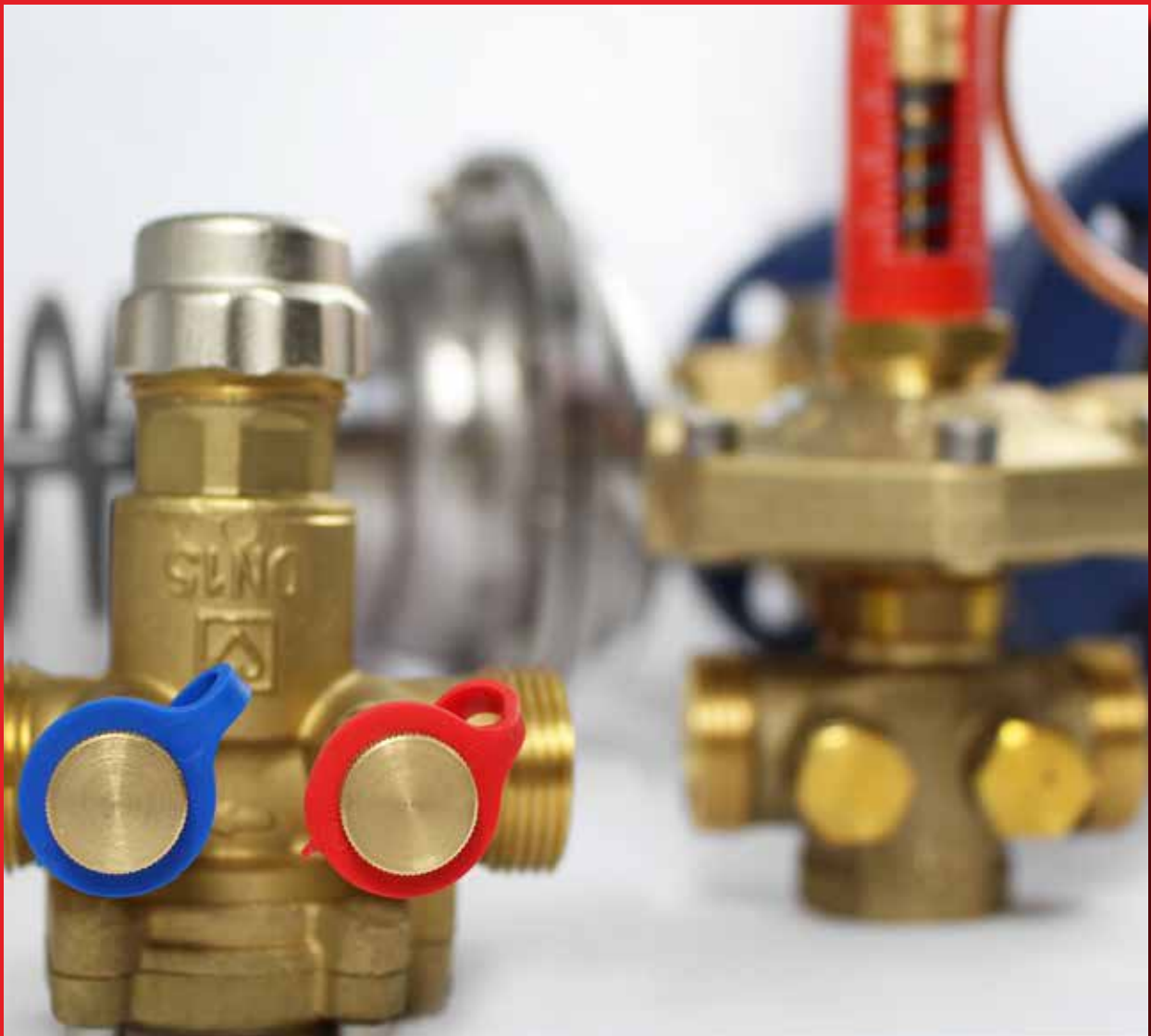


Dynamic control and regulating valves

All Perfectly regulated





Dynamic control and regulating valves - All perfectly regulated

Operational safety and a high level of efficiency to provide the appropriate thermal comfort – these are the most important requirements for a system. Especially with modern regulations, the desired room temperatures can be achieved very precisely but the result are often changing flows and pressures in the system.

For installations with static valves only a single operating status can be set optimally. This is usually the condition at full-load operation. During a year of operation, however, both heating and cooling systems work only for a few days in full-load operation. The predominant amount of operating time normally occurs in the partial-load range.

Dynamic control and regulating valves are used to run systems efficiently in all load ranges. They react independently to changing flow rate and pressure conditions and supply all parts of the system with the required amount of energy at any time.

HERZ offers a wide range of dynamic control and regulating valves: HERZ differential pressure controllers are available from DN 15 to DN 150. There are models with adjustable differential pressure range, with a fixed differential pressure setpoint as well as versions with connection threads for actuator drives. A special product highlight are the HERZ pressure-independent control valves (PICV), fully pressure-independent, automatic control and regulating valves. They combine the features of a regulating valve, a control valve, an isolation valve and a differential pressure controller. Furthermore they are easy to operate because only the desired flow rate has to be set. HERZ pressure-independent control valves are available from DN 15 to DN 200 and cover a flow range from 20 l/h to 350,000 l/h.

Advantages

- ☑ Development, design and production from HERZ
- ☑ Wide product range
- ☑ Well-thought-out design
- ☑ Easy handling
- ☑ Usage of an actuator is possible for many models up to DN 50
- ☑ For the control of heating and cooling areas
- ☑ Manufactured in the EU



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Differential pressure controller with adjustable setpoint

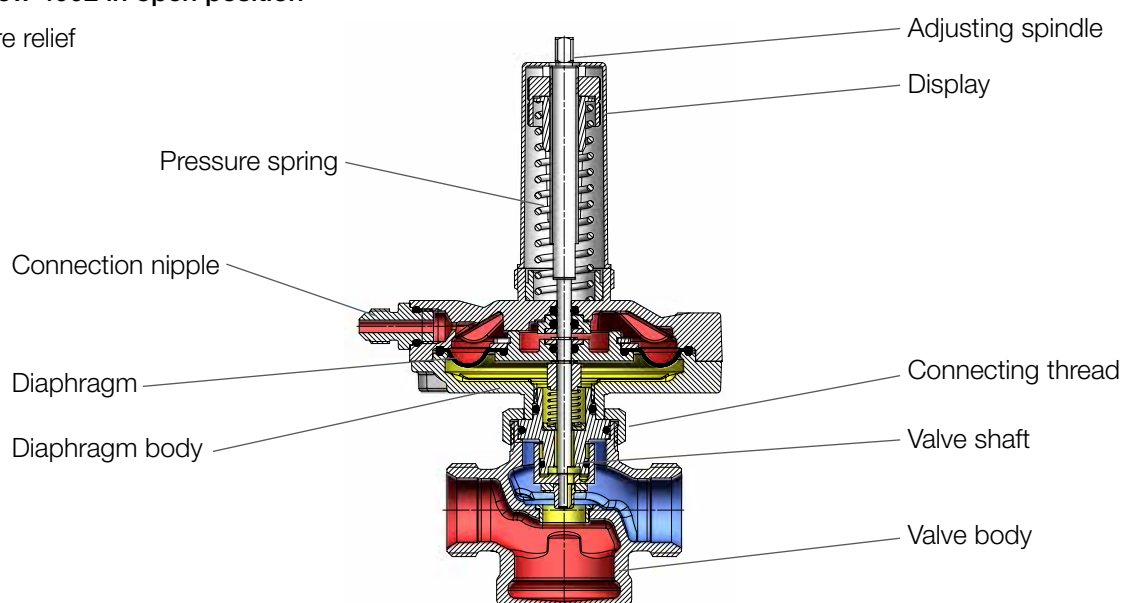
Series 4002/4202

Differential pressure controllers are used to stabilize the differential pressure in heating and cooling circuits and ensure the independence of the loads from dynamic pressure fluctuations in the system.

Compact shape, body of dezincification-resistant brass, incl. capillary 1000 mm. 4002: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. 4202: with threaded connections on both sides. Max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32), 110 °C (DN 40 – DN 50).

Sectional view 4002 in open position

Pressure relief



Series 4002/4202, 5 - 30 kPa

4002



4202



HERZ-Differential pressure controller 5 – 30 kPa

HERZ-Differential pressure controller 5 – 30 kPa

I/h	DN	Dim.	Order number	Dim.	Order number
50 - 1300	15	G 3/4	1 4002 41	Rp 1/2	1 4202 41
100 - 1600	20	G 1	1 4002 42	Rp 3/4	1 4202 42
150 - 2000	25	G 1 1/4	1 4002 43	Rp 1	1 4202 43
200 - 5000	32	G 1 1/2	1 4002 44	Rp 1 1/4	1 4202 44
400 - 8000	40	G 1 3/4	1 4002 45	Rp 1 1/2	1 4202 45
400 - 9000	50	G 2 3/8	1 4002 46	Rp 2	1 4202 46

HERZ-Differential pressure controller with adjustable setpoint

☒ Series 4002/4202, 25 - 60 kPa

4002



☒ HERZ-Differential pressure controller 25 - 60 kPa

4202



☒ HERZ-Differential pressure controller 25 - 60 kPa

I/h	DN	Dim.	Order number	Dim.	Order number
50 - 1300	15	G 3/4	1 4002 61	Rp 1/2	1 4202 61
100 - 1600	20	G 1	1 4002 62	Rp 3/4	1 4202 62
150 - 2000	25	G 1 1/4	1 4002 63	Rp 1	1 4202 63
200 - 5000	32	G 1 1/2	1 4002 64	Rp 1 1/4	1 4202 64
400 - 8000	40	G 1 3/4	1 4002 65	Rp 1 1/2	1 4202 65
400 - 9000	50	G 2 3/8	1 4002 66	Rp 2	1 4202 66

☒ Series 4002/4202, 45 - 80 kPa

4002



☒ HERZ-Differential pressure controller 45 - 80 kPa

4202



☒ HERZ-Differential pressure controller 45 - 80 kPa

I/h	DN	Dim.	Order number	Dim.	Order number
50 - 1300	15	G 3/4	1 4002 71	Rp 1/2	1 4202 71
100 - 1600	20	G 1	1 4002 72	Rp 3/4	1 4202 72
150 - 2000	25	G 1 1/4	1 4002 73	Rp 1	1 4202 73
200 - 5000	32	G 1 1/2	1 4002 74	Rp 1 1/4	1 4202 74
400 - 8000	40	G 1 3/4	1 4002 75	Rp 1 1/2	1 4202 75
400 - 9000	50	G 2 3/8	1 4002 76	Rp 2	1 4202 76



HERZ-Differential pressure controller with adjustable setpoint

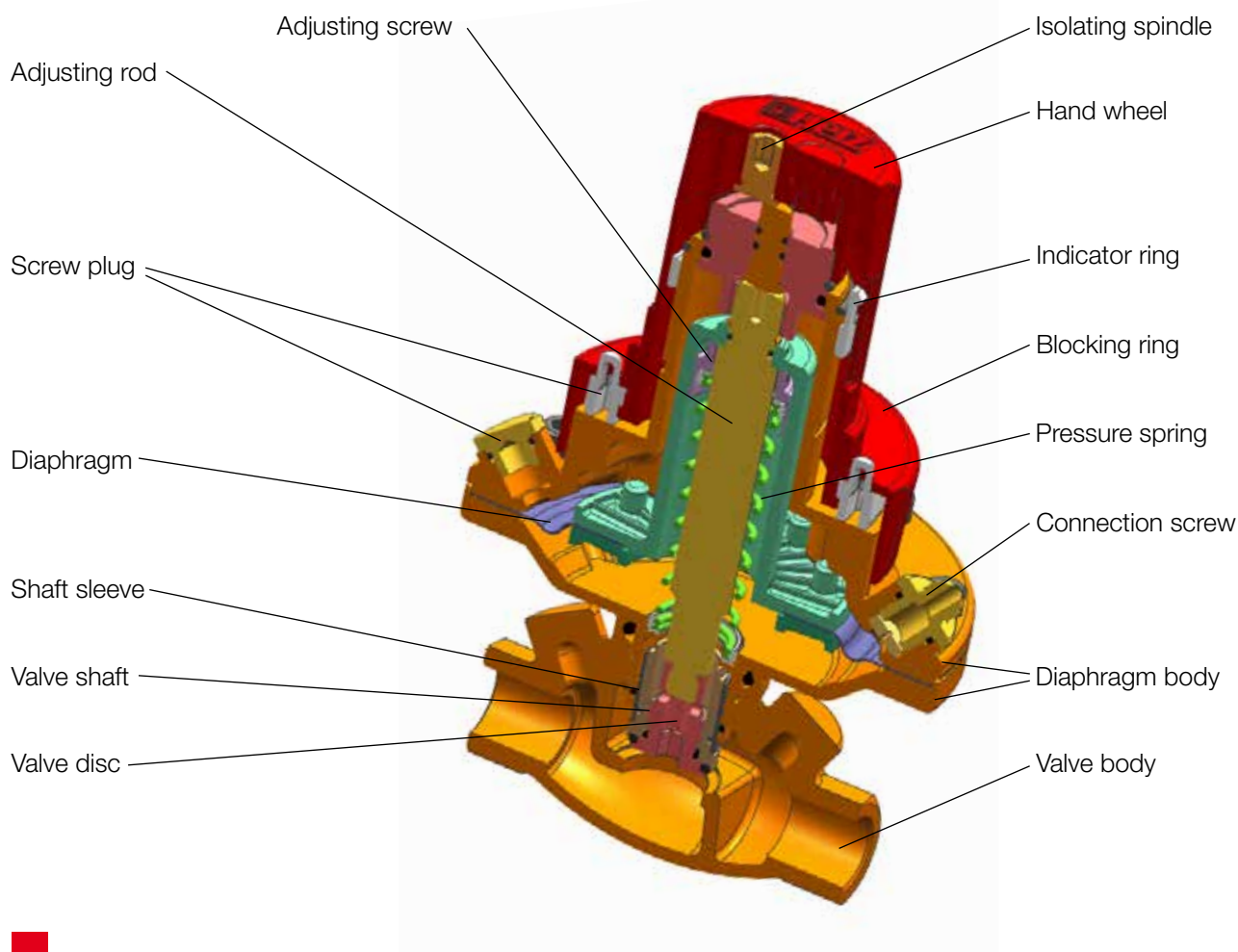
Series 4007, 5 - 30 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with thermostatic radiator valves. Differential pressure 5 – 30 kPa continuously adjustable. Body of dezincification-resistant brass, threaded connection on both sides, incl. capillary 1000 mm. Max. operating pressure: 16 bar; max. differential pressure across the body: 2 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

 HERZ-Differential pressure controller 4007	I/h	DN	Dim.	Order number
	50 - 1200	15	Rp 1/2	1 4007 01
	50 - 1200	20	Rp 3/4	1 4007 02
	200 - 4000	25	Rp 1	1 4007 03
	250 - 4250	32	Rp 1 1/4	1 4007 04
	200 - 5750	40	Rp 1 1/2	1 4007 05
	750 - 9000	50	Rp 2	1 4007 06
	750 - 10000	65	Rp 2 1/2	1 4007 07
	750 - 12000	80	Rp 3	1 4007 08

Sectional view 4007 in open position

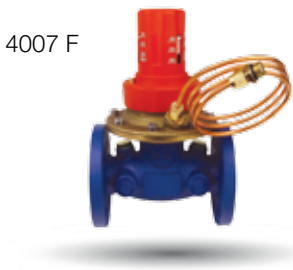


HERZ-Differential pressure controller with adjustable setpoint in flanged design

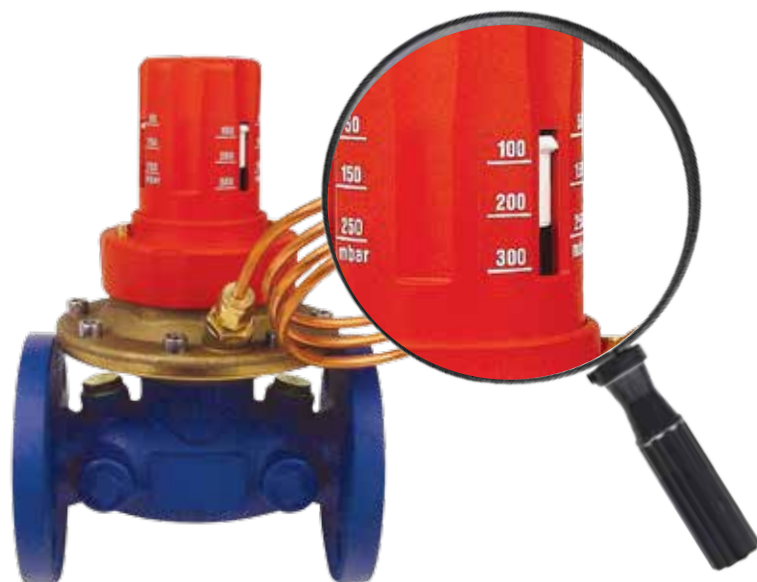
☒ Series 4007 F, 5 - 30 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with thermostatic radiator valves. Differential pressure 5 – 30 kPa continuously adjustable. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1000 mm. Max. operating pressure: 16 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

 4007 F ☒ Differential pressure controller 4007 F in flanged design	l/h	DN	Dim.	Order number
	200 - 4000	25	1	1 4007 13
	250 - 4250	32	1 1/4	1 4007 14
	200 - 5750	40	1 1/2	1 4007 15
	750 - 9000	50	2	1 4007 16
	750 - 10000	65	2 1/2	1 4007 17
	750 - 12000	80	3	1 4007 18

☒ Adjustment of differential pressure setpoint



The differential pressure setpoint value is set by lifting the red safety cap cover and turning the adjusting cap. The setpoint value setting required can be read off on the scale. Afterwards the safety cap cover is slid back towards the body. This fixes the setpoint value. It is also possible to fit a wire seal at the guide pins of the safety cap cover.



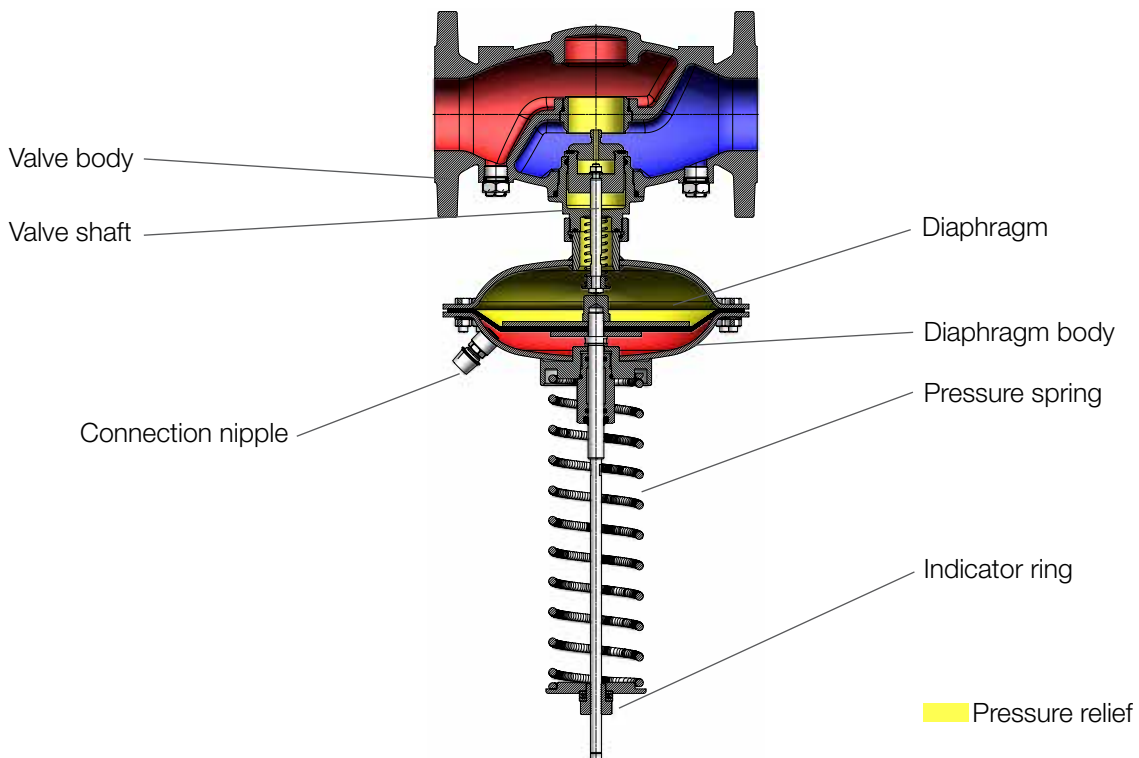
HERZ-Differential pressure controller with adjustable setpoint in flanged design

Series F 4007

For heating and cooling systems, to ensure constant differential pressure within the control range.

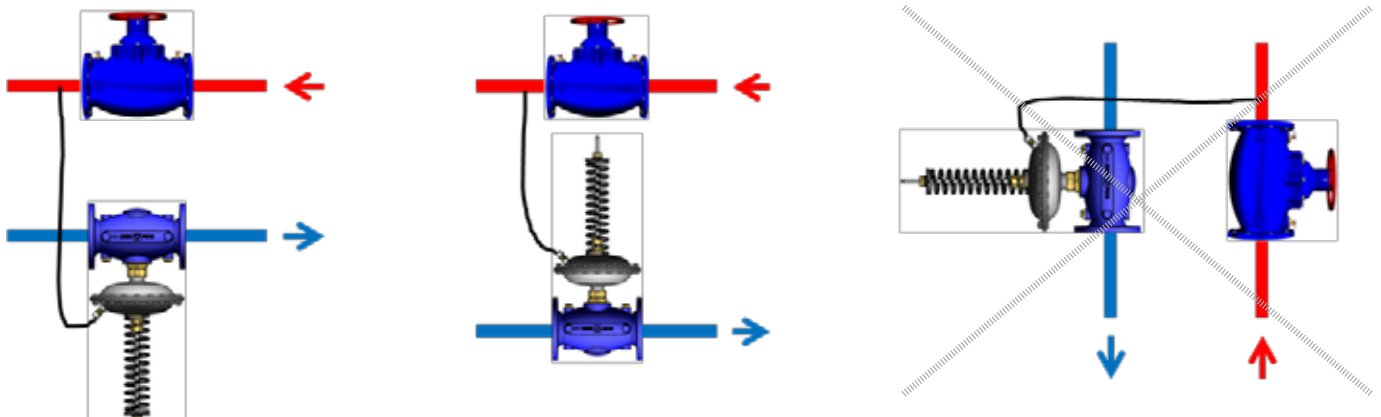
Proportional regulator with straight body without auxiliary power. Differential pressure 10 – 40 kPa, 20 – 80 kPa or 50 – 150 kPa continuously adjustable. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1600 mm. Max. operating pressure: 16 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

Sectional view 4007 in open position



Installation

Installation is carried out in the return flow and it should be hanging or standing. The direction of the flow is in the direction of the arrow shown on the body. The impulse pipe should be connected to a commissioning valve in the supply side. Installation of a shut-off valve both in front and behind the differential pressure controller is recommended. Also the onsite use of a ball valve in the impulse line is recommended in order to prevent pressure shocks on the diaphragm when filling the device.



HERZ-Differential pressure controller with adjustable setpoint in flanged design

☒ Series F 4007, 10 - 40 kPa

 F 4007 ☒ Differential pressure controller F 4007 in flanged design	Kvs	DN	Order number
	50	65	F 4007 07
	84	80	F 4007 08
	96	100	F 4007 09

☒ Series F 4007, 20 - 80 kPa

 F 4007 ☒ Differential pressure controller F 4007 in flanged design	Kvs	DN	Order number
	50	65	F 4007 17
	84	80	F 4007 18
	84	80 HF	F 4007 38
	96	100	F 4007 19
	190	125	F 4007 20
	270	150	F 4007 21

☒ Series F 4007, 50 - 150 kPa

 F 4007 ☒ Differential pressure controller F 4007 in flanged design	Kvs	DN	Order number
	39	50	F 4007 26
	50	65	F 4007 27
	84	80	F 4007 28
	96	100	F 4007 29
	190	125	F 4007 30
	270	150	F 4007 31

HERZ-Differential pressure controller up to 150 °C with adjustable setpoint in flanged design

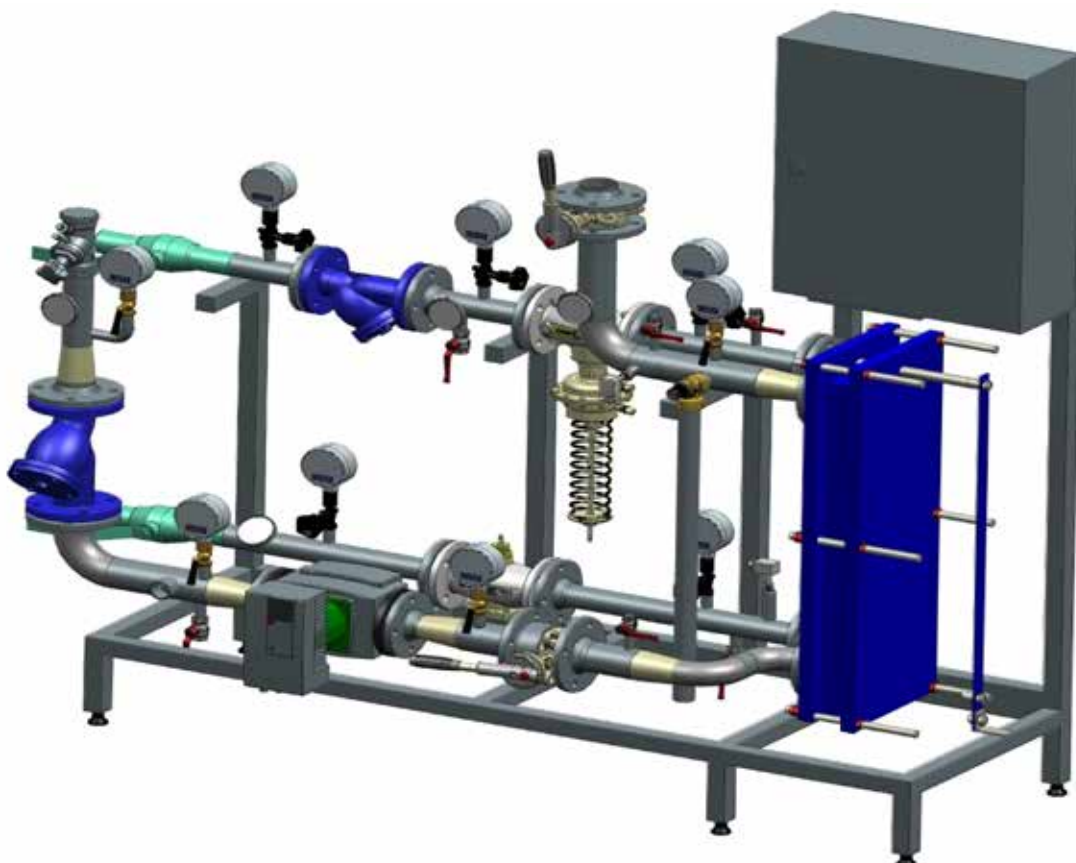
Series F 4007/150, 50 - 150 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

Proportional regulator with straight body without auxiliary power. Differential pressure 50 – 150 kPa continuously adjustable. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1600 mm. Max. operating pressure: 16 bar; max. operating temperature: 150 °C.

 ☒ Differential pressure controller F 4007/150 in flanged design	Kvs	DN	Order number
	39	DN 50	F 4007 56
	50	DN 65	F 4007 57

☒ Installation example



HERZ-Differential pressure controller with fixed setpoint

☑ Series 4002/4202 FIX, 23 kPa

Differential pressure 23 kPa set permanently. Compact shape, body of dezincification-resistant brass, incl. capillary 1000 mm; **4002**: with male thread connection, DN 15 und DN 20 with cone, DN 25 to DN 50 flat sealing. **4202**: threaded connections on both sides. Max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32), 110 °C (DN 40 – DN 50).

4002-FIX



☑ HERZ-Differential pressure controller 4002-FIX

4202-FIX



☑ HERZ-Differential pressure controller 4202-FIX

I/h	DN	Dim.	Order number	Dim.	Order number
50 - 900	15	G 3/4	1 4002 21	Rp 1/2	1 4202 21
100 - 1200	20	G 1	1 4002 22	Rp 3/4	1 4202 22
150 - 1800	25	G 1 1/4	1 4002 23	Rp 1	1 4202 23
200 - 4000	32	G 1 1/2	1 4002 24	Rp 1 1/4	1 4202 24
400 - 6500	40	G 1 3/4	1 4002 25	Rp 1 1/2	1 4202 25
400 - 7000	50	G 2 3/8	1 4002 26	Rp 2	1 4202 26

☑ Series 4007 FIX WE, 23 kPa (approval "Class A" Vienna Energy)

Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with radiator thermostatic valves. Differential pressure 23 kPa set permanently. Incl. capillary 1000 mm; body of dezincification-resistant brass; threaded sockets on both sides; Max. operating pressure: 10 bar; max. operating temperature: 95 °C. DN 15 – DN 50 approval „Class A“ Vienna Energy.

4007



☑ HERZ-Differential pressure controller 4007 FIX WE

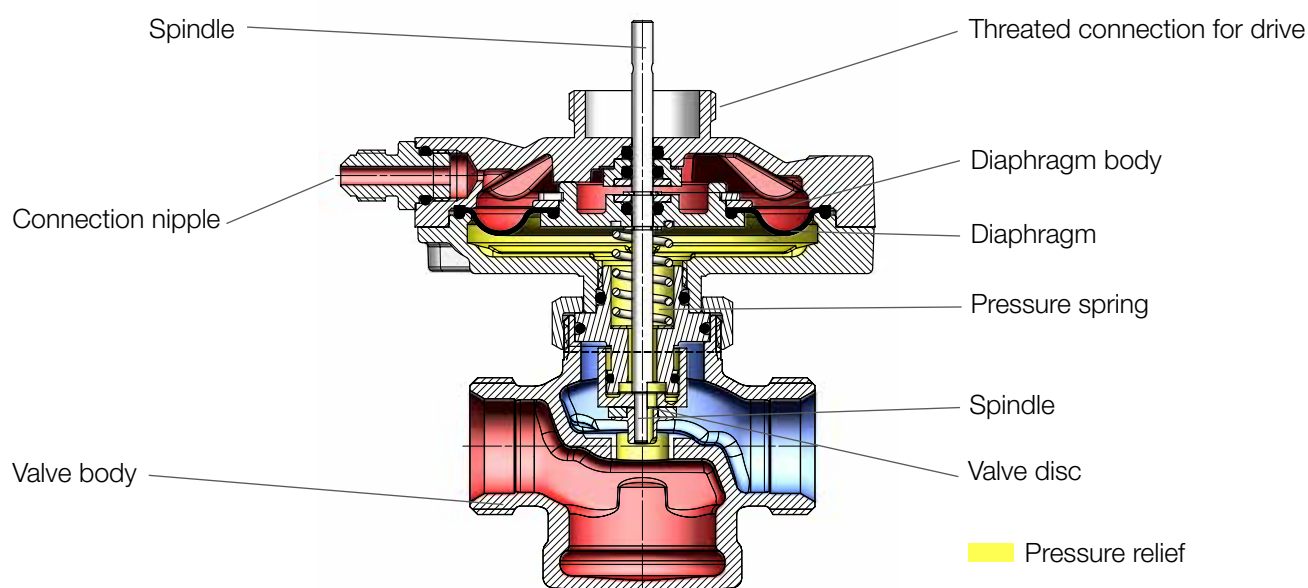
I/h	DN	Dim.	Order number
100 - 600	15	Rp 1/2	1 4007 51
150 - 780	20	Rp 3/4	1 4007 52
200 - 1500	25	Rp 1	1 4007 53
300 - 2500	32	Rp 1 1/4	1 4007 54
400 - 4700	40	Rp 1 1/2	1 4007 55
600 - 6100	50	Rp 2	1 4007 56
750 - 10000	65	Rp 2 1/2	1 4007 57
750 - 12000	80	Rp 3	1 4007 58

HERZ-Differential pressure controller with fixed setpoint and threaded connections for actuating drives

Series 4002/4202 FIX TS

Compact shape, body of dezincification-resistant brass, incl. capillary 1000 mm; threaded connection for drive M 28 x 1.5; **4002**: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. **4202**: threaded connections on both sides. Max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32), 110 °C (DN 40 – DN 50).

Sectional view 4002 FIX TS in open position



Series 4002/4202 FIX TS, 23 kPa

4002-FIX-TS



4202-FIX-TS



HERZ-Differential pressure controller 4002-FIX-TS

HERZ-Differential pressure controller 4202-FIX-TS

I/h	DN	Dim.	Order number	Dim.	Order number
50 - 900	15	G 3/4	1 4002 81	Rp 1/2	1 4202 81
100 - 1200	20	G 1	1 4002 82	Rp 3/4	1 4202 82
150 - 1800	25	G 1 1/4	1 4002 83	Rp 1	1 4202 83
200 - 4000	32	G 1 1/2	1 4002 84	Rp 1 1/4	1 4202 84
400 - 6500	40	G 1 3/4	1 4002 85	Rp 1 1/2	-
400 - 7000	50	G 2 3/8	1 4002 86	Rp 2	-

Please note: suitable matching actuators see page 24 - 25

HERZ-Differential pressure controller with fixed setpoint and threaded connections for actuating drives

☑ Series 4002/4202 FIX TS, 50 kPa

4002-FIX-TS



☑ HERZ-Differential pressure controller 4002-FIX-TS

4202-FIX-TS



☑ HERZ-Differential pressure controller 4202-FIX-TS

I/h	DN	Dim.	Order number	Dim.	Order number
50 - 900	15	G 3/4	1 4002 91	Rp 1/2	1 4202 91
100 - 1200	20	G 1	1 4002 92	Rp 3/4	1 4202 92
150 - 1800	25	G 1 1/4	1 4002 93	Rp 1	1 4202 93
200 - 4000	32	G 1 1/2	1 4002 94	Rp 1 1/4	1 4202 94
400 - 6500	40	G 1 3/4	1 4002 95	Rp 1 1/2	1 4202 95
400 - 7000	50	G 2 3/8	1 4002 96	Rp 2	1 4202 96

HERZ-Differential pressure controller with fixed setpoint in flanged design

☑ Series 4007 F FIX, 23 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with radiator thermostatic valves. Differential pressure 23 kPa set permanently. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1000 mm. Max. operating pressure: 16 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

4007



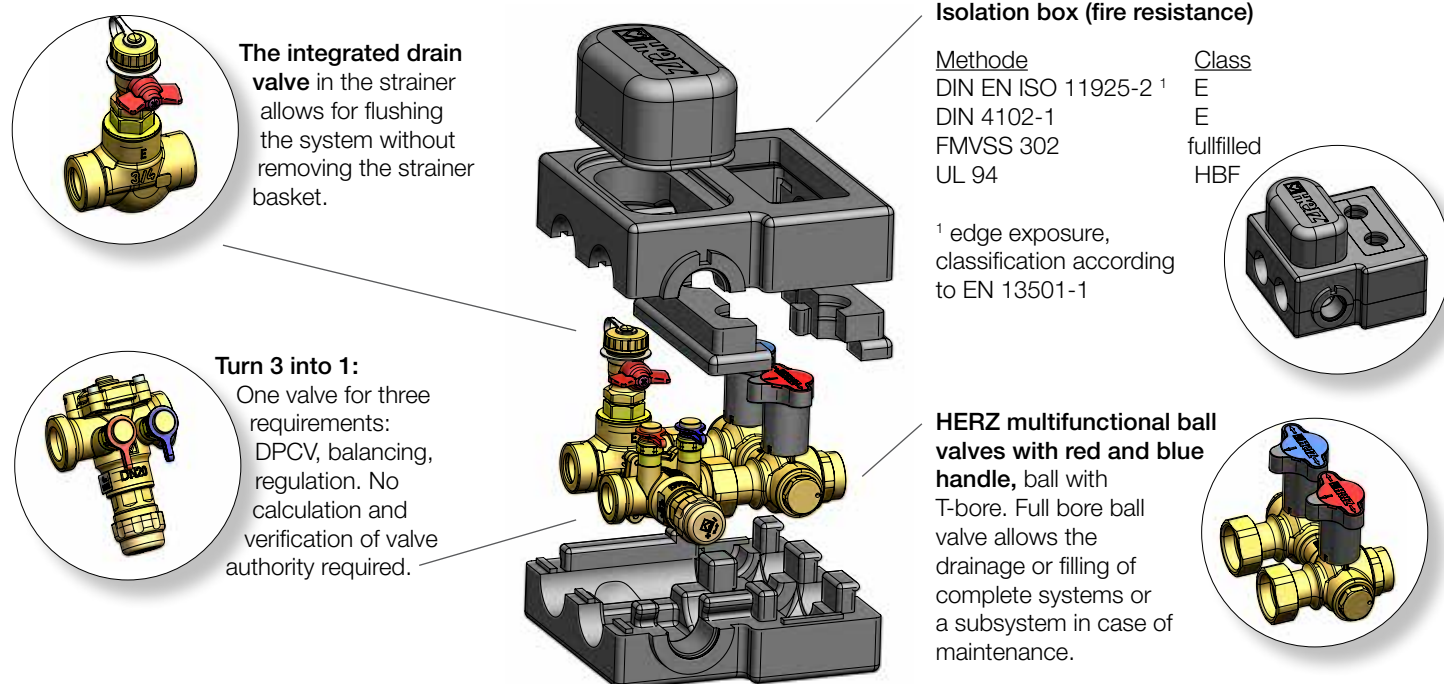
☑ Differential pressure controller 4007 F in flanged design

I/h	DN	Dim.	Order number
200 - 1500	25	1	1 4007 63
300 - 2500	32	1 1/4	1 4007 64
400 - 4700	40	1 1/2	1 4007 65
600 - 6100	50	2	1 4007 66
750 - 10000	65	2 1/2	1 4007 67
750 - 12000	80	3	1 4007 68

HerzCON – direct connection for fan coils and other heating and cooling units

HerzCON was designed for easy connection to fan coil units or other terminal devices and uses the HERZ 4006 SMART PICV with multifunctional HERZ ball valves and a HERZ strainer with HERZ drain valve 2512. Optionally, 2-point, 3-point or modulating 0 - 10 V. DC actuators or motorized drives installed and integrated into a GLT if required. The insulating box (DN 15 - DN 25) is designed water vapour permeable.

All components made of dezincification-resistant brass. Max. operating pressure: 25 bar; max. operating temperature: 130 °C; min. operating temperature: -20 °C, stroke: 4 mm.



☑ Product Overview

					
☑ HerzCON incl. insulation box, 65 mm pipe centre		☑ HerzCON without insulation box, 90 mm pipe centre		☑ HerzCON incl. insulation box, 90 mm pipe centre	
I/h	DN	Order number	Order number	Order number	Order number
20 - 100	15 LF	1 4600 50	-	-	-
40 - 200	15 MF	1 4600 59	-	-	-
80 - 400	15	1 4600 51	-	-	-
200 - 800	20	1 4600 52	-	-	-
100 - 1900	25	-	1 4600 53	1 4600 58	-
200 - 2500	32	-	-	-	1 4600 54

HERZ SMART valve – pressure-independent control valve

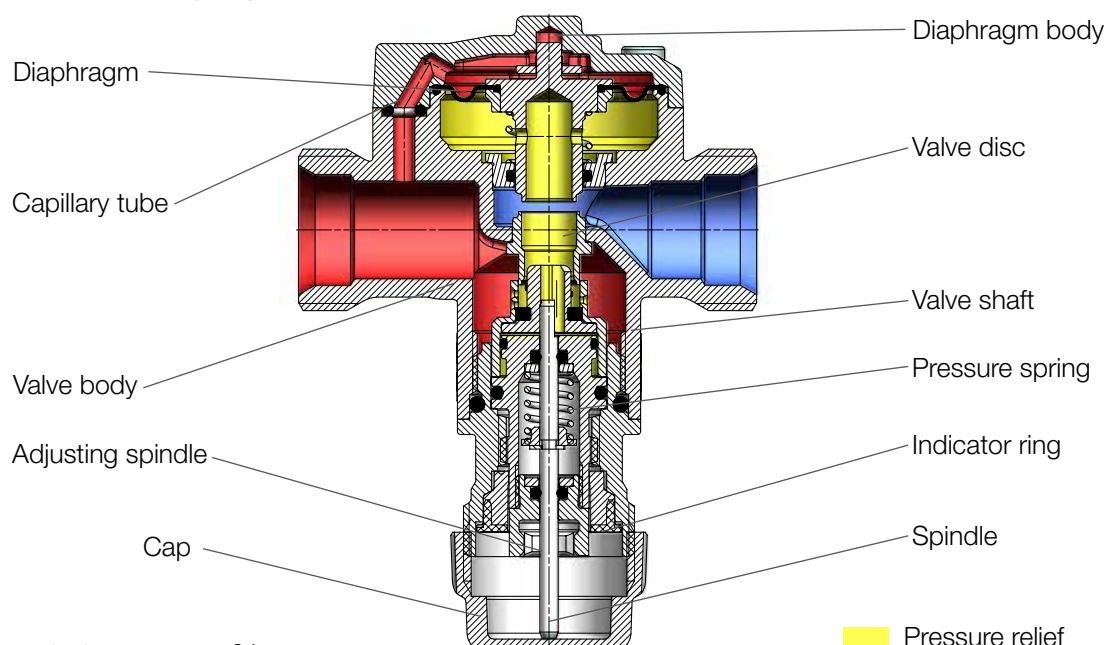
Series 4006/4206 M SMART and series 4006/4206 R SMART

The Pressure Independent Balancing Control Valve (PIBCV) is used in all heating and cooling systems with circulation pumps. The valve automatically maintains flow to the required part of the system at the set rate by measuring and immediately adjusting to any variation in pressure. No additional measurements are necessary and the correct flow rate is achieved at all operating conditions.

Compact shape, body of dezincification-resistant brass, with male thread connection, threaded connection for drive M 28 x 1.5. **4006**: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. **4206**: threaded connections on both sides. Max. operating pressure: 16 bar; max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C

4006 M SMART 		4006 R SMART 		4206 M SMART 		4206 R SMART 	
☑ HERZ SMART valve – pressure-independent control valve with testpoints		☑ HERZ SMART valve – pressure-independent control valve without testpoints		☑ HERZ SMART valve – pressure-independent control valve with testpoints		☑ HERZ SMART valve – pressure-independent control valve without testpoints	
I/h	DN	Dim.	Order number	Order number	Dim.	Order number	Order number
20 - 100	15 LF	G 3/4	1 4006 20	1 4006 60	Rp 1/2	1 4206 20	1 4206 60
40 - 200	15 MF	G 3/4	1 4006 29	1 4006 69	Rp 1/2	1 4206 29	1 4206 69
80 - 400	15	G 3/4	1 4006 21	1 4006 61	Rp 1/2	1 4206 21	1 4206 61
200 - 800	20	G1	1 4006 22	1 4006 62	Rp 3/4	1 4206 22	1 4206 62

Sectional view SMART in open position



Please note:
suitable matching actuators see page 24 - 25

HERZ-Pressure-independent control valve

Series 4006/4206 M and series 4006/4206 R

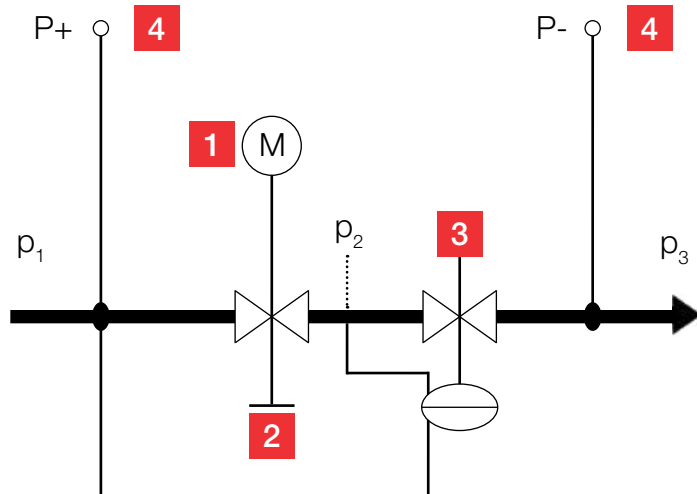
The Pressure Independent Balancing Control Valve (PIBCV) is used in all heating and cooling systems with circulation pumps. The valve automatically maintains flow to the required part of the system at the set rate by measuring and immediately adjusting to any variation in pressure. No additional measurements are necessary and the correct flow rate is achieved at all operating conditions.

Compact shape, body of dezincification-resistant brass, with male thread connection, threaded connection for drive M 28 x 1.5. **4006**: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. **4206**: threaded connections on both sides. Max. operating pressure: 16 bar; max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32) or rather 110 °C (from DN 40)

 4006 M HERZ-combi valve – pressure-independent control valve with testpoints  4006 R HERZ-combi valve – pressure-independent control valve without testpoints  4206 M HERZ-combi valve – pressure-independent control valve with testpoints  4206 R HERZ-combi valve – pressure-independent control valve without testpoints							
I/h	DN	Dim.	Order number	Order number	Dim.	Order number	Order number
40 - 400	15	G 3/4	1 4006 11	1 4006 41	Rp 1/2	1 4206 11	1 4206 41
80 - 900	20	G 1	1 4006 12	1 4006 42	Rp 3/4	1 4206 12	1 4206 42
100 - 1900	25	G 1 1/4	1 4006 13	1 4006 43	Rp 1	1 4206 13	1 4206 43
200 - 2500	32	G 1 1/2	1 4006 14	1 4006 44	Rp 1 1/4	1 4206 14	1 4206 44
400 - 5000	40	G 1 3/4	1 4006 15	1 4006 45	Rp 1 1/2	1 4206 15	1 4206 45
500 - 5000	50	G 2 3/8	1 4006 16	1 4006 46	2	1 4206 16	1 4206 46

Diagram of a PICV (4006/4206, 4006/4206 SMART)

- 1** Actuating drive for regulation valves
- 2** Continuous pre-setting for maximal required flow rate
- 3** Embedded differential pressure controller
- 4** Pressure measuring points



Please note:
suitable matching actuators see page 24 - 25

HERZ-Combi valve – Pressure-independent control valve

☑ Series F 4006 for increased flow rates

The combi valve is mainly used for district heating, heating, ventilation and air conditioning (HVAC) purposes and limits automatically the flow in the selected part of the system to the preset value by measuring and correcting all pressure fluctuations. The flow regulator is operated by an electric actuator and controlled by a microprocessor control device.

Body of grey cast iron GG 25 with external thread flat-sealing, PN 16, suitable for regulating the flow rate, in heating and cold water systems, max. differential pressure: 10 bar, max. differential pressure via flow restrictor: 0.2 bar; max. operating pressure: 16 bar; max. operating temperature: 130 °C

 ☑ HERZ-Combi valve - Pressure-independent control valve	kvs	DN	Order number
	1.6	15	F 4006 39
	2.5	15	F 4006 40
	4	15	F 4006 41
	6.3	20	F 4006 42

☑ Actuator for control valves series F 4006

Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 500 N; Stroke: 8-20 mm; Protection class IP 54; Operating time: 7.5 s / mm; Mount in vertical or horizontal position, not hanging.

Supply voltage:	230 V AC	24 V AC/DC
Control:	2-point or 3-point	2-point, 3-point or continuous (operating range 0-10 V with actuation feedback signal)
Further features:	-	- Direction of action selectable directly on the cable - Automatic adaptation to the stroke of the valve
Order number:	1 7712 28	1 7712 29



☑ Adapter set for mounting

of HERZ actuators 1 7712 28/29 on HERZ control valves F 4006 xx, F 4035 xx und F 4037 xx.

Order number:	1 7712 20
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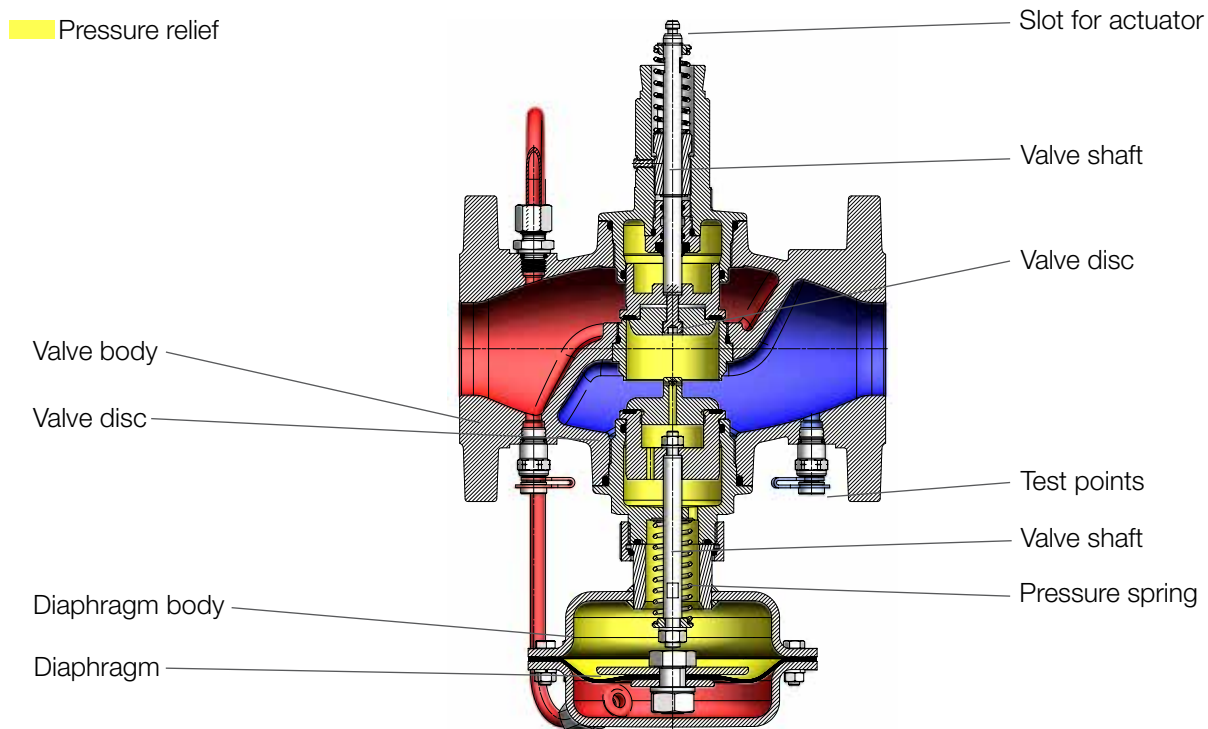
HERZ-Combi valve - Pressure-independent control valve in flanged design

Series F 4006, DN 50 and DN 65

The combi valve is mainly used for district heating, heating, ventilation and air conditioning systems (HVAC) and limits automatically the flow in the selected system part to the preset value by detecting and correcting all pressure fluctuations.

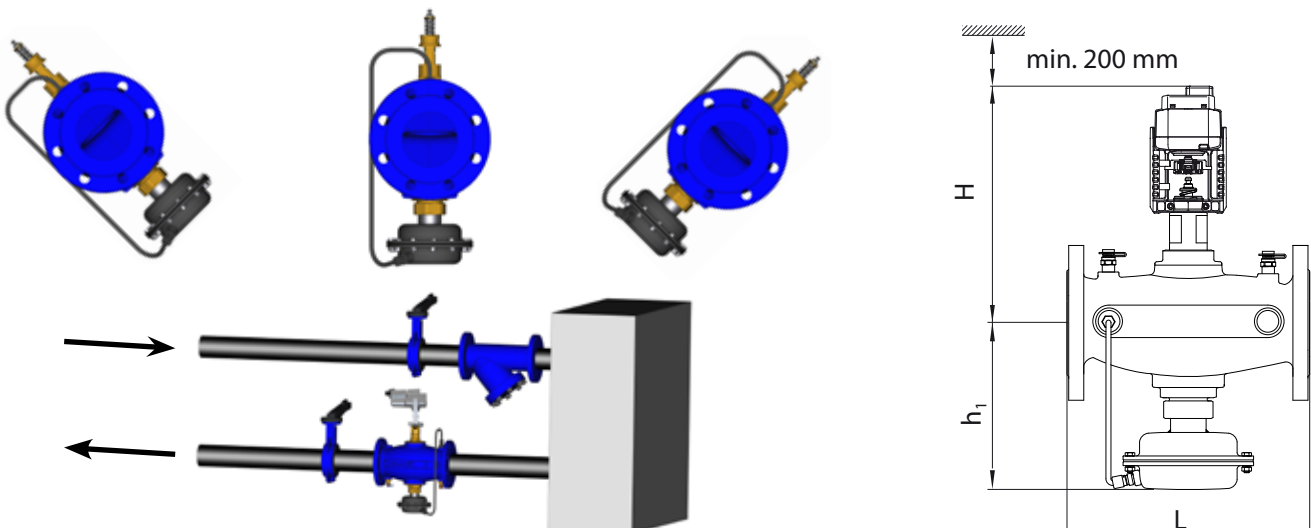
Body of grey cast iron GJL 250 according to EN 1561, flanges according to EN 1092, PN 16. Overall length according to EN 558-1, basic series 1. Max. operating pressure: 16 bar; max. differential pressure: 4 bar; max. differential pressure over the flow limiter: 0.2 bar; max. operating temperature: 110 °C.

Sectional view of Herz-Combi valve - Pressure-independent control valve in open position



Installation instructions

Recommended installation: Valve position in the return of the system. The actuator should be mounted in an upright position, $\pm 45^\circ$ to the vertical pipe axis. Permitted installation: The valve can also be installed in the supply of the system.



HERZ-Combi valve - Pressure-independent control valve in flanged design

☒ HERZ-Combi valve - Pressure-independent control valve F 4006, DN 50 and DN 65

 F 4006	m³/h	DN	Order number
	3.75 - 15	50	F 4006 62
	5 - 20	65	F 4006 63

☒ HERZ-Pressure independent control valve

☒ Actuator for control valves F 4006, DN 50 and DN 65

Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 500 N; Stroke: 8-20 mm; protection class IP 54; Operating time: 7.5 s / mm; Mount in vertical or horizontal position, not hanging.

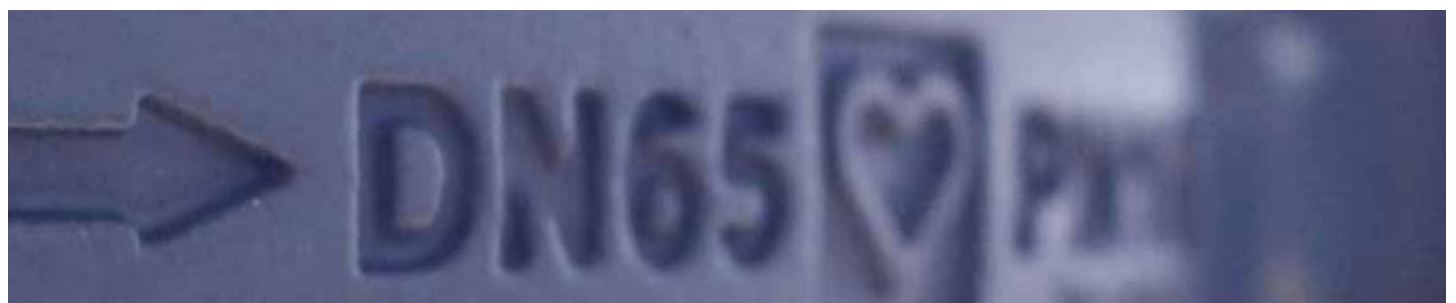


Supply voltage:	230 V AC	24 V AC/DC
Control:	2-point or 3-point	2-point, 3-point or continuous (operating range 0-10 V with actuation feedback signal)
Further features:	-	- Direction of action selectable directly on the cable - Automatic adaptation to the stroke of the valve
Order number:	1 7712 28	1 7712 29

☒ Adapter set for mounting

of HERZ actuators 1 **7712** 28/29 on HERZ control valves F **4006** xx, F **4035** xx und F **4037** xx.

Oder number	1 7712 20
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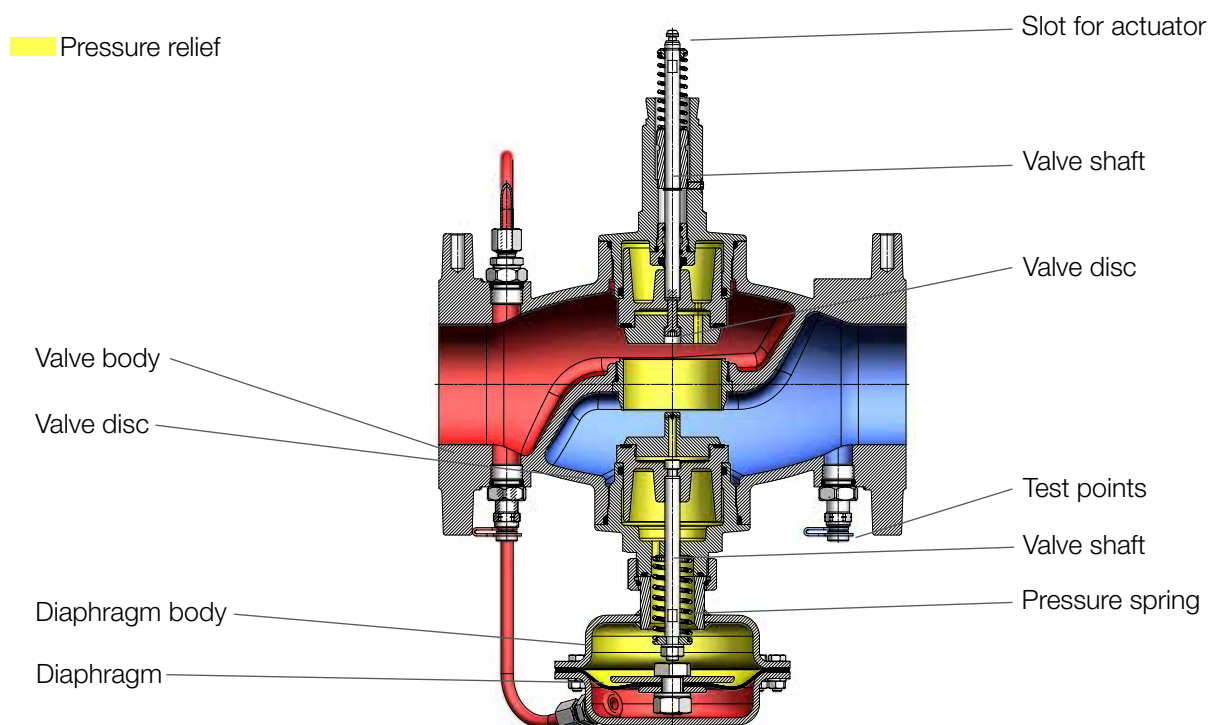
HERZ-Combi valve - Pressure-independent control valve in flange design

Series F 4006, DN 80 and DN 100

The combi valve is mainly used for district heating, heating, ventilation and air conditioning systems (HVAC) and limits automatically the flow in the selected system part to the preset value by detecting and correcting all pressure fluctuations.

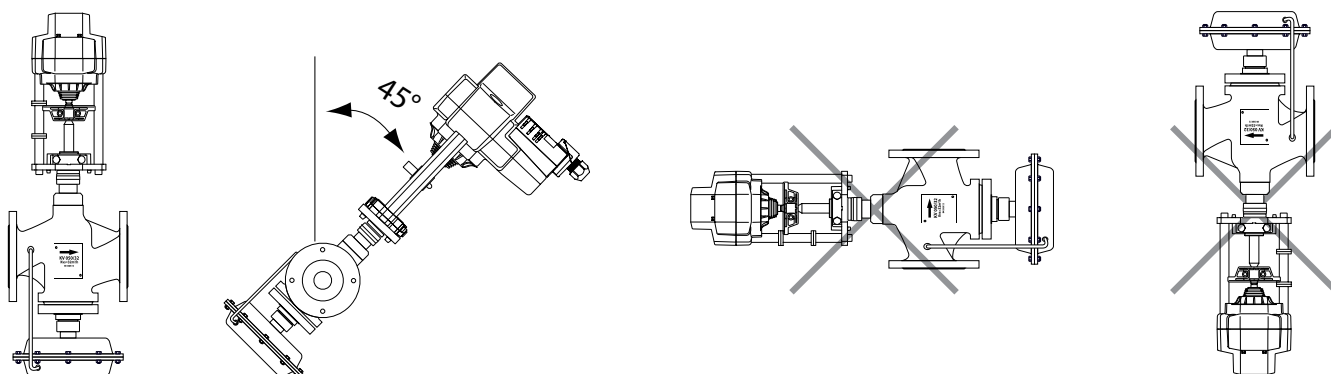
Body of grey cast iron GJL 250 according to EN 1561, flanges according to EN 1092, PN 16. Overall length according to EN 558-1, basic series 1. max. Operating pressure: 16 bar; Max. differential pressure: 4 bar; max. differential pressure over the flow restrictor: 0.2 bar; Max. operating temperature: 110 ° C.

Sectional view of Herz-Combi valve - Pressure-independent control valve in open position



Installation instructions

Recommended installation: Valve position in the return of the system. The actuator should be mounted in an upright position, $\pm 45^\circ$ to the vertical pipe axis. Permitted installation: The valve can also be installed in the supply of the system.



HERZ-Combi valve - Pressure-independent control valve in flanged design

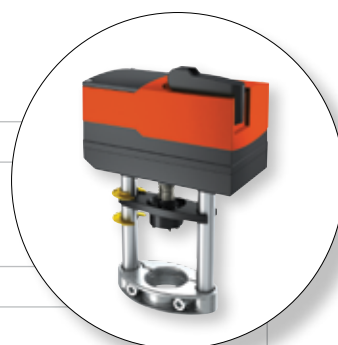
☒ HERZ-Combi valve - Pressure-independent control valve F 4006, DN 80 and DN 100

 F 4006 ☒ HERZ-Combi valve – Pressure independent control valve	m ³ /h	DN	Order number
	9 - 36	80	F 4006 64
	10.75 - 43	100	F 4006 65

☒ Actuator for control valves F 4006, DN 80 and DN 100

Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 1000 N; Stroke: 20 mm; Protection class IP 66; Two-colored LED-Display; Mount in vertical or horizontal position, not hanging.

Supply voltage:	230 V AC	24 V AC/DC
Control:	2-point or 3-point	2-point, 3-point or continuous (operating range 0-10 V with actuation feedback signal)
Operating time:	6 (12) s/mm	6 (4) s/mm
Further features:	-	- Direction of action selectable directly on the cable - Automatic adaptation to the stroke of the valve
Order number:	1 7712 30	1 7712 31



☒ Adapter set for mounting

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

Order number:	1 7712 17
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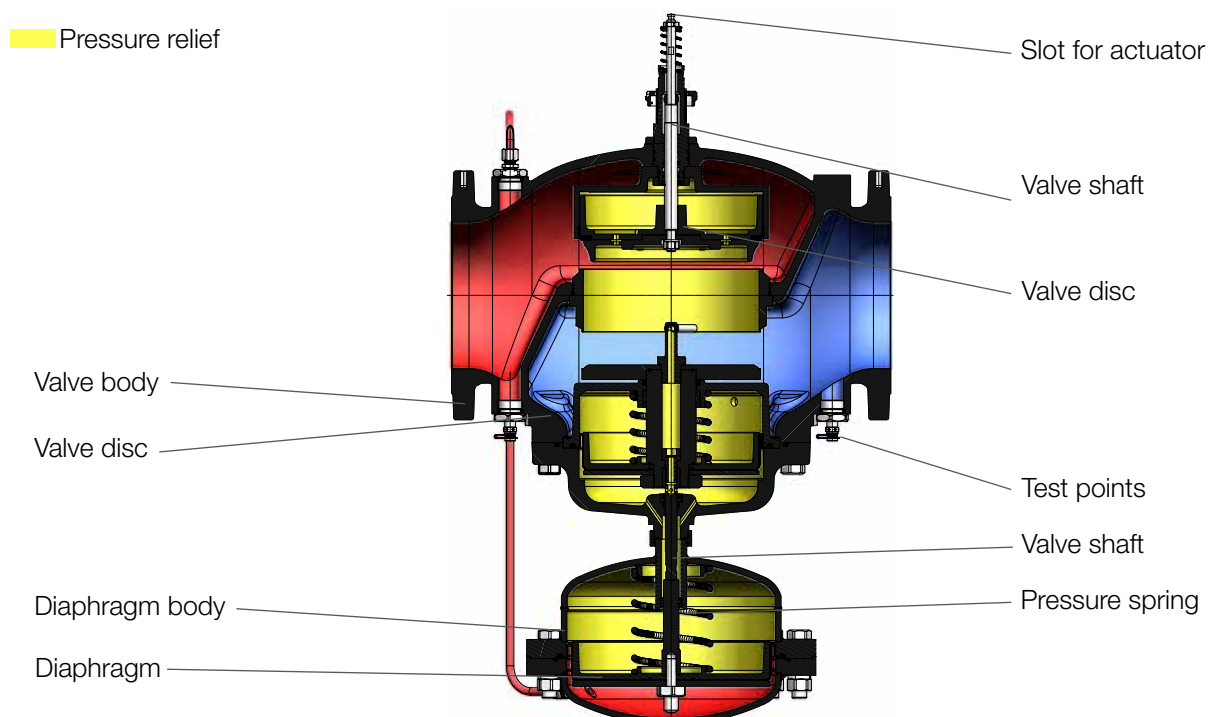
HERZ-Combi valve - Pressure-independent control valve in flange design

Series F 4006, DN 125 to DN 200

The combi valve is mainly used for district heating, heating, ventilation and air conditioning systems (HVAC) and limits automatically the flow in the selected system part to the preset value by detecting and correcting all pressure fluctuations.

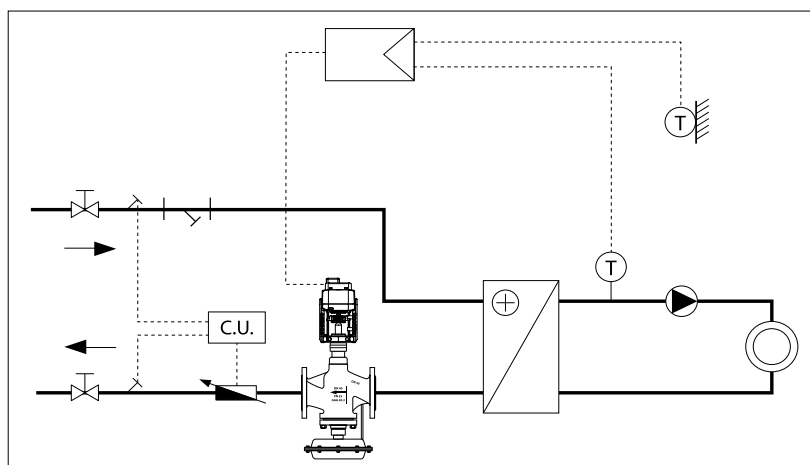
Body of grey cast iron GJL 250 according to EN 1561, flanges according to EN 1092, PN 16. Overall length according to EN 558-1, basic series 1. Max. Operating pressure: 16 bar; Max. differential pressure: 4 bar; Max. differential pressure over the flow restrictor: 0.2 bar; Max. operating temperature: 110 °C.

Sectional view of Herz-Combi valve - Pressure-independent control valve in open position



Installation instructions

Recommended installation: Valve position in the return of the system. The actuator should be mounted in an upright position, $\pm 45^\circ$ to the vertical pipe axis. Permitted installation: The valve can also be installed in the supply of the system.



HERZ-Combi valve - Pressure-independent control valve in flange design

☒ HERZ-Combi valve - Pressure-independent control valve F 4006, DN 125 to DN 200

 F 4006 ☒ HERZ-Combi valve – Pressure independent control valve	m³/h	DN	Order number
	25 - 100	125	F 4006 66
	37.50 - 150	125 HF	F 4006 56
	36.25 - 145	150	F 4006 67
	50 - 200	150 HF	F 4006 57
	52.50 - 210	200	F 4006 68
	75 - 300	200 HF	F 4006 58
	87.5 - 350	200 UHF	F 4006 48

☒ Actuator for control valves F 4006, DN 125 to DN 200

Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 2500 N; Stroke: 49 mm; protection class IP 66; Two-colored LED-Display; Automatic adaption to the stroke of the valve. Operating voltage 230 V with 230 V module 1 **7712** 22 possible. Mount in vertical or horizontal position, not hanging.

Supply voltage:	24 V AC/DC
Control:	2-point, 3-point or continuous (operating range 0-10 V / 4-20 mA with actuation feedback signal)
Operating time:	2/4/6 s/mm
Order number:	1 7712 21



☒ 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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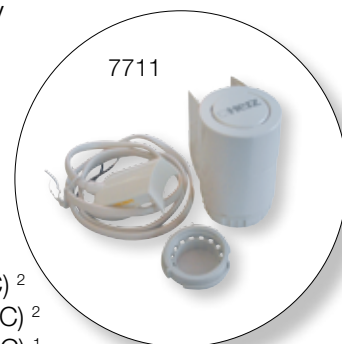


Actuators for 2-point control

☑ 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.

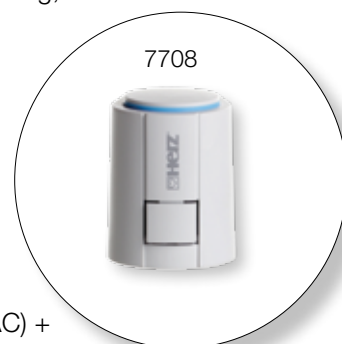
Connection:	M 28 x 1.5 *	M 28 x 1.5 **
Stroke:	5 mm	4,5 mm
Closing force:	100 N	110 N ¹ , 115 N ²
Dimensions in mm (W x H x D):	48.4 x 44.3 x 52.2	66 x 44 x 61
Order number:	1 7708 52 (NC, 24 V / AC) 1 7708 53 (NC, 230 V / AC) 1 7708 24 (NO, 230 V / AC)	1 7711 12 (NC, 24 V / AC) ² 1 7711 10 (NC, 230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



Actuating drives and geared motors

☒ HERZ geared motors

HERZ gear motors are electromotive actuators for opening and closing valves for heating and cooling systems. The common application of geared motors is the energy-efficient control of hydraulic valves in the field of building services and building automation.



	3-point	DDC 0-10 V
Connection:	M 28 x 1.5	M 28 x 1.5
Stroke:	8.5 mm	8.5 mm
Closing force:	200 N	200 N
Dimensions in mm (W x H x D):	45 x 65 x 90	45 x 65 x 90
Order number:	1 7708 40 (24 V / AC) 1 7708 41 (230 V / AC)	1 7708 42 (24 V / AC) 1 7708 46 (24 V / AC) - with valve stroke detection and feedback channel

☒ Selection table for actuating drives with adapter

		valve types	
Adapter and actuator	Adapter	4002 4202 (M28 x 1.5)	4006 4206 (M28 x 1.5)
	red	2-point control 1 7708 24 1 7708 52 1 7708 53 1 7708 87	☒
	blue	Continuous control 1 7990 31 1 7990 32	☒



Selection table for Drives and adapters

			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.

Selection table for Drives and adapters

			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					
F 4006 90							
F 4006 72	15	4					
F 4006 91							
F 4006 73	25	6,3					
F 4006 92							
F 4006 93	25	8					
F 4006 53							
F 4006 74	32	12					
F 4006 94							
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	DN	kvs					
F 4035 01	15	1					
F 4035 40							
F 4035 11	15	1,6					
F 4035 51							
F 4035 21	15	2,5					
F 4035 61							
F 4035 31	15	4					
F 4035 71							
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	DN	kvs					
F 4037 01	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	DN						
1 2137 11	15			Direct installation	Direct installation		
1 2137 12	20			Direct installation	Direct installation		
1 2137 13	25			Direct installation	Direct installation		
1 2137 14	32			Direct installation	Direct installation		
1 2137 15	40			Direct installation	Direct installation		
1 2137 16	50			Direct installation	Direct installation		
Ball valves	DN						
1 2117 11	15					Direct installation	Direct installation
1 2117 12	20					Direct installation	Direct installation
1 2117 13	25					Direct installation	Direct installation
1 2117 14	32					Direct installation	Direct installation
1 2117 15	40					Direct installation	Direct installation
1 2117 16	50					Direct installation	Direct installation

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

Fittings

☑ Pipe connections (conical sealing) for metal pipes

Pipe		8	10	12	14	15	16	18	22
Valve		DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 20
Nut G		3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Screw connection	metallic seal	1 6274 18	1 6274 00	1 6274 01	1 6274 02	1 6274 03	1 6274 04	-	1 6273 01
Screw connection	soft sealing	-	-	1 6276 12	1 6276 14	1 6276 15	1 6276 16	1 6276 18	

Compression adapters for calibrated soft steel and copper pipes. (Details can be found in the corresponding data sheets)

☑ Pipe connections (conical sealing) for plastic pipes

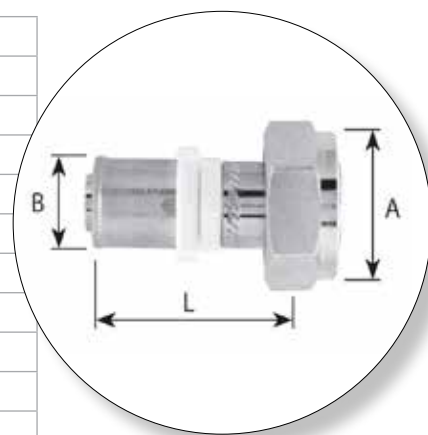
Pipe	10 x 1.3	14 x 2	15 x 2.5	16 x 2	16 x 2.2	17 x 2	17 x 2.5	18 x 2.5	18 x 2
Valve	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15
Nut G	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Screw connection	1 6098 18	1 6098 02	1 6098 16	1 6098 03	1 6098 12	1 6098 04	1 6098 05	1 6098 06	1 6098 07

Plastic pipe connector for PE-X, PB and aluminum composite pipes. (Details can be found in the corresponding data sheets).

Pipe	20 x 2	20 x 3.5	20 x 2.5	25 x 3.5	26 x 3
Valve	DN 15	DN 15	DN 15	DN 20	DN 20
Nut G	3/4	3/4	3/4	1	1
Screw connection	1 6098 08	1 6098 10	1 6098 11	1 6098 00	1 6098 01
Valve	DN 20				
Nut G	1				
Screw connection	1 6198 12				

☑ HERZ-Fittings

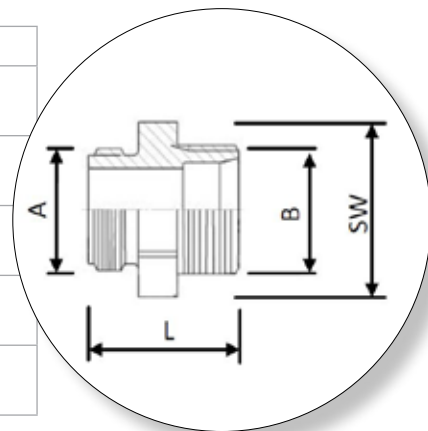
Dimensions	Order number	A	B	L
DN 15	T 7014 81	G 3/4	14 x 2	50
DN 15	T 7016 81	G 3/4	16 x 2	50
DN 15	T 7018 81	G 3/4	18 x 2	50
DN 15	T 7020 81	G 3/4	20 x 2	50
DN 25	T 7026 43	G 1 1/4	26 x 3	50
DN 25	T 7032 43	G 1 1/4	32 x 3	50
DN 25	T 7040 43	G 1 1/4	40 x 3.5	70
DN 32	T 7032 44	G 1 1/2	32 x 3	50
DN 32	T 7040 44	G 1 1/2	40 x 3.5	70
DN 32	T 7050 44	G 1 1/2	50 x 4	70



Fittings

☒ HERZ-Fittings, coupling

Order number	A	B	L	SW
1 6266 11	G 1/2 cone, ISO 228	R 1/2, ISO 7/1	31	22
1 6266 12	G 3/4 cone, ISO 228	R 1/2, ISO 7/1	42	27
1 6266 20	G 3/4 cone, ISO 228	R 3/4, ISO 7/1	33,7	27
1 6266 13	G 1 cone, ISO 228	R 3/4, ISO 7/1	33,5	34
1 6266 03	G 1 cone, ISO 228	R 1, ISO 7/1	38,5	34

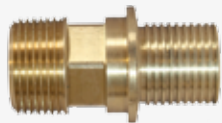


☒ Product Overview

Press fittings, transition with external thread

Model		EAN 91 20068	Order number	Sale unit
	16 x 2 – R 1/2	14210 9	T 7016 11	150
	20 x 2 – R 1/2	14250 5	T 7020 11	150
	20 x 2 – R 3/4	14260 4	T 7020 12	150
	26 x 3 – R 3/4	14330 4	T 7026 12	100
	26 x 3 – R 1	14340 3	T 7026 13	80
	32 x 3 – R 1	14350 2	T 7032 13	70
	40 x 3.5 – R 1	14370 0	T 7040 13	30
	32 x 3 – R 1 1/4	14360 1	T 7032 14	50
	40 x 3.5 – R 1 1/4	14380 9	T 7040 14	30
	50 x 4 – R 1 1/4	14390 8	T 7050 14	24
	50 x 4 – R 1 1/2	14400 4	T 7050 15	20
	63 x 4.5 – R 2	14410 3	T 7063 16	14
	75 x 5 – R 2	09003 5	T 7075 16	8

Sliding sleeve fittings for HERZ QUICK FIX

Model		Dim.	EAN 91 20068	Order number	Sale unit
	Transition with external thread	16 x 2 - R 1/2	01274 7	T 2011 41	150
		20 x 2 - R 1/2	01276 1	T 2011 42	120
		20 x 2 - R 3/4	01277 8	T 2011 43	120
		26 x 3 - R 3/4	01278 5	T 2011 44	80
		26 x 3 - R 1	01279 2	T 2011 45	70
		32 x 3 - R 1	01281 5	T 2011 46	60
		32 x 3 - R 5/4	01282 2	T 2011 47	40

All water transporting components are made of dezincification-resistant and brass suitable for drinking water and therefore usable in domestic water areas as well as in the heating and cooling areas.

Accessories

Accessories for HERZ-Differential pressure controller 4002 / 4202

Model		DN	Setting range	EAN 91 20068	Order number	Sale unit
	Replacement spring for HERZ differential pressure controller 4002 / 4202	15 - 50	5 - 30 kPa	02099 5	1 4002 97	1
		15 - 50	25 - 60 kPa	02101 5	1 4002 98	1
		15 - 50	45 - 80 kPa	01947 0	1 4002 99	1
	Indicator sleeve for HERZ differential pressure controller 4002 / 4202	15 - 50	-	45141 6	1 4002 10	1
	Differential pressure controller upper part Replacement for 1 4002 41 and 1 4202 41		5 - 30 kPa	01935 7	1 6386 91	
	Differential pressure controller upper part Replacement for 1 4002 42 and 1 4202 42		5 - 30 kPa	01936 4	1 6386 92	
	Differential pressure controller upper part Replacement for 1 4002 43 and 1 4202 43		5 - 30 kPa	01937 1	1 6386 93	
	Differential pressure controller upper part Replacement for 1 4002 44 and 1 4202 44		5 - 30 kPa	01938 8	1 6386 94	
	Differential pressure controller upper part Replacement for 1 4002 45-46 and 1 4202 45-46		5 - 30 kPa	01939 5	1 6386 95	
	Differential pressure controller upper part Replacement for 1 4002 61 and 1 4202 61		25 - 60 kPa	01942 5	1 6386 96	
	Differential pressure controller upper part Replacement for 1 4002 62 and 1 4202 62		25 - 60 kPa	01943 2	1 6386 97	
	Differential pressure controller upper part Replacement for 1 4002 63 and 1 4202 63		25 - 60 kPa	01944 9	1 6386 98	
	Differential pressure controller upper part Replacement for 1 4002 64 and 1 4202 64		25 - 60 kPa	01945 6	1 6386 99	
	Differential pressure controller upper part Replacement for 1 4002 65-66 and 1 4202 65-66		25 - 60 kPa	01946 3	1 6387 00	

Accessories for HERZ-Differential pressure controller 4007

Model		DN	Setting range	EAN 91 20068	Order number	Sale unit
	Upper part for differential pressure controller 4007	15	1/2	65550 0	1 6386 02	1
		20	3/4			1
		25	1	65560 9	1 6386 03	1
		32	1 1/4	65570 8	1 6386 04	1
		40	1 1/2	65580 7	1 6386 05	1
		50	2	65595 1	1 6386 06	1

Setting key

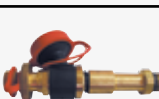
	Pre-setting key for HERZ pressure-independent control valve 4001, from year of manufacture 2009, differential pressure controller 4002, from year of manufacture 2009 HERZ Combi valve pressure-independent control valve 4006-HERZ control and regulating valve 7217 GV.	02670 6	1 4600 02	1
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Accessories

Capillaries for differential pressure controllers 4007, 4002 and 4202

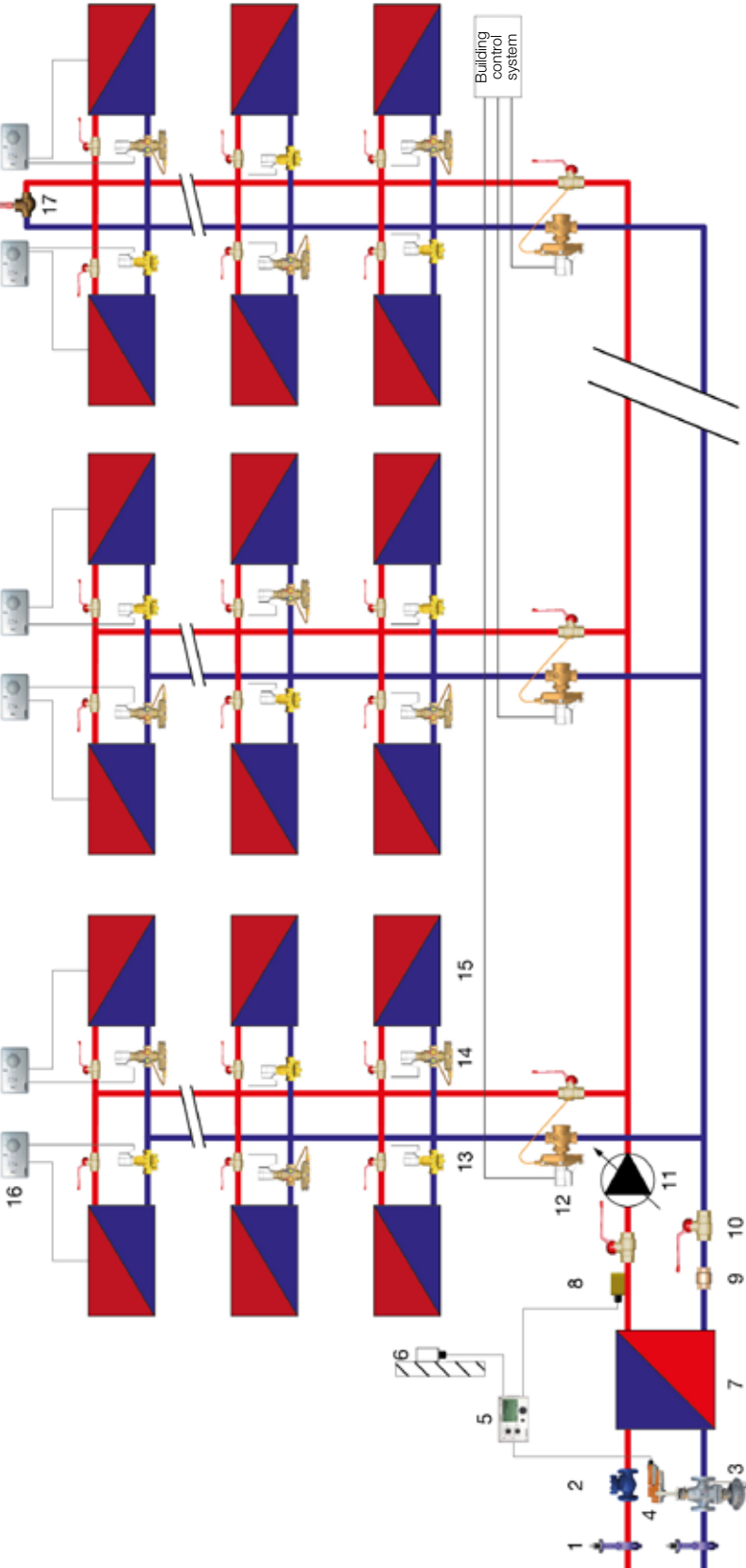
Model		DN	Dim.	EAN 91 20068	Order number	Sale unit
	Ball valve for capillary Threaded connection AG x IG 1/8		1/8	40250 0	1 4007 78	1
	Capillary for differential pressure controller with ball valve 1/8	1.0 m	-	40240 1	1 4002 78	1
	Capillary for differential pressure controller with connection nipple 1/8 G x 1/4 G	1.0 m	-	43270 5	1 4007 79	1
		1.5 m	-	43271 2	1 4007 80	1
	Capillary for differential pressure controller with connection nipple 1/8 G x 1/4 G	2.0 m	-	40102 2	1 4002 80	1
	HERZ indicator cover For HERZ differential pressure controller 4002, 4202. Plastic, black, with openings for attachment of a tampering seal, tampering seal wire included.			40100 8	1 6502 10	20
	Connection nipple for capillary		1/8 x 1/4	40101 5	1 0269 19	1
	Connection nipple for capillary		1/8 x 1/8	40090 2	1 0269 09	1

Test points

Model		Dim.	EAN 91 20068	Order number	Sale unit
	Quick test point (as of year of manufacture 2004), brass version, blue cap (return) for pressure transducer	1/4	02360 6	1 0284 01	1
	Quick test point (as of year of manufacture 2004), brass version, red cap (supply) for pressure transducer	1/4	02370 5	1 0284 02	1
	Quick test point Brass version, blue cap (return) for pressure transducer, extended design for valves with an insulation thickness up to 40 mm	1/4	02530 3	1 0284 11	1
	Quick test point Brass version, red cap (supply) for pressure transducer, extended design for valves with an insulation thickness up to 40 mm	1/4	02540 2	1 0284 12	1
	HERZ test point with drainage Brass version, red cap (supply)	1/4	02560 0	1 0284 22	1
	HERZ test point with drainage Brass version, blue cap (return)	1/4	02550 1	1 0284 21	1
	Long quick test point with drainage, straight, blue	1/4	02620 1	1 0284 23	20
	Long quick test point with drainage, straight, red	1/4	02630 0	1 0284 24	20

Application examples

☒ Pressure-independent control valve



15	Radiator
16	7795
17	4004

11	Speed-control pump
12	4002 + 7711
13	4006 SMART + 7711
14	4006 + 7711

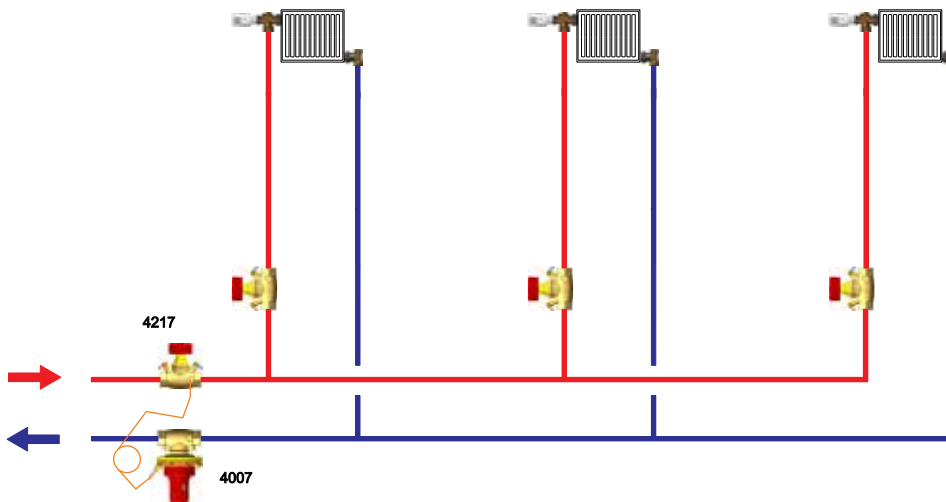
6	7793 60
7	Heating exchanger
8	7793 4x
9	2622
10	2100

1	4219
2	2622
3	F 4006
4	F 7712
5	7793 30

Legend

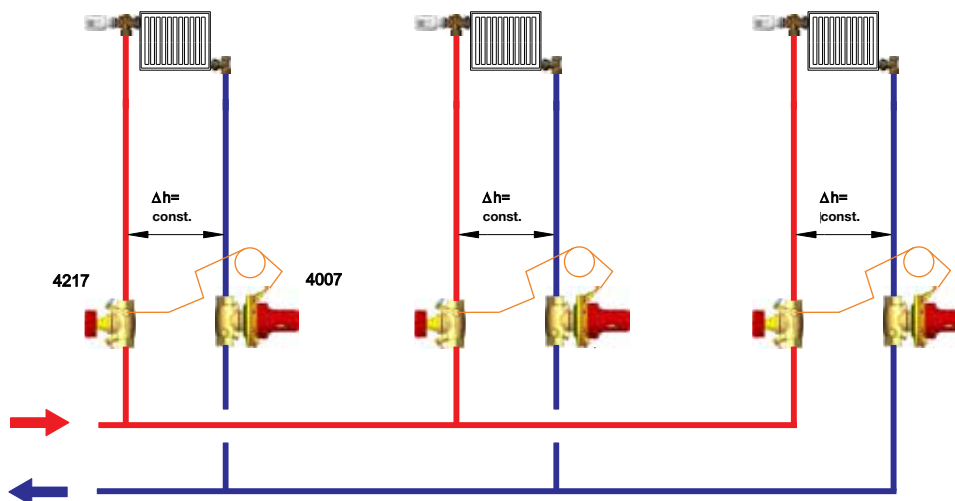
Application examples

☑ Constant maintenance of the differential pressure in the main branch



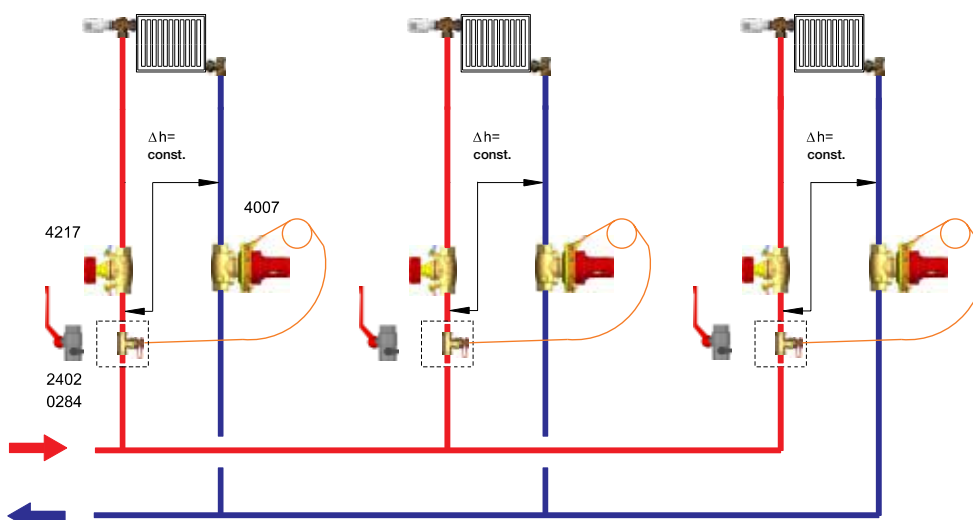
The differential pressure controller 4007 keeps the differential pressure constant in the supply line for the consumer. Through the use of commissioning valves 4217 (or 4017 inclined body) in the consumer supply lines, the flow rate is limited and the water volumes can be regulated and measured.

☑ Constant maintenance of the differential pressure in the sub-circuit



In systems with pre-settable (thermostatic) valves the differential pressure is kept constant despite changing mass flows, due to an opening and closing of the regulating valves. The use of commissioning valves 4217 (or 4017) serves to facilitate the installation of the sensor line and the execution of measurements on the branch.

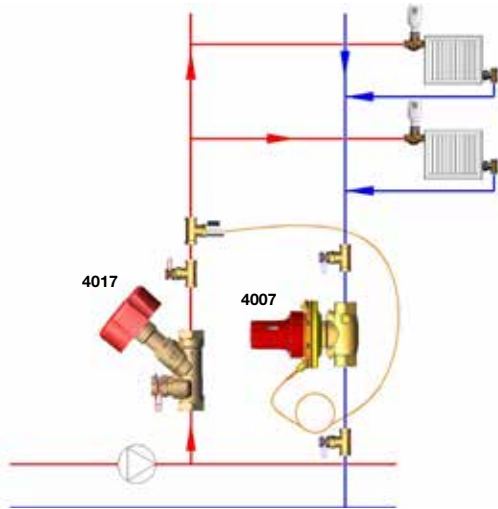
☑ Application with systems with unbalanced consumers



In the case of systems that are not preset, the supply flow is set with the commissioning valve 4217 (or 4017) and measured with the measuring computer 8900. The differential pressure is kept constantly within the indicated range. This switching has no influence on the water distribution between the individual consumers. The measurement line is fitted to a measuring valve (0284) installed for this purpose, or to the drainage hole of a ball valve (2402).

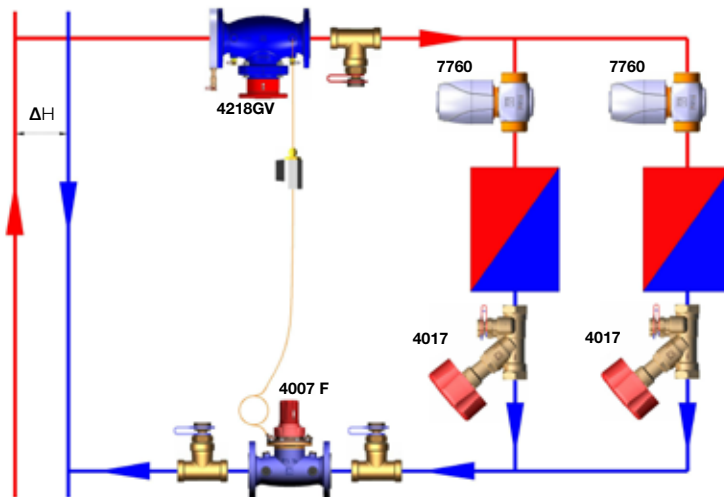
Application examples

☑ Differential pressure controller in the return



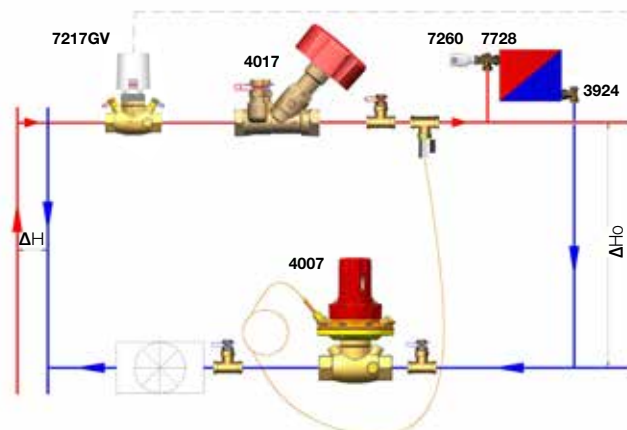
If the riser has been designed for a heating circuit then the differential pressure controller should be installed at the end of the return, in order to ensure that a differential pressure of 30 kPa is not exceeded in the pipe network.

☑ Differential pressure controller in the branch and a secondary circuit with variable flow



The goal is to maintain a constant differential pressure and at the same time, stable operation of the control valves. To achieve a hydraulic balance, open all the regulating valves completely and measure the flow in the balancing valve. If necessary, adjust the Differential pressure regulator to 110% of the calculated flow. Set the balancing valves using the proportional method. Once the adjustment is complete, set the differential pressure regulator to 100% of the calculated flow so that differential pressure and the flow in the circuit are both set on the differential pressure controller. If the control valves shut down, the differential pressure controller will remain constant throughout the circuit.

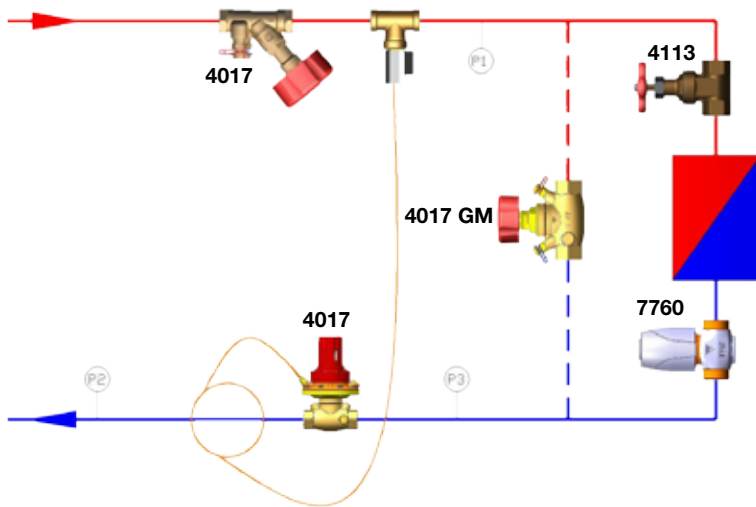
☑ Control valve in branch with differential pressure controller



This schematic shows a zone valve with a differential pressure controller. It is important that the control valve and the measuring valve are not located in the same section of the circuit as the differential pressure controller. By defining the pressure drop, with the control valve and the measuring valve in the secondary circuit, it is possible to maintain a lower differential pressure in the secondary circuit. This facilitates a higher authority of the control valve in the secondary circuit, or smaller dimensioning of the control valves.

Application examples

☑ Commissioning the differential pressure controller in an individual circuit

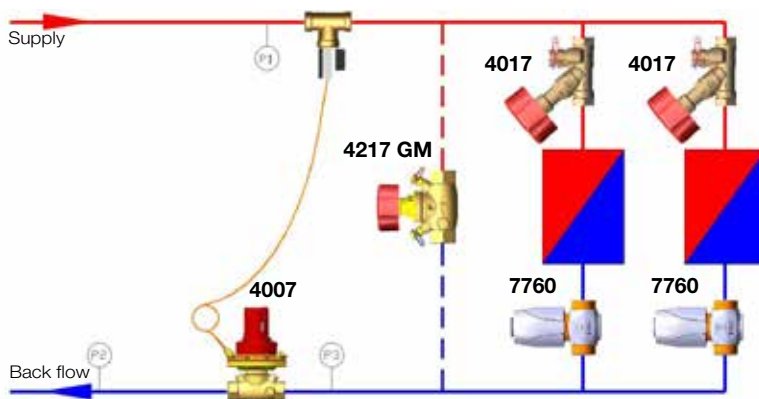


It is necessary to ensure that the capillaries of the differential pressure controller are connected in the supply and return. The individual valves in the system have pre-integrated measuring points. However, it is desirable to install the test points P1, P2, P3 for the pressure measurement, as illustrated in the schematic.

Observe the following procedure:

- Connect a measuring computer to the measuring valve, open the motorised control valve fully and adjust the differential pressure controller until the desired flow rate has been attained. The differential pressure controller is now preset.
- In order to check that the differential pressure controller has been correctly set, measure the differential pressure at points P1-P3 and examine how it changes when the motorised valve has been moved.

☑ Commissioning a differential pressure controller with multiple consumers in a secondary circuit



If a Differential pressure controller controls multiple consumers in a system, it is not possible to control the differential pressure in the motorised valves alone. It is therefore necessary to control the pressure drop in the motorised valves, the consumers and the commissioning valves. It is not possible to assign 100 % authority to the valves and authority of 30 - 50 % is therefore issued. The differential pressure must be aligned with the highest value required in the secondary circuit.

Example: 25 kPa available and the consumer, the two-way valve of which requires a minimum pressure drop of 40 kPa. The differential pressure controller must now be set such that it is able to control a difference of 40 kPa, the pressure drop in the pipes and at the measuring orifice valve. A typical value here would be 50 kPa. If the available pressure in a constant circuit is too high for a two-way valve then it is necessary to connect an inverted action differential pressure controller between points P2 & P3.

Hydraulic example:

- Set the balancing valves using the proportional method.
- Repeat the last step with all other connections and set the commissioning valve to 100 % of the calculated flow rate.
- In order to set the differential pressure controller all control valves within a branch must be closed. The flow rate must be measured at the commissioning valve and the differential pressure valve must be regulated until the calculated flow rate is measured in the commissioning valve. The process must be carried out at all connections.
- The differential pressure controller now ensures a constant flow rate in the main circuit and a constant differential pressure between points P2 & P3.

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In accordance with article 33 of the REACH Regulation (EC No. 1907/2006) we are obliged to point out that the substance lead is listed on the SVHC list and that all components made of brass that are processed in our products exceed 0.1% (w / w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is firmly bound as an alloy constituent, no exposures are to be expected and therefore no additional information on safe use is necessary.



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