



OSO HOTWATER

**COMMERCIAL
CYLINDERS
INFO**



UK


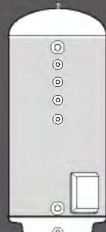
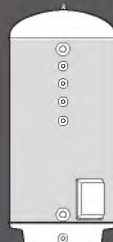
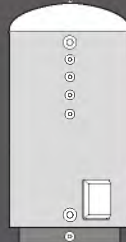
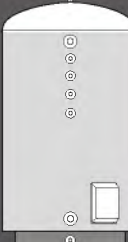



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COMMERCIAL UNITS

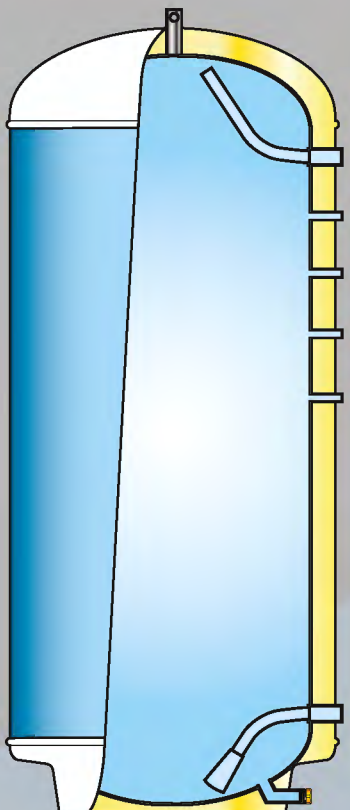
Sizing and product information chart

		Available volumes							Area of use		Heating method				Functions						Insulation			
Product name	Designation								Domestic hot water	Accumulation	Solar ready / electric	Electric direct	Heat pump / Low temperature	Boiler / High temperature	Electric backup	Pre-heating (electric / coil)	Booster (electric)	Hot water circulation	Safety valve	Isoflex	Nanopur	VIP vacuum panels		
		400 L ø580mm	600 L ø780mm	1000 L ø1000mm	2000 L ø1300mm	3000 L ø1500mm	5000 L ø1700mm																	
<div>SYMBOLS</div> <div>Y = Possible</div> <div>N = Not possible/ not supplied</div>																								
MAXI	M	8001452	8001453	8001454	CONTACT OSO	CONTACT OSO		CONTACT OSO	Y	Y	Y	N	Y	Y	N	N	N	Y	Y	Y**	Y*	Y**		
MAXI STANDARD	MS	8001552	8001553	8001554	CONTACT OSO	CONTACT OSO		CONTACT OSO	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y**	Y*	Y**		
MAXI XPRESS	MX	8001652	8001653	8001654	CONTACT OSO	CONTACT OSO		CONTACT OSO	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y**	Y*	Y**		
MAXI COIL	MC	8001752	8001753	8001754	CONTACT OSO	CONTACT OSO		CONTACT OSO	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y**	Y*	Y**		
MAXI GEOCOIL	MGC	8001852	8001853	8001854	CONTACT OSO	CONTACT OSO		CONTACT OSO	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y**	Y*	Y**		
MAXI ACCU	MA	8001352	8001353	8001354	CONTACT OSO	CONTACT OSO		CONTACT OSO	N	Y	N	N	Y	Y	N	N	N	N	N	Y**	Y*	N		
*300/400 l. volumes only																						**600/1000 l. volumes only		

Series descriptions

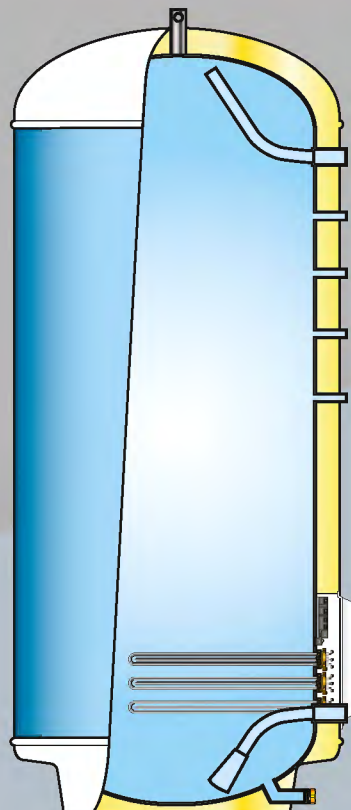
The MAXI series has shown class-leading operational durability for commercial hot water systems through the last 50 years. MAXI has been constructed with EVERLAST™ high-alloy stainless steel in combination with ULTRAWELD™ technology for optimal corrosion resistance. MAXI series can be modified according to customer requirements. OUR COMMERCIAL CYLINDERS COME WITH A 10 YEAR WARRANTY.

MAXI - M



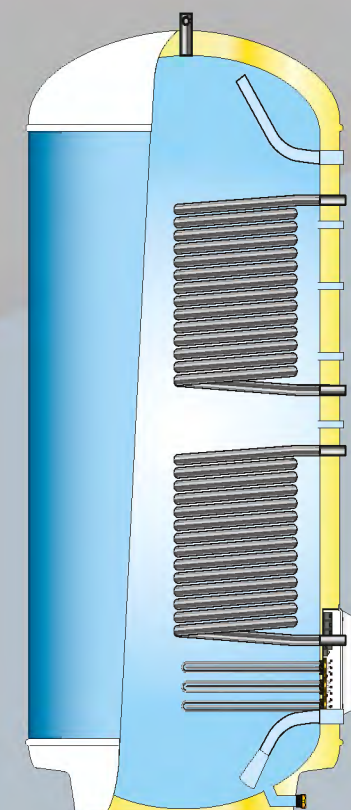
Buffer vessel without electric back-up for accumulation of DHW in larger systems

MAXI STANDARD - MS



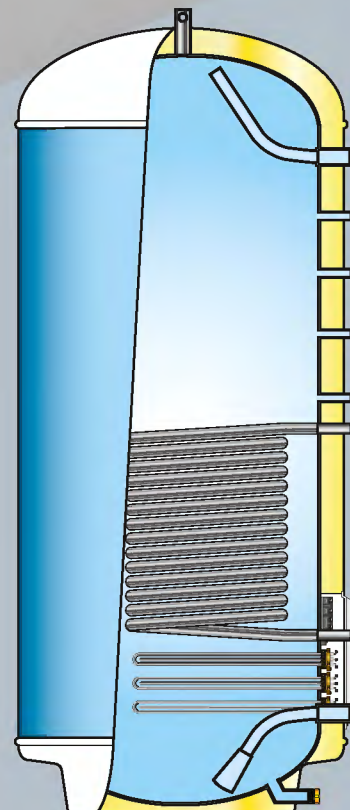
Buffer with electric heating of DHW in larger systems without contactors. Optional effect 5-15 kW.

MAXI COIL- MC



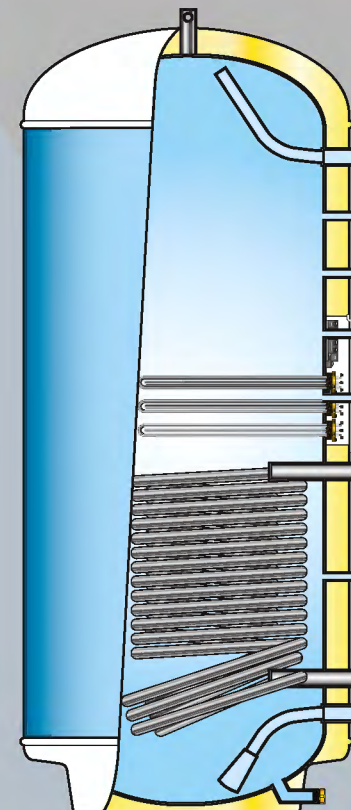
Cylinder with twin stainless steel coils for indirect heating. Electric backup available

MAXI COIL - MC



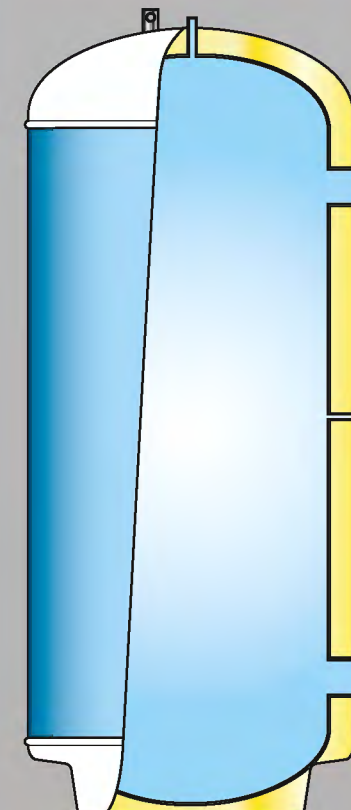
Cylinder with stainless steel coil for indirect heating from external heat source. Electric backup available

MAXI GEOCOIL - MGC



Designed especially for indirect heating with geothermal heat pump. Electric backup 5-15 kW.

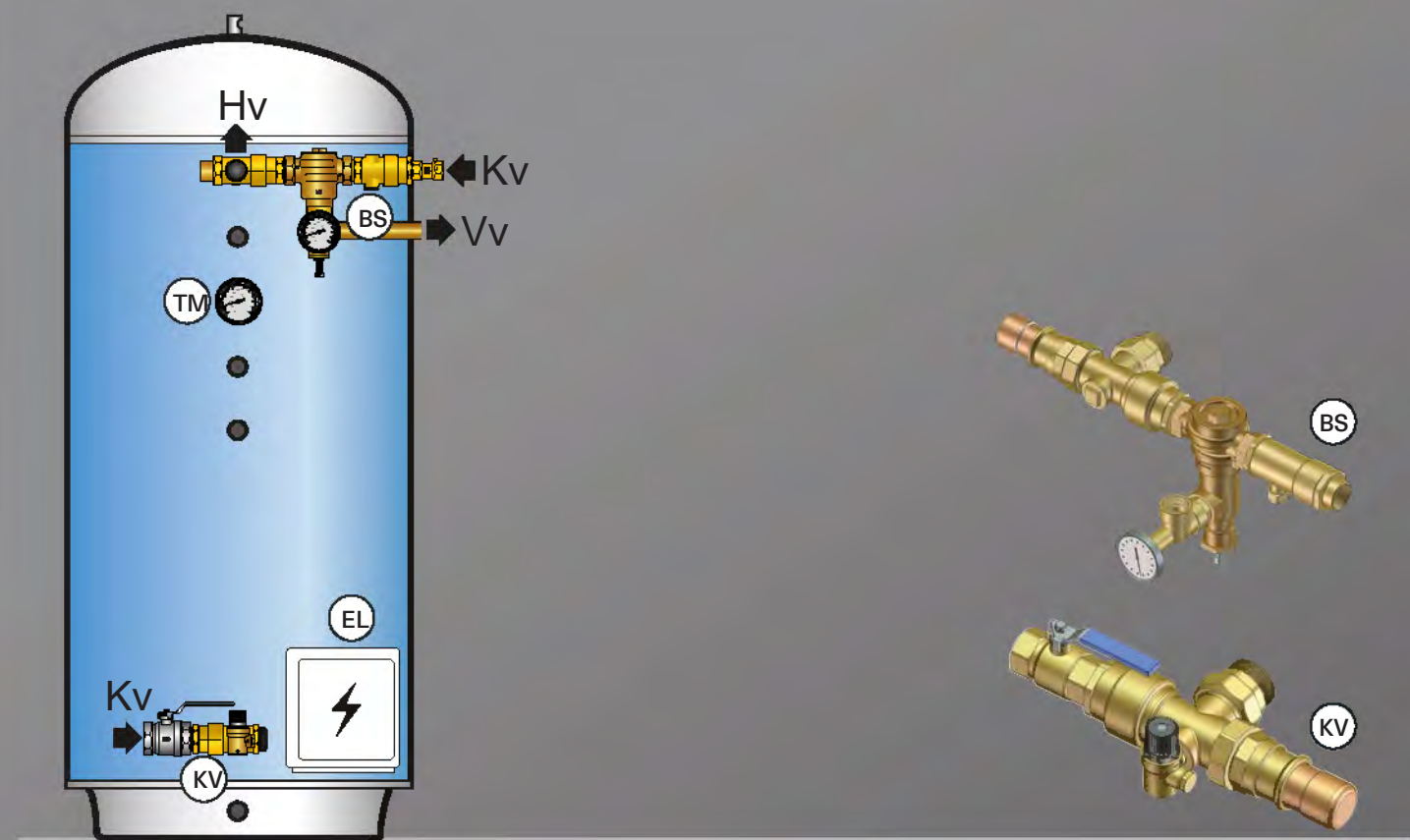
MAXI ACCU - MA



Cylinder for cold or hot water, mainly used for accumulation and water storage in cooling systems.

SINGLE INSTALLATION – M-SERIES

Instructions and kits for installation of single units



Information is relevant for OSO MAXI M, MS, MX, MC and MGC. For TURBO systems see page 36. When fitting OSO commercial units use prefabricated installation kits, see table (right). The kits can be fitted directly onto the front of the vessel as shown in illustration above. The kits are uniform for all products mentioned above, and is ordered separately.

OSO MAXI series is delivered with a standard 15 kW electric central (3x5 kW) offering adjustable effect output 2,5 - 15 kW - 230-400V 3-phase. MAXI - M is a buffer tank and is delivered without an electric central, MAXI XPRESS - MX is delivered with two 15 kW electric centrals as standard.

OSO commercial units can also be supplemented with a range of optional extras designed to enable tailoring of any system to cover special requirements, see table (right).

WHY INSTALLATION KITS?

- Optimizes the system with the necessary valves and outlets
- Ensures stable and adjustable hot water temperature to taps (BS)
- Simplifies installation, reduces installation time

TECHNICAL DATA

Prod. No.	Product code:			Prod. No.	Product code:		
801 3307	KV 1" - 3 l/s - ø42-1½" Mapress			801 3301	BS ¾" - 1,5 l/s - ø42-1½" Mapress		
801 3308	KV 1 ½" - 4 l/s - ø42-1½" Mapress			801 3302	BS 1" - 2,5 l/s - ø42-1½" Mapress		
801 3332	KV 2" - 5 l/s			801 3303	BS 1 ½" - 4 l/s - ø42-1½" Mapress		
				801 3454	BS 2" - 5 l/s		

INSTALLATION KITS

BS KIT	Valve kit with mixer valve, non return valves, thermometer, DHW outlet and hot water circulation outlet. Prepared for Mapress connection.
KV KIT	Cold water inlet kit with stop cock, non return valve and 9 bar safety valve. Prepared for Mapress connection.

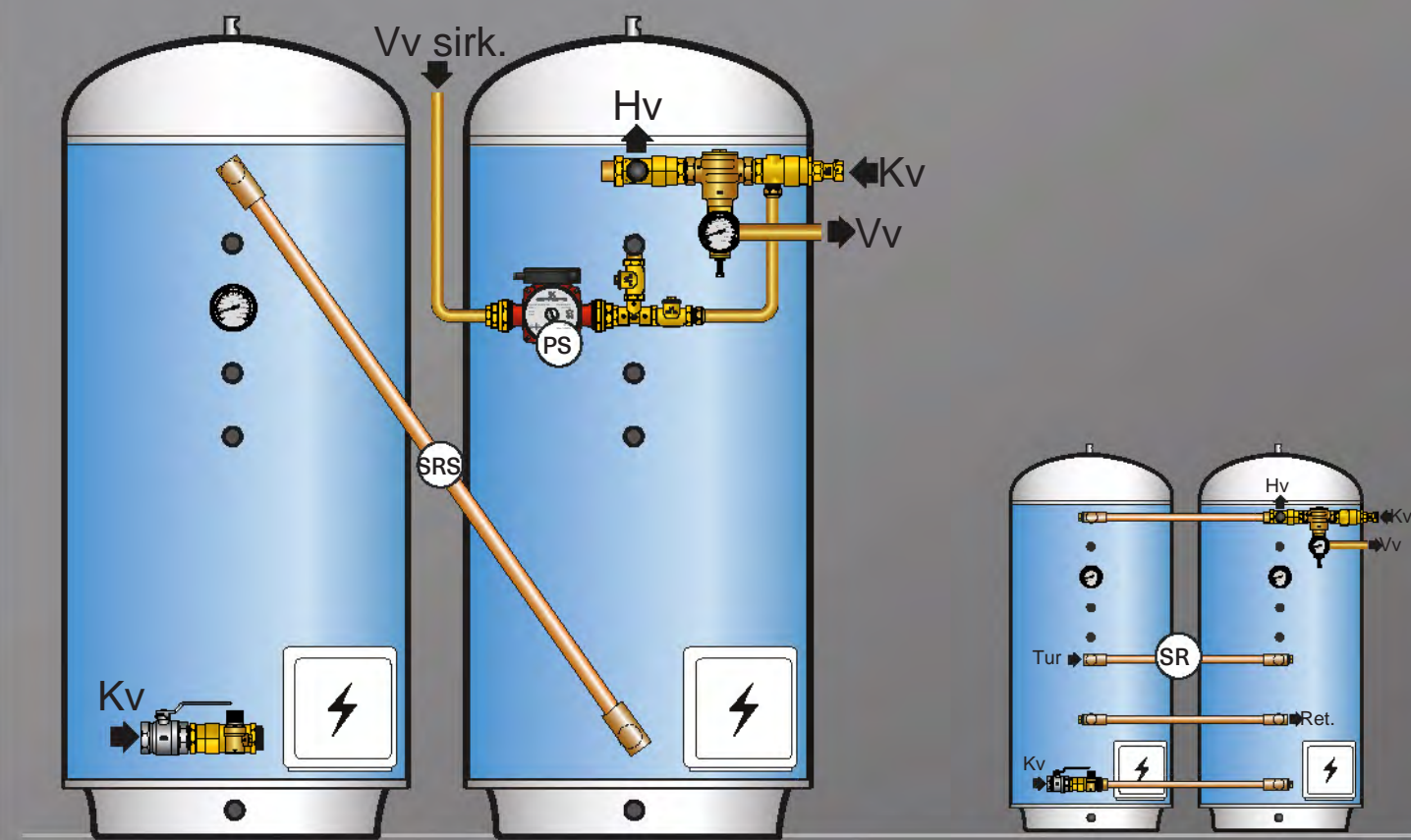
OPTIONAL EXTRAS

PS 15	Pump assembly for hot water circulation
AX EXP. VESSEL	Ex. vessel for commercial systems 60-100 L
UVX UV_SYSTEM	Water purifying system for commercial use
VK HEATER CABLE	Self adjusting, offers hot water immediately in systems where taps are located far away from boilers

See more optional extras on www.osohotwater.com

SERIAL INSTALLATION – M-SERIES

Instructions and kits for combining multiple units



OSO multi installation kits enables serial connection of identical units to increase the capacity of the system. As a bonus operational safety is increased, since the system will be able to continue delivering hot water even when one unit is being serviced. An added advantage is that the system can be expanded with additional units if hot water needs increase.

Diagonal connection (above) is the favoured and most efficient choice. Units can be fitted in a corner or back to back. Parallel connection (above right) is also possible if required. For units with built-in coil (MC, MGC) parallel connection is required.

OSO offers prefabricated SR and SRS collector pipes and other equipment for multi installation, including options for hot water circulation in systems where the taps are located far away from the boilers. See 'Installation kits' (right). It is recommended to insulate the collector pipes to reduce heat loss (insulation not included).

OSO commercial units can also be supplemented with a range of optional extras designed to enable tailoring of any system to cover special requirements, see table (right).

WHY MULTI INSTALLATION?

- Offers larger system capacity and increased operational safety
- Enables installation of larger systems where entrance space is limited (several smaller units instead of one large)

TECHNICAL DATA

Prod. No.	Product code:			Prod. No.	Product code:		
801 3311	SR 400 - Collector pipes ø42-1 ½" Mapress			801 3315	SRS 300 - Collector pipes ø42-1 ½" for serial conn.		
801 3312	SR 600 - Collector pipes ø42-1 ½" Mapress			801 3316	SRS 400 - Collector pipes ø42-1 ½" for serial conn.		
801 3313	SR 1000 - Collector pipes ø42-1 ½" Mapress			801 3317	SRS 600 - Collector pipes ø42-1 ½" for serial conn.		
801 3853	SR 2000 - Collector pipes for parallel conn. ø54			801 3318	SRS 1000 - Collector pipes ø42-1 ½" for serial conn.		

Collector pipes in other dimensions are available, contact OSO.

INSTALLATION KITS

BS KIT	Mixer valve kit, see single installation
KV KIT	Cold water inlet kit, see single installation
SR PIPES	Collector pipes for parallel connection
SRS PIPES	Collector pipes for diagonal connection

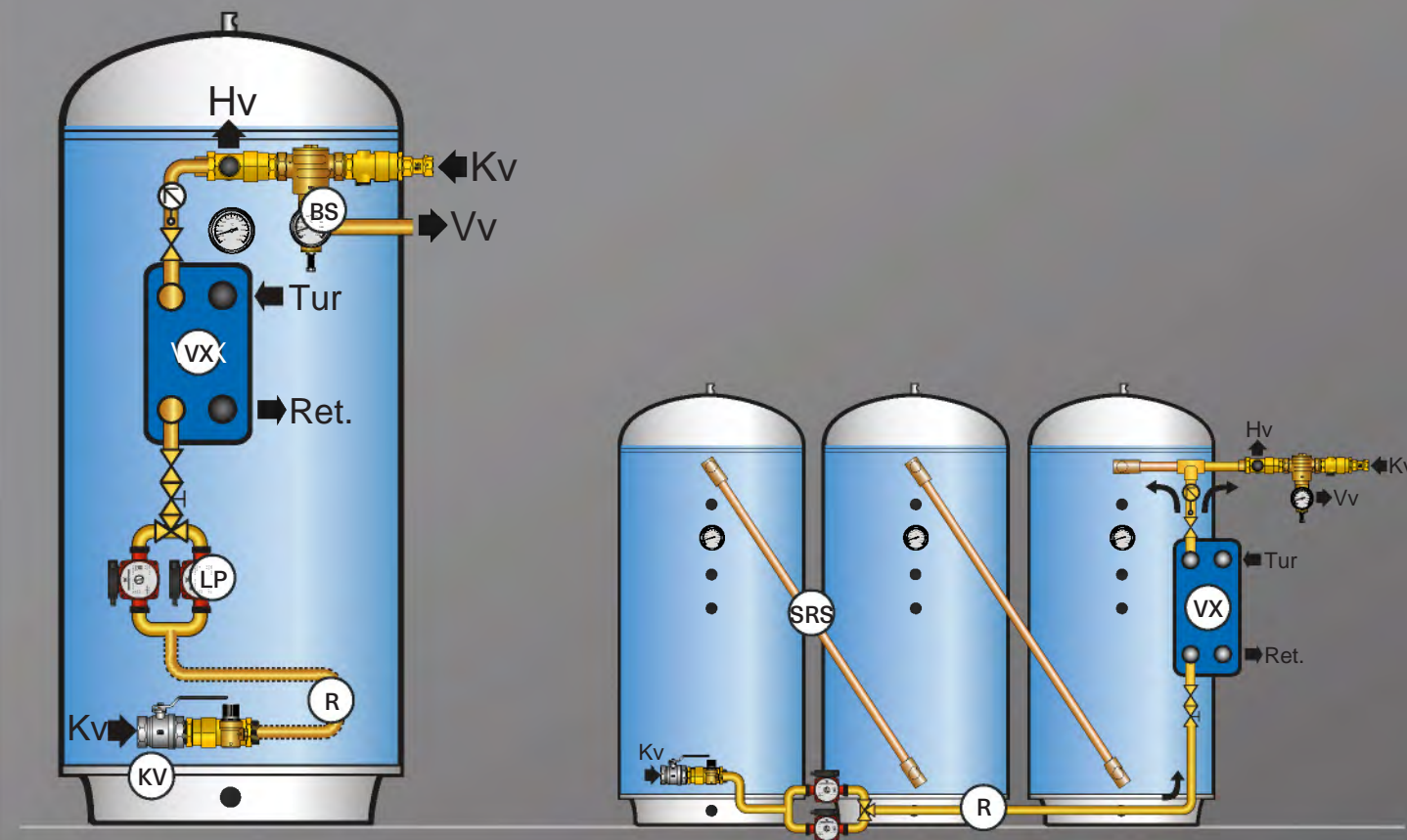
OPTIONAL EXTRAS

PS 15	Pump assembly for hot water circulation
AX EXP. VESSEL	Ex. vessel for commercial systems 60-100 L
UVX UV_SYSTEM	Water purifying system for commercial use
VK HEATER CABLE	Self adjusting, offers hot water immediately in systems where taps are located far away from boilers

See more optional extras on www.osohotwater.com

INSTALLATION – M-SERIES TURBO SYSTEM

Instructions and kits for single or serial installation



OSO TURBO SYSTEM is highly effective and is ideal for accumulation of DHW from external heat source such as high temperature boiler. The system consists of a heat exchanger (VX) which collects energy from the external heat source (calculated to spec.) and a pump assembly (LP) including dual pumps. The kit also contains throttle valve, thermometer, non return valve and stop cock. Delivered pre-assembled. Cold water feed pipe (R) is built by installer.

The TURBO SYSTEM fits onto a OSO MAXI - M accumulator, which also must be equipped with a BS and KV kit (see installation kits). The system can be expanded with multiple accumulators according to DHW requirements by using OSO SRS collector pipes, see illustration. Heat is collected from the external heat source through the heat exchanger and is accumulated in the vessels. When DHW usage is low the heat exchanger supplies water directly. When DHW usage increases water is supplied from the accumulator(s). The accumulators is loaded from the top, and offers DHW immediately after a full discharge.

DHW circulation, expansion vessel etc. is also available, see 'Optional extras'.

WHY TURBO?

- Offers optimal operating conditions for the heating system
- Flexibility in choice of heat source

TECNICAL DATA

Prod. No.	Product code:		
841 0051	VX/LP 100kW - Kit for OSO Turbo system		
841 0052	VX/LP 250kW - Kit for OSO Turbo system		
801 3494	PS Turbo - Pump assembly 1x230V		
841 0421	RS Turbo - Pipe kit for Turbo system		

Prod. No.	Product code:		
801 3315	SRS 300 - Collector pipes ø42-1 ½" for serial conn.		
801 3316	SRS 400 - Collector pipes ø42-1 ½" for serial conn.		
801 3317	SRS 600 - Collector pipes ø42-1 ½" for serial conn.		
801 3318	SRS 1000 - Collector pipes ø42-1 ½" for serial conn.		

Sets in additional dimensions is available, contact OSO.

WARRANTY CONDITIONS

1. Scope

OSO Hotwater AS (hereinafter called OSO) warrants for 2 years from the date of purchase, that the Product will: i) conform to OSO specification, ii) be free from defects in materials and workmanship, subject to conditions below. All components carry a 2-year warranty.

The warranty is voluntarily extended by OSO to 25 years for the stainless steel inner tank. This extended warranty only applies to Products purchased by a consumer, that has been installed for private use and that has been distributed by OSO or by a distributor where the Products have been originally sold by OSO. The extended warranty does not apply to Products purchased by commercial entities or for Products that have been installed for commercial use. These shall be subject only to the mandatory provisions of the law. The conditions and limitations set out below shall apply.

2. Coverage

If a defect arises and a valid claim is received within the statutory warranty period, at its option and to the extent permitted by law, OSO shall either: i) repair the defect, or; ii) replace the product with a product that is identical or similar in function, or; iii) refund the purchase price.

If a defect arises and a valid claim is received after the statutory warranty period has expired, but within the extended warranty period, OSO will supply a product that is identical or similar in function. OSO will in such cases not cover any other associated costs. In addition, for every year after the statutory warranty period, the claimant must contribute 4 % of the list price of the cylinder in question to OSO.

Any exchanged Product or component will become the legal property of OSO. Any valid claim or service does not extend the original warranty. The replacement Product or part does not carry a new warranty.

3. Conditions

The Product is manufactured to suit most public water supplies. However, there are certain water chemistries (outlined below) that can have a detrimental effect on the Product and its life expectancy. If there are uncertainties regarding water quality, the local water supply authority can supply the necessary data.

The warranty applies only if the conditions set out below are met in full:

- The Product has been installed by a professional installer, in accordance with the instructions in the installation manual and all relevant Codes of Practice and Regulations in force at the time of installation.
- The Product has not been modified in any way, tampered with or subjected to misuse and no factory fitted parts have been removed for unauthorized repair or replacement.
- The Product has only been connected to a domestic mains water supply in compliance with the European Drinking Water Directive EN 98/83 EC, or latest version. The water

should not be aggressive, i.e. the water chemistry shall comply with the following:

- Chloride < 250 mg / L
- Electric Conductivity (EC) @25°C < 750 µS / cm
- Saturation Index (LSI) @80°C > - 1,0 / < 0,8
- pH level > 6,0 / < 9,5

- The immersion heater has not been exposed to hardness levels exceeding 5°dH. A water softener is recommended in such cases.
- Any disinfection has been carried out without affecting the Product in any way whatsoever. The Product shall be isolated from any system chlorination.
- The Product has been in regular use from the date of installation. If the Product is not intended to be used for 60 days or more, it must be drained.
- Service and/or repair shall be done according to the installation manual and all relevant codes of practice. Any replacement parts used shall be original OSO spare parts.
- The Service record / Benchmark logbook has been completed and updated after each annual service. Invoices should be kept as proof of service.
- The Commissioning Checklist / Benchmark certificate has been completed at the time of installation.
- Any third-party costs associated with any claim has been authorized in advance by OSO in writing.
- The purchase invoice and/or installation invoice, a water sample as well as the defective product is made available to OSO upon request.

Failure to follow these instructions and conditions may result in product failure, and water escaping from the Product.

4. Limitations

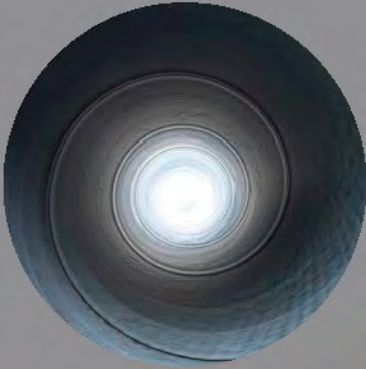
The warranty does not cover:

- Any fault or costs arising from incorrect installation, incorrect application, lack of regular maintenance in accordance with the installation manual, neglect, accidental or malicious damage, misuse, any alteration, tampering or repair carried out by a non-professional, any fault arising from the tampering with or removal of any factory fitted safety components or measures.
- Any consequential damage or any indirect loss caused by any failure or malfunction of the Product whatsoever.
- Any pipework or any equipment connected to the Product.
- The effects of frost, lightning, voltage variation, lack of water, dry boiling, excess pressure or chlorination procedures.
- The effects of stagnant (de-aerated) water if the Product has been left unused for more than 60 days consecutively.
- Damage caused during transportation. Buyer shall give the carrier notice of such damage.
- Costs arising if the Product is not immediately accessible for servicing.

These warranties do not affect the Buyer's statutory rights.

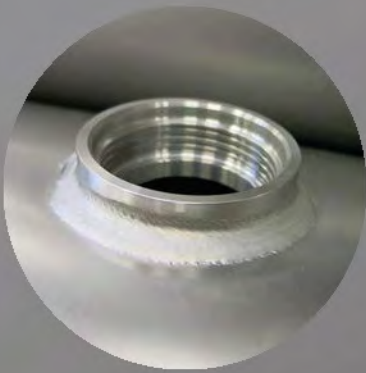
THINK FUTURE

PROCESS **BENEFITS**



UNIQUE TECHNOLOGY

We build our own processes ensuring full ownership to the technology. In-house design, building and programming of advanced machinery with robotics-, laser- and vision systems. Lean / Six Sigma philosophy and standardized process parameters ensures efficiency in manufacturing.



WELDING QUALITY

ISO 3834-2 certified (Quality requirements for fusion welding) manufacturing plant with WPS procedures supported by WPQR. Fully automated welding processes with 100 % control of key parameters in line. Minimal discoloration of HAZ post-weld. Full passivation of tanks, flushed with de-ionized water.



PROCESS CONTROL

Manufacturing in Norway has its advantages – we started automating 40 years ago. Today we're one of a few system integrators for KUKA Robotics. Automation provides us with the unique capability of implementing 100 % process control for all CTQ operations in line – without compromising efficiency.



THIRD PARTY CERTIFIED

Don't just take our word for it – independent third party certifications gives our customers peace of mind.

OHSAS 18001 (Health and Safety)

ISO 9001 (Quality)

ISO 14001 (Environment)

ISO 3834-2 (Welding)

OSO products are also certified by KIWA.