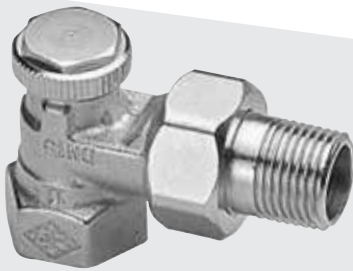



Regutec

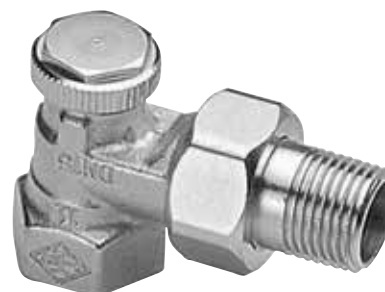


Return Lockshield
Radiator lockshield


Engineering
GREAT Solutions

Regutec

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



Technical description

Applications:

Heating and cooling systems.

Function:

Presetting
Shut-off

Dimensions:

DN 10-20

Pressure class:

PN 10

Temperature:

Max. working temperature: 120°C, with
press connection 110°C.
Min. working temperature: -10°C.

Materials:

Valve body: Corrosion-resistant gunmetal
Valve insert: Brass
Spindle: Brass
O-rings: EPDM

Surface treatment:

Valve body and fittings are nickel-plated.

Marking:

THE, DN

Standards:

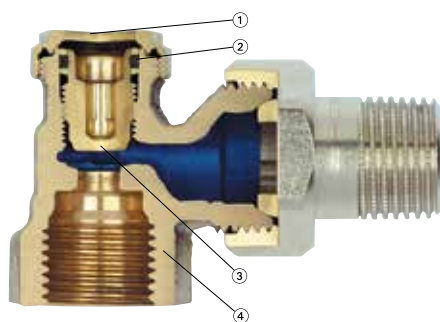
Length according to DIN 3842-1.

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. Versions with Viega press connection (15 mm) with SC-Contur are suitable for copper, Viega Sanpress stainless-steel, and Prestabo steel pipe.

Construction

Regutec



1. Closing cap
2. EPDM O-ring
3. Shut-off/regulation cone
4. Body made of corrosion resistant nickel plated gunmetal

Application

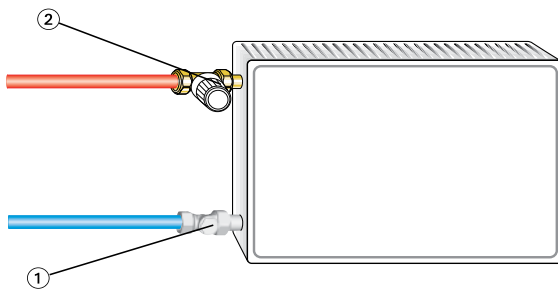
The Regutec lockshield is used in pumped warm water heating and air conditioning systems.

Versions with female thread from DN 10 to DN 20, male thread G3/4 / DN 15 and Viega press connection 15 mm / 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. Regutec
2. Thermostatic valve

Press-Line Connection with Viega SC-Contur

Regutec radiator lockshields with 15 mm Viega press connection are suitable for copper pipes conforming to EN 1057 as well as Viega Sanpress stainless steel and Prestabo steel pipes.

All press connections as well as the valve bodies are made of corrosion-resistant, dezincification-free gunmetal.

Since this is a Viega press connection, all suitable Viega press-fitting jaws can be used. This means there is no need to purchase costly press-fitting tools and jaws.

The pressing action is produced by a formed hexagon recess before and after the beading of the connector and gives the press-fitted joint the necessary strength. In addition, the press-fitting beading is specifically formed such as to give the highgrade EPDM sealing element its defined shape.

In the interest of safety, the press connections are equipped with SC-Contur (SC = safety connection) which makes it possible to detect non-pressed joints by visible leaks when filling the system. During the press-fitting operation, the SC-Contur is practically reformed and loses its effect in the process, thus producing a permanent, tight and positive joint connection.

Initially, press-fitting joints that do not feature SC-Contur can appear to be tight in the non-pressed state, however, they can slide apart during subsequent operation of the system.

The hexagon on the valve bodies is a particularly practical feature for holding the fittings while tightening the union nut.

The following press-fitting tools can be used, e.g.

- Viega: Type 2, PT3-H, PT3-EH, PT3-AH, battery-powered Presshandy, Pressgun 4E/4B
- Geberit: PWH 75
- Geberit /Novopress: Type N 230V, Type N battery-powered
- Mapress/Novopress: EFP 2, ACO 1/ ECO 1
- Klauke: UAP 2

The suitability of other press-fitting tools should be verified with the respective manufacturer.

We recommend using only Viega press-fitting jaws to make Viega press connections.

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.

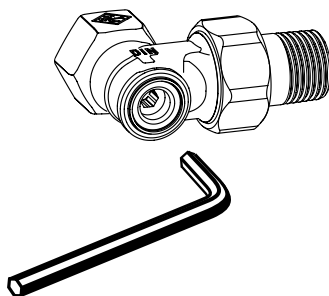
Operation

Shut-off

The Regutec lockshield is operated with an allen key size 5 AF. 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 allen key size 5 AF 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.



Technical data

Diagram DN 10 (3/8")

Angle / Straight

*) Revolution setting

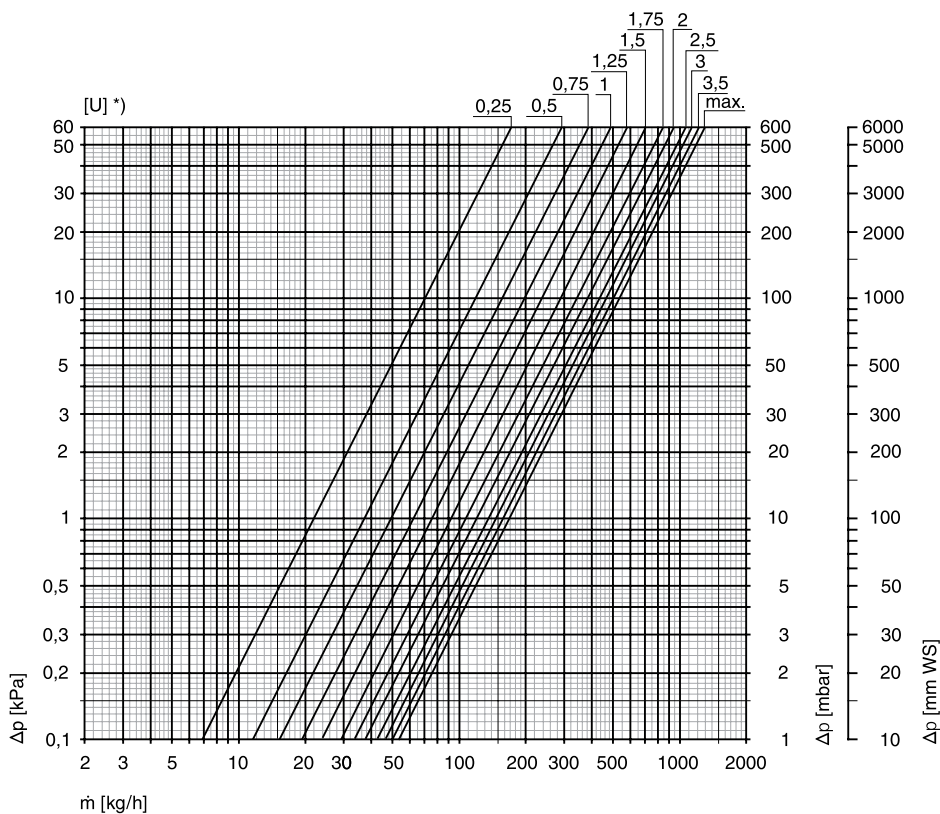


Diagram DN 15 (1/2")

Angle / Straight
 *) Revolution setting

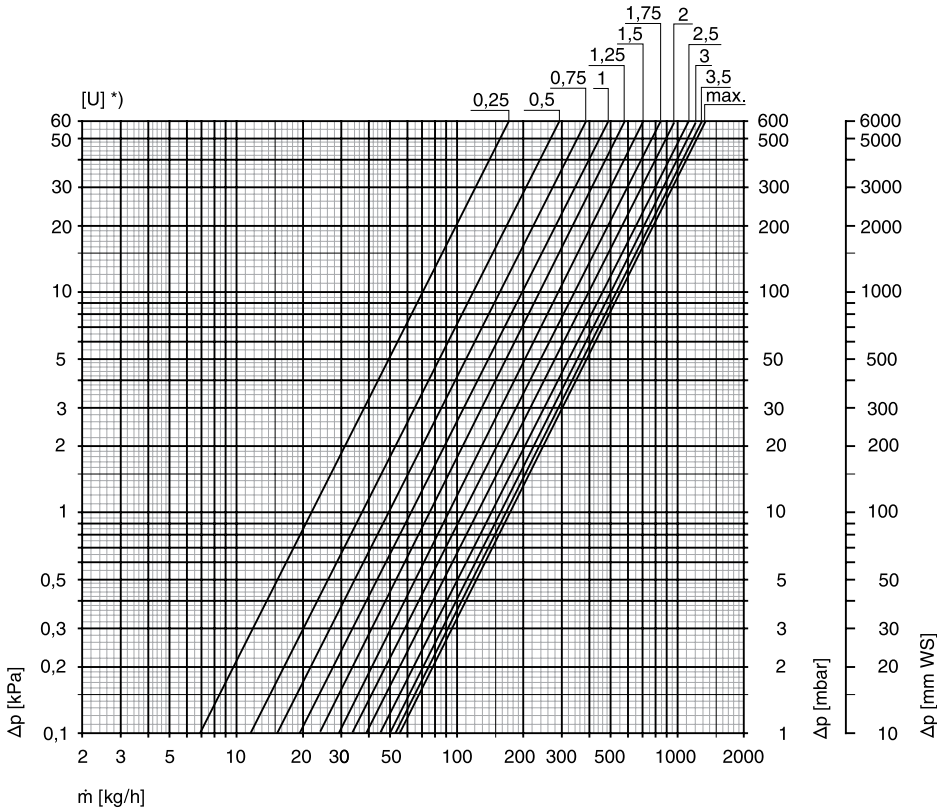
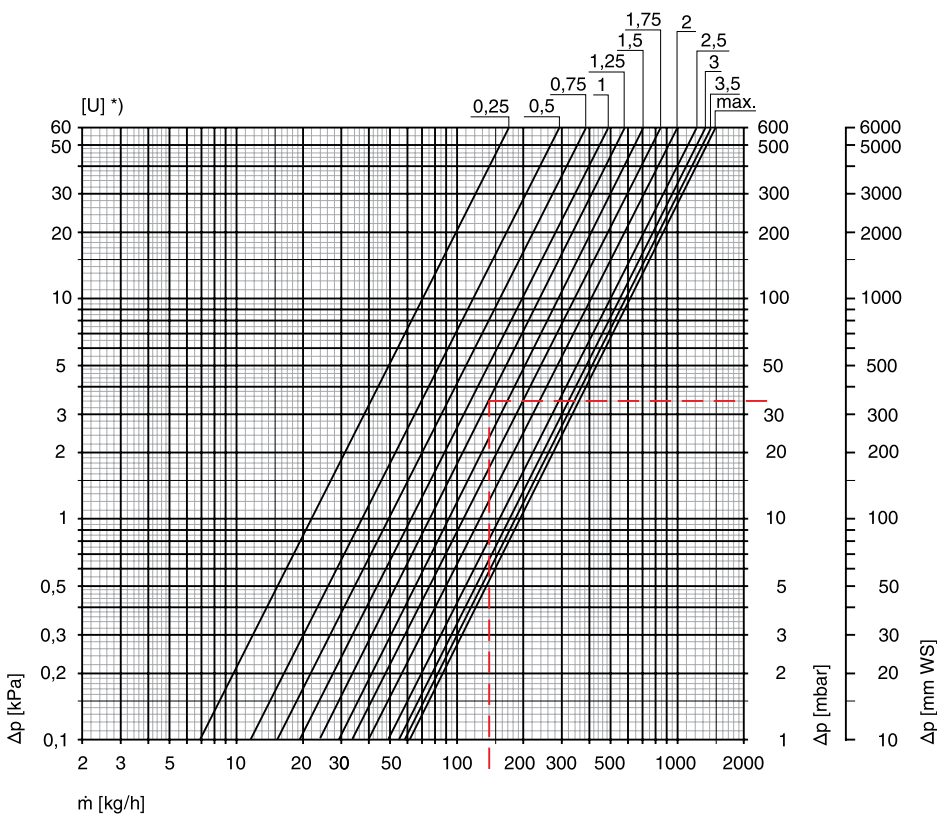


Diagram DN 20 (3/4")

Angle / Straight
 *) Revolution setting



DN		Kv-value Revolution setting [U]								Kvs	ζ-value (open)	Permitted operating temperature TB [°C]	Permitted operating pressure PB [bar]
		0,25	0,5	1	1,5	2	2,5	3	3,5				
10	(3/8")	0,22	0,37	0,62	0,92	1,19	1,36	1,47	1,58	1,68	13,8	120	10
15	(1/2")	0,22	0,37	0,62	0,92	1,22	1,43	1,57	1,68	1,74	34,6		
20	(3/4")	0,22	0,37	0,62	0,92	1,27	1,55	1,72	1,85	1,93	93,2		

*) referred to threaded pipe according to DIN 2440.

Calculation example

Required:

revolution setting DN 20

Given:

differential pressure to choke off $\Delta p = 34$ mbar

heat flow $Q = 2440$ W

temperature spread $\Delta t = 15$ K (70/55°C)

Solution:

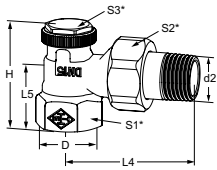
mass flow $m = Q / (c \cdot \Delta t) = 2440 / (1,163 \cdot 15) = 140$ kg/h

revolution setting = 1,25 (from diagram)

$$Cv = \frac{Kv}{0,86}$$

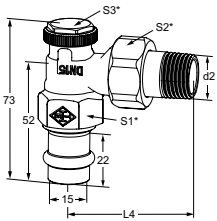
$$Kv = Cv \cdot 0,86$$

Articles



Angle

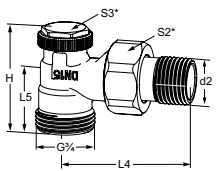
DN	D	d2	I4	I5	H	Kvs	EAN	Article No
10	Rp3/8	R3/8	52	22	43	1,68	4024052416028	0355-01.000
15	Rp1/2	R1/2	58	26	47	1,74	4024052416127	0355-02.000
20	Rp3/4	R3/4	65,5	28,5	49,5	1,93	4024052416226	0355-03.000



Angle

with Viega press connection 15 mm

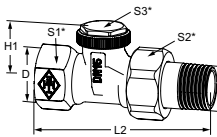
DN	d2	I4	Kvs	EAN	Article No
15	R1/2	58	1,74	4024052545322	0345-15.000



Angle

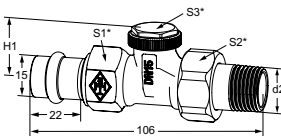
with male thread G 3/4

DN	d2	I4	I5	H	Kvs	EAN	Article No
15	R1/2	58	26	47	1,74	4024052499526	0365-02.000



Straight

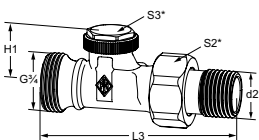
DN	D	d2	I2	H1	Kvs	EAN	Article No
10	Rp3/8	R3/8	75	26	1,68	4024052416325	0356-01.000
15	Rp1/2	R1/2	80	26	1,74	4024052416424	0356-02.000
20	Rp3/4	R3/4	90,5	26	1,93	4024052416523	0356-03.000



Straight

with Viega press connection 15 mm

DN	d2	H1	Kvs	EAN	Article No
15	R1/2	26	1,74	4024052545414	0346-15.000



Straight

with male thread G 3/4

DN	d2	I3	H1	Kvs	EAN	Article No
15	R1/2	88	26	1,74	4024052499625	0366-02.000

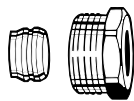
*) S1: DN10=22mm, DN15=27mm, DN20=32mm

S2: DN10=27mm, DN15=30mm, DN20=37mm

S3: DN10-20=19mm

Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

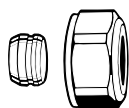
Accessories



Compression fitting

for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Female thread connection Rp3/8 – Rp3/4. 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.

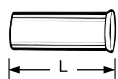
Ø Pipe	DN	EAN	Article No
12	10 (3/8")	4024052174614	2201-12.351
15	15 (1/2")	4024052175017	2201-15.351
16	15 (1/2")	4024052175116	2201-16.351
18	20 (3/4")	4024052175215	2201-18.351



Compression fitting

for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Connection male thread G3/4 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.

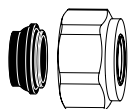
Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351



Support sleeve

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

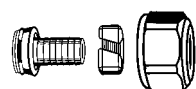
L	Ø	EAN	Article No
25,0	12	4024052127016	1300-12.170
26,0	15	4024052127917	1300-15.170
26,3	16	4024052128419	1300-16.170
26,8	18	4024052128815	1300-18.170



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 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



Compression fitting

for Alu/PEX multi-layer pipe according to DIN 16836. Nickel-plated brass.

Ø Pipe	EAN	Article No
Male thread connection G 3/4 according to DIN EN 16313 (Eurocone).		
16x2	4024052137312	1331-16.351
Female thread connection Rp 1/2		
16x2 *)	4024052138616	1335-16.351

*) can be used for valve from 04.1995