DRAW (L) [3]	-	-	572	805	-	-	581	819	-	-	581	819
	POWER (kW)	-	-	33	47	-	-	34	48	-	-	34	48
	PREHEATING [3] (min)	-	-	333	233	-	-	426	299	-	-	548	384
	NL [4]	38				40				43			

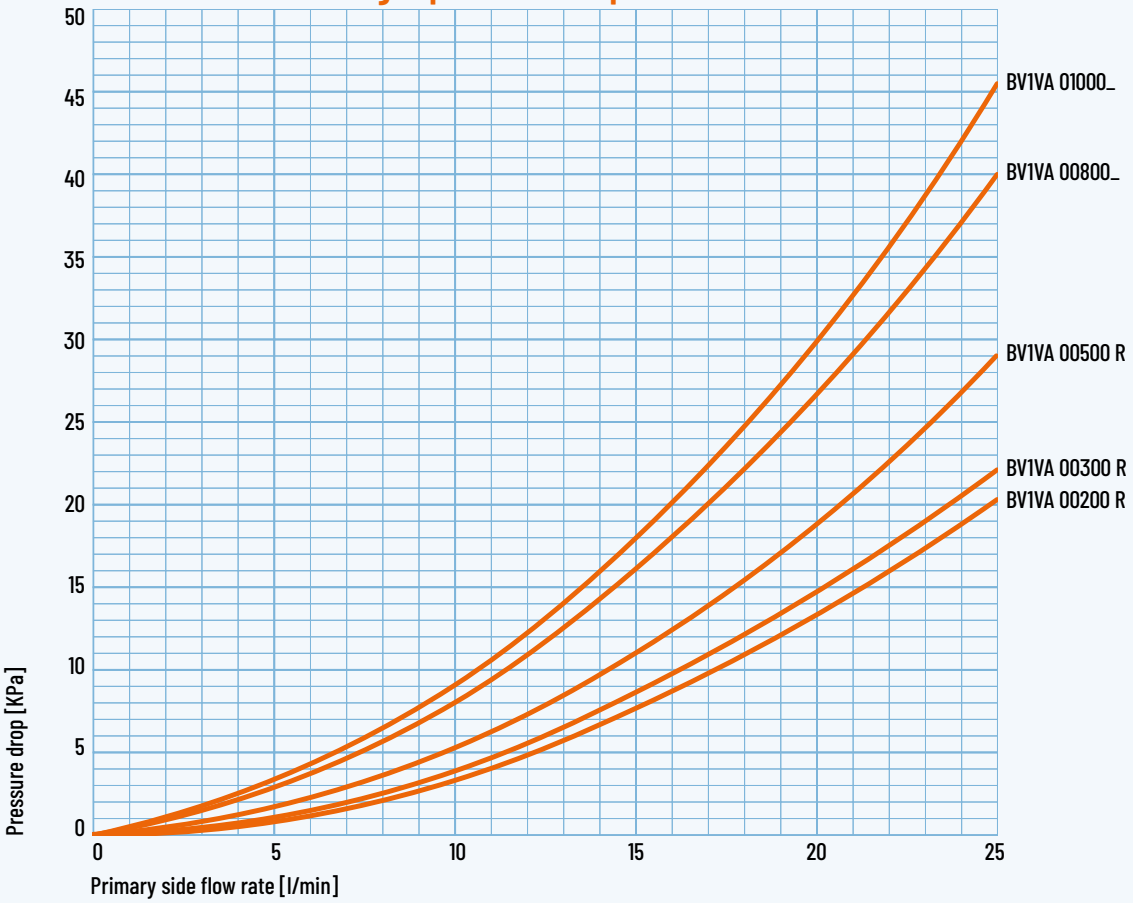
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

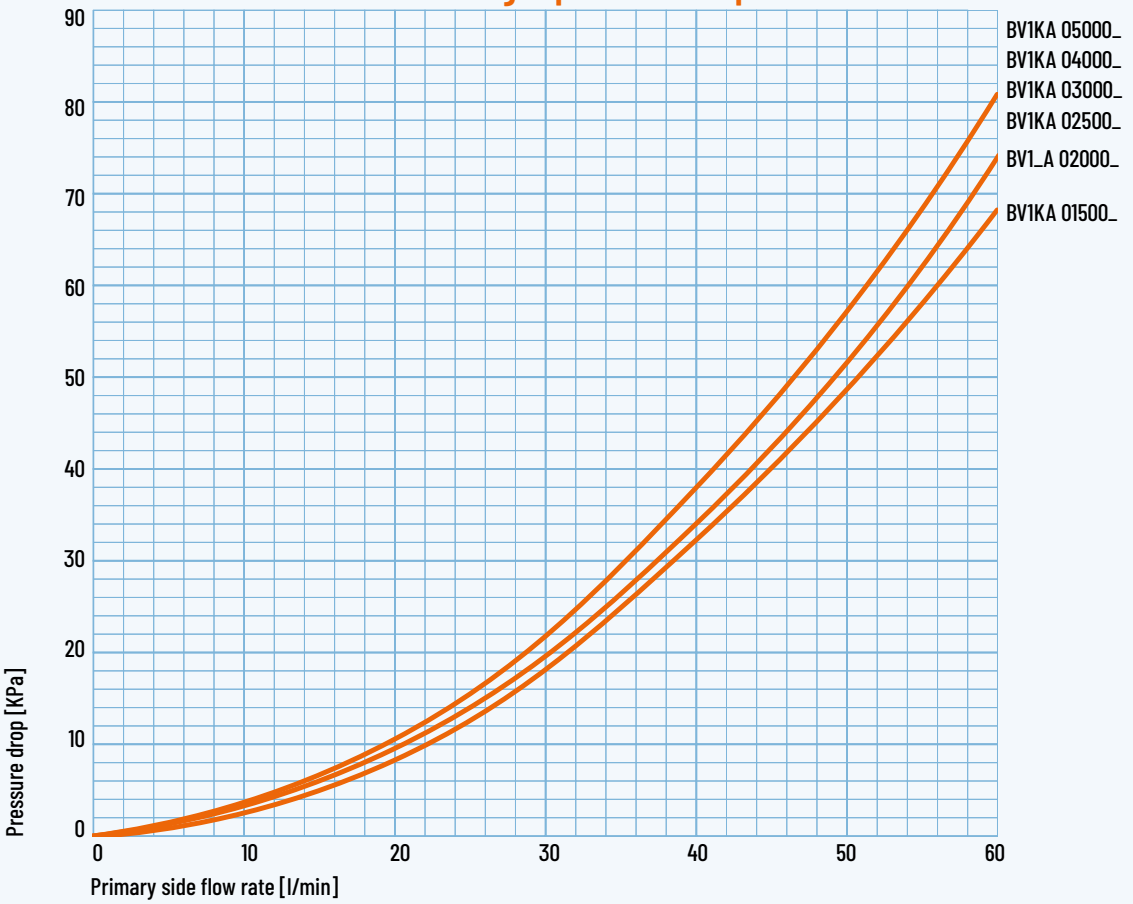
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV1VA - Heat exchanger pressure drops



BV1VA & BV1KA - Heat exchanger pressure drops





BV2X - AISI 316L Stainless steel calorifier with two removable heat exchangers

AISI 316L Stainless steel calorifier designed for the production and storage of domestic hot water (DHW).
The tank is equipped with two AISI 316L stainless steel U tube bundle removable heat exchangers. The lower heat exchanger is bent down in order to avoid the growth of bacteria in the coldest part of the cylinder.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	
Material	AISI 316L Stainless steel (1.4404)
Internal protective treatment	Pickling and passivation
External protective treatment	Pickling and passivation
Rating (P max. / T max.)	6 bar / 95°C
Cathodic protection	Magnesium anode
Heat exchanger	
Material	AISI 316L Stainless steel (1.4404) over a stainless steel plate
Internal protective treatment	Pickling and passivation
External protective treatment	Pickling and passivation
Type	U tube bundle expanded over a removable plate
Rating (P max. / T max.)	10 bar / 95°C
General features	
Capacity	200 - 5000 L
Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)
Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)

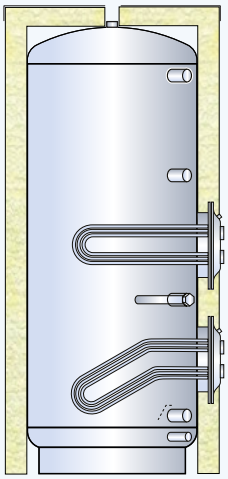

Impressed current electronic anode


Electronic control unit


Thermostat


Thermometer


1"½ electric immersion heater



BV2X - Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2X 00200 R	50	C	65,7	193,1	0,50 / 2,6	0,50 / 2,6
BV2X 00300 R	50	C	77,2	293,6	0,75 / 4,3	0,75 / 4,3
BV2X 00500 R	50	C	89,6	503,6	1,00 / 6,1	1,00 / 6,1
BV2X 00800 R	100	C	119,7	760,5	2,00 / 10,4	1,50 / 6,6
BV2X 01000 R	100	C	123,6	942,2	3,00 / 15,7	2,00 / 10,4
BV2X 01500 R	100	C	142,6	1483,6	3,00 / 15,7	3,00 / 15,7
BV2X 02000 R	100	C	157,4	1967,2	4,00 / 21,7	4,00 / 21,7
BV2X 02500 R	100	-	-	2510,7	5,00 / 27,4	4,00 / 21,7
BV2X 03000 R	100	-	-	2974,7	6,00 / 33,1	5,00 / 27,4
BV2X 04000 R	100	-	-	3911,6	8,00 / 42,9	8,00 / 42,9
BV2X 05000 R	100	-	-	5022,4	10,00 / 51,5	10,00 / 51,5

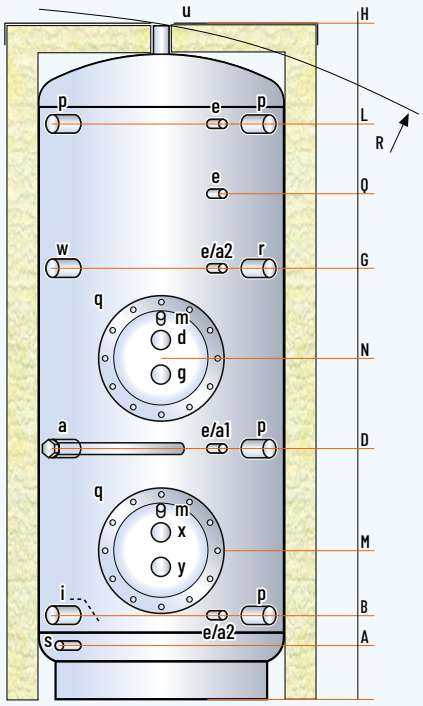
BV2X - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2X 00800 F	130	C	134,1	760,5	2,00 / 10,4	1,50 / 6,6
BV2X 01000 F	130	C	144,4	942,2	3,00 / 15,7	2,00 / 10,4
BV2X 01500 F	130	C	170,5	1483,6	3,00 / 15,7	3,00 / 15,7
BV2X 02000 F	130	C	188,3	1967,2	4,00 / 21,7	4,00 / 21,7
BV2X 02500 F	100	-	-	2510,7	5,00 / 27,4	4,00 / 21,7
BV2X 03000 F	100	-	-	2974,7	6,00 / 33,1	5,00 / 27,4
BV2X 04000 F	100	-	-	3911,6	8,00 / 42,9	8,00 / 42,9
BV2X 05000 F	100	-	-	5022,4	10,00 / 51,5	10,00 / 51,5

** Volume occupied by the heat exchanger and its support structure*

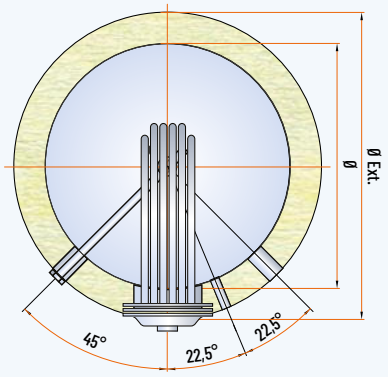
Dimensions and heights

200-1500 L

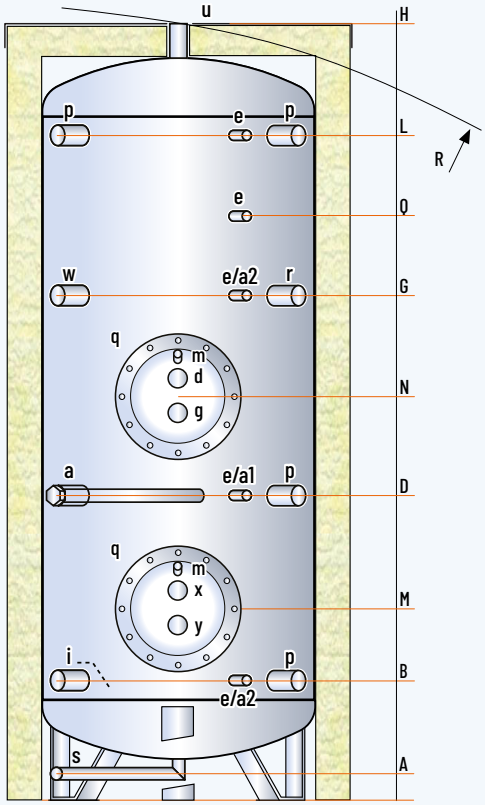


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **m.** Heat exchanger vent
- **p .** Free connection
- **q .** Heat exchanger flange
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **x .** Solar system flow
- **y .** Solar system return
- **w.** Opening for immersion heater



2000-5000 L



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m²)	UPPER HEAT EXCHANGER (m²)	Electronic anode (optional)	WEIGHT (kg)
BV2X 00200 R	450	1305	550	1430	0,50	0,50	a1 (EPS 375/125)	78
BV2X 00300 R	500	1595	600	1720	0,75	0,75	a1 (EPS 375/125)	91
BV2X 00500 R	650	1645	750	1820	1,00	1,00	a1 (EPS 375/125)	110
BV2X 00800_	790	1750	990/1050	1745	2,00	1,50	a1 (EPS 375/125)	183
BV2X 01000_	790	2110	990/1050	2095	3,00	2,00	a1 (EPS 375/125)	213
BV2X 01500_	1000	2115	1200/1260	2145	3,00	3,00	a2 (EPS 375/125)	272
BV2X 02000_	1100	2465	1300/1360	2465	4,00	4,00	a2 (EPS 375/125)	348
BV2X 02500_	1200	2595	1400	2640	5,00	4,00	a2 (EPS 700/200)	404
BV2X 03000_	1250	2795	1450	2835	6,00	5,00	a2 (EPS 700/200)	458
BV2X 04000_	1400	2925	1600	2995	8,00	8,00	a2 (EPS 700/200)	648
BV2X 05000_	1600	2955	1800	3090	10,00	10,00	a2 (EPS 700/200)	748

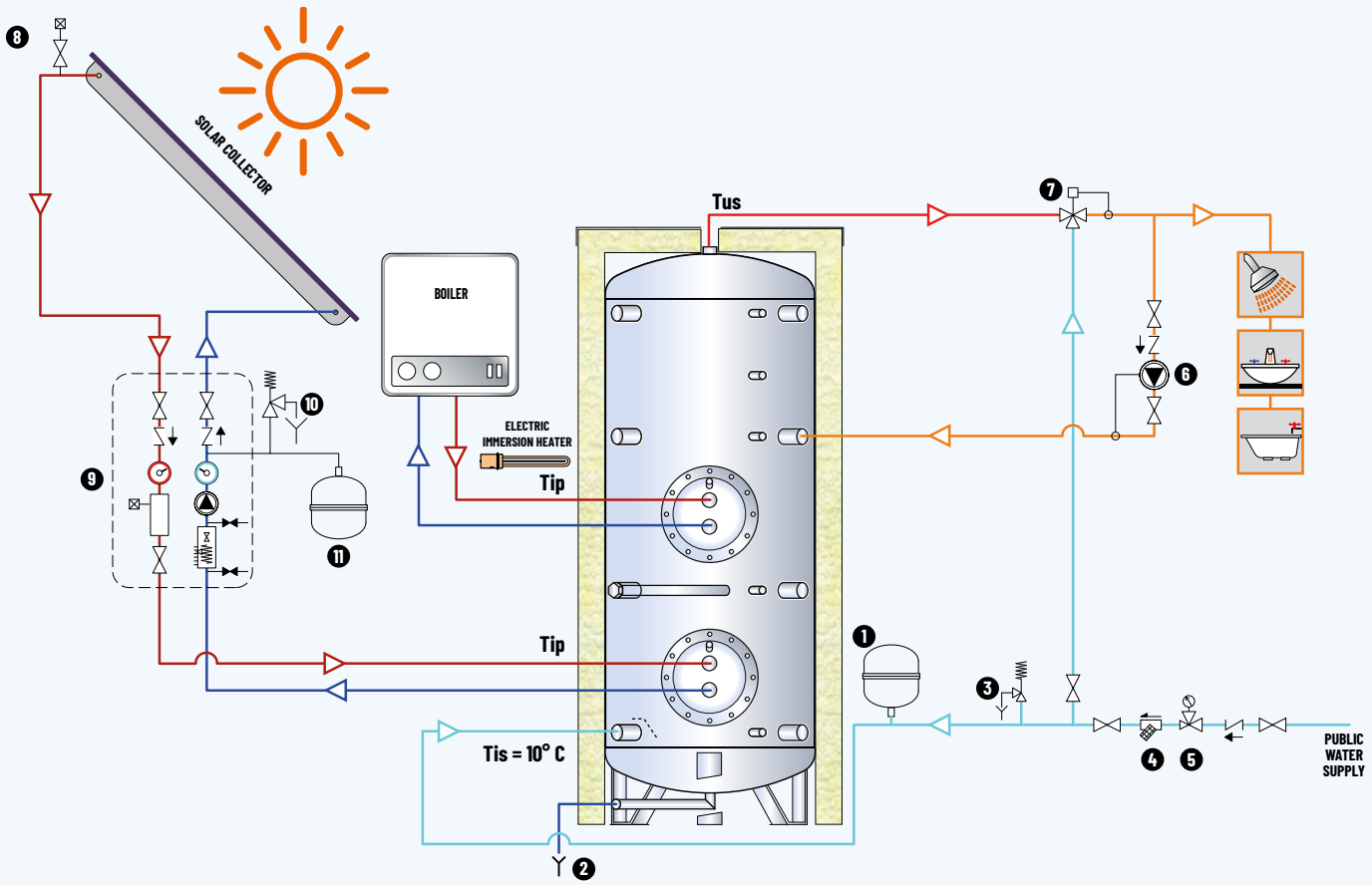
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	N	Q	CONNECTIONS (GAS) a p r	d g x y	e	i u	m	s	w	q
BV2X 00200 R	110	190	515	890	1075	350	785	975	1"¼	1"	½"	1" ¼	⅜"	1"	1"½	220/290
BV2X 00300 R	110	215	595	1080	1350	375	870	1215	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV2X 00500 R	135	240	615	1105	1375	445	890	1240	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290
BV2X 00800_	170	275	655	1145	1410	450	970	1280	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380
BV2X 01000_	170	275	810	1355	1755	455	1045	1555	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380
BV2X 01500_	235	340	765	1400	1725	520	1080	1250	1"¼	2"	½"	2"	⅜"	1"	1"½	300/380
BV2X 02000_	100	475	1010	1515	1975	655	1260	1645	1"¼	2"	½"	2"	⅜"	1"	1"½	350/430
BV2X 02500_	100	505	1040	1600	2105	690	1290	1750	1"¼	2"	½"	2"	⅜"	1"	1"½	350/430
BV2X 03000_	90	515	1100	1730	2300	675	1415	1880	1"¼	2"	½"	3"	⅜"	1"	1"½	350/430
BV2X 04000_	120	595	1190	1815	2380	755	1505	1965	1"¼	2"	½"	3"	⅜"	1"	1"½	350/430
BV2X 05000_	100	600	1185	1815	2385	825	1505	1965	1"¼	2"	½"	3"	⅜"	1"	1"½	350/430

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DHW Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel





Data related to the lower heat exchanger

	MODEL	BV2X 00200 R				BV2X 00300 R				BV2X 00500 R				BV2X 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [2,9]				0,75 [3,8]				1,0 [4,7]				2,0 [9,5]			
	PRIMARY FLOW (m^3/h)	2				2				3				5			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	198	210	298	309	302	319	453	468	509	533	758	778	782	828	1176	1216
	LITRES FIRST HOUR [2]	281	352	493	554	424	528	739	828	674	814	1142	1261	1108	1384	1936	2171
	CONTINUOUS DRAW (L) [3]	105	180	246	310	155	264	361	455	208	355	485	611	412	702	960	1207
	POWER (kW)	4,3	7,3	10,0	12,6	6,3	10,8	14,7	18,5	8,4	14,4	19,8	24,9	16,8	28,6	39,1	49,1
	PREHEATING [3] (min)	112	65	47	37	117	68	49	39	149	86	63	50	114	66	48	38
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	201	209	-	-	305	317	-	-	515	531	-	-	793	824
	LITRES FIRST HOUR [2]	-	-	297	346	-	-	447	519	-	-	705	801	-	-	1169	1358
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	179	254	-	-	240	341	-	-	476	675
	POWER (kW)	-	-	7	10	-	-	10	15	-	-	14	20	-	-	28	39
	PREHEATING [3] (min)	-	-	96	67	-	-	100	70	-	-	128	90	-	-	98	69
	NL [4]	0,9				2				5				11			

	MODEL	BV2X 01000_				BV2X 01500_				BV2X 02000_				BV2X 02500_			
	HEAT EXCHANGER (m^2) [L] [1]	3,0 [13,0]				3,0 [13,0]				4,0 [17,2]				5,0 [20,8]			
	PRIMARY FLOW (m^3/h)	5				6				7				7			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	986	1054	1495	1553	1501	1568	2230	2287	1988	2077	2953	3029	2536	2646	3762	3855
	LITRES FIRST HOUR [2]	1469	1875	2616	2961	1984	2390	3351	3696	2627	3161	4430	4883	3329	3989	5591	6151
	CONTINUOUS DRAW (L) [3]	610	1038	1416	1779	610	1037	1416	1779	807	1368	1865	2342	1002	1697	2311	2900
	POWER (kW)	24,8	42,2	57,6	72,4	24,8	42,2	57,6	72,4	32,8	55,7	75,9	95,3	40,8	69,1	94,1	118,1
	PREHEATING [3] (min)	96	56	41	32	152	88	64	51	153	89	65	51	159	92	67	53
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1001	1048	-	-	1516	1562	-	-	2008	2069	-	-	2560	2635
	LITRES FIRST HOUR [2]	-	-	1559	1837	-	-	2073	2352	-	-	2745	3110	-	-	3474	3927
	CONTINUOUS DRAW (L) [3]	-	-	705	997	-	-	705	997	-	-	931	1315	-	-	1155	1631
	POWER (kW)	-	-	41	58	-	-	41	58	-	-	54	76	-	-	67	95
	PREHEATING [3] (min)	-	-	83	58	-	-	131	91	-	-	132	92	-	-	136	96
	NL [4]	17				32				38				44			

	MODEL	BV2X 03000_				BV2X 04000_				BV2X 05000_			
	HEAT EXCHANGER (m^2) [L] [1]	6,0 [24,8]				8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m^3/h)	10				12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	3009	3141	4466	4579	3960	4135	5878	6026	5079	5297	7531	7716
	LITRES FIRST HOUR [2]	3963	4759	6671	7346	5223	6271	8785	9673	6657	7967	11165	12275
	CONTINUOUS DRAW (L) [3]	1206	2044	2784	3495	1595	2698	3672	4606	1993	3372	4590	5758
	POWER (kW)	49,1	83,2	113,3	142,3	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	156	90	66	52	156	90	66	52	160	93	68	54
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	3038	3129	-	-	3999	4119	-	-	5127	5276
	LITRES FIRST HOUR [2]	-	-	4139	4684	-	-	5454	6172	-	-	6946	7843
	CONTINUOUS DRAW (L) [3]	-	-	1391	1965	-	-	1838	2594	-	-	2298	3242
	POWER (kW)	-	-	81	114	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	134	94	-	-	134	94	-	-	138	97
	NL [4]	48				55				60			

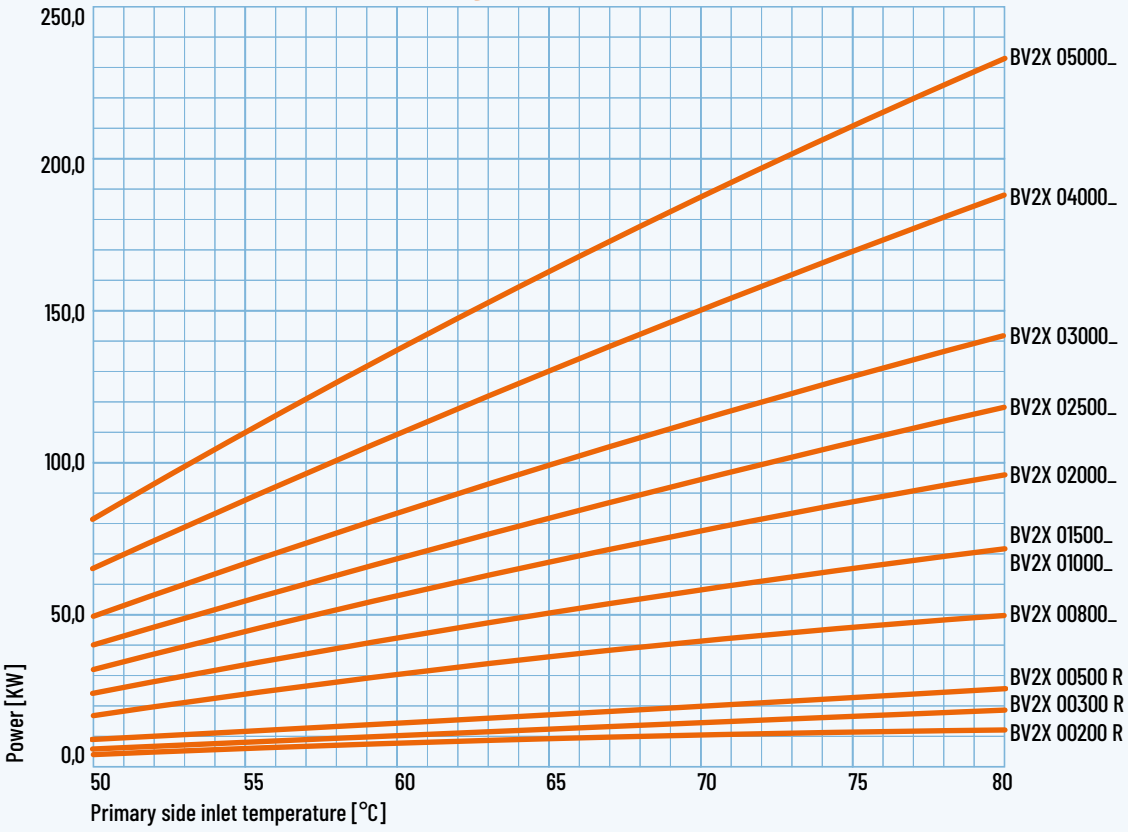
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

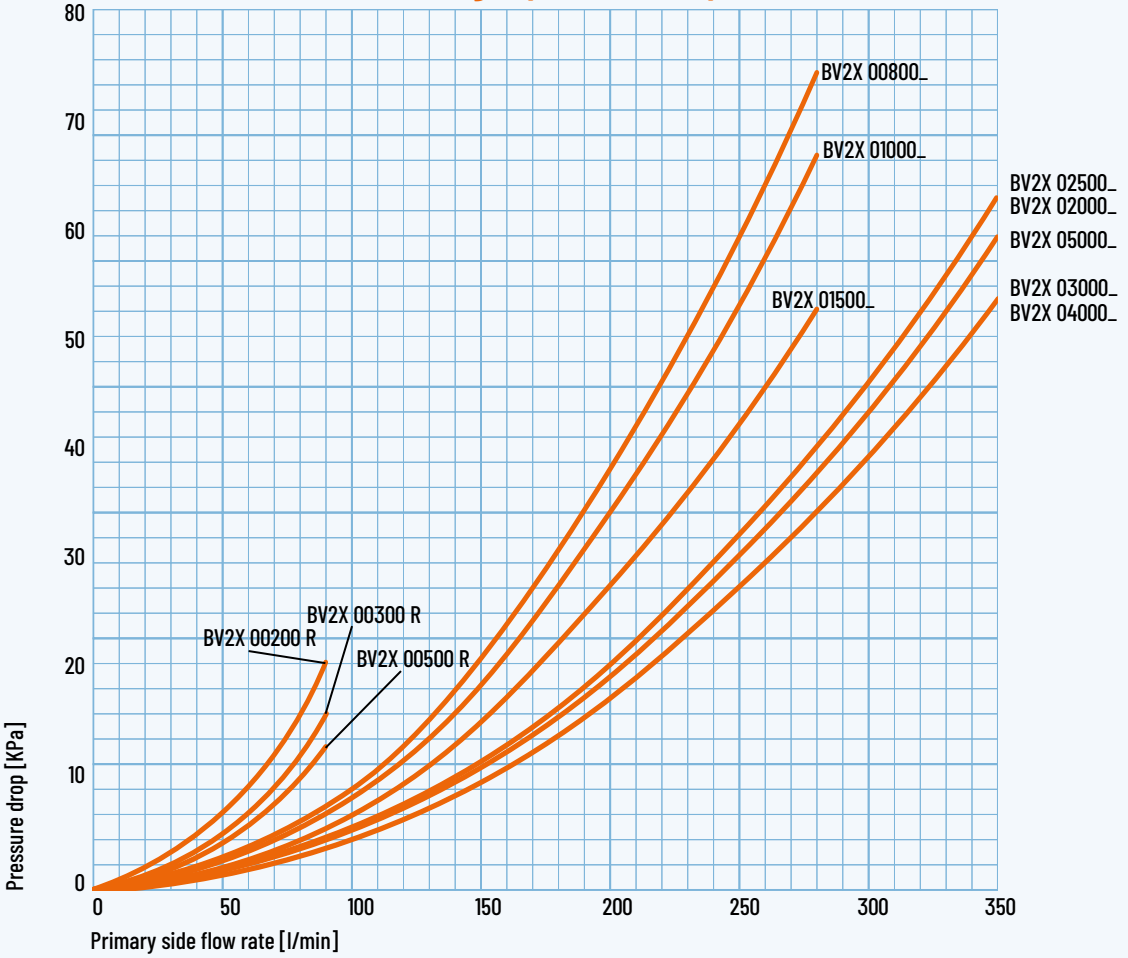
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV2X - Lower heat exchanger powers with secondary side at 10/45 °C



BV2X - Lower heat exchanger pressure drops





Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	BV2X 00200 R				BV2X 00300 R				BV2X 00500 R				BV2X 00800_			
	HEAT EXCHANGER (m²) [L] [1]	0,5 [2,9]				0,75 [3,8]				1,0 [4,7]				1,5 [7,7]			
	PRIMARY FLOW (m³/h)	2				2				3				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	142	154	219	229	196	213	302	317	324	347	492	512	511	546	775	805
	LITRES FIRST HOUR [2]	225	297	414	474	319	423	588	677	488	628	1876	996	757	965	1347	1525
	CONTINUOUS DRAW (L) [3]	105	180	246	310	155	264	361	455	208	355	485	611	310	529	723	909
	POWER (kW)	4,3	7,3	10,0	12,6	6,3	10,8	14,7	18,5	8,4	14,4	19,8	24,9	12,6	21,5	29,4	37,0
	PREHEATING [3] (min)	77	45	33	26	72	42	31	24	91	53	38	31	97	56	41	33
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	145	153	-	-	200	212	-	-	329	345	-	-	519	543
	LITRES FIRST HOUR [2]	-	-	241	290	-	-	342	413	-	-	519	615	-	-	803	945
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	179	254	-	-	240	341	-	-	358	508
	POWER (kW)	-	-	7	10	-	-	10	15	-	-	14	20	-	-	21	30
	PREHEATING [3] (min)	-	-	66	47	-	-	62	44	-	-	78	55	-	-	84	59
	NL [4]	0,9				2				5				11			

	MODEL	BV2X 01000_				BV2X 01500_				BV2X 02000_				BV2X 02500_			
	HEAT EXCHANGER (m²) [L] [1]	2,0 [9,5]				3,0 [13,0]				4,0 [17,2]				4,0 [17,2]			
	PRIMARY FLOW (m³/h)	5				6				7				7			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	572	618	876	915	916	984	1395	1453	1216	1305	1850	1925	1474	1563	2219	2294
	LITRES FIRST HOUR [2]	898	1174	1636	1871	1399	1805	2516	2861	1854	2388	3326	3779	2113	2646	3696	4149
	CONTINUOUS DRAW (L) [3]	412	702	960	1207	610	1038	1416	1779	807	1369	1865	2342	807	1368	1865	2342
	POWER (kW)	16,8	28,6	39,1	49,1	24,8	42,2	57,6	72,4	32,8	55,7	75,9	95,3	32,8	55,7	75,9	95,3
	PREHEATING [3] (min)	81	47	34	27	89	51	37	30	90	52	38	30	111	64	47	37
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	582	614	-	-	931	978	-	-	1235	1296	-	-	1494	1555
	LITRES FIRST HOUR [2]	-	-	959	1148	-	-	1489	1767	-	-	1972	2338	-	-	2231	2596
	CONTINUOUS DRAW (L) [3]	-	-	476	675	-	-	705	997	-	-	931	1315	-	-	931	1315
	POWER (kW)	-	-	28	39	-	-	41	58	-	-	54	76	-	-	54	76
	PREHEATING [3] (min)	-	-	69	49	-	-	76	53	-	-	77	54	-	-	95	67
	NL [4]	17				32				38				44			

	MODEL	BV2X 03000_				BV2X 04000_				BV2X 05000_			
	HEAT EXCHANGER (m²) [L] [1]	5,0 [20,8]				8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m³/h)	10				12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1769	1881	2670	2766	2387	2562	3630	3778	3028	3247	4602	4787
	LITRES FIRST HOUR [2]	2574	3250	4538	5113	3649	4698	6537	7425	4606	5916	8236	9346
	CONTINUOUS DRAW (L) [3]	1017	1729	2359	2965	1595	2698	3672	4607	1993	3372	4590	5758
	POWER (kW)	41,4	70,4	96,0	120,7	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	104	61	44	35	90	52	38	30	91	53	39	31
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1794	1871	-	-	2425	2545	-	-	3076	3226
	LITRES FIRST HOUR [2]	-	-	2723	3187	-	-	3881	4599	-	-	4896	5793
	CONTINUOUS DRAW (L) [3]	-	-	1174	1662	-	-	1839	2594	-	-	2298	3242
	POWER (kW)	-	-	68	97	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	90	63	-	-	77	54	-	-	79	55
	NL [4]	48				55				60			

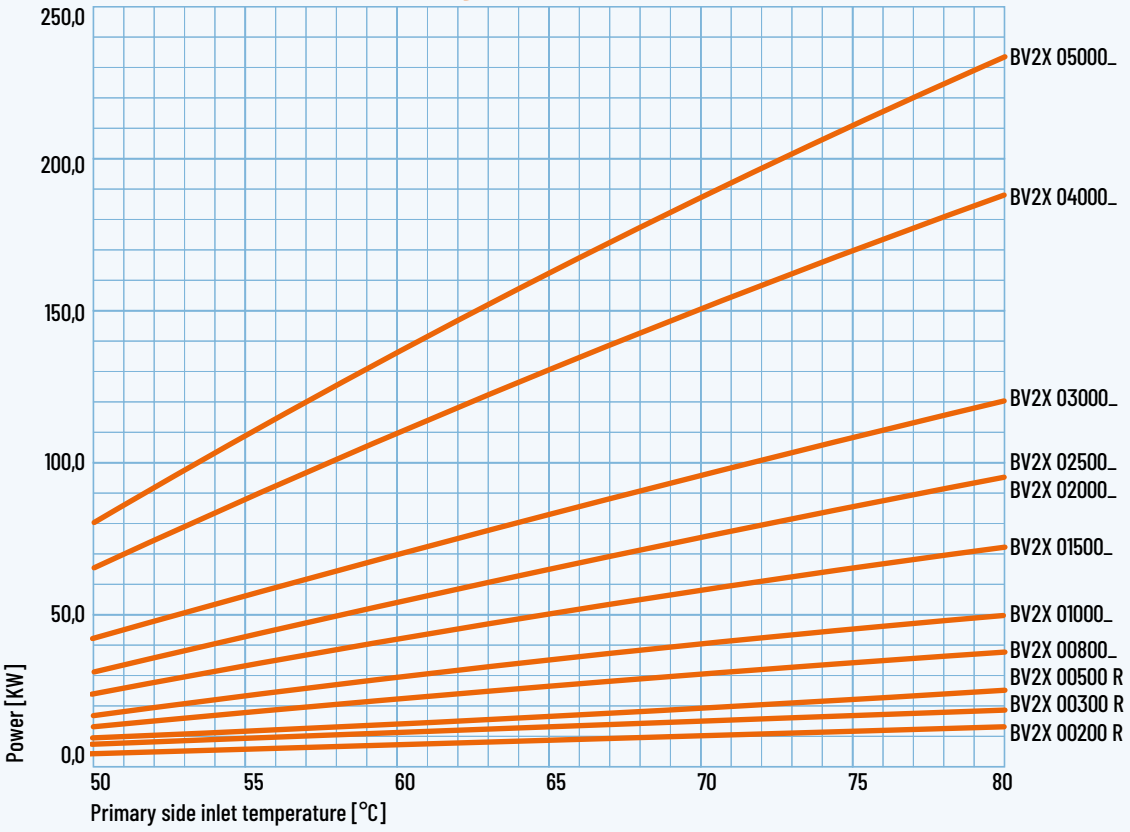
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

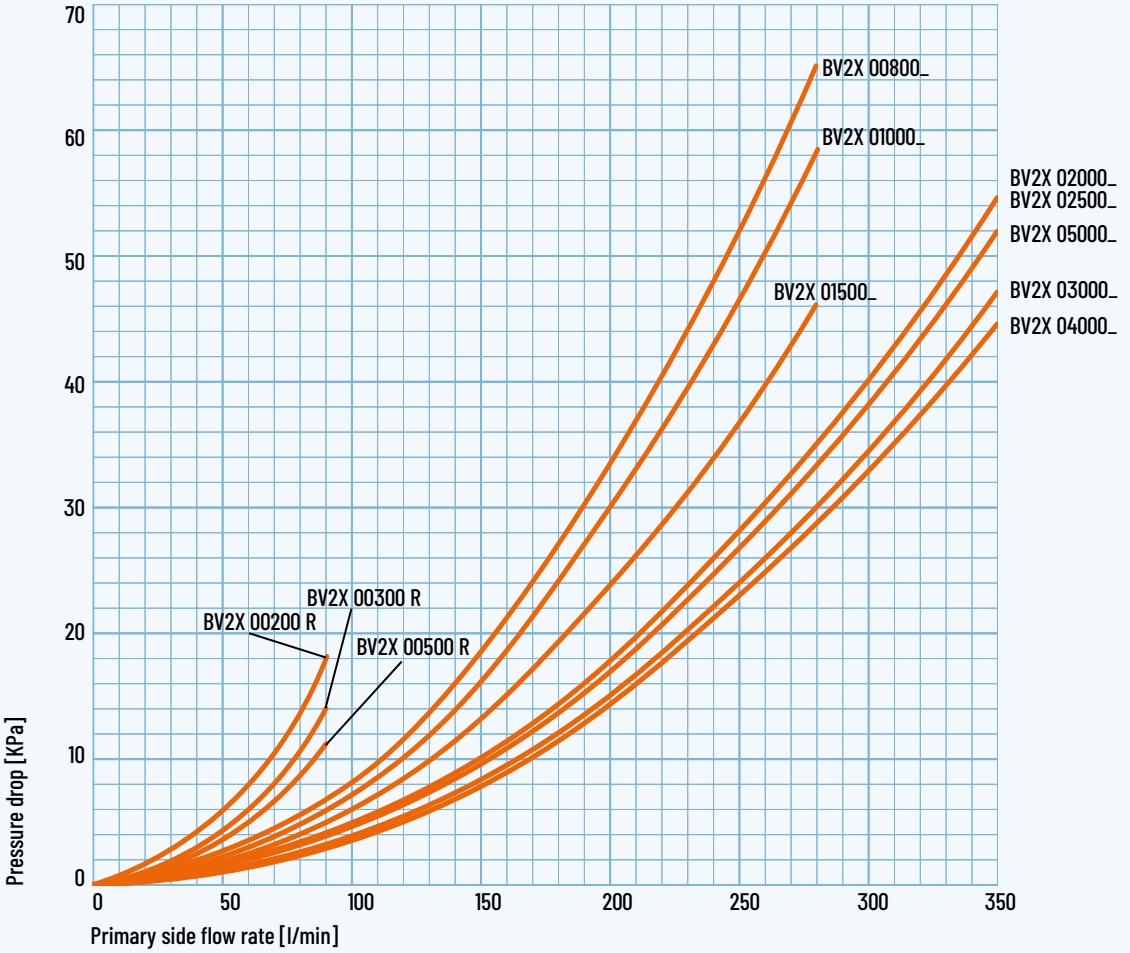
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV2X - Upper heat exchanger powers with secondary side at 10/45 °C



BV2X - Upper heat exchanger pressure drops





BV2V - Glass lined calorifier with two removable heat exchangers

BV2K - Keramtech lined calorifier with two removable heat exchangers

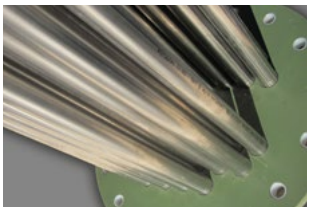
Calorifier for the production and storage of domestic hot water (DHW).
The cylinder is made of carbon steel and is internally protected by glass lining (Mod. BV2V for capacities up to 2.000 litres) or with Keramtech ceramic lining (Mod. BV2K for capacities from 2000 to 5000 litres).

The tank is equipped with two stainless steel U tube bundle removable heat exchanger.
The lower heat exchanger is bent down in order to avoid the growth of bacteria in the coldest part of the cylinder.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		BV2V	BV2K
DHW cylinder	Material	Glass lined S 235 Jr Carbon steel	Keramtech lined S235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3	Alimentary epoxy-ceramic lining
	External protective treatment	Anti rust protection + epoxy painting	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C	6 bar / 100 °C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	Material	Stainless steel	
	Type	U tube bundle expanded over a removable plate	
	Rating (P max. / T max.)	10 bar / 95°C	
General features	Capacity	200 - 2000 L	2000 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)	
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



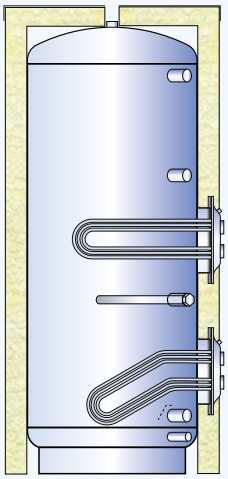
Thermostat



Thermometer



1"½ electric immersion heater

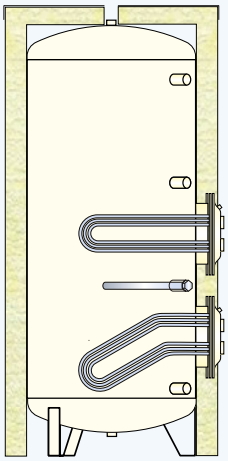


BV2VI - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2VI 00200 R	50	C	65,7	193,1	0,50 / 2,6	0,50 / 2,6
BV2VI 00300 R	50	C	77,2	293,6	0,75 / 4,3	0,75 / 4,3
BV2VI 00500 R	50	C	89,6	503,6	1,00 / 6,1	1,00 / 6,1
BV2VI 00800 R	100	C	119,7	760,5	2,00 / 10,4	1,50 / 6,6
BV2VI 01000 R	100	C	123,6	942,2	3,00 / 15,7	2,00 / 10,4
BV2VI 01500 R	100	C	142,8	1483,6	3,00 / 15,7	3,00 / 15,7
BV2VI 02000 R	100	C	156,6	1967,2	4,00 / 21,7	4,00 / 21,7

BV2VI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2VI 00800 F	130	C	134,1	760,5	2,00 / 10,4	1,50 / 6,6
BV2VI 01000 F	130	C	144,4	942,2	3,00 / 15,7	2,00 / 10,4
BV2VI 01500 F	130	C	170,5	1483,6	3,00 / 15,7	3,00 / 15,7
BV2VI 02000 F	130	C	186,2	1967,2	4,00 / 21,7	4,00 / 21,7



BV2KI - Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2KI 02000 R	100	C	159,3	1971,1	4,00 / 21,7	4,00 / 21,7
BV2KI 02500 R	100	-	-	2514,6	5,00 / 27,4	4,00 / 21,7
BV2KI 03000 R	100	-	-	2978,6	6,00 / 33,1	5,00 / 27,4
BV2KI 04000 R	100	-	-	3915,5	8,00 / 42,9	8,00 / 42,9
BV2KI 05000 R	100	-	-	5026,3	10,00 / 34,3	10,00 / 34,3

BV2KI - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2KI 02000 F	130	C	189,1	1971,1	4,00 / 21,7	4,00 / 21,7
BV2KI 02500 F	100	-	-	2514,6	5,00 / 27,4	4,00 / 21,7
BV2KI 03000 F	100	-	-	2978,6	6,00 / 33,1	5,00 / 27,4
BV2KI 04000 F	100	-	-	3915,5	8,00 / 42,9	8,00 / 42,9
BV2KI 05000 F	100	-	-	5026,3	10,00 / 34,3	10,00 / 34,3

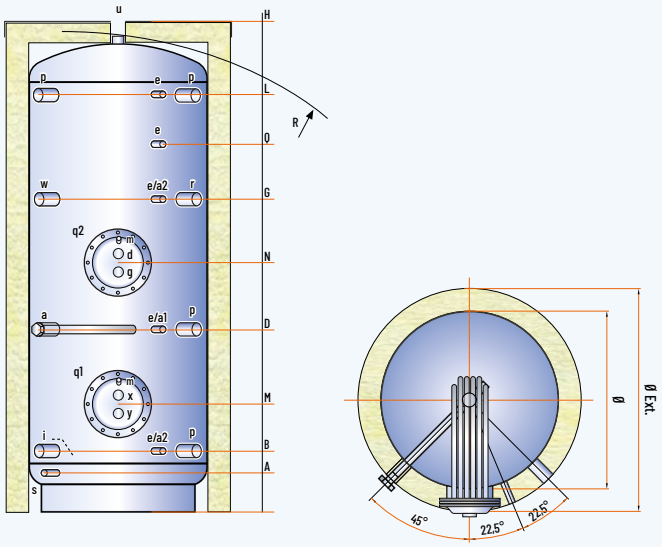
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

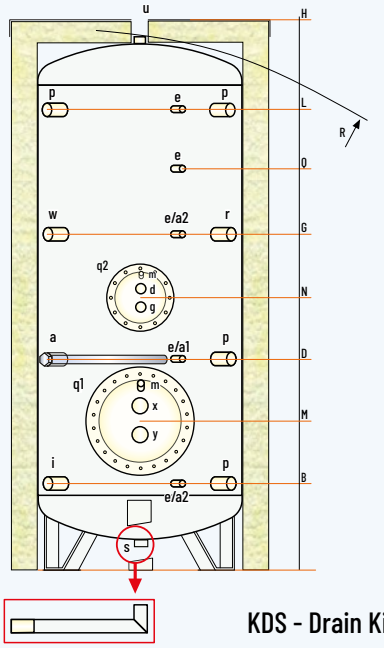
LEGEND

a . Magnesium anode
a1-a2. Opening for electronic anode
d . Boiler flow
e . Thermometer - Sensor
g . Boiler return
i . Domestic cold water inlet
m. Heat exchanger vent
p . Free connection
q1-q2. Heat exchanger flange
r . Recirculation
s . Drain
u . Domestic hot water outlet
x . Solar system flow
y . Solar system return
w. Opening for immersion heater

BV2V



BV2K



KDS - Drain Kit

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV2VI 00200 R	450	1320	550	1440	0,50	0,50	a1 (EPS 375/125)	83
BV2VI 00300 R	500	1610	600	1730	0,75	0,75	a1 (EPS 375/125)	99
BV2VI 00500 R	650	1835	750	1835	1,00	1,00	a1 (EPS 375/125)	124
BV2VI 00800_	790	1750	990/1050	1745	2,00	1,50	a1 (EPS 375/125)	218
BV2VI 01000_	790	2110	990/1050	2095	3,00	2,00	a1 (EPS 375/125)	258
BV2VI 01500_	1000	2115	1200/1260	2145	3,00	3,00	a2 (EPS 375/125)	359
BV2VI 02000_	1100	2380	1300/1360	2465	4,00	4,00	a2 (EPS 375/125)	496
BV2KI 02000_	1100	2465	1300/1360	2465	4,00	4,00	a2 (EPS 375/125)	354
BV2KI 02500_	1200	2595	1400	2640	5,00	4,00	a2 (EPS 700/200)	411
BV2KI 03000_	1250	2795	1450	2835	6,00	5,00	a2 (EPS 700/200)	465
BV2KI 04000_	1400	2925	1600	2995	8,00	8,00	a2 (EPS 700/200)	652
BV2KI 05000_	1600	2955	1800	3090	10,00	10,00	a2 (EPS 700/200)	756

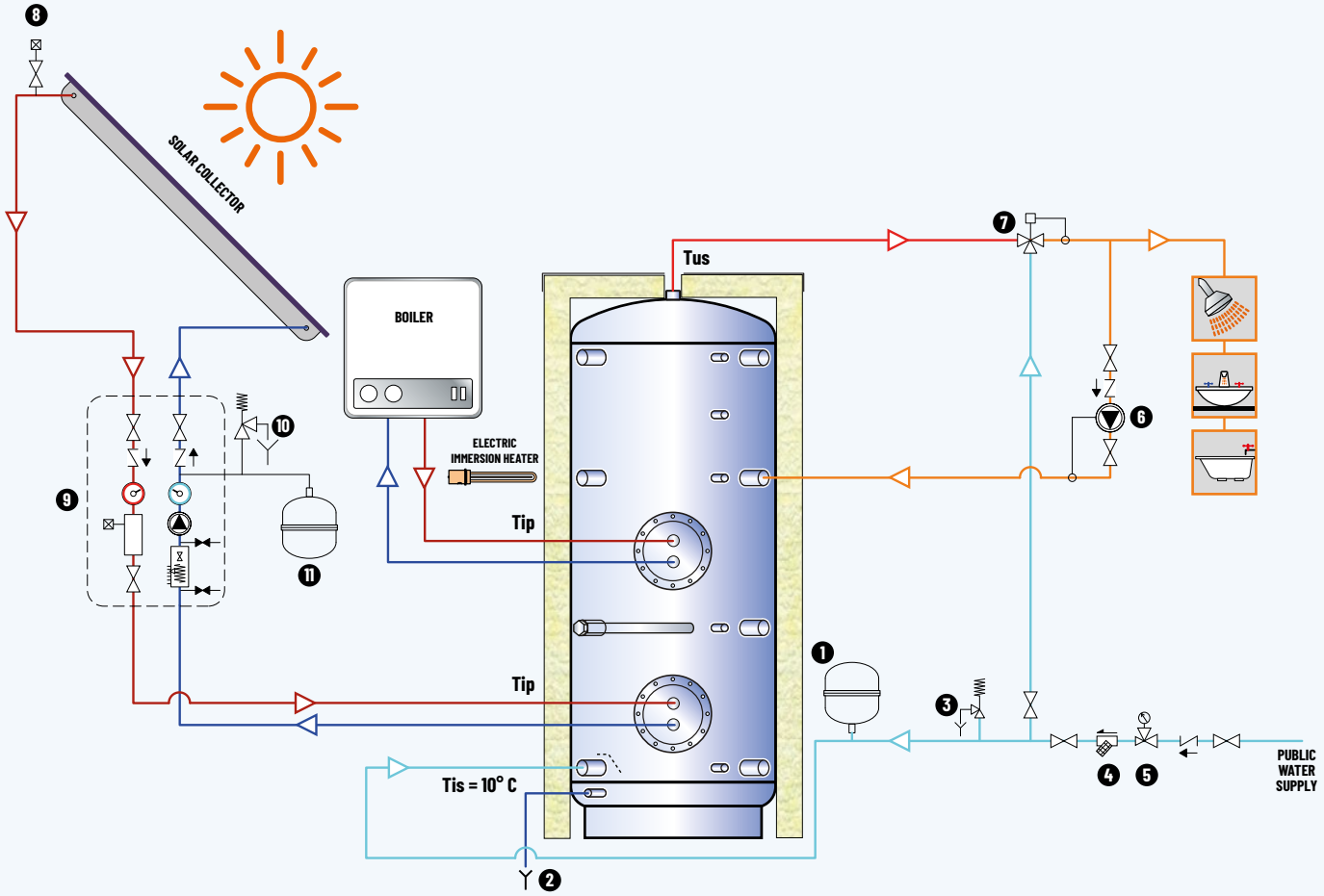
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	N	Q	CONNECTIONS (GAS) a p r	d g x y	e	i u	m	s	w	q1	q2
BV2VI 00200 R	110	190	515	890	1075	350	785	975	1"¼	1"	½"	1" ¼	⅜"	1"	1"½	220/290	220/290
BV2VI 00300 R	110	215	595	1080	1350	375	870	1215	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290	220/290
BV2VI 00500 R	135	240	615	1105	1375	445	890	1240	1"¼	1"	½"	1"¼	⅜"	1"	1"½	220/290	220/290
BV2VI 00800_	150	275	655	1145	1410	450	970	1280	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380	300/380
BV2VI 01000_	150	275	810	1355	1755	455	1045	1555	1"¼	2"	½"	1"½	⅜"	1"	1"½	300/380	300/380
BV2VI 01500_	235	340	765	1400	1725	520	1080	1250	1"¼	2"	½"	2"	⅜"	1"	1"½	300/380	300/380
BV2VI 02000_	265	370	930	1435	1945	575	1180	1565	1"¼	2"	½"	2"	⅜"	1"	1"½	350/430	350/430
BV2KI 02000_	-	475	1010	1515	1975	680	1260	1645	1"¼	2"	½"	2"	⅜"	1"¼	1"½	400/480	350/430
BV2KI 02500_	-	505	1040	1600	2105	715	1290	1750	1"¼	2"	½"	2"	⅜"	1"¼	1"½	400/480	350/430
BV2KI 03000_	-	515	1100	1730	2300	700	1415	1880	1"¼	2"	½"	3"	⅜"	1"¼	1"½	400/480	350/430
BV2KI 04000_	-	595	1190	1815	2380	780	1505	1965	1"¼	2"	½"	3"	⅜"	1"¼	1"½	400/480	350/430
BV2KI 05000_	-	600	1185	1815	2385	785	1505	1965	1"¼	2"	½"	3"	⅜"	1"¼	1"½	400/480	350/430

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel



Performance



Data related to the lower heat exchanger

	MODEL	BV2VI 00200 R				BV2VI 00300 R				BV2VI 00500 R				BV2VI 00800_			
	HEAT EXCHANGER (m²) [L] [1]	0,5 [2,9]				0,75 [3,8]				1,0 [4,7]				2,0 [9,5]			
	PRIMARY FLOW (m³/h)	2				2				3				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	200	212	301	311	303	321	456	470	511	535	760	780	788	834	1184	1223
	LITRES FIRST HOUR [2]	283	354	496	557	426	530	742	830	676	815	1145	1264	1114	1390	1944	2179
	CONTINUOUS DRAW (L) [3]	105	180	246	310	155	264	361	455	208	355	485	611	412	702	960	1207
	POWER (kW)	4,3	7,3	10,0	12,6	6,3	10,8	14,7	18,5	8,4	14,4	19,8	24,9	16,8	28,6	39,1	49,1
	PREHEATING [3] (min)	113	65	48	38	117	68	50	39	150	87	63	50	115	67	48	38
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	203	211	-	-	307	319	-	-	516	532	-	-	798	829
	LITRES FIRST HOUR [2]	-	-	299	348	-	-	449	520	-	-	707	802	-	-	1175	1364
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	179	254	-	-	240	341	-	-	476	675
	POWER (kW)	-	-	7	10	-	-	10	15	-	-	14	20	-	-	28	39
	PREHEATING [3] (min)	-	-	97	68	-	-	101	71	-	-	129	90	-	-	99	69
	NL [4]	0,9				2				5				11			

	MODEL	BV2VI 01000_				BV2VI 01500_				BV2_I 02000_				BV2KI 02500_			
	HEAT EXCHANGER (m²) [L] [1]	3,0 [13,0]				3,0 [13,0]				4,0 [17,2]				5,0 [20,8]			
	PRIMARY FLOW (m³/h)	5				6				7				8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	992	1059	1503	1560	1506	1574	2238	2295	1988	2087	2968	3043	2547	2658	3779	3872
	LITRES FIRST HOUR [2]	1475	1881	2623	2968	1989	2395	3358	3703	2637	3171	4444	4897	3340	4001	5608	6168
	CONTINUOUS DRAW (L) [3]	610	1038	1416	1779	610	1038	1416	1779	806	1368	1865	2342	1002	1697	2311	2900
	POWER (kW)	24,8	42,2	57,6	72,4	24,8	42,2	57,6	72,4	32,8	55,7	75,9	95,3	40,8	69,1	94,1	118,0
	PREHEATING [3] (min)	97	56	41	32	152	88	64	51	154	89	65	52	159	92	67	53
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1007	1053	-	-	1521	1567	-	-	2018	2079	-	-	2572	2647
	LITRES FIRST HOUR [2]	-	-	1564	1843	-	-	2079	2357	-	-	2755	3120	-	-	3486	3939
	CONTINUOUS DRAW (L) [3]	-	-	705	997	-	-	705	997	-	-	931	1315	-	-	1155	1631
	POWER (kW)	-	-	41	58	-	-	41	58	-	-	54	76	-	-	67	95
	PREHEATING [3] (min)	-	-	83	58	-	-	131	92	-	-	133	93	-	-	137	96
	NL [4]	17				32				38				44			

	MODEL	BV2KI 03000_				BV2KI 04000_				BV2KI 05000_			
	HEAT EXCHANGER (m²) [L] [1]	6,0 [24,8]				8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m³/h)	10				12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	3021	3153	4483	4596	3972	4147	5895	6043	5091	5309	7548	7733
	LITRES FIRST HOUR [2]	3975	4771	6688	7363	5235	6283	8802	9690	6669	7979	11182	12292
	CONTINUOUS DRAW (L) [3]	1206	2044	2784	3495	1595	2698	3672	4606	1993	3372	4590	5758
	POWER (kW)	49,1	83,2	113,3	142,3	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	156	91	66	52	156	91	66	52	161	93	68	54
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	3050	3141	-	-	4011	4130	-	-	5139	5288
	LITRES FIRST HOUR [2]	-	-	4151	4696	-	-	5466	6184	-	-	6958	7855
	CONTINUOUS DRAW (L) [3]	-	-	1391	1965	-	-	1838	2594	-	-	2298	3242
	POWER (kW)	-	-	81	114	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	135	94	-	-	135	94	-	-	138	97
	NL [4]	48				55				60			

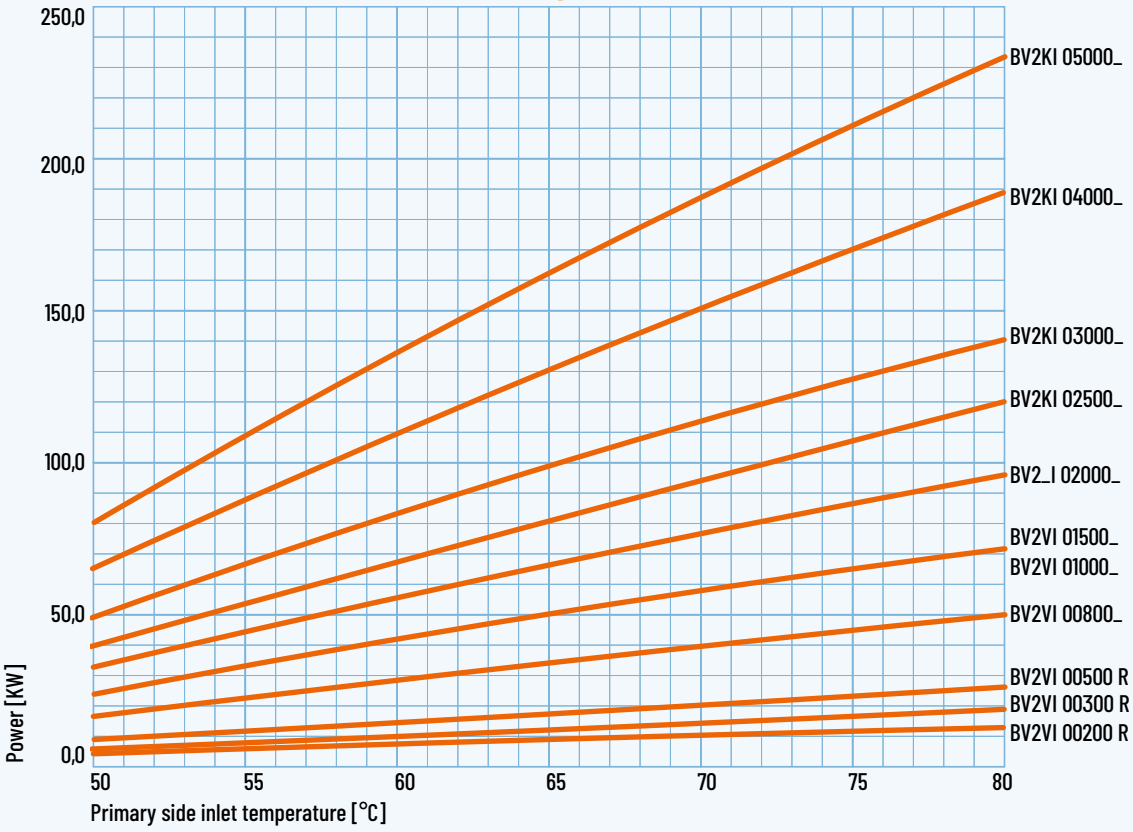
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

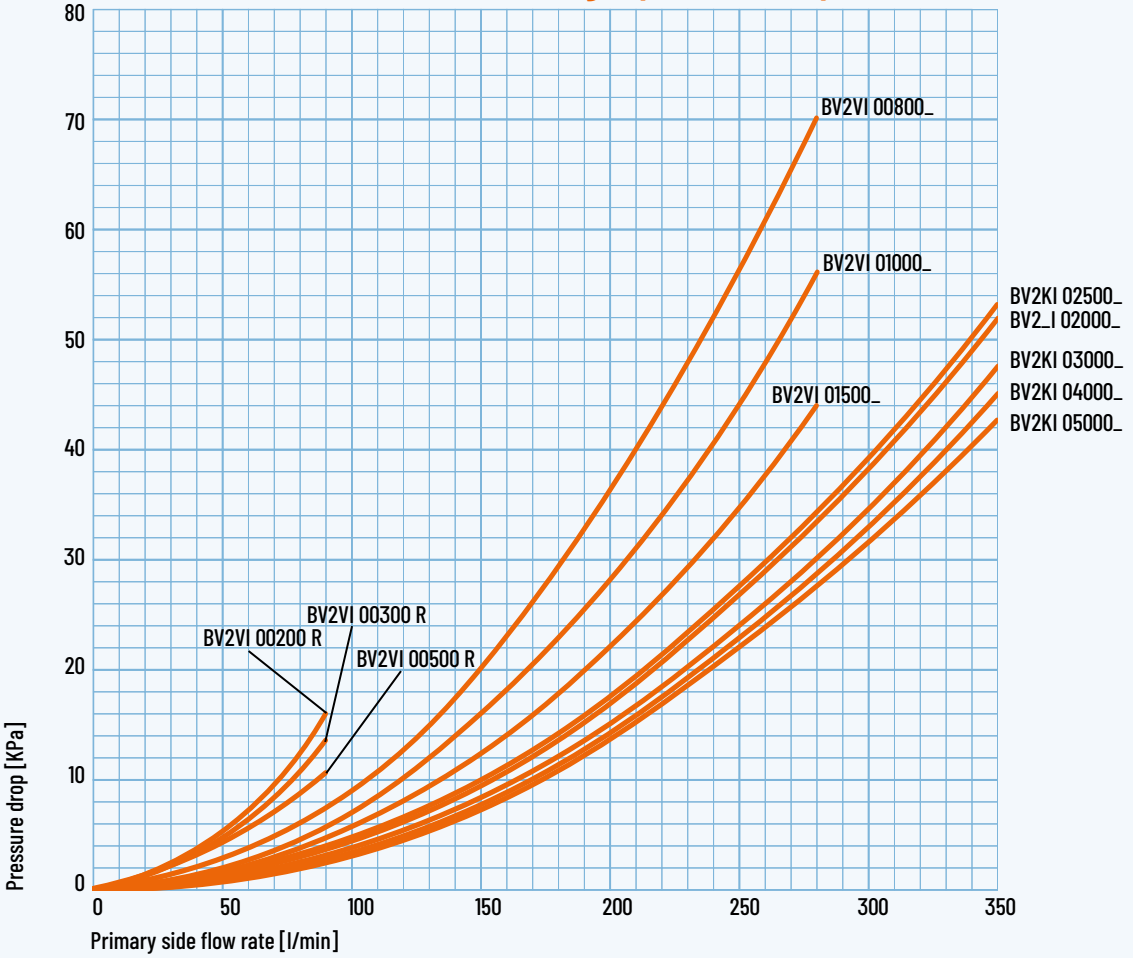
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV2V & BV2K - Lower heat exchanger powers with secondary side at 10/45 °C



BV2V & BV2K - Lower heat exchanger pressure drops



Performance



Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	BV2VI 00200 R				BV2VI 00300 R				BV2VI 00500 R				BV2VI 00800_			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [2,9]				0,75 [3,8]				1,0 [4,7]				1,5 [7,7]			
	PRIMARY FLOW (m^3/h)	2				2				3				4			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	142	154	219	229	196	213	302	317	324	347	492	512	511	546	775	805
	LITRES FIRST HOUR [2]	225	297	414	474	319	423	588	677	488	628	1876	996	757	965	1347	1525
	CONTINUOUS DRAW (L) [3]	105	180	246	310	155	264	361	455	208	355	485	611	310	529	723	909
	POWER (kW)	4,3	7,3	10,0	12,6	6,3	10,8	14,7	18,5	8,4	14,4	19,8	24,9	12,6	21,5	29,4	37,0
	PREHEATING [3] (min)	77	45	33	26	72	42	31	24	91	53	38	31	97	56	41	33
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	145	153	-	-	200	212	-	-	329	345	-	-	519	543
	LITRES FIRST HOUR [2]	-	-	241	290	-	-	342	413	-	-	519	615	-	-	803	945
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	179	254	-	-	240	341	-	-	358	508
	POWER (kW)	-	-	7	10	-	-	10	15	-	-	14	20	-	-	21	30
	PREHEATING [3] (min)	-	-	66	47	-	-	62	44	-	-	78	55	-	-	84	59
	NL [4]	0,9				2				5				11			

	MODEL	BV2VI 01000_				BV2VI 01500_				BV2_I 02000_				BV2KI 02500_			
	HEAT EXCHANGER (m^2) [L] [1]	2,0 [9,5]				3,0 [13,0]				4,0 [17,2]				4,0 [17,2]			
	PRIMARY FLOW (m^3/h)	5				6				7				7			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	572	618	876	915	916	984	1395	1453	1216	1305	1850	1925	1474	1563	2219	2294
	LITRES FIRST HOUR [2]	898	1174	1636	1871	1399	1805	2516	2861	1854	2388	3326	3779	2113	2646	3696	4149
	CONTINUOUS DRAW (L) [3]	412	702	960	1207	610	1038	1416	1779	807	1369	1865	2342	807	1368	1865	2342
	POWER (kW)	16,8	28,6	39,1	49,1	24,8	42,2	57,6	72,4	32,8	55,7	75,9	95,3	32,8	55,7	75,9	95,3
	PREHEATING [3] (min)	81	47	34	27	89	51	37	30	90	52	38	30	111	64	47	37
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	582	614	-	-	931	978	-	-	1235	1296	-	-	1494	1555
	LITRES FIRST HOUR [2]	-	-	959	1148	-	-	1489	1767	-	-	1972	2338	-	-	2231	2596
	CONTINUOUS DRAW (L) [3]	-	-	476	675	-	-	705	997	-	-	931	1315	-	-	931	1315
	POWER (kW)	-	-	28	39	-	-	41	58	-	-	54	76	-	-	54	76
	PREHEATING [3] (min)	-	-	69	49	-	-	76	53	-	-	77	54	-	-	95	67
	NL [4]	17				32				38				44			

	MODEL	BV2KI 03000_				BV2KI 04000_				BV2KI 05000_			
	HEAT EXCHANGER (m^2) [L] [1]	5,0 [20,8]				8,0 [31,4]				10,0 [34,3]			
	PRIMARY FLOW (m^3/h)	10				12				15			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1769	1881	2670	2766	2387	2562	3630	3778	3028	3247	4602	4787
	LITRES FIRST HOUR [2]	2574	3250	4538	5113	3649	4698	6537	7425	4606	5916	8236	9346
	CONTINUOUS DRAW (L) [3]	1017	1729	2359	2965	1595	2698	3672	4607	1993	3372	4590	5758
	POWER (kW)	41,4	70,4	96,0	120,7	64,9	109,8	149,5	187,5	81,1	137,3	186,8	234,4
	PREHEATING [3] (min)	104	61	44	35	90	52	38	30	91	53	39	31
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1794	1871	-	-	2425	2545	-	-	3076	3226
	LITRES FIRST HOUR [2]	-	-	2723	3187	-	-	3881	4599	-	-	4896	5793
	CONTINUOUS DRAW (L) [3]	-	-	1174	1662	-	-	1839	2594	-	-	2298	3242
	POWER (kW)	-	-	68	97	-	-	107	151	-	-	134	189
	PREHEATING [3] (min)	-	-	90	63	-	-	77	54	-	-	79	55
	NL [4]	48				55				60			

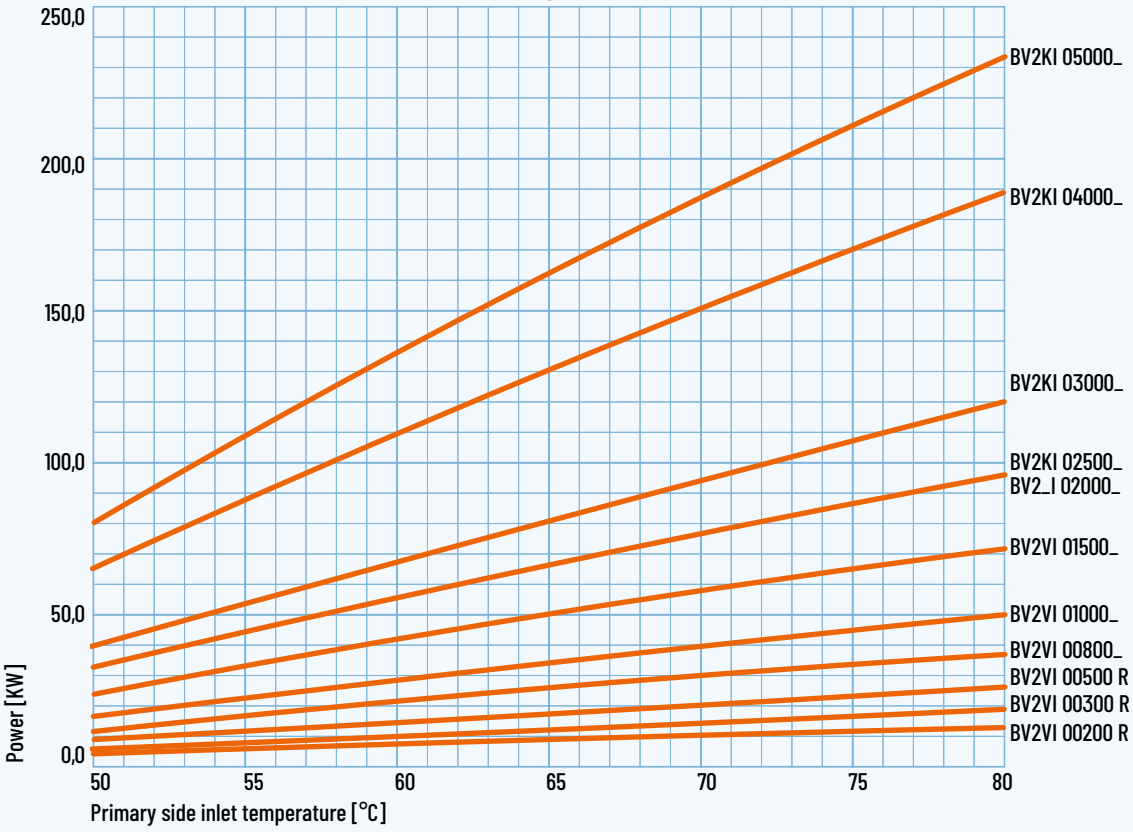
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

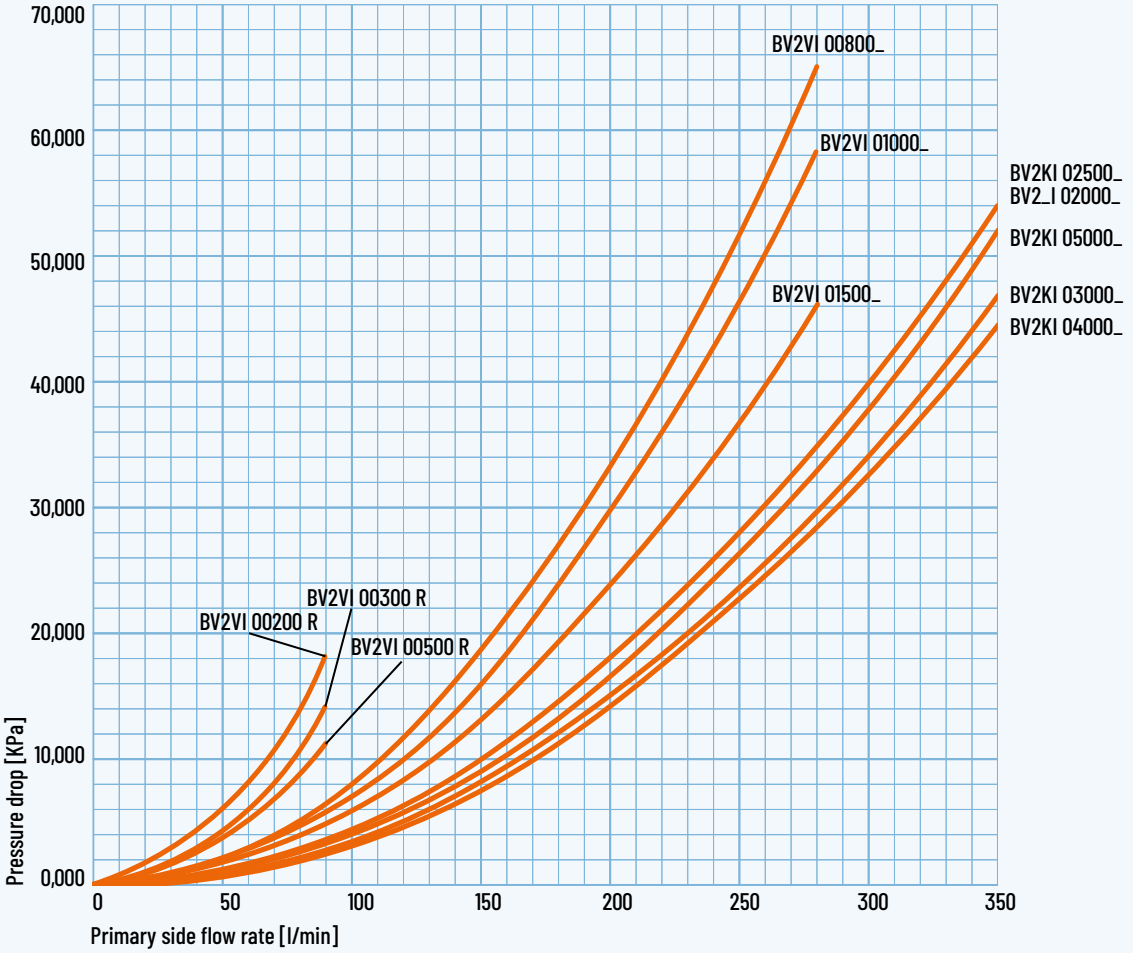
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

BV2V & BV2K - Upper heat exchanger powers with secondary side at 10/45 °C



BV2V & BV2K - Upper heat exchanger pressure drops





BV2VA - Glass lined calorifier with two removable copper heat exchangers

BV2KA - Keramtech calorifier with two removable copper heat exchangers

Calorifier for the production and storage of domestic hot water (DHW).
The cylinder is made of carbon steel and is internally protected by glass lining (Mod. BV2VA for capacities up to 2.000 litres) or with Keramtech ceramic lining (Mod. BV2KA for capacities from 2000 to 5000 litres).
The tank is equipped with two removable tinned finned copper heat exchangers.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		BV2VA	BV2KA
DHW cylinder	Material	Glass lined S 235 Jr Carbon steel	Keramtech lined S235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3	Alimentary epoxy-ceramic lining
	External protective treatment	Anti rust protection + epoxy painting	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C	6 bar / 100 °C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	Material	Tinned finned copper	
	Internal protective treatment	None	
	External protective treatment	Tinning	
	Type	Finned spiral pipe over a removable plate	
	Rating (P max. / T max.)	10 bar / 95°C	
General features	Capacity	200 - 2000 L	2000 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)	
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



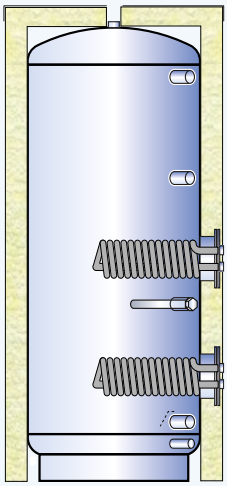
Thermostat



Thermometer



1"½ electric immersion heater

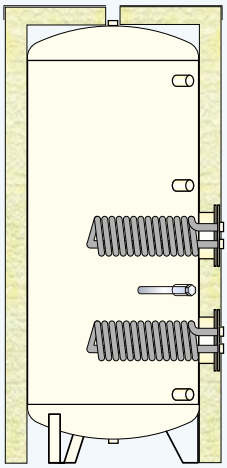


BV2VA - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2VA 00200 R	50	C	65,7	193,1	0,76 / 1,1	0,76 / 1,1
BV2VA 00300 R	50	C	77,2	293,6	0,94 / 1,4	0,76 / 1,1
BV2VA 00500 R	50	C	89,6	503,6	1,58 / 2,3	0,76 / 1,1
BV2VA 00800 R	100	C	119,7	760,5	2,63 / 3,9	0,94 / 1,4
BV2VA 01000 R	100	C	123,6	942,2	3,17 / 4,7	1,58 / 2,3
BV2VA 01500 R	100	C	142,6	1483,6	4,54 / 6,7	2,63 / 3,9
BV2VA 02000 R	100	C	156,6	1967,2	5,26 / 7,8	3,17 / 4,7

BV2VA - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2VA 00800 F	130	C	134,1	760,5	2,63 / 3,9	0,94 / 1,4
BV2VA 01000 F	130	C	144,4	942,2	3,17 / 4,7	1,58 / 2,3
BV2VA 01500 F	130	C	170,5	1483,6	4,54 / 6,7	2,63 / 3,9
BV2VA 02000 F	130	C	186,2	1967,2	5,26 / 7,8	3,17 / 4,7



BV2KA - Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2KA 02000 R	100	C	159,3	1971,1	5,26 / 7,8	3,17 / 4,7
BV2KA 02500 R	100	C	-	2514,6	6,34 / 9,4	4,54 / 6,7
BV2KA 03000 R	100	C	-	2978,6	6,34 / 9,4	5,26 / 7,8
BV2KA 04000 R	100	C	-	3915,5	6,34 / 9,4	6,34 / 9,4
BV2KA 05000 R	100	C	-	5026,3	6,34 / 9,4	6,34 / 9,4

BV2KA - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
BV2KA 02000 F	130	C	189,1	1971,1	5,26 / 7,8	3,17 / 4,7
BV2KA 02500 F	100	C	-	2514,6	6,34 / 9,4	4,54 / 6,7
BV2KA 03000 F	100	C	-	2978,6	6,34 / 9,4	5,26 / 7,8
BV2KA 04000 F	100	C	-	3915,5	6,34 / 9,4	6,34 / 9,4
BV2KA 05000 F	100	C	-	5026,3	6,34 / 9,4	6,34 / 9,4

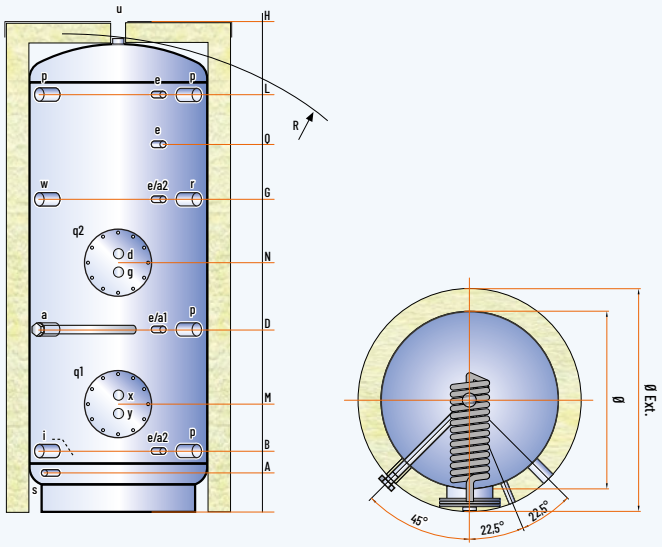
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

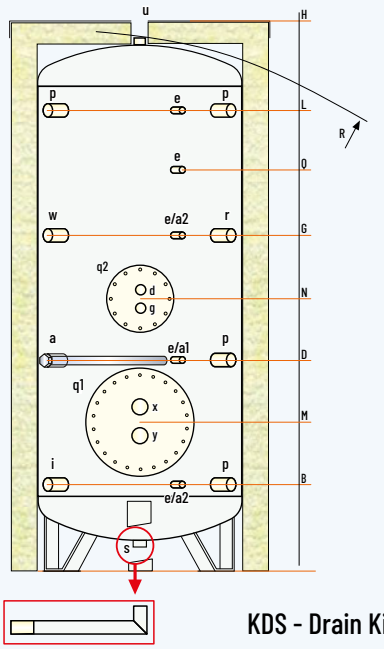
LEGEND

a . Magnesium anode
a1-a2. Opening for electronic anode
d . Boiler flow
e . Thermometer - Sensor
g . Boiler return
i . Domestic cold water inlet
p . Free connection
q1-q2. Heat exchanger flange
r . Recirculation
s . Drain
u . Domestic hot water outlet
x . Solar system flow
y . Solar system return
w. Opening for immersion heater

BV2VA



BV2KA



KDS - Drain Kit

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV2VA 00200 R	450	1320	550	1440	0,76	0,76	a1 (EPS 375/125)	74
BV2VA 00300 R	500	1610	600	1730	0,94	0,76	a1 (EPS 375/125)	93
BV2VA 00500 R	650	1660	750	1835	1,58	0,76	a1 (EPS 375/125)	121
BV2VA 00800_	790	1750	990/1050	1745	2,63	0,94	a1 (EPS 375/125)	205
BV2VA 01000_	790	2110	990/1050	2095	3,17	1,58	a1 (EPS 375/125)	239
BV2VA 01500_	1000	2115	1200/1260	2145	4,54	2,63	a2 (EPS 375/125)	363
BV2VA 02000_	1100	2380	1300/1360	2465	5,26	3,17	a2 (EPS 375/125)	492
BV2KA 02000_	1100	2465	1300/1360	2465	5,26	3,17	a2 (EPS 375/125)	355
BV2KA 02500_	1200	2595	1400	2640	6,34	4,54	a2 (EPS 700/200)	401
BV2KA 03000_	1250	2795	1450	2835	6,34	5,26	a2 (EPS 700/200)	430
BV2KA 04000_	1400	2925	1600	2995	6,34	6,34	a2 (EPS 700/200)	599
BV2KA 05000_	1600	2955	1800	3090	6,34	6,34	a2 (EPS 700/200)	683

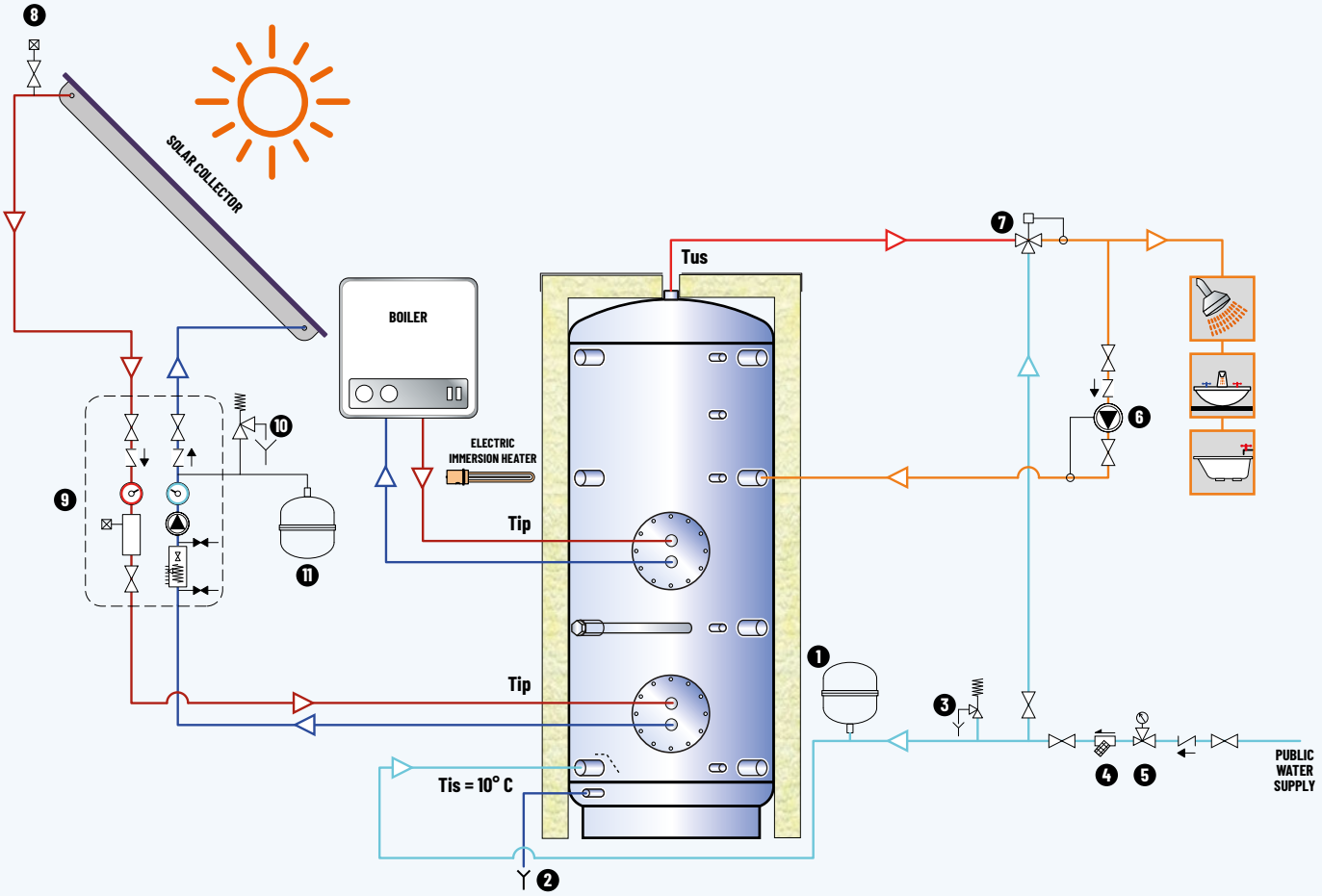
** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	N	Q	CONNECTIONS (GAS) a p r	d g x y	e	i u	s	w	q1	q2
BV2VA 00200 R	110	190	515	890	1075	350	785	975	1"¼	¾" male thread	½"	1" ¼	1"	1"½	220/290	220/290
BV2VA 00300 R	110	215	595	1080	1350	375	870	1215	1"¼	¾" male thread	½"	1"¼	1"	1"½	220/290	220/290
BV2VA 00500 R	135	240	615	1105	1375	445	890	1240	1"¼	¾" male thread	½"	1"¼	1"	1"½	220/290	220/290
BV2VA 00800_	150	275	655	1145	1410	450	970	1280	1"¼	¾" male thread	½"	1"½	1"	1"½	300/380	300/380
BV2VA 01000_	150	275	810	1355	1755	455	1045	1555	1"¼	¾" male thread	½"	1"½	1"	1"½	300/380	300/380
BV2VA 01500_	235	340	765	1400	1725	520	1080	1250	1"¼	1" male thread	½"	2"	1"	1"½	300/380	300/380
BV2VA 02000_	265	370	930	1435	1945	575	1180	1565	1"¼	1" male thread	½"	2"	1"	1"½	350/430	350/430
BV2KA 02000_	-	475	1010	1515	1975	680	1260	1645	1"¼	1" male thread	½"	2"	1"¼	1"½	400/480	350/430
BV2KA 02500_	-	505	1040	1600	2105	715	1290	1750	1"¼	1" male thread	½"	2"	1"¼	1"½	400/480	350/430
BV2KA 03000_	-	515	1100	1730	2300	700	1415	1880	1"¼	1" male thread	½"	3"	1"¼	1"½	400/480	350/430
BV2KA 04000_	-	595	1190	1815	2380	780	1505	1965	1"¼	1" male thread	½"	3"	1"¼	1"½	400/480	350/430
BV2KA 05000_	-	600	1185	1815	2385	785	1505	1965	1"¼	1" male thread	½"	3"	1"¼	1"½	400/480	350/430

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel



Performance



Data related to the lower heat exchanger

	MODEL	BV2VA 00200 R				BV2VA 00300 R				BV2VA 00500 R				BV2VA 00800_			
	HEAT EXCHANGER (m²) [L] [1]	0,76 [0,70]				0,94 [0,80]				1,58 [1,40]				2,63 [2,30]			
	PRIMARY FLOW (m³/h)	1				1				1,4				1,8			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	198	209	297	307	297	311	442	453	507	528	751	769	764	797	1132	1160
	LITRES FIRST HOUR [2]	279	348	486	545	396	479	671	741	659	785	1100	1207	1001	1194	1672	1836
	CONTINUOUS DRAW (L) [3]	103	175	239	300	126	213	290	363	192	325	442	554	299	502	682	854
	POWER (kW)	4,2	7,1	9,7	12,2	5,1	8,7	11,8	14,8	7,8	13,2	18,0	22,5	12,2	20,5	27,8	34,8
	PREHEATING [3] (min)	117	68	49	39	148	86	62	49	167	97	71	56	164	95	69	55
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	200	208	-	-	300	309	-	-	512	526	-	-	772	794
	LITRES FIRST HOUR [2]	-	-	295	341	-	-	415	471	-	-	687	773	-	-	1044	1176
	CONTINUOUS DRAW (L) [3]	-	-	119	168	-	-	145	204	-	-	221	312	-	-	344	483
	POWER (kW)	-	-	7	10	-	-	8	12	-	-	13	18	-	-	20	28
	PREHEATING [3] (min)	-	-	100	70	-	-	127	89	-	-	144	101	-	-	141	99
	NL [4]	0,9				2				5				10			

	MODEL	BV2VA 01000_				BV2VA 01500_				BV2_A 02000_				BV2KA 02500_			
	HEAT EXCHANGER (m²) [L] [1]	3,17 [2,70]				4,54 [3,90]				5,26 [4,50]				6,34 [5,40]			
	PRIMARY FLOW (m³/h)	1,8				3,0				3,0				3,0			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	948	987	1402	1435	1462	1502	2140	2174	1998	2087	2968	3043	2547	2658	3779	3872
	LITRES FIRST HOUR [2]	1237	1471	2057	2253	1752	1994	2810	3015	2637	3171	4444	4897	3340	4001	5608	6168
	CONTINUOUS DRAW (L) [3]	366	611	827	1034	367	621	846	1062	806	1368	1865	2342	1002	1697	2311	2900
	POWER (kW)	14,9	24,9	33,7	42,1	14,9	25,3	34,4	43,2	32,8	55,7	75,9	95,3	40,8	69,1	94,1	118,0
	PREHEATING [3] (min)	170	98	72	57	256	148	108	86	154	89	65	52	159	92	67	53
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	956	983	-	-	1471	1499	-	-	1937	1969	-	-	2468	2504
	LITRES FIRST HOUR [2]	-	-	1289	1448	-	-	1806	1971	-	-	2320	2509	-	-	2921	3141
	CONTINUOUS DRAW (L) [3]	-	-	420	588	-	-	423	597	-	-	484	682	-	-	572	805
	POWER (kW)	-	-	24	34	-	-	25	35	-	-	28	40	-	-	33	47
	PREHEATING [3] (min)	-	-	146	102	-	-	220	154	-	-	257	180	-	-	281	197
	NL [4]	15				25				30				35			

	MODEL	BV2KA 03000_				BV2KA 04000_				BV2KA 05000_			
	HEAT EXCHANGER (m²) [L] [1]	6,34 [5,40]				6,34 [5,40]				6,34 [5,40]			
	PRIMARY FLOW (m³/h)	3,0				3,5				3,5			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	2897	2950	4205	4251	3788	3843	5480	5527	4843	4898	6988	7034
	LITRES FIRST HOUR [2]	3290	3613	5105	5377	4187	4517	6398	6677	5242	5573	7905	8184
	CONTINUOUS DRAW (L) [3]	497	837	1136	1423	505	852	1159	1453	505	852	1159	1453
	POWER (kW)	20,2	34,1	46,2	57,9	20,5	34,7	47,2	59,1	20,5	34,7	47,2	59,1
	PREHEATING [3] (min)	387	224	163	129	496	288	209	166	637	369	269	213
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	2908	2945	-	-	3800	3838	-	-	4855	4893
	LITRES FIRST HOUR [2]	-	-	3362	3582	-	-	4260	4486	-	-	5315	5541
	CONTINUOUS DRAW (L) [3]	-	-	572	805	-	-	581	819	-	-	581	819
	POWER (kW)	-	-	33	47	-	-	34	48	-	-	34	48
	PREHEATING [3] (min)	-	-	333	233	-	-	426	299	-	-	548	384
	NL [4]	38				40				43			

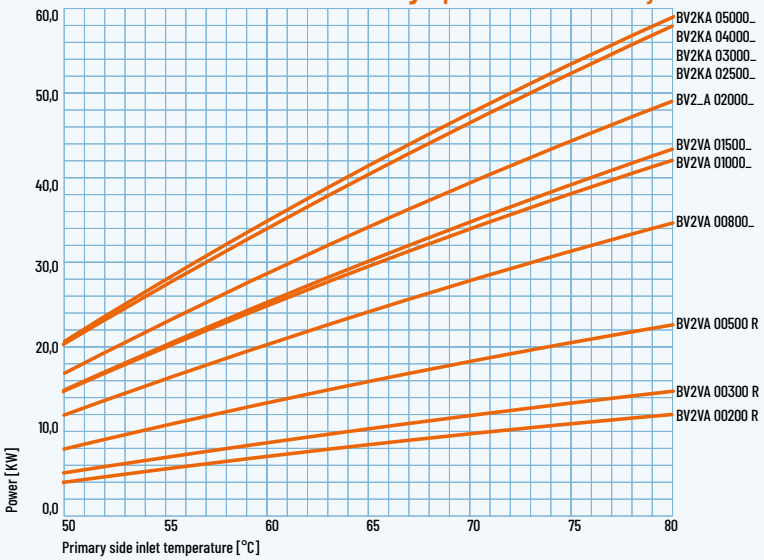
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

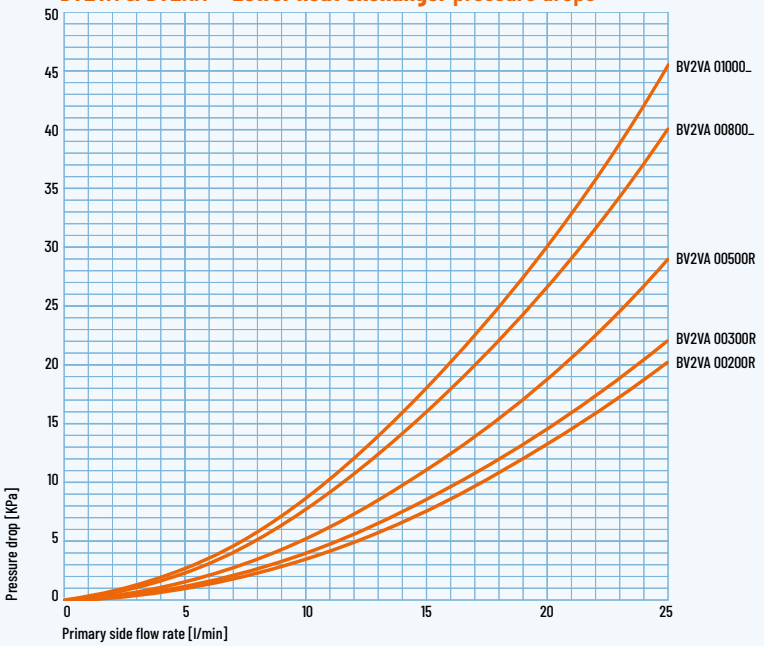
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

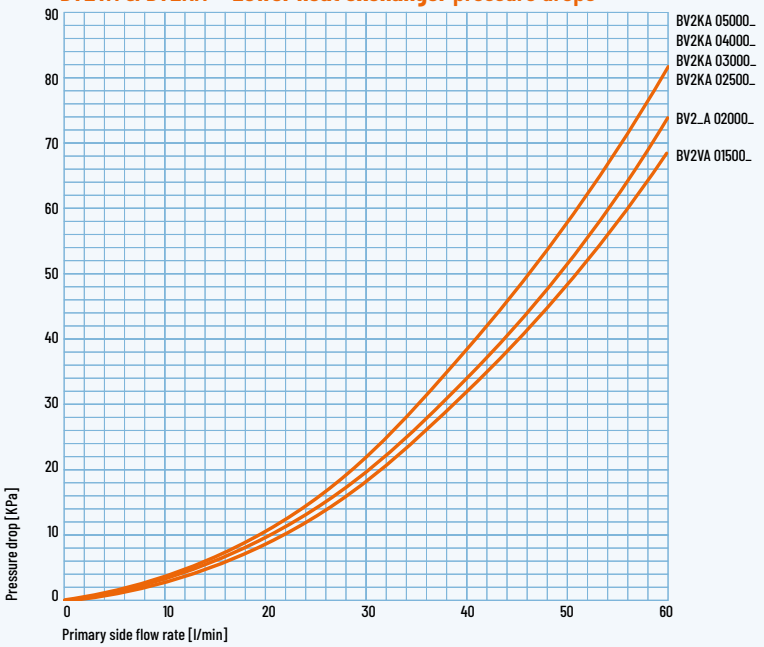
BV2VA & BV2KA - Lower heat exchanger powers with secondary side at 10/45 °C



BV2VA & BV2KA - Lower heat exchanger pressure drops



BV2VA & BV2KA - Lower heat exchanger pressure drops



Performance



Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	BV2VA 00200 R				BV2VA 00300 R				BV2VA 00500 R				BV2VA 00800_			
	HEAT EXCHANGER (m²) [L] [1]	0,76 [0,70]				0,76 [0,70]				0,76 [0,70]				0,94 [0,80]			
	PRIMARY FLOW (m³/h)	1				1				1				1			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	141	152	216	225	186	197	280	290	305	316	450	459	482	496	706	718
	LITRES FIRST HOUR [2]	222	291	405	463	268	336	469	528	386	454	639	697	582	664	936	1006
	CONTINUOUS DRAW (L) [3]	103	175	239	300	103	175	239	300	103	175	239	300	126	213	290	363
	POWER (kW)	4,2	7,1	9,7	12,2	4,2	7,1	9,7	12,2	4,2	7,1	9,7	12,2	5,1	8,7	11,8	14,8
	PREHEATING [3] (min)	80	46	34	27	109	63	46	37	185	107	78	62	246	143	104	82
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	143	151	-	-	189	196	-	-	307	315	-	-	485	495
	LITRES FIRST HOUR [2]	-	-	237	284	-	-	283	330	-	-	401	448	-	-	600	657
	CONTINUOUS DRAW (L) [3]	-	-	119	168	-	-	119	168	-	-	119	168	-	-	145	204
	POWER (kW)	-	-	7	10	-	-	7	10	-	-	7	10	-	-	8	12
	PREHEATING [3] (min)	-	-	69	48	-	-	94	66	-	-	159	111	-	-	212	148
	NL [4]	0,5				1,2				3				7			

	MODEL	BV2VA 01000_				BV2VA 01500_				BV2_A 02000_				BV2KA 02500_			
	HEAT EXCHANGER (m²) [L] [1]	1,58 [1,40]				2,63 [2,30]				3,17 [2,70]				4,54 [3,90]			
	PRIMARY FLOW (m³/h)	1,4				1,8				1,8				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	537	558	794	812	867	899	1279	1306	1122	1161	1651	1684	1405	1445	2058	2092
	LITRES FIRST HOUR [2]	689	815	1144	1250	1103	1297	1819	1982	1411	1645	2306	2502	1695	1937	2728	2933
	CONTINUOUS DRAW (L) [3]	192	325	442	554	299	502	682	854	366	611	827	1034	367	621	846	1062
	POWER (kW)	7,8	13,2	18,0	22,5	12,2	20,5	27,8	34,8	14,9	24,9	33,7	42,1	14,9	25,3	34,4	43,2
	PREHEATING [3] (min)	178	103	75	59	187	109	79	63	203	118	86	68	245	142	103	82
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	542	556	-	-	874	896	-	-	1130	1157	-	-	1413	1441
	LITRES FIRST HOUR [2]	-	-	717	803	-	-	1146	1279	-	-	1463	1623	-	-	1748	1914
	CONTINUOUS DRAW (L) [3]	-	-	221	312	-	-	344	483	-	-	420	588	-	-	423	597
	POWER (kW)	-	-	13	18	-	-	20	28	-	-	24	34	-	-	25	35
	PREHEATING [3] (min)	-	-	153	107	-	-	161	113	-	-	174	122	-	-	211	148
	NL [4]	8				13				18				19			

	MODEL	BV2KA 03000_				BV2KA 04000_				BV2KA 05000_			
	HEAT EXCHANGER (m²) [L] [1]	5,26 [4,50]				6,34 [5,40]				6,34 [5,40]			
	PRIMARY FLOW (m³/h)	3				3,5				3,5			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	1674	1720	2449	2488	2214	2269	3232	3279	2792	2848	4059	4105
	LITRES FIRST HOUR [2]	2006	2282	3213	3446	2614	2944	4150	4429	3192	3522	4976	5255
	CONTINUOUS DRAW (L) [3]	420	709	965	1210	505	852	1159	1453	505	852	1159	1453
	POWER (kW)	17,1	28,9	39,3	49,3	20,5	34,7	47,2	59,1	20,5	34,7	47,2	59,1
	PREHEATING [3] (min)	258	150	109	86	285	166	121	96	363	210	153	121
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	1684	1716	-	-	2226	2264	-	-	2805	2842
	LITRES FIRST HOUR [2]	-	-	2067	2256	-	-	2687	2913	-	-	3265	3491
	CONTINUOUS DRAW (L) [3]	-	-	484	682	-	-	581	819	-	-	581	819
	POWER (kW)	-	-	28	40	-	-	34	48	-	-	34	48
	PREHEATING [3] (min)	-	-	222	155	-	-	245	172	-	-	312	218
	NL [4]	20				22				23			

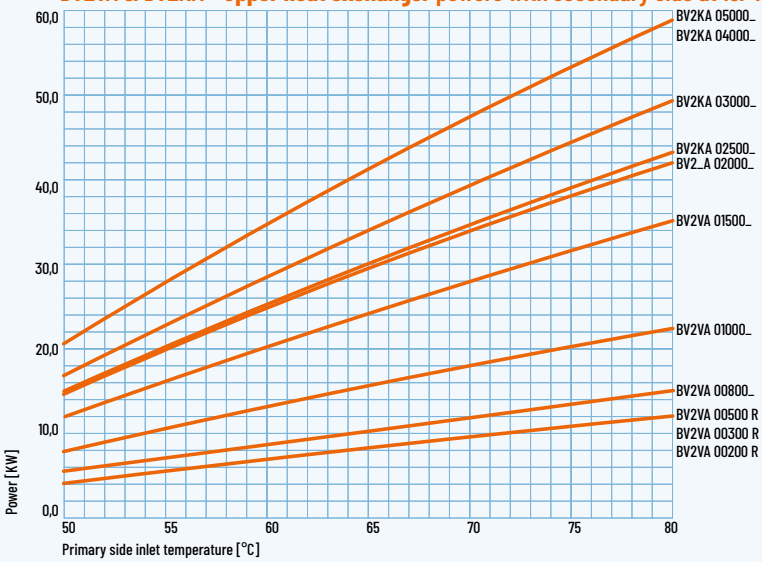
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

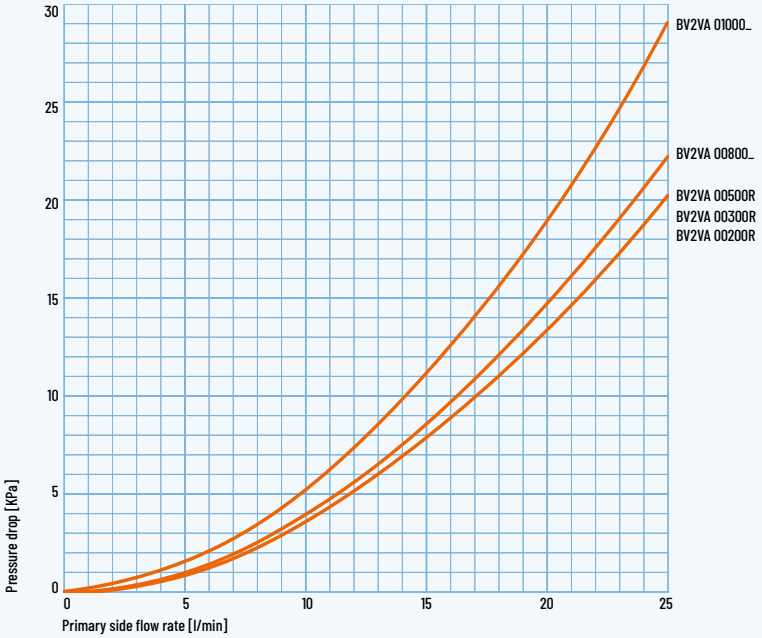
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

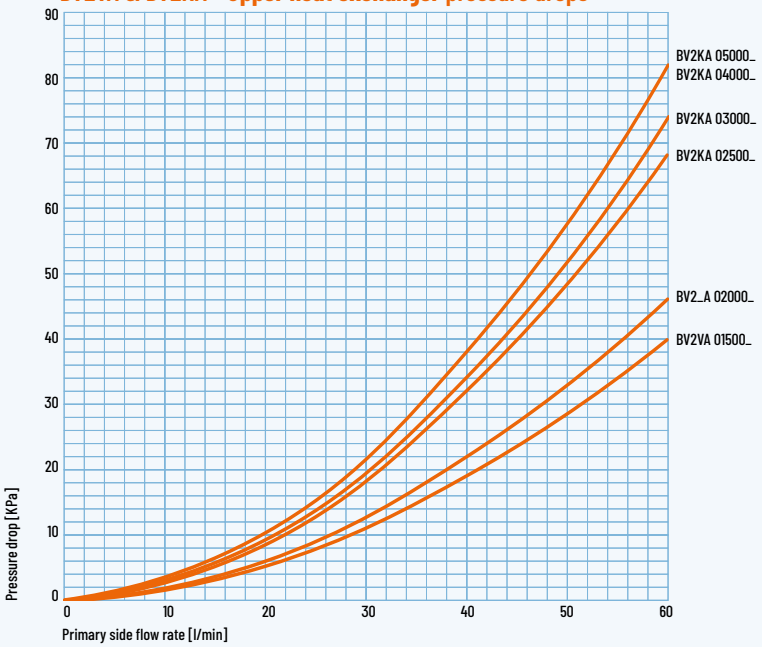
BV2VA & BV2KA - Upper heat exchanger powers with secondary side at 10/45 °C



BV2VA & BV2KA - Upper heat exchanger pressure drops



BV2VA & BV2KA - Upper heat exchanger pressure drops





BV1XS - AISI 316L Stainless steel calorifier with PED certified steam removable heat exchanger

AISI 316L Stainless steel calorifier for the production and storage of domestic hot water (DHW).
The tank is equipped with an AISI 316L Stainless steel U tube bundle removable heat exchanger designed to be fed by steam.

The steam heat exchanger is provided by a PED compliance certification (according to EU Directive 2014/68/UE – Annex VII).
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Rating (P max. / T max.)	6 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404) over a stainless steel plate
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	U tube bundle (fed by steam) expanded over a removable plate
	Rating (P max. / T max.)	6 bar / 165 °C or 12 bar / 191,7 °C
General features	**Capacity**	500 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



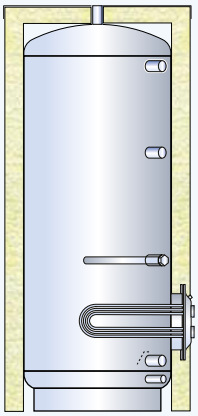
Thermostat



Thermometer



1"½ electric immersion heater



BV1XS6 - Steam side working pressure Max. 6 bar / 165 °C
Hard insulation and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1XS6 00500 R	50	C	86,1	501,7	1,00 / 6,1
BV1XS6 00800 R	100	C	113,8	754,9	1,50 / 6,6
BV1XS6 01000 R	100	C	117,6	936,6	2,00 / 10,4
BV1XS6 01500 R	100	C	136,7	1478,0	3,00 / 15,7
BV1XS6 02000 R	100	C	149,2	1958,6	3,00 / 15,7
BV1XS6 02500 R	100	-	-	2502,1	3,00 / 15,7
BV1XS6 03000 R	100	-	-	2966,1	3,00 / 15,7
BV1XS6 04000 R	100	-	-	3903,0	4,00 / 21,7
BV1XS6 05000 R	100	-	-	5013,8	5,00 / 27,4

BV1XS6 - Steam side working pressure Max. 6 bar / 165 °C
Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1XS6 00800 F	130	C	132,6	754,9	1,50 / 6,6
BV1XS6 01000 F	130	C	143,9	936,6	2,00 / 10,4
BV1XS6 01500 F	130	C	169,2	1478,0	3,00 / 15,7
BV1XS6 02000 F	130	C	184,6	1958,6	3,00 / 15,7
BV1XS6 02500 F	100	-	-	2502,1	3,00 / 15,7
BV1XS6 03000 F	100	-	-	2966,1	3,00 / 15,7
BV1XS6 04000 F	100	-	-	3903,0	4,00 / 21,7
BV1XS6 05000 F	100	-	-	5013,8	5,00 / 27,4

BV1XS12 - Steam side working pressure Max. 12 bar / 191,7 °C
Hard insulation and PVC jacket

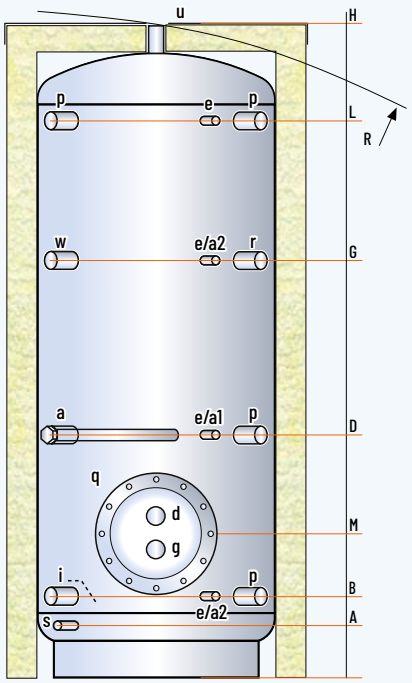
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1XS12 00500 R	50	C	86,1	501,7	1,00 / 6,1
BV1XS12 00800 R	100	C	113,8	754,9	1,50 / 6,6
BV1XS12 01000 R	100	C	117,6	936,6	2,00 / 10,4
BV1XS12 01500 R	100	C	136,7	1478,0	3,00 / 15,7
BV1XS12 02000 R	100	C	149,2	1958,6	3,00 / 15,7
BV1XS12 02500 R	100	-	-	2502,1	3,00 / 15,7
BV1XS12 03000 R	100	-	-	2966,1	3,00 / 15,7
BV1XS12 04000 R	100	-	-	3903,0	4,00 / 21,7
BV1XS12 05000 R	100	-	-	5013,8	5,00 / 27,4

BV1XS12 - Steam side working pressure Max. 12 bar / 191,7 °C
Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1XS12 00800 F	130	C	132,6	754,9	1,50 / 6,6
BV1XS12 01000 F	130	C	143,9	936,6	2,00 / 10,4
BV1XS12 01500 F	130	C	169,2	1478,0	3,00 / 15,7
BV1XS12 02000 F	130	C	184,6	1958,6	3,00 / 15,7
BV1XS12 02500 F	100	-	-	2502,1	3,00 / 15,7
BV1XS12 03000 F	100	-	-	2966,1	3,00 / 15,7
BV1XS12 04000 F	100	-	-	3903,0	4,00 / 21,7
BV1XS12 05000 F	100	-	-	5013,8	5,00 / 27,4

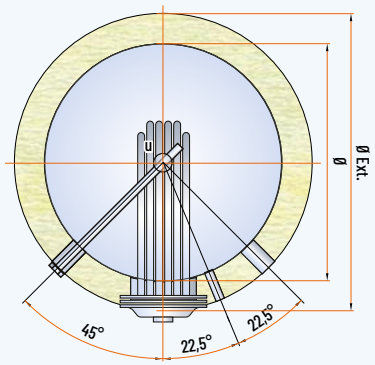
** Volume occupied by the heat exchanger and its support structure*

500 - 1500 L

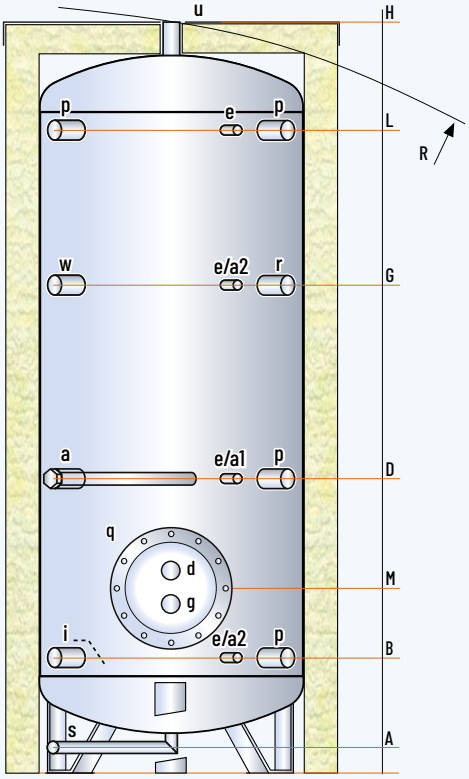


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **p .** Free connection
- **q .** Heat exchanger flange
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



2000 - 5000 L



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV1XS_ 00500 R	650	1645	750	1820	1,00	a1 (EPS 375/125)	96
BV1XS_ 00800_	790	1750	990/1050	1745	1,50	a1 (EPS 375/125)	149
BV1XS_ 01000_	790	2110	990/1050	2095	2,00	a1 (EPS 375/125)	170
BV1XS_ 01500_	1000	2115	1200/1260	2145	3,00	a2 (EPS 375/125)	241
BV1XS_ 02000_	1100	2465	1300/1360	2465	3,00	a2 (EPS 375/125)	326
BV1XS_ 02500_	1200	2595	1400	2640	3,00	a2 (EPS 700/200)	372
BV1XS_ 03000_	1250	2795	1450	2835	3,00	a2 (EPS 700/200)	415
BV1XS_ 04000_	1400	2925	1600	2995	4,00	a2 (EPS 700/200)	572
BV1XS_ 05000_	1600	2955	1800	3090	5,00	a2 (EPS 700/200)	693

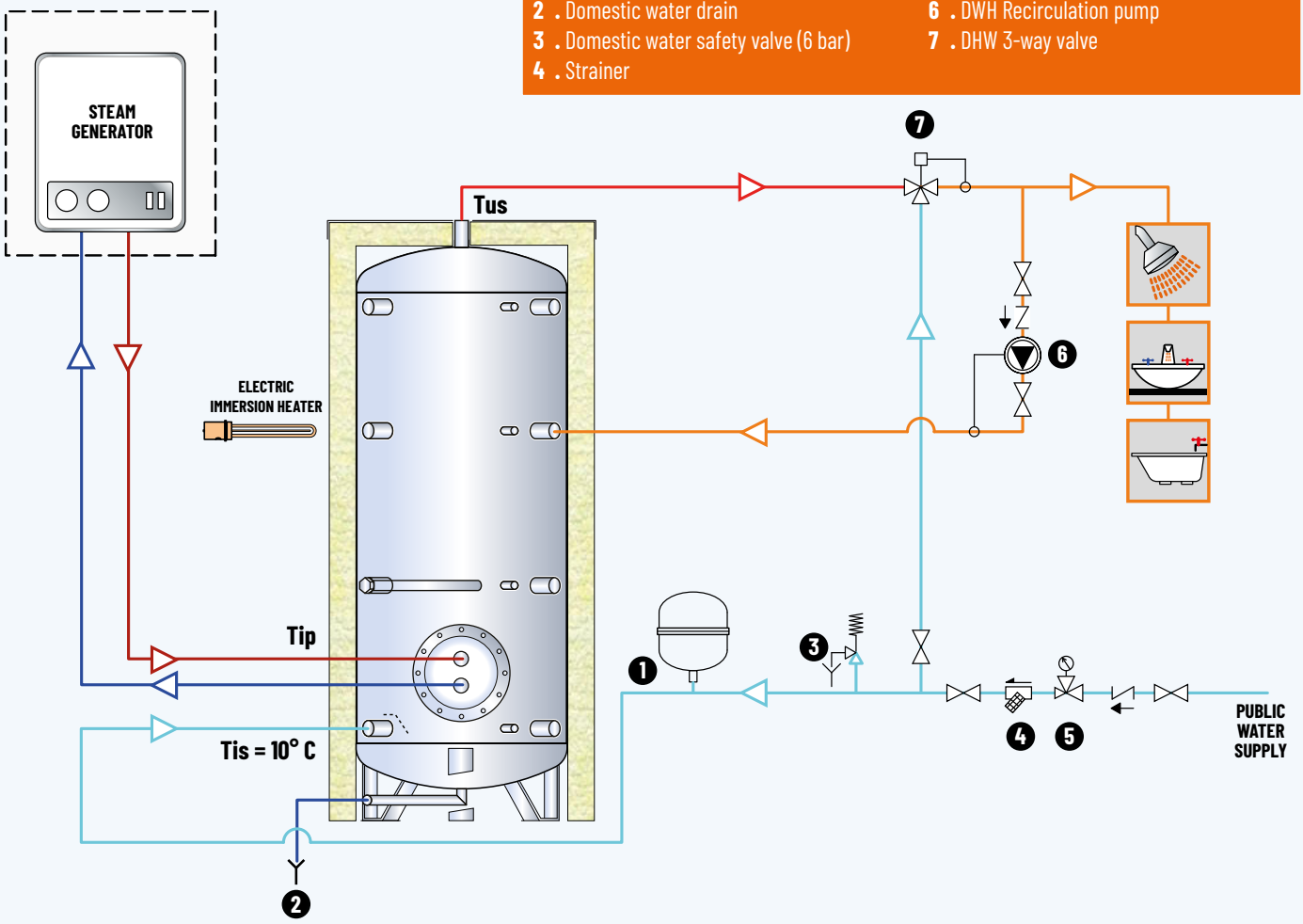
** For the 500 litres model, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for the 500 litres model*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	d g	e	i u	s	w	q
BV1XS_ 00500 R	135	240	615	1105	1375	445	1"¼	1"	½"	1"¼	1"	1"½	220/290
BV1XS_ 00800_	170	275	655	1145	1410	450	1"¼	2"	½"	1"½	1"	1"½	300/380
BV1XS_ 01000_	170	275	810	1355	1755	455	1"¼	2"	½"	1"½	1"	1"½	300/380
BV1XS_ 01500_	235	340	765	1400	1720	520	1"¼	2"	½"	2"	1"	1"½	300/380
BV1XS_ 02000_	100	475	1010	1515	1975	655	1"¼	2"	½"	2"	1"	1"½	350/430
BV1XS_ 02500_	100	505	1040	1600	2105	690	1"¼	2"	½"	2"	1"	1"½	350/430
BV1XS_ 03000_	90	515	1100	1730	2300	675	1"¼	2"	½"	3"	1"	1"½	350/430
BV1XS_ 04000_	120	595	1190	1815	2380	755	1"¼	2"	½"	3"	1"	1"½	350/430
BV1XS_ 05000_	100	600	1185	1815	2385	825	1"¼	2"	½"	3"	1"	1"½	350/430

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve



Heat exchanger performance at different steam working pressures (P)

CODE	HEAT EXCHANGER m² (L)	P = 1 bar Tip = 120,4 °C Power * (kW)	P = 1 bar Tip = 120,4 °C Flow rate * (L/h)	P = 3 bar Tip = 143 °C Power * (kW)	P = 3 bar Tip = 143 °C Flow rate * (L/h)	P = 6 bar Tip = 165 °C Power * (kW)	P = 6 bar Tip = 165 °C Flow rate * (L/h)	P = 12 bar Tip = 191,7 °C Power * (kW)	P = 12 bar Tip = 191,7 °C Flow rate * (L/h)	First 10 minutes rating ** (L/10')
BV1XS_ 00500 R	1,0 (4,7)	89,8	2205	111,9	2751	133,5	3280	159,5	3920	985
BV1XS_ 00800_	1,5 (7,7)	133,3	3274	166,2	4083	198,1	4868	236,8	5818	1508
BV1XS_ 01000_	2,0 (9,5)	177,7	4366	221,6	5444	264,1	6490	315,7	7757	1866
BV1XS_ 01500_	3,0 (13,0)	266,5	6548	332,3	8166	396,2	9735	473,5	11635	2668
BV1XS_ 02000_	3,0 (13,0)	272,0	6684	339,3	8338	404,6	9943	483,7	11886	3211
BV1XS_ 02500_	3,0 (13,0)	272,0	6684	339,3	8338	404,6	9943	483,7	11886	3791
BV1XS_ 03000_	3,0 (13,0)	272,0	6684	339,3	8338	404,6	9943	483,7	11886	4320
BV1XS_ 04000_	4,0 (17,2)	355,3	8731	443,1	10888	528,3	12980	631,4	15513	5623
BV1XS_ 05000_	5,0 (20,8)	434,9	10685	542,1	13319	646,0	15874	772,0	18968	6786

** Tus = 45°C*
*** The above are values calculated with heat exchanger fed by steam at 6 bar (Storage temperature at 60 °C)*



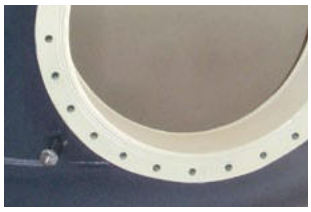
BV1VS - Glass lined calorifier with PED certified steam removable heat exchanger

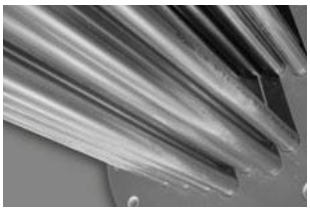
BV1KS - Keramtech lined calorifier with PED certified steam removable heat exchanger

Calorifier for the production and storage of domestic hot water (DHW).
The cylinder is made of carbon steel and is internally protected by glass lining (Mod. BV1VS for capacities up to 2.000 litres) or with Keramtech ceramic lining (Mod. BV1KS for capacities from 2000 to 5000 litres).
The tank is equipped with an AISI 316L Stainless steel U tube bundle removable heat exchanger designed to be fed by steam.
The steam heat exchanger is provided by a PED compliance certification (according to EU Directive 2014/68/UE – Annex VII).
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		BV1VS	BV1KS
DHW cylinder	**Material**	Glass lined S 235 Jr Carbon steel	Keramtech lined S235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3	Alimentary epoxy-ceramic lining
	External protective treatment	Anti rust protection + epoxy painting	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C	6 bar / 100 °C
	Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404) over a stainless steel plate	
	Internal protective treatment	Pickling and passivation	
	External protective treatment	Pickling and passivation	
	Type	U tube bundle (fed by steam) expanded over a removable plate	
	Rating (P max. / T max.)	6 bar / 165 °C or 12 bar / 191,7 °C	
General features	**Capacity**	500 - 2000 L	2000 - 5000 L
	Warranty	5 years (DHW cylinder) - 2 years (heat exchanger)	
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - up to 2000 L with polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - from 2500 to 5000 L with polyester (15 mm) + polystyrene (85 mm) + PVC: Fire retardant class B2 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



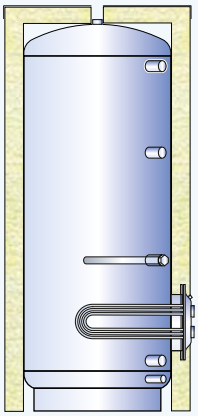
Thermostat



Thermometer



1"½ electric immersion heater

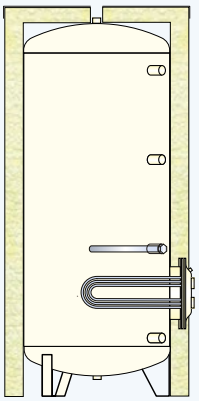


BV1VS - Hard insulation with rigid polyurethane foam and PVC jacket

STEAM SIDE WORKING PRESSURE 6 BAR CODE	STEAM SIDE WORKING PRESSURE 12 BAR CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1VS6 00500 R	BV1VS12 00500 R	50	C	86,1	501,7	1,00 / 6,1
BV1VS6 00800 R	BV1VS12 00800 R	100	C	113,8	754,9	1,50 / 6,6
BV1VS6 01000 R	BV1VS12 01000 R	100	C	117,6	936,6	2,00 / 10,4
BV1VS6 01500 R	BV1VS12 01500 R	100	C	136,7	1478,0	3,00 / 15,7
BV1VS6 02000 R	BV1VS12 02000 R	100	C	149,2	1958,6	3,00 / 15,7

BV1VS - Soft insulation with polyester and PVC jacket

STEAM SIDE WORKING PRESSURE 6 BAR CODE	STEAM SIDE WORKING PRESSURE 12 BAR CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1VS6 00800 F	BV1VS12 00800 F	130	C	132,6	754,9	1,50 / 6,6
BV1VS6 01000 F	BV1VS12 01000 F	130	C	143,9	936,6	2,00 / 10,4
BV1VS6 01500 F	BV1VS12 01500 F	130	C	169,2	1478,0	3,00 / 15,7
BV1VS6 02000 F	BV1VS12 02000 F	130	C	182,7	1958,6	3,00 / 15,7



BV1KS - Hard insulation and PVC jacket

STEAM SIDE WORKING PRESSURE 6 BAR CODE	STEAM SIDE WORKING PRESSURE 12 BAR CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KS6 02000 R	BV1KS12 02000 R	100	C	151,4	1962,5	3,00 / 15,7
BV1KS6 02500 R	BV1KS12 02500 R	100	C	-	2506,0	3,00 / 15,7
BV1KS6 03000 R	BV1KS12 03000 R	100	C	-	2970,0	3,00 / 15,7
BV1KS6 04000 R	BV1KS12 04000 R	100	C	-	3906,9	4,00 / 21,7
BV1KS6 05000 R	BV1KS12 05000 R	100	C	-	5017,7	5,00 / 27,4

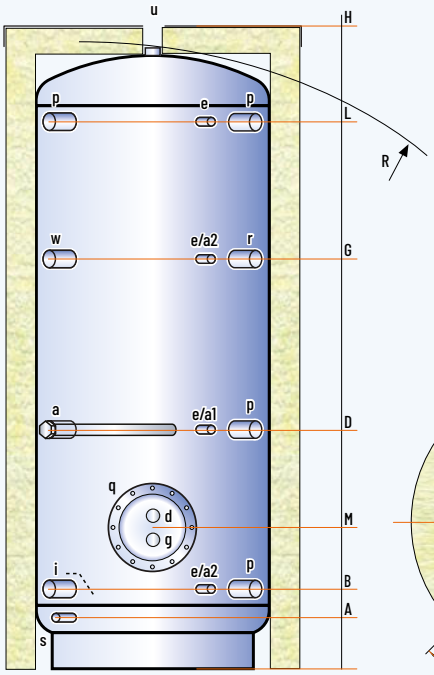
BV1KS - Soft insulation with polyester and PVC jacket

STEAM SIDE WORKING PRESSURE 6 BAR CODE	STEAM SIDE WORKING PRESSURE 12 BAR CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
BV1KS6 02000 F	BV1KS12 02000 F	130	C	185,6	1962,5	3,00 / 15,7
BV1KS6 02500 F	BV1KS12 02500 F	100	-	-	2506,0	3,00 / 15,7
BV1KS6 03000 F	BV1KS12 03000 F	100	-	-	2970,0	3,00 / 15,7
BV1KS6 04000 F	BV1KS12 04000 F	100	-	-	3906,9	4,00 / 21,7
BV1KS6 05000 F	BV1KS12 05000 F	100	-	-	5017,7	5,00 / 27,4

** Volume occupied by the heat exchanger and its support structure*

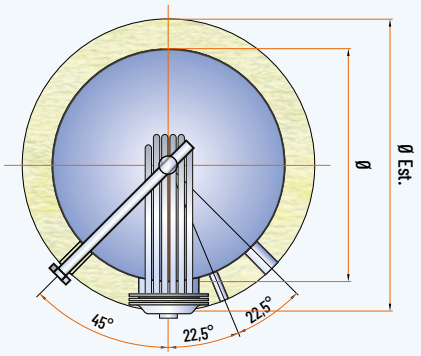
Dimensions and heights

BV1VS

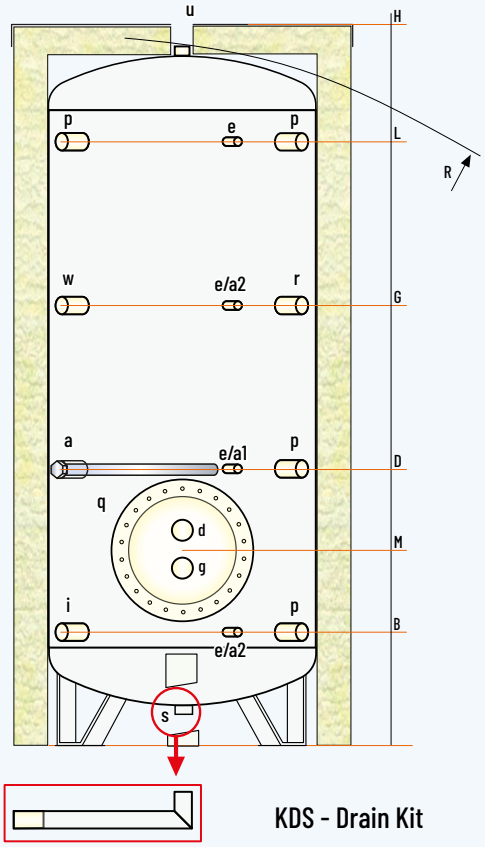


LEGEND

- **a .** Magnesium anode
- **a1-a2.** Opening for electronic anode
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **p .** Free connection
- **q .** Heat exchanger flange
- **r .** Recirculation
- **s .** Drain
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater



BV1KS



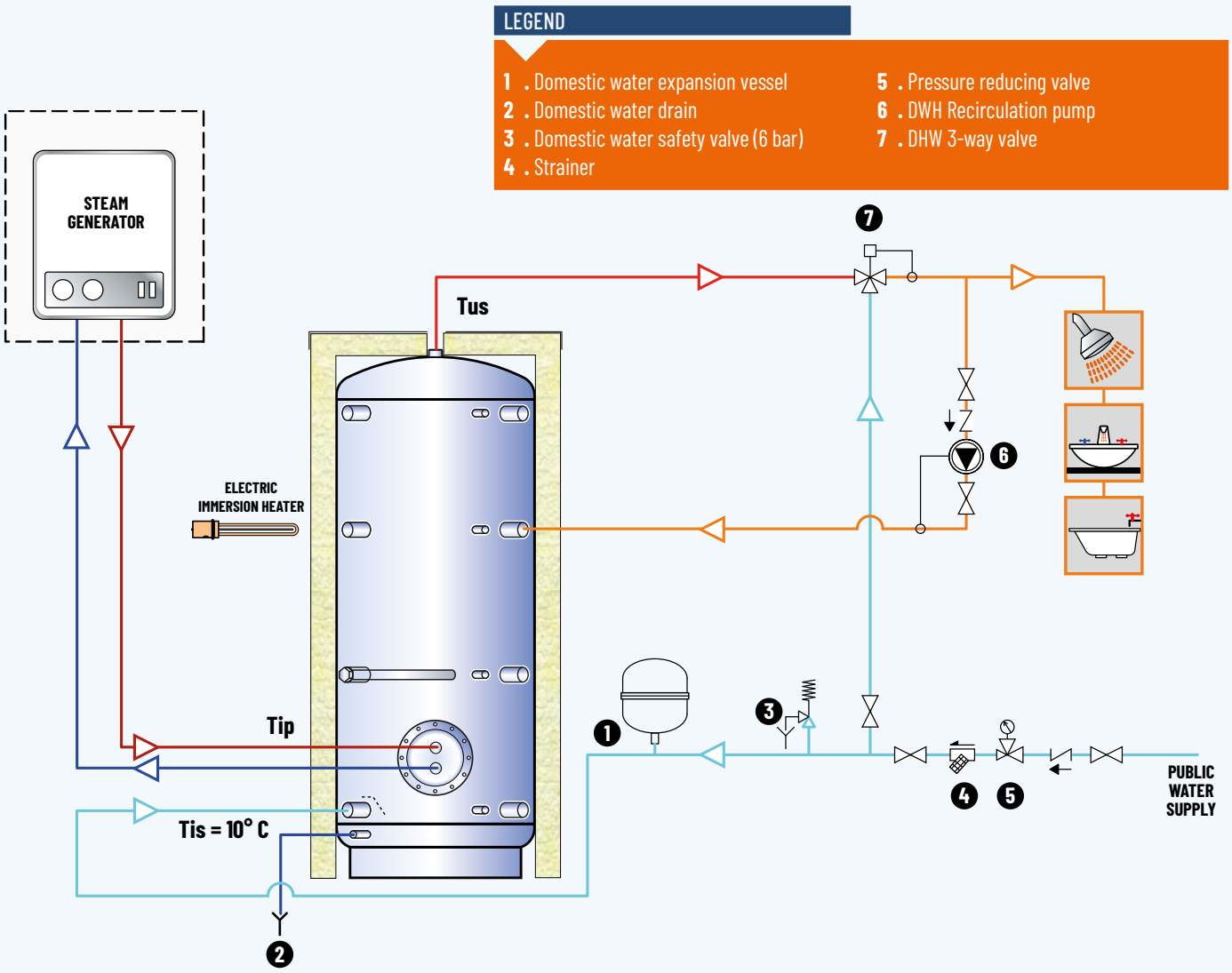
KDS - Drain Kit

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	HEAT EXCHANGER (m^2)	Electronic anode (optional)	WEIGHT (kg)
BV1VS_ 00500 R	650	1645	750	1820	1,00	a1 (EPS 375/125)	111
BV1VS_ 00800_	790	1750	990/1050	1745	1,50	a1 (EPS 375/125)	188
BV1VS_ 01000_	790	2110	990/1050	2095	2,00	a1 (EPS 375/125)	216
BV1VS_ 01500_	1000	2115	1200/1260	2145	3,00	a2 (EPS 375/125)	330
BV1VS_ 02000_	1100	2465	1300/1360	2465	3,00	a2 (EPS 375/125)	465
BV1KS_ 02000_	1100	2465	1300/1360	2465	3,00	a2 (EPS 375/125)	303
BV1KS_ 02500_	1200	2595	1400	2640	3,00	a2 (EPS 700/200)	348
BV1KS_ 03000_	1250	2795	1450	2835	3,00	a2 (EPS 700/200)	388
BV1KS_ 04000_	1400	2925	1600	2995	4,00	a2 (EPS 700/200)	544
BV1KS_ 05000_	1600	2955	1800	3090	5,00	a2 (EPS 700/200)	649

** For the 500 litres model, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for the 500 litres model*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	d g	e	i u	s	w	q
BV1VS_ 00500 R	135	240	615	1105	1375	445	1"¼	1"	½"	1"¼	1"	1"½	220/290
BV1VS_ 00800_	150	275	655	1145	1410	450	1"¼	2"	½"	1"½	1"	1"½	300/380
BV1VS_ 01000_	150	275	810	1355	1755	455	1"¼	2"	½"	1"½	1"	1"½	300/380
BV1VS_ 01500_	235	340	765	1400	1720	520	1"¼	2"	½"	2"	1"	1"½	300/380
BV1VS_ 02000_	265	370	930	1435	1945	575	1"¼	2"	½"	2"	1"	1"½	350/430
BV1KS_ 02000_	-	475	1010	1515	1975	680	1"¼	2"	½"	2"	1"¼	1"½	400/480
BV1KS_ 02500_	-	505	1040	1600	2105	715	1"¼	2"	½"	2	1"¼	1"½	400/480
BV1KS_ 03000_	-	515	1100	1730	2300	700	1"¼	2"	½"	3"	1"¼	1"½	400/480
BV1KS_ 04000_	-	595	1190	1815	2380	780	1"¼	2"	½"	3"	1"¼	1"½	400/480
BV1KS_ 05000_	-	600	1185	1815	2385	785	1"¼	2"	½"	3"	1"¼	1"½	400/480

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



Heat exchanger performance at different steam working pressures (P)

CODE	HEAT EXCHANGER m² (L)	P = 1 bar Tip = 120,4 °C Power * (kW)	P = 1 bar Tip = 120,4 °C Flow rate * (L/h)	P = 3 bar Tip = 143 °C Power * (kW)	P = 3 bar Tip = 143 °C Flow rate * (L/h)	P = 6 bar Tip = 165 °C Power * (kW)	P = 6 bar Tip = 165 °C Flow rate * (L/h)	P = 12 bar Tip = 191,7 °C Power * (kW)	P = 12 bar Tip = 191,7 °C Flow rate * (L/h)	First 10 minutes rating ** (L/10')
BV1VS_ 00500 R	1,0 (4,7)	89,8	2205	111,9	2751	133,5	3280	159,5	3920	985
BV1VS_ 00800_	1,5 (7,7)	133,3	3274	166,2	4083	198,1	4868	236,8	5818	1508
BV1VS_ 01000_	2,0 (9,5)	177,7	4366	221,6	5444	264,1	6490	315,7	7757	1866
BV1VS_ 01500_	3,0 (13,0)	266,5	6548	332,3	8166	396,2	9735	473,5	11635	2668
BV1_S_ 02000_	3,0 (13,0)	272,0	6684	339,3	8338	404,6	9943	483,7	11886	3211
BV1KS_ 02500_	3,0 (13,0)	272,0	6684	339,3	8338	404,6	9943	483,7	11886	3791
BV1KS_ 03000_	3,0 (13,0)	272,0	6684	339,3	8338	404,6	9943	483,7	11886	4320
BV1KS_ 04000_	4,0 (17,2)	355,3	8731	443,1	10888	528,3	12980	631,4	15513	5623
BV1KS_ 05000_	5,0 (20,8)	434,9	10685	542,1	13319	646,0	15874	772,0	18968	6786

** Tus = 45°C*
*** The above are values calculated with heat exchanger fed by steam at 6 bar (Storage temperature at 60 °C)*





THERMAL & COMBINED BUFFER STORES FOR PRIMARY WATER

The warm of a home, an office or a building is obtained by combining and connecting many components of a heating system.
Our thermal stores are an essential part of these systems and they represent a key component to make them more efficient and enduring.

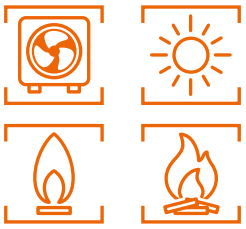


PF - Hot water buffer store Pufferspeicher

Carbon steel hot water buffer store for the storage of primary water produced from continuous and discontinuous heat sources.
Available in the following options:
- only storage
- storage + one auxiliary coil
- storage + two auxiliary coils

The thermal fluid contained in the cylinder and in the primary heat exchangers must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena. Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE



APPLICATION







TECHNICAL FEATURES

Buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	4 or 6 bar / 95°C
Heat exchanger	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	None
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	300 - 5000 L
	Warranty	5 years
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - Polyurethane foam + PVC for 300/500/600/800/100/1500/2000 litres capacity: Fire retardant class B3 (DIN 4102) - Polyester (15mm) + polystyrene (85mm) + PVC for 1250/2500/3000/4000/5000 litres capacity: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Electronic control unit



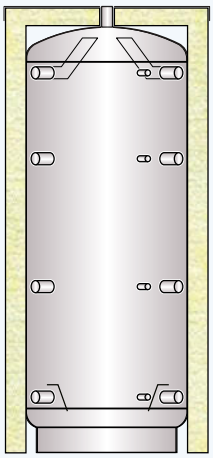
Thermostat



Thermometer



1"½ electric immersion heater

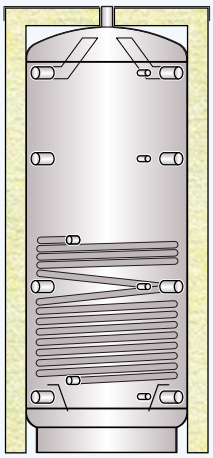


PF - Hot water buffer store
Hard insulation and PVC jacket

WORKING PRESSURE 4 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
PF 00300 R	PF 00306 R	50	B	57,3	289,8
PF 00500 R	PF 00506 R	50	B	69,7	499,8
PF 00600 R	PF 00606 R	50	C	94,7	585,2
PF 00800 R	PF 00806 R	100	C	109,9	749,3
PF 01000 R	PF 01006 R	100	C	113,8	931,0
PF 01250 R	PF 01256 R	100	C	140,0	1266,8
PF 01500 R	PF 01506 R	100	C	132,8	1472,4
PF 02000 R	PF 02006 R	100	C	143,5	1950,0
PF 02500 R	PF 02506 R	100	-	-	2493,5
PF 03000 R	PF 03006 R	100	-	-	2957,5
PF 04000 R	PF 04006 R	100	-	-	3894,4
PF 05000 R	PF 05006 R	100	-	-	5005,2

PF - Hot water buffer store
Soft insulation with polyester and PVC jacket

WORKING PRESSURE 4 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
PF 00800 F	PF 00806 F	130	C	129,4	749,3
PF 01000 F	PF 01006 F	130	C	141,2	931,0
PF 01250 F	PF 01256 F	130	C	159,6	1266,8
PF 01500 F	PF 01506 F	130	C	168,2	1472,4
PF 02000 F	PF 02006 F	130	C	184,0	1950,0
PF 02500 F	PF 02506 F	100	-	-	2493,5
PF 03000 F	PF 03006 F	100	-	-	2957,5
PF 04000 F	PF 04006 F	100	-	-	3894,4
PF 05000 F	PF 05006 F	100	-	-	5005,2



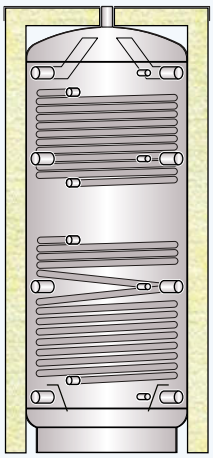
PFS - Hot water buffer store with one coil
Hard insulation and PVC jacket

WORKING PRESSURE 4 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
PFS 00300 R	PFS 00306 R	50	B	57,3	289,8	1,40 / 13,7
PFS 00500 R	PFS 00506 R	50	B	69,7	499,8	2,00 / 19,6
PFS 00600 R	PFS 00606 R	50	C	94,7	585,2	2,50 / 24,5
PFS 00800 R	PFS 00806 R	100	C	109,9	749,3	2,50 / 24,5
PFS 01000 R	PFS 01006 R	100	C	113,8	931,0	3,50 / 34,3
PFS 01250 R	PFS 01256 R	100	C	140,0	1266,8	3,80 / 37,2
PFS 01500 R	PFS 01506 R	100	C	132,8	1472,4	4,00 / 39,2
PFS 02000 R	PFS 02006 R	100	C	143,5	1950,0	4,80 / 47,0
PFS 02500 R	PFS 02506 R	100	-	-	2493,5	4,80 / 47,0
PFS 03000 R	PFS 03006 R	100	-	-	2957,5	6,00 / 58,8
PFS 04000 R	PFS 04006 R	100	-	-	3894,4	7,00 / 68,6
PFS 05000 R	PFS 05006 R	100	-	-	5005,2	8,00 / 78,4

PFS - Hot water buffer store with one coil
Soft insulation with polyester and PVC jacket

WORKING PRESSURE 4 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
PFS 00800 F	PFS 00806 F	130	C	129,4	749,3	2,50 / 24,5
PFS 01000 F	PFS 01006 F	130	C	141,2	931,0	3,50 / 34,3
PFS 01250 F	PFS 01256 F	130	C	159,6	1266,8	3,80 / 37,2
PFS 01500 F	PFS 01506 F	130	C	168,2	1472,4	4,00 / 39,2
PFS 02000 F	PFS 02006 F	130	C	184,0	1950,0	4,80 / 47,0
PFS 02500 F	PFS 02506 F	100	-	-	2493,5	4,80 / 47,0
PFS 03000 F	PFS 03006 F	100	-	-	2957,5	6,00 / 58,8
PFS 04000 F	PFS 04006 F	100	-	-	3894,4	7,00 / 68,6
PFS 05000 F	PFS 05006 F	100	-	-	5005,2	8,00 / 78,4

** Volume occupied by the heat exchanger and its support structure*



PFSS - Hot water buffer store with two coils
Hard insulation and PVC jacket

WORKING PRESSURE 4 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	AUXILIARY HEAT EXCHANGER LOWER (m^2) / (L) *	UPPER (m^2) / (L) *
PFSS 00300 R	PFSS 00306 R	50	B	57,3	289,8	1,40 / 13,7	1,10 / 10,8
PFSS 00500 R	PFSS 00506 R	50	B	69,7	499,8	2,00 / 19,6	1,80 / 17,6
PFSS 00600 R	PFSS 00606 R	50	C	94,7	585,2	2,50 / 24,5	1,80 / 17,6
PFSS 00800 R	PFSS 00806 R	100	C	109,9	749,3	2,50 / 24,5	2,00 / 19,6
PFSS 01000 R	PFSS 01006 R	100	C	113,8	931,0	3,50 / 34,3	2,50 / 24,5
PFSS 01250 R	PFSS 01256 R	100	C	140,0	1266,8	3,80 / 37,2	2,60 / 25,5
PFSS 01500 R	PFSS 01506 R	100	C	132,8	1472,4	4,00 / 39,2	2,80 / 27,4
PFSS 02000 R	PFSS 02006 R	100	C	143,5	1950,0	4,80 / 47,0	3,80 / 37,2
PFSS 02500 R	PFSS 02506 R	100	-	-	2493,5	4,80 / 47,0	3,80 / 37,2
PFSS 03000 R	PFSS 03006 R	100	-	-	2957,5	6,00 / 58,8	3,80 / 37,2
PFSS 04000 R	PFSS 04006 R	100	-	-	3894,4	7,00 / 68,6	4,50 / 44,1
PFSS 05000 R	PFSS 05006 R	100	-	-	5005,2	8,00 / 78,4	5,00 / 49,0

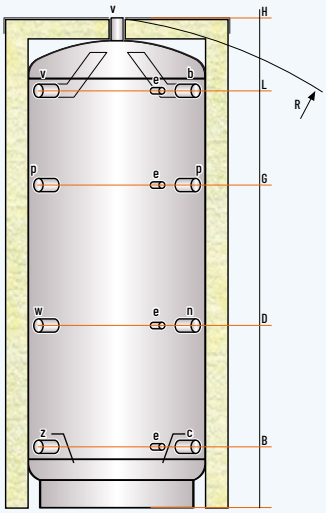
PFSS - Hot water buffer store with two coils
Soft insulation with polyester and PVC jacket

WORKING PRESSURE 4 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	AUXILIARY HEAT EXCHANGER LOWER (m^2) / (L) *	UPPER (m^2) / (L) *
PFSS 00800 F	PFSS 00806 F	130	C	129,4	749,3	2,50 / 24,5	2,00 / 19,6
PFSS 01000 F	PFSS 01006 F	130	C	141,2	931,0	3,50 / 34,3	2,50 / 24,5
PFSS 01250 F	PFSS 01256 F	130	C	159,6	1266,8	3,80 / 37,2	2,60 / 25,5
PFSS 01500 F	PFSS 01506 F	130	C	168,2	1472,4	4,00 / 39,2	2,80 / 27,4
PFSS 02000 F	PFSS 02006 F	130	C	184,0	1950,0	4,80 / 47,0	3,80 / 37,2
PFSS 02500 F	PFSS 02506 F	100	-	-	2493,5	4,80 / 47,0	3,80 / 37,2
PFSS 03000 F	PFSS 03006 F	100	-	-	2957,5	6,00 / 58,8	3,80 / 37,2
PFSS 04000 F	PFSS 04006 F	100	-	-	3894,4	7,00 / 68,6	4,50 / 44,1
PFSS 05000 F	PFSS 05006 F	100	-	-	5005,2	8,00 / 78,4	5,00 / 49,0

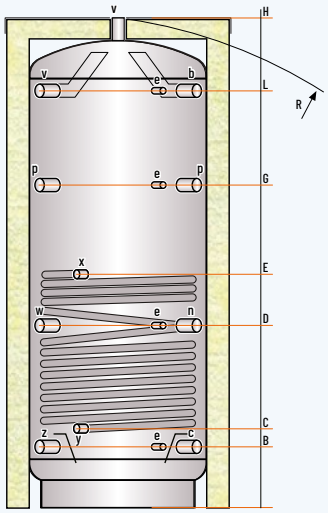
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

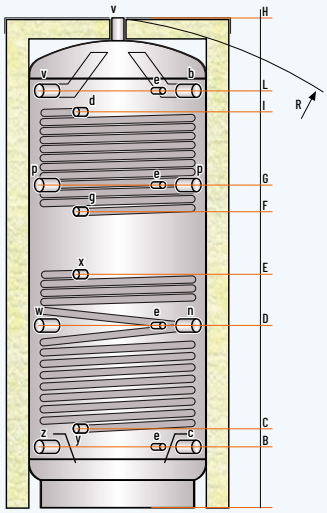
PF

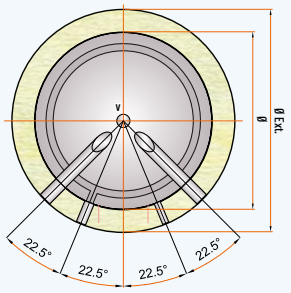


PFS



PFSS





LEGEND

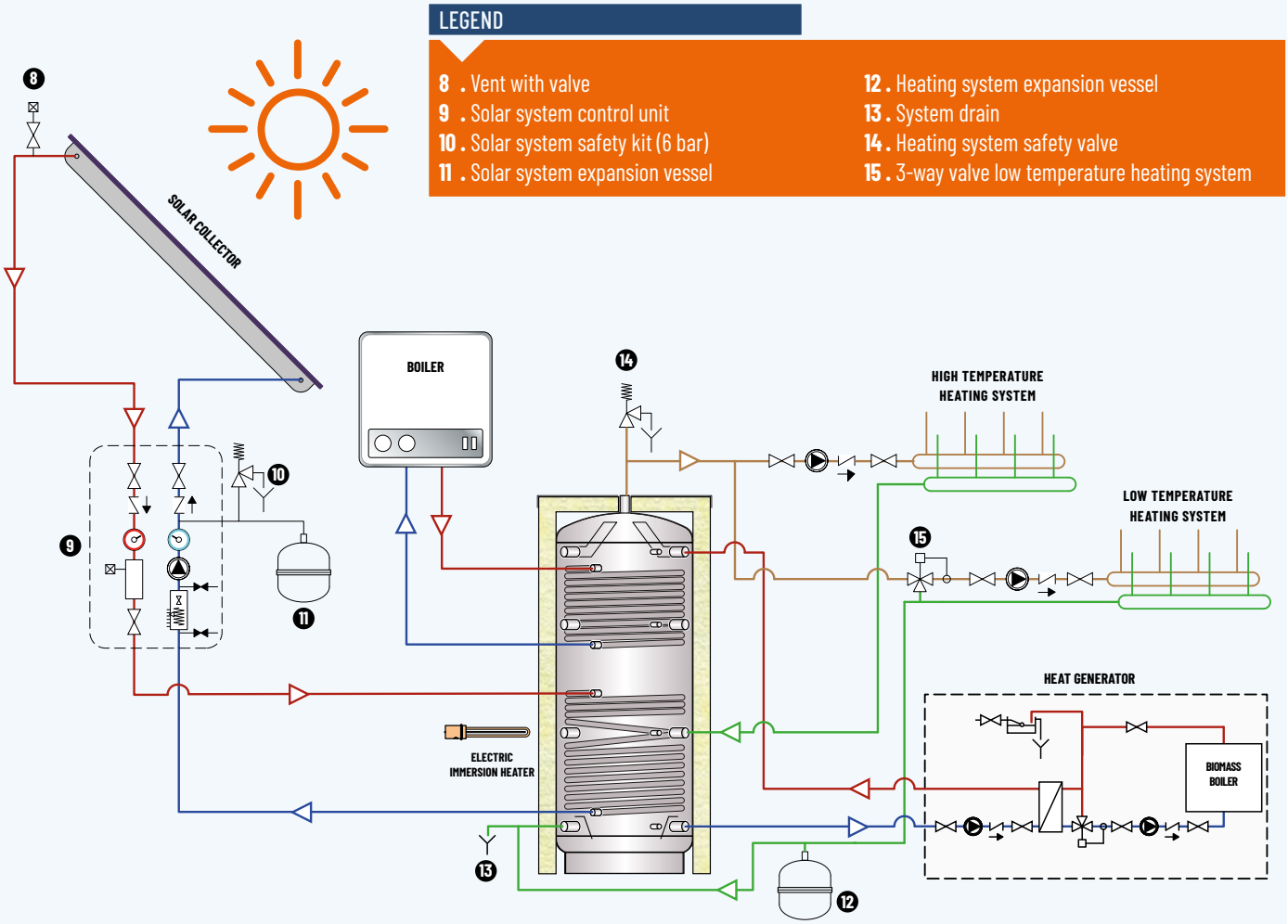
b . Biomass boiler flow
c . Biomass boiler return
d . Boiler flow
e . Thermometer - Sensor
g . Boiler return
n . Heating system return
p . Free connection
x . Solar system flow
y . Solar system return
v . Heating system flow
w. Opening for immersion heater
z . Low temperature heating system return

WORKING PRESSURE 4 & 6 bar MODEL	DIMENSIONS (mm) Ø	H	Ø EXT (Hard/Soft ins.) **	R *	LOWER HEAT EXCHANGER (m²)	UPPER HEAT EXCHANGER (m²)	WEIGHT PFSS (kg)
PF_ 00300 R	500	1595	600	1720 *	1,40	1,10	70
PF_ 00500 R	650	1645	750	1820 *	2,00	1,80	110
PF_ 00600 R	650	1895	750	2050 *	2,50	1,80	120
PF_ 00800_	790	1750	990/1050	1745	2,50	2,00	149
PF_ 01000_	790	2110	990/1050	2095	3,50	2,50	183
PF_ 01250_	950	2075	1150/1210	2090	3,80	2,60	215
PF_ 01500_	1000	2115	1200/1260	2145	4,00	2,80	237
PF_ 02000_	1100	2380	1300/1360	2385	4,80	3,80	301
PF_ 02500_	1200	2495	1400	2550	4,80	3,80	354
PF_ 03000_	1250	2710	1450	2760	6,00	3,80	423
PF_ 04000_	1400	2820	1600	2905	7,00	4,50	492
PF_ 05000_	1600	2850	1800	3005	8,00	5,00	572

** For capacities from 300 to 600 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 300 to 600 litres*

WORKING PRESSURE 4 & 6 bar MODEL	HEIGHTS (mm) B	C	D	E	F	G	I	L	CONNECTIONS (GAS) d g x y	e	b c n p v w z
PF_ 00300 R	215	290	595	810	930	1080	1290	1350	1"	½"	1"½
PF_ 00500 R	240	315	615	835	955	1105	1315	1375	1"	½"	1"½
PF_ 00600 R	235	315	700	1000	1120	1270	1480	1630	1"	½"	1"½
PF_ 00800_	275	355	655	875	1015	1145	1345	1410	1"	½"	1"½
PF_ 01000_	275	350	810	1035	1195	1355	1675	1755	1"	½"	1"½
PF_ 01250_	320	400	745	1060	1200	1380	1600	1705	1"	½"	1"½
PF_ 01500_	340	420	765	1080	1220	1400	1620	1725	1"	½"	1"½
PF_ 02000_	370	450	930	1090	1230	1435	1710	1945	1"	½"	1"½
PF_ 02500_	385	480	940	1120	1300	1500	1700	2050	1"	½"	2"
PF_ 03000_	400	490	1015	1210	1430	1645	1830	2255	1"	½"	2"
PF_ 04000_	460	550	1085	1270	1490	1710	1930	2315	1"	½"	2"
PF_ 05000_	465	555	1080	1275	1495	1710	1895	2320	1"	½"	2"

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



Lower heat exchanger performance

Upper heat exchanger performance

CODE	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C
PF_ 00300 R	1,4 (9,9)	9,0	13,4	17,9	22,4	1,1 (7,8)	7,0	10,6	14,1	17,6
PF_ 00500 R	2,0 (14,2)	12,8	19,2	25,6	32,0	1,8 (12,8)	11,5	17,3	23,0	28,8
PF_ 00600 R	2,5 (17,8)	16,0	24,0	32,0	40,0	1,8 (12,8)	11,5	17,3	23,0	28,8
PF_ 00800_	2,5 (17,8)	16,0	24,0	32,0	40,0	2,0 (14,2)	12,8	19,2	25,6	32,0
PF_ 01000_	3,5 (24,9)	22,4	33,6	44,8	56,0	2,5 (17,8)	16,0	24,0	32,0	40,0
PF_ 01250_	3,8 (27,0)	24,3	36,5	48,6	60,8	2,6 (18,5)	16,6	24,9	33,3	41,6
PF_ 01500_	4,0 (28,4)	25,6	38,4	51,2	64,0	2,8 (19,9)	17,9	26,9	35,8	44,8
PF_ 02000_	4,8 (34,1)	30,7	46,0	61,4	76,7	3,8 (27,0)	24,3	36,5	48,6	60,8
PF_ 02500_	4,8 (34,1)	30,7	46,0	61,4	76,7	3,8 (27,0)	24,3	36,5	48,6	60,8
PF_ 03000_	6,0 (42,6)	38,4	57,6	76,7	95,9	3,8 (27,0)	24,3	36,5	48,6	60,8
PF_ 04000_	7,0 (49,7)	44,8	67,2	89,5	111,9	4,5 (32,0)	28,8	43,2	57,6	71,9
PF_ 05000_	8,0 (56,8)	51,2	76,7	102,3	127,9	5,0 (35,5)	32,0	48,0	64,0	79,9

** ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).*



PUK - Hot water buffer store Low size Pufferspeicher

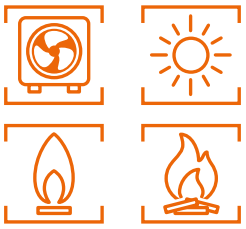
Carbon steel hot water buffer store for the storage of primary water produced from continuous and discontinuous heat sources.
Available in the following options:
- only storage
- storage + one auxiliary coil
- storage + two auxiliary coils

The thermal fluid contained in the cylinder and in the primary heat exchangers must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena. Cylinders are also prepared to host a backup immersion heater (not supplied).

Version with reduced height to allow its shipment in upright position.



HEAT SOURCE



APPLICATION



TECHNICAL FEATURES		
Buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	4 bar / 95°C
Heat exchanger	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	None
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	2000 - 5000 L
	Warranty	5 years
	Insulation	Soft polyurethane with PVC jacket
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



Electronic control unit



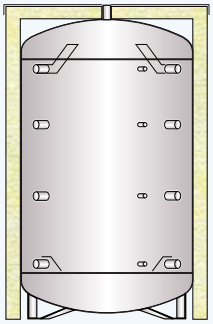
Thermostat



Thermometer

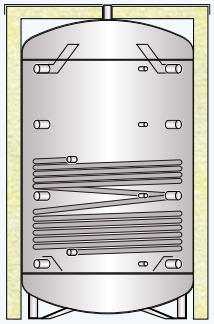


1"½ electric immersion heater



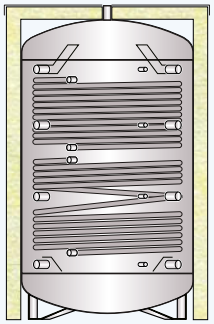
PUK - Hot water buffer vessel
Insulation with soft polyurethane and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
PUK 02000 F	130	C	190,6	2147,9
PUK 02500 F	100	-	-	2546,2
PUK 03000 F	100	-	-	3033,0
PUK 04000 F	100	-	-	3967,4
PUK 05000 F	100	-	-	4978,3



PUKS - Hot water buffer vessel with one coil
Insulation with soft polyurethane and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *
PUKS 02000 F	130	C	190,6	2147,9	4,80 / 47,0
PUKS 02500 F	100	-	-	2546,2	4,80 / 47,0
PUKS 03000 F	100	-	-	3033,0	6,00 / 58,8
PUKS 04000 F	100	-	-	3967,4	7,00 / 68,6
PUKS 05000 F	100	-	-	4978,3	8,00 / 78,4



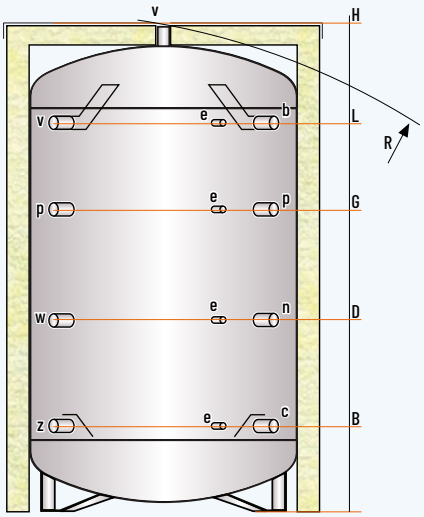
PUKSS - Hot water buffer vessel with two coils
Insulation with soft polyurethane and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
PUKSS 02000 F	130	C	190,6	2147,9	4,80 / 47,0	3,80 / 37,2
PUKSS 02500 F	100	-	-	2546,2	4,80 / 47,0	3,80 / 37,2
PUKSS 03000 F	100	-	-	3033,0	6,00 / 58,8	3,80 / 37,2
PUKSS 04000 F	100	-	-	3967,4	7,00 / 68,6	4,50 / 44,1
PUKSS 05000 F	100	-	-	4978,3	8,00 / 78,4	5,00 / 49,0

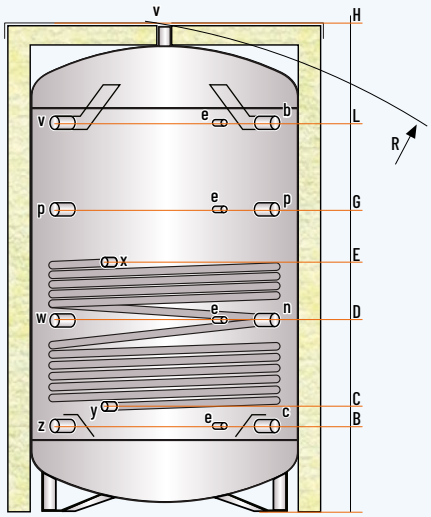
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

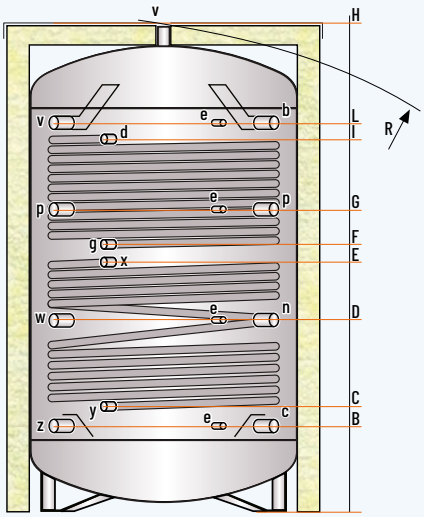
PUK



PUKS

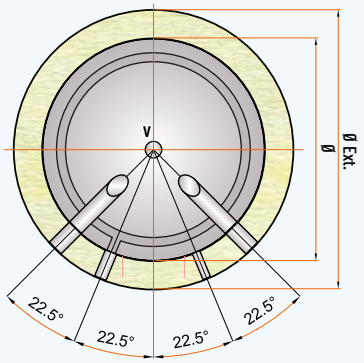


PUKSS



LEGEND

b . Biomass boiler flow
c . Biomass boiler return
d . Boiler flow
e . Thermometer - Sensor
g . Boiler return
n . Heating system return
p . Free connection
x . Solar system flow
y . Solar system return
v . Heating system flow
w. Opening for immersion heater
z . Low temperature heating system return

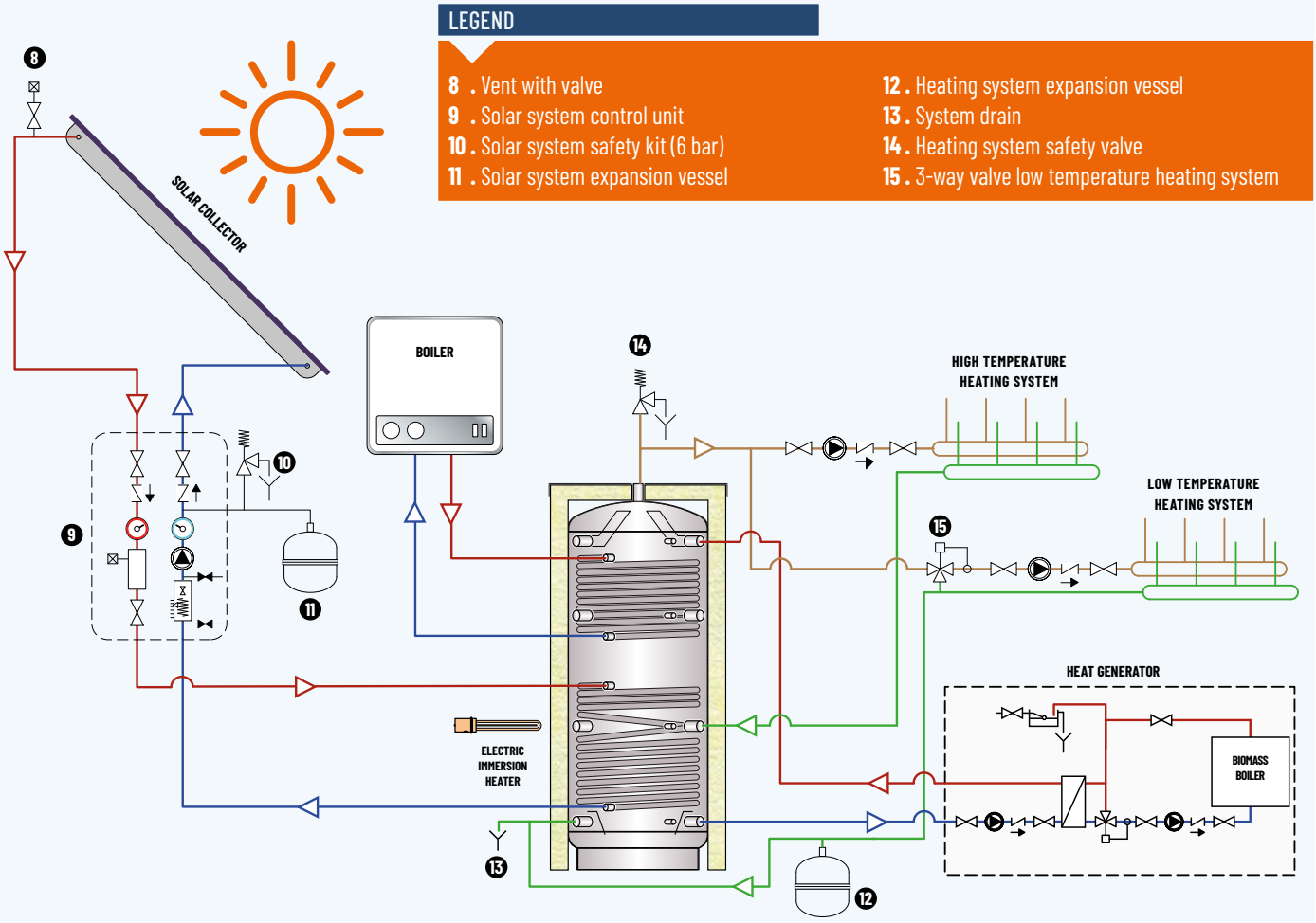


MODEL	DIMENSIONS (mm) Ø	H	Ø EXT	R *	LOWER HEAT EXCHANGER (m²)	UPPER HEAT EXCHANGER (m²)	WEIGHT PUKSS (kg)
PUK__ 02000 F	1200	2225	1460	2285	4,80	3,80	342
PUK__ 02500 F	1300	2260	1500	2385	4,80	3,80	377
PUK__ 03000 F	1400	2320	1600	2470	6,00	3,80	435
PUK__ 04000 F	1600	2320	1800	2565	7,00	4,50	512
PUK__ 05000 F	1800	2320	2000	2660	8,00	5,00	694

** The insulation is removable*

MODEL	HEIGHTS (mm) B	C	D	E	F	G	I	L	CONNECTIONS (GAS) d g x y	e	b c n p v w z
PUK__ 02000 F	385	450	860	1080	1220	1360	1690	1750	1"	½"	½"
PUK__ 02500 F	420	485	895	1155	1295	1435	1725	1785	1"	½"	2"
PUK__ 03000 F	455	520	930	1190	1330	1470	1760	1820	1"	½"	2"
PUK__ 04000 F	460	525	975	1195	1335	1475	1735	1795	1"	½"	2"
PUK__ 05000 F	490	555	1005	1225	1355	1475	1705	1765	1"	½"	2"

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



Lower heat exchanger performance

Upper heat exchanger performance

CODE	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C
PUK__ 002000 F	4,8 (34,1)	30,7	46,0	61,4	76,7	3,8 (27,0)	24,3	36,5	48,6	60,8
PUK__ 002500 F	4,8 (34,1)	30,7	46,0	61,4	76,7	3,8 (27,0)	24,3	36,5	48,6	60,8
PUK__ 003000 F	6,0 (42,6)	38,4	57,6	76,7	95,9	3,8 (27,0)	24,3	36,5	48,6	60,8
PUK__ 004000 F	7,0 (49,7)	44,8	67,2	89,5	111,9	4,5 (32,0)	28,8	43,2	57,6	71,9
PUK__ 005000 F	8,0 (56,8)	51,2	76,7	102,3	127,9	5,0 (35,5)	32,0	48,0	64,0	79,9

** ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).*



PFXXL - Hot water buffer store Extra Large Pufferspeicher

Carbon steel hot water buffer store for the storage of big amount of primary water produced from continuous and discontinuous heat sources. Specifically designed to work with biomass systems, heating districts, industrial plants.

The thermal fluid contained in the cylinder and in the primary heat exchangers must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena.

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

Buffer vessel

General features

Material	S 235 Jr Carbon steel
Internal protective treatment	None
External protective treatment	Anti rust protection + epoxy painting
Rating (P max. / T max.)	3 or 6 bar / 95°C
Capacity	6000 - 30000 L (up to 100.000 litres on demand)
Warranty	2 years
Insulation	Soft polyurethane with PVC jacket (insulation delivered not assembled to the cylinder)
In compliance with	Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3

ACCESSORIES (page 218)



Electronic control unit



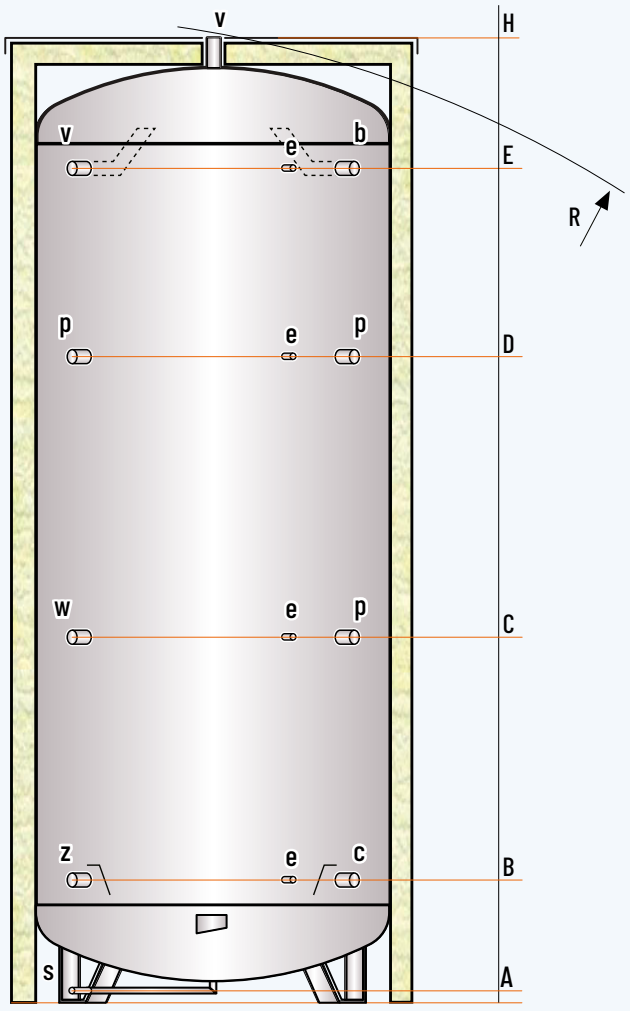
Thermostat



Thermometer

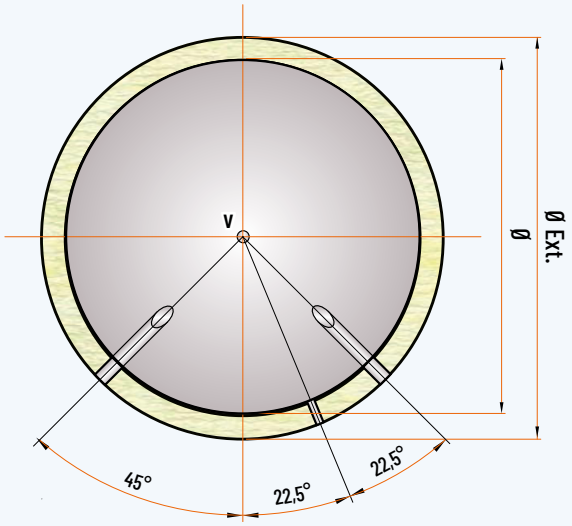
PFXXL - Soft insulation with polyurethane and PVC jacket

WORKING PRESSURE 3 bar CODE	WORKING PRESSURE 6 bar CODE	INSULATION THICK. (mm)	REAL CAPACITY (L)
PFXXL 06003 F	PFXXL 06006 F	100	6038,2
PFXXL 08003 F	PFXXL 08006 F	100	8220,0
PFXXL 10003 F	PFXXL 10006 F	100	9790,0
PFXXL 15003 F	PFXXL 15006 F	100	15495,7
PFXXL 20003 F	PFXXL 20006 F	100	20711,9
PFXXL 30003 F	PFXXL 30006 F	100	30524,4



LEGEND

- **b .** Heat source flow
- **c .** Heat source return
- **e .** Thermometer - Sensor
- **p .** Free connection
- **v .** Heating system flow
- **w.** Opening for immersion heater
- **z .** Heating system return



MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	HEIGHTS (mm) A	B	C	D	E	CONNECTIONS (GAS) e	b c p v w z	s	WEIGHT PFXXL 6 bar (kg)
PFXXL 0600_ F	1600	3460	1800	3590	60	570	1345	2135	2925	½"	2"	1"¼	598
PFXXL 0800_ F	2000	3180	2200	3470	120	760	1325	1955	2520	½"	2"	1"¼	862
PFXXL 1000_ F	2000	3680	2200	3890	120	760	1485	2275	3015	½"	3"	1"¼	1056
PFXXL 1500_ F	2300	4250	2500	4500	120	765	1700	2635	3550	½"	3"	1"¼	1430
PFXXL 2000_ F	2500	4850	2700	5110	120	845	1925	3025	4105	½"	3"	1"¼	2052
PFXXL 3000_ F	2500	6850	2700	7000	120	845	2595	4355	6100	½"	3"	1"¼	2908

** The insulation is supplied not assembled to the cylinder*



Chilled water buffer store
ARX - Made with AISI 304 stainless steel
ARZ - Made with galvanized carbon steel
ARN - Made with carbon steel

Buffer vessel for the storage of cold water coming from chillers and air conditioning systems.
The wide range of capacities (from 100 to 5000 litres) allows their installation in every system, from domestic use to commercial applications.
Besides its main function of buffer store, this equipment works also as low loss header thus making the heat source flow independent to the flow of the system where it is connected.
The thermal fluid contained in the cylinder must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena.
The cylinder is coated with vapour seal insulation.

HEAT SOURCE

APPLICATION

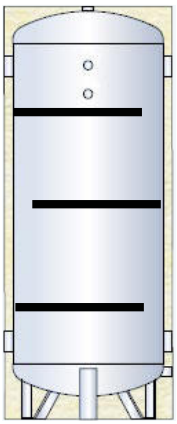
TECHNICAL FEATURES

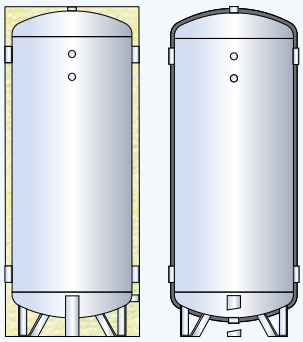
Buffer

General features

	ARX	ARZ	ARN
Material	Stainless steel AISI 304 (1.4301)	S 235 Jr galvanized	S 235 Jr black
Internal protective treatment	Pickling and passivation	Galvanizing	None
External protective treatment	Pickling and passivation	Galvanizing	None
Rating (P max. / T max.)	6 bar / -10 ÷ + 60 °C	6 bar / -10 ÷ + 60 °C	6 bar / -10 ÷ + 60 °C
Capacity	100 - 5000 L		
Warranty	3 years	2 years	2 years
Vapour seal insulation	- 30 mm thick polyurethane foam + PVC (for indoor): Fire retardant class B3 (DIN 4102) - 30 mm thick polyurethane foam + UV resistant PVC (for outdoor): Fire retardant class B3 (DIN 4102) - 20 mm thick PEXL + PVC (for indoor): Fire retardant class B3 (DIN 4102) - 20 mm thick PEXL + UV resistant PVC (for outdoor): Fire retardant class B3 (DIN 4102)		
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3		

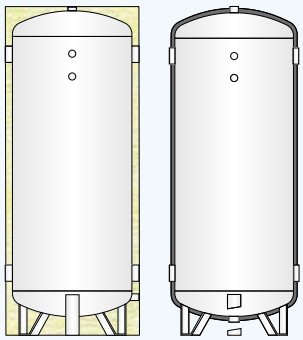
BAFFLE PLATES AVAILABLE ON DEMAND





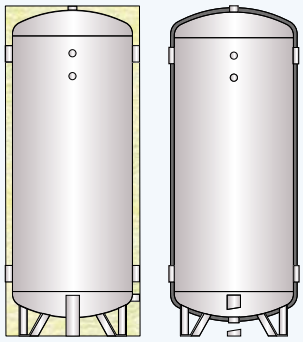
ARX - AISI 304 Stainless steel chilled water buffer vessel

Hard insulation with rigid polyurethane foam and PVC jacket			Vapour seal insulation with PEXL and PVC jacket		
CODE	INSULATION THICK. (mm)	REAL CAPACITY (L)	CODE	INSULATION THICK. (mm)	REAL CAPACITY (L)
ARX 00100 R	30	98,4	-	-	-
ARX 00200 R	30	189,3	-	-	-
ARX 00300 R	30	289,8	-	-	-
ARX 00500 R	30	499,8	-	-	-
ARX 00800 R	30	749,3	-	-	-
ARX 01000 R	30	931,0	-	-	-
-	-	-	ARX 01500 F	20	1472,4
-	-	-	ARX 02000 F	20	1950,0
-	-	-	ARX 02500 F	20	2493,5
-	-	-	ARX 03000 F	20	2957,5
-	-	-	ARX 04000 F	20	3894,4
-	-	-	ARX 05000 F	20	5005,2



ARZ - Galvanized carbon steel chilled water buffer vessel

Hard insulation with 30 mm thick injected polyurethane foam and PVC jacket			Vapour seal insulation with 20 mm thick PEXL and PVC jacket		
CODE FOR INDOOR USE	CODE FOR OUTOOR USE	REAL CAPACITY (L)	CODE FOR INDOOR USE	CODE FOR OUTOOR USE	REAL CAPACITY (L)
ARZ 00100 R	ARZ 00100 RE	98,4	-	-	-
ARZ 00200 R	ARZ 00200 RE	189,3	-	-	-
ARZ 00300 R	ARZ 00300 RE	289,8	-	-	-
ARZ 00500 R	ARZ 00500 RE	499,8	-	-	-
ARZ 00800 R	ARZ 00800 RE	749,3	-	-	-
ARZ 01000 R	ARZ 01000 RE	931,0	-	-	-
-	-	-	ARZ 01500 F	ARZ 01500 FE	1472,4
-	-	-	ARZ 02000 F	ARZ 02000 FE	1950,0
-	-	-	ARZ 02500 F	ARZ 02500 FE	2493,5
-	-	-	ARZ 03000 F	ARZ 03000 FE	2957,5
-	-	-	ARZ 04000 F	ARZ 04000 FE	3894,4
-	-	-	ARZ 05000 F	ARZ 05000 FE	5005,2



ARN - Carbon steel chilled water buffer vessel

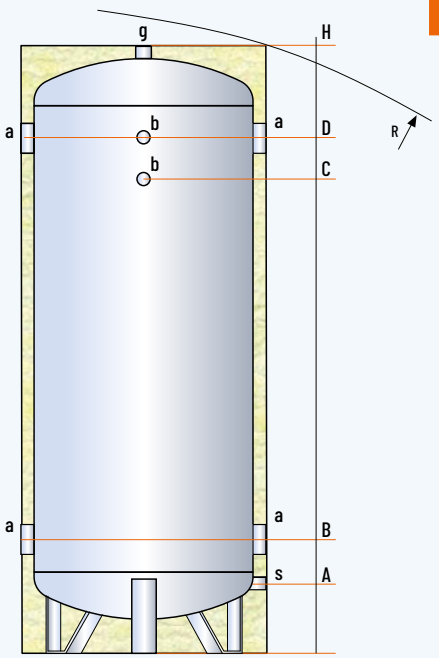
Hard insulation with rigid polyurethane foam and PVC jacket			Vapour seal insulation with PEXL and PVC jacket		
CODE	INSULATION THICK. (mm)	REAL CAPACITY (L)	CODE	INSULATION THICK. (mm)	REAL CAPACITY (L)
ARN 00100 R	30	98,4	-	-	-
ARN 00200 R	30	189,3	-	-	-
ARN 00300 R	30	289,8	-	-	-
ARN 00500 R	30	499,8	-	-	-
ARN 00800 R	30	749,3	-	-	-
ARN 01000 R	30	931,0	-	-	-
-	-	-	ARN 01500 F	20	1472,4
-	-	-	ARN 02000 F	20	1950,0
-	-	-	ARN 02500 F	20	2493,5
-	-	-	ARN 03000 F	20	2957,5
-	-	-	ARN 04000 F	20	3894,4
-	-	-	ARN 05000 F	20	5005,2

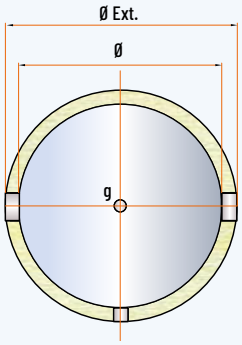
Dimensions and heights

100 - 1000 L

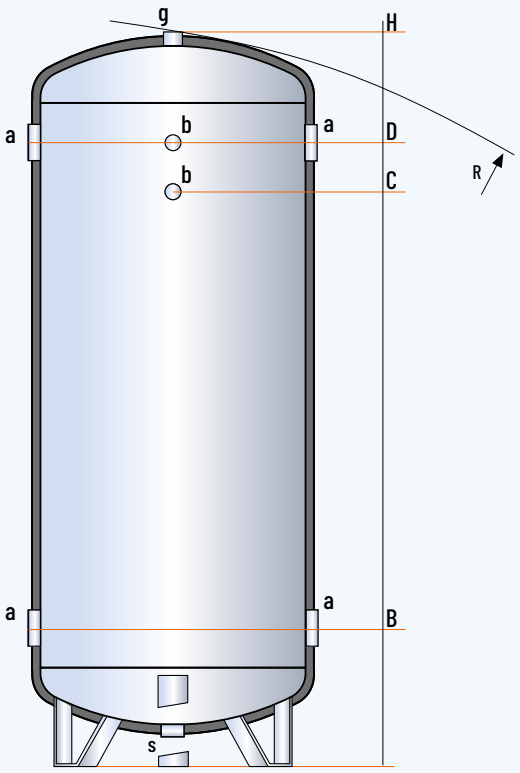
LEGEND

a . System Inlet/Outlet
b . Control instruments
g . Vent / safety valve
s . Drain





1500 - 5000 L

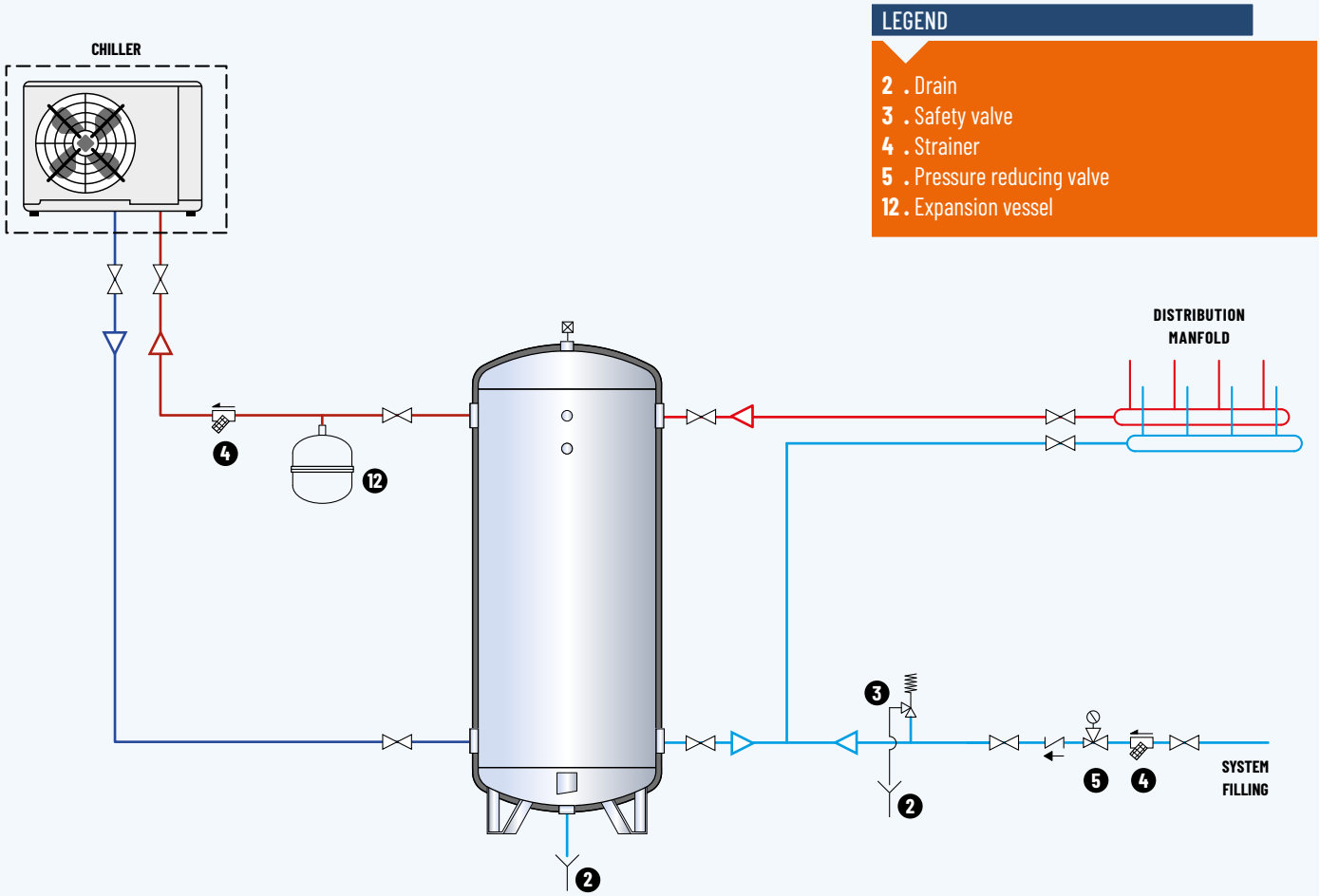


MODEL	DIMENSIONS (mm) Ø	H	Ø EXT	R *	WEIGHT ARZ (kg)
AR_ 00100 R	400	905	450	1025	20
AR_ 00200 R	450	1305	500	1410	30
AR_ 00300 R	500	1585	550	1695	38
AR_ 00500 R	650	1640	710	1800	61
AR_ 00800 R	790	1675	850	1895	79
AR_ 01000 R	790	2035	850	2210	93
AR_ 01500 F	1000	2140	1060	2220	132
AR_ 02000 F	1100	2360	1160	2460	195
AR_ 02500 F	1200	2520	1260	2640	228
AR_ 03000 F	1250	2720	1310	2835	287
AR_ 04000 F	1400	2850	1460	3000	335
AR_ 05000 F	1600	2880	1660	3095	440

** For capacities from 100 to 1000 litres, the tilt height refers to the cylinder with rigid insulation*

MODEL	HEIGHTS (mm) A	B	C	D	CONNECTIONS (GAS) a	b	g	s
AR_ 00100 R	105	210	560	710	1" ½	½"	1" ¼	1"
AR_ 00200 R	135	220	945	1095	1" ½	½"	1" ¼	1"
AR_ 00300 R	125	275	1170	1320	2"	½"	1" ¼	1"
AR_ 00500 R	155	305	1200	1350	3"	½"	1" ¼	1"
AR_ 00800 R	170	320	1215	1365	3"	½"	1" ½	1"
AR_ 01000 R	170	320	1560	1710	3"	½"	1" ½	1"
AR_ 01500 F	-	485	1630	1780	3"	½"	1" ½	1" ½
AR_ 02000 F	-	490	1835	1985	3"	½"	1" ½	1" ½
AR_ 02500 F	-	540	1945	2095	4"	½"	1" ½	1" ½
AR_ 03000 F	-	535	2140	2290	4"	½"	1" ½	1" ½
AR_ 04000 F	-	615	2220	2370	4"	½"	1" ½	1" ½
AR_ 05000 F	-	620	2220	2370	4"	½"	1" ½	1" ½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*





ACF - Heating & Cooling buffer store for heat pumps

Carbon steel hot water buffer vessel for the storage of heating and cooling water equipped with high size ports to allow large flow rates.
The wide range of capacities (from 12 to 5000 litres) allows their installation in every system, from domestic use to commercial applications.
Besides its main function of buffer store, this equipment works also as low loss header thus making the heat source flow independent to the flow of the system where it is connected.
Specially studied to be used in systems with heat pumps, it's coated with a vapour seal insulation with low thermal dispersion.
The thermal fluid contained in the cylinder must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena.

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES

Buffer

Material	S 235 Jr Carbon steel
Internal protective treatment	None
External protective treatment	Anti rust protection + epoxy painting
Rating (P max. / T max.)	6 bar / -10 ÷ + 95 °C

General features

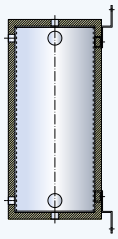
Capacity	12 - 5000 L
Warranty	5 years
Insulation	From 12 to 50 L: 20 mm thick polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - From 100 to 1000 L: 50 mm thick polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - From 1500 to 2000 L: PEXL + soft polyester + PVC: Fire retardant class B2 (DIN 4102)
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)


Thermostat

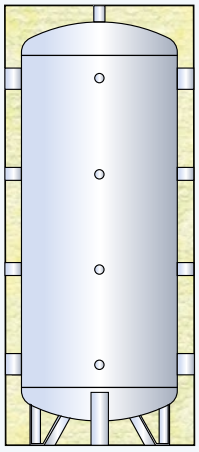

Thermometer


1"½ electric immersion heater



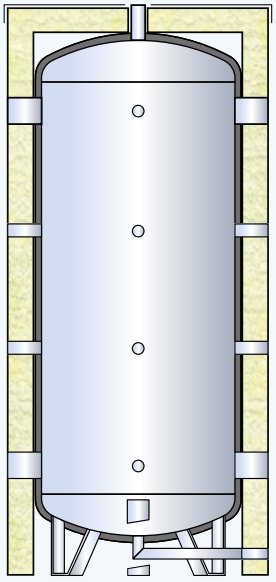
Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ACF 00012 R	20	C	39,1	12,2
ACF 00025 R	20	C	46,0	25,2
ACF 00050 R	20	C	55,8	49,5



Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ACF 00100 R	50	B	46,0	97,0
ACF 00200 R	50	B	58,9	189,3
ACF 00300 R	50	B	68,1	289,8
ACF 00500 R	50	B	80,5	499,8
ACF 00800 R	50	C	117,5	749,3
ACF 01000 R	50	C	130,4	931,0



Vapour seal insulation with PEXL + soft thermal insulation with polyester and PVC jacket

CODE	VAPOUR SEAL INSULATION THICK. (mm)	THERMAL INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)
ACF 01500 PF	10	130	C	163,8	1472,4
ACF 02000 PF	10	130	C	181,2	1950,0
ACF 02500 PF	10	130	-	-	2493,5
ACF 03000 PF	10	130	-	-	2957,5
ACF 04000 PF	10	130	-	-	3894,4
ACF 05000 PF	10	130	-	-	5005,2

Dimensions and heights

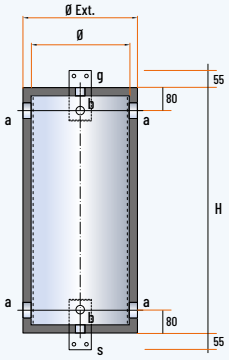
12 - 50 L

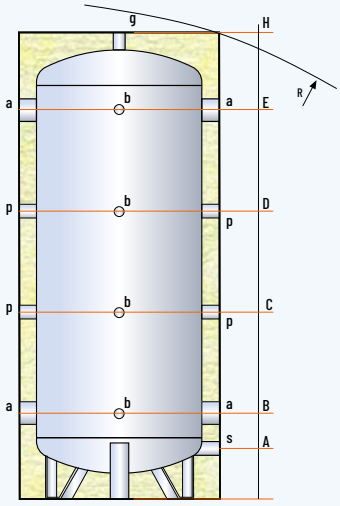
100 - 1000 L

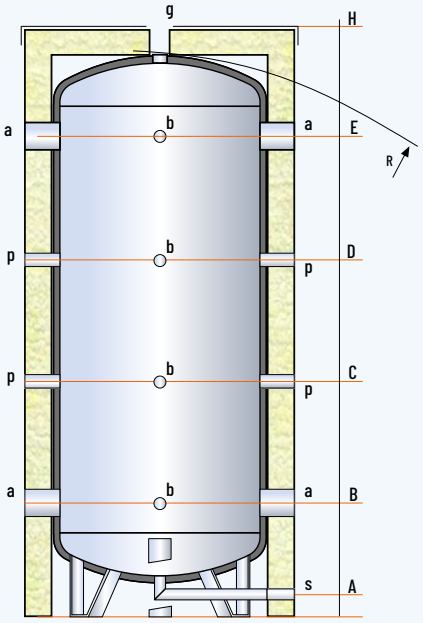
1500 - 5000 L

LEGEND

- **a .** System Inlet/Outlet
- **b .** Control instruments
- **g .** Vent / safety valve
- **p .** Free connection
- **s .** Drain







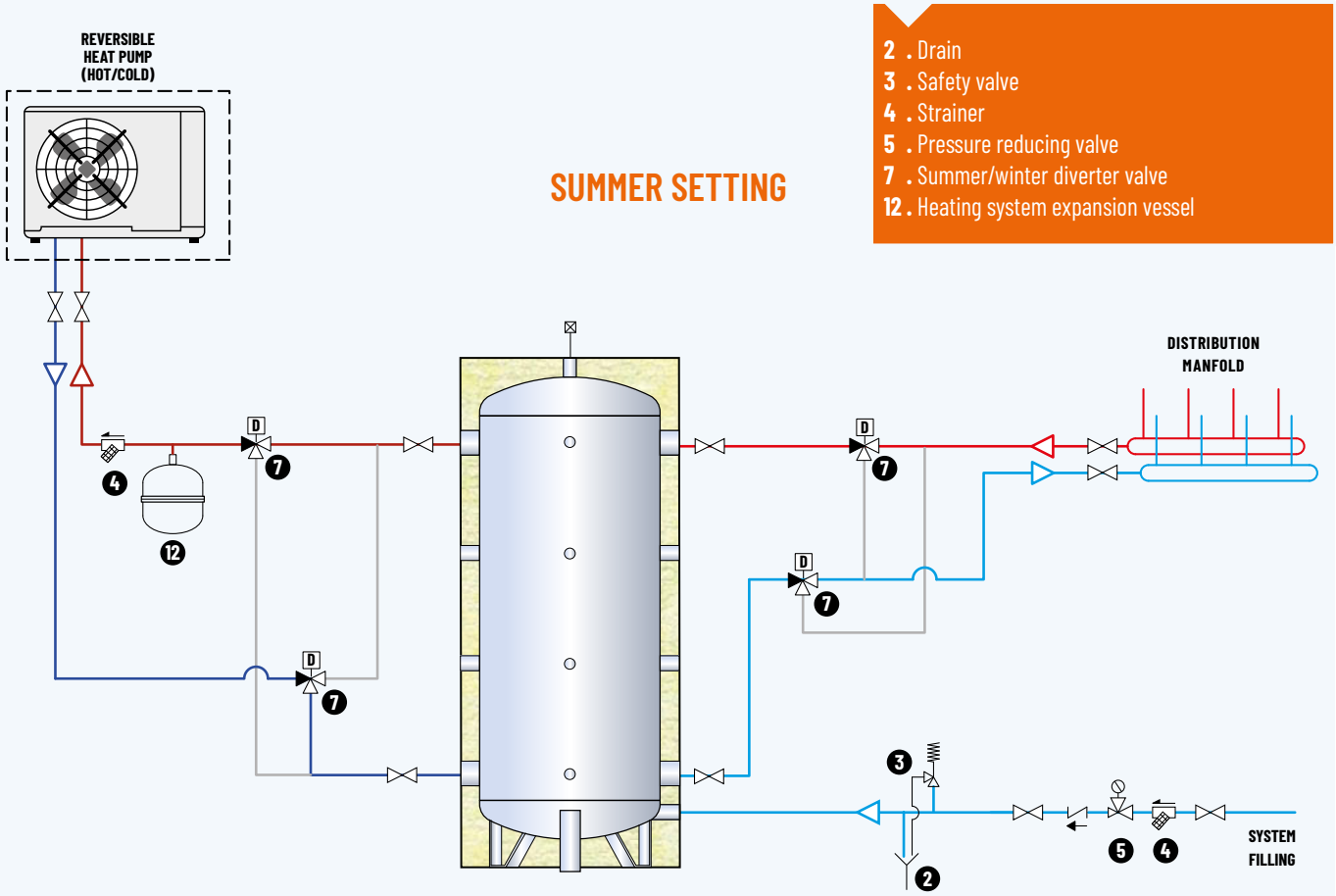
MODEL	DIMENSIONS (mm) Ø	H	Ø EXT **	R *	WEIGHT (kg)
ACF 00012 R	220	380	270	-	9
ACF 00025 R	220	720	270	-	12
ACF 00050 R	300	750	350	-	18
ACF 00100 R	400	915	500	1055	31
ACF 00200 R	450	1330	550	1450	33
ACF 00300 R	500	1610	600	1730	42
ACF 00500 R	650	1665	750	1840	68
ACF 00800 R	790	1700	890	1930	86
ACF 01000 R	790	2060	890	2255	102
ACF 01500 PF	1000	2145	1280	2235	147
ACF 02000 PF	1100	2395	1380	2465	212
ACF 02500 PF	1200	2595	1480	2690	358
ACF 03000 PF	1250	2795	1530	2885	428
ACF 04000 PF	1400	2925	1680	3030	499
ACF 05000 PF	1600	2955	1880	3090	580

** For capacities from 100 to 1000 litres, the tilt height refers to the insulated cylinder*
*** The insulation is not removable except for models from 1500 to 5000 litres (only the soft polyester insulation is removable)*

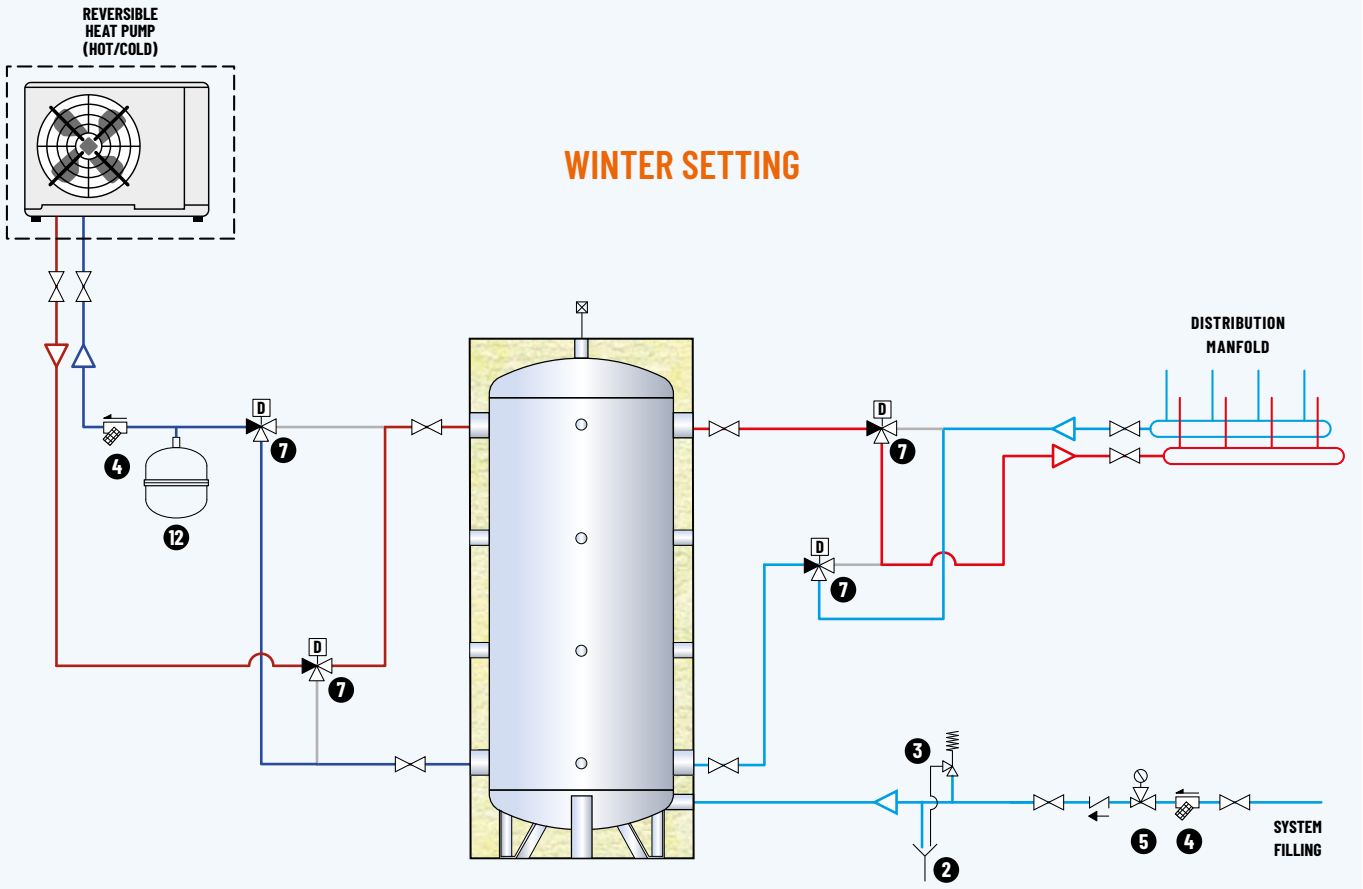
MODEL	HEIGHTS (mm) A	B	C	D	E	CONNECTIONS (GAS) a	b	g	p	s
ACF 00012 R	-	-	-	-	-	1" ¼	-	½"	-	½"
ACF 00025 R	-	-	-	-	-	1" ¼	-	½"	-	½"
ACF 00050 R	-	-	-	-	-	1" ¼	½"	½"	-	½"
ACF 00100 R	105	210	380	545	710	1" ½	½"	1" ¼	1" ½	1"
ACF 00200 R	135	220	510	805	1095	1" ½	½"	1" ¼	1" ½	1"
ACF 00300 R	125	275	625	975	1320	2"	½"	1" ¼	1" ½	1"
ACF 00500 R	155	305	655	1005	1350	3"	½"	1" ¼	1" ½	1"
ACF 00800 R	170	320	670	1020	1365	3"	½"	1" ½	1" ½	1"
ACF 01000 R	170	320	785	1250	1710	3"	½"	1" ½	1" ½	1"
ACF 01500 PF	110	485	915	1350	1780	3"	½"	1" ½	1" ½	1"
ACF 02000 PF	100	490	1020	1550	1985	3"	½"	1" ½	1" ½	1"
ACF 02500 PF	100	540	1060	1580	2095	4"	½"	1" ½	1" ½	1"
ACF 03000 PF	90	535	1120	1705	2290	4"	½"	1" ½	1" ½	1"
ACF 04000 PF	120	615	1200	1785	2370	4"	½"	1" ½	1" ½	1"
ACF 05000 PF	100	620	1205	1785	2375	4"	½"	1" ½	1" ½	1"

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

SUMMER SETTING



WINTER SETTING





SMHP - High performance combined buffer store for heat pumps Smartwarm HP

Smartwarm HP is a combined buffer store for primary water with instantaneous production of domestic hot water (DHW) through a high efficiency heat exchanger made of a corrugated stainless steel pipe.
It is available in two options: buffer store + DHW production (SM0HP) and buffer store + DWH production and auxiliary heat exchanger (SM1HP).

The high ratio between exchanging area and store volume, allows Smartwarm HP to deliver a high performance of DHW production even in combination with low temperature sources like the modern hydronic heat pumps
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES		
Primary water buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	3 bar / 95°C
DHW Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Rating (P max. / T max.)	6 bar / 95°C
	Type	Corrugated pipe
Auxiliary heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
General features	**Capacity**	300 - 400 L
	Warranty	5 years
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

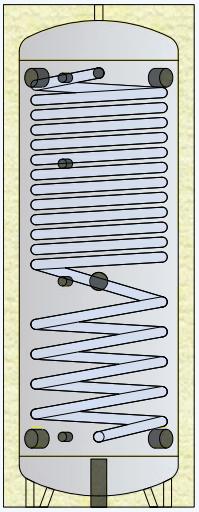
ACCESSORIES
(page 218)


Electronic control unit


Thermostat

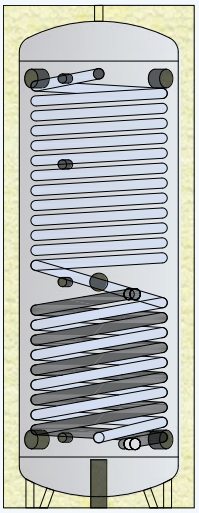

Thermometer


1"½ electric immersion heater



SM0HP - Hard insulation with rigid polyurethane foam and PVC jacket

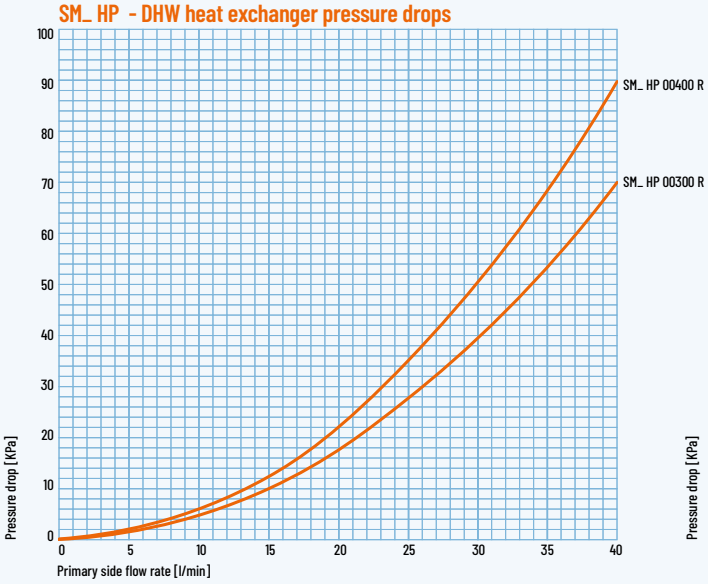
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *
SM0HP 00300 R	50	B	57,3	289,8	4,0 / 17,0
SM0HP 00400 R	50	B	69,8	404,9	5,0 / 20,6



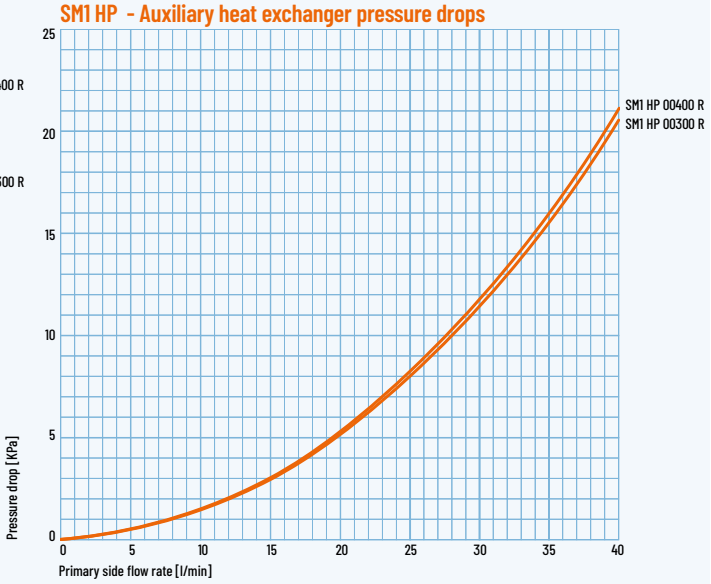
SM1HP - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
SM1HP 00300 R	50	B	57,3	289,8	4,0 / 17,0	1,2 / 4,4
SM1HP 00400 R	50	B	69,8	404,9	5,0 / 20,6	1,4 / 5,3

SM_ HP - DHW heat exchanger pressure drops



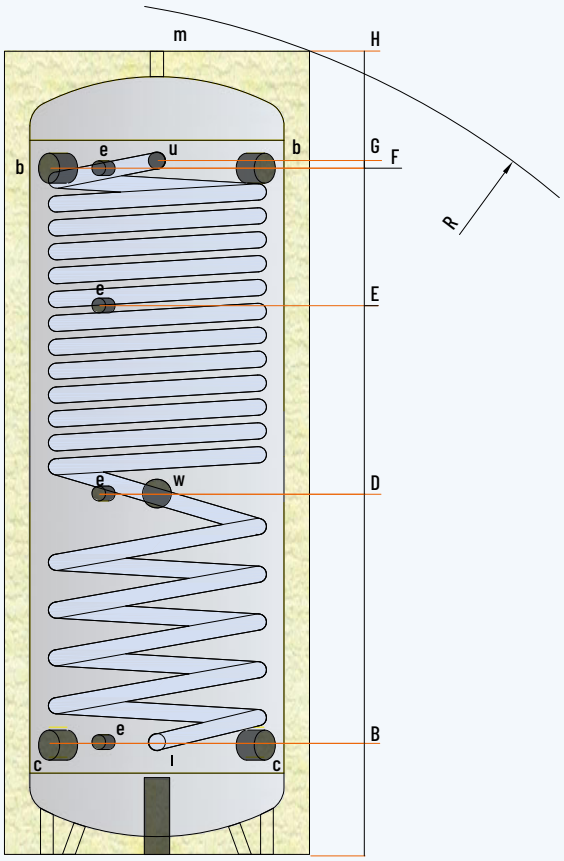
SM1 HP - Auxiliary heat exchanger pressure drops



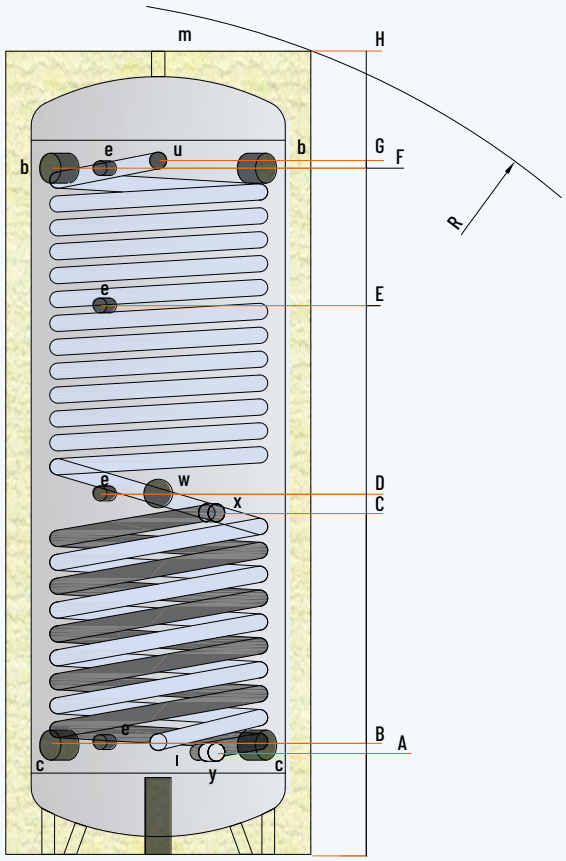
** Volume occupied by the heat exchanger and its support structure*

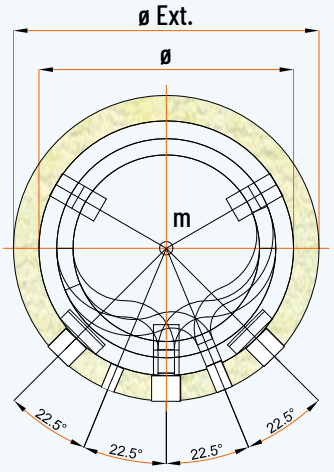
Dimensions and heights

SM0HP



SM1HP





LEGEND

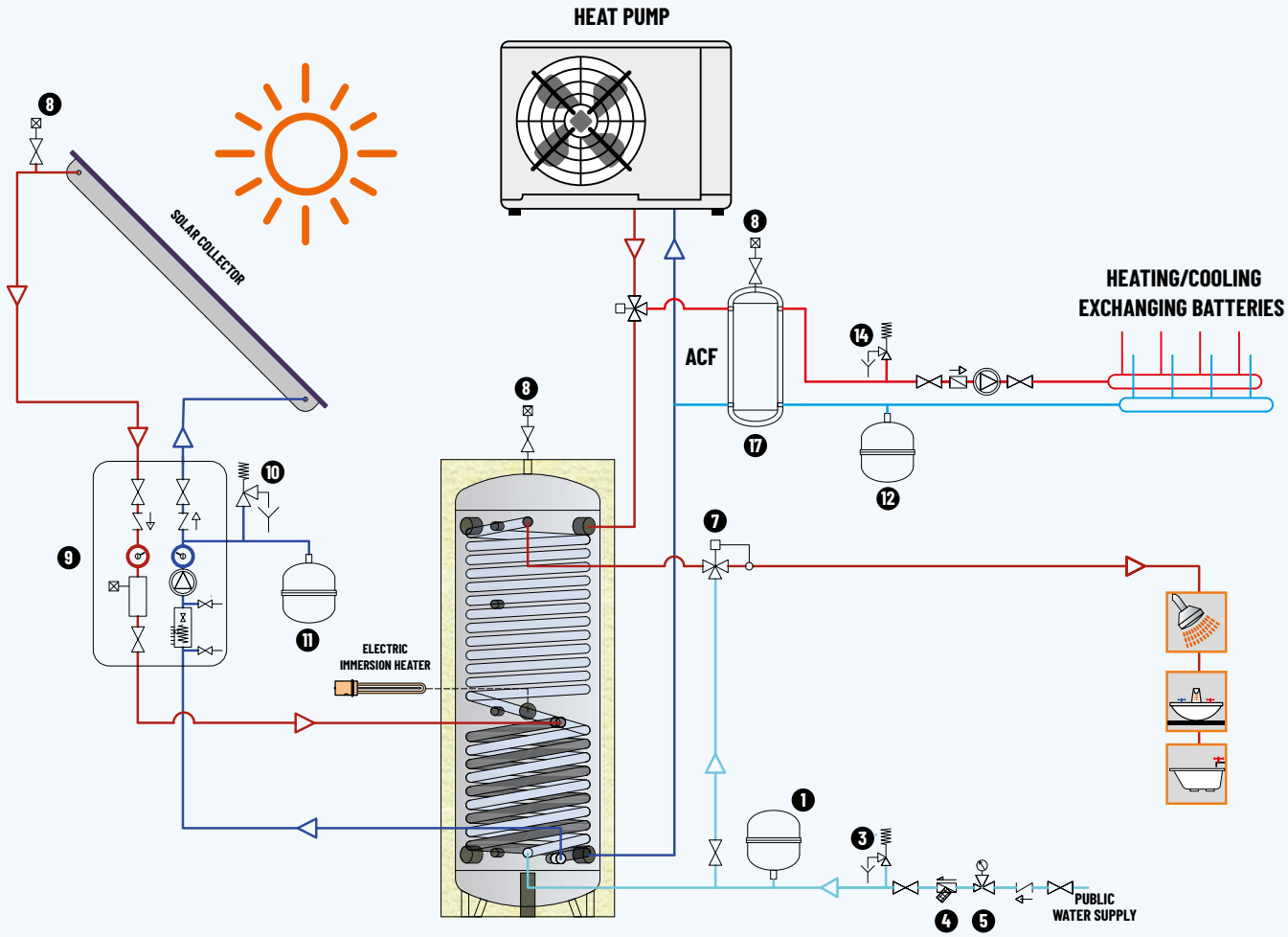
- **b .** Heat source flow
- **c .** Heat source return
- **e .** Thermometer - Sensor
- **i .** Domestic cold water inlet
- **m .** Buffer vent
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	DHW HEAT EXCHANGER (m^2) / (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L)	WEIGHT (kg)
SM_HP 00300 R	500	1580	600	1520	4,0 / 13,7	1,2 / 4,1	70
SM_HP 00400 R	600	1610	700	1660	5,0 / 17,0	1,4 / 4,8	104

** The insulation is not removable*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	CONNECTIONS (GAS) b c	x y	e	i u	m	w
SM_HP 00300 R	201	221	672	710	1080	1350	1365	1"½	¾"	½"	¾"	½"	1"½
SM_HP 00400 R	210	230	606	644	1090	1350	1365	1"½	¾"	½"	¾"	½"	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit
11 . Solar system expansion vessel
12 . Heating system expansion vessel
14 . Heating system safety valve
17 . Low loss header ACF

SM_ HP Domestic Hot Water performance

CODE	SM_ HP 00300 R	SM_ HP 00300 R
DHW Heat exchanger m² (L)	4,0 (13,6)	5,0 (17,1)
Power (kW)	36,0	45,0
DHW Continuous draw(1) (L/h)	884	1105
DHW(2) producible with a 10 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	82	112
Buffer at 65 °C (L)	185	252
Buffer at 70 °C (L)	269	367
DHW(2) producible with a 20 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	45	61
Buffer at 65 °C (L)	112	153
Buffer at 70 °C (L)	175	139
NL (3)	1	1,2

(1) Average buffer temp. 65 °C, DHW from 10 to 45° C
(2) from 10 to 45 °C
(3) Buffer at 70 °C, DHW from 10 to 45° C

SM1 HP auxiliary heat exchanger performance

CODE	SM1 HP 00300 R	SM1 HP 00300 R
Heat exchanger m² (L)	1,2 (4,1)	1,3 (4,5)
Power (kW)		
ΔT(4) = 10° C	6,3	6,8
ΔT(4) = 15° C	9,5	10,2
ΔT(4) = 20° C	12,6	13,6
ΔT(4) = 25° C	15,8	17,0

(4): difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).



TWHP - High performance Two-in-one buffer store for heat pumps Twin HP

Twin HP consists of two cylinders in a single body:
the upper tank is a buffer store for primary water with instantaneous production of domestic hot water (DHW) through a high efficiency heat exchanger made of a corrugated stainless steel pipe. The lower tank is a buffer store for primary water for the heating system.
It is available in two options: buffer store + DHW production (TWOHP) and buffer store + DWH production and auxiliary heat exchanger (TW1HP).
Twin HP represents a very cost effective and compact solution that allows space savings on domestic applications powered by modern hydronics heat pumps.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES

Primary water buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	3 bar / 95°C
DHW Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
Auxiliary heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	Corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
General features	**Capacity**	300 - 400 L
	Warranty	5 years
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

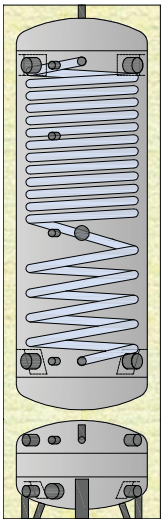
ACCESSORIES (page 218)


Electronic control unit


Thermostat

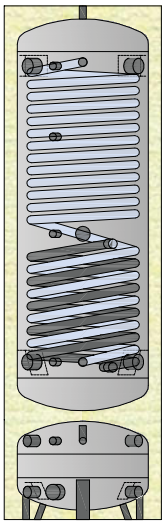

Thermometer


1"½ electric immersion heater



TW0HP - Hard insulation with rigid polyurethane foam and PVC jacket

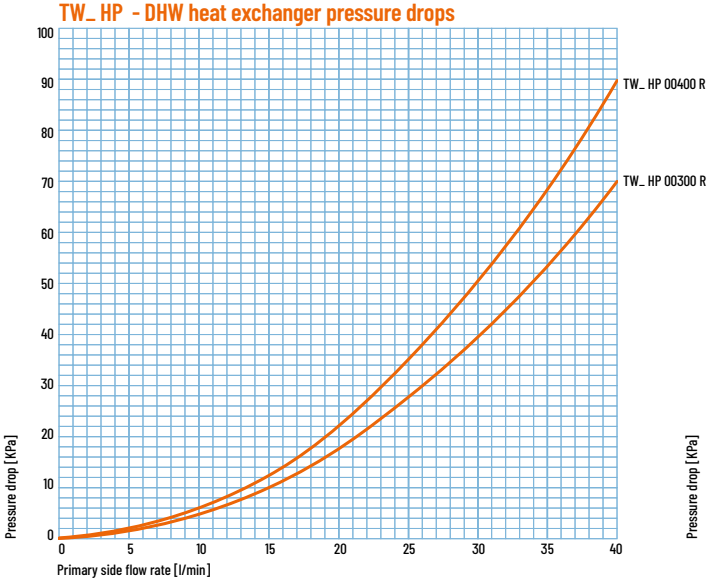
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	UPPER BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	LOWER BUFFER CAPACITY (L) *
TW0HP 00300 R	50	B	57,3	289,8	4,0 / 17,0	58,0
TW0HP 00400 R	50	B	69,8	404,9	5,0 / 20,6	85,0



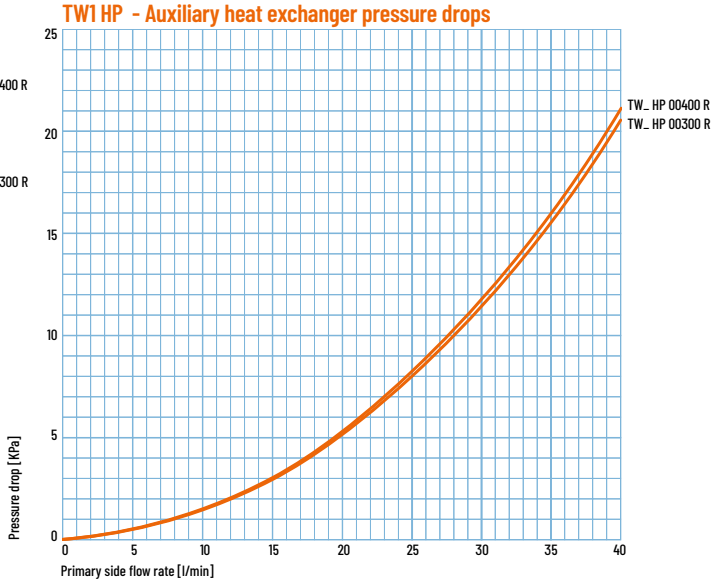
TW1HP - Hard insulation with rigid polyurethane foam and PVC jacket

TW1HP 00300 R	50	B	57,3	289,8	4,0 / 17,0	1,2 / 4,4	58,0
TW1HP 00400 R	50	B	69,8	404,9	5,0 / 20,6	1,4 / 5,3	85,0

TW_ HP - DHW heat exchanger pressure drops

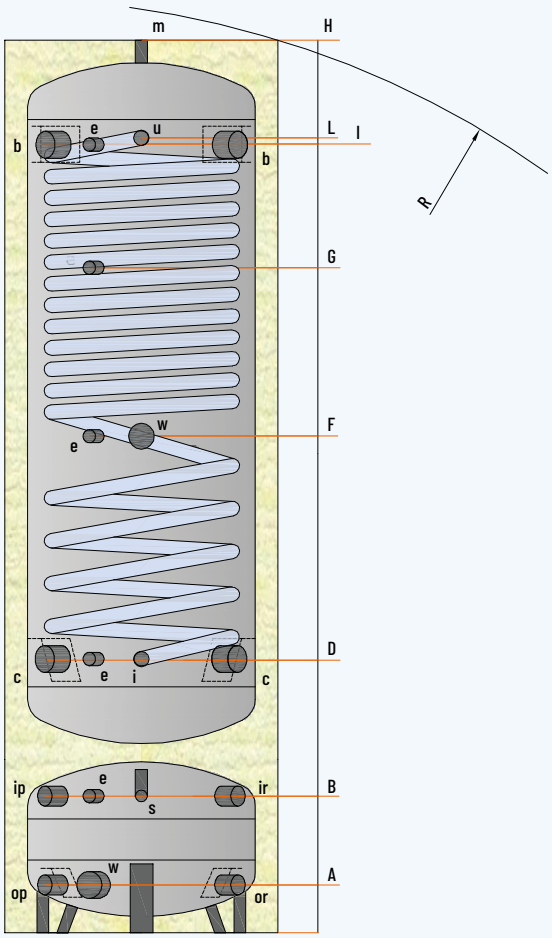


TW1 HP - Auxiliary heat exchanger pressure drops

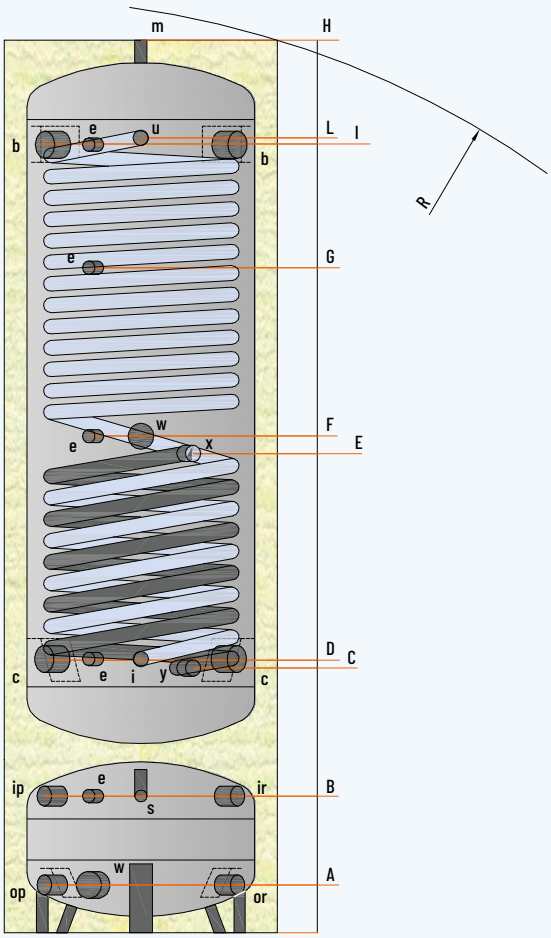


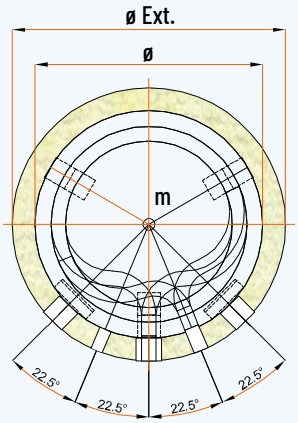
** Volume occupied by the heat exchanger and its support structure*

TW0HP



TW1HP





LEGEND

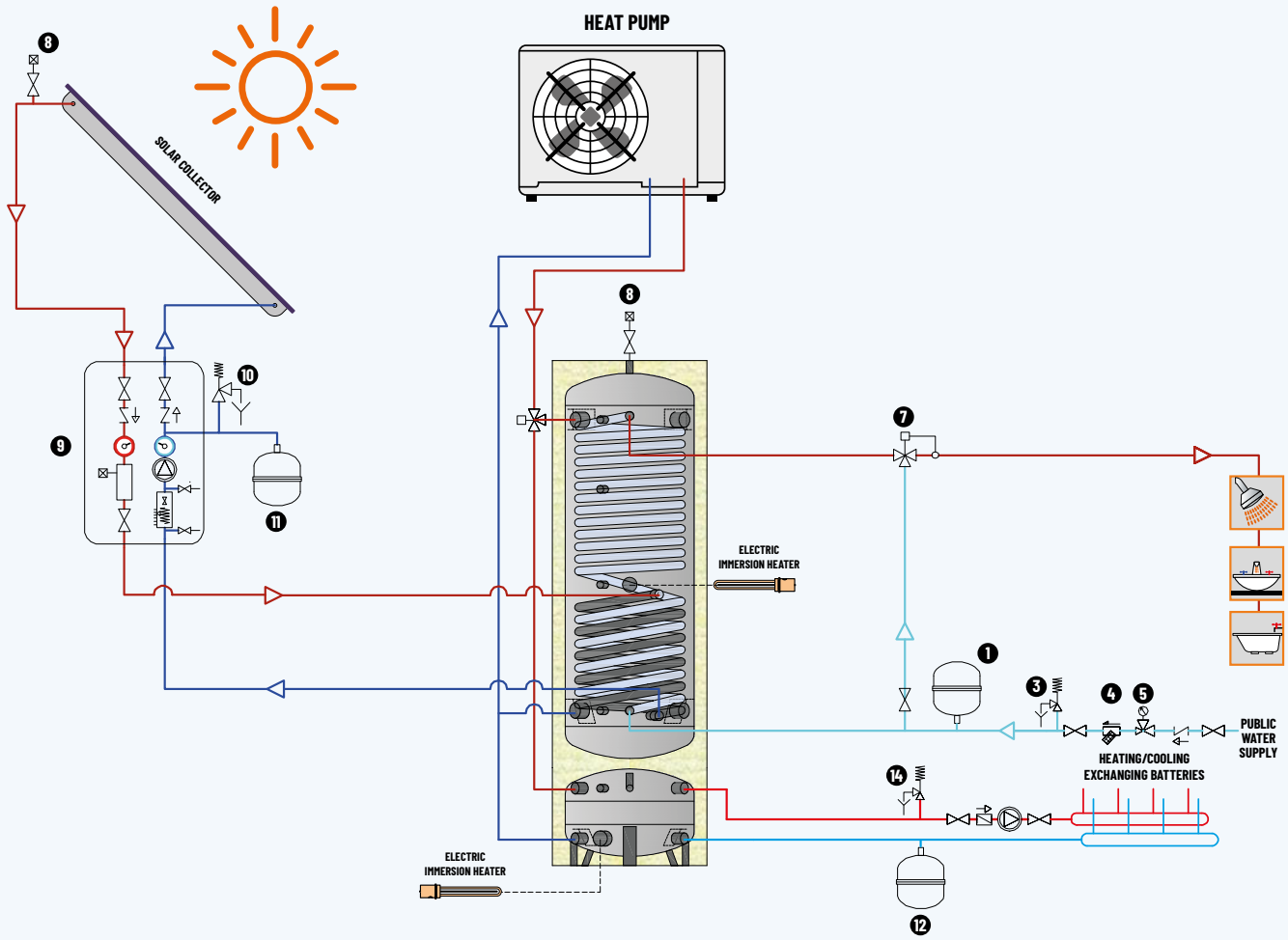
b . Heat source flow
c . Heat source return
e . Thermometer - Sensor
i . Domestic cold water inlet
m . Buffer vent
u . Domestic hot water outlet
w . Opening for immersion heater
x . Solar system flow
y . Solar system return
ip . Heat pump flow to buffer vessel
op . Heat pump return from buffer
ir . Air conditioning system flow
or . Air conditioning system return
s . Buffer vent

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	DHW HEAT EXCHANGER (m^2) / (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L)	BUFFER VOLUME (L)	WEIGHT (kg)
TW_HP 00300 R	500	1980	600	2090	4,0 / 13,7	1,2 / 4,1	58,0	127
TW_HP 00400 R	600	2020	700	2160	5,0 / 15,6	1,4 / 4,8	85,0	154

** The insulation is not removable*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	CONNECTIONS (GAS) b c	x y	e	i u	m s	ip op or ir	w
TW_HP 00300 R	105	300	581	601	1052	1090	1460	1730	1746	1"½	¾"	½"	¾"	½"	1"	1"½
TW_HP 00400 R	125	310	620	640	1016	1054	1500	1760	1775	1"½	¾"	½"	¾"	½"	1"	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit
11 . Solar system expansion vessel
12 . Heating system expansion vessel
14 . Heating system safety valve

TW_ HP Domestic Hot Water performance

CODE	TW_ HP 00300 R	TW_ HP 00400 R
DHW Heat exchanger m² (L)	4,0 (13,7)	5,0 (17,0)
Power (kW)	36,0	45,0
DHW Continuous draw(1) (L/h)	884	1105
DHW(2) producible with a 10 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	82	112
Buffer at 65 °C (L)	185	252
Buffer at 70 °C (L)	269	367
DHW(2) producible with a 20 L/min flow rate, with a totally heated buffer and a not running heat source		
Buffer at 55 °C (L)	45	61
Buffer at 65 °C (L)	112	153
Buffer at 70 °C (L)	175	139
NL (3)	1	1,2

(1) Average buffer temp. 65 °C, DHW from 10 to 45° C
(2) from 10 to 45 °C
(3) Buffer at 70 °C, DHW from 10 to 45° C

TW1 HP auxiliary heat exchanger performance

CODE	TW1 HP 00300 R	TW1 HP 00400 R
Heat exchanger m² (L)	1,2 (4,1)	1,3 (4,5)
Power (kW)		
ΔT(4) = 10° C	6,3	6,8
ΔT(4) = 15° C	9,5	10,2
ΔT(4) = 20° C	12,6	13,6
ΔT(4) = 25° C	15,8	17,0

(4) ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).

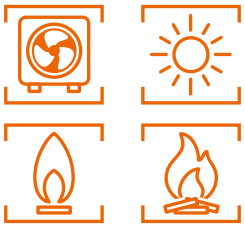


MXW - Combined buffer store / DHW pipe in pipe Maxiwarm

Mild steel hot water thermal buffer for the storage of primary water produced from continuous and discontinuous heat sources.
Instantaneous production of domestic hot water (DHW) through a high efficiency heat exchanger made of a corrugated stainless steel pipe.
Available in:
- only storage + DHW production
- storage + DHW production + one auxiliary fixed coil
- storage + DHW production + two auxiliary fixed coils.

The thermal fluid contained in the cylinder and in the primary heat exchangers must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE



APPLICATION







TECHNICAL FEATURES

DHW Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	High exchanging surface corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
Buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	3 bar / 95°C
Auxiliary heat exchanger	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	None
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	600 - 2000 L
	Warranty	5 years
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - Polyurethane foam + PVC for 600/800/100/1500/2000 litres capacity: Fire retardant class B3 (DIN 4102) - Polyester (15mm) + polystyrene (85mm) + PVC for 1250 litres capacity: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)



DHW Recirculation kit



Electronic control unit



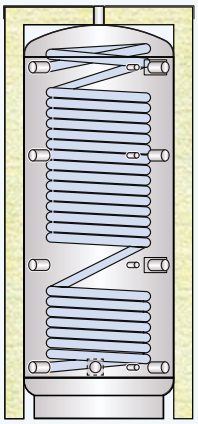
Thermostat



Thermometer



1"½ electric immersion heater

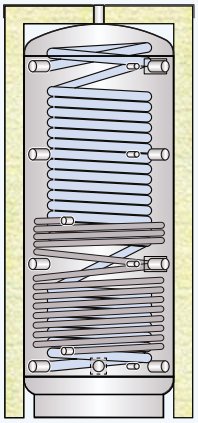


MX0W - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *
MX0W 00600 R	50	C	94,7	585,2	5,5 / 31,9
MX0W 00800 R	100	C	109,9	749,3	7,0 / 40,6
MX0W 01000 R	100	C	113,8	931,0	7,5 / 43,5
MX0W 01250 R	100	C	140,0	1266,8	8,5 / 49,3
MX0W 01500 R	100	C	132,8	1472,4	10,0 / 58,0
MX0W 02000 R	100	C	143,5	1950,0	12,0 / 69,6

MX0W - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *
MX0W 00800 F	130	C	129,4	749,3	7,0 / 40,6
MX0W 01000 F	130	C	141,2	931,0	7,5 / 43,5
MX0W 01250 F	130	C	159,6	1266,8	8,5 / 49,3
MX0W 01500 F	130	C	168,2	1472,4	10,0 / 58,0
MX0W 02000 F	130	C	184,0	1950,0	12,0 / 69,6

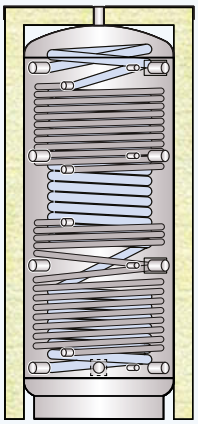


MX1W - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
MX1W 00600 R	50	C	94,7	585,2	5,5 / 31,9	2,5 / 24,5
MX1W 00800 R	100	C	109,9	749,3	7,0 / 40,6	2,5 / 24,5
MX1W 01000 R	100	C	113,8	931,0	7,5 / 43,5	3,5 / 34,3
MX1W 01250 R	100	C	140,0	1266,8	8,5 / 49,3	3,8 / 37,2
MX1W 01500 R	100	C	132,8	1472,4	10,0 / 58,0	4,0 / 39,2
MX1W 02000 R	100	C	143,5	1950,0	12,0 / 69,6	4,8 / 47,0

MX1W - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
MX1W 00800 F	130	C	129,4	749,3	7,0 / 40,6	2,5 / 24,5
MX1W 01000 F	130	C	141,2	931,0	7,5 / 43,5	3,5 / 34,3
MX1W 01250 F	130	C	159,6	1266,8	8,5 / 49,3	3,8 / 37,2
MX1W 01500 F	130	C	168,2	1472,4	10,0 / 58,0	4,0 / 39,2
MX1W 02000 F	130	C	184,0	1950,0	12,0 / 69,6	4,8 / 47,0



MX2W - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER LOWER (m^2) / (L) *	UPPER (m^2) / (L) *
MX2W 00600 R	50	C	94,7	585,2	5,5 / 31,9	2,5 / 24,5	1,8 / 17,6
MX2W 00800 R	100	C	109,9	749,3	7,0 / 40,6	2,5 / 24,5	2,0 / 19,6
MX2W 01000 R	100	C	113,8	931,0	7,5 / 43,5	3,5 / 34,3	2,5 / 24,5
MX2W 01250 R	100	C	140,0	1266,8	8,5 / 49,3	3,8 / 37,2	2,6 / 25,5
MX2W 01500 R	100	C	132,8	1472,4	10,0 / 58,0	4,0 / 39,2	2,8 / 27,4
MX2W 02000 R	100	C	143,5	1950,0	12,0 / 69,6	4,8 / 47,0	3,8 / 37,2

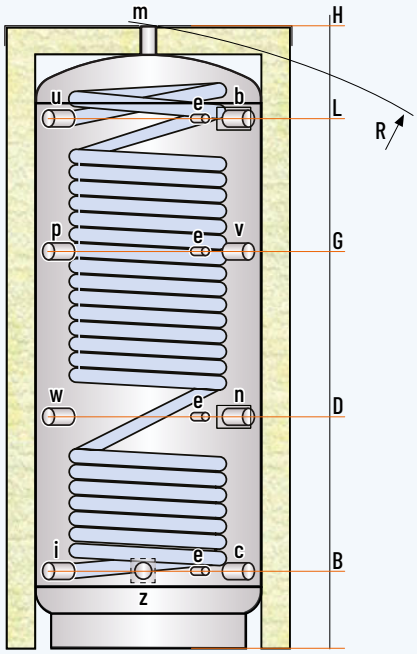
MX2W - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGER LOWER (m^2) / (L) *	UPPER (m^2) / (L) *
MX2W 00800 F	130	C	109,9	749,3	7,0 / 40,6	2,5 / 24,5	2,0 / 19,6
MX2W 01000 F	130	C	113,8	931,0	7,5 / 43,5	3,5 / 34,3	2,5 / 24,5
MX2W 01250 F	130	C	140,0	1266,8	8,5 / 49,3	3,8 / 37,2	2,6 / 25,5
MX2W 01500 F	130	C	132,8	1472,4	10,0 / 58,0	4,0 / 39,2	2,8 / 27,4
MX2W 02000 F	130	C	143,5	1950,0	12,0 / 69,6	4,8 / 47,0	3,8 / 37,2

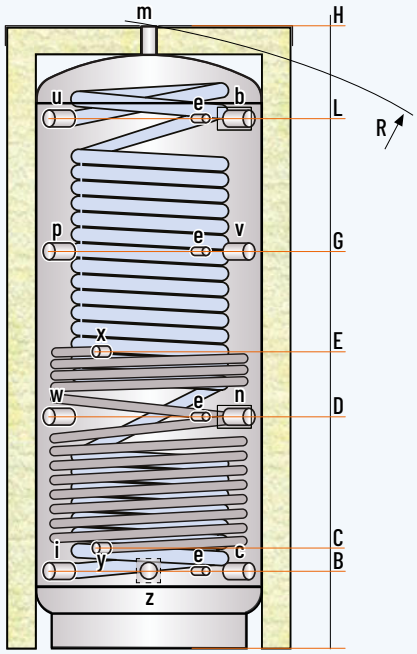
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

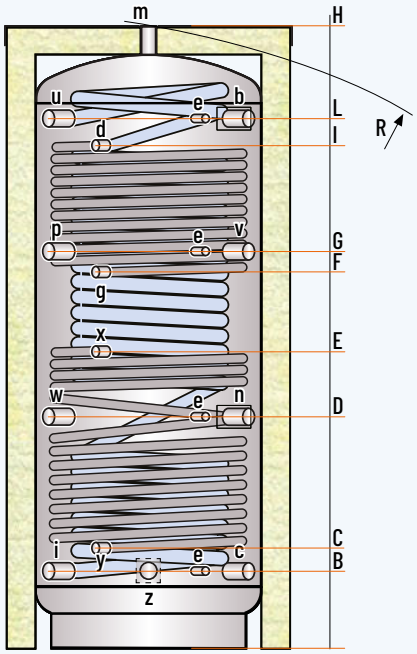
MX0W

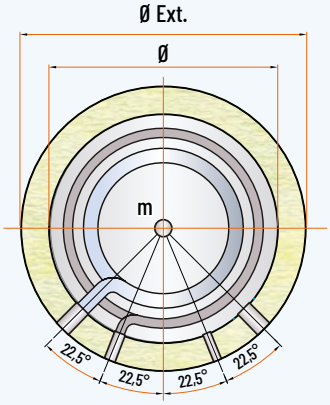


MX1W



MX2W





LEGEND

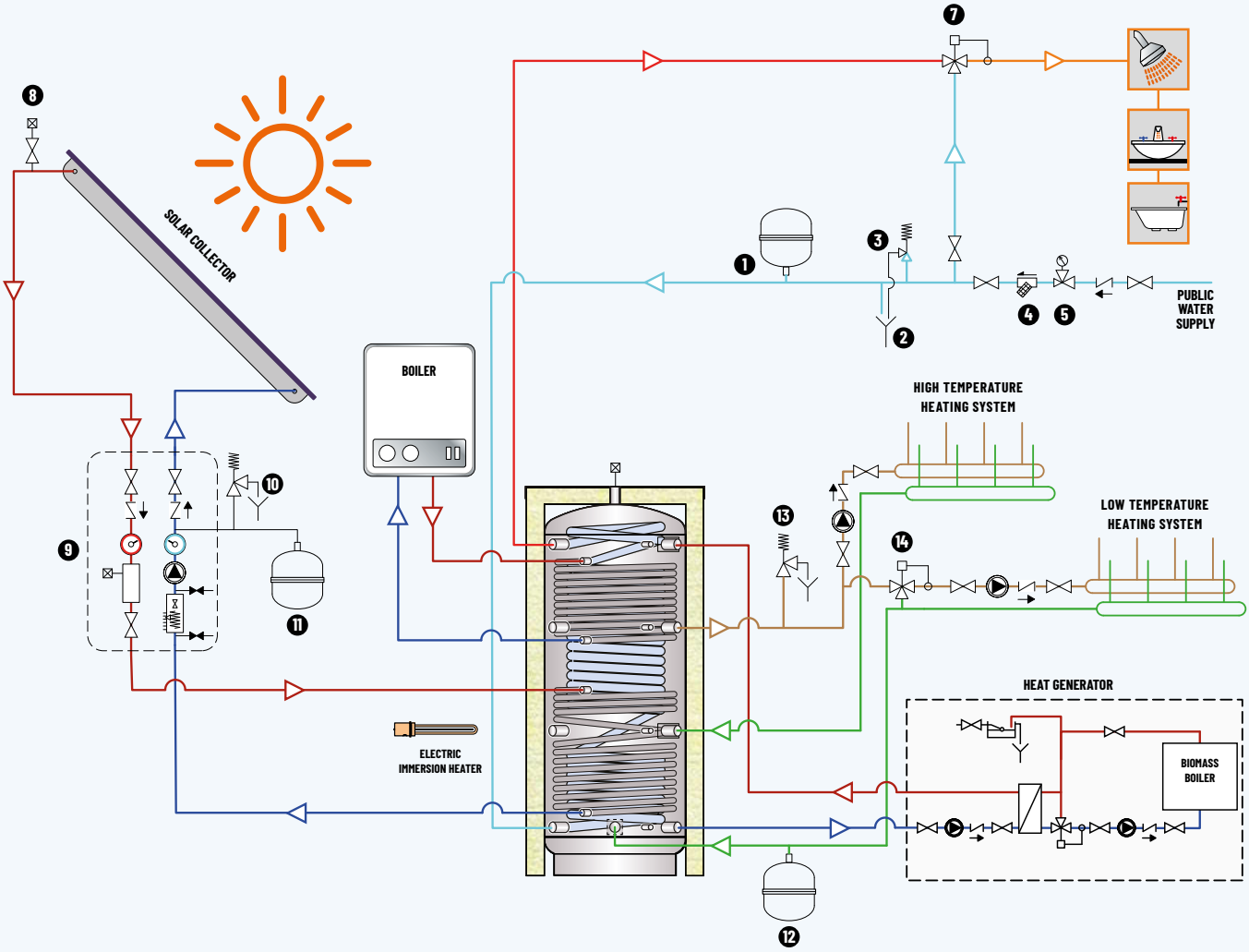
- **b .** Biomass boiler flow
- **c .** Biomass boiler return
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **m.** Buffer vent
- **n .** Heating system return
- **p .** Free connection
- **u .** Domestic hot water outlet
- **v .** Heating system flow
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return
- **z .** Low temperature heating system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R	HEAT EXCHANGER (m²) LOWER	UPPER	SS DHW HEAT EXCHANGER	WEIGHT MX2W (kg)
MX_W 00600 R	650	1895	750	2050 *	2,50	1,80	5,50	175
MX_W 00800_	790	1750	990/1050	1745	2,50	2,00	7,00	212
MX_W 01000_	790	2110	990/1050	2095	3,50	2,50	7,50	253
MX_W 01250_	950	2075	1150/1210	2090	3,80	2,60	8,50	289
MX_W 01500_	1000	2115	1200/1260	2145	4,00	2,80	10,00	316
MX_W 02000_	1100	2380	1300/1360	2385	4,80	3,80	12,00	371

** For the 600 litres model, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for the 600 litres model*

MODEL	HEIGHTS (mm) B	C	D	E	F	G	I	L	CONNECTIONS (GAS) d g x y	e	i u	b c m n p v w z
MX_W 00600 R	235	315	700	1000	1120	1270	1480	1630	1"	½"	1"¼	1"½
MX_W 00800_	275	355	655	875	1015	1145	1345	1410	1"	½"	1"¼	1"½
MX_W 01000_	275	350	810	1035	1195	1355	1675	1755	1"	½"	1"¼	1"½
MX_W 01250_	320	400	745	1060	1200	1380	1600	1705	1"	½"	1"¼	1"½
MX_W 01500_	340	420	765	1080	1220	1400	1620	1725	1"	½"	1"¼	1"½
MX_W 02000_	370	450	930	1090	1230	1435	1710	1945	1"	½"	1"¼	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel
12 . Heating system expansion vessel
13 . Heating system safety valve
14 . 3-way valve low temperature heating system

	Lower heat exchanger performance					Upper heat exchanger performance				
CODE	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C
MX_W 00600 R	2,5 (17,8)	16,0	24,0	32,0	40,0	1,8 (12,8)	11,5	17,3	23,0	28,8
MX_W 00800_	2,5 (17,8)	16,0	24,0	32,0	40,0	2,0 (14,2)	12,8	19,2	25,6	32,0
MX_W 01000_	3,5 (24,9)	22,4	33,6	44,8	56,0	2,5 (17,8)	16,0	24,0	32,0	40,0
MX_W 01250_	3,8 (27,0)	24,3	36,5	48,6	60,8	2,6 (18,5)	16,6	24,9	33,3	41,6
MX_W 01500_	4,0 (28,4)	25,6	38,4	51,2	64,0	2,8 (19,9)	17,9	26,9	35,8	44,8
MX_W 02000_	4,8 (34,1)	30,7	46,0	61,4	76,7	3,8 (27,0)	24,3	36,5	48,6	60,8

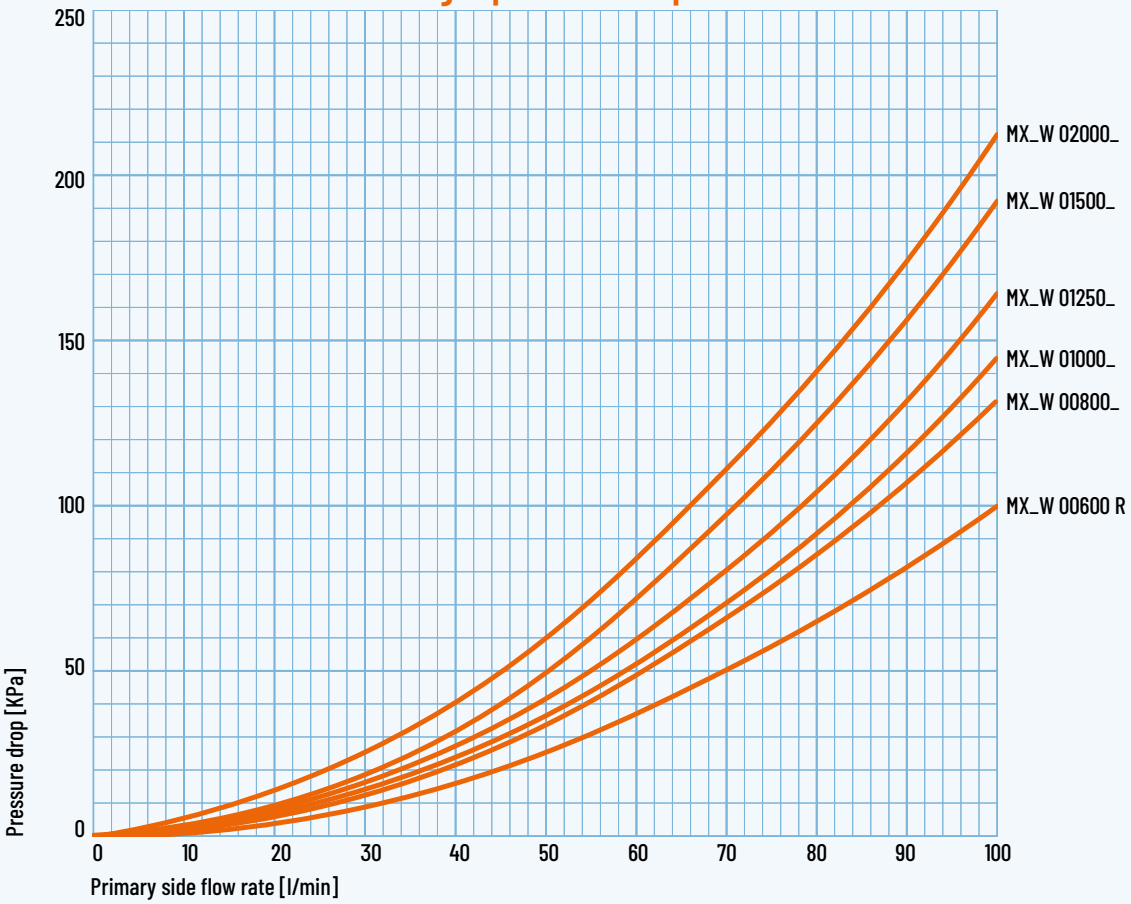
** ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).*

MX_W Domestic Hot Water performance

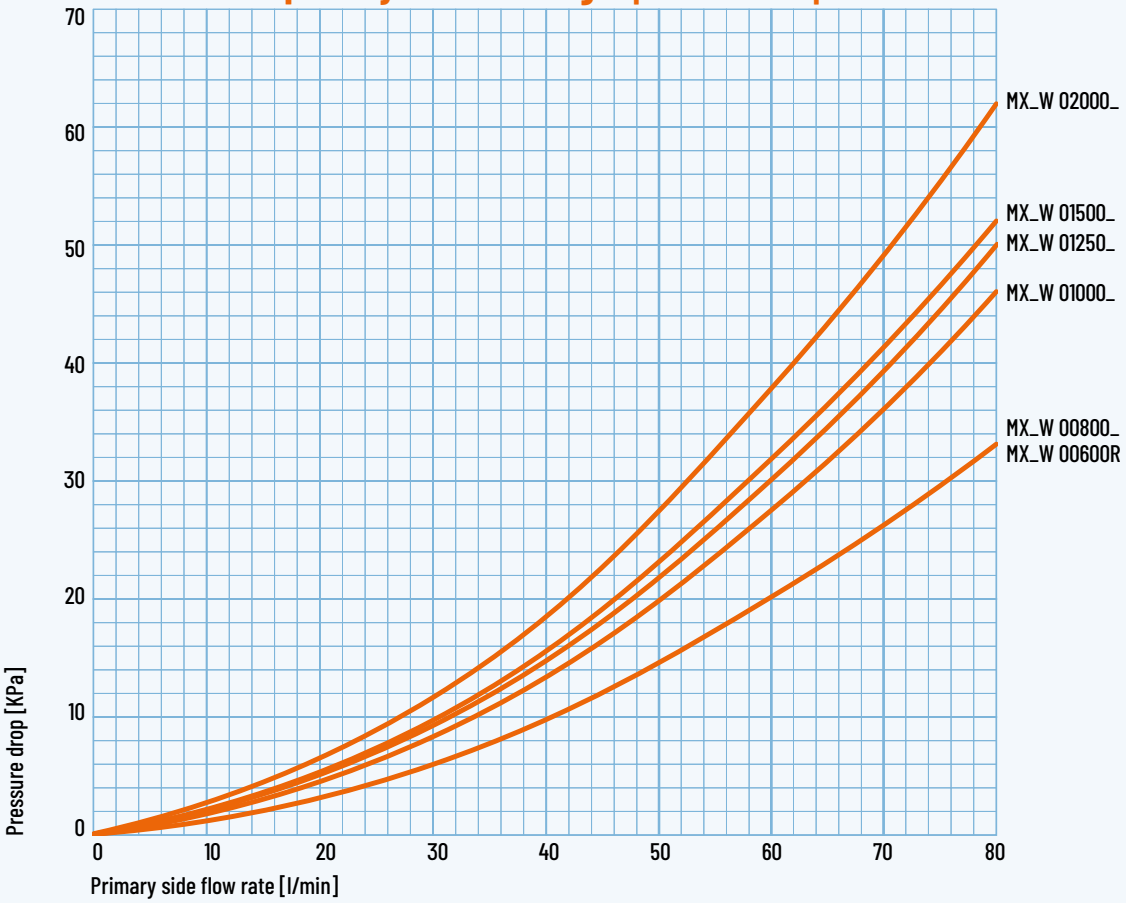
CODE	MX_W 00600 R	MX_W 00800_	MX_W 01000_	MX_W 01250_	MX_W 01500_	MX_W 02000_
DHW Heat exchanger m² (L)	5,5 (27,5)	7,0 (35,0)	7,5 (37,5)	8,5 (42,5)	10,0 (50,0)	12,0 (60,0)
DHW Power and flow rate (from 10 to 45 °C) in continuos draw at different primary side temperatures						
Primary at 55 °C Kw (L/h)	31,8 (744)	45,7 (1069)	50,5 (1182)	58,9 (1739)	73,4 (1717)	91,3 (2137)
Primary at 65 °C Kw (L/h)	49,1 (1207)	70,6 (1733)	78,0 (1917)	91,0 (2236)	113,4 (2786)	141,1 (3467)
Primary at 75 °C Kw (L/h)	57,5 (1412)	82,5 (2028)	91,3 (2242)	106,5 (2616)	132,7 (3259)	165,1 (4056)
DHW* producible with a 10 L/min flow rate from a totally heated buffer and a not running heat source						
Buffer at 55 °C (L)	170	265	352	527	698	1113
Buffer at 65 °C (L)	232	357	476	712	941	1244
Buffer at 70 °C (L)	441	564	701	953	1107	1465
DHW* producible with a 20 L/min flow rate from a totally heated buffer and a not running heat source						
Buffer at 55 °C (L)	115	170	221	324	417	642
Buffer at 65 °C (L)	157	248	331	498	664	1067
Buffer at 70 °C (L)	263	376	486	702	888	1333
DHW* producible with a 10 L/min flow rate, from a buffer heated only on the upper part and a not running heat source						
Buffer at 55 °C (L)	107	166	217	338	446	678
Buffer at 65 °C (L)	146	224	293	456	600	758
Buffer at 70 °C (L)	278	353	432	611	707	893
DHW* producible with a 20 L/min flow rate, from a buffer heated only on the upper part and a not running heat source						
Buffer at 55 °C (L)	73	106	136	208	266	391
Buffer at 65 °C (L)	99	155	331	319	424	650
Buffer at 70 °C (L)	166	235	486	450	567	812
NL **	2,1	3,2	4,0	4,2	4,4	5,3

** from 10 to 45 °C*
*** Buffer at 70 °C, DHW from 10 to 45° C*

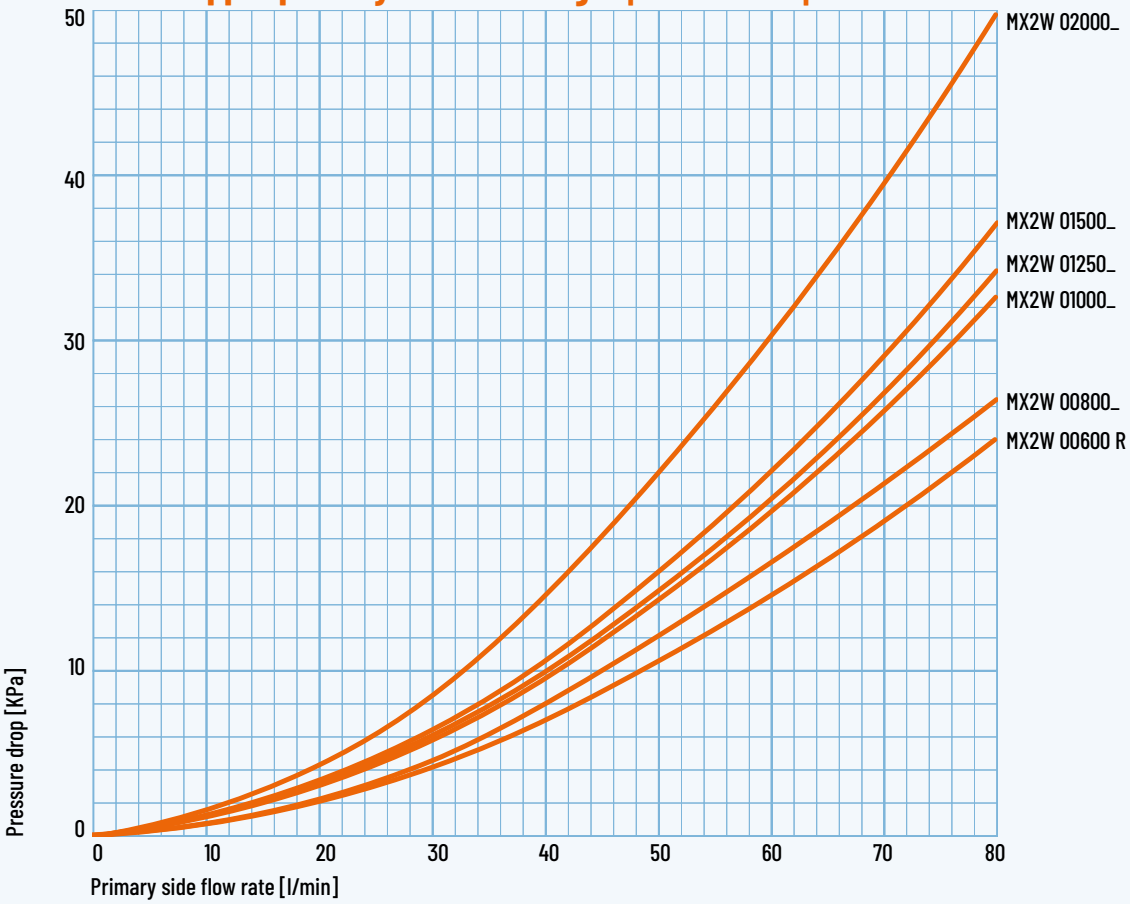
MXW - DHW heat exchanger pressure drops



MXW - Lower primary heat exchanger pressure drops



MXW - Upper primary heat exchanger pressure drops





SMX - Combined buffer store / DHW pipe in pipe Solarmax

Carbon steel hot water thermal buffer for the storage of primary water produced from continuous and discontinuous heat sources.
It is equipped with an innovative system of fluid distribution that enhances its performance in the most critical working conditions.
Instantaneous production of domestic hot water (DHW) through a high efficiency heat exchanger made of a corrugated stainless steel pipe.

Available in:
- storage + DHW production + one auxiliary fixed coil (SM1X)
- storage + DHW production + two auxiliary fixed coils (SM2X)

The thermal fluid contained in the cylinder and in the primary heat exchangers must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION

TECHNICAL FEATURES

DHW Heat exchanger	**Material**	AISI 316L Stainless steel (1.4404)
	Internal protective treatment	Pickling and passivation
	External protective treatment	Pickling and passivation
	Type	High exchanging surface corrugated pipe
	Rating (P max. / T max.)	6 bar / 95°C
Buffer vessel	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	3 bar / 95°C
Upper heat exchanger (boiler)	**Material**	S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	None
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
Lower heat exchanger (solar)	**Material**	Finned copper
	Internal protective treatment	None
	External protective treatment	None
	Type	Flat spiral coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	600 - 2000 L
	Warranty	5 years
	Insulation	- Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102) - Hard insulation: - Polyurethane foam + PVC for 600/800/1000/1500/2000 litres capacity: Fire retardant class B3 (DIN 4102) - Polyester (15mm) + polystyrene (85mm) + PVC for 1250 litres capacity: Fire retardant class B2 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)

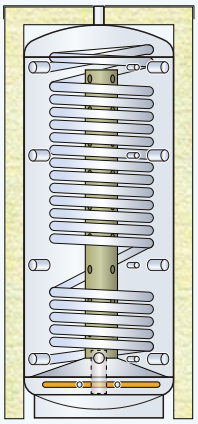

DHW Recirculation kit


Electronic control unit


Thermostat


Thermometer


1"½ electric immersion heater

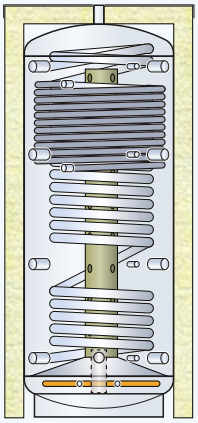


SM1X - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	LOWER HEAT EXCHANGER (m^2) / (L) *
SM1X 00600 R	50	C	94,7	585,2	5,5 / 31,9	3,0 / 3,9
SM1X 00800 R	100	C	109,9	749,3	7,0 / 40,6	3,0 / 3,9
SM1X 01000 R	100	C	113,8	931,0	7,5 / 43,5	3,6 / 4,8
SM1X 01250 R	100	C	140,0	1266,8	8,5 / 49,3	3,6 / 4,8
SM1X 01500 R	100	C	132,8	1472,4	10,0 / 58,0	5,0 / 6,7
SM1X 02000 R	100	C	143,5	1950,0	12,0 / 69,6	5,0 / 6,7

SM1X - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	LOWER HEAT EXCHANGER (m^2) / (L) *
SM1X 00800 F	130	C	129,4	749,3	7,0 / 40,6	3,0 / 3,9
SM1X 01000 F	130	C	141,2	931,0	7,5 / 43,5	3,6 / 4,8
SM1X 01250 F	130	C	159,6	1266,8	8,5 / 49,3	3,6 / 4,8
SM1X 01500 F	130	C	168,2	1472,4	10,0 / 58,0	5,0 / 6,7
SM1X 02000 F	130	C	184,0	1950,0	12,0 / 69,6	5,0 / 6,7



SM2X - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGERS LOWER (m^2) / (L) *	UPPER (m^2) / (L) *
SM2X 00600 R	50	C	94,7	585,2	5,5 / 31,9	3,0 / 3,9	1,8 / 17,6
SM2X 00800 R	100	C	109,9	749,3	7,0 / 40,6	3,0 / 3,9	2,0 / 19,6
SM2X 01000 R	100	C	113,8	931,0	7,5 / 43,5	3,6 / 4,8	2,5 / 24,5
SM2X 01250 R	100	C	140,0	1266,8	8,5 / 49,3	3,6 / 4,8	2,6 / 25,5
SM2X 01500 R	100	C	132,8	1472,4	10,0 / 58,0	5,0 / 6,7	2,8 / 27,4
SM2X 02000 R	100	C	143,5	1950,0	12,0 / 69,6	5,0 / 6,7	3,8 / 37,2

SM2X - Soft insulation with polyester and PVC jacket

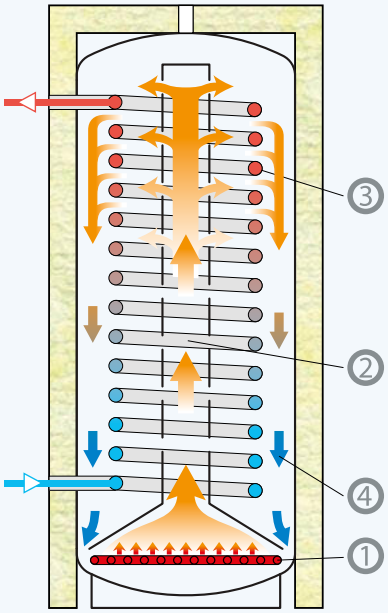
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW HEAT EXCHANGER (m^2) / (L) *	AUXILIARY HEAT EXCHANGERS LOWER (m^2) / (L) *	UPPER (m^2) / (L) *
SM2X 00800 F	130	C	129,4	749,3	7,0 / 40,6	3,0 / 3,9	2,0 / 19,6
SM2X 01000 F	130	C	141,2	931,0	7,5 / 43,5	3,6 / 4,8	2,5 / 24,5
SM2X 01250 F	130	C	159,6	1266,8	8,5 / 49,3	3,6 / 4,8	2,6 / 25,5
SM2X 01500 F	130	C	168,2	1472,4	10,0 / 58,0	5,0 / 6,7	2,8 / 27,4
SM2X 02000 F	130	C	184,0	1950,0	12,0 / 69,6	5,0 / 6,7	3,8 / 37,2

How it works

The solar heat exchanger (1), placed inside the lower dome, heats fastly the small amount of fluid contained therein. Thanks to a central conveyor (2) this liquid is directly diverted to the top of the cylinder. Hence, the heat flow crosses and heat the high capacity DHW pipe (3) starting the heat exchanging process. As the temperature of the primary fluid drops, it starts to run way down along the peripherical area of the vessel (4) to be heated once again. This is a neat and constant cycle according to the



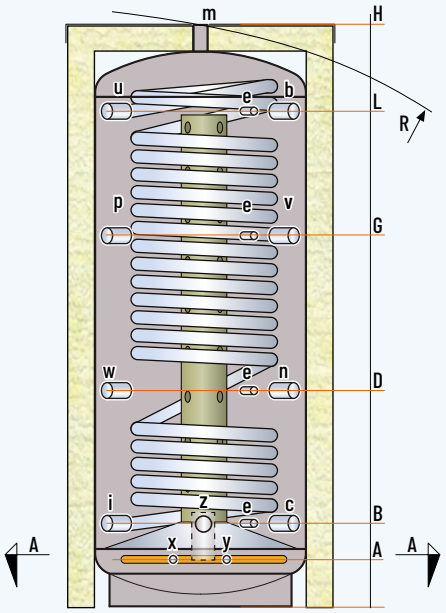
principle of the natural convective motion. The heat flow conveyor allows to benefit immediately of the very first energy delivered by the solar system without the need to wait for the thermal stratification of the entire buffer vessel.



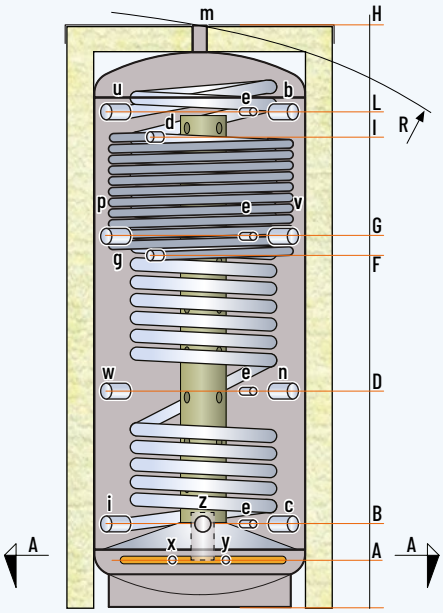
** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

SM1X



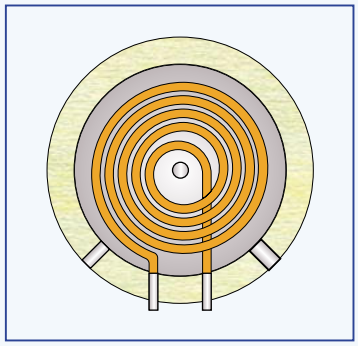
SM2X

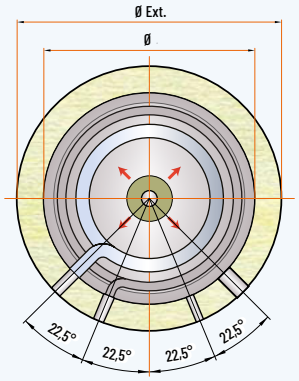


LEGEND

- **b .** Biomass boiler flow
- **c .** Biomass boiler return
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **m.** Buffer vent
- **n .** Heating system return
- **p .** Free connection
- **u .** Domestic hot water outlet
- **v .** Heating system flow
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return
- **z .** Low temperature heating system return

A-A Section



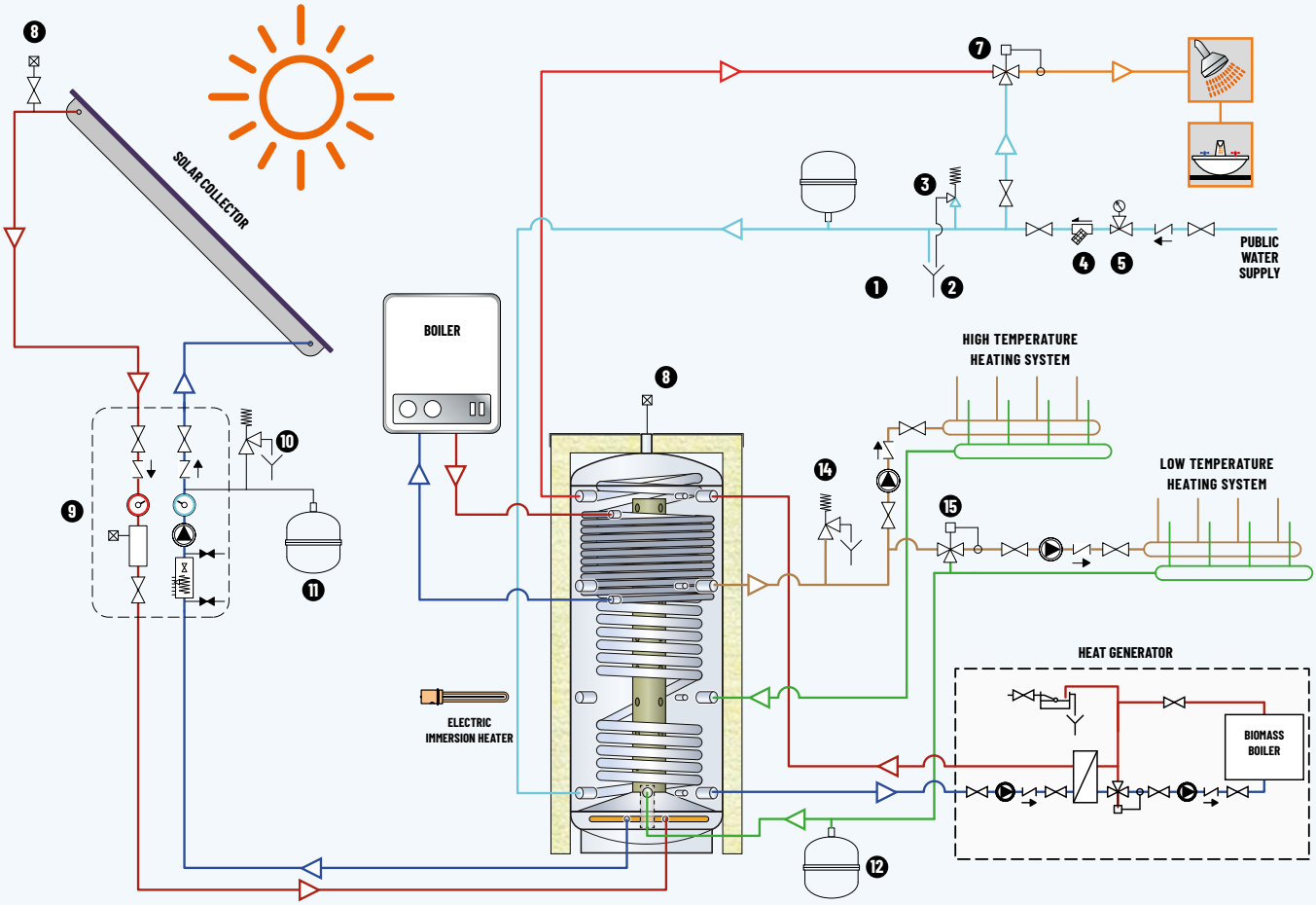


MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R	HEAT EXCHANGER (m²) LOWER (COPPER)	UPPER	SS DHW HEAT EXCHANGER	WEIGHT SM2X (kg)
SM_X 00600 R	650	1895	750	2050 *	3,00	1,80	5,50	143
SM_X 00800_	790	1750	990/1050	1745	3,00	2,00	7,00	180
SM_X 01000_	790	2110	990/1050	2095	3,60	2,50	7,50	208
SM_X 01250_	950	2075	1150/1210	2090	3,60	2,60	8,50	240
SM_X 01500_	1000	2115	1200/1260	2145	5,00	2,80	10,00	263
SM_X 02000_	1100	2380	1300/1360	2385	5,00	3,80	12,00	309

** For the 600 litres model, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for the 600 litres model*

MODEL	HEIGHTS (mm) A	B	D	F	G	I	L	CONNECTIONS (GAS) d g	e	i u	x y	b c m n p v w z
SM_X 00600 R	135	235	700	1120	1270	1480	1630	1"	½"	1"¼	¾" male thread	1"½
SM_X 00800_	170	275	655	1015	1145	1345	1410	1"	½"	1"¼	¾" male thread	1"½
SM_X 01000_	170	275	810	1195	1355	1675	1755	1"	½"	1"¼	¾" male thread	1"½
SM_X 01250_	215	320	745	1200	1380	1600	1705	1"	½"	1"¼	¾" male thread	1"½
SM_X 01500_	235	340	765	1220	1400	1620	1725	1"	½"	1"¼	1" male thread	1"½
SM_X 02000_	265	370	930	1230	1435	1710	1945	1"	½"	1"¼	1" male thread	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel
12 . Heating system expansion vessel
14 . Heating system safety valve
15 . 3-way valve low temperature heating system

	Finned copper lower heat exchanger					Carbon steel upper heat exchanger				
CODE	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C
SM_X 00600 R	3,0 (2,6)	10,2	15,3	20,4	25,5	1,8 (12,8)	11,5	17,3	23,0	28,8
SM_X 00800_	3,0 (2,6)	10,2	15,3	20,4	25,5	2,0 (14,2)	12,8	19,2	25,6	32,0
SM_X 01000_	3,6 (3,1)	11,0	16,5	22,0	27,5	2,5 (17,8)	16,0	24,0	32,0	40,0
SM_X 01250_	3,6 (3,1)	11,0	16,5	22,0	27,5	2,6 (18,5)	16,6	24,9	33,3	41,6
SM_X 01500_	5,0 (4,2)	12,8	19,2	25,6	32,0	2,8 (19,9)	17,9	26,9	35,8	44,8
SM_X 02000_	5,0 (4,2)	12,8	19,2	25,6	32,0	3,8 (27,0)	24,3	36,5	48,6	60,8

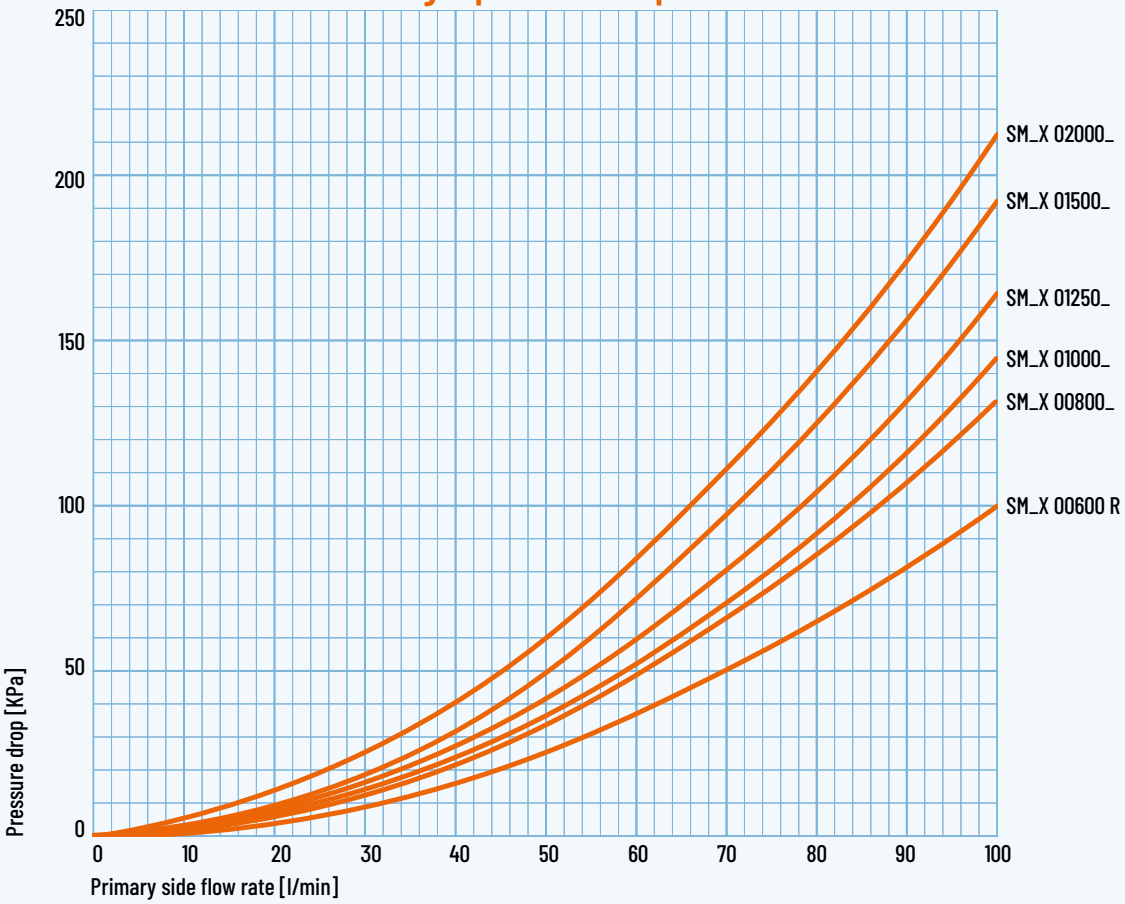
** ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).*

SMX - Domestic Hot Water performance

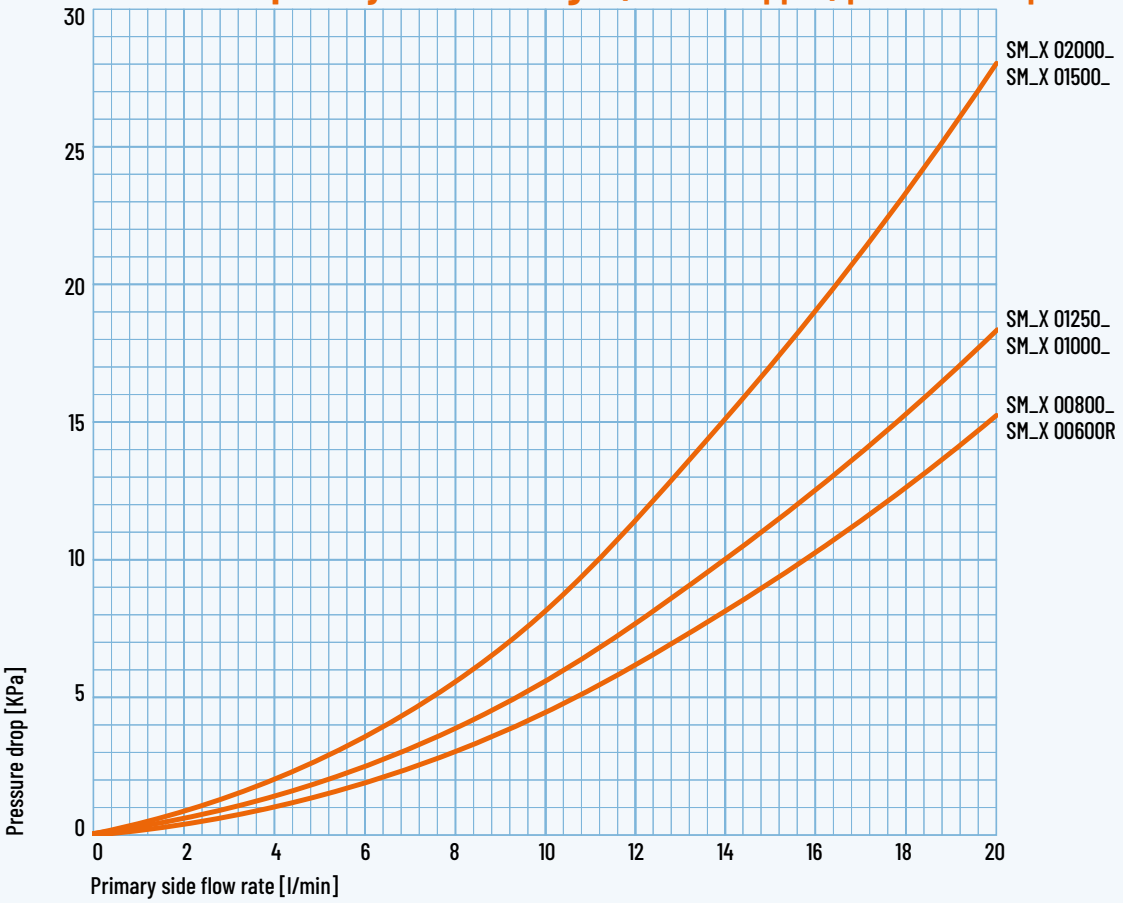
CODE	SM_X 00600 R	SM_X 00800_	SM_X 01000_	SM_X 01250_	SM_X 01500_	SM_X 02000_
DHW Heat exchanger m² (L)	5,5 (27,5)	7,0 (35,0)	7,5 (37,5)	8,5 (42,5)	10,0 (50,0)	12,0 (60,0)
DHW Power and flow rate (from 10 to 45 °C) in continuos draw at different primary side temperatures						
Primary at 55 °C Kw (L/h)	31,8 (744)	45,7 (1069)	50,5 (1182)	58,9 (1739)	73,4 (1717)	91,3 (2137)
Primary at 65 °C Kw (L/h)	49,1 (1207)	70,6 (1733)	78,0 (1917)	91,0 (2236)	113,4 (2786)	141,1 (3467)
Primary at 75 °C Kw (L/h)	57,5 (1412)	82,5 (2028)	91,3 (2242)	106,5 (2616)	132,7 (3259)	165,1 (4056)
DHW* producible with a 10 L/min flow rate from a totally heated buffer and a not running heat source						
Buffer at 55 °C (L)	170	265	352	527	698	1113
Buffer at 65 °C (L)	232	357	476	712	941	1244
Buffer at 70 °C (L)	441	564	701	953	1107	1465
DHW* producible with a 20 L/min flow rate from a totally heated buffer and a not running heat source						
Buffer at 55 °C (L)	115	170	221	324	417	642
Buffer at 65 °C (L)	157	248	331	498	664	1067
Buffer at 70 °C (L)	263	376	486	702	888	1333
DHW* producible with a 10 L/min flow rate, from a buffer heated only on the upper part and a not running heat source						
Buffer at 55 °C (L)	107	166	217	338	446	678
Buffer at 65 °C (L)	146	224	293	456	600	758
Buffer at 70 °C (L)	278	353	432	611	707	893
DHW* producible with a 20 L/min flow rate, from a buffer heated only on the upper part and a not running heat source						
Buffer at 55 °C (L)	73	106	136	208	266	391
Buffer at 65 °C (L)	99	155	331	319	424	650
Buffer at 70 °C (L)	166	235	486	450	567	812
NL **	2,1	3,2	4,0	4,2	4,4	5,3

** from 10 to 45 °C*
*** Buffer at 70 °C, DHW from 10 to 45° C*

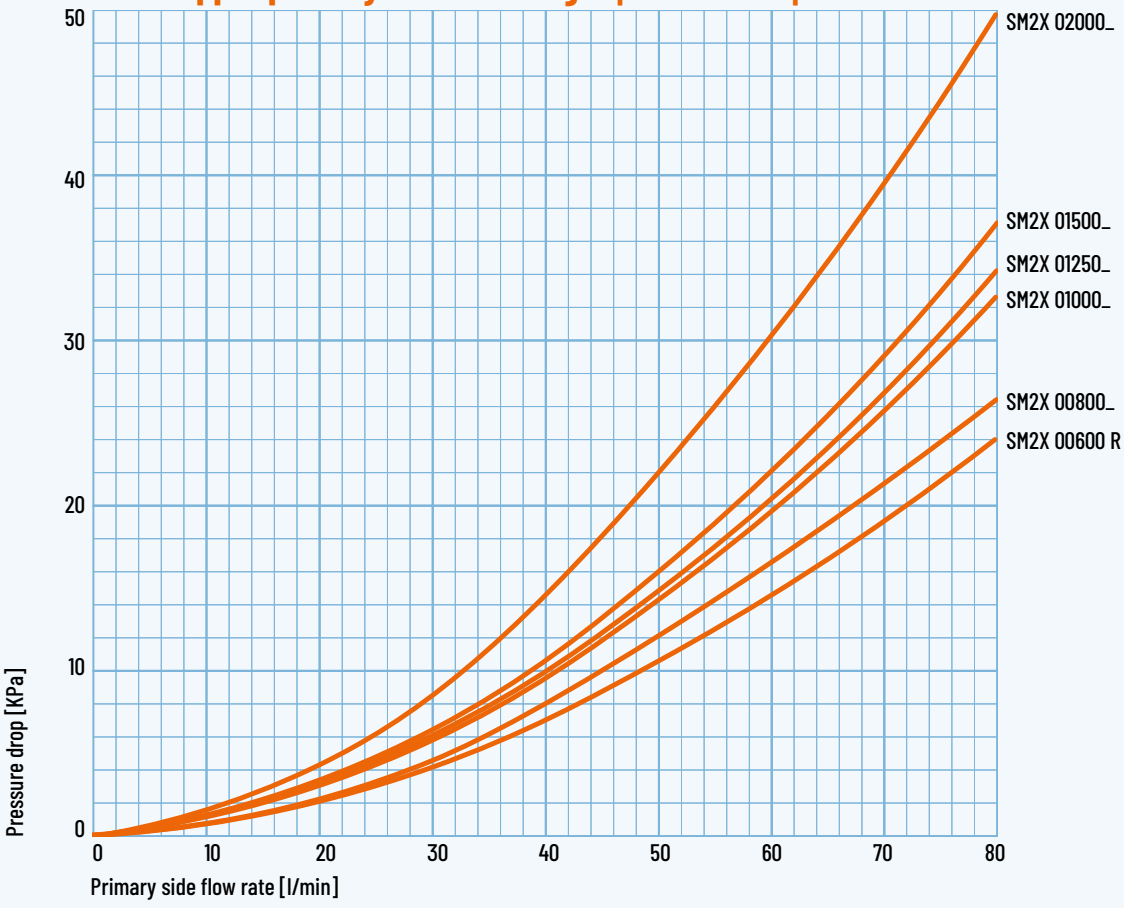
SMX - DHW heat exchanger pressure drops



SMX - Lower primary heat exchanger (finned copper) pressure drops



SMX - Upper primary heat exchanger pressure drops





XPC - Combined buffer store / DHW tank in tank Kombinox

PC - Combined buffer store / DHW tank in tank - Kombiglass

Thermal buffer for the storage of primary water produced from continuous and discontinuous heat sources. Production of domestic hot water (DHW) through an internal cylinder (tank in tank). The main vessel is made of carbon steel while the DHW cylinder is available in two options:
- AISI 316L stainless steel (XPC)
- Glass lined steel (PC)
Both products are available in the following configurations
- only storage + DHW production
- storage + DHW production + one auxiliary fixed coil
- storage + DHW production + two auxiliary fixed coils.
The thermal fluid contained in the cylinder and in the primary heat exchangers must operate in closed circuit (without oxygen), in order to avoid corrosion phenomena. Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

		XPC	PC
DHW cylinder	Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
	External protective treatment	Pickling and passivation	None
	Rating (P max. / T max.)	10 bar / 95°C	10 bar / 95°C
	Cathodic protection	Magnesium anode	Magnesium anode
Buffer vessel	Material	S 235 Jr Carbon steel	
	Internal protective treatment	None	
	External protective treatment	Anti rust protection + epoxy painting	
	Rating (P max. / T max.)	3 bar / 95°C	
Heat exchanger	Material	S 235 Jr Carbon steel	
	Internal protective treatment	None	
	External protective treatment	None	
	Type	Fixed coil	
	Rating (P max. / T max.)	10 bar / 95°C	
General features	Capacity	600 - 2000 L	
	Warranty	5 years	
	Insulation	- Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - Soft insulation with polyester + PVC: Fire retardant class B2 (DIN 4102)	
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current cathodic protection



Electronic control unit



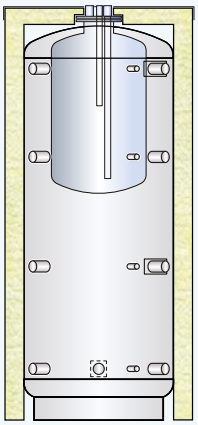
Thermostat



Thermometer



1"½ electric immersion heater

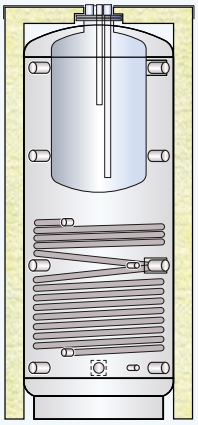


XPC - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)
XPC 00600 R	50	C	96,0	585,2	145
XPC 00800 R	100	C	111,3	749,3	170
XPC 01000 R	100	C	115,1	931,0	200
XPC 01500 R	100	C	134,2	1472,4	250
XPC 02000 R	100	C	144,7	1950,0	340

XPC - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)
XPC 00800 F	130	C	130,5	749,3	170
XPC 01000 F	130	C	142,3	931,0	200
XPC 01500 F	130	C	168,6	1472,4	250
XPC 02000 F	130	C	184,6	1950,0	340

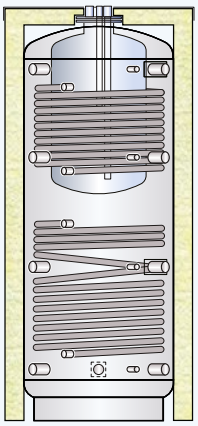


XPCS - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
XPCS 00600 R	50	C	96,0	585,2	145	2,5 / 24,5
XPCS 00800 R	100	C	111,3	749,3	170	2,5 / 24,5
XPCS 01000 R	100	C	115,1	931,0	200	3,5 / 34,3
XPCS 01500 R	100	C	134,2	1472,4	250	4,0 / 39,2
XPCS 02000 R	100	C	144,7	1950,0	340	4,8 / 47,0

XPCS - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
XPCS 00800 F	130	C	130,5	749,3	170	2,5 / 24,5
XPCS 01000 F	130	C	142,3	931,0	200	3,5 / 34,3
XPCS 01500 F	130	C	168,6	1472,4	250	4,0 / 39,2
XPCS 02000 F	130	C	184,6	1950,0	340	4,8 / 47,0



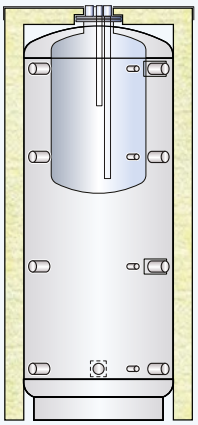
XPCSS - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGERS (m^2) / (L) * LOWER	UPPER
XPCSS 00600 R	50	C	96,0	585,2	145	2,5 / 24,5	1,8 / 17,6
XPCSS 00800 R	100	C	111,3	749,3	170	2,5 / 24,5	2,0 / 19,6
XPCSS 01000 R	100	C	115,1	931,0	200	3,5 / 34,3	2,5 / 24,5
XPCSS 01500 R	100	C	134,2	1472,4	250	4,0 / 39,2	2,8 / 27,4
XPCSS 02000 R	100	C	144,7	1950,0	340	4,8 / 47,0	3,8 / 37,2

XPCSS - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGERS (m^2) / (L) * LOWER	UPPER
XPCSS 00800 F	130	C	130,5	749,3	170	2,5 / 24,5	2,0 / 19,6
XPCSS 01000 F	130	C	142,3	931,0	200	3,5 / 34,3	2,5 / 24,5
XPCSS 01500 F	130	C	168,6	1472,4	250	4,0 / 39,2	2,8 / 27,4
XPCSS 02000 F	130	C	184,6	1950,0	340	4,8 / 47,0	3,8 / 37,2

** Volume occupied by the heat exchanger and its support structure*

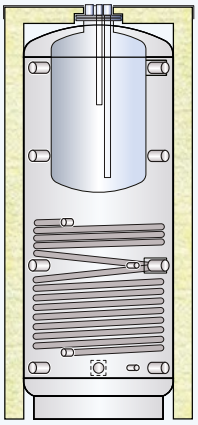


PC - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)
PC 00600 R	50	C	96,0	585,2	145
PC 00800 R	100	C	111,3	749,3	170
PC 01000 R	100	C	115,1	931,0	200
PC 01500 R	100	C	134,2	1472,4	250
PC 02000 R	100	C	144,7	1950,0	340

PC - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)
PC 00800 F	130	C	130,5	749,3	170
PC 01000 F	130	C	142,3	931,0	200
PC 01500 F	130	C	168,6	1472,4	250
PC 02000 F	130	C	184,6	1950,0	340

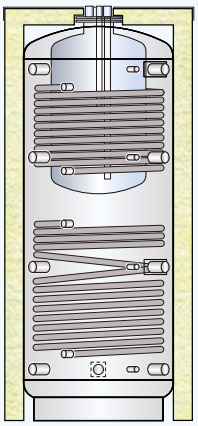


PCS - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
PCS 00600 R	50	C	96,0	585,2	145	2,5 / 24,5
PCS 00800 R	100	C	111,3	749,3	170	2,5 / 24,5
PCS 01000 R	100	C	115,1	931,0	200	3,5 / 34,3
PCS 01500 R	100	C	134,2	1472,4	250	4,0 / 39,2
PCS 02000 R	100	C	144,7	1950,0	340	4,8 / 47,0

PCS - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGER (m^2) / (L) *
PCS 00800 F	130	C	130,5	749,3	170	2,5 / 24,5
PCS 01000 F	130	C	142,3	931,0	200	3,5 / 34,3
PCS 01500 F	130	C	168,6	1472,4	250	4,0 / 39,2
PCS 02000 F	130	C	184,6	1950,0	340	4,8 / 47,0



PCSS - Hard insulation with rigid polyurethane foam and PVC jacket

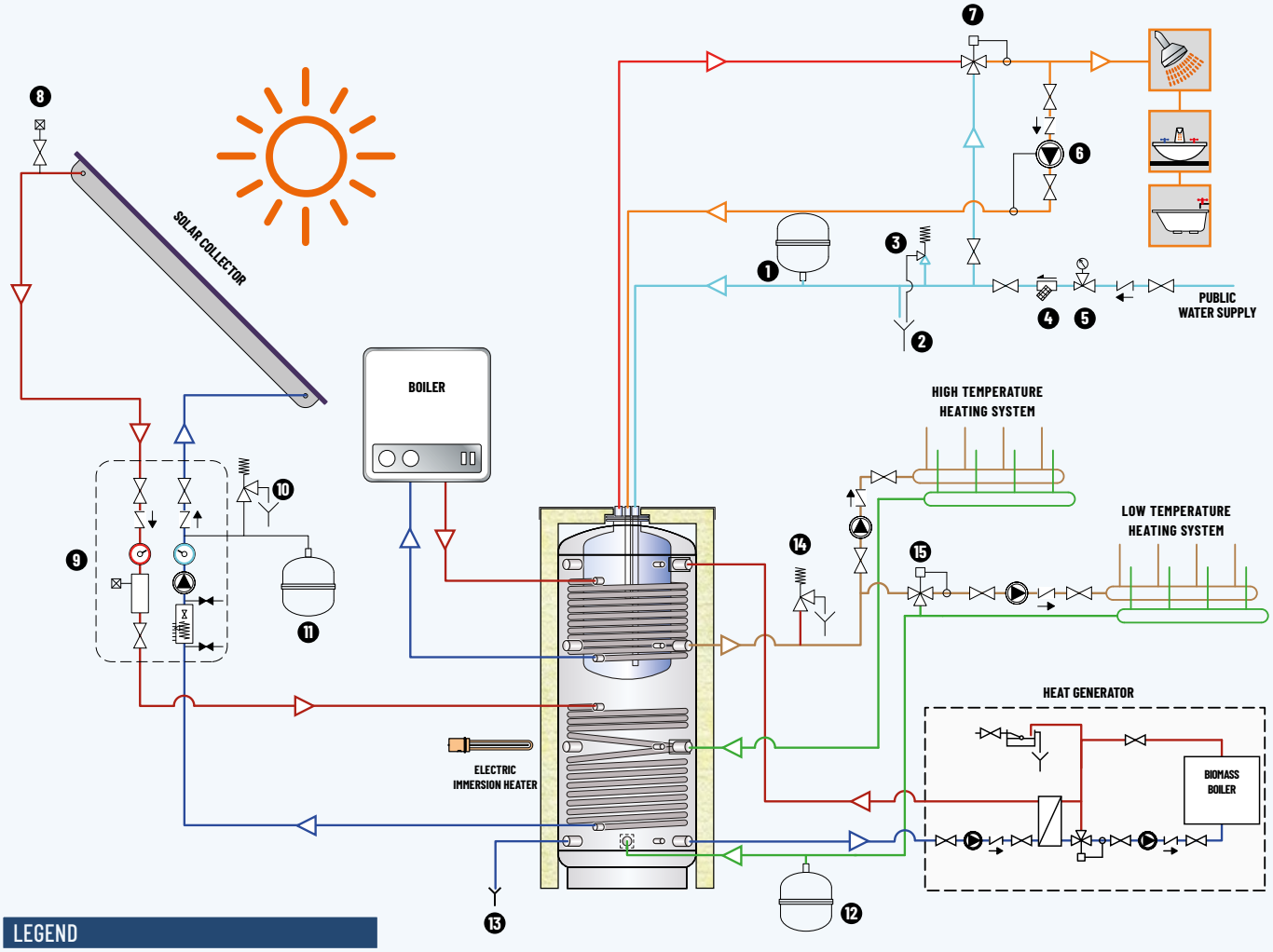
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGERS (m^2) / (L) * LOWER	UPPER
PCSS 00600 R	50	C	96,0	585,2	145	2,5 / 24,5	1,8 / 17,6
PCSS 00800 R	100	C	111,3	749,3	170	2,5 / 24,5	2,0 / 19,6
PCSS 01000 R	100	C	115,1	931,0	200	3,5 / 34,3	2,5 / 24,5
PCSS 01500 R	100	C	134,2	1472,4	250	4,0 / 39,2	2,8 / 27,4
PCSS 02000 R	100	C	144,7	1950,0	340	4,8 / 47,0	3,8 / 37,2

PCSS - Soft insulation with polyester and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	BUFFER CAPACITY (L)	DHW CYLINDER CAPACITY (L)	AUXILIARY HEAT EXCHANGERS (m^2) / (L) * LOWER	UPPER
PCSS 00800 F	130	C	130,5	749,3	170	2,5 / 24,5	2,0 / 19,6
PCSS 01000 F	130	C	142,3	931,0	200	3,5 / 34,3	2,5 / 24,5
PCSS 01500 F	130	C	168,6	1472,4	250	4,0 / 39,2	2,8 / 27,4
PCSS 02000 F	130	C	184,6	1950,0	340	4,8 / 47,0	3,8 / 37,2

** Volume occupied by the heat exchanger and its support structure*

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel
12 . Heating system expansion vessel
13 . System drain
14 . Heating system safety valve
15 . 3-way valve low temperature heating system

DHW cylinder

CODE	DHW CAPACITY (L)	DHW AT 45° (L) *
_PC_ 00600 R	145	240
_PC_ 00800_	170	286
_PC_ 01000_	200	333
_PC_ 01500_	250	396
_PC_ 02000_	340	541

Amount of domestic hot water available (with a 20 L/min. flow rate) with the buffer vessel at an average temperature of 65 °C

Lower heat exchanger

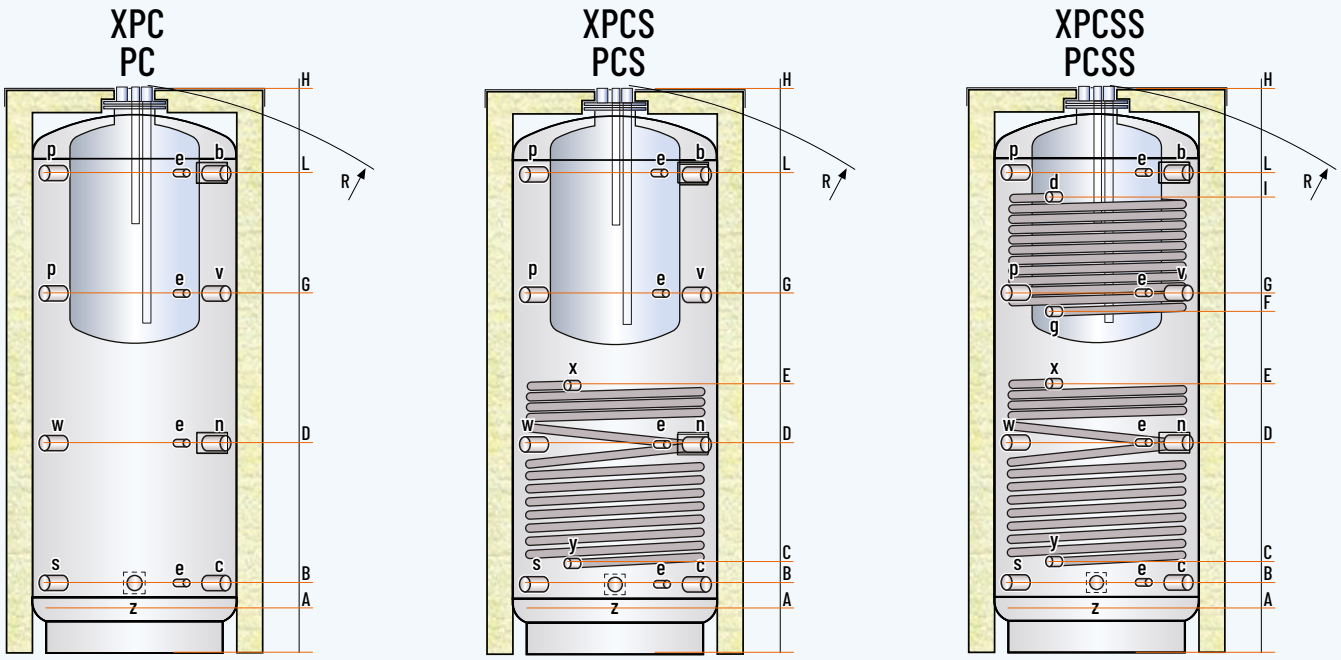
CODE	m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C
_PC_ 00600 R	2,5 (17,8)	16,0	24,0	32,0	40,0
_PC_ 00800_	2,5 (17,8)	16,0	24,0	32,0	40,0
_PC_ 01000_	3,5 (24,9)	22,4	33,6	44,8	56,0
_PC_ 01500_	4,0 (28,4)	25,6	38,4	51,2	64,0
_PC_ 02000_	4,8 (34,1)	30,7	46,0	61,4	76,7

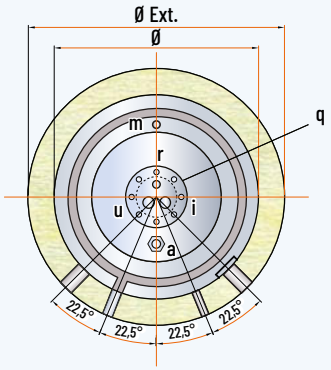
Upper heat exchanger

m² (L)	Power (kW) ΔT* 10 °C	ΔT* 15 °C	ΔT* 20 °C	ΔT* 25 °C
1,8 (12,8)	11,5	17,3	23,0	28,8
2,0 (14,2)	12,8	19,2	25,6	32,0
2,5 (17,8)	16,0	24,0	32,0	40,0
2,8 (19,9)	17,9	26,9	35,8	44,8
3,8 (27,0)	24,3	36,5	48,6	60,8

** ΔT: difference between the average temperature of the heating fluid (inside the heat exchanger) and the average temperature of the heated fluid (internal to the buffer in the area affected by the coil).*

Dimensions and heights





LEGEND

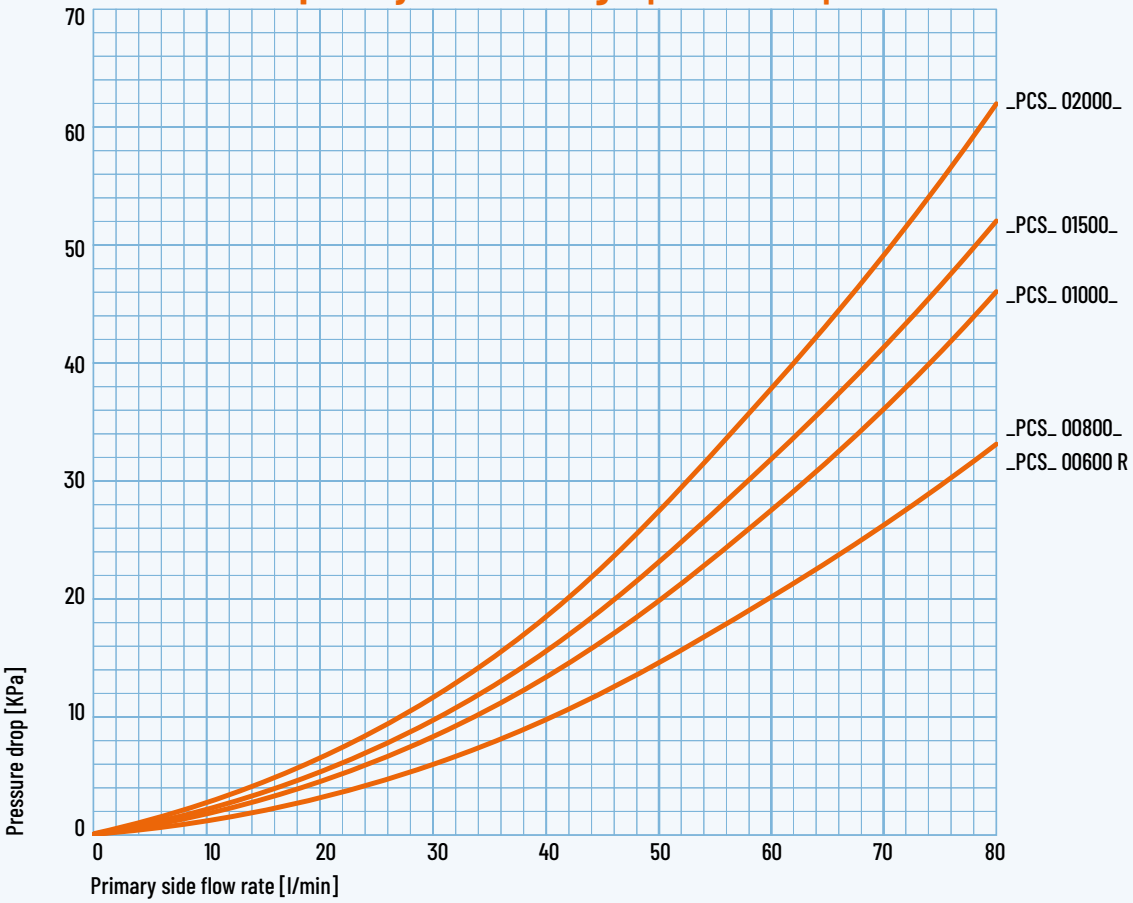
- **a .** Magnesium anode
- **b .** Biomass boiler flow
- **c .** Biomass boiler return
- **d .** Boiler flow
- **e .** Thermometer - Sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **m.** Buffer vent
- **n .** Heating system return
- **p .** Free connection
- **q .** DHW inspection hatch
- **u .** Domestic hot water outlet
- **v .** Heating system flow
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return
- **z .** Low temperature heating system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R	HEAT EXCHANGER (m²) LOWER	UPPER	WEIGHT XPCSS (kg)	WEIGHT PCSS (kg)
_PC_ 00600 R	650	1945	750	2095 *	2,50	1,80	153	184
_PC_ 00800_	790	1750	990/1050	1830	2,50	2,00	182	216
_PC_ 01000_	790	2110	990/1050	2170	3,50	2,50	222	260
_PC_ 01500_	1000	2115	1200/1260	2210	4,00	2,80	276	320
_PC_ 02000_	1100	2380	1300/1360	2440	4,80	3,80	325	373

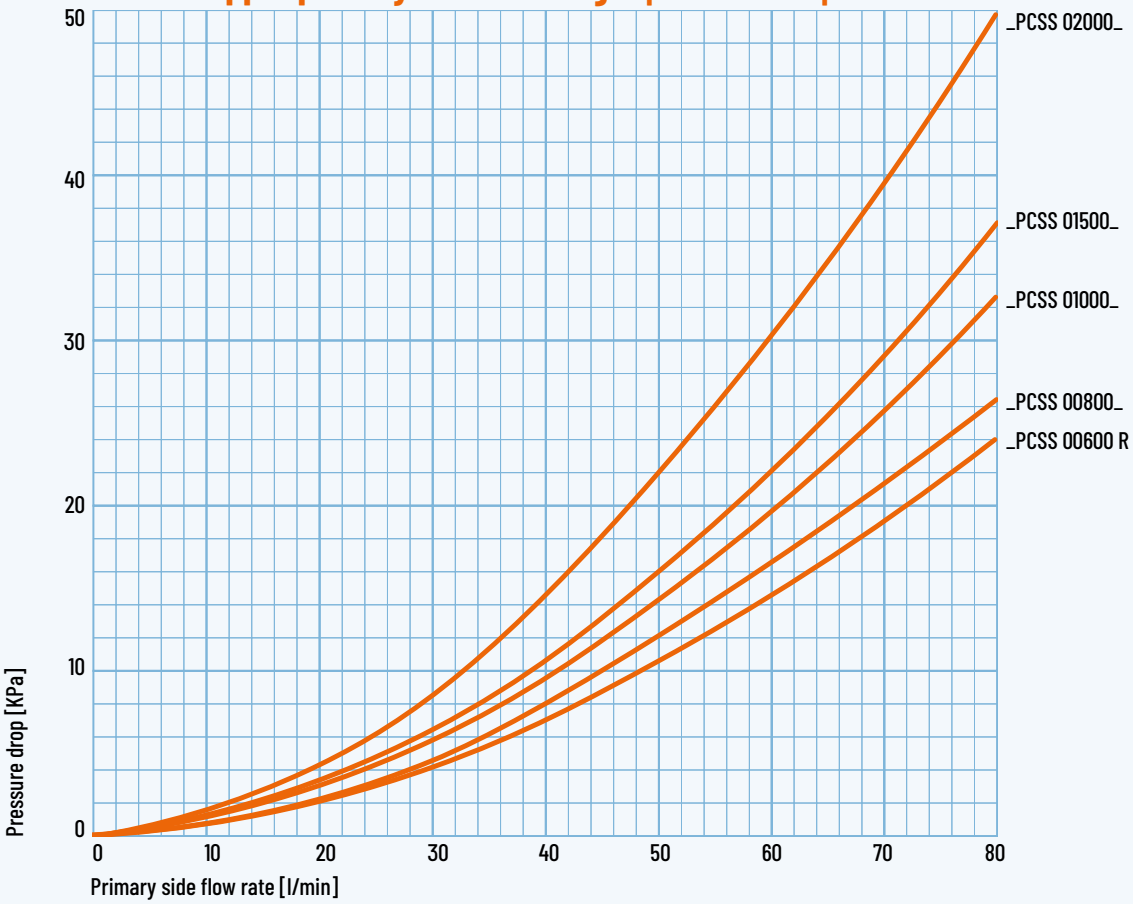
** For the 600 litres model, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for the 600 litres model*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	I	L	CONNECTIONS (GAS) a	d g x y	e m r	i u	b c n p s v w z	q
_PC_ 00600 R	135	235	315	700	1000	1120	1270	1480	1630	1"¼	1"	½"	1"	1"½	120/180
_PC_ 00800_	170	275	355	655	875	1015	1145	1345	1410	1"¼	1"	½"	1"	1"½	120/180
_PC_ 01000_	170	275	350	810	1035	1195	1355	1675	1755	1"¼	1"	½"	1"	1"½	120/180
_PC_ 01500_	235	340	420	765	1080	1220	1400	1620	1725	1"¼	1"	½"	1"	1"½	120/180
_PC_ 02000_	265	370	450	930	1090	1210	1435	1690	1945	1"¼	1"	½"	1"	1"½	120/180

PCS - Lower primary heat exchanger pressure drops



_PCSS - Upper primary heat exchanger pressure drops

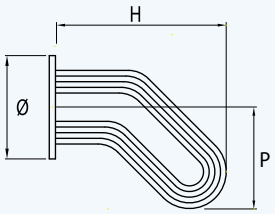




SPARE PARTS & ACCESSORIES



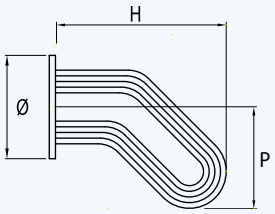
U tube bundle removable heat exchangers for primary water



Curved U tube bundle heat exchanger for water made by AISI 316L Stainless steel expanded over a stainless steel plate *

To be used in combination with ATX & ATV models

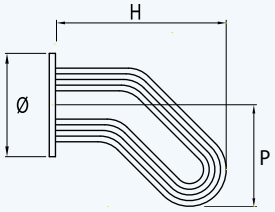
CODE	AREA (m²)	ø (mm)	H (mm)	P (mm)
FTII 05/C	0,50	290	460	190
FTII 07/C	0,75	290	460	190
FTII 10/C	1,00	290	500	255
FTII 15/C	1,50	380	500	355
FTII 20/C	2,00	380	500	355
FTII 30/C	3,00	380	630	355
FTII 40/C	4,00	430	625	430
FTII 50/C	5,00	430	750	445
FTII 60/C	6,00	430	830	510
FTII 80/C	8,00	430	1340	465
FTII 100/C	10,00	430	1540	550



Curved U tube bundle heat exchanger for water made by AISI 304 Stainless steel expanded over a PTFE lined plate *

To be used in combination with ATV models

CODE	AREA (m²)	ø (mm)	H (mm)	P (mm)
FTIT 05/C	0,50	290	460	190
FTIT 07/C	0,75	290	460	190
FTIT 10/C	1,00	290	500	255
FTIT 15/C	1,50	380	500	355
FTIT 20/C	2,00	380	500	355
FTIT 30/C	3,00	380	630	355
FTIT 40/C	4,00	430	625	430
FTIT 50/C	5,00	430	750	445
FTIT 80/C	8,00	430	1340	465
FTIT 100/C	10,00	430	1540	550



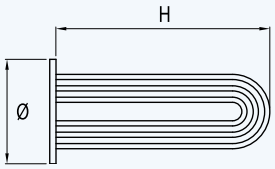
Curved U tube bundle heat exchanger for water made by AISI 304 Stainless steel expanded over a PTFE lined plate *

To be used in combination with ATK & ATKL models or with cylinders with a ø 480 mm flange

CODE	AREA (m²)	ø (mm)	H (mm)	P (mm)
FTIT 4 30/C	3,00	480	595	430
FTIT 4 40/C	4,00	480	625	430
FTIT 4 50/C	5,00	480	750	445
FTIT 4 60/C	6,00	480	830	510
FTIT 4 80/C	8,00	480	1340	465
FTIT 4 100/C	10,00	480	1540	550

** Supplied with gaskets-set, insulating busings and bolts*

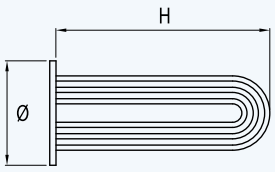
U tube bundle removable heat exchangers for primary water



Straight U tube bundle heat exchanger for water made by AISI 316L Stainless steel expanded over a stainless steel plate *

To be used in combination with ATX/ATV/ATK/ATKL models

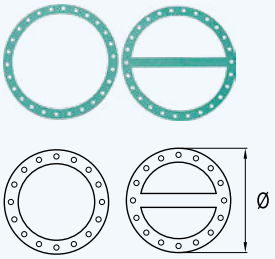
CODE	AREA (m²)	ø (mm)	H (mm)
FTII 05	0,50	290	445
FTII 07	0,75	290	495
FTII 10	1,00	290	555
FTII 15	1,50	380	600
FTII 20	2,00	380	600
FTII 30	3,00	380	720
FTII 40	4,00	430	750
FTII 50	5,00	430	780
FTII 80	8,00	430	1250
FTII 100	10,00	430	1510



Straight U tube bundle heat exchanger for water made by AISI 304 Stainless steel expanded over a PTFE lined plate *

To be used in combination with ATV/ATK/ATKL models

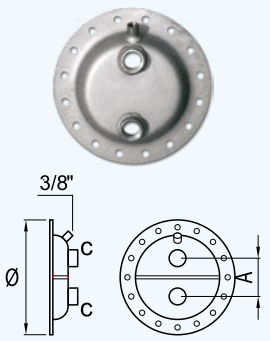
CODE	AREA (m²)	ø (mm)	H (mm)
FTIT 05	0,50	290	445
FTIT 07	0,75	290	495
FTIT 10	1,00	290	555
FTIT 15	1,50	380	600
FTIT 20	2,00	380	600
FTIT 30	3,00	380	720
FTIT 40	4,00	430	750
FTIT 50	5,00	430	780
FTIT 80	8,00	430	1250
FTIT 100	10,00	430	1510



Gaskets set for removable heat exchangers

WS3815 Asbestos free, supplied with insulating bushings and bolts

FOR WATER CODE	FOR STEAM CODE	ø (mm)	NUMBER OF HOLES
CGNA 29	CGNV 29	290	12
CGNA 38	CGNV 38	380	19
CGNA 43	CGNV 43	430	22
CGNA48	CGNV 48	480	26

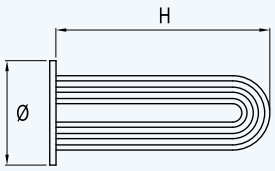


Header for U tube removable heat exchangers (water only)

STAINLESS STEEL CODE	GALVANIZED CODE	ø (mm)	A (mm)	C	NUMBER OF HOLES
TRI 29	TRZ 29	290	115	1"	12
TRI 38	TRZ 38	380	145	2"	19
TRI 43	TRZ 43	430	195	2"	22
TRI 48	TRZ 48	480	195	2"	26

** Supplied with gaskets-set, insulating busings and bolts*

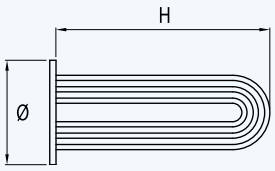
U tube bundle removable heat exchangers for steam



6 & 12 bar PED certified U tube bundle heat exchangers for steam made of AISI 316L stainless steel expanded over an AISI 316L stainless steel plate *

To be used in combination with ATX & ATV models

WORKING PRESSURE 6 bar CODE	WORKING PRESSURE 12 bar CODE	AREA (m²)	ø (mm)	H (mm)
6 FTII 05	12 FTII 05	0,50	290	445
6 FTII 07	12 FTII 07	0,75	290	495
6 FTII 10	12 FTII 10	1,00	290	555
6 FTII 15	12 FTII 15	1,50	380	600
6 FTII 20	12 FTII 20	2,00	380	600
6 FTII 33	12 FTII 33	3,00	380	720
6 FTII 34	12 FTII 34	3,00	430	720
6 FTII 40	12 FTII 40	4,00	430	750
6 FTII 50	12 FTII 50	5,00	430	780



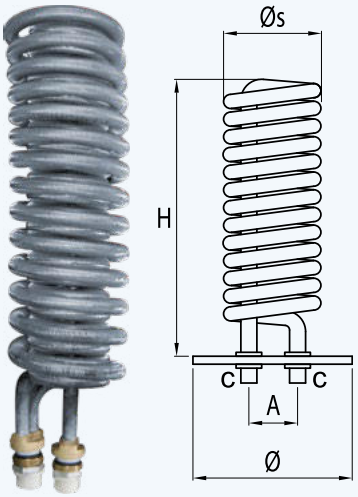
6 & 12 bar PED certified U tube bundle heat exchanger for steam made of AISI 316L stainless steel expanded over an AISI 316L stainless steel plate *

To be used in combination with ATK & ATKL models or with cylinders with a ø 480 mm flange

WORKING PRESSURE 6 bar CODE	WORKING PRESSURE 12 bar CODE	AREA (m²)	ø (mm)	H (mm)
6 FTII 38	12 FTII 38	3,00	480	720
6 FTII 48	12 FTII 48	4,00	480	750
6 FTII 58	12 FTII 58	5,00	480	780



** Supplied with header, gaskets-set, insulating busings and bolts*



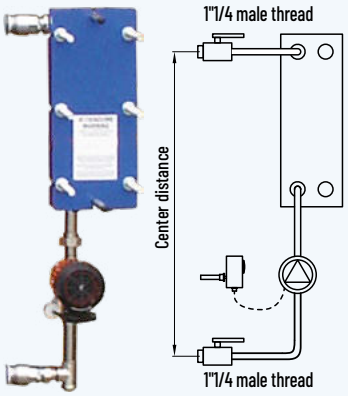
Tinned finned coper heat exchangers

Expanded over a glass lined plate

CODE	AREA (m²)	SIZES (mm) ø	H	Ø S	A	CONNECTIONS C
SRA 07	0,76	290	400	145	70	¾" male thread
SRA 09/2	0,94	290	400	145	70	¾" male thread
SRA 09/3	0,94	380	400	145	70	¾" male thread
SRA 15/2	1,58	290	460	170	70	¾" male thread
SRA 15/3	1,58	380	460	170	70	¾" male thread
SRA 26	2,63	380	610	190	70	¾" male thread
SRA 31/3	3,17	380	680	190	70	¾" male thread
SRA 31/4	3,17	430	680	190	70	¾" male thread
SRA 45/3	4,54	380	800	190	90	1" male thread
SRA 45/4	4,54	430	800	190	90	1" male thread
SRA 52/4	5,26	430	910	190	90	1" male thread
SRA 52/5	5,26	480*	910	190	90	1" male thread
SRA 63/4	6,34	480*	1070	190	90	1" male thread
SRA 63/5	6,34	480*	1070	190	90	1" male thread

** Expanded over a Keramtech lined plate*

Warning: pay attention to check that the diameter of the heat exchanger plate matches the diameter of the flange on the cylinder



Fresh water station kits for DHW with plate heat exchanger

Comes wiht AISI 316 stainless steel plate heat exchanger (gasketed or brazed), circulation pump, thermostat and connection fittings.

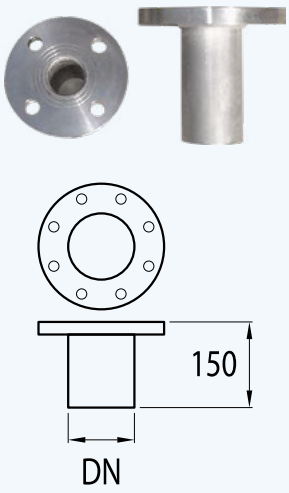
To be used in combination with ATX (up to 2000 litres) and ATV models

GASKETED PLATE HEAT EXCHANGER SET CODE	PHE MODEL	BRAZED PLATE HEAT EXCHANGER SET CODE	PHE MODEL	POWER (kW) *	CONTINUOUS DHW PRODUCTION (L/h)
K 35	T4B-6N0/8	K35 S	SB 40-20	35	860
K 70	T4B-6N0/12	K70 S	SB 40-40	70	1720
K 116	T4B-6N0/20	K116 S	SB 50-40	116	2850
K 151	T4B-6N0/26	K 151 S	SB 50-50	151	3710
K 200	T4B-6N0/36	K 200 S	SB 50-60	200	4914

** Values calculated at the following temperatures: Boiler 80-60 °C - DHW 10-45 °C*

Further performances of these kits are available on the Freswater station section at page 228

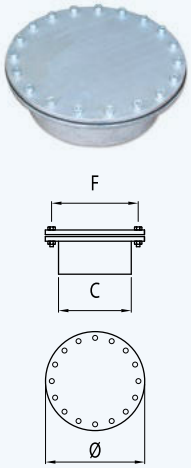
Warning: when ordering a kit, it is important to specify the code of the buffer store where the kit must be installed/replaced.



Flanged connections UNI EN 1092-1

For bespoke manufacturing or retrofitting operations

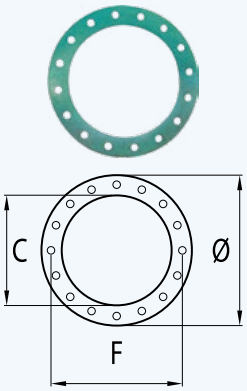
STAINLESS STEEL CODE	GALVANIZED STEEL CODE	PAINTED CARBON STEEL CODE	Ø
DN15 X	DN15 Z	DN15 V	DN 15
DN20 X	DN20 Z	DN20 V	DN 20
DN25 X	DN25 Z	DN25 V	DN 25
DN32 X	DN32 Z	DN32 V	DN 32
DN40 X	DN40 Z	DN40 V	DN 40
DN50 X	DN50 Z	DN50 V	DN 50
DN65 X	DN65 Z	DN65 V	DN 65
DN80 X	DN80 Z	DN80 V	DN 80
DN100 X	DN100 Z	DN100 V	DN 100
DN125 X	DN125 Z	DN125 V	DN 125
DN150 X	DN150 Z	DN150 V	DN 150
DN175 X	DN175 Z	DN175 V	DN 175
DN200 X	DN200 Z	DN200 V	DN 200
DN250 X	DN250 Z	DN250 V	DN 250
DN300 X	DN300 Z	DN300 V	DN 300
DN350 X	DN350 Z	DN350 V	DN 350
DN400 X	DN400 Z	DN400 V	DN 400
DN450 X	DN450 Z	DN450 V	DN 450
DN500 X	DN500 Z	DN500 V	DN 500



Inspection hatch with gasket and bolts

For bespoke manufacturing or retrofitting operations

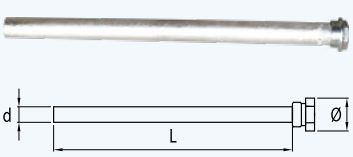
STAINLESS STEEL CODE	PAINTED CARBON STEEL CODE	ø (mm)	C	F	BOLTS
BCP 18 X	BCP 18 VN	180	120	150	8 M10/12
BCP 24 X	BCP 24 VN	240	170	210	12 M12
BCP 29 X	BCP 29 VN	290	220	260	12 M12
BCP 38 X	BCP 38 VN	380	300	344	19 ø 14
BCP 43 X	BCP 43 VN	430	350	396	22 ø 14
BCP 48 X	BCP 48 VN	480	400	444	26 ø 14
BCP 62 X	BCP 62 VN	620	520	568	24 ø 18



Gaskets for inspection hatches

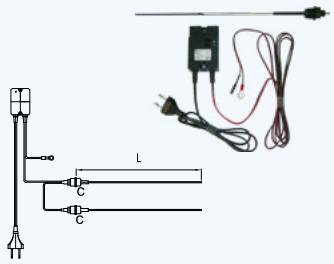
Made of rubber or asbestos free organic fiber

EPDM CODE	FIBER CODE	SIZES (mm) ø	C	F	
GG 18	GNA 18	180	120	150	
-	GNA 24	240	170	210	
GG 29	GNA 29	290	220	260	
-	GNA 38	380	300	345	
-	GNA 43	430	350	396	
-	GNA 48	480	400	444	
-	GNA 62	620	520	568	



Sacrifical magnesium anode

CODE	ø	L (mm)	D (mm)	CYLINDER CAPACITY (L)
AM 22	1"¼	400	22	100-800
AM 32	1"¼	500	32	1000-5000



Impressed current cathodic protection

CODE	NUMBER OF ELECTRODES	C	L (mm)	CYLINDER CAPACITY (L)
EPS 375/125/1	1	½"	375	150-1000
EPS 375/125/2	2	½"	375	1500-2000
EPS 700/200/2	2	½"	700	2500-5000



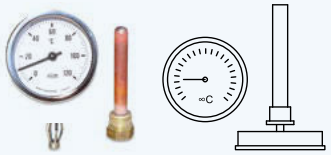
DHW Recirculation kit for combined buffer store

CODE	COMBINED BUFFER STORE MODEL
RCR	Maxiwarm - Solarmax



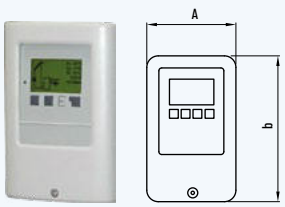
Thermostat for hot water with probe

CODE	PROBE ø	L (mm)
TSC	½"	100



Thermostat for hot water with probe

CODE	PROBE ø	L (mm)
TMC	½"	100

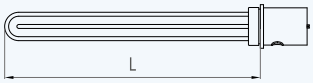


Electronic control unit for calorifier wiht 3 temperature sensors

CODE	SIZES A (mm)	B (mm)
CGB	110	165

- *Interactive configuration menu available in 4 languages*
- *8 hydraulic systems configurations available*
- *Solar system differential control*
- *Solar circulation pump control: PWM, 0-10V Asynchronous*
- *Temperature control of calorifier (2 sensors) & solar collector (1 sensor)*
- *Electric NO contact (230V - max 13A - max 2,5 kW) to activate an auxiliary boiler or immersion heater*
- *Anti legionella cycle management through solar system or immersion heater*
- *Optional management of DHW recirculation with the option to read a further temperature sensor*





Stainless steel electric immersion heater for water

1"½ screwed connection - IP 65 protection rate - Thermostat range 30-70 °C
With safety thermostat

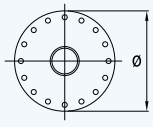
CODE	POWER (W)	L (mm)	SOURCE
REX 15 M	1500	320	1 ~ 230 V
REX 20 M	2000	320	1 ~ 230 V
REX 30 M	3000	320	1 ~ 230 V
REX 30 T	3000	300	3 ~ 400 V
REX 40 T	4000	400	3 ~ 400 V
REX 50 T	5000	500	3 ~ 400 V
REX 60 T	6000	600	3 ~ 400 V
REX 75 T	7500	700	3 ~ 400 V
REX 90 T	9000	700	3 ~ 400 V
REX 120 T	12000	850	3 ~ 400 V

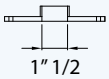
Screwed immersion heaters/cylinders compatibility chart

POWER (W)	CAPACITY 150	200	300	400	500	600	800-5000
1500	✓	✓	✓	✓	✓	✓	✓
2000	✓	✓	✓	✓	✓	✓	✓
3000	✓	✓	✓	✓	✓	✓	✓
4000	✓	✓	✓	✓	✓	✓	✓
5000			✓ *	✓	✓	✓	✓
6000				✓	✓	✓	✓
7500							✓
9000							✓
12000							✓

** only for models ELX/ELV/ATX/ATV/BV1X/BV1VI/BV2X/BV2V/PF*







Flange with adaptor for screwed immersion heaters

It allows to install the REX series immersion heaters over the inspection hatch. The type of flange to be used must match the diameter of the inspection hatch of the cylinder and must be of the same material

STAINLESS STEEL FLANGE CODE	GLASS LINED FLANGE CODE	KERAMTECH LINED FLANGE CODE	FLANGE Ø (mm)	NUMBER OF HOLES
CRI 180	CRV 180	-	180	8
CRI 290	CRV 290	-	290	12
CRI 380	CRV 380	CRK 380	380	19
CRI 430	CRV 430	CRK 430	430	22
-	-	CRK 480	480	26

On demand it is possible to supply flanges with more adaptors. Contact us for more information





120/180 mm flanged **incoloy** electric immersion heater

Equipped with gasket and magnesium anode - IP 44 protection rate - Thermostat range 15-85 °C and safety thermostat.
To be used with all types of cylinders with inspection hatch

CODE	POWER (W)	L (mm)	SOURCE
R18-25MIN	2500	450	1 ~ 230 V
R18-25TIN	2500	450	3 ~ 400 V
R18-30TIN	3000	450	3 ~ 400 V
R18-33MIN	3300	450	1 ~ 230 V
R18-38TIN	3800	450	3 ~ 400 V
R18-50TIN	5000	450	3 ~ 400 V
R18-60TIN	6000	450	3 ~ 400 V
R18-75TIN	7500	450	3 ~ 400 V
R18-99TIN	9900	450	3 ~ 400 V



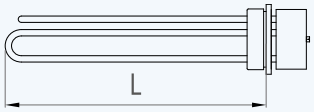


120/180 mm flanged **copper** electric immersion heater

Equipped with gasket and magnesium anode- IP 44 protection rate - Thermostat range 15-85 °C and safety thermostat.
To be used only with glass lined cylinders with inspection hatch

CODE	POWER (W)	L (mm)	SOURCE
R18-20M	2000	450	1 ~ 230 V
R18-25M	2500	450	1 ~ 230 V
R18-25T	2500	450	3 ~ 400 V
R18-30T	3000	450	3 ~ 400 V
R18-33M	3300	450	1 ~ 230 V
R18-38T	3800	450	3 ~ 400 V
R18-50T	5000	450	3 ~ 400 V
R18-60T	6000	450	3 ~ 400 V
R18-75T	7500	450	3 ~ 400 V
R18-99T	9900	450	3 ~ 400 V

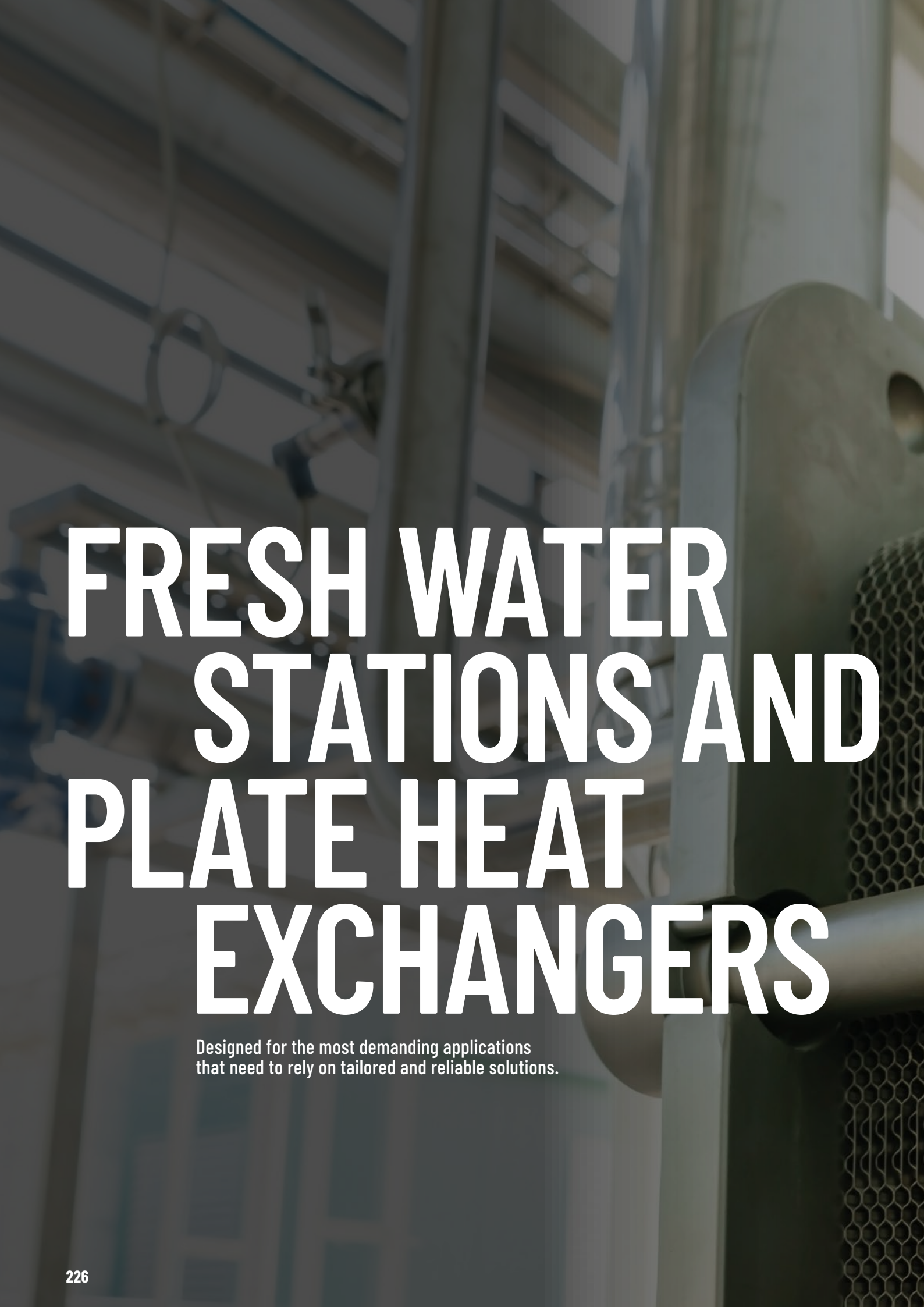




Copper electric immersion heater

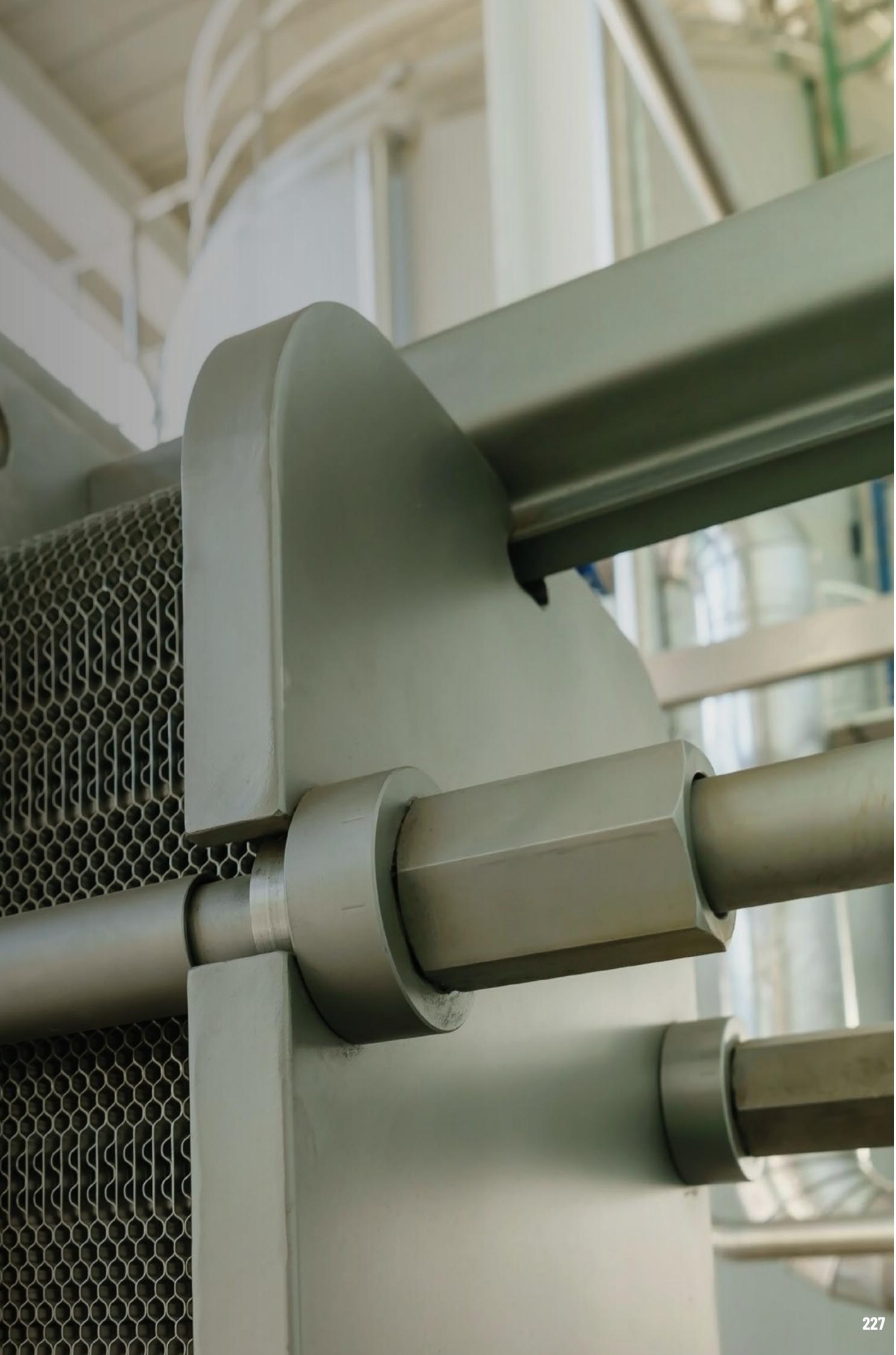
1"¼ screwed connection - IP 20 protection rate
Thermostat range 20-70 °C.
For BMX-BMV-SCN models

CODE	POWER (W)	L (mm)	SOURCE
RER 15	1500	300	1 ~ 230 V
RER 20	2000	300	1 ~ 230 V
RER 30	3000	400	1 ~ 230 V



FRESH WATER STATIONS AND PLATE HEAT EXCHANGERS

Designed for the most demanding applications
that need to rely on tailored and reliable solutions.

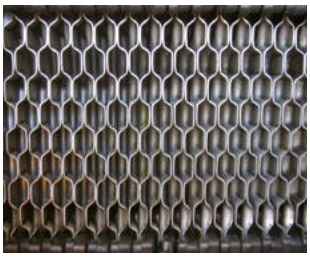




PR - Fresh water station with plate heat exchanger and thermal store

Fresh water station designed for the production and storage of domestic hot water (DHW). It is composed by a buffer store (available in AISI 316L stainless steel or glass lined) and an external heat exchanger kit.
The buffer store comes with an inspection hatch that can be also used to equip the cylinder with an immersion heater or a with a removable heat exchanger. The heat exchanger kit is composed by a plate heat exchanger with AISI 316 stainless steel plates and NBR gaskets, a circulation pump, a thermostat and all the connections fittings.
The heat exchanger is gasketed and it can be dismantled for maintenance operations.
The heat exchanger kit is not supplied assembled to the cylinder.





HEAT SOURCE

APPLICATION

TECHNICAL FEATURES

	PRX	PRV
DHW cylinder		
Material	AISI 316L Stainless steel (1.4404)	Glass lined S 235 Jr Carbon steel
Internal protective treatment	Pickling and passivation	Enamelling according to DIN 4753.3
External protective treatment	Pickling and passivation	Anti rust protection + epoxy painting
Rating (P max. / T max.)	6 bar / 95 °C	8 bar / 95 °C
Cathodic protection	Magnesium anode	Magnesium anode
Heat exchanger kit		
Plates material	AISI 316L Stainless steel (1.4404)	
Plates protective treatment	Pickling and passivation	
Frame	Painted carbon steel and galvanized tie rods	
Type	Gasketed plates	
Rating (P max. / T max.)	10 bar / 130 °C	
General features		
Capacity	200 - 2000 L	
Warranty	5 years (DHW cylinder), 2 years (hydraulic components), 1 year (electric parts)	
Insulation	- Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102) - Soft polyester + PVC: Fire retardant class B2 (DIN 4102)	
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE	

ACCESSORIES (page 218)



Impressed current electronic anode



Electronic control unit



Thermometer



1"½ electric immersion heater



Heat exchanger kit with brazed plate heat exchangers

PR - Hard insulation with rigid polyurethane foam and PVC jacket

STAINLESS STEEL BUFFER	GLASS LINED BUFFER	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER TYPE *
PRX 0020035 R	PRV 0020035 R	50	C	62,2	191,2	T4B6N/08
PRX 0020070 R	PRV 0020070 R	50	C	62,2	191,2	T4B6N/12
PRX 00200116 R	PRV 00200116 R	50	C	62,2	191,2	T4B6N/20
PRX 00200151 R	PRV 00200151 R	50	C	62,2	191,2	T4B6N/26
PRX 00200200 R	PRV 00200200 R	50	C	62,2	191,2	T4B6N/36
PRX 0030035 R	PRV 0030035 R	50	C	73,7	291,7	T4B6N/08
PRX 0030070 R	PRV 0030070 R	50	C	73,7	291,7	T4B6N/12
PRX 00300116 R	PRV 00300116 R	50	C	73,7	291,7	T4B6N/20
PRX 00300151 R	PRV 00300151 R	50	C	73,7	291,7	T4B6N/26
PRX 00300200 R	PRV 00300200 R	50	C	73,7	291,7	T4B6N/36
PRX 0050035 R	PRV 0050035 R	50	C	86,1	501,7	T4B6N/08
PRX 0050070 R	PRV 0050070 R	50	C	86,1	501,7	T4B6N/12
PRX 00500116 R	PRV 00500116 R	50	C	86,1	501,7	T4B6N/20
PRX 00500151 R	PRV 00500151 R	50	C	86,1	501,7	T4B6N/26
PRX 00500200 R	PRV 00500200 R	50	C	86,1	501,7	T4B6N/36
PRX 0080035 R	PRV 0080035 R	100	C	113,8	754,9	T4B6N/08
PRX 0080070 R	PRV 0080070 R	100	C	113,8	754,9	T4B6N/12
PRX 00800116 R	PRV 00800116 R	100	C	113,8	754,9	T4B6N/20
PRX 00800151 R	PRV 00800151 R	100	C	113,8	754,9	T4B6N/26
PRX 00800200 R	PRV 00800200 R	100	C	113,8	754,9	T4B6N/36
PRX 0100035 R	PRV 0100035 R	100	C	117,6	936,6	T4B6N/08
PRX 0100070 R	PRV 0100070 R	100	C	117,6	936,6	T4B6N/12
PRX 01000116 R	PRV 01000116 R	100	C	117,6	936,6	T4B6N/20
PRX 01000151 R	PRV 01000151 R	100	C	117,6	936,6	T4B6N/26
PRX 01000200 R	PRV 01000200 R	100	C	117,6	936,6	T4B6N/36
PRX 0150035 R	PRV 0150035 R	100	C	136,7	1478,0	T4B6N/08
PRX 0150070 R	PRV 0150070 R	100	C	136,7	1478,0	T4B6N/12
PRX 01500116 R	PRV 01500116 R	100	C	136,7	1478,0	T4B6N/20
PRX 01500151 R	PRV 01500151 R	100	C	136,7	1478,0	T4B6N/26
PRX 01500200 R	PRV 01500200 R	100	C	136,7	1478,0	T4B6N/36
PRX 0200035 R	PRV 0200035 R	100	C	149,2	1958,6	T4B6N/08
PRX 0200070 R	PRV 0200070 R	100	C	149,2	1958,6	T4B6N/12
PRX 02000116 R	PRV 02000116 R	100	C	149,2	1958,6	T4B6N/20
PRX 02000151 R	PRV 02000151 R	100	C	149,2	1958,6	T4B6N/26
PRX 02000200 R	PRV 02000200 R	100	C	149,2	1958,6	T4B6N/36

* *Heat exchanger features available at page 246*

Codes and system layout

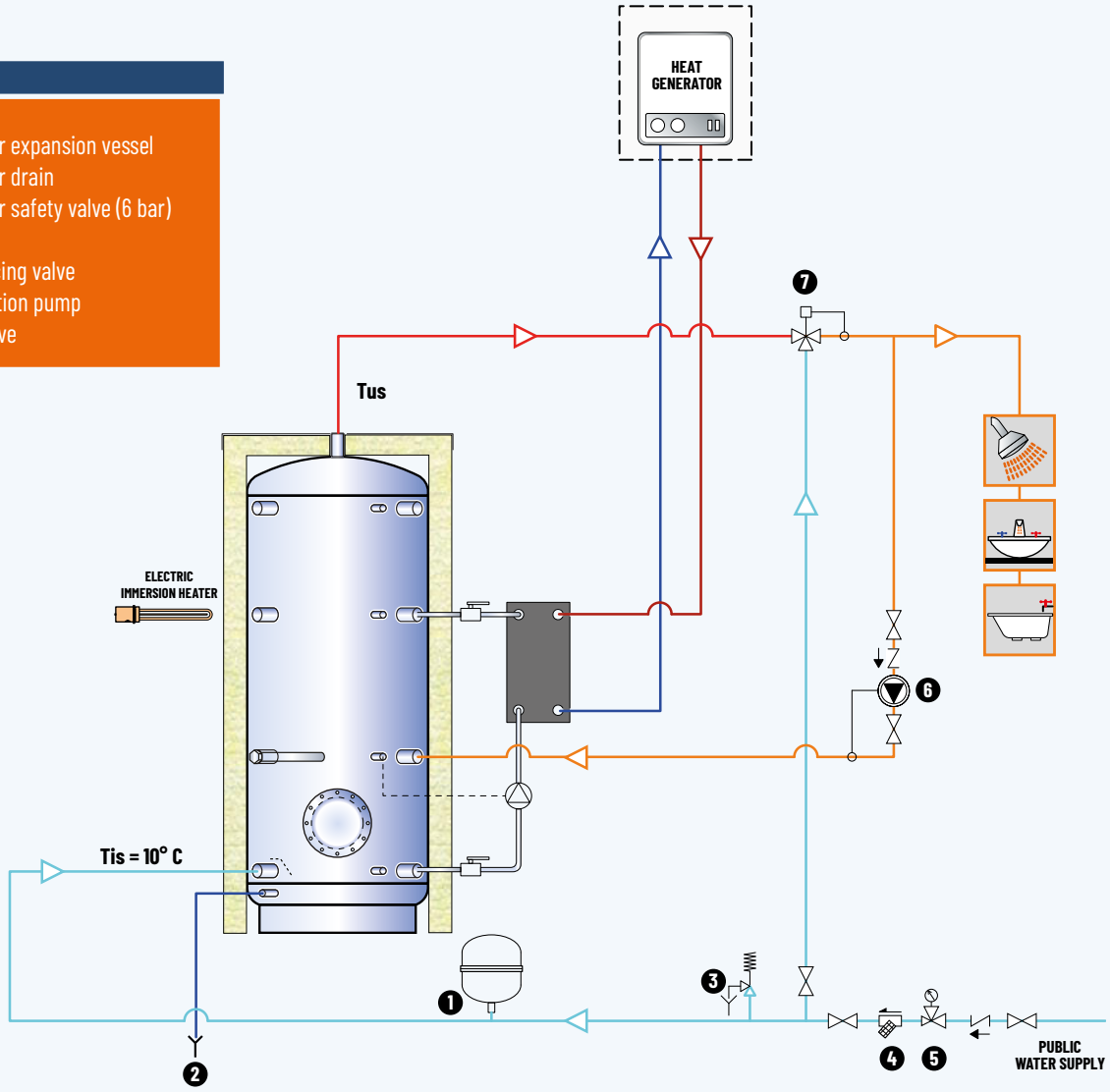
Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

PR - Soft insulation with polyester and PVC jacket

STAINLESS STEEL BUFFER	GLASS LINED BUFFER	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER TYPE *
PRX 0080035 F	PRV 0080035 F	130	C	132,6	754,9	T4B6N/08
PRX 0080070 F	PRV 0080070 F	130	C	132,6	754,9	T4B6N/12
PRX 00800116 F	PRV 00800116 F	130	C	132,6	754,9	T4B6N/20
PRX 00800151 F	PRV 00800151 F	130	C	132,6	754,9	T4B6N/26
PRX 00800200 F	PRV 00800200 F	130	C	132,6	754,9	T4B6N/36
PRX 0100035 F	PRV 0100035 F	130	C	143,9	936,6	T4B6N/08
PRX 0100070 F	PRV 0100070 F	130	C	143,9	936,6	T4B6N/12
PRX 01000116 F	PRV 01000116 F	130	C	143,9	936,6	T4B6N/20
PRX 01000151 F	PRV 01000151 F	130	C	143,9	936,6	T4B6N/26
PRX 01000200 F	PRV 01000200 F	130	C	143,9	936,6	T4B6N/36
PRX 0150035 F	PRV 0150035 F	130	C	169,2	1478,0	T4B6N/08
PRX 0150070 F	PRV 0150070 F	130	C	169,2	1478,0	T4B6N/12
PRX 01500116 F	PRV 01500116 F	130	C	169,2	1478,0	T4B6N/20
PRX 01500151 F	PRV 01500151 F	130	C	169,2	1478,0	T4B6N/26
PRX 01500200 F	PRV 01500200 F	130	C	169,2	1478,0	T4B6N/36
PRX 0200035 F	PRV 0200035 F	130	C	184,6	1958,6	T4B6N/08
PRX 0200070 F	PRV 0200070 F	130	C	184,6	1958,6	T4B6N/12
PRX 02000116 F	PRV 02000116 F	130	C	184,6	1958,6	T4B6N/20
PRX 02000151 F	PRV 02000151 F	130	C	184,6	1958,6	T4B6N/26
PRX 02000200 F	PRV 02000200 F	130	C	184,6	1958,6	T4B6N/36

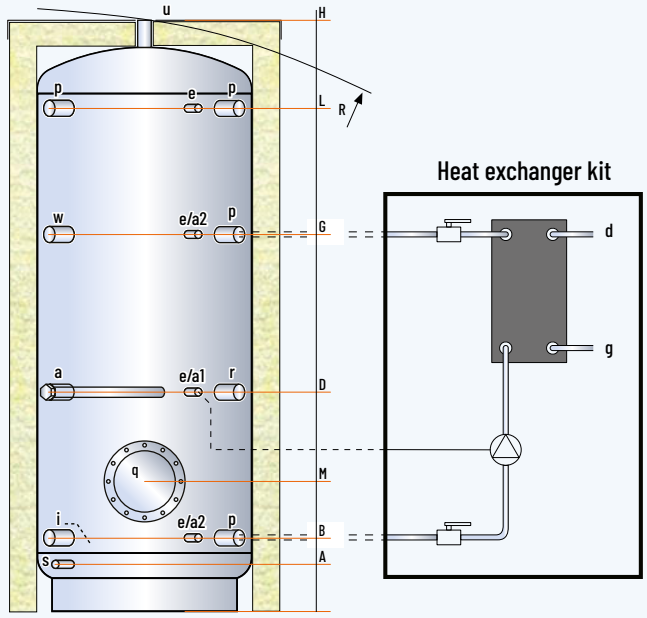
LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve

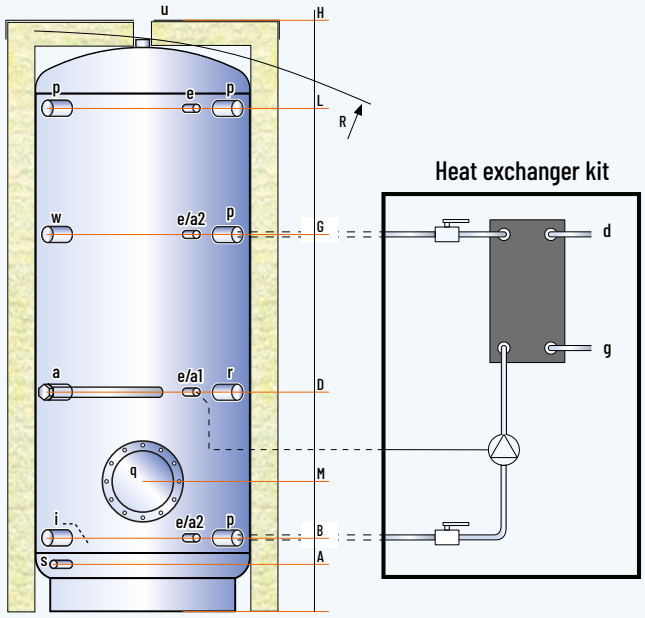


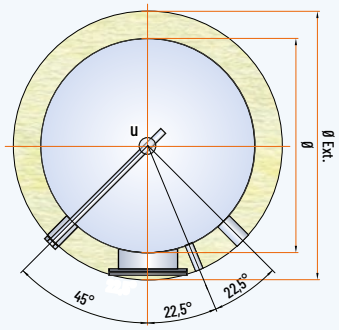
** Heat exchanger features available at page 246*

PRX



PRV





LEGEND

a . Magnesium anode
a1-a2. Opening for electronic anode
d . Heat source flow
e . Thermometer - Sensor
g . Heat source return
i . Domestic cold water inlet
p . Free connection
q . DHW inspection hatch
r . Recirculation
u . Domestic hot water outlet
w. Opening for immersion heater

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT ** (Hard/Soft ins.)	R *	Electronic anode (optional)	WEIGHT (ONLY CYLINDER) (kg) PRX	PRV
PR_ 00200_ R	450	1320	550	1440	a1 (EPS 375/125)	50	56
PR_ 00300_ R	500	1610	600	1730	a1 (EPS 375/125)	61	69
PR_ 00500_ R	650	1660	750	1835	a1 (EPS 375/125)	78	91
PR_ 00800_ _	790	1750	990/1050	1745	a1 (EPS 375/125)	116	155
PR_ 01000_ _	790	2110	990/1050	2095	a1 (EPS 375/125)	134	179
PR_ 01500_ _	1000	2115	1200/1260	2145	a2 (EPS 375/125)	195	283
PRX 02000_ _	1100	2465	1300/1360	2465	a2 (EPS 375/125)	261	-
PRV 02000_ _	1100	2380	1300/1360	2465	a2 (EPS 375/125)	-	399

** For capacities from 200 to 500 litres, the tilt height refers to the insulated cylinder*
*** The insulation is removable except for models from 200 to 500 litres*

MODEL	HEIGHTS (mm) A	B	D	G	L	M	CONNECTIONS (GAS) a p r	e	i u	s	w	q
PR_ 00200_ R	110	190	515	890	1075	350	1"¼	½"	1"¼	1"	1"½	220/290
PR_ 00300_ R	110	215	595	1080	1350	375	1"¼	½"	1"¼	1"	1"½	220/290
PR_ 00500_ R	135	240	615	1105	1375	445	1"¼	½"	1"¼	1"	1"½	220/290
PR_ 00800_ _	150	275	655	1145	1410	450	1"¼	½"	1"½	1"	1"½	300/380
PR_ 01000_ _	150	275	810	1355	1755	455	1"¼	½"	1"½	1"	1"½	300/380
PR_ 01500_ _	235	340	765	1400	1725	520	1"¼	½"	2"	1"	1"½	300/380
PRX 02000_ _	100	470	1010	1515	1975	655	1"¼	½"	2"	1"	1"½	350/430
PRV 02000_ _	265	370	930	1435	1945	575	1"¼	½"	2"	1"	1"½	350/430

Thermal performance buffer/heat exchanger kit - Primary side temperature 80/60 °C

MODEL	POWER EXCHANGED (kW)	DHW CONTINUOUS FLOW T=10/45° C (L/h)	FIRST 10 MINUTES RATING (L)*	RECOVERY TIME AT 60 °C (min)	PRIMARY SIDE FLOW RATE (L/h)	PRESSURE DROP PRIMARY SIDE (mH_2O)
PR_ 00200 35_	35	860	303	19	1505	1,8
PR_ 00200 70_	70	1720	401	10	3010	2,9
PR_ 00200 116_	116	2850	532	6	4988	2,8
PR_ 00200 151_	151	3710	633	5	6493	3,1
PR_ 00200 200_	200	4914	773	3	8600	3,1
PR_ 00300 35_	35	860	403,3	29	1505	1,8
PR_ 00300 70_	70	1720	501	15	3010	2,9
PR_ 00300 116_	116	2850	632	9	4988	2,8
PR_ 00300 151_	151	3710	733	7	6493	3,1
PR_ 00300 200_	200	4914	873	5	8600	3,1
PR_ 00500 35_	35	860	583	48	1505	1,8
PR_ 00500 70_	70	1720	660	25	3010	2,9
PR_ 00500 116_	116	2850	766	15	4988	2,8
PR_ 00500 151_	151	3710	846	12	6493	3,1
PR_ 00500 200_	200	4914	959	9	8600	3,1
PR_ 00800 35_	35	860	877	77	1505	1,8
PR_ 00800 70_	70	1720	949	40	3010	2,9
PR_ 00800 116_	116	2850	1047	24	4988	2,8
PR_ 00800 151_	151	3710	1122	18	6493	3,1
PR_ 00800 200_	200	4914	1226	14	8600	3,1
PR_ 01000 35_	35	860	1069	97	1505	1,8
PR_ 01000 70_	70	1720	1135	50	3010	2,9
PR_ 01000 116_	116	2850	1223	30	4988	2,8
PR_ 01000 151_	151	3710	1291	23	6493	3,1
PR_ 01000 200_	200	4914	1385	17	8600	3,1
PR_ 01500 35_	35	860	1558	145	1505	1,8
PR_ 01500 70_	70	1720	1612	75	3010	2,9
PR_ 01500 116_	116	2850	1685	45	4988	2,8
PR_ 01500 151_	151	3710	1741	35	6493	3,1
PR_ 01500 200_	200	4914	1819	26	8600	3,1
PR_ 02000 35_	35	860	2044	194	1505	1,8
PR_ 02000 70_	70	1720	2086	100	3010	2,9
PR_ 02000 116_	116	2850	2142	60	4988	2,8
PR_ 02000 151_	151	3710	2185	46	6493	3,1
PR_ 02000 200_	200	4914	2246	35	8600	3,1

** Storage temperature at 60 °C*

Thermal performance buffer/heat exchanger kit - Primary side temperature 70/50 °C

MODEL	POWER EXCHANGED (kW)	DHW CONTINUOUS FLOW T=10/45° C (L/h)	FIRST 10 MINUTES RATING (L)*	RECOVERY TIME AT 60 °C (min)	PRIMARY SIDE FLOW RATE (L/h)	PRESSURE DROP PRIMARY SIDE (mH_2O)
PR_ 00200 35_	32	786	293	21	1368	1,6
PR_ 00200 70_	59	1449	360	12	2556	2,2
PR_ 00200 116_	105	2580	492	7	4536	2,6
PR_ 00200 151_	135	3317	578	6	5796	2,6
PR_ 00200 200_	185	4545	721	4	7956	2,8
PR_ 00300 35_	32	786	382	32	1368	1,6
PR_ 00300 70_	59	1449	460	18	2556	2,2
PR_ 00300 116_	105	2580	592	10	4536	2,6
PR_ 00300 151_	135	3317	677	8	5796	2,6
PR_ 00300 200_	185	4545	821	6	7956	2,8
PR_ 00500 35_	32	786	574	53	1368	1,6
PR_ 00500 70_	59	1449	636	30	2556	2,2
PR_ 00500 116_	105	2580	741	17	4536	2,6
PR_ 00500 151_	135	3317	810	13	5796	2,6
PR_ 00500 200_	185	4545	925	10	7956	2,8
PR_ 00800 35_	32	786	865	84	1368	1,6
PR_ 00800 70_	59	1449	918	47	2556	2,2
PR_ 00800 116_	105	2580	1016	27	4536	2,6
PR_ 00800 151_	135	3317	1080	20	5796	2,6
PR_ 00800 200_	185	4545	1185	15	7956	2,8
PR_ 01000 35_	32	786	1040	106	1368	1,6
PR_ 01000 70_	59	1449	1102	59	2556	2,2
PR_ 01000 116_	105	2580	1194	33	4536	2,6
PR_ 01000 151_	135	3317	1265	26	5796	2,6
PR_ 01000 200_	185	4545	1342	18	7956	2,8
PR_ 01500 35_	32	786	1520	159	1368	1,6
PR_ 01500 70_	59	1449	1574	89	2556	2,2
PR_ 01500 116_	105	2580	1650	50	4536	2,6
PR_ 01500 151_	135	3317	1698	39	5796	2,6
PR_ 01500 200_	185	4545	1781	28	7956	2,8
PR_ 02000 35_	32	786	2003	212	1368	1,6
PR_ 02000 70_	59	1449	2044	119	2556	2,2
PR_ 02000 116_	105	2580	2077	66	4536	2,6
PR_ 02000 151_	135	3317	2122	51	5796	2,6
PR_ 02000 200_	185	4545	2223	38	7956	2,8

** Storage temperature at 60 °C*

Thermal performance buffer/heat exchanger kit - Primary side temperature 60/40 °C

MODEL	POWER EXCHANGED (kW)	DHW CONTINUOUS FLOW T=10/45° C (L/h)	FIRST 10 MINUTES RATING (L)*	RECOVERY TIME AT 60 °C (min)	PRIMARY SIDE FLOW RATE (L/h)	PRESSURE DROP PRIMARY SIDE (mH_2O)
PR_ 00200 35_	14	344	239	48	612	0,4
PR_ 00200 70_	31	762	298	23	1332	0,8
PR_ 00200 116_	66	1622	420	11	2844	1,2
PR_ 00200 151_	95	2334	521	9	4104	1,5
PR_ 00200 200_	140	3440	678	5	6048	1,7
PR_ 00300 35_	14	786	373	73	612	0,4
PR_ 00300 70_	31	1449	440	34	1332	0,8
PR_ 00300 116_	66	2580	570	16	2844	1,2
PR_ 00300 151_	95	3317	649	11	4104	1,5
PR_ 00300 200_	140	4545	783	8	6048	1,7
PR_ 00500 35_	14	786	562	121	612	0,4
PR_ 00500 70_	31	1449	615	57	1332	0,8
PR_ 00500 116_	66	2580	716	27	2844	1,2
PR_ 00500 151_	95	3317	777	18	4104	1,5
PR_ 00500 200_	140	4545	876	13	6048	1,7
PR_ 00800 35_	14	786	818	192	612	0,4
PR_ 00800 70_	31	1449	874	89	1332	0,8
PR_ 00800 116_	66	2580	969	43	2844	1,2
PR_ 00800 151_	95	3317	1030	28	4104	1,5
PR_ 00800 200_	140	4545	1130	20	6048	1,7
PR_ 01000 35_	14	786	975	242	612	0,4
PR_ 01000 70_	31	1449	1056	112	1332	0,8
PR_ 01000 116_	66	2580	1151	53	2844	1,2
PR_ 01000 151_	95	3317	1212	37	4104	1,5
PR_ 01000 200_	140	4545	1314	24	6048	1,7
PR_ 01500 35_	14	786	1504	363	612	0,4
PR_ 01500 70_	31	1449	1526	169	1332	0,8
PR_ 01500 116_	66	2580	1564	80	2844	1,2
PR_ 01500 151_	95	3317	1588	55	4104	1,5
PR_ 01500 200_	140	4545	1620	37	6048	1,7
PR_ 02000 35_	14	786	1984	485	612	0,4
PR_ 02000 70_	31	1449	2006	226	1332	0,8
PR_ 02000 116_	66	2580	2044	105	2844	1,2
PR_ 02000 151_	95	3317	268	72	4104	1,5
PR_ 02000 200_	140	4545	2109	50	6048	1,7

** Storage temperature at 45 °C*

Thermal performance buffer/heat exchanger kit - Primary side temperature 50/40 °C

MODEL	POWER EXCHANGED (kW)	DHW CONTINUOUS FLOW T=10/45° C (L/h)	FIRST 10 MINUTES RATING (L)*	RECOVERY TIME AT 60 °C (min)	PRIMARY SIDE FLOW RATE (L/h)	PRESSURE DROP PRIMARY SIDE (mH_2O)
PR_ 00200 35_	-	-	-	-	-	-
PR_ 00200 70_	14	344	238	51	1224	0,7
PR_ 00200 116_	34	835	309	21	2916	1,3
PR_ 00200 151_	48	1179	358	18	4140	1,5
PR_ 00200 200_	72	1769	441	10	6192	1,8
PR_ 00300 35_	-	-	-	-	-	-
PR_ 00300 70_	14	344	328	75	1224	0,7
PR_ 00300 116_	34	835	381	31	2916	1,3
PR_ 00300 151_	48	1179	418	22	4140	1,5
PR_ 00300 200_	72	1769	482	16	6192	1,8
PR_ 00500 35_	-	-	-	-	-	-
PR_ 00500 70_	14	344	529	126	1224	0,7
PR_ 00500 116_	34	835	570	52	2916	1,3
PR_ 00500 151_	48	1179	599	36	4140	1,5
PR_ 00500 200_	72	1769	648	25	6192	1,8
PR_ 00800 35_	-	-	-	-	-	-
PR_ 00800 70_	14	344	782	197	1224	0,7
PR_ 00800 116_	34	835	823	83	2916	1,3
PR_ 00800 151_	48	1179	852	55	4140	1,5
PR_ 00800 200_	72	1769	901	39	6192	1,8
PR_ 01000 35_	-	-	-	-	-	-
PR_ 01000 70_	14	344	964	248	1224	0,7
PR_ 01000 116_	34	835	1005	103	2916	1,3
PR_ 01000 151_	48	1179	1034	73	4140	1,5
PR_ 01000 200_	72	1769	1083	47	6192	1,8
PR_ 01500 35_	-	-	-	-	-	-
PR_ 01500 70_	14	344	1489	374	1224	0,7
PR_ 01500 116_	34	835	1505	155	2916	1,3
PR_ 01500 151_	48	1179	1517	109	4140	1,5
PR_ 01500 200_	72	1769	1536	72	6192	1,8
PR_ 02000 35_	-	-	-	-	-	-
PR_ 02000 70_	14	344	1969	500	1224	0,7
PR_ 02000 116_	34	835	1985	204	2916	1,3
PR_ 02000 151_	48	1179	1997	143	4140	1,5
PR_ 02000 200_	72	1769	2016	97	6192	1,8

** Storage temperature at 45 °C*

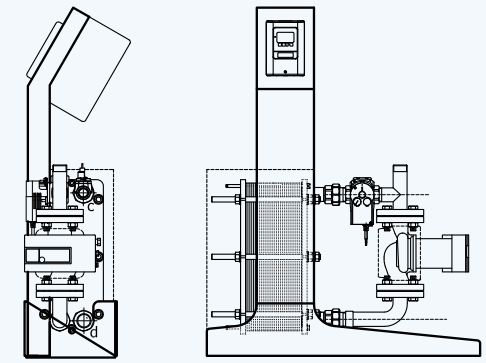


HWP D - "Direct" Fresh water station

HWP I - "Indirect" Fresh water station

HWP units are plug and play modules for the production of Domestic Hot water (DHW) on medium/big size systems. These modules are completely factory assembled, configurated, wired and ready to use. They can cleverly satisfy different applications with a high level of reliance and comfort.
The basic configuration has a circulation pump and a 3-way mixing valve on the primary side whilst on the secondary side, a heat flow meter along with an electronic control unit grant the production of DHW with further options for recirculation and protection against legionella and limescale.
The 3-way mixing valve is motorized and completely managed by the control unit, which keeps the inlet temperature on the primary side of the heat exchanger at the minimum level required (for limescale purposes), and at the same time improving the temperature steadiness of the DHW supplied.
HWP units come with two options:
- **HWP D** (direct): to be used on systems for instantaneous production of DHW without storage (only for this model, the electronic control unit provides also energy measurement features).
- **HWP I** (indirect): to be used on systems for the production of DHW to be stored in buffer vessels.

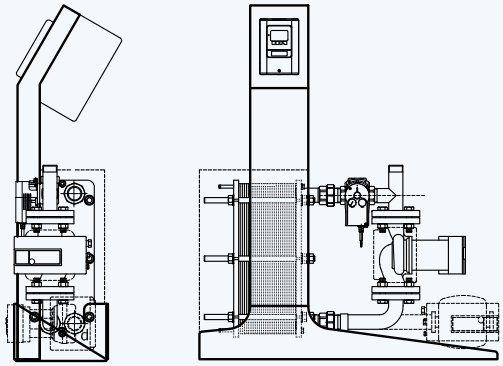
TECHNICAL FEATURES AND COMPONENTS		HWP D	HWP I
	Heat exchanger	Material: Stainless steel AISI 316	Stainless steel AISI 316
		Internal protective treatment: Pickling and passivation	Pickling and passivation
		External protective treatment: Pickling and passivation	Pickling and passivation
		Type: Gasketed plates	Gasketed plates
		Rating (P max. / T max.): 10 bar / 130 °C	10 bar / 130 °C
	Primary circuit equipment	Circulation pump: High efficiency with wet rotor and variable speed	
		3-way mixing valve: Moving brass body with electric actuator	
		Fittings and pipes: Brass & stainless steel	
		Temperature sensors: PT1000 for inlet & outlet	
	Secondary circuit equipment	Circulation pump: -	On demand, high efficiency
		Flow meter: Vortex type with temperature detection	
		Fittings and pipes: Brass & stainless steel	Brass & stainless steel
		Temperature sensors: PT1000 DHW for inlet	PT1000 for inlet & outlet
	Electronic control unit	Specifically designed for direct fresh water units. It controls the primary side circulation pump speed, reads the flow rate and the temperature. It manages also the antilegionella cycle and can provide energy measurement	Specifically designed for indirect fresh water units. It controls the primary side circulation pump speed, reads the flow rate and the temperature. It manages also the antilegionella cycle
		LCD graphic display for all the manged values. System check and monitoring; wide range of configurations avaialble	



HWP D - Direct Fresh water station

CODE	POWER * (kW)	FLOW RATE * (L/min)	MINIMUM STARTING FLOW RATE (L/min)
HWP D T04B12	120	45	5
HWP D T04B24	244	100	5
HWP D T04B36	368	150	5
HWP D T04B48	470	192	10
HWP D T14B24	721	295	20
HWP D T14B36	900	365	20
HWP D T14B48	1170	475	20

** Primary side temperature max 80 °C - Secondary side temperature from 10 to 45 °C*



HWP I - Indirect Fresh water station

CODE	POWER * (kW)	FLOW RATE * (L/min)	CODE FOR BUFFER LOADING CIRCULATION PUMP
HWP I T04B12	120	45	HWP SC 04
HWP I T04B24	244	100	HWP SC 04
HWP I T04B36	368	150	HWP SC 04
HWP I T04B48	470	192	HWP SC 04
HWP I T14B24	721	295	HWP SC 14
HWP I T14B36	900	365	HWP SC 14
HWP I T14B48	1170	475	HWP SC 14

** Primary side temperature max 80 °C - Secondary side temperature from 10 to 45 °C*

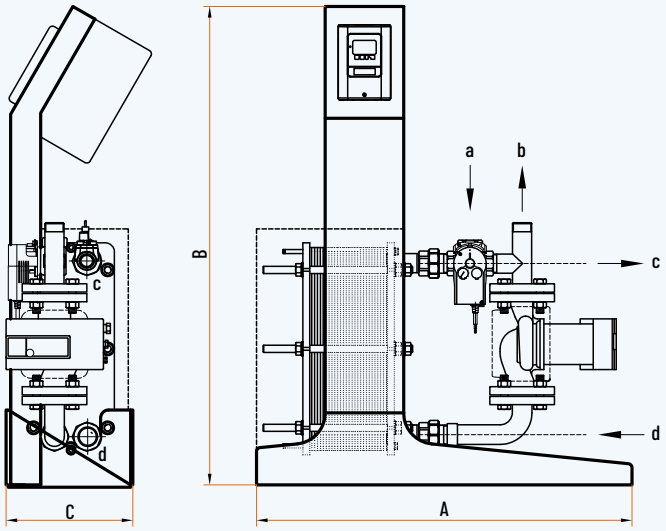
The **HWP I** (indirect) units, must always be equipped with a domestic water circulation pump for loading the serviced buffer vessel. Circulation pumps can be separately purchased by using the codes shown on the below table, or they can be freely retrieved on the local market. It is important to comply with the features below specified.

FRESH WATER STATION MODEL	CIRCULATION PUMP FEATURES	MAX. FLOW RATE (m^3/h)	MAX. HEAD (mH_2O)
HWP I T04B12	High efficiency circulation pump for DHW with variable speed managed by PWM signal	12	12,0
HWP I T04B24		12	12,0
HWP I T04B36		12	12,0
HWP I T04B48		12	12,0
HWP I T14B24	High efficiency circulation pump for DHW with variable speed managed by PWM signal	12	22,0
HWP I T14B36		12	22,0
HWP I T14B48		12	22,0

HWP - Heat exchanger insulation

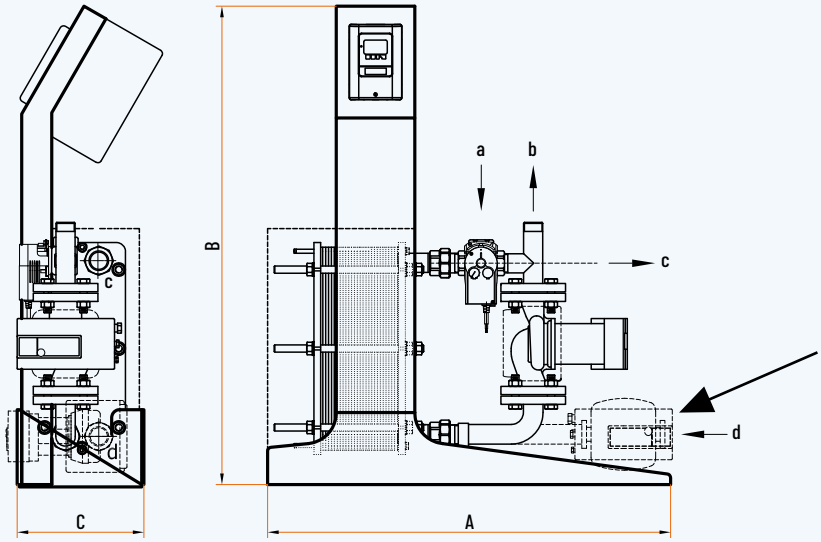
FRESH WATER STATION MODEL	INSULATION CODE	TYPE
HWP_ T04B12	HWP ISL 04	Aluminium carter with PEXL coating
HWP_ T04B24	HWP ISL 04	
HWP_ T04B36	HWP ISL 04	
HWP_ T04B48	HWP ISL 04	
HWP_ T14B24	HWP ISL 14	Aluminium carter with PEXL coating
HWP_ T14B36	HWP ISL 14	
HWP_ T14B48	HWP ISL 14	

Dimensions and heights



LEGEND

a . Primary inlet
b . Primary outlet
c . Secondary outlet
d . Secondary inlet



VERY IMPORTANT!

The buffer loading circulaton pump kit is not included as standard supply

HWP D - Direct fresh water station

MODEL	HEIGHTS (mm) A	B	C	CONNECTIONS (Gas) a	b	c	d	WEIGHT (Kg)
HWP D T04B12	814	1040	275	1"¼ F	1"¼ M	1" M	1"¼ M	81
HWP D T04B24	814	1040	275	1"¼ F	1"¼ M	1" M	1"¼ M	84
HWP D T04B36	814	1040	275	1"¼ F	1"¼ M	1" M	1"¼ M	88
HWP D T04B48	814	1040	275	1"¼ F	1"¼ M	1"¼ M	1"¼ M	92
HWP D T14B24	970	1400	396	2" F	2" M	1"½ M	2" M	225
HWP D T14B36	970	1400	396	2" F	2" M	1"½ M	2" M	235
HWP D T14B48	970	1400	396	2" F	2" M	1"½ M	2" M	245

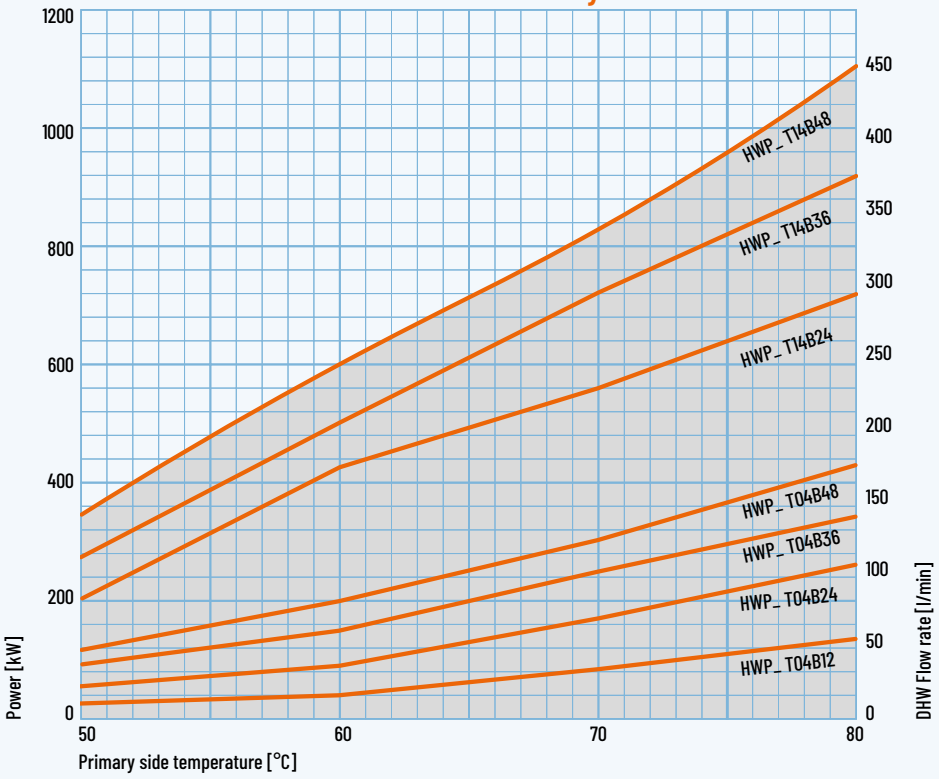
HWP I - Indirect fresh water station

MODEL	HEIGHTS (mm) A	B	C	CONNECTIONS (Gas) a	b	c	d	WEIGHT (Kg)
HWP I T04B12	814	1040	275	1"¼ F	1"¼ M	1"¼ M	1"¼ M	81
HWP I T04B24	814	1040	275	1"¼ F	1"¼ M	1"¼ M	1"¼ M	84
HWP I T04B36	814	1040	275	1"¼ F	1"¼ M	1"¼ M	1"¼ M	88
HWP I T04B48	814	1040	275	1"¼ F	1"¼ M	1"¼ M	1"¼ M	92
HWP I T14B24	970	1400	396	2" F	2" M	2" M	2" M	225
HWP I T14B36	970	1400	396	2" F	2" M	2" M	2" M	235
HWP I T14B48	970	1400	396	2" F	2" M	2" M	2" M	245

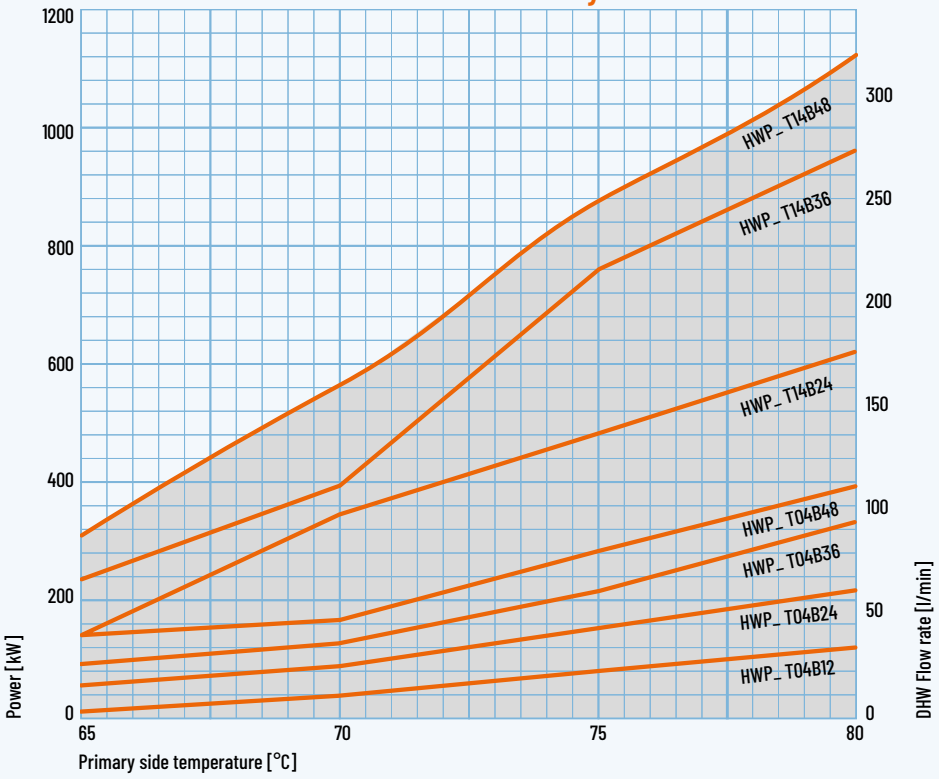
How to select the right HWP unit

The below abacuses are designed to allow the customer to select the right **HWP** unit according to the performance required by the system. There are two abacuses with two different temperatures set for DHW: the first for the 10 to 45 °C range temperature and the second for the 10 to 60 °C range temperature.
Once the requested flow of DHW [L/h] or the available power and the inlet temperature of the primary side [°C] are known, it's very easy to spot - by using the abacus- the right **HWP** module to select.

Selection chart HWP module with secondary side at 10/45 °C



Selection chart HWP module with secondary side at 10/60 °C

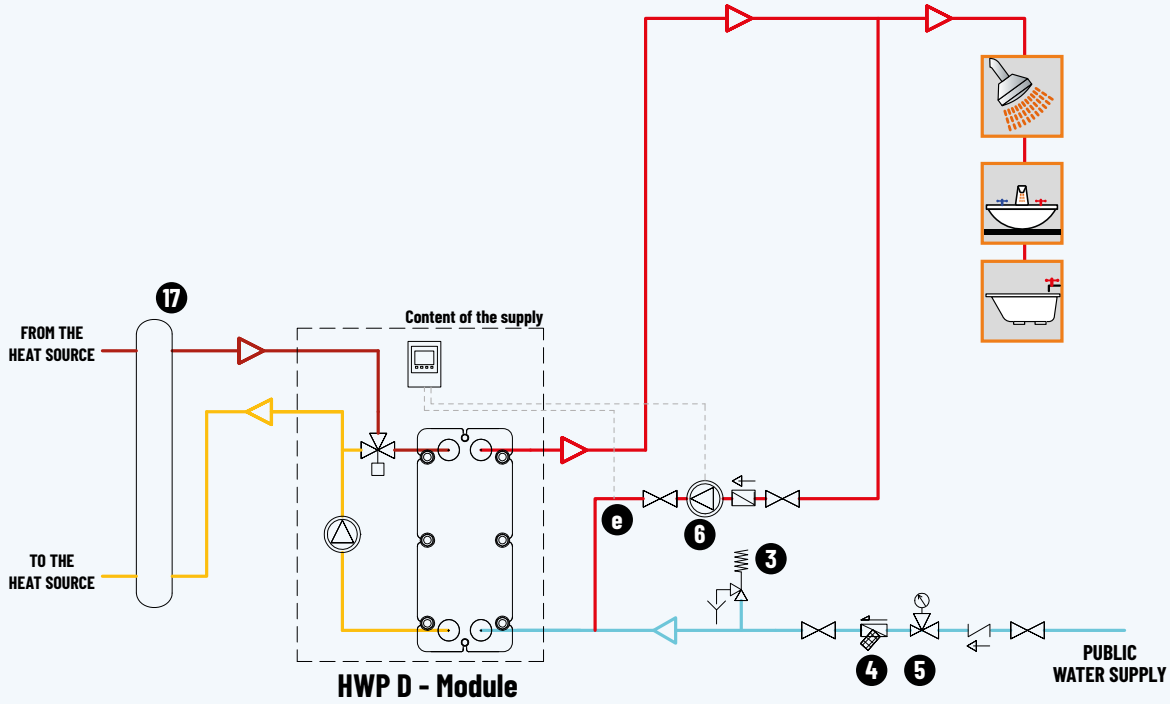


System layouts

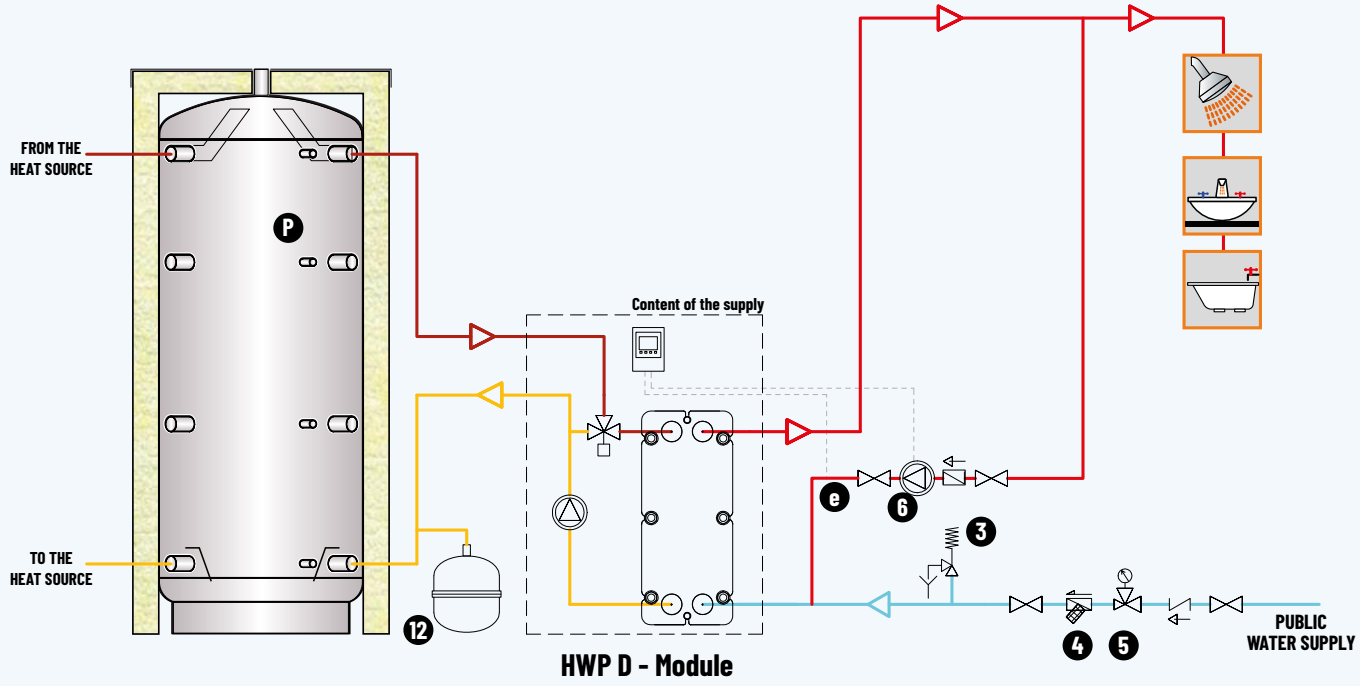
Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

Once you have selected the right size of your unit, you can choose among the available configurations according to the system that you want to build.
The followings are some indicative examples of systems that can be used.

System layout for HWP D directly connected to a heat source



System layout for HWP D connected to a buffer store



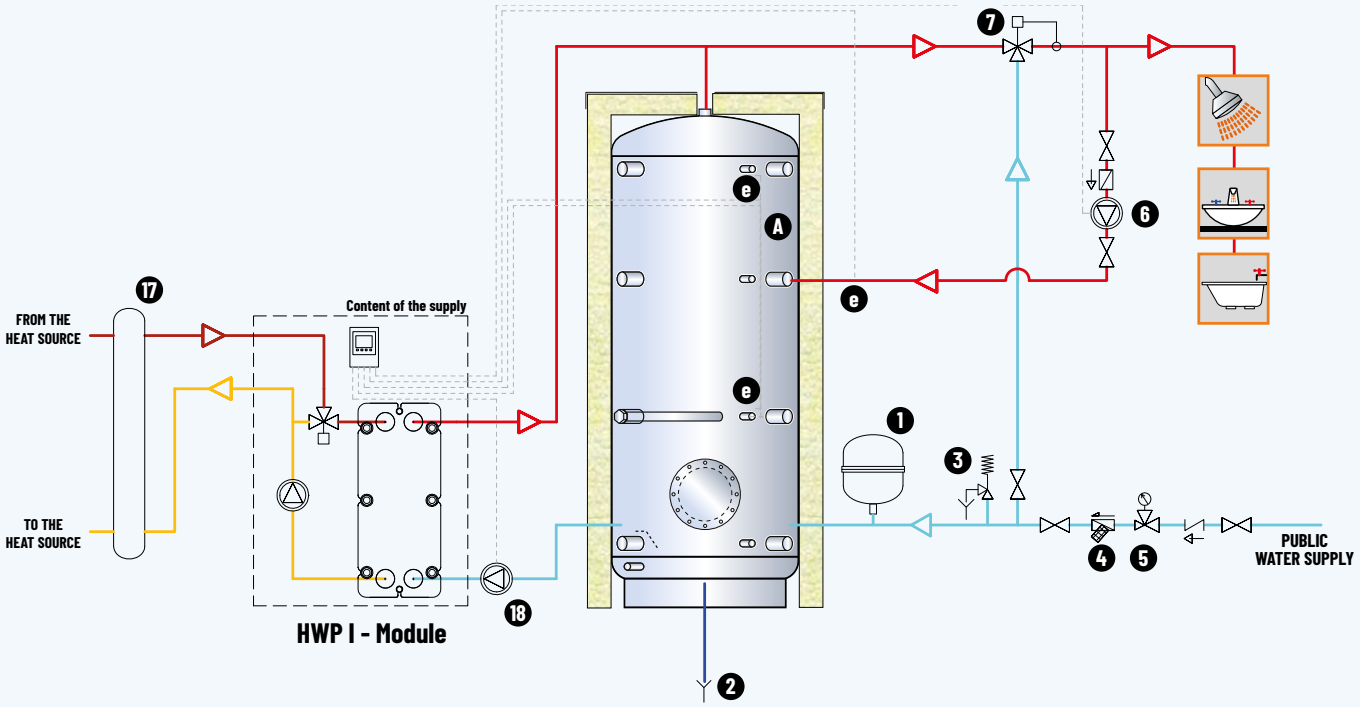
LEGEND

P . Primary water buffer
e . Temperature sensor [1]
3 . Domestic water safety valve (max. 10 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump [2]
12 . Heating system expansion vessel
17 . System manfold

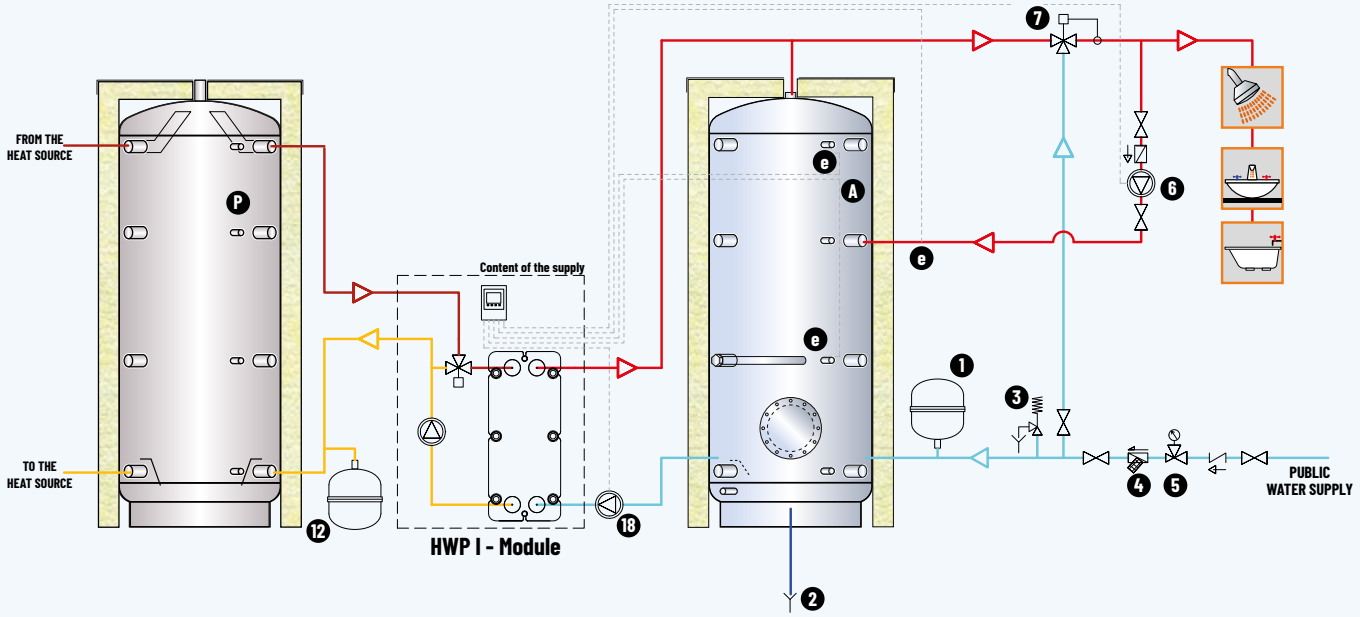
(1) The temperature sensor is supplied along with the HWP D module
(2) Not supplied - It can be managed directly from the HWP D module control unit

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

System layout for HWP I directly connected to a heat source



System layout for HWP I connected to a buffer store



LEGEND

P . Primary water buffer
A . DHW thermal store
e . Temperature sensor (1)
1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump (2)
12 . Heating system expansion vessel
17 . System manfold
18 . Buffer loading circulation pump (3)

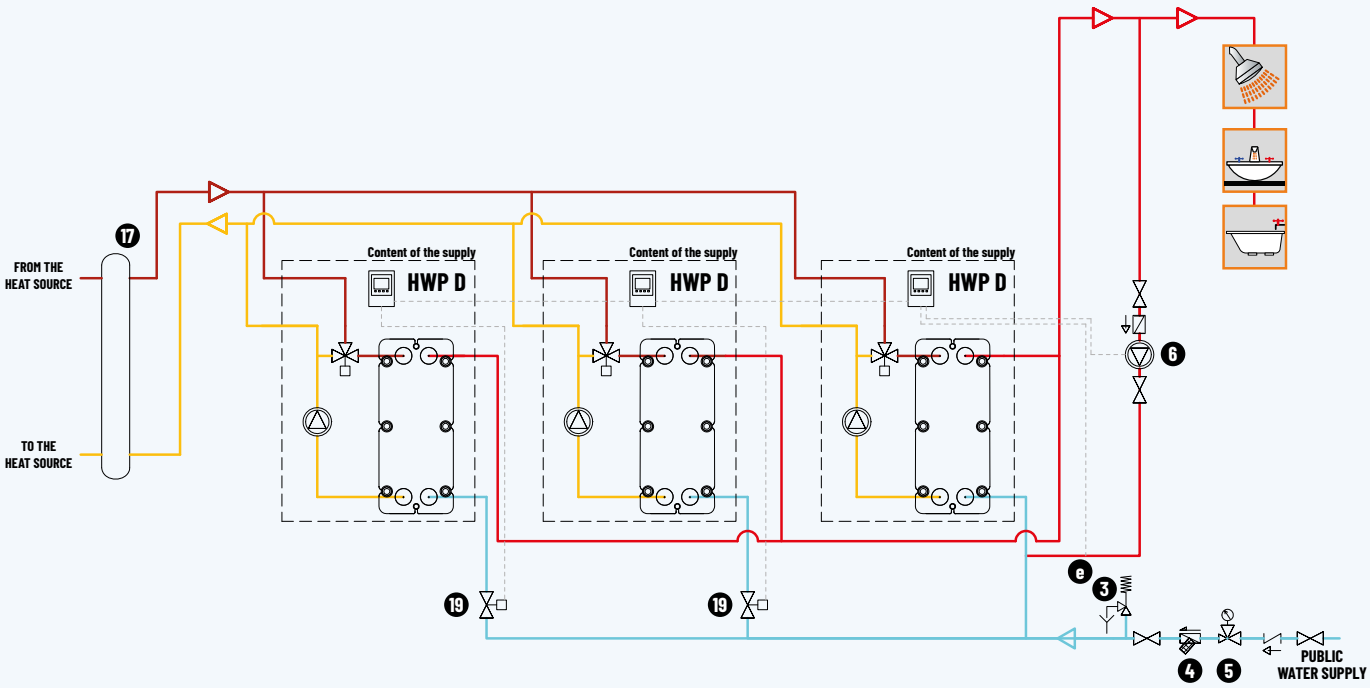
(1) The temperature sensor is supplied along with the HWP I module
(2) Not supplied - It can be managed directly from the HWP I module control unit
(3) Available on demand - for technical features please refer to the codes page

System layouts

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

In case of systems with a very high demand of DHW, the HWP D units can be installed in cascade system up to 5 modules.
This system configuration allows to share the DHW production among all the units thus enhancing the liability of the system.
Units working in a cascade system, must be factory prepared according to the system requirements, therefore they must be purchased as a special configuration with an over price.
Please contact us for a quotation.

System layout for a 3 "cascade" HWP D system directly connected to a heat source



LEGEND

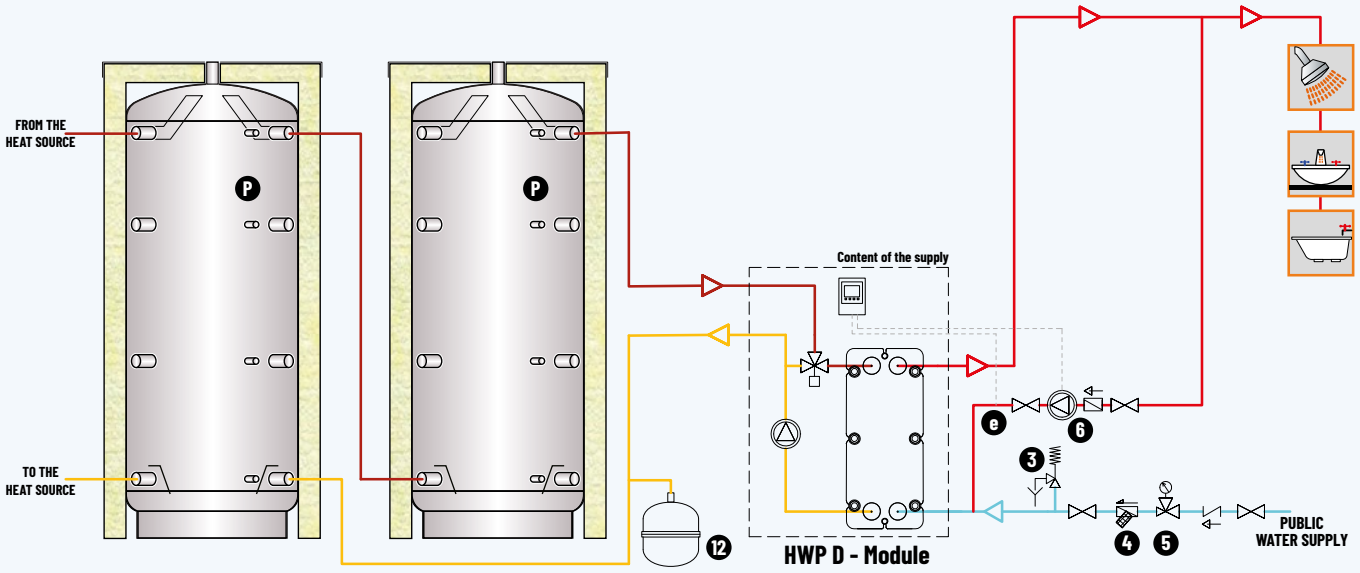
- **e** . Temperature sensor [1]
- **3** . Domestic water safety valve (max. 10 bar)
- **4** . Strainer
- **5** . Pressure reducing valve
- **6** . DWH Recirculation pump [2]
- **17** . System manfold
- **19** . 2-way on-off valve [3]

(1) The temperature sensor is supplied along with the HWP D module
(2) Not supplied - It can be managed directly from the HWP D module control unit
(3) Not included in the supply

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

In case of big size systems, or in case there are room constraints, buffer stores for primary side or DHW thermal stores can be divided in two or more units.

System layout for HWP D connected to 2 buffer stores

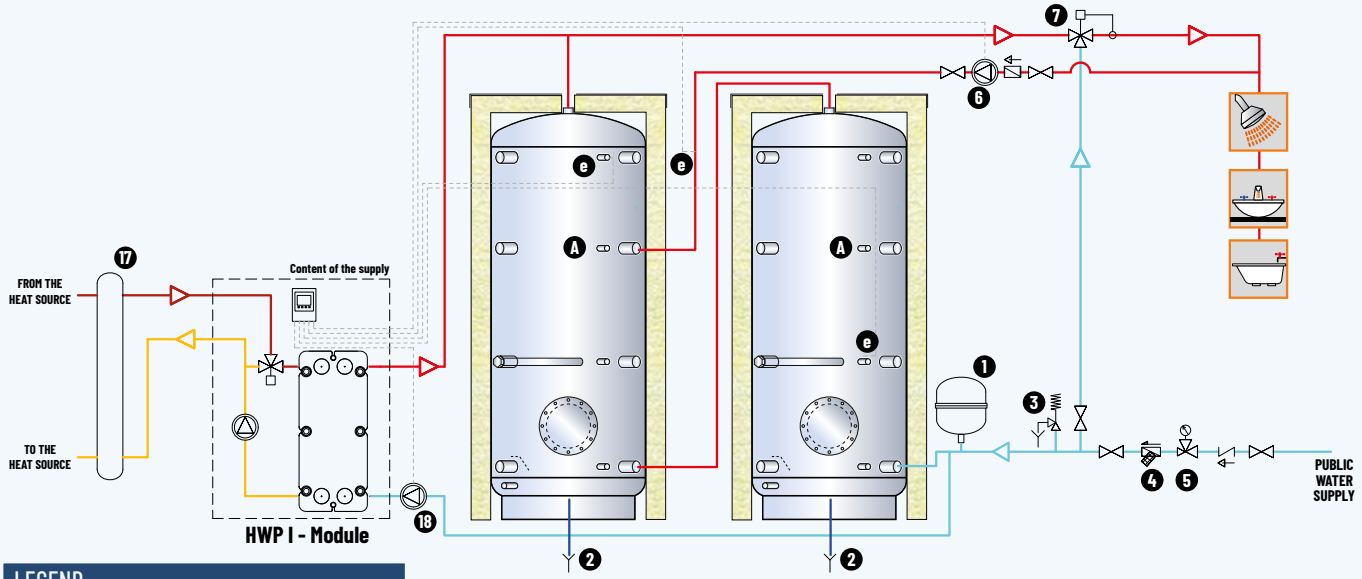


LEGEND

P . Primary water buffer
e . Temperature sensor [1]
3 . Domestic water safety valve (max. 10 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump [2]
12 . Heating system expansion vessel

(1) The temperature sensor is supplied along with the HWP D module
(2) Not supplied - It can be managed directly from the HWP D module control unit

System layout for HWP I connected to 2 DHW thermal stores



LEGEND

A . DHW thermal store
e . Temperature sensor [1]
1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump [2]
7 . DHW 3-way valve
17 . System manfold
18 . Buffer loading circulation pump [3]

(1) The temperature sensor is supplied along with the HWP I module
(2) Not supplied - It can be managed directly from the HWP I module control unit
(3) Available on demand - for technical features please refer to the codes page

Plate heat exchangers



The purpose of a plate heat exchanger (PHE) is to transfer the heat between two fluids with different chemical-physical composition that can't be mixed within them. PHE are preferred to U tube heat exchangers, coils, etc. in those applications where is necessary to comply with specific conditions such as:
- long life span, guaranteed by its total inspection;
- possibility to modify its performance by adding or removing plates;
- compact size;
- heat exchange ratings close to the physical limit (starting from 0.5 °C thermal gradient).

Heat exchanger plates are built in compliance with PED Directive 2014/68/UE (Pressure Equipment Directive).

Plate heat exchanger applications:

Heating systems: mainly used as hydraulic separator between two primary fluids with different working pressure or with different chemical composition.

Production of domestic hot water (DHW): it is possible by using AISI 316 stainless steel plates. In this field, it's possible to use the PHE for the instantaneous production of DHW or, by coupling the PHE to a buffer store, to supply those systems where a temporary high demand of DHW needs to be satisfied (applications such as hotels, resorts, gyms, etc).

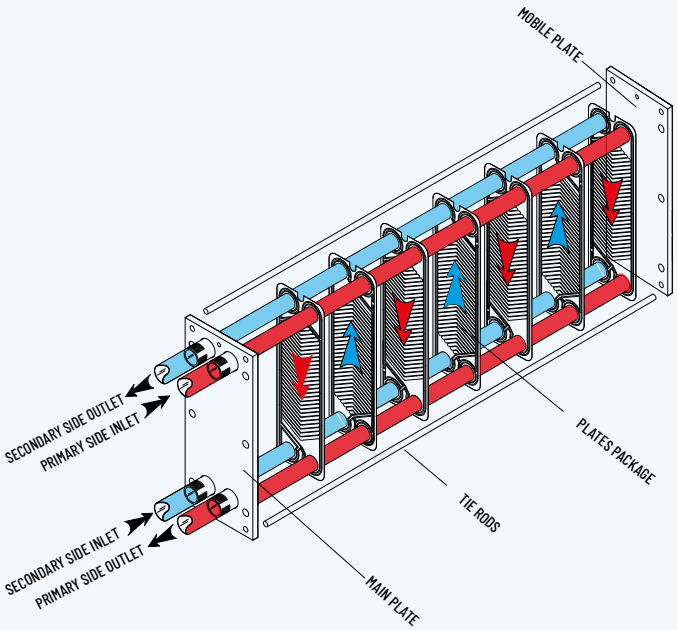
A big advantage offered by a PHE is the low risk of the growing of legionella bacteria due to the low volume of water at low temperature.

Heating of swimming pools: The combination of AISI 316 stainless steel plates with EPDM gaskets, allows the use of a PHE to heat the water of swimming pools: it is an excellent solution to take advantage of the surplus power generated by a solar thermal system especially during the summer.

In pools with high concentration of chlorine, we recommend to use Titanium plates.

Refrigeration: the high thermal efficiency of the plates offers a remarkable performance even between two systems working at a thermal gradient of few degrees.

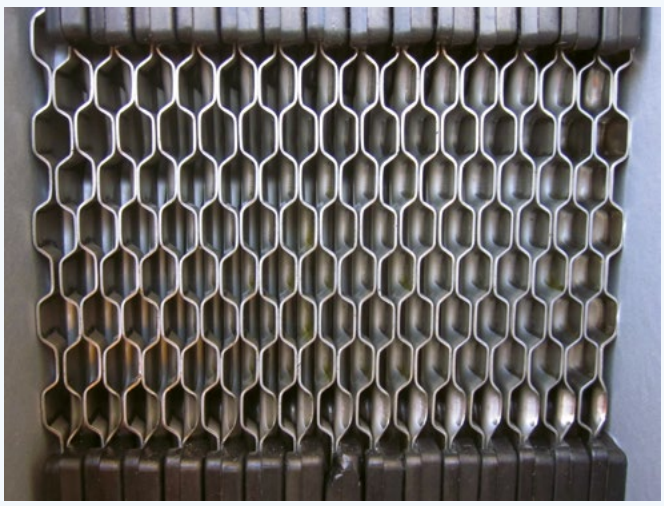
Maintenance and retrofitting: PHE are often used to replace obsolete or undersized heat exchanging systems.

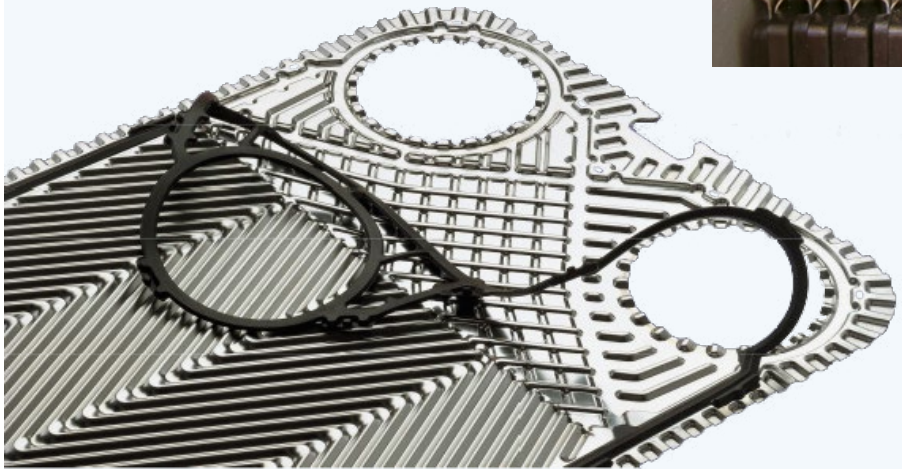


Liquid - Heat exchanger compatibility chart

	PLATES			GASKET			CONNECTIONS		
	AISI 304 SS	AISI 316 SS	TITANIUM	NITRILE (NBR)	EPDM	VITON	AISI 316 SS	MOPLEN	FLANGED
Water									
Glycolated water									
Demineralized water									
Thermal water									
Sea water									
Pool water									
Mineral water									
Hydraulic oil									
Diathermic oil									
Quenching oil									
Mineral oil									
Edible oil									
Diesel / Petrol									
Sulfuric acid 20% at 70 °C									
Hydrochloric acid 10% at 30 °C									
Chromic acid 40% at 50 °C									
Acetone									
Ethyl alcohol									
Ethanol									
Methanol									
Propylene									
Ethylene									
Fruit juice									
Milk									
Wine / Beer									

Incompatible Compatible





Gasketed plate heat exchangers

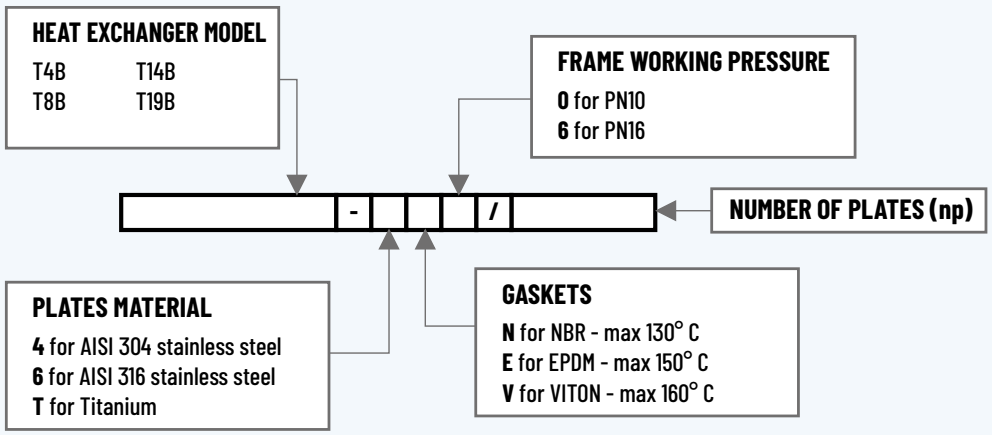


A gasketed PHE can be completely dismantled and re assembled for its inspection and cleaning or to add more plates.
The main components of a gasketed PHE are the frame, the plates and the gaskets.
- **Frame:** made of high thickness painted carbon steel, it consists of one fixed plate that hosts the connections and a second mobile plate that can slides over a special rail. The frame plates along with a high resistance galvanized tie rods compress the plates package together in order to guarantee the sealing of the PHE.
- **Plates:** they represent the core of the heat exchanger. They are made by a cold moulding of AISI 304, AISI 316 stainless steel or Titanium.
The mould grants a rugosity to the plate that gives a good mechanical resistance to the pressure. At the same time, this corrugation causes a turbulence of the fluid that flows through the plate thus enhancing the heat exchanging process.
There are two different types of plates corrugation: one that grants a higher heat exchanging efficiency and a second that allows low pressure drops.
By combining the two types of plates together, it is possible to achieve an optimal performance of the heat exchanger.
- **Gaskets:** made of high elasticity elastomeric material, which ensures excellent resistance to thermal shocks and a long lasting hydraulic seal. The materials are: Nitrile (NBR, Temperature range: -20 °C ÷ 120 °C), EPDM (temperature range: -15 °C ÷ 150 °C); VITON (temperature range: -10 °C to 180 °C). The seal is mechanically fixed to the plates (without any glue) through peripheral hooks that make it totally integrated with the plate, thus allowing an easy assembly process.

TML is able to size any PHE by using a dedicated software that can simulate a wide range of working conditions.
If you wish to get a quotation, please use the form at page 283, complete it with all the required data and send it to our Technical Department which will provide you with the most efficient solution for your application.

How to compose the gasketed PHE commercial code

The code of a gasketed PHE is composed by 5 parts: model, plate material, gasket type, working pressure and number of plates (np).

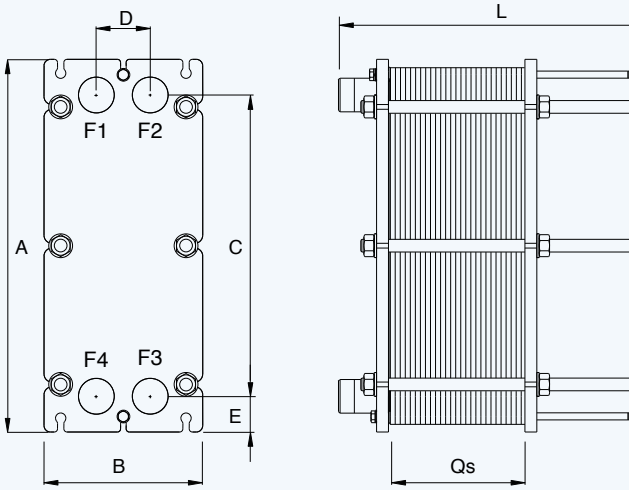


Components

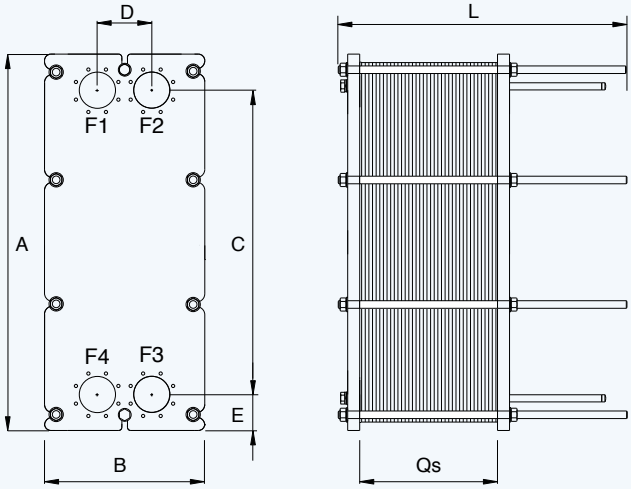
General features

Plates material	AISI 316 Stainless steel, AISI 304 Stainless steel, Titanium
Connections	For T4B/T8B and T14B models: - AISI 316 Stainless steel, Polypropylene (on titanium plate) For T19B model: - Carbon steeel flange (for primary water) - Flange with rubber sleeve
Gaskets	NBR (max 130°C), EPDM (max 150°C), Viton (max 160°C)
Frame	Painted carbon steel
Tie rods	Galvanized carbon steel
Working pressure	10 bar, 16 bar
Warranty	2 years

T4B/T8B/T14B



T19B



T4B - Gasketed plate heat exchanger

CODE	WORKING PRESS. (bar)	MAX. No. OF PLATES	SIZES (mm) A	B	C	D	E	L	Qs (+/- 0,5)	PLATES AREA (m^2)	CHANNEL VOLUME (dm^3)	MAX. AREA (m^2)	CONNEC-TIONS	PLATE WEIGHT (Kg)	FRAME WEIGHT (Kg)
T4B-_ _ 0/*Np*	10	20	460	200	381	70	40	112	*Np* x 2,80	0,04	0,17	0,8	1"¼ ext.	0,29	25
T4B-_ _ 0/*Np*	10	43	460	200	381	70	40	212	*Np* x 2,80	0,04	0,17	1,7	1"¼ ext.	0,29	25
T4B-_ _ 0/*Np*	10	54	460	200	381	70	40	262	*Np* x 2,80	0,04	0,17	2,1	1"¼ ext.	0,29	25
T4B-_ _ 6/*Np*	16	34	460	200	381	70	40	270	*Np* x 2,80	0,04	0,17	1,3	1"¼ ext.	0,29	35
T4B-_ _ 6/*Np*	16	45	460	200	381	70	40	320	*Np* x 2,80	0,04	0,17	1,8	1"¼ ext.	0,29	35
T4B-_ _ 6/*Np*	16	68	460	200	381	70	40	420	*Np* x 2,80	0,04	0,17	2,7	1"¼ ext.	0,29	35
T4B-_ _ 6/*Np*	16	90	460	200	381	70	40	520	*Np* x 2,80	0,04	0,17	3,6	1"¼ ext.	0,29	35

T8B - Gasketed plate heat exchanger

CODE	WORKING PRESS. (bar)	MAX. No. OF PLATES	DIMENSIONS (mm) A	B	C	D	E	L	Qs (+/- 0,5)	PLATES AREA (m^2)	CHANNEL VOLUME (dm^3)	MAX. AREA (m^2)	CONNEC-TIONS	PLATE WEIGHT (Kg)	FRAME WEIGHT (Kg)
T8B-_ _ 0/*Np*	10	20	754	200	656	70	40	112	*Np* x 2,80	0,08	0,21	1,60	1"¼ ext.	0,46	41
T8B-_ _ 0/*Np*	10	42	754	200	656	70	40	212	*Np* x 2,80	0,08	0,21	3,36	1"¼ ext.	0,46	41
T8B-_ _ 0/*Np*	10	54	754	200	656	70	40	262	*Np* x 2,80	0,08	0,21	4,32	1"¼ ext.	0,46	41
T8B-_ _ 6/*Np*	16	34	754	200	656	70	40	270	*Np* x 2,80	0,08	0,21	2,72	1"¼ ext.	0,46	50
T8B-_ _ 6/*Np*	16	45	754	200	656	70	40	320	*Np* x 2,80	0,08	0,21	3,60	1"¼ ext.	0,46	50
T8B-_ _ 6/*Np*	16	68	754	200	656	70	40	420	*Np* x 2,80	0,08	0,21	5,44	1"¼ ext.	0,46	50
T8B-_ _ 6/*Np*	16	90	754	200	656	70	40	520	*Np* x 2,80	0,08	0,21	7,20	1"¼ ext.	0,46	50

T14B - Gasketed plate heat exchanger

CODE	WORKING PRESS. (bar)	MAX. No. OF PLATES	DIMENSIONS (mm) A	B	C	D	E	L	Qs (+/- 0,5)	PLATES AREA (m^2)	CHANNEL VOLUME (dm^3)	MAX. AREA (m^2)	CONNEC-TIONS	PLATE WEIGHT (Kg)	FRAME WEIGHT (Kg)
T14B-_ _ 0/*Np*	10 / 16	25	871	321	641	141	132	395	*Np* x 2,95	0,15	0,35	3,75	2" ext.	0,83	119 / 140
T14B-_ _ 0/*Np*	10 / 16	75	871	321	641	141	132	595	*Np* x 2,95	0,15	0,35	11,25	2" ext.	0,83	119 / 140
T14B-_ _ 0/*Np*	10 / 16	115	871	321	641	141	132	795	*Np* x 2,95	0,15	0,35	17,25	2" ext.	0,83	119 / 140
T14B-_ _ 6/*Np*	10 / 16	201	871	321	641	141	132	1095	*Np* x 2,95	0,15	0,35	30,15	2" ext.	0,83	119 / 140

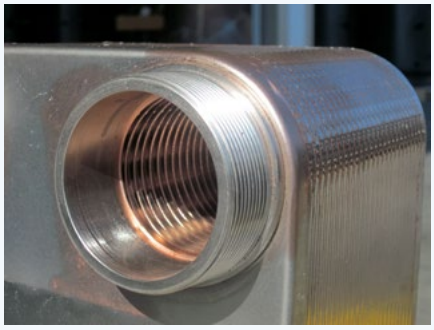
T19B - Gasketed plate heat exchanger

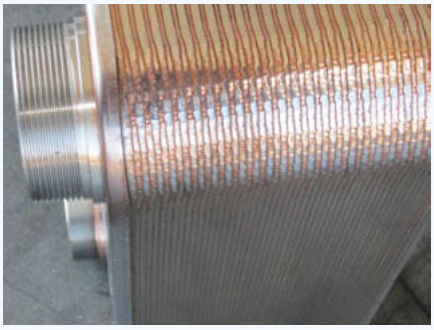
CODE	WORKING PRESS. (bar)	MAX. No. OF PLATES	DIMENSIONS (mm) A	B	C	D	E	L	Qs (+/- 0,5)	PLATES AREA (m^2)	CHANNEL VOLUME (dm^3)	MAX. AREA (m^2)	CONNEC-TIONS	PLATE WEIGHT (Kg)	FRAME WEIGHT (Kg)
T19B-_ _ 0/*Np*	10 / 16	25	988	384	700	192	149	460	*Np* x 2,95	0,22	0,60	5,5	DN65 fl.	1,10	185 / 220
T19B-_ _ 0/*Np*	10 / 16	75	988	384	700	192	149	660	*Np* x 2,95	0,22	0,60	16,5	DN65 fl.	1,10	185 / 220
T19B-_ _ 0/*Np*	10 / 16	115	988	384	700	192	149	860	*Np* x 2,95	0,22	0,60	25,3	DN65 fl.	1,10	185 / 220
T19B-_ _ 6/*Np*	10 / 16	201	988	384	700	192	149	1160	*Np* x 2,95	0,22	0,60	44,22	DN65 fl.	1,10	185 / 220

Brazed plate heat exchangers

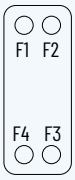


This type of heat exchanger is made by pressing AISI 316 stainless steel plates placed at 180 ° one from another.
The spaces in between the plates become flow channels with one fluid flowing in odd number channels and the other in the even number channels.
The plates are then brazed with soldering material (usually copper) which is melted into a vacuum furnace. This brazing process seals the plates together making the PHE extremely durable and allows it to perform under high working pressures and temperatures.
The main advantages of brazed plate heat exchangers are:
- lighter and smaller than any other heat exchanger having the same value of exchanging surface area;
- higher heat transfer coefficient due to a wider exploitation of the surface and to a lower amount of water flowing through the channels;
-excellent resistance to high working pressures and temperatures thanks to its higher mechanical resistance granted by the melting process which creates a compact body;
- the effect of high turbulence within the channels reduces the risk of clogging that can be caused by deposits of materials contained in the liquid (sand, mud, etc.);
- they are more cost-effective compared to other types of heat exchangers.





Components	General features		
		Plates material	AISI 316 Stainless steel
		Connections	AISI 316 Stainless steel
		Working pressure	25 bar
		Min/max working temperature	-10 °C / 180 °C
		Warranty	2 years



SB 30 - Brazed plate heat exchanger

CODE	No. OF PLATES	A	B	C	D	L	CHANNEL VOLUME (dm³)	CONNECTIONS	HEAT EXCHANGER WEIGHT (Kg)
SB 30-10	10	312	76	278	42	40	0,021	¾" male thread	1,0
SB 30-20	20	312	76	278	42	52	0,021	¾" male thread	1,5
SB 30-30	30	312	76	278	42	64	0,021	¾" male thread	2,0
SB 30-40	36	312	76	278	42	71	0,021	¾" male thread	2,2



SB 40 - Brazed plate heat exchanger

CODE	No. OF PLATES	A	B	C	D	L	CHANNEL VOLUME (dm³)	CONNECTIONS	HEAT EXCHANGER WEIGHT (Kg)
SB 40-10	10	320	95	270	45	43	0,025	¾" male thread	1,5
SB 40-20	16	320	95	270	45	53	0,025	¾" male thread	2,0
SB 40-30	26	320	95	270	45	69	0,025	¾" male thread	2,8
SB 40-40	36	320	95	270	45	85	0,025	¾" male thread	3,6



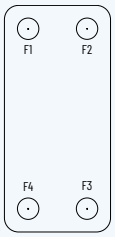
SB 50 - Brazed plate heat exchanger

CODE	No. OF PLATES	A	B	C	D	L	CHANNEL VOLUME (dm³)	CONNECTIONS	HEAT EXCHANGER WEIGHT (Kg)
SB 50-20	16	289	118	234	63	63	0,042	1"¼ male thread	2,7
SB 50-30	26	289	118	234	63	81	0,042	1"¼ male thread	3,5
SB 50-40	36	289	118	234	63	100	0,042	1"¼ male thread	4,3
SB 50-50	50	289	118	234	63	125	0,042	1"¼ male thread	5,3
SB 50-60	60	289	118	234	63	140	0,042	1"¼ male thread	6,1



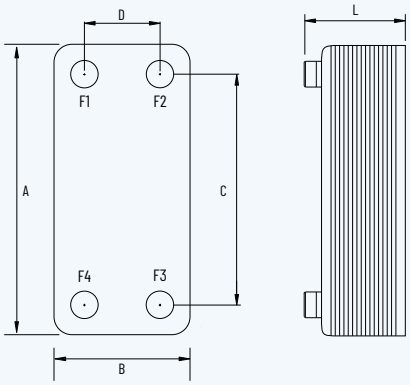
SB 105 - Brazed plate heat exchanger

CODE	No. OF PLATES	A	B	C	D	L	CHANNEL VOLUME (dm³)	CONNECTIONS	HEAT EXCHANGER WEIGHT (Kg)
SB 105-30	30	525	119	479	72	96	0,102	1" male thread	7,0
SB 105-40	40	525	119	479	72	118	0,102	1" male thread	8,6
SB 105-50	50	525	119	479	72	141	0,102	1" male thread	10,2



SB 205 - Brazed plate heat exchanger

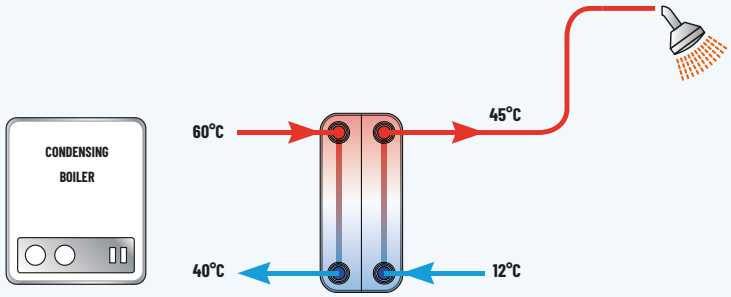
CODE	No. OF PLATES	A	B	C	D	L	CHANNEL VOLUME (dm³)	CONNECTIONS	HEAT EXCHANGER WEIGHT (Kg)
SB 205-30	30	466	256	379	170	120	0,158	2" male thread	15,5
SB 205-40	40	466	256	379	170	138	0,158	2" male thread	18,2
SB 205-50	50	466	256	379	170	155	0,158	2" male thread	20,9
SB 205-60	60	466	256	379	170	173	0,158	2" male thread	23,6



LEGEND

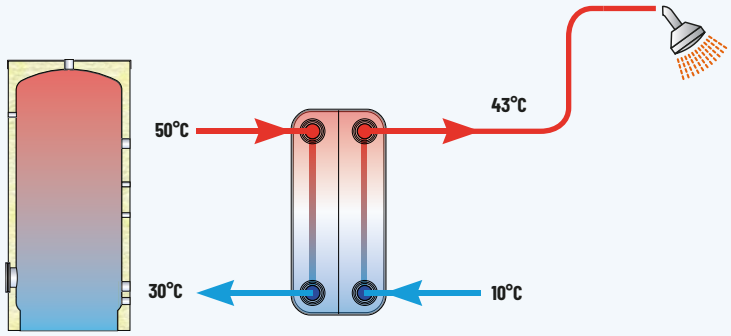
F1 . Primary inlet
F2 . Secondary outlet
F3 . Secondary inlet
F4 . Primary outlet

Plate heat exchanger for instantaneous DHW production from a condensing boiler



POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
25	T4B-6N0/12TL		1,09	6	0,65	3
25		SB30-40	1,09	3,6	0,65	1,3
35	T4B-6N0/14TL		1,53	8	0,92	4
35		SB30-40	1,53	7,1	0,92	2,5
50	T4B-6N0/18TL		2,18	9	1,31	5
50		SB40-30	2,18	35,2	1,31	12,2
75	T4B-6N0/24TL		3,27	11	1,96	6
75		SB40-40	3,27	50,4	1,96	17,8
100	T4B-6N0/28TL		4,36	16,0	2,62	8
100		SB50-30	4,36	46,9	2,62	16,2
125	T4B-6N0/32TL		5,45	17	3,27	8
125		SB50-40	5,45	42,3	3,27	15
150	T4B-6N0/38TL		6,54	18	3,93	8
150		SB50-50	6,54	41	3,93	14,8
175	T4B-6N0/44TL		7,63	19	4,58	9
175		SB50-60	7,63	41,6	4,58	15,2
200	T4B-6N0/50TL		8,72	20	5,24	9
200		SB105-60	8,72	65,6	5,24	23,6

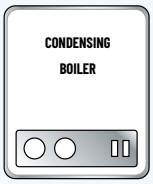
Plate heat exchanger for instantaneous DHW production from a buffer store

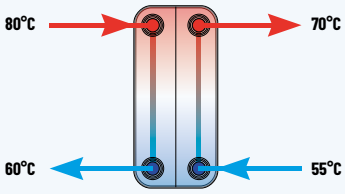


POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
25	T4B-6N0/20TL		1,09	3	0,65	2
25		SB40-30	1,09	9,4	0,65	3,2
35	T4B-6N0/30TL		1,52	3	0,92	2
35		SB40-30	1,52	17,8	0,92	6,2
50	T4B-6N0/40TL		2,17	3	1,31	2
50		SB40-40	2,17	22,9	1,31	8,2
75	T8B-6N0/26TL		3,26	17	1,96	9
75		SB50-60	3,26	8,2	1,96	3
100	T8B-6N0/34TL		4,34	18,0	2,62	9
100		SB105-30	4,34	46,5	2,62	16,1
125	T14B-6N0/16TH		5,43	40,4	3,27	19,1
125		SB105-40	5,43	40,7	3,27	14,6
150	T14B-6N0/19TH		6,51	46,1	3,93	16,8
150		SB105-50	6,51	37,9	3,93	14,0
175	T14B-6N0/22TH		7,60	42	4,58	18,5
175		SB105-50	7,60	50,9	4,58	18,4
200	T14B-6N0/24TH		8,68	16,2	5,23	19,9
200		SB205-40	8,68	35,5	5,23	12,3

Note: the values shown for the brazed PHE can slighlty differ since the selection depends on the available models that better fit to the optimal working conditions

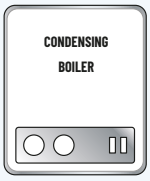
Plate heat exchanger for condensing boiler connected to a high temperature heating system

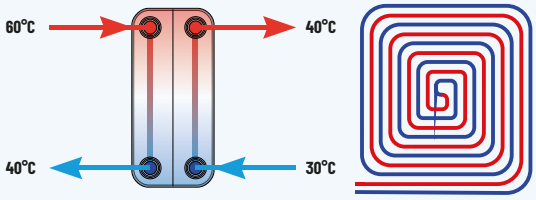




POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
15	T4B-4N0/18TL		0,66	2	0,88	2
15		SB40-20	0,66	7.3	0,88	10.6
25	T4B-4N0/26TL		1,10	2	1,46	3
25		SB40-30	1,10	9.3	1,46	14.5
30	T4B-4N0/30TL		1,32	2	1,75	3
30		SB40-40	1,32	8.3	1,75	13.6
35	T4B-4N0/36TL		1,54	2	2,04	3
35		SB50-40	1,54	3,7	2,04	5,9
50	T8B-4N0/28TL		2,20	9,0	2,92	13
50		SB50-50	2,20	5	2,92	8,1
75	T14B-4N0/18TM		3,30	6,4	4,38	9
75		SB105-30	3,30	26,7	4,38	40,6
100	T14B-4N0/23TM		4,40	6,1	5,84	10,6
100		SB105-50	4,40	17,4	5,84	28,0
125	T14B-4N0/24TH		5,49	18,3	7,30	38,4
125		SB105-50	5,49	26,6	7,30	42,9
150	T14B-4N0/24TH		6,59	31,2	8,76	46,6
150		SB205-30	6,59	36.4	8,76	55.6
175	T14B-4N0/25TH		7,69	30,6	10,22	46,8
175		SB205-40	7,69	27,6	10,22	43,6
200	T14B-4N0/32TH		8,79	30,1	11,68	47,1
200		SB205-50	8,79	23,2	11,68	37,4

Plate heat exchanger for condensing boiler connected to a low temperature heating system

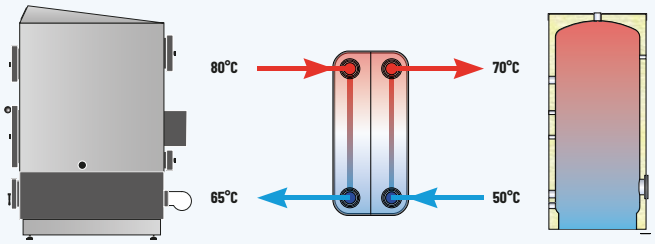




POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
15	T4B-4N0/10TL		0,65	5	1,30	10
15		SB30-20	0,65	3,5	1,30	11,5
25	T4B-4N0/14TL		1,09	6	2,17	13
25		SB30-30	1,09	4,6	2,17	16,4
30	T4B-4N0/16TL		1,31	6	2,60	14
30		SB30-40	1,31	5,2	2,60	19,8
35	T4B-4N0/18TL		1,53	6	3,03	15
35		SB50-20	1,53	14,4	3,03	44,2
50	T4B-4N0/26TL		2,18	6,0	4,33	16
50		SB50-30	2,18	12,5	4,33	41,8
75	T4B-4N0/38TL		3,27	6	6,50	18
75		SB50-40	3,27	15,9	6,50	55,3
100	T4B-4N0/52TL		4,36	6	8,67	19
100		SB50-50	4,36	18,8	8,67	67,1
125	T14B-4N0/14TL		5,45	14,5	10,83	40,7
125		SB50-60	5,45	21,8	10,83	79
150	T14B-4N0/16TL		6,53	15,4	13,00	44,9
150		SB50-60	6,53	45,1	13,00	51,3
175	T14B-4N0/18TL		7,63	16,1	15,16	48,3
175		-	-	-	-	-
200	T14M-4N0/20TM		8,72	14,8	17,33	47,8
200		-	-	-	-	-

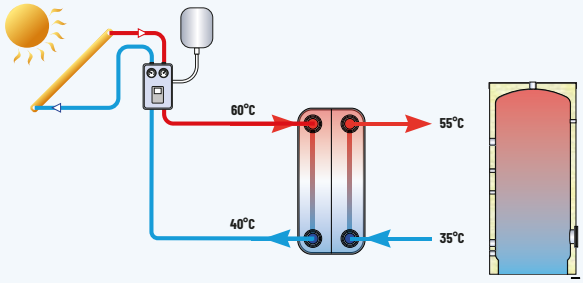
Note: the values shown for the brazed PHE can slighlty differ since the selection depends on the available models that better fit to the optimal working conditions

Plate heat exchanger for biomass boiler connected to a buffer store



POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
25	T4B-4N0/12TL		1,47	12	1,09	6
25		SB30-30	1,47	8.9	1,09	4.6
35	T4B-4N0/16TL		2,05	12	1,53	6
35		SB30-40	2,05	12.5	1,53	6.8
50	T4B-4N0/20TL		2,93	12	2,19	7
50		SB40-40	2,93	40.4	2,19	21.6
75	T4B-4N0/30TL		4,40	14	3,28	8
75		SB50-30	4,40	46.8	3,28	23.9
100	T4B-4N0/38TL		5,87	15,0	4,38	10
100		SB50-40	5,87	49.6	4,38	25.3
125	T4B-4N0/42TL		7,33	19	5,47	12
125		SB50-50	7,33	50.1	5,47	27.1
150	T4B-4N0/54TL		8,80	19	6,57	12
150		SB50-60	8,80	54	6,57	29.5
175	T14B-4N0/18TM		10,27	43,5	7,66	32
175		-	-	-	-	-
200	T14B-4N0/20TM		11,73	46	8,75	33
200		-	-	-	-	-

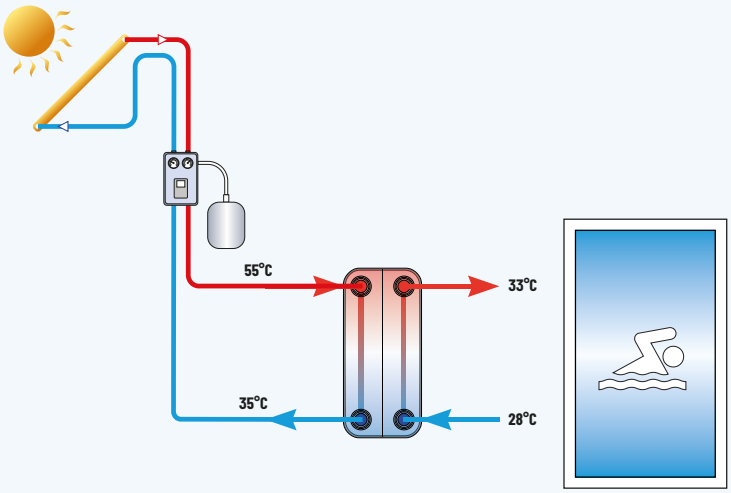
Plate heat exchanger fed by a solar system connected to a buffer store



POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
15	T8B-4N0/17TL		0,67	3	0,67	3
15		SB105-30	0,67	1.6	0,67	1.4
20	T8B-4N0/19TL		0,90	3	0,90	3
20		SB105-40	0,90	1.5	0,90	1.4
25	T8B-4N0/23TL		1,12	5	1,12	4
25		SB105-40	1,12	2.2	1,12	2.0
30	T8B-4N0/27TL		1,35	5	1,35	4
30		SB105-40	1,35	3.0	1,35	2.8
35	T8B-4N0/31TL		1,57	5,0	1,57	4
35		SB105-40	1,57	3.9	1,57	3.7
40	T8B-4N0/33TL		1,79	5	1,79	5
40		SB105-40	1,79	5	1,79	4.7
45	T8B-4N0/37TL		2,02	5.8	2,02	5
45		SB105-40	2,02	6.1	2,02	5.8
50	T8B-4N0/39TL		2,24	6	2,24	6
50		SB105-50	2,24	5	2,24	4.8
65	T8B-4N0/45TL		2,70	6	2,70	6
65		SB205-30	2,70	6.6	2,70	5.8
80	T8B-4N0/57TL		3,60	7	3,60	7
80		SB205-40	3,60	6.4	3,60	5.9
100	T8B-4N0/71TL		4,50	8	4,50	7
100		SB205-40	4,50	9.9	4,50	9,0

Note: the values shown for the brazed PHE can slighlty differ since the selection depends on the available models that better fit to the optimal working conditions

Plate heat exchagner fed by a solar system connected to a swimming pool



POWER (kW)	CODE FOR GASKETED PLATE HEAT EXCHANGER	CODE FOR BRAZED PLATE HEAT EXCHANGER	PRIMARY SIDE (H_2O)		SECONDARY SIDE (H_2O)	
			FLOW RATE (m^3/h)	PRESSURE DROP (kPa)	FLOW RATE (m^3/h)	PRESSURE DROP (kPa)
15	T4B-6E0/16TL		0,67	2	2,60	16
15		SB30-20	0,67	3.8	2,60	44.4
20	T4B-6E0/22TL		0,90	2	3,46	16
20		SB30-30	0,90	3.5	3,46	44.5
25	T4B-6E0/26TL		1,12	2	4,33	17
25		SB30-40	1,12	3.6	4,33	51.8
30	T4B-6E0/32TL		1,35	2	5,19	17
30		SB50-30	1,35	5.1	5,19	59.5
35	T4B-6E0/38TL		1,57	2,0	6,06	17
35		SB50-40	1,57	4.0	6,06	48.7
40	T4B-6E0/44TL		1,80	2	6,92	18
40		SB50-50	1,80	3.5	6,92	43.8
45	T4B-6E0/50TL		2,02	2	7,79	18
45		SB50-50	2,02	4.3	7,79	55.0
50	T14B-6E0/10TM		2,25	4,5	8,65	45,8
50		SB50-50	2,25	5,3	8,65	67.2
65	T14B-6E0/14TM		2,92	4,4	11,25	44,2
65		SB50-60	2,92	6.6	11,25	85.5
80	T14M-6E0/16TM		3,60	3,8	13,84	46,8
80		SB205-50	3,60	4.2	13,84	81.9
100	T14M-6E0/20TM		4,50	3,7	17,30	17,6
100		-	-	-	-	-

Note: the values shown for the brazed PHE can slighlty differ since the selection depends on the available models that better fit to the optimal working conditions

SOLAR SYSTEMS

We exploit the solar energy and we combine it with our solutions in order to offer the best of comfort in an efficient and environmentally friendly way.





Forced circulation solar system

Forced circulation solar systems are used for the production of domestic hot water (DHW) and its purpose is to have the calorifier placed into a room instead of the roof-top.
The heat transfer fluid, flows in a closed circuit from solar collectors to the calorifier using electrical pumps.
The advantage of this system is a reduced heat loss since the cylinder is not externally placed and the aesthetic effect on the roof is more pleasant.
The control and management of the system are performed through an electronic control unit that is part of a preassembled solar module.
TML proposes two solutions of plug & play calorifiers ready to be connected to the solar collectors: the **Drain Back** model _SFV DB (page 258) and the **EASY** model (page 264).
Those systems can also be integrated with a boiler that can work as a backup in case of low solar irradiation.
Furthermore, TML proposes two series of solar system kits: **Premium** and **Elios** and they are supplied with all the necessary components and fittings for their installation.

The kits for Premium and Elios series consist of:
- Solar collectors;
- Single or double coil calorifier with high heat exchanging surface area and foam insulation;
- One or two-way solar module with high efficiency circulator, available with or without electronic control unit;
- Expansion vessel (with double check valve) for the solar circuit;
- Mounting set for solar collectors;
- Tank of pure inhibited monopropylene glycol diluted ad 20-30%
- Thermostatic mixing valve
- Connection fittings



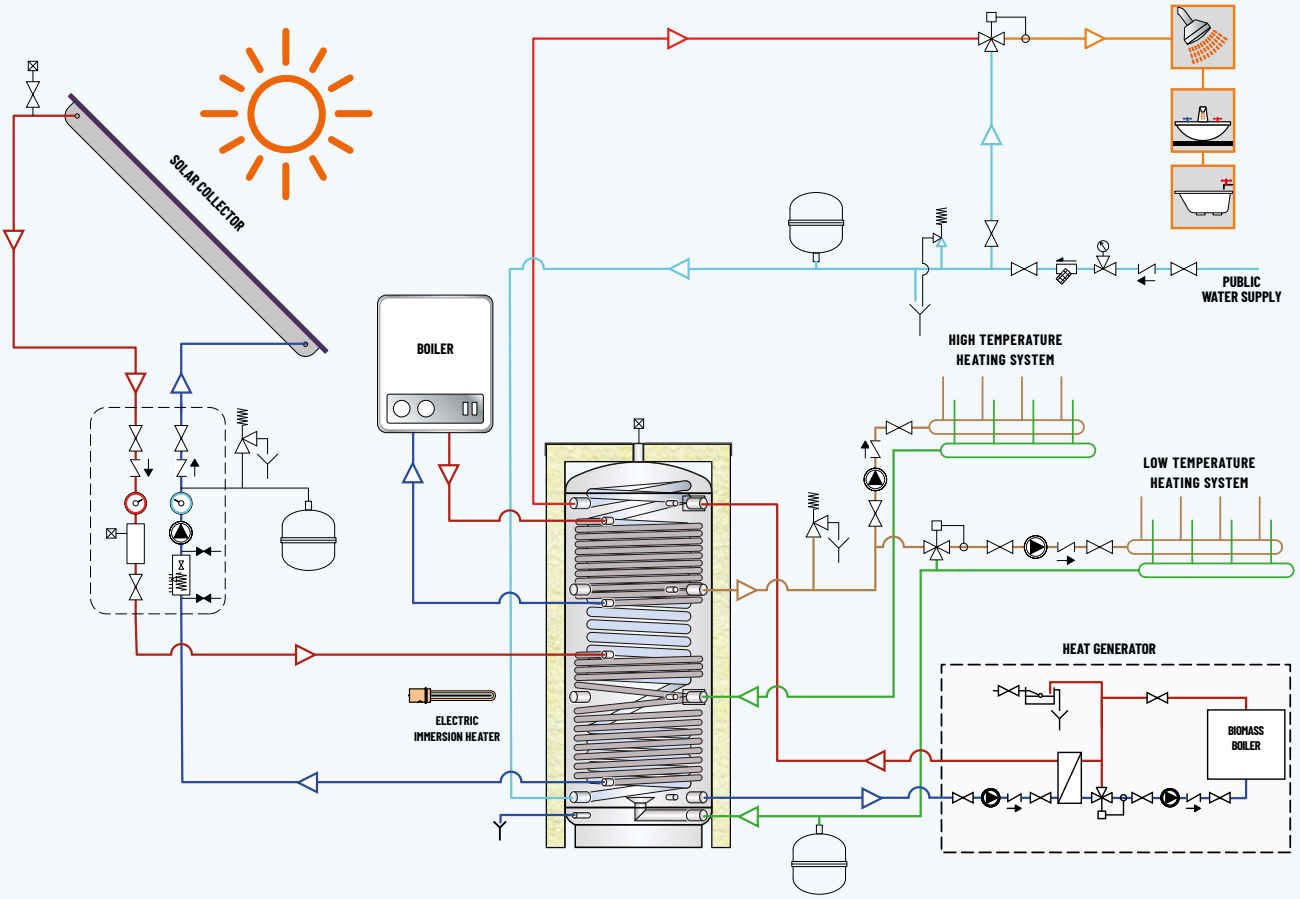
WARRANTY CONDITIONS

- 5 years for calorifiers and solar collectors
- 2 years for fittings and accessories
- 1 year for electric parts

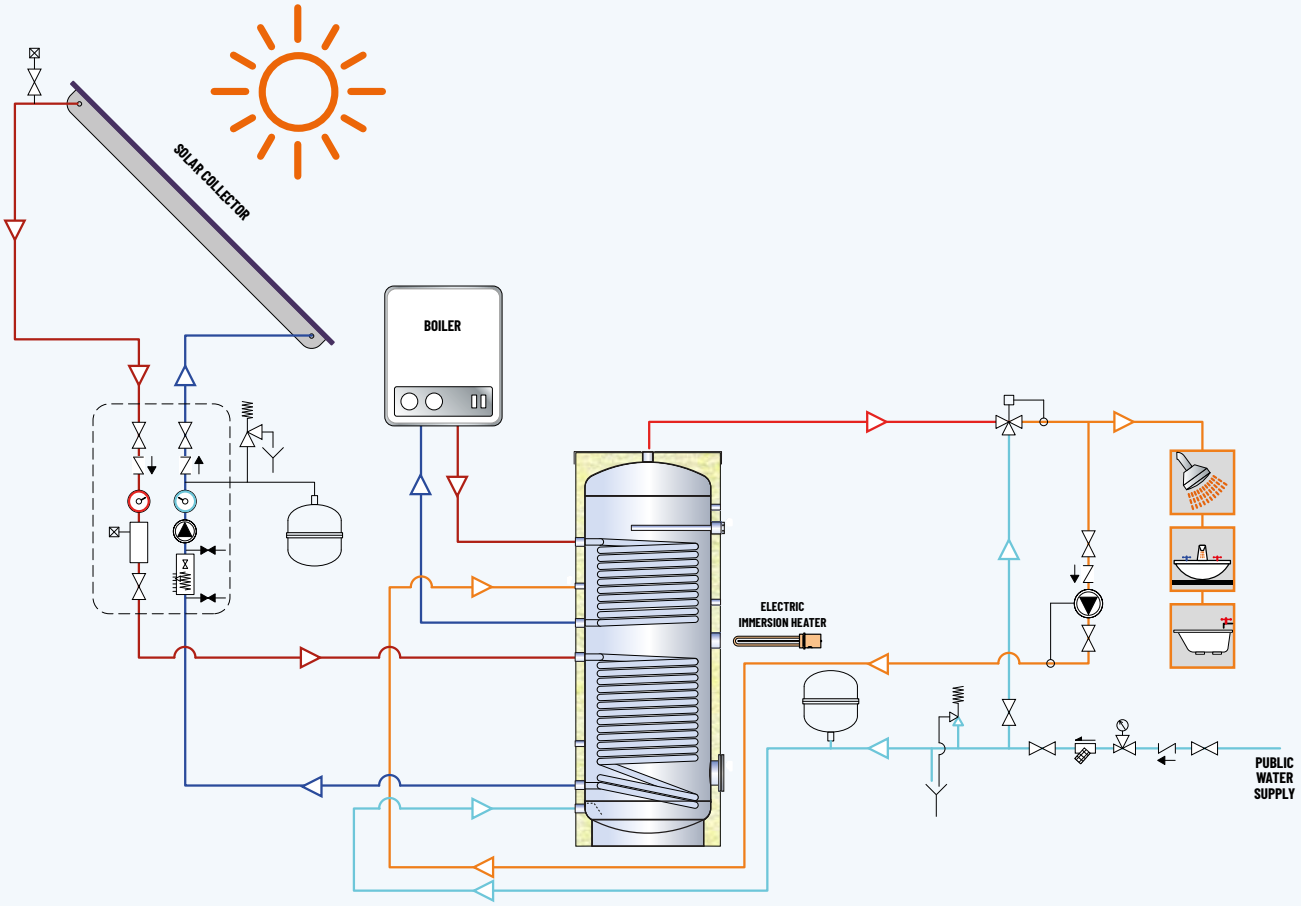
Solar Keymark Certification

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

System layout with combined thermal store - DHW Production + heating



System layout with a 2 coils calorifier- DHW Production





Glass lined calorifier for Drain Back solar system

SFV DB - With one heat exchanger

DSFV DB - With two heat exchangers

SFV DB & DSFV DB calorifiers are a compact solar system for the production and storage of domestic hot water (DHW).
Operating in a forced circulation system with drain back principle, they are a very compact and cost effective solution, easy to install and allowing space saving.
Made of glass lined steel, they are equipped with one or two fixed coils.
They are designed as a plug & play system as they integrate in one single body, a control unit, temperature sensors, circulation pump for solar system and all the internal wiring.
Cylinders are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	
Material	Glass lined S 235 Jr Carbon steel
Internal protective treatment	Enamelling according to DIN 4753.3
External protective treatment	Anti rust protection + epoxy painting
Rating (P max. / T max.)	8 bar / 95°C
Cathodic protection	Magnesium anode
Heat exchanger	
Material	Glass lined S 235 Jr Carbon steel
Internal protective treatment	None
External protective treatment	Enamelling according to DIN 4753.3
Type	Fixed coil
Rating (P max. / T max.)	10 bar / 95°C
Control unit	
Features	Designed for the management of Drain Back systems, graphic display, 3 x temperature sensors, 1 x PWM2 exit, 1 x relay
Solar circulation pump	
Features	Erp ready, high head & variable speed circulation pump manageable from remote throug PWM2 signal.
General features	
Capacity	230 - 500 L
Warranty	5 years (DHW cylinder) - 2 years (hydraulic components) - 1 year (electric parts)
Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES
(page 218)



Impressed current electronic anode



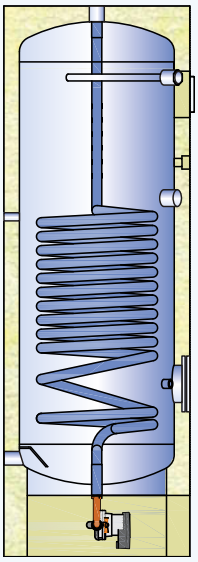
Thermostat



Thermometer

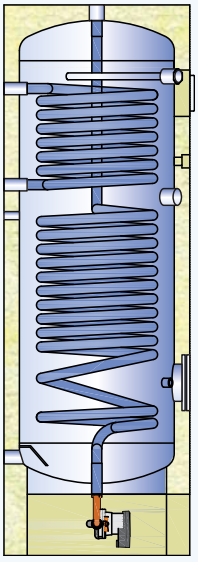


1"½ electric immersion heater



SFV DB - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	HEAT EXCHANGER (m^2) / (L) *	MAX. NUMBER OF ELIOS SOLAR COLLECTORS CONNECTABLE
SFV DB 00230 R	50	B	59,2	233,0	1,40 / 13,7	1
SFV DB 00300 R	50	B	68,2	290,3	1,60 / 15,6	2
SFV DB 00500 R	50	B	80,6	500,3	2,40 / 23,5	4

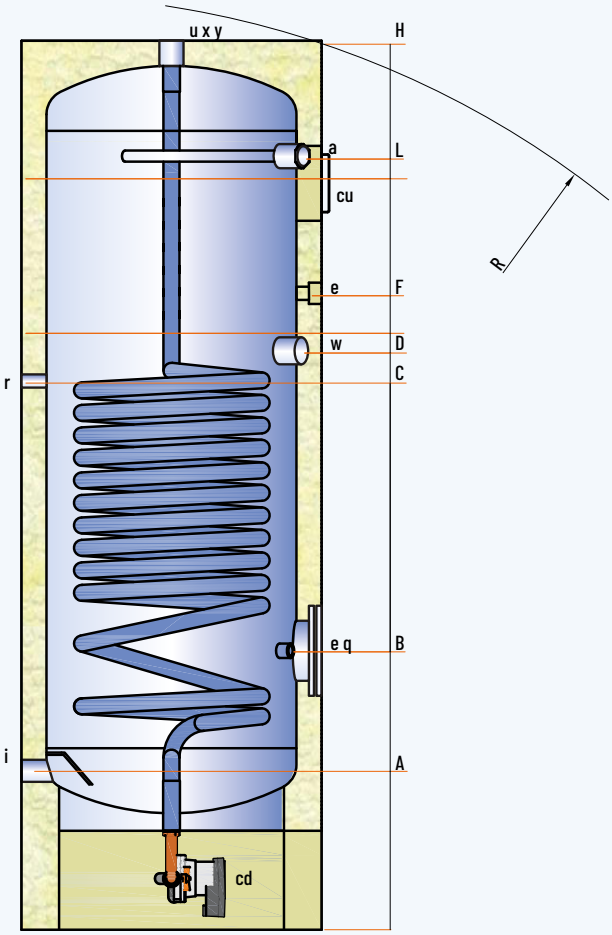


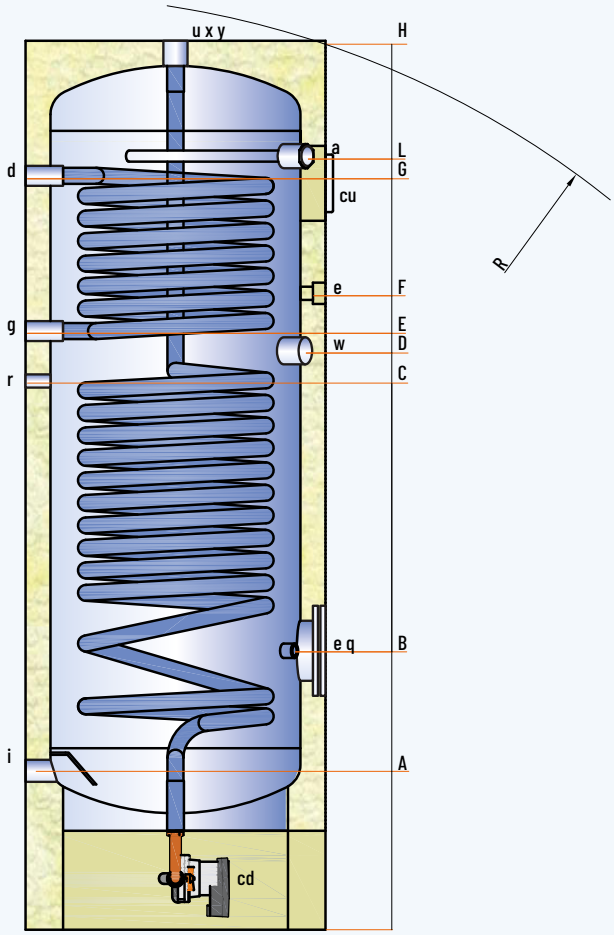
DSFV DB - Hard insulation with rigid polyurethane foam and PVC jacket

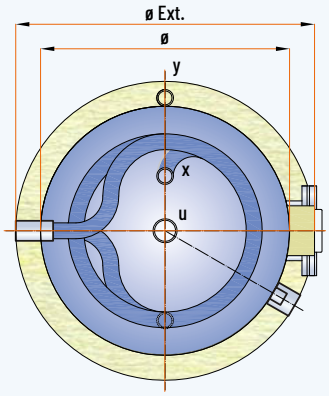
CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *	MAX. NUMBER OF ELIOS SOLAR COLLECTORS CONNECTABLE
DSFV DB 00230 R	50	B	59,2	233,0	1,40 / 13,7	0,50 / 4,9	1
DSFV DB 00300 R	50	B	68,2	290,3	1,60 / 15,6	0,80 / 7,8	2
DSFV DB 00500 R	50	B	80,6	500,3	2,40 / 23,5	1,00 / 9,81	4

** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights







LEGEND

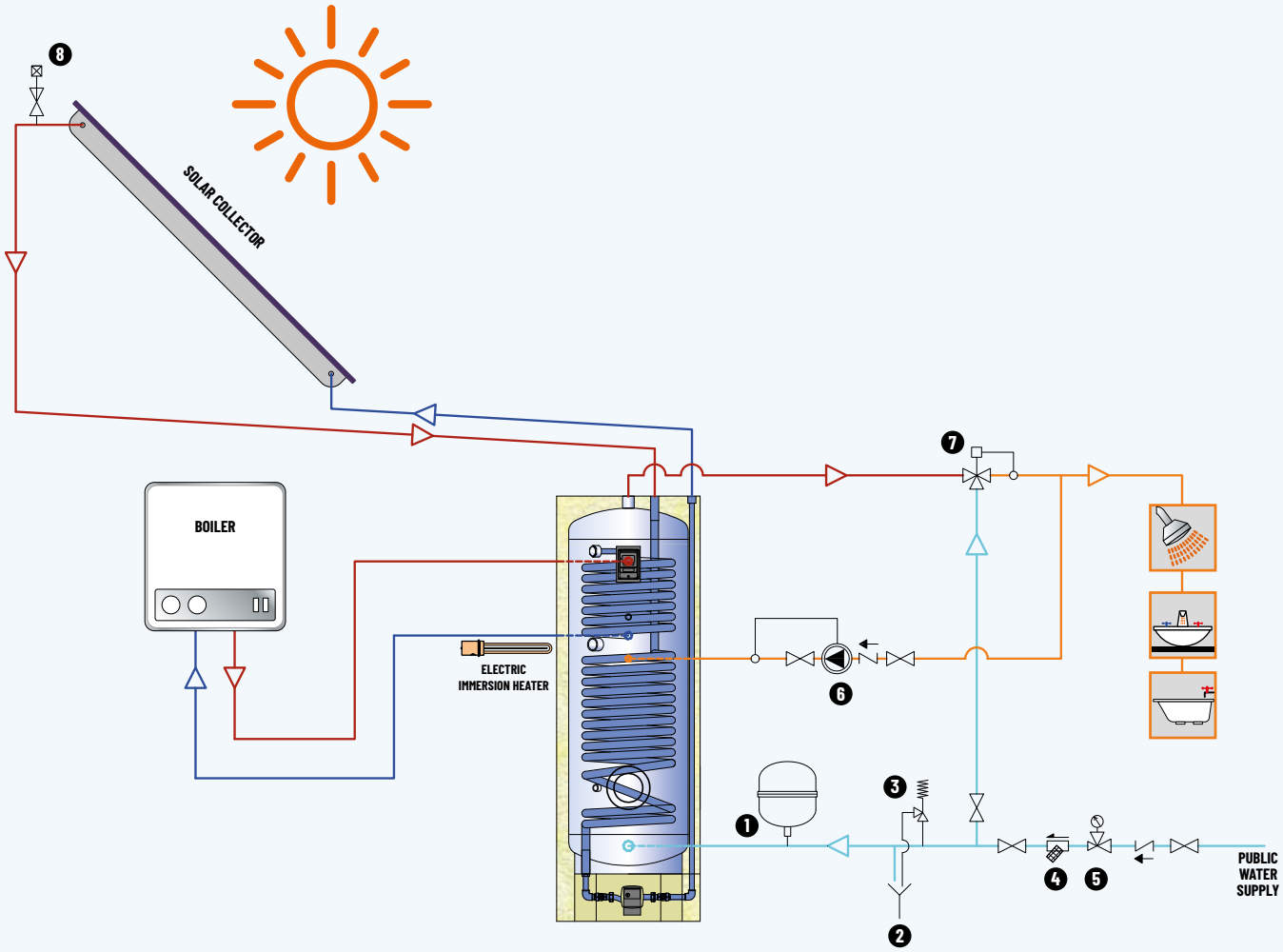
- **a .** Magnesium anode
- **cu .** Control unit
- **cd .** Solar circulation pump
- **d .** Boiler flow
- **e .** Thermometer - temperature sensor
- **g .** Boiler return
- **i .** Domestic cold water inlet
- **q .** DHW inspection hatch
- **r .** DHW recirculation
- **u .** Domestic hot water outlet
- **w.** Opening for immersion heater
- **x .** Solar system flow
- **y .** Solar system return

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	HEAT EXCHANGER (m^2) LOWER	UPPER	WEIGHT (kg)
_SFV DB 00230 R	500	1538	600	1660	1,40	0,50	93
_SFV DB 00300 R	500	1778	600	1880	1,60	0,80	104
_SFV DB 00500 R	650	1828	750	1980	2,40	1,00	137

** The insulation is not removable*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	L	CONNECTIONS (GAS) a	d g	x	y	e r	i	u	w	q
_SFV DB 00230 R	320	560	800	1065	1105	1180	1280	1310	1"¼	1"	¾"	½"	½"	1"	1"¼	1"½	120/180
_SFV DB 00300 R	320	560	895	1100	1200	1275	1510	1550	1"¼	1"	¾"	½"	½"	1"	1"¼	1"½	120/180
_SFV DB 00500 R	340	550	950	1205	1255	1315	1530	1570	1"¼	1"	¾"	½"	½"	1"	1"¼	1"½	120/180

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*



LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve

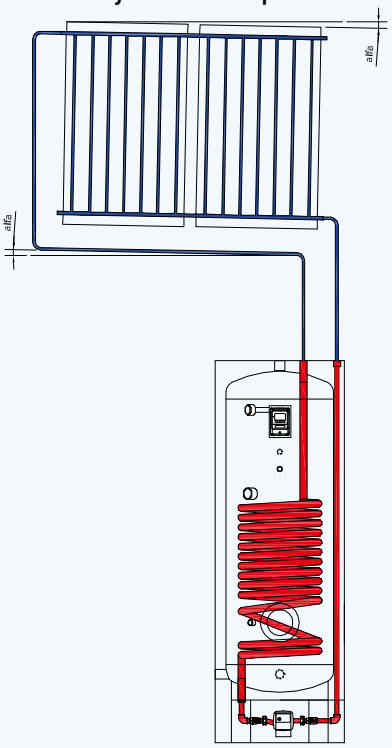
Recommendations for the installation of a drain back solar system

Drain back systems are based on the principle of draining all the outdoor exposed parts of a solar system (solar collectors and piping) when they are not running.
This simple concept allows to get several advantages:
- No overheating risk for solar collectors/piping;
- No freezing risk for solar collectors/piping;
- No need to use glycol in the system which will use only water as thermal fluid thus enhancing the performance and reducing maintenance costs;
- No need to install air separators, check valves, expansion vessels, safety valves;
- No risk of overpressure in case of system shutdown;
- Intrinsic safety of the system in case of failure or absence of power supply.

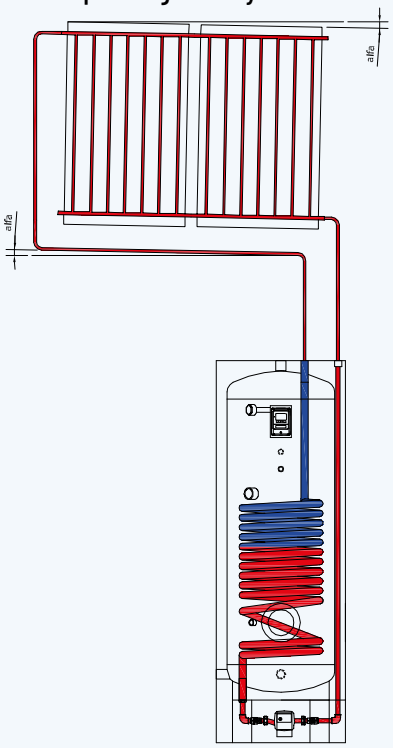
To obtain all this advantages it's important to respect strictly the following system installation rules:
1. Piping connecting the calorifier to the solar collector/s must have a diameter of 12 mm and its total length (flow + return) must not exceed 25 mt. It is important to ensure that there is always a slope of 1% along the whole piping from solar collector/s to the calorifier.
2. The maximum difference level between the floor where the calorifier is placed and the highest point of the solar system must not exceed 9 mt.
3. Solar collector/s must have a geometry construction that allows their total draining by gravity.

How it works:
When the system is not operating, the thermal fluid fills only the internal volume of the solar heat exchanger of the _SFV DB calorifier. Once there is solar radiation and the temperature in the highest part on the solar collector exceed the temperature in the lower part of the calorifier of a value equal to the set ΔT, the control unit runs the circulation pump at its maximum speed in order to get the maximum head and to fill quickly solar collector/s and piping. After few seconds, thanks to the PWM2 technology, the speed of the circulation pump hence the flow of the thermal fluid, get stable to a value that allows to transfer to the calorifier all the energy captured by the collector/s. This solution will reduce considerably the number of the daily on-off cycles of the circulation pump thus allowing energy savings and increasing the lifespan of the system.

Solar system not in operation



Operating solar system



N.B.: minimum alfa 1%



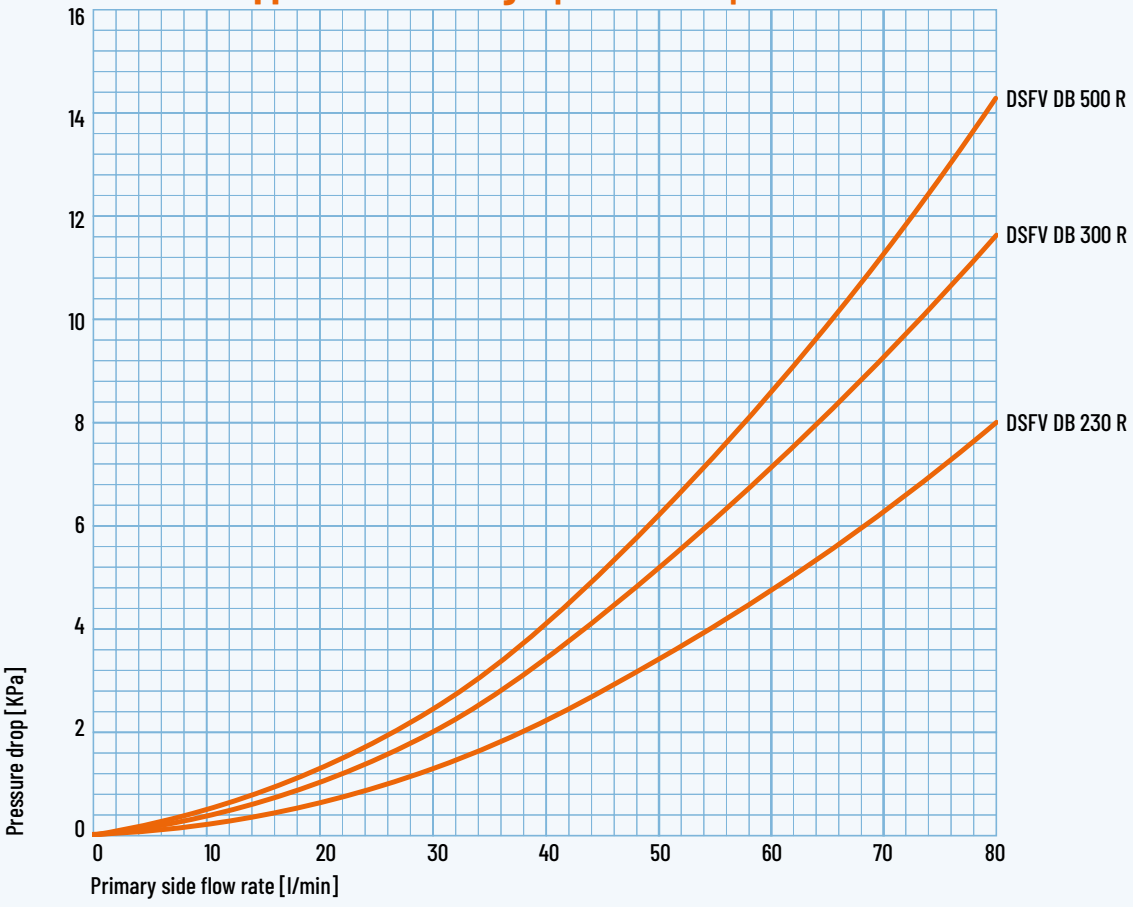
Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

	MODEL	DSFV DB 230 R				DSFV DB 300 R				DSFV DB 500 R			
	HEAT EXCHANGER (m^2) [L] [1]	0,5 [3,3]				0,8 [8,0]				1,0 [6,6]			
	PRIMARY FLOW (m^3/h)	2				2				3			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	85	97	137	147	122	140	198	214	189	212	299	319
	LITRES FIRST HOUR [2]	168	239	332	392	252	363	502	596	353	493	684	803
	CONTINUOUS DRAW (L) [3]	105	180	246	310	165	281	384	483	208	355	485	611
	POWER (kW)	4,3	7,3	10,0	12,6	6,7	11,4	15,6	19,7	8,4	14,4	19,8	24,9
	PREHEATING [3] (min)	42	24	18	14	38	22	16	13	49	28	21	16
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	88	96	-	-	126	139	-	-	194	210
	LITRES FIRST HOUR [2]	-	-	184	232	-	-	277	353	-	-	384	480
	CONTINUOUS DRAW (L) [3]	-	-	121	173	-	-	190	270	-	-	240	341
	POWER (kW)	-	-	7	10	-	-	11	16	-	-	14	20
	PREHEATING [3] (min)	-	-	36	25	-	-	33	23	-	-	42	29
	NL [4]	0,4				0,9				1,8			

(1) Volume of fluid contained in the heat exchanger
(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source
(3) With a proper power heat source generator
(4) Primary side 80 °C - Secondary side 10-45 °C

DSFV DB - Upper heat exchanger pressure drops





EASY - Glass lined calorifier with 2 coils and solar station

Calorifier made of glass lined steel designed for the production and storage of domestic hot water (DHW) with two internal fixed coils.
It's equipped with a solar module and a control unit ready to be connected to the solar collectors, that allow the installation of an EASY plug & play system.
Cylinder are also prepared to host a backup immersion heater (not supplied).

HEAT SOURCE

APPLICATION





TECHNICAL FEATURES

DHW cylinder	**Material**	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	Enamelling according to DIN 4753.3
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	8 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	**Material**	Glass lined S 235 Jr Carbon steel
	Internal protective treatment	None
	External protective treatment	Enamelling according to DIN 4753.3
	Type	Fixed coil
	Rating (P max. / T max.)	10 bar / 95°C
General features	**Capacity**	200 - 300 - 500 L
	Warranty	5 years (DHW cylinder), 2 years (hydraulic components), 1 year (electric parts)
	Insulation	Rigid polyurethane foam + PVC: Fire retardant class B3 (DIN 4102)
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

ACCESSORIES (page 218)

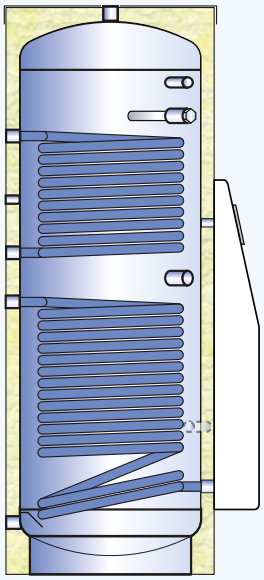

Impressed current electronic anode


1"½ electric immersion heater


Thermostat


Thermometer


Expansion vessel kit



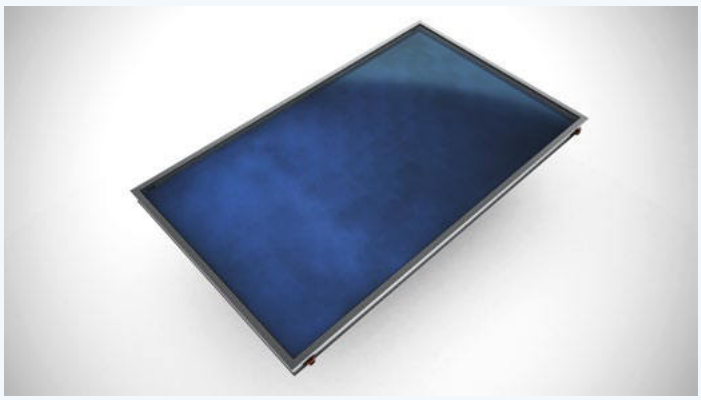
EASY - Hard insulation with rigid polyurethane foam and PVC jacket

CODE	INSULATION THICK. (mm)	ErP CLASS	HEAT LOSS S (W)	REAL CAPACITY (L)	LOWER HEAT EXCHANGER (m^2) / (L) *	UPPER HEAT EXCHANGER (m^2) / (L) *
EASY V 00200 R	50	B	56,7	189,8	1,00 / 9,8	0,60 / 5,9
EASY V 00300 R	50	B	68,2	290,3	1,50 / 14,7	1,00 / 9,8
EASY V 00500 R	50	B	80,6	500,3	2,00 / 20,6	1,20 / 11,8

Solar Module features:
- Epoxy powder painted removable cover
- Adjustable flow meter with system loading and draining valves
- High efficiency solar circulation pump
- 10 mbar ball valve with check valve
- 6 bar pressure relief group with 0-10 bar manometer
- Connection for expansion vessel and draining

Electronic control unit features:
- Differential temperature control on the solar circuit
- PWM control of the solar circulation pump
- Temperature control on the calorifier (2 sensors) and on the solar collector (1 sensor)
- NO contact for the command of an integration boiler or immersion heater (230V AC – 13a max – 2,5 kW max)
- Graphic display with 4 languages
- Anti-legionella cycle management
- Optional recirculation management with the possibility to connect a further sensor

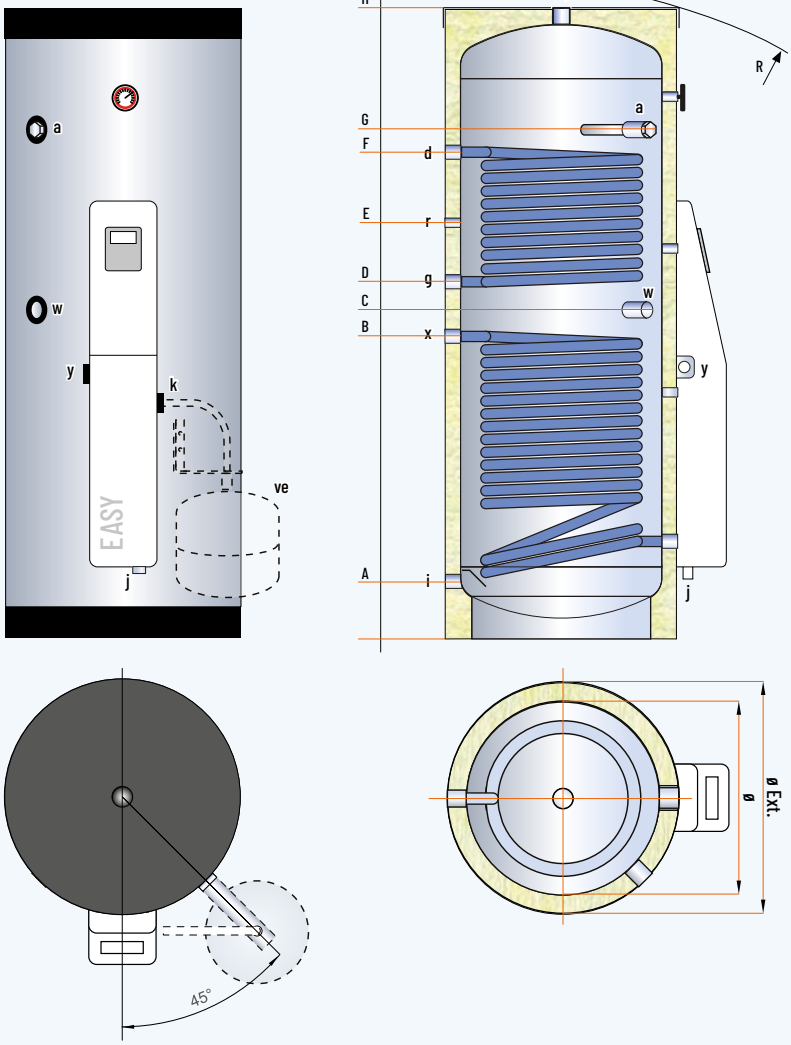
You can create a complete system by adding to the EASY calorifier, our solar collectors program: Premium series (see page 270) or Elios series (see page 274), or you can select among our complete kit with solar collectors, supports, calorifiers and modules to get a complete forced circulation system (from page 272)



** Volume occupied by the heat exchanger and its support structure*

Dimensions and heights

EASY V



LEGEND

a . Magnesium anode
d . Boiler flow
e . Thermometer - Sensor
g. Boiler return
i . Domestic cold water inlet
r . Recirculation
u . Domestic hot water outlet
w. Opening for immersion heater
x . Solar system flow
y . Solar system return
ve . Expansion vessel (not included)
j . Solar system safety drain
k . Opening for expansion vessel

MODEL	DIMENSIONS (mm) Ø	H	Ø EXT *	R	LOWER HEAT EXCHANGER (m^2)	UPPER HEAT EXCHANGER (m^2)	WEIGHT (kg)
EASY V 00200 R	450	1320	550	1440	1,00	0,60	82
EASY V 00300 R	500	1610	600	1730	1,50	1,00	110
EASY V 00500 R	650	1660	750	1835	2,10	1,20	140

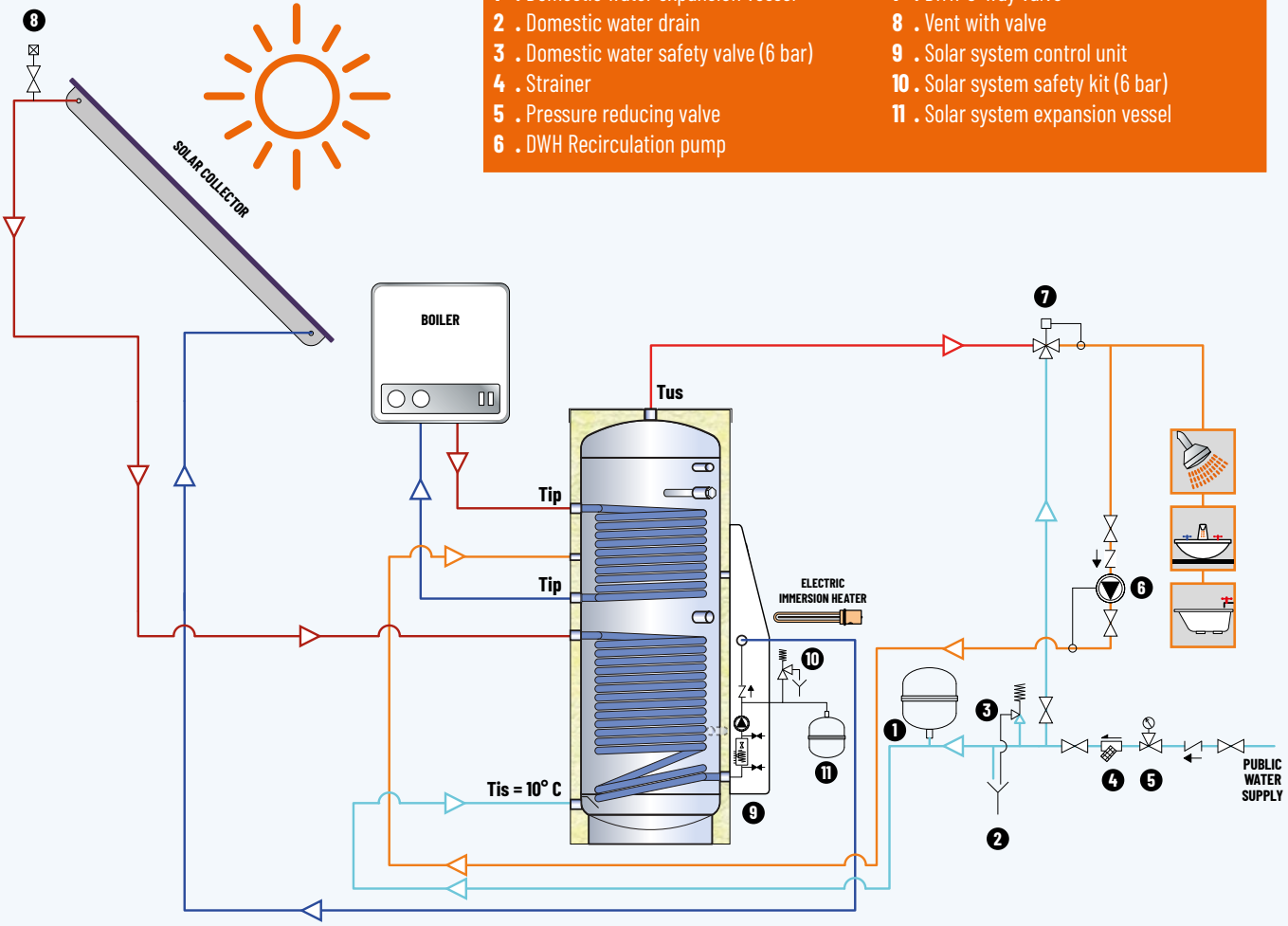
** The insulation is not removable*

MODEL	HEIGHTS (mm) A	B	C	D	E	F	G	CONNECTIONS (GAS) a u	d g x y	r	w
EASY V 00200 R	110	632	690	752	857	1032	1077	1"¼	1"	½"	1"½
EASY V 00300 R	120	790	845	900	1020	1200	1250	1"¼	1"	½"	1"½
EASY V 00500 R	145	795	890	950	1285	1285	1355	1"¼	1"	½"	1"½

Disclaimer: *this layout is purely indicative. It does not replace consultant's design*

LEGEND

1 . Domestic water expansion vessel
2 . Domestic water drain
3 . Domestic water safety valve (6 bar)
4 . Strainer
5 . Pressure reducing valve
6 . DWH Recirculation pump
7 . DHW 3-way valve
8 . Vent with valve
9 . Solar system control unit
10 . Solar system safety kit (6 bar)
11 . Solar system expansion vessel



Performance



Data related to the lower heat exchanger

	MODEL	EASY V 00200 R				EASY V 00300 R				EASY V 00500 R			
	HEAT EXCHANGER (m^2) [L] [1]	1,0 [7,1]				1,5 [10,6]				2,1 [14,9]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	219	246	347	370	332	370	522	554	551	601	848	890
	LITRES FIRST HOUR [2]	413	575	796	933	613	842	1162	1355	927	1227	1693	1944
	CONTINUOUS DRAW (L) [3]	245	416	566	711	355	596	808	1011	476	791	1067	1331
	POWER (kW)	10	17	23	29	14	24	33	41	19	32	43	54
	PREHEATING [3] (min)	49	28	21	16	53	31	23	18	71	41	30	24
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	225	244	-	-	340	367	-	-	562	596
	LITRES FIRST HOUR [2]	-	-	449	560	-	-	663	820	-	-	994	1198
	CONTINUOUS DRAW (L) [3]	-	-	283	400	-	-	408	573	-	-	546	761
	POWER (kW)	-	-	16	23	-	-	24	33	-	-	32	44
	PREHEATING [3] (min)	-	-	42	30	-	-	46	32	-	-	61	43
	NL [4]	3				5				13			

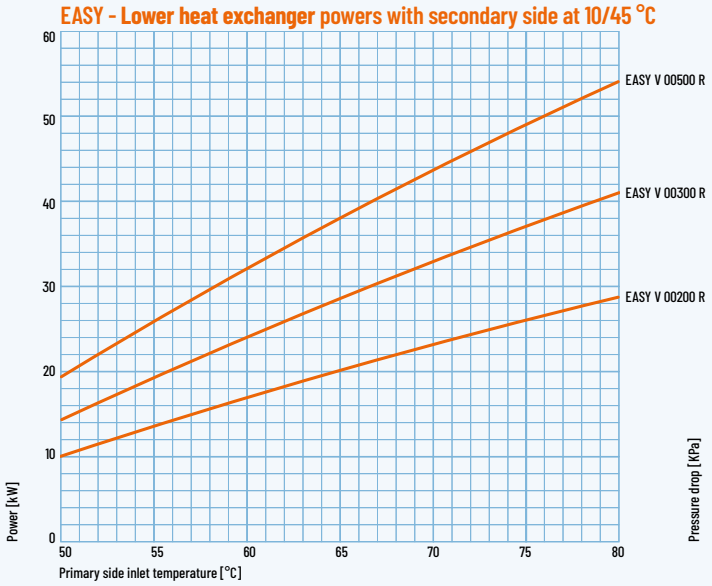
(1) Volume of fluid contained in the heat exchanger

(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source

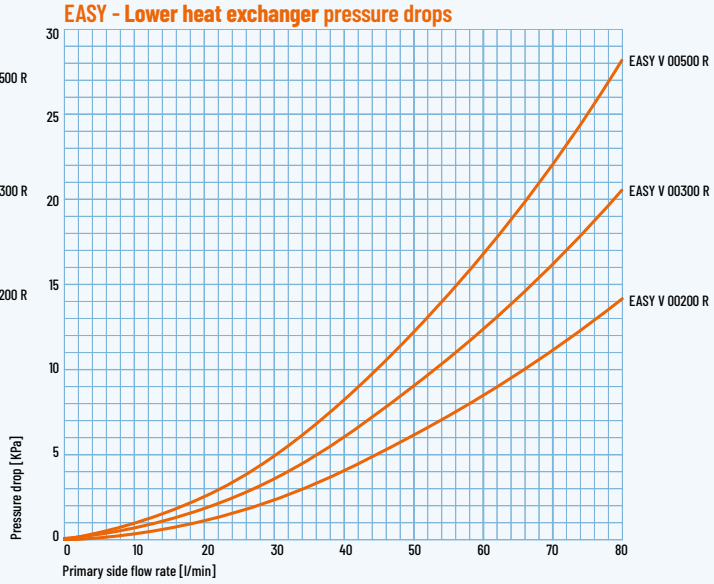
(3) With a proper power heat source generator

(4) Primary side 80 °C - Secondary side 10-45 °C

EASY - Lower heat exchanger powers with secondary side at 10/45 °C



EASY - Lower heat exchanger pressure drops





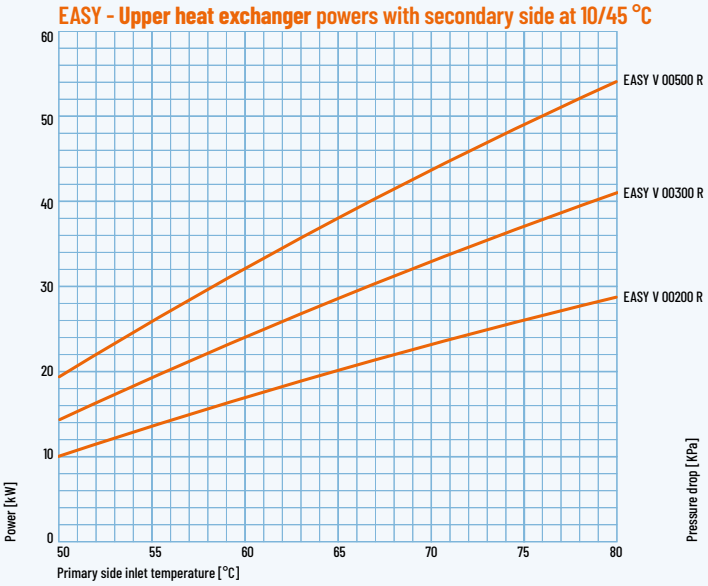
Data related to the upper heat exchanger

The performance values in the chart refer to the partial volume of water affected by the heat exchanger

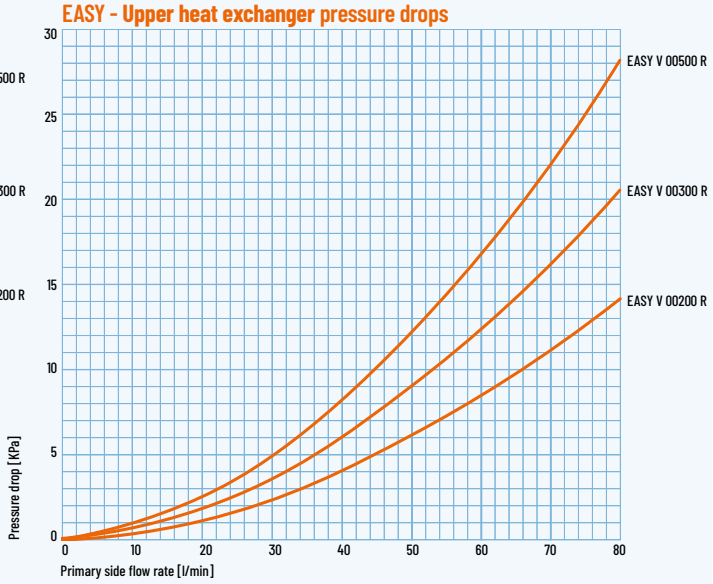
	MODEL	EASY V 00200 R				EASY V 00300 R				EASY V 00500 R			
	HEAT EXCHANGER (m^2) [L] [1]	0,6 [4,3]				1,0 [7,1]				1,2 [8,5]			
	PRIMARY FLOW (m^3/h)	2				2				2			
	PRIMARY TEMP. (°C)	50	60	70	80	50	60	70	80	50	60	70	80
DHW FROM 10 TO 45 °C	LITRES 10' (L/10') [2]	95	112	157	172	153	1809	253	276	236	268	377	404
	LITRES FIRST HOUR [2]	215	317	437	524	347	509	701	838	466	656	904	1065
	CONTINUOUS DRAW (L) [3]	152	259	354	445	245	416	566	711	290	490	666	835
	POWER (kW)	6	11	14	18	10	17	23	29	12	20	27	34
	PREHEATING [3] (min)	30	18	13	10	31	18	13	10	44	26	19	15
DHW FROM 10 TO 60 °C	LITRES 10' (L/10') [2]	-	-	99	110	-	-	159	178	-	-	243	265
	LITRES FIRST HOUR [2]	-	-	237	307	-	-	383	494	-	-	508	638
	CONTINUOUS DRAW (L) [3]	-	-	175	249	-	-	283	400	-	-	334	471
	POWER (kW)	-	-	10	14	-	-	16	23	-	-	19	27
	PREHEATING [3] (min)	-	-	26	18	-	-	27	19	-	-	38	27
	NL [4]	1				1				2			

(1) Volume of fluid contained in the heat exchanger
(2) Obtainable with pre-heated cylinder (at 45 °C with primary side set at 50 or 60 °C and pre-heated at 60 °C in the other cases) and a running heat source
(3) With a proper power heat source generator
(4) Primary side 80 °C - Secondary side 10-45 °C

EASY - Upper heat exchanger powers with secondary side at 10/45 °C



EASY - Upper heat exchanger pressure drops





Premium series solar collector

Collector
Solar thermal collectors PTML 2.1 and 2.6, have a high efficiency flat selective absorbing surface. Their strength is also the fast connection system, very easy fixing supports and a brilliant design.
They are suitable for all solar thermal applications and they can be placed in different surfaces, flat and pitched roof, or recessed.
Solar Keymark certified according to ENI 12975 and EN ISO 9806:2013.

Absorber
The metallic absorber consists of laser welded copper pipes and an aluminum plate absorber with high selective coating film with a met-al-ceramic treatment.

Insulation
The insulation of the collector is made of 50 mm thick rock wool.

Fullplate
Solar thermal collectors PTML 2.1 and 2.6 are provided with a low iron prismatic 4 mm tempered glass sheet that enhances the capacity of infrared transmission and reduces the light reflection (emittance grade: 91.5%).

Casing
The collector is hosted into an ano-dized monoblock aluminium case that can holds any leakage.

Horizontal version of solar collector is available on demand.
Solar collectors proposed by TML are provided by Solar Keymark certification which allows to benefit of public subsidies if available.

Premium series solar collectors

CODE	EXTERNAL SIZE (mm)	AREA (m^2) GROSS	ABSORBING	LIQUID VOLUME (L)	PERFORMANCE % ABSORPTANCE	EMITTANCE	PRESSURE (bar) WORKING	MAX	TEST	TEMPERATURE (°C) MAX	STAGNATION	WEIGHT (Kg)
TML2.1AV	2128x1030x97	2,19	1,87	1,23	95	5	6	9	16	180	210	38,5
TML2.6AV	2128x1277x97	2,72	2,38	1,51	95	5	6	9	16	180	210	48,5

Fittings and accesories for the assembling of Premium solar collectors models TML2.1AV e TML 2.6AV



CODE	DESCRIPTION
TOT	Brass cap
TOTP8	Brass cap with probe ø 8 mm
RFS	3/4" Male thread angle connection
RFSS	3/4" Male thread angle connection with vent
RFSSS	3/4" Male thread angle connection with vent and probe
RFD	Straight threaded connection
COMP	Stainless steel collectors connection hose 24x85
CLIPS	Clips for collector fittings
ORING	O-ring sealing

Accessories for Premium series collectors

Full connection set for Premium solar collectors mod. TML2.1AV e TML 2.6AV



CODE	COLLECTORS TML2.1/2.6 No.	COMPONENTS CODE / PIECES TOT	RFSSS	RFS	CLIPS	ORING	COMP
RAK1	1	2	1	1	4	8	-
RAK2	2	2	1	1	8	16	2
RAK3	3	2	1	1	12	24	4
RAK4	4	2	1	1	16	32	6

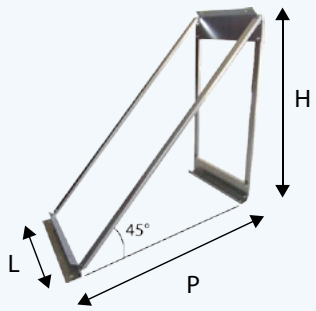
Recessing kit



This kit allows the recessed installation of PTML2.1AV (2.1 m^2) e PTML2.6AV (2.6 m^2) solar collectors in pitched roof. Collectors are fixed directly on the roof slab through the pitched roof support frame (Cod. SKI, not included) around which is placed the sealing frame.

CODE	COLLECTORS TML 2.1AV N.	CODE	COLLECTORS TML 2.6AV N.
INCA21-1	1	INCA26-1	1
INCA21-2	2	INCA26-2	2
INCA21-3	3	INCA26-3	3
INCA21-4	4	INCA26-4	4

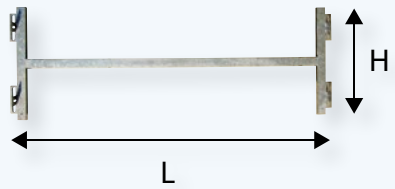
Flat roof mounting set



Mounting set for 1 solar collector (Mod. PTML2.1AV and PTML2.6AV) over a flat roof. It is made by galvanized steel and comes with galvanized hardware for its installation.

CODE	DIMENSIONS (mm) L	H	P
STP	630	1450	1450

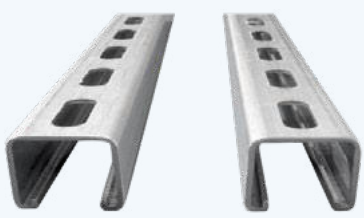
Pitched roof mounting set



Mounting set for 1 single solar collector (Mod. PTML2.1AV and PTML2.6AV) over pitched roofs with tiles and for recessed installation (in combination with the recesed kit). It comes complete with galvanized hardware for its installation.

CODE	DIMENSIONS (mm) L	H
SKI	2130	720

U - profile



Hot dip galvanized slotted U profile, to be used in combination with the SKI mounting set.

CODE	LENGHT (mm)
PUZ 3	3
PUZ 6	6

Premium series forced circulation solar kits

Solar kit for DHW production with glass lined single coil calorifier mod. SFV

The kit consists of PTML 2.6AV solar collector (s) (in the indicated quantity), a single coil calorifier (mod. SFV of the indicated capacity), mounting set(s) for pitched roofs (code SKI), antifreeze liquid, collector connections fittings, expansion vessel, thermostatic mixing valve and 1 or 2-way solar module (see page 276) to be chosen among the models available in the below table.

CS1 SOLAR MODULE CODE	CS1G SOLAR MODULE CODE	CS2 SOLAR MODULE CODE	CS2G SOLAR MODULE CODE	No. OF USERS	No. OF COLLECTORS	CALORIFIER MODEL	EXP. VESSEL CAPACITY (L)	ANTIFREEZE LIQUID (L)
SKS 151 CS1	SKS 151 CS1G	SKS 151 CS2	SKS 151 CS2G	1-2	1	SFV00150R	18	5
SKS 202 CS1	SKS 202 CS1G	SKS 202 CS2	SKS 202 CS2G	3-4	2	SFV00200R	18	10
SKS 302 CS1	SKS 302 CS1G	SKS 302 CS2	SKS 302 CS2G	4-5	2	SFV00300R	18	10
SKS 303 CS1	SKS 303 CS1G	SKS 303 CS2	SKS 303 CS2G	5-7	3	SFV00300R	18	10
SKS 403 CS1	SKS 403 CS1G	SKS 403 CS2	SKS 403 CS2G	7-8	3	SFV00400R	18	10
SKS 504 CS1	SKS 504 CS1G	SKS 504 CS2	SKS 504 CS2G	9-10	4	SFV00500R	24	15

Solar kit for DHW production with glass lined double coil calorifier mod. DSFV

The kit consists of PTML 2.6AV solar collector (s) (in the indicated quantity), a double coil calorifier (mod. DSFV of the indicated capacity), mounting set(s) for pitched roofs (code SKI), antifreeze liquid, collector connections fittings, expansion vessel, thermostatic mixing valve and 1 or 2-way solar module (see page 276) to be chosen among the models available in the below table.

CS1 SOLAR MODULE CODE	CS1G SOLAR MODULE CODE	CS2 SOLAR MODULE CODE	CS2G SOLAR MODULE CODE	No. OF USERS	No. OF COLLECTORS	CALORIFIER MODEL	EXP. VESSEL CAPACITY (L)	ANTIFREEZE LIQUID (L)
SKD 202 CS1	SKD 202 CS1G	SKD 202 CS2	SKD 202 CS2G	3-4	2	DSFV00200R	18	10
SKD 302 CS1	SKD 302 CS1G	SKD 302 CS2	SKD 302 CS2G	4-5	2	DSFV00300R	18	10
SKD 303 CS1	SKD 303 CS1G	SKD 303 CS2	SKD 303 CS2G	5-7	3	DSFV00300R	18	10
SKD 403 CS1	SKD 403 CS1G	SKD 403 CS2	SKD 403 CS2G	7-8	3	DSFV00400R	18	10
SKD 504 CS1	SKD 504 CS1G	SKD 504 CS2	SKD 504 CS2G	9-10	4	DSFV00500R	24	15

Solar kit for DHW production with glass lined calorifier mod. EASY (pag. 264)

The kit consists of PTML 2.6AV solar collector (s) (in the indicated quantity), a double coil calorifier (mod. EASY of the indicated capacity), mounting set(s) for pitched roofs (code SKI), antifreeze liquid, collector connections fittings, expansion vessel and thermostatic mixing valve.

CODE	No. OF USERS	No. OF COLLECTORS	CALORIFIER MODEL	EXP. VESSEL CAPACITY (L)	ANTIFREEZE LIQUID (L)
SKD 202 EASY	3-4	2	EASY V00200 R	18	10
SKD 302 EASY	4-5	2	EASY V00300 R	18	10
SKD 303 EASY	5-7	3	EASY V00300 R	18	10
SKD 504 EASY	9-10	4	EASY V00500 R	24	15

Accessories for solar systems



Antifreeze solution

Antifreeze and atoxic, inhibited pure monopropylene glycol solution, for solar systems.

CODE	CAPACITY (L)	DILUTION % FOR TEMPERATURES UP TO -9 °C	FOR TEMPERATURES UP TO -14 °C
LIQ 5	5	20	30
LIQ 10	10	20	30



Expansion vessel for solar systems

Solar systems expansion vessel, according to European Directive 2014/68/UE (PED)
Equipped with a special anti-scale SBR rubber membrane which separates the air from the side containing the liquid.
The set includes:
- Expansion vessel with upwards connections
- "L" bracket for wall mounting
- 3/4" male to female connection with brass double check valve that allows the replacement of the vessel without draining the system

Max. working pressure: 8 bar
Preload pressure: 3 bar
Working temperature: from -10 °C to +110 °C
Max. working temperature for the membrane: 100 °C

CODE	CAPACITY (L)
VES 18	18
VES 24	24
VES 36 *	36

** Supplied with feet instead of L bracket*



Thermostatic mixing valve

Anti-scalding thermostatic mixing valve for small and medium applications with brass unions. Check valves and strainers at the cold and hot water inlet connections.
Body and fittings made of brass alloy.

CODE	CONNECTIONS	NOTES
VMT 3/4	¾" M	
VMT 1	1" M	Without unions, check valves and strainers



Calorifier-boiler thermostatic connection valve

This kit allows to automatically use and manage the thermal energy produced by a solar system in every period of the year and to supply domestic hot water at a controlled temperature.
Diverted temperature: 48 °C - Mixing range from 30 to 65 °C – Continuous temperature 100 °C

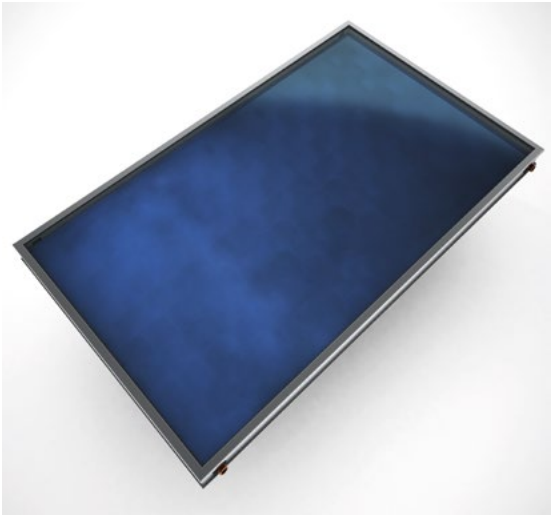
CODE	CONNECTIONS	FLOW RATE (L/min)
KTSC1	¾" M	35



Loading/draining valve

Loading and draining ball valve for solar systems.

CODE	CONNECTIONS
VS525	1" M



ELIOS Series solar collector

Collector
Elios solar collector are the optimal solutions in area with low solar irradiation.
Its modular mounting kit allows the installation of the collector either on flat or pitched roof.
Solar Keymark certified according to ENI 12975 and EN ISO 9806:2013

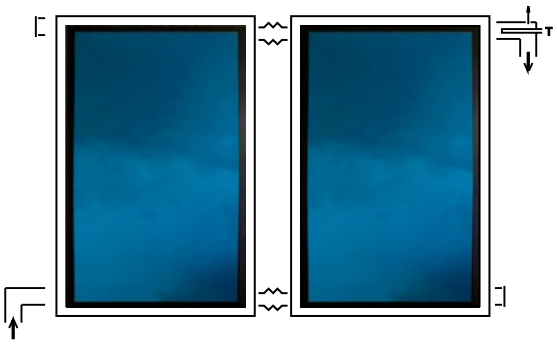
Absorber
The metallic absorber consists of laser welded copper pipes and an aluminum plate absorber with high selective blue coating surface.

Insulation
The insulation of the collector is made in rock wool.

Fullplate
Elios solar thermal collectors are provided with a 4 mm tempered glass sheet that enhances the capacity of infrared transmission and reduces the light reflection.

Solar collectors proposed by TML are provided by Solar Keymark certification which allows to benefit of public subsidies if available.

CODE	EXTERNAL SIZE (mm)	AREA (m^2) GROSS	ABSORBING	LIQUID VOLUME (L)	PERFORMANCE % ABSORPTANCE	EMITTANCE	PRESSURE (bar) WORKING	MAX	TEST	TEMPERATURE (°C) MAX	STAGNATION	WEIGHT (Kg)
PBS250	1961x1176x92	2,31	2,14	1,55	95	5	8	10	15	250	201	36



Full connection set for Elios solar collectors

Full connection set for Elios solar collectors composed by:
Threaded brass fitings for flow and return, probe for temperature sensor, vent valve, collectors union hose.

CODE	FOR PBS 250 SOLAR COLLECTOR No. OF COLLECTORS
RAKBS1	1
RAKBS2	2
RAKBS3	3
RAKBS4	4



Flat roof mounting set

Mounting set for Elios series solar collectors over a flat roof.
It is made by galvanized steel and comes with galvanized hardware for its installation.

CODE	FOR PBS250 SOLAR COLLECTORS No. OF COLLECTORS
BSSTP1	1
BSSTP2	2
BSSTP3	3



Pitched roof mounting set

Mounting set for Elios series solar collectors over a titled roof. It is made by galvanized steel and comes with galvanized hardware for its installation.

CODE	FOR PBS250 SOLAR COLLECTORS No. OF COLLECTORS
BSSKI1	1
BSSKI2	2
BSSKI3	3

Elios series forced circulation solar kits

Solar kit for DHW production with glass lined single coil calorifier mod. SFV

The kit consists of PBS250 solar collector (s) (in the indicated quantity), a single coil calorifier (mod. SFV of the indicated capacity), mounting set(s) for pitched roofs (code BSSKI_), antifreeze liquid, collector connections fittings, expansion vessel, thermostatic mixing valve, ELY control unit with sensors, and 1 or 2-way solar module (see page 276) to be chosen among the models available in the below table.

WITH 1-WAY SOLAR MODULE CODE	WITH 2-WAY SOLAR MODULE CODE	No. OF USERS	No. OF COLLECTORS	CALORIFIER MODEL	CAPACITY (L) EXP. VESSEL	ANTIFREEZE LIQUID
BSKS 151 CS1E	BSKS 151 CS2E	1-2	1	SFV 00150 R	18	5
BSKS 202 CS1E	BSKS 202 CS2E	3-4	2	SFV 00200 R	18	10
BSKS 302 CS1E	BSKS 302 CS2E	4-5	2	SFV 00300 R	18	10
BSKS 303 CS1E	BSKS 303 CS2E	5-7	3	SFV 00300 R	18	10
BSKS 403 CS1E	BSKS 403 CS2E	7-8	3	SFV 00400 R	18	10
BSKS 504 CS1E	BSKS 504 CS2E	9-10	4	SFV 00500 R	24	15

Solar kit for DHW production with glass lined double coil calorifier mod. DSFV

The kit consists of PBS250 solar collector (s) (in the indicated quantity), a double coil calorifier (mod.DSFV of the indicated capacity), mounting set(s) for pitched roofs (code BSSKI_), antifreeze liquid, collector connections fittings, expansion vessel, thermostatic mixing valve, ELY control unit with sensors, and 1 or 2-way solar module (see page 276) to be chosen among the models available in the below table.

WITH 1-WAY SOLAR MODULE CODE	WITH 2-WAY SOLAR MODULE CODE	No. OF USERS	No. OF COLLECTORS	CALORIFIER MODEL	CAPACITY (L) EXP. VESSEL	ANTIFREEZE LIQUID
BSKD 202 CS1E	BSKD 202 CS2E	3-4	2	DSFV 00200 R	18	10
BSKD 302 CS1E	BSKD 302 CS2E	4-5	2	DSFV 00300 R	18	10
BSKD 303 CS1E	BSKD 303 CS2E	5-7	3	DSFV 00300 R	18	10
BSKD 403 CS1E	BSKD 403 CS2E	7-8	3	DSFV 00400 R	18	10
BSKD 504 CS1E	BSKD 504 CS2E	9-10	4	DSFV 00500 R	24	15

Solar kit for DHW production with glass lined calorifier mod. EASY (page 264)

The kit consists of PBS250 solar collector (s) (in the indicated quantity), a double coil calorifier (mod.EASY) of the indicated capacity, mounting set(s) for pitched roofs (code BSSKI_), antifreeze liquid, collector connections fittings, expansion vessel and thermostatic mixing valve.

CODE	No. OF USERS	No. OF COLLECTORS	CALORIFIER MODEL	CAPACITY (L) EXP. VESSEL	ANTIFREEZE LIQUID
BSKD 202 EASY	3-4	2	EASY V00200 R	18	10
BSKD 302 EASY	4-5	2	EASY V00300 R	18	10
BSKD 303 EASY	5-7	3	EASY V00300 R	18	10
BSKD 504 EASY	9-10	4	EASY V00500 R	24	15



ELY - Electronic control unit

ELY control unit is supplied with Elios solar kits. It has an easy LCD display that allows the complete management of a solar thermal system with natural or forced circulation.
The control unit can manage the sensor inlet temperature of collectors, calorifiers, swimming pools, boilers. At the same time the CU manages the output signals and power for circulation pumps, backup boilers, mixing valves, DHW recirculation pump, anti-legionella cycles, ancillaries valves and pumps.
This control unit can manage up to 27 different system configurations.
Sizes: 180 x 132 x 60 mm

Solar modules

CS1 – 1-Way solar module



Return line:
- Flow adjuster (8-28 l/min.) with loading and draining valves;
- High efficiency circulator mod. Wilo Yonos Para ST 25/7 PWM2 (absorbed power 3-70 W). For its management a PWM control unit is required (cod. MSM)
- 3-way flanged valve with 10 mbar check valve (the check valve can be excluded by rotating the handle of 45 °C). The handle is equipped with handle thermometer (thermometer with blue ring 0 °C - 120 °C)
- Safety group with 6 bar safety valve, a 50 mm diameter pressure gauge (0 to 10 bar) and a 3/4"male connection for expansion vessel;

Continuous temperature 120° C (up to 160 ° C for 20s). Insulation casing in EPP

CODE	MAX. POWER (kW)	EXTERNAL CONNECTIONS
CS1	50	1" M.

CS1G – 1 Way solar module with electronic control unit



Return line:
- Flow adjuster (8-28 l/min.) with loading and draining valves;
- High efficiency circulation pump mod. Wilo Yonos Para ST 25/7 PWM2 (absorbed power 3-70 W).
- 3-way flanged valve with 10 mbar check valve (the check valve can be excluded by rotating the handle of 45 °C). The handle is equipped with thermometer (thermometer with blue ring 0 ° C-120 ° C)
- Safety group with a 6 bar safety valve, a 50 mm diameter pressure gauge (0 to 10 bar) and a 3/4"male connection for expansion vessel;

Electronic control unit with pre-wired sensors for the control of the differential temperature of a standard solar system with 1 collector and 1 calorifier. LCD display with easy user interface showing the available hydraulic systems.
- 1 free NO contact (230V)- 0-10V/PWM output for circulation pump
- 3 inputs for sensors
- 2 x PT 1000 sensors with silicon cables.

Continuous temperature 120° C (up to 160 ° C for 20s)
Insulation casing in EPP

CODE	MAX. POWER (kW)	EXTERNAL CONNECTIONS
CS1G	50	1" M.

CS2 – 2-Way solar module



Flow line:
- Thermometer- Bypassable check valve - Manual vent valve

Return line:
- Flow adjuster (8-28 l/min.) with loading and draining valves;
- High efficiency circulation pump mod. Wilo Yonos Para ST 25/7 PWM2 (absorbed power 3-70 W). For its management a PWM control unit is required (cod. MSM)
- 3-way flanged valve with 10 mbar check valve (the check valve can be excluded by rotating the handle of 45 °). The handle is equipped with thermometer (thermometer with blue ring 0 ° C-120 ° C)
- Safety group with a 6 bar safety valve, a 50 mm diameter pressure gauge (0 to 10 bar) and a 3/4"male connection for expansion vessel;

Continuous temperature 120° C (up to 160 ° C for 20s)
Insulation casing in EPP

CODE	MAX. POWER (kW)	EXTERNAL CONNECTIONS	PIPES CENTER DISTANCE (mm)
CS2	50	1" M.	125

CS2G – 2-way solar module with electronic control unit



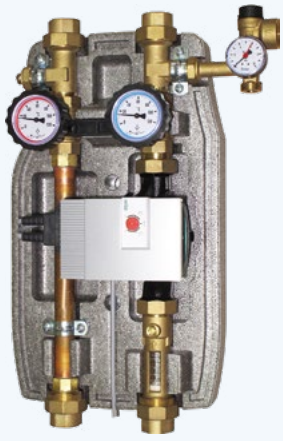
Flow line:
- Thermometer- Bypassable check valve - Manual vent valve

Return line:
- Flow adjuster (8-28 l/min.) with loading and draining valves;
- High efficiency circulation pump mod. Wilo Yonos Para ST 25/7 PWM2 (absorbed power 3-70 W).
- 3-way flanged valve with 10 mbar check valve (the check valve can be excluded by rotating the handle of 45 °). The handle is equipped with thermometer (thermometer with blue ring 0 ° C-120 ° C)
- Safety group with a 6 bar safety valve, a 50 mm diameter pressure gauge (0 to 10 bar) and a 3/4"male connection for expansion vessel;
- Electronic control unit with pre-wired sensors for the control of the differential temperature of a standard solar system with 1 collector and 1 calorifier. LCD display with easy user interface showing the available hydraulic systems.
- 2 free NO contact (230V)- 0-10V/PWM output for circulation pump
- 4 inputs for sensors
- 3 x PT 1000 sensors with silicon cables
- External connection with CAN-Bus or Ethernet

Continuous temperature 120° C (up to 160 ° C for 20s)
Insulation casing in EPP

CODE	MAX. POWER (kW)	EXTERNAL CONNECTIONS	PIPES CENTER DISTANCE (mm)
CS2G	50	1" M.	125

CS2AP – 2 Way solar module for systems with high flow rates

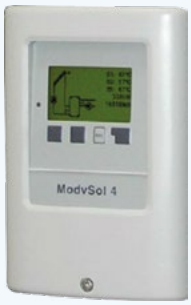


Flow line:
- T fitting with ø 6 mm probe holder- Ball valve with 18 mbar check valve (the check valve can be excluded by rotating the handle of 45 °). The handle is equipped with thermometer (thermometer with red ring 0 °C - 120 °C)

Return line:
- Flow adjuster from 5 to 42 l/min. (On demand it is possible to increase it to 20-70 l/min.);
- High efficiency circulation pump mod. Wilo Stratos Para 25/1-8 (absorbed power 8-130 W). For its management a PWM control unit is required (cod. MSM)
- 3-way flanged valve with 10 mbar check valve (the check valve can be excluded by rotating the handle of 45 °). The handle is equipped with handle thermometer (thermometer with blue ring 0 °C - 120 °C)
- Safety group with 6 bar safety valve, a 50 mm diameter pressure gauge (0 to 10 bar) and a 3/4"male connection for expansion vessel;

Continuous temperature 120 °C (up to 160 °C for 20s)
Insulation casing in EPPThe module is not provided with loading and draining valves (to be purchased separately cod. VS525)

CODE	MAX. POWER (kW)	EXTERNAL CONNECTIONS
CS2AP	100	1"¼ M – 1"½ M – 1" F with union



Electronic control unit ModvSol M

Electronic control unit for the management of 22 different configuration of solar systems

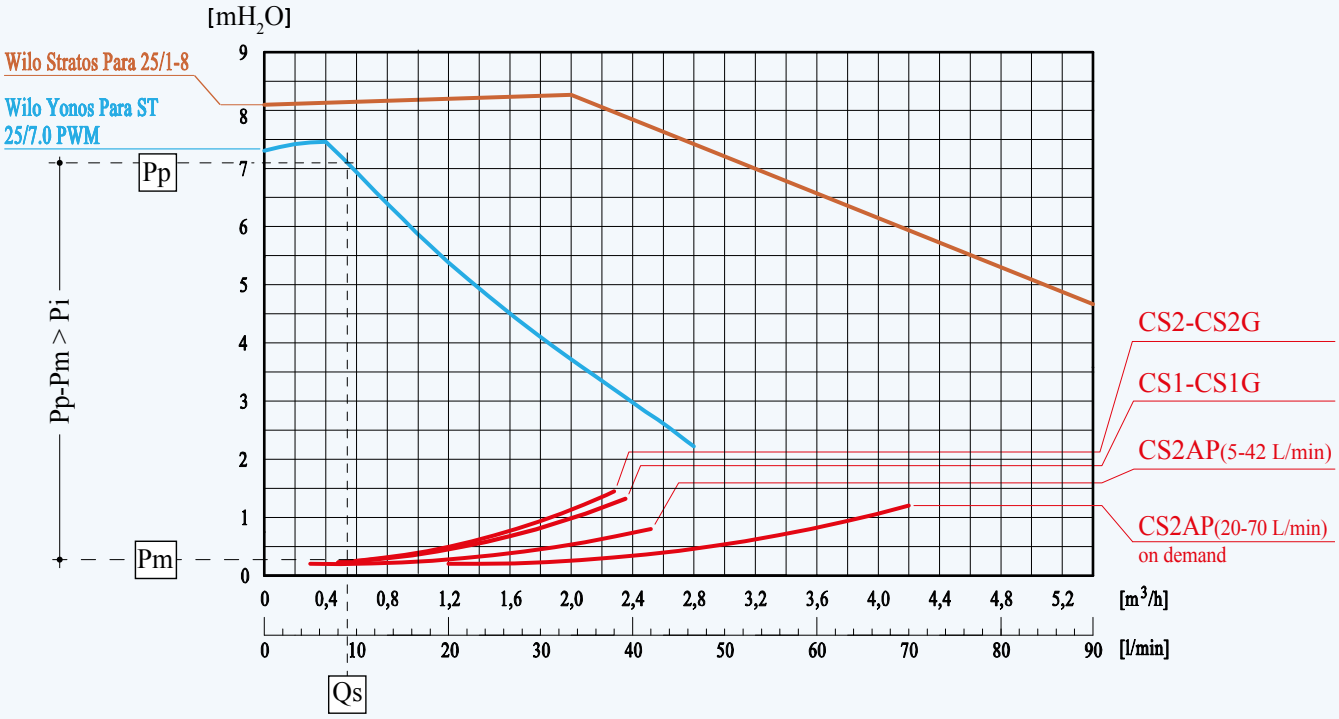
CODE	MAX. POWER (kW)	DIMENSIONS (mm) L	H
MSM	1 ~ 230 V	160	105

Forced circulation solar system

When designing a solar system, it is important to guarantee the proper circulation of the fluid in the solar circuit, therefore, the choice of the module is strictly related to the assessment of the head losses.
The required project data is the flow rate on the solar circuit (Qs); it depends on the efficiency of the solar collectors, their inclination, the solar irradiation, the wind speed, fraction of the thermal load assigned to the solar system, temperatures, etc. (in standard working conditions it's acceptable to consider 0.7-0.8 L / min per 1 sqm of solar collector).

Knowing the flow of the solar circuit (Qs) in the below diagram it is possible to identify two values on the axis of the pressure:
Pp: Pump head pressure;
Pm: pressure loss of the chosen solar module;
According to the chosen module, the corresponding head loss curve of its circulator must be considered e.g.:
- For the CS1, CS1G, CS2, CS2G modules, the head loss curve of the circulator Wilo Yonos Para ST 25 / 7.0 PWM
- For the CS2AP module, the head loss curve of the Wilo Stratos Para 25 / 1-8 circulator

Fig. 1 - Performance of solar modules and circulation pumps



According to the chosen solar module and the considered flow rate (Qs), it is possible to define the available pressure left useful to overcome the head loss of the piping system.
The condition to be respected is the following:

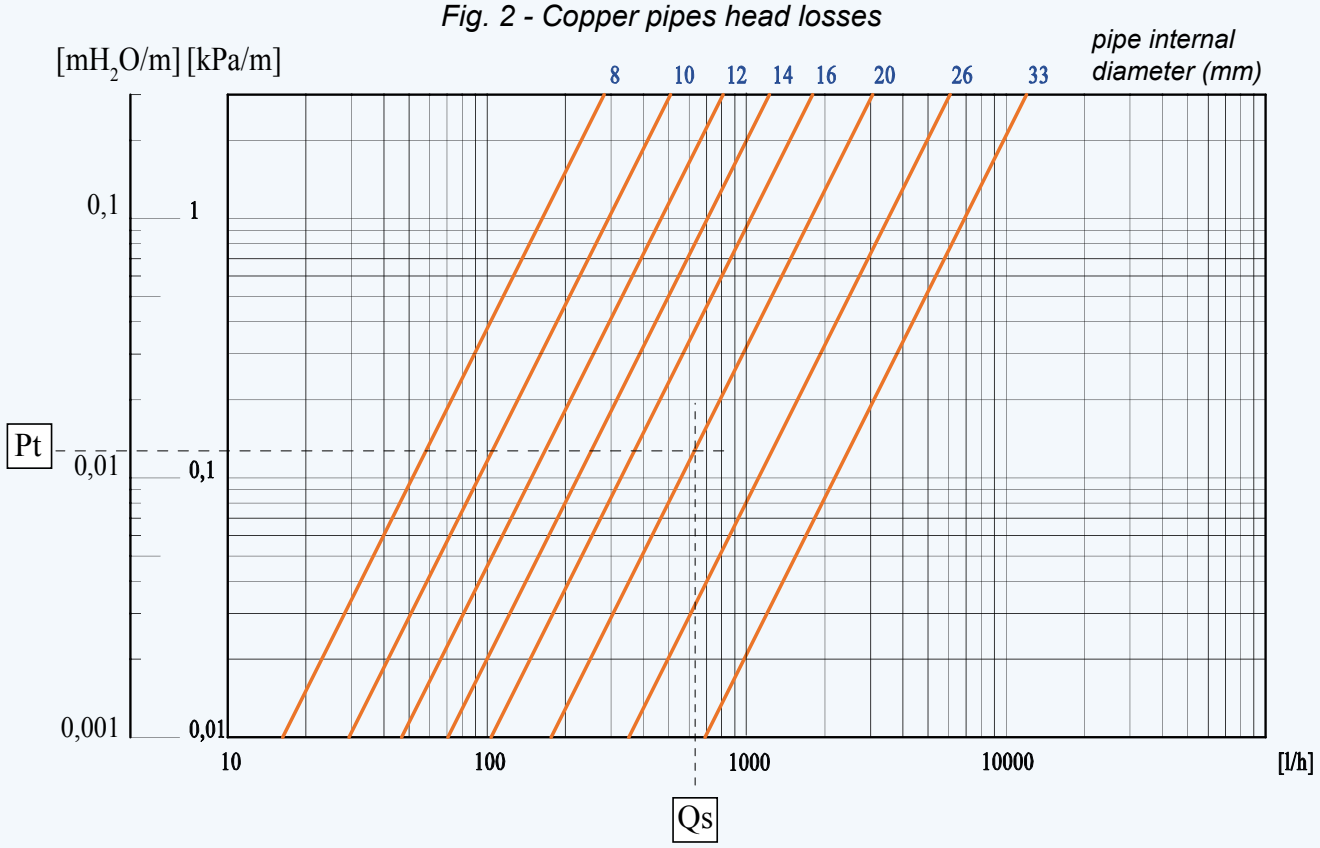
$$Pi < (Pp - Pm)$$

where Pi is the head loss on the system due to the sum of the head losses of all the components of the circuit, i.e.:

$$Pi = Pb + Pcs + 1.25 \times Pt + Pe$$

where:
- Pb: head loss of the heat exchanger: it is available in the tables of the respective calorifier, usually around 0.2-0.5 mH_2O;
- Pcs: Head loss in the solar collector: usually about 0.075 mH_2O per 1 sqm of solar collector;
- Pt: head loss of both flow and return pipes of the system: they can be easily determined by looking in the diagram of Fig. 2 considering the inner diameter of the pipes and with the Qs flow; it's a good practice to increase the value of 25% due to localized head losses;
- Pe: head losses of any subsidiary device on the piping line other than those mentioned above.

Fig. 2 - Copper pipes head losses



Calculation example:
Solar system composed by:
- Solar system flow Qs = 9.0 L/min (540 Lt/h)
- N° 1 calorifier Mod. SFV00800R (coil head loss Pb=0.25 mH20 at Qs flow of 9 L/min);
- N° 6 collectors Mod. PTML2.1 (Total area 6 x 2.1 sqm. = 12.6 sqm.);
- Solar module Mod. CS2G with a Wilo Yonos Para ST 25/7.0 PWM circulator installed;
- ø 22 mm copper piping with Inner diameter =20 mm;
- Piping length=25 m (flow) + 25 m (return) = 50 m.

Pcs = 0 .075 [mH20/sqm] x 12.6 [sqm] ≈ 0.95 mH_2O;
With a Qs flow rate of 540 L/h and inner diameter= 20 mm, on the Fig. 2 diagram, the head loss value is equal to 0.012 mH_2O per linear meter:
Pt = 0.012 [mH20/m] x 50 [m] = 0.60 mH_2O;
Pe=0;
Pi = Pb + Pcs + 1.25xPt + Pe = 0.25 + 0.95 + 1.25x0.50 ≈ 2 mH_2O
In the diagram of Fig. 1 with Qs flow =9.0 L/min it's possible to determine that:
Pp = 7.1 mH_2O
Pm = 0.4 mH_2O

Pi = 2 mH_2O < Pp – Pm = 6.7 mH_2O (condition satisfied)

Using a Solar Module Mod. CS2G, the head pressure of the circulator is higher than the total head losses of the solar circuit and it guarantees a safety margin of(Pp - Pm – Pi) 4.7 mH_2O.



Elios series Natural circulation solar kits

Collector
Elios solar collector are the optimal solutions in area with low solar irradiation.
The kit is composed by 1 or 2 PBS250 solar collectors connected to a single calorifier.
Solar Keymark certified according to ENI 12975 .

Absorber
The metallic absorber consists of laser welded copper pipes and an aluminum plate absorber with high selective blue coating surface.

Insulation
The insulation of the collector is made in rock wool.

Fullplate
Elios solar thermal collectors are provided with a 4 mm tempered glass sheet that enhances the capacity of infrared transmission and reduces the light reflection.

Calorifier
Made of glass lined carbon steel (features described in the below table)

Equipment
The kit includes: the collector(s), the calorifier and all the pipes and fittings to connect them. Furthermore, safety valve, check valve and supports for flat or pitched roof are supplied as well.

Natural circulation solar kit for flat roof

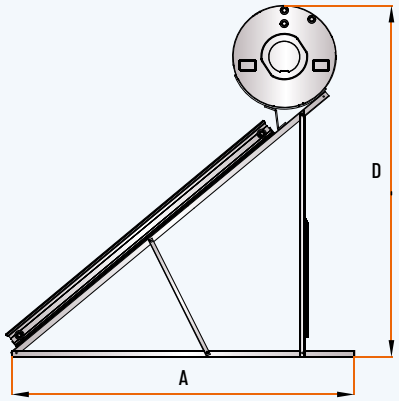
CODE	SOLAR COLLECTOR PBS250 No.	CALORIFIER CAPACITY (L)
SCN 160 TP	1	160
SCN 200 TP	1	200
SCN 300 TP	2	300

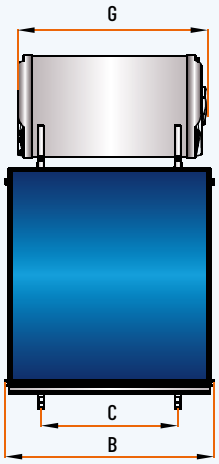
Natural circulation solar kit for pitched roof

CODE	SOLAR COLLECTOR PBS250 No.	CALORIFIER CAPACITY (L)
SCN 160 TI	1	160
SCN 200 TI	1	200
SCN 300 TI	2	300

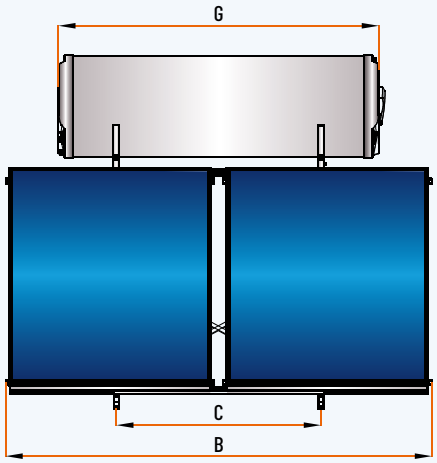
TECHNICAL FEATURES		
DHW cylinder	Material	S 235 Jr glass lined
	Internal protective treatment	Enamelling according to DIN 4753.3
	External protective treatment	Anti rust protection + epoxy painting
	Rating (P max. / T max.)	6 bar / 95°C
	Cathodic protection	Magnesium anode
Heat exchanger	Material	S 235 Jr glass lined
	Internal protective treatment	None
	External protective treatment	Anti rust protection + epoxy painting
	Type	Permietric double wall
	Rating (P max. / T max.)	2,5 bar / 95°C
General features	Capacity	160 - 300 L
	Warranty	5 years
	Insulation	50 mm polyurethane foam + painted galvanized steel jacket
	In compliance with	- Pressure Equipment Directive (PED) 2014/68/UE Art. 4 Para 3 - Italian MOH specifications (products suitable to contain potable water) - Energy related Products (Erp) Directive 2009/125/CE

Natural circulation solar kit with flat roof mounting set



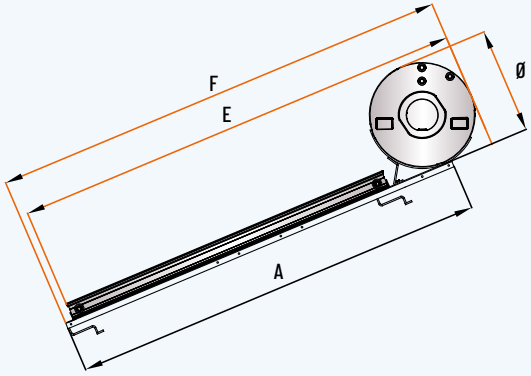


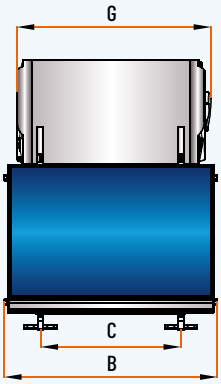
SCN 160 TP
SCN 200 TP



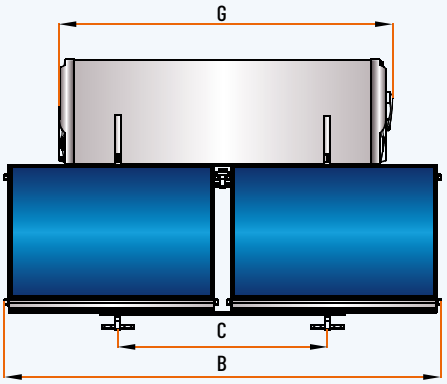
SCN 300 TP

Natural circulation solar kit with pitched roof mounting set





SCN 160 TI
SCN 200 TI



SCN 300 TI

MODEL	DIMENSIONS (mm) A	B	C	D	E	F	G	Ø	WEIGHT (Kg)
SCN160TP	2100	1240	800	1990	-	-	1070	610	120
SCN200TP	2100	1240	800	1990	-	-	1270	610	134
SCN300TP	2100	2555	1200	1990	-	-	1870	610	220
SCN160TI	2400	1240	800	-	2605	2695	1070	610	110
SCN200TI	2400	1240	800	-	2605	2695	1270	610	124
SCN300TI	2400	2555	1200	-	2605	2695	1870	610	210

QUOTATION FORM FOR BESPOKE CYLINDER

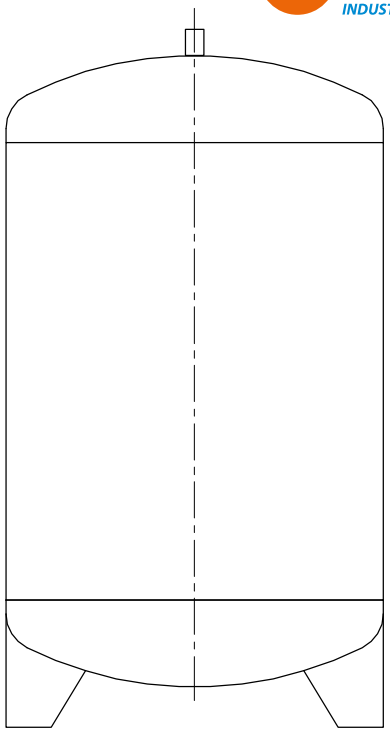
Company _____

Address _____

Reference _____

Phone No. _____

E-mail _____



CYLINDER TYPE

☐ **Calorifier/Thermal store for DHW**

- ○ **AISI 316L Stainless steel** (Tmax = 95 °C)
- ○ **Glass lined** (Tmax = 95 °C)
- ○ **Keramtech** (Tmax = 100 °C)
- ○ **Teflon lined** (Tmax = 70 °C)
- ○ **Galvanized** (Tmax = 60 °C)

☐ **Primary water buffer vessel**

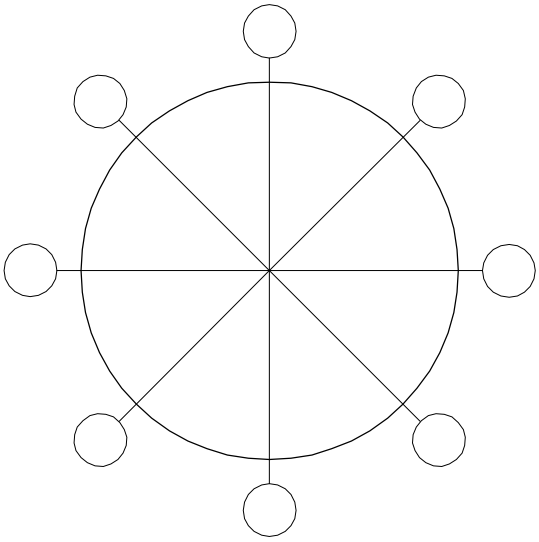
- ○ **Painted carbon steel** (Tmax = 95 °C)
- ○ **Galvanized carbon steel** (Tmax = 60 °C)
- ○ **AISI 304 Stainless steel** (Tmax = 25 °C)
- ○ **AISI 316L Stainless steel** (Tmax = 95 °C)

☐ **Combined buffer store (Type)**

- ○ **PC - Internal glass lined buffer**
- ○ **XPC - AISI 316L Stainless steel internal buffer**
- ○ **MXW - Instantaneous DHW production**
- ○ **Other** _____

SIZES

Capacity	**(L)**
Diameter	**(mm)**
Maximum height	**(mm)**
Working pressure	**(bar)**



THERMAL INSULATION

☐ **Soft Polyurethane** ○ **50 mm** ○ **100 mm** ○ ..... **mm**

☐ **Hard polyurethane** ☐ **Soft polyester** ○ **100 mm** ○ **130 mm**

☐ **Other** .....

VAPOUR SEAL INSULATION

☐ **Hard polyurethane** ○ ..... **mm**

☐ **Pexl** ○ ..... **mm**

☐ **Other** .....

HEAT EXCHANGER

☐ **Upper**	☐	(sqm)
☐ **Lower**	☐	(sqm)
☐ **DHW**	☐	(sqm)
☐ **Other**	☐	(sqm)

POSITION	CONNECTIONS

Fill up and send this module to get a complete offer at the e-mail address: **info@tmlgroup.it**

QUOTATION FORM FOR PLATE HEAT EXCHANGER

Company _____

Address _____

Reference _____

Phone No. _____

E-mail _____

Heat exchanger

Heat exchanger type

◯ Gasketed

◯ Brazed

Power

◯ kW

◯ kcal/h

◯ Other _____

Duty margin

%

Hot side

FLUID TYPE

◯ Water

◯ Water _____ % + Glycol _____ %

◯ Other _____

Flow rate

◯ L/min

◯ m^3/h

◯ Other _____

Inlet temperature

°C

Outlet temperature

°C

Max. pressure drop

◯ kPa

◯ mH_2O

◯ Other _____

Cold side

FLUID TYPE

◯ Water

◯ Water _____ % + Glycol _____ %

◯ Other _____

Flow rate

◯ L/min

◯ m^3/h

◯ Other _____

Inlet temperature

°C

Outlet temperature

°C

Max. pressure drop

◯ kPa

◯ mH_2O

◯ Other _____

Conditions

It is mandatory to indicate at least 5 parameters

1 - Inlet temperature hot side > outlet temperature cold side

2 - Inlet temperature cold side < outlet temperature hot side

3 - Temperatures and flow rates must be coherent with the power

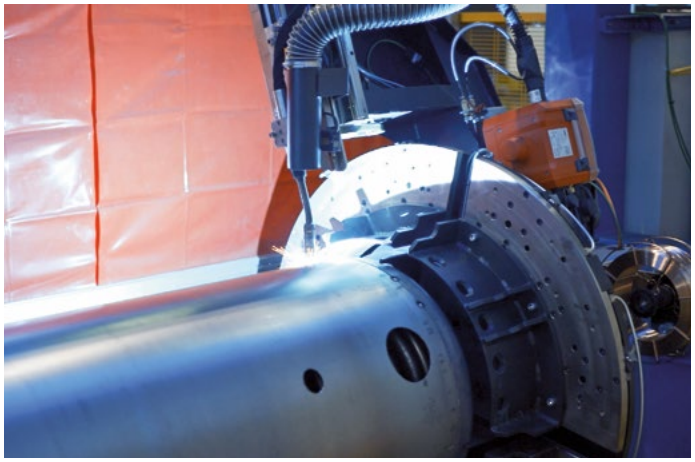
Fill up and send this module to get a complete offer at the e-mail address: **info@tmlgroup.it**









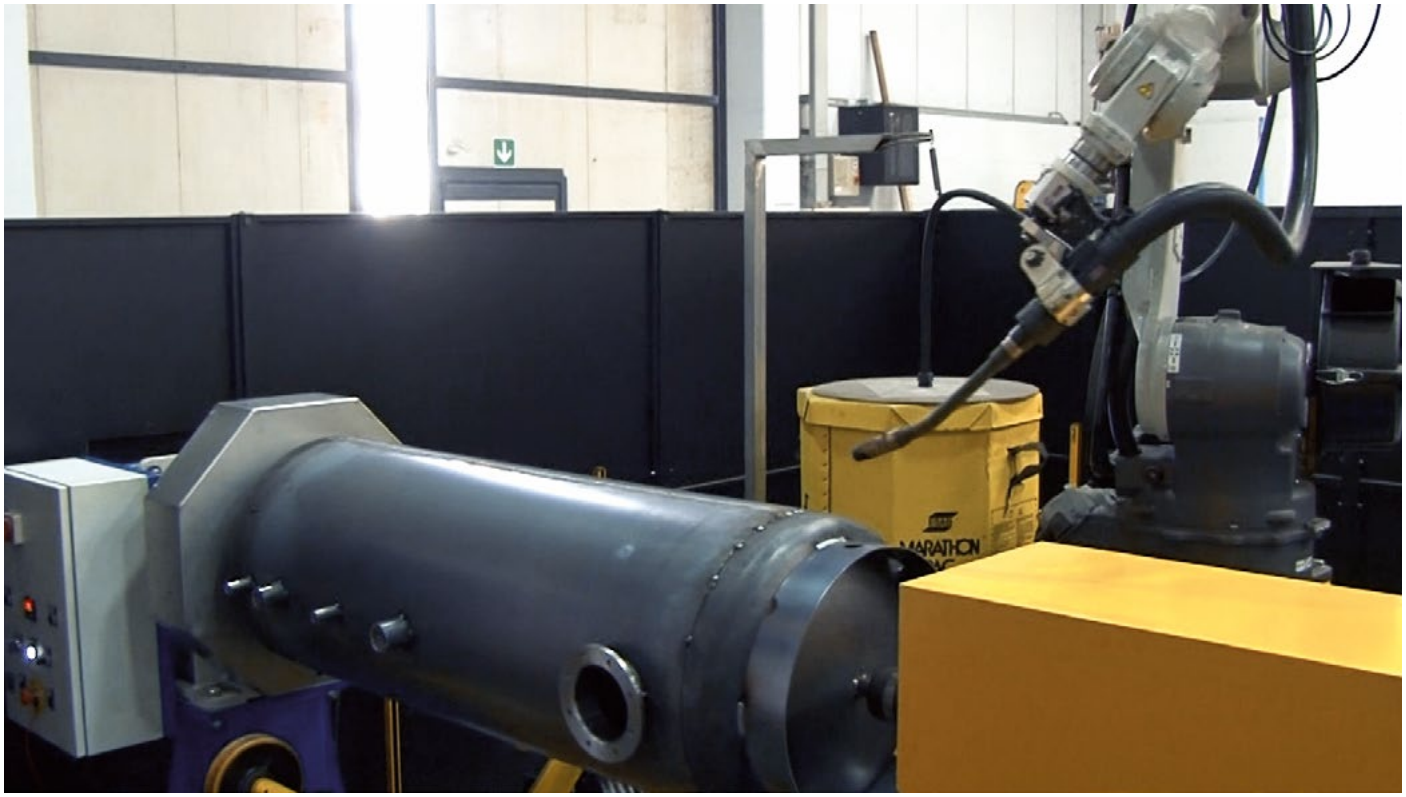











MARATHON

General sales and warranty terms

T.M.L. Srl grants a warranty for material and manufacturing defects on its own manufactured cylinders as long as its installation complies with the terms of use and maintenance.
Any variation or derogation to the below Sales and Warranty terms must be approved by T.M.L. Srl in written.

Purchase orders
All orders are subject to our approval. The order issuance implies that the Customer agrees to accept our " General Sales and
Warranty terms". Once an order is accepted by us, the Customer is committed to it and can't modify or cancel it without a written authorization from T.M.L. Srl.
Delivery time stated on order confirmations are estimated and not binding. Any delay does not allow the customer to cancel/modify the order nor to claim compensation or the suspension of pending payments.

Products sizing
T.M.L. Srl manufactures products under the specification of European Pressure Directive 2014/68/UE. Due to their low risk, the thickness material of the products belonging to the categories specified by Art. 4 Para 3 of said Directive, are sized by our R&D department (thanks to the experience achieved in many years), as they don't have to comply -at least in Italy – with any Notified Body regulation.
In case there is a need to size a product according to certain regulations either of Italian or foreigner regulations, it must be specified by the Customer when he requires an offer.
The above applies either for cylinders and insulations.
All the sizes and specifications showed in this catalogue may vary without prior notice.

Delivery terms
Delivery terms of all our products are Ex Works for all destinations outside of the European Single Market or Free Carrier Agent for destinations inside of the European Single Market according to Incoterms® 2020. Products are properly packaged with bubble wrap or boxes and pallet. All shipment expenses are on customer side. In case our cooperation is required for loading operations, the customer indemnifies and hold harmless T.M.L. Srl for any damage may occur during loading, shipping and delivery.
In the case that a delivery term is granted at place (DAP according to Incoterms® 2020), it has to be considered on board of the truck. Unloading operations are on customer side.
In any case, the risk of damages during the shipping is on customer side.
Any damage to the integrity of packaging/envelopment or any discrepancy in the number of the pieces delivered, must be reported in the Delivery Note at the presence of the carrier before it is signed.
A copy of the claimed Delivery Note must be notified to the freighter and to T.M.L. Srl within three days from the receipt of the goods.

Payment terms
Invoices must be paid within the deadline.
Unauthorized delays will determine the application of interests according to the current rate, and the right to suspend any pending supply.

Property
The goods delivered remain property of T.M.L. Srl until they are totally paid. In case of a partial payment by the Customer, T.M.L. Srl is entitled to claim the return of the goods supplied, with the right to retain the amount paid as a compensation.

Installation
The installation, commissioning, maintenance and dismantling of the equipment must be performed by a qualified plumber or contractor.
A proper installation along with regular maintenance guarantee a long lifespan of the calorifier/buffer vessel.
Below, we summarize specific installations rules which must be strictly respected in order to keep the Warranty valid.
The warranty is no longer valid if the product is not installed according to the specifications listed below.

Specifications to be respected for cylinders containing water
The plant room must provide enough space for the cylinder manoeuvring as well as enough space to allow it to be fitted in or removed.
The cylinder must be installed in vertical position and properly leveled on a flat surface, in a closed room, protected from the weather and over a solid and stable base that can support the weight of the filled cylinder.
Leave enough space in front of the cylinder to allow its maintenance and cleaning operations; the distance between the cylinder and the walls must allow a person to carry out a periodical check of the connections.
The plant room must be protected against freezing according to DIN 4753.
When installed on an underground basement, it is recommended to place the cylinder over a waterproof base to avoid damages due to the floor humidity.
When installed in heated or poorly ventilated rooms, it is important to protect the openings connected to cold fluids with a vapour seal insulation.
A proper drain system must be available in the room to allow the water to drain in the unlikely event of a leakage from the cylinder.
The installation of the insulation (if any) must take place before the cylinder is connected to the hydraulic system; do not weld or light fires close to the insulation to avoid the sparks of fire.
Do not use the cylinder in mobile installations or installations subject to strong vibrations: it's very important to ensure that there are no vibrations that can be transmitted from the system to the body of the cylinder, therefore, it must be connected to the system by anti-vibration flexible hoses.
Cylinder must be electrically insulated from the system. Insulation joints must be used to connect the cylinder to the system.
The chemical composition of the water stored, must never exceed the values established by EU Directive 98/83/CE.
Always install a strainer on the water supply pipe to avoid the deposit of heavy particles or impurities inside the cylinder.
In case a water softener system is required, it must be sized according to regulations (UNI9182, UNI CTI 8065, etc.), and it must be installed and maintained according to the manufacturer's instruction.
- Install a pressure reducer valve on the water supply pipe, as far as possible from the cylinder, and set it to a working pressure lower than the maximum working pressure of the cylinder (EN 12897, EN 1567).

The hydraulic system connected to the heat exchangers of the cylinder must be provided with:

- Thermostatic device to avoid the raise of the temperature of the water above 100 °C (EN 12897);
- Automatic stop valve connected to the heat source to interrupt the flow of the heat in case of a failure of the above mentioned device before the water reaches 100 °C (ENI 12897, EN60730-2-9);
- Pressure and temperature relief valve as a further security device to avoid the raise of the temperature above 100 °C (EN 1490).

Install expansion vessels properly sized on the water supply pipe (upstream to the cylinder) as well on all circuits of the internal heat exchangers if any (EN 12897).
The product must be used within the limits of working pressure and temperature shown on the product label.
Install a safety valve on the circuit of the hot water as well on the circuits of the internal heat exchangers (if any); safety valves must be sized according with the relevant local legislation. The operating pressure of the safety valve must not exceed the working pressure of the cylinder or heat exchangers as shown on the product label. Safety valves must be clear of any valve that can exclude them from the circuits they are protecting. (EN1489).
Flow and return piping of the heating system must be built avoiding the natural circulation of the primary water (by gravity) when circulation pumps are not running.
In case the system is not used for long time, it must be guaranteed to keep the temperature of the fluid stored above the freezing point to avoid any damages than can occur due to the cold.
In case there is the risk of freezing, the cylinder must be heated and drained completely. Pay attention that stagnating water into the cylinder and into the pipes can help the proliferation of bacterial microorganisms.
In case the cylinder is equipped with one or more unused heat exchangers, they must be empty and properly sealed to avoid the entrance of oxygen because it can condensates and create corrosion. The unused heat exchanger(s) must not be filled because there is the possibility of an internal fluid overpressure.
While choosing the piping system used for the hydraulic connections, pay attention to the likely electrochemical reactions between different materials; on mixed installations the cylinder must be electrically insulated from the system. Insulation joints must be used to connect the cylinder to the system.
It's strictly prohibited to connect stainless steel cylinder to galvanized or mild steel fittings.
The cylinder as well as the pipes of the system must be connected to the electrical grounding system and its functionality must be checked in compliance with the regulations.

Specifications to be respected for cylinders containing Domestic Hot Water
Cylinders for domestic hot water are manufactured with different solutions to avoid corrosion: starting from internal treatment like glass lining, to the use of specific material like stainless steel.
All our cylinders for domestic hot water are equipped with a cathodic protection device like magnesium anode or, on demand, with impressed current electronic anode.

- The cathodic protection must be checked periodically, at least twice a year. In case of a passive cathodic protection (magnesium anode), check the state of the consumption of the rod: If it's above the 60% of its original surface, it must be replaced. In case the cylinder is equipped with an impressed current cathodic protection, check the presence of the power supply periodically (DIN 4753- Part. 6).

Check that electrical conductivity of the water is good enough to grant the proper functioning of the cathodic protection. The installation must be done strictly adhering to the regulations for the protection against corrosion in piping systems. (DIN 4708).

- The water hardness must be set to a value no lower than 10.7 °F (> 6° DH); for soft water with hardness value below 10.7 °F (> 6° DH) it is recommended to use a stainless steel cylinder.

The correct value for the water hardness is around 15 °F (> 8.38° DH).
In case of water with a hardness value above 18° F (> 10° DH) it's recommendable to keep the water below 60 °C in order to avoid limescale deposits on the cylinder surface and over the magnesium anode which will limit its functionality. In this case, internal cleaning operations must be scheduled on a tighter interval. Damages caused by encrusted limescale are not covered by the Manufacturer's warranty.
The encrusting power of the water stored in a domestic hot water cylinder at the maximum working temperature, measured through the Langelier index must be within 0 e +0,4.

- Chlorides concentration must not exceed 70 mg/L. It is necessary to carry out an internal washing of the piping lines of the system before commissioning the cylinder, because the presence of impurities or shavings might lead to corrosion phenomena (especially with stainless steel cylinders). Connection to public water supply must be done according to DIN 1988 and DIN 4753.1.
- In order to avoid the scalding risk for users, a 3-way valve must be installed on the domestic hot water circuit that guarantees a maximum temperature limit of the withdraw water.

During maintenance and cleaning operations of calorifiers with removable heat exchangers, pay attention when reassembling the tube bundle, that the insulating bushings are properly placed on the peripheral holes of the plate that hosts the fixing bolts; pay attention not to damage or to scratch the protective treatment of the flange collar when removing and reassembling the heat exchanger.
In order to avoid the contamination of the domestic hot water, check that the working pressure of the heat exchanger does not exceed the working pressure of the cylinder (EN 12897).
During the installation of glass lined cylinders, pay attention that the male thread of the pipes fits into the openings for a length of around 25 mm: fitting it with a longer depth can damage the lining behind the thread whereas fitting it for a shorter depth will leave unprotected the part of the thread not affected by the connection.

Specifications to be respected for cylinders containing Primary Water
Buffer vessels for primary water must be installed in systems with closed circuit where oxygen can't be introduced or spread, in such conditions, cylinders are not subject to corrosion phenomena. They are designed only to store water: the storage of other substances voids the Manufacturer's warranty unless it is demonstrated the compatibility of such substance with the material.

Specifications to be respected for combined buffer stores
On combined buffer store with internal tank for domestic hot water, in order to avoid the risk of crushing of the internal cylinder, it is important to check during filling, working and draining operations, that the working pressure of the external cylinder is always lower than the working pressure of the internal cylinder; furthermore, check that the working pressure of the external cylinder does not exceed the value of 3 bar.
Besides the above mentioned, all the previous specifications for

domestic hot water and primary water cylinders must be respected.
In some models of combined buffer stores, the domestic hot water cylinder is replaced by an internal heat exchanger designed to produce domestic hot water instantaneously.

Specifications for electric immersion heaters
The electric immersion heater can be turned on only once the cylinder is completely filled with water, thus to avoid the overheating of the heating elements and their consequent burning.
When using an electric immersion heater, pay attention to place it on the dedicated opening and that the heater is equipped with a thermostatic control and with an overtemperature protection.
The electric immersion heater must be electrically insulated from the cylinder body.
The electric immersion heater must be connected to the earthing system.
When using electric immersion heaters with civil or industrial water with a high value of limescale, it is necessary to check frequently the state of the limescale deposit over the heating elements because it can affect the functioning of the safety thermostat and can lead to a pitting corrosion phenomena.

Specifications for the assembling of insulation
The temperature of the room where the insulation will be assembled to the cylinder must be at least 20 °C. At a lower temperature, it might be difficult to close the zip in a single passage. In this case wait until the temperature raises so that the thermal expansion of the insulation will facilitate its closure. If necessary, connect the cylinder to the system and warm it up, once the insulation will be at the right temperature it will be possible to close the zip.
Don't use tools or clamps to force the closure of the zip.
For cylinders with capacities up to 1500 litres, two people are required to assemble the insulation. For higher capacities, 3 or more people are required.
The insulation of cylinders with very high capacities, can be made by 2 or more parts and there might be more longitudinal closures.

Installation and commissioning
The installation, commissioning, maintenance and dismantling of the equipment must be performed by a qualified plumber or contractor. A proper installation along with regular maintenance guarantee a long lifespan of the product.
Filling procedure:
- Do not turn on any heat source connected to the cylinder until it's completely filled up;
- Ensure that all installation requirements, electrical and safety measures, have been accomplished;
- Check that all hydraulic and electrical connections are properly executed;
- Make sure that unused connections are closed with pressure tight caps and are thermally insulated
- Open the vent valve on the system to which the cylinder is connected and start to fill it slowly;
- Check the sealing of all the connections and inspection hatches (run the product at the maximum temperature and check the tightening of the inspection hatch bolts after two hours);
- While the unit is filled, check that the air is coming out from the vent valve. Allow some water to flow out after the cylinder is filled in order to clean the pipes;
- Close the vent valve;
- Open all the taps to eliminate any air left in the system;
- Close all the taps and check for any water leakage in the system;
- Fill all the internal heat exchangers circuits if any;
- Check manually the pressure regulating valve and the safety valves on each hydraulic circuit. Ensure that the water flows freely from the drain/tundish.

Maintenance
Maintenance procedures to the cylinder and to the system, must be carried out at least once a year by a qualified technician, especially:
- Testing that all safety devices (safety valves, expansion vessels, safety thermostat, etc.) are working properly;
- Cleaning of all the filters and strainers;
- Checking the hydraulic sealing of all the connections and inspection hatches gaskets (if any); Once the flange of the inspection hatch has been opened up, it is necessary to replace the gasket;
- The frequency of the cylinder internal cleaning depends on the quality of the water stored and on the working temperature; no metal or scratching tools must be used for the cleaning of the internal surface of the cylinder; damages due to encrusted limescale are not covered by the Manufacturer's warranty:
- For domestic hot water cylinders, check the status of the cathodic protection and that it is working properly.

Emptying procedure:
- Turn off all the heat sources connected to the cylinder and disconnect any electrical wiring;
- Close the water supply;
- Open the vent valve on the system to which the cylinder is connected to allow the air to flow into the system;
- Open the drain of the system. Please pay attention as high temperature water could cause injuries or damages to the household items.

Procedure for Disposal and Recycling:
- The company that installs the product is responsible for the disposal of the packaging;
- The product is manufactured using several recyclable materials;
- The product and its accessories can't be disposed with household waste. They must be disposed by qualified and authorized personnel in compliance with all local environmental regulations.

Complaints
The receiver of the goods is always required to verify the integrity of the product and its compliance with the purchase order, any complaint must be notified in writing no later than eight days after the receipt of the goods.
If the user or the installer notices a technical or functional issue of the purchased product, he must contact immediately the seller if any; repairs or intervention without the written consensus of the Manufacturer are not allowed and they will void the warranty.
Claims don't allow the suspension of pending payments.
Returns without our written consensus will not be accepted.

Duration
The warranty period starts from the date shown on the delivery note/ invoice or receipt, which is proven by a serial number printed on the cylinder label. If a cylinder is replaced, the new item is covered under

warranty for the remaining time of the original cylinder. The warranty period is shown on the label of each product.
For accessories and other items, where the warranty is not expressly specified (hydraulic units, removable heat exchangers, etc.), the warranty period is two years except for electrical and electronic devices which warranty time is limited to one year.

Exclusions from Warranty
The warranty ceases its validity under the following circumstances:
- the customer has not complied with payment terms;
- an unauthorized intervention or tampering has been detected;
- lack of safety devices or if safety devices are not appropriated to the claimed product;
- in case the claimed product is not equipped with the cathodic protection or it is not properly working or consumed;
- failure to comply with all the above mentioned installation procedures and specifications;
- items subjected to normal wear and tear such as screws, gaskets, sensors, probes, anodes, thermometers, etc. are not covered under these warranty conditions.

Warranty intervention
The customer is required to provide all the necessary (technical, photographic details, etc.) to allow the Manufacturer to investigate the cause of the damage; furthermore, the customer must allow the Manufacturer, in case is required, to inspect the claimed product on the site where it is installed. In case the Manufacturer recognizes the fault, it will be at its discretion the choice to repair or to replace the entire defective product or parts of it. The warranty does not cover any cost arising for direct and/or indirect damages occurring from detected defects of the products. The warranty does not cover any cost arising to remove or replace the product. Should it be necessary to inspect the claimed product at our facility, the customer must deliver it to our factory free of charge (Delivery terms DAP according to Incoterms® 2020.

Disputes
Any dispute or controversy which may arise between the parties may be settled by the Italian court of law in Teramo.

Notes

The items showed in the present catalogue are subject
to variations without prior notice.

Total or partial reproduction of this catalogue is forbidden
without our written permission.
All rights reserved.

EN/01/2021

www.tmlgroup.it



TML srl

Headquarters, carbon steel facilities and R&D offices
Frazione Favale
64010 Civitella del Tronto (TE) ITALY
Tel. +39 0861 927003
info@tmlgroup.it

Sales and administration offices, Stainless steel facilities
Zona artigianale Floriano
64020 Campli (TE) | ITALY
Tel. +39 0861 927062

Fuel tanks facilties
Zona artigianale Località Pardu Prenu
09071 Abbasanta (OR) ITALY
Tel. +39 0785 52669
Fax +39 0785 53658

T.M.L. Acumuladores S.L.
Calle Enginy 5 Nave 3
08840 Viladecans (BARCELONA) SPAIN
Tel. +00 34 931 931 272
info@tmlacumuladores.es