THERMOSTATIC UNITS

CIRCULATION SET
SERIES VTR300, VTR500

The ESBE circulation set series VTR300 and VTR500 offers an easy installation of HWC (hot water circulation). With non-return valves and all needed connections included, the installer can rest assured that the installation is made not only faster but also with guaranteed performance. The VTR300 and VTR500 comes with a custom tailored insulation shell to prevent any unnecessary heat losses, especially important in HWC systems.



VTR300
External thread



VTR500
External thread

OPERATION

The Circulation Set offers instantly available hot water, scald protection and comfort in a compact and efficient way. Using only thermostatic components (non-electrical) the unit is completely independent and provides very easy installation, with connections and check valves included.

If a hot water circulation system is not properly insulated, energy may be lost as heat radiation occurs continuously from uninsulated pipes and fittings. VTR300/VTR500 comes with an insulation that is easy to assemble and which can be opened and re-assembled without loss of function.

Insulation is also a safety feature to prevent burn injuries.

FUNCTION

To get access to hot-water at a tap without waiting, an HWC-pipe with circulation pump should be installed and each tap connected to the HWC-pipe. The recirculation can be built up in several different ways where the challenge is to ensure that the correct temperature is available at the tap without losing energy. If the system is installed incorrectly the stratification in the accumulation tank can be lost.

To simplify for the installer to make the installation correctly the ESBE VTR300/VTR500 has all components needed included. Just connect the Circulation Set to the tank and the HWC-circuit.

MEDIA

This product is designed to be used in Fresh water / Potable water systems.

VALVES ARE DESIGNED FOR

	Temperature range					
Series	20 – 43°C	30 – 70°C	35 – 60°C	45 – 65°C	50 – 75°C	Application
VTR320			●	●	●	Potable water, in line
VTR520				●	●	
VTR320						Potable water, point of use
VTR520						
VTR320				●	●	Solar heating*
VTR520				●	●	
VTR320						Cooling
VTR520						
VTR320						Floor heating
VTR520						

● recommended ○ secondary alternative *continuous circulation required

TECHNICAL DATA

Pressure class: PN 10
Working pressure: 1,0 MPa (10 bar)
Differential pressure: Mixing, max. 0,3 MPa (3 bar)
Media temperature: max. 95°C
Temperature stability – VTR300: ± 2°C*
– VTR500: ± 4°C**
Connection: External thread (R), EN 10226-1

* Valid at unchanged hot/cold water pressure, minimum flow rate 4 l/min. Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

** Valid at unchanged hot/cold water pressure, minimum flow rate 9 l/min. Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

Material

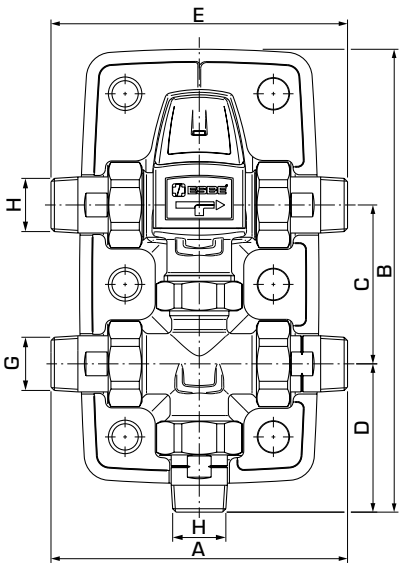
Valve housing and other metal parts with fluid contact:
Dezincification resistant brass, DZR

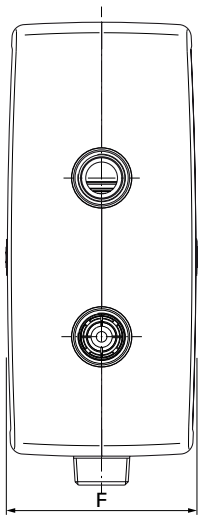
PED 2014/68/EU, article 4.3

Pressure Equipment in conformity with PED 2014/68/EU, article 4.3 (sound engineering practice). According to the directive the equipment shall not carry any CE mark.

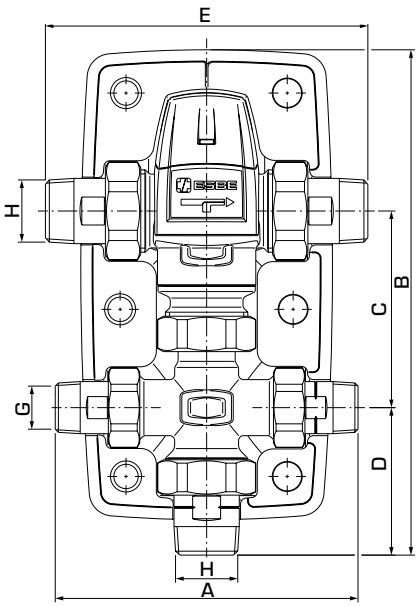
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CIRCULATION SET
SERIES VTR300, VTR500





VTR320



VTR520

SERIES VTR320, EXTERNAL THREAD

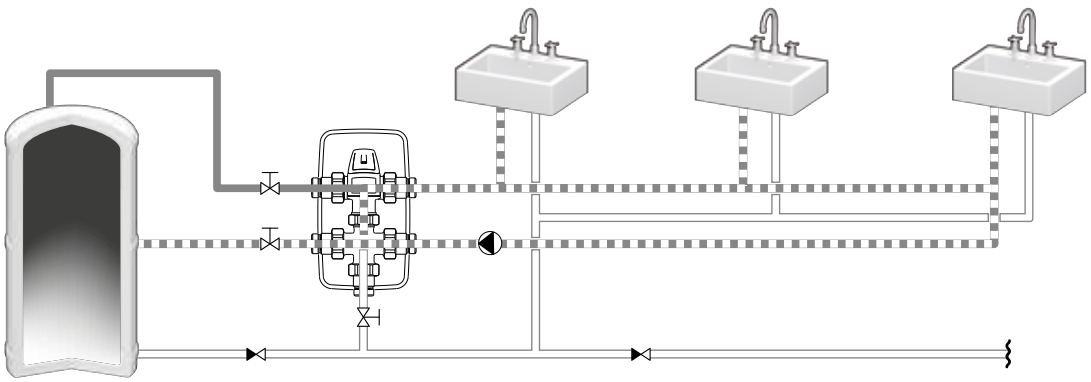
Art. No.	Reference	Temp. range	Kvs*	Connection		A	B	C	D	E	F	Weight [kg]	Note
				G	H								
31400100	VTR322	35-60°C	1,6	R ¾"	R ¾"	140	219	75	70	140	90	1,45	
31400200		45-65°C											
31400300		50-75°C											

SERIES VTR520, EXTERNAL THREAD

Art. No.	Reference	Temp. range	Kvs*	Connection		A	B	C	D	E	F	Weight [kg]	Note
				G	H								
31400400	VTR522	45-65°C	3,5	R ¾"	R 1"	154	257	100	75	164	100	2,2	
31400500		50-75°C											

* Kvs-value in m^3/h at a pressure drop of 1 bar.

INSTALLATION EXAMPLES



The shown applications are only examples of product use!
Before using the product in any application, the regional and national regulations need to be checked.

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CIRCULATION SET
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DIMENSIONING OF DOMESTIC WATER APPLICATIONS

The Circulation Set can be dimensioned according to the number of households in the house or the number of showers in, for example sports centers.

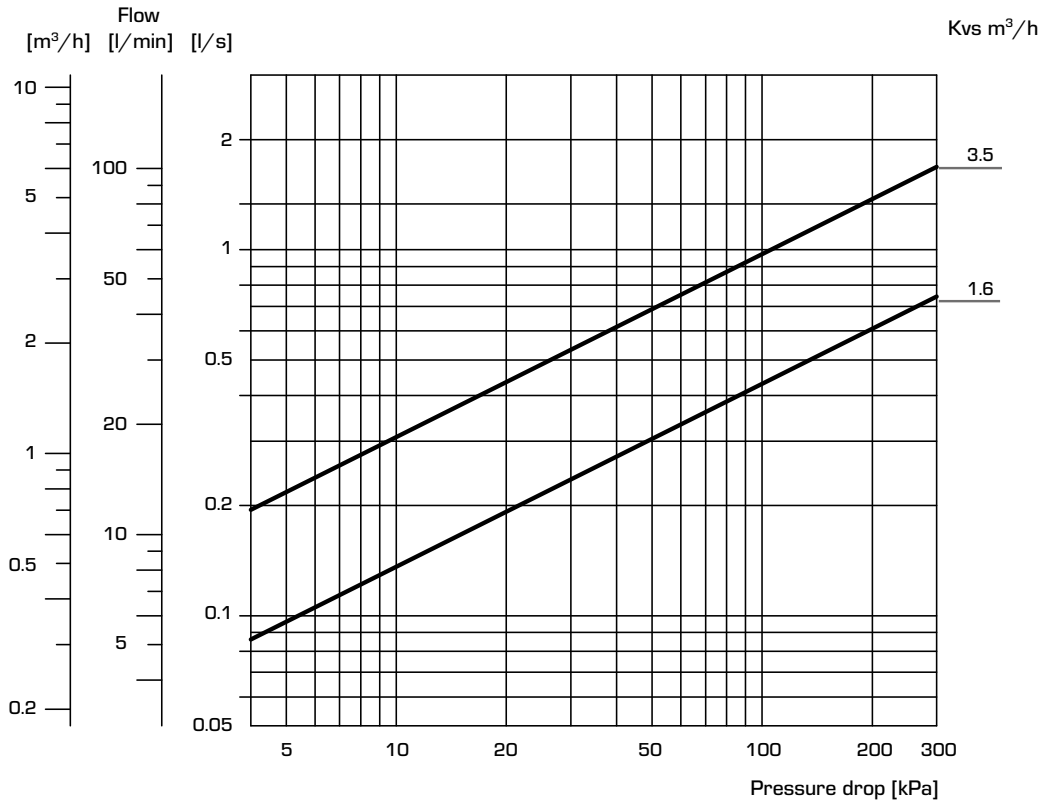
RECOMMENDED KVS-VALUES

Kvs	Typical households [1] Quantity*
1.6	2
3.5	6

* Number of households in the house or the number of showers in, for example sports centers.

1) A typical household consist of bath, shower, kitchen sink and washbasin with a design flow evaluated from probability curve with a supply pressure >300kPa (3 bar)

CAPACITY DIAGRAM



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