Data Sheet

VHX Valve Sets with RTX Temperature Limiter for Designer Radiators & Bathroom Towel Rails

Application

VHX floor connection

VHX wall connection

The VHX-sets are specially designed for towel rails and designer radiators with '50 mm bottom connection' and ½" connection to the radiator. The VHX-sets include a RTX temperature limiter for regulation of the return flow temperature.

VHX valves controls the return flow from the radiator and have several features:

- free choice of left/right mounting direction
- available in versions for floor or wall connection
- built-in shut-off function
- four different surfaces matching most radiators

The VHX sets provides the perfect finishing touch for towel rails. The aesthetically pleasing and compact design allows the sensor to be mounted underneath the towel rail, parallel with the wall.

Ordering

VHX set

Description	Colour	Code no. Straight	Code no. Angle
VHX-DUO valve set, with RTX return flow sensor	Chrome	**013G4376**	**013G4379**
	RAL 9016	**013G4378**	**013G4381**
VHX-MONO valve set, with RTX return flow sensor	Chrome	**013G4382**	**013G4385**
	RAL 9016	**013G4384**	**013G4387**

Compression fittings

Description	Size	Code no. Nickel plated	Code no. Chrome plated
For steel and copper tubes	8 mm	**013G4108**	–
	10 mm	**013G4110**	**013G4192**
	12 mm	**013G4112**	**013G4193**
	14 mm	**013G4114**	**013G4194**
	15 mm	**013G4115**	**013G4195**
	16 mm	**013G4116**	**013G4196**
For AluPex tubes	12 x 2 mm	**013G4172**	–
	14 x 2 mm	**013G4174**	–
	16 x 2 mm	**013G4176**	**013G4200**
For Pex tubes	12 x 1.1 mm	**013G4143**	**013G4197**
	12 x 2 mm	**013G4142**	–
	14 x 2 mm	**013G4144**	–
	15 x 2.5 mm	**013G4147**	**013G4199**
	16 x 2 mm	**013G4146**	**013G4198**

Accessories

Product	Code no.
Electric heating element - 47 cm - 300 W - 1.2 m w/ Schuko plug [1]	**013G4167**
Electric heating element - 40 cm - 150 W - 1.2 m w/ Schuko plug [1]	**013G4168**
Electric heating element - 70 cm - 600 W - 1.2 m w/ Schuko plug [1]	**013G4169**
Adapter for electric heating element	**013G4166**
O-ring service set for VHX MONO angle valve and VHX DUO angle valve [2]	**013G4179**
O-ring service set for VHX DUO straight valve	**013G4180**
O-ring service set for VHX MONO straight valve	**013G4181**

[1] Electric heating elements are according to the standard UNEL 47168/68-CEE (7) xvll.

[2] Complete O-ring replacement of VHX DUO angle valve requires 2 x 013G4179.

Technical Data

Type	Connection		P-band	k_v-values [m³/h] with RAX sensor at setting[1]								(k_{vs})
	Rad.	Sys.		1	2	3	4	5	6	7	N	N
VHX-DUO	G½A	G½	2K	0.12	0.14	0.16	0.17	0.18	0.19	0.20	0.21	0.56
			5K	0.16	0.19	0.22	0.25	0.29	0.33	0.37	0.41	
VHX-MONO	G½A	G½	2K	0.12	0.14	0.16	0.17	0.18	0.19	0.20	0.21	0.45
			5K	0.16	0.19	0.22	0.25	0.29	0.33	0.37	0.41	

Max. work. pressure: 10 bar, max. diff. pressure[2]: 0,6 bar, test pressure 16 bar, max. flow temp.: 120 °C

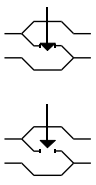
[1] The k_v-value indicates the water flow (Q) in m³/h at a pressure drop (Δp) across the valve of 1 bar; $k_v = \frac{Q}{\sqrt{\Delta p}}$. The k_{vs}-value states the flow Q at a maximum lift, i.e. at fully open valve at setting N.

[2] The maximum differential pressure specified is the maximum pressure at which the valves give satisfactory regulation. As with any device which imposes a pressure drop in the system, noise may occur under certain flow/pressure conditions. The differential pressure can be reduced by the use of the Danfoss differential pressure regulators.

RTX has - due to its mode of operation - a very limited influence on the hydraulic balance of the heating system.

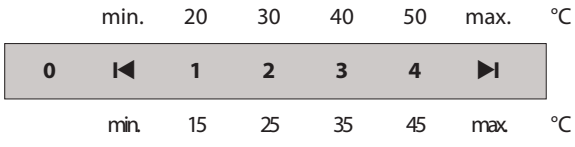
Changing the k_v-setting from "N" (factory setting) is therefore seldom required.

Temperature Setting



Xp = 0 K

Xp = 5 K



*At position **0** the valve is totally closed, i.e. the frost protection is off.*

Pre-Setting

Danfoss pre-settable valve assemblies incorporate easy setting adjustment with clearly engraved setting markers scaled from 1 - 7 and N. Setting values can be set quickly and precisely, without the need for tools, as follows:

- Remove protective cap or sensor.
- Turn Red ring to the desired setting value.

The preset level can be selected in 0.5 increments between 1 and 7 (see chart for flow rates). At setting N the valve is fully open (flushing option).

Installation

VHX-DUO floor connection

Free connection (left or right).
Radiator outlet always on thermostat side.

VHX-MONO floor connection

Free connection (left or right).
Radiator outlet always on thermostat side.

VHX-DUO wall connection

Free connection (left or right).
Radiator outlet always on thermostat side.

VHX-MONO wall connection

Free connection (left or right).
Radiator outlet always on thermostat side.

RTX sensor

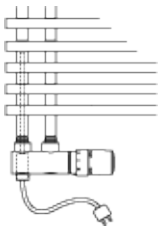
Replace gland seal on valve by the special RTX gland seal before mounting of the sensor with an Allen key (enclosed).

Electric Heating Element

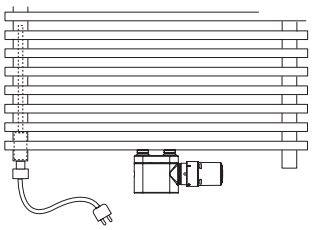
Danfoss electric heating elements can be mounted in the radiator through the VHX-DUO angle valve. Mounting of a standard heating element (non-Danfoss) through the valve requires use of the adapter 013G4166.

If a heating element is to be used with other VHX valves, a standard heating element (non-Danfoss) has to be mounted directly in the radiator.

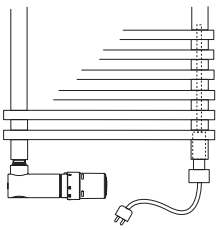
Examples: Mounting of an electric heating element



Danfoss

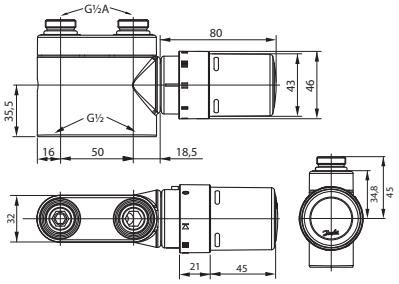


Standard (non-Danfoss)

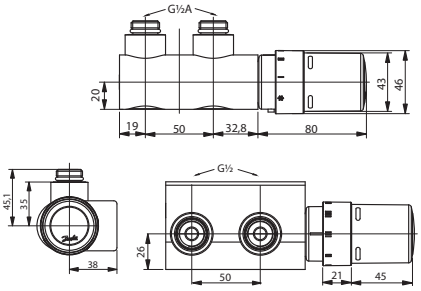


Standard (non-Danfoss)

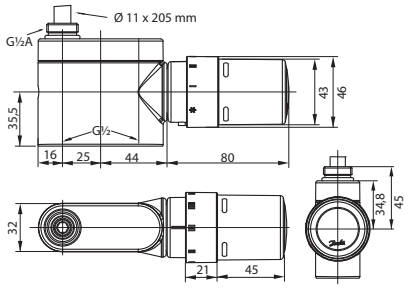
Dimensions



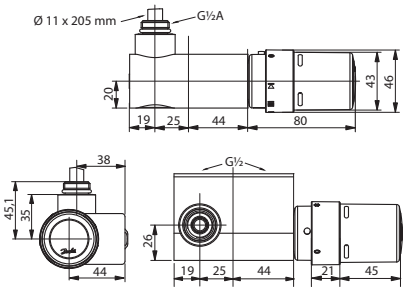
VHX-DUO floor connection



VHX-DUO wall connection



VHX-MONO floor connection



VHX-MONO wall connection

Danfoss A/S
Heating Solutions
Haarupvaenget 11
8600 Silkeborg
Denmark
Phone: +45 7488 8000
Fax: +45 7488 8100
Email: heating.solutions@danfoss.com
www.heating.danfoss.com