

Multilux 4-Eclipse-Set



Design-Edition

with two-point connection,
angle and straight type,
for R 1/2 and G 3/4 connection,
with automatic flow limitation

*Engineering
GREAT Solutions*

Multilux 4-Eclipse-Set

The Multilux 4-Eclipse-Set is connected in 2-pipe systems to radiators with a lower 2-point connection such as bathroom radiators, design radiators, universal radiators or radiators with integrated valves. 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 exceeded 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. Centre-to-centre distance of connections 50 mm. The Multilux 4-Eclipse-Set is suitable for installation as angle or straight form. Thermostatic insert and shut-off insert are interchangeable. Therefore the valve is suitable for installation both left and right side of the radiator.



Key features

- > **Integrated flow limiter**
eliminates over flows
- > **Thermostatic insert and shut-off insert are interchangeable**
the valve is suitable for installation both left and right side of the radiator
- > **Suitable for installation as angle or straight form**
for pipe connection to the wall or vertical to the floor
- > **Sets with white or chrome cover**
easy to install

Technical description

Applications area:

2-pipe heating systems

Function:

Control
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 (Δp_V):

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.
Cover: ABS

Surface treatment:

Valve body gunmetal, fittings are nickel-plated.

Marking:

THE and II+ Designation.
Protection cap orange.

Radiator connection:

Adapters for R1/2 and G3/4, for radiator connections. Tolerance compensation $\pm 1,0$ 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.

Connection to thermostatic head and actuator:

HEIMEIER M30x1.5

Thermostatic head DX:

Thermostatic head DX with closed graduation cap and liquidfilled thermostat. High actuating force, minimum hysteresis, optimum closing time. Stable control response even with minor calculated p-band variations (<1 K). Conforming to German EnEV and/or DIN V 4701-10. Setting numbers 1–5. Frost protection. Temperature range 6 °C to 28 °C.

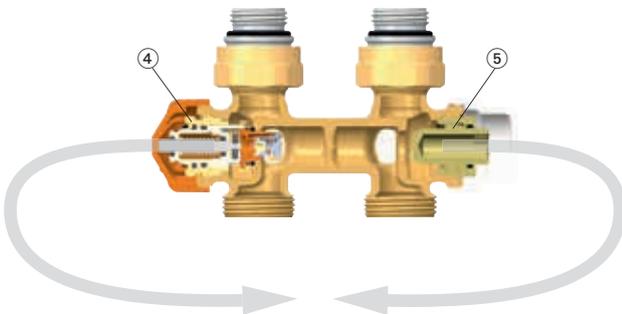
Construction

Multilux 4-Eclipse

Installation as angle type / Installation as straight type



1. R1/2 Radiator connection
2. G3/4 Radiator connection
3. G3/4 end caps
4. Thermostatic insert with automatic flow limiter
5. 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 Multilux 4-Eclipse-Set is connected in 2-pipe systems to radiators with a lower 2-point connection such as bathroom radiators, design radiators, universal radiators or radiators with integrated valves etc..

The Multilux 4-Eclipse-Set is suitable for installation as angle or straight form.

The required design flow for each radiator is set directly on the Multilux 4-Eclipse valve. This automatic flow limitation is done with a twist and the adjusted flow will then not be exceeded. Even if there is an oversupply of pressure, due to load changes in the system, for example other valves closing or during morning start up, Eclipse will guarantee the requested flow.

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.

Thermostatic insert and shut-off insert are interchangeable. Therefore the valve is suitable for installation both left and right side of the radiator.

The Multilux 4-Eclipse-Set is suitable for universal applications thanks to its connection options for Rp 1/2 and G3/4 radiator connections.

Note the flow direction!

See also the installation and operating instruction.

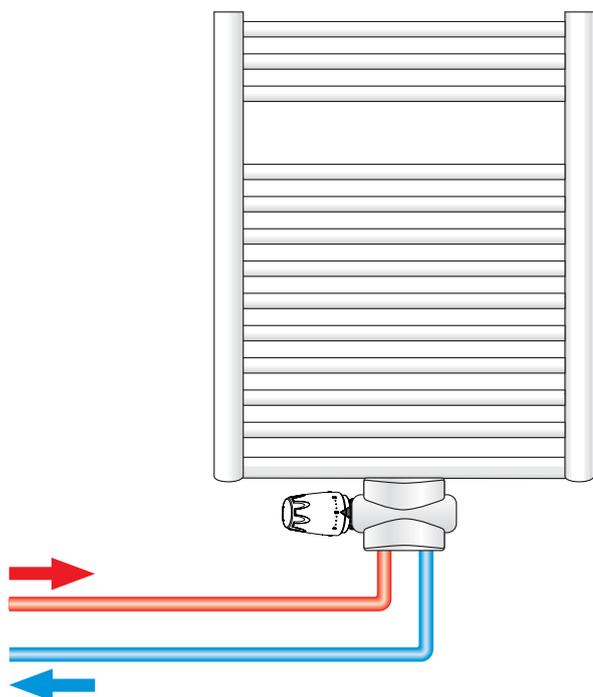
Noise behaviour

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

Multilux 4-Eclipse with bathroom radiator



Multilux 4-Eclipse-Set, white RAL 9016



Multilux 4-Eclipse-Set, chrome



Notes

– 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.

– The thermostatic valve bodies can be used with all IMI Hydronic Engineering thermostatic heads and thermal or motorized actuators. The optimal tuning of the components guarantees maximum safety. When using actuators from other manufacturers, make sure that the pressure power is appropriate for thermostatic valve bodies with soft sealing valve discs.

Operation

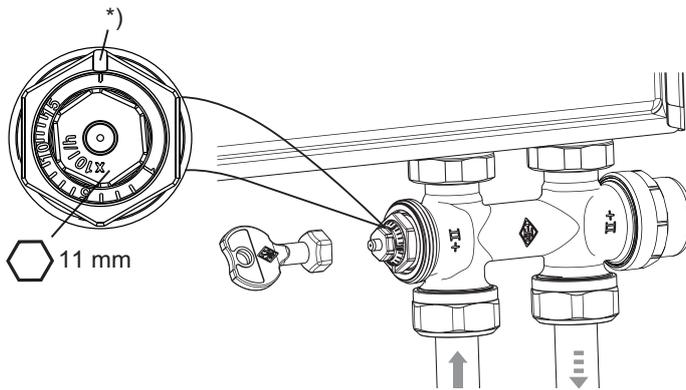
Flow setting

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.

Front-end and lateral visibility



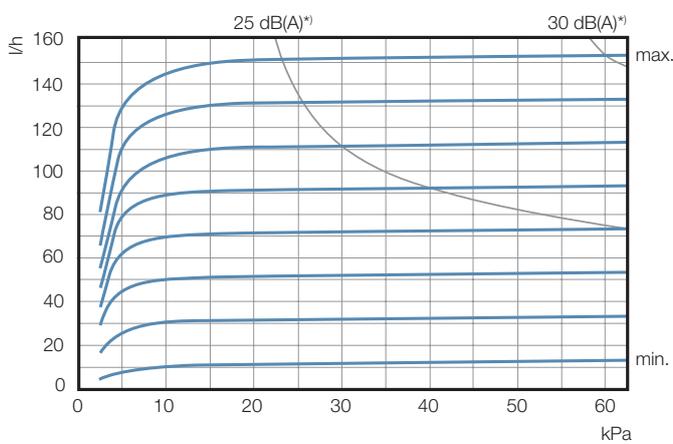
*) Index

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

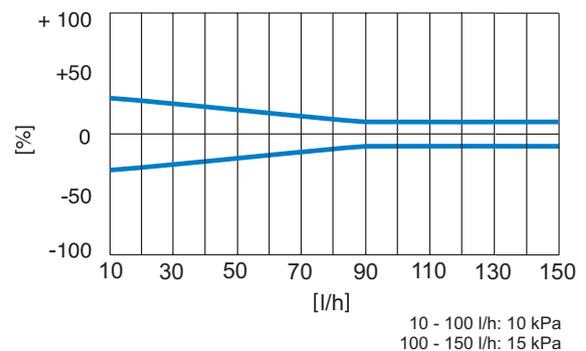
P-band [xp] max. 2 K.

P-band [xp] max. 1 K up to 90 l/h.

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					

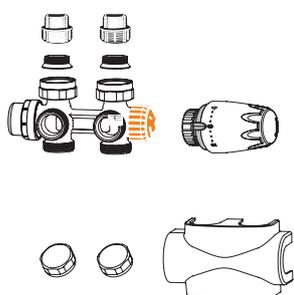
Δp min. 10 - 100 l/h = 10 kPa
 Δp min. 100 - 150 l/h = 15 kPa

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

Sample:

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

Articles



Multilux 4-Eclipse-Set

- Multilux 4-Eclipse-Set consists of:
- Multilux 4 Eclipse thermostatic valve body
 - R 1/2 radiator connections
 - G 3/4 radiator connections
 - End caps for G 3/4 pipe connection
 - Cover
 - Thermostatic head DX

	EAN	Article No
White RAL 9016	4024052938315	9690-58.000
Chrome-plated	4024052938414	9690-59.000

Accessories



Setting key

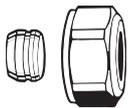
for Eclipse. Color orange.

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. Connection male thread G 3/4 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

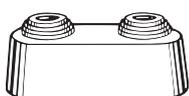
4024052135110

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



Replacement thermostatic insert

with automatic flow limiter for Eclipse.

EAN

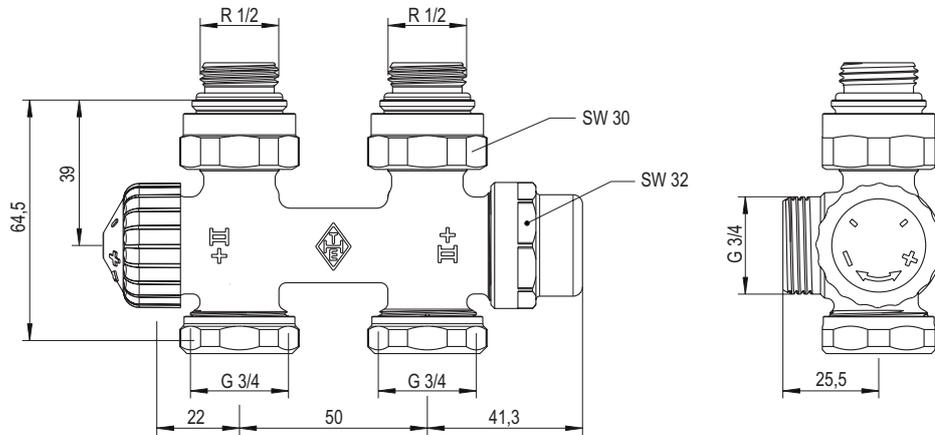
Article No

4024052940912

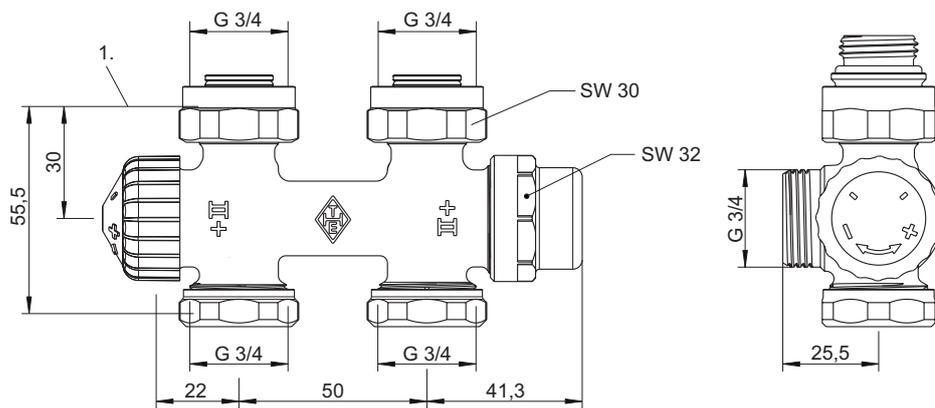
3930-02.300

Dimensions

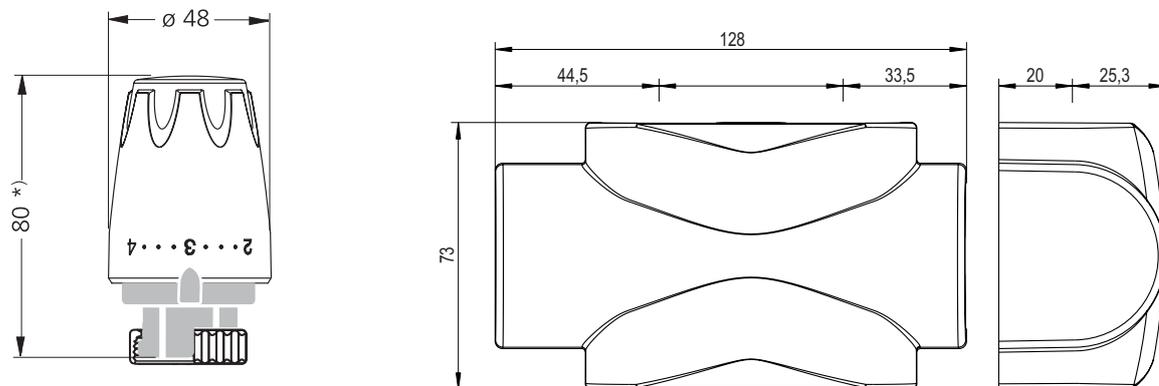
R1/2 radiator connection



G3/4 radiator connection



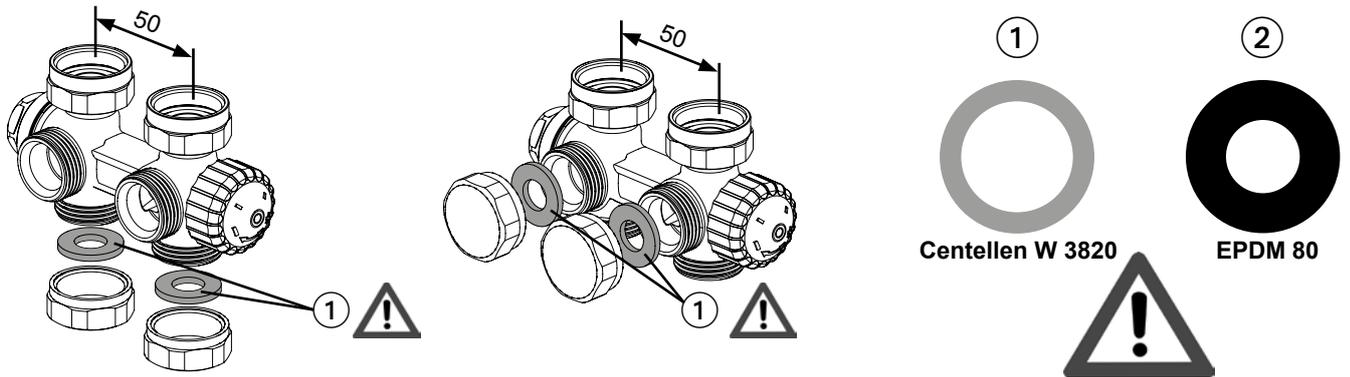
1. Contact surface, upper edge seal



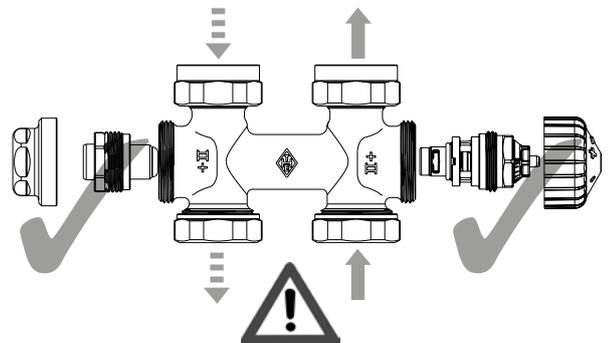
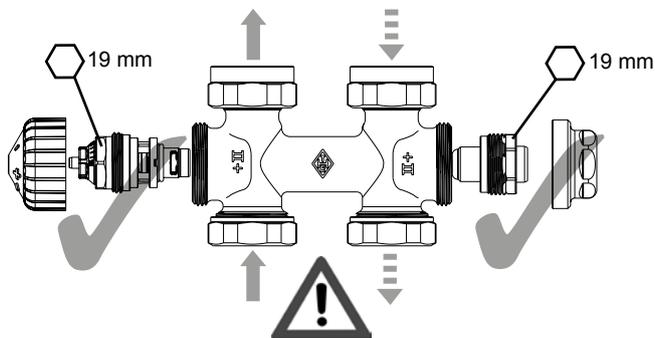
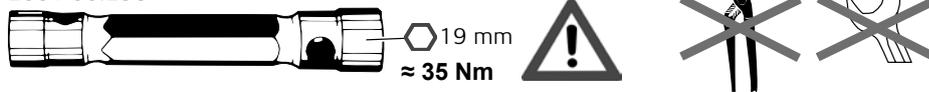
*) setting at 3

1 mm = 0,0394 inch

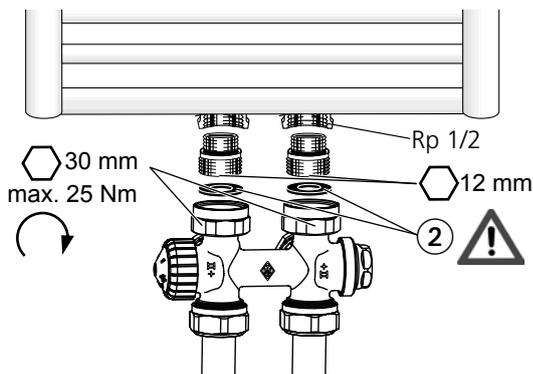
Multilux 4-Eclipse



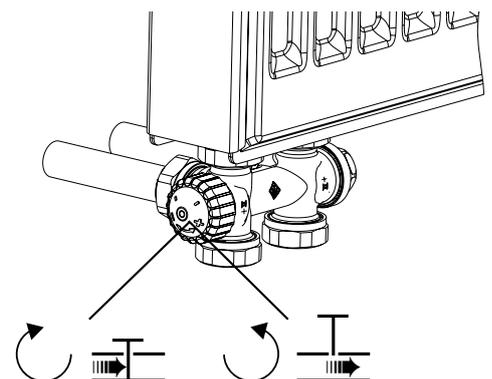
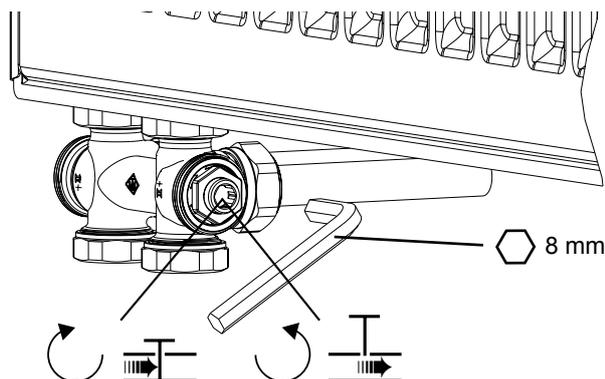
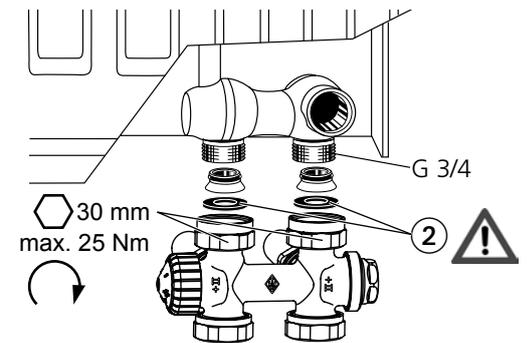
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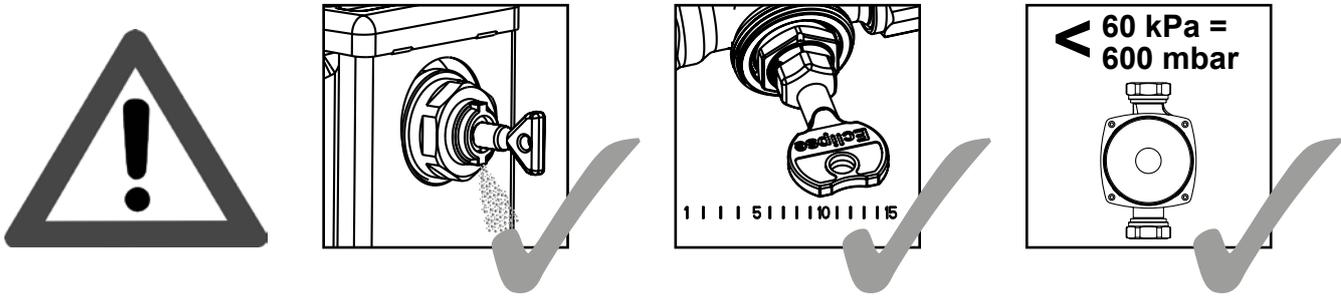


Rp 1/2

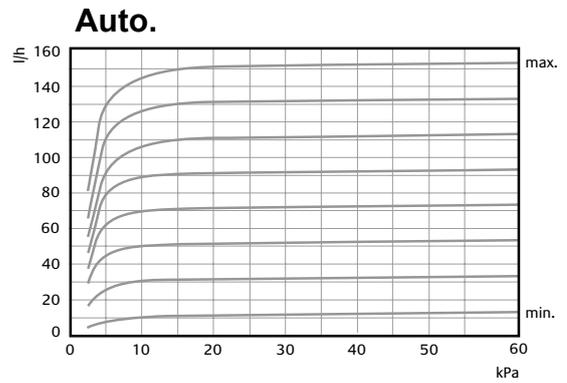
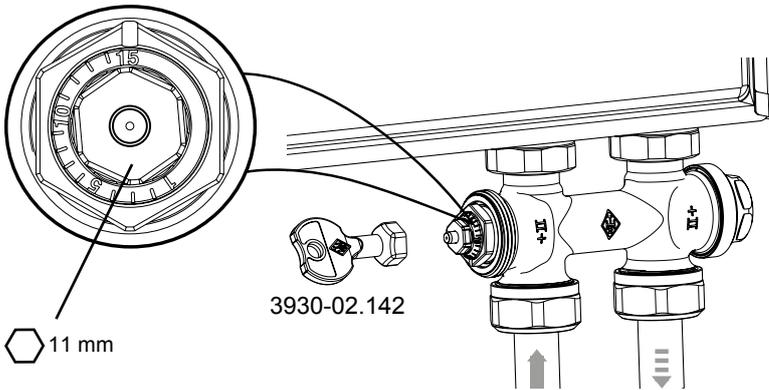


G 3/4

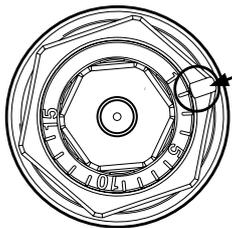




1 | | | 5 | | | 10 | | | 15



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



Q̇ [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			
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40		1	1	1	1	1	2	2	2	2	3	3	3	4	4	5	5	6	6	7	7	7	8	8	8	9	10	11	14	15		

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

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