JRG

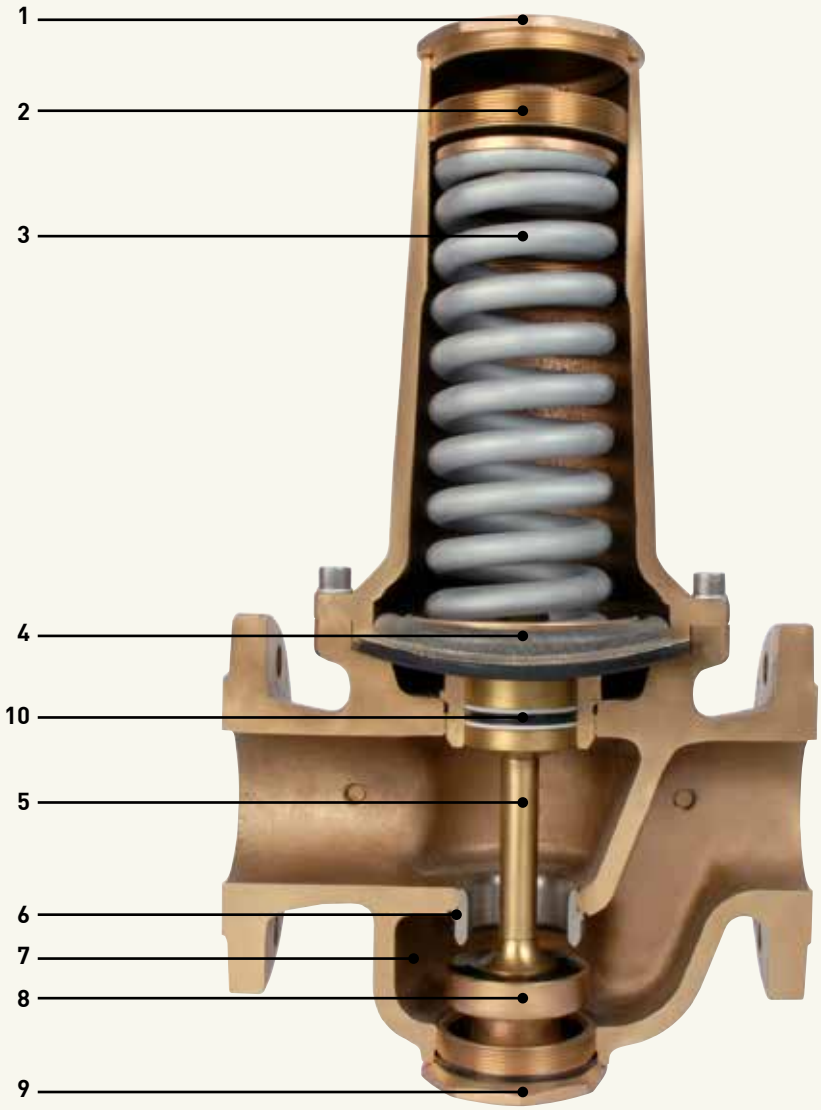
+GF+

JRG Valves

JRGURED 1140

Pressure reducing valves

Design and operation



1 Cover of top
2 Turning nipple
3 Spring
4 Membrane
5 Valve stem
6 Valve seat
7 Rubber disc
8 Valve cone
9 Plug
10 Piston

The JRGURED 1140 pressure reducing valve is a balanced single seat valve. The upstream pressure acts equally against valve cone **8** and piston **10** and therefore, the opening and closing action of the valve is controlled only by the down-stream pressure acting on the underside of the membrane **4**.

Therefore variations in the upstream pressure will have no effect on the downstream pressure within the operating limits.

Cero-flow condition

When there is no flow, the downstream pressure is absolutely identical with the valve setting. The downstream pressure acting against the underside of membrane **4** pulls with the valve stem **5** the rubber disc **7** against the valve seat **6** and the flow is interrupted.

Flow condition
When a valve on the downstream side of the reducing valve is opened the reduced pressure will fall below the setpoint. This means that the pressure under the membrane **4** is reduced, and the spring **3** will tend to open the valvei.e. between the valve seat **6** and the rubber disc **7**. This allows an increased flow, which will restore the optimal downstream pressure.

Operating instructions

Important: A strainer has to be installed in front of the pressure reducing valve. (Suitable strainer JRG 1850)

Installation
The JRGURED pressure reducing valve will operate in any position.

Before installation: Rinse pipes thoroughly

After installation: Rinse entire water system at maximum capacity in order to remove all air.

Maintenance
Under normal operating conditions JRGURED pressure reducers do not require any special maintenance. However, the separately installed strainer has to be cleaned from time to time according to the amount of dirt in the water. After removing plug **9** and disc holder **8** the rubber disc **7** can be replaced.

Maximum temperatures
For water up to **70°C (158°F)**
For air up to **50°C (122°F)**

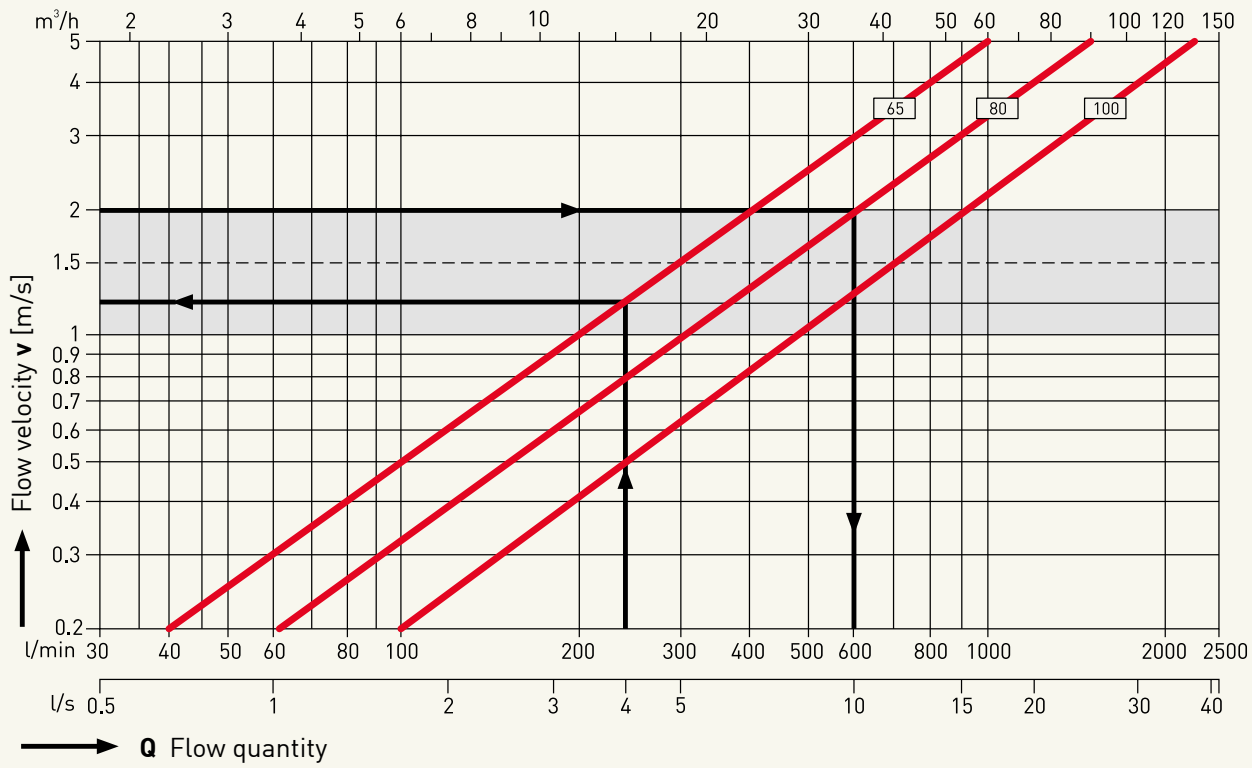
Standard pressure setting 400 kPa (4 bar)
On request the manufacturer can easily supply valves with other pressure settings. With the standard spring from 150 kPa (1.5 bar) to 600 kPa (6 bar) and with the special spring from 650 kPa (6.5 bar) to 1'000 kPa (10 bar). The downstream pressure set at the factory is indicated on the cover **1**.

Modification of the downstream pressure
Relieve pressure on both sides of the valve. After removing the cover **1** at the top of the valve the pressure can be adjusted with a 36 mm box spanner within the limits as shown on the graph for the downstream pressure area.

Turning nipple **2** counter-clockwise will lower the downstream pressure, whereas turning clockwise will increase the downstream pressure. The new downstream pressure can be checked at cero-flow with a pressure gauge.

Special model
Please ask for special models not according the standard models, an offer.

Sizing the valve



In domestic water installations with high living comfort, velocity in the pipes should be between 1 and 2 m/s (3,3 and 6,6 ft/s). Using the adjacent graph, the valve size, the velocity and flow quantity can be determined.

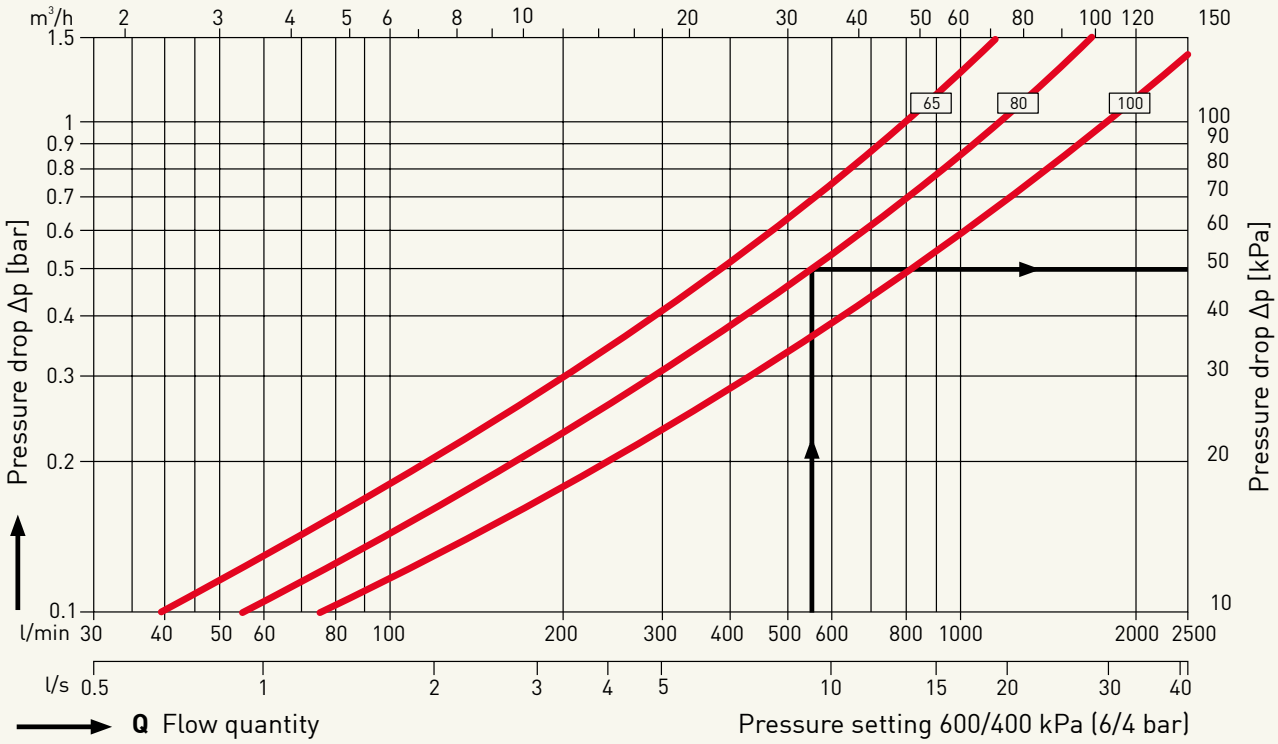
Example 1
Which JRGURED pressure reducing valve should be chosen for a water flow of 240 l/min.

Solution 1
Starting at the figure 240 on the quantity scale and moving up vertically to the shaded area between velocities of 1 and 2 m/s the DN 65 (2½") – line will be intersected. From this intersection point the respective velocity of 1.2 m /s (4ft/s) will be found when moving horizontally to the velocity scale.

Example 2
What is flow quantity in l/min through a JRGURED pressure reducing valve DN 80 (3") at a velocity of 2 m/s (6,6 ft/s)?

Solution 2
Starting at the figure 2 m/s on the velocity scale move horizontally to the right until the DN 80 (3") – line is intersected. Now move down to the quantity scale and read that the flow under this condition is 600 l/min.

Determination of pressure drop



After sizing the valve as described above using chart 1 it is possible to determine the pressure drop on the adjacent chart.

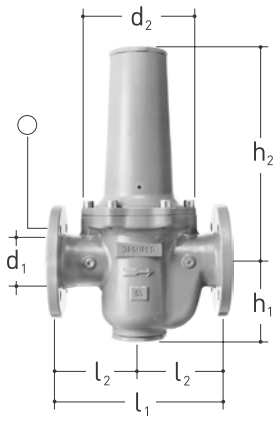
Example

What is the pressure drop through a DN 80 (3") JRGURED pressure reducing valve at a flow of 550 l/min.

Solution

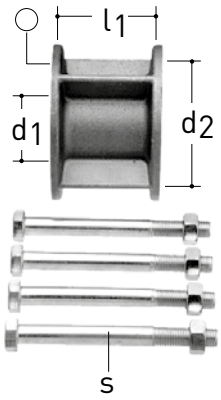
Starting at the figure of 550 l/min on the quantity scale, moving up until the intersection with the line for the DN 80 (3") valve.Moving horizontally to the right or left to the pressure drop scale it is seen that the pressure drop for a flow of 550 litre/min through DN 80 valve is 0.5 bar.

Pressure reducing valve and return flow inhibitor



JRGURED pressure reducing valve, PN 16
made of gunmetal, with flanges according SN EN 1092-2 drilled, seat made of stainless steel, on both site with manometer connections. Delivery without gaskets.
Manometer and manometer valves see page 7.

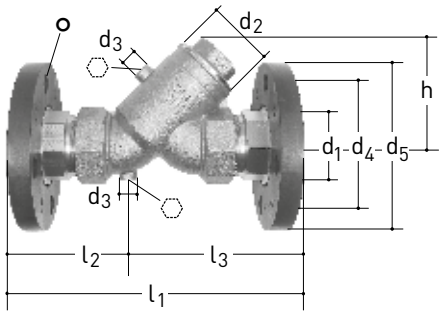
JRG Code	GF Code	DN	d1	d2	d3	h1	h2	l1	l2	○	kg
1140.065	350542301	65	65	187	Rp ¼	128	340	290	145	4	28.000
1140.080	350542401	80	80	217	Rp ¼	144	405	310	155	8	43.000
1140.100	350542501	100	100	257	Rp ¼	166	465	350	175	8	66.000



Adaptor piece for 1430/1440 to 1140
made of gunmetal, incl. special screws and flat gaskets.

JRG Code	GF Code	DN	d1	d2	l1	○	kg
1146.065	355635903	65	65	127	92	4	4.100
1146.080	355635904	80	80	142	102	8	6.200

Pressure reducing valve and return flow inhibitor

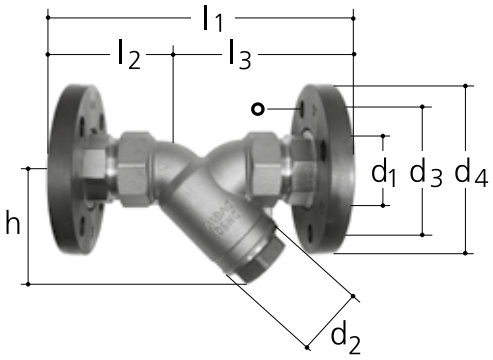


Return flow inhibitor, PN 16

with flanges, threaded connection for test and drain valve, closed with closure plug 5149, without test and drain valve, made of bronze, backing flange made of PP with steel ring, with profile flange gaskets made of EPDM*, stainless steel valve seat and closing spring, plastic return flow inhibitor, PPSU baffle, EPDM seals, for water up to 90°C, opening pressure less than 50 mbar, tested according DIN EN 13959, noise tested, valve sound group 1.

* EPDM gaskets must not be oiled or greased.

JRG Code	GF Code	DN	d_1	d_2	d_3	d_4	d_5	h	l_1	l_2	l_3	⬡	kg
1614.040	350898304	40	Rp ¼	G 1 ½	Rp ¼	110	150	90.5	229	94	135	6	4.239
1614.050	350898305	50	Rp ¼	G 2	Rp ¼	125	165	107	262	104	158	6	6.660
1614.065	350898306	65	Rp 1	G 2 ½	Rp ¼	145	185	116	296	109.5	186.5	6	9.460



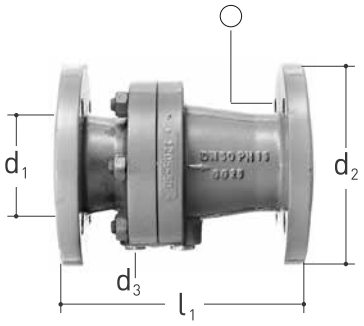
Slanted filter, PN 16

made of gunmetal, with flanges, with profile flange gaskets made of EPDM*, backing flange made of PP with steel ring, large surface strainer, made of stainless steel mesh, for water, air, etc. up to 100°C.

* EPDM gaskets must not be oiled or greased.

JRG Code	GF Code	DN/d_1	d_2	d_3	d_4	h	l_1	l_2	l_3	µm	○	kg
1814.040	350871340	40	G 1 ½	110	150	89	229	94	135	250	4x ∅18	4.170
1814.050	350871350	50	G 2	125	165	110.5	262	104	158	250	4x ∅18	6.580
1814.065	350871365	65	G 2 ½	145	185	122	296	109.5	186.5	560	4x ∅18	9.460
1814.080	350871380	80	G 3	160	200	136	333	121.5	211.5	560	4x ∅18	12.690

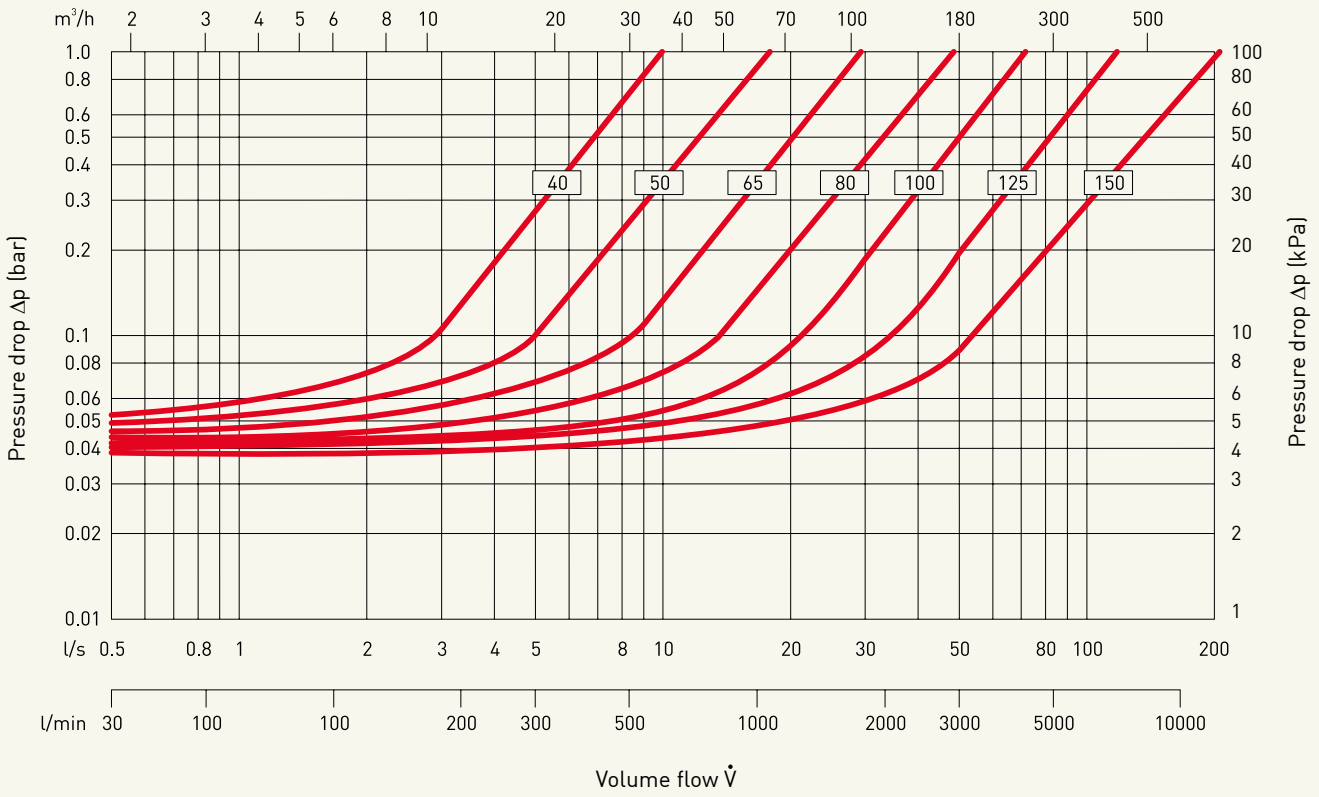
Check-valve 1650



Check-valve, PN 16

made of grey cast iron, plastic coated, with flanges drilled in accordance with SN EN 1092-2, cone made from gunmetal, lip gasket made of NBR, test and drain plugs. For water up to 90°C, for compressed air and other media up to 70°C.

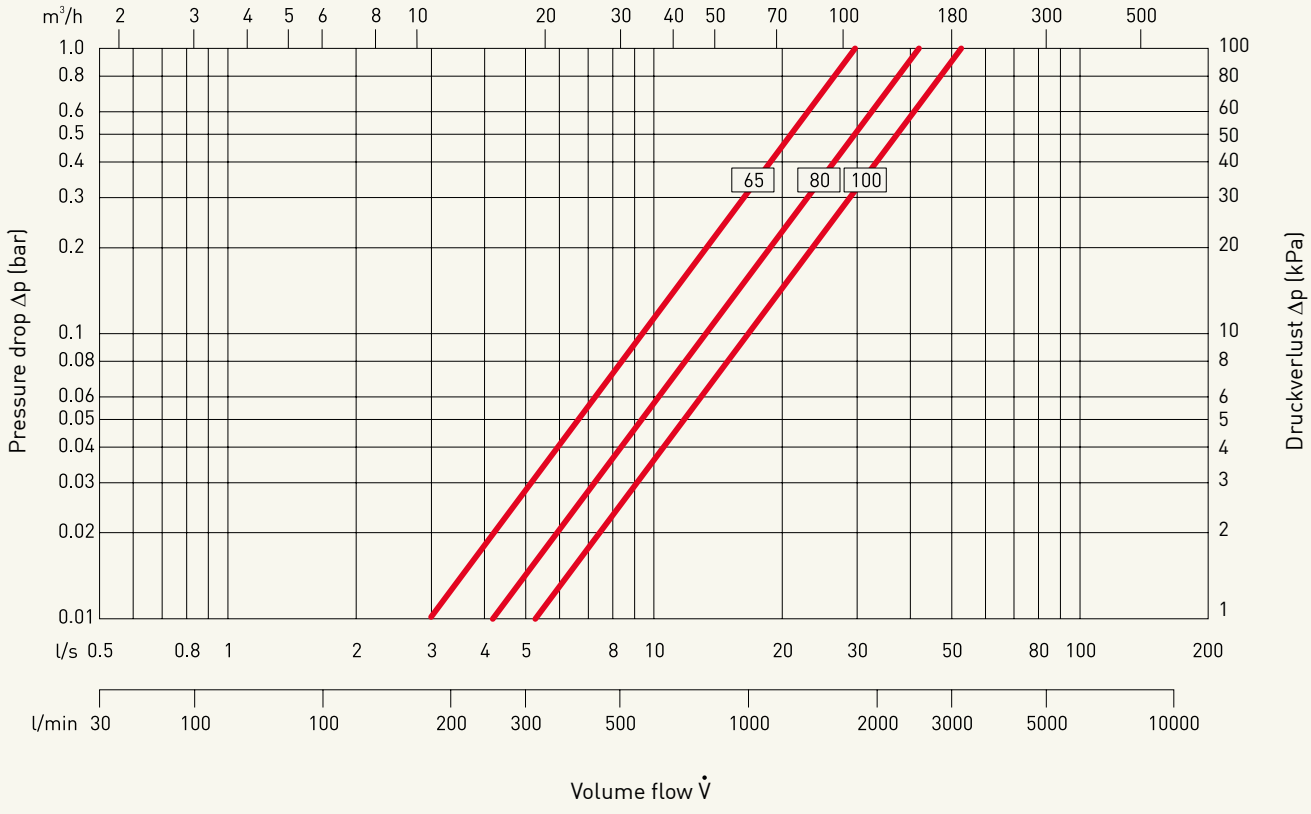
JRG Code	GF Code	DN	d_1	d_2	l_1	○	kg
1650.040	355635557	40	150	G 1/4	180	4	9.000
1650.050	355635558	50	165	G 1/4	200	4	11.000
1650.065	355635559	65	185	G 1/2	240	4	16.500
1650.080	355635560	80	200	G 1/2	260	8	20.500
1650.100	355635561	100	230	G 1/2	300	8	28.500
1650.125	355635562	125	250	G 3/4	350	8	41.000
1650.150	355635563	150	285	G 3/4	400	8	60.000



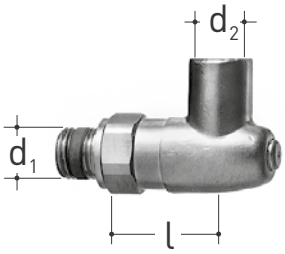
Slanted filter 1850

Slanted filter, PN 16
made of grey cast iron, plastic coated on the outside and inside, flanges drilled in accordance with SN EN 1092-2, filter sieve made of rust-free steel 500 µm, to 90°C. Minimum distance for the dismantling of the fine filter: 2 x h_1.

JRG Code	GF Code	DN	d_1	d_2	h_1	l	○	µm	kg
1850.065	355635558	65	65	185	179	290	4	500	15.000
1850.080	355635565	80	80	200	203	310	8	500	22.000
1850.100	355635566	100	100	220	220	350	8	500	30.000

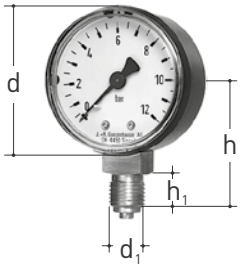


Overview manometer valves



Manometer valve, PN 1600 kPa (16 bar)
made of brass, with push button, for water and air up to 100°C, suitable to 1140-1142 DN 65/80/100.

JRG Code	GF Code	DN	GN	d1	d2	l	kg
8103.010	350260504	8	1/4	R 1/4	Rp 1/4	60	0.170



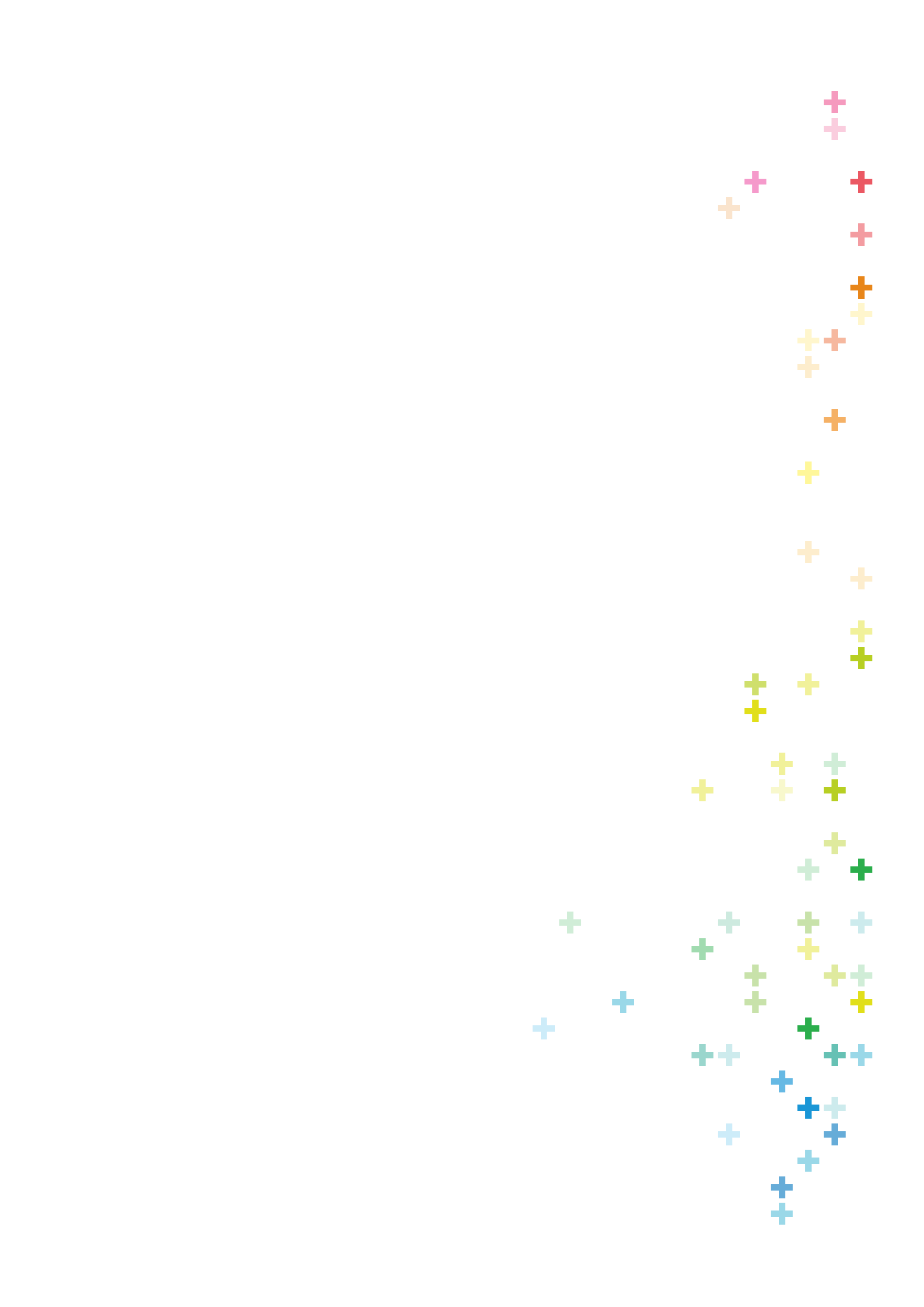
Manometer
for water and air up to 60°C.

JRG Code	GF Code	GN	d	d1	h	h1	bar	kg
8107.080	350678901	1/4	40	R 1/4	38	12	0-12	0.075
8107.081	350110601	1/4	50	R 1/4	44	12	0-12	0.120
8107.082	350110602	1/4	50	R 1/4	44	12	0-25	0.120
8107.083	350544702	1/4	63	R 1/4	52	12	0-12	0.155
8107.084	350544701	1/4	63	R 1/4	52	12	0-25	0.155

	Type	JRG Code	Dimension	Pressure	Manometer valve	Manometer
						
		**1140**	DN 65 DN 80 DN 100	0-12 bar[1] 0-25 bar[2]	8103.010	8107.083 8107.084

[1] Secondary pressure

[2] Primary pressure



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