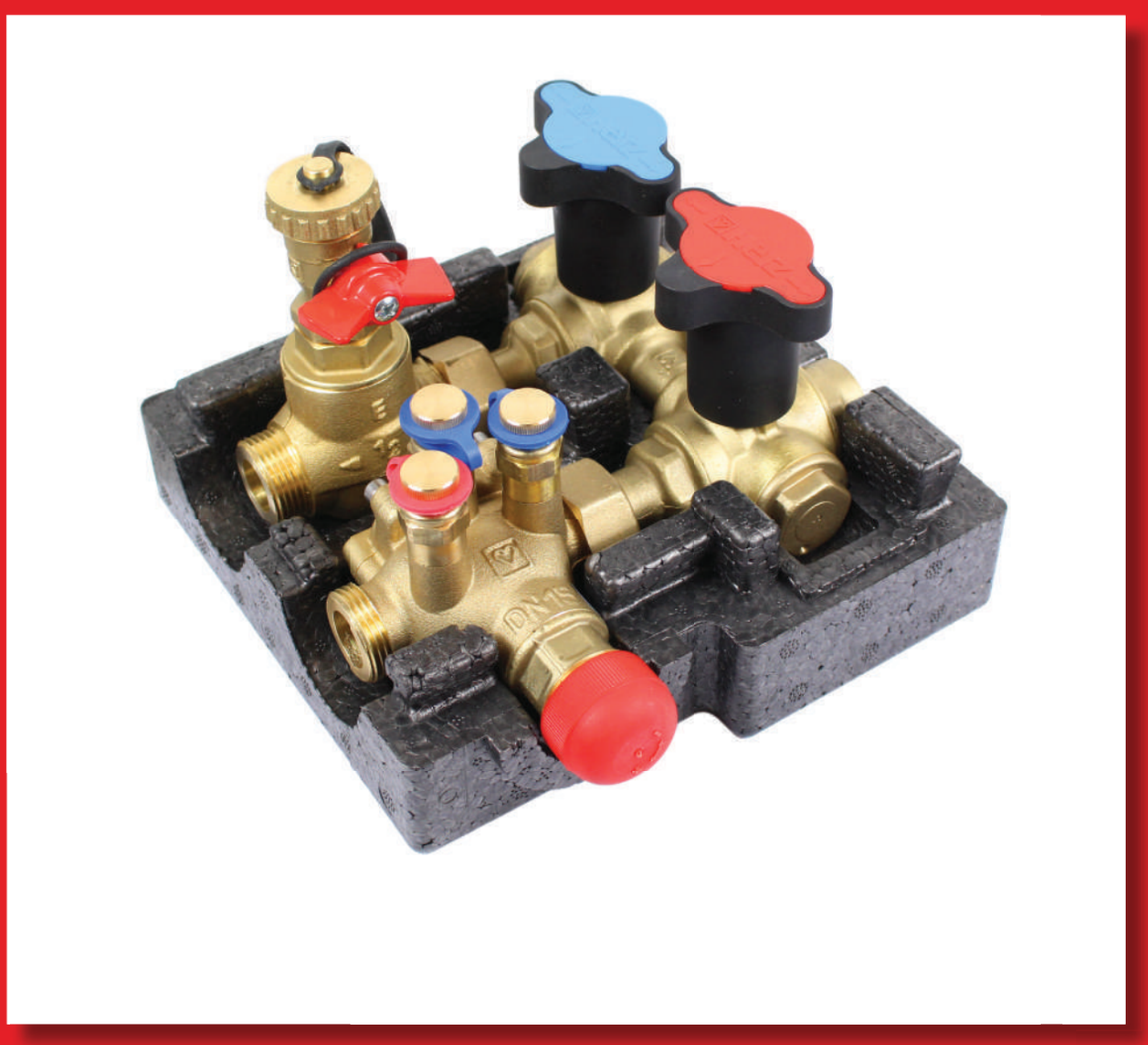
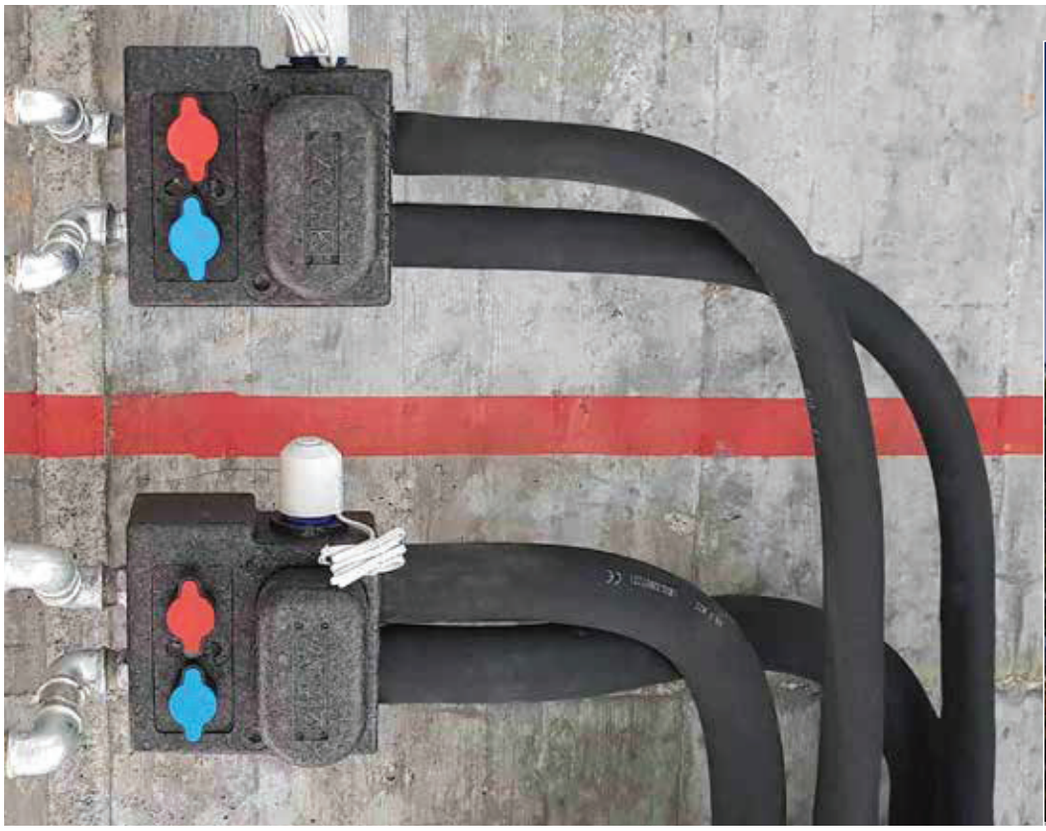
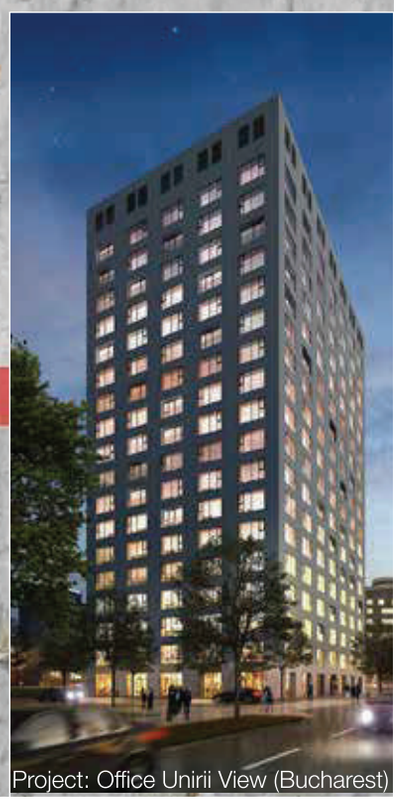
HerzCON

Direct connection for fan coils







Project: Office Unirii View (Bucharest)

HerzCON – innovative direct connection for fan coils

Efficiency, controllability, easy assembly and safety are requirements that are perfectly fulfilled by the HerzCON direct connection from HERZ Armaturen. A special focus was put on the dual use for heating and cooling.

Inner values. The sizes DN15 to DN25 are equipped with a cooling-suitable water vapour-impermeable insulating box. This insulating box features state-of-the-art technology in familiar HERZ quality: the core component is the proven HERZ 4206 PICV. This guarantees a simple, pressure-independent adjustment of the desired volume flow. It can be equipped with various types of actuators, allowing any control to be used - from room thermostat up to building management system.

The all-rounder. A complete system unit with multifunction ball valves, venting valve, drain valve and strainer has been developed around the HERZ 4206 PICV. All necessary functionalities according to technical standards can be realized with HerzCON: Control and regulation, filling, flushing and draining as well as shutting off and filtering are combined in one unit. Six flow ranges give a wide range of applications. All components are made of dezincification-resistant brass which enables operation with heating water according to ÖNORM H 5195-1 as well as antifreeze mixtures based on ethylene glycol or propylene glycol.

Advantages

- All New Herzcon are with three test point for accurate flow measurment using KV methadology. Feature Exclusively with Herz Valve Packages
- Enables processes such as regulation, flushing and isolation
- Including bypass for flushing according to BSRIA BG29/2011
- Dimensions DN 15 and DN 20 with 65 mm, DN 25 with 90 mm and DN 32 with 100 mm pipe centres
- All components made of dezincification-resistant brass
- 5-Year Replacement Guarantee
- Suitable for heating and cooling systems
- Complete assembly and testing in the factory
- Reduced amount of work, time and costs on site
- High planning security and installation safety

Field of application

HerzCON was designed for easy connection to fan coil units or other terminal devices and uses the HERZ 4206 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. In addition to fast assembly this means that there are no product differences regarding heating and cooling systems - HerzCON is suitable for both applications.

Material and construction

Package:	dezincification-resistant brass
Diaphragm and O-rings:	EPDM

Water quality according to ÖNORM H 5195-1 and VDI 2035. When using ethylene glycol as anti-freeze agent, a content of 20-50% and with propylene glycol a content of 25-50% is permissible.

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.

Operating data

Max. operating pressure:	25 bar
Max. operating DP:	6 bar
Min. operating temperature:	- 20 °C
Max. operating temperature:	130 °C
Stroke:	4 mm

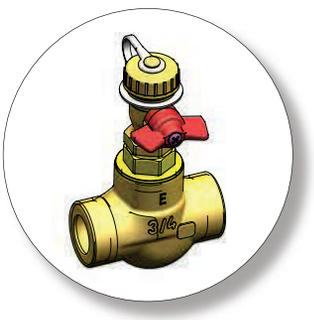
The integrated control unit, together with the actuator, is responsible for the modular control. Various actuators can be used.

Article overview

Order number	Dimension	Flow Rate area (l/h)	Standard Operation Kvs[m³/h]	Bypass Operation Kvs[m³/h]	Insulation Box
1 4600 50	15LF	7-120	0.20	4.8	Yes
1 4600 59	15MF	11-190	0.34	4.8	Yes
1 4600 76	15SF	72-800	1.65	4.8	Yes
1 4600 56	15HF	80-1200	2.54	4.8	Yes
1 4600 77	20SF	80-1200	2.46	5.4	Yes
1 4600 57	20HF	108-2000	3.33	5.4	Yes
1 4600 58	25	144-1900	2.75	10	Yes
1 4600 54	32	180-2500	4.57	14.2	No

Drives, screw connections and compression adapters must be ordered separately.

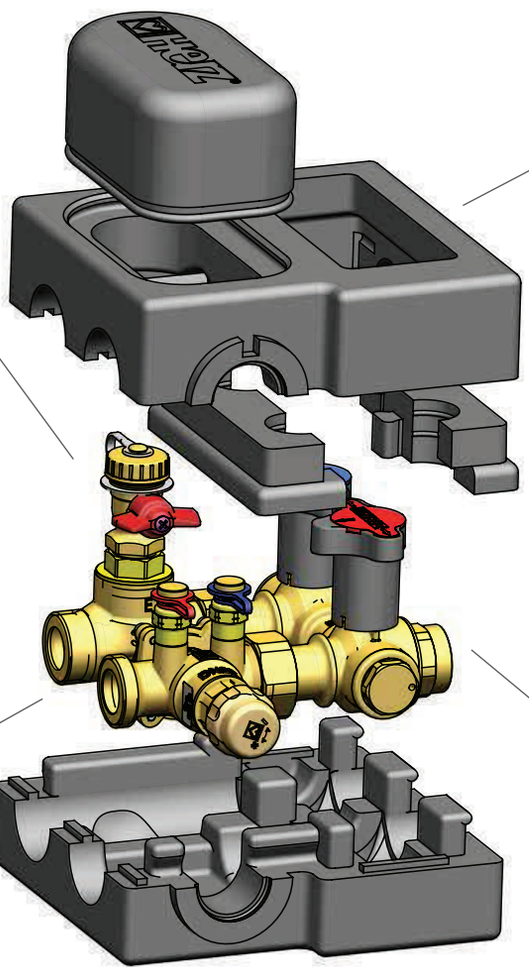
The integrated drain valve in the strainer allows for flushing the system without removing the strainer basket.



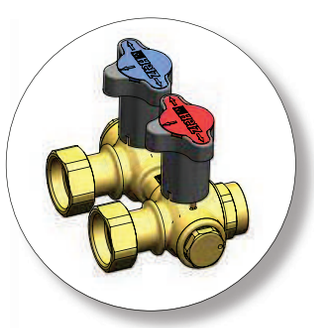
Isolation box (fire resistance)

Method	Class
DIN EN ISO 11925-2 [1]	E
DIN 4102-1	E
FMVSS 302	fullfilled
UL 94	HBF

[1] edge exposure, classification according to EN 13501-1



Turn 3 into 1: One valve for three requirements: DPCV, balancing, regulation. No calculation and verification of valve authority required.



HERZ multifunctional ball valves with red and blue handle, ball with T-bore. Full bore ball valve allows the drainage or filling of complete systems or a subsystem in case of maintenance.

*) Design without isolation box

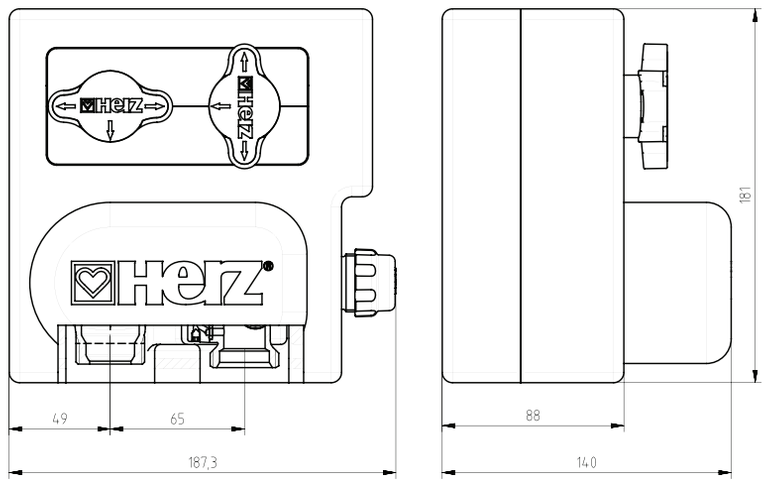
DN15-DN20

DN25

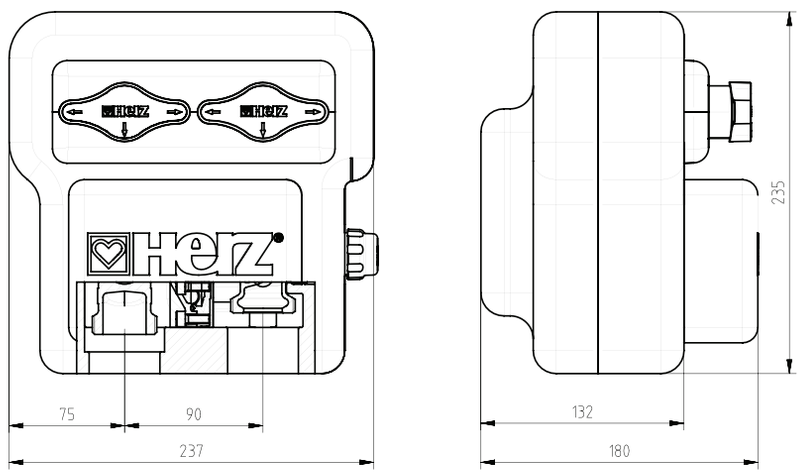
DN32

Herzcon-Dimensions

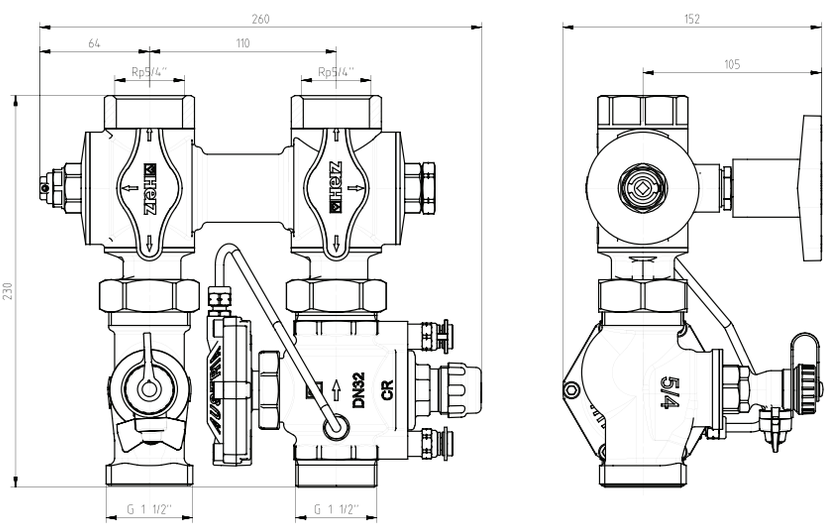
DN15 - DN20



DN25



- DN 32



DN32 - supplied without insulation box.

Application

HerzCON has been designed to give a simple connection to fan-coils, or other terminal units, and utilises the HERZ 4206 Pressure Independent Balancing Control Valve with HERZ multifunctional ball valve and a HERZ strainer with HERZ drain valve 2512. On/off or modulating 0 – 10 V DC actuators can be fitted and integrated to a BMS if required.

The unit allows pressure independent control ensuring full stroke regardless of pressure fluctuations, while guaranteeing a constant flow rate to the terminal unit maximising energy efficiency for the system. The HerzCON unit also permits flushing and isolating operations to be undertaken.

This means there is no product differentiation between heating and chilled, one unit does both applications. The drain cock fitted to the strainer allows flushing without the need to remove the strainer basket and also allows the strainer basket to be cleaned in-situ.

Components

4206	HERZ-Pressure Independent Balancing Control Valve (PIBCV) HERZ- Multifunctionalball valve HERZ-Strainer
2512	HERZ-Blow down Drain Valve

Accessories and spare parts

1 **4206** ..	HERZ-Pressure Independent Balancing Control Valve (PIBCV)
1 **0284** ..	test point for HERZ-Valves
1 **7708** ..	HERZ actuating drive for two-point
1 **7711** ..	HERZ actuating drive for two-point or pulse control
1 **7990** ..	HERZ actuating drive for continuous control
1 **0273** 09	screw plug 1/4
1 **4111** 21	Strainer DN15
1 **4111** 22	Strainer DN20
1 **4111** 23	Strainer DN25
1 **4111** 24	Strainer DN32

Note

The HerzCON must be installed for the correct application using clean fittings. A HERZ strainer is fitted to prevent impurities.

Presetting

The valve setting is clearly shown in percent. The preset value can be easily adjusted. The preset PIBCV can be isolated at any time or adjusted to the required flow rate.

Disposal instruction

The disposal of HerzCON must not endanger the health or the enviroment. National legal regulations for proper disposal of the HerzCON have to be followed.

Operations

The Herzon can be operated in below operations using multifunction ball Valve

- Normal operation
- Bypass operation
- Forward /Back flushing operation

Functional principle of a PICV combination valve

A Pressure Independent Balancing and Control Valve (PIBCV or PICV) combines a regulating and control valve with a differential pressure controller.

Balancing and control valve

The valve has a linear characteristic. The adjustment of the required flow volume is done at the valve spindle, where the maximum stroke is adjusted. Settings between 20 % and 80 % of the nominal flow are recommended. The adjustment of the maximum stroke allows actuators with stroke detection to utilise their full control bandwidth (e.g. 0-10 V).

Differential pressure controller

The differential pressure controller keeps the differential pressure constant across the balancing and control valve. As the valve is independent from the system differential pressure, the preset flow volume will remain constant at all times despite any change in the system conditions..

Test points

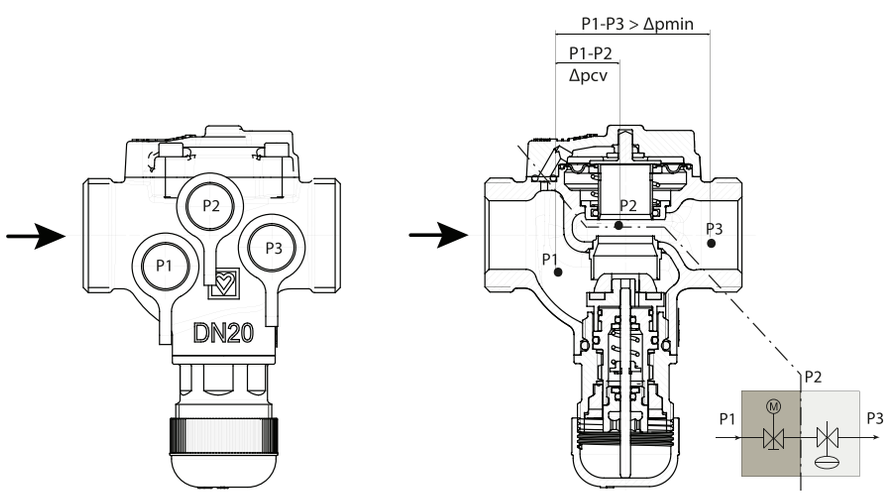
Every PICV has at least 2 test points to enable the setting of the valve and the minimum differential pressure to be checked. The valve requires a minimum differential pressure in order to operate correctly.

The dimensions DN15SF, DN15HF, DN20SF and DN20HF have an additional test point P2, in total 3 test points P1, P2 and P3.

Measuring across P1-P3 will determine the minimum differential pressure that the valve requires to operate correctly.

Measuring across P1-P2 determines the differential pressure required to calculate the valve flow volume from the kv values (shown in the table) for each % preset position.

The differential pressure can be checked with the HERZ measuring computer 1 **8900** 05.



Presetting example

To select the correct setting and the required minimum differential pressure at the desired flow rate, follow the steps shown in the diagram. The setting % for a specified flowrate shown on the left of the chart can be read from the solid line and the minimum DP for that particular setting can be read from the dotted line and the corresponding DP on the right side of the chart.

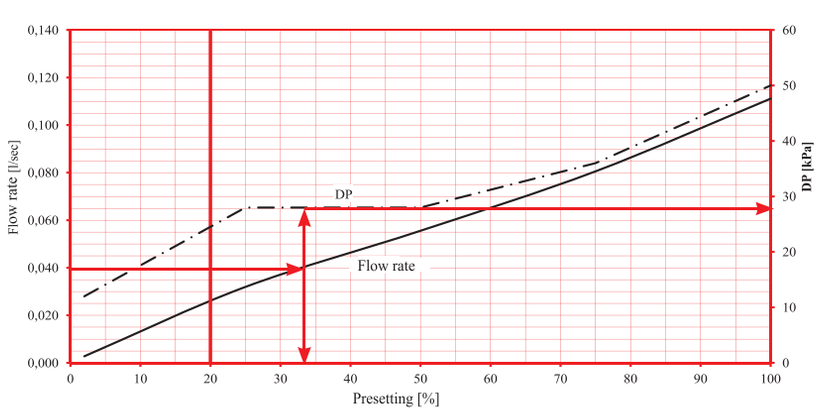
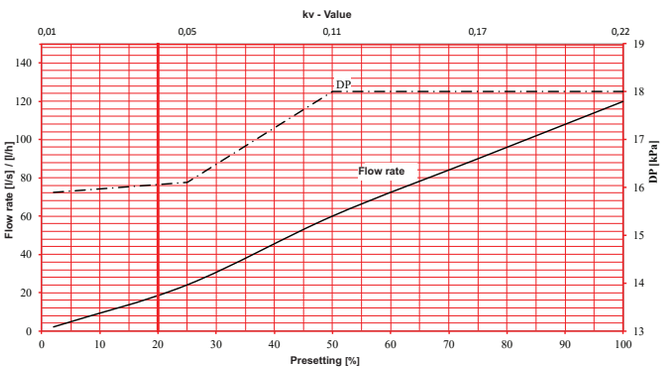
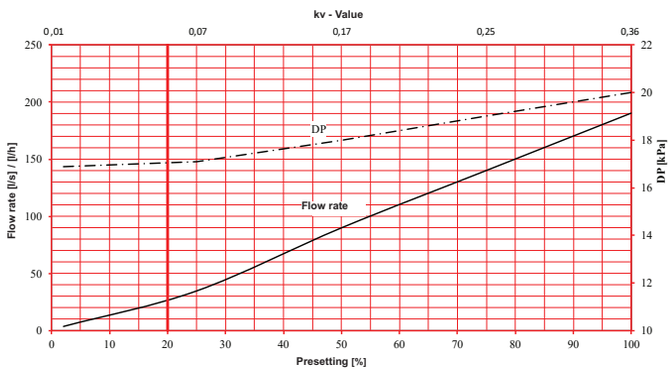


Diagram PICV 4600

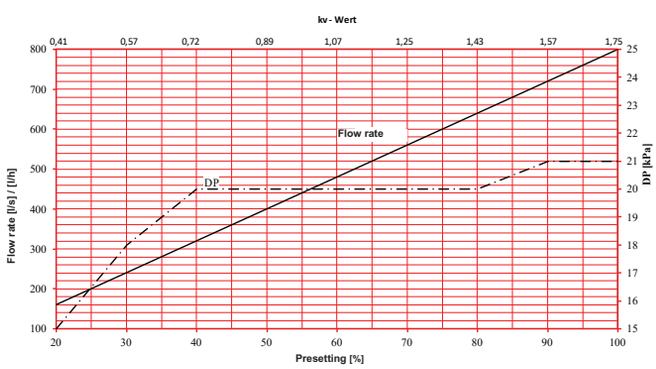
DN 15LF



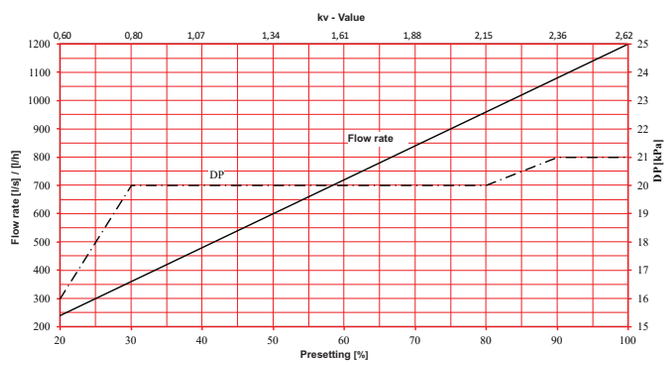
DN 15MF



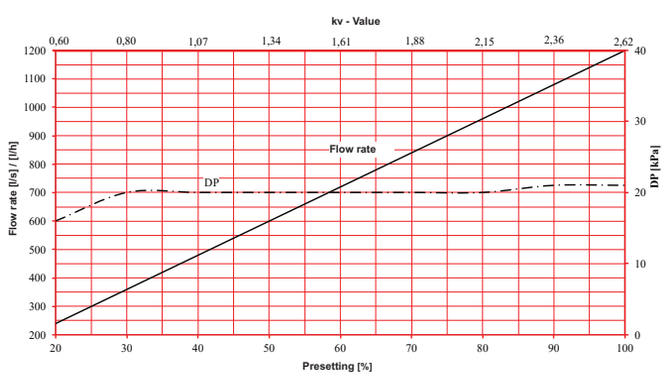
DN 15SF



DN 15HF



DN 20 SF



DN 20 HF

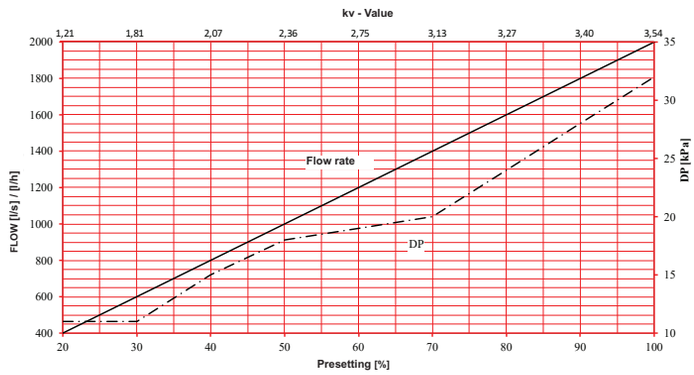
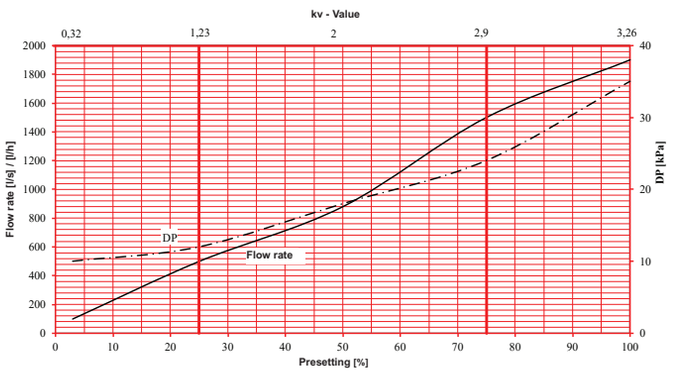
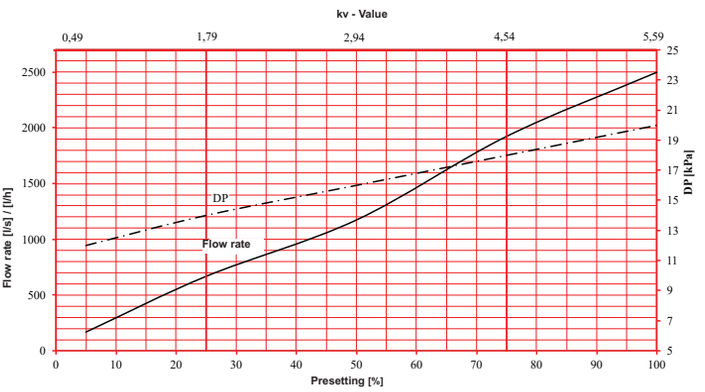


Diagram PICV 4600

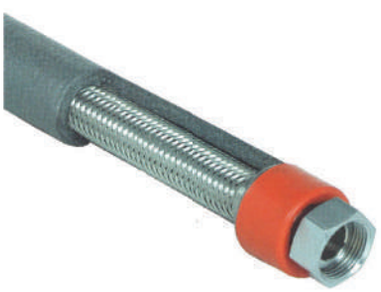
☑ **DN 25**



☑ **DN 32**



Braided Flexible Metal Hose



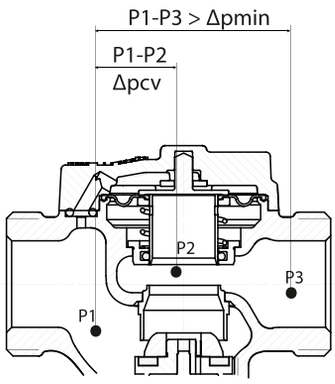
☑ **Materials:**

Hose Type:	Braided flexible metal hose.
Hose Material:	Stainless Steel AISI 316L.
Braiding Material:	Stainless Steel AISI 304.
Union:	Carbon Steel (FxF End connection)
Insulation:	EPDM, Rubber based.
Pressure rating:	PN25.
Temparature:	-10°C to 90°C

Herzcon Article No.	Dimension	Flexible Connector Article No.	Union Connection	Flexible connector Length*
1 4600 50	15LF	HB20020	DN20	300mm
1 4600 59	15MF	HB20020	DN20	300mm
1 4600 76	15SF	HB20020	DN20	300mm
1 4600 56	15HF	HB20020	DN20	300mm
1 4600 77	20SF	HB20025	DN25	300mm
1 4600 57	20HF	HB20025	DN25	300mm
1 4600 58	25	HB20032	DN32	300mm
1 4600 54	32	HB20040	DN40	300mm

*Different length available on request

k_V - values of the control valve in the PIBCV (quick test point P1 - P2)



Presetting	DN 15 SF	DN 15 HF	DN 20 SF	DN 20 HF
[%]	[m³/h]	[m³/h]	[m³/h]	[m³/h]
20	0,352	0,530	0,548	0,983
21	0,370	0,557	0,579	1,040
22	0,389	0,585	0,611	1,097
23	0,407	0,613	0,643	1,154
24	0,425	0,641	0,674	1,211
25	0,443	0,669	0,706	1,268
26	0,462	0,697	0,738	1,325
27	0,480	0,724	0,769	1,382
28	0,498	0,752	0,801	1,439
29	0,517	0,780	0,832	1,496
30	0,535	0,808	0,864	1,553
31	0,554	0,837	0,898	1,616
32	0,573	0,867	0,932	1,679
33	0,592	0,896	0,965	1,742
34	0,610	0,926	0,999	1,805
35	0,629	0,955	1,033	1,867
36	0,648	0,985	1,067	1,930
37	0,667	1,014	1,100	1,993
38	0,686	1,044	1,134	2,056
39	0,705	1,073	1,168	2,119
40	0,724	1,103	1,202	2,182
41	0,742	1,142	1,238	2,246
42	0,760	1,181	1,274	2,311
43	0,778	1,220	1,310	2,376
44	0,796	1,260	1,347	2,441
45	0,814	1,299	1,383	2,506
46	0,833	1,338	1,419	2,571
47	0,851	1,377	1,455	2,636
48	0,869	1,417	1,492	2,700
49	0,887	1,456	1,528	2,765
50	0,905	1,495	1,564	2,830
51	0,924	1,531	1,598	2,893
52	0,942	1,566	1,632	2,957
53	0,961	1,602	1,665	3,020
54	0,979	1,637	1,699	3,083

55	0,998	1,672	1,733	3,146
56	1,016	1,708	1,767	3,210
57	1,035	1,743	1,800	3,273
58	1,053	1,779	1,834	3,336
59	1,072	1,814	1,868	3,399
60	1,090	1,850	1,902	3,463
61	1,112	1,883	1,937	3,536
62	1,134	1,915	1,972	3,609
63	1,156	1,948	2,007	3,683
64	1,178	1,980	2,042	3,756
65	1,199	2,013	2,077	3,829
66	1,221	2,046	2,113	3,903
67	1,243	2,078	2,148	3,976
68	1,265	2,111	2,183	4,050
69	1,286	2,144	2,218	4,123
70	1,308	2,176	2,253	4,196
71	1,332	2,212	2,292	4,271
72	1,355	2,248	2,331	4,346
73	1,379	2,284	2,369	4,421
74	1,402	2,320	2,408	4,496
75	1,425	2,356	2,447	4,571
76	1,449	2,392	2,485	4,646
77	1,472	2,428	2,524	4,721
78	1,496	2,464	2,562	4,796
79	1,519	2,500	2,601	4,871
80	1,543	2,536	2,640	4,946
81	1,568	2,574	2,683	4,990
82	1,594	2,612	2,726	5,035
83	1,620	2,651	2,769	5,080
84	1,646	2,689	2,812	5,125
85	1,672	2,728	2,855	5,169
86	1,698	2,766	2,898	5,214
87	1,723	2,804	2,941	5,259
88	1,749	2,843	2,985	5,304
89	1,775	2,881	3,028	5,348
90	1,801	2,919	3,071	5,393
91	1,824	2,963	3,106	5,538
92	1,847	3,007	3,142	5,682
93	1,871	3,050	3,177	5,827
94	1,894	3,094	3,213	5,971
95	1,917	3,138	3,248	6,116
96	1,940	3,181	3,284	6,261
97	1,963	3,225	3,319	6,405
98	1,987	3,269	3,355	6,550
99	2,010	3,312	3,390	6,694
100	2,033	3,356	3,426	6,839

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W180401 HerzCon EN 052019