Climate
Control

IMI Heimeier

Dynalux

Floor Heating Manifolds

Underfloor heating circuit manifold with flow meter

Breakthrough
engineering for
a better world

Dynalux

Dynalux adjusts the flow rate in the individual heating circuits directly in l/min. Hydraulic balancing is achieved in simple operations. This makes Dynalux heating circuit manifolds a time and cost-saving solution especially for system commissioning.

Key features

Hydraulic balancing by direct setting of the flow rate

Manifold made of stainless steel
Corrosion-resistant, durable and safe

Thermostatic insert with double O-ring seal
For durable and maintenance free operation

Time and cost-saving commissioning solution

Technical description

Application:
Floor heating systems

Function:
Individual room temperature control with actuator or thermostatic head
Flow adjustment
Shut-off
Filling
Draining
Flushing
Venting

Pressure class:
PN 6

Flow range:
The flow can be stepless pre-set within the range: 0-5 l/min

Temperature:
Max. working temperature: 70°C
Min. working temperature: -5°C

Marking:
IMI Heimeier
Black protection cap

Material:
Manifold:
Stainless steel 1.4301
Connection fittings: Nickel-plated brass.

Thermostatic insert:
Brass
O-rings: EPDM
Valve disc: EPDM
Spring: stainless steel
Thermostatic insert: Brass
Spindle: Niro-steel spindle with double O-ring seal. The outer O-ring is replaceable under pressure.

Flow meter:
Heat-resistant plastic and stainless steel. EPDM seals.

Filling, draining, flushing and venting device:
Nickel-plated brass and plastic. EPDM seals.

Pipe connection:
Manifold with flat-sealing connection, 1” union nut.
Heating circuit connection G3/4 adaptor with Eurocone suitable for compression fittings for plastic, copper, precision steel and multi-layer pipe.
See also Accessories.

Connection kits:
The manifold can be connected to different connection kits. See section Connection kits for details.

Connection to thermostatic head and actuator:
IMI Heimeier M30x1,5

Room thermostats:
Manual thermostats
Programmable thermostats
neoRange

For more details on room thermostats, see separate technical leaflets.

Actuators:
EMOtec
EMOtec, First-Open

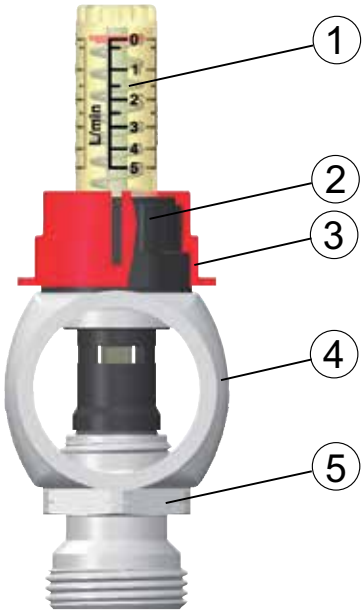
For more details on actuators, see separate technical leaflets.

Thermostatic heads:
Thermostatic head F

For more details on thermostatic heads, see separate technical leaflets.

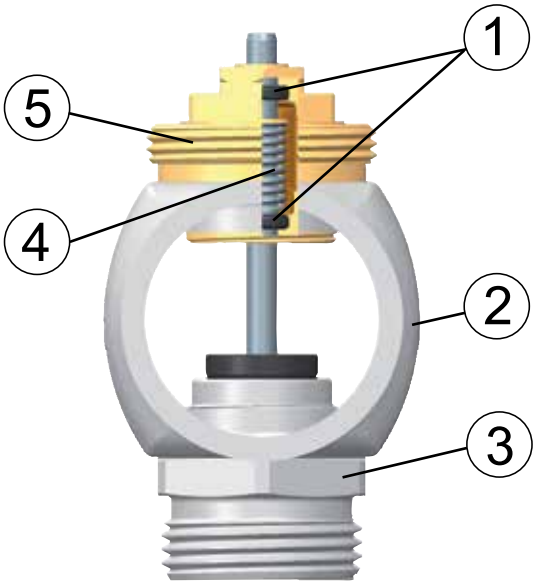
Construction

Flow meter



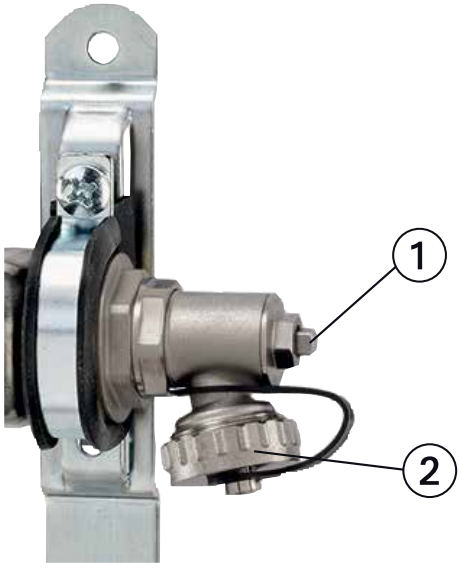
1. Viewing glass with scale
2. Handwheel
3. Locking cap
4. Manifold
5. Connection nipple

Thermostatic insert



1. Long-life double O-ring sealing.
2. Manifold
3. Connection nipple
4. Strong return spring in combination with high locating force ensures that the valve does not slacken off over time.
5. M30x1.5 connection technology for IMI thermostatic heads and actuators.

Filling, draining, flushing and venting device



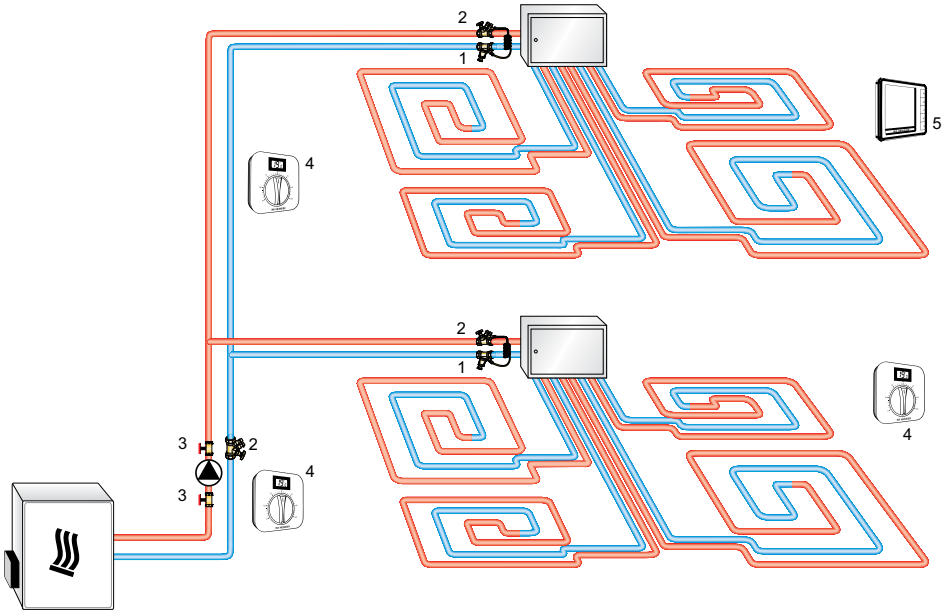
1. Venting
2. Filling-, draining and flushing, 3/4” connection, swivelling

Function

The manifold is a main part of a floor heating system: The flow distributors incorporate balancing flow meters that establish the flow and pressure drop in each floor coil. The return is equipped with thermostatic inserts for the connection with actuators EMO or thermostatic heads F.

Application

Dynalux adjusts the flow rate with flow meters in the individual heating circuits directly in l/min. This means hydraulic balancing is achieved in simple operations.
This makes Dynalux heating circuit manifolds a time and cost-saving solution. The quantities of water distributed in this way correspond to maximum requirements.
This ensures optimum temperature distribution, saves energy and increases comfort.



1. STAP differential pressure controller
2. STAD balancing valve
3. Globo P pump ball valve
4. Room thermostat
5. Programmable thermostat

Thermal fluid
To stop any damage and scale in hot water heating systems, the composition of the thermal fluid is to conform to VDI Directive 2035. For industrial and longdistance energy systems, see applicable codes VdTÜV and 1466/AGFW FW 510.
Mineral oil in the thermal fluid and/or all kinds of lubricants containing mineral oil lead to considerable swelling and, in most cases, to the failure of EPDM seals.
When using nitrite-free antifreeze and anti-corrosive based on ethylene glycol, technical advice – especially on additive concentration – is to be taken from the anti-freeze/anti-corrosive manufacturer's documentation.

Filling, flushing and venting
Each heating circuit must be individually filled, flushed and vented. Product lifetime and system performance strongly depend on proper commissioning. We refer to technical standards EN 14336, VDI2035 and ON H5195-1 to be carefully attended.

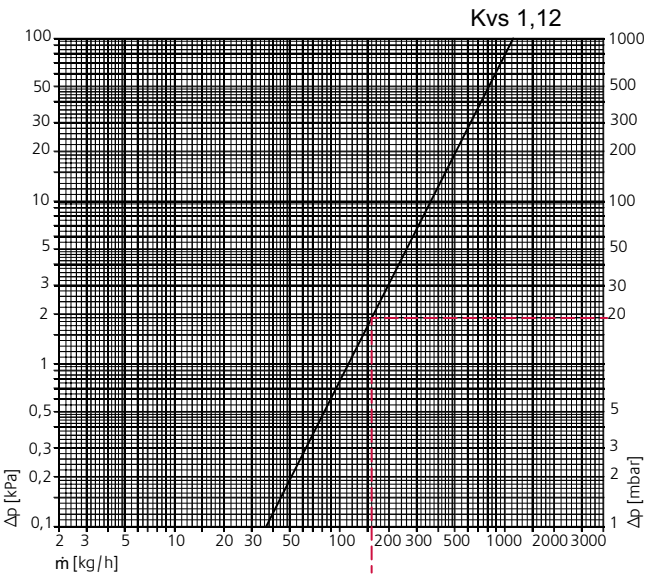
Functional heating
Carry out functional heating of heating screed conforming to standards in keeping with EN 1264-4.

Earliest start for functional heating:
– Cement screed: 21 days after laying
– Anhydrite screed 7 days after laying
Begin 20 °C - 25 °C flow temperature and maintain for 3 days. Then set maximum design temperature and maintain for 4 days.
Flow temperature can be regulated by controlling the heat generator.
Refer to the screed manufacturer's information!

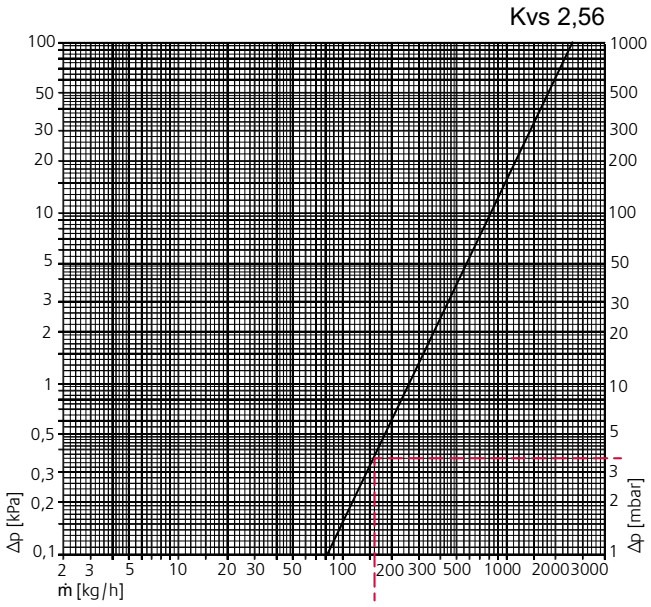
Do not exceed maximum floor temperature at the heating pipes:
– Cement and anhydrite screed: 55 °C
– Poured asphalt screed: 45 °C
– according to screed manufacturer's technical advice!

Technical data

Pressure loss diagram for flow meter 0 - 5 l/min (in supply)



Pressure loss diagram for thermostatic valve (in return)



Kvs = m^3/h at a pressure drop of 1 bar and fully open valve

Sample calculation 1
Target:
Pressure loss in the least efficient heating circuit

Given:
Heat flow, incl. floor loss Q = 1490 W
Temperature spread Δt = 8 K (44/36°C)
Heating pipe ø = 17 x 2 mm
Pipe length incl. feed l = 90 m

Solution:
Mass flow m = Q / (c · Δt) = 1490 / (1,163 · 8) =
= 160 kg/h (2,7 l/min)
Pressure loss flow meter (fully open) Δp_V = 19 mbar
Pressure loss thermostatic valve Δp_{TRV} = 3,6 mbar
Pressure gradient in heating pipe R = 1,2 mbar/m
Pressure loss in the heating pipe $\Delta p_R = R \cdot l = 1{,}2 \cdot 90 = 108$ mbar

Total pressure loss in the heating circuit 1
$\Delta p_{HK1} = \Delta p_V + \Delta p_{TRV} + \Delta p_R$ = 130,6 mbar

Sample calculation 2
Target:
Set value of further heating circuits with Dynalux flow meter

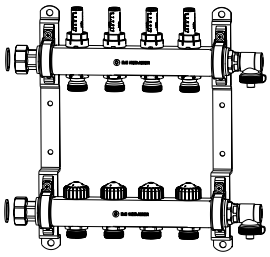
Given:
Heat flow, heating circuit Q = 1120 W
Temperature spread Δt = 8 K (44/36°C)

Solution:
Mass flow m = Q / (c · Δt) = 1120 / (1,163 · 8) = 120 kg/h

Flow meter setting at Dynalux manifold:
≈ 120 kg/h / 60 ≈ 2 kg/min ≈ 2 l/min

To preset the system, all the manual and thermostatic valves in the entire circuit must be opened completely.
Once the entire system has been preset, check the initial settings again and make further adjustments where necessary. Once the definitive settings have been made, the locking cap must be used to secure the flow indicator so that no unauthorised or accidental adjustments can be made.

Articles



Dynalux underfloor heating circuit manifold

Heating circuits	EAN	Article No
2	4024052594313	9320-02.800
3	4024052594412	9320-03.800
4	4024052594511	9320-04.800
5	4024052594610	9320-05.800
6	4024052594719	9320-06.800
7	4024052594818	9320-07.800
8	4024052598212	9320-08.800
9	4024052951215	9320-09.800
10	4024052951314	9320-10.800
11	4024052951413	9320-11.800
12	4024052951512	9320-12.800

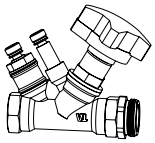
Connection kits

Connection kit 1 with Globo ball valves, DN 20

with red end cap in supply and blue end cap in return.

Kvs	EAN	Article No
9,90	4024052770816	9339-01.800

Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

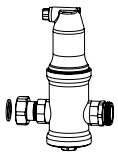


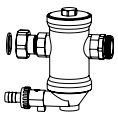
Connection kit 2 with STAD balancing valve and Globo ball valve, DN 20

including measuring nipple for measuring differential pressure and flow rate.

Kvs	q_{max} [m^3/h]	EAN	Article No
5,28	2,00	4024052775316	9339-02.800

Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

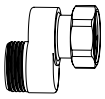




Connection kit 3 with Zeparo Vent air separator in supply and Zeparo Dirt sludge separator in return, DN 20

Kvs	q_{max} [m^3/h]	EAN	Article No
6,72	1,25	4024052775415	9339-03.800

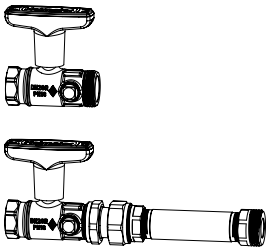
Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.



S-connection

For connection kit 3. Installation aid for return in manifold boxes.

EAN	Article No
4024052775712	9339-00.362

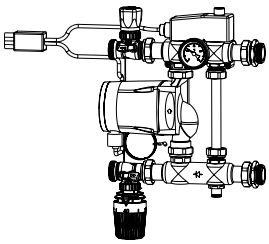


Connection kit 4 with Globo ball valve DN 20, including spacer for heat meter in return
Globo ball valve with connection G1/4 for direct measurement in supply and return.

Kvs	EAN	Article No
9,90	4024052775613	9339-04.800

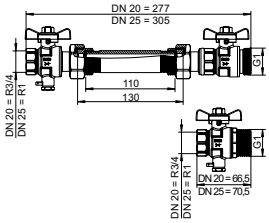
Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

Connection kit 4 can be mounted vertically using appropriate 1” elbows (not included in delivery). Manifold box sizes are then selected according to connection kit 1.



Connection kit 5, fixed value control station
with high-efficiency pump Grundfos Alpha 2 15 - 60 130, thermostatic valve with contact sensor and electrical pipe contact safety switch 230V, 15A.
Minimum installation depth manifold boxes: 125 mm.

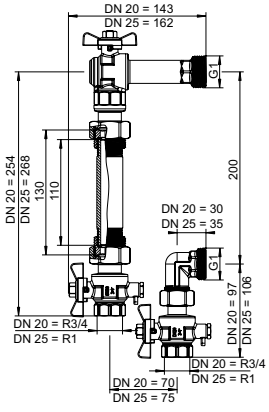
Setting range thermostatic head	Setting range electrical pipe-contact sensor	EAN	Article No
20 - 50°C	10 - 90°C	4024052775514	9339-05.800



Connection kit with ball valves, straight connection, including spacer for heat meter in return. Ball valves with connection M10x1 for direct measurement in supply and return.

DN	Kvs	EAN	Article No
20	7	5902276804830	9339-04.830
25	7	5902276804847	9339-04.832

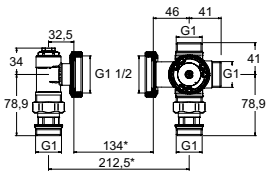
Kvs = m³/h at a pressure drop of 1 bar and fully open valve.



Connection kit with ball valves, angle connection, including spacer for heat meter in return. Ball valves with connection M10x1 for direct measurement in supply and return.

DN	Kvs	EAN	Article No
20	4,6	5902276804854	9339-04.831
25	4,6	5902276804861	9339-04.833

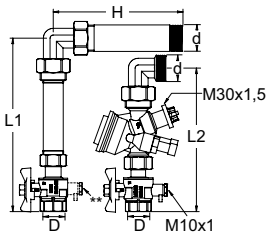
Kvs = m³/h at a pressure drop of 1 bar and fully open valve.



Thermostatic mixing valve for radiant heating
Pump connection with ball valve
Temperature 25 - 55 °C

DN	Kvs	EAN	Article No
25	3,2	5902276805547	9339-15.800

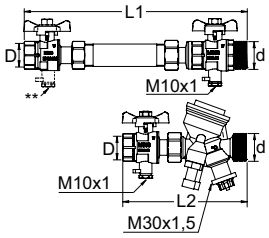
*) 130 mm pump + 2x2 mm gasket
Kvs = m³/h at a pressure drop of 1 bar and fully open valve.



Connection kit TA-COMPACT-P, vertical, for flow control, incl. pipe piece for heat meter
Pipe threads according to ISO 228.

DN *	D	d	L1	L2	H	q_{max} [l/h]	Kg	EAN	Article No
15	G3/4	G1	220	182	165	470	2,3	5902276898310	326040-10400
20	G3/4	G1	220	180	165	1150	2,5	5902276898334	326040-10500
25 **	G1	G1	236	209	165	2150	3,1	5902276898358	326040-10600

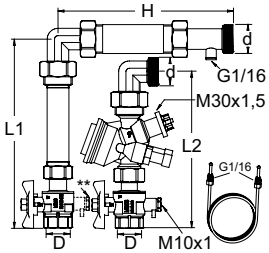
*) DN refers to TA-COMPACT-P
**) DN 25, ball valve with connection M10x1



Connection kit TA-COMPACT-P, horizontal, for flow control, incl. pipe piece for heat meter
Pipe threads according to ISO 228.

DN *	D	d	L1	L2	q_{max} [l/h]	Kg	EAN	Article No
15	G3/4	G1	266	150	470	1,9	5902276898327	326040-10401
20	G3/4	G1	266	148	1150	2,0	5902276898341	326040-10501
25 **	G1	G1	298	201	2150	3,0	5902276898365	326040-10601

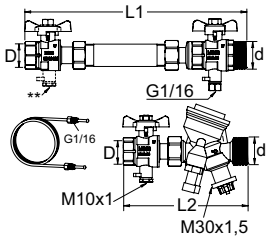
*) DN refers to TA-COMPACT-P
**) DN 25, ball valve with connection M10x1
q_{max} = l/h at each setting and fully open valve plug.



Connection kit TA-COMPACT-DP, vertical, for differential pressure control, incl. pipe piece for heat meter
Pipe threads according to ISO 228.

DN *	D	d	L1	L2	H	q (at 10 kPa) [l/h]	Kg	EAN	Article No
15	G3/4	G1	220	182	204	300	2,5	5902276898372	326040-10402
20	G3/4	G1	220	180	204	840	2,6	5902276898396	326040-10502
25 **	G1	G1	236	209	204	1500	3,4	5902276898419	326040-10602

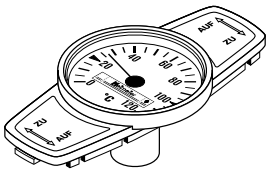
*) DN refers to TA-COMPACT-DP
**) DN 25, ball valve with connection M10x1



Connection kit TA-COMPACT-DP, horizontal, for differential pressure control, incl. pipe piece for heat meter
Pipe threads according to ISO 228.

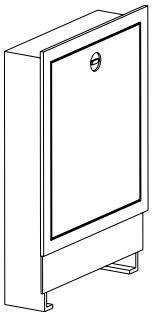
DN *	D	d	L1	L2	q (at 10 kPa) [l/h]	Kg	EAN	Article No
15	G3/4	G1	266	150	300	1,9	5902276898389	326040-10403
20	G3/4	G1	266	148	840	2,0	5902276898402	326040-10503
25 **	G1	G1	298	201	1500	3,1	5902276898426	326040-10603

*) DN refers to TA-COMPACT-DP
**) DN 25, ball valve with connection M10x1



Thermometer for Globo
to replace by changing the closing cap.
Temperatur range from 0 °C to 120 °C.

	EAN	Article No
Red	4024052423316	0600-00.380
Blue	4024052460618	0600-01.380



Manifold boxes
Flush-mounted box, installation depth 110 - 150 mm.
Note the minimum installation depth 125 mm for connection set 5!

Size	mm x mm	EAN	Article No
1	490 x 710	4024052790616	9339-80.800
2	575 x 710	4024052790715	9339-81.800
3	725 x 710	4024052790814	9339-82.800
4	875 x 710	4024052790913	9339-83.800
5	1.025 x 710	4024052791019	9339-84.800
6	1.175 x 710	4024052791118	9339-85.800

Accessories

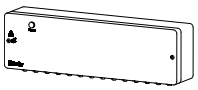
Room thermostats: For more details on room thermostats, see separate technical leaflets
- Manual thermostats
- Programmable thermostats
- neoRange

Actuators: For more details on actuators, see separate technical leaflets.
- EMOtec
- EMOtec, First-Open

Thermostatic heads: For more details on thermostatic heads, see separate technical leaflets.
- Thermostatic head F

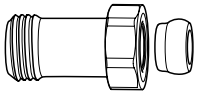
Handwheel
for all IMI Heimeier thermostatic valve bodies. With direct connection, white.

	EAN	Article No
	4024052323494	1303-01.325



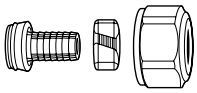
Distributor strip
This unit is used for wiring thermostats and electro-thermal actuators. The unit is suitable for underfloor heating and cooling (summer/winter operation). It is possible to switch over between heating and cooling via an external signal. The pump logic enables enery-optimised pump control. For up to 6 zones (rooms). Ready to plug in to a 230 V power socket.

	EAN	Article No
	4024052891115	1612-00.000



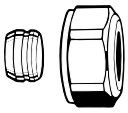
Length adjustment fitting
For connecting to plastic, copper, precision steel or multi-layer pipes.
For valves with external thread connection G3/4.
Brass nickel-plated.

	L	EAN	Article No
G3/4 x G3/4	25	4024052298310	9713-02.354
G3/4 x G3/4	50	4024052298419	9714-02.354



Compression fitting
for plastic pipe according to DIN 4726, ISO 10508.
PE-X: DIN 16892/16893, EN ISO 15875; PB: DIN 16968/16969.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
12x1,1	4024052136018	1315-12.351
14x2	4024052134618	1311-14.351
16x1,5	4024052136117	1315-16.351
16x2	4024052134816	1311-16.351
17x2	4024052134915	1311-17.351
18x2	4024052135110	1311-18.351
20x2	4024052135318	1311-20.351

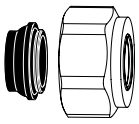


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Metal-to-metal joint.
Nickel-plated brass.
With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351

Support sleeve
for copper or precision steel pipe with a 1 mm wall thickness.
Brass.

Ø Pipe	L	EAN	Article No
12	25,0	4024052127016	1300-12.170
15	26,0	4024052127917	1300-15.170
16	26,3	4024052128419	1300-16.170
18	26,8	4024052128815	1300-18.170

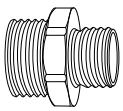


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2 and stainless steel pipe.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Soft sealed, max. 95°C.
Nickel-plated brass.

Ø Pipe	EAN	Article No
15	4024052515851	1313-15.351
18	4024052516056	1313-18.351

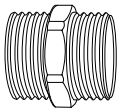
Compression fitting
for Alu/PEX multi-layer pipe eaccording to DIN 16836.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351



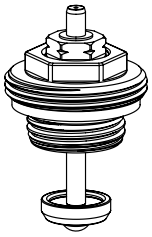
Double connection fitting
For clamping plastic, copper, precision steel or multi-layer pipes.
Brass, nickel-plated.

	L	EAN	Article No
G3/4 x R1/2	26	4024052308415	1321-12.083



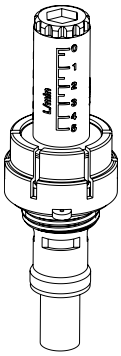
Double nipple
Both sides for clamping plastic, copper, precision steel or multi-layer pipes.
Brass nickel-plated.

	EAN	Article No
G3/4 x G3/4	4024052136315	1321-03.081



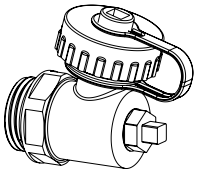
Replacement thermostatic insert
from 03.2015

	EAN	Article No
	4024052968510	9332-00.300



Flow meter
for Dynalux.

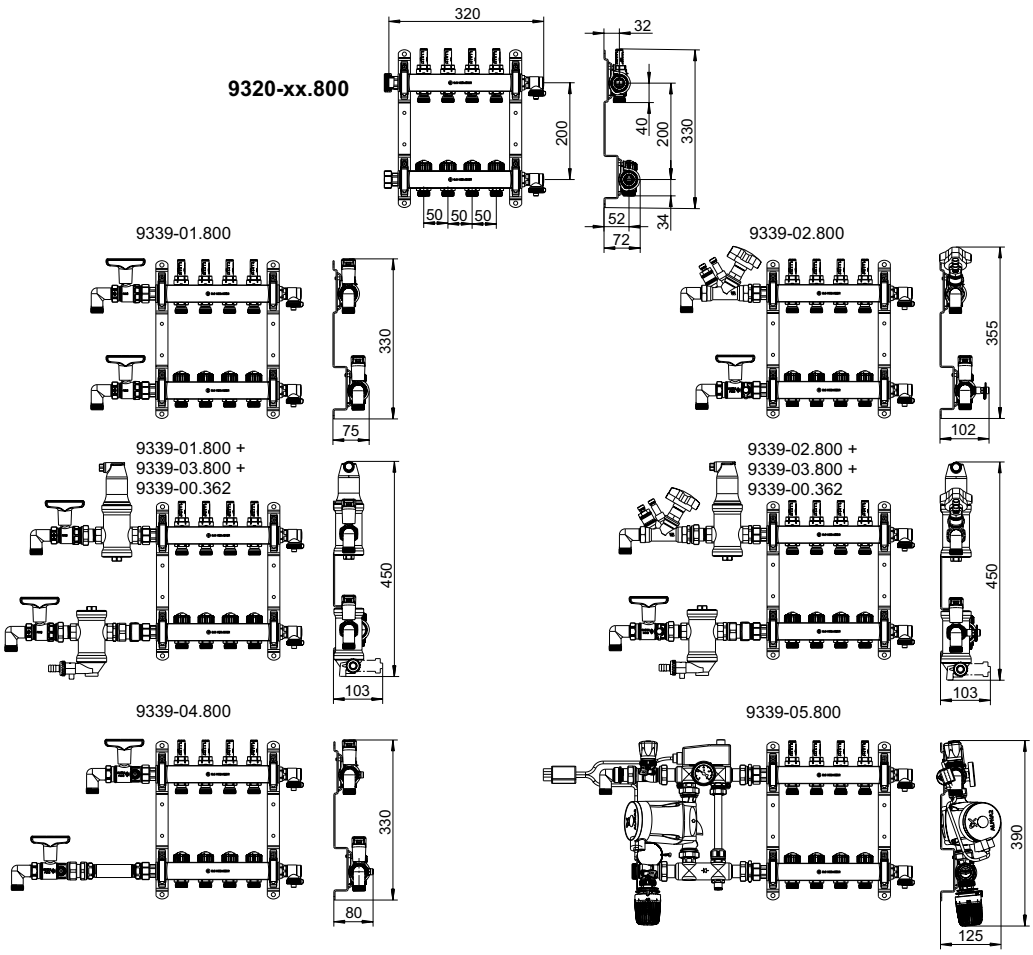
	EAN	Article No
	4024052979714	9321-00.101



Replacement filling, draining, flushing and venting device 1/2”

	EAN	Article No
1/2”	4024052989218	9321-00.102

Dimensions - manifold and connection kits

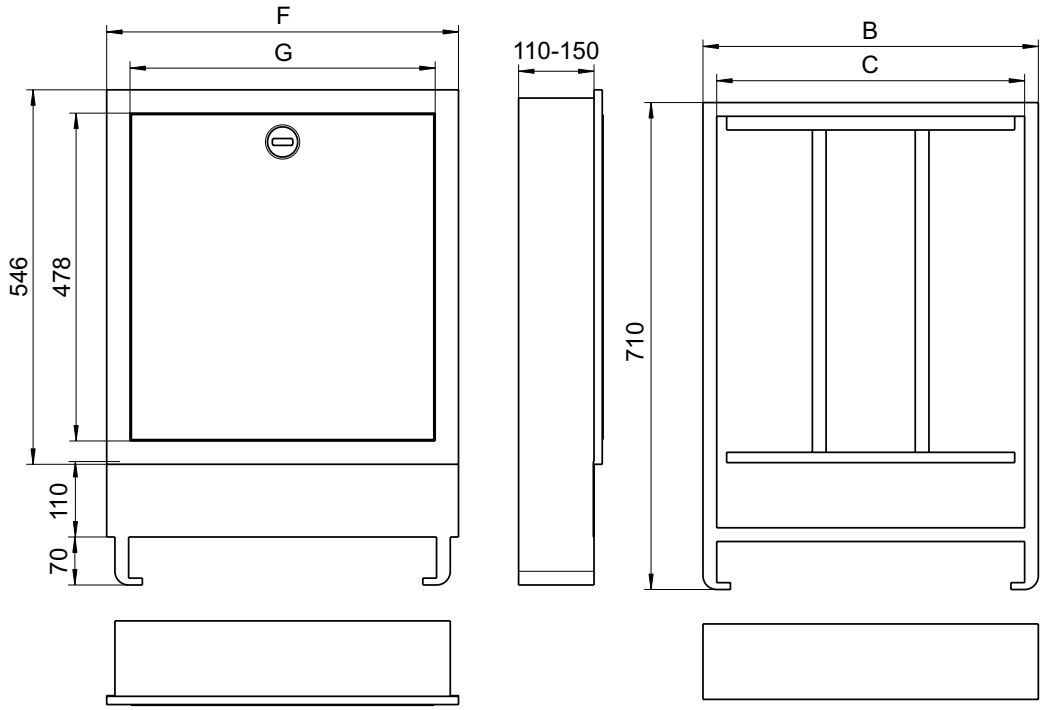


Heating circuit manifold, heating circuits	2	3	4	5	6	7	8	9	10	11	12
Length [mm]	**220**	**270**	**320**	**370**	**420**	**470**	**520**	**570**	**620**	**670**	**720**
Length, including kit 1 + 50 mm bend *	355	405	455	505	555	605	655	705	755	805	855
Box size	**1**	**1**	**2**	**2**	**3**	**3**	**3**	**4**	**4**	**4**	**5**
Length, including kit 2 + 50 mm bend *	390	440	490	540	590	640	690	740	790	840	890
Box size	**1**	**2**	**2**	**3**	**3**	**3**	**4**	**4**	**4**	**5**	**5**
Length, including kit 1 and kit 3 + 50 mm bend *	530	580	630	680	730	780	830	880	930	980	1030
Box size	**3**	**3**	**3**	**4**	**4**	**4**	**5**	**5**	**5**	**6**	**6**
Length, including kit 2 and kit 3 + 50 mm bend *	535	585	635	685	735	785	835	885	935	985	1035
Box size	**3**	**3**	**3**	**4**	**4**	**4**	**5**	**5**	**5**	**6**	**6**
Length, including kit 4 + 50 mm bend *	505	555	605	655	705	755	805	855	905	955	1005
Box size	**2**	**3**	**3**	**3**	**4**	**4**	**4**	**5**	**5**	**5**	**6**
Length, including kit 5 Fixed value control station	560	610	660	710	760	810	860	910	960	1010	1060
Box size	**3**	**3**	**3**	**4**	**4**	**4**	**5**	**5**	**5**	**6**	**6**

*) Supplied without bend

Dimensions - manifold boxes

9339-80/81....800



Size	Manifold box W x H [mm]	Shell construction W x H [mm]	B	C	F	G
Flush-mounted box, installation depth 110 - 150 mm						
1	490 x 710	510 x 730	489	449	513	445
2	575 x 710	595 x 730	574	534	598	530
3	725 x 710	745 x 730	724	684	748	680
4	875 x 710	895 x 730	874	834	898	830
5	1025 x 710	1045 x 730	1024	984	1048	980
6	1175 x 710	1195 x 730	1174	1134	1198	1130
Note the minimum installation depth 125 mm for connection set 5!						

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