

Static balancing valves

All Perfectly regulated





Static balancing valves – All Perfectly regulated

The creation of a comfortable room temperature for the user, optimization of the operating costs and the safe operation of the system are requirements for modern heating and cooling systems. The basis for this is a well-planned and executed installation, with all the necessary hydraulic installations and valves. During commissioning, the valves must be adjusted according to the calculations and measurements on site. This is called hydraulic balancing and ensures that every load, every heating and cooling circuit, receives exactly as much energy as needed.

HERZ offers a wide range of products for a correct and energy-saving hydraulic balancing and for control of all plant. The dimensions of the control and regulating valves range from DN 15 to DN 500, the maximum operating temperature for selected valves is up to 150 °C.

For all types of systems, classic systems with radiators, surface heating and cooling, systems with fan coils, air conditioning or district heating systems, the appropriate valves are developed and produced by HERZ. HERZ regulating valves are also supplied with the corresponding actuators, both mechanical and electronic.

Advantages

- Development, design and production from HERZ
- Wide product range
- Well-thought-out design
- For control heating and cooling areas
- Manufactured in the EU



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Commissioning valves with integral orifice

HERZ Fixed Orifice Commissioning valves with integral orifice, inclined body

For hydraulic balancing of heating and cooling systems, adjustment of supply lines, risers, heat exchangers and terminal units.

Non-rising spindle – socket x socket; of dezincification-resistant brass; pre-setting via stroke limitation; digital display of the presetting level in the hand wheel window – for regulation of flow rate via differential pressure measurement; compression adapters for the connection of calibrated soft steel, copper or plastic pipes are available (DN 15 and DN 20); spindle sealing with triple O-ring;

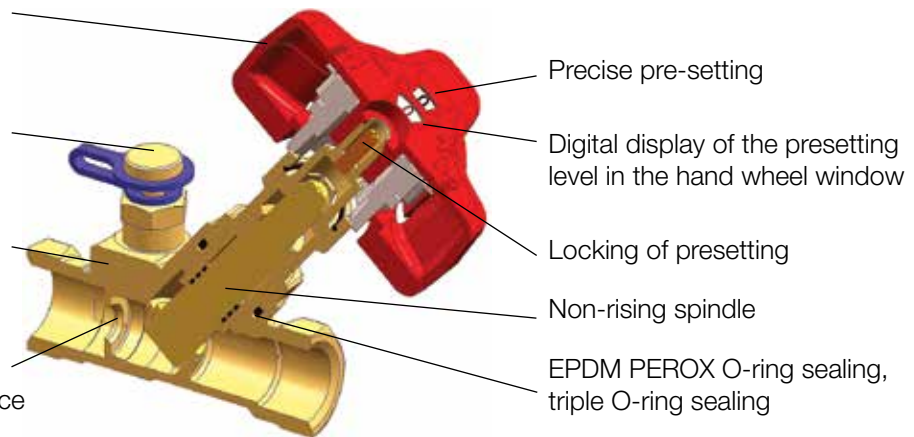
Max. operating temperature up to DN 32: 130 °C, from DN 40: 110 °C; Max. operating pressure: 20 bar

User-friendly and ergonomically designed handwheel

Easy differential pressure measurement due to test points

Body of dezincification-resistant brass

Precise results due to integral orifice



4017 M and 4017 ML: 2 test points for differential pressure measurement at the integral orifice; test points in extended version available as accessories.

4017 M



Commissioning valve with integral orifice

4017 ML



Commissioning valve with integral orifice and capillary connection

4017 R



Double regulating valve

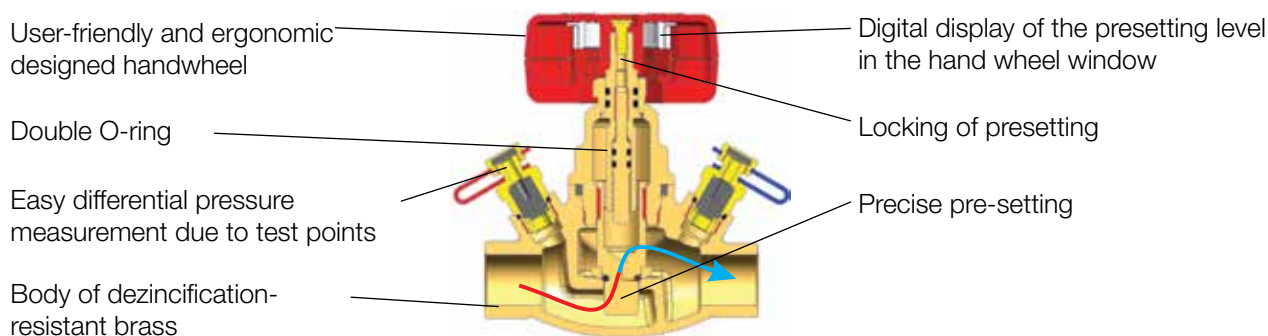
Dimension	kvs	Order number	Order number	Order number
DN 15 LF	0.46	1 4017 11	1 4017 30	
DN 15 MF	0.88	1 4017 21	1 4017 39	
DN 15	2.00	1 4017 01	1 4017 31	1 4017 61
DN 20	3.60	1 4017 02	1 4017 32	1 4017 62
DN 25	6.50	1 4017 03	1 4017 33	1 4017 63
DN 32	13.30	1 4017 04	1 4017 34	1 4017 64
DN 40	18.50	1 4017 05	1 4017 35	1 4017 65
DN 50	33.00	1 4017 06	1 4017 36	1 4017 66

Commissioning valves

STRÖMAX – Variable Orifice Commissioning valves, straight body

For hydraulic balancing of heating and cooling systems, adjustment of supply lines, risers, heat exchangers and terminal units.

Made from dezincification-resistant brass; non-rising spindle; socket x socket; spindle sealing with double O-ring; linear characteristic graph; pre-setting via stroke limitation; digital display of the pre-setting in the hand wheel window; pre-setting tampering seal 1 6517 04 and pre-setting marker 1 6517 05 are included; adapters and compression adapters must be ordered separately. Max. operating temperature up to DN 32: 130 °C, from DN 40: 110 °C; max. operating pressure: 16 bar



4217 GM and 4027 GML: 2 test points for differential pressure measurement; test points in extended version available as accessories.



4217 GM
STRÖMAX

Commissioning valve with test points for differential pressure measurement



4217 GML
STRÖMAX

Commissioning valve with test points for differential pressure measurement, with capillary connection



4217 GR
STRÖMAX

Double regulating valve

Dimension	kvs	Order number	Order number	Order number
DN 15 LF	0.93	1 4217 30	1 4217 10	
DN 15 MF	3.49	1 4217 31	1 4217 19	
DN 15	6.05	1 4217 01	1 4217 11	1 4217 61
DN 20	6.11	1 4217 32	1 4217 12	1 4217 62
DN 25	9.22	1 4217 33	1 4217 13	1 4217 63
DN 32	18.83	1 4217 34	1 4217 14	1 4217 64
DN 40	23.29	1 4217 35	1 4217 15	1 4217 65
DN 50	35.26	1 4217 36	1 4217 16	1 4217 66
DN 65	52.11	1 4217 07	1 4217 17	1 4217 67
DN 80	76.10	1 4217 08	1 4217 18	1 4217 68

Commissioning valves

Variable Orifice Commissioning valves, inclined body

For hydraulic balancing of heating and cooling systems, adjustment of supply lines, risers, heat exchangers and terminal units.

Made from dezincification-resistant brass; socket x socket; spindle sealing with O-ring; external pre-setting via stroke limitation; compression adapter connection: DN 15 – Universal model with special sockets for threaded pipe and compression adapter connection, DN 20 – Adapter 1 **6266** 20 and compression adapter G 3/4; Adapters and compression adapters must be ordered separately. Max. operating temperature up to DN 32: 130 °C, from DN 40: 110 °C; max. operating pressure: 16 bar



4117 M
STRÖMAX-M

Commissioning valve with inclined body, with test points



4117 R
STRÖMAX-R

Double regulating valve with inclined body



4117 MR
STRÖMAX-MR

Double regulating valve with inclined body

Dimension	kvs	Order number	Order number	Order number
DN 15 LF	4.75*	1 4117 39		
DN 15	4.75	1 4117 51	1 4117 61	1 4117 21
DN 20	6.12	1 4117 52	1 4117 62	1 4117 22
DN 25	10.40	1 4117 53	1 4117 63	1 4117 23
DN 32	15.97	1 4117 54	1 4117 64	1 4117 24
DN 40	23.50	1 4117 55	1 4117 65	1 4117 25
DN 50	47.89	1 4117 56	1 4117 66	1 4117 26
DN 65	84.20	1 4117 57	1 4117 67	
DN 80	133.20	1 4117 58	1 4117 68	

DN 15 - DN 20:	2 holes 1/4 with test points, 1 hole 1/4 with sealing screw 2 0273 09 closed		3 holes 1/4 with sealing screws 2 0273 09 closed
DN 25 - DN 50:	2 holes 1/4 with test points, 2 holes 1/4 with sealing screws 2 0273 09 closed		4 holes 1/4 with sealing screws 2 0273 09 closed
DN 65 - DN 80:	2 holes 1/4 with test points, 2 holes 3/8 with sealing screws 2 0273 00 closed		

* LF minimum kv 0.12


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Commissioning valves in flanged design

For hydraulic balancing of heating and cooling systems, adjustment of supply lines, risers, heat exchangers and terminal units.

STRÖMAX commissioning valve for differential pressure measurement in flanged design, straight body with test points

Body of grey cast iron GJL 250 according to EN 1561; flange according to EN 1092; PN 16; length according to ÖNORM EN-558-1, basic series 1; painted blue; thermostatic upper part of brass grey cast iron GJL 250 (4218 GMF up to DN 100: brass); screwed; non-rising spindle; 4218 GMF: spindle sealing with double O-ring, 4218 GF: triple O-ring; pre-setting via stroke limitation by inside spindle; digital display of the presetting level in the hand wheel window; two test points are mounted beside the hand wheel; four holes for draining valves closed with sealing screws 3/8 (DN 10). Max. operating temperature up to DN 32: 130 °C, from DN 40: 110 °C; max. operating pressure: 16 bar

4218 GMF 	Dimension	kvs	Order number
	<input checked="" type="checkbox"/> STRÖMAX-GMF commissioning valve in flanged design, straight body with test points	DN 25	1.53
	DN 32	16.60	1 4218 44
	DN 40	28.60	1 4218 45
	DN 50	37.84	1 4218 46
	DN 65	60.30	1 4218 47
	DN 80	67.80	1 4218 48
	DN 100	99.55	1 4218 49
	DN 125	186.58	1 4218 50
	DN 150	279.05	1 4218 51

4218 GF 	Dimension	kvs	Order number
	<input checked="" type="checkbox"/> STRÖMAX-GF with linear characteristic graph, commissioning valve in flanged design, straight body with test points	DN 50	34.96
	DN 65	66.94	1 4218 81
	DN 80	106.78	1 4218 82
	DN 100	169.45	1 4218 83
	DN 125	255.79	1 4218 84
	DN 150	389.54	1 4218 85
	DN 200	67.33	1 4218 86
	DN 250	1082.72	1 4218 87
	DN 300	1784.91	1 4218 88



Commissioning valves in flanged design

For hydraulic balancing of heating and cooling systems, adjustment of supply lines, risers, heat exchangers and terminal units.

STRÖMAX-GF with linear characteristic graph, commissioning valve in flanged design, inclined body with extended test points

Body of spheroidal graphite iron EN-GJS-400-15; flanged according to EN 1092-2; length according to EN-558-1; painted blue; thermostatic upper part of spheroidal graphite iron EN-GJS-400-15; digital display of the presetting level; non-rising spindle with tripel O-ring seal; two test points and pre-setting marker are included; max. operating temperature: 110 °C; max. operating pressure: 16 bar (4218) or 25 bar (4220).



STRÖMAX-GF,
PN 16



STRÖMAX-GF,
PN 25

Dimension	kvs	Order number	Order number
DN 350	2917.60	1 4218 89	1 4220 89
DN 400	3854.80	1 4218 90	1 4220 90
DN 500	5250.60	1 4218 92	1 4220 92

Transport and storage

Please note that the valve must not be lifted by hand wheel.

The valve is delivered ex factory ready to install. The hand wheel and two test points are not mounted - in order to avoid potential damage, we recommend installing hand wheel and test points only after installation. To prevent potential impurities on the seat during storage and transport, the valve is closed. To avoid contamination during storage and transport, the flange cover must remain fitted.

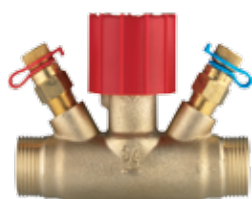


Regulating valves

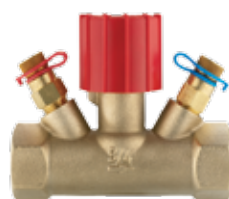
☑ Regulating valves with straight body

Used in building service plants with cold and hot water as well as zone control. For hydraulic balancing of heating and cooling systems, adjustment of supply lines, risers, heat exchangers and terminal units.

Body of dezincification-resistant brass; pipe connection on both sides with male thread G 3/4 or rather G1, female thread Rp 1/2 and 3/4 or with solder connection; Two test points – except for 1 **4216 11** and 1 **4216 12** – are mounted next to handwheel; compression adapters must be ordered separately; max. operating temperature: 120 °C; max. operating temperature solar: 200 °C; max. operating pressure: 10 bar



☑ Regulating valve, straight body with test points, G (male thread)



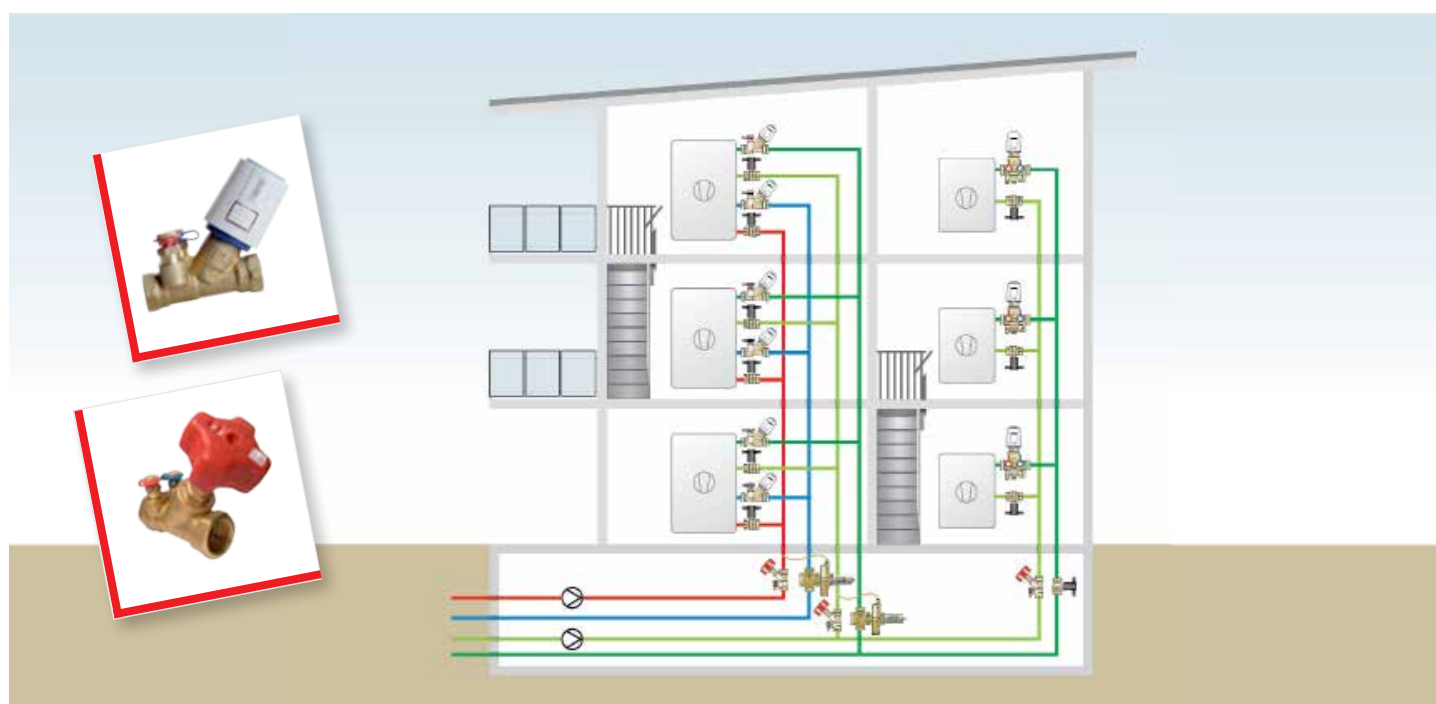
☑ Regulating valve, straight body with test points, Rp (female thread)



☑ Regulating valve for solar systems with solder connection

Dimension	kvs	Order number	Order number	Order number
DN 15	3.40	1 4216 21	1 4216 31	1 4216 11
DN 20	3.40	1 4216 22	1 4216 32	1 4216 12

Use of commissing and regulating valves




Control and regulating valves

For hydraulic balancing of heating and cooling systems as well as zone control and adjustment of terminal units.

☑ HERZ control and regulating valves, inclined body, for increased differential pressures

With fixed integral orifice; body of dezincification-resistant brass; drive threaded connection M 28 x 1.5; 4.0 mm stroke; pre-settable kvs 0.4-3.9; for increased differential pressures in heating and cooling systems; actuator, compression adapters and pre-setting key 1 **6819** 72 must be ordered separately.


Max. operating temperature: 130 °C; max. operating pressure: 16 bar; max. differential pressure across the seat: 10 bar

<p>7217 V</p>  <p>☑ HERZ control and regulating valve, inclined body</p>	Dimension	kvs	Order number
	DN 15 LF	0.40	1 7217 50
	DN 15 MF	0.90	1 7217 59
	DN 15	2.00	1 7217 51
	DN 20	3.40	1 7217 52

☑ HERZ control and regulating valve GV

For the regulation of high flow rates; body from dezincification-resistant brass; with pressure-independent, pre-settable upper part; regulator drive M 28 x 1.5; for constant or 2-point drive; stroke 4.0 mm; Pipe connection on both sides with female thread; Actuator and pre-setting key 1 **4006** 02 must be ordered separately.

Max. operating temperature: 130 °C; max. operating pressure: 16 bar; max. differential pressure: 4 bar

<p>7217 GV</p>  <p>☑ HERZ control and regulating valve GV</p>	Dimension	kvs	Order number
	DN 15	5.00	1 7217 71
	DN 20	5.60	1 7217 72
	DN 25	7.78	1 7217 73



Thermostatic control valves

For hydraulic balancing of heating and cooling systems as well as zone control and adjustment of terminal units and radiant panels.

☑ Thermostatic control valves TS-98-V, straight body

Body from dezincification-resistant brass; with continuously pre-settable upper thermostatic insert TS-98 for hydraulic compensation in chilled ceiling systems and for fan coils and radiant panels. Two test points are mounted next to the thermostat insert; the valve pre-setting is continuous and external; the pre-setting key 1 **6819** 98 must be ordered separately; pipe connection on both sides with female thread Rp 1/2 or male thread G 3/4 for compression adapters (must be ordered separately). Max. operating temperature: 120 °C; max. operating pressure: 10 bar; max. differential pressure: 0.2 bar

7217-98-V



☑ Thermostatic control valve, straight body with test points, Rp (female thread)

7217-98-V



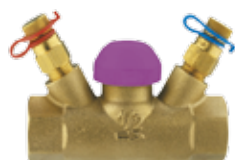
☑ Thermostatic control valve, straight body with test points, G (male thread)

Dimension	kvs	Order number	Order number
DN 15	1.10	1 7217 37	1 7217 67

☑ Thermostatic control valves TS-99-V, straight body

Body from dezincification-resistant brass; with continuously pre-settable upper thermostatic insert TS-99 for hydraulic compensation in chilled ceiling systems and for fan coils and radiant panels. Two test points are mounted next to the thermostat insert; the valve pre-setting takes place via a stepwise pre-setting external; the pre-setting key 1 **6819** 98 must be ordered separately; pipe connection on both sides with female thread Rp 1/2 or male thread G 3/4 for compression adapters (must be ordered separately). Max. operating temperature: 120 °C; max. operating pressure: 10 bar; max. differential pressure: 0.2 bar

7217-99-FV



☑ Thermostatic control valve, straight body with test points, Rp (female thread)

7217-99-FV



☑ Thermostatic control valve, straight body with test points, G (male thread)


Dimension	kvs	Order number	Order number
DN 15	0.40	1 7217 38	1 7217 68

Two-port valves

For the regulation of heating or cooling systems.


Small valve, straight model

Control valve with reduced kvs value for room climate control systems. Flat-sealing; 2 x male thread. Threaded connection for drive M 30 x 1.5.

 <p>7760</p> <p><input checked="" type="checkbox"/> HERZ straight model thermostatic valve</p>	Dimension	kvs	Order number
	DN 10	0.16	1 7760 21
	DN 10	0.40	1 7760 01
	DN 10	0.63	1 7760 02
	DN 10	1.00	1 7760 03
	DN 10	1.60	1 7760 04
	DN 15	2.50	1 7760 05
	DN 15	3.50	1 7760 07
	DN 20	4.50	1 7760 08

Control valve, normally closed

Models with male thread connection and inner cone for compression adapter connection. Threaded connection for drive M 28 x 1.5, conical sealing, 2 x male thread.

 <p>7760 RD</p> <p><input checked="" type="checkbox"/> HERZ thermostatic valve with reverse acting principle (normally closed), straight model</p>	Dimension	kvs	Order number
	DN 15	2.81	1 7760 51
	DN 20	3.21	1 7760 52

Please note: suitable matching actuators see page 16



Three-port valves and CALIS diverting valve

For the regulation of heating systems as well as zone control

Thermostatic three-port valves for mixing and distribution

For use as mixing or diverting valve for regulation of heating zones, air terminal units, fan coils and dual-line systems with heat exchanger. Flat-sealing, threaded connection for drive M 30 x 1.5



7762

Thermostatic three-port control valve for mixing and distribution, three connections



7763

Thermostatic four-port valve for mixing and diverting, four connections with bypass

Dimension	kvs	Order number	Order number
DN 10	0.40	1 7762 50	1 7763 50
DN 10	0.63	1 7762 60	1 7763 60
DN 10	1.00	1 7762 70	1 7763 70
DN 10	1.60	1 7762 80	1 7763 80
DN 15	2.50	1 7762 51	1 7763 51
DN 15	4.00	1 7762 61	1 7763 61
DN 20	5.00	1 7762 62	1 7763 62

CALIS-TS-RD three-port valve for thermostatic operation

Distribution 100 %, flat-sealing, threaded connection for drive M 28 x 1.5, pipe connections must be ordered separately.

7761 RD



CALIS-TS-RD three-port valve

Dimension	kvs	Order number
DN 15	3.00	1 7761 38
DN 20	3.00	1 7761 39
DN 25	6.27	1 7761 40
DN 32	6.44	1 7761 41

Please note: suitable matching actuators see page 16

Actuators for 2-point control

☑ HERZ actuating drive for 2-point control for floor heating circuit distributors and valves – without limit switch

Thermo-electric actuator for opening and closing small valves and valves on heating circuit distributors of surface heating and cooling systems. Main application area is energy-efficient individual room control in the field of building services and building automation. The control of the HERZ drive 230 V / 24 V is provided by a 230 V / 24 V room thermostat with 2-point output or pulse width modulation.

Connection:	M 28 x 1.5 *	M 28 x 1.5 **
Stroke:	5 mm	4,5 mm
Closing force:	100 N	110 N ¹ , 115 N ²
Dimensions in mm (W x H x D):	48.4 x 44.3 x 52.2	66 x 44 x 61
Order number:	1 7708 52 (NC, 24 V / AC) 1 7708 53 (NC, 230 V / AC) 1 7708 24 (NO, 230 V / AC)	1 7711 12 (NC, 24 V / AC) ² 1 7711 10 (NC, 230 V / AC) ² 1 7711 11 (NO, 230 V / AC) ¹ 1 7711 13 (NO, 24 V / AC / DC) ¹



☑ HERZ actuating drive for 2-point control for floor heating circuit distributors and valves – with limit switch

Thermoelectric actuator for opening and closing small valves and valves which are used in heating, ventilation and air conditioning. The integrated micro switch with potential-free contact allows to switch a pump or fan control directly. The HERZ drive 230 V with limit switch is controlled by a 230 V room thermostat with 2-point output or pulse width modulation.

Connection:	M 28 x 1.5 *	M 28 x 1.5 **
Stroke:	5 mm	4,5 mm
Closing force:	100 N	115 N
Dimensions in mm (W x H x D):	56 x 44.3 x 52.2	66 x 44 x 61
Order number:	1 7708 87 (NC, 230 V / AC)	1 7711 10 (NC, 230 V / AC) + 1 7711 24 (auxiliary contact)



Actuators for continuous control

☑ HERZ actuating drive for 2-point control for floor heating circuit distributors and valves – with limit switch

Thermo-electric actuator for continuous control of heating and cooling systems in direct proportion to the applied control voltage. The actuators are controlled by a 0-10 V DC signal via a central DDC system or a room temperature controller. In variant 1 **7990** 32 with valve path recognition, the valve path is also automatically detected for optimum use of the active control voltage range.

Connection:	M 28 x 1.5
Operating voltage:	24 V / AC
Dimensions in mm (W x H x D):	63.5 x 44.1 x 61.8 ^A 66 x 44 x 61 ^B
Order number:	1 7990 31 (NC, 5 mm Hub, 100 N closing force) ^{/A} 1 7990 32 (NC, 6,5 mm Hub, 125 N closing force, incl. valve path recognition) ^{/A} 1 7711 12 (NC, 4,5 mm Hub, 115 N closing force) + 1 7711 25 (connector) ^{**/B}



Selection table for thermoelectric actuators

Valve types											
	TS-90-DE LUXE	TS-98-V DE LUXE	DE LUXE TS-3000	DE LUXE VUA	TS-98-V (M28 x 1.5)	TS-90-V (M28 x 1.5)	TS-99-FV (M28 x 1.5)	TS-90-KV (M28 x 1.5)	TS-90 (M28 x 1.5)	TS-90-E (M28 x 1.5)	TS-E (M28 x 1.5)
Adapters and actuators	2-Point-Regulation 1 7708 24 1 7708 52 1 7708 53 1 7708 87	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	continuous Regulation 1 7990 31 1 7990 32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	*	Adapter 1 7708 90 has to be ordered separately									
	**	Adapter 1 7708 80 has to be ordered separately									
	***	Adapter 1 7708 98 has to be ordered separately									

Valve types											
	TS-90 DIN (M28 x 1.5)	TS-90-V DIN (M28 x 1.5)	TS-98-V DIN (M28 x 1.5)	TS-99-FV DIN (M28 x 1.5)	TS-98-VH (M30 x 1.5)	TS-90-H (M30 x 1.5)	TS-98-VH (M30 x 1.5)	TS-3000 (M28 x 1.5)	TS-3000 (M30 x 1.5)	TS-90 (M28 x 1.5)	Callis-TS (M28 x 1.5)
Adapters and actuators	2-Point-Regulation 1 7708 24 1 7708 52 1 7708 53 1 7708 87	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	continuous Regulation 1 7990 31 1 7990 32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	*	Adapter 1 7708 90 has to be ordered separately									
	**	Adapter 1 7708 80 has to be ordered separately									
	***	Adapter 1 7708 98 has to be ordered separately									



Selection table for thermoelectric actuators

Valve types											
	Calis-TS-E (M28 x 1.5)	VTA-40 (M28 x 1.5)	VTA-50 (M30 x 1.5)	VUA-AHA (M28 x 1.5)	VUA-40 (M28 x 1.5)	VUA-50 (M30 x 1.5)	4002 (M28 x 1.5)	4006 (M28 x 1.5)	7217 V (M28 x 1.5)	7217 GV (M28 x 1.5)	7217-98-V (M28 x 1.5)
Adapters and actuators	2-Point-Regulation 1 7708 24 1 7708 52 1 7708 53 1 7708 87	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	continuous Regulation 1 7990 31 1 7990 32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	*	Adapter 1 7708 90 has to be ordered separately									
	**	Adapter 1 7708 80 has to be ordered separately									
	***	Adapter 1 7708 98 has to be ordered separately									



Valve types										
	7217-99-FV (M28 x 1.5)	7723 Zonventil (M28 x 1.5)	7760 RD (M28 x 1.5)	7761 RD (M28 x 1.5)	7760 (M30 x 1.5)	7762	7763			
Adapters and actuators	2-Point-Regulation 1 7708 24 1 7708 52 1 7708 53 1 7708 87	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	continuous Regulation 1 7990 31 1 7990 32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	*	Adapter 1 7708 90 has to be ordered separately								
	**	Adapter 1 7708 80 has to be ordered separately								
	***	Adapter 1 7708 98 has to be ordered separately								

Two-port ball valve and rotary drive

☑ Two-port ball valve with female thread

For precise regulation, no leakage losses. Regulating ball valve for continuous control of heating and cooling water in closed circuits. Pressure level PN 40 (DN 15 – DN 25) or PN 25 (DN 32 – DN 50). Ball with equal percentage characteristic graph; spindle sealing with double O-ring; actuator **7712** 33/35 must be ordered separately.



☑ Two-port ball valve with female thread, with handle



☑ Two-port ball valve with female thread, without handle

Dimension	kvs	Order number	Order number
DN 15	5.00	1 2117 01	1 2117 11
DN 20	8.00	1 2117 02	1 2117 12
DN 25	12.50	1 2117 03	1 2117 13
DN 32	20.00	1 2117 04	1 2117 14
DN 40	32.00	1 2117 05	1 2117 15
DN 50	50.00	1 2117 06	1 2117 16

☑ Two-port ball valve 2117 rotary drive

Disengageable gearbox for positioning of the ball valve and for manual adjustment. The synchronous motor is equipped with control and shutoff electronic. Can be installed vertical to horizontal but non-suspended.

Operating voltage:	230 V / AC	24 V AC/DC
Control:	2-/3-point	2-point, 3-point and continuous range 0-10 V)
Torque:	8 Nm	8 Nm
Operating time:	120 s	35/60/120 s
Characteristic graph type:	-	Configurable on the drive
Protection class:	IP 54	IP 54
Order number:	1 7712 33	1 7712 35



Mixing valves and rotary drive

HERZ mixing valves are used as a control element for precise regulation of medium temperature in heating and cooling systems. In combination with a suitable matching actuator the mixing valve is used as a control valve with a linear, proportional or quadratic characteristic. 3-port mixing valves can also be used as mixing or diverting valves, 4-port mixing valves have a dual mixing function – the proportion of hot water from the boiler is mixed with the return water. This leads to a higher temperature of return water, reduces the risk of corrosion and ensures a longer lifetime for the boiler.

☑ Mixing valves

Body and cone of brass, female thread, EPDM seal, medium temperature -10 °C to 120 , PN 10. Actuator of choice 1 **7712** 25/27 must be ordered separately.



☑ Three-way mixing valve



☑ Four-way mixing valve

Dimension	kvs	Order number	Order number
DN 15	4.00	1 2137 01	1 2138 01
DN 20	6.30	1 2137 02	1 2138 02
DN 25	10.00	1 2137 03	1 2138 03
DN 32	16.00	1 2137 04	1 2138 04
DN 40	25.00	1 2137 05	
DN 50	40.00	1 2137 06	

☑ Rotary drive for HERZ mixing valves 2137 and 2138

Disengageable gearbox for positioning of the mixing valve and for manual adjustment. The synchronous motor is equipped with control and shutoff electronic. Suitable for all installation orientations.



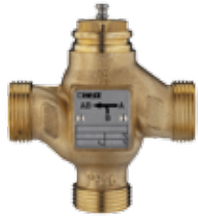
Operating voltage:	230 V / AC	24 V AC/DC
Control:	2-/3-point	2-point, 3-point and continuous range 0-10 V)
Torque:	10 Nm	10 Nm
Operating time:	120 s	35/60/120 s
Characteristic graph type:	-	Configurable on the drive
Protection class:	IP 54	IP 54
Order number:	1 7712 25	1 7712 27

Three-port mixing and diverting valve + lift drive

Used in building service plants as well as zone control. For balancing of heating systems, installation before or after heat exchangers as well as in heating terminals and risers.

Three-port mixing and diverting valve

For continuous control of cold and warm water. Usable with valve drive 1 **7712** 12 as actuator with adjustable characteristic graph. Body of cast brass with three male threads, flat-sealing, screw connections and actuator must be ordered separately.

 <input checked="" type="checkbox"/> 3-port mixing and diverting valve	Dimension	kvs	Order number
	DN 15	4.00	1 4037 15
	DN 20	6.30	1 4037 20
	DN 25	10.00	1 4037 25
	DN 32	16.00	1 4037 32
	DN 40	25.00	1 4037 40
	DN 50	40.00	1 4037 50

Rotary drive for three-port valves 4037

Two-part body of self-extinguishing plastic. Bracket of plastic and union nut of brass for valve attached. Disengageable gearbox for positioning of the valve and manual adjustment. Can be installed vertical to horizontal but non-suspended.

Operating voltage:	24 V AC	230 V AC	24 V AC
Control:	2-point, 3-point or continuous	3-point	3-point
Closing force:	500 N	500 N	500 N
Characteristic graph type:	Linear or equal percentage	-	-
Effective direction:	Operating direction switchable directly on the cable, automatic adaption to the valve stroke.	-	-
Further details:	Coding switch for selection of the characteristic graph and operating time.	-	-
Order number:	1 7712 11	1 7712 50	1 7712 51



Two- and three-port flanged valves DN 15 – DN 25, actuators and accessories

Straight and three-way flanged valves are mainly used to control the volume flow in district heating, heating, ventilation and air conditioning systems (HVA) as well as for remote closing of heating or cooling lines.

☑ Two- and three-port flanged valves DN 15 – DN 25

Body of grey cast iron GJL 250 according to EN 1561 (PN 16) or spheroidal graphite iron GJS 400-18-LT according to EN 1563 (PN 25); flange according to EN 1092-2; length according to EN 558-1, basic series 1; equal percentage characteristic graph; max. operating temperature: 140 °C; max. operating pressure: 16 bar (PN 16) and 25 bar (PN 25)



☑ Straight control valve
PN 16

☑ Straight control valve
PN 25

☑ Three-port control valve
PN 16

Dimension	kvs	Order number	Order number	Order number
DN 15	1.00	F 4035 01	F 4035 40	F 4037 01
DN 15	1.60	F 4035 11	F 4035 51	F 4037 11
DN 15	2.50	F 4035 21	F 4035 61	F 4037 21
DN 15	4.00	F 4035 31	F 4035 71	F 4037 31
DN 25	6.30	F 4035 03	F 4035 43	F 4037 03
DN 25	10.00	F 4035 13	F 4035 53	F 4037 13

☑ Rotary drive for control valves

Gearbox maintenance free. Connection with the valve spindle takes place semi-automatically after apply control voltage. Actuating force: 500 N; stroke: 8-20 mm; type of protection: IP 54; actuation time: 7.5 s/mm; Can be mounted vertical to horizontal but non-suspended.



Operating voltage:	230 V / AC	24 V AC/DC
Control:	2-/3-point	2-point, 3-point and continuous (operating range 0-10 V with actual feedback signal)
Further details:	-	<ul style="list-style-type: none"> Operating direction switchable directly on the cable sautomatic adaption to the stroke of the valve
Order number:	1 7712 28	1 7712 29

☑ Adapter set for HERZ actuator

For installation of HERZ actuators 1 7712 28/29 on HERZ control vales F 4006 xx, F 4035 xx and F 4037 xx.

Order number:	1 7712 20
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Two- and three-way flanged valves DN 32 – DN 80, actuators and accessories

☑ Two- and three-way flanged valves

Body of grey cast iron GJL 250 according to EN 1561 (PN 16) or spheroidal graphite iron GJS 400-18-LT according to EN 1563 (PN 25); flange according to EN 1092-2; length according to EN 558-1, basic series 1; equal percentage characteristic graph; max. operating temperature: 140 °C; max. operating pressure: 16 bar (PN 16) and 25 bar (PN 25)



☑ Straight control valve
PN 16



☑ Straight control valve
PN 25



☑ Three-port control valve
PN 16

Dimension	kvs	Order number	Order number	Order number
DN 32	16.00	F 4035 04	F 4035 44	F 4037 04
DN 40	25.00	F 4035 05	F 4035 45	F 4037 05
DN 50	40.00	F 4035 16	F 4035 56	F 4037 16
DN 65	63.00	F 4035 07	F 4035 47	F 4037 07
DN 80	100.00	F 4035 08	F 4035 48	F 4037 08

☑ Rotary drive for control valves

Gearbox maintenance free. Connection with the valve spindle takes place semi-automatically after apply control voltage. Actuating force: 1000 N; stroke: 20 mm; type of protection: IP 66; two-colour LED display; Can be mounted vertical to horizontal but non-suspended.



Operating voltage:	230 V / AC	24 V AC/DC
Control:	2-/3-point	2-point, 3-point and continuous (operating range 0-10 V / 4-20 mA with actual feedback signal)
Actuation time:	6 (12) s/mm	6 (4) s/mm
Further details:	-	<ul style="list-style-type: none"> • Coding switch for operating direction, characteristic graph and control signal • automatic adaption to the stroke of the valve
Order number:	1 7712 30	1 7712 31

☑ Adapter set for HERZ actuator

For installation of HERZ actuators 1 **7712** 30/31 on HERZ control valves F **4006** xx, F **4035** xx and F **4037** xx.

Order number:	1 7712 17
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Two- and three-port flanged valves DN 100 – DN 150, actuators and accessories

☑ Two- and three-port flanged valves

Body of grey cast iron GJL 250 according to EN 1561 (PN 16) or spheroidal graphite iron GJS 400-18-LT according to EN 1563 (PN 25); flange according to EN 1092-2; length according to EN 558-1, basic series 1; equal percentage characteristic graph; max. operating temperature: 140 °C; max. operating pressure: 16 bar (PN 16) and 25 bar (PN 25)



☑ Straight control valve
PN 16



☑ Straight control valve
PN 25



☑ Straight control valve
PN 16

Dimension	kvs	Order number	Order number	Order number
DN 100	16.00	F 4035 09	F 4035 49	F 4037 09
DN 125	250.00	F 4035 10	F 4035 50	F 4037 10
DN 150	330.00	F 4035 41	F 4035 52	F 4037 41

☑ Rotary drive for control valves

Gearbox maintenance free. Connection with the valve spindle takes place semi-automatically after apply control voltage. Actuating force: 2500 N; stroke: 49 mm; type of protection: IP 66; two-colour LED display; automatic adaption to the stroke of the valve; Operating voltage 230 V with 230 V module 1 **7712 22** possible. Can be mounted vertical to horizontal but non-suspended.

Operating voltage:	24 V AC/DC
Control:	2-point, 3-point and continuous (operating range 0-10 V / 4-20 mA with actual feedback signal)
Actuation time:	2/4/6 s/mm
Order number:	1 7712 32



☑ HERZ 230 V module

Pluggable; for HERZ actuators 1 **7712 21/32**. Operating voltage: 230 V / AC.

Order number:	1 7712 22
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Matrix Antriebe und Adapter

			1 7712 29 24 V continuous, 2-3-point 500 N, 20 mm	1 7712 31 24 V continuous, 2-3-point 1000 N, 20 mm	1 7712 32 24 V continuous, 2-3-point 2500 N, 40 mm	1 7712 21 24 V continuous, 2-3-point 2500 N, 40 mm	1 7712 28 230 V 2, 3-point 500 N, 20 mm
Combi valve	DN	max. m³/h					
F 4006 71	15	2,5	1 7712 20 *				1 7712 20 *
F 4006 90			1 7712 20 *				1 7712 20 *
F 4006 72	15	4	1 7712 20 *				1 7712 20 *
F 4006 91			1 7712 20 *				1 7712 20 *
F 4006 73	25	6,3	1 7712 20 *				1 7712 20 *
F 4006 92			1 7712 20 *				1 7712 20 *
F 4006 93	25	8	1 7712 20 *				1 7712 20 *
F 4006 53			1 7712 20 *				1 7712 20 *
F 4006 74	32	12	1 7712 20 *				1 7712 20 *
F 4006 94			1 7712 20 *				1 7712 20 *
F 4006 75	40	20	1 7712 20 *				1 7712 20 *
F 4006 95			1 7712 20 *				1 7712 20 *
F 4006 61			1 7712 20 *				1 7712 20 *
F 4006 80	50	32	1 7712 20 *				1 7712 20 *
F 4006 96			1 7712 20 *				1 7712 20 *
F 4006 62			1 7712 20 *				1 7712 20 *
F 4006 81	65	50		1 7712 18 *			
F 4006 97				1 7712 18 *			
F 4006 63	80	80	1 7712 20 *				1 7712 20 *
F 4006 82				1 7712 18 *			
F 4006 98				1 7712 18 *			
F 4006 64				1 7712 17 *			
F 4006 83	100	125					direkte Montage
F 4006 99							direkte Montage
F 4006 65				1 7712 17 *			
F 4006 84	125	180					direkte Montage
F 4006 10							direkte Montage
F 4006 66	125						direkte Montage
F 4006 56	150						direkte Montage
F 4006 67	150						direkte Montage
F 4006 57	200						direkte Montage
F 4006 68	250						direkte Montage
F 4006 69	150						direkte Montage
F 4006 85	150						direkte Montage
F 4006 11	150						direkte Montage
F 4006 39	15	1,6	1 7712 20 *				1 7712 20 *
F 4006 40	15	2,5	1 7712 20 *				1 7712 20 *
F 4006 41	15	4	1 7712 20 *				1 7712 20 *
F 4006 42	20	6,3	1 7712 20 *				1 7712 20 *
2-port valves	DN	kvs					
F 4035 01	15	1	1 7712 20 *				1 7712 20 *
F 4035 40			1 7712 20 *				1 7712 20 *
F 4035 11	15	1,6	1 7712 20 *				1 7712 20 *
F 4035 51			1 7712 20 *				1 7712 20 *
F 4035 21	15	2,5	1 7712 20 *				1 7712 20 *
F 4035 61			1 7712 20 *				1 7712 20 *
F 4035 31	15	4	1 7712 20 *				1 7712 20 *
F 4035 71			1 7712 20 *				1 7712 20 *
F 4035 03	25	6,3	1 7712 20 *				1 7712 20 *
F 4035 43			1 7712 20 *				1 7712 20 *
F 4035 13	25	10	1 7712 20 *				1 7712 20 *
F 4035 53			1 7712 20 *				1 7712 20 *
F 4035 04	32	16		1 7712 17			
F 4035 44				1 7712 17			
F 4035 05	40	25		1 7712 17			
F 4035 45				1 7712 17			
F 4035 16	50	40		1 7712 17			
F 4035 56				1 7712 17			
F 4035 07	65	63		1 7712 17			
F 4035 47				1 7712 17			
F 4035 08	80	100		1 7712 17			
F 4035 48				1 7712 17			
F 4035 09	100	160			Direct installation		
F 4035 49					Direct installation		
F 4035 10	125	250			Direct installation		
F 4035 50					Direct installation		
F 4035 41	150	330			Direct installation		
F 4035 52					Direct installation		
3-port valves	DN	kvs					
F 4037 01	15	1	1 7712 20				1 7712 20 *
F 4037 11	15	1,6	1 7712 20				1 7712 20 *
F 4037 21	15	2,5	1 7712 20				1 7712 20 *
F 4037 31	15	4	1 7712 20				1 7712 20 *
F 4037 03	25	6,3	1 7712 20				1 7712 20 *
F 4037 13	25	10	1 7712 20				1 7712 20 *
F 4037 04	32	16		1 7712 17			
F 4037 05	40	25		1 7712 17			
F 4037 16	50	40		1 7712 17			
F 4037 07	65	63		1 7712 17			
F 4037 08	80	100		1 7712 17			
F 4037 09	100	160			Direct installation		
F 4037 10	125	250			Direct installation		
F 4037 41	150	330			Direct installation		
Mixers	DN						
1 2137 11	15						
1 2137 12	20						
1 2137 13	25						
1 2137 14	32						
1 2137 15	40						
1 2137 16	50						
Ball valves	DN						
1 2117 11	15						
1 2117 12	20						
1 2117 13	25						
1 2117 14	32						
1 2117 15	40						
1 2117 16	50						

* The adapter specified in the cell is required for installation.

Matrix Antriebe und Adapter

			1 7712 29 24 V continuous, 2-3-point 500 N, 20 mm	1 7712 31 24 V continuous, 2-3-point 1000 N, 20 mm	1 7712 32 24 V continuous, 2-3-point 2500 N, 40 mm	1 7712 21 24 V continuous, 2-3-point 2500 N, 40 mm	1 7712 28 230 V 2, 3-point 500 N, 20 mm
Combi valve							
F 4006 71	DN	max. m³/h					
F 4006 90	15	2,5					
F 4006 72							
F 4006 91	15	4					
F 4006 73							
F 4006 92	25	6,3					
F 4006 93							
F 4006 53	25	8					
F 4006 74							
F 4006 94	32	12					
F 4006 75							
F 4006 95	40	20					
F 4006 61							
F 4006 80							
F 4006 96	50	32					
F 4006 62							
F 4006 81			1 7712 18 *				
F 4006 97	65	50	1 7712 18 *				
F 4006 63							
F 4006 82			1 7712 18 *				
F 4006 98	80	80	1 7712 18 *				
F 4006 64			1 7712 17 *				
F 4006 83							
F 4006 99	100	125					
F 4006 65			1 7712 17 *				
F 4006 84							
F 4006 10	125	180					
F 4006 66							
F 4006 56	125						
F 4006 67	150						
F 4006 57	150						
F 4006 68	200						
F 4006 69	250						
F 4006 85	150						
F 4006 11	150						
F 4006 39	15	1,6					
F 4006 40	15	2,5					
F 4006 41	15	4					
F 4006 42	20	6,3					
2-port valves							
F 4035 01	DN	kvs					
F 4035 40	15	1					
F 4035 11							
F 4035 51	15	1,6					
F 4035 21							
F 4035 61	15	2,5					
F 4035 31							
F 4035 71	15	4					
F 4035 03							
F 4035 43	25	6,3					
F 4035 13							
F 4035 53	25	10					
F 4035 04			1 7712 17 *				
F 4035 44	32	16	1 7712 17 *				
F 4035 05			1 7712 17 *				
F 4035 45	40	25	1 7712 17 *				
F 4035 16			1 7712 17 *				
F 4035 56	50	40	1 7712 17 *				
F 4035 07			1 7712 17 *				
F 4035 47	65	63	1 7712 17 *				
F 4035 08			1 7712 17 *				
F 4035 48	80	100	1 7712 17 *				
F 4035 09							
F 4035 49	100	160					
F 4035 10							
F 4035 50	125	250					
F 4035 41							
F 4035 52	150	330					
3-port valves							
F 4037 01	DN	kvs					
F 4037 11	15	1					
F 4037 11	15	1,6					
F 4037 21	15	2,5					
F 4037 31	15	4					
F 4037 03	25	6,3					
F 4037 13	25	10					
F 4037 04	32	16	1 7712 17 *				
F 4037 05	40	25	1 7712 17 *				
F 4037 16	50	40	1 7712 17 *				
F 4037 07	65	63	1 7712 17 *				
F 4037 08	80	100	1 7712 17 *				
F 4037 09	100	160					
F 4037 10	125	250					
F 4037 41	150	330					
Mixers							
1 2137 11	DN			Direct installation	Direct installation		
1 2137 12	15			Direct installation	Direct installation		
1 2137 13	20			Direct installation	Direct installation		
1 2137 14	25			Direct installation	Direct installation		
1 2137 15	32			Direct installation	Direct installation		
1 2137 16	40			Direct installation	Direct installation		
1 2137 16	50			Direct installation	Direct installation		
Ball valves							
1 2117 11	DN					Direct installation	Direct installation
1 2117 12	15					Direct installation	Direct installation
1 2117 13	20					Direct installation	Direct installation
1 2117 14	25					Direct installation	Direct installation
1 2117 15	32					Direct installation	Direct installation
1 2117 16	40					Direct installation	Direct installation
1 2117 16	50					Direct installation	Direct installation

* The adapter specified in the cell is required for installation.


Metering station

The metering station has two test points. The body is made of stainless steel according to BS 1042, flow characteristic confirmed to BS 7350. HERZ metering stations are used in the supply line of central heating and cooling systems and enable a precise measurement of differential pressure.

The usage of metering stations is possible in the supply as well as in the return – either partnered with HERZ commissioning valves to make up a set or in combination with a HERZ isolation valve. The adjustment of the flow is done by the setting of the commissioning valve during the measurement of the pressure loss at the metering station. Advantages are easy handling by usage only one operating direction of the metering station and the opportunity for separate installation, e.g. as a fixed orifice.


Metering station for differential pressure measurement

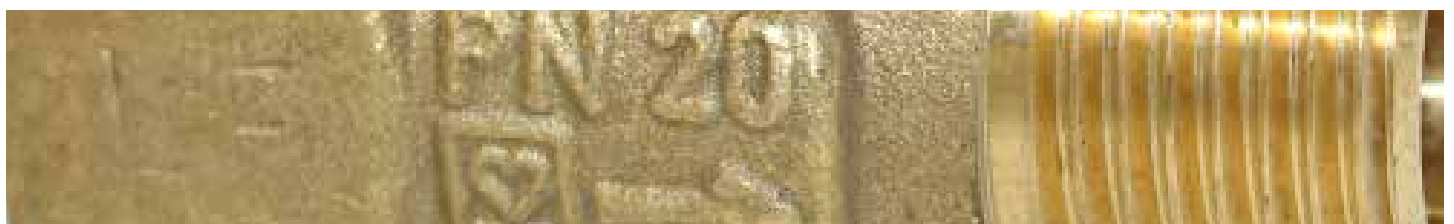
Metering station with threaded connection

Model	DN	kvs	EAN 91 20068	Order number	Sale Unit
 <p>HERZ metering station LF With reduced kv, for differential pressure measurement at low flow rates, other design features as listed below</p> <p>HERZ metering station MF For differential pressure measurement at moderate flow rates, other design features as listed below</p> <p>HERZ metering station with two test points Inlet with female thread, outlet with male thread, PN 20 from -20 °C to 130 °C (to DN 32), 110 °C (from DN 40). Body of dezincification-resistant brass, For differential pressure measurement. Two test points (0284)</p>	15 LF	0.55	43510 2	1 4000 11	10
	15 MF	1.1	43310 8	1 4000 21	10
	15	2.2	43500 3	1 4000 01	10
	20	1.25	43520 1	1 4000 02	10
	25	8.6	43530 9	1 4000 03	10
	32	15.9	43540 9	1 4000 04	5
	40	23.7	43550 8	1 4000 05	5
50	48.0	43560 7	1 4000 06	5	

Metering station for differential pressure measurement

Metering station for installation between flanges

Model	DN	kvs	EAN 91 20068	Order number	Sale Unit
 <p>HERZ metering station Stainless steel, max. temperature: 120 °C, max. operating pressure: 16 bar. Operating date and kv values according to BS 7350.</p>	65	100.7	46330 3	1 4000 31	1
	80	133.8	46331 0	1 4000 32	1
	100	237.7	46332 7	1 4000 33	1
	125	339	46333 4	1 4000 34	1
	150	511	46334 1	1 4000 35	1
	200	858	46335 8	1 4000 36	1
	250	1235	46336 5	1 4000 37	1
	300	1793	46337 2	1 4000 38	1



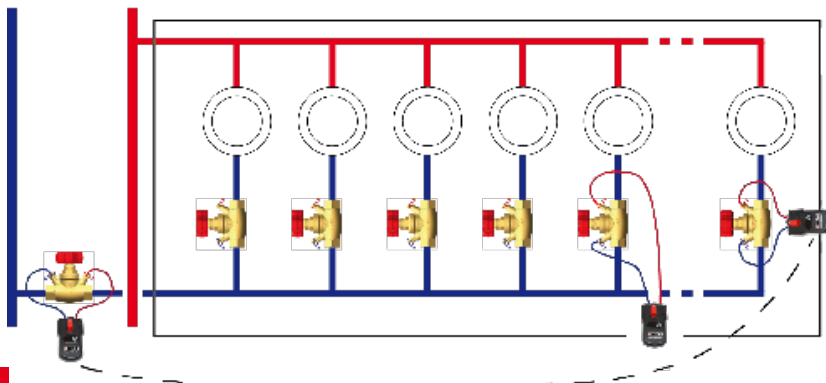
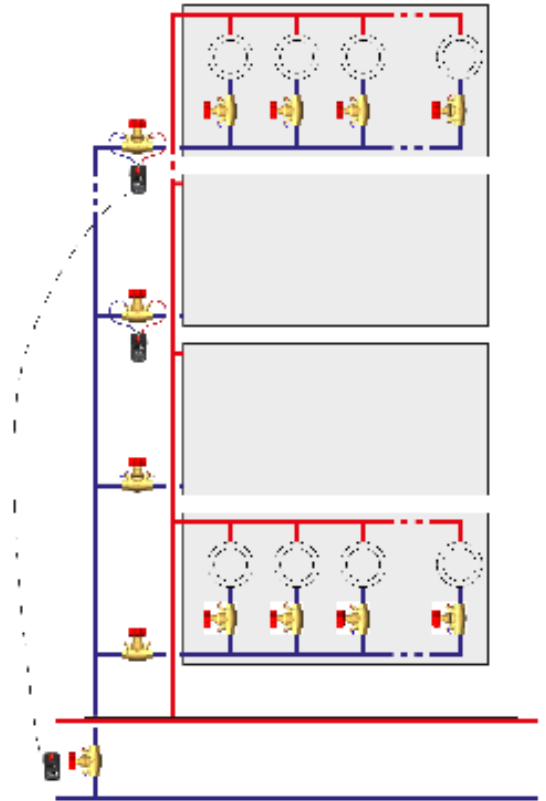
Hydraulic proportional balancing

The following points must be considered before commissioning:

1. The adjustment of a valve in a sub-circuit alters the flow not only in the sub-circuit, but also in other circuits in the system. If such an adjustment reduces the flow in the sub-circuit then the flow elsewhere must increase, as the total mass flow rate is constant.
2. If water flows through a pipe which has a number of branches then the percentage of the total flow in each branch remains constant irrespective of how the total mass flow alters.
3. The initial objective is to obtain the same percentage of the total flow rate in each part of the system (%DFR).
4. Flow is induced into less favoured circuits from favoured circuits.
5. Start with the most favoured branch to induce flow to less favoured branches (greatest %DFR).
6. The index circuit is that circuit displaying the lowest %DFR of the group of circuits on any one branch.
7. Each circuit is balanced against the index circuit starting with the circuit next to the pump and working back to the index.
8. Once all the groups of circuits within branches have been adjusted, the branch valves can be balanced as for the terminals working back towards the index.

Proportional Balancing with 4017 Fixed Orifice Valves:

1. With all terminal commissioning valves fully open with the main branch valve fully open and the control valves disabled and fully open, an initial differential pressure reading (signal) is taken at all commissioning valves.
2. The Percentage of Design Flow Rate is then calculated for all (%DFR) $\%DFR = 100 \times \text{Start with the most favoured branch to induce flow to less favoured branches (greatest \%DFR)}$. The index circuit is that circuit displaying the lowest %DFR of the group of circuits on any one branch
3. Each circuit is balanced against the index circuit starting with the circuit next to the pump and working back to the index.
4. Once all the groups of circuits within branches have been adjusted, the branch valves can be balanced as for the terminals working back towards the index.
5. When using Fixed Orifice the Pressure drop (signal) is used as the measuring unit.
6. The formula for establishing the signal to be achieved is
7. $\text{Target } \Delta P = (\text{Index } \%DFR / 100)^2 \times \text{Design Signal}$
8. As each valve is regulated, the index %DFR will tend to increase. It is the current value which is used in the reiteration.
9. Identify the index unit of the branch being balanced, this is usually the last measuring point on the branch and will have the lowest %DFR.
10. Calculate the target DP signal for the valve with the next lowest %DFR.
11. Adjust the regulating valve so that the target signal is achieved within $\pm 5\%$ of the index %DFR. A further iteration may be required if the circuit being balanced is not within $\pm 5\%$.
12. Continue by adjusting the regulating valve for the next terminal nearer the pump until the DFR for this terminal is within $\pm 5\%$ of the index terminal.
13. Complete the branch, then proceed to the next most favoured branch on the riser and carry out terminal balancing as before.
14. The process is repeated until all branches have been adjusted and balanced proportionally to one another.



HerzCOMP 650 measuring computer




1 8900 05
Order number






- For the balancing of cooling, heating and drinking water circuits
- Storage capacity for 2.000 measurements
- Antifreeze correction
- Ergonomische Bauform
- Protection class IP 65 (dust-tight and waterproof)
- Connection for smartphone via bluetooth
- Easy valve selection by user-friendly, image guided app
- App for Android (version 7.0 +) / iOS
- Measuring range 0-10 bar

Accessories






General accessories

Model		DN	EAN 91 20068	Order number	Sales Unit
	Sealing screw Brass version, dezincification-resistant brass with O-ring seal and external hex.	1/4	02181 7	2 0273 09	10
		3/8	02182 4	2 0273 00	10
	Draining valve with handle and swivelling hose connection Brass version, hose connection 1 6206 01 must be ordered separately.	1/4	02220 3	1 0276 09	1
		3/8	02230 2	1 0276 00	1
	Hose connection Brass version, nut and spigot	3/8	60010 4	1 6206 00	1
		1/2	60020 3	1 6206 01	1
		3/4	60030 2	1 6206 02	1



Keys and tools

	Universal key For opening theft protection clips 9552 4 square key SW 5 for STRÖMAX-M		63140 5	1 6640 00	1
	Pre-setting key For 7217 V	M 28 x 1.5	66545 0	1 6819 72	1
	Pre-setting key For HERZ pressure-independent control valve 4001 (from year manufacture 2009) For HERZ pressure-independent control valve 4002 (from year manufacture 2009) For HERZ combi valve pressure-independent control valve 4006-HERZ control and regulating valve 7217 GV		02670 6	1 4600 02	1

Accessories for measuring computer

	Pressure transducer set for quick test points		02380 4	1 0284 00	1
	HERZ test point adapter set for HERZ-STRÖMAX Valves with test points 0280, 0282 and 0283 for differential pressure measurement with HERZ measuring computers „up to year of manufacture 2004“.		81610 9	1 8903 11	1
	Quick test point 1 set = 2 units		02610 2	1 0284 10	Set
	Pre-setting tampering seal for STRÖMAX-GM/GR zur Abdeckung der Handradbefestigungsschraube, wird bei Abnahme zerstört		62910 5	1 6517 04	20
	Pre-setting marker Plastic hanger for labelling the pre-setting level. For installation on valve or pipeline.		62920 4	1 6517 05	20

Test points

	Quick test point with capillary connection Brass version, blue cap (return) for pressure transducer.	1/4	02700 0	1 0284 03	20
	Quick test point with capillary connection Brass version, red cap (supply) for pressure transducer.	1/4	02701 7	1 0284 04	20



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