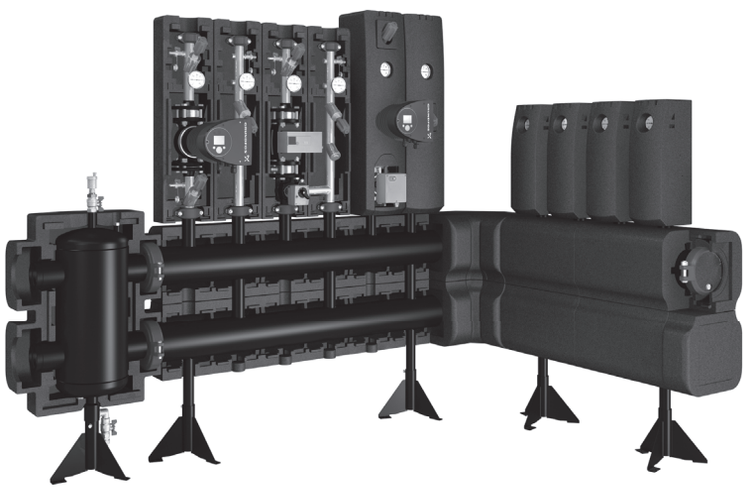
Large Scale Pump Group

Technical Information for Installation and Operation

KE KELIT®
CLIMATE CONTROL SYSTEMS



Technische Änderungen vorbehalten

PR 24002.145 Gültig seit 23-03-2018

KE KELIT NZ Ltd.
Phone: 0800 45353548
Email: climatecontrol@kekelit.co.nz
Web: www.kekelit.co.nz

meibes

Contents

1. Safety notes

Read these instructions carefully before assembling. The assembly and commissioning of the entire unit may only be carried out by an authorised specialist. Before starting work, familiarise yourself with all parts and their operation. In order to prevent accidents and damage to people and property, please follow these safety instructions closely

Meibes - large distributor - modular system

The assembly location must be frost-proof and easily accessible. In order to ensure that the system is well positioned, the floor must be flat with the feet firmly anchored into it. The erection site/area must meet the regional and local fire safety requirements.

Regulations / Directives

Observe the applicable accident prevention regulations, environmental legislation and statutory rules for the assembly, installation and operation. Furthermore, follow the relevant DIN, EN, DVGW, VDI and VDE (incl. lightning protection) directives and all of the current national standards, laws and directives which apply.

Before commissioning

Check the product for completeness. Immediately make a note of transport damage and other grounds for complaint and before assembly, inform our office! The result of the initial commissioning should be recorded in a log. In the case of non-compliance, claims cannot be made for damages or malfunctions that have arisen under the warranty that is provided by Meibes.

- Read the assembly instructions before use

- Risk of cuts

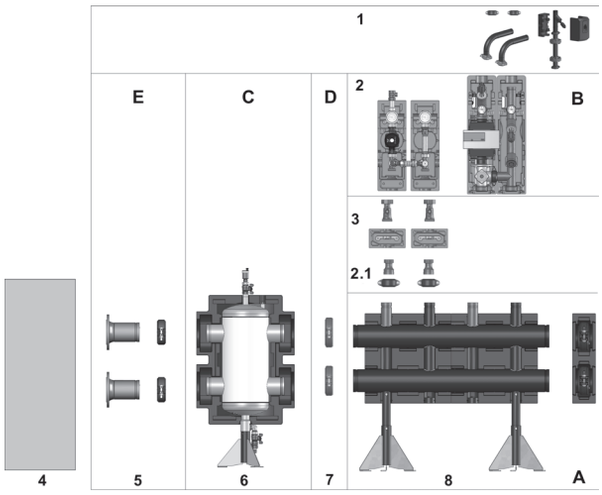
- Risk of being crushing

- Risk of increased temperature

- Risk of electrical voltage

- Risk of items falling during installation

2. Example and construction of the model

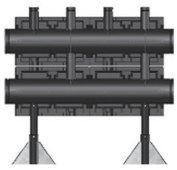


1 When using the pump groups from DN 40, select the desired intersection to the heating circuit (see point 8.5). Size corresponding to the DN of the FL-group*
2 Selected pumps groups
2.1 Reduction set when using V-groups 66305.50
3 Shut-off set with insulation for V-MK group 66833 EWI*
4. Heat generator
5. Intersection 66259.695
6. Boiler guard 66374.100
7. Intersection 66258.831
8. Distributor 66457.2

* Additional corresponding BigFixLock elbow and meter installation fitting available as an optional extra
** Additional optional shut-off sets according to the price list for V-groups (UK/MK) and FL-groups (UK/MK).

Calculated total flow: 28 m³/h
Maximum number of heating circuit outlets: 2 Kreise
Calculated from the total from item B

A



Description	Volume flow	Pipe ø	Art. no.
2-circuit module	30 m³/h	168.3	66457.2

(inkl. 2 Kupplungen und Enddeckeln)

C

Description	Volume flow	Pipe ø	Art. no.
Boiler guard 700 kW	30 m³/h	114.3	66374.100

D

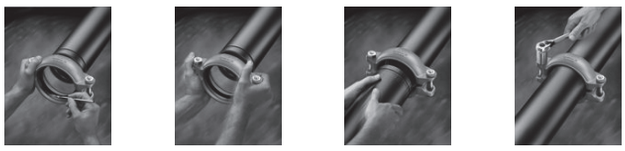
Description	Pipe ø	Art. no.
2x reduction connector including insulation DN100	168.3 x 114.3	66258.831

E

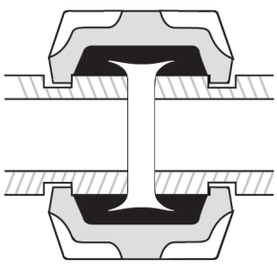
Description	Pipe ø	Art. no.
BigFixLock flange PN 6 without insulation	114.3 x DN 100 flange	66259.695

3. Description of the BigFixLock

BigFixLock connection technology has been a well known system for a long time. Up until now, it has mainly been used in plant engineering. It is characterised by its quick and easy assembly.



After assembly, the BigFixLock coupling catches the beading found inside the pipe. The pressure-reacting C-shaped seal fits the standard roll or mill-grooved pipe. All of the supplied couplings contain a seal.



Note: Mount the brackets horizontally to ensure the insulation fits correctly.

Highly accentuated for easier comprehension

4. General product information

The product

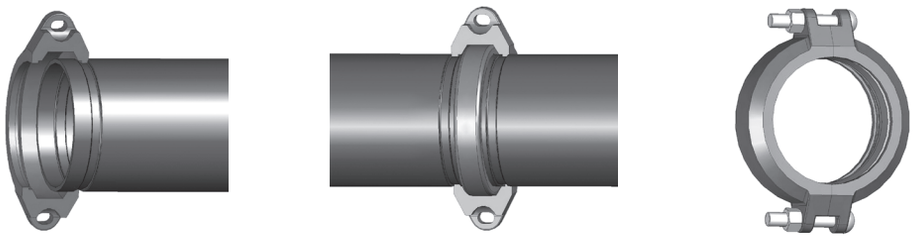
The entire system consists of the following:

- Distributors for 2 or 3 heating circuits - can be combined as desired
- Angle connection 90 ° in the case of lack of space
- Preassembled pump groups DN 25 to DN 65 with a large selection of pumps
- For pump capacities of up to 100 m^3/h and a power output of up to 2300 kW
- In the boiler guard option = air separator, dirt trap, hydraulic diverter

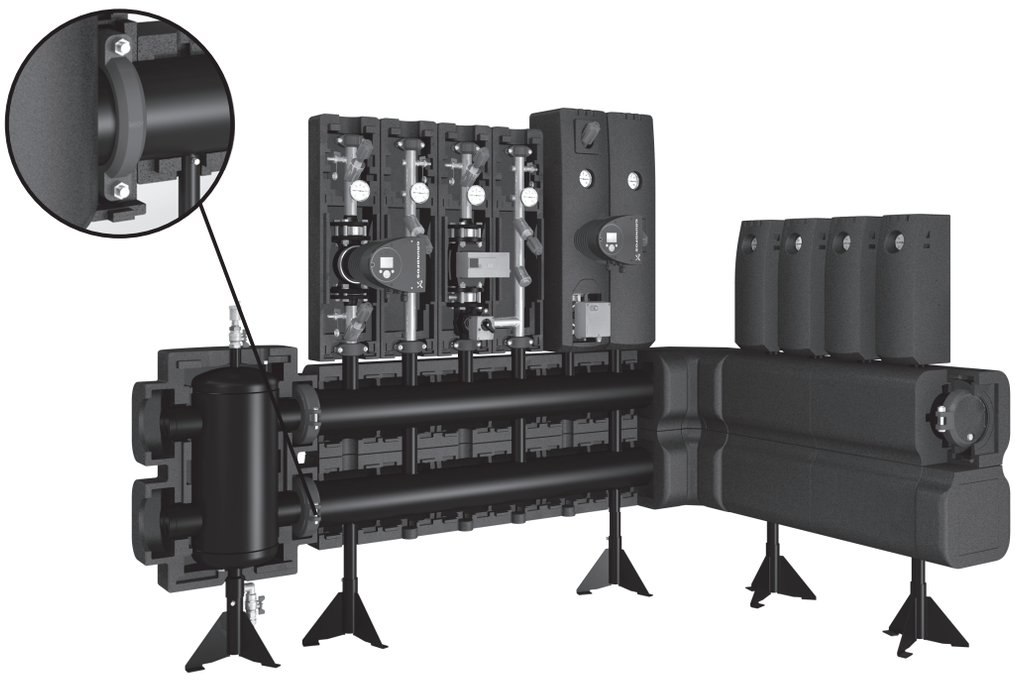
Benefits for you

- Short assembly times and the rapid exchanging of distributor systems
- Simple calculation
- Simple planning = less risk and greater yield

BigFixLock connections



An example of the system



5. Distributors

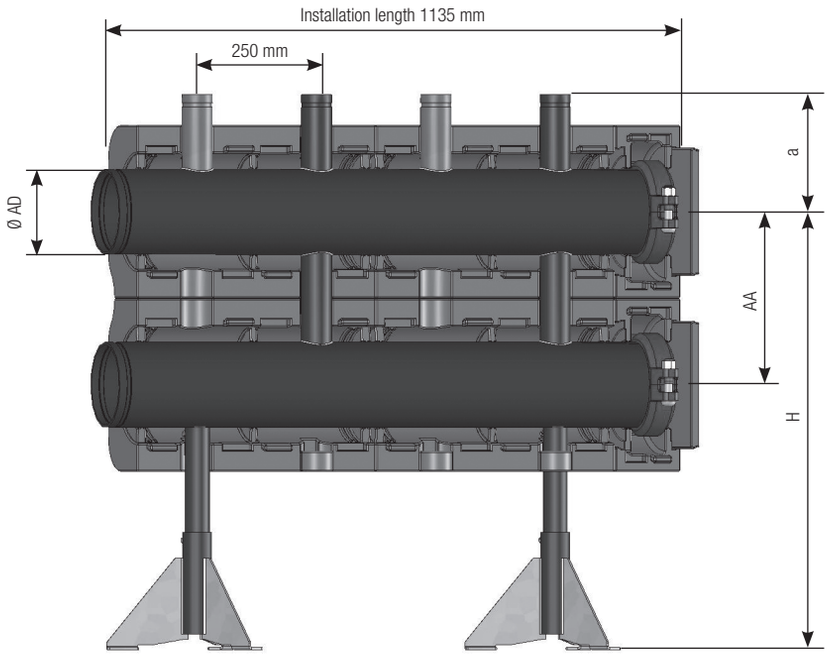
The distributors consist of two stacked chambers with thermal separation of the supply and return lines. The boiler circuit is both connectable on the left and right hand side. All connections are prepared so that BigFixLock clamps can be used. The top outlets for connecting the heating circuits are designed with BigFixLock groove in the nominal width DN 50 (Ø 60.3 mm). All distributors are painted, pressure tested, fully insulated and supplied with two feet*. Furthermore, 2 couplings and 2 end caps are supplied with a 1/2“ drill hole as well as insulation for the clamps. The holes are sealed with plugs. Alternatively, a KFE-cock can be screwed on for emptying. The distributor system consists of elements for two or three heating circuits, which can be combined as desired, depending on the axis-centre distance.

max. permissible pressure rating: PN 10 / max. permissible temperature: 110 °C

5.1 Distributors for 2 heating circuits

Art. no.	Pump volume up to	Power output up to*	Ø pipe (AD) in mm	a in mm	H (min.) in mm	Height (H) for the boiler guide in mm	Axis –Centre distance (AA) in mm
66457.0	12 m³/h	280 kW	114.3	170	580	680	225
66457.2	30 m³/h	700 kW	168.3	230	760	860	340
66457.4	50 m³/h	1150 kW	168.3	230	850	1005	450
66457.6	100 m³/h	2300 kW	219.1	230	850	1005	450

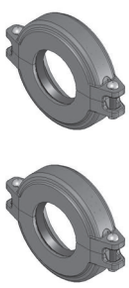
* at ΔT = 20 K



***Note:** The intermediate pipes of the foot are to be shortened to the required length to adjust the height of the manifold or boiler guard.

5. Distributors

Intersection screws (system - internal) Boiler guard (HZW) to the distributor (V), Angle (W), Heat generator (WE), BigFixLock-BigFixLock, 1 pair

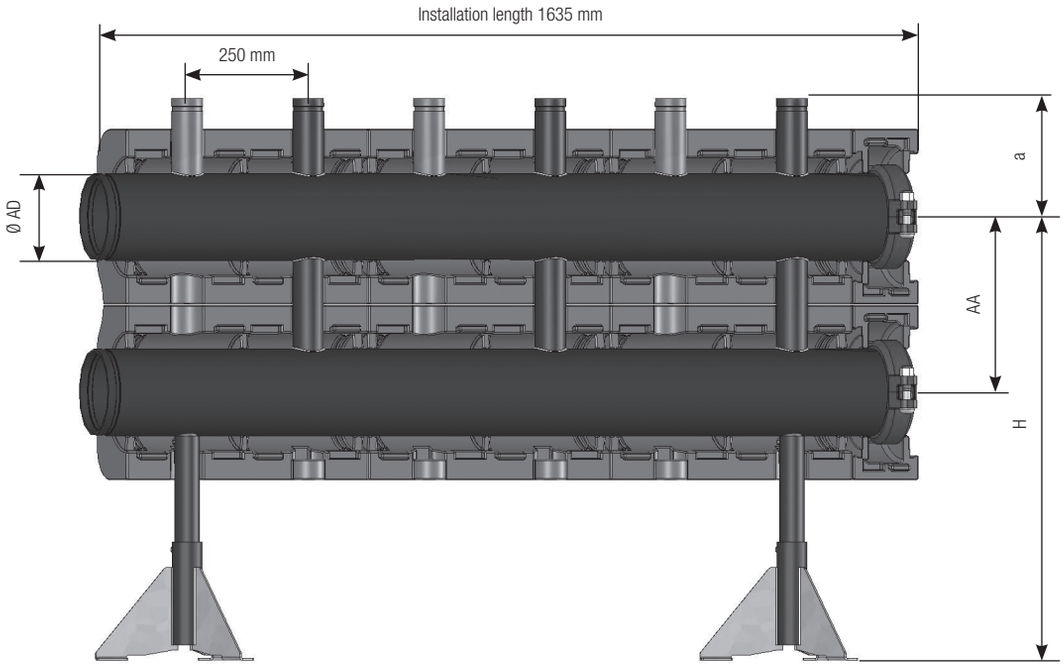


HZW Nominal -ø	Pipe ø	W, WE, V Pipe -ø	Axis-Centre distance	Art. no.
DN 50	60.3	114.3	225	66258.632
DN 80	88.9	114.3	225	66258.634
DN 100	114.3	168.3	340	66258.831
DN 150	168.3	168.3	450	66258.81
DN 200	219.1	219.1	450	66258.91

5.2 Distributors for 3 heating circuits

Art. no.	Pump volume up to	Power output up to*	Ø pipe (AD) in mm	a in mm	H (min.) in mm	Height (H) for the boiler guide in mm	Axis –Centre distance (AA) in mm
66457.1	12 m^3/h	280 kW	114.3	170	580	680	225
66457.3	30 m^3/h	700 kW	168.3	230	760	860	340
66457.5	50 m^3/h	1150 kW	168.3	230	850	1005	450
66457.7	100 m^3/h	2300 kW	219.1	230	850	1005	450

* at ΔT = 20 K

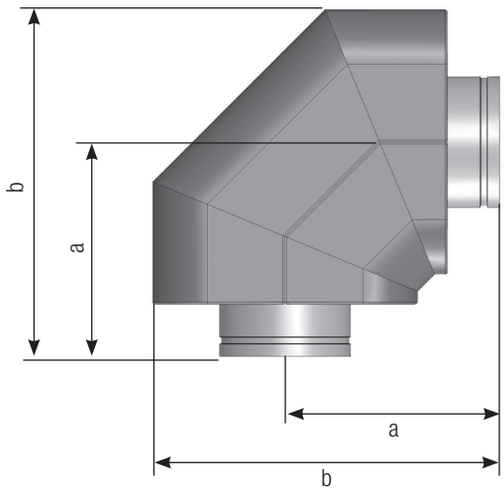


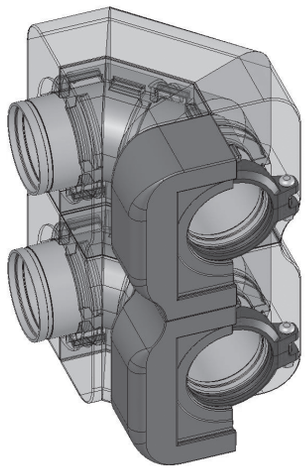
***Note:** The intermediate pipes of the foot are to be shortened to the required length to adjust the height of the manifold or boiler guard.

5.3 Angle connection

With the angle connection, the boilers, boiler guard and / or distributors are connected at right angles. These are supplied in pairs and are completely insulated. The matching clamps (1 pair) with insulation are also included in delivery.

Art.-no.	Ø pipe (AD) in mm	Axis-Centre distance (distributor)	a in mm	b in mm
66457.130	114.3	225	275	470
66457.330	168.3	340	300	500
66457.730	219.1	450	300	500

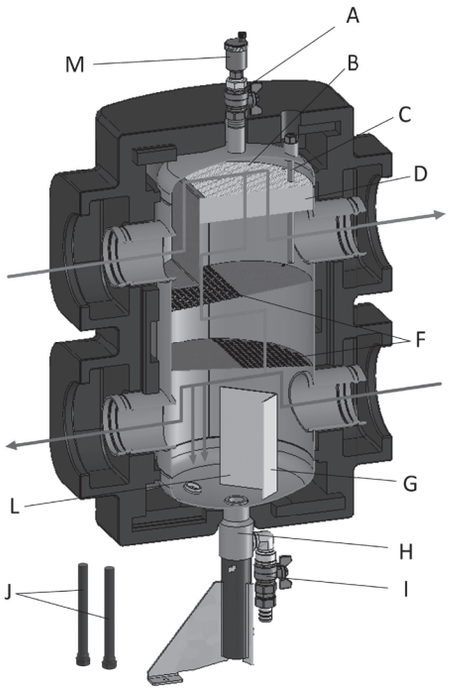


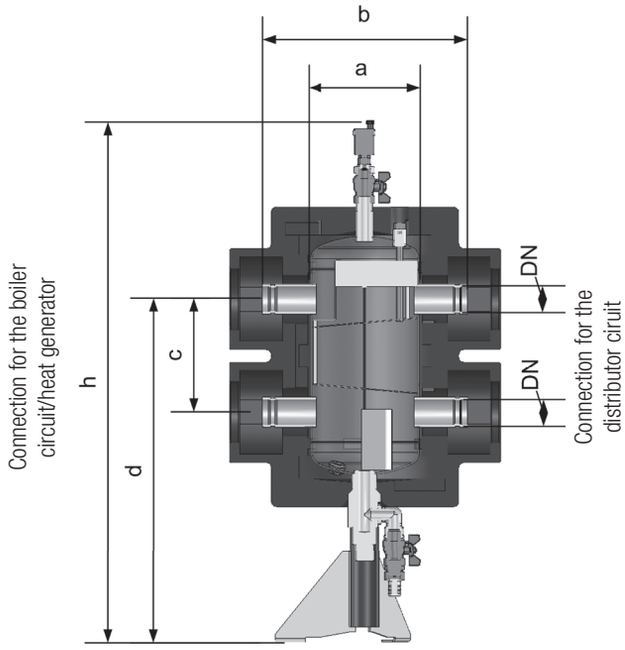


6. Boiler guard

The boiler guard (see „boiler guard“ technical information) can be connected directly to the distributor, or the angle connection depending on the size and/or pumped quantity. For this, reduction couplings are offered. This way, the distribution system can be put together as needed. Housing: welded round container with adapter props made from a seamless steel tube incl. a BigFixLock groove. In the base there is an opening for cleaning is with a 1“ drain valve. The 3/4 „sleeves in the ground are used to pick up magnetite separators, which are sealed with plugs, if none are needed. An automatic floating vent, a rinsing ball cock and a pocket immersion sleeve for accommodating the temperature sensor are located in the lid. The boiler guard is held in place by a foot. Supplied with EPP - block insulation.

Max. permissible pressure rating: PN 6 / Max. permissible temperaturer: 110 °C





A Rinsing tap with a hose fitting (included)
B Settling chamber
C Immersion sleeve for the temperature sensor
D Flow straightener
F Perforated plates
G Dividers
H Sludge pot
I Drain ball valve with a hose fitting (included)
J Magnetite separator
L Impact plate
M Automatic floating vent

***Note:** The intermediate pipes of the foot are to be shortened to the required length to adjust the height of the manifold or boiler guard.

Dimensions

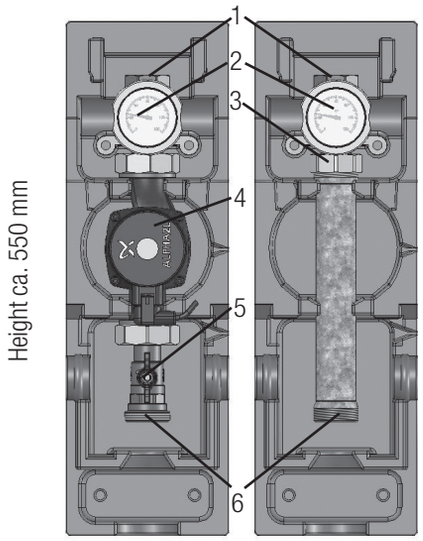
Type	Pumped quantity	Power up until*	Connection	Ø pipe in mm	a mm	b mm	c (AA) mm	d (min.) mm	h (min.) mm
MH 50	6 m^3/h	135 kW	DN 50	60.3	220	410	225	680	1040
MH 80	12 m^3/h	280 kW	DN 80	88.9	220	410	225	680	1040
MH 100	30 m^3/h	700 kW	DN 100	114.3	300	500	340	860	1280
MH 150	50 m^3/h	1150 kW	DN 150	168.3	420	660	450	1005	1460
MH 200	100 m^3/h	2300 kW	DN 200	219.1	420	660	450	1005	1460

* at $\Delta T = 20$ K

For further information, see the technical information for the assembly and operation of the boiler guard.

7. Pump groups DN25 / DN32 / DN32+

7.1 Pump groups V-UK DN 25, 32 and 32+



1 Ball cock 1“ or 1/4“ female thread with a thermometer socket
2 Thermometer
3 Non-return valve with a manual set-up and airlock
4 HE circulating pump with connection cable (2m length)
5 Ball cock
6 Outlets 1 1/2“ male thread ((flat seal) bottom)

Distributor pump group V-UK (Unmixed circuit for the distributor set up)

Complete with or without a circulation pump (EL 180 mm) with a 2 m connection cable, two 2-way ball valves (on the side of the return line with a manually adjustable non-return valve); two contact thermometers integrated into the ball cock handle (display range 0-120 °C); a pump ball cock with a Meibes flange; EPP insulation; Axis-Centre distance from 175 mm can be freely selected; bottom outlet 1½“AG flat seal, top outlet female thread corresponding to the pump dimension

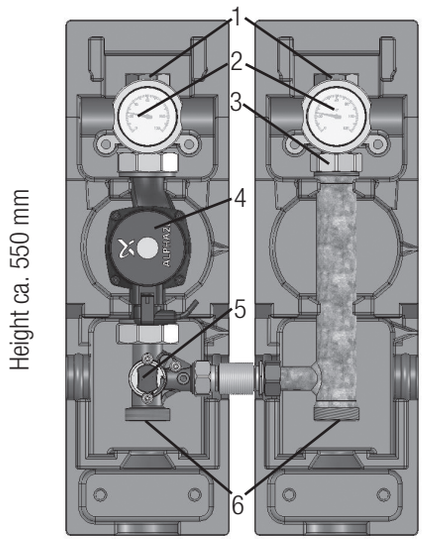
Embodiment	Art. no.	Embodiment	Art. no.	Art. no.
DN 25 (1”)		DN 32 (1 1/4”)		DN 32+*(1 1/4”)
without pump	66813 EA	without pump	66814 EA	66814.05 EA
with Grundfos pump UPM3 Hybrid 25-70	66813.36	with Grundfos pump UPM3 Hybrid 32-70	66814.36	66814.55
with Grundfos pump Alpha 2.1 25-60	66813.30	with Grundfos pump Alpha 2.1 32-60	66814.30	66814.35
with Grundfos pump Magna 3 25-60	66813.64	with Grundfos pump Magna 3 32-60	66814.64	66814.65
with Wilo pump Yonos PICO 25/1-6	66813.10 WI	with Wilo pump PICO 30/1-6	66814.10 WI	66814.15 WI
with Wilo pump Stratos Para 25/1-7 with additional option: control signal 0-10 V	66813.31 WI	with Wilo pump Stratos Para 30/1-7 with additional option: control signal 0-10 V	66814.31 WI	66814.35 WI

*for large flow rates

Intersection screw fitting for the large Meibes distributor 2 complete screw fifittings 1 1/2” internal thread x DN 50 (60.3 mm BigFixLock)

Art.-no.
66305.50

7.2 Pump groups V-MK DN 25, 32 and 32+



1 Ball cock 1“ or 1/4“ female thread with a thermometer socket
2 Thermometer
3 Non-return valve with a manual set-up and airlock
4 HE circulating pump with connection cable (2m length)
5 3-way T-mixer DN25 with a flexible connection
6 Outlets 1 1/2“ male thread ((flat seal) bottom)

Distributor pump group V-MK (Mixer circuit for the distributor set up)

Complete with or without a circulation pump (EL 180 mm) with a connection cable, two 2-way ball valves (on the side of the return line with a manually adjustable non-return valve); Two contact thermometers integrated into the ball cock handle (display range 0-120 °C); a 3-way T-mixer incl. an infinitely variable settable; EPP insulation; Axis-Centre distance from 175 mm to 250 mm (larger than 250 mm available for a supplement); bottom outlet 1 1/2“ AG flat seal, top outlet female thread corresponding to the pump dimension

Embodiment	**Art. no.**	**Embodiment**	**Art. no.**	**Art. no.**
DN 25 (1”)		DN 32 (1 1/4”)		DN 32+*(1 1/4”)
without pump	66833 EA	without pump	66834 EA	66834.05 EA
with Grundfos pump UPM3 Hybrid 25-70	66833.36	with Grundfos pump UPM3 Hybrid 32-70	66834.36	66834.15
with Grundfos pump Alpha 2.1 25-60	66833.30	with Grundfos pump Alpha 2.1 32-60	66834.30	66834.35
with Grundfos pump Magna 3 25-60	66833.64	with Grundfos pump Magna 3 32-60	66834.64	66834.65
with Wilo pump Yonos PICO 25/1-6	66833.10 WI	mit Wilo-Pumpe Yonos PICO 30/1-6	66834.10 WI	66834.15 WI
with Wilo pump Stratos Para 25/1-7 with additional option: control signal 0-10V	66833.31 WI	with Wilo pump Stratos Para 30/1-7 with additional option: control signal 0-10V	66834.31 WI	66834.35 WI
Transistion screw connection	66305.50 (see page 42)	Control motor incl. mounting set	66341 (see chapter 7.6)	
Pump groups V-UK/V-MK DN 25 each also available with integrated meter installation fitting.	See price list	Meter installation fitting for V-UK/V-MK DN 32	61825.32Z	

*for large flow rates

7. Pump groups DN25 / DN32 / DN32+

7.3 Technical data V-UK and V-MK

Technical data: Pump groups V-UK DN 25 and 32			
DN	25	32	32+
top connection	G 1“ female thread	G 1 1/4“ female thread	
bottom connection	G 1 1/2“ AG (flat seal)		
Axis-Centre distance	from 175 mm upwards		
Components made from	steel, brass, EPP insulation		
Dimensions per line	approx. height 550 x width 175 x depth 240 mm		
Sealant materials	PTFE, asbestos-free fibre seal, EPDM		
Temperature display	0 to 120 °C		
Operating temperature	up to 110 °C		
Operating pressure	PN 10		

Note: Change of side is possible before supply and return for UK.

Technical data: Pump groups V-MK DN 25 and 32			
DN	25	32	32+
top connection	G 1“ female thread	G 1 1/4“ female thread	
bottom connection	G 1 1/2“ AG (flat seal)		
Axis-Centre distance	from 200 mm upwards (other distances available subject to a surcharge)		
Components made from	steel, brass, EPP insulation		
Dimensions per line	approx. height 550 x width 175 x depth 240 mm		
Sealant materials	PTFE, asbestos-free fibre seal, EPDM		
Temperature display	0 to 120 °C		
Operating temperature	up to 110 °C		
Operating pressure	PN 10		
k_{VS} – value mixer	7.4	7,4	12

Performance overview / flow rates for V-UK						
Dimension	DN 25		DN 32		DN 32+	
Top connections	1" female thread		1¼" female thread		1¼" female thread	
Bottom connections	1½" male thread		1½" male thread		1½" male thread	
Max. pressure rating	PN 10		PN 10		PN 10	
Max. temperature	110°C		110°C		110°C	
k_{VS} – value	7.2 m³/h		7.6 m³/h		11.7 m³/h	
	P	V	P	V	P	V
Alpha 2 (L)	75/55	2.15	75/55	2.15	89/59	2.55
Magna3	115/77	3.3	118/79	3.4	178/119	5.1
Yonos Pico	70/46	2	70/46	2	84/56	2.4
Stratos Para	108/72	3.1	108/72	3.1	129/86	3.7

Output P [in kW] at ΔT 30K/ 20K; ΔT [in K] is the temp. differential between the supply line and return line. E.g. 85°C – 55°C = 30K maximum flow rate V [in m³/h] at approx. 2 mWS residual delivery head

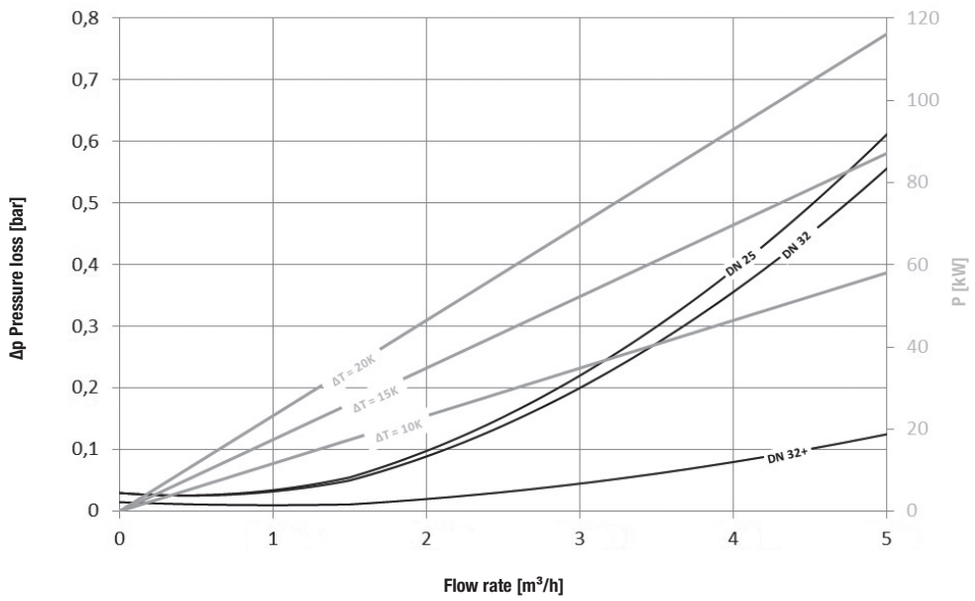
Performance overview / flow rates for V-MK						
Dimension	DN 25		DN 32		DN 32+	
Top connections	1" female thread		1¼" female thread		1¼" female thread	
Bottom connections	1½" male thread		1½" male thread		1½" male thread	
Max. pressure rating	PN 10		PN 10		PN 10	
Max. temperature	110°C		110°C		110°C	
k_{VS} – value	5.8 m³/h		5.1 m³/h		9.8 m³/h	
	P	V	P	V	P	V
Alpha 2 (L)	46/23	2	46/23	2	57/28	2.45
Magna3	105/70	3	105/70	3	164/109	4.7
Yonos Pico	44/22	1.9	66/44	1.9	84/56	2.4
Stratos Para	97/65	2.8	97/65	2.8	125/84	3.6

Output P [in kW] at ΔT 20K/ 10K; ΔT [in K] is the temperature differential between the supply line and return line. E.g. 50°C – 30°C = 20K maximum flow rate V [in m³/h] at approx. 2 mWS residual delivery head

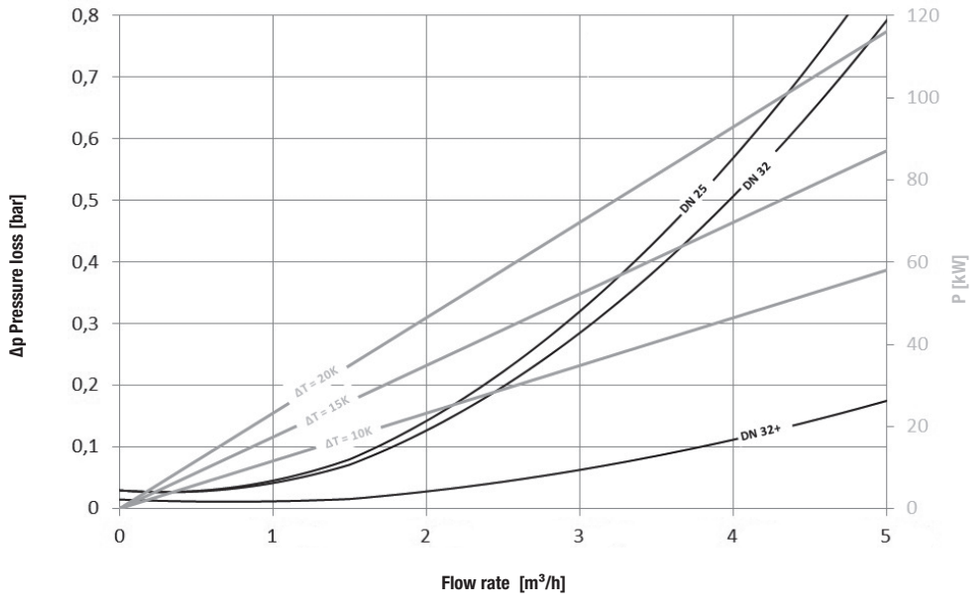
ATTENTION: The flow rate is determined by the respective pump that is used!

7.4 Diagramme V-UK und V-MK

Flow and pressure loss diagram
V-UK pump groups



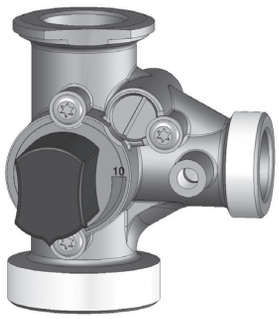
Flow and pressure loss diagram
V-MK pump groups with 3-way T-mixer



7. Pump groups DN25 / DN32 / DN32+

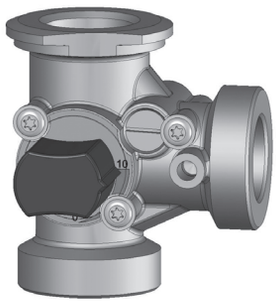
7.5 Mixer for pump groups - type V 1“ to 1 1/4“

T-mixer with bypass DN25, DN32



Art.-Nr. 66625.2

T-mixer with bypass DN32+

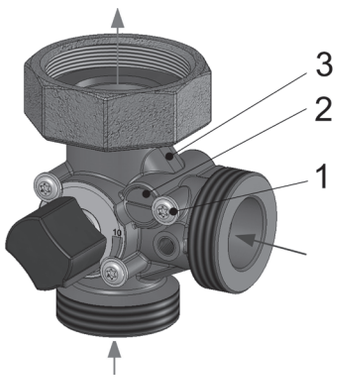


Art.-Nr. 66630.2

Article Description

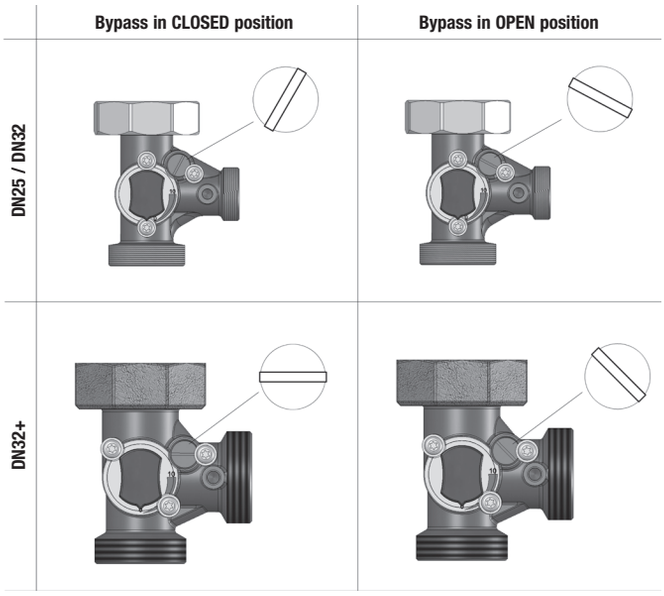
Type:	Three-way mixer MS
Material:	Housing: brass
Rotary valve:	Brass
Connections:	66625.2: ÜWM 1 1/2“/ 1“ male thread / 1 1/2“ male thread I
	66630.2: ÜWM 2” / 1 1/2” male thread/ 1 1/2” male thread
Medium:	Heating water Glycol-water mixture
	(composition in accordance with VDI 2035)
	Temperature range +2 to +110 ° C
Nominal pressure:	PN 6

Bypass setting (only with MK groups)
A bypass is integrated into the mixer, which is closed in its delivered state. The setting of the bypass can be infinitely variable. To do this, the safety screw (1) needs to be loosened approx. 1 mm. Then the adjuster screw (2) can be adjusted between 0 and 100%.



	With DN25/DN32 groups	With DN32+ groups
Closed bypass:	- The groove of the screw (2) is positioned at a right angle to the edge of the bypass channel (3)	- Groove aligned horizontally
Opened bypass:	- The groove of the adjuster screw (2) is positioned parallel to the edge of the bypass channel (3)	

See corresponding figure.



It makes sense to open the bypass when the heat generator temperature level provided is always much higher than the required temperature in the heating circuit (e.g. wood-fired boiler in combination with underfloor heating). The displacement of the mixer increases so that the servomotor can be regulated more accurately by permanently lowering the temperature level in the heating circuit supply line.

7.6 Servomotor

Servomotor incl. installation set
Wired with a approx. 2m cable for direct assembly on the mixer. With emergency manual operation and a visible position indicator.

Model	Art. no.
For MK groups DN 25/32 and DN32+	66341

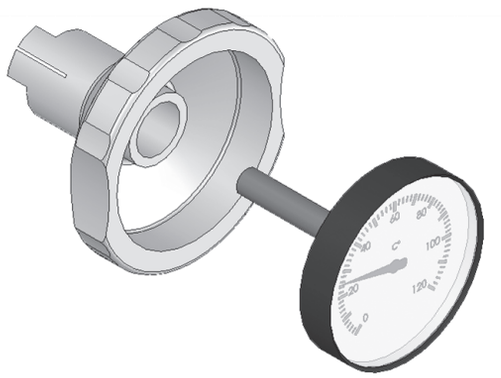
Specification text / Description of article

Servomotor with emergency manual operation incl. connection cable and an assembly kit for mixer type MS and DR GFLA

Electrical connection:	~50 Hz/230 V	Connection cable:	3 x 0,5 mm²
Power consumption:	2,5 VA	Art. no.:	66341
Torque:	6 Nm	Protection class:	II
Running time:	140 s/90°	Protection system:	IP40

7. Pump groups DN25 / DN32 / DN32+

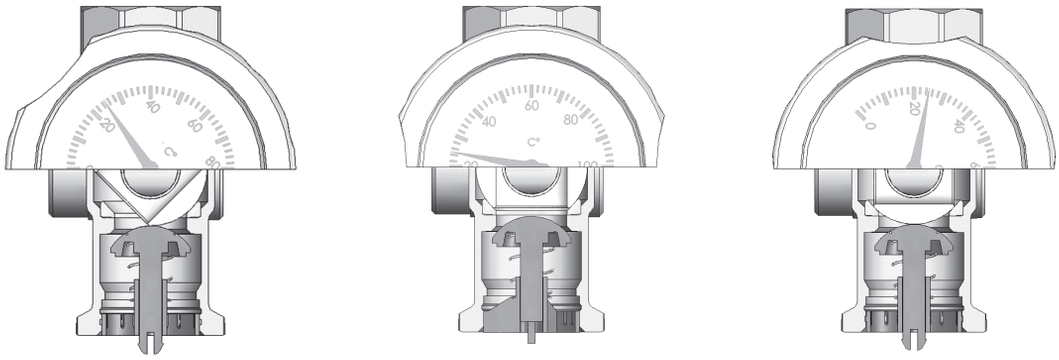
7.7 Thermometer exchange



The thermometers are only just plugged in and can be easily exchanged by pulling them out. It should be noted that a removed thermometer should replaced by an identical model. Please pay attention to the colour marking. (Red text = VL; blue text = RL)

7.8 Non-return valve

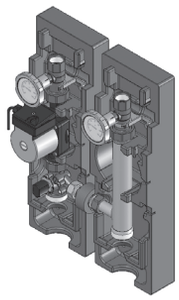
The non-return valves (SB) and / or return flow inhibitors (RV) data used in our system are specially marked. They are integrated into the ball cocks and on the rotary handle with marked with a band: The non-return valve can be opened manually by moving the rotary handle approximately 45 ° to the „stop position“.



Note: It is not possible to manually open the backflow preventer with the DN32+ variant.

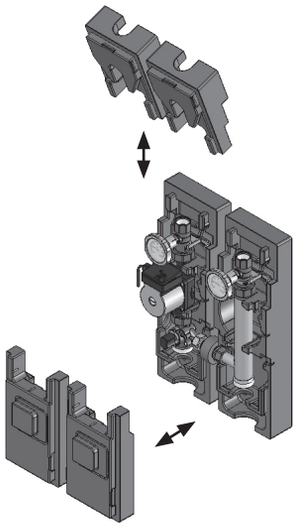
7.9 Construction of the multipart insulation

1. Pump group with rear insulation jackets and retaining clips



2. Installation/removal of the middle insulation pieces

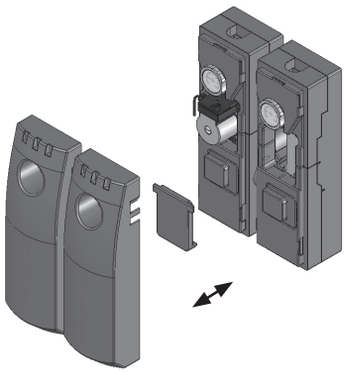
   Note:
   The respective slip on and slip off direction has to be observed. If and when required, install the upper insulation pieces when tilted.



3. Installation/removal of the pump cover as well as of the front insulation jackets

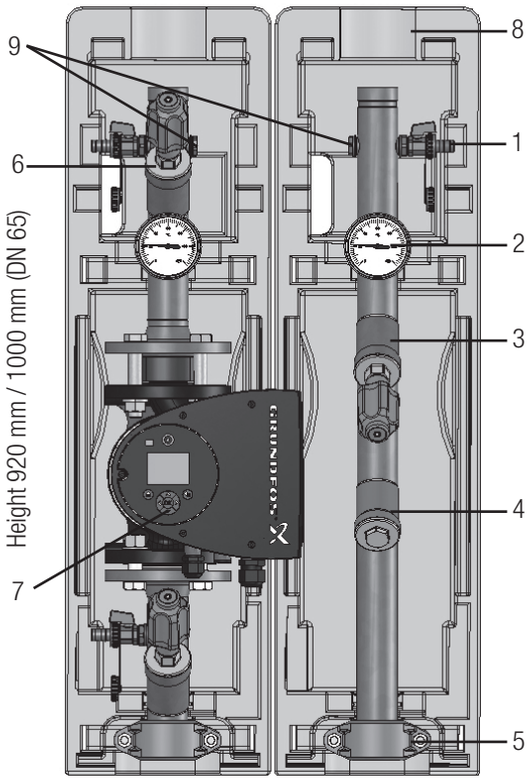
   Note:
   All commercially available pumps (with an installation length of 180 mm) can be fitted without reworking the insulation. For this purpose, the front insulation jackets, the pump cover and the respective middle insulation pieces have to be removed (as shown in the illustration).

   When a mixer servomotor (MK group) has been used, the corresponding cover of the insulation has to be removed.



8. Pump groups DN40 / DN50 / DN65

8.1 Pump groups FL-UK DN 40, 50 and 65



1 KFE-cock
2 Thermometers (display 0-120 °C)
3 Barrier
4 Dirt trap
5 BigFixLock clamp
6 Barrier with return valve
7 Pump
8 Insulation
9 Additional 1/2“ connection (2xVL; 2xRL)

Pump groups FL-UK (direct heating circuit)

From DN 40 to DN 65 for the distributor set up. The groups are fully pre-assembled / tested and can be connected to the distributors using the supplied BigFixLock couplings. Various adapters are available for other types of connections.

Max. permissible pressure rating: PN 10 / Max. permissible temperature: 110 °C

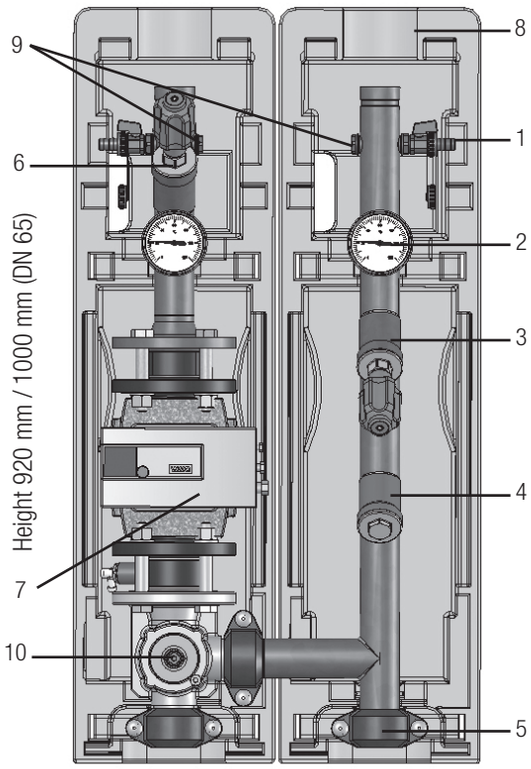
Embodiment FL-UK	Art. no.	Connection	Pump height	Height
DN 40 (1 1/2")	with insulation		260 mm *2	
without pump, with pump cut-out*1	66537 EAS	DN 40 / AD = 48.3		920 mm
Grundfos-pump MAGNA3 40-100 F	66537.21	DN 40 / AD = 48.3		920 mm
Wilo-pump Stratos 40/1-4	66537.14 WI	DN 40 / AD = 48.3		920 mm
Wilo-pump Stratos 40/1-8	66537.16 WI	DN 40 / AD = 48.3		920 mm
Pump dimension 250 mm				
DN 50 (2")			290 mm *2	
without pump, with pump cut-out*1	66538 EAS	DN 50 / AD = 60.3		920 mm
Grundfos-pump MAGNA3 50-100 F	66538.21	DN 50 / AD = 60.3		920 mm
Wilo-pump Stratos 50/1-8	66538.12 WI	DN 50 / AD = 60.3		920 mm
Wilo-pump Stratos 50/1-10	66538.13 WI	DN 50 / AD = 60.3		920 mm
Pump dimension 280 mm				
DN 65 (2 1/2")			350 mm *2	
without pump, with pump cut-out*1	66539 EAS	DN 65 / AD = 76.1		1000 mm
Grundfos-pump MAGNA3 65-120 F	66539.22	DN 65 / AD = 76.1		1000 mm
Wilo-pump Stratos 65/1-12	66539.12 WI	DN 65 / AD = 76.1		1000 mm
Pump dimension 340 mm				

*1 For selected pumps made by Grundfos and Wilo.

*2 For self-selected pumps it may be necessary to use suitable flange adapters.

8. Pump groups DN40 / DN50 / DN65

8.2 Pump groups MK-FL DN 40,50 and 65



Width ca. 495 mm

1 KFE-cock
2 Thermometers (display 0-120 °C)
3 Barrier
4 Dirt trap
5 BigFixLock clamp
6 Barrier with return valve
7 Pump
8 Insulation
9 Additional 1/2“ connection (2xVL; 2xRL)
10 Mixer

Pump groups FL-UK (mixed heating circuit) from DN 40 to DN 65 for the distributor set up

The groups are fully pre-assembled / tested and can be connected to the distributors using the supplied BigFixLock couplings. Various adapters are available for other types of connections.

Max. permissible pressure rating: PN 10 / Max. permissible temperature: 110 °C

Embodiment FL-UK	Art. no.	Connection	Pump height	Height
DN 40 (1 1/2")	mit Isolierung		260 mm *2	
without pump, with pump cut-out*1	66547 EAS	DN 40 / AD = 48.3		920 mm
Grundfos-pump MAGNA3 40-100 F	66547.21	DN 40 / AD = 48.3		920 mm
Wilo-pump Stratos 40/1-4	66547.14 WI	DN 40 / AD = 48.3		920 mm
Wilo-pump Stratos 40/1-8	66547.16 WI	DN 40 / AD = 48.3		920 mm
Pump dimension 250 mm				
DN 50 (2")			290 mm *2	
without pump, with pump cut-out*1	66548 EAS	DN 50 / AD = 60.3		920 mm
Grundfos-pump MAGNA3 50-100 F	66548.21	DN 50 / AD = 60.3		920 mm
Wilo-pump Stratos 50/1-8	66548.12 WI	DN 50 / AD = 60.3		920 mm
Wilo-pump Stratos 50/1-10	66548.13 WI	DN 50 / AD = 60.3		920 mm
Pump dimension 280 mm				
DN 65 (2 1/2")			350 mm *2	
without pump, with pump cut-out*1	66549 EAS	DN 65 / AD = 76.1		1000 mm
Grundfos-pump MAGNA3 65-120 F	66549.22	DN 65 / AD = 76.1		1000 mm
Wilo-pump Stratos 65/1-12	66549.12 WI	DN 65 / AD = 76.1		1000 mm
Pump dimension 340 mm				

*1 For selected pumps made by Grundfosand Wilo.

*2 For self-selected pumps it may be necessary to use suitable flange adapters.

8.3 Technical data FL-UK and FL-MK

Technical data FL-UK and FL-MK			
DN	40	50	65
top connection	ø 48.3	ø 60.3	ø 76.1
bottom connection	ø 48.3	ø 60.3	ø 76.1
Pump	as per list		
Axis-Centre distance	250 mm		
Components made from	steel, brass, EPS insulation		
Dimensions	approx. h 920 x w 500 x d 280 mm (without pump)		approx. h 1000 x w 500 x d 280 mm (without pump)
Sealant materials	EPDM		
Temperature display	0 to 120 °C		
Operating temperature	up to 110 °C		
Operating pressure	PN 10		
k_{VS} – value	14.5	20.5	26

8. Pump groups DN40 / DN50 / DN65

Technische Daten Pumpengruppen FL-MK			
DN	40	50	65
top connection	ø 48.3	ø 60.3	ø 76.1
bottom connection	ø 48.3	ø 60.3	ø 76.1
Pump	as per list		
Axis-Centre distance	250 mm		
Components made from	steel, brass, EPS insulation		
Dimensions	approx. h 920 x w 500 x d 280 mm (without pump)		approx. h 1000 x w 500 x d 280 mm (without pump)
Sealant materials	EPDM		
Temperature display	0 to 120 °C		
Operating temperature	up to 110 °C		
Operating pressure	PN 10		
k_{VS} – value	14	20	25.5

Summary of power output / flow rates FL-UK / FL-MK

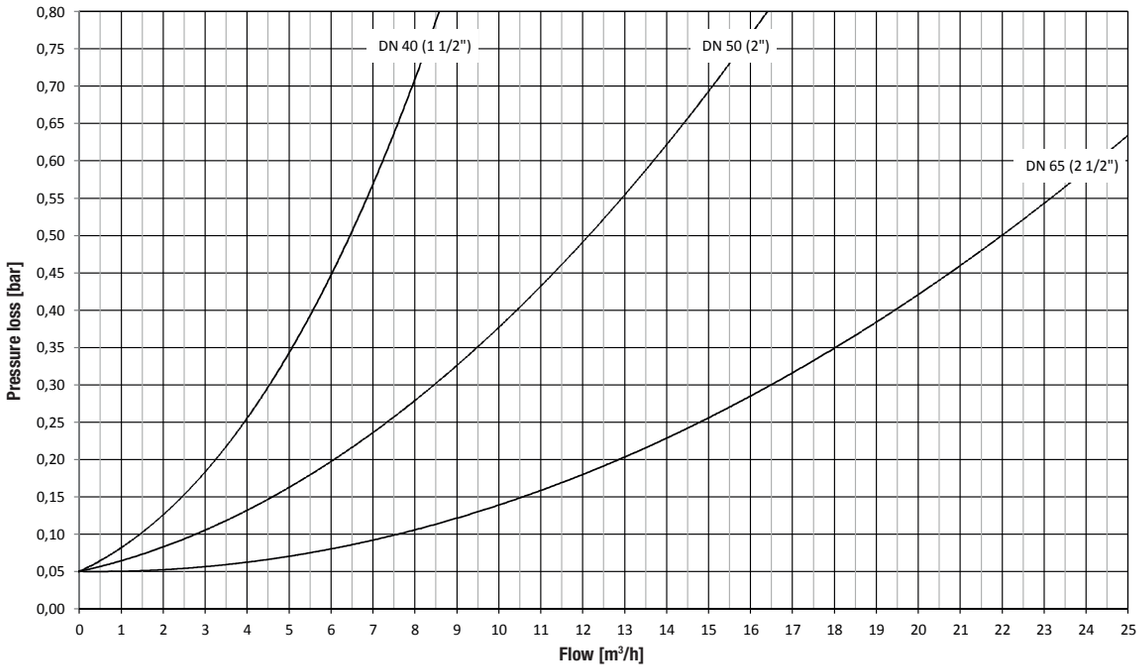
Group	Nominal width	v = 0.5 m/s			v = 1.0 m/s			v = 1.5 m/s		
		V in m^3/h	Q in kW		V in m^3/h	Q in kW		V in m^3/h	Q in kW	
			ΔT = 10 K	ΔT = 20 K		ΔT = 10 K	ΔT = 20 K		ΔT = 10 K	ΔT = 20 K
1 1/2“	DN40	2.5	28	57	4.9	57	114	7.4	84	169
2“	DN50	4.0	46	92	7.9	92	184	11.9	136	271
2 1/2“	DN65	6.7	77	155	13.4	155	311	20.0	228	456

v Flow velocity
V Volume flow
Q Power
T Temperature spread - supply and return
UK Direct heating circuit
MK Mixed heating circuit

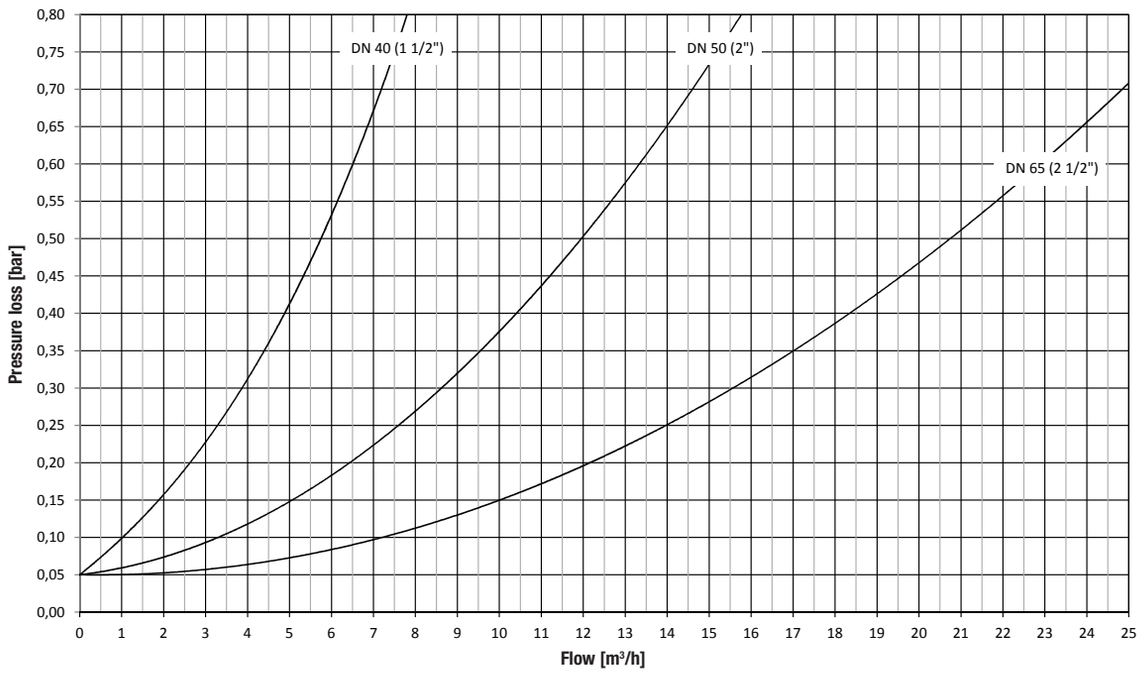
ATTENTION: The flow rate is determined by the respective pump that is used!

8.4 Diagrams FL-UK and FL-MK

Volume flow pressure drop diagram
Pump groups FL-UK

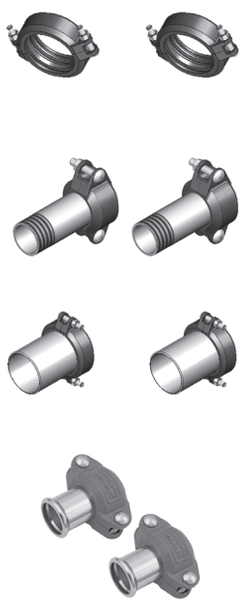


Volume flow pressure drop diagram
Pump groups FL-MK with a 3-way mixer



8. Pump groups DN40 / DN50 / DN65

8.5 Intersection screw fittings for the heating circuit, 1 pair



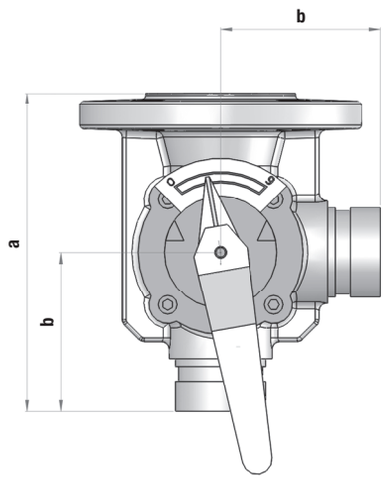
BigFixLock - BigFixLock

Nominal diameter	Connection	Art. no.
DN 40	48.3	66259.21
DN 50	60.3	66259.31
DN 60	76.1	66259.41
BigFixLock - male thread		
DN 40	1 1/2" AG	66259.26
DN 50	2" AG	66259.36
DN 60	2 1/2" AG	66259.46
BigFixLock - Weld end		
DN 40	48.3	66259.27
DN 50	60.3	66259.372
DN 60	76.1	66259.47
BigFixLock squeezed joint C-steel		
DN 40	42 x 48.3	66259.28
DN 50	54 x 60.3	66259.38

Note: For control motors refer to chapter 8.7

For additional accessories, such as shut-off sets, meter installation fittings, couplings and elbows, please see the current price list.

8.6 Mixer for Pump groups - type FL DN 40-DN 65



Article description

Type: Three way mixer with a flange and BigFixLock connection, DR GFLA
Material: GG20
Medium: Heating water Temperature range +2 to 110 °C
Nominal pressure: PN10

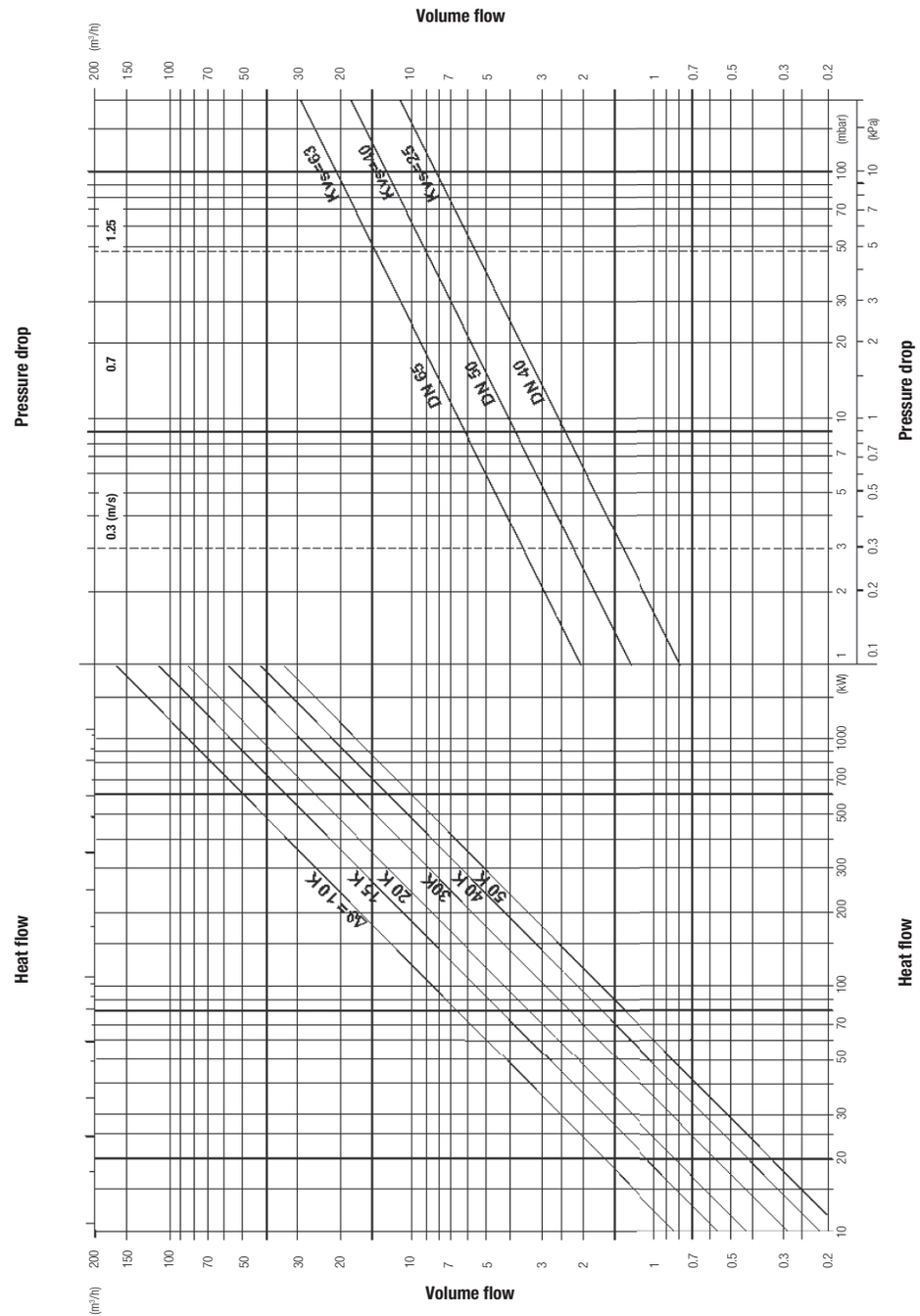
Type	a	b	k_{VS} – value	Art. No.
DN 40	170 mm	85 mm	25	66627.1
DN 50	190 mm	95 mm	40	66628.1
DN 65	210 mm	105 mm	63	66629.1

Assembly note: In Meibes FL-pump groups the supply line is on the left hand side; a mixer is built in!
Valve plug marking:
Delivery state: centre position: 

mixer position: 

(In addition, please note the information enclosed with the pump groups!)

Volume flow pressure drop diagram Mixer for pumps groups DN 40 - DN 65

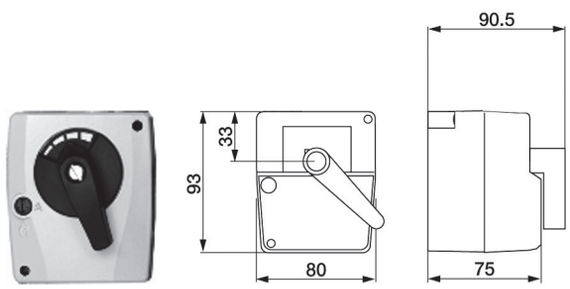


8. Pump groups DN40 / DN50 / DN65

8.7 Servomotors

Embodiment	Art. no.
for MK-DN groups 40/50, 230 V/50 Hz,15 Nm	66341.6
for MK-groups DN 65, 230 V/50 Hz, 20 Nm	66345.7
DN 40-65, 24 V, 0-10 V control	66345.8

Servomotor with emergency manual operation option, incl. a 2 m connection cable and a installation kit for type MS and DR GFLA mixers.



Article description

Electrical supply:	~50 Hz/230 V
Power consumption:	2,5 VA
Torque:	15 Nm
Running time:	140 s/90°
Connection cable:	3 x 0.5 mm^2
Protection class:	II
Protection system:	IP40
Ambient temperature:	0-90 °C
Article number:	66341.6

Servomotor for MK groups with emergency manual operation option, incl. a installation kit.

Article description

Electrical supply:	~50 Hz/230 V
Power consumption:	3.5 VA
Torque:	20 Nm
Minimum batch failure moment:	30 Nm
Running time:	96 s/90°
Ambient temperature:	0-90 °C
Installation position:	as desired
Manual operation:	Manual operation of release button in the lid and manual handle
Article number:	66345.7

The enclosed leaflet should be observed in relation to the installation and commissioning of the servomotor. Furthermore, all applicable standards and regulations must be observed.

8.8 Insulation

- Pass the Velcro tape (top and bottom) through the openings provided (lower shell) .
  See Figs. 1 and 2
- Fasten the lower shell to the pump group using velcro strips.
  See Fig. 3
- Simply fasten the upper shell by plugging.
  See Fig. 4

Fig. 1

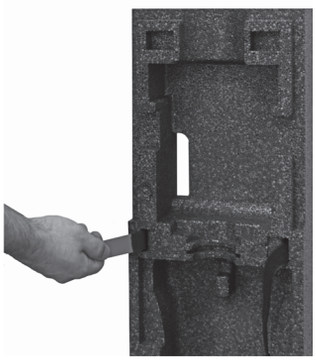


Fig. 2

Fig. 3

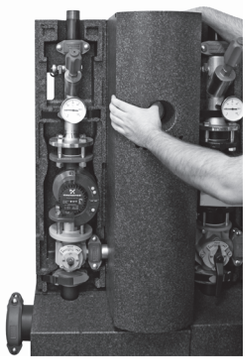


Fig. 4

9. Accessories

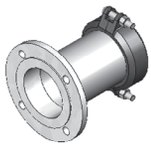
Intersection screw fittings (external system)

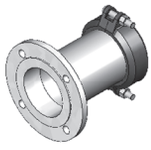
Distributor / Boiler guard WEZ

Nominal ø	Pipe ø in mm	Nominal ø in mm	Pipe ø in mm	Art. no.
DN 50	60.3	DN 40	48.3	66259.23
DN 50	60.3	DN 50	60.3	66259.31
DN 80	88.9	DN 65	76.1	66259.532
DN 80	88.9	DN 80	88.9	66259.51
DN 100	114.3	DN 100	114.3	66259.61
DN 150	168.3	DN 125	141.3	66259.832
DN 150	168.3	DN 150	168.3	66259.81
DN 200	219.1	DN 200	219.1	66259.91

BigFixLock-Schweissende

Nominal ø	Pipe ø in mm	Nominal ø in mm	Pipe ø in mm	Distance min.	Art. no.
DN 50	60.3	DN 40	48.3	100	66259.371
DN 50	60.3	DN 50	60.3	100	66259.372
DN 80	88.9	DN 65	76.1	100	66259.572
DN 80	88.9	DN 80	88.9	100	66259.573
DN 100	114.3	DN 100	114.3	150	66259.675
DN 150	168.3	DN 125	139.7	252	66259.872
DN 150	168.3	DN 150	168.3	150	66259.873
DN 200	219.1	DN 200	219.1	150	66259.972

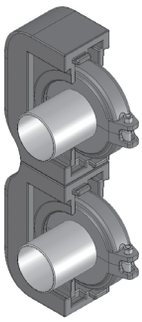




BigFixLock-Flansch PN 6

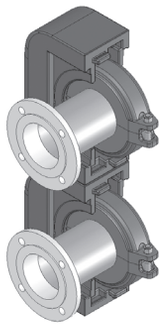
Nominal ø	Pipe ø in mm	Nominal ø in mm	Pipe ø in mm	Art. no.
DN 50	60.3	DN 40 *	138	66259.391
DN 50	60.3	DN 50 *	138	66259.392
DN 80	88.9	DN 65 *	138	66259.592
DN 80	88.9	DN 80 *	142	66259.593
DN 100	114.3	DN 100 *	195	66259.695
DN 150	168.3	DN 125 *	300	66259.892
DN 150	168.3	DN 150 *	198	66259.893
DN 200	219.1	DN 200 *	205	66259.992

* Flange



BigFixLock-Schweissende mit Isolierung (in mm)

Nominal ø	Pipe ø	Nominal ø	WEZ Pipe ø	Axis –Centre	Distance min.	Art. no.
DN 100	114.3	DN 40	48.3	225	354	66258.671
DN 100	114.3	DN 50	60.3	225	100	66258.672
DN 100	114.3	DN 65	76.1	225	100	66258.673
DN 100	114.3	DN 80	88.9	225	100	66258.674
DN 150	168.3	DN 100	114.3	340/450	150	66258.871
DN 150	168.3	DN 125	139.7	340/450	252	66258.872
DN 150	168.3	DN 150	168.3	340/450	150	66258.873
DN 200	219.1	DN 200	219.1	450	150	66258.972



BigFixLock-Flansch PN 6 mit Isolierung (in mm)

Nominal ø	Pipe ø	WEZ Pipe ø	Axis –Centre	Distance min.	Art. no.
DN 100	114.3	DN 40 *	225	392	66258.691
DN 100	114.3	DN 50 *	225	138	66258.692
DN 100	114.3	DN 65 *	225	138	66258.693
DN 100	114.3	DN 80 *	225	142	66258.694
DN 150	168.3	DN 100 *	340/450	195	66258.891
DN 150	168.3	DN 125 *	340/450	300	66258.892
DN 150	168.3	DN 150 *	340/450	198	66258.893
DN 200	219.1	DN 200 *	450	205	66258.992

* Flange

KE KELIT®
CLIMATE CONTROL SYSTEMS
KE KELIT NZ Ltd.
0800 4 KE KELIT
0800 4 5353548
climatecontrol@kekelit.co.nz
www.kekelit.co.nz