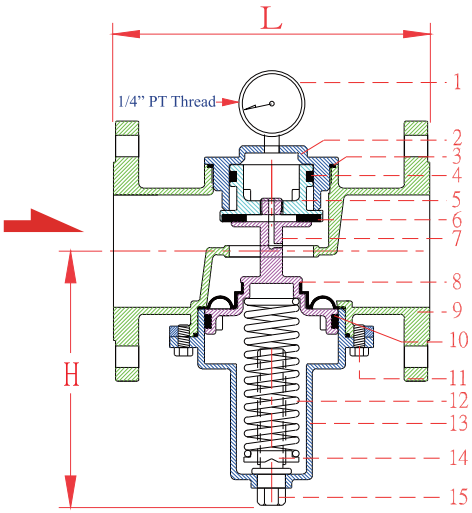
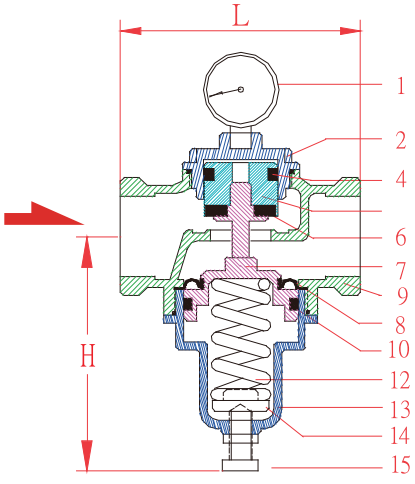
DIRECT-ACTIVATED PRESSURE REDUCING VALVE
(Stainless Steel 316)

- Valve Body is made by Stainless Steel 316, suitable for fluid, air and steam.
- The gate is balanced-pressure designed, which will not influence the outlet pressure caused by unstable inlet pressure. Pressure needed from fully-closed gate to fully-opened gate : 1.5 kgf/cm^2.
- When the outlet pressure responds directly to the pressure control chamber and adjusts the setting pressure, it responds quickly and adjusts the pressure accurately.
- Design of piston and diaphragm improves the inability of sustaining pressure and leakage.



No	Part Name	Material
1	Pressure Gauge	Stainless Steel
2	Upper Cover	Stainless Steel 316
3	O-ring	NBR / Viton / Teflon
4	U-ring	NBR / Viton
5	Piston	Stainless Steel 316
6	Sealing Spacer	NBR / Viton / Teflon
7	Shaft	Stainless Steel 316
8	Diaphragm	NBR/ Viton
9	Main Body	Stainless Steel 316
10	UH-ring	NBR / Viton
11	Fixed Bolt	Stainless Steel 304
12	Spring	Spring Steel
13	Lower Cover	Stainless Steel 316
14	Washer	Brass
15	Adjusting Stem	Stainless Steel 304





(Threaded End Connections)

Item No.	Size	H (mm)	L (mm)	Weight (Kg)	CV	Kv
DNS15-ST	1/2"	80	70	0.8	2.5	2.2
DNS20-ST	3/4"	105	85	1.0	4.0	3.5
DNS25-ST	1"	105	92	1.1	6.5	5.6
DNS40-ST	1.5"	130	115	2.2	13	11.2
DNS50-ST	2"	130	120	3.1	17	14.7

(PN16 Flanged End Connections)

Item No.	Size	H(mm)	L(mm)	Weight (Kg)	CV	Kv
DNS15-SF	1/2"	85	150	2.0	2.5	2.2
DNS20-SF	3/4"	105	150	2.8	4.0	3.5
DNS25-SF	1"	105	150	3.5	6.5	5.6
DNS40-SF	1.5"	130	190	5.9	13	11.2
DNS50-SF	2"	130	190	6.5	17	14.7
DNS65-SF	2.5"	185	210	11.5	30	26
DNS80-SF	3"	185	225	12	42	36.3
DNS100-SF	4"	230	250	19	75	64.9
DNS150-SF	6"	290	310	45	170	147.1

- Pressure Adjusting Range : 1～ 6 kgf/cm^2
  (1 kgf/cm^2 = 14.2 psi) 4～10 kgf/cm ^{2}
  8～13 kgf/cm ^{2}
- Applied Temperature : -15～100 ^{o}C
  100～180 ^{o}C (For steam)
- Valve Body Testing Pressure : 35 kgf/cm^2
- Maximum Applied Pressure : 25 kgf/cm^2
- Please cover steam pipelines with thermal materials

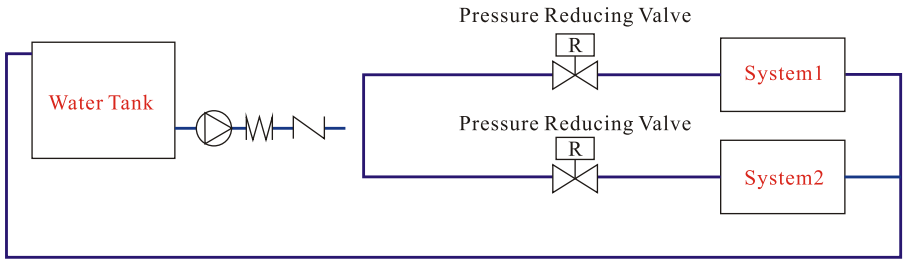
Special order can be arranged for higher pressure adjustment range.

WRAS APPROVED PRODUCT
Approval no.1706085

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Applied condition of Direct-activated Pressure Reducing Valve

- Installing pressure reducing valve directly in sub-pipe can reduce fluid pressure inside the pipe.
- Installing a filter in the inlet of pressure reducing valve can prevent block of valve gate caused by impurities and limescale.
- Installing pressure relief valve downstream pressure reducing valve can protect the system.
- While using screws to connect pressure reducing valve, joints should be installed in the inlet and outlet to make maintainance easy.



Pressure Setting and Flow Rate of Direct-activated Pressure Reducing Valve

- Direct-activated pressure reducing valve directly opens and closes the valve gate by the outlet pressure. When outlet pressure is under setting pressure, valve gate automatically opens. To make valve gate fully open, adjustable pressure range and setting pressure are relative points.
- A：Pressure drop needed for fully-opened valve gate = $\frac{B}{4}$ ，B=Adjustable Pressure Range Maximum-Minimum

  B：Adjustable Pressure Range (= Maximun Minimum Adjustable Pressure Range)

  C：Setting Pressure of Outlet

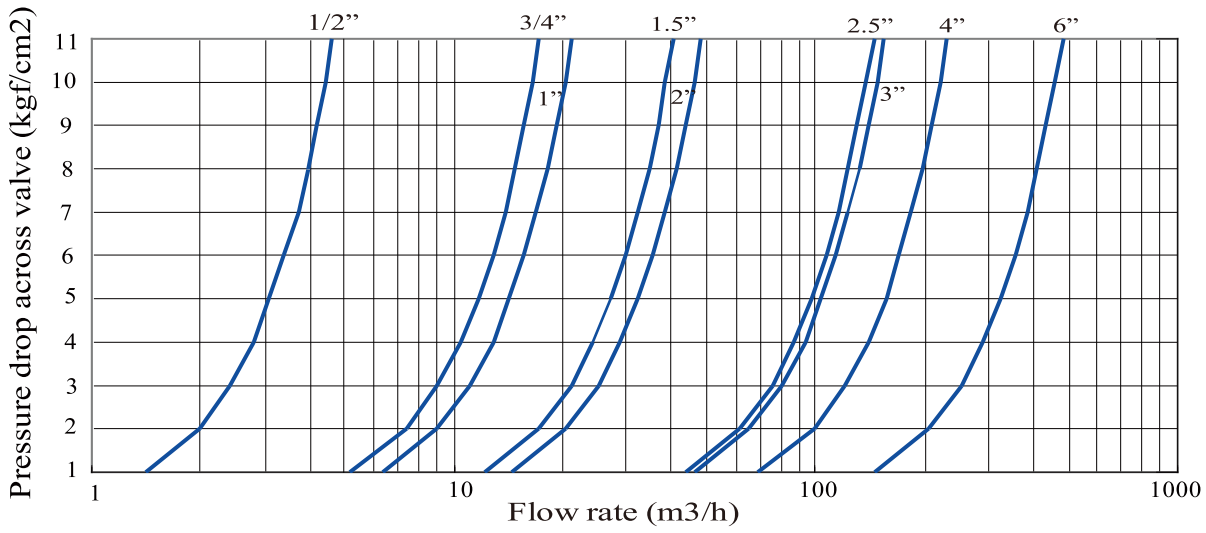
  P：Pressure of fully-opened outlet valve gate, P=C-A

Example：

Pressure drop needed for fully-opened valve gate for adjusting pressure range 3～9 kgf/cm^2 of direct-activated pressure reducing valve. A=$\frac{B}{4}$=$\frac{9-3}{4}$=1.5 kgf/cm^2

If the setting pressure of outlet is 6 kgf/cm^2, pressure of fully-opened valve gate will be P=6-1.5= 4.5 kgf/cm^2 (Outlet pressure should go down under 4.5 kgf/cm^2 to make valve gate fully open)

Flow Chart of Direct-activated Pressure Reducing Valve



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