

Climate  
Control

IMI Heimeier

Vekolux



### **Valves for radiators with integrated valve**

Double connection fitting with drain-off facility for radiators with integrated valves, connection R1/2 and G3/4

## 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.

### Key features

**Complete radiator drain-off**

**Supply and return shut-off in one operation**

**For left and right connection to the radiator**

**Cover for angle and straight forms**

**All versions suitable for R1/2 and G3/4 connection**



### 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

#### Material:

Valve body: Corrosion resistant Gunmetal.

O-rings: EPDM rubber

Valve insert: Brass, PPS

(polyphenylsulphide) and SPS

(syndiotactic polystyrene)

Spindle: PPS with O-ring sealing

#### Surface treatment:

Valve body and fittings are nickel-plated.

#### Marking:

THE

#### Radiator connection:

Adapters for R1/2 and G3/4 according to EN 16313 (Eurocone), for radiator connections.

Center distance of the connections is 50 mm (1,97 inch).

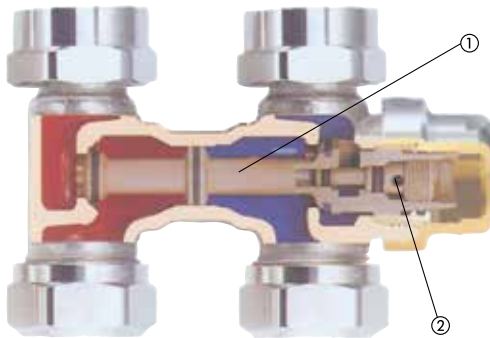
Tolerance compensation ±1,0 mm with special union nuts and flexible flat seal system for installation free of tension.

#### Pipe connection:

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

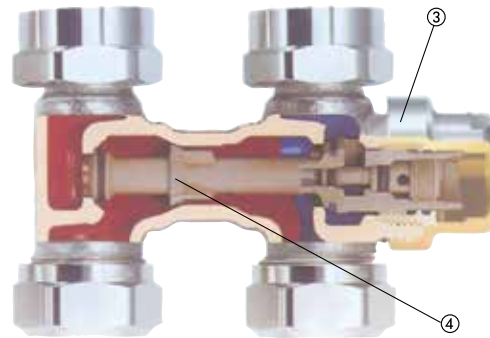
## Construction

### Two-pipe system



- 1. Spindle
- 2. Drain-off valve

### One-pipe system



- 3. Locking cap
- 4. Bypass setting

### Vekolux with cover



## Application

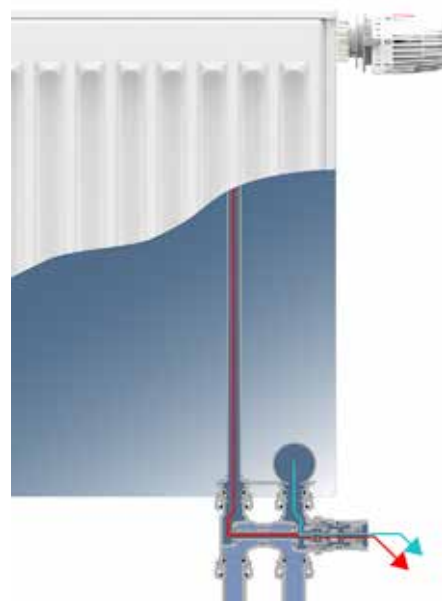
The Vekolux double connection fitting is designed for installation onto radiators with integrated valves with an Rp1/2 female thread and a G3/4 male thread connection. The self-sealing connection makes the fitting easy to install on the radiator. Models in angle and straight forms, each designed for 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 therefore be carried out without switching off other radiators.

Due to the parallel drain-off facility 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 radiator 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

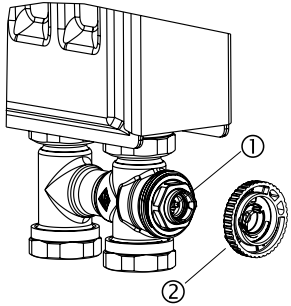


Complete drain-off of the radiator via supply and return simultaneously.

## 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

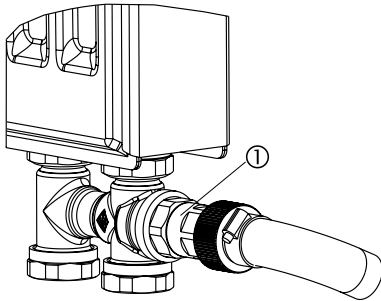
With the Vekolux double connection fitting, the shut-off cones are sealed off from the valve seats with soft sealing using O-rings. The decrease in physical strength which results from this makes it unnecessary to use the usual tools.

The IMI Heimeier setting 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.

### 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.



1. Drain-off facility with 1/2" hose connection

### Draining off

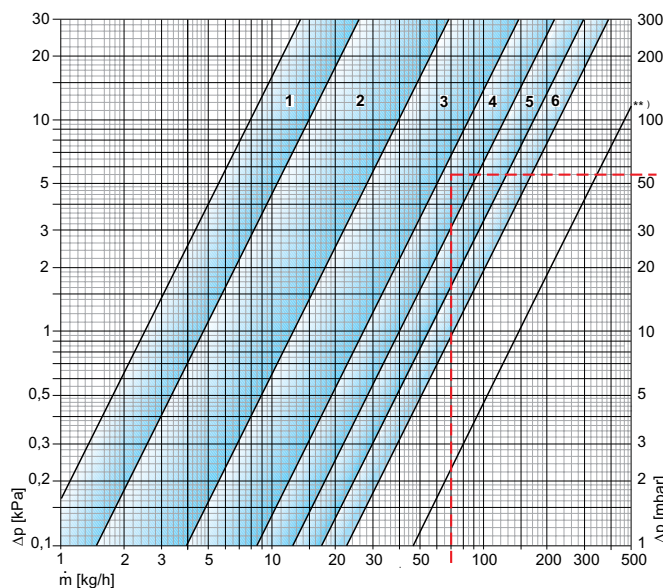
Close return pipe shut-off and thermostatic valve insert (see shut-off). Slightly loosen the pressure piece by turning anticlockwise with an allen key size 4,5 mm.

Screw draining off and filling device on to Vekolux and slightly tighten the lower hexagon with an open jawed spanner size 25 mm. Screw hose threaded joint (1/2") on to draining off and filling device.

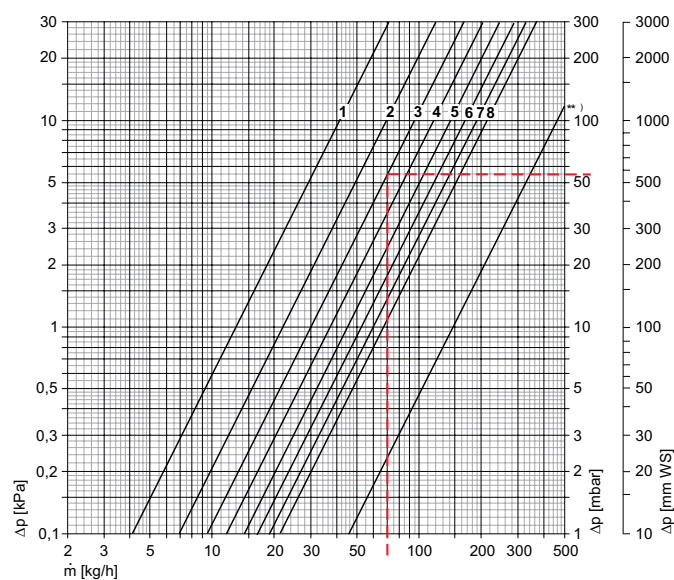
Loosen the upper hexagon on the hose connection side with an open jawed spanner size 22 mm and unscrew to the limit by turning anticlockwise.

## 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 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	

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

### Calculation example

Required:

Presetting value

Given:

Heat flow  $Q = 815 \text{ W}$

Temperature spread  $\Delta t = 10 \text{ K}$  (55/45 °C)

Pressure loss thermostatic valve  $\Delta p_v = 55 \text{ mbar}$

Solution:

Mass flow  $m = Q / (c \cdot \Delta t) = 815 / (1,163 \cdot 10) = 70 \text{ kg/h}$

Presetting value from diagram:

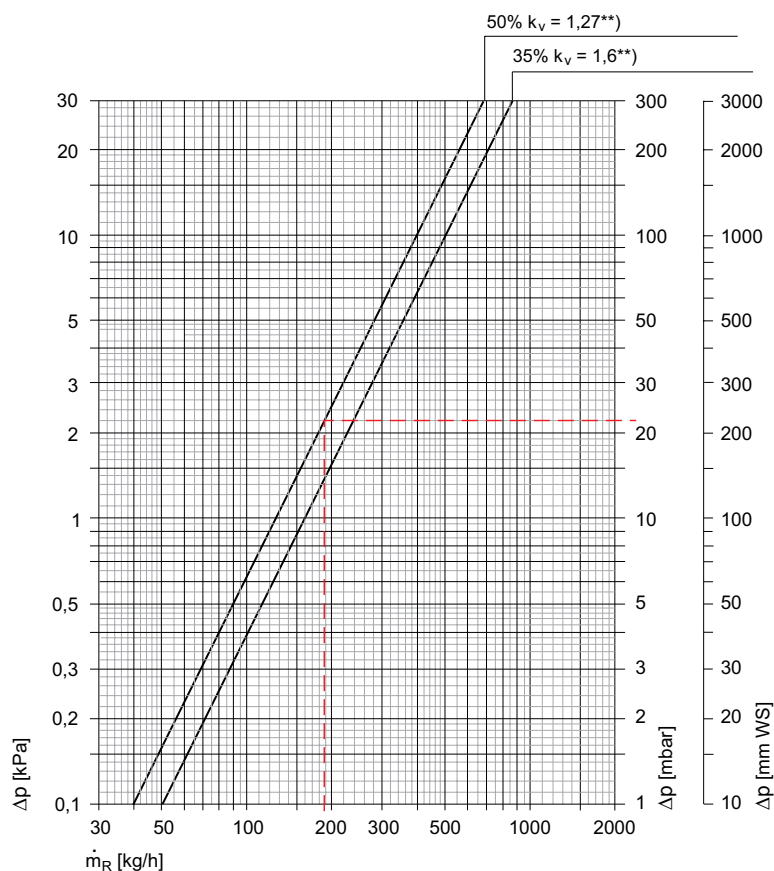
with thermostatic insert VHV with **6** presetting ranges: 4

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  
 $t = 80\text{ °C}$  (176 °F)  
 $v = 0,5\text{ m/s}$

### 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%

$K_v/K_{vs} = \dot{m}^3/h$  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  $Q = 4380\text{ W}$

Circular adjustment  $\Delta t = 20\text{ K}$  (70/50°C)

Radiator share  $m_{HK} = 50\%$

Solution:

Mass flow rate in circuit  $\dot{m}_R = Q / (c \cdot \Delta t) = 4380 / (1,163 \cdot 20) = 188\text{ kg/h}$

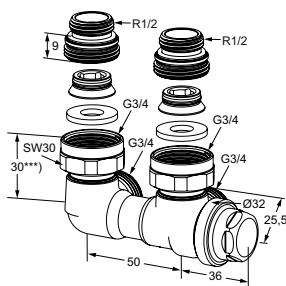
Pressure loss in the radiator with integrated valves incl. Vekolux  $\Delta p_{ges} = 22\text{ mbar}$

Radiator mass flow  $\dot{m}_{HK} = \dot{m}_R \cdot 0.5 = 188 \cdot 0.5 = 94\text{ kg/h}$

$$C_v = \frac{K_v}{0,86}$$

$$K_v = C_v \cdot 0,86$$

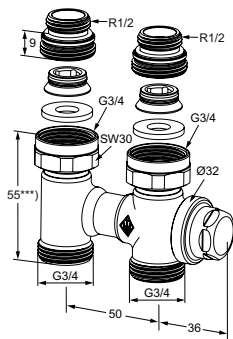
## Articles



### Angle

Internal thread  
Nickel plated gunmetal

Connection Radiator	Kvs <sup>*)</sup>	Kv-value <sup>**)</sup>	EAN	Article No
<b>Two-pipe system</b>				
Rp1/2 / G3/4	1,48		4024052122516	0531-50.000
<b>One-pipe system (Body marking 50/50)</b>				
Rp1/2 / G3/4		1,27	4024052122912	0535-50.000



### Straight

Internal thread  
Nickel plated gunmetal

Connection Radiator	Kvs <sup>*)</sup>	Kv-value <sup>**)</sup>	EAN	Article No
<b>Two-pipe system</b>				
Rp1/2 / G3/4	1,48		4024052122417	0530-50.000
<b>One-pipe system (Body marking 50/50)</b>				
Rp1/2 / G3/4		1,27	4024052122813	0534-50.000

<sup>\*)</sup> Combined value for supply and return

<sup>\*\*)</sup> Including radiators with IMI Heimeier thermostatic insert presetting and thermostatic head, with 50% radiator share

<sup>\*\*\*)</sup> Bearing surface seal top edge.

Kv/Kvs = m<sup>3</sup>/h at a pressure drop of 1 bar.



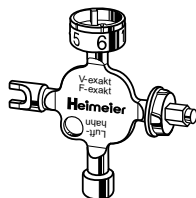
## Accessories



### Setting key

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

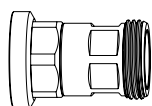
EAN	Article No
4024052035823	3670-01.142



### 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.

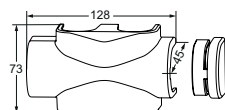
EAN	Article No
4024052338917	0530-01.433



### Drain-off facility

Connection piece G3/4, for 1/2" hose connection.

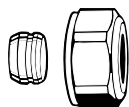
EAN	Article No
4024052300716	0311-00.102



### Cover

made of plastic.  
For angle and straight forms.

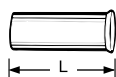
Colour	EAN	Article No
white RAL 9016	4024052459254	3850-50.553



### Compression fitting

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

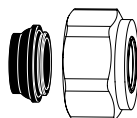
Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351



### 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

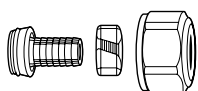


### Compression fitting

for copper or precision steel pipe according to DIN EN 1057/10305-1/2 and stainless steel pipe. Connection external 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**

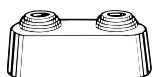
for plastic pipe according to DIN 4726, ISO 10508.  
PE-X: DIN 16892/16893, EN ISO 15875;  
PB: DIN 16968/16969.  
Connection external thread G3/4  
according to DIN EN 16313 (Eurocone).  
Nickel-plated brass.

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**

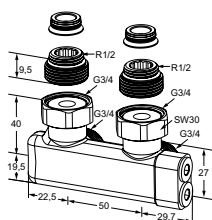
for Alu/PEX multi-layer pipe according to DIN 16836.  
Connection external thread G3/4  
according to DIN EN 16313 (Eurocone).  
Nickel-plated brass.

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

**Double rosette**

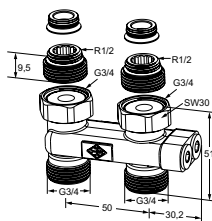
Dividable in the middle, made of plastic, white, for various pipe diameters.  
Centre distance 50 mm.  
Overall height max. 31 mm.

EAN	Article No
4024052120710	0520-00.093

**Deflector piece, angle**

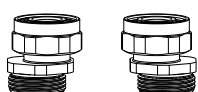
for exchanged supply and return.  
Connection for Rp1/2 and G3/4, flat sealing, with shut-off, for two-pipe systems, to prevent connection ducts from intersecting.  
Nickel-plated brass.

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.  
Nickel-plated brass.

	Model	EAN	Article No
<b>Set 1</b>	Axial distance min. 40/50 to max. 60/50	4024052840816	1354-02.362
<b>Set 2</b>	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 Rp1/2 internal 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.7 01.2023