

**JRG Valves**

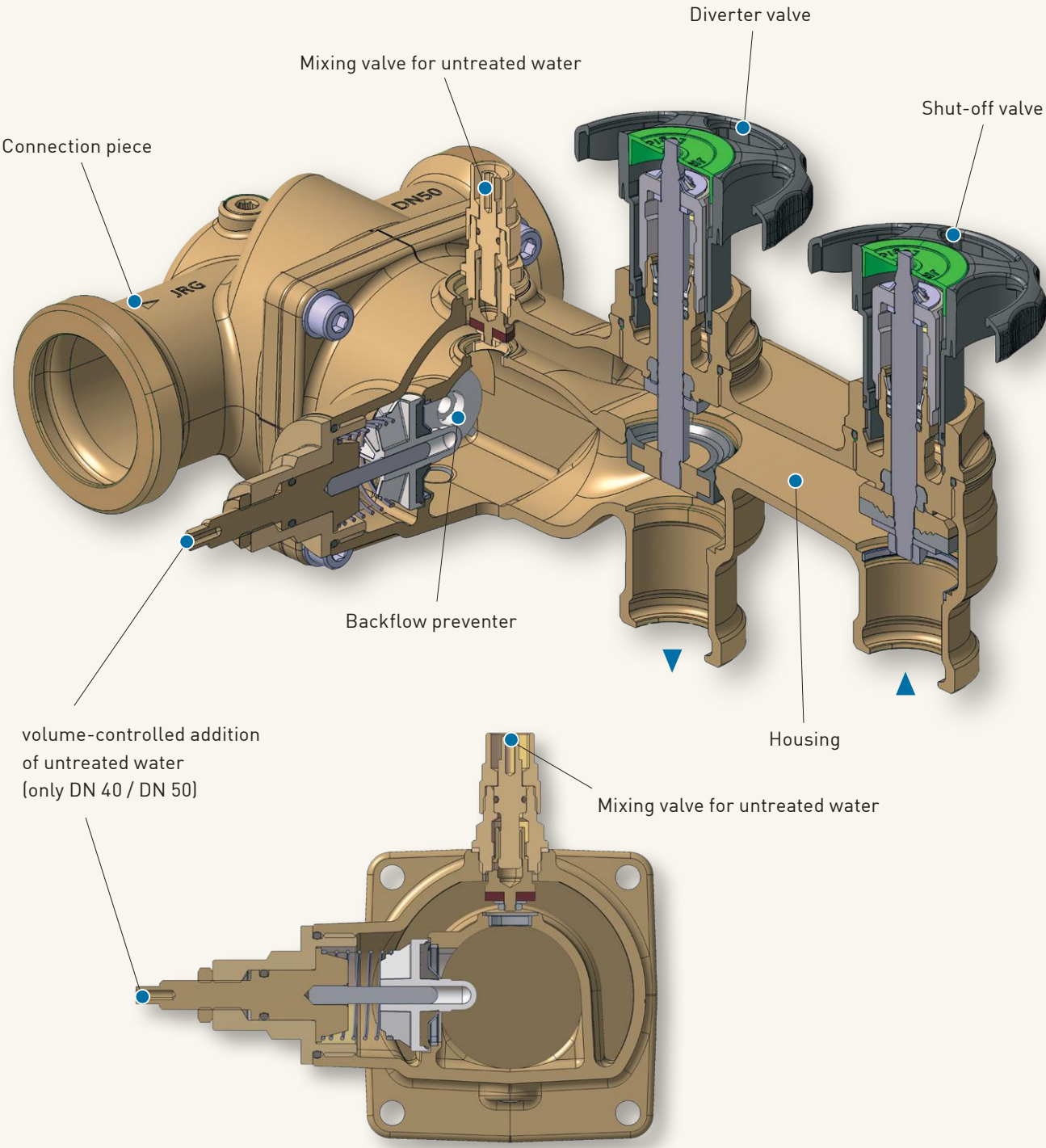
# **JRG Bypass Mixing Valve DN 25 to DN 50**

**Technical Documentation**



# JRG Bypass Mixing Valve

## + Properties



**The JRG bypass mixing valve is a compact mixing valve for drinking water systems consisting of backflow preventer, diverter valve, shut-off valve and control valve for the addition of untreated water.**

The versions DN40 and DN50 do not only allow a fixed but also a volume-controlled addition of untreated water, which is used to connect water treatment devices, such as softening devices.

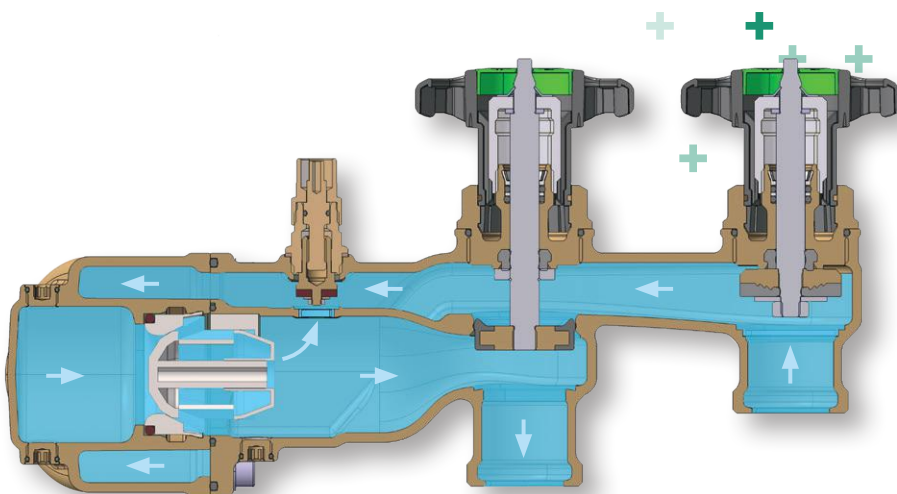
Thus, untreated water can be added to the treated water and, if need arises, the water treatment device can be taken off-line without interrupting water supply to the components down the line.

The volume-controlled addition of untreated water enables the operator to add controlled amounts of untreated water to cushion, to a certain extent, possible pressure fluctuations caused by the higher flow rates of water passing through the treatment devices.

The JRG bypass mixing valves are suitable for a nominal pressure of 1,600 kPa (16 bar) and for temperatures up to 65 °C for continuous operation and up to 90 °C for a short period during thermal disinfection (max. 1 hour per week).

## + Advantages

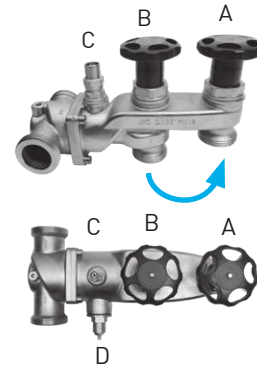
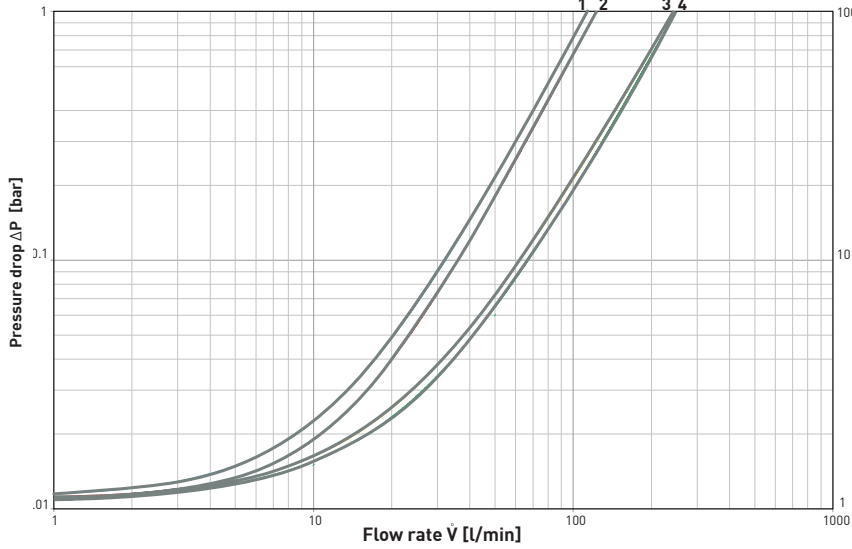
- Maintenance work on the water treatment devices can be carried out without interrupting the supply
- Volume-controlled addition of untreated water for DN 40 and DN 50
- Body made of corrosion- and erosion-resistant gunmetal
- Dead space and maintenance-free LegioStop valve upper parts
- Valve made of chrome-nickel steel



SVGW approved.

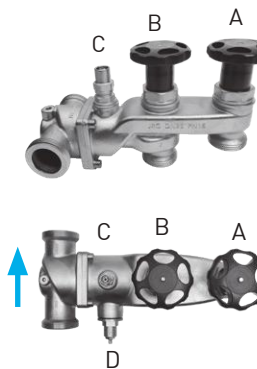
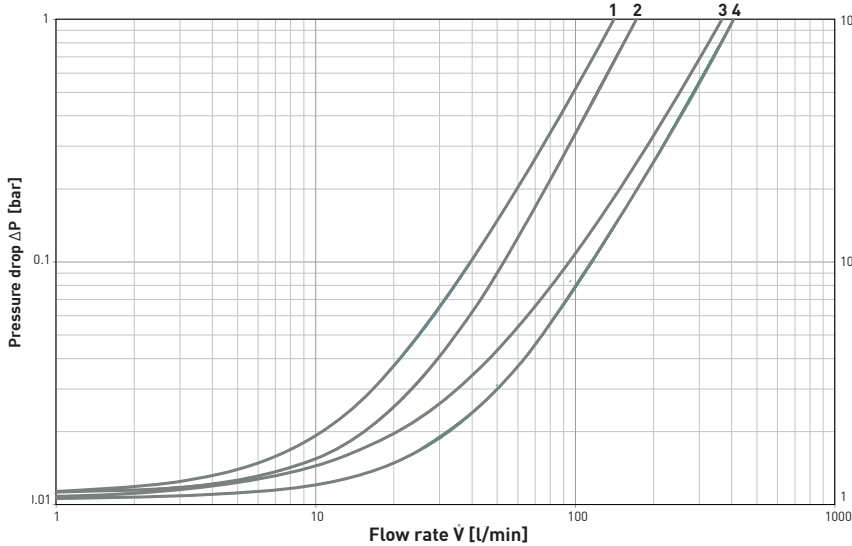
# + Nomograms

**Performance diagram for bypass mixing valve; valves A / B open**  
 Mixing valve for untreated water C / D closed



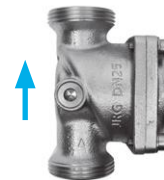
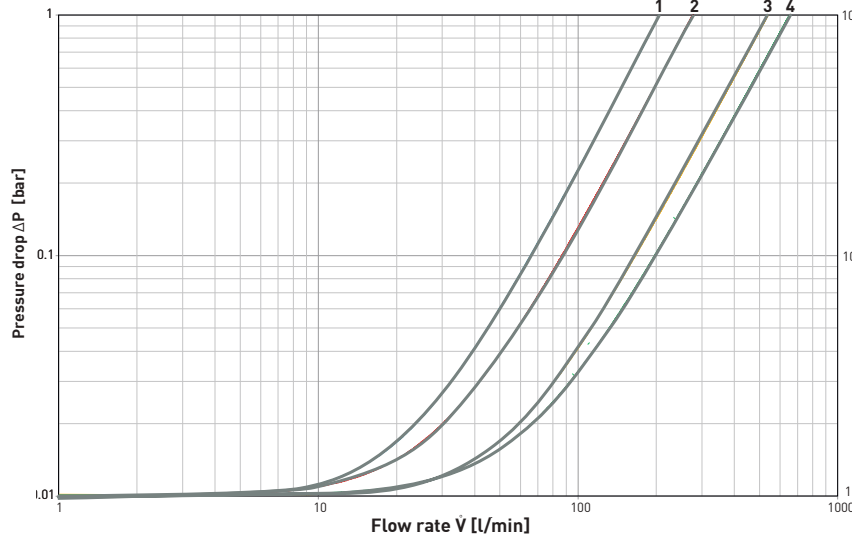
- 1 DN25
- 2 DN32
- 3 DN40
- 4 DN50

**Performance diagram bypass mixing valve; valves A / B closed**  
 Mixing valve for untreated water C / D closed



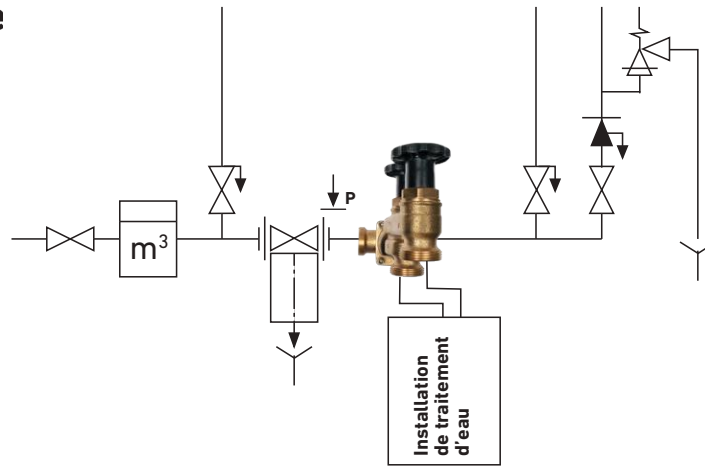
- 1 DN25
- 2 DN32
- 3 DN40
- 4 DN50

**Performance diagram connection piece**  
 without backflow preventer



- 1 DN25
- 2 DN32
- 3 DN40
- 4 DN50

## + Installation example



## + Technical data

### Application

The JRG bypass mixing valve and the connection piece are approved for the following applications:

JRG Code	Designation	PN	tmax*
5195.025/.032/.040/.050	JRG bypass mixing valve with connection piece	1'600 kPa (16 bar)	65°C
5196.025/.032/.040/.050	JRG connection piece with blind flange	1'600 kPa (16 bar)	70°C
5198.001/.002	JRG bypass mixing valve without connection piece	1'600 kPa (16 bar)	65°C

\* Temperatures up to 90 °C permissible for short periods (maximum 1 hour per week) during thermal disinfection.

### Noise behaviour

JRG Code	Designation	Valve group	Dimensions	K <sub>vs</sub> Value [m <sup>3</sup> /h]	Value ζ
5195.025	JRG bypass mixing valve	II	GN 1" (DN25)	6,3	15,7
5195.032			GN 1¼" (DN32)	7,2	32,4
5195.040			GN 1½" (DN40)	13,2	23,5
5195.050			GN 2" (DN50)	14,2	49,6

### Mounting position

The JRG bypass mixing valve can be installed independent of its position. It is important that the connection piece of the JRG bypass mixing valve be installed free of stress.

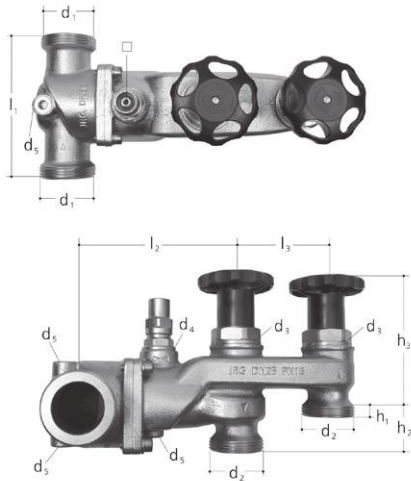
### Installation instructions

When installing the JRG bypass mixing valve and the water treatment device connected to it, strictly observe local guidelines, regulations and standards.

### Water hardness classification

Water hardness	mmol/l	°dH	°e	ppm	°fH
very soft	< 0.7	< 3.9	< 4.9	< 70	< 7
soft	0.7 - 1.5	3.9 - 8.4	4.9 - 10.5	70 - 150	7 - 15
slightly hard	1.5 - 2.5	8.4 - 14.0	10.5 - 17.5	150 - 250	15 - 25
moderately hard	2.5 - 3.2	14.0 - 17.9	17.5 - 22.5	250 - 320	25 - 32
hard	3.2 - 4.2	17.9 - 23.5	22.5 - 29.5	320 - 420	32 - 42
very hard	> 4.2	> 23.5	> 29.5	> 420	> 42

# JRG Bypass Mixing Valves with Connection Piece

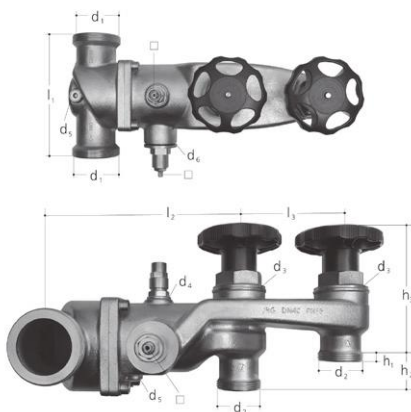


**JRG bypass mixing valve gunmetal DN25/32**

- Temperature: max. 65°C (short-term 90°C)
- Material: gunmetal, stainless steel, POM, EPDM, plastic
- Connection: male thread
- Consisting of: bypass, shut-off, fixed adjustable raw water admixture, back flow preventer, connection piece

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)
1	25	5195.025	351 114 903	2.624
1 ¼	32	5195.032	351 114 913	2.720

GN (inch)	DN (mm)	d1 G (inch)	d2 G (inch)	d3 G (inch)	d4 G (inch)	d5 Rp (inch)	h1 (mm)	h2 (mm)	h3 (mm)	l1 (mm)	l2 (mm)	l3 (mm)	□	PN (bar)
1	25	1 ¼	1 ¼	1	½	¼	10	35	105	100	115	75	6	16
1 ¼	32	1 ½	1 ¼	1	½	¼	10	35	105	120	115	75	6	16



**JRG bypass mixing valve gunmetal DN40/50**

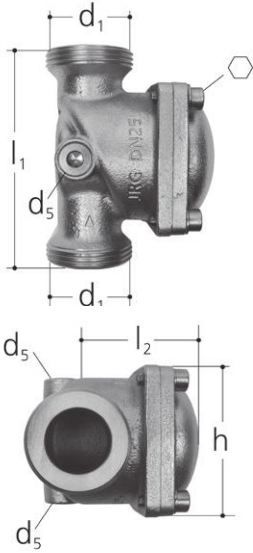
- Temperature: max. 65°C (short-term 90°C)
- Material: gunmetal, stainless steel, POM, EPDM, plastic
- Connection: male thread
- Consisting of: bypass, shut-off, fixed adjustable and volume-controlled raw water admixture, back flow preventer, connection piece

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)
1 ½	40	5195.040	351 114 983	7.300
2	50	5195.050	351 114 993	7.700

GN (inch)	DN (mm)	d1 G (inch)	d2 G (inch)	d3 G (inch)	d4 G (inch)	d5 Rp (inch)	d6 G (inch)	h1 (mm)	h2 (mm)	h3 (mm)	l1 (mm)	l2 (mm)	l3 (mm)	□	PN (bar)
1 ½	40	1 ¾	1 ½	1 ½	½	¼	1 ¼	16	30	130	145	180	110	6	16



# Accessories



## JRG Connection piece with blind flange gunmetal

- Description: to JRG bypass mixing valve
- Material: gunmetal, EPDM

GN (inch)	Size (inch)	DN (mm)	PN (bar)	JRG Code	GF Code	Weight (kg)	d1 G (inch)	d5 Rp (inch)	h (mm)	l1 (mm)	l2 (mm)
1	1	25	16	5196.025	351 114 902	0.850	1 ¼	¼	68	100	60
1 ¼	1 ¼	32	16	5196.032	351 114 912	0.970	1 ½	¼	68	120	60
1 ½	1 ½	40	16	5196.040	351 114 982	2.410	1 ¾	¼	100	145	92
2	2	50	16	5196.050	351 114 992	2.810	2 ¾	¼	100	175	92

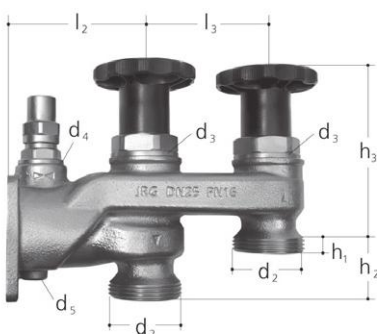


## JRG Blind flange gunmetal

- Description: to 5196
- Material: gunmetal, EPDM

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	PN (bar)	⊕
1 - 1 ¼	25 - 32	5197.001	351 114 904	0.220	16	5
1 ½ - 2	40 - 50	5197.002	351 114 984	0.750	16	6

# JRG Bypass Mixing Valves without Connection Piece

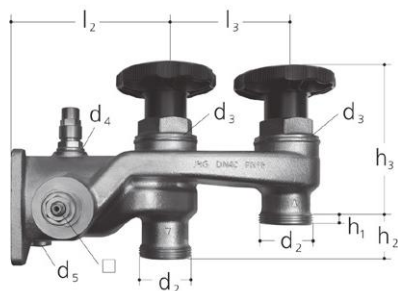
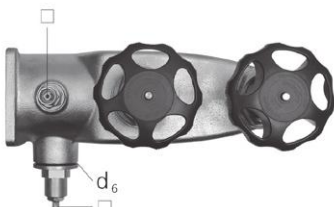


## JRG bypass mixing valve gunmetal

- Temperature: max. 65°C (short-term 90°C)
- Material: gunmetal, stainless steel, POM, EPDM, plastic
- Connection: male thread
- Consisting of: bypass, shut-off, fixed adjustable raw water admixture, back flow preventer without connection piece

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)
1 - 1 ¼	25 - 32	5198.001	351 114 905	2.020

GN (inch)	DN (mm)	d2 G (inch)	d3 G (inch)	d4 G (inch)	d5 Rp (inch)	h1 (mm)	h2 (mm)	h3 (mm)	l2 (mm)	l3 (mm)	□	PN (bar)
1 - 1 ¼	25 - 32	1 ¼	1	½	¼	10	35	105	80	75	6	16



## JRG bypass mixing valve gunmetal

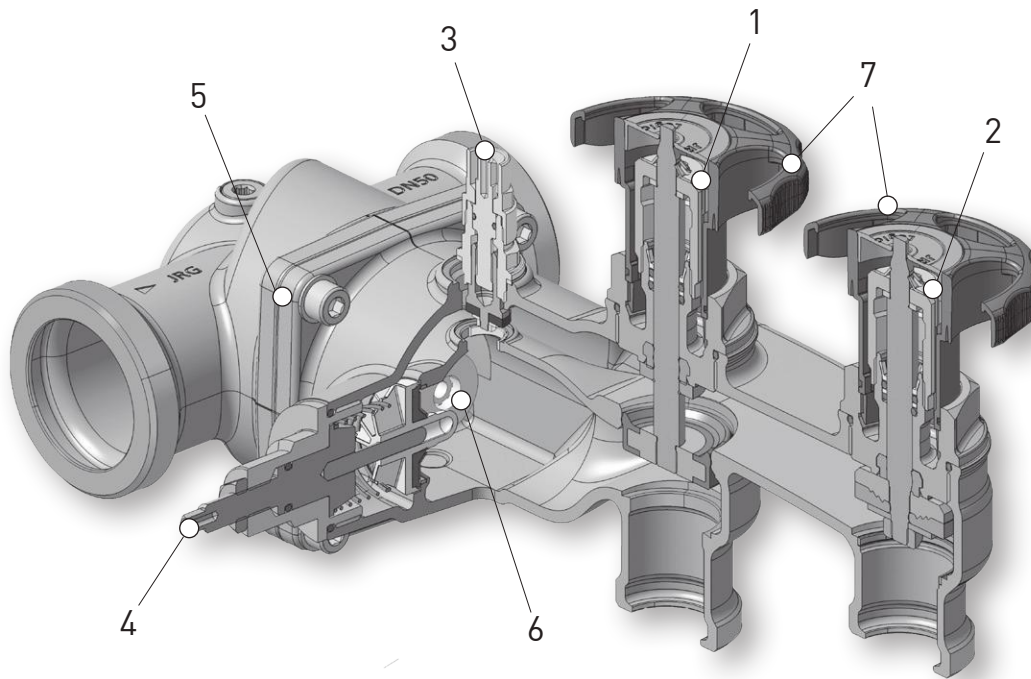
- Temperature: max. 65°C (short-term 90°C)
- Material: gunmetal, stainless steel, POM, EPDM, plastic
- Connection: male thread
- Consisting of: bypass, shut-off, fixed adjustable and volume-controlled raw water admixture, back flow preventer, without connection piece

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)
1 ½ - 2	40 - 50	5198.002	351 114 985	5.550

GN (inch)	DN (mm)	d2 G (inch)	d3 G (inch)	d4 G (inch)	d5 Rp (inch)	d6 G (inch)	h1 (mm)	h2 (mm)	h3 (mm)	l2 (mm)	l3 (mm)	PN (bar)
1 ½ - 2	40 - 50	1 ½	1 ½	½	¼	1 ¼	16	30	130	130	110	16



# Spare Parts



1



**Upper part, outlet**

GN (inch)	d1 G (inch)	d2 (mm)	GF Code
1	1	60	350 895 006
1 ½	1 ½	90	350 895 206

2



**JRG LegioStop Straight seat valve gunmetal  
Upper part**

- Description: free of water pockets and maintenance free top, non rising handwheel with optical position indicator
- Temperature: max. 90°C
- Material: gunmetal, brass, EPDM, plastic

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d2 G (inch)	d4 (mm)	h (mm)	hub max. (mm)	hub / DIN 3512 (mm)
1	25	5395.400	350 895 000	0.330	1	60	23	13	8
1 ½	40	5395.560	350 895 200	0.640	1 ½	90	28	17	12

# Spare Parts

3



## JRG Upper part gunmetal With locking handle

- Material: gunmetal, brass, EPDM
- Locking handle can be used as a socket spanner

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d2 G (inch)	<input type="checkbox"/>
½	15	5341.240	355 618 911	0.130	½	6

4



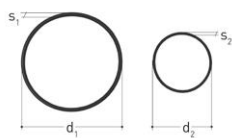
## JRG Upper part gunmetal

- Description: to JRG bypass mixing valve
- Material: gunmetal, EPDM

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d6 G (inch)	<input type="checkbox"/>
1 ½ - 2	40 - 50	5199.022	351 114 981	0.365	1 ¼	6

# Spare Parts

5

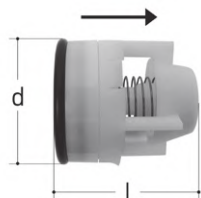


## JRG O-ring set EPDM

- Description: to JRG bypass mixing valve
- Material: EPDM

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d1 (mm)	d2 (mm)	s1 (mm)	s2 (mm)
1 - 1 ¼	25 - 32	<b>5199.001</b>	<b>351 114 907</b>	0.010	58.42	34.65	2.62	1.78
1 ½ - 2	40 - 50	<b>5199.002</b>	<b>351 114 987</b>	0.010	88.50	52.07	3.53	2.62

6



## JRG Check valve POM

- Description: to JRG bypass mixing valve
- Material: POM, EPDM

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d (mm)	l (mm)
1 - 1 ¼	25 - 32	<b>5199.011</b>	<b>351 114 908</b>	0.020	31.4	35
1 ½ - 2	40 - 50	<b>5199.012</b>	<b>351 114 988</b>	0.060	49.5	54

7



## Hand wheel incl. green plug

- Description: to JRG LegioStop Straight seat valve

GN (inch)	d (mm)	h (mm)	GF Code
1	60	43.3	<b>350 895 080</b>
2 / 1 ½	90	67.6	<b>350 895 280</b>

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