

- Replace with _____
- * Gate valves
 - * Globe valves
 - * Ball valves
 - * Utility valves

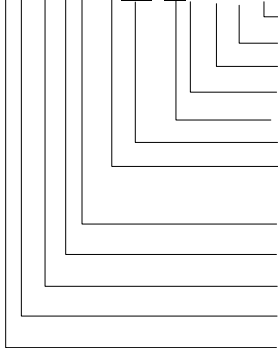
Manual-balancing valves

Bronze casting/Thread type, PN16
for Hot water, chilled water, Air

VBG43.XXX

Type designation

VBG43.125APBDS



Finishing: S=Standard, N= Nickel plated, P=Painted
 Flange type: D=DIN ,K=KS, J=JIS, B=BS, I=ISO, X=Option
 Plug materials: B=Bonze,S=Sts, T=TFE, G=GTFE, X=option
 Plug types: P=Parabolic,F=perForared,R=pRofiled,fLat
 Test point: A=none,= B= sockets (* see type selection)
 Port sizes:14,15,20,25,32,40,50,65
 Medium:1=water 2=Steam/air/Water 3=Oil 4=Gas 5=LNG,6=LPG
 7=R22,R104, 8=NH3, 9:Option
 Body type: Version number
 PN:(Bar): 2=6 Bar 3=10, 4=16, 5=25 6=40
 Connection: G= Threaded F=Flange W=wePB
 Type of function : B=Balancing
 Product group: Valves

E Z valve



General description

Double regulating and commissioning valves is used for balancing hydronic circuits. This type of valves with various connection type made with bronze casting to meet the wide range of applications. Thanks to the automatic casting lines the quality proven products assure no leakage from the body and maintain fail safe functioning. Production sizes are of following;

Standard size : DN 10mm~ 65mm

With minimum force the handle can be operated.

Ordering method

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

Application

Suitable for control flow rate,commissioning and balancing of flow lines in heating,ventilating,air conditioning,district heating and other industrial facilities.

By attachment of simple parts this valve can also be used for filling,draining,measuring the pressure of the circuit.

Permissible fluids

Hot water Max.: +150
 Cold water max.: -20 , closed circuit circulations.
 -Water additives(brine),Hydrazine, Phosphate for water treatment purpose
 -Glycol for anti-freeze 50% max.

Nominal Pressure

PN : 16 bar (1600kPa)

Leakage rate

Tight shut off
 * minimum flow limitation is also available upon request.

Summary of types

Valve bodies				Plugs										
DN Port	Type(Model)	Kvs Values	Range -ability	max. P _{v100} in kPa	stroke	Type of plugs					Plug materials			
mm	Order number	m ³ /h	K _v /K _w	Dir	mm	Par	perF	pRo	Caged	fLat	Brz	Sts	Tfe	Gtfe
9	VBG43.109TPBDN	1.25	>50	600	10	0					0			
10	VBG43.110TPBDN	2.88	>50	600	10	0					0			
15	VBG43.115TPBDN	3.88	>50	600	10	0					0			
20	VBG43.120TPBDN	5.71	>100	600	10	0					0			
25	VBG43.125TPBDN	8.89	>100	600	10	0					0			
32	VBG43.132TPBDN	19.45	>100	600	15	0					0			
40	VBG43.140TPBDN	27.51	>100	600	15	0					0			
50	VBG43.150TPBDN	38.78	>100	600	15	0					0			
65	VBG43.165TPBDN	50.25	>100	350	20	0					0			

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

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

P_{max} = Max.permissible differential pressure across closed valve.

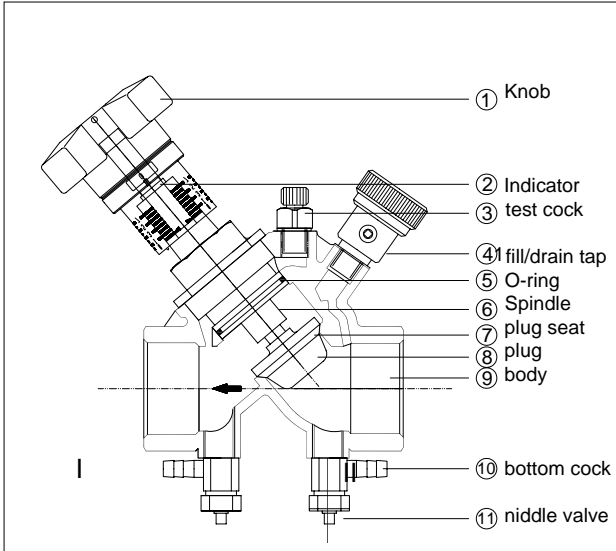
K_v =Nominal flow value of valves in m³/h at nominal stroke and a pressure drop of 1 Bar.

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

Design feature

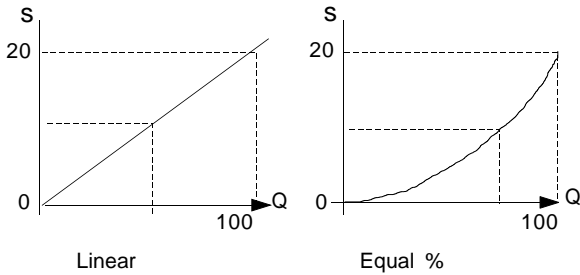
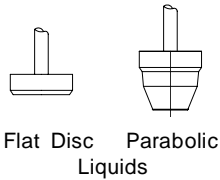
Valve handles have a round and soft edges for protecting skins of hands. The operating forces are a minimum so it's easy to handle. So called " EASY VALVE " [E-Z]

- Oblique spindle operation ensure minimum pressure loss.
- Spindle are made of brass for rust-free operation.
- Various materials are ready for plugs.
Brass, STS, TFE imbeded,etc..



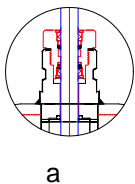
Various plugs available

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



Various gland seal unit

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



a=Standard b=Gases c=High press./Temp d= Options

Application advice

For basic information and further details refer to the data sheet of Hydronic balancing and engineering- TI4002...

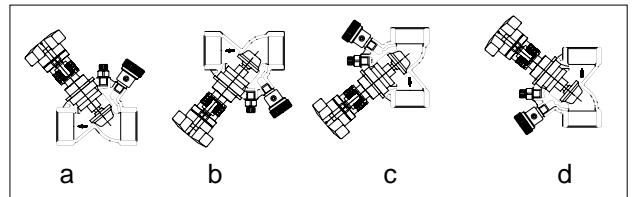
Valves shall be installed in both inlet and outlet of hydronic equipment such as heat exchanger, fan coil unit, AHU batteries ,pumps and etc.. Some cases when only require for one end you'd better install in suction(return) side.

* For use in hydronic system.

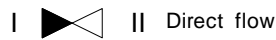
- Before installation you should check the pressure rating and permissible temperature.
- For more information on selecting valve sizes refer to the valve selections and and sizing..
- This valve can be used for following fuctions:
tight shut off
regulating
presetting
measuring
filling
draining
commissioning

Mounting and installaiton advices

Can be installed in any position.



Flow direction



For liquid: Direct flow is recommended

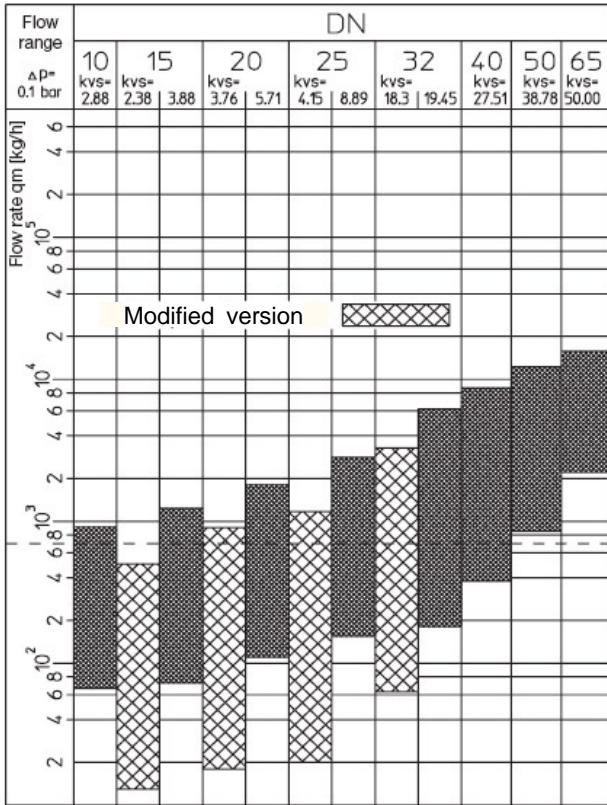
Commissioning advice

- a. Do not remove valve handle except for replacing gland seal assembly.
- b. Be care for not to scratch the valve spindle or any intend to bend.
- c. Be sure the operating pressure and temperature are within the nominal values.
- d. Check the differential pressure expected in the process to avoid noise.

Hint for correct sizing of valve

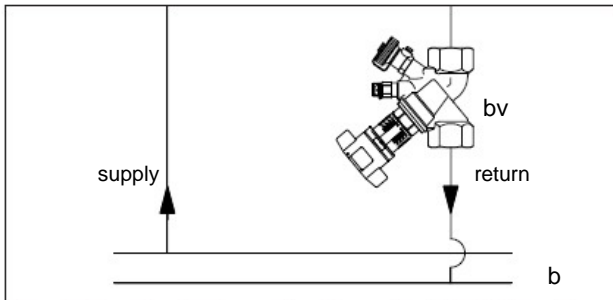
Example : See the chart below for selecting proper size of balancing valves.

Valve type:VBG43..



Installation example 1

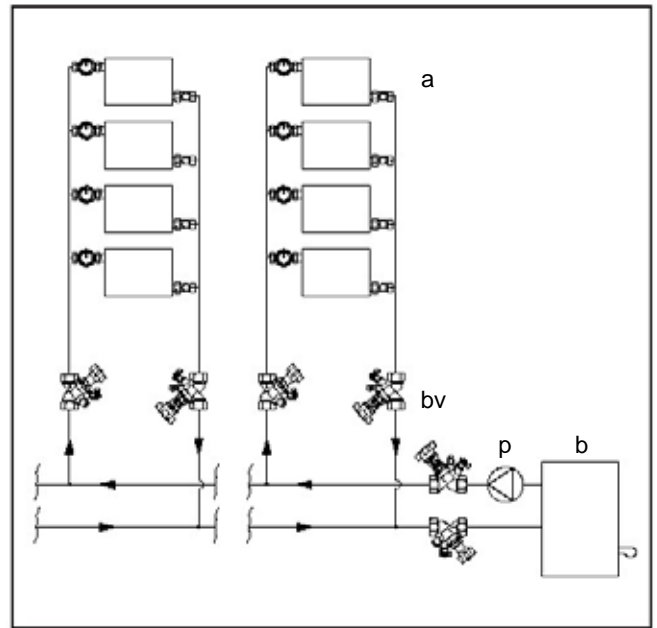
Scheme of a simplest installation of closed loop circulation system. Two pipe heating system (District heating plants)



b : heat source
bv : Balancing valves

Installation example 2

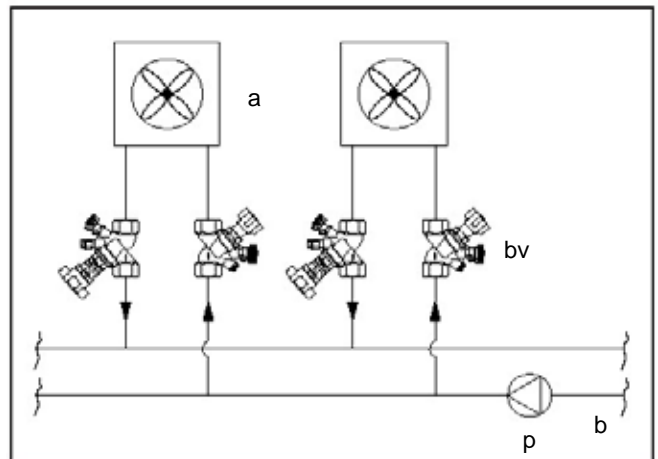
Scheme of a two pipe heating system which has to be regulated to a pre-calculated design points by use of commissioning valves.



a : radiators or heat loads
b : boiler/or chiller
P : circulation pump
bv : Balancing valves

Installation example 3

Scheme of an air heating installation in which the flow rate is constant. After flushing or blow out the system the preset double regulating and commissioning valve provide static hydronic balancing.



a : fan coil units or heat loads
b : heat source
P : circulation pump
bv : Balancing valves

Installation example N..

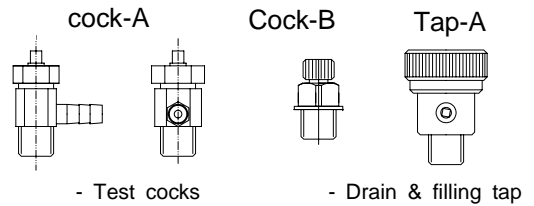
For more example of installation refer to data sheet of -Hydronic balancing and engineering-

Recommended selection in $P_{v100} = 0.3 \text{ Bar}$
1m³/h=0.278kg/s water at 20

Accessories

Pressure test points and drain cocks are ready for shipment

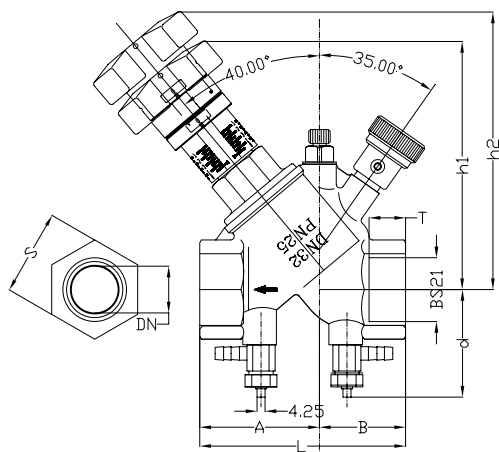
- Test cocks
- Drain and test cocks
- Commissioning valve
- Drain valve
- Pressure gauges



A hint for type selection

<p>Type A : Basic model Function devices - no top sockets</p> <p>Functions - Preset flow - Regulating - Shut off</p>	<p>Type B : Economy model Function devices - 2 top sockets</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring</p>	<p>Type C : Standard model Function devices - 2 top cocks</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - Vent air</p>	<p>Type D : Combi model Function devices - 1 top cock/1 tap</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - Vent air - Fill and drain</p>
<p>Type E : Basic model Function devices - no top sockets - 2 bottom sockets</p> <p>Functions - Preset flow - Regulating - Shut off - bottom sockets</p>	<p>Type F : Economy model Function devices - 2 top sockets - 2 bottom sockets</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - bottom sockets</p>	<p>Type G : Standard model Function devices - 1 top cock /1 tap - 2 bottom sockets</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - Vent air - bottom sockets</p>	<p>Type H : Combi model Function devices - 1 top cock/ 1 tap - 2 bottom sockets</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - Vent air - Fill and drain - bottom sockets</p>
<p>Type I : Basic model Function devices - no top sockets - 2 bottom cocks</p> <p>Functions - Preset flow - Regulating - Shut off - bottom cocks</p>	<p>Type J : Economy model Function devices - 2 top sockets - 2 bottom cocks</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - bottom cocks</p>	<p>Type K : Standard model Function devices - 2 top cocks - 2 bottom cocks</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - Vent air - bottom cocks</p>	<p>Type L : Combi model Function devices - 1 top cock/1 tap - 2 bottom cocks</p> <p>Functions - Preset flow - Regulating - Shut off - Measuring - Vent air - Fill and drain - bottom cocks</p>

Dimension



* Dimension in mm

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

*1000Nf = 100Kf

DIN		A	B	C	D	E	F	H	h	N	S	Wt
mm	Inch											Kg
15	1/2"	130	50	100	10	20	12x4	200	20	44	12	
15	1/2"	130	50	100	10	20	12x4	200	20	44	12	
15	1/2"	130	50	100	10	20	12x4	200	20	44	12	
20	3/4"	130	50	100	10	20	12x4	200	20	44	12	
25	1"	160	80	115	16	20	14x4	200	20	44	12	
32	1 1/4"	200	100	150	18	20	18x4	200	20	44	12	
40	1 1/2"	200	100	150	18	20	18x4	200	20	44	13	
50	2"	230	115	165	20	20	18x4	200	20	44	13	
65	2 1/2"	290	145	185	20	40	18x4	250	30	36	14	