

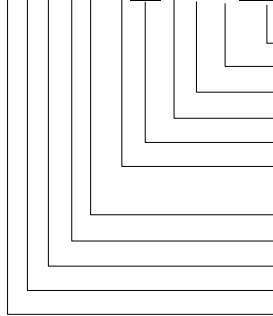
3-port seat Valves

Plate formed, Flange type, PN25 Bar
For refrigerants, R22, R104, LPG/ LNG

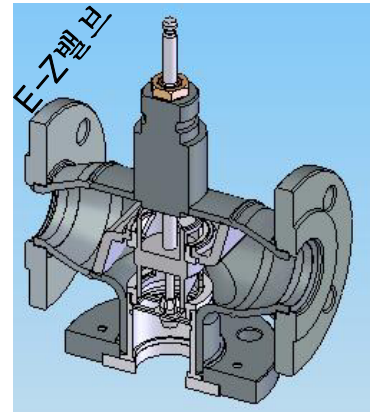
VDF56.XXX

Type designation

VDF56.125EDGR22



- Type of Flow media. R=22, L = LPG,
- Finishing: G=Galvanized, N= Nickel coating, P=Painted
- Flange type: D=DIN ,K=KS, J=JIS, B=BS, I=ISO, X=Option
- Flow characteristics: E=Equal %, L=Linear, F=Floating(On-Off)
- DIN:15=15, 25,32,40,50,65,80, 90=100, 91=125, 92=150
- For actuator. 1:ATI/Siemens 2:Honeywell 3:Johnson 4:Sauter
- 5: Satchwell 6: Samson,7: Siebe 8: Saginomiya 9:Trend
- Version: Type or Structure
- PN:Bar: 2: 6 Bar, 3=10, 4: 16, 5::20/25, 6: 40
- Type conn.: G: Thread, F: Flange, W: Weld
- Structure : T : Through(2) way D: Divert(3) way..
- Product group: V: Valves



General description

The valves are made with steel or stainless steel pipe to meet the wide range of applications. Thanks to the Plate forming technologies and the 3-Dimensional robot welding equipment specially developed by ATI control engineers, the valves are leak free fail safe functioning. For rust protection purpose the whole unit are sunken into the non-electro nickel solution. Production sizes are of following;

Standard stroke 20mm : DN 15mm~ 80mm
40mm : DN 100mm~ 200mm
50mm : DN 250mm ~ 400mm

Application

Suitable for a proportional control or shut-off in refrigeration plant where cold storage, freezing tunnel in Ice cream and dairy plants, and Ice building plants.

Permissible fluids

- Hot Hot gas Max.: +180°C
- Evaportaion gas max.: -40°C
- Refrigerant R12,R22,R502,R104,NH3,LNG.
- Spindle heating element required when it use in suction or liquid lines.

Ordering method

See the summary of types. and type designation.
*Optional type can be made upon contract.

Nominal Pressure : 25Bar(2500kPa)

Leakage rate : Direct: 0%,Reverse: 0%

Flange type :Any standards ISO2084, BS4505

Type summary

Valve bodies- DIN 3202				Actuators														
DIN port	Type(Model)	Kvs Vale	Range -ability	max. ΔP _{v100} in kPa		stroke	Force(N) max ΔP _{v100} in kPa at valves are closed off											
mm	Type(Model)	m ³ /h	K _v /K _v	직진	회전	mm	400N	600N	900N	1200N	1800	2400	4800N	6000N	9600N	15000N		
15	VDF56.113	0.9	>50	600	780	20	200	300	450									
15	VDF56.114	1.9	>50	600	780	20	200	300	450									
15	VDF56.115	3	>50	600	780	20	200	300	450									
20	VDF56.120	5	>100	600	780	20	200	300	450									
25	VDF56.125	7.5	>100	600	780	20	150	200	340	400	600	1000						
32	VDF56.132	12	>100	600	780	20	150	200	340	400	600	800						
40	VDF56.140	19	>100	600	780	20	150	200	340	400	600	800						
50	VDF56.150	31	>100	600	780	20	150	200	340	400	600	800	1600					
65	VDF56.165	49	>100	350	450	40	125	190	280	380	500	760	1500	1600				
80	VDF56.180	78	>100	250	325	40	100	125	225	250	400	500	1000	1200	2000	3000		
100	VDF56.190	124	>100	150	195	40		100	150	200	300	400	800	1000	1600	1800		
125	VDF56.191	200	>100	100	130	40			100	130	200	260	500	800	1000	1500		
150	VDF56.192	300	>100	70	90	40				100	100	200	400	600	800	1000		
200	VDF56.193	500	>100	50	65	50						100	200	400	600	800		
250	VDF56.194	780	>100	30	50	50							100	200	400	600		
300	VDF56.195	1250	>100	30	50	50								100	200	400		

*Notes:100kPa=1Bar=10mWG | max.ΔP_{v100} = Maximum differential pressure across the open valve

ΔP_{v100} =Differential pressure across fully open valve in full load

ΔPmax = Max.permmissible differential pressure across closed valve.

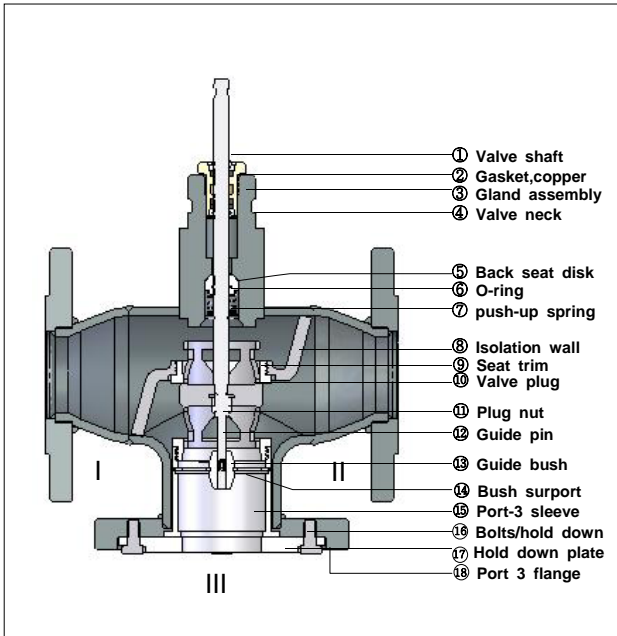
K_v =Nominal flow value of valves in m³/h at nominal stroke and a pressure drop of 1 Bar.

K_v =Smallest flow value in m³/h for pressure drop of 1 Bar at which the flow characteristic tolerance are still maintained

Design feature

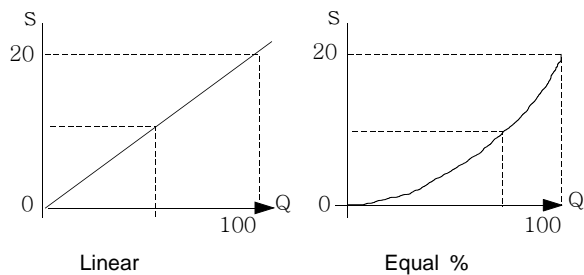
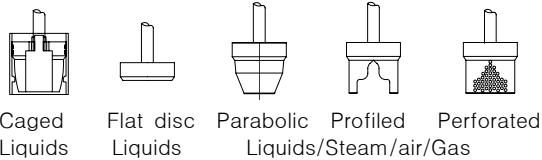
Valves are supplied as a separate unit. Assembly is quite straightforward. Minimize noise level at a minimum flow. And it's easy to handle. So called " EASY VALVE "[E-Z]

- Gland seal stuffing box can be replaced without draining nor shut down the flow line system thanks to the **back-seat** mechanism.
- Spindle are made of STS for rust-free operation.
- Various materials are ready for plugs.



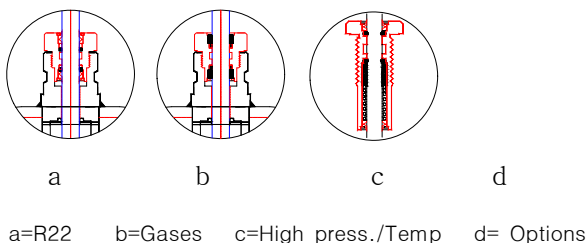
Various plugs available

Valve plugs are ready to meet the specific requirement of control and application.



Various gland seal(Stuffing box) unit

Sealing gland assemblies are ready for specific medium and pressure requirement. Options are also available.



Application advice

For basic information and further details refer to the data sheet of valve selection and engineering- TI4001...

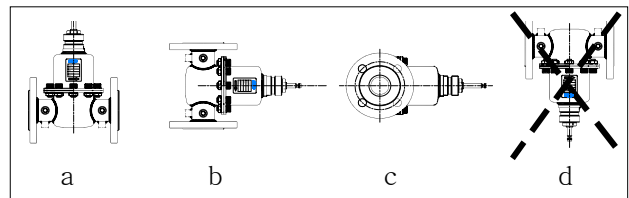
Valves can be installed on HOT gas line pipe or suction evaporation pipe line or in liquid lines in refrigeration plants.

- For selecting actuator is also very important since it is not properly matched control valve will not work correctly. Refer to selection of actuators...
- When use with refrigerant gas or liquid the line blow off should be made before filling the refrigerants to pipe line system.
- Before installation you should check the pressure rating and permissible temperature.
- For more information on selecting valve sizes refer to the valve selections and sizing..

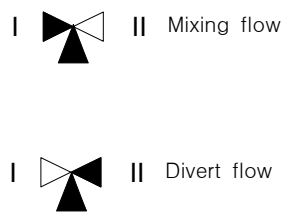
Mounting and installation advices

Do not remove the protection cap from the valve before installation to the system

Following position are recommended for installation.



Flow direction



Mounting instructions are supplied in the delivery box of the products

Commissioning advice

- Before replacing gland seal assembly check proper ventilation is ready for safety measure..
- Be care for not to scratch the valve spindle or any intend to bend.
- Be sure the operating pressure and temperature are within the nominal values.
- Check the differential pressure expected in the process to avoid noise.

Hint for correct sizing of valve

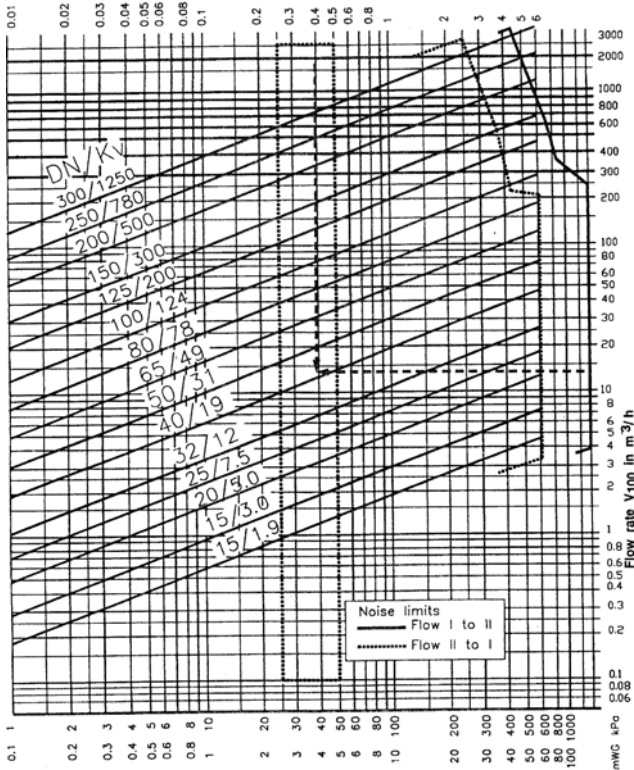
Example : Given data : $\Delta P=0.35$ Bar $K_v=13$

a. Trace down to the vertical line 0.35 Bar of ΔP to an intersecting point with horizontal line of K_v flow rate of 13 m³/h

b. Select $K_v=19$ of DIN40 between the line of $K_v=31$ and the line of $K_v=19$

The answer is type :VDF56.140 ;40mm(1-1/4")

Valve type:VDF56.. Pressure drop ΔP_{v100} in Bar



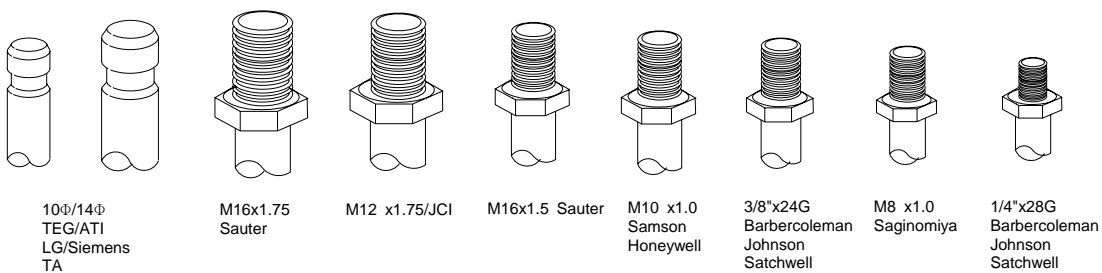
Recommended selection in $\Delta P_{v100} =0.35$ Bar
1m³/h=0.278kg/s water at 20°C

Application examples

Various shaft valve shaft

Various valve shafts are made for actuators of each brand in the HVAC market.

The shaft end is exactly same as the original ones shown as following figures.

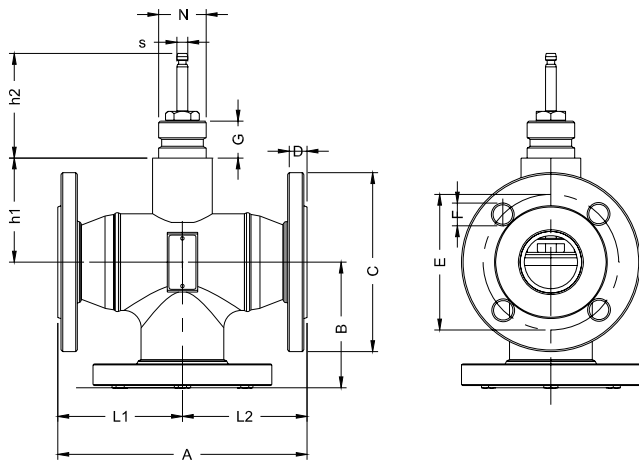


Accessories

Standard accessories are ready for each brands.

- Shaft heater for cooling applications
- Spindle adapters for ATI actuators.

Dimension



H Space for maintenance
 H1 : distance for actuator installation
 H2 : distance of valve closed position

We reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet.

* Dimension in mm

*1000Nf = 100Kf

DIN		G										h1	h2	N					Wt	Power of Actuator
mm	Inch	A	B	C	D	E	F	AT/SI	HW	JCI	SA	ATI	ATI	AT/SI	HW	JCI	SA	S	Kg	Nf(Kf)
15	1/2"	130	65	100	10	65	14x4	34	30		27	64	160.5	44	35		38	10		600(60)
15	1/2"	130	65	100	10	65	14x4	34	30		27	64	160.5	44	35		38	10		600(60)
15	1/2"	130	65	100	10	65	14x4	34	30		27	64	160.5	44	35		38	10		600(60)
20	3/4"	150	75	100	12	75	14x4	34	30		27	60	200	44	35		38	10		800(80)
25	1"	160	80	115	16	85	14x4	34	30		27	80	240	44	35		38	10		1200(120)
32	1 1/4"	180	90	150	18	100	18x4	34	30	39	27	60	240	44	35	50	38	10		1500(150)
40	1 1/2"	200	100	150	18	110	18x4	34	30	39	27	57	242.5	44	35	50	38	10		1800(180)
50	2"	230	115	165	18	125	18x4	34	30	39	27	96	192.5	44	35	50	38	10		2000(200)
65	2 1/2"	290	145	185	18	145	18x4	34	30	39	41	114	230.5	44	35	50	60	14		2400(240)
80	3"	310	155	200	20	160	19x8	34	30	39	41	126	242.5	44	35	50	60	14		3000(300)
100	4"	350	175	220	20	180	18x8	34	30	39	41	146	262.5	44	35	50	60	14		3500(350)
125	5"	400	200	250	22	210	18x8	34	30	39	41	163	279.5	44	35	50	60	14		4000(400)
150	6"	480	240	285	22	240	23x12	34	30	39	41	186	302.5	44	35	50	60	14		4500(450)
200	8"	600	300	345	24	295	23x12	34	30	39	41	210	326.5	44	35	50	60	16		5000(500)
250	10"	730	360	400	26	355	27x12	34	30	39	41	230	364	44	35	50	60	16		6000(600)
300	12"	850	425	460	28	410	27x12	34	30	39	41	260	394	44	35	50	60	16		9600(960)
350	14"	*		520	30	470	27x16	34	30	39	41	260	394	44	35	50	60	16		10000(1000)
400	16"	*		580	32	525	30x16													
500	20"	*		715	36	650	33x20													
600	24"	*		840	40	770	36x20													

* AT/SI=ATI/Siemens HW=Honeywell, JCI=Johnson, SA= Sauter