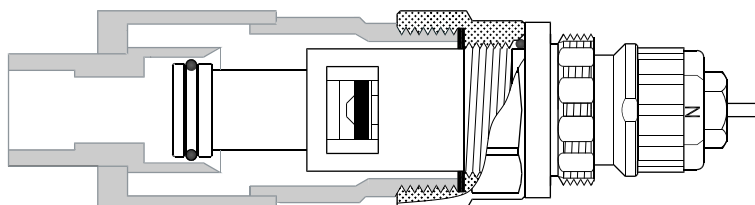


Data Sheet

Integrated Service and Replacement Valve with Presetting Feature - 013G7315

Application



The integrated service and replacement valve type RA-N 013G7315 with built-in presetting is designed for incorporation into older valve radiators from different radiator manufacturers.

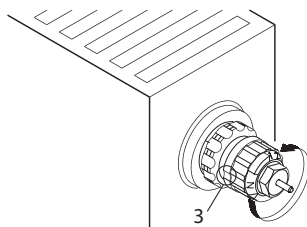
The integrated valve can be used in one- and two-pipe installations with circulating pump.

The gland seal of the valve can be replaced while the system is in operation.

To avoid calcification and corrosion, it is important for the composition of the circulating water to comply with the VDI 2035 guidelines.

Danfoss thermostatic sensors type RA 2000, RAE and RAW with patented snap sockets as well as Danfoss thermo-hydraulic actuators TWA can be installed directly onto the integrated valve.

Presetting



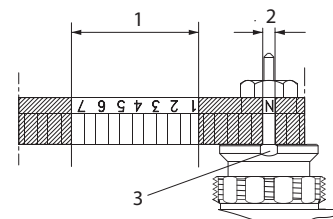
1. Presetting range
2. Factory setting and one-pipe system
3. Reference mark

The presetting values of the integrated valve can be adjusted easily and accurately without the use of tools (factory setting: N):

- Remove the protective cap or the thermostatic sensor
- Find the reference mark
- Turn the setting ring until the chosen presetting aligns with the reference mark

The presetting is controlled directly without the use of any equipment. After installation in the radiator, the reference mark of the valve will not always be positioned in the same place.

Presetting can be selected infinitely variably within the range of 1 to 7. At setting 'N' the valve is fully open.



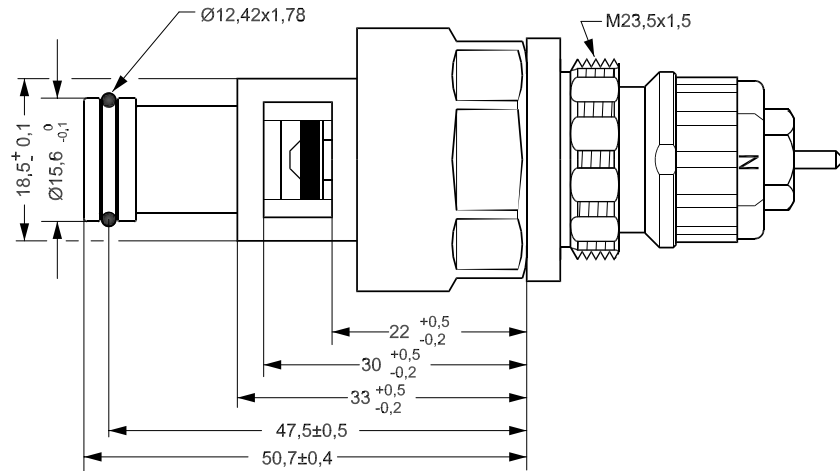
In a one-pipe installation, the setting 'N' must be used. Setting 'N' can also be used for flushing the system to solve dirt problems.

Setting in the shaded areas of the drawing above is not recommendable and should be avoided.

When a thermostatic sensor has been installed onto the valve, the presetting is protected against unintended regulation.

For Danfoss elements RA 2000, RAE and RAW a theft protection device is available. This device also provides added security against unwanted adjustment of the preset values.

Design and Dimensions



Materials

Valve housing	Ms 58
Valve seat	Ms 58
Throttle nozzle	PPS
Setting dial	Plastic
O-rings	NBR / EPDM
Valve spindle	PPS
Valve cone	NBR
Pressure pin and valve spring	Chrome steel
Adapter	Ms 58

Technical Data

Type	Connection thread	Max. water temp., °C	Differential pressure ³⁾		Test pressure, bar	Working pressure, bar	Code no.
			recommended, bar	technical, bar			
RA-N	G ¾ A	120	0.05 - 0.2	0.6	16	10	013G7315

Type	Presetting									Code no.
	k _v -value ^{1) 2)}									
	1	2	3	4	5	6	7	N	N	
RA-N	0.14	0.21	0.26	0.32	0.46	0.59	0.73	0.87	1.05	013G7315

¹⁾ The k_v-values indicate the flow volume (Q) in m³/h at a pressure loss (Δp) across the valve of 1 bar.

$k_v = \frac{Q}{\sqrt{\Delta p}}$. At setting N the k_v-value in accordance with EN 215-1 can be stated as X_p = 2 K. At lower preset values, X_p will be reduced until approximately X_p 0.5 at presetting 1. The table shows the average measured values for integrated valves with radiator. The k_{vs}-values indicate the valve capacity, when the valve is fully open.

²⁾ When using a liquid filled thermostatic sensor (e.g. RAE, RAW, RAS-D or remote setting element type RA 5060), X_p will be increased by factor 1.6 (at setting "N", ref. EN 215).

³⁾ The technical differential pressure indicates the upper limit for a proper valve function. In most two-pipe systems the recommended differential pressure is sufficient. In order to achieve a noiseless function we recommend in smaller systems to apply automatic bypass valves or automatic balancing valves. If pump differential pressure exceeds the recommended max. valve differential pressure it is recommended that an automatic balancing valve type ASV-P/PV is added to the system.

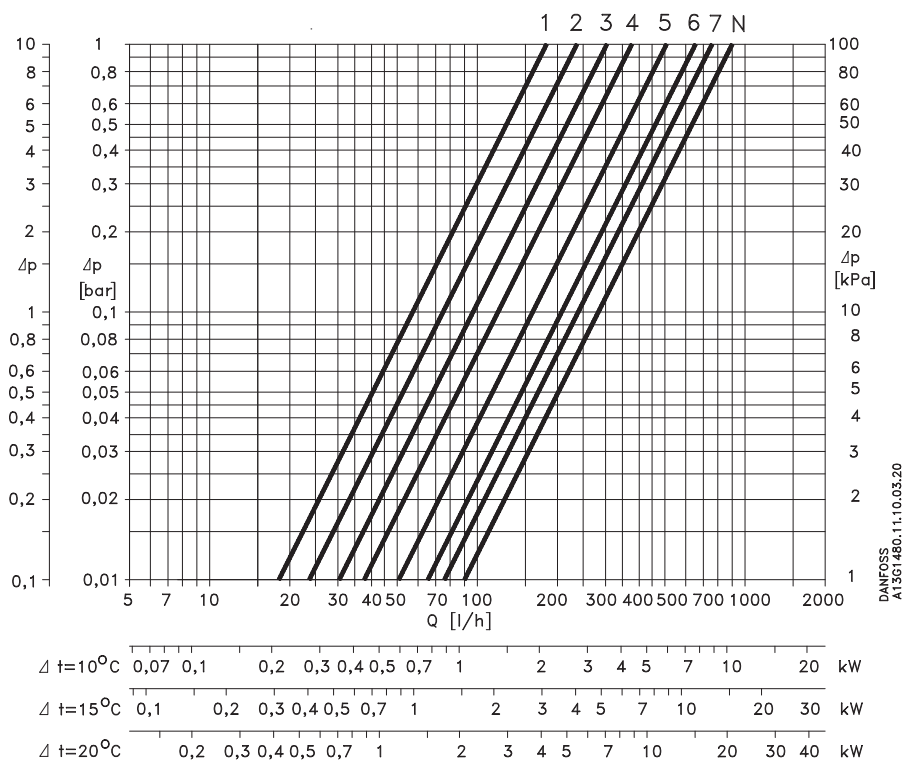
Spare Parts and Accessories

Product	Code no.
Gland seal, 10 pcs. ¹⁾	013G0290
Red protection cap	013G0951

¹⁾ The gland seal of the valve can be replaced under pressure, i.e. while the installation is in operation.

Capacities

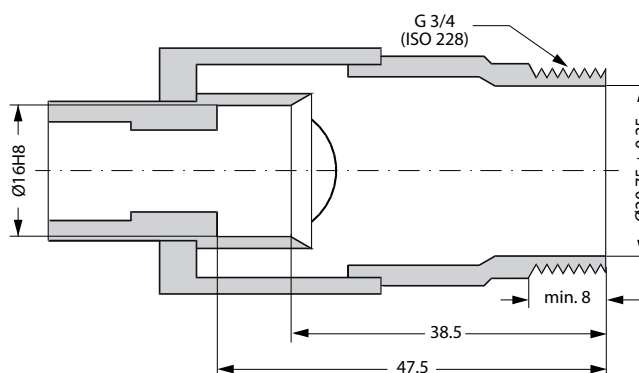
RA-N 013G7315



Capacities at $X_p = 2K$ with Danfoss radiator thermostats RA 2000 are measured without radiator and connection fittings.

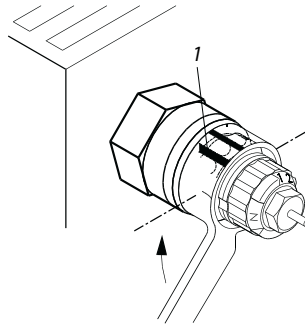
Dimensions

Standard fittings



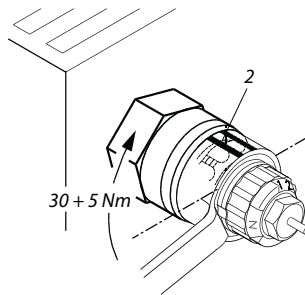
The dimensions stated may vary according to different radiator manufacturers. (013M5058 E0002 001 047 97.03.25)

Mounting Instructions



Installation of an integrated valve at radiator manufacturer's plant

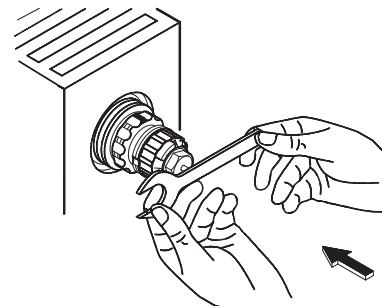
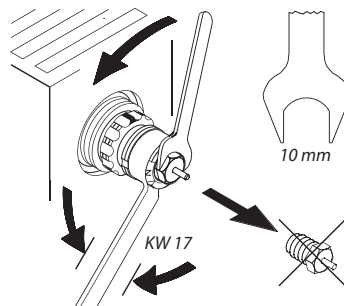
- Fit the integrated valve in the radiator using a 12-edge spanner, KW 21.
- Tighten using a torque of 30 Nm + 5 Nm.
- If required, continue turning until one of the cap thread beads (1) points upwards (2). Tolerance for adjustment: $\pm 5^\circ$.



Removal and fitting in an existing radiator

- Before removal: Notice the presetting value.
- Please mark off the valve position on the valve and the radiator, e.g. on top.
- Remove valve.
- Fitting: Insert the integrated valve, tighten until the marked-off position has been reached.

Replacing the Gland Seal



Firmly

While the system is in operation, the gland seal can be replaced by means of a spanner, KW 10. Hold the setting ring using a 12-edge ring-spanner, KW 17.

Press the pin firmly to ensure contact with the valve spindle.

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