

Duolux 50

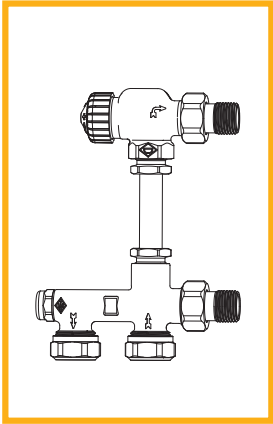
Valve Set for Two-Pipe Heating Systems



To be precise.

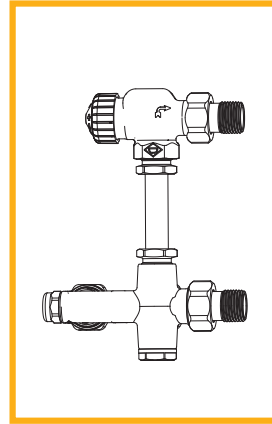


Valve overview



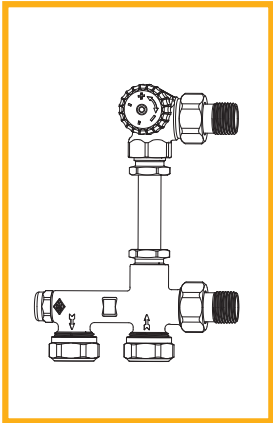
Two-pipe manifold – straight type

Two-pipe manifold, straight type.
Axial valve.
Riser and compression fittings.

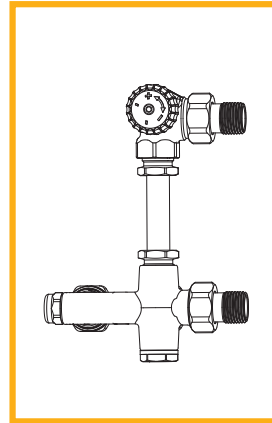


Two-pipe manifold – angle type

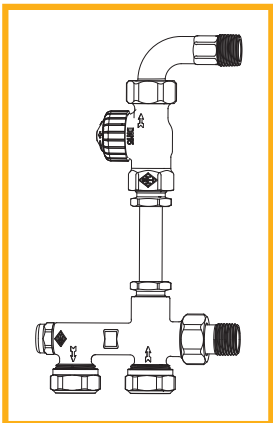
Two-pipe manifold, angle type.
Axial valve.
Riser and compression fittings.



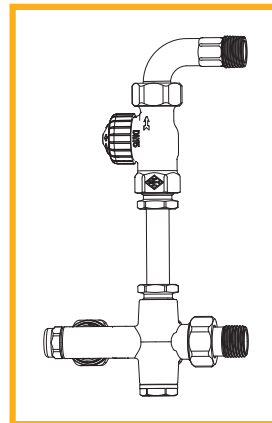
Two-pipe manifold, straight type.
Angle valve.
Riser and compression fittings.



Two-pipe manifold, angle type.
Double angle valve.
Riser and compression fittings.



Two-pipe manifold, straight type.
Straight valve with bend fitting.
Riser and compression fittings.



Two-pipe manifold, angle type.
Straight valve with bend fitting.
Riser and compression fittings.

Description



HEIMEIER Duolux 50 is a complete valve set for two-pipe heating systems for attaching radiators to single-storey heating manifolds.

Duolux 50 comprises a two-pipe manifold of angle or straight type, riser and thermostatic valve body with black protective cap.

The angle type two-pipe manifold can be fitted both to the right and left of the radiator.

Pipe-side G 3/4 adaptor with cone – fits compression fittings for plastic, copper, precision steel and multi-layer pipe.

The centre-to-centre distance of the pipe connections is 50 mm.

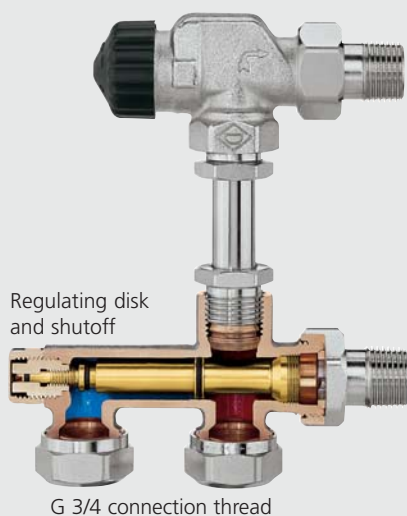
For HEIMEIER valves, only use the corresponding, designated HEIMEIER compression fittings (designation e.g. 15 THE).

Thanks to the regulating disk directly on the radiator, the two-pipe manifold can be used for hydraulic balancing. At the same time, this pre-setting assumes the return flow shutoff function. As a result, the radiator can be detached without draining the system.

Construction

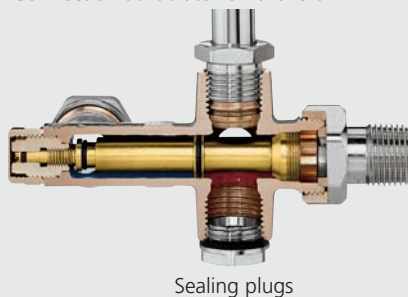
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Two-pipe manifold straight type with axial thermostatic valve body



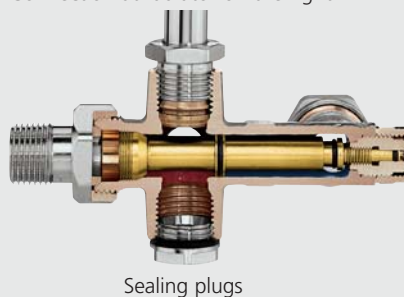
- Body made of corrosion-resistant gunmetal, nickel-plated
- 50 mm centre-to-centre distance of the pipe connections
- Angle type suitable for fitting left and right on the radiator
- Presetting with shutoff function, sealing softly
- Compression fittings for attaching to all usual pipe types and connection diameters
- Fits every installation thanks to various thermostatic valve bodies

Two-pipe manifold of the angle type
Connection at radiator on the left



Sealing plugs

Two-pipe manifold of the angle type
Connection at radiator on the right



Sealing plugs

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Application

Duolux 50 has been specially developed for rational and easy installation radiator attachment. With this connecting system – also termed "spaghetti system" – each radiator is directly attached with its own supply and return flow pipe to a central single-storey heating manifold.

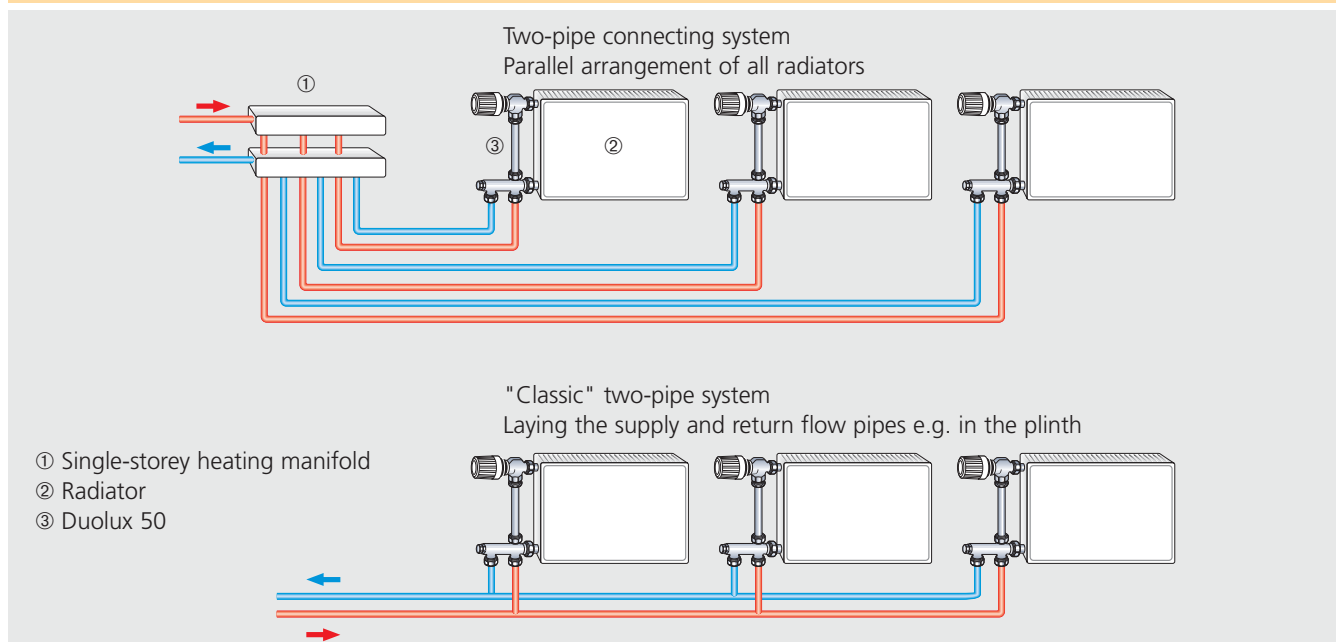
If the single-storey manifold does not

have controllable connection fittings, then the regulating disk in the Duolux 50 two-pipe manifold enables the radiators to be hydraulically balanced one to another.

The Duolux 50 manifold of the angle type can be fitted both to the right and left of the radiator. For installation on

the right of the radiator, the sealing plug is to be unscrewed - using a SW 22 spanner - from its original position. It is then to be screwed in on the opposite side (see also "Construction" on Page 3).

Examples of use



Information

– To stop any damage and scale arising in hot water heating systems, the composition of the thermal fluid is to conform to VDI Directive 2035.

The VdTÜV instructional leaflet 1466/AGFW instructional leaflet 5/15 is to be heeded in respect of industrial and district heating systems. Mineral oil and/or all kinds of lubricants containing mineral oil in the thermal fluid produce

considerable swelling and, in most cases, lead to the failure of EPDM seals.

When using non-nitrite anti-freeze and anti-corrosive based on ethylene glycol, the relative guide-lines - especially on additive concentration - are to be taken from the documentation of the anti-freeze and anti-corrosive agent manufacturer.

– The thermostatic valve bodies fit all HEIMEIER thermostatic heads and thermic and/or motor-driven actuators. Optimum adjustment of the components one to another ensures a maximum degree of safety. In using actuators from other manufacturers, it is to be ensured that their actuating power in the closing zone is suitable for thermostatic valve bodies with soft-sealing valve heads.

Operation

Presetting

Unscrew sealing cover (SW 19). With Allen key (3 mm) check 0 position - i.e. regulating disk must be fully opened,

turning anti-clockwise. Necessary presetting is made according to diagram by turning clockwise. Screw on sealing

cover and tighten.

Shutoff

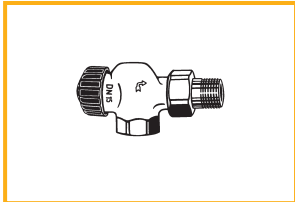
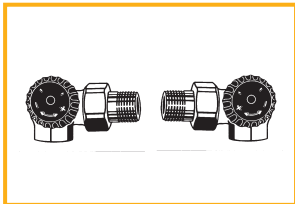
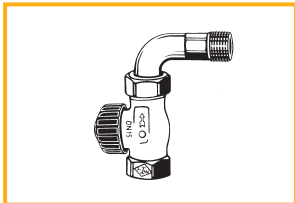

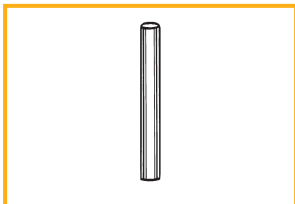

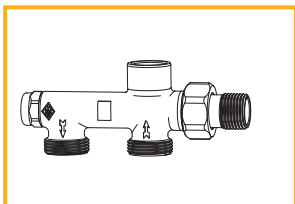
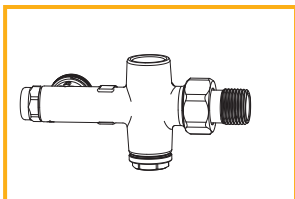
Unscrew sealing cover (SW 19). Using Allen key (3 mm), shutoff return flow by fully turning clockwise. Screw on sealing cover. Exchange thermostatic head for protective cap, close valve and after

detaching radiator secure valve body with G $\frac{3}{4}$ sealing cap.

Important: Before return flow shutoff, turn anti-clockwise to establish (number


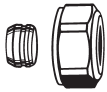

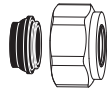


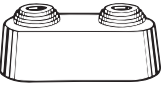
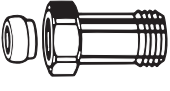
of revolutions) whether presetting has been undertaken. This is to ensure that once the radiator is in place the original presetting can be reset.

Article Nos.

Illustration	Description	Art.- No.
	Axial thermostatic valve body with protective cap – black. Gunmetal, nickel-plated DN 15 (1/2").	2225-02.000
	Double angle thermostatic valve body with protective cap – black. Gunmetal, nickel-plated DN 15 (1/2").	Connection to radiator - left 2311-02.000 Connection to radiator - right 2310-02.000
	Straight thermostatic valve body with bend fitting with protective cap – black. Gunmetal, nickel-plated DN 15 (1/2").	2206-02.000
	Compression fitting for precision steel pipe, nickel-plated. Adaptor - female thread Rp (1/2").	2201-15.351
	Precision steel pipe for supply flow, chrome-plated, Ø 15 mm, 1100 mm long.	3831-15.169
	Compression fitting for precision steel pipe, nickel-plated. Adaptor - female thread Rp (1/2").	2201-15.351
	Two-pipe manifold, straight type with shutoff and presetting, DN 15 (1/2"), gunmetal, nickel-plated.	3810-50.000
	Two-pipe manifold, angle type with shutoff and presetting, DN 15 (1/2"), gunmetal, nickel-plated.	3811-50.000

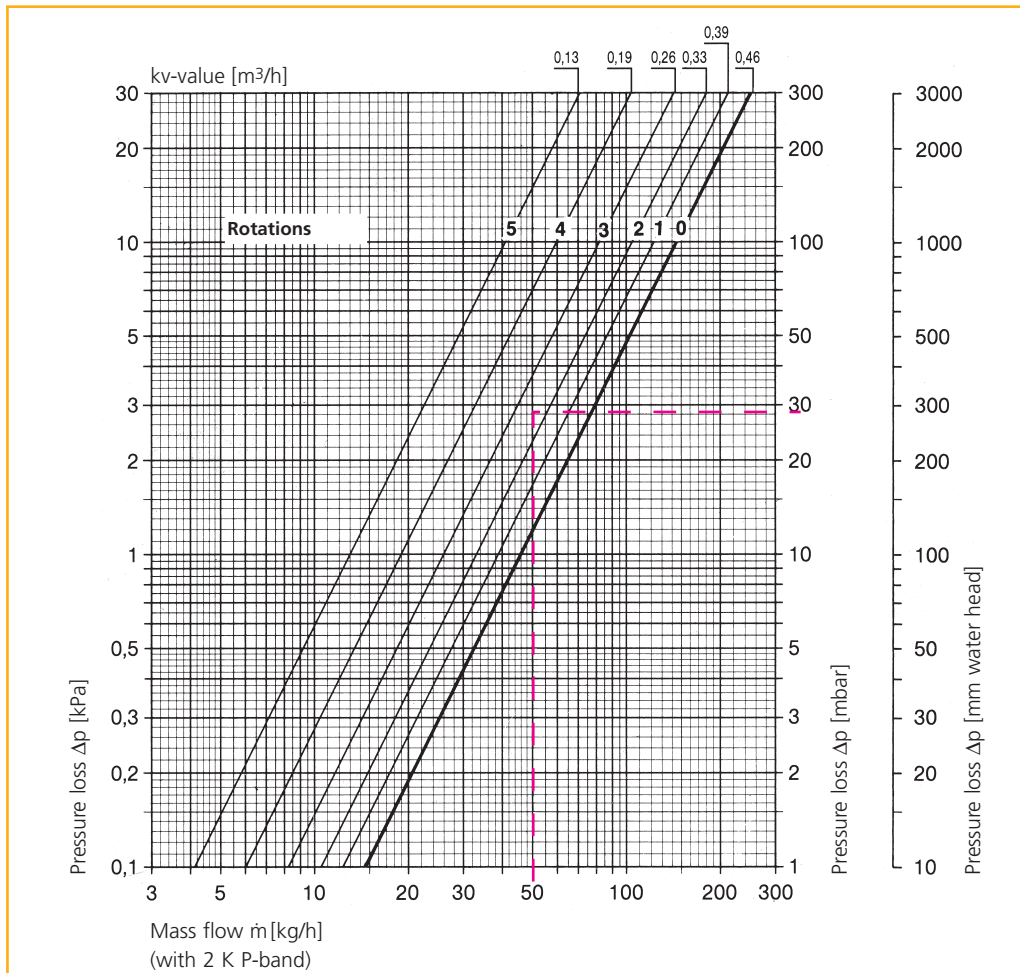
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Accessories

Illustration	Description	L [mm]	Ø pipe	Art.- No.
	Allen key SW 3 DIN 911 for shutoff and/or presetting.			3831-03.256
	Compression fitting for copper or precision steel pipe, nickel-plated. Adaptor - G 3/4 male thread. Metal-to-metal joint. Supporting bushes are to be used with a pipe wall thickness of 0.8 - 1 mm. See pipe manufacturer's instructions.		10 12 14 15 16 18	3831-10.351 3831-12.351 3831-14.351 3831-15.351 3831-16.351 3831-18.351
	Supporting bush for copper and precision steel pipe with a 1 mm wall thickness.		18.5 25.0 25.0 26.0 26.3 26.8	10 12 14 15 16 18 1300-10.170 1300-12.170 1300-14.170 1300-15.170 1300-16.170 1300-18.170
	Compression fitting for copper or precision steel pipe, nickel-plated. Adaptor - G 3/4 male thread. Soft sealing.		12 14 15 16 18	1313-12.351 1313-14.351 1313-15.351 1313-16.351 1313-18.351
	Compression fitting for plastic tube, nickel-plated. Adaptor - G 3/4 male thread.		12 x 2 14 x 2 16 x 2 17 x 2 18 x 2 18 x 2.5 20 x 2 21 x 2.5	1311-12.351 1311-14.351 1311-16.351 1311-17.351 1311-18.351 1312-18.351 1311-20.351 1311-21.351
	Compression fitting for multi-layer pipe, nickel-plated. Adaptor - G 3/4 male thread.		14 x 2 16 x 2 18 x 2	1331-14.351 1331-16.351 1331-18.351
	Double collar separable in the centre, white plastic, for varying pipe diameters, centre-to-centre distance 50 mm; overall height max. 31 mm.			0520-00.093
	Length compensator G 3/4 x G 3/4, for clamping plastic copper, precision steel or multi-layer pipe. Nickel-plated brass.	25.0 50.0		9713-02.354 9714-02.354

Specifications

Diagram - Duolux 50 Two-Pipe Manifold with Valve Body and Thermostatic Head



Formula:
 $C_v = \frac{k_v}{0,86}$
 $k_v = C_v \cdot 0,86$

Two-pipe manifold with valve body and thermostatic head	k _v -figure [m ³ /h] (at Presetting 0)					k _{v_s} -figure [m ³ /h]		k _{v_s} -figure without thermostatic valve [m ³ /h]	Admissible operating temperature TB [°C]	Admissible operating gauge pressure PB [bar]	Admissible differential pressure at which the valve can still be closed Δp [bar]		
	P-band [K]					DT	AT				Th.-head	EMOT/NC EMOtec/NC EMO 1/3 EMO EIB/LON	EMOT/NO EMOtec/NO
DT, WET, AT	1.0	1.5	2.0	2.5	3.0	AT	WET						
DN 15 (1/2")	0.25	0.36	0.46	0.53	0.59	0.93	0.86	1.29	120*)	10	1.0	3.5	3.5

*) with protective cap or actuator 100 °C

Example

To find: Presetting figure Duolux 50

Given: Heat flux $\dot{Q} = 870 \text{ W}$
 Temperature spread $\Delta t = 15 \text{ K (70/55}^\circ\text{C)}$
 Pipe dimension $\varnothing = 12 \times 2 \text{ mm}$
 Pipe length $l = 15 \text{ m}$
 Pressure loss unfav. radiator $\Delta p_{HK1} = 53.5 \text{ mbar}$

Solution: Mass flow $\dot{m} = \frac{\dot{Q}}{c \cdot \Delta t} = \frac{870}{1.163 \cdot 15} = 50 \text{ kg/h}$

Pressure drop connecting line $R = 1.7 \text{ mbar/m}$

Pressure loss connecting line $\Delta p_R = R \cdot l = 1.7 \cdot 15 = 25.5 \text{ mbar}$

Pressure loss Duolux 50 $\Delta p = \Delta p_{HK1} - \Delta p_R = 53.5 - 25.5 = 28.0 \text{ mbar}$

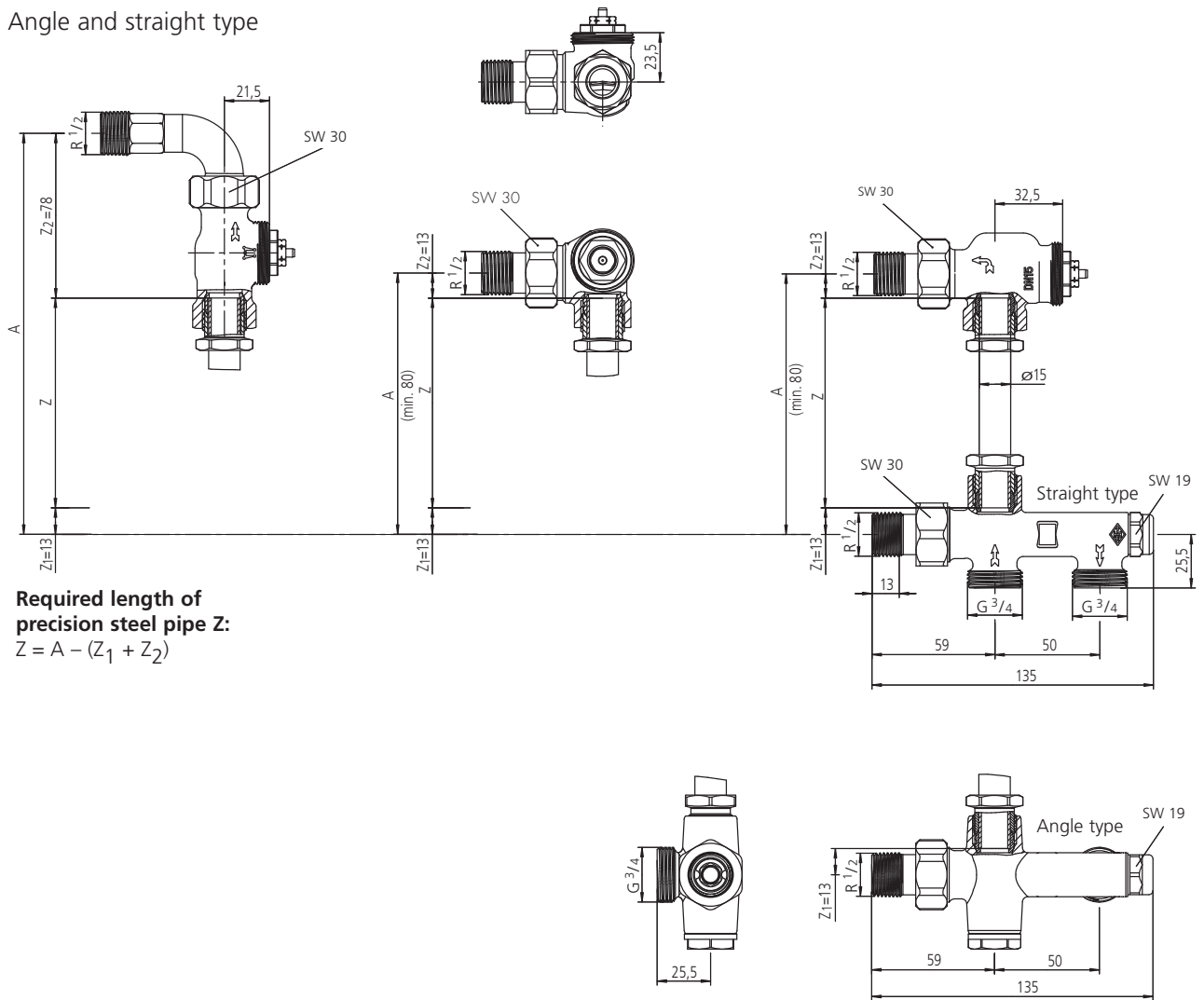
Setting figure from diagram 2.5 revolutions

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Dimensional sheet

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Angle and straight type



1 mm = 0,0394 inch

Printed on chlorine-free, bleached Paper.
 Subject to technical modifications.

Brochure 1.3.1
 1310-18.483/04.07



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