



VALVTEK

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V41238E  
Apr. 1996

Works with

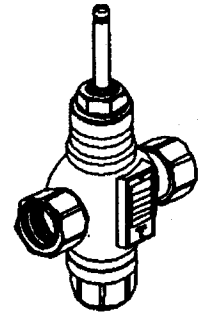
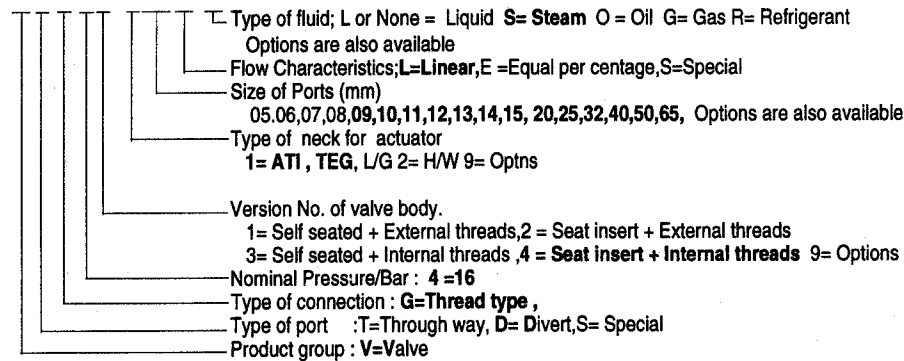
- \* ATI
- \* Barber coleman
- \* Honeywell
- \* Johnson
- \* Landis & Gyr
- \* Satchwell
- \* Sauter
- \* Staefa
- \* T/A
- \* TEG
- \* Others

# Three port seat valves

Cast bronze, Stainless steel seat, PN16  
for Liquids, Steam & Gas

## VDG44.1

### VDG44.125L Standard type



### Description

The valves are made of cast bronze and machined by computer aided machining equipment under strict quality control, and every valve are under going hydro-test for leakage and pressure allowances. The range of valves is from size DN15...65mm.

Nominal stroke 20mm for DN 15 ...65mm

For use with Electric, Pneumatic or Hydraulic actuators.

### Permissible fluids

- Hot water :max.120° C
- Chilled water :-15°C max. in closed circuit only
- Water with following additives;
  - Hydrazine, Phosphate, for water treatment
  - Glycol,max.50%, for frost protection
  - Saturated steam,superheated steam abs. press.1.5bar 120° C
  - Refrigerant R12,R22,R502(spindle heating element required for this application)

### Application

Suitable for use a proportional control of mixing or diverting flow control in heating ventilating air conditioning, District heating system and other industrial applications.

### Operating pressure

16Bar(1600kPa)

### Leakage rate;through by-pass

0%  
0%

### Connection port

ISO ,BSBP,internal

### Summary of Types

#### Valves

#### Actuators, TYPE: AQX...AUX...AUH..

DN size mm	Type reference	Kvs Value m <sup>3</sup> /h	Rangeability K <sub>vs</sub> /K <sub>vr</sub>	max.ΔP <sub>v100</sub> in kPa			Force (N) at max.ΔP <sub>v100</sub> in kPa (close-off ratings)						
				Mix.	Div.	Nominal stroke mm	400N	600N	900N	1200N	2400N	4800N	9600N
15	VDG44.107	0.25	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.109	0.40	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.110	0.50	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.111	0.63	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.112	1.0	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.113	1.6	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.114	2.5	> 50	1600	1600	20	1060	1600	2400	3200	6400		
15	VDG44.115	4.0	> 50	1600	1600	20	1060	1600	2400	3200	6400		
20	VDG44.120	6.3	>100	1600	1600	20	500	800	1200	1600	3200	6400	
25	VDG44.125	10	>100	1600	1600	20	500	800	1200	1600	3200	6400	
32	VDG44.132	16	>100	1200	1200	20	200	300	450	600	1200	2400	4800
40	VDG44.140	25	>100	1200	1200	20	200	300	450	600	1200	2400	4800
50	VDG44.150	40	>100	1200	1200	20	120	180	270	360	720	1440	2880
65	VDG44.165	60	>100	1000	1000	20	100	150	225	300	600	1200	2400

\*\*Notes; 100 kPa = 1Bar =10mWG  
 max.ΔP<sub>v100</sub> =Max.permissible differential pressure across open valve  
 ΔP<sub>v100</sub> =differential pressure across fully open valve in installation in full load.  
 ΔPmax =max. permissible differential pressure across closed valve

k<sub>vs</sub> =nominal flow value of valve in m<sup>3</sup>/h at nominal stroke and a pressure drop of 1 Bar  
 k<sub>vr</sub> =smallest flow value in m<sup>3</sup>/h for pressure drop of 1 bar at which the flow characteristic tolerance are still maintained

### Accessories

Electric heating element for sub zero temp. applications

## Design Features

Valves are supplied as a separate unit. The assembly is straightforward. Neither special tools nor adjustments are required.

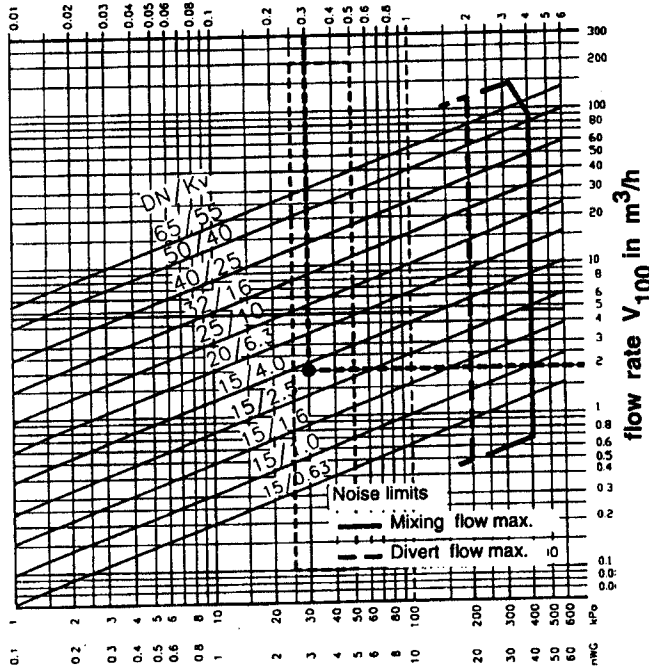
- Sealing gland assembly is easily interchangeable on site
- Spindle is made of stainless steel
- Plug materials can be of any for various applications to meet accurate performances.
- Size from 15mm to 65mm
- Kv value from 0.10 to 60.00
- Internally threaded connection make easy installation
- Protective Plastic cover for spindle

## Hints for correct valve sizing

Example: Given data:  $\Delta P = 0.3 \text{ Bar}$  and  $K_v = 2.2$

- Trace down the vertical line of 0.3 Bar of  $\Delta P$  to an intersecting point with horizontal line of  $K_v$  flow rate at  $2.2 \text{ m}^3/\text{h}$
- Select  $K_v = 2.5$  of DN15 between the line of  $K_v = 2.5$  and the line of  $K_v = 4.0$ . The answer is TYPE: VDG43.114

TYPE: VDG40... Pressure drop  $\Delta P_{v100}$  in Bar



Recommended selection in  $\Delta P_{v100} = 0.3 \text{ Bar}$   
 $1 \text{ m}^3/\text{h} = 0.278 \text{ kg/s}$  water at  $20^\circ\text{C}$

## Application Advice

For basic information and further details on valve selection and sizing refer to data sheets V40001...V40019.

The valve can be installed either in the supply or the return pipe work. The latter is given preference since return side temperature is lower. Strainer is recommended for correct control and long life.

For steam applications: The valves are only suitable for saturated or superheated steam; the steam pipes must be properly drained or blow off the dirt inside the pipe.

Selecting actuator is also very important since it is not properly matched control valve does not work correctly. For correct selection of actuators also refer to the Data Sheet of various actuators, A43000... A44999.

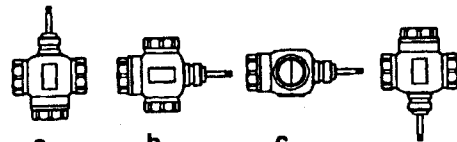
Observe the permissible temperatures. For more details refer to <Application> and <Technical Data>

Data Sheet P34001 contains basic system data on POLYTEK. All hints and explanations given in this sheet must be observed.

## Mounting and Installation Advice

Do not remove the protection cap of the valves by tearing off the finger tap before mounting actuators.

Mounting positions



a. b. c. = permitted d = not recommended

Pressure application & Flow direction

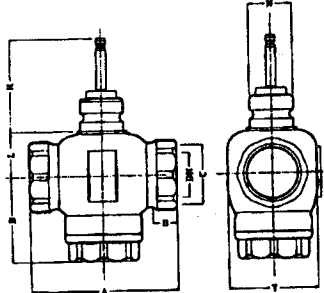


The actuator's mounting instructions are supplied in the protection cap of the valves.

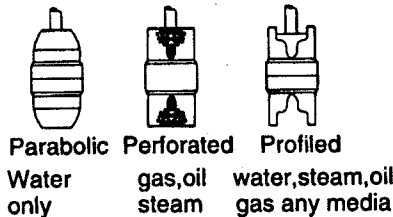
## Commissioning Advice

- Remove the protection cap of the valves by tearing off the finger tap.
- Check the valve spindle whether it is bent or safe buy  
 Pushing valve spindle : valve opens (inlet II to I)  
 Pulling valve spindle : valve closes (inlet II to I)

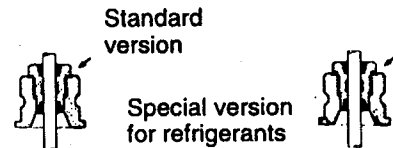
## Dimension



Various type of valve plug for functional controls in wide range of applications



Various type of sealing gland assemblies for different media and wide range of temperature and pressure.



DN mm	Inch	A	B	C	D	H	L	T	N		S	Wgt kg	Suitable actuators		
									ATI	H/W			ATI	L/G	H/W
15	1/2"	100	50	Rp 1/2"	12	96.5	26	41	44	35	10	1.4	AQX.	SQX/SKD	M904+Q455
20	3/4"	100	50	Rp 3/4"	12	96.5	26	50	44	35	10	1.4			
25	1"	105	70	Rp 1"	16	96.5	34	55	44	35	10	1.8			
32	1 1/4"	105	70	Rp 1 1/4"	16	96.5	34	70	44	35	10	2.0			
40	1 1/2"	130	80	Rp 1 1/2"	18	96.5	46	75	44	35	10	3.2			
50	2"	150	88	Rp 2"	20	96.5	46	90	44	35	10	5.0			
65	2 1/2"	195	114	Rp 2 1/2"	22	96.5	60	120	44	35	10	7.5			

Dimensions in mm