

**JRG**

**+GF+**

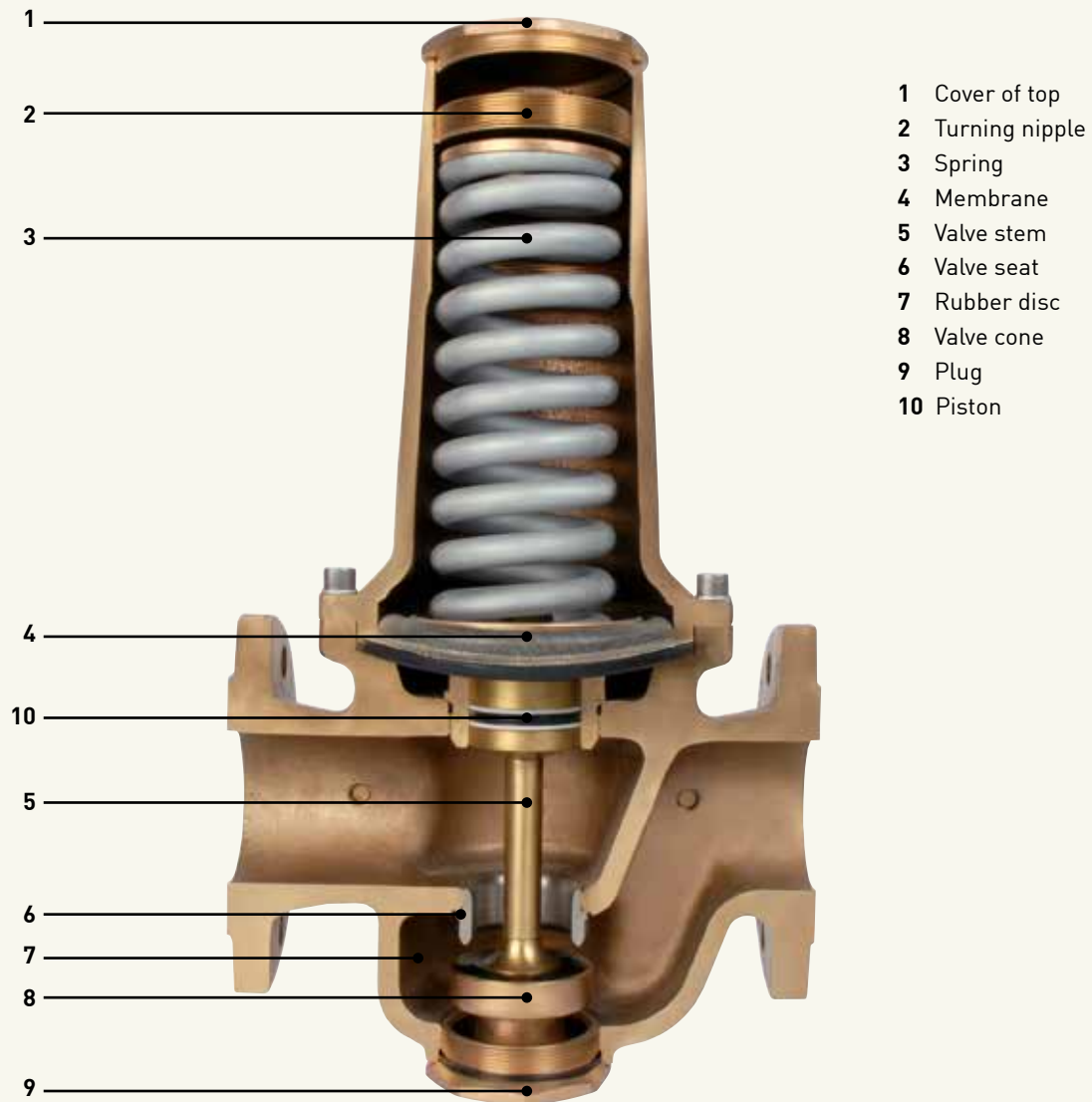
JRG Valves

# JRGURED 1140

Pressure reducing valves



# Design and operation



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 valve i.e. between the valve seat **6** and the rubber disc **7**. This allows an increased flow, which will restore the optimal downstream pressure.

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 zero-flow with a pressure gauge.

### Special model

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

## 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)

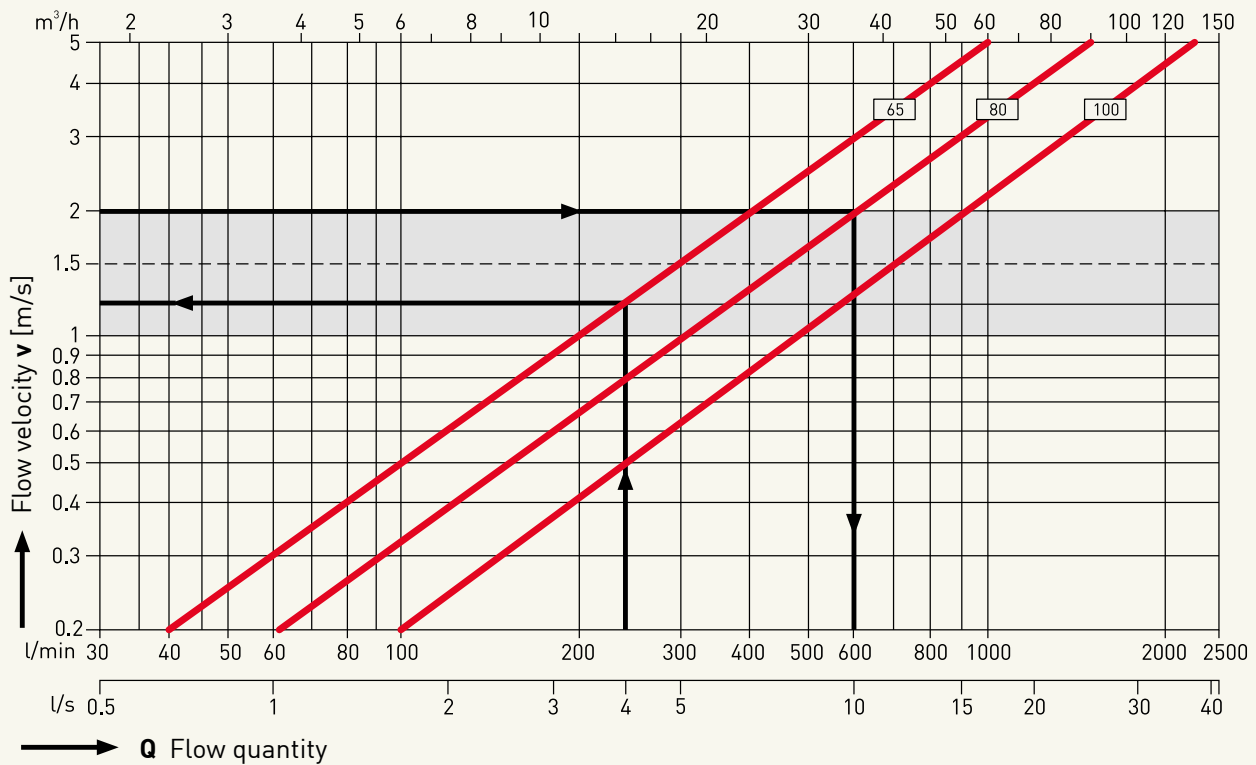
On request the manufacturer can easily supply valves with other pressure settings. With the standard spring from 150 kPa (1.5 bar) to 600 kPa (6 bar) and with the special spring from 650 kPa (6.5 bar) to 1'000 kPa (10 bar). The downstream pressure set at the factory is indicated on the cover **1**.

### 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.



# 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

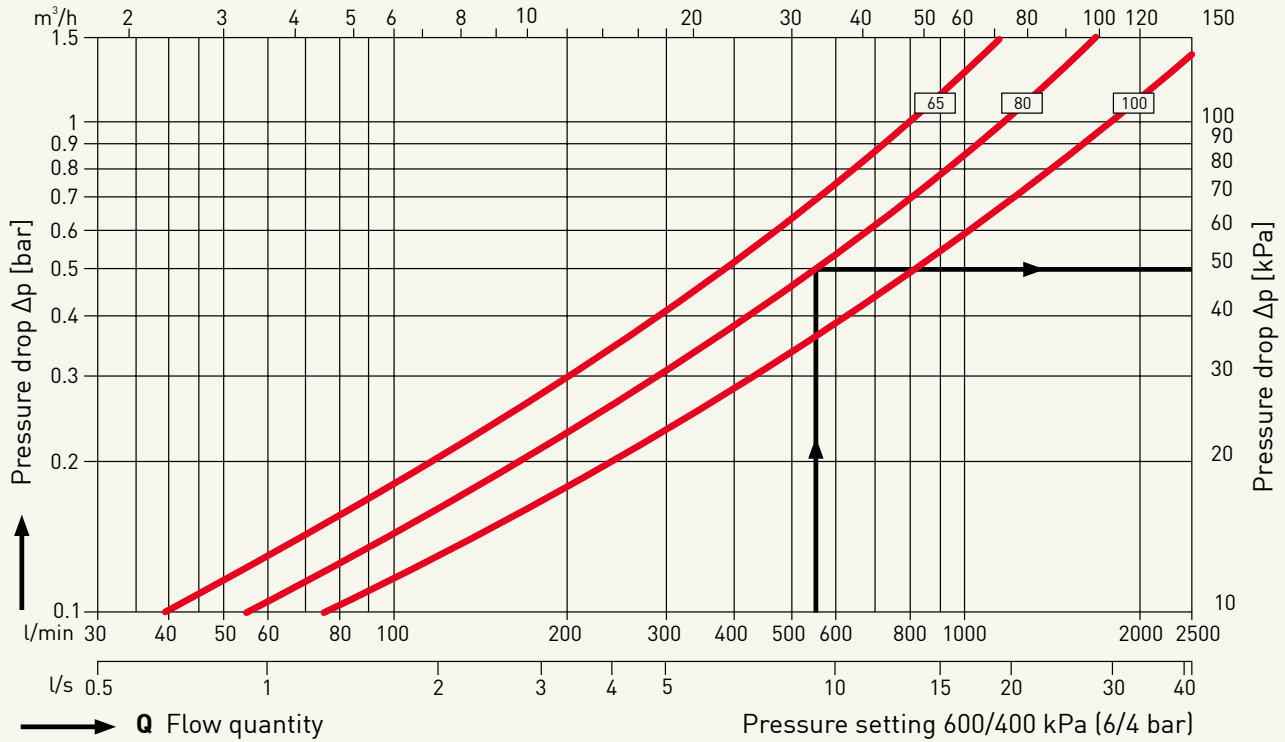
What is flow quantity in l/min through a JRGURED pressure reducing valve DN 80 (3") at a velocity of 2 m/s (6,6 ft/s)?

## 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

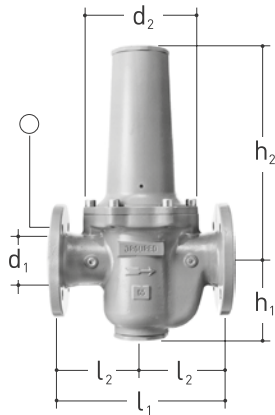
What is the pressure drop through a DN 80 (3") JRGURED pressure reducing valve at a flow of 550 l/min.

## 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.



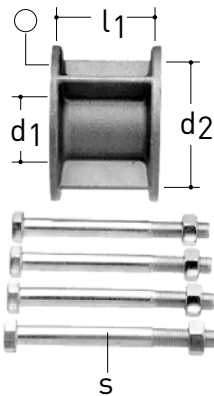
# Pressure reducing valve and return flow inhibitor



## 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 1/4	128	340	290	145	4	28.000
1140.080	350542401	80	80	217	Rp 1/4	144	405	310	155	8	43.000
1140.100	350542501	100	100	257	Rp 1/4	166	465	350	175	8	66.000



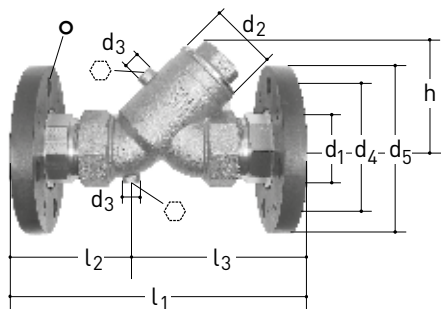
## Adaptor piece for 1430/1440 to 1140

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

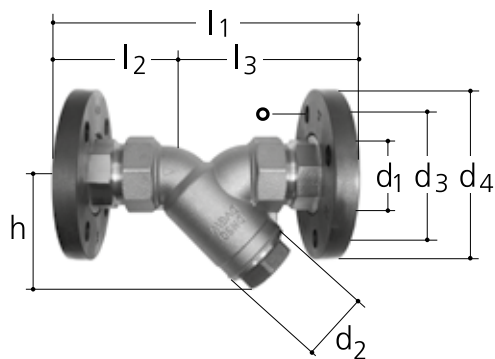


## Return flow inhibitor, PN 16

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	d1	d2	d3	d4	d5	h	l1	l2	l3	⬡	kg
1614.040	350898304	40	Rp 1/4	G 1 1/2	Rp 1/4	110	150	90.5	229	94	135	6	4.239
1614.050	350898305	50	Rp 1/4	G 2	Rp 1/4	125	165	107	262	104	158	6	6.660
1614.065	350898306	65	Rp 1	G 2 1/2	Rp 1/4	145	185	116	296	109.5	186.5	6	9.460



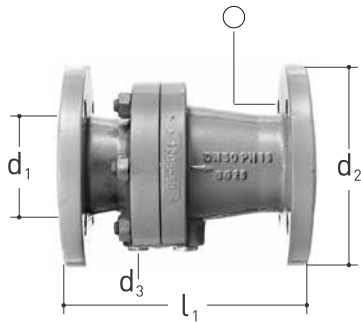
## Slanted filter, PN 16

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/d1	d2	d3	d4	h	l1	l2	l3	μm	⊙	kg
1814.040	350871340	40	G 1 1/2	110	150	89	229	94	135	250	4x Ø18	4.170
1814.050	350871350	50	G 2	125	165	110.5	262	104	158	250	4x Ø18	6.580
1814.065	350871365	65	G 2 1/2	145	185	122	296	109.5	186.5	560	4x Ø18	9.460
1814.080	350871380	80	G 3	160	200	136	333	121.5	211.5	560	4x Ø18	12.690

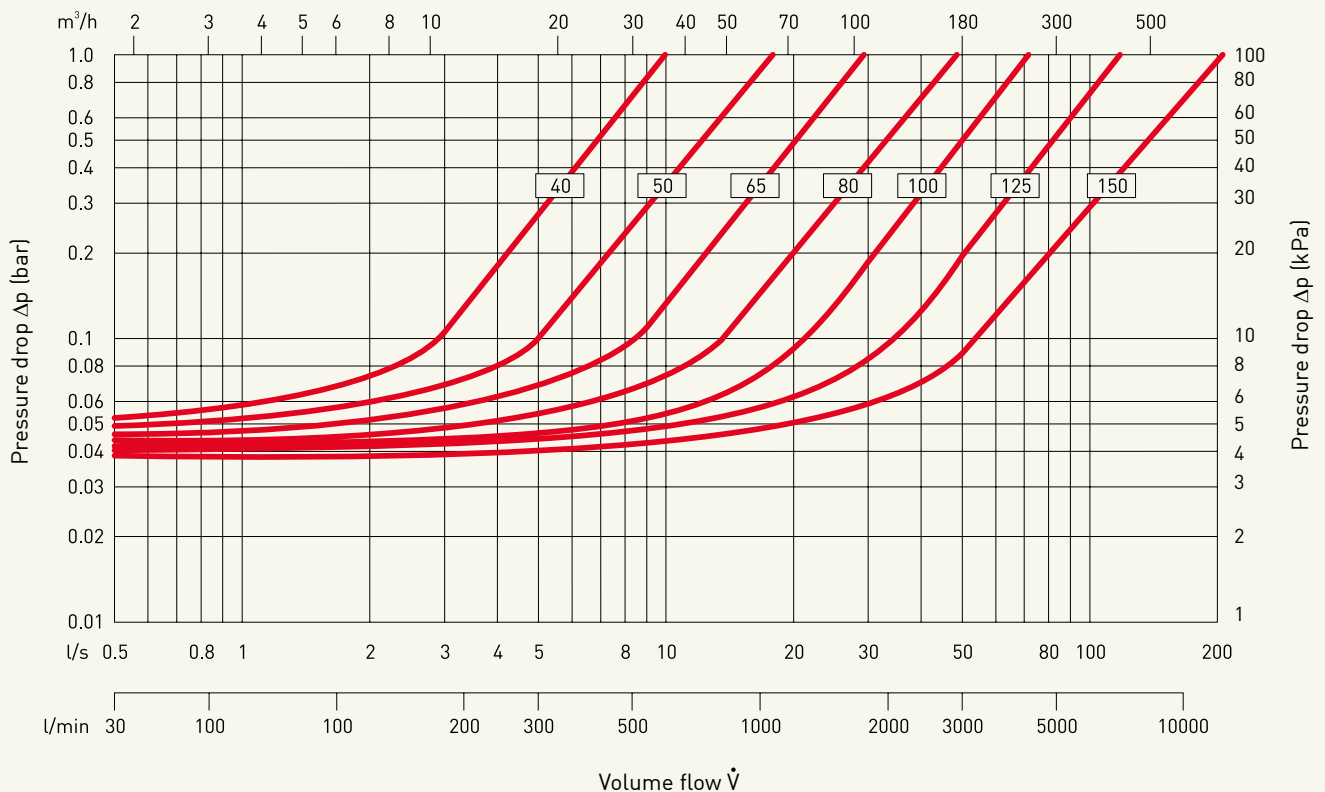
# Check-valve 1650



## 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	d1	d2	l1		○	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





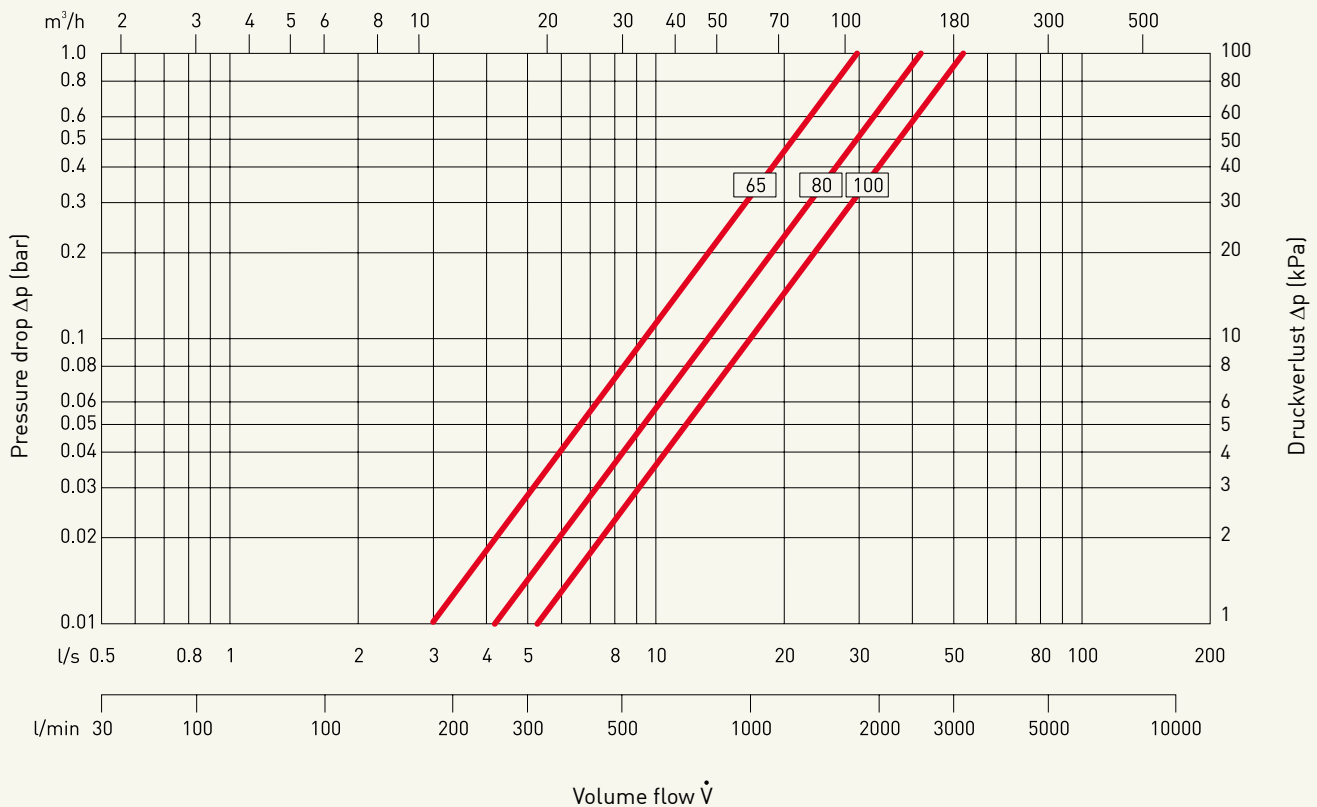
# Slanted filter 1850



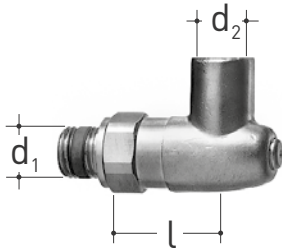
## Slanted filter, PN 16

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  $\mu\text{m}$ , to 90°C.  
Minimum distance for the dismantling of the fine filter:  
 $2 \times h_1$ .

JRG Code	GF Code	DN	$d_1$	$d_2$	$h_1$	$l$		$\mu\text{m}$	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



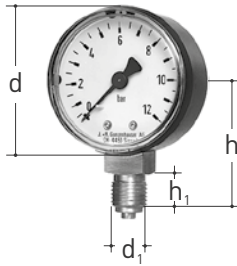
# Overview manometer valves



## 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 <sup>1</sup> 0-25 bar <sup>2</sup>	8103.010	8107.083 8107.084

<sup>1</sup> Secondary pressure

<sup>2</sup> Primary pressure



# Worldwide at home

Our sales companies and representatives ensure local customer support in over 100 countries.

[www.gfps.com](http://www.gfps.com)

## Argentina / Southern South America

Georg Fischer Central Plastics  
Sudamérica S.R.L.  
Buenos Aires, Argentina  
Phone +5411 4512 02 90  
Fax +5411 4512 02 93  
[gfcentral.ps.ar@georgfischer.com](mailto:gfcentral.ps.ar@georgfischer.com)  
[www.gfps.com/ar](http://www.gfps.com/ar)

## Australia

George Fischer Pty Ltd  
Riverwood NSW 2210  
Phone +61 (0)2 9502 8000  
Fax +61 (0)2 9502 8090  
[australia.ps@georgfischer.com](mailto:australia.ps@georgfischer.com)  
[www.gfps.com/au](http://www.gfps.com/au)

## Austria

Georg Fischer Rohrleitungssysteme GmbH  
3130 Herzogenburg  
Phone +43 (0) 2782 856 43 0  
Fax +43 (0) 2782 856 64  
[austria.ps@georgfischer.com](mailto:austria.ps@georgfischer.com)  
[www.gfps.com/at](http://www.gfps.com/at)

## Belgium / Luxembourg

Georg Fischer NV/SA  
1070 Bruxelles/Brüssel, Belgium  
Phone +32 (0)2 556 40 20  
Fax +32 (0)2 524 34 26  
[be.ps@georgfischer.com](mailto:be.ps@georgfischer.com)  
[www.gfps.com/be](http://www.gfps.com/be)

## Brazil

Georg Fischer Sist. de Tub. Ltda.  
04571-020 São Paulo/SP  
Phone +55 (0)11 5525 1311  
[br.ps@georgfischer.com](mailto:br.ps@georgfischer.com)  
[www.gfps.com/br](http://www.gfps.com/br)

## Canada

Georg Fischer Piping Systems Ltd  
Mississauga, ON L5T 2B2  
Phone +1 (905) 670 8005  
Fax +1 (905) 670 8513  
[ca.ps@georgfischer.com](mailto:ca.ps@georgfischer.com)  
[www.gfps.com/ca](http://www.gfps.com/ca)

## China

Georg Fischer Piping Systems Ltd  
201319 Shanghai  
Phone +86 21 3899 3899  
Fax +86 21 3899 3888  
[china.ps@georgfischer.com](mailto:china.ps@georgfischer.com)  
[www.gfps.com/cn](http://www.gfps.com/cn)

## Denmark / Iceland

Georg Fischer A/S  
2630 Taastrup, Denmark  
Phone +45 (0) 7022 1975  
Fax +45 (0) 7022 1976  
[info.dk.ps@georgfischer.com](mailto:info.dk.ps@georgfischer.com)  
[www.gfps.com/dk](http://www.gfps.com/dk)

## Finland

Georg Fischer AB  
01510 Vantaa  
Phone +358 (0)9 586 58 25  
Fax +358 (0)9 586 58 29  
[info.fi.ps@georgfischer.com](mailto:info.fi.ps@georgfischer.com)  
[www.gfps.com/fi](http://www.gfps.com/fi)

## France

Georg Fischer SAS  
95932 Roissy Charles de Gaulle Cedex  
Phone +33 (0)1 41 84 68 84  
Fax +33 (0)1 41 84 68 85  
[fr.ps@georgfischer.com](mailto:fr.ps@georgfischer.com)  
[www.gfps.com/fr](http://www.gfps.com/fr)

## Germany

Georg Fischer GmbH  
73095 Albershausen  
Phone +49 (0)7161 302 0  
Fax +49 (0)7161 302 25 9  
[info.de.ps@georgfischer.com](mailto:info.de.ps@georgfischer.com)  
[www.gfps.com/de](http://www.gfps.com/de)

## India

Georg Fischer Piping Systems Pvt. Ltd.  
400 076 Powai, Mumbai  
Phone +91 22 4007 2001  
Fax +91 22 4007 2020  
[branchoffice@georgfischer.com](mailto:branchoffice@georgfischer.com)  
[www.gfps.com/in](http://www.gfps.com/in)

## Indonesia

Georg Fischer Representative Office  
10310 Jakarta  
Phone +62 21 391 48 62  
Fax +62 21 391 48 63  
[sgp.ps@georgfischer.com](mailto:sgp.ps@georgfischer.com)  
[www.gfps.com/sg](http://www.gfps.com/sg)

## Italy

Georg Fischer S.p.A.  
20063 Cernusco S/N (MI)  
Phone +39 02 921 86 1  
Fax +39 02 921 86 24 7  
[it.ps@georgfischer.com](mailto:it.ps@georgfischer.com)  
[www.gfps.com/it](http://www.gfps.com/it)

## Japan

Georg Fischer Ltd  
556-0011 Osaka  
Phone +81 (0)6 6635 2691  
Fax +81 (0)6 6635 2696  
[jp.ps@georgfischer.com](mailto:jp.ps@georgfischer.com)  
[www.gfps.com/jp](http://www.gfps.com/jp)

## Korea

Georg Fischer Piping Systems  
463-824 Seoul  
Phone +82 31 8017 1450 3  
Fax +82 31 8017 1454  
[kor.ps@georgfischer.com](mailto:kor.ps@georgfischer.com)  
[www.gfps.com/kr](http://www.gfps.com/kr)

## Malaysia

Georg Fischer (M) Sdn. Bhd. Sales Office  
40460 Shah Alam, Selangor Darul Ehsan  
Phone +60 (0)3 5122 5585  
Fax +60 (0)3 5122 5575  
[my.ps@georgfischer.com](mailto:my.ps@georgfischer.com)  
[www.gfps.com/my](http://www.gfps.com/my)

## Mexico / Northern Latin America

Georg Fischer S.A. de C.V.  
Apodaca, Nuevo Leon, Mexico  
Phone +52 (81) 1340 8586  
Fax +52 (81) 1522 8906  
[mx.ps@georgfischer.com](mailto:mx.ps@georgfischer.com)  
[www.gfps.com/mx](http://www.gfps.com/mx)

## Middle East

Georg Fischer  
Piping Systems (Switzerland) Ltd  
Dubai, United Arab Emirates  
Phone +971 4 289 49 60  
Fax +971 4 289 49 57  
[gss.ps@georgfischer.com](mailto:gss.ps@georgfischer.com)  
[www.gfps.com/int](http://www.gfps.com/int)

## Netherlands

Georg Fischer N.V.  
8161 PA Epe  
Phone +31 (0) 578 678 222  
Fax +31 (0) 578 621 768  
[nl.ps@georgfischer.com](mailto:nl.ps@georgfischer.com)  
[www.gfps.com/nl](http://www.gfps.com/nl)

## New Zealand

Georg Fischer Ltd  
5140 Upper Hutt  
Phone +64 (0) 4 527 9813  
Fax +64 (0) 4 527 9834  
[nz.ps@georgfischer.com](mailto:nz.ps@georgfischer.com)  
[www.gfps.com/nz](http://www.gfps.com/nz)

## Norway

Georg Fischer AS  
1351 Rud  
Phone +47 67 18 29 00  
Fax +47 67 13 92 92  
[no.ps@georgfischer.com](mailto:no.ps@georgfischer.com)  
[www.gfps.com/no](http://www.gfps.com/no)

## Philippines

Georg Fischer Representative Office  
1604 Pasig City  
Phone +632 571 2365  
Fax +632 571 2368  
[sgp.ps@georgfischer.com](mailto:sgp.ps@georgfischer.com)  
[www.gfps.com/sg](http://www.gfps.com/sg)

## Poland

Georg Fischer Sp. z o.o.  
05 090 Sekocin Nowy  
Phone +48 (0)22 3131 050  
Fax +48 (0)22 3131 060  
[poland.ps@georgfischer.com](mailto:poland.ps@georgfischer.com)  
[www.gfps.com/pl](http://www.gfps.com/pl)

## Romania

Georg Fischer Rohrleitungssysteme (Elvetia)  
S.A. SUCURSALA BUCURESTI  
020257 Bucuresti  
Phone +40 311 040 492  
Fax +40 212 317 479  
[ro.ps@georgfischer.com](mailto:ro.ps@georgfischer.com)  
[www.gfps.com/int](http://www.gfps.com/int)

## Russia

Georg Fischer  
Piping Systems (Switzerland) Ltd  
Moscow Representative Office  
125040 Moscow  
Phone +7 495 748 11 44  
[ru.ps@georgfischer.com](mailto:ru.ps@georgfischer.com)  
[www.gfps.com/ru](http://www.gfps.com/ru)

## Singapore

Georg Fischer Pte Ltd  
528 872 Singapore  
Phone +65 6747 0611  
Fax +65 6747 0577  
[sgp.ps@georgfischer.com](mailto:sgp.ps@georgfischer.com)  
[www.gfps.com/sg](http://www.gfps.com/sg)

## Spain / Portugal

Georg Fischer S.A.  
28046 Madrid  
Phone +34 (0) 91 781 98 90  
Fax +34 (0) 91 426 08 23  
[es.ps@georgfischer.com](mailto:es.ps@georgfischer.com)  
[www.gfps.com/es](http://www.gfps.com/es)

## Sweden

Georg Fischer AB  
11743 Stockholm  
Phone +46 (0) 8 506 77 50 0  
Fax +46 (0) 8 749 23 70  
[info.se.ps@georgfischer.com](mailto:info.se.ps@georgfischer.com)  
[www.gfps.com/se](http://www.gfps.com/se)

## Switzerland

Georg Fischer  
Rohrleitungssysteme (Schweiz) AG  
8201 Schaffhausen  
Phone +41 (0)52 631 30 26  
Fax +41 (0)52 631 28 00  
[ch.ps@georgfischer.com](mailto:ch.ps@georgfischer.com)  
[www.gfps.com/ch](http://www.gfps.com/ch)

## Taiwan

Georg Fischer Co. Ltd.  
24158 New Taipei City  
Phone +886 2 8512 2822  
Fax +886 2 8512 2823  
[tw.ps@georgfischer.com](mailto:tw.ps@georgfischer.com)  
[www.gfps.com/tw](http://www.gfps.com/tw)

## Turkey

Georg Fischer Hakan Plastik  
Boru ve Profil San. Tic. A.S.  
59500 Cerkezoy / Tekirdag  
Phone +90 282 726 64 43  
Fax +90 282 726 94 67  
[hpsales@hakan.com.tr](mailto:hpsales@hakan.com.tr)  
[www.hakan.com.tr](http://www.hakan.com.tr)

## United Kingdom / Ireland

Georg Fischer Sales Ltd  
CV2 2ST Coventry, United Kingdom  
Phone +44 (0) 2476 535 535  
Fax +44 (0) 2476 530 450  
[uk.ps@georgfischer.com](mailto:uk.ps@georgfischer.com)  
[www.gfps.com/uk](http://www.gfps.com/uk)

## USA / Caribbean

Georg Fischer LLC  
92618 Irvine  
Phone +1 714 731 88 00  
Fax +1 714 731 62 01  
Toll Free 800/854 40 90  
[us.ps@georgfischer.com](mailto:us.ps@georgfischer.com)  
[www.gfpiping.com](http://www.gfpiping.com)

## International

Georg Fischer  
Piping Systems (Switzerland) Ltd  
8201 Schaffhausen/Switzerland  
Phone +41 (0) 52 631 30 03  
Fax +41 (0) 52 631 28 93  
[info.export@georgfischer.com](mailto:info.export@georgfischer.com)  
[www.gfps.com/int](http://www.gfps.com/int)

The technical data are not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.

37 221 62

e / 07.18 /

© Georg Fischer JRG AG

Hauptstrasse 130

CH-4450 Sissach/Switzerland

Telefon +41 (0) 61 975 22 22

[info.jrg.ps@georgfischer.com](mailto:info.jrg.ps@georgfischer.com)

Printed in Switzerland