VIESMANN

VITOCELL 140-E/160-E

Cylinder for storing heating water
400 to 950 litre capacity

Datasheet

Part no. and prices: See pricelist

750/950 l

750/950 l

- For storing heating water in conjunction with solar thermal systems, heat pumps and solid fuel boilers
- With internal indirect coil for connection to solar collectors
- Vitocell 160-E also available with stratification system

VITOCELL 140-E

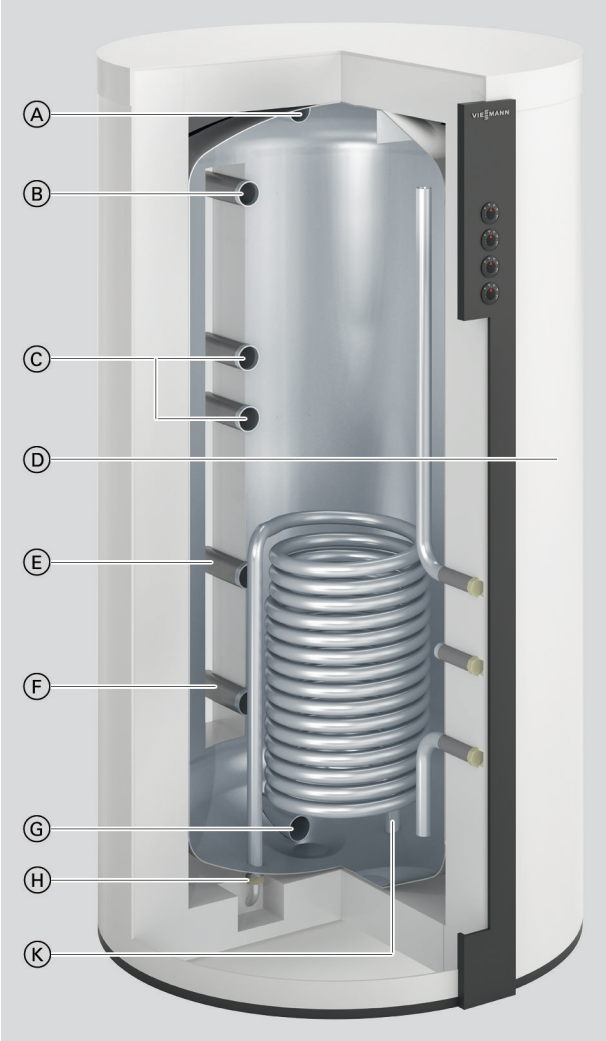
Vitopearlwhite
400 l, type SEIA, with Solar-Divicon
600 l, type SEIC
750 l, type SEIC
950 l, type SEIC
Vitosilver
600 l, type SEIC
750 l, type SEIC
950 l, type SEIC
Vitographite
600 l, type SEIC
750 l, type SEIC
950 l, type SEIC

VITOCELL 160-E

Vitopearlwhite
750 l, type SESB
950 l, type SESB
Vitosilver
750 l, type SESB
950 l, type SESB
Vitographite
750 l, type SESB
950 l, type SESB

Benefits

Type SEIC 750 l



Ⓐ Heating water flow 1/air vent valve
Ⓑ Heating water flow 2
Ⓒ Heating water flow 3/heating water return 1
Ⓓ Installed location of immersion heater EHE (accessory)
Ⓔ Heating water return 2
Ⓕ Heating water return 3
Ⓖ Heating water return 4/drain outlet
Ⓗ Heating water flow/solar thermal system air vent valve
Ⓚ Heating water return/solar thermal system drain outlet

- Versatile application in heating systems with several heat generators and heat consumers, thanks to multiple flow and return connections, plus additional connections for test points. Particularly suitable in conjunction with solar thermal systems, heat pumps and solid fuel boilers
- Low heat losses due to high grade, all-round thermal insulation
- Vitotrans 353 freshwater module available as an accessory for mounting on the cylinder, for hygienic DHW heating in accordance with the instantaneous water heating principle
- Pump module for the collector circuit (Solar-Divicon with connection set) for straightforward mounting on the cylinder is available as an accessory (included in standard delivery for the Vitocell 140-E with 400 l capacity)
- Vitocell 160-E also available with stratification system

Delivered condition

Type SEIA

Heating water buffer cylinder with **400 l** capacity:
- Removable thermal insulation
- Polystyrene casing: Vitopearlwhite
- Adjustable feet
- Steel cylinder with internal indirect coil for connecting to solar collectors
- 3 welded sensor wells for cylinder temperature sensor or temperature controller
- 1 clamping bracket for thermometer sensor or additional temperature sensors
- Solar-Divicon with variable speed high efficiency circulation pump and connection set

Type SEIC

Heating water buffer cylinder with **600, 750 and 950 l** capacity:
- Removable thermal insulation
- Polystyrene casing: Vitopearlwhite, Vitosilver or Vitographite
- Adjustable feet
- Steel cylinder with internal indirect coil and stratification system for connecting to solar collectors
- 5 clamping devices for securing immersion temperature sensors to the cylinder jacket, each with fixing points for 3 immersion temperature sensors
- 3 clamping bracket for thermometer sensor or additional temperature sensors
- Solar air vent valve

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Benefits (cont.)

Type SESB

Heating water buffer cylinder with **750 and 950 l** capacity:
- Removable thermal insulation
- Polystyrene casing: Vitopearlwhite, Vitosilver or Vitographite
- Adjustable feet
- Steel cylinder with internal indirect coil and stratification system for connecting to solar collectors
- 5 clamping devices for securing immersion temperature sensors to the cylinder jacket, each with fixing points for 3 immersion temperature sensors
- 3 clamping bracket for thermometer sensor or additional temperature sensors
- Solar air vent valve

Specification

Sizing entry points
The actual dimensions of the DHW cylinder may vary slightly due to manufacturing tolerances.

Specification

Type		**SEIA**	**SEIC**			**SESB**	
Cylinder capacity (AT: Actual water capacity)	**l**	**400**	**600**	**750**	**950**	**750**	**950**
Solar indirect coil capacity	l	10.5	12	12	14	12	14
Heating water capacity	l	389.5	588	738	936	738	936
DIN registration number		Applied for	9W264E			9W265E	
Permissible temperatures							
– Heating water side	°C		110			110	
– Solar side	°C		140			140	
Permissible operating pressure							
– Heating water side	bar		3			3	
	MPa		0.3			0.3	
– Solar side	bar		10			10	
	MPa		1.0			1.0	
Dimensions							
Length a (∅)							
– Incl. thermal insulation	mm	859	1064	1064	1064	1064	1064
– Excl. thermal insulation	mm	650	790	790	790	790	790
Width b							
– Incl. thermal insulation	mm	1089	1119	1119	1119	1119	1119
– Excl. thermal insulation	mm	863	1042	1042	1042	1042	1042
Height c							
– Incl. thermal insulation	mm	1617	1645	1900	2200	1900	2200
– Excl. thermal insulation	mm	1506	1520	1814	2120	1814	2120
Height when tilted							
– Excl. thermal insulation and adjustable feet	mm	1550	1630	1890	2195	1890	2195
Weight							
– Incl. thermal insulation	kg	154	135	159	182	168	193
– Excl. thermal insulation	kg	137	112	131	150	140	161
Connections (male thread)							
Heating water flow and return	R	1¼	2	2	2	2	2
Heating water flow and return (solar)	G	1	1	1	1	1	1
Solar indirect coil							
Heating surface	m^2	1.5	1.8	1.8	2.1	1.8	2.1
Standby heat loss	kWh/24 h	1.80	2.10	2.25	2.45	2.25	2.45
Standby capacity V_{aux}	l	210	230	380	453	380	453
Solar capacity V_{sol}	l	190	370	370	497	370	497
Energy efficiency class		B	—	—	—	—	—
Colour							
– Vitosilver		—	X	X	X	X	X
– Vitopearlwhite		X	X	X	X	X	X
– Vitographite		—	X	X	X	X	X

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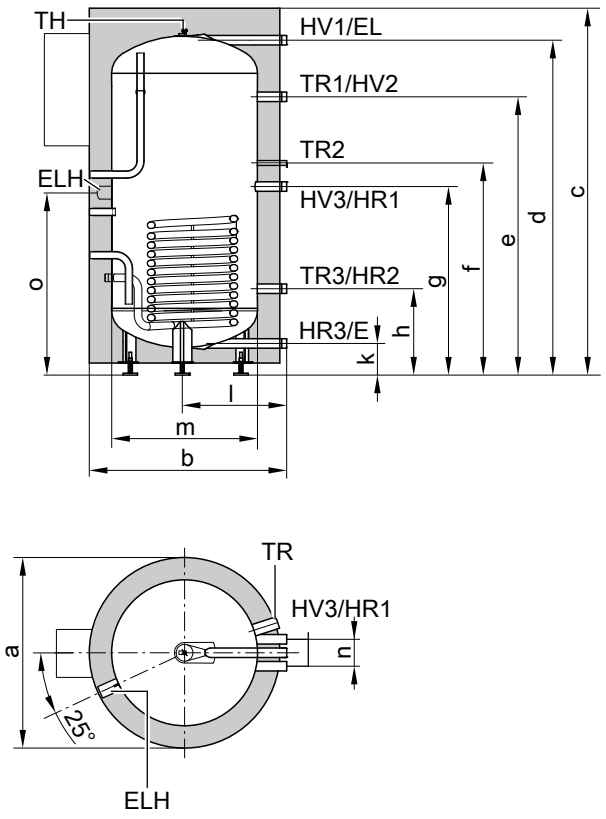
Specification (cont.)

Measurements, type SEIA, 400 l capacity

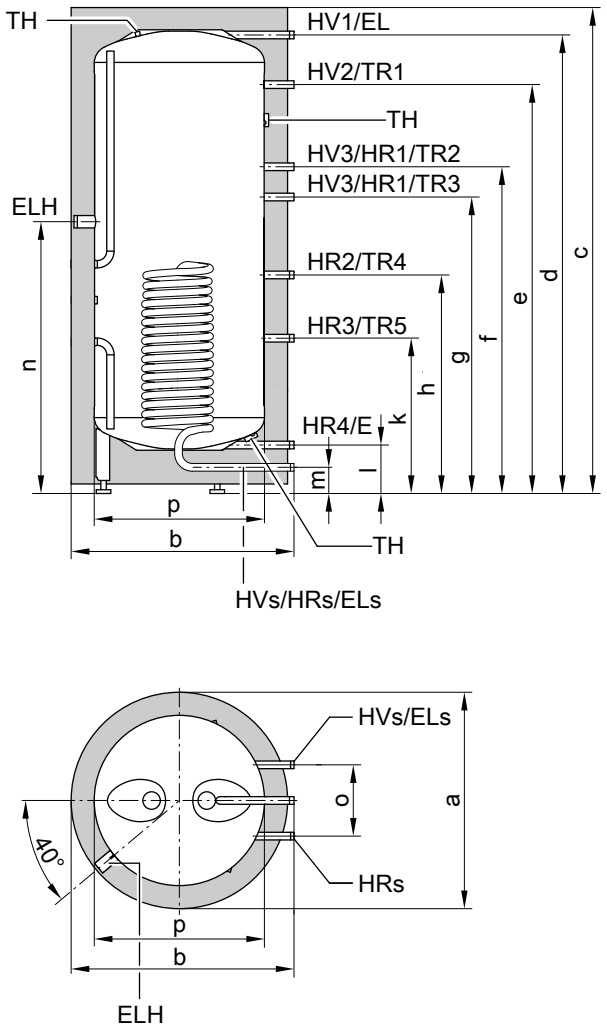


E Drain
EL Air vent valve
HR Heating water return
HV Heating water flow
TH Retainer for thermometer sensor or additional sensor (clamping bracket)
TR Sensor well for cylinder temperature sensor/temperature controller (internal diameter 16 mm)
ELH Female connection for immersion heater EHE (Rp 1½)

Dimensions, type SEIA

Cylinder capacity		**l**	**400**
Length (∅)	a	mm	859
Width			
– Without Solar-Divicon	b	mm	898
– With Solar-Divicon	b	mm	1089
Height	c	mm	1617
	d	mm	1458
	e	mm	1206
	f	mm	911
	g	mm	806
	h	mm	351
	k	mm	107
	l	mm	455
∅ excl. thermal insulation	m	mm	∅ 650
	n	mm	120
	o	mm	785

Measurements, type SEIC, 600, 750 and 950 l capacity



E Drain
EL Air vent valve
EL_s Solar indirect coil, air vent valve
ELH Female connection for immersion heater EHE (Rp 1½)
HR Heating water return
HR_s Heating water return, solar thermal system
HV Heating water flow
HV_s Heating water flow, solar thermal system
TH Retainer for thermometer sensor or additional sensor (clamping bracket)
TR Clamping device for securing immersion temperature sensors to the cylinder jacket, with fixing points for 3 immersion temperature sensors per clamping device

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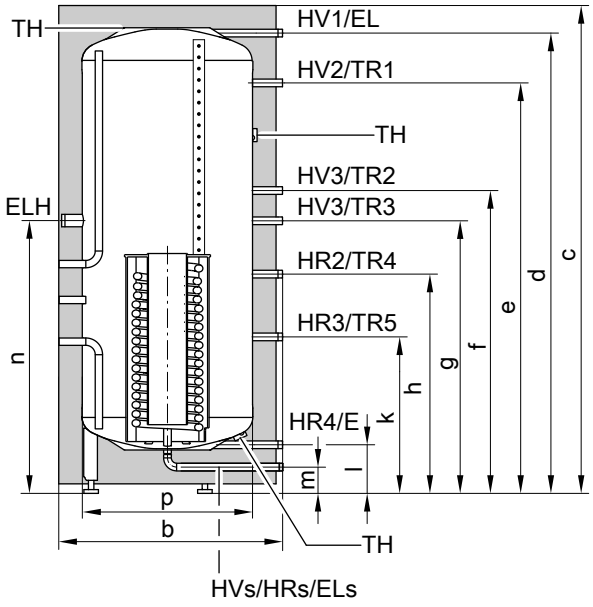
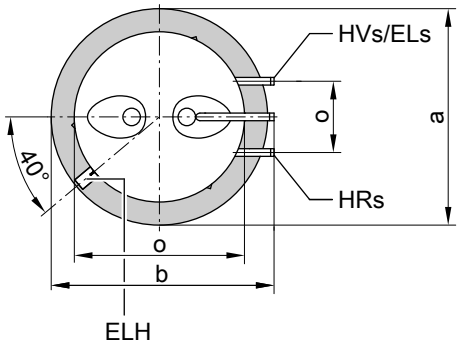
Specification (cont.)

Dimensions, type SEIC

Cylinder capacity		l	600	750	950
Length (∅)	a	mm	1064	1064	1064
Width	b	mm	1119	1119	1119
Height	c	mm	1645	1900	2200
	d	mm	1497	1777	2083
	e	mm	1296	1559	1864
	f	mm	926	1180	1300
	g	mm	785	1039	1159
	h	mm	598	676	752
	k	mm	355	386	386
	l	mm	155	155	155
	m	mm	75	75	75
	n	mm	910	1010	1033
	o	mm	370	370	370
Length (∅) excl. thermal insulation	p	mm	790	790	790

Measurements, type SESB, 750 and 950 l capacity





E Drain
EL Air vent valve

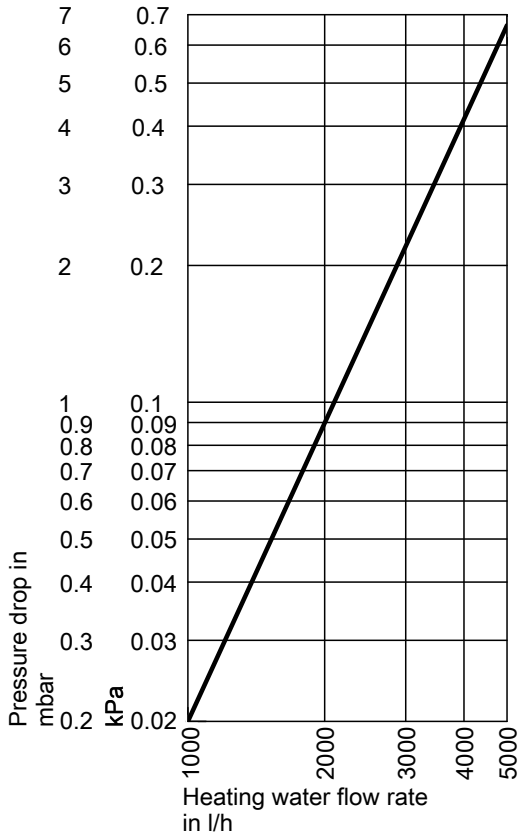
EL_s Solar indirect coil, air vent valve
ELH Female connection for immersion heater EHE (Rp 1½)
HR Heating water return
HR_s Heating water return, solar thermal system
HV Heating water flow
HV_s Heating water flow, solar thermal system
TH Retainer for thermometer sensor or additional sensor (clamping bracket)
TR Clamping device for securing immersion temperature sensors to the cylinder jacket, with fixing points for 3 immersion temperature sensors per clamping device

Specification (cont.)

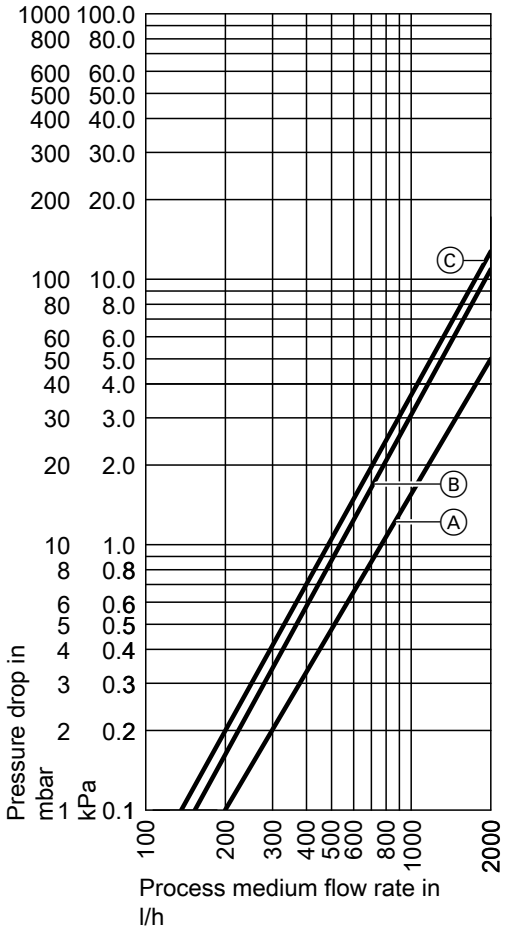
Dimensions, type SESB

Cylinder capacity		l	750	950
Length (∅)	a	mm	1064	1064
Width	b	mm	1119	1119
Height	c	mm	1900	2200
	d	mm	1777	2083
	e	mm	1559	1864
	f	mm	1180	1300
	g	mm	1039	1159
	h	mm	676	752
	k	mm	386	386
	l	mm	155	155
	m	mm	75	75
	n	mm	1010	1033
	o	mm	370	370
Length (∅) excl. thermal insulation	p	mm	790	790

Pressure drop on the heating water side



Pressure drop on the solar side



Ⓐ Cylinder capacity 400 l
Ⓑ Cylinder capacity 600 and 750 l
Ⓒ Cylinder capacity 950 l

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Design information

Immersion heater

When using third party products, the threaded immersion heater must have an unheated length of at least 130 mm. The immersion heater must be suitable for use in enamelled DHW cylinders.

Intended use

The appliance is intended to be installed and operated only in sealed unvented systems that comply with EN 12828 / DIN 1988, or solar thermal systems that comply with EN 12977, with due attention paid to the associated installation, service and operating instructions. DHW cylinders are designed to store and heat only water of potable quality. Heating water buffer cylinders are designed to hold only water of potable quality.
If using the Vitotrans 353: The Vitotrans 353 is intended exclusively for potable water quality according to our specifications in the Viessmann brochure "TopTechnik Vitotrans 353 freshwater modules".

Operate solar collectors only with heat transfer medium approved by the manufacturer.

Intended use presupposes that a fixed installation in conjunction with permissible, system-specific components has been carried out.

Commercial or industrial usage for purposes other than heating a building or DHW shall be deemed inappropriate.

Any usage beyond this must be approved by the manufacturer in each individual case.

Incorrect usage or operation of the appliance (e.g. the appliance being opened by the system user) is prohibited and results in an exclusion of liability.

Incorrect usage also applies if the components in the system are modified from their intended use (e.g. through direct DHW heating in the collector).

Adhere to statutory regulations, especially concerning the hygiene of potable water.

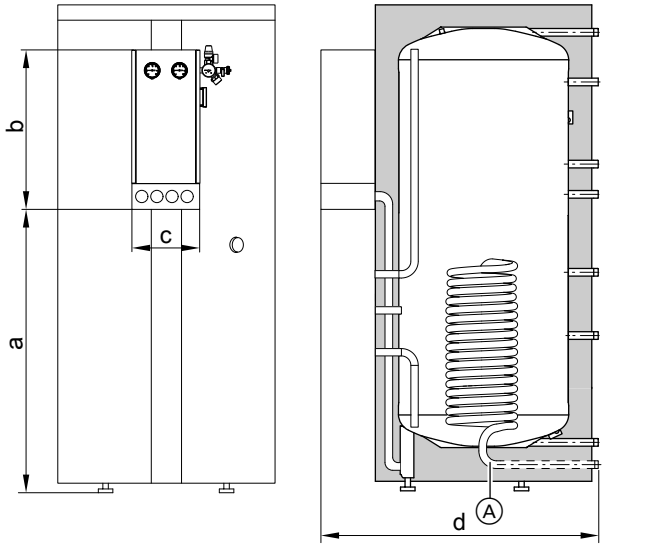
Accessories

Solar-Divicon with connection set

- **Part no. Z021905**
  With SDIO/SM1A electronics module
- **Part no. Z021906**
  With Vitosolic 100, type SD1
- **Part no. Z021907**
  Without solar control unit

Note
Included in the standard delivery for Vitocell 140-E, 400 l

Fully fitted set for connection to the solar side of the solar indirect coil in the heating water buffer cylinder:
- Solar-Divicon, type PS 10 (pump module for collector circuit) for mounting on the cylinder with a variable speed high efficiency circulation pump
- Pre-assembled pipework with fittings for connection to the Vitocell
- Versions with SDIO/SM1A electronics module, with Vitosolic 100, type SD1 or without solar controller



To mount the Solar-Divicon, pipe bends Ⓐ are turned towards the front of the heating water buffer cylinder.

Table of dimensions

Cylinder capacity	**l**	**400**	**600**	**750**	**950**
a	mm	960	960	960	960
b	mm	580	580	580	580
c	mm	250	250	250	250
d	mm	1089	1250	1250	1250
Weight of Solar-Divicon	kg	7	7	7	7

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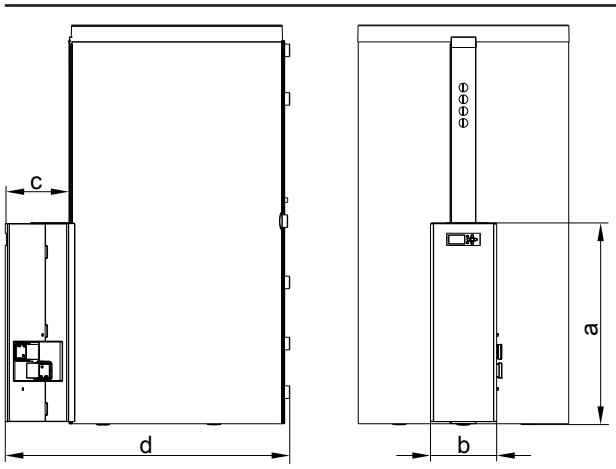
Accessories (cont.)

Vitotrans 353

Freshwater module with DHW circulation pump

Part no.	Z021868	Z021866	Z021867	Z021871
Type	PZSA	PZSA	PZMA	PZMA-S
Cylinder capacity	400 l	600, 750, 950 l	600, 750, 950 l	600, 750, 950 l

Compact and fully pre-assembled module for installation on cylinders, for convenient DHW heating using the instantaneous water heating principle:
- With integral, pre-wired and preset control unit for setting the required DHW temperature
- With large, highly efficient plate heat exchanger for a low return temperature
- With return distribution set for temperature-dependent stratification of the return in the heating water buffer cylinder by means of a temperature control function
- With flow rate transducer for exact flow measurement in the DHW circuit
- With variable speed high efficiency circulation pump for the primary and secondary circuits
- With shut-off valves with integral non-return valve
- With pre-assembled mounting panel, pipework and connection pieces for connecting to the cylinder



Type		PZSA	PZSA	PZMA/PZMA-S
Cylinder capacity	**l**	**400**	**600, 750, 950**	**600, 750, 950**
a	mm	960	960	960
b	mm	250	250	250
c	mm	346	346	346
d	mm	1232	1466	1466
Weight Vitotrans 353	kg	24	24	31
Draw-off rate	l/min	25	25	48

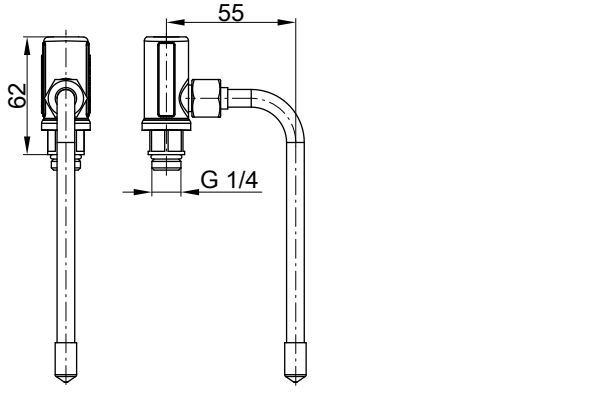
Note
For detailed information, see the "Vitotrans 353" datasheet.

Heat meter

Part no. ZK02916
- Measurement of the heating water flow temperature, heating water return temperature and flow rate (primary side)
- With display showing the heating output, energy amounts, cumulative consumption, etc.
- For installation in the Vitotrans 353, type PZSA and PZMA/PZMA-S

Sampling valve

Part no. ZK02909
- Heat-resistant valve for taking water samples in line with the Drinking Water Ordinance [Germany]
- For installation in the Vitotrans 353, type PBMA/PBMA-S, PBLA/PBLA-S and PZMA/PZMA-S

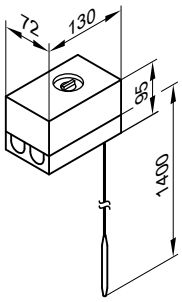


Accessories (cont.)

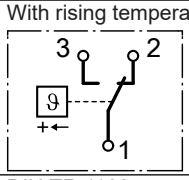
Temperature controller

Part no. 7151989

- With a thermostatic system
- With selector on the outside of the casing
- Without sensor well
- With top-hat rail to be fitted to the DHW cylinder or the wall



Specification

Connection	3-core lead with a cross-section of 1.5 mm²
IP rating	IP 41 to EN 60529
Setting range	30 to 60 °C, adjustable up to 110 °C
Switching differential	Max. 11 K
Breaking capacity	6 (1.5) A 250 V~
Switching function	With rising temperature from 2 to 3 
DIN registration number	DIN TR 1168

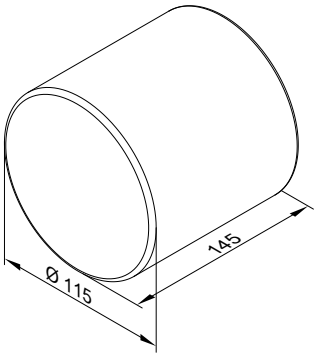
Thermometer, analogue

Part no. 7595765
For installation in the thermal insulation or front panel of the DHW cylinder

Up to 4 thermometers can be fitted to check the temperature profile in the cylinder (e.g. in conjunction with solid fuel boilers).

Thermal insulation caps

Part no. ZK01545
- 6 pce
- For unused cylinder connections R 2



Immersion heater EHE

- With high limit safety cut-out and temperature controller
- Only for use with soft to medium hard drinking water up to 14 °dH (average hardness level up to 2.5 mol/m³)

Part no.

Cylinder capacity	**l**	**400**	**600, 750, 950**
Output range			
– 2/4/6 kW		**Z014468**	
– 4/8/12 kW		—	**Z014469**

Specification for immersion heater EHE

Max. output range	kW	6			12		
Rated consumption Standard mode/quick heat-up	kW	2	4	6	4	8	12
Rated voltage		1/N/PE 230 V/50 Hz	1/N/PE 230 V/50 Hz	3/PE 400 V/ 50 Hz	2/PE 400 V/ 50 Hz	2/PE 400 V/ 50 Hz	3/PE 400 V/ 50 Hz
Rated current	A	8.7	17.4	8.7	10.0	20.0	17.3
Weight	kg	2			3		
IP rating		IP 45					

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Accessories (cont.)

Specification for immersion heater EHE in conjunction with Vitocell

		Vitocell 140-E				Vitocell 160-E	
Cylinder capacity	**l**	**400**	**600**	**750**	**950**	**750**	**950**
Content that can be heated by the immersion heater	l	190	295	375	431	375	431
Minimum wall clearance for installation of the immersion heater EHE							
– 2/4/6 kW	mm	650	650	650	650	650	650
– 4/8/12 kW	mm	—	950	950	950	950	950
Heat-up time from 10 to 60 °C with immersion heater EHE 2/4/6 kW:							
– 2 kW	h	5.5	8.5	10.9	12.5	10.9	12.5
– 4 kW	h	2.7	4.2	5.4	6.3	5.4	6.3
– 6 kW	h	1.8	2.8	3.6	4.2	3.6	4.2
Heat-up time from 10 to 60 °C with immersion heater EHE 4/8/12 kW:							
– 4 kW	h	—	4.2	5.4	6.3	5.4	6.3
– 8 kW	h	—	2.1	2.7	3.1	2.7	3.1
– 12 kW	h	—	1.4	1.8	2.1	1.8	2.1

Transport aid

Part no. ZK01793
For easier handling of vertical DHW cylinders.

- For cylinder capacity 400 to 950 litres
- For DHW cylinders with removable thermal insulation

Subject to technical modifications.

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