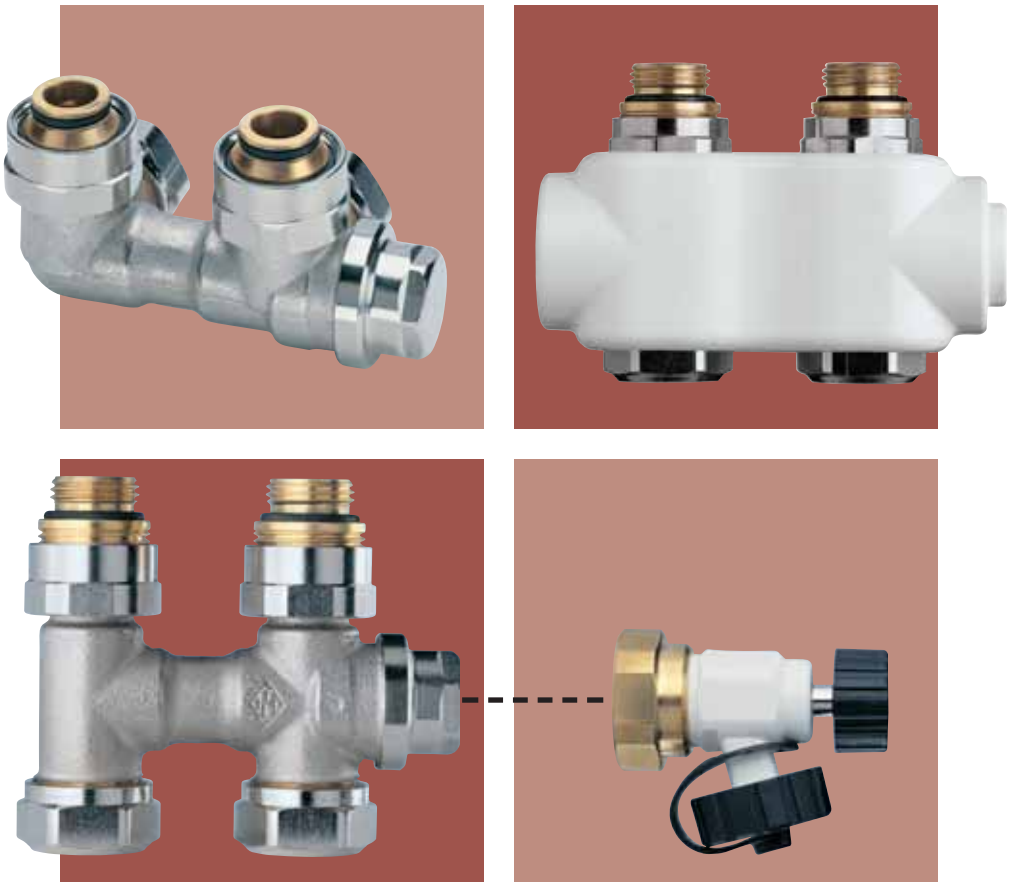
Vekolux

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



To be precise.

Heimeier

Vekolux

Description

HEIMEIER Vekolux double connection fitting for shutting off and draining off. Spindle for the parallel shut-off of supply and return pipes in one operation. Operated with a HEIMEIER universal key. Drain-off valve integrated into the spindle.

Single and two-pipe models in angle and straight form with R $^1/_2$ connection and G $^3/_4$.

Center distance of the connections is 50 mm (1,97 inch). Tolerance compensation ±1.0 mm (0,0394 inch) by special union nuts and a flexible flat sealing system for tension-free installation.

EPDM O-ring sealing on the spindle and cones. Body made of corrosion-resistant gunmetal, nickel-plated, with special geometry for the reduction of return heating of radiators in single pipe heating systems.

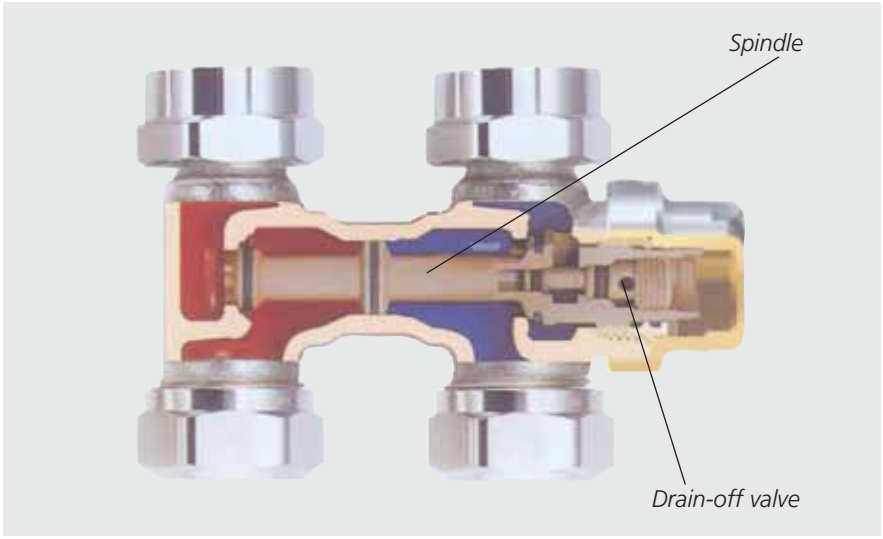
Pipe connector G $^3/_4$, with compression fittings for plastic, copper, precision steel, or multi-layer pipes.

For HEIMEIER valves, use only the HEIMEIER compression fittings which have been designed and labelled for that particular application (e. g. ID no. 15 THE).

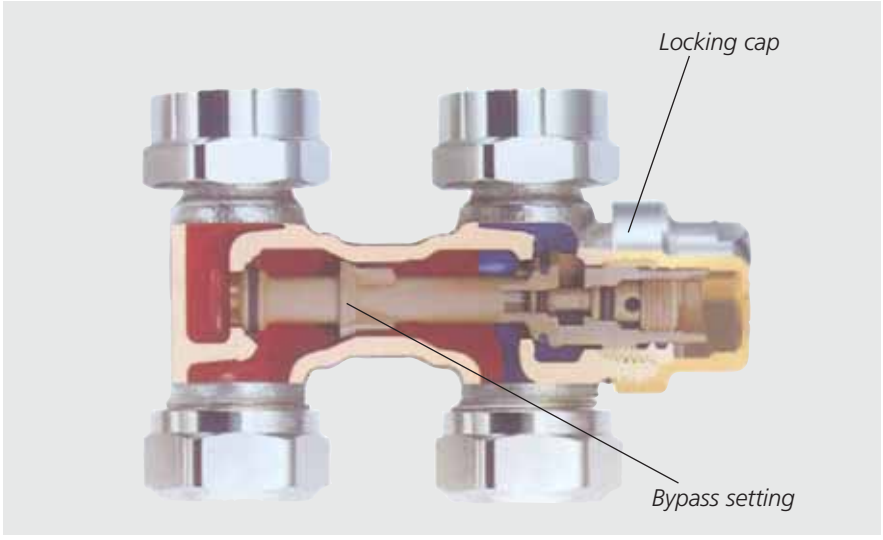
Excellent connection design due to a stylishly shaped cover from the DESIGN-LINE range.

Assembly

Two-pipe-system



Single-pipe system



- **Complete radiator drain-off**
- **Supply and return shut-off in one operation**
- **Operation with HEIMEIER universal key**
- **For left and right connection to the radiator**
- **Cover from the DESIGN-LINE range for angle and straight forms**
- **Body made of corrosion-resistant gunmetal**

Application

The Vekolux double connection fitting is designed for installation onto radiators with integrated valves with an Rp $^1/_2$ female thread and a G $^3/_4$ male thread connection. The self-sealing connection makes the fitting easy to install on the radiator.

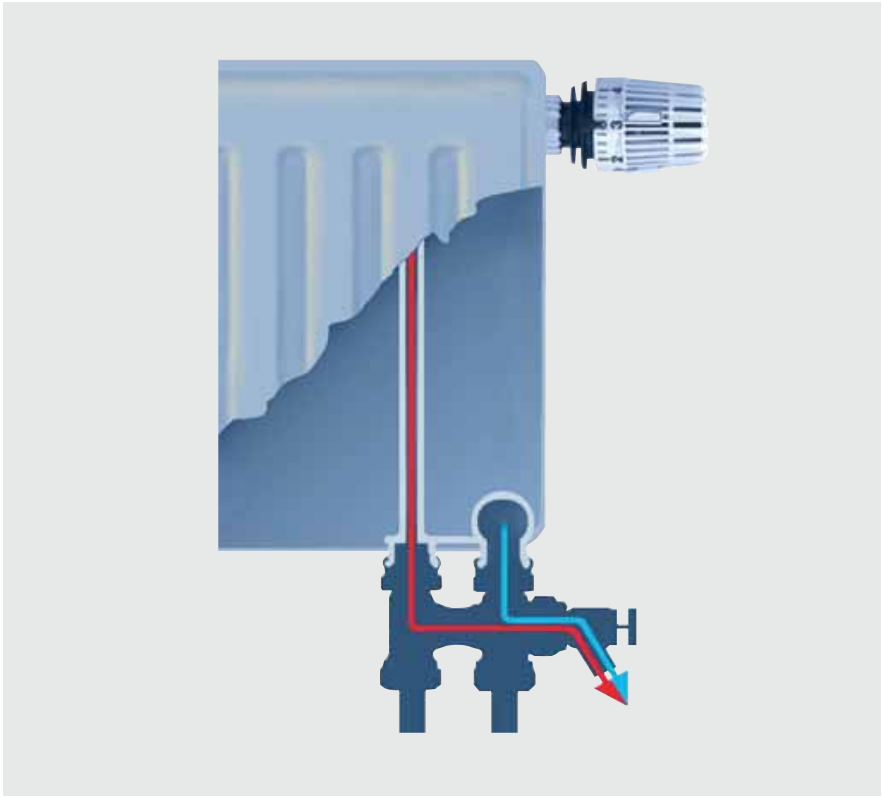
Models in angle and straight forms, each designed for single and two-pipe systems, mean that the connection fitting can be used in a number of different ways. For example, the straight form can be used for pipe connection vertical to the floor. If a free floor area is required, the angle form is used 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 single-pipe fitting is ideally used with single-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



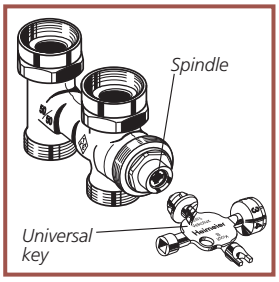
Complete drain-off of the radiator via supply and return simultaneously.

Note

The contents of the heat transfermedium should comply with VDI guideline 2035 on damage and scale deposit formation in warm water heating systems. For industrial and long-distance heating systems, note the VdTÜV information sheet 1466 and AGFW information sheet 5/15.

Mineral oils in the heat transfer medium or lubricants containing mineral oils of any type lead to strong swelling and in most cases cause EPDM seals to fail. 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 details concerning concentration and specific additives.

Operation



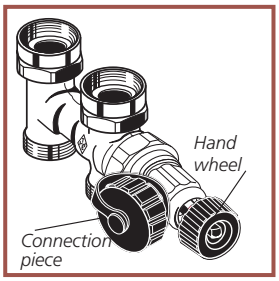
Shut-off

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 HEIMEIER 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 single-pipe-lockshield, the mass flow in circuit is also maintained when the lockshield is shut off.

Bypass setting

The Vekolux single-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.



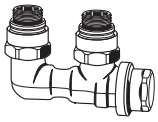
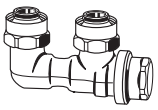
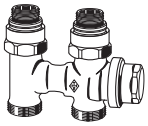
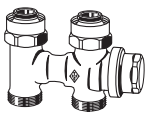
Draining off

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.

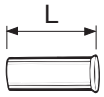
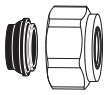
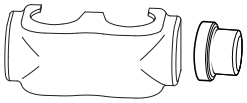
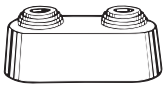
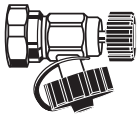
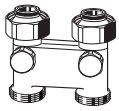
Article numbers

Structure	Connection Radiator with integrated valves	Two-pipe system k_{vs} value*)	Art. no.	Single-pipe system Body marking 50/50 k_v value**)	Art. no.
Angle form 	Rp 1/2 female thread	1.48 m³/h	**0531-50.000**	1.27 m³/h	**0535-50.000**
Angle form 	G 3/4 male thread	1.48 m³/h	**0533-50.000**	1.27 m³/h	**0537-50.000**
Straight form 	Rp 1/2 female thread	1.48 m³/h	**0530-50.000**	1.27 m³/h	**0534-50.000**
Straight form 	G 3/4 male thread	1.48 m³/h	**0532-50.000**	1.27 m³/h	**0536-50.000**

Permitted operating temperature TB 120°C (248°F), with cover TB 90°C (194°F). Permitted operating pressure PB 10 bar
*) Combined value for supply and return
**) Including radiators with HEIMEIER thermostatic insert presetting and thermostatic head, with 50% radiator share

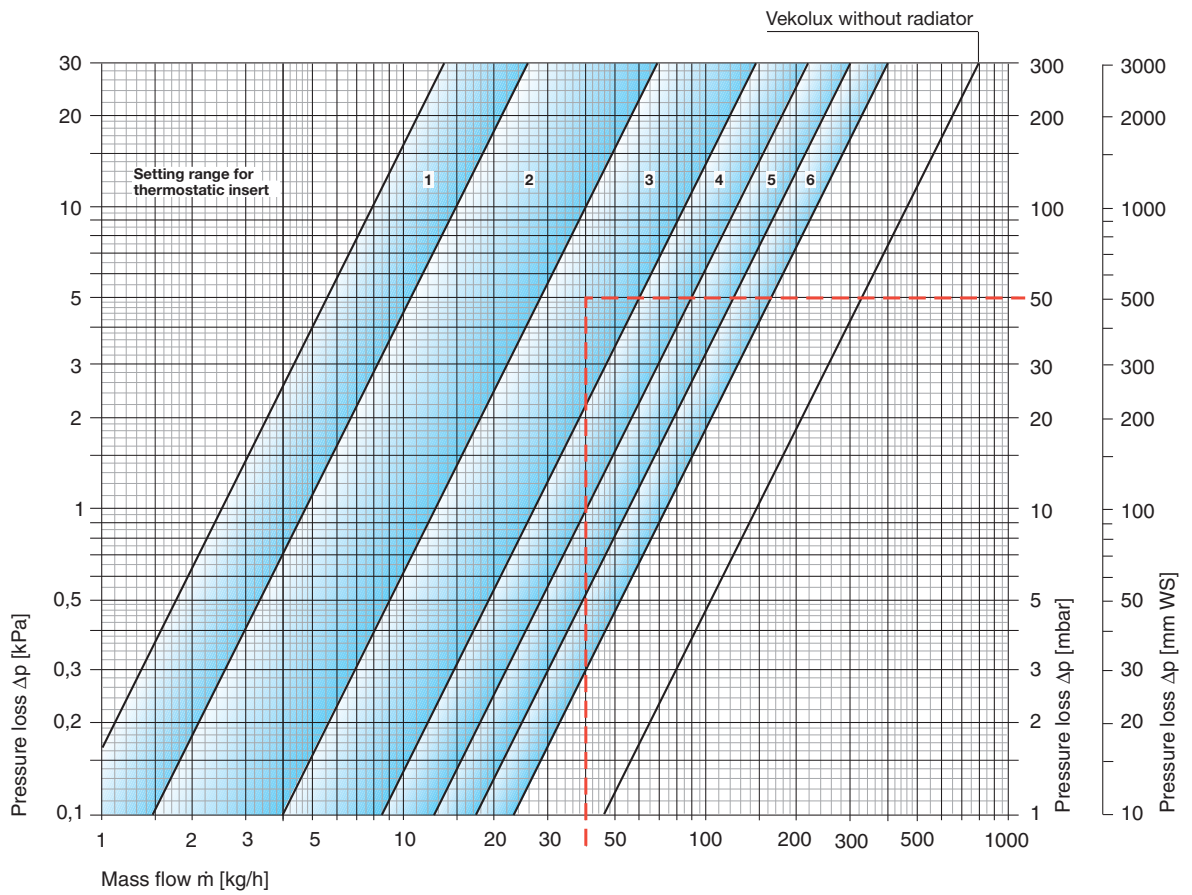
Accessories

1 mm = 0,0394 inch

Figure	Description	L [mm]	Ø pipe	Art. no.
	**Compression fitting** For copper or precision steel pipes. Nickel-plated brass. With a pipe thickness of 0.8 – 1 mm, support sleeves should be used. Note information provided by the pipe manufacturer.		10 12 14 15 16 18	**3831-10.351** **3831-12.351** **3831-14.351** **3831-15.351** **3831-16.351** **3831-18.351**
	**Suport sleeves** For copper or precision steel pipes with a wall thickness of 1 mm.	18.5 25.0 25.0 26.0 26.3 26.8	10 12 14 15 16 18	**1300-10.170** **1300-12.170** **1300-14.170** **1300-15.170** **1300-16.170** **1300-18.170**
	**Compression fitting** for copper or precision steel pipe. Nickel plated brass. Soft sealed.		12 14 15 16 18	**1313-12.351** **1313-14.351** **1313-15.351** **1313-16.351** **1313-18.351**
	**Compression fitting** for plastic pipes. Nickel-plated brass.		12 x 2 14 x 2 16 x 2 17 x 2 18 x 2 18 x 2.5 20 x 2 21 x 2.5	**1311-12.351** **1311-14.351** **1311-16.351** **1311-17.351** **1311-18.351** **1312-18.351** **1311-20.351** **1311-21.351**
	**Compression fitting** for multi-layer pipes. Nickel-plated brass.		14 x 2 16 x 2 18 x 2	**1331-14.351** **1331-16.351** **1331-18.351**
	**Cover** made of white plastic RAL 9016. For angle and straight forms. DESIGN LINE			**3850-50.553**
	**Double rose** Can be divided in the center, made of white plastic, for different pipe diameters, center distance 50 mm, total height max. 31 mm.			**0520-00.093**
	**Drain-off facility** Connection piece G $^3/_4$, rotatable, for $^1/_2$" hose connection.			**0311-00.102**
	**Deflector piece** G $^3/_4$, self-sealing connections, with shut-off, for exchanged supply and return, to prevent connection ducts from intersecting, nickel-plated brass.			**0540-50.000**
	**Double nipple** G $^3/_4$ x R $^1/_2$, self-sealing, for the deflector piece for direct installation on radiators with integrated valves with connection Rp $^1/_2$, with hexagonal socket, brass.			**0550-02.350**
	**Universal key** for adjusting the Vekolux double connection fitting. Also for V-exakt/F-exakt thermostatic valve bodies, thermostatic head B, lockshield Regulux and radiator air vents.			**0530-01.433**

Technical data

Diagram Vekolux two-pipe connection fitting



Radiator with integrated valves with Vekolux two-pipe connection in angle and straight form		Presetting thermostatic insert 1	2	3	4	5	6	k_{vs} value without radiator [m³/h]	Permitted operating temperature*) TB [°C]	Permitted operating pressure PB [bar]
Thermostatic insert with presetting and thermostatic head	min k_v value – max	0.025 – 0.047	> 0.047 – 0.126	> 0.126 – 0.265	> 0.265 – 0.401	> 0.401 – 0.556	> 0.556 – 0.730	1.48	120 (248°F)	10
	k_{vs} value [m³/h]	0.051	0.133	0.289	0.413	0.579	0.817			

*) With actuator on the radiator with integrated valves TB 100°C (212°F)

k_v value in [m³/h]

Sample calculation

Target: Setting range

Given:
- Heat flow $\dot{Q}$ = 930 W
- Temperature spread Δt = 20 K (70/50°C)
- Pressure loss in radiator with integrated valves incl. Vekolux Δp_{ges} = 50 mbar

Solution: Mass flow $\dot{m} = \frac{\dot{Q}}{c \cdot \Delta t} = \frac{930}{1.163 \cdot 20} = 40$ kg/h

Setting range from the diagram: 3

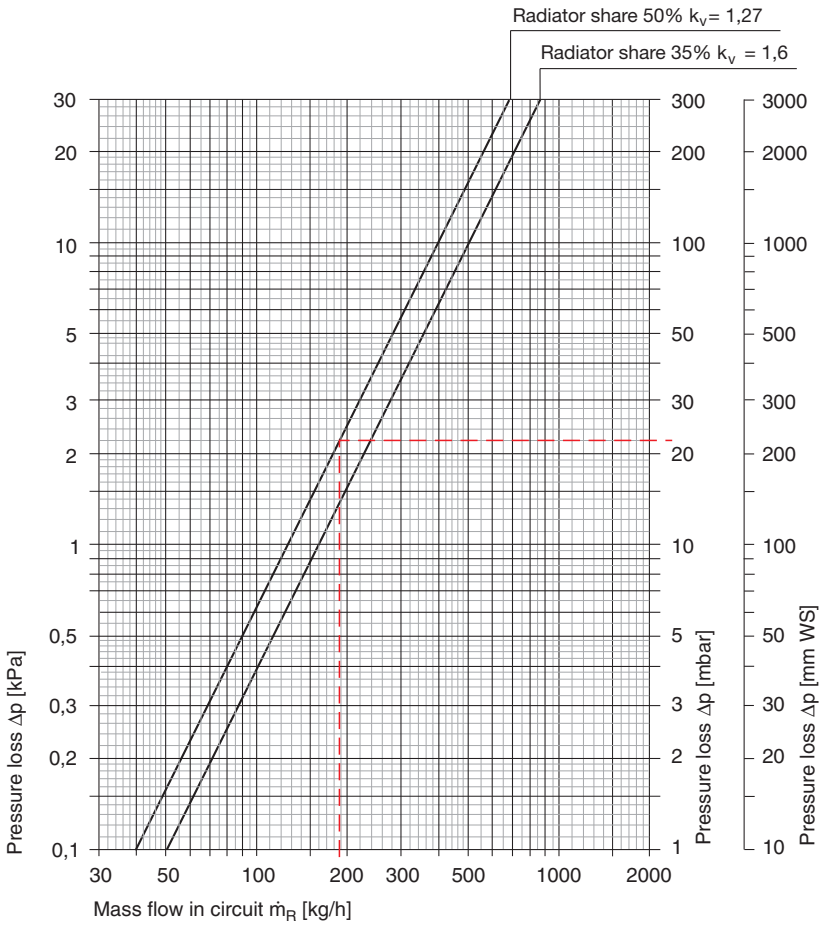
Formula:

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

$k_v = C_v \cdot 0,86$

Technical data

Diagram Vekolux single pipe connection



Equivalent pipe lengths [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 ϑ = 80°C (176°F) v = 0.5 m/s

Radiator with integrated valves with Vekolux single-pipe connection in angle and straight form	Radiator share [%]	k_v value [m³/h]	Bypass setting*) [U]	Permitted operating temperature TB [°C]	Permitted operating pressure PB [bar]
Thermostatic insert with presetting (setting 6) and thermostatic head	50	1.27	max.	120 (248°F)	10
	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%

Sample calculation

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

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

Solution: Mass flow rate in circuit $\dot{m}_R = \frac{\dot{Q}}{c \cdot \Delta t} = \frac{4380}{1.163 \cdot 20} = 188$ kg/h

Pressure loss in the radiator with integrated valves incl. Vekolux Δp_{ges} = 22 mbar

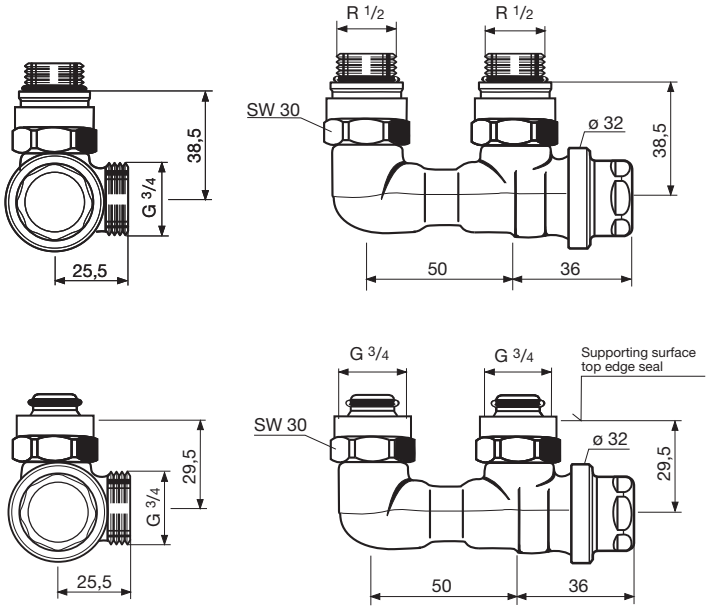
Radiator mass flow $\dot{m}_{HK} = \dot{m}_R \cdot 0.5 = 188 \cdot 0.5 = 94$ kg/h

Formula:
$C_v = \frac{k_v}{0,86}$
$k_v = C_v \cdot 0,86$

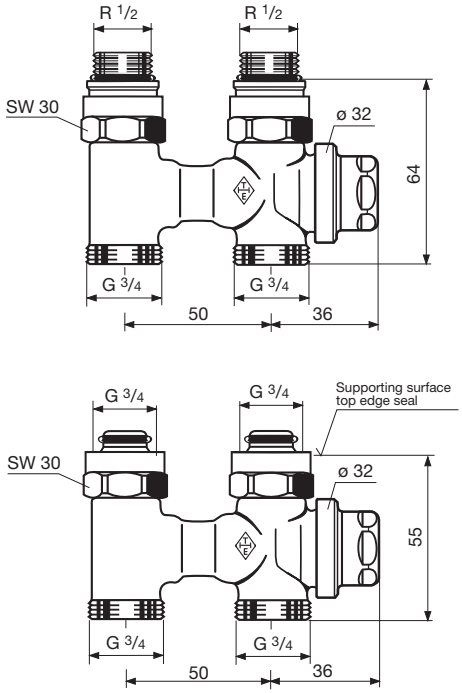
Vekolux

Dimensional data sheet

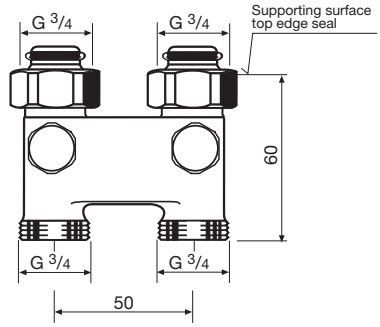
Vekolux angle form
Single and two-pipe model



Vekolux straight form
Single and two-pipe model



Deflector piece



1 mm = 0,0394 inch

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