Works with

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

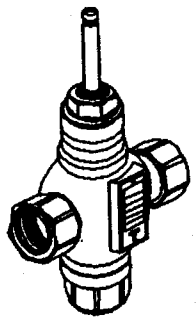
Three port seat valves

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

VDG43.1

VDG43.125L ☐ 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)

Operating pressure 16Bar(1600kPa)
Leakage rate;through 0%
by-pass 0%
Connection port ISO ,BSBP,internal

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.

Summary of Types

Valves

DN size mm	Type reference	Kvs Value m^3/h	Rangeability K_{vs}/K_{vr}	max.ΔP_{v100} in kPa Mix.	Div.	Nominal stroke mm
15	**VDG43.107**	0.25	> 50	1600	1600	20
15	**VDG43.109**	0.40	> 50	1600	1600	20
15	**VDG43.110**	0.50	> 50	1600	1600	20
15	**VDG43.111**	0.63	> 50	1600	1600	20
15	**VDG43.112**	1.0	> 50	1600	1600	20
15	**VDG43.113**	1.6	> 50	1600	1600	20
15	**VDG43.114**	2.5	> 50	1600	1600	20
15	**VDG43.115**	4.0	> 50	1600	1600	20
20	**VDG43.120**	6.3	>100	1600	1600	20
25	**VDG43.125**	10	>100	1600	1600	20
32	**VDG43.132**	16	>100	1200	1200	20
40	**VDG43.140**	25	>100	1200	1200	20
50	**VDG43.150**	40	>100	1200	1200	20
65	**VDG43.165**	60	>100	1000	1000	20

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

Force (N) at max.ΔP_{v100} in kPa (close-off ratings)						
400N	600N	900N	1200N	2400N	4800N	9600N
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
1060	1600	2400	3200	6400		
500	800	1200	1600	3200	6400	
500	800	1200	1600	3200	6400	
200	300	450	600	1200	2400	4800
200	300	450	600	1200	2400	4800
120	180	270	360	720	1440	2880
100	150	225	300	600	1200	2400

**Notes; 100 kPa = 1Bar =10mWG
max.ΔP_{v100} =Max.permissible differential pressure across open valve
ΔP_{v100} =differential pressure across fully open valve in installation in full load.
ΔP_{max} =max. permissible differential pressure across closed valve
k_{vs} =nominal flow value of valve in m^3/h at nominal stroke and a pressure drop of 1 Bar
k_{vr} =smallest flow value in m^3/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

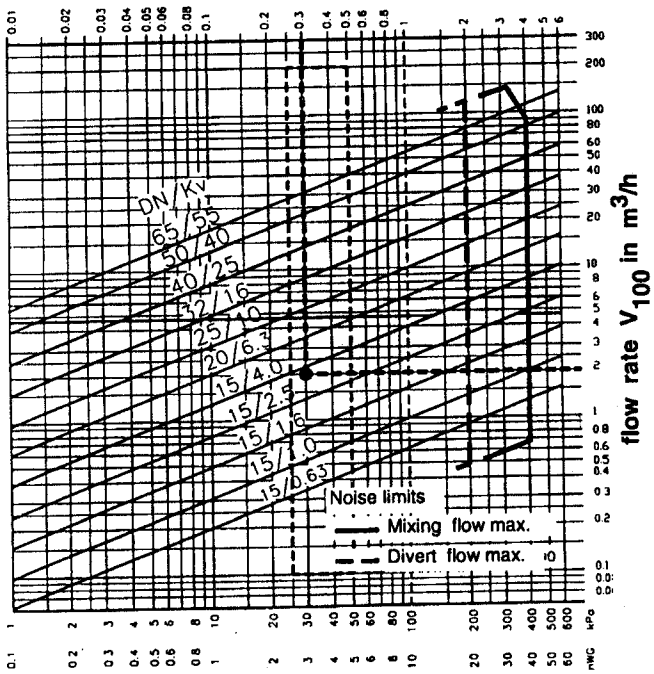
Hints for correct valve sizing

Example: Given data: ΔP =0.3Bar and Kv = 2.2

a.Trace down the vertical line of 0.3 Bar of ΔP to an intersecting point with horizontal line of Kv flow rate at 2.2m³/h

b.Select Kv=2.5 of DN15 between the line of Kv=2.5 and the line of Kv=4.0 The answer is TYPE:**VDG43.114**

TYPE:VDG40... Pressure drop ΔPv100 in Bar



Recommended selection in ΔPv100 =0.3Bar

1m³/h = 0.278kg/s water at 20°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.

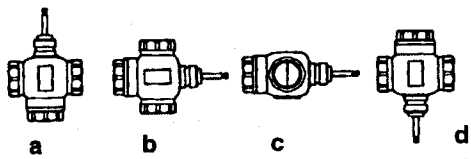
Observe the permissible temperatures. For more details refer to <Application > and <Technical Data>

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

Normal Inlet from I to II

High Diff.Press. Inlet from II to I

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

Commissioning Advice

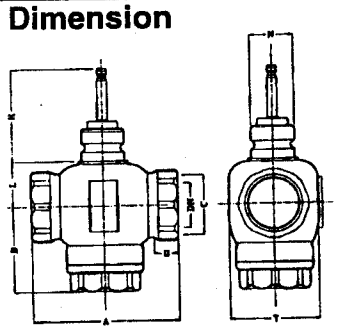
a.Remove the protection cap of the valves by tearing off the finger tap.

b.Check the valve spindle whether it is bent or safe buy

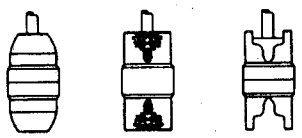
Pushing valve spindle : valve opens (inlet II to I)

Pulling valve spindle : valve closes (inlet II to I)

Dimension



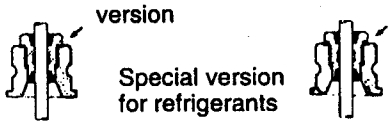
Various type of valve plug for functional controls in wide range of applications



Parabolic Perforated Profiled

Water only | gas,oil steam | water,steam,oil gas any media

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



Standard version

Special version for refrigerants

DN mm	Inch	A	B	C	D	H	L	T	N ATI	N H/W	S	Wgt kg	Suitable actuators 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	1¼"	105	70	Rp 1¼"	16	96.5	34	70	44	35	10	2.0			
40	1½"	130	80	Rp 1½"	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	2½"	195	114	Rp 2½"	22	96.5	60	120	44	35	10	7.5			

Dimensions in mm