

DR-08 Type Differential Pressure Control Valve

This valve is used for home heating systems of district and central heating systems. It maintains an appropriate flow for each zone (room) by detecting the pressure difference of the supply and return lines and controlling the flow when there are load fluctuations, according to the on and off state of each zone (room), in terms of the maximum flow within a household that was balanced based on the constant flow control valve of each household.

Features

- High-performing differential pressure flow control valve, Installed in a supply or return line of a load device, controls the differential pressure and flow comprehensively.
- Operates minutely and proportionally even without back-up energy supply.
- Prevents noise and excessive flow of a pipeline within a household.
- Offers superb durability with a solid structure.
- Can be applied to a wide variety of flow systems and temperature control systems.

Specification

Type	Differential pressure control type	Differential pressure fixing type
Maximum pressure	Maximum 1,0MPa	
Differential pressure control range	0,005~0,03MPa	0,016MPa
Applicable fluid	Cold / hot water	
Flow control range	CV=3,2	
Applicable temperature	110°C below	
Materials	Body	CAC303
	Disc, Seat	CAC303
	Diaphragm	EPDM

- ▶ When using the valve, install a strainer (40 Mesh or more) on the leaflet.
- ▶ 1kPa = 0,001 MPa

Dimensions

(mm)

Category	Size	L	H
DR-08 (Fixed type)	20(¾")	82	108
	25(1")	82	108
DR-08 (Variable type)	20(¾")	82	112
	25(1")	82	112

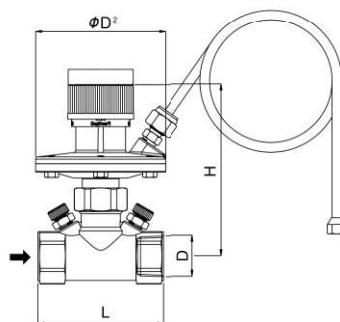
How to adjust the differential pressure

Clockwise direction :
Differential pressure increases

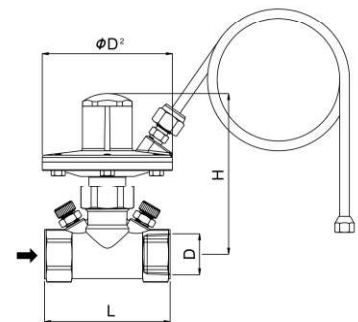


- If there is no request to do otherwise, the differential pressure is set to 0,17 kgf/cm² prior to product delivery.
- The following steps should be taken, in that order, when there is a need to adjust the differential pressure due to changes in field conditions.
 - a. Open all valves in a circulating pipeline and operate the pump. Read the differential pressure of the supply side and return side.
 - b. Slowly turn the adjustment nut clockwise and counterclockwise, while reading the pressure on the supply side and return side, and set a desired differential pressure.

Dimensional drawing



Differential pressure control type



Differential pressure fixing type



Differential pressure control type

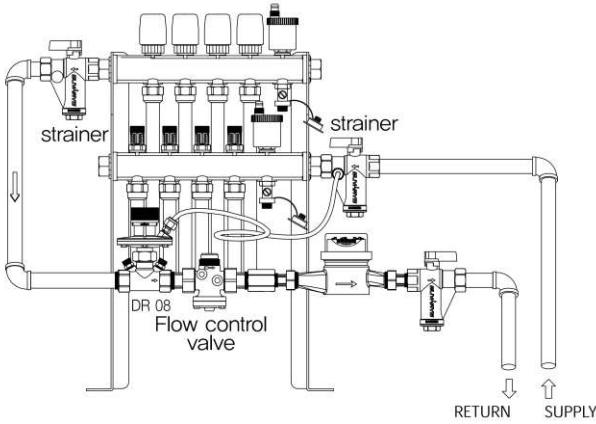


Differential pressure fixing type

DR-08 Differential Pressure Control Valve

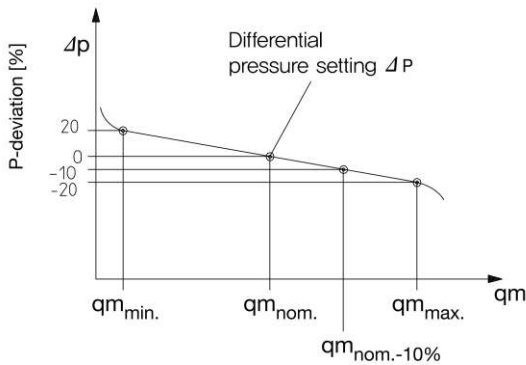
Differential pressure control valve by generation

- Example of installation in pipeline

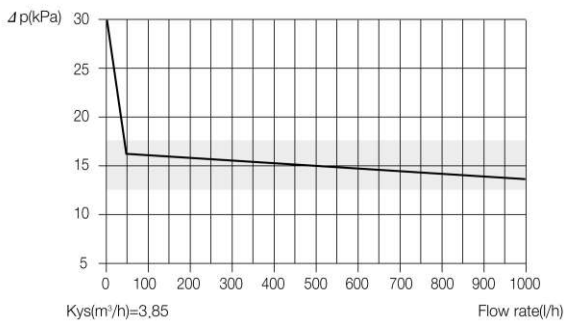


※Must be installed at the front end of flow control valve.

- Differential pressure setting error range

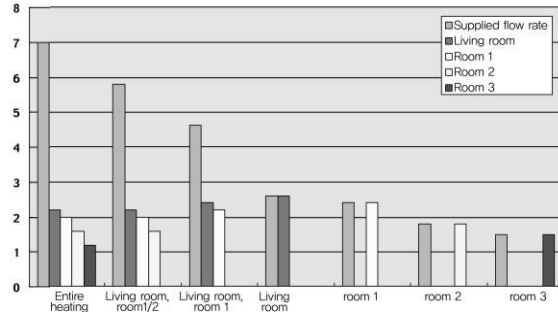


- Flow rate characteristics



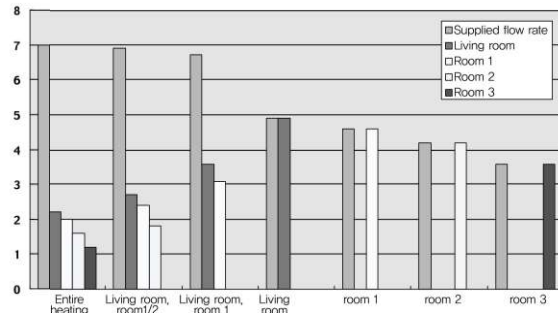
Experimentation of Differential pressure control valve by generation

- Example of differential pressure control valve being applied



Operating condition	Supply		Living room		room 1		room 2		room 3	
	flow rate (/min)	flow rate (/min)	velocity of flow (m/s)	flow rate (/min)	velocity of flow (m/s)	flow rate (/min)	velocity of flow (m/s)	flow rate (/min)	velocity of flow (m/s)	
Fully operational	7.0	2.2	0.182	2.0	0.166	1.6	0.133	1.2	0.100	
Shut off Rm 3	5.8	2.2	0.182	2.0	0.166	1.6	0.133	0.0	0.000	
Shut off Rm 3/Rm 2	4.6	2.4	0.199	2.2	0.182	0.0	0.000	0.0	0.000	
Shut off Rm 3/Rm 2/Rm 1	2.6	2.6	0.216	0.0	0.000	0.0	0.000	0.0	0.000	
Shut off Living Rm/Rm 3/Rm 2	2.4	0.0	0.000	2.4	0.199	0.0	0.000	0.0	0.000	
Shut off Living Rm/Rm 1/Rm 3	1.8	0.0	0.000	0.0	0.000	1.8	0.149	0.0	0.000	
Shut off Living Rm/Rm 1/Rm 2	1.5	0.0	0.000	0.0	0.000	0.0	0.000	1.5	0.124	

- Example of differential pressure control valve not being applied



Operating condition	Supply		Living room		room 1		room 2		room 3	
	flow rate (/min)	flow rate (/min)	velocity of flow (m/s)	flow rate (/min)	velocity of flow (m/s)	flow rate (/min)	velocity of flow (m/s)	flow rate (/min)	velocity of flow (m/s)	
Fully operational	7.0	2.2	0.182	2.0	0.166	1.6	0.133	1.2	0.100	
Shut off Rm 3	6.9	2.7	0.224	2.4	0.199	1.8	0.149	0.0	0.000	
Shut off Rm 3/Rm 2	6.7	3.6	0.299	3.1	0.257	0.0	0.000	0.0	0.000	
Shut off Rm 3/Rm 2/Rm 1	4.9	4.9	0.406	0.0	0.000	0.0	0.000	0.0	0.000	
Shut off Living Rm/Rm 3/Rm 2	4.6	0.0	0.000	4.6	0.382	0.0	0.000	0.0	0.000	
Shut off Living Rm/Rm 1/Rm 3	4.2	0.0	0.000	0.0	0.000	4.2	0.348	0.0	0.000	
Shut off Living Rm/Rm 1/Rm 2	3.6	0.0	0.000	0.0	0.000	0.0	0.000	3.6	0.299	