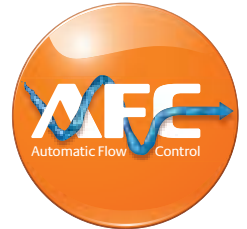



# A-exact



**Thermostatic Radiator Valves**  
Thermostatic radiator valve with  
automatic flow limitation

Engineering  
**GREAT** Solutions

# A-exact

The thermostatic radiator valve A-exact has a unique integrated flow limiter that eliminates over flows. The required flow rate can be adjusted directly at the valve with a twist. 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.

## Key features

- > **Integrated flow limiter**  
eliminates over flows
- > **Flow range from 10 to 150 l/h**  
for high flexibility
- > **Easy adjustment**  
just a twist to reach design flow
- > **Perfect for renovation**  
Standard dimensions and easy flow sizing



## Technical description

### Applications area:

Heating systems

### Function:

Control  
Flow limitation  
Shut-off

### Dimensions:

DN 10-20

### Pressure class:

PN 10

### Temperature:

Max. working temperature: 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 ( $\Delta p_V$ ):

Max. differential pressure: 60 kPa  
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:

TAH, DN and flow direction arrow.  
Orange protection cap.

### Pipe connection:

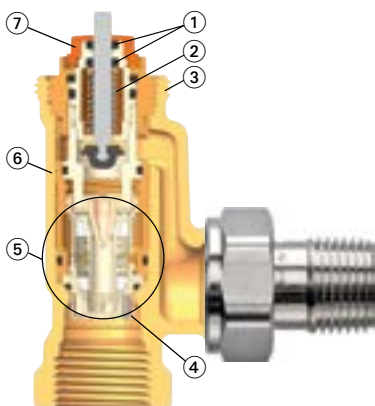
The female-threaded version is designed for connection to threaded pipe, or in conjunction with compression fittings, to copper precision steel or multi-layer pipe (only DN 15). The male-threaded version, in conjunction with the appropriate compression fittings, permits connection to plastic pipe.

### Connection to thermostatic head and actuator:

IMI Heimeier M30x1.5

## Construction

### A-exact



1. Long-life double O-ring sealing
2. Strong return spring in combination with high locating force ensures that the valve does not slacken off over time
3. IMI Heimeier M30x1.5 connection for thermostatic heads and actuators
4. Dirt protection for the flow regulator
5. Automatic flow limiter
6. Valve body in corrosion-resistant gunmetal
7. Flow setting

### Replaceable insert

The complete thermostatic insert can be replaced using the IMI Heimeier fitting tool (with black handwheel) without draining the system.

## Application

The thermostatic radiator valve A-exact is applied in two-pipe pumped heating system with normal to high temperature spread.

The required design flow for each radiator is set directly on the A-exact. 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, A-exact will guarantee the requested flow.

### Renovation

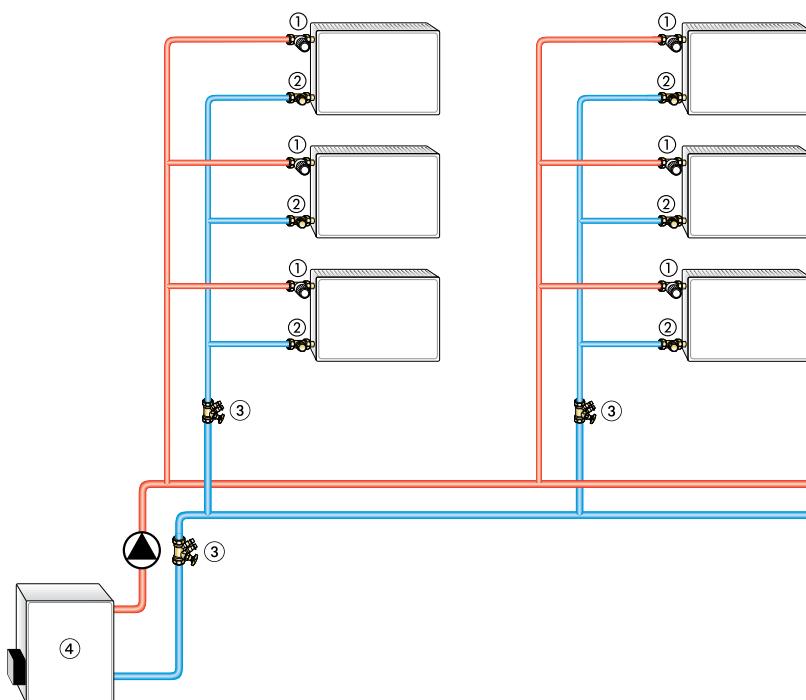
A-exact replaces old valves easily due to dimensions according to EN 215 standard.

### Noise behaviour

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

- The differential pressure above A-exact should not exceed 60 kPa = 600 mbar = 0,6 bar.
- Flow must be correctly adjusted.
- The system must be completely deaerated.

### Sample application



1. A-exact
2. Lockshield Regulux/Regutec
3. STAD balancing valve for maintenance and diagnostics
4. Boiler

### 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 Heimeier thermostatic heads and IMI Heimeier or IMI TA 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

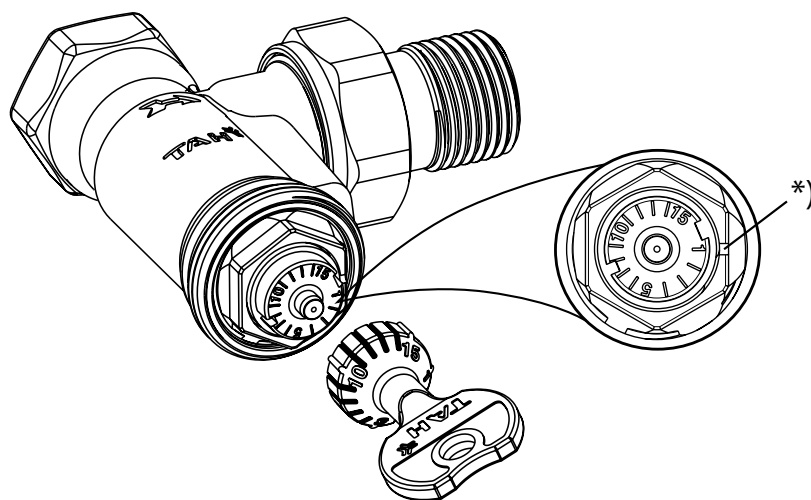
### Flow setting

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

The setting is changed using a special setting key (article No. 3901-02.142), to ensure tamper proof setting.

- Place the setting key on the valve insert and turn until it engages in position.
- Turn the setting tool so that desired setting value is pointing at the index\* of the valve body (see fig.).
- Remove the key. The valve is now set.

### Front-end visibility

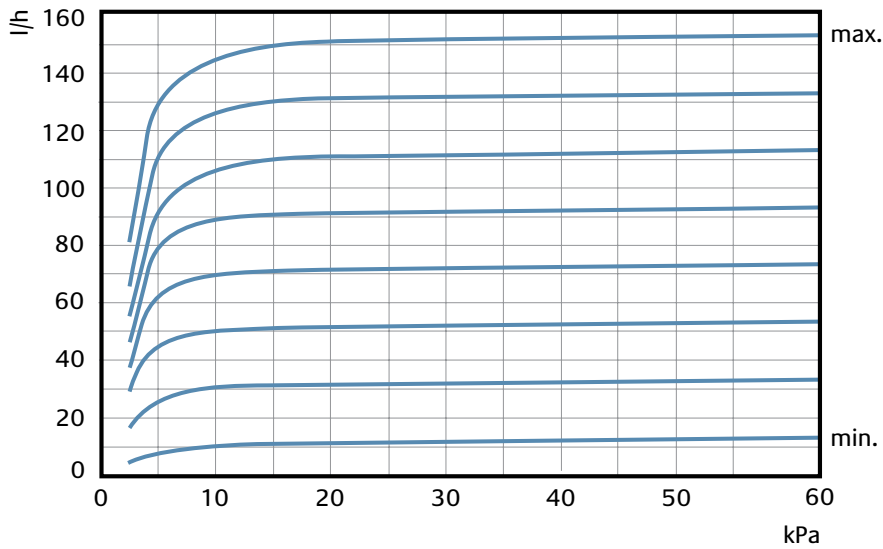


\*) Index

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

## Diagram



## 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					
$\Delta t$ [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					

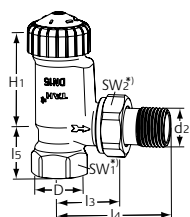
$\Delta p$  min. 10 - 100 l/h = 10 kPa  
 $\Delta p$  min. 100 - 150 l/h = 15 kPa

Q = Radiator performance  
 $\Delta t$  = System differential temperature  
 $\Delta p$  = Differential pressure

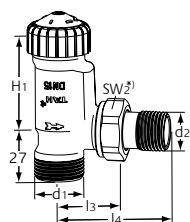
### Sample:

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

## Articles

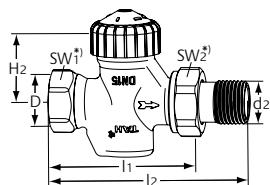

**Angle**

DN	D	d2	l3	l4	l5	H1	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	28,5	55	22,5	45,5	10-150	4024052893713	3911-01.000
15	Rp1/2	R1/2	30	58	27	45,5	10-150	4024052893812	3911-02.000
20	Rp3/4	R3/4	34	66	28	45,5	10-150	4024052909612	3911-03.000

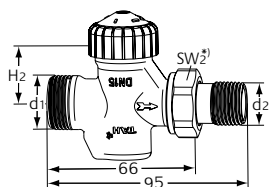

**Angle**

with male thread G 3/4

DN	d1	d2	l3	l4	H1	Flow range [l/h]	EAN	Article No
15	G3/4	R1/2	30	58	45,5	10-150	4024052918812	3919-02.000

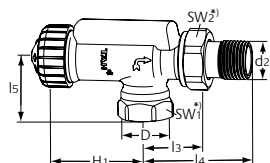

**Straight**

DN	D	d2	l1	l2	H2	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	61	87	30	10-150	4024052894017	3912-01.000
15	Rp1/2	R1/2	66	95	30	10-150	4024052893911	3912-02.000
20	Rp3/4	R3/4	74	106	30	10-150	4024052909513	3912-03.000


**Straight**

with male thread G 3/4

DN	d1	d2	H2	Flow range [l/h]	EAN	Article No
15	G3/4	R1/2	30	10-150	4024052918713	3920-02.000


**Axial**

DN	D	d2	l3	l4	l5	H1	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	26	52,5	27	47	10-150	4024052893515	3910-01.000
15	Rp1/2	R1/2	29	58	32	47	10-150	4024052893614	3910-02.000

\*) SW1: DN10=22mm, DN15=27 mm

SW2: DN10=27mm, DN15=30 mm

Values H1 and H2 are at the bearing surface thermostatic head or actuator.

## Accessories



### Setting key

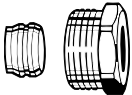
for A-exact. Color orange.

#### EAN

#### Article No

4024052906413

3901-02.142



### Compression fitting

for copper or precision steel pipes.

Female thread connection

Rp 3/8 – Rp 3/4.

Metal-to-metal joint.

Brass nickel-plated.

Support sleeves should be used for a pipe wall thickness of 0.8 – 1 mm. Follow the specifications of the pipe manufacturer.

#### Ø Pipe

#### DN

#### EAN

#### Article No

12	10 (3/8")	4024052174614	2201-12.351
----	-----------	---------------	-------------

15	15 (1/2")	4024052175017	2201-15.351
----	-----------	---------------	-------------

16	15 (1/2")	4024052175116	2201-16.351
----	-----------	---------------	-------------

18	20 (3/4")	4024052175215	2201-18.351
----	-----------	---------------	-------------



### Support sleeve

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

Brass.

#### Ø Pipe

#### L

#### EAN

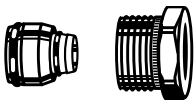
#### Article No

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 multi-layer pipes.

Female thread connection Rp 1/2.

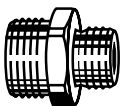
Nickel-plated brass.

#### Ø Pipe

#### EAN

#### Article No

16 x 2		4024052138616	1335-16.351
--------	--	---------------	-------------



### Double connection fitting

For clamping plastic, copper, precision steel or multi-layer pipes.

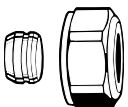
Brass, nickel-plated.

#### L

#### EAN

#### Article No

G3/4 x R1/2	26	4024052308415	1321-12.083
-------------	----	---------------	-------------



### Compression fitting

for copper or precision steel pipes.

Male thread connection G 3/4.

Metal-to-metal joint.

Nickel-plated brass.

Support sleeves should be used for a pipe wall thickness of 0.8 – 1 mm. Follow the specifications of the pipe manufacturer.

#### Ø Pipe

#### EAN

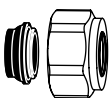
#### Article No

12		4024052214211	3831-12.351
----	--	---------------	-------------

15		4024052214617	3831-15.351
----	--	---------------	-------------

16		4024052214914	3831-16.351
----	--	---------------	-------------

18		4024052215218	3831-18.351
----	--	---------------	-------------



### Compression fitting

for copper or precision steel pipes.

Male thread connection G 3/4.

Soft sealed.

Nickel-plated brass.

#### Ø Pipe

#### EAN

#### Article No

15		4024052515851	1313-15.351
----	--	---------------	-------------

18		4024052516056	1313-18.351
----	--	---------------	-------------

**Compression fitting**

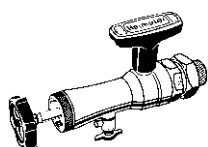
for plastic pipes.  
Male thread connection G 3/4.  
Nickel plated brass.

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

**Compression fitting**

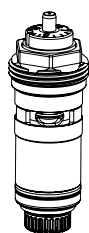
for multi-layer pipes.  
Male thread connection G 3/4.  
Nickel-plated brass.

Ø Pipe	Article No
16x2	1331-16.351

**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

**Replacement thermostatic insert**

with automatic flow limiter for A-exact/  
Multilux 4-A-Set.

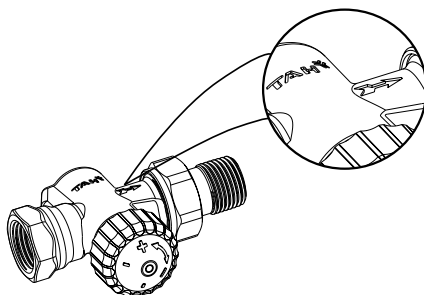
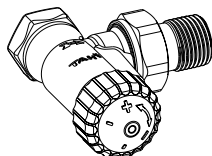
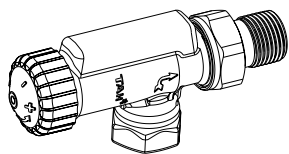
	EAN	Article No
	4024052909315	3901-02.300

Other accessories, see catalogue leaflet "Accessories and spare parts for thermostatic radiator valves".



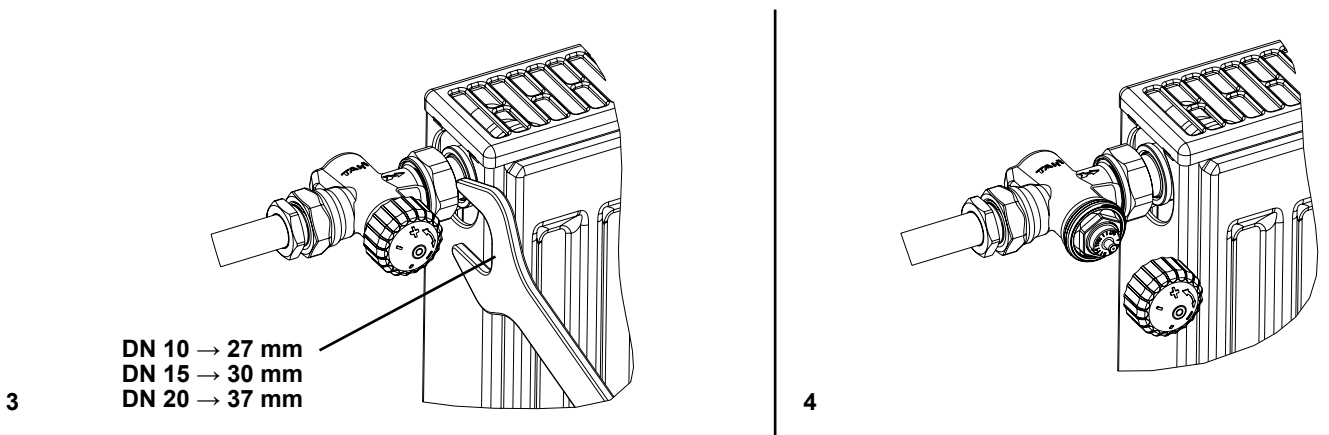
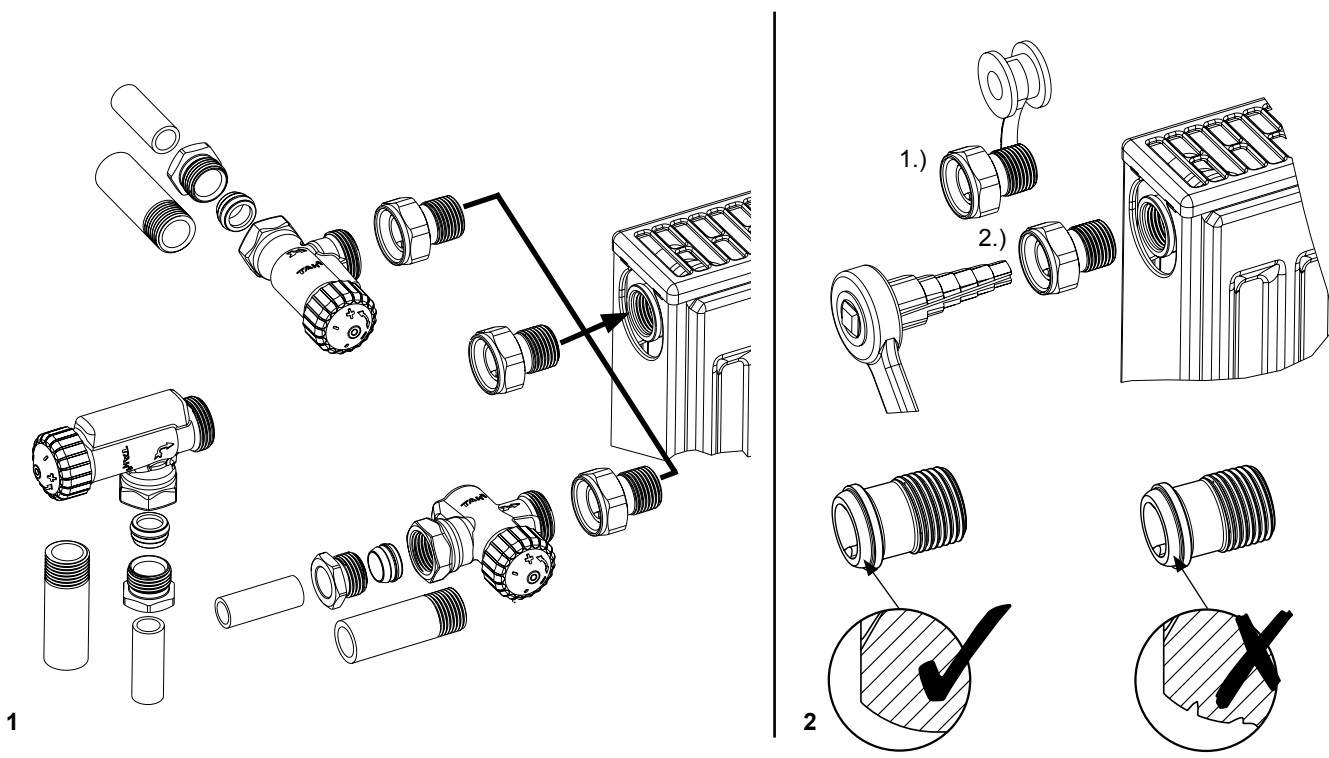
**A-exact**

DN 10 3910-01.000  
DN 15 3910-02.000



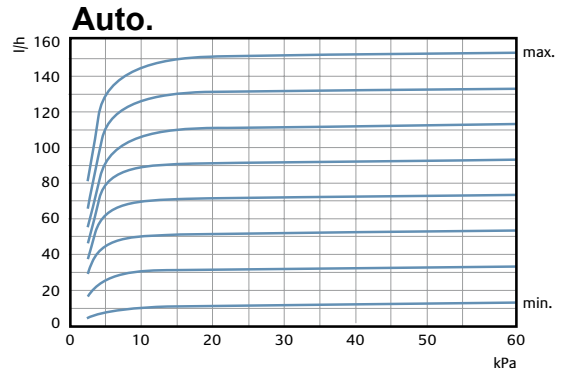
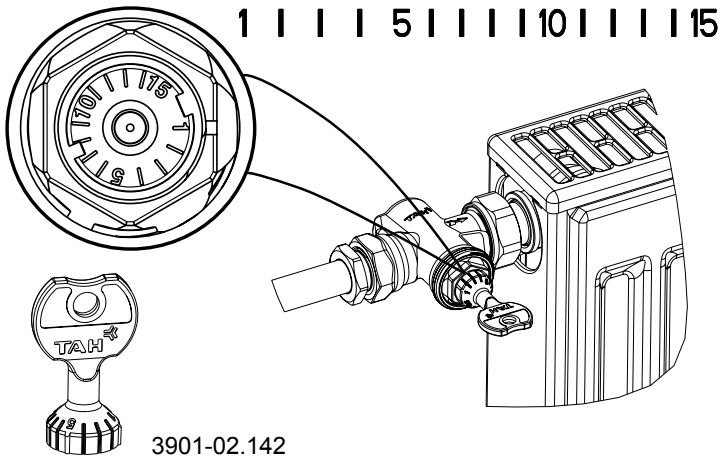
DN 10 3912-01.000  
DN 15 3912-02.000  
DN 20 3912-03.000


DN 10 3911-01.000  
DN 15 3911-02.000  
DN 20 3911-03.000

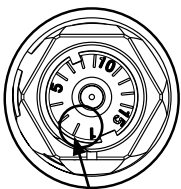


DN 10 → 27 mm  
DN 15 → 30 mm  
DN 20 → 37 mm

Gedruckt auf chlorfrei gebleichtem Papier.

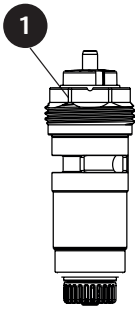


	<b>1</b>				<b>5</b>					<b>10</b>					<b>15</b>
<b>l/h</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>100</b>	<b>110</b>	<b>120</b>	<b>130</b>	<b>140</b>	<b>150</b>

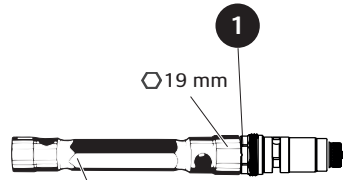


<b>Q̇ [W]</b>	200	250	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4800	5300	6500	6800		
<b>Δt [K]</b>																															
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15																	
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15								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

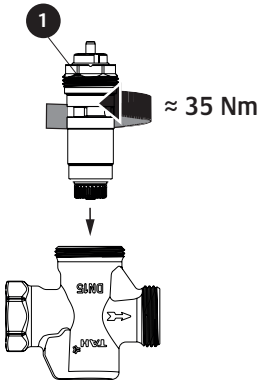


3901-02.300

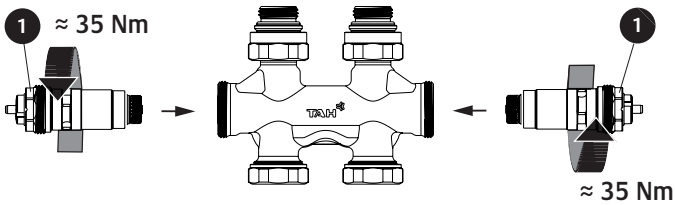


2001-00.258

## A-exact

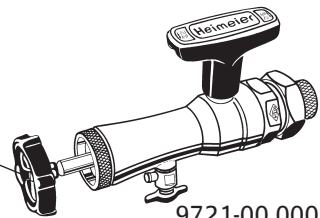


## Multilux 4-A



3901-01.480 0.44496 TEILE / 02.14  
Gedruckt auf chlorfrei gebleichtem Papier.

schwarz (ab 2013) . black (from 2013) . noir (à partir de 2013)  
 zwart (van 2013) . nero (da 2013) . negro (desde 2013)  
 черный (от 2013) . czarny (z 2013) . černý (od 2013)  
 čierny (od 2013) . fekete (-tól 2013) . crn (iz 2013)  
 μαύρος (από 2013) . svart (från 2013) . 黑色 (從 2013)  
 черен (от 2013) . must (pärit 2013) . black (od 2013)  
 negru (de la 2013) . juodas (nuo 2013) . melns (no 2013)  
 黒 (から 2013)



9721-00.000

- D** Der Umbau kann auch mit dem HEIMEIER Montagegerät 9721-00.000 ohne Entleeren der Anlage durchgeführt werden.
- HR** Pregradnju možete provesti i sa HEIMEIER montažnim uređajem 9721-00.000 bez pražnjenja postrojenja.
- GB** The modification can also be carried out with the HEIMEIER fitting tool 9721-00.000 without the need to drain off the system.
- GR** Η μετατροπή μπορεί να γίνει και με τη συσκευή εγκατάστασης HEIMEIER 9721-00.000 χωρίς την εκκένωση της εγκατάστασης.
- F** Le démontage et le montage peuvent également être faits à l'aide de l'appareil de montage HEIMEIER 9721-00.000 sans qu'il ne soit nécessaire de vidanger le système.
- IS** Með HEIMEIER sérverkfæri 9721-00.000 er einnig hægt að skipta um lokahaus án þess að tæma hitakerfið.
- NL** De ombouw kan ook met het HEIMEIER apparaat 9721-00.000 zonder leging van de installatie worden uitgevoerd.
- PRC** 交換はHEIMEIER取り付け装置 9721-00.000 を使ひ、設備を空にせずに行うことも可能です。
- I** La trasformazione può essere eseguita anche con l'attrezzo di montaggio HEIMEIER 9721-00.000 senza svuotare l'impianto.
- BG** Преустройството може да се извърши също и с HEIMEIER монтажен уред 9721-00.000 без изпразване на инсталцията.
- E** El desmontaje también se puede realizar con el aparato de montaje de HEIMEIER 9721-00.000 sin vaciar la instalación.
- EST** Ümberehitust võib teha ka HEIMEIERi montaažiseadme 9721-00.000 abil seadet tühjendamata.
- RUS** Переоснащение может быть осуществлено также с помощью монтажного агрегата HEIMEIER 9721-00.000 без опорожнения системы.
- SLO** Preureditev lahko izvedete tudi z montažno napravo HEIMEIER 9721-00.000, pri čemer vam ni treba izprazniti sistema.
- PL** Przebrojenia dokonać można również przy użyciu urządzenia montażowego HEIMEIER-a bez konieczności opróżniania instalacji 9721-00.000
- RO** Modificarea se poate executa și cu ajutorul aparatului de montaj HEIMEIER 9721-00.000 fără a fi necesară golirea instalației.
- CZ** Přestavbu je možné provést bez vyprázdňení zařízení pomocí montážního přístroje HEIMEIER 9721-00.000
- LT** Permontuoti galima ir su HEIMEIER montavimo prietaisu 9721-00.000 neišleidžiant vandens iš sistemos.
- SK** Prestavbu možno vykonať aj montážnym prístrojom HEIMEIER 9721-00.000 bez vyprázdňovania zariadenia.
- LV** Pārbūvi var veikt arī ar HEIMEIER montāžas instrumentu 9721-00.000, neveicot sistēmas iztukšošanu.
- H** Az átszerelés a HEIMEIER szerelőkészülékkel 9721-00.000 a rendszer leürítése nélkül is elvégezhető.
- J** 交換はHEIMEIER取り付け装置 9721-00.000 を使ひ、設備を空にせずに行うことも可能です。