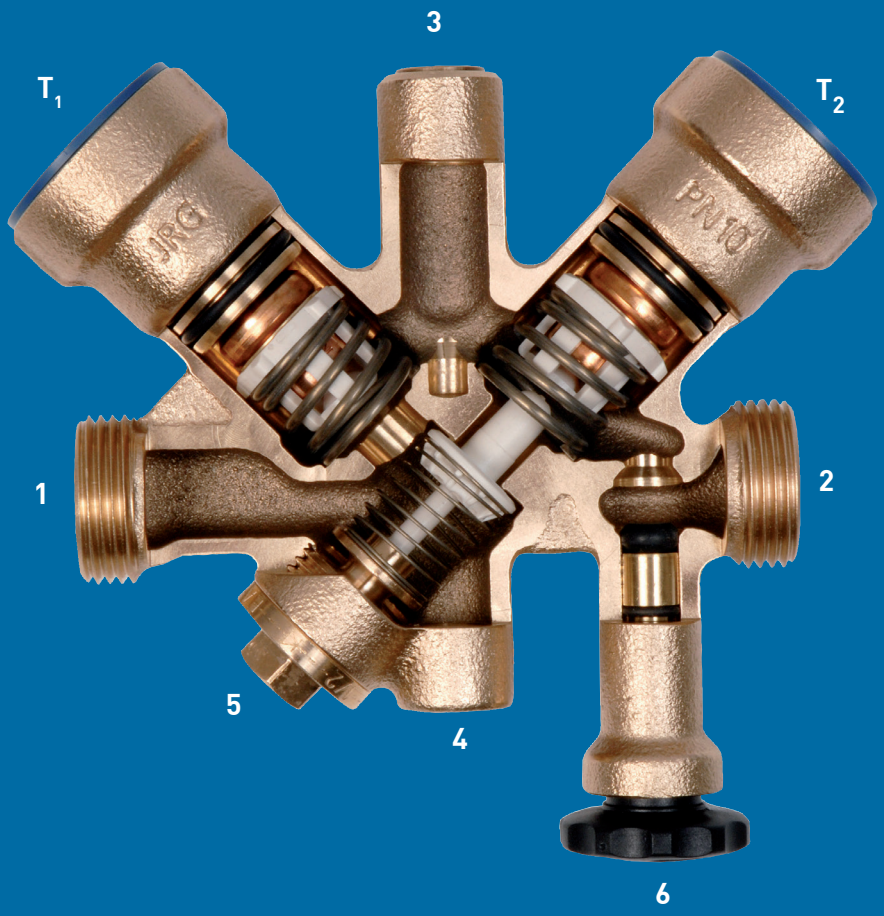
+GF+

JRGUTHERM 2T

Thermostatic circulation controller with shut-off valve

Excellence in Flow+

Construction



T_1 Hot water valve

T_2 Disinfection valve

1 Primary connection

2 Secondary connection

3 Connection for thermometer/ PT 1000 temperature sensor

4 Connection for drain/sample valve

5 Plug for basic volume bore

6 Shut-off valve

+ Planning instruction

Even with self-regulatory circulation controllers such as the JRGUTHERM 2T, a simplified design of the installation is possible.

Recommended temperature spreading between the water heater and the JRGUTHERM 2T is 2-5 K.

In order to select the suitable circulation pump, the discharge flow of the entire system has to be determined. The pressure loss of the JRGUTHERM 2T is measured on the k_{Vmax} line on the diagram. The regulators in the remaining pipe lines are to be selected in such a way that the intersection of the flow rate and the required pressure drop lies within the interpretation field.

A JRGUTHERM 2T is to be integrated into all circulation loops.

If there is any danger of the water flowing through the JRGUTHERM 2T controller in the wrong direction, this is to be avoided by the installation of suitable non-return valves. We recommend the installation of JRG Code 8208 screw connections with non-return valves.

In case of queries with regard to technical compatibility, please feel free to contact our Technical Sales Advisers or Our Technical Customer Service.

Function
The JRGUTHERM 2T circulation controller regulates the volume flow in normal as well as in disinfection operation mode by permanently sensing the water temperature with a thermostat. Hydraulic calibration is automatically effected through thermal calibration.

Materials
All water-bearing parts are made of gunmetal, copper, stainless steel or high quality plastic, seals are made of EPDM.

Installation position
The JRGUTHERM 2T circulation controller can be installed in any position. By using the appropriate threaded shut-off valves, non-return and shut-off valves can be directly integrated.
For revision purposes, we recommend installing shutoff valves, JRG Code 8339, before and after the circulation controller.

Area of application
The JRGUTHERM 2T is a thermostatic circulation controller for heated drinking water which regulates circulation in normal as well as in disinfection operation mode.

Setting range T_1 (hot water temperature)	35-60°C
Setting range T_2 (disinfection temperature)	Skala 0-5 (≈70-75°C)
Maximum temperature load	90°C
Maximum operating pressure	PN 10
Maximum differential pressure	40 kPa (0,4 bar)

The JRGUTHERM 2T flow regulator is protected from over-heating.

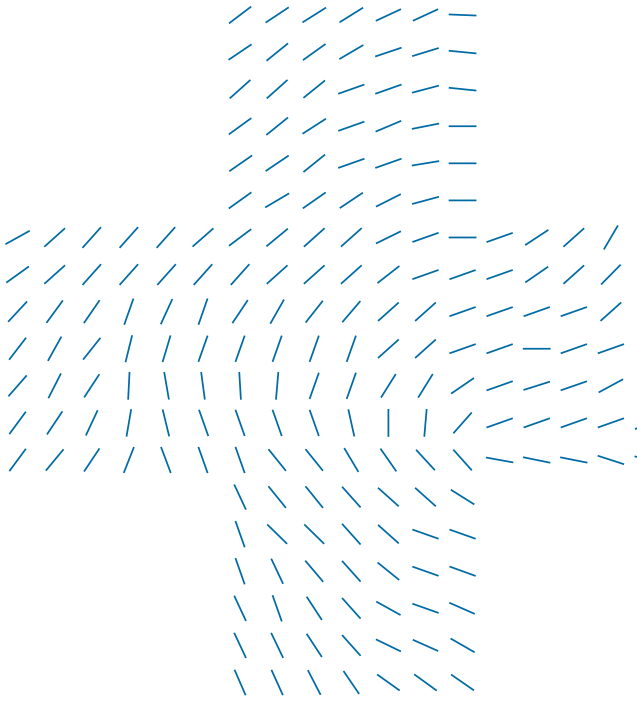
The circulation controller may not be used in gravity circulation systems.

Certification pending.

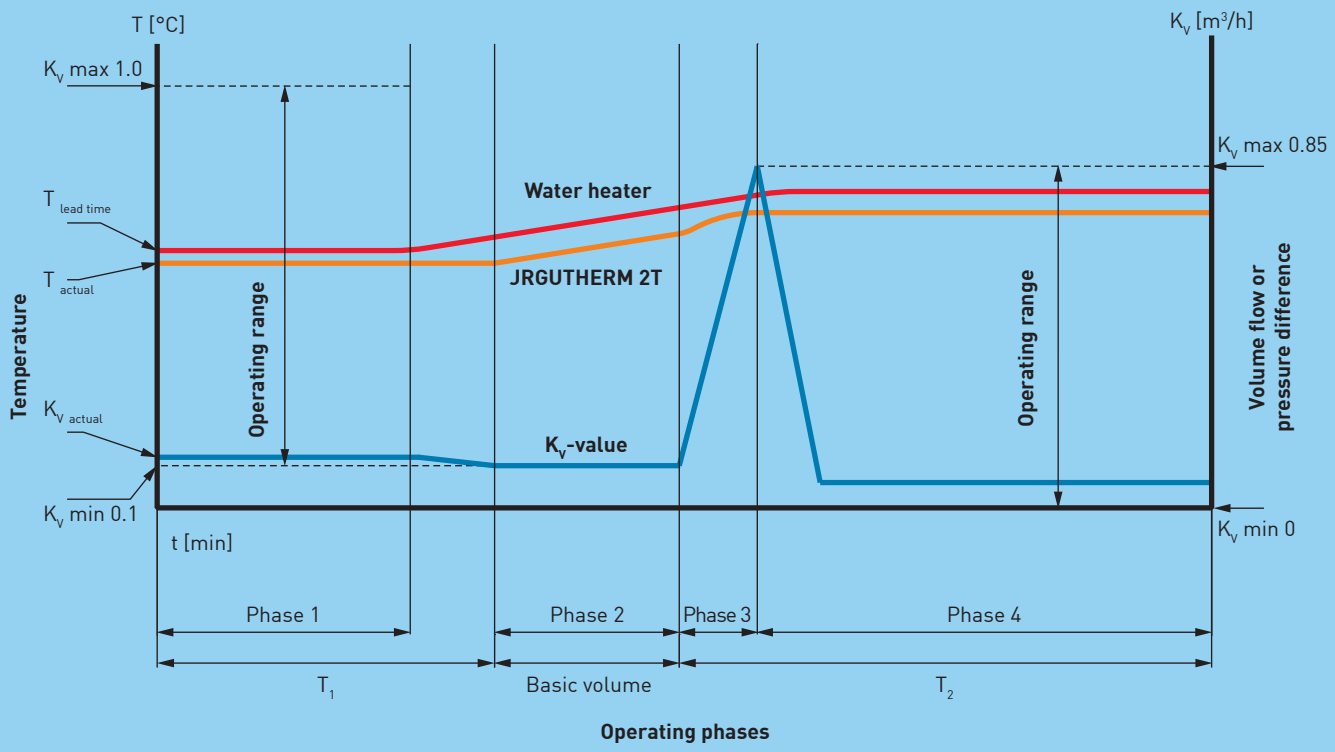
Technical changes remain reserved at all times.

+ Advantages

- Simple flow calculations
- No setting-up calculations
- Two temperatures, two thermostats
- Automatic hydraulic balance, thermostatically controlled
- Energy saving thanks to minute balance
- Controlled through seat valve
- Large temperature setting range
- Operates without external power
- Basic volume bore exchangeable
- Basic volume bore inactive during disinfection



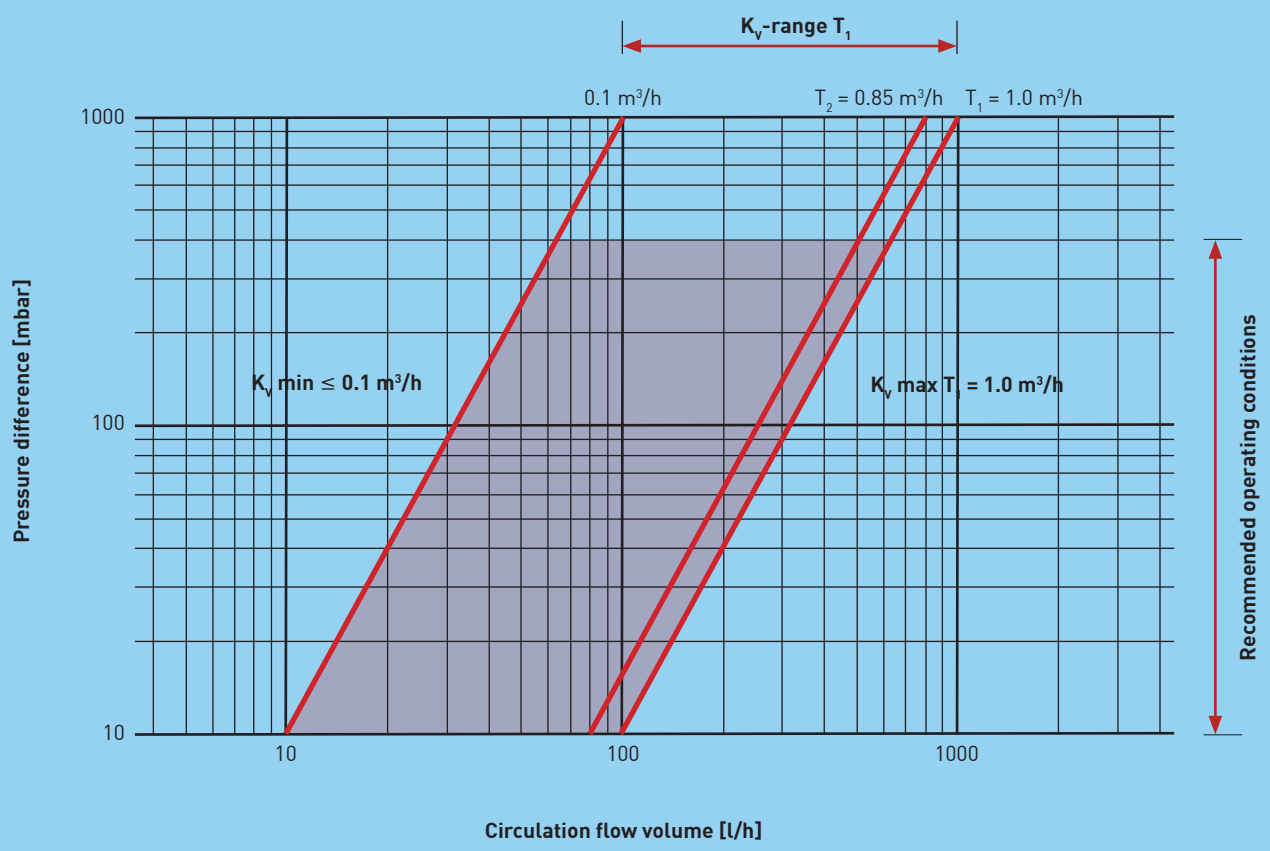
Control characteristics



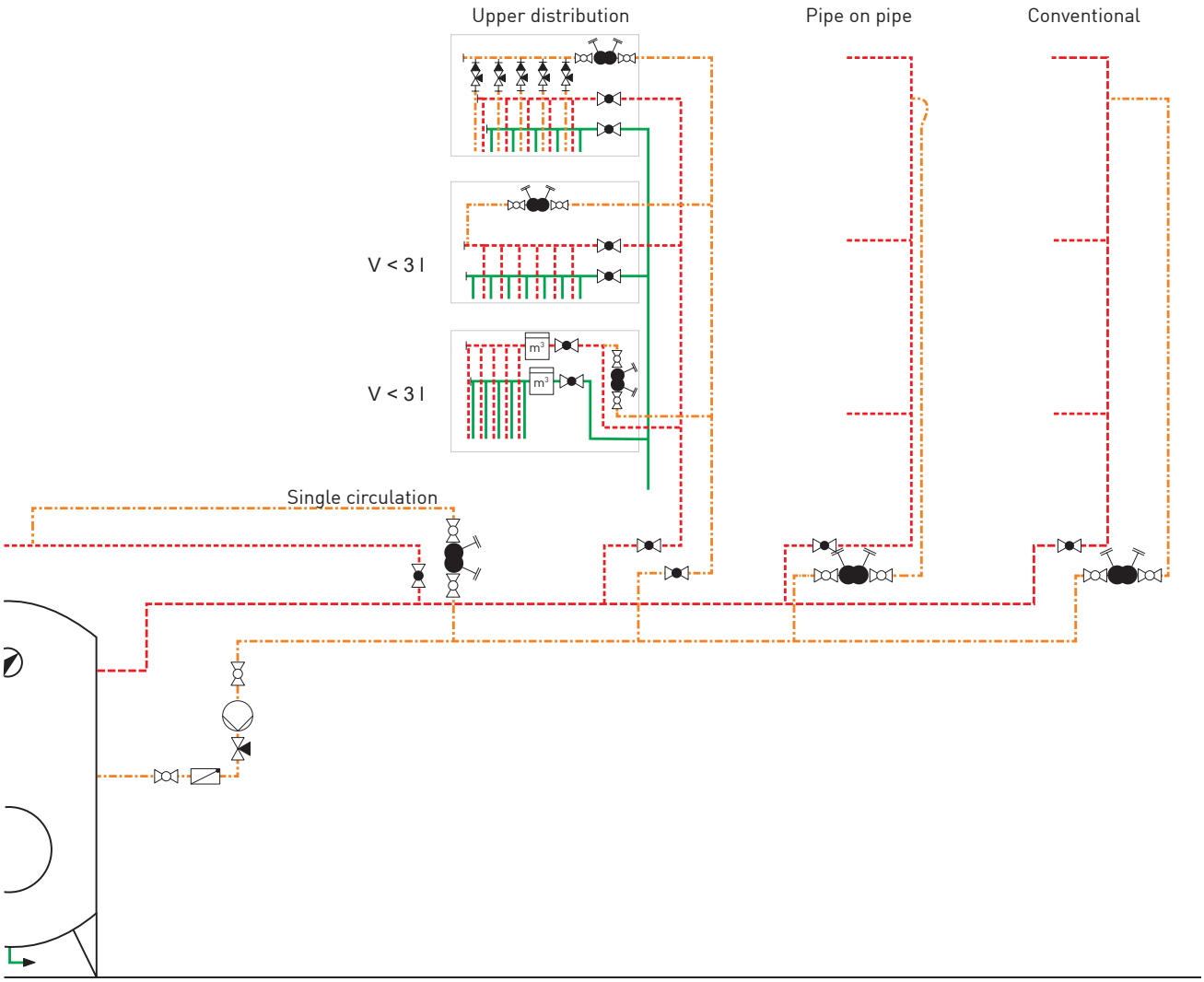
Control characteristics with factory-set target temperature:
T_1-hot water temperature 58°C (range: 35-60°C)
T_2-disinfection 70°C (range: 70-75°C)

Operating phases	Description of control characteristics
1	The hot water temperature is controlled. The thermostat T_1 regulates the calibration temperature according to factory-set value of 58°C.
2	An increased hot water temperature supply to the JRGUTHERM 2T triggers a disinfection.
3	With factory settings the conversion is started at 66°C, the valve temporarily opens to the maximum KV value T_2. Disinfection starts and the calibration.
4	The disinfection temperature is set according to the pre-set calibration temperature T_2. Heat output and the required amount of water are coordinated and thus the thermal calibration is automatically controlled. The basic bore is set to inactive and the water volume is reduced to the required volume flow.

Nomogram

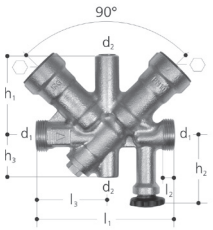

K_V-range T_1
0.1 m³/h
T_2 = 0.85 m³/h
T_1 = 1.0 m³/h
1000
100
10
K_V min ≤ 0.1 m³/h
K_V max T_1 = 1.0 m³/h
Recommended operating conditions
Pressure difference [mbar]
10
100
1000
Circulation flow volume [l/h]

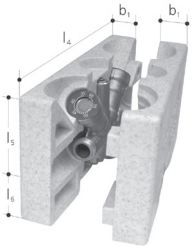
Installation example



DIN	Text	JRG Code	
	TWK – Cold water – WKR		
	TWW – Hot water – WWV		
	TWZ – circulation WW – WWR		
	Stop valve	5200-34	
	Non-return valve	1610-15	
	Swing check valve	1682	
	Adjustable socket	6310	
	JRGUTHERM 2T circulation controller	6325	
	Circulation pump		
	Drain valve	6000-12	
	Circulation collector		
	Water meter	5450	
	Ball valve	6020/23	

JRGUTHERM 2T/Accessories



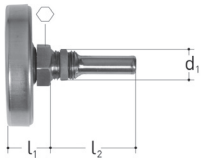


JRGUTHERM 2T Circulation Controller, PN 10

- Temperature: max. 90°C
- Material: gunmetal
- Connection: male thread

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)
½	15	**6325.015**	**350 831 421**	1.033
¾	20	**6325.020**	**350 831 422**	1.110

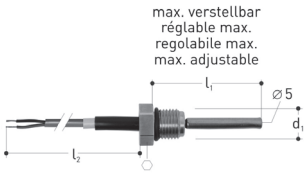
GN (inch)	DN (mm)	b1 (mm)	d1 G (inch)	d2 (inch)	h1 (mm)	h2 (mm)	h3 (mm)	l1 (mm)	l2 (mm)	l3 (mm)	l4 (mm)	l5 (mm)	l6 (mm)	⬡
½	15	37	¾	¼	64	57	33	110	6	57	260	82	61	4
¾	20	37	1	¼	64	57	33	123	7	64	260	82	61	4



Thermometer

- Description: to 3500, 3510, 6325
- Material: stainless steel

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d (mm)	d1 G (inch)	l1 (mm)	l2 (mm)	⬡
¼	8	**8349.080**	**350 830 191**	0.080	52	¼	19	35	17

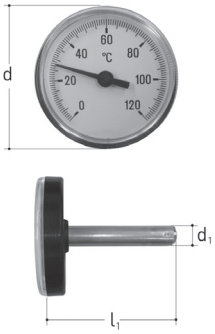


Temperature sensor PT 1000, PN 10

- Temperature: max. 0 - 105°C

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d1 G (inch)	l1 (mm)	l2 (mm)	⬡
¼	8	**6326.001**	**350 830 182**	0.072	¼	46	1000	16

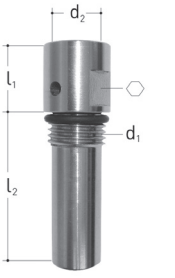
Accessories/Unions



Thermometer

- Description: to 8348.080
- Material: brass, plastic

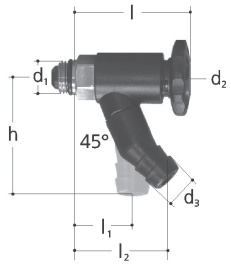
d (mm)	JRG Code	GF Code	Weight (kg)	d1 (mm)	l1 (mm)
52	**8348.001**	**350 830 194**	0.030	9	62



Sleeve

- Description: to 8348.001
- Material: stainless steel, EPDM

GN (inch)	JRG Code	GF Code	Weight (kg)	d1 G (inch)	d2 (mm)	l1 (mm)	l2 (mm)	⬡
¼	**8348.080**	**350 830 192**	0.030	¼	9	15	35	13



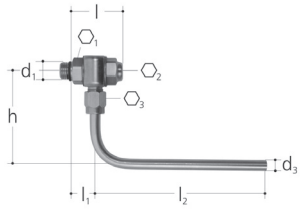
JRG LegioStop Drain cock, PN 16

- Temperature: max. 90°C (adjustable to 45°C)
- Material: brass
- Connection: male thread

* to 5120

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d1 R (inch)	d2 (mm)	d3 (mm)	h (mm)	l (mm)	l1 (mm)	l2 (mm)
¼	8	**7301.080**	**350 896 020**	0.053	¼	30	14	45	46	25	38

Accessories/Unions

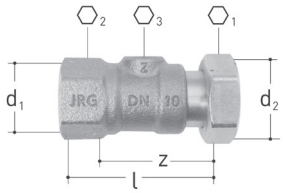


Sampling valve, PN 16

- Description: for microbiological water analysis with temperature indicator
- Temperature: max. 90°C
- Material: gunmetal, stainless steel, EPDM
- Connection: male thread

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)
¼	8	**7306.080**	**351 110 365**	0.190

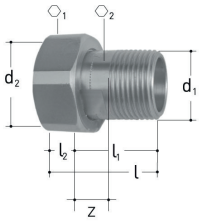
GN (inch)	DN (mm)	d1 R (inch)	d3 (mm)	h (mm)	l (mm)	l1 (mm)	l2 (mm)	⬡1	⬡3	⬡2
¼	8	¼	8	65	35	16	125	20	14	5



Union, PN 10

- Description: to 3600, 6320, 6325
- Temperature: max. 90°C
- Connection: female thread
- Consisting of: ball valve, lockable, loose nut

GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d1 Rp (inch)	d2 G (inch)	l (mm)	⬡1	⬡2	⬡3	z (mm)
½	15	**8339.240**	**350 887 710**	0.170	½	¾	55	30	27	6	43
¾	20	**8339.320**	**350 887 911**	0.260	¾	1	55	37	32	6	47



Union with non return valve

- Material: brass, plastic, EPDM
- Connection: male thread

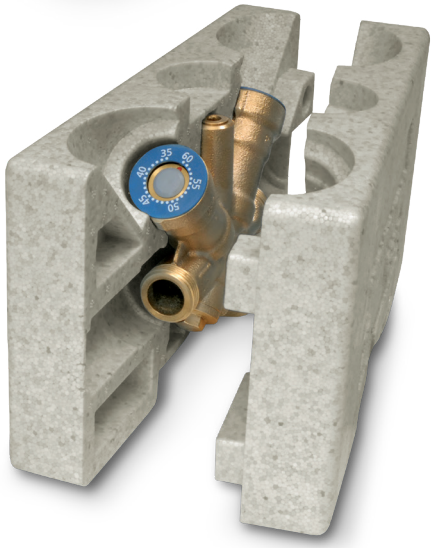
GN (inch)	DN (mm)	JRG Code	GF Code	Weight (kg)	d1 R (inch)	d2 G (inch)	l (mm)	l1 (mm)	l2 (mm)	z (mm)	⬡1	⬡2
½	15	**8208.240**	**351 055 901**	0.090	½	¾	40	34	6	19	30	19
¾	20	**8208.320**	**351 056 001**	0.150	¾	1	44	37	7	20	37	24

Adjustment/Setting ranges

Setting up the circulation controller

In principle, all circulation controllers built into the system must be adjusted to the same values.
A stepless adjustment is possible.
The adjustment values are shown in the tables 1 and 2.
The individual circulation lines are automatically calibrated.

Transport packaging

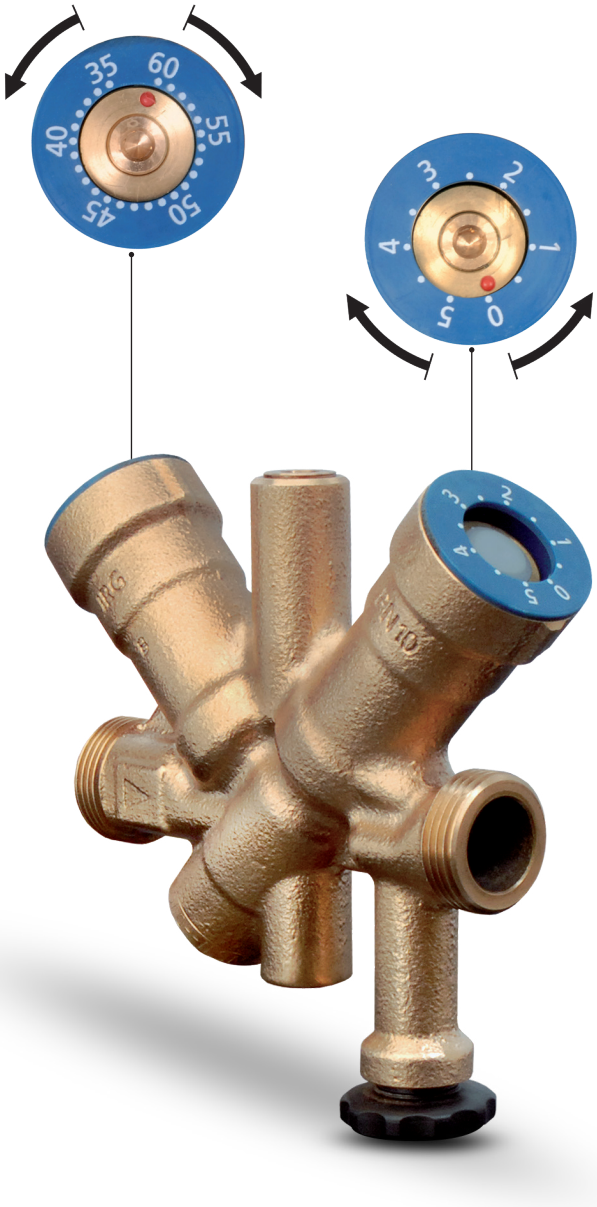


After installation and adjustment, the transport packaging of the JRGUTHERM 2T circulation controller is used as thermal insulation.

- Thermal conductivity λ_D = 0.033 W/mK
- Fire behavior (BKZ) 5.1/B1
- Application temperature ↖ 90°C

Adjusting the circulation controller

Changing the factory settings is at the sole responsibility of the performer.
The factory settings of the JRGUTHERM 2T circulation controller can be changed as follows:
Remove the sealing cap and apply Allen key to the respective hexagon socket – either T_1 for hot water temperature or T_2 for disinfection temperature.
Turn the key clockwise to reduce and turn it counterclockwise to increase the temperature.
Don't exceed the stop (minimum/maximum) when adjusting the temperature.



Adjustment/Setting ranges

Setting ranges

Table 1: Calibration temperature T_1 (hot water)

Setting [°C]	Minimal water temperature water heater [°C]	Maximal water temperature water heater [°C]
35	38	40
40	43	45
45	48	50
50	53	55
55	58	60
58 (factory setting)	**61**	**63**
60	63	65

Table 2: Calibration temperature T_2 (thermal disinfection)

Scale setting	Corresponds to disinfection temperature [°C]	Start temperature disinfection [°C]	Minimal water temperature water heater [°C]
0 (factory setting)	**~ 70**	**66**	**≥ 75**
1	~ 71	67	≥ 76
2	~ 72	68	≥ 77
3	~ 73	69	≥ 78
4	~ 74	70	≥ 79
5	~ 75	71	≥ 80

Maintenance

- The JRGUTHERM 2T is maintenance-free.
- The mounting and operating instruction delivered with the valve, has to be handed over to the building owner.

Excellence in Flow

Visit our webpage to get in contact with your local specialist:
www.uponor.com/en-en/services/contacts

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