

## Data Sheet

# VHX Valve Sets with RAX Thermostatic Sensor 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 1/2" connection to the radiator.

The VHX-sets include a RAX thermostatic sensor for room temperature regulation.

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

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

## Ordering

### **VHX set**

Description	Colour	Code no. Straight	Code no. Angle
VHX-DUO valve set, with RAX return flow sensor	Chrome	<b>013G4276</b>	<b>013G4279</b>
	RAL 9016	<b>013G4278</b>	<b>013G4281</b>
VHX-MONO valve set, with RAX return flow sensor	Chrome	<b>013G4282</b>	<b>013G4285</b>
	RAL 9016	<b>013G4284</b>	<b>013G4287</b>

**Compression fittings**

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

**Accessories**

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

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

<sup>2)</sup> Complete O-ring replacement of VHX DUO angle valve requires 2 x 013G4179.

**Technical Data**

Type	Connection		k <sub>v</sub> -values [m <sup>3</sup> /h] with RAX sensor at setting <sup>1)</sup>								(k <sub>vs</sub> )
	Rad.	Sys.	1	2	3	4	5	6	7	N	N
VHX-DUO	G½A	G½	0.12	0.15	0.20	0.25	0.30	0.36	0.42	0.49	0.56
VHX-MONO	G½A	G½	0.12	0.15	0.20	0.25	0.30	0.34	0.38	0.40	0.45

Max. work. pressure: 10 bar, max. diff. pressure<sup>2)</sup>: 0,6 bar, test pressure 16 bar, max. flow temp.: 120 °C

<sup>1)</sup> The k<sub>v</sub>-value indicates the water flow (Q) in m<sup>3</sup>/h at a pressure drop (Δp) across the valve of 1 bar;

$k_v = \frac{Q}{\sqrt{\Delta p}}$ . At setting N the k<sub>v</sub>-value is stated according to EN 215, at X<sub>P</sub> = 2K i.e. the valve is closed at 2°C higher room temperature. At lower settings the X<sub>P</sub> value is reduced to 0.5K of the setting value 1. The k<sub>vs</sub>-value states the flow Q at a maximum lift, i.e. at fully open valve at setting N.

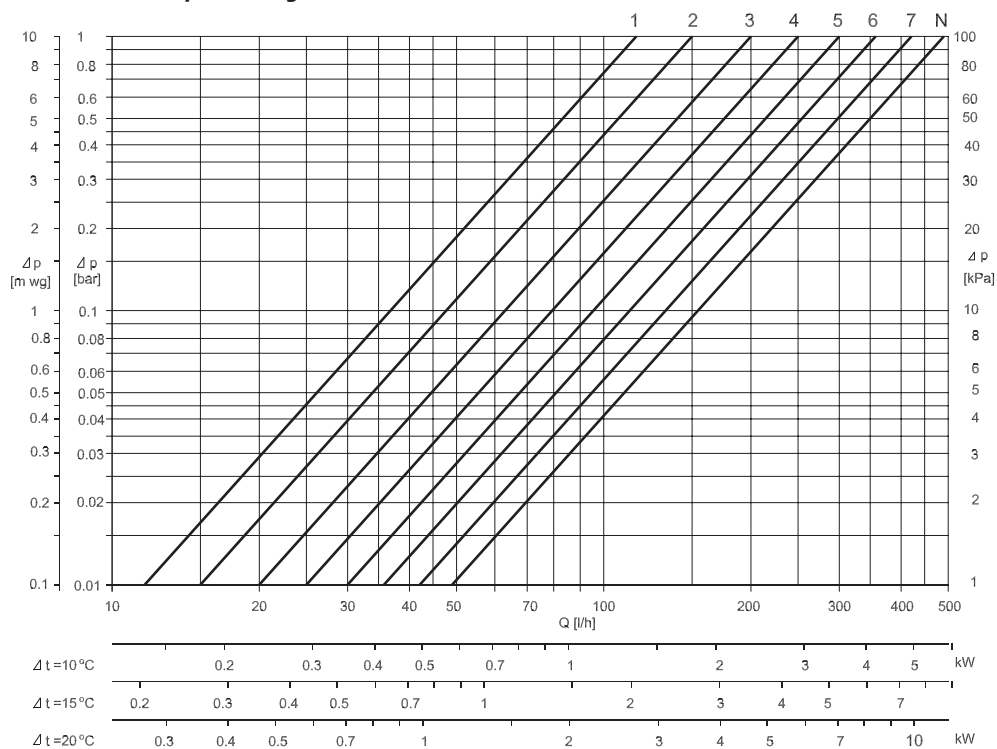
<sup>2)</sup> The maximum differential pressure specified is the maximum pressure at which the valves give satisfactory regulation. As with any device which imposes a pressure drop in the system, noise may occur under certain flow/pressure conditions. The differential pressure can be reduced by the use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

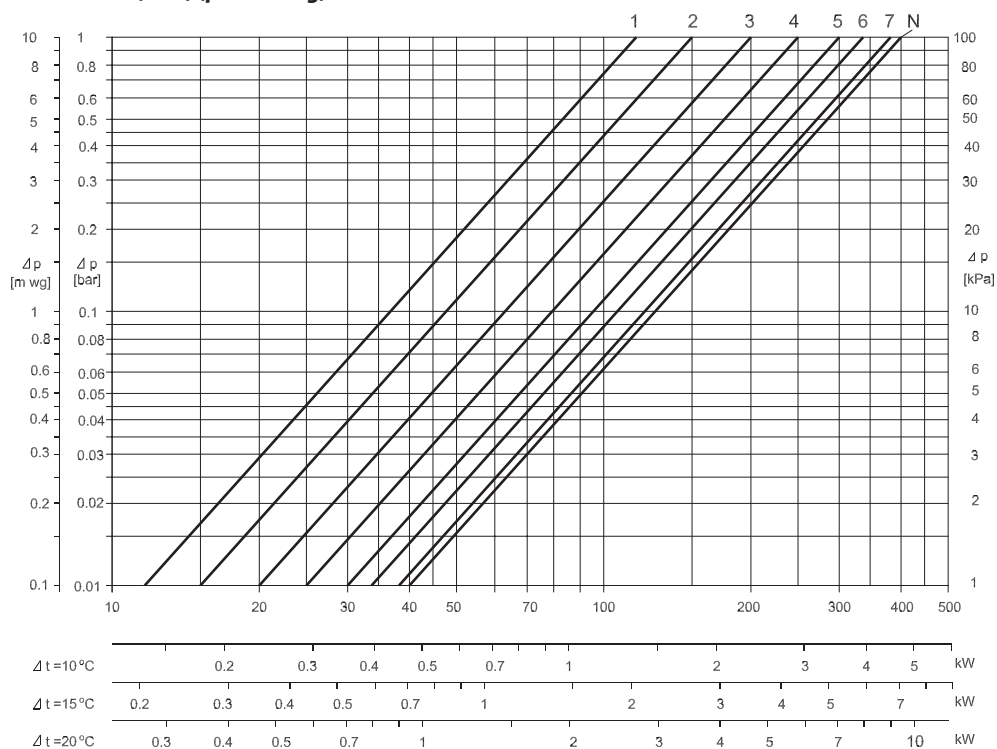
Changing the  $k_v$ -setting from "N" (factory setting) is therefore seldom required.

## Capacities

### VHX-DUO (RAX) (pre-setting)



### VHX-MONO (RAX) (pre-setting)



## Temperature Setting

### RAX thermostatic sensor

0 = Positive shut off

❄ = Frost protection setting

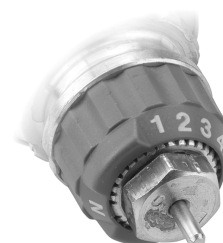
	8	12	16	20	24	28 °C
0	❄	I	II	III	IIII	▶I

## 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**



*Mounted directly on the valve with an Allen key (enclosed in set)*

## Electric Heating Element

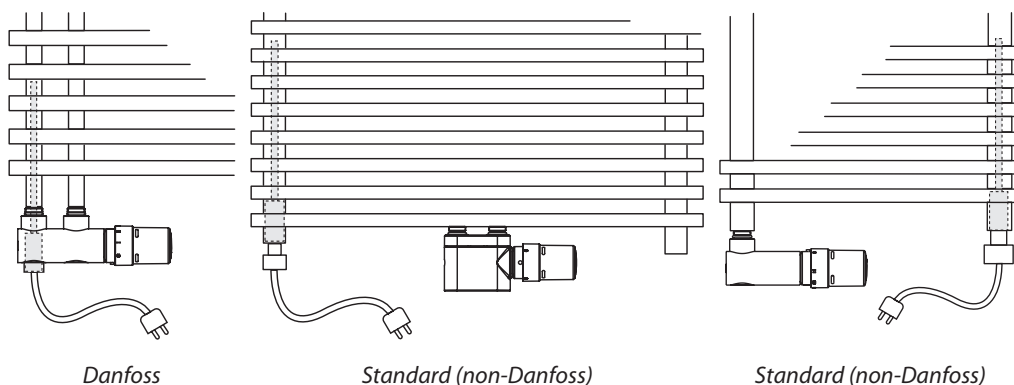
Danfoss electric heating elements can be mounted in the radiator through the VHX-DUO angle valve.

The heating element's wattage must be selected so that the wattage emitted on the heating element is always less than half of the nominal wattage the radiator can emit.

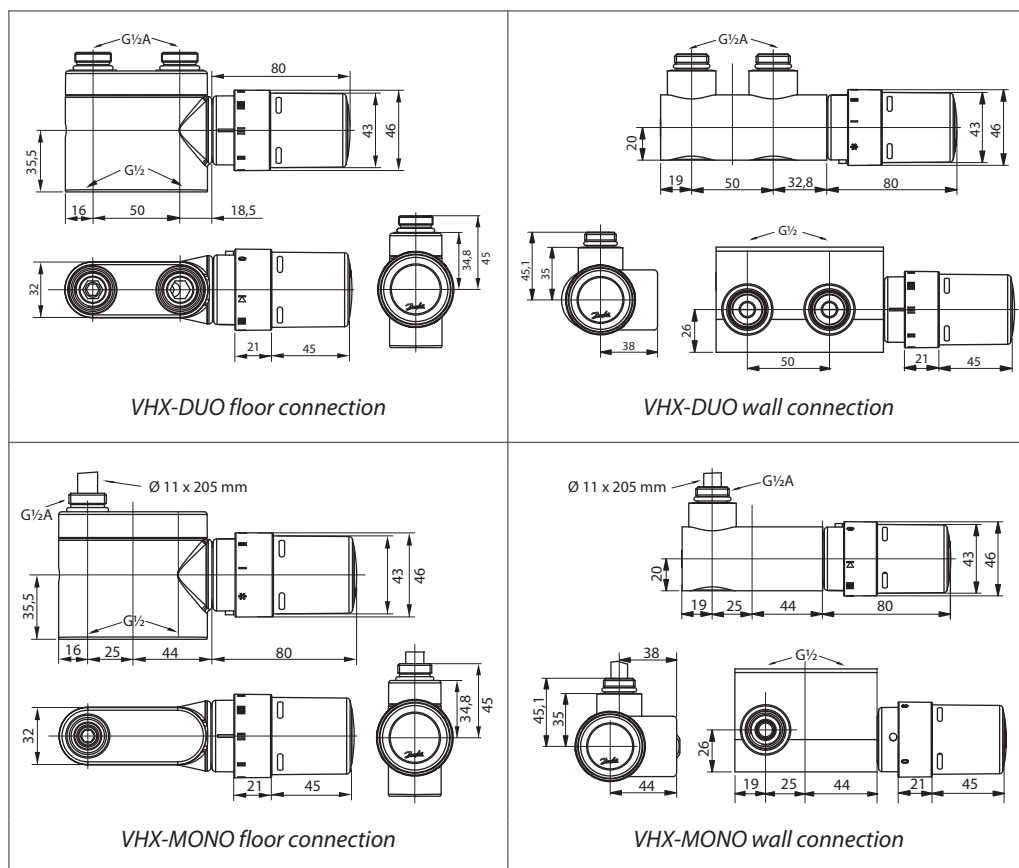
Mounting of a standard heating element (non-Danfoss) through the valve requires use of the adapter 013G4166.

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*



## Dimensions





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