

GENERAL INFORMATION – HORIZONTAL VKM



When using design radiators in **KORATHERM HORIZONTAL VKM** version, it is necessary that the valve setting level is determined by the calculation and specified in the design documentation for their correct operation. It must be respected by an installing company when installing a heating system.

The valve is pre-set from the factory to level 8 and after flushing before starting the heating test it has to be set with a special key to the required setting level.

Example of calculation

Solution to: level of presetting

Given: heat output
cooling of water
pressure loss of radiator with valve
heat capacity of water

$Q = 1135 \text{ W}$
 $t_1 - t_2 = 15 \text{ K (65/50 °C)}$
 $\Delta p = 30 \text{ mbar}$
 $c = 1,163 \text{ Wh/kg.K}$

Solution: weight flow

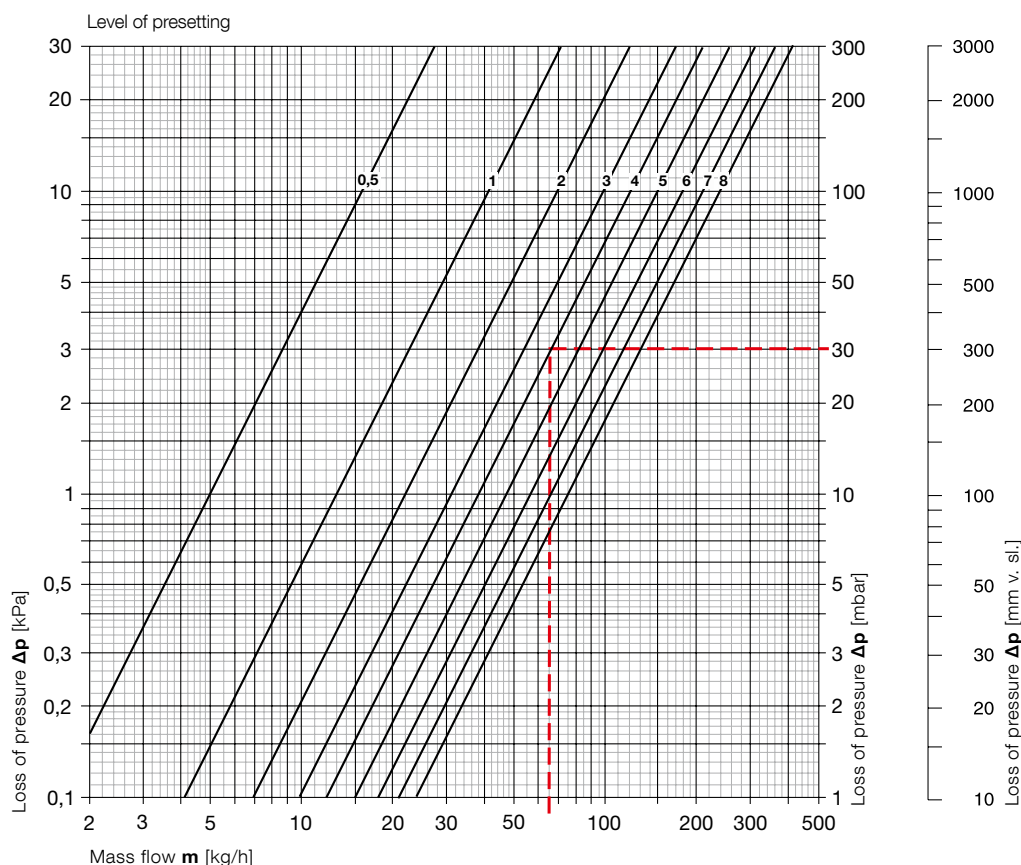
level of presetting (see diagram):

$$m = \frac{Q}{c \cdot (t_1 - t_2)} = \frac{1135}{1,163 \cdot 15} = 65 \text{ kg/h}$$

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Twin-pipe heating system



Valve with thermostatic head

Level of valve setting	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8
$k_v [\text{m}^3/\text{h}]$	0,05	0,13	0,18	0,22	0,27	0,31	0,35	0,38	0,42	0,47	0,52	0,57	0,62	0,66	0,71	0,75

Valve without thermostatic head

Level of valve setting	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8
$k_{vs} [\text{m}^3/\text{h}]$	0,05	0,16	0,22	0,27	0,33	0,38	0,41	0,43	0,54	0,65	0,82	0,98	1,11	1,23	1,33	1,43

Highest allowed working temperature: 110 °C

Highest allowed working pressure: 4 bar

The indicated values of k_v comply with proportionality interval of 2K.

The company reserves the right to make technical changes.