IMI HEIMEIER

Vekolux

Valves for radiators with integrated valve

Double connection fitting with drain-off facility for radiators with integrated valves

Engineering GREAT Solutions

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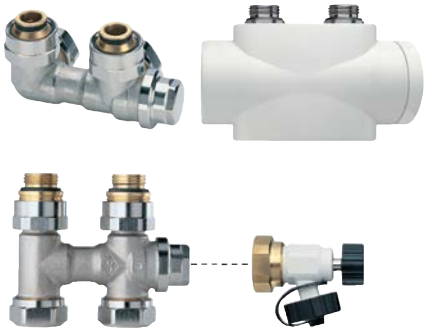
Vekolux

The Vekolux double connection fitting is designed for installation onto radiators with integrated valves with an Rp1/2 female thread and a G3/4 male thread connection. The self-sealing connection makes the fitting easy to install on the radiator. Models in angle and straight forms, each designed for one- and two-pipe systems, mean that the connection fitting can be used in a number of different ways.



Technical description

Applications area:
Two- and one-pipe heating systems

Function:
Spindle for the parallel shut-off of supply and return pipes in one operation.
Complete drain-off of the radiator via supply and return simultaneously.
Setting radiator share (one-pipe).
Operated with a setting or universal key.
See accessories.

Dimensions:
DN 15

Pressure class:
PN 10

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

Materials:
Valve body: Corrosion resistant Gunmetal.
O-rings: EPDM rubber
Valve insert: Brass, PPS (polyphenylsulphide)
Spindle: PPS with O-ring sealing

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

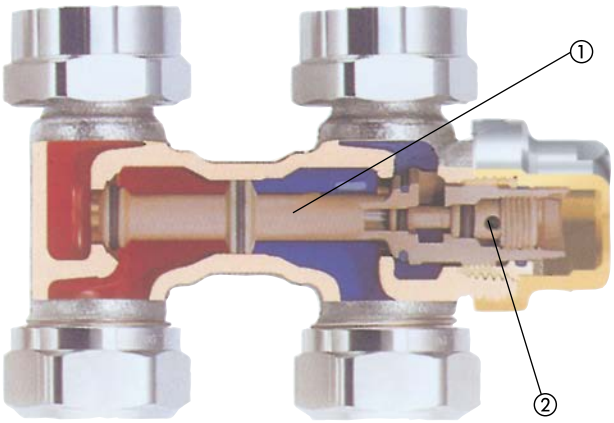
Marking:
THE

Radiator connection:
Adapters for R1/2 or G3/4 according to EN 16313 (Eurocone), for radiator connections. Center distance of the connections is 50 mm (1,97 inch). Tolerance compensation ±1,0 mm with special union nuts and flexible flat seal system for installation free of tension.

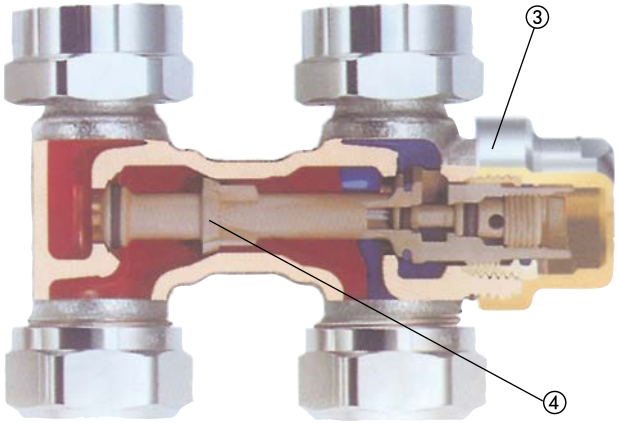
Pipe connection:
G3/4 male thread according to EN 16313 (Eurocone) for compression fittings for plastic, copper, precision steel or multi-layer pipe.

Construction

Two-pipe system



One-pipe system

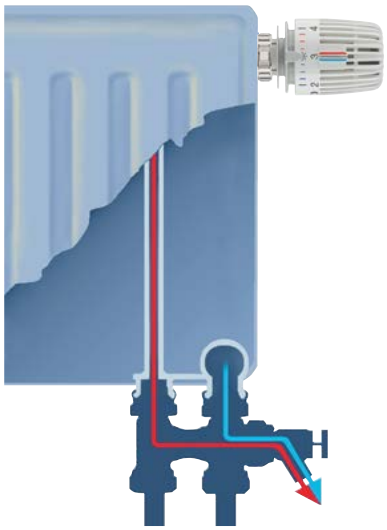


1. Spindle
2. Drain-off valve
3. Locking cap
4. Bypass setting

Application

The Vekolux double connection fitting is designed for installation onto radiators with integrated valves with an Rp1/2 female thread and a G3/4 male thread connection. The self-sealing connection makes the fitting easy to install on the radiator.
Models in angle and straight forms, each designed for one- and 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.
With the Vekolux double connection fitting, radiators with integrated valves can be individually shut off and drained off. The lockshield construction makes it possible to completely drain-off the radiator via the supply and return connections at the same time. This means that no water remains in the radiator, e. g. in the integrated supply ascending pipe (see fig.).
Painting and maintenance work can the refore be carried out without switching off other radiators.
Due to the parallel drain-off facilitiy via the supply and return connection, Vekolux double connection fittings in angle form can be installed on the left hand side as well as on the right hand side of the radiator. This is a particular advantage when the raidator is rotated.
The Vekolux one-pipe fitting is ideally used with one-pipe heating systems for which all radiators in a heating circuit are connected to the closed circular pipeline.
It is suitable for systems with a radiator share of 50% or 35%.

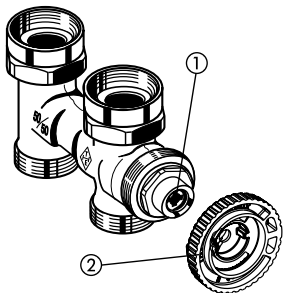
Sample application



Complete drain-off of the radiator via supply and return simultaneously.

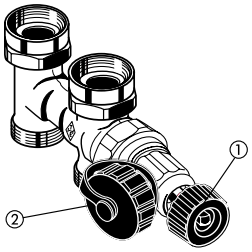
Notes
To avoid damage and the formation of scale deposit in the hot-water heating system, the composition of the heat transfer medium should be in accordance with the VDI guideline 2035. For industrial and long-distance energy systems, see the applicable codes VdTÜV and 1466/AGFW FW 510. A heat transfer 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



1. Spindle
2. Setting key 3670-01.142

Shut-off
With the Vekolux double connection fitting, the shut-off cones are sealed off from the valve seats with soft sealing using O-rings. The decrease in physical strength which results from this makes it unnecessary to use the usual tools.
The setting key or universal key can be used to adjust the Vekolux double connection fitting.
It is positioned on the appropriate side on the lockshield spindle. The lockshield is closed by turning it to the right.
Shut-off then occurs in the supply and return simultaneously. With the Vekolux one-pipe lockshield, the mass flow in circuit is also maintained when the lockshield is shut-off.



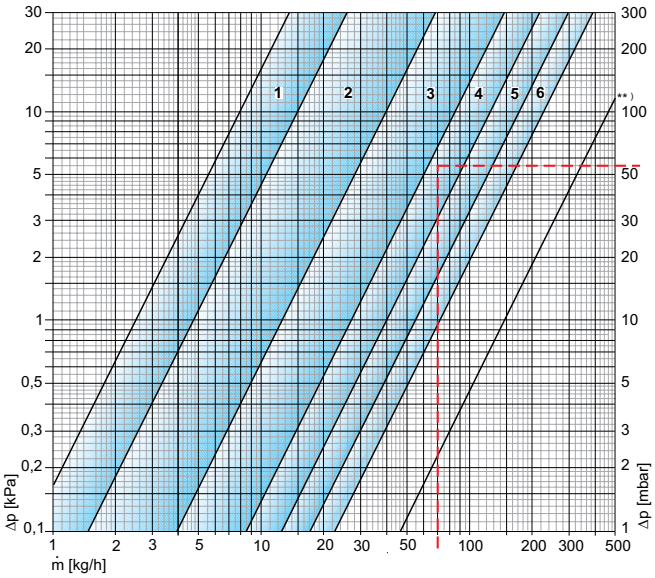
1. Handwheel
2. Connection piece

Bypass setting
The Vekolux one-pipe lockshield is completely open on the working side. In this position, the radiator share is 50%. To reduce the radiator share to 35%, the lockshield is closed and is then opened by 3.5 turns.

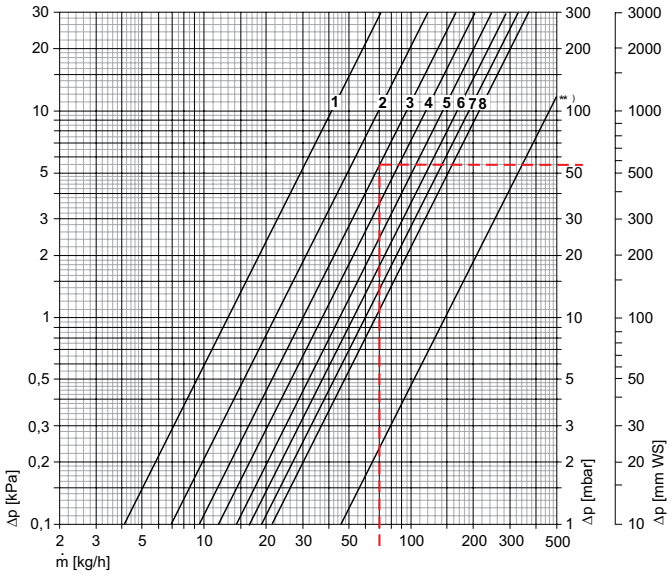
Draining off
To drain off the radiator the double connection fitting is closed and the drain-off facility is screwed open with the handwheel turned back.
Then position the connection piece and unscrew the protection cap; place the collecting basin underneath or switch on the hose connecting piece.
To open the drain-off facility, push in the hand wheel and turn it to the left.
To close the drain-off facility, turn the handwheel to the right until a slight resistance is felt, then pull it back completely. Unscrew the drain-off facility.

Technical data – Two-pipe

Thermostatic insert VHV with **6** presetting ranges



Thermostatic insert VHV8S with **8** infinitely variable presetting values



Radiator with integrated valve with Vekolux two-pipe connection fitting

	Presetting Thermostatic insert								Kvs-value Vekolux without radiator **)
	1	2	3	4	5	6	7	8	
Thermostat insert VHV with 6 presetting ranges and Thermostatic head									
min	0,025	0,047	0,126	0,265	0,401	0,556	-	-	1,48
Kv-value	-	-	-	-	-	-			
max	0,047	0,126	0,265	0,401	0,556	0,730			
Kvs	0,051	0,133	0,289	0,413	0,579	0,817	-	-	
Thermostat insert VHV8S with 8 infinitely variable presetting values and Thermostatic head									
Kv-value	0,13	0,22	0,30	0,37	0,45	0,53	0,60	0,67	1,48
Kvs	0,16	0,27	0,37	0,41	0,60	0,82	0,95	1,03	

*) with protection cap or actuator 100 °C (212 °F).
Kv/Kvs = m^3/h at a pressure drop of 1 bar.

Calculation example
Required:
Presetting value

Given:
Heat flow Q = 815 W
Temperature spread Δt = 10 K (55/45 °C)
Pressure loss thermostatic valve Δp_V = 55 mbar

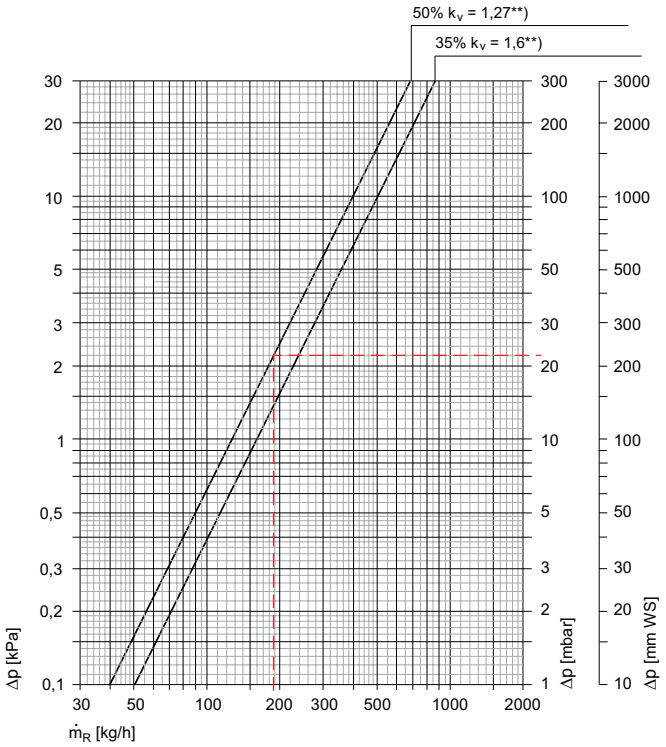
Solution:
Mass flow m = Q / (c · Δt) = 815 / (1,163 · 10) = 70 kg/h

Presetting value from diagram:
with thermostatic insert VHV with **6** presetting ranges: 4
with thermostatic insert VHV8S with **8** infinitely variable presetting values: 3

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

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

Technical data – One-pipe



Equivalent pipe length [m]

HK share [%]	12 x 1	14 x 1	15 x 1	16 x 1	18 x 1
35	2,0	5,4	8,0	12,0	23,5
50	3,1	8,5	12,7	19,1	37,3

Copper pipe
t = 80 °C (176 °F)
v = 0,5 m/s

Radiator with integrated valves with Vekolux one-pipe connection in angle and straight form

Radiator share**) [%]	Kv-value	Bypass setting *) [U]
Thermostatic insert with presetting (factory setting) and thermostatic head		
50	1,27	max.
35	1,60	3,5

*) With a setting of 35%, shut off Vekolux and then open by 3.5 turns. The maximum opening corresponds to a radiator share of 50%
Kv/Kvs = m^3/h at a pressure drop of 1 bar.

Sample calculation

Target:
Pressure loss for each radiator with integrated valves incl. Vekolux

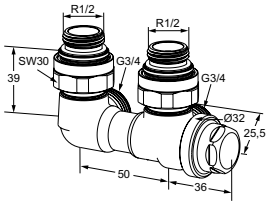
Given:
Heat flow closed circular pipeline Q = 4380 W
Circular adjustment Δt = 20 K (70/50°C)
Radiator share m_{HK} = 50%

Solution:
Mass flow rate in circuit m_R = Q / (c · Δt) = 4380 / (1,163 · 20) = 188 kg/h
Pressure loss in the radiator with integrated valves incl. Vekolux Δp_{ges} = 22 mbar
Radiator mass flow $m_{HK} = m_R \cdot 0.5 = 188 \cdot 0.5 = 94$ kg/h

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

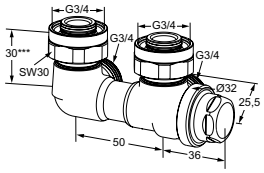
$$Kv = Cv \cdot 0,86$$

Articles



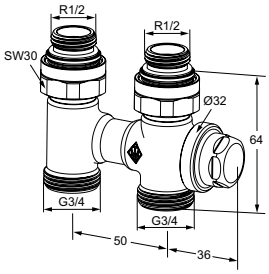
Angle
Female thread
Nickel plated gunmetal

Connection Radiator	Kvs *)	Kv-value **)	EAN	Article No
Two-pipe system				
Rp1/2	1,48		4024052122516	0531-50.000
Single-pipe system (Body marking 50/50)				
Rp1/2		1,27	4024052122912	0535-50.000



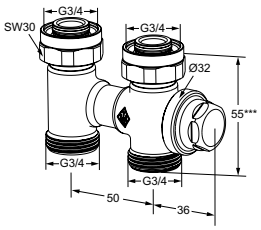
Angle
Male thread
Nickel plated gunmetal

Connection Radiator	Kvs *)	Kv-value **)	EAN	Article No
Two-pipe system				
G3/4	1,48		4024052122714	0533-50.000
Single-pipe system (Body marking 50/50)				
G3/4		1,27	4024052123117	0537-50.000



Straight
Female thread
Nickel plated gunmetal

Connection Radiator	Kvs *)	Kv-value **)	EAN	Article No
Two-pipe system				
Rp1/2	1,48		4024052122417	0530-50.000
Single-pipe system (Body marking 50/50)				
Rp1/2		1,27	4024052122813	0534-50.000



Straight
Male thread
Nickel plated gunmetal

Connection Radiator	Kvs *)	Kv-value **)	EAN	Article No
Two-pipe system				
G3/4	1,48		4024052122615	0532-50.000
Single-pipe system (Body marking 50/50)				
G3/4		1,27	4024052123018	0536-50.000

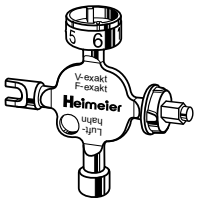
*) Combined value for supply and return
**) Including radiators with HEIMEIER thermostatic insert presetting and thermostatic head, with 50% radiator share
***) Bearing surface seal top edge.

Kv/Kvs = m^3/h at a pressure drop of 1 bar.

Accessories

Setting key
For V-exact II **from 2012**, Calypso *exact*, Calypso TRV-3 and Vekolux.
Color grey.

EAN	Article No
4024052035823	3670-01.142

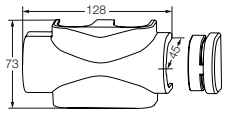


Universal key
for adjusting the Vekolux double connection fitting.
Also for V-exakt to end of 2011 / F-exakt thermostatic valve bodies, thermostatic head B, lockshield Regulux and radiator air vents.

EAN	Article No
4024052338917	0530-01.433

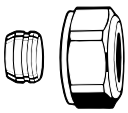
Drain-off facility
Connection piece G3/4, rotatable, for 1/2" hose connection.

EAN	Article No
4024052300716	0311-00.102



Cover
made of plastic.
For angle and straight forms.

Colour	EAN	Article No
white RAL 9016	4024052459254	3850-50.553

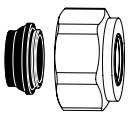


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Metal-to-metal joint.
Brass nickel-plated.
With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351

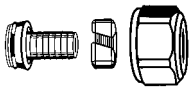
Support sleeve
for copper or precision steel pipe with a 1 mm wall thickness.
Brass.

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

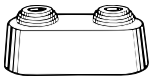


Compression fitting
for plastic pipe according to DIN 4726, ISO 10508.
PE-X: DIN 16892/16893, EN ISO 15875;
PB: DIN 16968/16969.
Connection male thread G 3/4 according to DIN EN 16313 (Eurocone).
Nickel plated brass.

Ø Pipe	EAN	Article No
12x1,1	4024052136018	1315-12.351
14x2	4024052134618	1311-14.351
16x1,5	4024052136117	1315-16.351
16x2	4024052134816	1311-16.351
17x2	4024052134915	1311-17.351
18x2	4024052135110	1311-18.351
20x2	4024052135318	1311-20.351

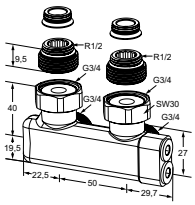
Compression fitting
for Alu/PEX multi-layer pipe according to DIN 16836.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351
18x2	4024052137411	1331-18.351



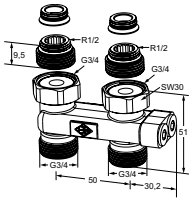
Double rosette
Dividable in the middle, made of plastic, white, for various pipe diameters.
Centre distance 50 mm.
Overall height max. 31 mm.

EAN	Article No
4024052120710	0520-00.093



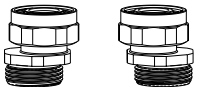
Deflector piece, angle
for exchanged supply and return, Connection for Rp1/2 and G3/4, flat sealing, with shut-off, for two-pipe systems, to prevent connection ducts from intersecting.
Nickel-plated brass.

Connection	EAN	Article No
G3/4 / R1/2	4024052835010	0541-50.000



Deflector piece, straight
for exchanged supply and return, Connection for Rp1/2 and G3/4, flat sealing, with shut-off, for two-pipe systems, to prevent connection ducts from intersecting.
Nickel-plated brass.

Connection	EAN	Article No
G3/4 / R1/2	4024052835119	0542-50.000



S-connection set
consisting of 2 adapter pieces G3/4 x G3/4.
Brass nickel-plated.

	Model	EAN	Article No
Set 1	Axial distance min. 40/50 to max. 60/50	4024052840816	1354-02.362
Set 2	Axial distance min. 35/50 to max. 65/50	4024052840915	1354-22.362

Double nipple
Brass, interior hex, self sealing. For connection with Vekolux, Vekotec and Multilux to radiators with Rp 1/2 female thread.

Model	EAN	Article No
Flat sealing R 1/2 x G 3/4	4024052523412	0550-22.350

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3500-18.483 Vekolux ed.4 07.2019