Climate
Control

IMI TA

Trim

Return Lockshield

Radiator lockshield

Breakthrough
engineering for
a better world

Trim

The Trim lockshield is used in pumped warm water heating and air conditioning systems.

Key features

Easy to operate with an allen key

Presettable by means of shut-off and regulation cone

Technical description

Applications:
Heating and cooling systems.

Function:
Adjustment
Presetting
Shut-off

Dimensions:
DN 10-20

Pressure class:
PN 10 or PN 16

Temperature:
Max. working temperature: 120°C
Min. working temperature: -10°C

Materials:
Valve body: Brass
O-rings: EPDM rubber

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

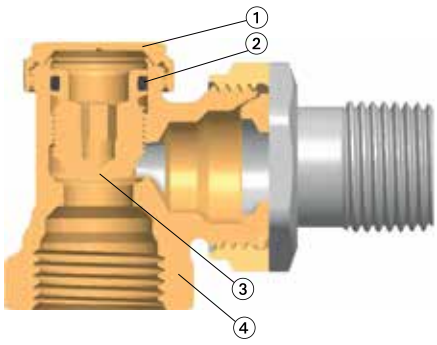
Marking:
TA, DN

Standards:
Dimensions according to EN 215 series S.

Pipe connection:
The internal threaded version is designed for connection to threaded pipe, or in conjunction with compression fittings, to copper or precision steel pipe. Not suitable for compression fitting for multi-layer pipes.

Construction

Trim

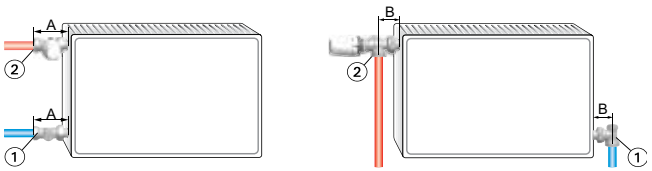


1. Closing cap
2. EPDM O-ring
3. Shut-off/regulation cone
4. Body made of Brass

Application

The Trim lockshield is used in pumped warm water heating and air conditioning systems.
Versions with female thread from DN 10 to DN 20, male thread G3/4 / DN 15 in angle and straight form make the threaded connection suitable for versatile and varied applications.
It enables individual shut-off, for example of radiators, so that decorating and service work can be carried out without interruption to the operation of other radiators.
A special combination of shut-off/regulation cone and valve seat enables it to be used as a shut-off fitting as well as for hydraulic balance. At the same time, the aim is met of supplying all heaters with hot water according to their requirement.

Sample application

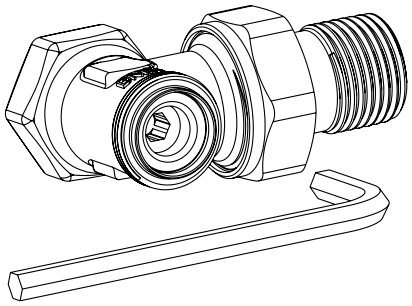


1. Trim
2. Thermostatic valve Calypso TRV-3 or manual radiator valve

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.

Operation

Shut-off
The Trim lockshield is operated with an allan key. By turning clock-wise the lockshield is closed. If the lockshield has been set for hydraulic balancing, the appropriate number of revolutions during closing has to be determined. It can then be ensured that the initial setting can be set again.



Regulation
For continuously variable regulation the lockshield is closed with the allan key and then opened by the required number of revolutions. The number of revolutions to set can be determined from the diagrams/technical data. The factory setting as delivered is fully open.

Size of allen key
PN 10 (50 009/50 005)
DN 10-20, 5 mm
PN 16 (50 696/50 007)
DN 10/15, 4 mm
DN 20, 6 mm

Technical data

Diagram DN 10 (3/8") – PN 10
Angle / Straight (50 009/50 005)
*) Revolution setting (Allen key 5 mm)

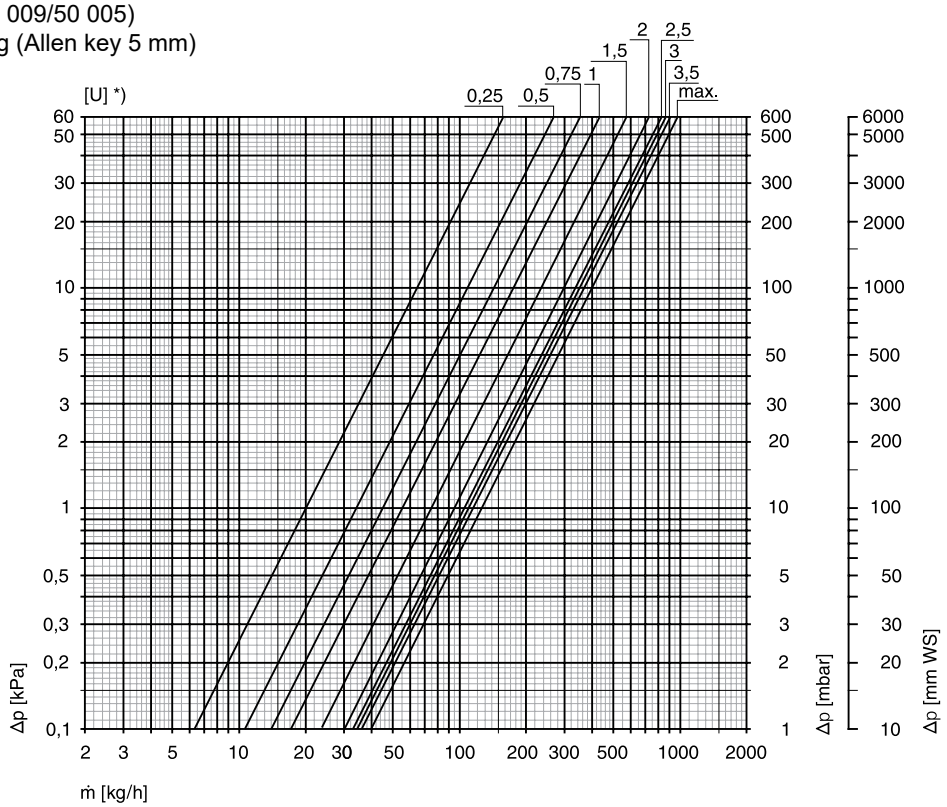


Diagram DN 15 (1/2") – PN 10
Angle / Straight (50 009/50 005)
*) Revolution setting (Allen key 5 mm)

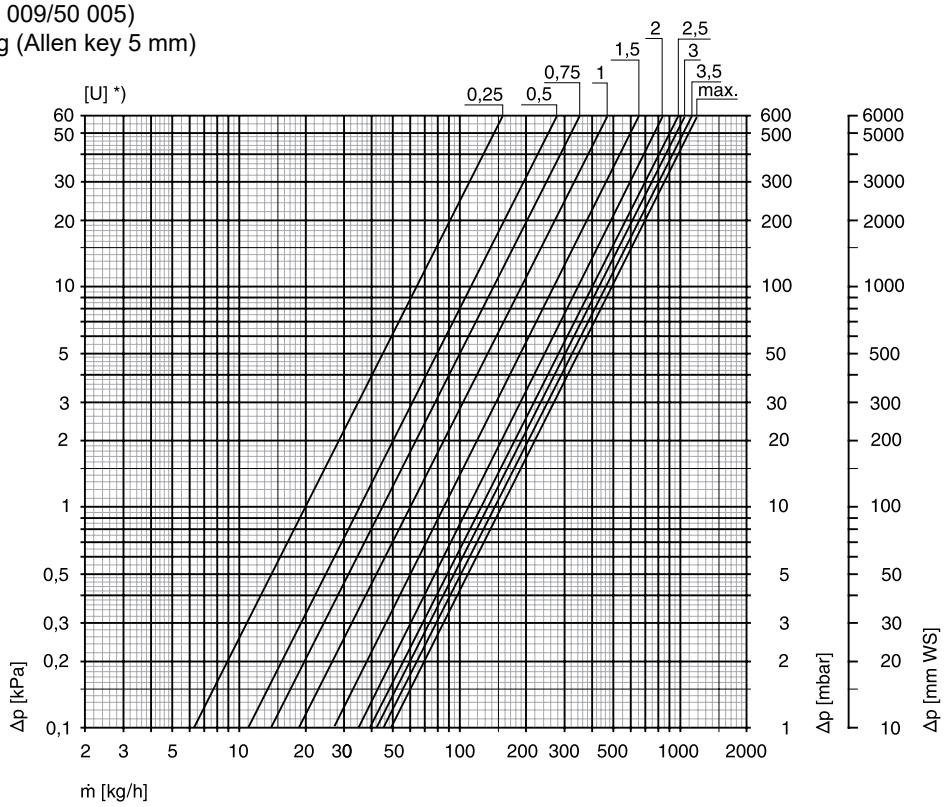
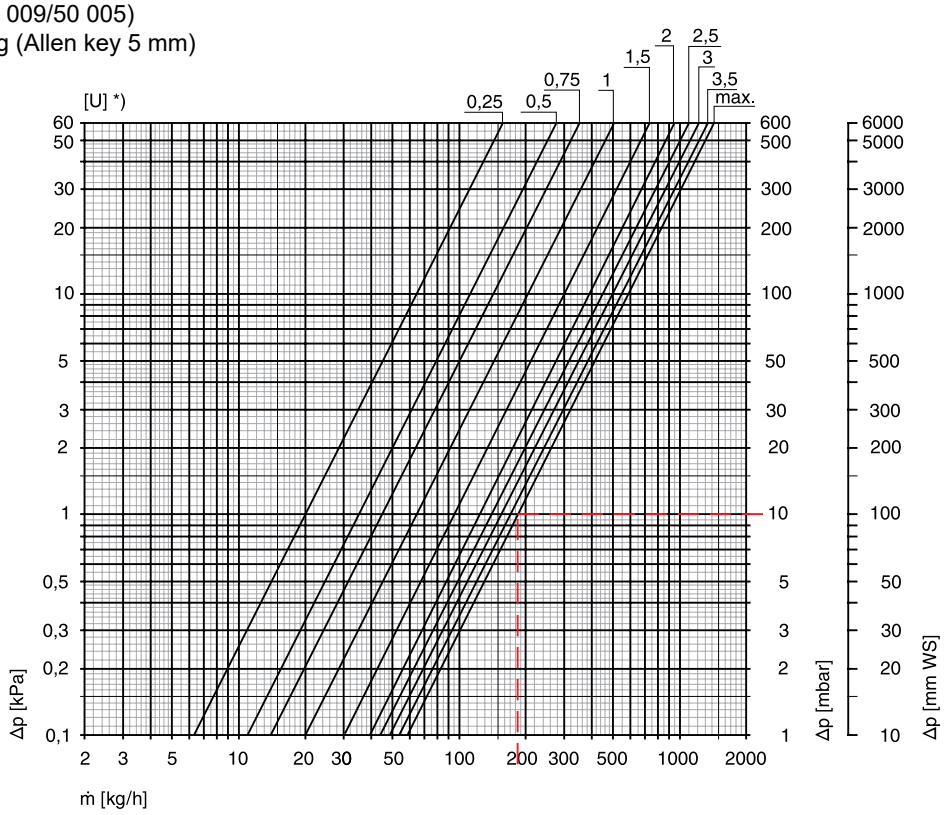


Diagram DN 20 (3/4") – PN 10
Angle / Straight (50 009/50 005)
*) Revolution setting (Allen key 5 mm)



PN 10 (50 009/50 005)

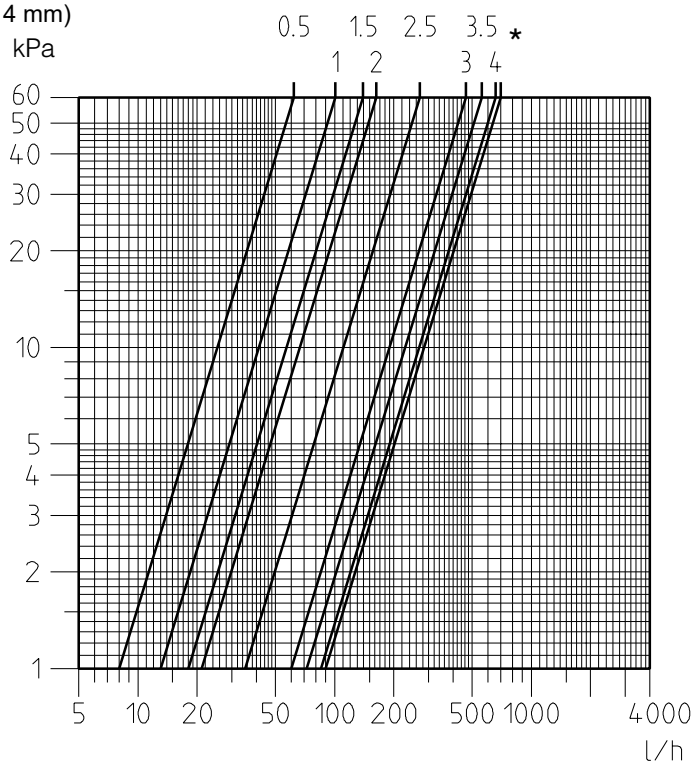
DN		Kv-value Revolution setting [U]									Kvs
		0,25	**0,5**	**0,75**	**1**	**1,5**	**2**	**2,5**	**3**	**3,5**	
10	(3/8")	0,20	0,35	0,45	0,55	0,75	0,95	1,05	1,10	1,15	1,25
15	(1/2")	0,20	0,35	0,45	0,60	0,85	1,10	1,25	1,35	1,45	1,55
20	(3/4")	0,20	0,35	0,45	0,65	0,95	1,20	1,40	1,55	1,70	1,85

Calculation example
Required:
revolution setting DN 20

Given:
differential pressure to choke off Δp = 34 mbar
heat flow Q = 2440 W
temperature spread Δt = 15 K (70/55°C)

Solution:
mass flow m = Q / (c · Δt) = 2440 / (1,163 · 15) = 140 kg/h
revolution setting = 1,25 (from diagram)

Diagram DN 10 (3/8") – PN 16
(50 696)
*) Revolution setting (Allen key 4 mm)



PN 16 (50 696)

DN		Kv-value Revolution setting [U]								Kvs
		0,5	**1**	**1,5**	**2**	**2,5**	**3**	**3,5**	**4**	**)
10	(3/8")	0,08	0,13	0,18	0,21	0,35	0,60	0,72	0,85	0,90

Deliverey setting **) = Fully open

Diagram DN 10 (3/8") – PN 16
(50 007)
*) Revolution setting (Allen key 4 mm)

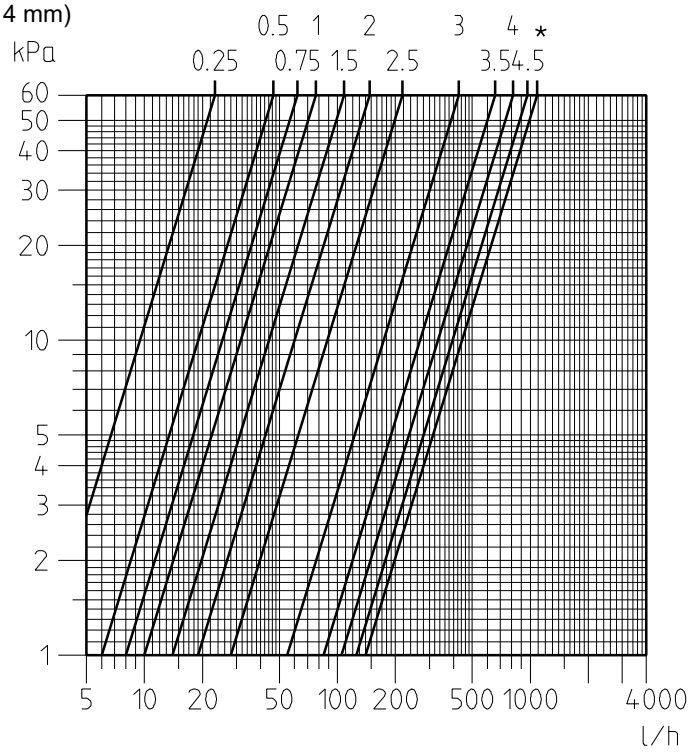


Diagram DN 15 (1/2") – PN 16
(50 007)
*) Revolution setting (Allen key 4 mm)

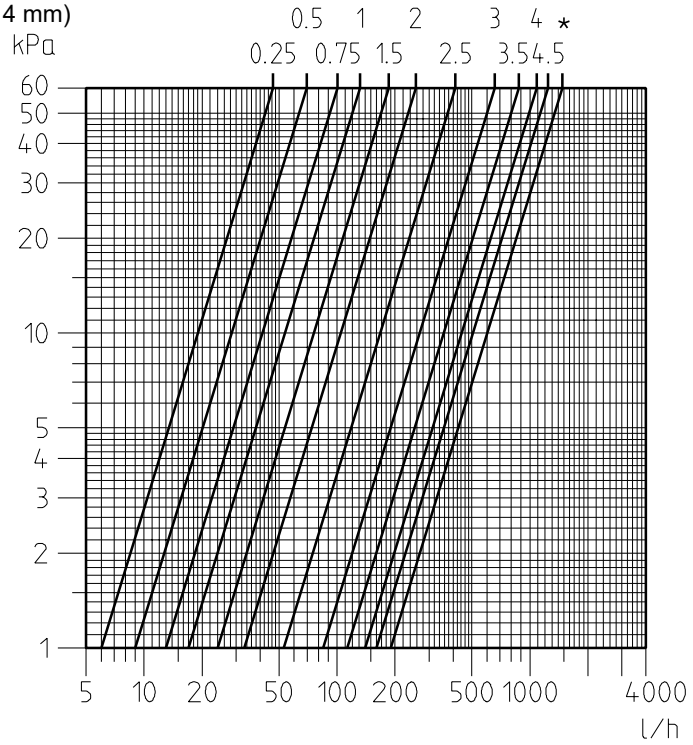
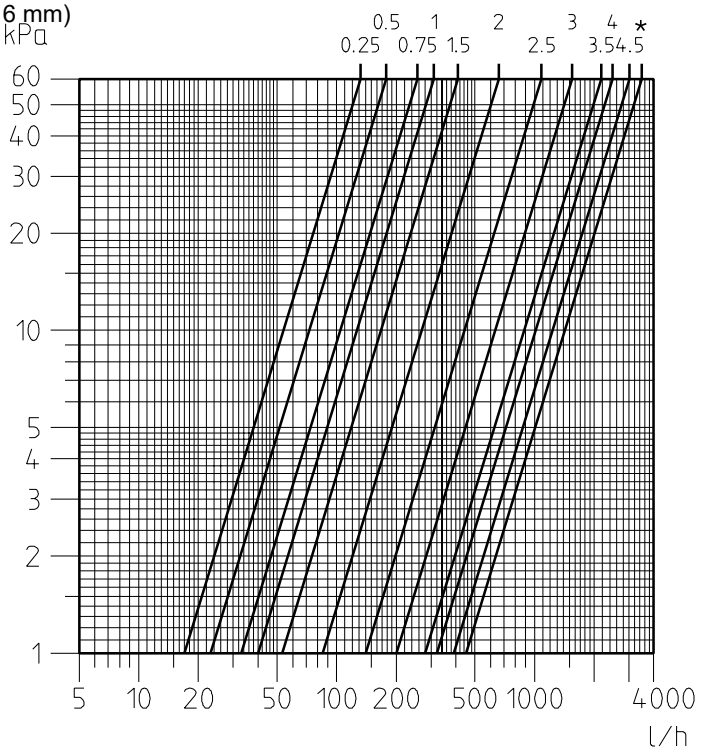


Diagram DN 20 (1") – PN 16
(50 007)
*) Revolution setting (Allen key 6 mm)

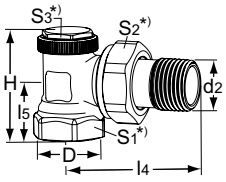


PN 16 (50 007)

DN		Kv-value Revolution setting [U]											Kvs
		0,25	**0,5**	**0,75**	**1**	**1,5**	**2**	**2,5**	**3**	**3,5**	**4**	**4,5**	**)
10	(3/8")	0,03	0,06	0,08	0,10	0,14	0,19	0,28	0,55	0,85	1,05	1,25	1,4
15	(1/2")	0,06	0,09	0,13	0,17	0,24	0,33	0,53	0,85	1,13	1,4	1,6	1,9
20	(3/4")	0,17	0,23	0,33	0,40	0,53	0,85	1,4	2,0	2,8	3,2	3,9	4,5

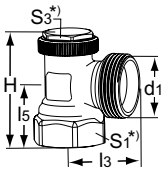
Deliverey setting **) = Fully open

Articles



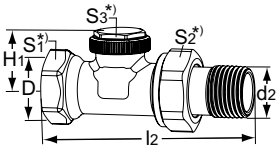
Angle
incl radiator union

DN	D	d2	l4	l5	H	Kvs	EAN	Article No
10	G 3/8	R 3/8	49	20	41	1,25	4024052990313	50 009-110
15	G 1/2	R 1/2	54	24	45	1,55	4024052990412	50 009-115
20	G 3/4	R 3/4	63	28	49	1,85	4024052990511	50 009-120



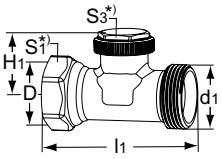
Angle
excl radiator union

DN	D	d1	l3	l5	H	Kvs	EAN	Article No
10	G 3/8	M22x1,5	24	20	41	1,35	4024052989713	50 009-610
15	G 1/2	M26x1,5	26	24	45	1,55	4024052989812	50 009-615
20	G 3/4	M34x1,5	31	28	49	1,85	4024052989911	50 009-620



Straight
incl radiator union

DN	D	d2	l2	H1	Kvs	EAN	Article No
10	G 3/8	R 3/8	76	26	1,25	4024052990016	50 005-110
15	G 1/2	R 1/2	86	26	1,55	4024052990115	50 005-115
20	G 3/4	R 3/4	100	26	1,85	4024052990214	50 005-120



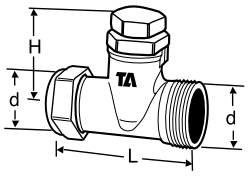
Straight
excl radiator union

DN	d2	d1	l1	H1	Kvs	EAN	Article No
10	G 3/8	M22x1,5	50	26	1,07	4024052989416	50 005-610
15	G 1/2	M26x1,5	58	26	1,60	4024052989515	50 005-615
20	G 3/4	M34x1,5	68	26	1,85	4024052989614	50 005-620

*) S1: DN10=22mm, DN15=27mm, DN20=32mm
S2: DN10=27mm, DN15=30mm, DN20=37mm
S3: DN10-20=19mm

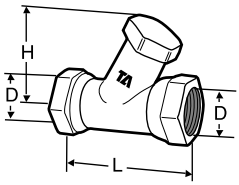
Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

Trim can be connected to smooth pipes by means of the KOMBI compression coupling. (See catalogue leaflet KOMBI).



Straight – PN 16
incl swivelling nut

DN	d	L	H	Kvs	EAN	Article No
10	M22x1,5	52	40	0.9	7318792685705	50 696-122



Straight – PN 16
Internal thread
Material: Valve body of AMETAL® and O-rings of Nitril.

DN	D	L	H	Kvs	EAN	Article No
10	G3/8	52	33	1.4	7318792549007	50 007-110
15	G1/2	63	36	1.9	7318792549106	50 007-115
20	G3/4	80	45	4.5	7318792549205	50 007-120

Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

50 007 can be connected to smooth pipes by means of the KOMBI compression coupling.
(See catalogue leaflet KOMBI).