IMI HEIMEIER

Vekotec Eclipse

Valves for radiators with integrated valve

Double connection fitting for radiators with integrated valves, with automatic flow limitation

Engineering GREAT Solutions

IMI Hydronic Engineering

Vekotec Eclipse

The Vekotec Eclipse double connection fitting is designed for installation onto radiators with integrated valves with an Rp 1/2 female thread and G 3/4 male thread. Self sealing connections enable easy mounting to the radiator. Models in angle and straight forms, each designed for two-pipe systems, mean that the connection fitting can be used in a number of different ways. The valve has a unique integrated flow limiter that eliminates over flows. The required flow rate can be adjusted with one twist directly at the valve. The adjusted flow will not be exceed even if there are load changes in the system, due to other valves closing or during morning start up. The valve controls the flow rate independently from differential pressure. Therefore, complicated calculations to determine settings are not necessary.

Key features

- **Integrated flow limiter**
  eliminates over flows
- **Cover for angle and straight forms, white or chrome**
- **Supply and return pipes can be shut-off separately**
- **Flow control insert and shut-off insert are interchangeable**
  the valve is suitable for installation both left and right side of the radiator

Technical description

Applications area:
2-pipe heating systems

Function:
Flow limitation
Shut-off

Dimensions:
DN 15

Pressure class:
PN 10

Temperature:
Max. working temperature: 120 °C, with cover 90 °C.
Min. working temperature: –10 °C

Flow range:
The flow can be stepless pre-set within the range: 10-150 l/h.
Delivery setting 150 l/h.

Differential pressure (ΔpV):
Max. differential pressure:
60 kPa (<30 dB(A))

Min. differential pressure:
10 – 100 l/h = 10 kPa
100 – 150 l/h = 15 kPa

Materials:
Valve body: Corrosion resistant Gunmetal.
O-rings: EPDM rubber
Valve disc: EPDM rubber
Return spring: Stainless steel
Valve insert: Brass, PPS (polyphenylsulphide)
Spindle: Niro-steel spindle with double O-ring sealing.

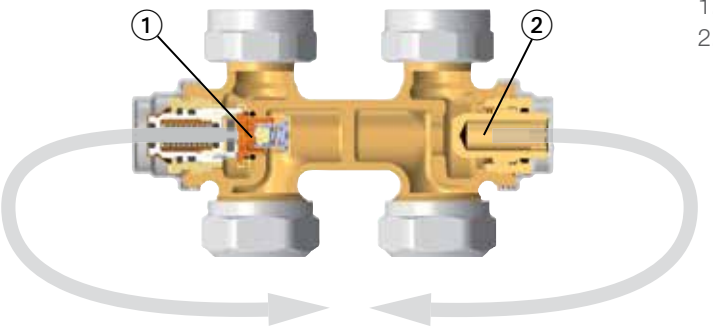
Surface treatment:
Valve body and fittings are nickel-plated.

Marking:
THE and II+ Designation.

Radiator connection:
Adapters for R1/2 or G3/4, for radiator connections. Tolerance compensation ±1,0 mm with special union nuts and flexible flat seal system for installation free of tension.

Pipe connection:
G3/4 male thread for compression fittings for plastic, copper, precision steel or multi-layer pipe.

Construction



1. Automatic flow limiter
2. Return shut-off

Function

Eclipse flow limiter

A regulating part is set to the calculated control rate by turning the digit cap with the setting key or an 11 mm end wrench. If the flow rate increases at the valve the rising pressure moves the sleeve, thus constantly limiting the flow to the set value.

The set flow rate is therefore never exceeded. If the flow rate drops below the set value a spring presses the sleeve back to its original position.

Application

The Vekotec Eclipse double connection fitting is designed for installation onto radiators with integrated valves with an Rp1/2 female thread and G3/4 male thread.

Self sealing connections enable easy mounting to the radiator.

Models in angle and straight forms, each designed for two-pipe systems, mean that the connection fitting can be used in a number of different ways. For example, the straight form can be used for pipe connection vertical to the floor. If a free floor area is required, the angle form is used for the wall connection.

The valve has a unique integrated flow limiter that eliminates over flows. The required flow rate can be adjusted with one twist directly at the valve. The adjusted flow will not be exceed even if there are load changes in the system, due to other valves closing or during morning start up. The valve controls the flow rate independently from differential pressure. Therefore, complicated calculations to determine settings are not necessary.

The pressure loss of pipings in old systems does not have to be determined in renovation projects. Only the heating capacity and the resulting max. flow rate have to be determined (see setting chart). The min. differential pressure has to be at the most unfavourable valve. If necessary, it can be measured in order to optimize pump settings.

Radiators can be shut off individually with the Vekotec Eclipse connection fitting. For dismounted radiators decorating and service work, for example, can be carried out without interruption to other radiators.

Flow control insert and shut-off insert are interchangeable. The valve is suitable for installation both left and right side of the radiator. This is especially advantageous when the radiator is turned around.

Note the flow direction!

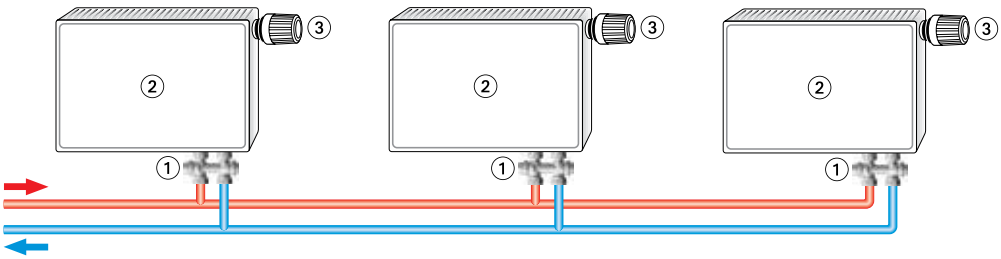
See also the installation and operating instruction.

Noise behaviour

To ensure low-noise performance, the following conditions must be met:

- The differential pressure above Eclipse should not exceed 60 kPa = 600 mbar = 0,6 bar (<30 dB(A)).
- Flow must be correctly adjusted.
- The system must be completely deaerated.

Sample application
Two-pipe system



1. Vekotec Eclipse
2. Radiator
3. Thermostatic head

Note

– To avoid damage and the formation of scale deposit in the hot water heating system, the composition of the heat transfer medium should be in accordance with the VDI guideline 2035. For industrial and long-distance energy systems, see the applicable codes VdTÜV and 1466/AGFW FW 510.
A heat transfer medium containing mineral oils, or any type of lubricant containing mineral oil can have extremely negative effects and usually lead to the disintegration of EPDM seals. When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly concerning concentration and specific additives.

Operation

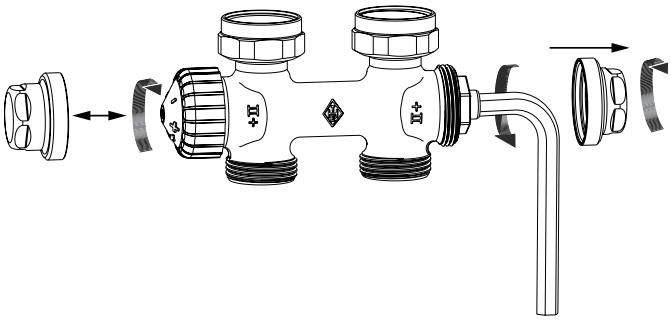
Shut-off
The Vekotec Eclipse return pipe shut-off is operated with an allan key size 8 AF. The return pipe shut-off is closed by turning clockwise (Fig.).

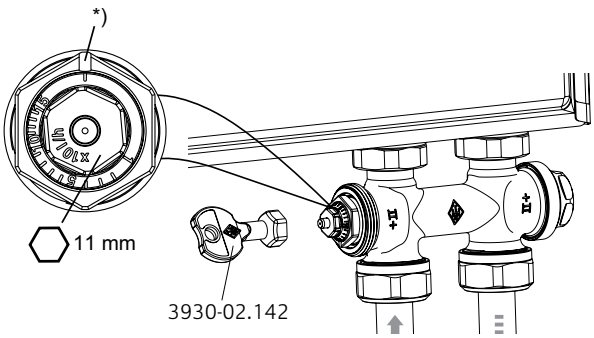
The supply pipe is shut off by turning the enclosed protection cap clockwise.

Flow setting
Stepless setting between 1 to 15 (10 to 150 l/h).

The setting is changed using a special setting key (article No. 3930-02.142) or an 11 mm end wrench, to ensure tamper proof setting.

- Place the setting key on the valve insert.
- Turn the setting tool so that desired setting value is pointing at the index* of the valve body (see fig.).
- Remove the key or 11 mm end wrench.
  The valve is now set.

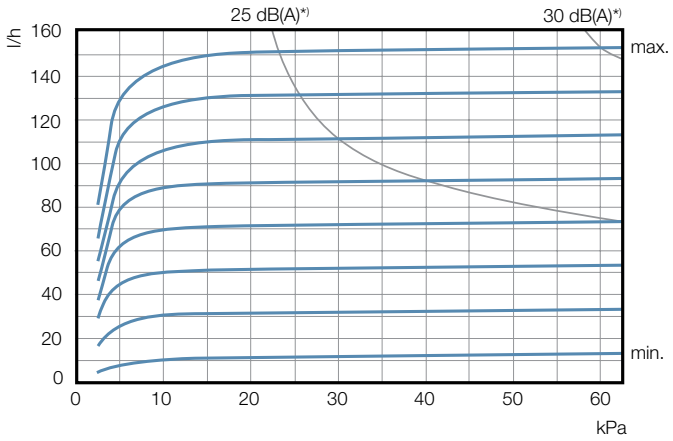




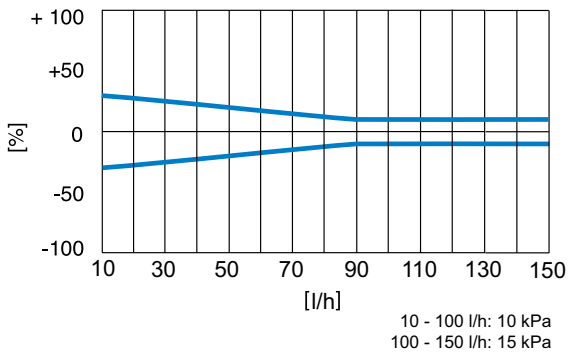
*) Index

Setting	1	I	I	I	5	I	I	I	I	10	I	I	I	I	15
l/h	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Diagram



Lowest flow tolerances



*) P-band [xp] max. 2 K.

Setting table

Setting values with different radiator performances and system differential temperatures

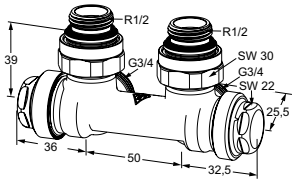
Q [W]	200	250	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4800	5300	6500	6800
Δt [K]																													
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15															
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15											
20	1	1	1	2	2	3	3	3	4	4	5	6	7	8	9	10	10	11	12	13	14	15							
30	1	1	1	1	1	2	2	2	3	3	3	4	5	5	6	6	7	8	8	9	9	10	10	11	12	14	15		
40		1	1	1	1	1	2	2	2	2	3	3	3	4	4	5	5	6	6	7	7	7	8	8	9	10	11	14	15

Δp min. 10 - 100 l/h = 10 kPa
Δp min. 100 - 150 l/h = 15 kPa

Q = Radiator performance
Δt = System differential temperature
Δp = Differential pressure

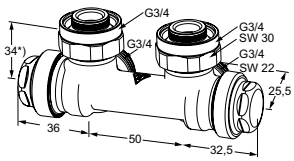
Sample:
Q = 1000 W, Δt = 15 K
Setting value: **6** (≈ 60 l/h)

Articles



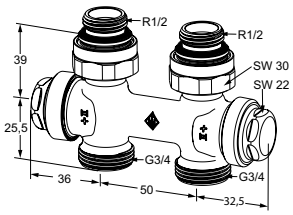
Angle
Female thread
Nickel plated gunmetal

Connection radiator	Flow range [l/h]	EAN	Article No
Rp1/2	10-150	4024052933211	0571-50.000



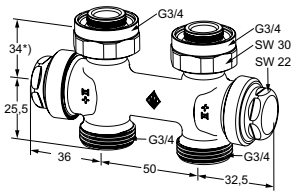
Angle
Male thread
Nickel plated gunmetal

Connection radiator	Flow range [l/h]	EAN	Article No
G3/4	10-150	4024052933419	0573-50.000



Straight
Female thread
Nickel plated gunmetal

Connection radiator	Flow range [l/h]	EAN	Article No
Rp1/2	10-150	4024052933112	0570-50.000

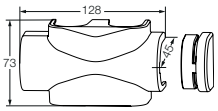


Straight
Male thread
Nickel plated gunmetal

Connection radiator	Flow range [l/h]	EAN	Article No
G3/4	10-150	4024052933310	0572-50.000

*) Bearing surface seal top edge.

Accessories

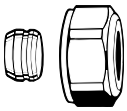


Cover
made of plastic.
For angle and straight forms.

Colour	EAN	Article No
white RAL 9016	4024052459254	3850-50.553

Setting key
for Eclipse. Color orange.

	EAN	Article No
	4024052937714	3930-02.142

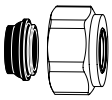


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Connection male thread G 3/4 according to DIN EN 16313 (Eurocone).
Metal-to-metal joint. Brass nickel-plated.
With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351

Supporting sleeves
for copper or precision steel pipe with a wall thickness of 1 mm.

Ø Pipe	L	EAN	Article No
12	25,0	4024052127016	1300-12.170
15	26,0	4024052127917	1300-15.170
16	26,3	4024052128419	1300-16.170
18	26,8	4024052128815	1300-18.170

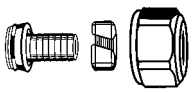


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2 and stainless steel pipe.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Soft sealed, max. 95°C.
Nickel-plated brass.

Ø Pipe	EAN	Article No
15	4024052515851	1313-15.351
18	4024052516056	1313-18.351

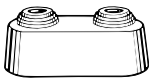
Compression fitting
for Alu/PEX multi-layer pipe according to DIN 16836. Connection male thread G 3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351



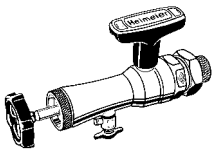
Compression fitting
for plastic pipe according to DIN 4726, ISO 10508.
PE-X: DIN 16892/16893, EN ISO 15875; PB: DIN 16968/16969.
Connection male thread G 3/4 according to DIN EN 16313 (Eurocone).
Nickel plated brass.

Ø Pipe	EAN	Article No
14x2	4024052134618	1311-14.351
16x2	4024052134816	1311-16.351
17x2	4024052134915	1311-17.351
18x2	4024052135110	1311-18.351
20x2	4024052135318	1311-20.351



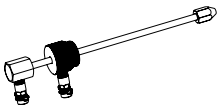
Double rosette
Dividable in the middle, made of plastic, white, for various pipe diameters.
Centre distance 50 mm.
Overall height max. 31 mm.

	EAN	Article No
	4024052120710	0520-00.093



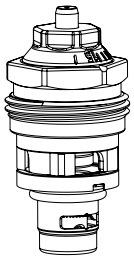
Fitting tool
complete with case, box spanner and replacement seals, for replacing thermostatic inserts without draining off the heating system (for DN 10 to DN 20).

	EAN	Article No
Fitting tool	4024052298914	9721-00.000
Replacement seals	4024052299010	9721-00.514



Measuring spindle for fitting tool
for differential pressure measurement at thermostatic valve bodies with TA-Scope balancing instrument.

	EAN	Article No
	4024052942114	9790-01.890



Replacement thermostatic insert
with automatic flow limiter for Eclipse.

	EAN	Article No
	4024052940912	3930-02.300

0570-00.480 Index 03
03.2019

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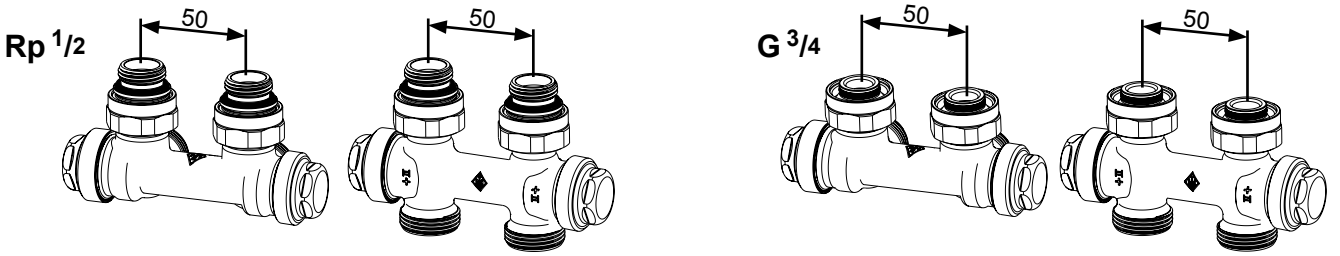

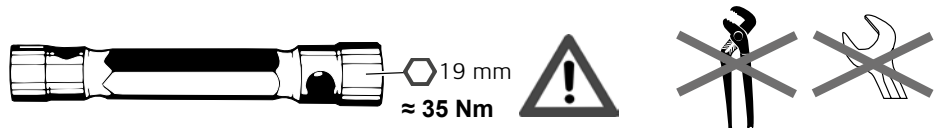

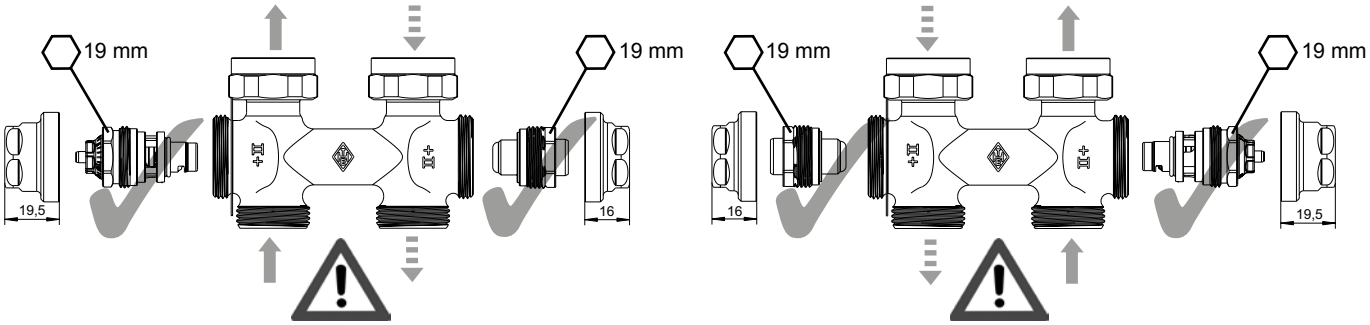

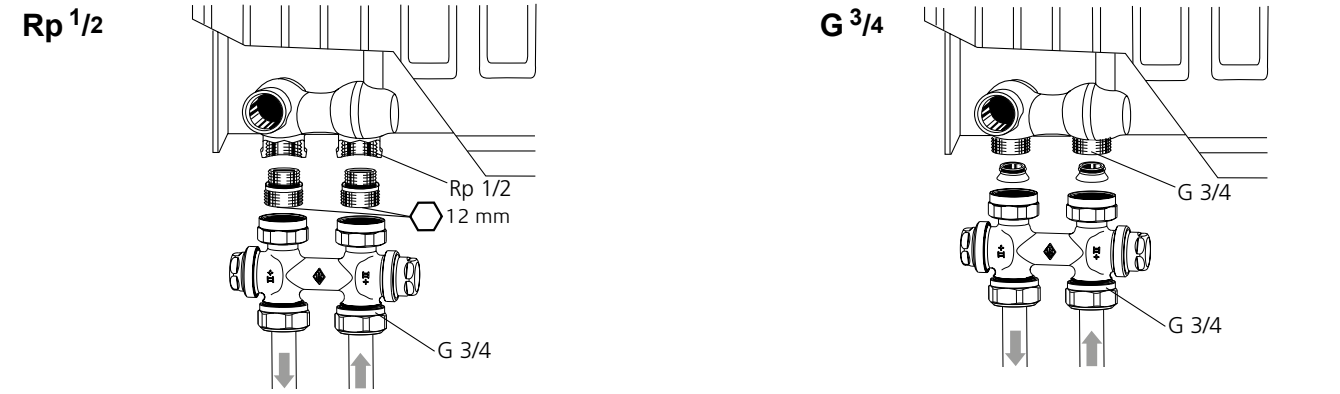

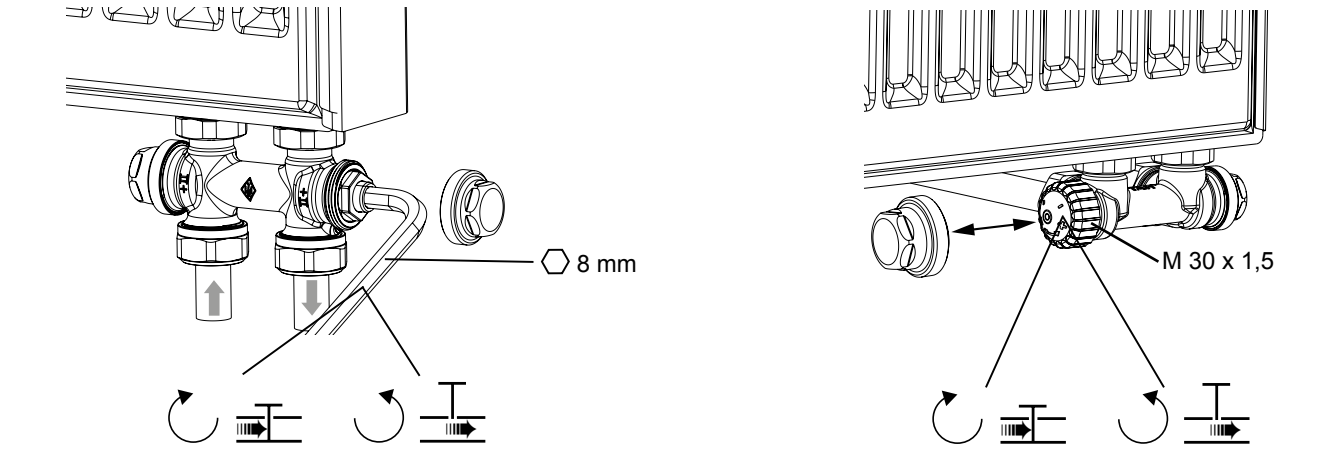

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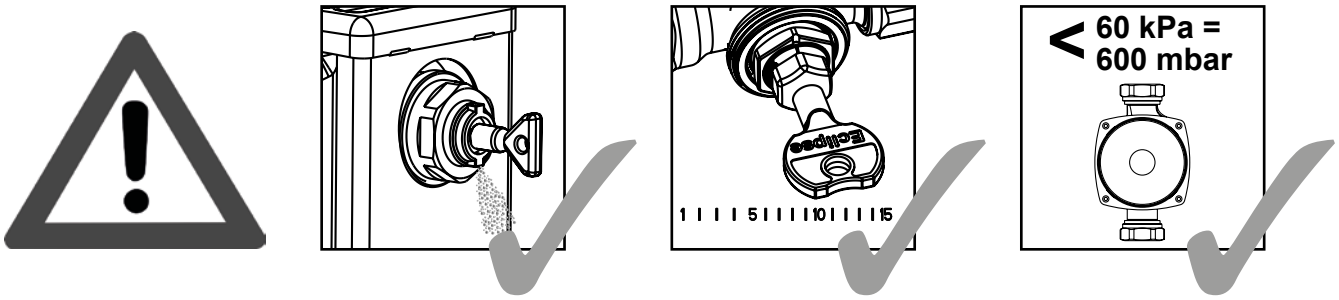

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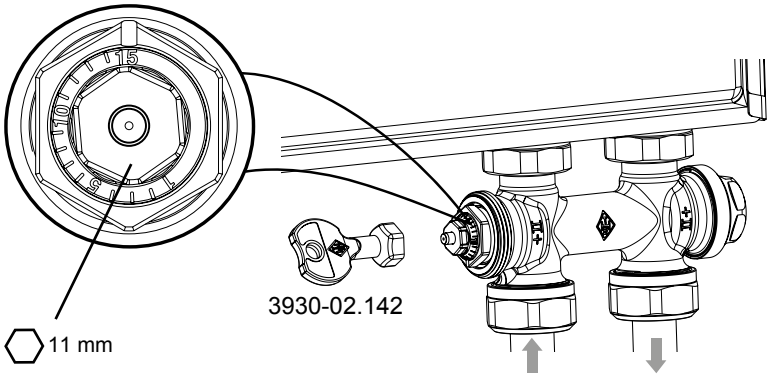
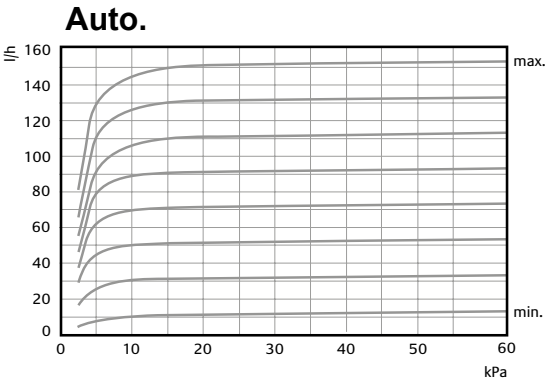
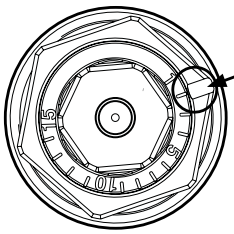




	1	I	I	I	5	I	I	I	I	10	I	I	I	I	15
l/h	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150



$\dot{Q}$ [W]	200	250	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4800	5300	6500	6800
Δt [K]																													
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15															
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15											
20	1	1	1	2	2	3	3	3	4	4	5	6	7	8	9	10	10	11	12	13	14	15							
40		1	1	1	1	1	2	2	2	2	3	3	3	4	4	5	5	6	6	7	7	7	8	8	9	10	11	14	15

Δp min. 10 - 100 l/h = 10 kPa
Δp min. 100 - 150 l/h = 15 kPa

IMI Hydronic Engineering

We reserve the right to introduce technical alterations without previous notice.

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