



#### Works with

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

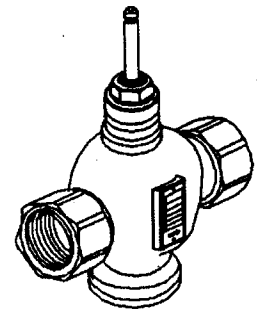
## Two port seat valves

Cast bronze, thread connections PN16  
for Liquids, Steam & Gas

## VTG43.1

### VTG43.125L Standard type

- Type of fluid; L or None = Liquid S= Steam O = Oil G= Gas R= Refrigerant  
Options are also available
- Flow Characteristics; L=Linear, E =Equal per centage, S=Special
- Size of Ports (mm)  
05,06,07,08,09,10,11,12,13,14,15, 20,25,32,40,50,65, Options are also available
- Type of neck for actuator  
1= ATI , TEG, L/G 2= H/W 9= Optns
- Version No. of valve body.  
1= Self seated + External threads, 2 = Seat insert + External threads  
3= Self seated + Internal threads , 4 = Seat insert + Internal threads 9= Options
- Nominal Pressure/Bar : 4 =16
- Type of connection : G=Thread type ,
- Type of port : T=Through way, D= Divert, S= Special
- Product group : V=Valve



### 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 or shutoff in heating ventilating air conditioning, District heating system and other industrial applications.

### Operating pressure

16Bar(1600kPa)

### Leakage rate

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		Nominal stroke mm	Force (N) at max.ΔP <sub>V100</sub> in kPa (close-off ratings),Direct flow						
				Dir.	Rev.		400N	600N	900N	1200N	2400N	4800N	9600N
15	VTG43.107	0.25	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.109	0.40	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.110	0.50	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.111	0.63	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.112	1.0	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.113	1.6	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.114	2.5	> 50	1600	2000	20	1060	1600	2400	3200	6400		
15	VTG43.115	4.0	> 50	1600	2000	20	1060	1600	2400	3200	6400		
20	VTG43.120	6.3	>100	1600	2000	20	500	800	1200	1600	3200	6400	
25	VTG43.125	10	>100	1600	2000	20	500	800	1200	1600	3200	6400	
32	VTG43.132	16	>100	1200	1500	20	200	300	450	600	1200	2400	4800
40	VTG43.140	25	>100	1200	1500	20	200	300	450	600	1200	2400	4800
50	VTG43.150	40	>100	1200	1500	20	120	180	270	360	720	1440	2880
65	VTG43.165	60	>100	1000	1250	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.

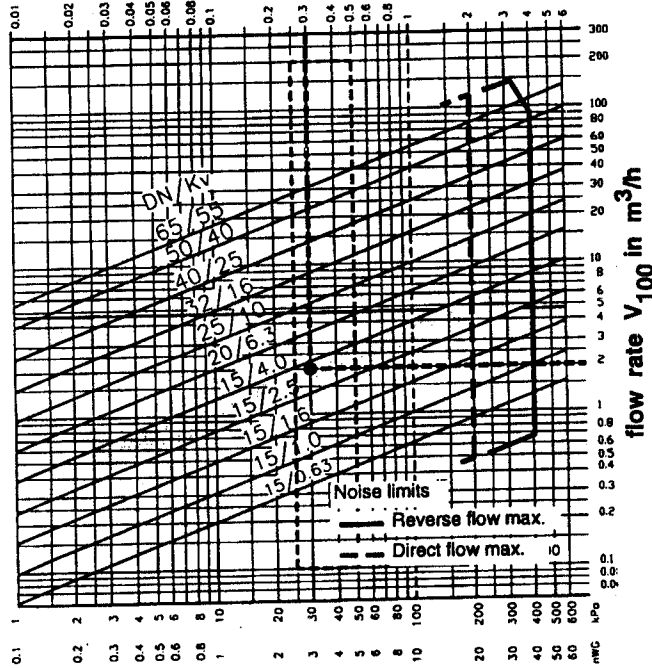
- Sealing gland assembly is easily interchangeable on site
- Spindle is made of stainless steel
- Plug materials can be of any for various applications to meet accurate performances.
- Size from 15mm to 65mm
- Kv value from 0.10 to 60.00
- Internally threaded connection make easy installation
- Protective 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:VTG43.114

TYPE:VTG40... 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 4001..4019.

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, 4300... 4499.

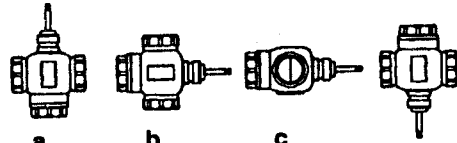
Observe the permissible temperatures. For more details refer to <Application> and <Technical Data>

Data Sheet 3401 contains basic system data on POLYTEK. All hints and explanations given in this sheet must be observed.

## Mounting and Installation Advice

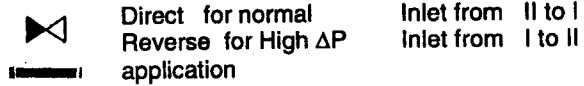
Do not remove the protection cap of the valves by tearing off the finger tap before mounting actuators.

Mounting positions



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

Pressure application & Flow direction

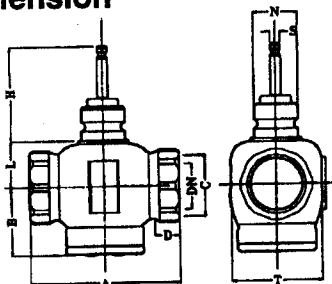


The actuator's mounting instructions are supplied in the protection cap of the valves.

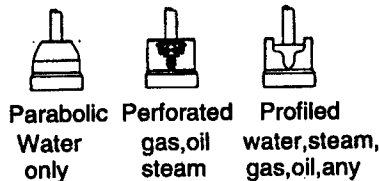
## Commissioning Advice

- 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  
 Pulling valve spindle : valve closes

## Dimension



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



Standard version



Special version for refrigerants

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