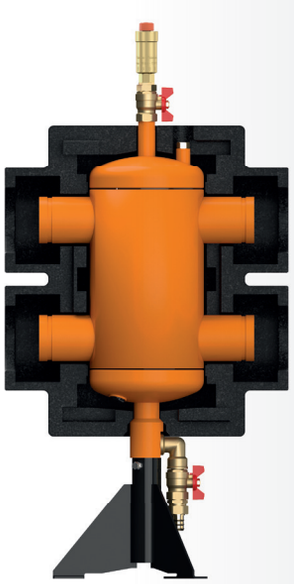
KE KELIT®
CLIMATE CONTROL SYSTEMS

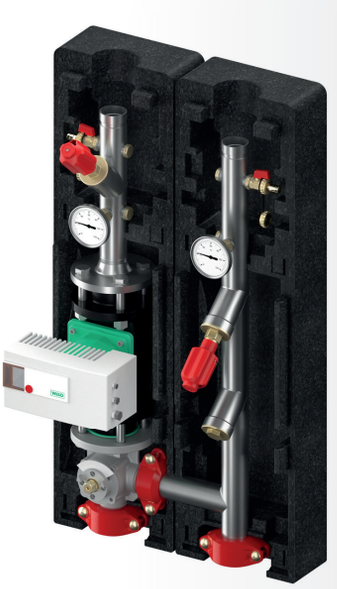
meibes
Flow of Innovation

Technical Data for large manifold systems

Issued July 2018

- Quick modular assembly to simplify your project planning
- Efficient, pre-insulated systems for successful designs





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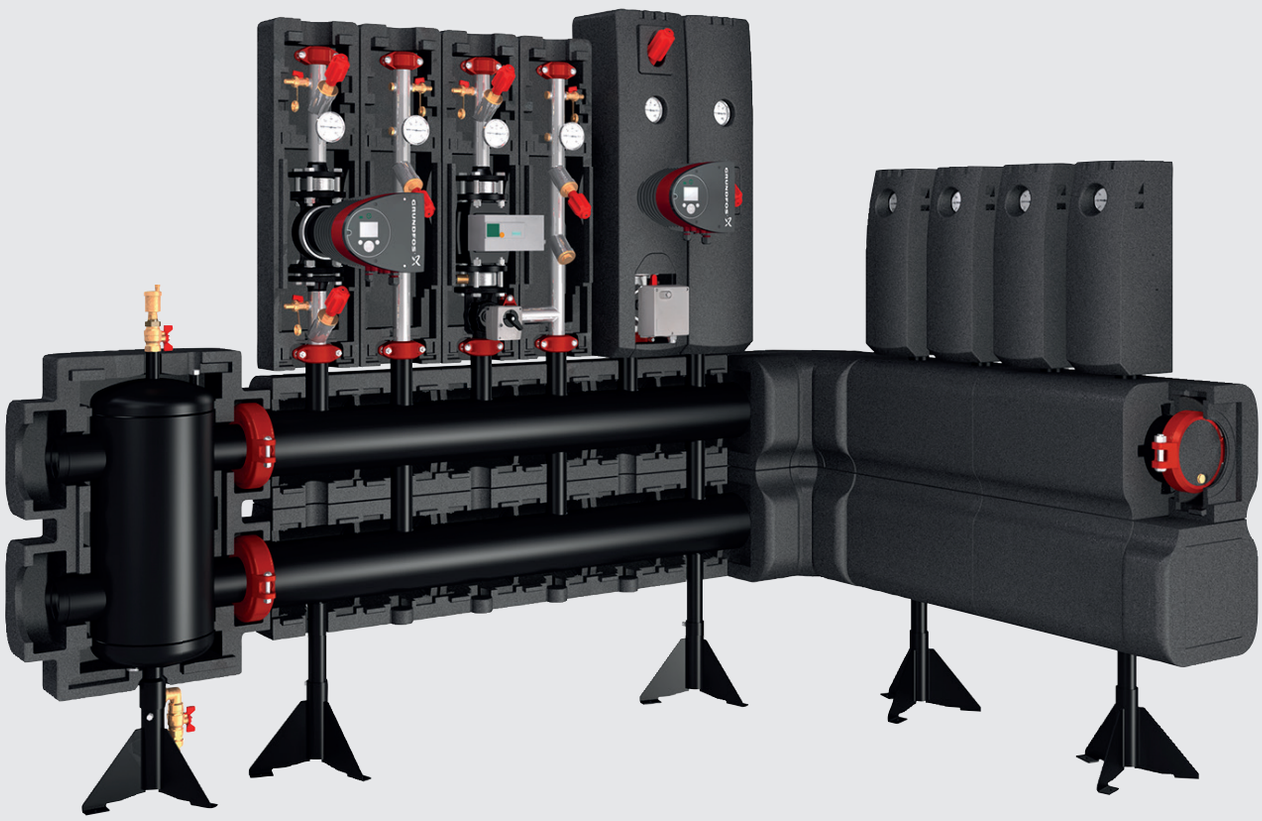
Introduction and advantages



The Meibes large manifold system consists of a manifold(s) with 2 and/or 3 circuit modules, pump groups and the boiler guard (with or without hydraulic diverter).

The modular system makes installation quick and simple. The flexible system can be individually planned and installed, also making it ideal for use in tight spaces, e.g. in a corner installation.
In the variant above, the modules are connected using a 90° connector, and the unused ends of the module are sealed with a blanking piece.

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Pump groups DN25 to DN65 come pre-assembled, including dirt trap (for pump groups DN40 - DN65), shut-off valves, backflow limiter (gravity brake) and insulation. They just need to be connected to the manifold. If required, a heat meter connection can also be provided.
A wide selection of high-efficiency pumps is available.

The boiler guard is a complete unit which is installed between the boiler and the manifold. This contains an air separator and a dirt trap with magnetite separator (to protect the heat emitter and circulation pumps) and can be delivered either with or without a hydraulic diverter.

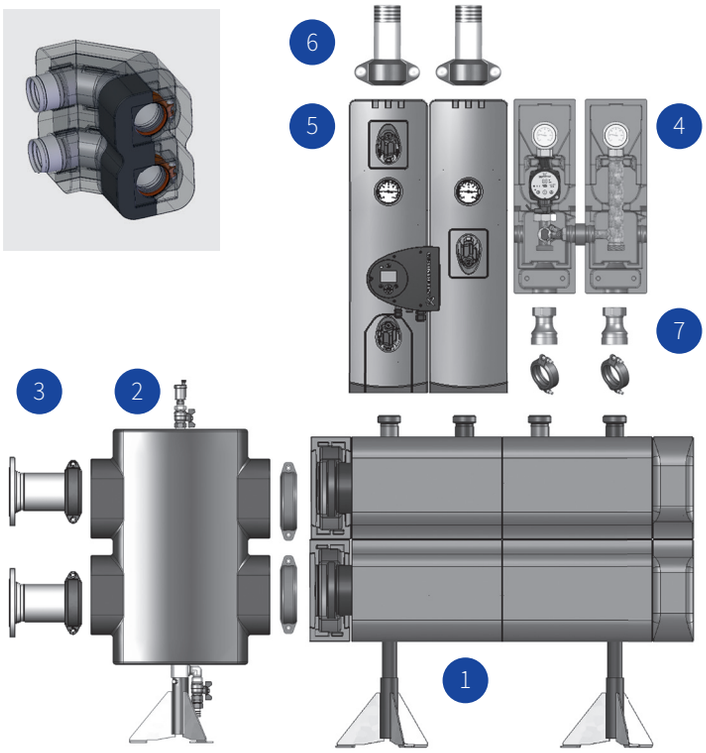
The connections are designed to fit the manifold, ensuring easy installation.
Individual assemblies are connected securely and easily using instant release clamps (BigFixLock). These have been tried and tested in pressure systems (e. g. sprinklers) for many years..

Your advantages

- **Planning/costing made simple thanks to the configuration of prefabricated modules to create complex systems**
- **Perfect system integration thanks to a comprehensive range of connectable accessories**
- **Short assembly times thanks to a high degree of prefabrication and matched components**
- **Small installation dimensions / light weight due to a construction geared to the conditions on construction sites**
- **Guaranteed leak-tight thanks to factory checks and BigFixLock (BFL) connections**
- **No unwanted heat transfer thanks to the thermal separation of flow and return lines**
- **Low heat loss due to thick EPP insulation shell**
- **Clean professional finish**

Meibes complete large manifold system

The selection of individual components to make a complete system, for a specific building project, is carried out in just a few steps.



Position	Components	Page
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2	**Boiler guard** ((Air and Dirt, including magnetite, separator) with or without hydraulic diverter	8 – 9
3	**Unions to heat generator**	10
4	**Pump groups** DN25, DN32, DN32+	12 – 15
5	**Pump groups** DN40, DN50, DN65	16 – 19
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7	**Accessories**	20

1) Manifold

The manifold is selected according to either performance or flow volume. A nominal flow velocity of 1.5 m/s is the basis of the classification into the 4 ranges.
With this limit in mind, complex calculations can be simplified, because the inherent pressure drop is guarantied to be low (approximately 40 mbar = 0.4 mWS).

2) Connection to the heat generator (with/without boiler guard)

2a.) In most installed examples, the system contains a boiler guard. The selection of the boiler guard depends on the connected manifold system. Unions are required to connect the boiler guard to the manifold system and the heat generator system and must be selected as appropriate. You only have to decide whether or not the boiler guard should contain a hydraulic separator.
2b.) Should the manifold system be connected directly to the heat generator (without boiler guard), unions are available for the manifold pipe grooves.

(3) Heating circuit pump groups

The type and performance of each individual pump group depends on the requirement of the heating circuit. The nominal diameter of the heating circuit is in most cases determined by the pump group connection size.
Heating circuit groups for unmixed and mixed heating circuits are available with different pumps, meaning that you can still select the output even if the connection size is predetermined.

Good to know: “BigFixLock” (BFL)

The individual system components are connected using “BigFixLock” connectors.

This system may be familiar to you from fire extinguishing circuits. It is characterised by ease of installation and high levels of reliability. Unlike flanges, it also takes up less space and compensates for thermal expansion.
We have adjusted the system to make it compatible with the heating systems.

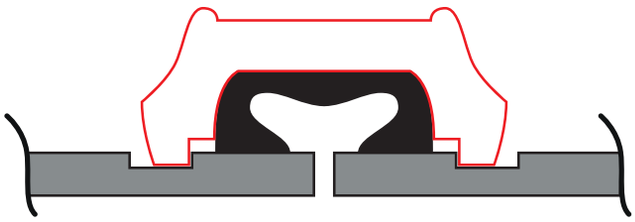
Installation - even for large diameters - is very easy, fast and safe.


1


2


3

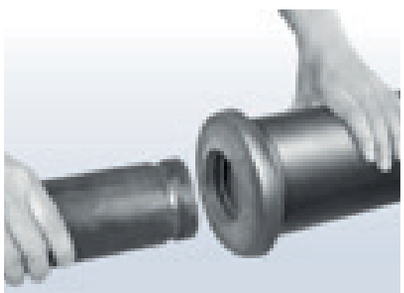

4



The pipe clamp engages in the **groove** in the **pipe** and **secures the seal at the same time**.

The connection is **permanently sealed** but nonetheless compensates for **tolerances**.

Reductions and unions with secondary pipe connections are available:



Large manifold and boiler guard

Manifolds for 2 or 3 heating circuits are available. 2 end caps with BigFixLock clamps are included with each manifold so that it can be used on its own. If you have more than 3 heating circuits, you can connect two or more manifolds with BigFixLock clamps (only 1 pair of blind caps is used).
The upper connections for heating circuits are designed as DN50 pipe grooves (special sizes on request).

It is possible to combine the manifolds with the boiler guard and unions

P [2] [kW]	V [1] [m³/h]	② [mm]	① [mm]		Component	Art no.
280	12	225	114.3 (DN100)		Double manifold	66457.0
					Triple manifold	66457.1
					90 deg connector piece for manifold [3]	66457.130
			88.9 (DN80)		Boiler guard with hydraulic diverter	66374.80 M
					Boiler guard without hydraulic diverter	66374.81 M
					Union 88.9 x 114.3 [4]	66258.634
			DN 100/80		Union to heat generator [5]	(see page 10)
700	30	340	168.3 (DN150)		Double manifold	66457.2
					Triple manifold	66457.3
					90 deg connector piece for manifold [3]	66457.330
			114.3 (DN100)		Boiler guard with hydraulic diverter	66374.100 M
					Boiler guard without hydraulic diverter	66374.101 M
					Union 114.3 x 168.3 [4]	66258.831
			DN150/100		Union to heat generator [5]	(see page 10)
1150	50	450	168.3 (DN150)		Double manifold	66457.4
					Triple manifold	66457.5
					90 deg connector piece for manifold [3]	66457.330
			168.3 (DN150)		Boiler guard with hydraulic diverter	66374.152 M
					Boiler guard without hydraulic diverter	66374.154 M
					Union 168.3 x 168.3 [4]	66258.81
			DN150		Union to heat generator [5]	(see page 10)
2300	100	450	219.1 (DN200)		Double manifold	66457.6
					Triple manifold	66457.7
					Bracket for manifold [3]	66457.730
			219.1 (DN200)		Boiler guard with hydraulic diverter	66374.201 M
					Boiler guard without hydraulic diverter	66374.202 M
					Union 219.1 x 219.1 [4]	66258.91
			DN200		Union to heat generator [5]	(see page 10)

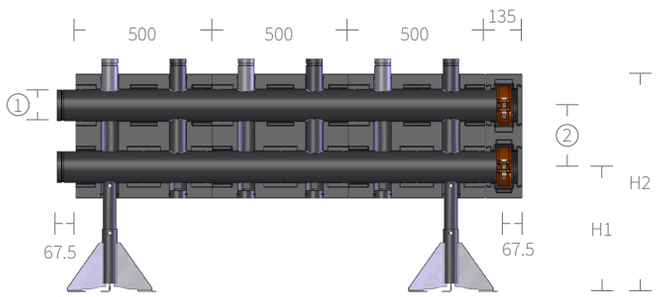
1) Volume flow V is calculated from the ø and the maximum flow velocity of 1.5 m/s defined here.
2) Power P is calculated from volume flow V and the temperature difference of 20 K defined here.
3) An elbow connector piece is necessary if the installation length is restricted. It will be mounted between the manifolds or on the boiler guard. The system can be set up in L-, Z-, or U-shapes and adapted to the room dimensions.
4) Connection between manifold and boiler guard.
5) Both the manifold and the boiler guard end in a grooved pipe. Sets consisting of the appropriate clamp (size according to ①) with different unions.

Determining installed length

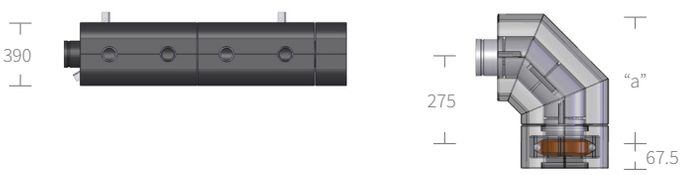
Each individual heating circuit requires an installed length (spacing) of 500 mm. The used end, with insulation and blanking plate takes up 135 mm.

This gives rise to the following heating circuit (HC) dimensions, without connection to the heat generator:

Number of HC	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Length (mm)	1,135	1,635	2,135	2,635	3,135	3,635	4,135	4,635	5,135	5,635	6,135	6,635	7,135	7,635



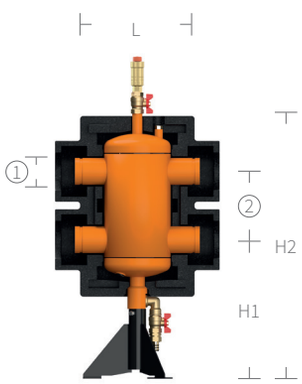
Power [kW]	Volume flow [m³/h]	H1 [mm]	H2 [mm]
280	12	460	800
700	30	520	1030
1,150	50	555	1110
2,300	100	555	1110



Power [kW]	Volume flow [m³/h]	H1 [mm]	“a”
280	12	12	345
700 / 1,150	30	30/50	445
2,300	50	100	445

Boiler guard

Note: The boiler guard determines the height of the total system because it is securely fastened to the pedestal. Adjustment of the manifold height ($H1_{\text{manifold}}$) is based on the dimension ($H1_{\text{boiler guard}}$) of the boiler guard.



280	12	490	460	920	350
700	30	500	520	1005	430
1,150	50	660	570	1310	560
2,300	100	660	570	1310	560

Large manifold and boiler guard

Union from the boiler guard to the heat generator or for special manifold with connections in DN80 or DN100

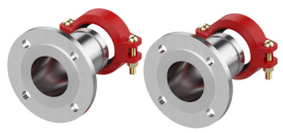
a.) Without insulation shell when a boiler guard is used. The set consists of one pair of unions.
The unions are covered by the insulation of the boiler guard after assembly.

Union fittings BigFixLock, 1 pair

Manifold/BG external ø tube	HG external ø tube	Art no.
88.9 mm (DN 80)	76.1 mm (DN 65)	66259.532
88.9 mm (DN 80)	88.9 mm (DN 80)	66259.51
114.3 mm (DN 100)	114.3 mm (DN 100)	66259.61
168.3 mm (DN 150)	141.3 mm (DN 125)	66259.832
168.3 mm (DN 150)	168.3 mm (DN 150)	66259.81
219.1 mm (DN 200)	219.1 mm (DN 200)	66259.91

BigFixLock welded end, 1 pair

Manifold/BG external ø tube	HG external ø tube	Art no.
88.9 mm (DN 80)	76.1 mm (DN 65)	66259.572
88.9 mm (DN 80)	88.9 mm (DN 80)	66259.573
114.3 mm (DN 100)	114.3 mm (DN 100)	66259.675
168.3 mm (DN 150)	141.3 mm (DN 125)	66259.872
168.3 mm (DN 150)	168.3 mm (DN 150)	66259.873
219.1 mm (DN 200)	219.1 mm (DN 200)	66259.972



BigFixLock flange PN 6, 1 pair

Manifold/BG external ø tube	HG external ø tube	Art no.
88.9 mm (DN 80)	76.1 mm (DN 65)	66259.592
88.9 mm (DN 80)	88.9 mm (DN 80)	66259.593
114.3 mm (DN 100)	114.3 mm (DN 100)	66259.695
168.3 mm (DN 150)	141.3 mm (DN 125)	66259.892
168.3 mm (DN 150)	168.3 mm (DN 150)	66259.893
219.1 mm (DN 200)	219.1 mm (DN 200)	66259.992

Union from the manifold to the heat generator

b.) With insulating shells for use without boiler guard. The set consists of one pair of unions.

BigFixLock welded end with insulation, 1 pair, for use without boiler guard

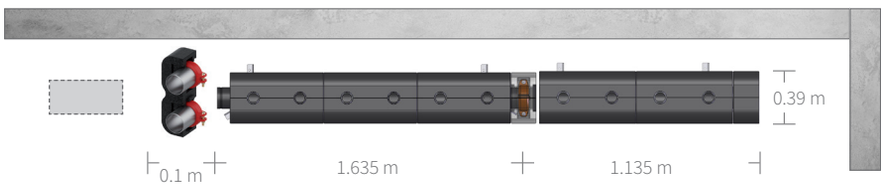
Manifold/BG external ø tube	HG external ø tube	Axial distance	Art no.
114.3 mm (DN 100)	76.1 mm (DN 65)	225 mm	66258.671
114.3 mm (DN 100)	88.9 mm (DN 80)	225 mm	66258.672
114.3 mm (DN 100)	114.3 mm (DN 100)	225 mm	66258.673
114.3 mm (DN 100)	141.3 mm (DN 125)	225 mm	66258.674
168.3 mm (DN 150)	168.3 mm (DN 150)	340/450 mm	66258.871
168.3 mm (DN 150)	168.3 mm (DN 150)	340/450 mm	66258.872
168.3 mm (DN 150)	168.3 mm (DN 150)	340/450 mm	66258.873
219.1 mm (DN 200)	219.1 mm (DN 200)	450 mm	66258.972

BigFixLock flange PN 6m. Insulation 1 pair, when used without boiler guard

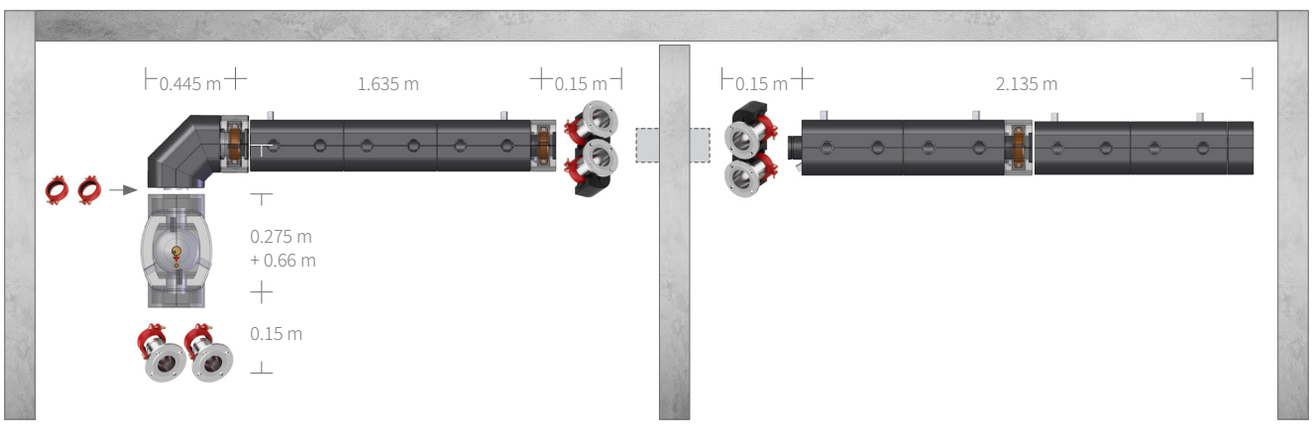
Manifold/BG external ø tube	HG external ø tube	Axial distance	Art no.
114.3 mm (DN 100)	76.1 mm (DN 65)	225 mm	66258.691
114.3 mm (DN 100)	88.9 mm (DN 80)	225 mm	66258.692
114.3 mm (DN 100)	114.3 mm (DN 100)	225 mm	66258.693
114.3 mm (DN 100)	141.3 mm (DN 125)	225 mm	66258.694
168.3 mm (DN 150)	168.3 mm (DN 150)	340/450 mm	66258.891
168.3 mm (DN 150)	168.3 mm (DN 150)	340/450 mm	66258.892
168.3 mm (DN 150)	168.3 mm (DN 150)	340/450 mm	66258.893
219.1 mm (DN 200)	219.1 mm (DN 200)	450 mm	66258.992

Examples of installation versions

I < 700 kW, 5x Heating Circuits, without Boiler Guard, union to the heat generator with welded end

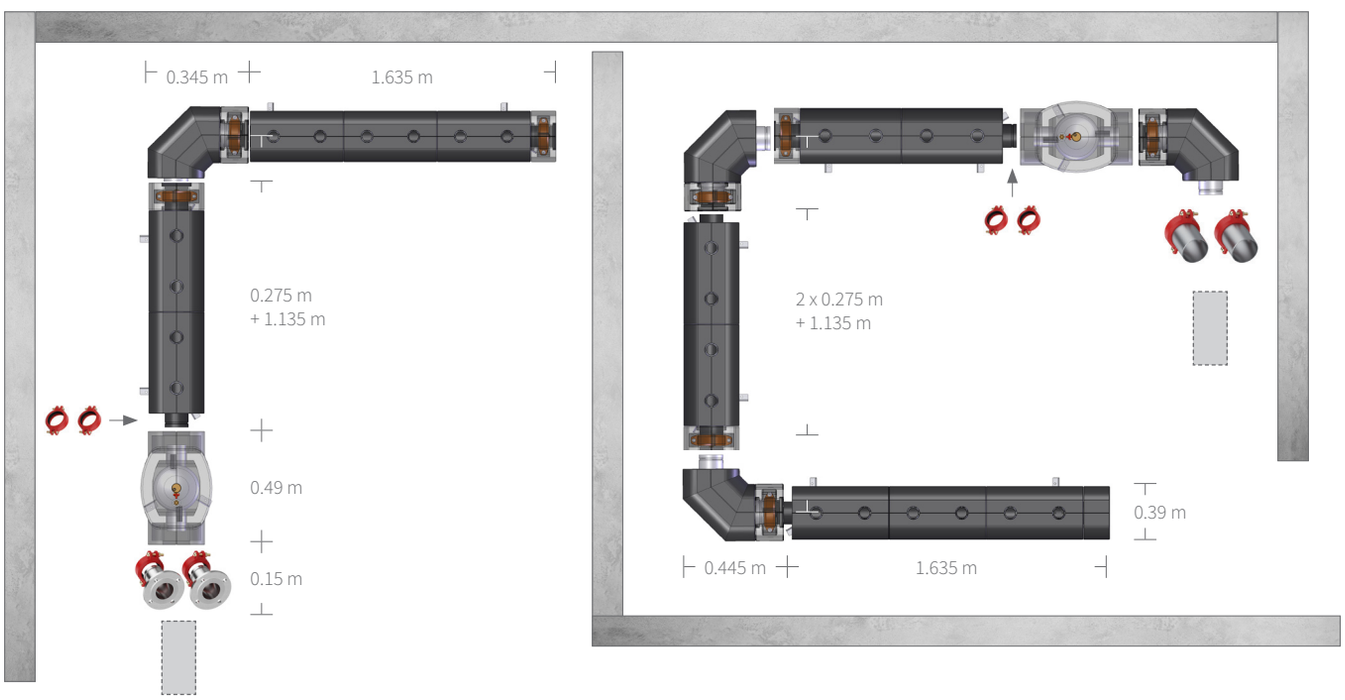


II < 1150 kW, 7x Heating Circuits with interruption (wall), 1 x 90 deg. Elbow, with Boiler Guard, unions with flanges



III < 280 kW, 5x off Heating Circuits, 1 x 90 deg. Elbow, with Boiler Guard, unions with flanges

IV < 2300 kW, 7x Heating Circuits , 3 x 90 deg. Elbows, with Boiler Guard, unions with welded end



Connection line provided on site

Unions to be ordered separately

Allow for a distance of 20 cm from the wall for the subsequent installation of the insulation shells.

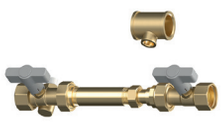
DN25 and DN32 (+) heating circuit groups

V-UK (for unmixed heating circuits)

The small pump groups cover the lower performance range for heat consumers with small volume flows. flow and return lines are in separate insulation shells. Mounting on large manifolds has a clearance distance of 75 mm. The heating circuits are connected to the female thread of the included ball valves.
For connection on the manifold, a union (66305.50) is required and will be covered by the insulation shells.

Connection to heating circuits	Heat counter?		Component	Art no.
DN25 (1” IG)	No		Without pump	66813 EA
			With Grundfos UPM3 HYBRID 25-70 [1]	66813.36
			With Grundfos Alpha2.1 25-60	66813.30
			With Grundfos MAGNA 3 25-60	66813.64
			With Wilo Yonos PICO 25/1-6	66813.10 WI
			With Wilo Stratos PARA 25 / 1-7 [2]	66813.31 WI
			Union to manifold (nut 1 ½" x BigFixLock 50), 1 pair [3]	66305.50
			Union to heating circuit (clamp 28 mm x 1“MT), 1 pair	G29611.14
	Yes [4]		Without pump	66813 ZEA
			With Grundfos UPM3 HYBRID 25-70 [1]	66813.36 Z
			With Grundfos Alpha2.1 25-60	66813.30 Z
			With Grundfos MAGNA 3 25-60	66813.64 Z
			With Wilo Yonos PICO 25/1-6	66813.10 ZWI
			With Wilo Stratos PARA 25 / 1-7 [2]	66813.31 ZWI
			Union to manifold (Nut 1 ½" x BigFixLock 50), 1 pair	66305.50
			Union to heating circuit (clamp 28 mm x 1“MT), 1 pair	G29611.14
DN32 (1 ¼“ FT)	No		Without pump	66814 EA
			With Grundfos UPM3 Hybrid 25-70 [1]	66814.36
			With Grundfos Alpha2.1 25-60	66814.30
			With Grundfos MAGNA 3 25-60	66814.64
			With Wilo Yonos PICO 25/1-6	66814.10 WI
			With Wilo Stratos PARA 25 / 1-7 [2]	66814.31 WI
			Union to manifold (Nut 1 ½" x BigFixLock 50), 1 pair	66305.50
			Union to HC (clamp 35 mm x 1 ¼“MT), 1 pair	G29611.15
	Yes [4]		Meter installation fitting (external)	61825.32 Z
DN32+ (1 ¼“ FT)	No		Without pump	66814.05 EA
			With Grundfos UPM3 Hybrid 25-70 [1]	66814.55
			With Grundfos Alpha2.1 25-60	66814.35
			With Grundfos MAGNA 3 25-60	66814.65
			With Wilo Yonos PICO 25/1-6	66814.15 WI
			With Wilo Stratos PARA 25 / 1-7 [2]	66814.35 WI
			Union to manifold (Nut 1 ½" x BigFixLock 50)	66305.50
			Union to HC (clamp 35 mm x 1 ¼“MT)	G29611.15
	Yes [4]		Meter installation fitting	61825.32 Z

1) Signal cable for UPM3 Hybrid for controlling via PWM or 0-10V optional (Art no.: 45101.762)
2) Incl. additional option: Control signal 0-10V
3) Mandatory when V pump groups are used on large manifolds (fig. right)
4) In the case of DN25 pump groups, a telescopic piece is fitted to the return line which fits ¾” or 1” heat flow meters with installed lengths between 110 and 130 mm. An external T-piece for the VL sensor mount is included with the delivery. Starting with DN32, use an external meter installation fitting (fig. right).



Technical data V-UK

Backflow limiter (Gravity brake) in the return ball valve (in DN25 and DN32, can be set up by hand);
two contact thermometers built into the ball valve handles (display range 0 - 120 °C); one pump isolation ball valve with Meibes flange; EPP insulation shells; bottom outlet 1.1/2” MT with flat seal (matching union to the DN50 pipe groove on the manifold separate)

V-UK/ V-UK-Z	DN25 (1")		DN32 (1¼")		DN32+ (1¼")	
Dimensions (per line, without pump)	approx. H 550 x W 175 x D 240 mm					
Max. operating temperature	110 °C					
Permissible positive operating pressure	PN 10					
Thermometers	2 x 0 – 120 °C					
Backflow preventer	1 x (in return line), 200 mmWS, for installation				not for installation	
Installed length of pump	180 mm					
Kvs value	7.2 m³/h		7.6 m³/h		11.7 m³/h	
Power P[1]/ volume flow V	P	V	P	V	P	V
UPM3 Hybrid xx-70	60/91 kW	2.6 m³/h	63/94 kW	2.7 m³/h	67/101 kW	2.9 m³/h
Alph 2.1 xx-60	51/77 kW	2.2 m³/h	53/80 kW	2.3 m³/h	58/87 kW	2.5 m³/h
Magna3 xx-60	84/126 kW	3.6 m³/h	86/129 kW	3.7 m³/h	107/160 kW	4.6 m³/h
Yonos Pico xx/ 1-6	49/73 kW	2.1 m³/h	51/77 kW	2.2 m³/h	56/84 kW	2.4 m³/h
Stratos Para xx / 1-7	74/112 kW	3.2 m³/h	77/115 kW	3.3 m³/h	86/129 kW	3.7 m³/h

1) Power P in [kW] at 20 K / 30 K temperature differential and 2 mWS residual delivery head

Optional spacer set for installation between manifold and V-UK (66813 EWI) with insulation and fittings installation height of 90 mm, typically used with 66833 EWI shut-off set with V-MK for same mounting height of the pump groups.

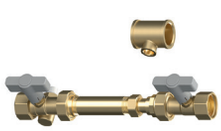
DN25 and DN32 (+) heating circuit groups

V-MK (for mixed heating circuits)

Selection of various pump groups

Connection to heating circuits	Heat counter?		Component	Art no.
DN25 (1” IG)	No		Without pump	66833 EA
			With Grundfos UPM3 Hybrid 25-70 [1]	66833.36
			With Grundfos Alpha2.1 25-60	66833.30
			With Grundfos MAGNA 3 25-60	66833.64
			With Wilo Yonos PICO 25/1-6	66833.10 WI
			With Wilo Stratos PARA 25 / 1-7 [2]	66833.31 WI
			Union to manifold (ÜWM 1 ½" x BigFixLock 50), 1 pair [3]	66305.50
			Union to heating circuit (clamp 28 mm x 1“MT), 1 pair	G29611.14
	Yes [4]		Without pump	66833 ZEA
			With Grundfos UPM3 Hybrid 25-70 [1]	66833.36 Z
			With Grundfos Alpha2.1 25-60	66833.30 Z
			With Grundfos MAGNA 3 25-60	66833.64 Z
			With Wilo Yonos PICO 25/1-6	66833.10 ZWI
			With Wilo Stratos PARA 25 / 1-7 [2]	66833.31 ZWI
			Union to manifold (ÜWM 1 ½" x BigFixLock 50), 1 pair	66305.50
			Union to heating circuit (clamp 28 mm x 1“MT), 1 pair	G29611.14
DN32 (1 ¼“ FT)	No		Without pump	66834 EA
			With Grundfos UPM3 Hybrid 25-70 [1]	66834.36
			With Grundfos Alpha2.1 25-60	66834.30
			With Grundfos MAGNA 3 25-60	66834.64
			With Wilo Yonos PICO 25/1-6	66834.10 WI
			With Wilo Stratos PARA 25 / 1-7 [2]	66834.31 WI
			Union to manifold (ÜWM 1 ½" x BigFixLock 50), 1 pair	66305.50
			Union to HC (clamp 35 mm x 1 ¼“MT), 1 pair	G29611.15
	Yes [4]		Meter installation fitting (external)	61825.32 Z
DN32+ (1 ¼“ FT)	No		Without pump	66834.05 EA
			With Grundfos UPM3 Hybrid 25-70 [1]	66834.55
			With Grundfos Alpha2.1 25-60	66834.35
			With Grundfos MAGNA 3 25-60	66834.65
			With Wilo Yonos PICO 25/1-6	66834.15 WI
			With Wilo Stratos PARA 25 / 1-7 [2]	66834.35 WI
			Union to manifold (ÜWM 1½" x BigFixLock 50)	66305.50
			Union to HC (clamp 35 mm x 1¼“MT)	G29611.15
	Yes [4]		Meter installation fitting	61825.32 Z

1) Signal cable for UPM3 Hybrid for controlling via PWM or 0-10V optional (Art no.: 45101.762)
2) Incl. additional option: Control signal 0-10V
3) Mandatory when V pump groups are used on large manifolds (fig. right)
4) In the case of DN25 pump groups, a telescopic piece is fitted to the return line which fits ¾” or 1” heat flow meters with installed lengths between 110 and 130 mm. An external T-piece for the VL sensor mount is included with the delivery. Starting with DN32, use an external meter installation fitting (fig. right).



Accessories for V-MK

If required, for V-MK select the pump group accessories from the following list.

(A) 

(B) 

(C) 

(D) 

Fig.	Description	Art no.
(A)	230 V, with cable, 3 pt (1 phase each for open/closed). Operating time 140 s, with emergency manual mode and visible position indicator	66341
(A)	As above, but 24 V	66341.3
(A)	As above, but 24 V, 0-10 V control signal	66341.7
(B)	230V, AC adapter, integrated temperature control (0-95 °C), digital setpoint adjustment, sensor ø6x25mm	66341.33
(C)	Contact thermostat (STW)	45160.01
(D)	Shut-off set for installation between manifold and V-MK with insulation and fittings, installation height 90 mm	66833 EWI

Technical data V-MK

Backflow limiter (Gravity brake) in the return ball valve (in DN25 and DN32, can be set up by hand); two contact thermometers built into the ball valve handle (display range 0 - 120 °C); one three-way T-mixer including fully adjustable bypass; axial distance from 200 - 250 mm (flexible pipe on mixer bypass can expand by 50 mm); EPP insulation shells; bottom outlet 11 / 2” MT with flat seal (matching union to the DN50 pipe groove on the manifold separate)

V-MK / V-MK-Z	DN25 (1")		DN32 (1 ¼")		DN32+ (1 ¼")	
Dimensions (per line, without pump)	Approx. H 550 x W 175 x D 240 mm					
Heating circuit connections:	1" female thread		1 ¼" FEMALE THREAD		1 ¼" FEMALE THREAD	
Manifold/boiler connection	1 ½" AD (fld.)					
Axial distance	200-250 mm					
Max. operating temperature	110 °C					
Permissible positive operating pressure	PN 10					
Thermometers	2 × , 0 – 120°C					
Backflow preventer	1 x (in return line), 200 mmWS, for installation				not for installation	
Installed length of pump	180 mm					
Kvs value	5.8 m^3/h		6.1 m^3/h		9.8 m^3/h	
Power P[1] / volume flow V	P	V	P	V	P	V
UPM3 Hybrid xx-70	28/42	2.4 m^3/h	29/44	2.5 m^3/h	33/49	2.8 m^3/h
Alpha2.1 xx-60	23/35	2.0 m^3/h	24/37	2.1 m^3/h	28/42	2.4 m^3/h
Magna3 xx-60	37/56	3.2 m^3/h	38/58	3.3 m^3/h	48/72	4.1 m^3/h
Yonos Pico xx/ 1-6	22/33	1.9 m^3/h	23/35	2.0 m^3/h	27/40	2.3 m^3/h
Stratos Para xx / 1-7	34/51	2.9 m^3/h	35/52	3.0 m^3/h	41/61	3.5 m^3/h

1) Power P in [kW] at 10 K / 15 K temperature differential and 2 mWS residual delivery head

DN40, DN50 and DN65 heating circuit groups

FL-UK (for unmixed heating circuits)

The FL pumps sets with flange pumps in this chapter are used for heat consumers with large volume flows. The heating circuits are connected above to pipe grooves using BigFixLock clamps. These are included in the union options (see page 22).
BigFixLock clamps for mounting on the manifold (DN50) are included with the pump group.

Connection to heating circuits		Component	Art no.
DN40 (48.3 mm)		Without pump, with pump cut-out [1) 2)]	66537 EA S
		Without pump, with pump cut-out for MAGNA3 40-100F [2a)]	66537.21 EA S
		Without pump, with pump cut-out for Stratos 40 / 1-8 [2a)]	66537.16 WI EA S
		With Grundfos pump MAGNA3 40–100F	66537.21
		With Wilo pump Stratos 40 / 1 – 4	66537.14 WI
		With Wilo pump Stratos 40 / 1 – 8	66537.16 WI
		Union to heating circuit (incl. BigFixLock 40)	(see page 22)
		Meter installation fitting (external) [3)]	61825.40 Z
DN50 (60.3 mm)		Without pump, with pump cut-out 1) [2)]	66538 EA S
		Without pump, with pump cut-out for MAGNA3 50-100F [2b)]	66538.21 EA S
		Without pump, with pump cut-out for Stratos 50 / 1 - 10 [2c)]	66538.13 WI EA S
		With Grundfos pump MAGNA3 50 – 100 F	66538.21
		With Wilo pump Stratos 50 / 1 – 8	66538.12 WI
		With Wilo pump Stratos 50 / 1 – 10	66538.13 WI
		Union to heating circuit (incl. BigFixLock 50)	(see page 22)
		Meter installation fitting (external) [3)]	61825.50 Z
DN65 (76.1 mm)		Without pump, with pump cut-out 1) [2)]	66539 EA S
		Without pump, with pump cut-out f. MAGNA3 65-120F [2d)]	66539.22 EA S
		Without pump, with pump cut-out for Stratos 65 / 1-12 [2e)]	66539.12 WI EA S
		With Grundfos pump MAGNA3 65–120F	66539.22
		With Wilo pump Stratos 65 / 1 – 12	66539.12 WI
		Union to heating circuit (incl. BigFixLock 65)	(see page 22)
		Meter installation fitting (external) [3)]	61825.50 Z

1) For selected Grundfos and Wilo pumps (on request)
2) Suitable flange spacers needed for length compensation (see page 20)
2a) Pump cut-out for pump with 220 mm installed length, 30 mm adapter (45102.015) on top
2b) Pump cut-out for pump with 280 mm installed length (no adapter required)
2c) Pump cut-out for pump with 240 mm installed length, 2x20 mm adapters (45102.016) on top and below
2d) Pump cut-out for pump with 280 mm installed length, 2x30 mm adapters (45102.018) on top and below
2e) Pump cut-out for pump with 340 mm installed length (no adapter required)
3) Including shut-off and insulation

Accessories for FL-UK

Optional spacer set for installation between manifold and FK-UK with insulation and BigFixLock clamp, with shut-off valve. Installation height 370 mm, typically used with shut-off set for FL-MK for the same pump group installation height.

Description	Art no.
For FL DN40 pump groups	66537 EWI
For FL DN50 pump groups	66538 EWI
For FL DN65 pump groups	66539 EWI

Technical data FL-UK

3 shut-off valves; integrated backflow preventer; 3 KFE ball valves;
2 thermometers, additional connection options 1/2" in supply and return line; dirt trap; piping and connector parts; EPP insulation shells; lower connections (to the manifold) incl. DN50 BigFixLock union; upper connection supports for the heating circuits made of seamless steel tubing with groove.

FL-UK	DN40 (1½")		DN50 (2")		DN65 (2½")	
Dimensions (per line, without pump)	approx. H 920 x W 245 x D 280 mm				approx. H 1000 x W 245 x D 280 mm	
Manifold/boiler connection (BigFixLock clamp)	DN40 x DN50		DN50		DN65 x DN50	
Axial distance	From 250 mm					
Max. operating temperature	110 °C					
Permissible positive operating pressure	PN 10					
Thermometers	2 x 0 – 120 °C					
Backflow preventer	1 x (supply line)					
Dirt trap	1 x (in return line)					
Installed length of pump	250 mm		280 mm		340 mm	
Kvs value	9.75 m³/h		18.7 m³/h		31.7 m³/h	
Power P[1]/ volume flow V	P	V	P	V	P	V
Magna3 xx-100 F or 120 F	147/220 kW	6.3 m³/h	184/276 kW	7.9 m³/h	582/872 kW	25 m³/h
Stratos xx / 1 – 4	49/73 kW	2.1 m³/h	167/251 kW	7.2 m³/h		
Stratos xx / 1 – 8	126/188 kW	5.4 m³/h	184/276 kW	7.9 m³/h		
Stratos xx / 1 – 10 or 12					57/855 kW	24.5 m³/h

1) Power P in [kW] at 20 K / 30 K temperature differential and 2 mWS residual delivery head

DN40, DN50 and DN65 heating circuit groups

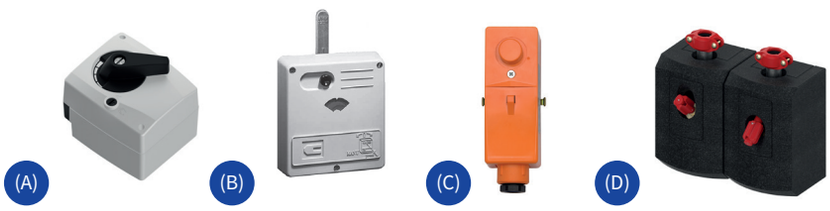
FL-MK (for mixed heating circuits)

Connection to heating circuits		Component	Art no.
DN40 (48.3 mm)		Without pump, with pump cut-out [1) 2)]	66547 EA S
		Without pump, with pump cut-out for MAGNA3 40-100F [2a)]	66547.21 EA S
		Without pump, with pump cut-out for Stratos 40 / 1-8 [2a)]	66547.16 WI EA S
		With Grundfos pump MAGNA3 40–100F	66547.21
		With Wilo pump Stratos 40 / 1 – 4	66547.14 WI
		With Wilo pump Stratos 40 / 1 – 8	66547.16 WI
		Union to heating circuit (incl. BigFixLock 40)	(see page 22)
		Meter installation fitting (external) [3)]	61825.40 Z
DN50 (60.3 mm)		Without pump, with pump cut-out 1) [2)]	66548 EA S
		Without pump, with pump cut-out for MAGNA3 50-100F [2b)]	66548.21 EA S
		Without pump, with pump cut-out for Stratos 50 / 1 - 10 [2c)]	66548.13 WI EA S
		With Grundfos pump MAGNA3 50 – 100 F	66548.21
		With Wilo pump Stratos 50 / 1 – 8	66548.12 WI
		With Wilo pump Stratos 50 / 1 – 10	66548.13 WI
		Union to heating circuit (incl. BigFixLock 50)	(see page 22)
		Meter installation fitting (external) [3)]	61825.50 Z
DN65 (76.1 mm)		Without pump, with pump cut-out 1) [2)]	66549 EA S
		Without pump, with pump cut-out f. MAGNA3 65-120F [2d)]	66549.22 EA S
		Without pump, with pump cut-out for Stratos 65 / 1-12 [2e)]	66549.12 WI EA S
		With Grundfos pump MAGNA3 65–120F	66549.22
		With Wilo pump Stratos 65 / 1 – 12	66549.12 WI
		Union to heating circuit (incl. BigFixLock 65)	(see page 22)
		Meter installation fitting (external) [3)]	61825.50 Z

1) For selected Grundfos and Wilo pumps (on request)
2) Suitable flange spacers needed for length compensation (see page 20)
2a) Pump cut-out for pump with 220 mm installed length, 30 mm adapter (45102.015) on top
2b) Pump cut-out for pump with 280 mm installed length (no adapter required)
2c) Pump cut-out for pump with 240 mm installed length, 40 mm adapter (45102.017) on top
2d) Pump cut-out for pump with 280 mm installed length, 60 mm adapter (45102.019) on top
2e) Pump cut-out for pump with 340 mm installed length (no adapter required)
3) Including shut-off and insulation

Accessories for FL-MK

If required, select for FL-MK pump accessories from the following list.



Description		Art no.	Fig.
230 V, 3 pt (1 phase each for open/closed). Operating time 140 s, 15Nm for DN40/50, with emergency manual operation		66341.6	(A)
As above, except operating time 130 s, 20Nm for DN65		66345.7	(B)
As above, except 24 V, 0-10V control signal, for DN40/50/65		66345.8	(B)
Contact thermostat (STW)		45160.01	(C)
Shut-off set for installation between manifold and FL-MK with insulation and BigFixLock clamps, 2 shut-off valves, installation height 370 mm	DN40	66547 EWI	(D)
	DN50	66548 EWI	
	DN65	66549 EWI	

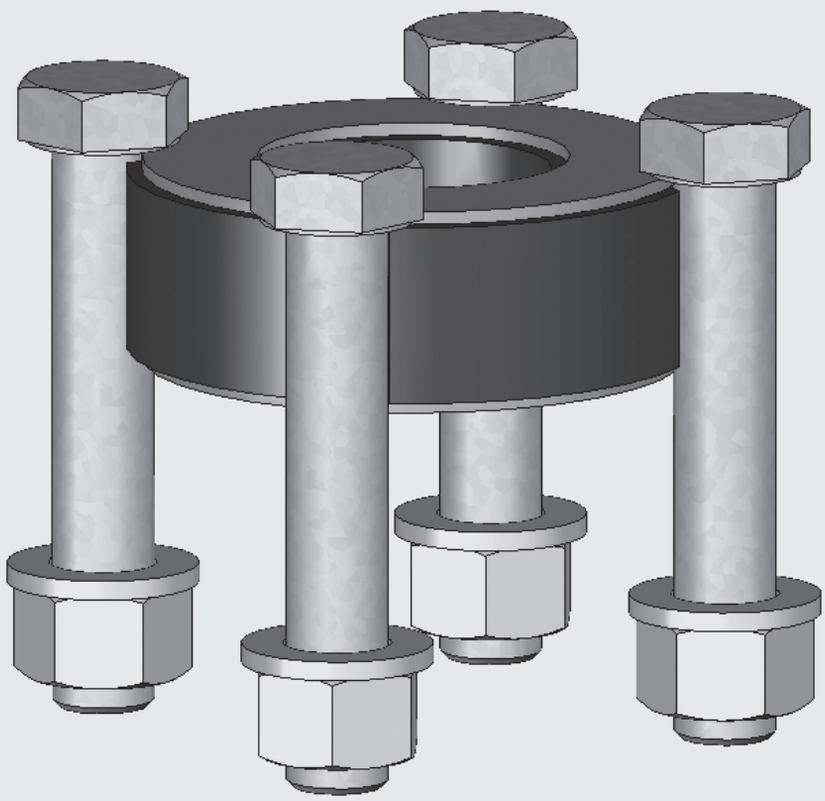
Technical data FL-MK

2 shut-off valves; integrated backflow preventer; 3 KFE ball valves;
2 thermometers, additional connection options 1/2" in supply and return line; dirt trap; piping and connector parts; EPP insulation shells; lower connections (to the manifold) incl. DN50 BigFixLock union; upper connection
supports for the heating circuits made of seamless steel tubing with groove.

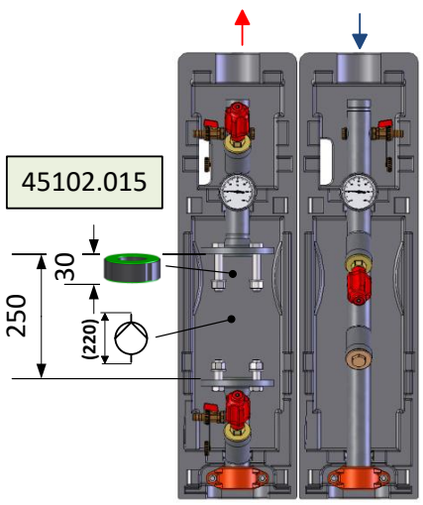
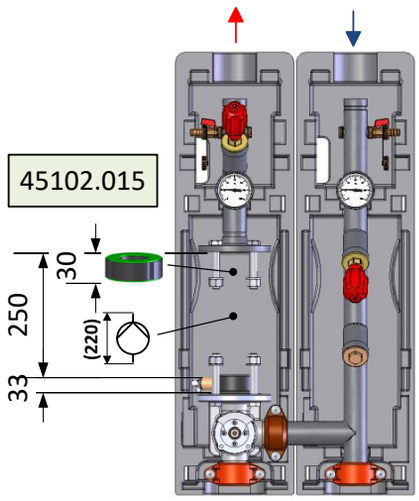
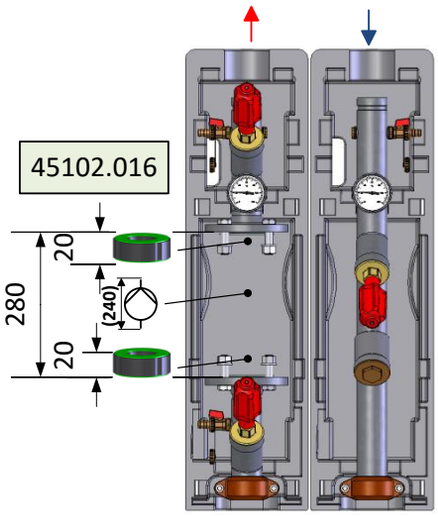
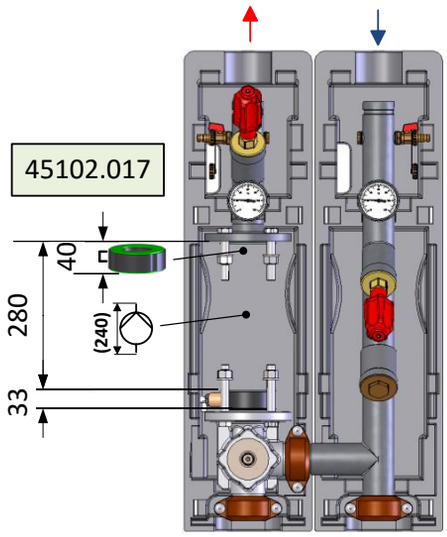
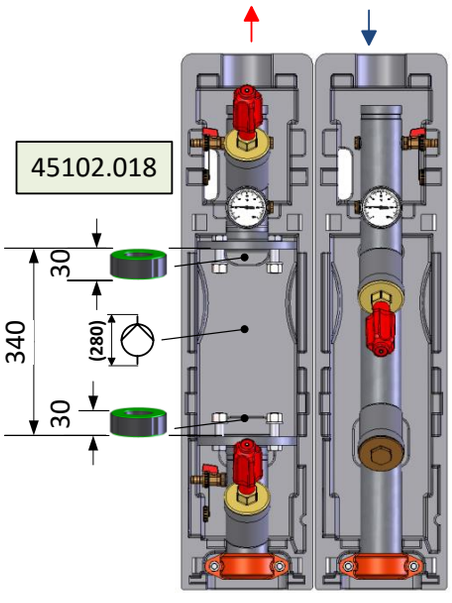
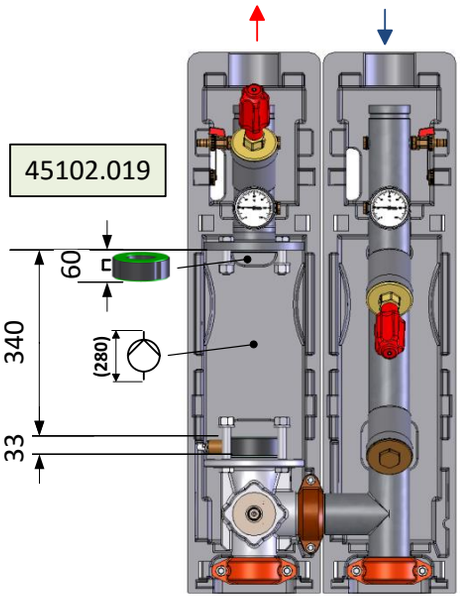
FL-MK	DN40 (1½")		DN50 (2")		DN65 (2½")	
Dimensions (per line, without pump)	approx. H 920 x W 245 x D 280 mm				approx. H 1000 x W 245 x D 280 mm	
Manifold/boiler connection (BigFixLock clamp)	DN40 x DN50		DN50		DN65 x DN50	
Axial distance	From 250 mm					
Max. operating temperature	110 °C					
Permissible positive operating pressure	PN 10					
Thermometers	2 x 0 – 120 °C					
Backflow preventer	1 x (supply line)					
Dirt trap	1 x (in return line)					
Installed length of pump	250 mm		280 mm		340 mm	
Kvs value	8.8 m³/h		17.8 m³/h		30.0 m³/h	
Power P[1]/ volume flow V	P	V	P	V	P	V
Magna3 xx-100 F or 120 F	69/103 kW	5.9 m³/h	91/136 kW	7.8 m³/h	281/422 kW	24.2 m³/h
Stratos xx / 1 – 4	23/35 kW	2.0 m³/h	167/122 kW	7.0 m³/h		
Stratos xx / 1 – 8	58/87 kW	5.0 m³/h	184/276 kW	7.8 m³/h		
Stratos xx / 1 – 10 or 12					274/412 kW	23.6 m³/h

Accessories for FL-U K and FL-MK

DN40, DN50, DN65 heating circuit groups



The maximum installed length for pumps is specified in the pump groups with prepared pump cut-out. If a different pump provided by the client has a shorter installed length flange spacers are required.

	FL-UK	FL-MK
DN40		
DN50		
DN65		

Union from pump group to HC

DN40, DN50, DN65 heating circuit groups

Union fittings to heating circuit

BigFixLock - arches, 1 pair

DN40	48.3 mm	66259.245
DN50	60.3 mm	66259.345
DN65	76.1 mm	66259.445

BigFixLock - connection clamp, 1 pair

DN40	48.3 mm	66259.21
DN50	60.3 mm	66259.31
DN65	76.1 mm	66259.41

BigFixLock - male thread, 1 pair

DN40	R 1½" MT	66259.26
DN50	R2"	66259.36
DN65	R 1½" MT	66259.46

BigFixLock - welded end, 1 pair

DN40	48.3 mm	66259.27
DN50	60.3 mm	66259.372
DN65	76.1 mm	66259.47

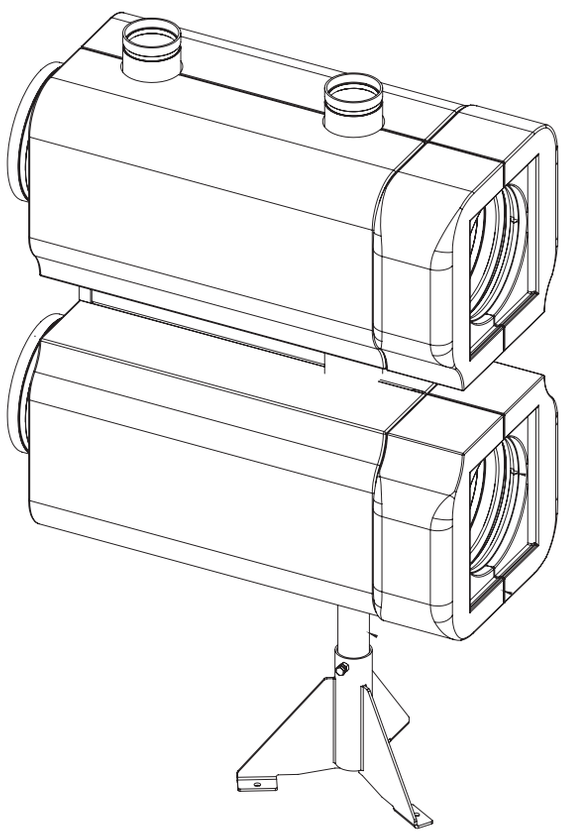
BigFixLock - pressing joint of carbon steel with M-contour, 1 pair

DN40	42 mm	66259.28
DN50	54 mm	66259.38

Special manifold

For heating circuits with very large volume flows, we offer single modules with larger connections for the heating circuits (instead of DN50). The associated axial dimension of 350 mm takes into account the width of the components provided on site (pumps, mixers etc.).

They can be integrated anywhere in the manifold. We recommend positioning them as far as possible from the heat generator because the supply line is constricted due to the fact that the return line runs through it.
Please note the maximum possible volume flow after the special manifold
(1.3 m/s speed at the bottleneck dp = 5mbar).



Power [kW]	Heating circuit connection	Volume Flow (m3/h)	Art no.
700	DN80	24	66457.340
	DN100	12	66457.350
1,150	DN80	24	66457.360
	DN100	12	66457.370
2,300	DN80	77	66457.380
	DN100	55	66457.390

Possible unions for the heating circuits (DN80 or DN100) can be found on page 10.

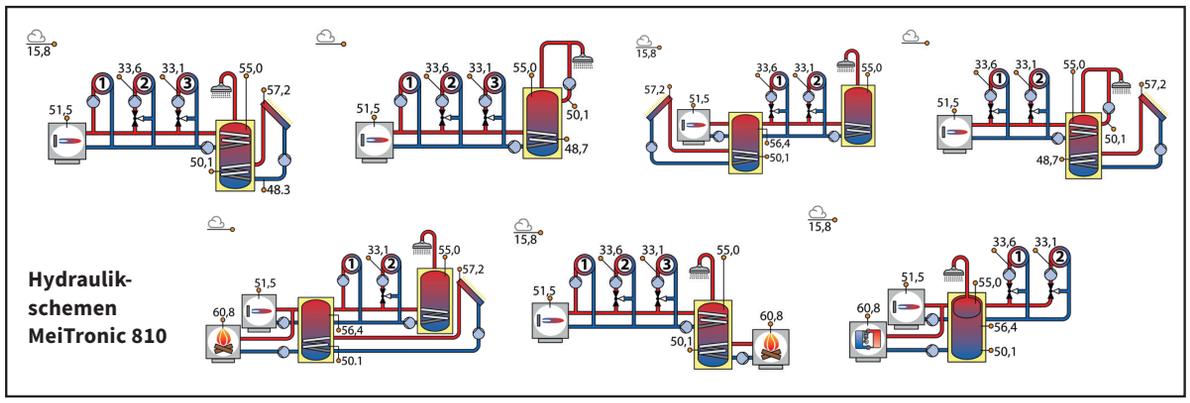
System components

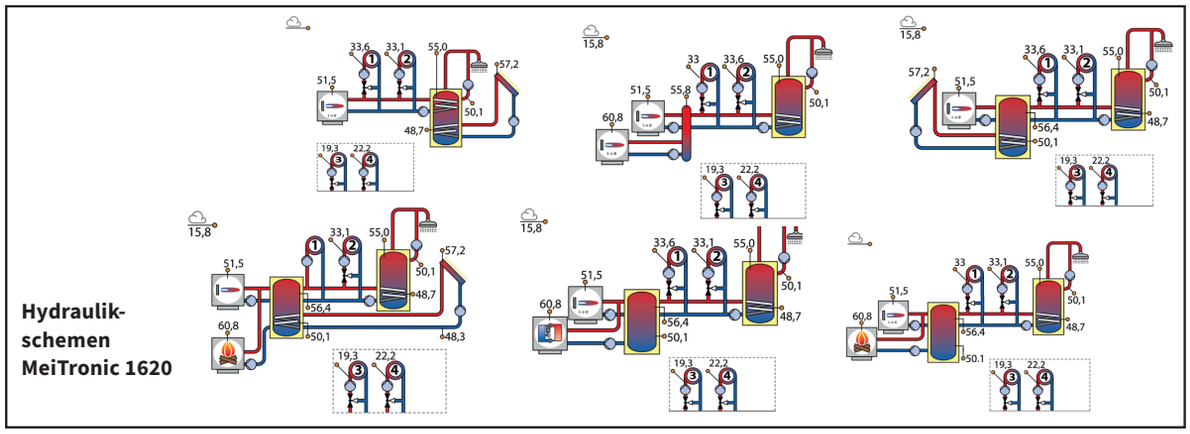
MeiTronic system controller

The MeiTronic 810 (Fig.1) / MeiTronic 1620 are efficient, compact and easily operated system controllers for heating applications.

MeiTronic controls different heat generators (oil, gas, heat pump, biomass, solar thermal) in line with the weather, i.e. in accordance with ambient air temperature. System controllers are optionally available for the control of several mixed and unmixed heating circuits, as well as charging hot water / buffer tanks, incl. regulation of a domestic water circulation system. Preconfigured schemes facilitate commissioning.
The full graphic colour display provides a clear, logical overview of the system.

The MeiTronic RC (Fig. 2) is a room thermostat that communicates via a CAN bus. It allows for the precise control of the assigned heating circuit and simple changes without any need to go to the boiler room in person.



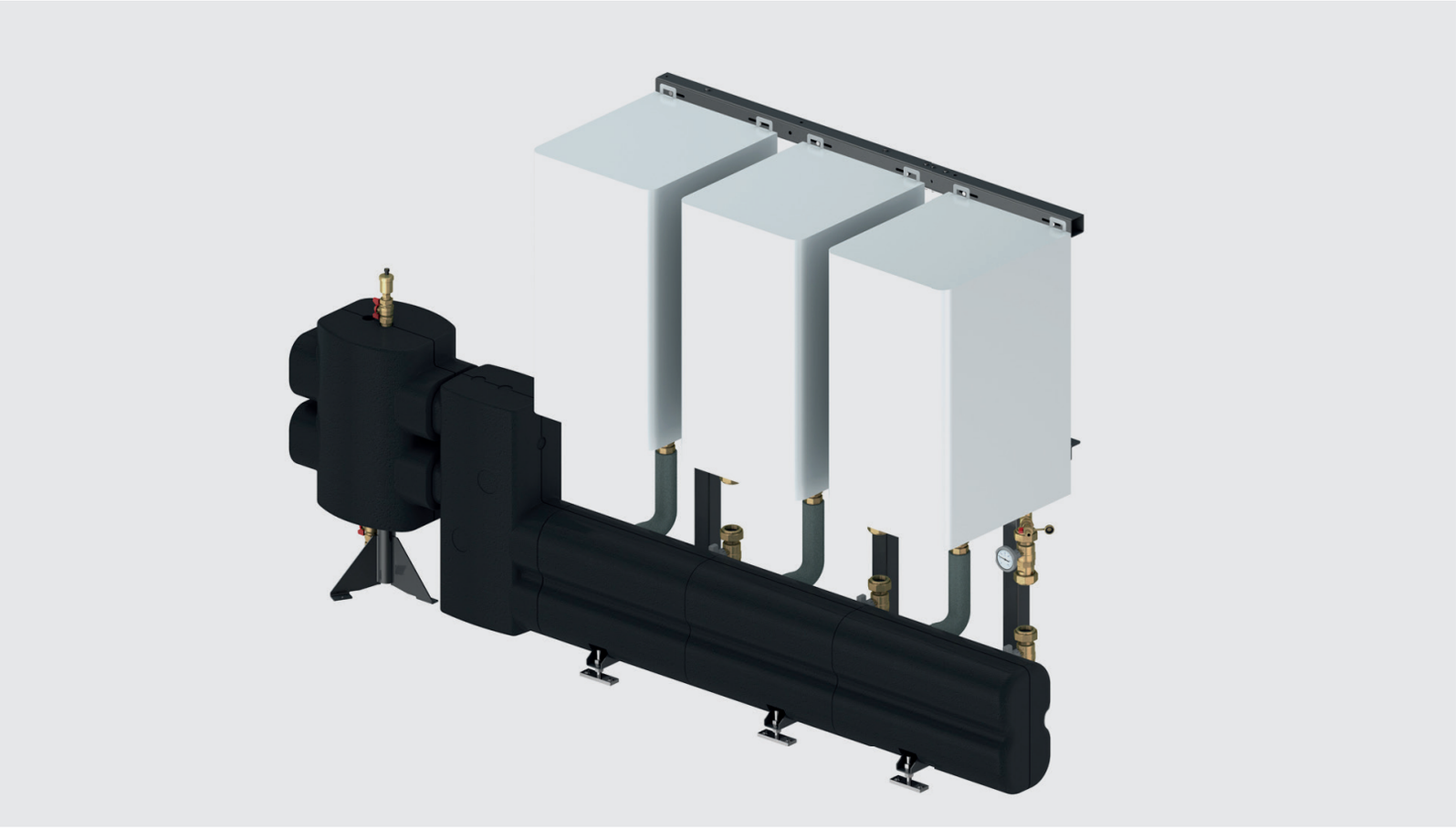


Your advantages

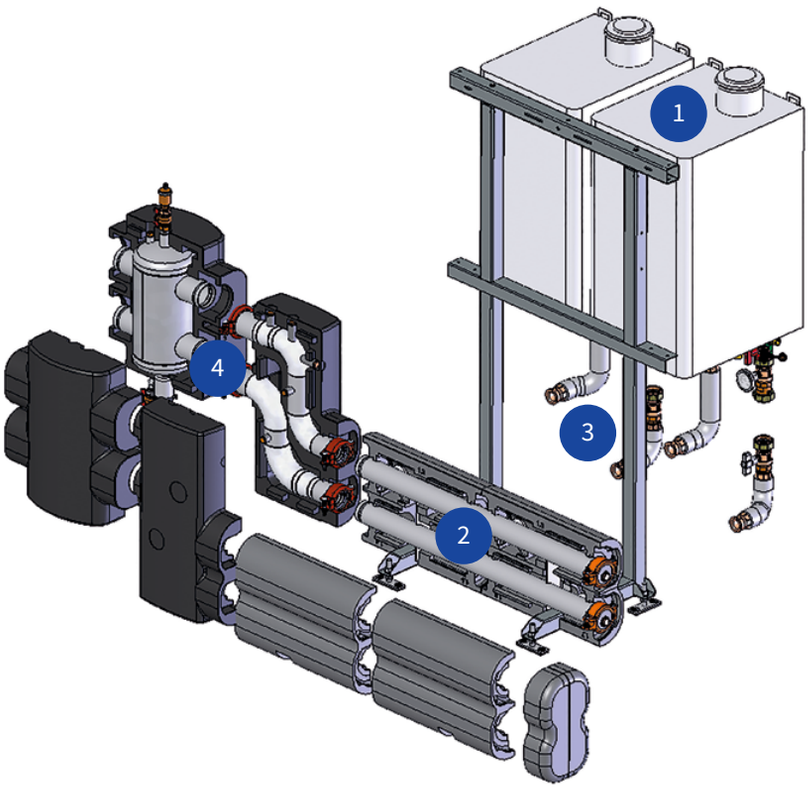
- **Illuminated colour display**
- **Intuitive operation in both installation and running**
- **For 3 to 5 heating circuits**
- **Intelligent prioritising of multiple heat generators (Oil, gas, wood, heat pump, solar)**
- **Separate switching times with different room setpoint values**
- **Remote access for information, parameterisation and troubleshooting (optional via Cloud)**
- **Simple installation and commissioning**

System components

Universal cascade



Several wall heaters weighing up to 100 kg are mounted on stable stands. Different connection sets with or without safety equipment and pump fittings are available.
The heat generator collection line requires a hydraulic splitter for use with most cascades. The Meibes system assigns this function to the boiler guard, which also serves as a link between the cascade and the large manifold.



1) Installation frame to secure the heaters
2) Distribution and collection line
3) Connection sets, if necessary with safety equipment, pump fittings or barriers.
4) S-shaped set for connection to the boiler guard (hydraulic diverter)

Your advantages

- **Pre-assembled, insulated unit incl. installation frame**
- **Quick to design and install thanks to its modular construction**
- **Flexible connector sets compatible with all conventional wall-mounted boilers**
- **Can be combined with a boiler guard (as a union to the heat distribution system)**

Request form for large manifold from Meibes

We will gladly assist you in your planning.
To help us do this, please enter the system-specific characteristics into the request form and send it to info@meibes.com.

Company/point of contact

Object:

Date: **Signature**

Rated power of heating boiler in kW kW Connections in DN:VL RL

Pump groups **Instructions**

Heating circuit(s)		1	2	3	4	5	6	7	8	
Pump capacity	m^3/m									Please enter available data
Output at ΔT = 20 K	kW									
Pump	Note: DN25, 32 = thread* DN40, 50, 65 = Flange									Enter designation/type
With shut-off set										Please mark with a cross
With meter installation fitting										
With mixer	DN mixer = DN pump									
With servomotor	230 V / 50 Hz									Please mark with a cross
	24 V controller 0–10 V									
Unions with heating circuit (1 pair)										
	BigFixLock - arches									
	BigFixLock - BigFixLock									Please mark with a cross
(only DN40, 50, 65)	BigFixLock - male thread									
	BigFixLock - welded end									
	BigFixLock - press carbon steel									

Labels (supply line - red / return line - blue) 1 pair ☐ Please enter the quantity

***Warning: Include in order when using V-groups on large manifold unions (reduction set)** Item no. 66305.50 ☐ Please enter the quantity

Large manifold

Pump capacity	**m^3/h**	12	30	50	100
Output at ΔT = 20 K	**kW**	280	700	1150	2300
Side connections (BigFixLock nut)	**Pipe Ø mm**	114.3	168.3	168.3	219.1
1-circuit module (heating circuit outflow DN80)		n.n.			
1-circuit module (heating circuit outflow DN100)		n.n.			
2-circuit module (heating circuit outflow DN50)					
3-circuit module (heating circuit outflow DN50)					
Bracket for manifold					

Please enter the quantity
(If unknown, please send us a sketch with heating space dimensions. We will take into account the need for the necessary number of brackets)

Boiler guard (option) Magnetite separator

Pump capacity	**m^3/h**	12	30	50	100
Output at ΔT = 20 K	**kW**	280	450	700	1150
Side connections (BigFixLock nut)	**Pipe Ø mm**	88.9	114.3	168.3	219.1

(We will select the appropriate unions from the boiler guard to the manifold)

Please mark with a cross

Function of the hydraulic diverter	Yes	No

Please mark with a cross

Unions with heat generator (1 pair)

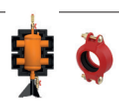
BigFixLock clamp - BigFixLock clamp				
BigFixLock clamp - flange (PN6)				
BigFixLock clamp - welded end				

Comment

Order form

Large manifold and boiler guard

Please indicate your desired power output (P) in kW and the associated volume flow (V) in the table below. Please also complete the item numbers in the red box based on your selection and enter the quantity you would like of each item.

P (kW)	V (m³/h)	Fig.	Component	Art no.	Quantity
			Double manifold	66457.	
			Triple manifold	66457.	
			Bracket for manifold [3]	66457.	
			Special manifold	.	
			With hydraulic diverter	66374.	
			Without hydraulic diverter	66374.	
			Union x	66258.	
			Union to heat generator	66259. 66258.	

Heating circuit groups (if you have more than 3 heating circuits, copy this template a number of times)

Heating circuit no.	DN / type	Instructions	Component	Art no.	Quantity
Sample HC	32+ / MK		Pump group	66834.55	1
		Optional	Spacer/shut-off set		0
		Mandatory for DN25/32/32+	Union to manifold	66305.50	1
		Optional for DN25/32/32+ Mandatory for DN40/50/65	Union to heating circuit	G29611.15	0
		Optional for DN40/50/65 without pump	Flange spacer		0
		Only for DN25 internally	HG installation fitting (external)		0
		For MK	Servomotor	66341	1
			Safety temperature limiter (STW)	45160.01	1
HC	/ K		Pump group		
		Optional	Spacer/shut-off set		
		Mandatory for DN25/32/32+	Union to manifold	66305.50	
		Optional for DN25/32/32+ Mandatory for DN40/50/65	Union to heating circuit		
		Optional for DN40/50/65 without pump	Flange spacer		
		Only for DN25 internally	HG installation fitting (external)		
		For MK	Servomotor		
			Safety temperature limiter (STW)	45160.01	
HC	/ K		Pump group		
		Optional	Spacer/shut-off set		
		Mandatory for DN25/32/32+	Union to manifold	66305.50	
		Optional for DN25/32/32+ Mandatory for DN40/50/65	Union to heating circuit		
		Optional for DN40/50/65 without pump	Flange spacer		
		Only for DN25 internally	HG installation fitting (external)		
		For MK	Servomotor		
			Safety temperature limiter (STW)	45160.01	
HC	/ K		Pump group		
		Optional	Spacer/shut-off set		
		Mandatory for DN25/32/32+	Union to manifold	66305.50	
		Optional for DN25/32/32+ Mandatory for DN40/50/65	Union to heating circuit		
		Optional for DN40/50/65 without pump	Flange spacer		
		Only for DN25 internally	HG installation fitting (external)		
			Servomotor		
		For MK	Safety temperature limiter (STW)	45160.01	

Notes

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