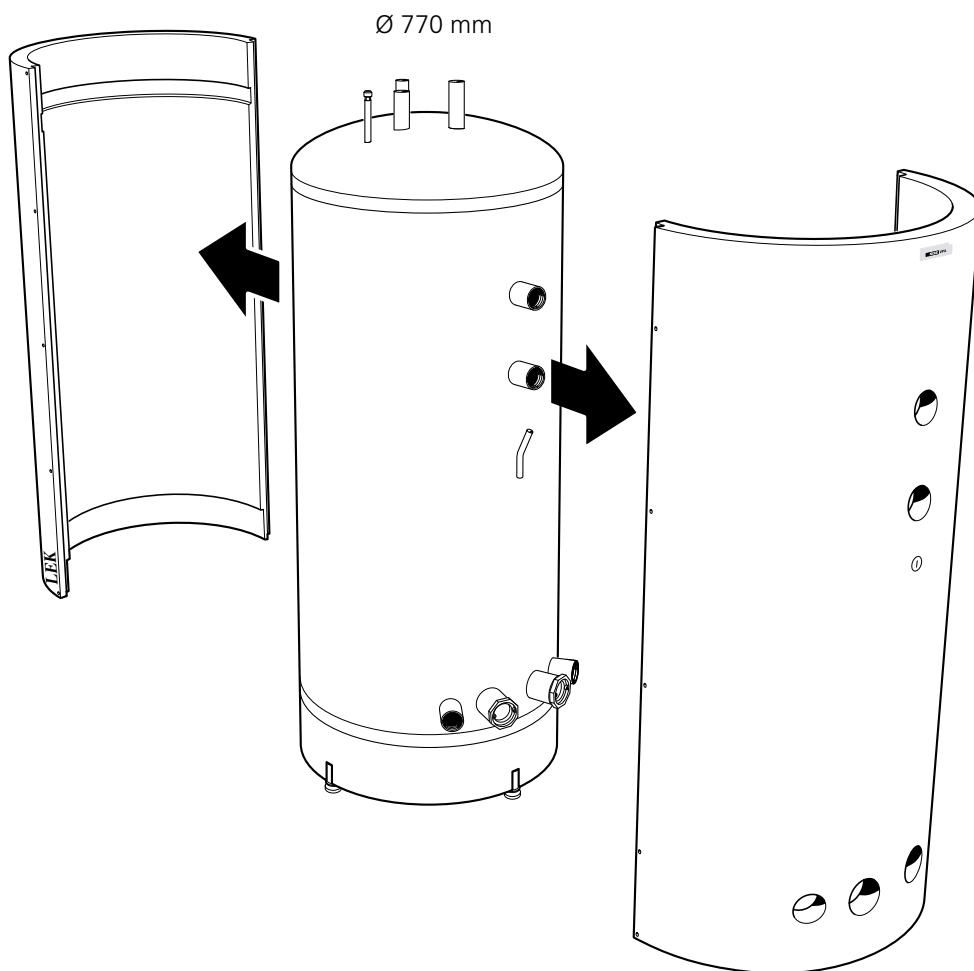
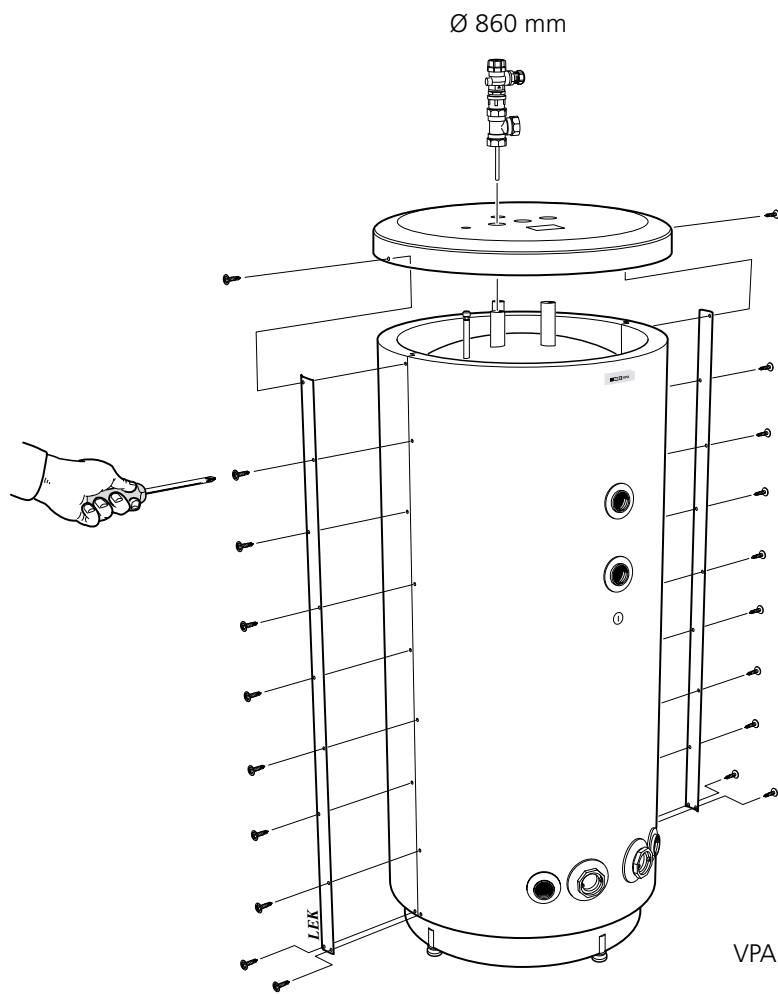




MOS GB 0836-6
VPA 450/300, 300/200
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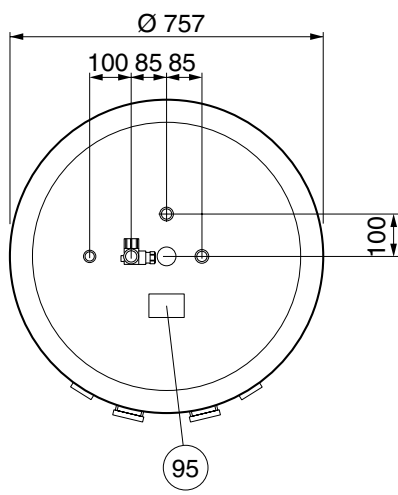
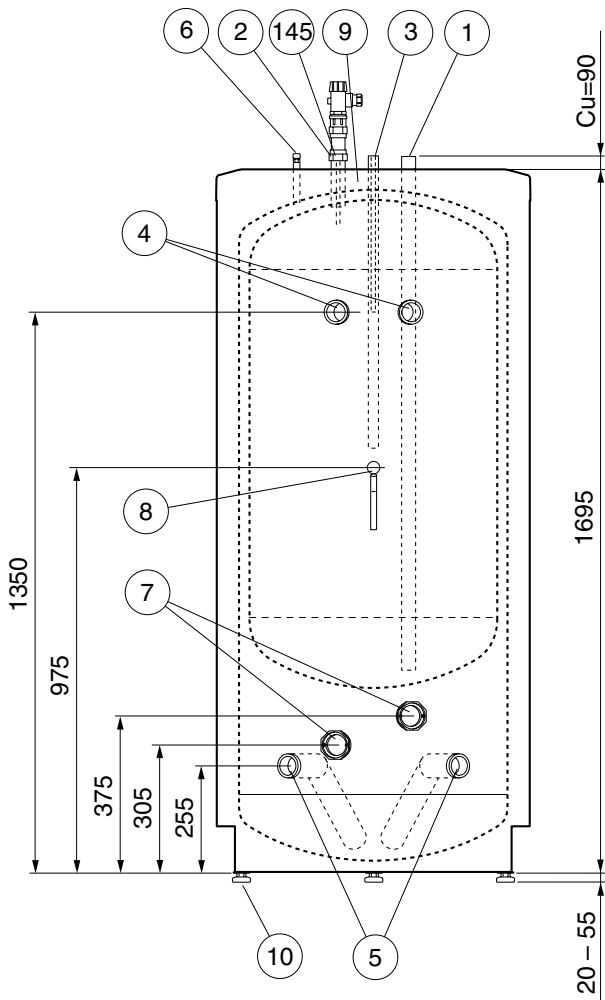
INSTALLATION AND MAINTENANCE INSTRUCTIONS
VPA 450/300, 300/200





VPA 450/300, 300/200

VPA 300/200 is illustrated



Equipment

- 1 Cold water inlet
Ø28 mm Cu-pipe
- 2 Hot water outlet
Ø28 mm Cu-pipe
- 3 Pocket tube (in enclosed kit)
Ø15 mm Cu-pipe
- 4 Docking connection, incoming from the external heat source, G11/2"
- 5 Docking connection, outgoing to the external heat source, G11/2"
- 6 Air nipple, double-jacketed space
- 7 Immersion heater connection G2"
- 8 Pocket tube (female ø11 mm), control hot water heating
- 9 Lifting eye
- 10 Adjustable feet
- 95 Serial number label
- 145 T&P-valve

Installation

The water heater is unscrewed from the pallet and lifted into position, use the lifting eye on the top if necessary.

The water heater can be made less bulky by removing the insulation, see the cover's inside ; (the diameter of the water heater without insulation is Ø 650)

- Loosen all the screws along the joining plate on both jacket halves.
- If necessary, unscrew the T&P-valve.
- Lift off the top cover.
- Pull the insulated jacket halves straight off.

Assembly takes place in the reverse order. If the screws are difficult to fit in the old holes the plate can be turned upside down, which gives new, unused holes in the insulated jacket halves.

The water heater may only be installed vertically and can be aligned using the adjustable feet (10).

Once the water heater is in the correct position, remove the lifting device from the top.

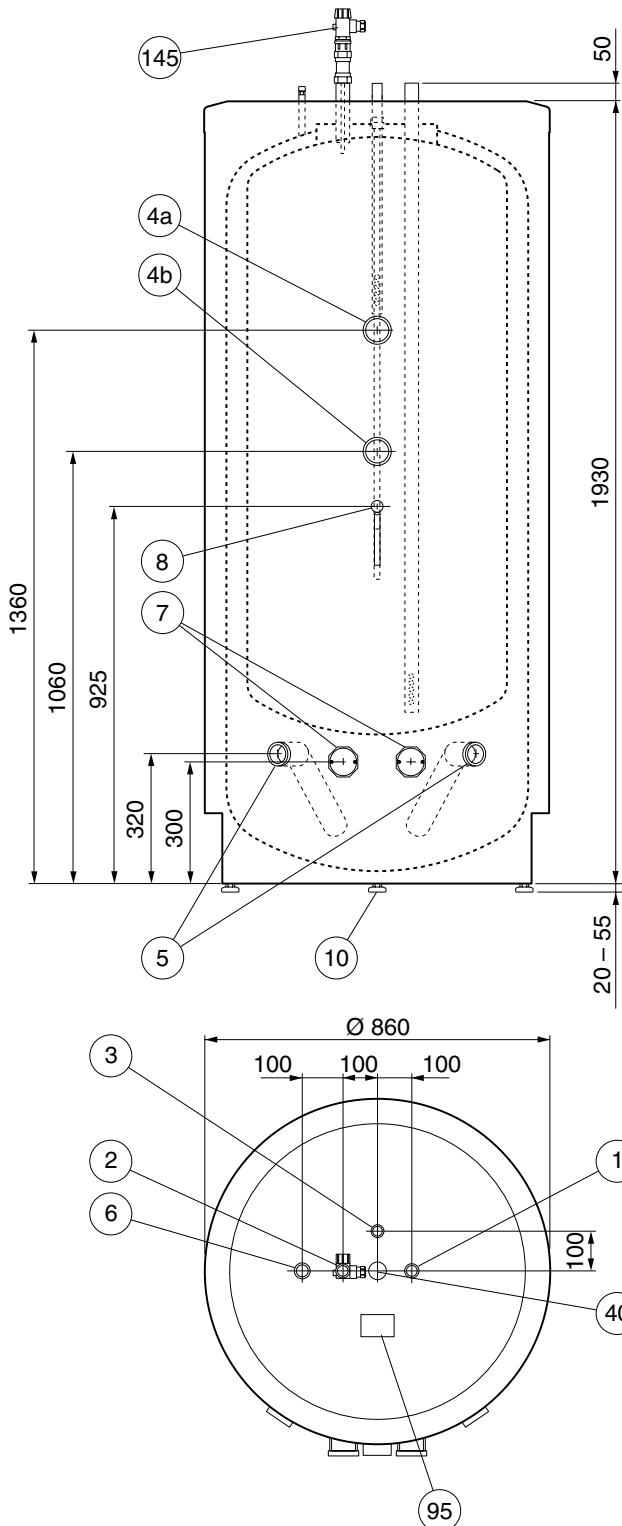
Fit the enclosed insulation plug in the hole left by the lifting eye (9). Finally fit all the enclosed cover discs on each connection by pressing them over the connections.

NOTE! Fit the cover discs before the pipe installation is made.

Hard water areas

Normally it is no problem to install VPA in hard water areas since the normal working temperature is 60°C.

VPA 450/300 is illustrated



Equipment

- 1 Cold water inlet
Ø35 mm Cu-pipe
- 2 Hot water outlet
Ø35 mm Cu-pipe
- 3 Pocket tube (in enclosed kit)
Ø22 mm Cu-pipe
- 4 Docking connection, incoming from the external heat source, G 2"
- 5 Docking connection, outgoing to the external heat source, G2"
- 6 Air nipple, double-jacketed space
- 7 Immersion heater connection G2"
- 8 Pocket tube (female ø11 mm), control hot water heating
- 10 Adjustable feet
- 40 Lifting eye
- 95 Serial number label
- 145 T&P-valve

Installation

The water heater is unscrewed from the pallet and lifted into position, use the lifting eye on the top if necessary.

The water heater can be made less bulky by removing the insulation, see the cover's inside ; (the diameter of the water heater without insulation is Ø 770)

- Loosen all the screws along the joining plate on both jacket halves.
- If necessary, unscrew the T&P-valve.
- Lift off the top cover.
- Pull the insulated jacket halves straight off.

Assembly takes place in the reverse order. If the screws are difficult to fit in the old holes the plate can be turned upside down, which gives new, unused holes in the insulated jacket halves.

The water heater may only be installed vertically and can be aligned using the adjustable feet (10).

Once the water heater is in the correct position, remove the lifting device from the top.

Fit the enclosed insulation plug in the hole left by the lifting eye (40). Finally fit all the enclosed cover discs on each connection by pressing them over the connections.

NOTE! Fit the cover discs before the pipe installation is made.

Hard water areas

Normally it is no problem to install VPA in hard water areas since the normal working temperature is 60°C.

Warning to the installer!

This installation is subject to building regulation approval, notify the local Authority of intention to install.

Warning to the installer!

Use only manufacturer's recommended replacement parts.

Pipe installation

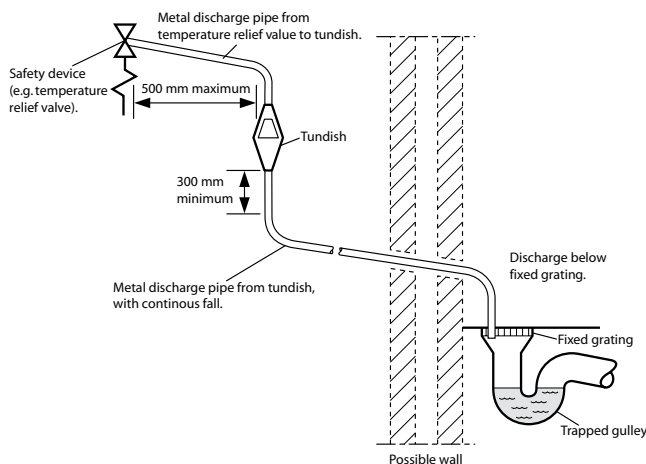
Pipe installation must be carried out in accordance with current norms and directives.

The total volume is 450 / 300 litres in the waterheater.

The pressure vessel in the VPA 450/300 and 300/200 is approved for max 9,0 bar (0,9 MPa) in the water heater and 2,5 bar (0,25 MPa) in the double shell section.

Discharge pipes from tundishes shall have an vertical section of pipe at least 300 mm long, before any elbows or bends in the pipework. See following picture.

The water heater must be fitted with the requisite valves according to applicable standards, such as a pessure relief valve, cut-off valve, non-return valve, mixing valve and vacuum valve. Copper inserts should be fitted when a plastic pipe or annealed copper pipe is used.



A discharge pipe must be routed from the pessure relief valve to a suitable drain. The size of the discharge pipe must be the same as on the pessure relief valve. The discharge pipe must be routed downwards to prevent water pockets and must be frost proof. The outlet of the discharge pipe should be visible and clearly away from any electrical components..

There's a plug on the cold water inlet valve that can be removed and there mount the flexible hose for the expansion vessel.

The water heater is equipped with two outgoing docking connections (5) to facilitate docking from the preferred side of the water heater.

A drain valve can be fitted to the G1 1/2" or G2" connection (5) (use an adapter from G1 1/2" or G2" to the required size) which is not used for docking.

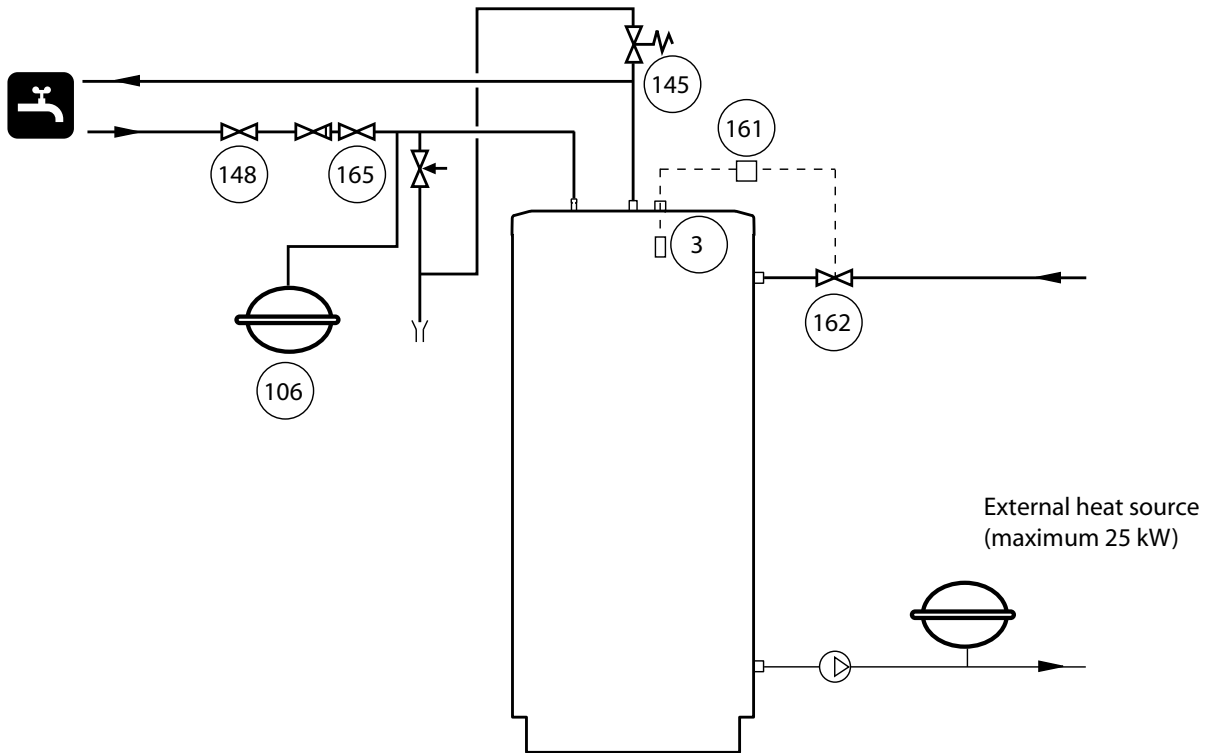
Please note that the connection of the T&P-valve should not be used for any other purpose.

No valve should be fitted between the pressure reduction valve (expansion valve) and the storage cylinder.

Table sizing of copper discharge pipe for common temperature relief valve outlet sizes

Valve outlet size	Minimum size of discharge pipe	Minimum size of discharge pipe from tundish	Maximum resistance allowed, expressed as a length of straight pipe (i.e. no elbows or bends)	Resistance created by each elbow or bend
G1 / 2	15 mm	22 mm	up to 9 m	0,8 m
G1 / 2	15 mm	28 mm	up to 18 m	1,0 m
G1 / 2	15 mm	35 mm	up to 27 m	1,4 m
G3 / 4	22 mm	28 mm	up to 9 m	1,0 m
G3 / 4	22 mm	35 mm	up to 18 m	1,4 m
G3 / 4	22 mm	42 mm	up to 27 m	1,7 m
G1	28 mm	35 mm	up to 9 m	1,4 m
G1	28 mm	42 mm	up to 18 m	1,7 m
G1	28 mm	54 mm	up to 27 m	2,3 m

Principle scheme



Filling

NOTE!

When filling up the system you have to fill up the waterheater first then the heating system.

Water heater

The water heater is filled by first opening a hot water tap in the system and then opening the cut-off valve on the incoming cold water. This valve should then be fully open during operations. When only water comes out of the hot water tap (initially an air-water mixture comes out of the tap) can the tap be shut off and the water heater is filled.

Heating system

- Connect the necessary valves to the system between the incoming cold water pipe and the heating system. Open the filling valve. The primary part of the VPA can now be filled with water.
- After a while the pressure gauge, if installed, will show rising pressure. When the pressure reaches the set pressure a mixture of air and water starts to emerge from the pressure relief valve (not supplied). The filling valves are then closed.
- Turn the pressure relief valve until the boiler pressure reaches the normal working range (0.5 - 1.5 bar).

When filling the heating system, the double-jacketed space should be vented by opening the air nipple (6) (300/200). The air nipple can be closed when water comes out of the air hole.

- Vent the heating system through the pressure relief valve and the air nipple (6) (300/200). The remainder of the heating system is vented by means of each venting valve.
- Keep topping up and venting until all air has been removed and the pressure is correct.

Cleaning the system / Flushing out of the hot water and the heating system

When the tap water and the central heating system have been filled up, the unit shall be running at maximal, normal temperature during minimum one hour. After that the systems shall be flushed out and re-filled again.

Electrical installation

VPA 300/200 can be supplemented with one or two immersion heaters. The connection size is G2" and the maximum immersion heater length is 650 mm.

Connect the temperature limiter (161) and the shut off valve (162) with 230V.

NOTE!

Electrical installation and service must be carried out under the supervision of a qualified electrician. Electrical installation and wiring must be carried out in accordance with the stipulations in force.

Emptying

Water heater

Emptying the water heater takes place through the siphon in the cold water connection (1). The hot water tap in the system can be opened and a pipe coupling on the hot water side can be loosened to provide an air supply.

Heating system

Empty the double-jacketed space through the siphon on the docking connection (5), outgoing to the external heat source. Here the air nipple (6) can be opened to supply air. The entire heating system must be taken into consideration before emptying the double-jacketed space.

Maintenance

Pressure relief valves (not supplied)

The pressure relief valve should be inspected regularly, about 4 times a year, to prevent clogging. It must be replaced if it does not work correctly.

Warning to the user!

Do not remove or adjust any component part of this unvented water heater: Contact the installer.

Warning to the user!

If this unvented water heater develops a fault, such as a flow of hot water from the discharge pipe, switch the heater off and contact the installer.

Service

Contact the main contractor when a service is necessary. You must then state the serial number (95) 14 digits.

Note to the installer!

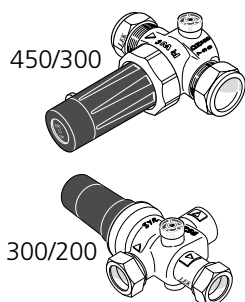
Please ensure that the manual is left with the householder when installation is complete

Warning to the installer!

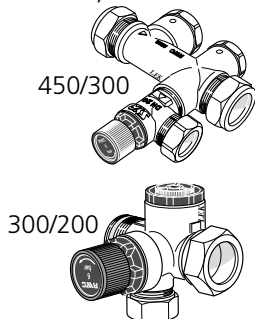
If immersion heaters are installed, please ensure that thermal cut-out are also installed

Enclosed kit

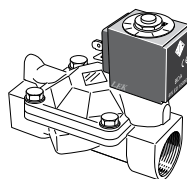
Pressure reduction valve (148)



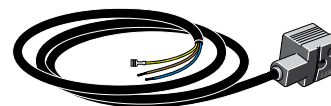
Cold water inlet and pressure relief valve, water heater (165)



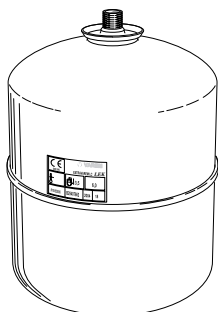
Shut off valve (162)



Plug with cable



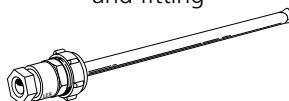
Expansion vessel (106)



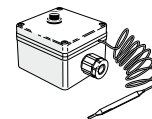
Tundish (108)



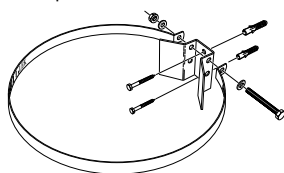
Pocket tube (3) and fitting



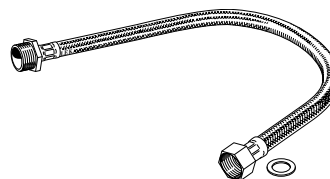
Temperature limiter (161)



Bracket (Expansion vessel)



Flexible hose (Expansion vessel)



Technical specifications

Type		VPA 450 / 300	VPA 300 / 200
Maximum water supply pressure	bar	16	
Operating pressure, tap water	bar	6	
Expansion vessel, tap water, charge pressure	bar	3,5	
Pressure reduction valve, setting	bar	3,5	
Volume, water heater	litres	450	285
Mass, unit, filled with water	kg	1010	660
Maximum primary working pressure (heating side)	bar	2,5	
Set opening pressure of T&P-valve	bar	7	
Set opening pressure expansion valve	bar	6	
Set opening, temperature limiter	°C	80	
Heating up time from 15°C to stop temperature, 25 kW power	...h ...min	2 h 55 min	1 h 54 min
Re-heating time, 70 % of total volume, 25 kW power	...h ...min	1 h 18 min	51 min
Maximum power supply	kW	25	
Discharge capacity of T&P-valve	kW	25	
Part No		088 662	088 712





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