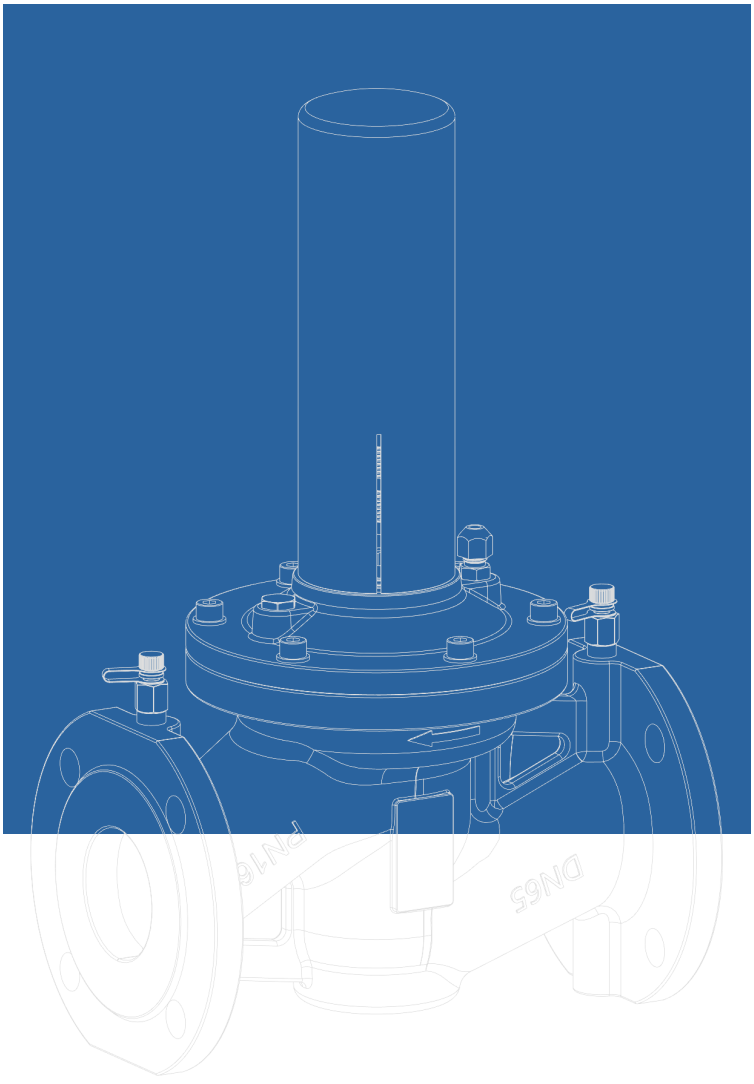
hiwa
VALVE DRIVE FLOW

Differential Pressure Control Valve



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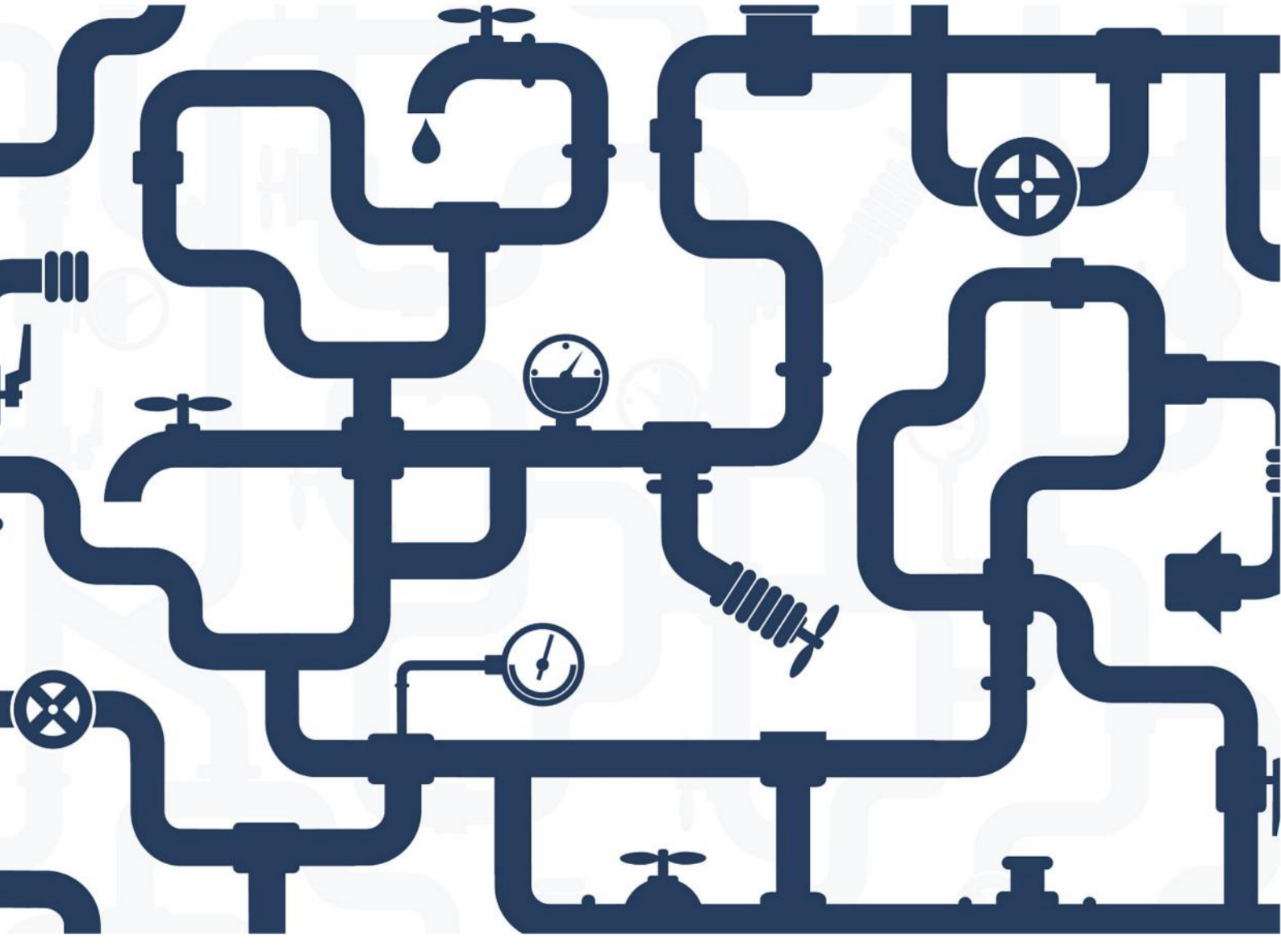


QUALIFICATION

Safe usage

Excellent technology

Cost-effective

Durable

Reliable materials

Export quality

Easy installation

Manufacturer sale









CM0055

DN15-DN50

Technical Specification

Nominal Pressures: PN16 or PN25

Size Range: DN15-DN50

Working Medium: Cold/Hot Water

Temperature Range: -10°C to 120°C

Thread Standard: GB/T 7306.1 ISO 7-1

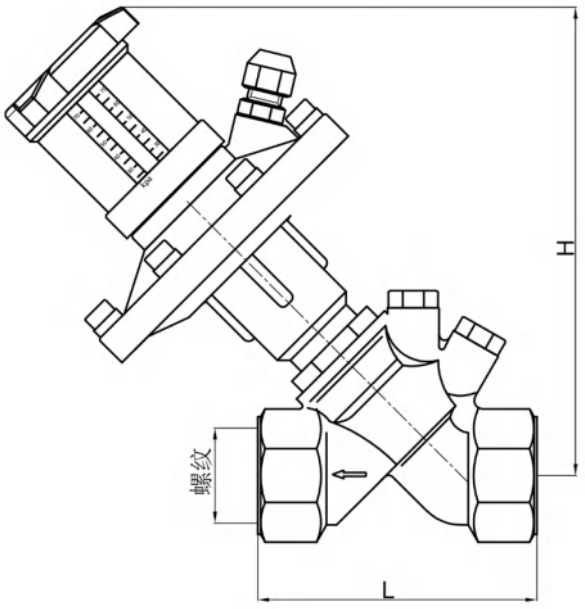
Max. Working Differential Pressure: 300KPa

Control Precision: ±8%

Diaphragm material: EPDM

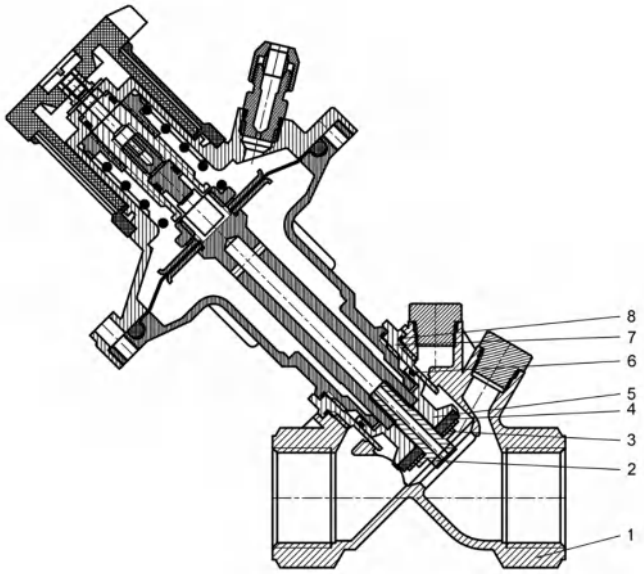
Working Differential Pressure: 5-30kPa or 30-70kPa(DN25-DN50)

Connection Standard: ISO7-1(DN25-DN50)



Kvs

Model	Size	Working Differential Pressure(Kpa)	Kvs
CM00360015L	DN15	5-30	2.5
CM00360020L	DN20		4.0
CM00360025L	DN25		6.5
CM00360032L	DN32		11.5
CM00360040L	DN40		15.5
CM00360050L	DN50		23.3
CM00360015H	DN15	30-70	2.5
CM00360020H	DN20		4.0
CM00360025H	DN25		6.5
CM00360032K	DN32		11.5
CM00360040H	DN40		15.5
CM00360050H	DN50		23.3



Main parts material

No.	Product Name	Material
1	Body	H59-1
2	Bolt	H59-1
3	Seat Gasket	Brass, Stainless Steel
4	Seat Sealing Gasket	EPDM
5	Seat	PTFE
6	O Ring	EPDM
7	Converted Connector	H59-1
8	O Ring	EPDM

Techcial Specification

Size	DN15	DN20	DN25	DN32	DN40	DN50
Thread	1/2	3/4	1	1 1/4	1 1/2	2
L	80	85	100	110	120	150
H	160	160	165	180	185	200

Valve Selection

- The controlled differential pressure setting value should be within the differential pressure control range of the differential pressure control valve (5-30kPa, 30-70kPa optional).
- Select a valve of the same size as the pipeline.
- Maximum flow rate of the branch piping system where the valve is installed is less than the maximum flow rate of the differential pressure control valve.

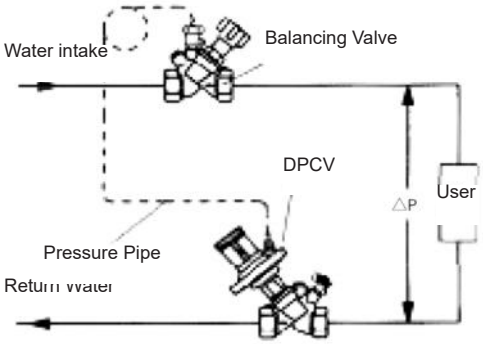
Performance Characteristics

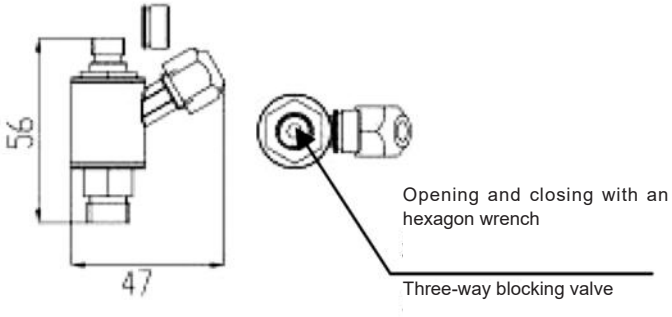
- The low-pressure cavity pressure-conducting hole is built-in to avoid bumps during on-site installation.
- External high pressure end pressure gauge with lock valve.
- With manual closing function, it can be achieved by turning with a universal hexagon wrench.
- The balance diaphragm and spring are both built-in designs, making the valve more exquisite and reliable.
- The target pressure difference value can be set by manual wheel, and the operation is simpler and more intuitive.

Installation and Operation Instructions

1. During on-site pipeline pressure testing and pipeline flushing, the three-way measurement must be in the fully open state to prevent damage to the internal parts of the valve. Note: During pipeline pressure testing, the pressure difference before and after the valve should be less than 3 bar.

2. Install the three-way measuring joint on the static valve. The three-way measuring head can be connected to the inlet or outlet of the static valve as needed.





If used with static balancing valves produced by other manufacturers, please pay attention to the size of the measuring head interface. The size of our three-way measuring interface is G 1/4" thread, clockwise to close, counterclockwise to open, and the wrench size is 4mm.

Installation precautions

- To ensure that there are no accidents during the installation, the piping system must be thoroughly cleaned (using chemical reagents if necessary) before installing the product to ensure that the piping system is clean, free of rust and dirt. All filters must be removed before flushing to ensure that the pipeline is unobstructed.
- During installation, make sure the water flow direction is consistent with the arrow direction on the valve body.
- The valve should be installed on the return pipe, with the pressure pipe connected to the valve and the other end of the pressure pipe connected to the water supply pipe.
- The water supply pipe and the return pipe before the valve should be equipped with pressure gauges respectively to facilitate observation, adjustment and control of the actual pressure difference.
- If the system flow is found to be too large or too small, the possible reason is that debris is stuck on the valve plug during the installation of the pipeline components. The valve should be disassembled for inspection to remove the blockage.
- Control pressure difference adjustment method: adjust the pressure regulating valve cover and observe the pressure difference on the pressure gauge before the pressure difference.

CM0038

DN65-DN250

Product Description

The DPCV series dynamic differential pressure balancing valve contains a balancing valve core, high-performance diaphragm, and spring composed of a dynamic differential pressure balancing valve component. It is a dynamically adjustable differential pressure control valve that ensures constant differential pressure on the load or circuit, helping to provide stable conditions for heating and cooling systems, thereby improving the stability and accuracy of the control valve, extending its service life, reducing noise, and facilitating balance regulation.

Characteristics

Easy to Operate

Set the target differential pressure value through the scale, with simple and intuitive operation.

Beautiful and Reliable Design

Compact design, easy to install, exhaust hole design allows for easy removal of internal air.

Stable Accessories

High performance springs and diaphragms.

Differential Pressure Range Can Be Set

Segmented design of differential pressure control range (high/low pressure difference models), with higher precision in pressure difference control.

Technical Specifications

Size: DN65-DN250

Pressure rating: PN10/PN16/PN25

Maximum differential pressure: ≤400KPa

Setting control range: 20*-80kPa or 40*-160kPa （* initial setting）

Working Temperature: -10°C to 120°C

Working medium: Water or neutral liquid, ethylene glycol solution (0-50%)

Surface treatment: Body with epoxy resin coating/spray paint

Length: According to ISO 5752 Series 1, BS 2080, EN558-1

Flange: ISO 7005-2/EN 1092-2

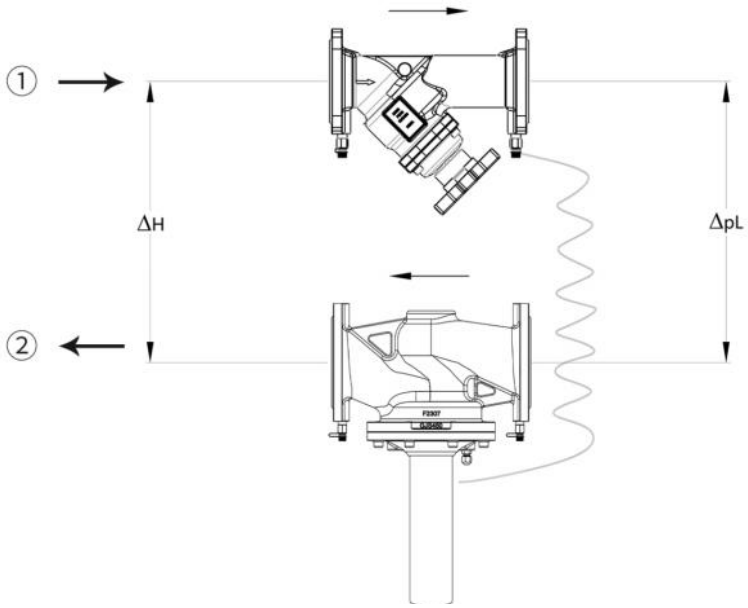
Material: ① Body: Ductile iron EN-GJS-450
② Disc :SS304
③ Stem :SS304
④ Spring :SS304
⑤ O-ring :EPDM
⑥ Diaphragm :EPDM+ reinforced fiber

Design

- The dynamic differential pressure control valve can be used alone or in combination with the static balancing valve. The water flow direction must be consistent with the arrow direction of the valve body. The line should be flushed prior to installation and it is recommended to install a filter at the front end. The capillary tube should be connected in the horizontal position of the water supply line, but not under the pipe, to prevent the dust particles blocked, the capillary signal tube must be installed and connected before the water system pressure test, and the blocking valve must be rotated. Otherwise, too much
- pressure will cause damage to the differential pressure regulator.

The dynamic differential pressure control valve is installed on the return water pipe, and used with the static balance valve, the static balance valve is installed with the water supply pipe as shown in the following figure.

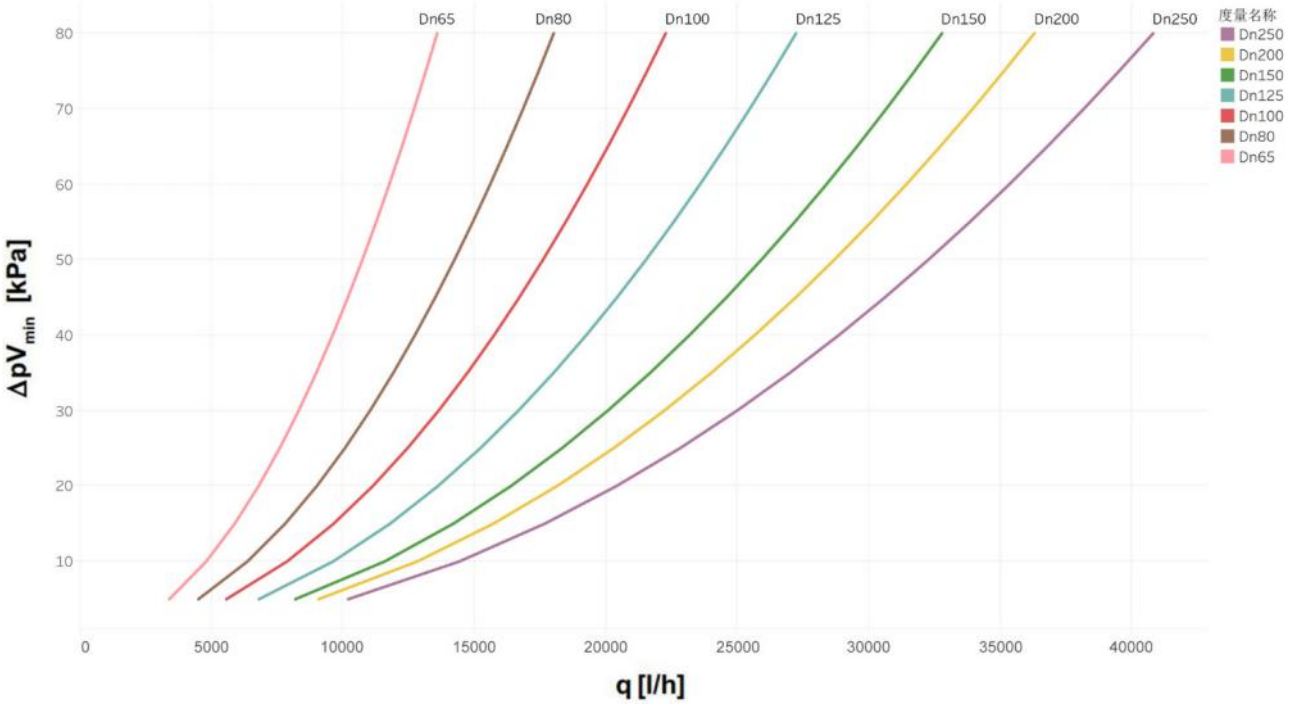
① inlet pipe
② return pipe



Type Selection

The line graph illustrates the minimum pressure difference required by DPCV within its operating range at different flow rates.

Flow Curve table



Operating Range

Setting Differential pressure kPa	Flow m^3/h													
	DN65		DN80		DN100		DN125		DN150		DN200		DN250	
	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax
20	13	29	14	34	20	62	20	76	35	95	15	147	12	148
30	11	29	11	40	17	68	20	96	25	125	13	147	12	168
40	8.8	31	9	47	14	74	15	106	15	140	13	168	12	174
50	7.8	34	7.2	49	14	77	15	112	15	170	13	188	12	189
60	6.6	34	3.6	52	11	83	15	122	10	180	13	219	12	225
70	5.6	34	3.6	52	11	86	15	127	10	190	13	219	12	225
80	4.6	34	3.6	52	11	92	15	134	10	214	13	219	12	240

Setting Differential pressure kPa	Flow m^3/h													
	DN65		DN80		DN100		DN125		DN150		DN200		DN250	
	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax	Qmin	Qmax
40	8.0	37.7	9.4	49.2	15.0	80.1	17.7	108.3	14.8	151.6	13.0	141.1	14.8	196.4
50	7.5	38.0	10.0	52.1	15.4	82.4	17.9	109.8	14.9	174.5	14.6	157.8	16.6	219.6
60	7.0	41.6	3.0	54.5	10.5	84.3	16.3	138.9	15.0	197.4	16.0	172.9	18.2	240.5
70	5.1	39.9	3.1	56.6	10.7	85.9	16.3	126.2	15.0	198.4	17.2	186.7	19.6	259.8
80	5.0	42.7	3.2	58.5	10.9	87.4	16.4	141.4	15.1	221.3	18.4	199.6	21.0	277.7
90	4.5	45.3	3.2	60.3	11.0	88.7	16.5	142.4	15.2	222.1	19.5	211.7	22.2	294.6
100	4.5	47.7	3.4	61.9	11.2	89.9	16.5	143.4	15.2	222.9	20.6	223.2	23.4	310.5
110	4.5	50.1	3.4	63.4	11.3	90.9	16.6	144.2	15.3	223.5	21.6	234.1	24.6	325.7
120	4.6	52.3	3.6	64.8	11.5	91.9	16.7	145.0	15.3	224.2	22.6	244.5	25.7	340.1
130	4.6	54.4	3.6	66.1	11.6	92.9	16.7	145.8	15.3	224.7	23.5	254.4	26.7	354.0
140	4.7	56.5	3.6	67.3	11.7	93.7	16.7	146.4	15.4	225.2	24.4	264.1	27.7	367.4
150	4.7	58.5	3.8	68.5	11.8	94.5	16.8	147.1	15.4	225.7	25.2	273.3	28.7	380.3
160	5.0	60.4	3.8	69.6	11.9	95.3	16.8	147.7	15.4	226.2	26.1	282.3	29.6	392.8

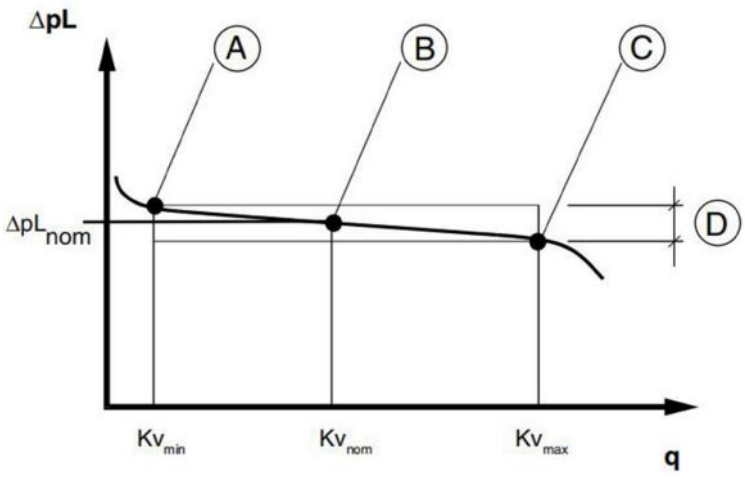
$Kv_{min}=m^3/h$,the pressure drop is 1 bar and the minimum valve opening corresponds to the proportional band(+20%)

$Kv_{nom}=m^3/h$,the pressure drop is 1 bar and the opening corresponds to the middle part of the proportional band.(△ pLnom)

$Kv_m=m^3/h$,the pressure drop is 1 bar and the maximum valve opening corresponds to the proportional band(-20%)

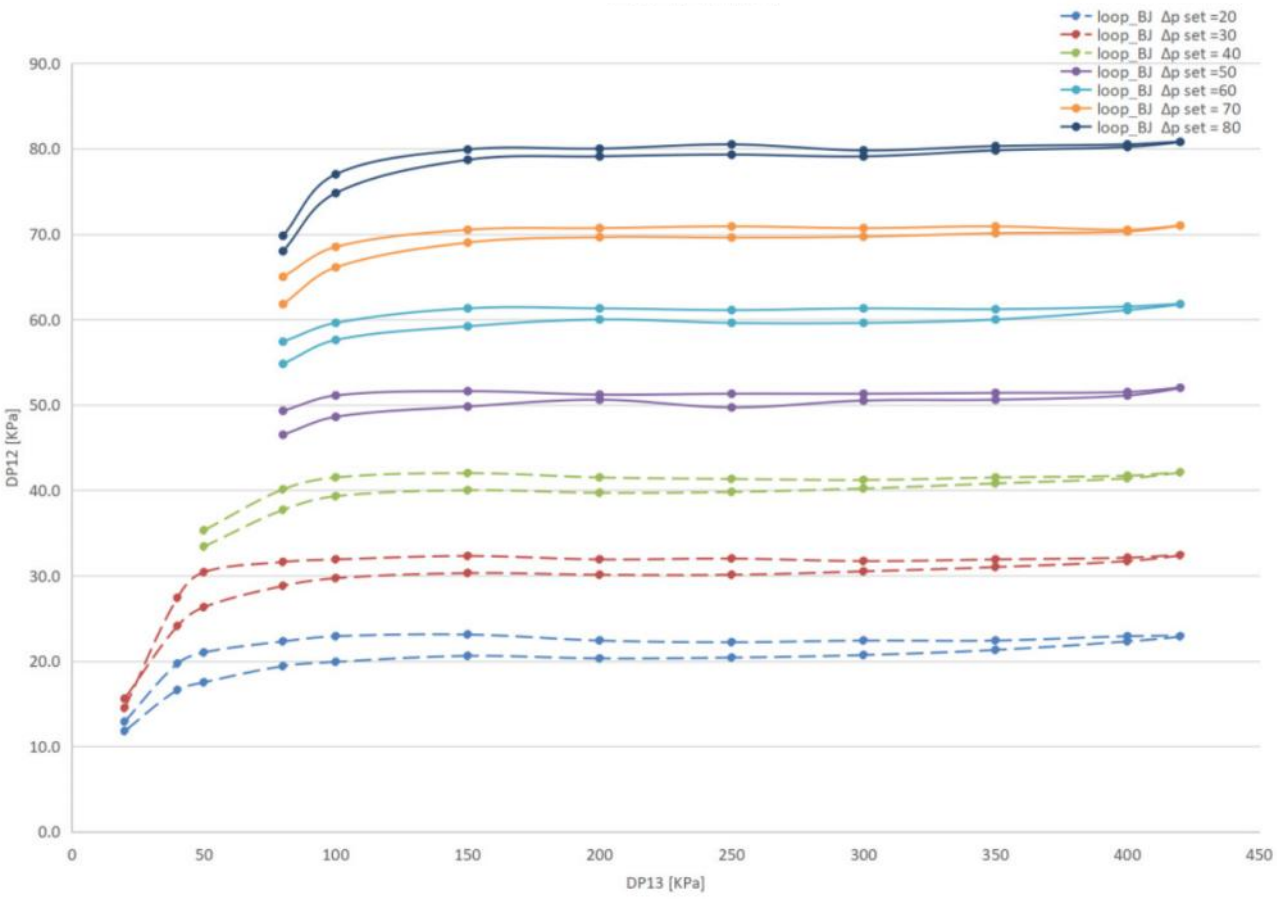
Note: The flow rate in the loop is determined by its impedance,such as Kvc:

$$q_C = Kv_C \sqrt{\Delta pl}$$

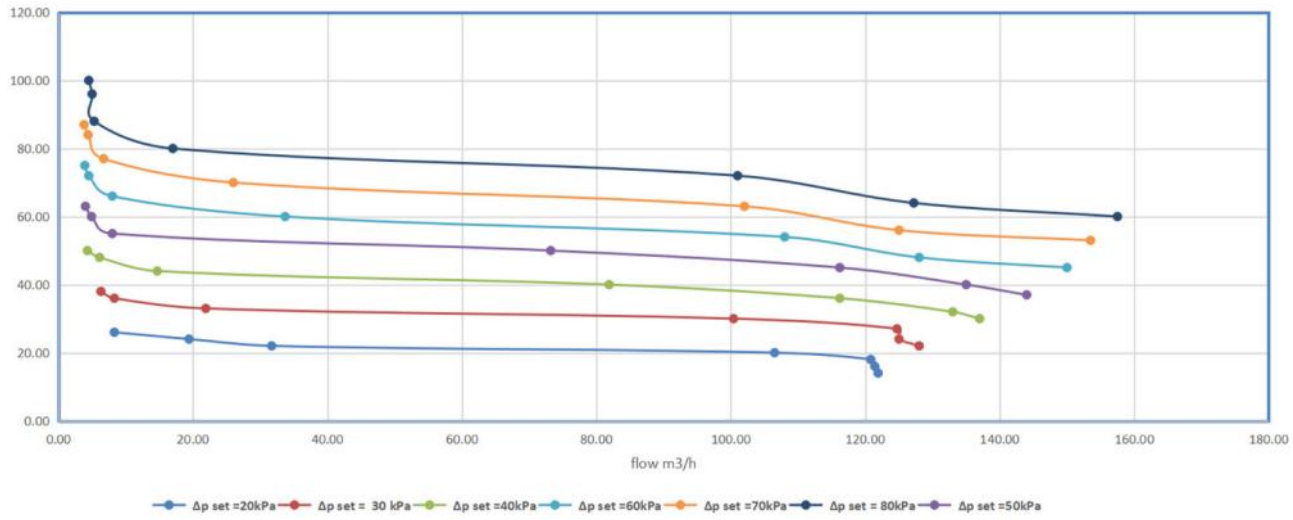


A.Kv_{min}
B.Kv_{nom}(Factory setting)
C.Kv_m
D.Working range △ pL_{nom} ± 20%

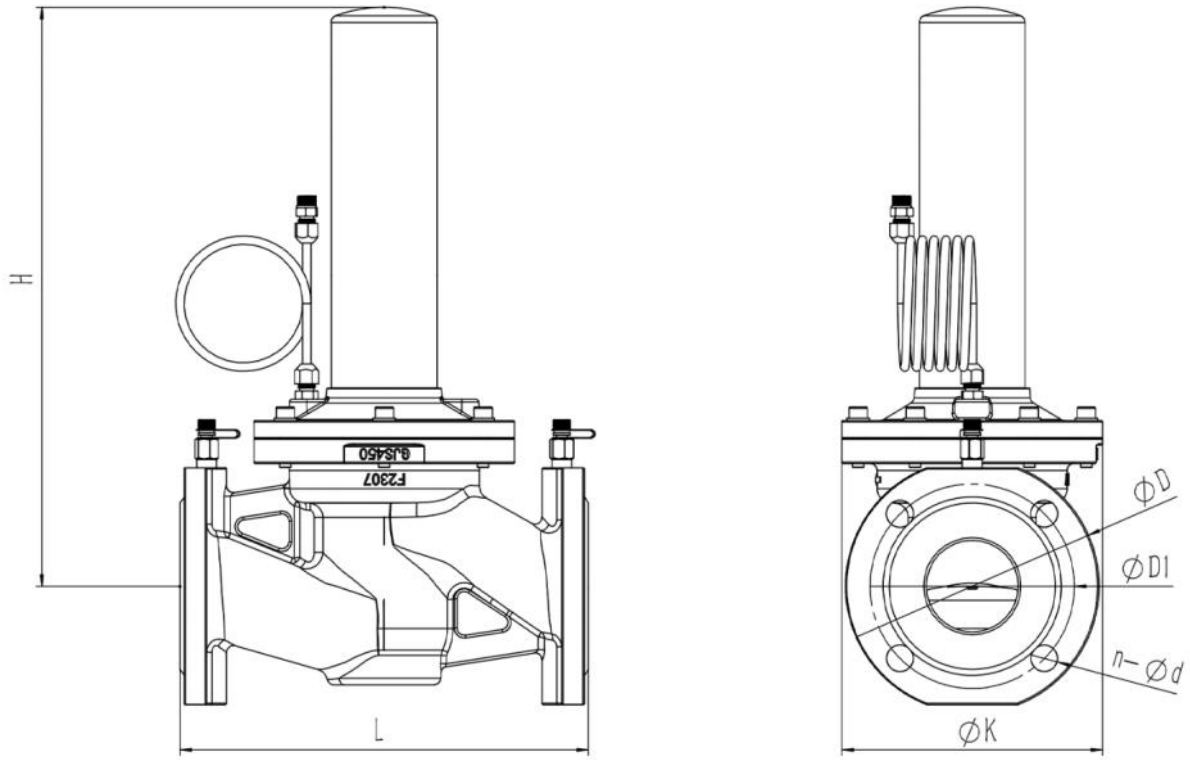
Differential Pressure Control Curve



Flow Curve Chart

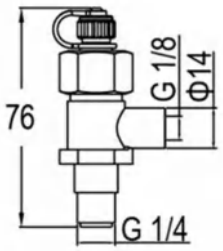


Overall Dimension



DN	L	φK	φD	φD1	n-φd	H(max)	Weight(Kg)
65	290	185	185	145	4-19	420	17.7
80	310	195	200	160	8-19	435	20.8
100	350	225	220	180	8-19	460	26.8
125	400	255	250	210	8-19	480	35
150	480	280	285	240	8-23	505	46
200	600	332	340	295	12-23	745	88.4
250	730	380	405	355	12-28	840	133

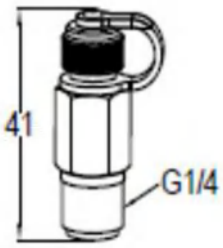
Accessories



Testing points with shut-off function

It has the dual channel measuring port and the shut-off function as well as connect to the capillary tube.

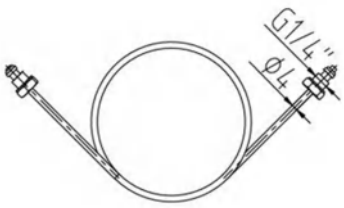
	Product code
	B19030017A



Testing point

Red for high pressure end,blue for low pressure end

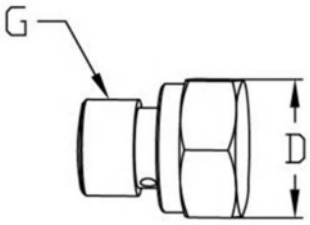
Size	Product code
Red	B19030027A
Blue	B19030037A



Capillary tube

Standard length is 1000mm, 2000mm can be selected as option.

L(mm)	Product code
1000	B170100100
2000	B170100200



Plug

Vent

G	Product code
G1/8	B13070012F
G1/4	B13070022F

Functions and Features

Hydraulic balancing debugger is used to measure and record the differential pressure,flow rate, temperature and energy consumption of hydraulic systems. It is connected to the handset APP software through Bluetooth to ensure faster and more economical balance debugging.

Hydraulic Balancing Debugger FPS Series

Low pressure box	High pressure box	High and low pressure box
FPS-200kPa	FPS-1000kPa	FPS-200-1000kPa

EXPERT IN FLUID CONTROL

18" Floor, Block B International Trade Center 107 Liuquan Road, Zibo City Shandong China

No.2 Yingye Road, Huangtai Industrial, Park, Xiaozhan, Jinnan District Tianjin City China

North End of Gongye 2 Road, Sangluoshu Industrial Zone, Binzhou City, Shandong China

86-533-6077200/6077206

sales@hiwa.cn