Rev. 05/2017

BALANFLOW

Balancing valves.

Rev. 05/2017

BALANFLOW

Balancing valves.

PRODUCTION RANGE

Code	Size	Kvs	Reading field		Possible field of use	
			Min flow rate (Δp 100 daPa)	Max flow rate (Δp 2.500 daPa)	heating Δt 10 °C	cooling Δt 5 °C
	THREADED VALVE		l/h		kW exchangeable	kW exchangeable
619.03.50 *	3/8"	2,35	235 ÷ 1.175		2,7÷13,7	1,4÷6,8
619.04.50 *	1/2"	3,35	335 ÷ 1.675		3,9÷19,5	1,9÷9,7
619.05.50 *	3/4"	4,00	400 ÷ 2.000		4,7÷23	2,3÷12
619.06.50 *	1"	11,20	1.120 ÷ 5.600		13÷65	6,5÷33
619.07.50 *	1"1/4	13,40	1.340 ÷ 6.700		16÷78	7,8÷39
619.08.50 *	1"1/2	19,00	1.900 ÷ 9.500		22÷110	11÷55
619.09.50 *	2"	28,40	2.840 ÷ 14.200		33÷165	16,5÷83
	FLANGED VALVE		m^3/h		kW exchangeable	kW exchangeable
619.10.60	DN65	93,40	9,34 ÷ 46,70		107÷537	54÷268
619.11.60	DN80	122,30	12,23 ÷ 61,15		141÷706	71÷353
619.13.60	DN100	200,00	20,00 ÷ 100,00		233÷1.163	116÷581
619.14.60	DN125	304,40	30,44 ÷ 152,20		352÷1.758	176÷879
619.15.60	DN150	400,80	40,08 ÷ 200,40		463÷2.318	232÷1.159
619.17.60	DN200	685,60	68,56 ÷ 342,80		797÷3.986	399÷1.993
619.19.60	DN250	952,30	95,23 ÷ 476,15		1.107÷5.537	554÷2.768
619.21.60	DN300	1380,20	138,02 ÷ 690,10		1.605÷8.024	802÷4.012

* Conformity ACS “Attestation de Conformité Sanitaire” (French)

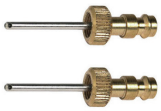
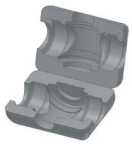
The table on **Possible field of use** only purpose is to supply the technician with a quick reference in associating the chosen component with a given heating or cooling system unit size.

This advice can be used when providing an estimate without having specific data or when estimating budget bills of quantities.

The values in the table are calculated estimating a minimum and maximum field of use, for each component, based on a pressure drop between 100 and 2.500 daPa (102 and 2.550 mmH_2O).

However, said values are **not** binding and therefore **do not** represent the performance limits of the components.

ACCESSORIES

Code	Product	Description
621.01.50		Pair of pressure plugs to be set-up on the threaded balancing valves if these are also used for indirect reading of transfer flow rate (size 1/8”). (A pair of pressure plugs already supplied with the flanged valve).
1422.02.00		Reductions torque 1/4” M x 1/8” F. To adapt 1/8” pressure gauge plugs code 621.01.50 to stub pipes and flanged balancing valves (fitted with 1/4” pressure inlets connections).
932.01.00		Pair of needle adapters to measure pressure. Used to connect pressure plugs code 621.01.50 to digital measuring instrument code 622.00.00
622.00.00		Electronic differential pressure measuring device suitable for direct reading of flow rates and pressures on water circuits. Battery powered, complete with case and kit for connection to pressure plugs.
1147.0X.00		Thermal insulation made up from expanded polyethylene half-bearings with external antiscratch coating. Available sizes 1/2” ÷ 2”.

DESCRIPTION

The **balancing valve** is a single component device having adjustment functions and that measures cold and hot fluids transiting inside closed and open circuit systems.

THE PURPOSE

The **balancing valve**, inserted in fluidic circuits, allows accurately adjusting the flow rate, with the following objectives and advantages:

- micrometric adjustment of the transfer flow.
- indication of calibration turns made during direct reading of numerical value on the valve’s knob.
- possibility of checking circuit performances via indirect measuring of flow rate using the pressure plugs on the valve’s body.

  Memory stop function with sealable stop of valve’s calibration rating, allowing run stop upon re-opening, in exact initial calibration position.

USE

It is particularly suitable in the following cases:

- adjusting at pumping stations service inside heat fluid production stations.
- balancing of utility extensions.
- balancing of upright columns.
- adjustment and balancing of third airway on thermal regulation units.

CHOICE

We recommend choosing a balancing valve with adjustment rating corresponding to about half of the shutter’s run.

A sufficient calibration margin to face any corrections caused by inevitable changes to routes, is in this way reserved to the transfer of nominal project flow rate.

NOTE: The pressure plugs for measuring the differential pressure, are standard provided for flanged balancing valves only.

CONSTRUCTION FEATURES

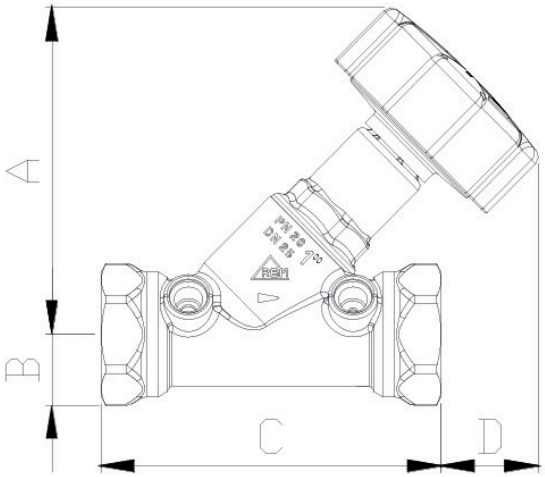
THREADED VALVE	
Body and contact parts	Brass
Seals	VITON
Threaded connections	FF UNI-EN-ISO 228
Pressure plugs connections	G 1/8"
FLANGED VALVE	
Body	Cast iron
Seals	EPDM PEROX
Flanged connections	PN 16 (EN 1092-2)
Pressure plugs connections **(A pair of pressure plugs already supplied with the flanged valve)**	G 1/8"

TECHNICAL FEATURES

Max. working pressure	
THREADED VALVE	20 bar (2.000 kPa)
FLANGED VALVE	16 bar (1.600 kPa)
Permitted temperatures	
THREADED VALVE	-30 ÷ +120 °C
FLANGED VALVE	-10 ÷ +130 °C
Permitted fluid	water water + glycol (max at 50%)
Adjustment	see table pages 8-9-10

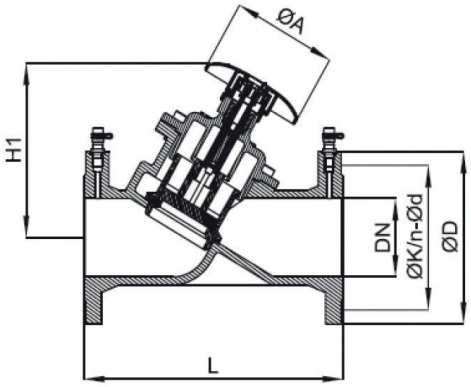
DIMENSIONAL FEATURES

THREADED VALVE

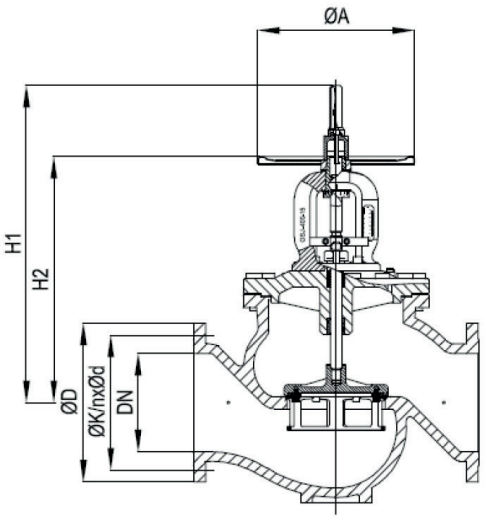


Code	Size	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
619.03.50	3/8"	84,5	12	89	25	0,4
619.04.50	1/2"	84	15	96	22	0,5
619.05.50	3/4"	85,6	17,8	97	21,5	0,5
619.06.50	1"	98	21,3	103,3	29,5	0,7
619.07.50	1"1/4	101	28	111	29	1,0
619.08.50	1"1/2	107	31	120	27	1,0
619.09.50	2"	115	37	132	21,7	1,8

FLANGED VALVE



(DN65 ÷ DN150)



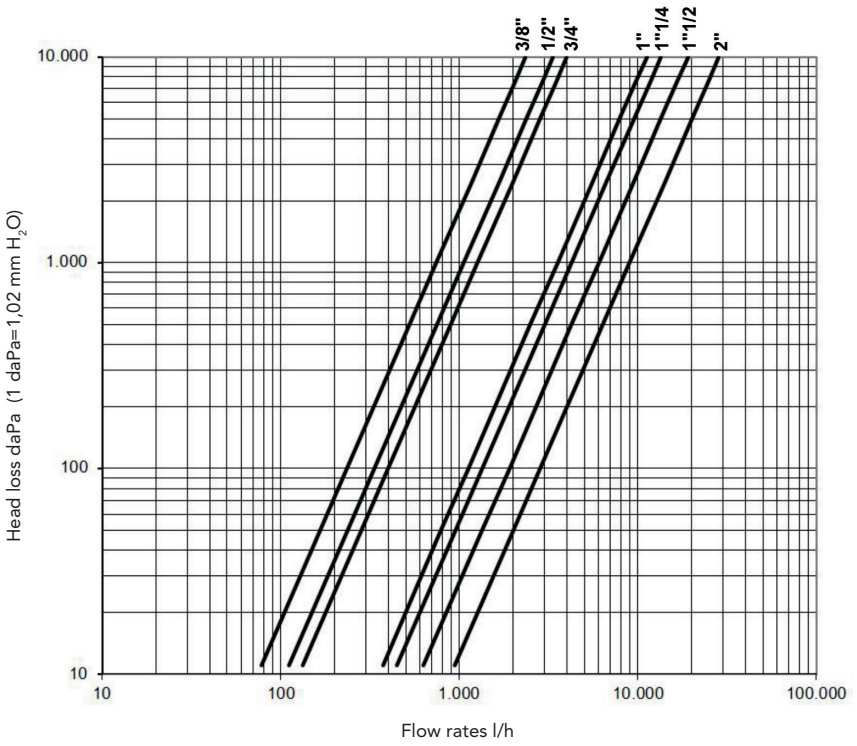
(DN200 ÷ DN300)

Code	Size	H1 [mm]	H2 [mm]	ø A [mm]	L [mm]	ø D [mm]	ø K [mm]	n* x ød [mm]	Weight [kg]
619.10.60	DN65	187	-	140	290	185	145	4 x 19	17
619.11.60	DN80	205	-	140	310	200	160	8 x 19	21
619.13.60	DN100	222	-	140	350	220	180	8 x 19	32
619.14.60	DN125	251	-	140	400	250	210	8 x 19	43
619.15.60	DN150	247	-	140	480	285	240	8 x 23	56
619.17.60	DN200	721	533	360	600	340	295	12 x 23	231
619.19.60	DN250	808	617	400	730	405	355	12 x 28	354
619.21.60	DN300	855	664	400	850	460	410	12 x 28	497

* n indicates the number of holes on the flange

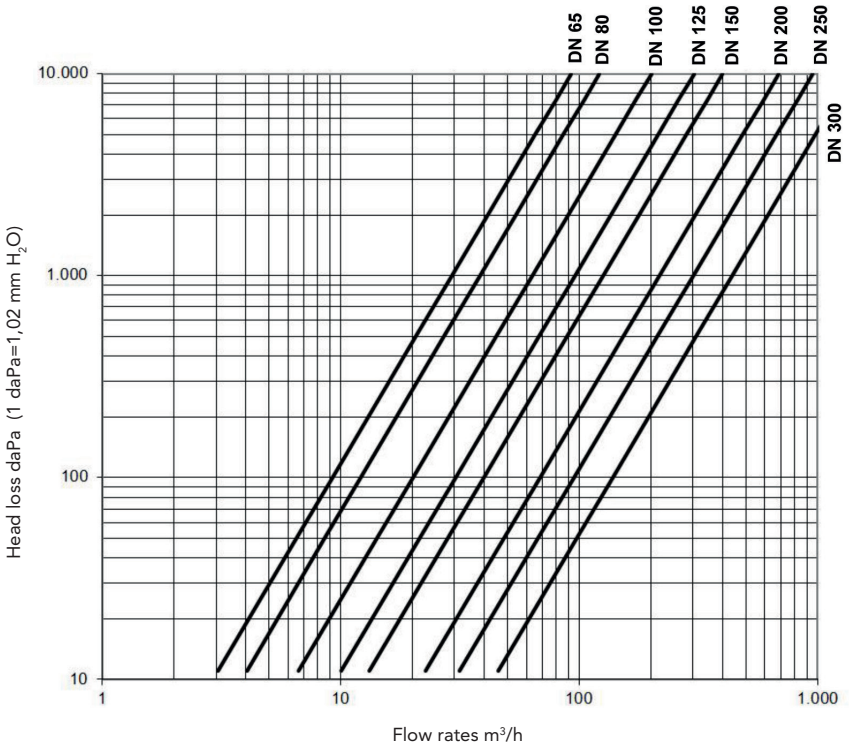
FLUID DYNAMIC FEATURES

THREADED



Size	Kvs [m³/h]
3/8"	2,35
1/2"	3,35
3/4"	4,00
1"	11,20
1"1/4	13,40
1"1/2	19,00
2"	28,40

FLANGED



Size	Kvs [m³/h]
DN65	93,40
DN80	122,30
DN100	200,00
DN125	304,40
DN150	400,80
DN200	685,60
DN250	952,30
DN300	1380,20

Determination of pressure drop for liquids with ρ ≃ 1 kg/dm³

$$\Delta P = \left(\frac{Q}{Kvs}\right)^2 \times 10.000$$

valid for water with Temp. from 0 to 30 °C

Correction of ΔP for fluids with ρ different from 1 kg/dm³

$$\Delta P' = \Delta P \times \rho'$$

where:

ΔP	head loss in daPa
ΔP'	correct head loss in daPa
Q	flow rate in m³/h
Kvs	hydraulic feature in m³/h
ρ'	density of liquid in kg/dm³

NOTE: The given features refer to threaded and flanged balancing valves with fully open shutter.

FLOW RATE ADJUSTMENT

Fluid dynamic features of the balancing valves in the different adjustment positions

	THREADED VALVES values of Kv in m³/h						
No. turns	**3/8"**	**1/2"**	**3/4"**	**1"**	**1"1/4**	**1"1/2**	**2"**
0,5	0,21	0,20	0,14	0,32	0,42	0,66	0,90
1,0	0,30	0,30	0,28	0,52	0,61	1,16	1,55
1,5	0,38	0,38	0,38	0,72	0,82	1,50	1,95
2,0	0,47	0,49	0,48	0,92	1,00	1,80	2,35
2,5	0,52	0,58	0,56	1,10	1,20	2,10	2,75
3,0	0,64	0,69	0,82	1,30	1,38	2,35	3,45
3,5	0,74	0,86	1,12	1,48	1,52	2,65	4,50
4,0	0,99	1,11	1,42	1,67	1,70	3,00	6,20
4,5	1,10	1,32	1,62	1,85	1,90	3,80	7,60
5,0	1,35	1,55	1,85	2,08	2,10	5,20	9,00
5,5	1,45	1,75	2,12	2,50	2,62	6,80	10,60
6,0	1,65	2,00	2,48	3,00	3,32	8,40	12,20
6,5	1,75	2,32	2,78	3,70	4,00	10,20	14,00
7,0	2,08	2,69	3,18	4,45	4,80	11,40	15,90
7,5	2,12	3,06	3,50	5,35	5,82	12,50	17,50
8,0	2,25	**3,35**	3,80	6,30	6,98	13,50	19,00
8,5	**2,35**	-	**4,00**	7,40	7,98	15,00	20,60
9,0	-	-	-	8,40	8,90	16,00	22,40
9,5	-	-	-	9,40	10,00	17,00	23,70
10,0	-	-	-	10,20	10,98	18,00	25,00
10,5	-	-	-	**11,20**	12,00	**19,00**	26,25
11,0	-	-	-	-	12,60	-	27,30
11,5	-	-	-	-	**13,40**	-	**28,40**

Determination of adjustment rating
valid for water with Temp. from 0 to 30°C and ρ ≃ 1 kg/dm³

$$Kv = Q * \left(\frac{10000}{\Delta P}\right)^{0,5}$$ valid with ΔP in daPa

$$Kv = Q * \left(\frac{10200}{\Delta P}\right)^{0,5}$$ valid with ΔP in mmH_2O

where:
Q flow rate in m³/h
Kv valve's hydraulic feature in m³/h
Kv' correct valve's hydraulic feature in m³/h
ρ' density of liquid in kg/dm³

Kv correction for liquids with ρ different from 1 kg/dm³

$$Kv' = \frac{Kv}{\sqrt{\rho'}}$$

Example
An upright column having 1" diameter, must distribute a 2.2 m³/h flow rate. An additional head loss of 2.500 mmH_2O must be created for balancing compared to a more hydraulically unfavourable upright column.

$$Kv = 2,2 \times \left(\frac{10.200}{2.500}\right)^{0,5} = 4,44 \text{ m}^3/\text{h}$$

For a smoother transfer of the fluid, the calculated value must be corrected using a fluid having a density of 1.12 kg/dm³, maintaining the pressure drop generated by the valve, unaltered.

$$Kv' = \frac{4,44}{\sqrt{1,12}} = 4,20 \text{ m}^3/\text{h}$$

By installing a 1" balancing valve, it is possible to obtain the number of calibration turns corresponding to the nearest Kv value to that calculated (7.0 turns in the example).

FLANGED VALVES values of Kv in m³/h								
No. turns	**DN 65**	**DN 80**	**DN 100**	**DN 125**	**DN 150**	**DN 200**	**DN 250**	**DN 300**
0,6	1,8	3,6	5,4	6,1	-	-	-	-
0,8	2,3	4,7	6,9	8,2	-	-	-	-
1,0	2,7	5,8	8,3	10,3	21,4	91,0	52,6	110,9
1,2	3,1	6,3	12,2	14,2	26,8	112,4	77,3	142,9
1,4	3,5	6,8	16,1	18,0	32,2	133,9	102,1	174,9
1,6	4,7	7,6	20,9	23,0	37,7	155,3	126,8	206,9
1,8	6,8	8,8	26,7	29,2	43,1	176,8	151,6	238,9
2,0	8,8	9,9	32,4	35,4	48,5	198,2	176,3	270,9
2,2	10,7	12,4	39,2	42,1	58,8	219,6	200,9	303,6
2,4	12,5	15,0	45,9	48,8	69,0	241,0	225,6	336,3
2,6	15,1	17,9	54,0	56,3	79,3	262,4	250,2	369,0
2,8	18,4	21,2	63,5	64,6	89,5	283,9	274,8	401,7
3,0	21,6	24,5	72,9	73,0	99,8	305,3	299,4	434,4
3,2	25,1	29,0	82,1	81,6	112,2	323,7	326,6	462,7
3,4	28,6	33,4	91,4	90,1	124,7	342,2	353,8	491,0
3,6	32,1	38,2	98,2	98,5	137,1	360,6	381,0	519,3
3,8	35,6	43,4	102,7	106,7	149,6	379,0	408,2	547,6
4,0	39,1	48,5	107,3	114,9	162,0	397,5	435,4	575,8
4,2	40,9	53,1	111,6	121,3	172,4	412,8	454,1	604,9
4,4	42,8	57,7	115,9	127,7	182,8	428,1	472,9	634,0
4,6	44,9	62,2	120,1	134,8	193,2	443,4	496,4	663,1
4,8	47,4	66,8	124,2	142,7	203,6	458,7	524,8	692,2
5,0	49,8	71,3	128,3	150,5	214,0	474,0	553,2	721,3
5,2	51,5	74,5	133,0	156,9	223,4	485,3	572,0	748,2
5,4	53,1	77,6	137,7	163,3	232,8	496,6	590,9	775,2
5,6	54,9	80,7	142,6	170,2	242,1	507,9	609,8	802,2
5,6	56,7	83,9	147,8	177,7	251,5	519,1	628,6	829,1
6,0	58,6	87,0	152,9	185,2	260,9	530,4	647,5	856,1
6,2	60,4	88,9	157,4	194,0	269,5	541,7	662,2	878,0
6,4	62,2	90,8	161,9	202,8	278,2	553,0	677,0	899,9
6,6	64,4	92,7	167,3	210,8	286,8	564,2	691,7	921,7
6,8	66,9	94,6	173,7	218,0	295,5	575,5	706,5	943,6
7,0	69,3	96,4	180,1	225,1	304,1	586,8	721,3	965,5
7,2	71,8	99,0	183,8	232,1	314,2	598,6	734,6	979,6
7,4	74,2	101,6	187,4	239,0	324,3	610,4	748,0	993,7
7,6	76,2	104,2	191,4	246,2	334,4	622,3	761,4	1007,8
7,8	77,6	106,7	195,7	253,6	344,5	633,7	774,8	1021,8
8,0	79,1	109,3	**200,0**	261,1	354,6	645,9	788,2	1035,9
8,2	80,9	111,1	-	269,4	361,8	651,4	800,8	1048,3
8,4	82,7	112,9	-	277,8	369,0	657,0	813,4	1060,6

next page >>>

<<< previous page

FLANGED VALVES values of Kv in m³/h								
No. turns	**DN 65**	**DN 80**	**DN 100**	**DN 125**	**DN 150**	**DN 200**	**DN 250**	**DN 300**
8,6	84,5	114,7	-	284,4	376,2	662,5	825,9	1073,0
8,8	86,1	116,4	-	289,3	383,5	667,8	838,5	1085,3
9,0	87,8	118,2	-	294,2	390,5	673,6	851,1	1097,7
9,2	90,0	119,9	-	298,3	394,6	675,8	866,1	1105,8
9,4	92,3	121,5	-	302,4	398,7	677,9	881,1	1113,9
9,5	**93,4**	**122,3**	-	**304,4**	**400,8**	-	-	-
9,6	-	-	-	-	-	680,8	898,0	1124,8
9,8	-	-	-	-	-	684,4	916,7	1138,3
10,0	-	-	-	-	-	**685,6**	926,1	1142,8
10,2	-	-	-	-	-	-	926,2	1153,6
10,4	-	-	-	-	-	-	926,3	1164,3
10,6	-	-	-	-	-	-	926,5	1175,9
10,8	-	-	-	-	-	-	926,6	1188,4
11,0	-	-	-	-	-	-	926,7	1201,0
11,2	-	-	-	-	-	-	931,8	1215,5
11,4	-	-	-	-	-	-	937,0	1230,1
11,6	-	-	-	-	-	-	942,1	1244,6
11,8	-	-	-	-	-	-	947,2	1259,2
12,0	-	-	-	-	-	-	**952,3**	1273,7
12,2	-	-	-	-	-	-	-	1287,9
12,4	-	-	-	-	-	-	-	1302,0
12,6	-	-	-	-	-	-	-	1316,1
12,8	-	-	-	-	-	-	-	1330,3
13,0	-	-	-	-	-	-	-	1344,4
13,2	-	-	-	-	-	-	-	1351,6
13,4	-	-	-	-	-	-	-	1358,7
13,6	-	-	-	-	-	-	-	1365,9
13,8	-	-	-	-	-	-	-	1373,1
14,0	-	-	-	-	-	-	-	**1380,2**

FLOW RATE MEASUREMENT

Measurement is through the pressure plugs on the valves' body.

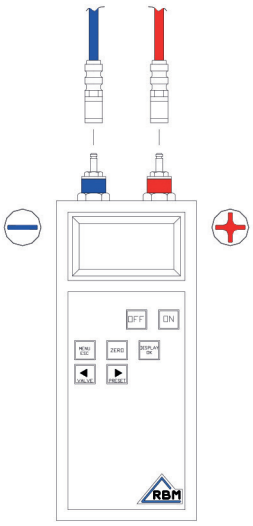
LECTRONIC DIFFERENTIAL MANOMETER (CODE 622.00.00)
Portable device required for hydraulic balancing and maintenance of heating and air conditioning systems.

The device, that can be connected to PC for analysing and printing of detected data, provides a digital processing of measuring data via an integrated differential pressuring measuring device and a flow rate measuring device.
The flow rate is calculated using the measured differential pressure and the valves' specific technical data: the equipment incorporates a data log concerning the hydraulic features of the RBM balancing valves and of those of the main European manufacturing companies.

ΔP_{max}	17 bar
P_{max} at inlet	32 bar
Temperature:	
• **of fluid**	-20 ÷ +120 °C
• **room**	+5 ÷ +40 °C
• **of storage**	-20 ÷ +60 °C
Fluid	Water, water + glycol (50% max)
Power supply	4 Battery type AA
Standard Languages	Italian English Dutch French German Spanish
Interface	USB
Sizes carry case	470 x 370 x 110 mm
Weight (Including carry case and accessories)	2,5 Kg

Supplied:
- Measuring computer
- Flexible connecting pipes
- Battery charger
- Measuring adapter
- Connection cable to PC
- Software for connection to PC
- Carry case
- Use manual

Not included needle adapters code **921.01.00** (to be ordered separately)



Never expose the instrument to temperatures below freezing point (solidification) of the measured liquid to avoid damaging the sensor, once the liquid in question has been measured.
The fittings for pipes connection are fitted with filters: if systems with a high degree of impurity are measured, these may clog; also, if after having disconnected the flexible pipes the instrument gives an excessive pressure value or one of the pressure plugs is not working, the filters must be clean.

When a system with high temperature fluid is measured, particular attention must be given to:
- Ensuring to work in safe conditions: improper connections or disconnections may cause injuries if high temperature liquids or dangerous fluids are being measured.
- Do not expose the instrument to temperatures below 0°C immediately after this has come into contact with water.
- To obtain accurate differential pressure measurements, the pipes must be fully bled.

With the aim of making the detected values comparable, but in particular to guarantee safety against burns and scalding, we recommend reading the pressure with system cold.

This page is an extract of the instructions manual supplied with the instrument. Follow the prescriptions in the above-said manual for further indications on the start-up, use, etc.

CONNECTION TO VALVES

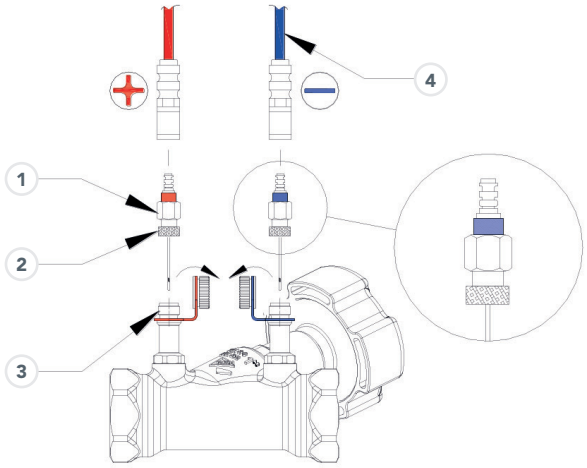
1. Connect the flexible pipes with the needle adapters (immediate coupling).

2. Open both pressure plugs by loosening the caps.

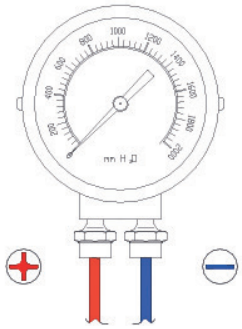
3. Push the adapters in the pressure plugs fully tightening the hooking ring nut to the pressure plugs.

4. Read the measuring instrument.

5. Loosen the hooking ring nut, remove the adapters from the pressure plugs and close them with relative caps.



1. **Needle adapters (optional to be required code 932.01.00)**
2. **Hooking ring nut for needle adapters**
3. **Pressure plugs (optional on threaded valves, on request code 621.01.50**
4. **Flexible pipe low pressure (supplied with the measuring instrument)**



SQUARE DIFFERENTIAL MANOMETER

The differential pressure can be detected with alternative instruments, even if without the portable electronic measuring device.
The Figure shows the use of a square differential manometer with:

- Reading field between 0 and 2000÷3000 daPa (~ 2000÷3000 mmH_2O)
- Reading shares of at least 20 daPa (~ 20 mmH_2O).

In all cases not envisioning the use of a portable electronic measuring device, the transfer water flow rate will be obtained by applying the detected differential pressure value, for the specific coefficient identifying the hydraulic feature of each balancing valve in its every calibration rating.

DETERMINATION OF THE TRANSFER FLOW RATE

$$Q' = \frac{Q}{\sqrt{\rho'}}$$

correction of Q flow rate for liquids with ρ different from 1kg/dm³

where:

Q	flow rate in m³/h (valid for water with temperature from 0 to 30 °C and ρ ≃ 1 kg/dm³)
Q'	correct flow rate in m³/h
Kv	hydraulic feature in m³/h of valve
ρ'	density of liquid in kg/dm³

$$Q = Kv\sqrt{\Delta P}$$ ΔP differential pressure detected in **bar**

$$Q = \sqrt{\frac{Kv^2 \times \Delta P}{100}}$$ ΔP differential pressure detected in **kPa**

$$Q = \sqrt{\frac{Kv^2 \times \Delta P}{10.000}}$$ ΔP differential pressure detected in **daPa**

$$Q = \sqrt{\frac{Kv^2 \times \Delta P}{10.200}}$$ ΔP differential pressure detected in **mmH_2O**

$$Q = \sqrt{\frac{Kv^2 \times \Delta P}{100.000}}$$ ΔP differential pressure detected in **Pa**

The following measurements are possible with the electronic differential manometer:

- **Static pressure measurement**

  The static pressure is measured at inlet (red, +) or high pressure side. The low pressure side (blue, -) or outlet, remains disconnected.

  The computer measures the relative pressure, meaning by how much the system pressure exceeds that of the atmosphere (remember that the relative maximum pressure at inlet cannot exceed the 32 bar, or the measuring system will be damaged).

- **Differential pressure measurement and flow rate calculation**

  Connect both instrument's pressure inlets with the valves' pressure plugs to take this measurement, ensuring to combine the pipes colours with the pressure inlets:

  Red, + : high pressure side or first valve inlet/seat.

  Blue, - : low pressure side or after valve outlet/seat.

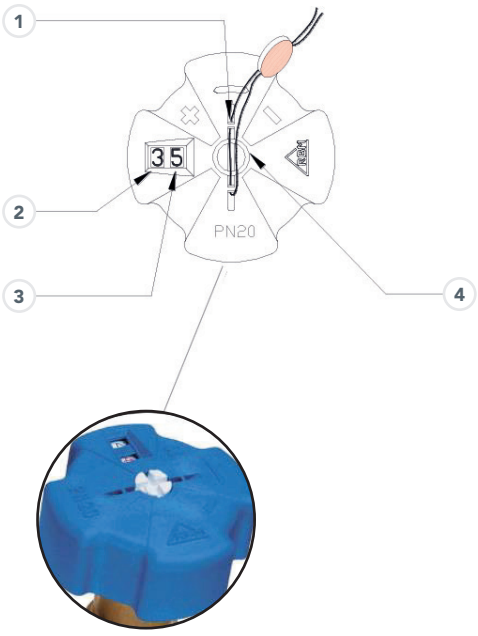
Carefully read the instructions manual supplied with the instrument for further information.

ADVICE FOR INSTALLATION

We recommend respecting the installation prescriptions of the **Balancing valve**:

- The **Balancing valve** can be installed on either vertical or horizontal piping.
  Exclusively respect the flow direction as reported on the valve's body
- If the **Balancing valve** is also used for indirectly reading the transfer flow rate, we recommend it is installed away from direction changes, throttling, adjustment and shut-off parts to limit interferences and increase reading stability and accuracy of the differential pressure reading.
  In order to avoid thickening of mud and difficult to remove impurities, the pressure plugs connections in horizontal paths must **always** be directed so that inlets are positioned upwards when they are installed.

FIGURE 1
Adjustment knob supplied with the threaded valves



1. **Predisposition for tamper proof seal**
2. **Numerical indication of the opening rating in No. of turns**
3. **Numerical indication of the opening rating in fraction of a turn**
4. **Memory stop**
   Opening stop system at a maximum selected value.
   1. **Go to the wanted opening value by turning the handwheel.**
   2. **Turn the inner screw on the control rod clockwise up to the stop.**
   3. **Overlap the supplied cap to the rod.**
   4. **Insert the wire into the slots to lock the cap in position.**
   5. **Apply the seal to the wire.**

FIGURE 2
Adjustment knob supplied with the flanged valves

1. **Predisposition for tamper proof seal**
2. **Numerical indication of the opening rating in fraction of a turn**
3. **Numerical indication of the opening rating in No. of turns**
4. **Memory stop**
   Opening stop system at a maximum selected value.
   1. **Go to the wanted opening value by turning the handwheel.**
   2. **Turn the inner screw on the control rod clockwise up to the stop.**
   3. **Overlap the supplied cap to the rod.**
   4. **Insert the wire into the slots to lock the knob in position.**
   5. **Apply the seal to the wire*.**

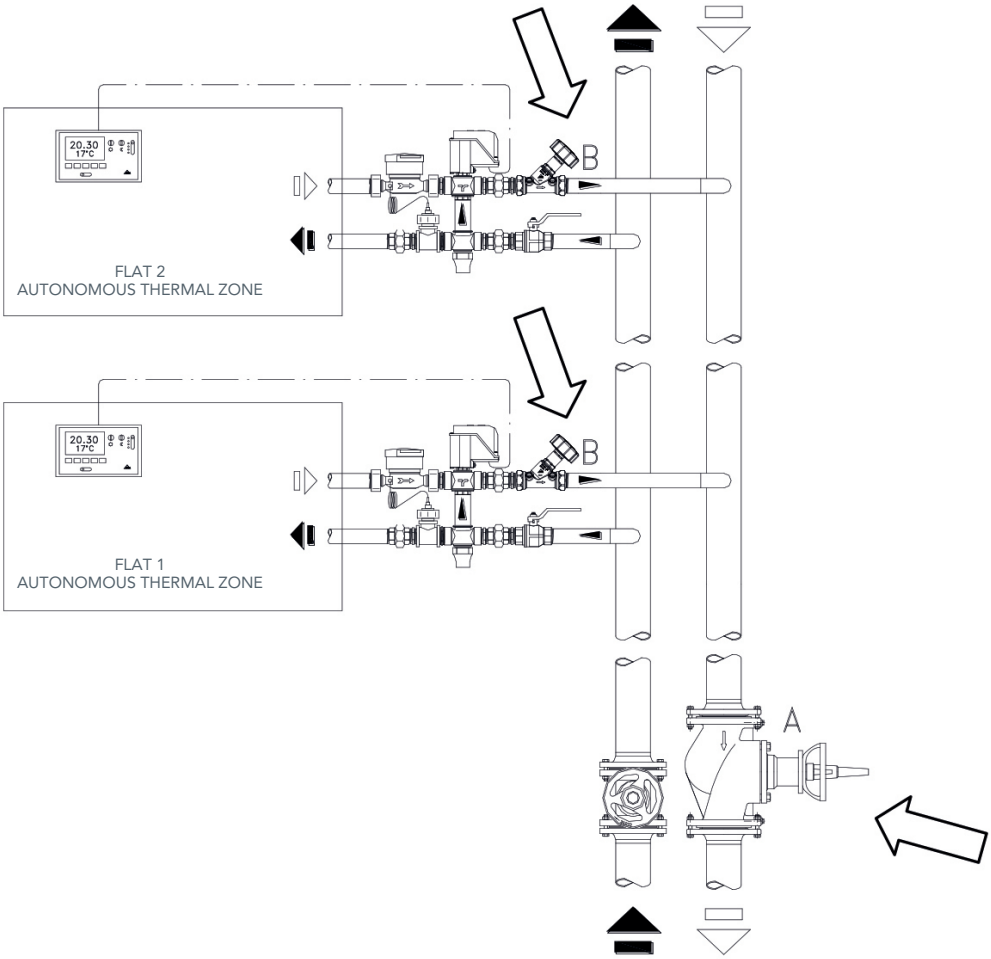
* For more details about setting memory-stop and plunging of the adjustment position, refer to the dedicated instructions.

SOME POSSIBLE APPLICATIONS

SCHEME 1
Application in autonomous thermal areas supplied by one or more upright columns

(A) Balancing of upright columns compared to hydraulically unfavourable column.

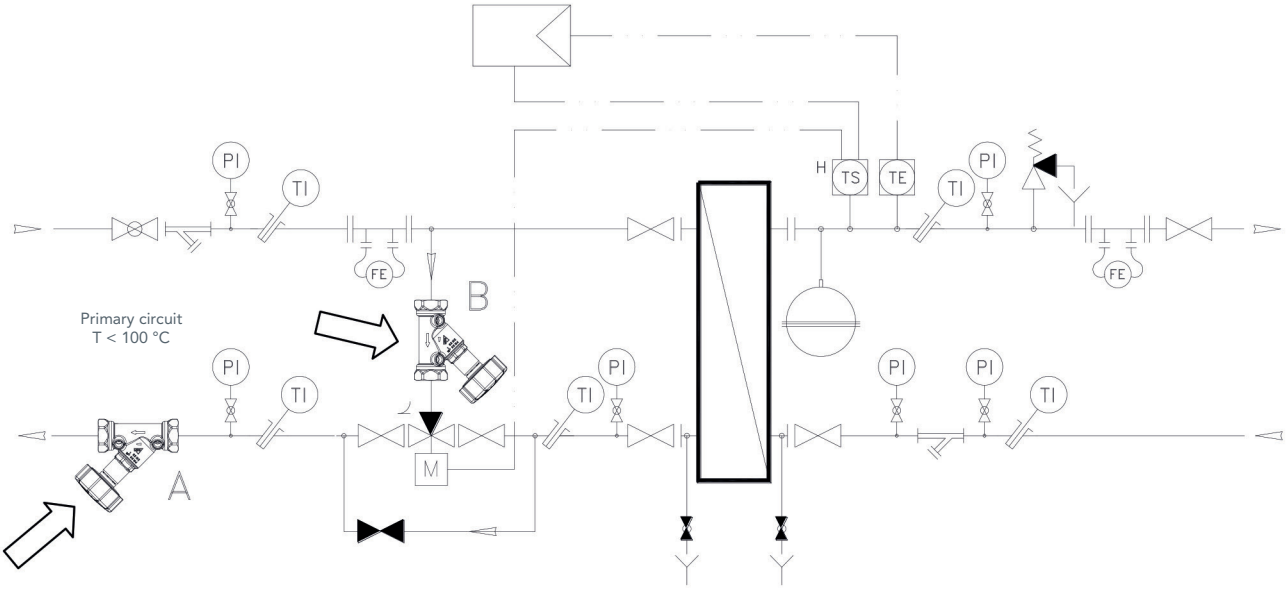
(B) Balancing among different power supplies to apartments derived from the same upright column.
[Balancing of the third by-pass airway of the area valve, (family code 114) is assured by calibration of its micrometric small valve, with heat area not powered].



SCHEME 2
Application to hot water central heating sub-station

(A) Balancing of thermal regulation unit compared to main distribution network.

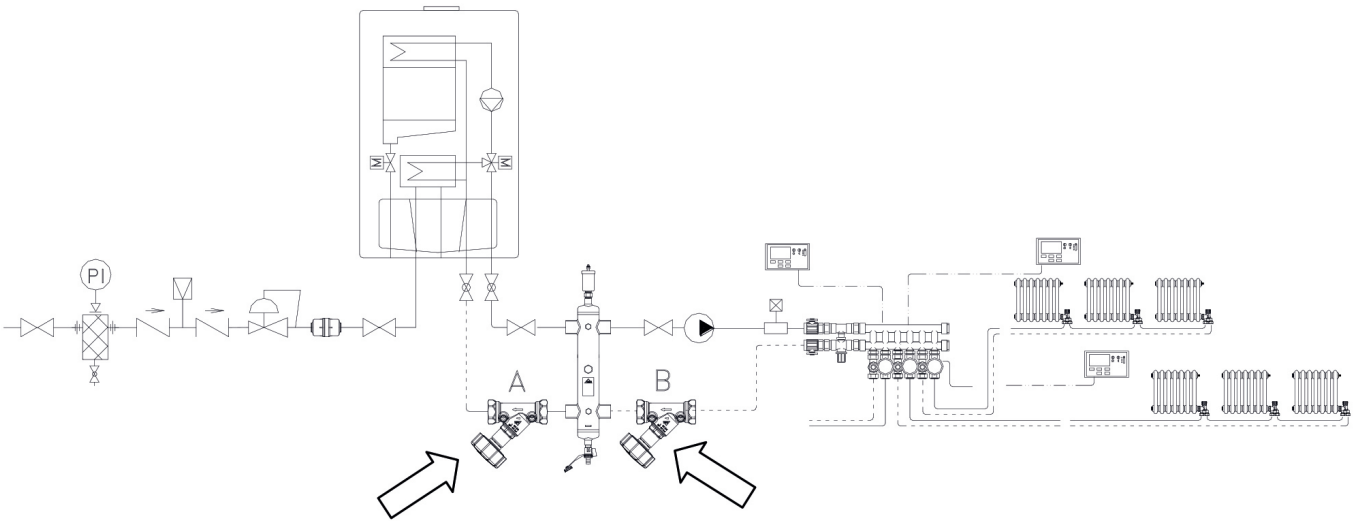
(B) Balancing of by-pass airway compared to straight one.
[The valve's adjustment (B) must be as resistant as the circuit powering the heat exchanger].



SCHEME 3
Single-family heating system

(A) Adjustment and measurement of flow rate supplied by circulation pump of wall boiler.

(B) Adjustment and measurement of flow rate relating to secondary distribution circuit.



SPECIFICATION ITEMS

SERIES 619.0

Threaded Balanflow balancing valve, complete with knob with revs indicator, memory stop function to block setting position, prearranged for insertion of pressure plugs for indirect reading of flow rate. Body in contact parts in brass. Seals in VITON. Threaded connections FF UNI-EN-ISO 228. Max operating pressure 20 bar. Allowed temperatures -10 ÷ +100 °C. Equipercentage regulation. Allowed fluid water and water+glycol 50%. Pressure gauge plugs connection G1/8". Available sizes 1/2" ÷ 2".

SERIES 619.1

Flanged Balanflow balancing valve, complete with knob with revs indicator, memory stop function to block setting position, provided with two pressure plugs for indirect reading of flow rate. Cast-iron body. Brass contact parts. Seals in EPDM PEROX. Flanged connections PN 16. Max operating pressure 16 bar. Allowed temperatures -10 ÷ +130 °C. Equipercentage regulation. Allowed fluid water and water+glycol 50%. Pressure gauge plugs connection G1/8". Available sizes DN65 ÷ DN300.

RBM Spa
Via S.Giuseppe, 1 • 25075 Nave (Brescia) Italy
Tel 030 2537211 • Fax 030 2531798 • info@rbm.eu • www.rbm.eu