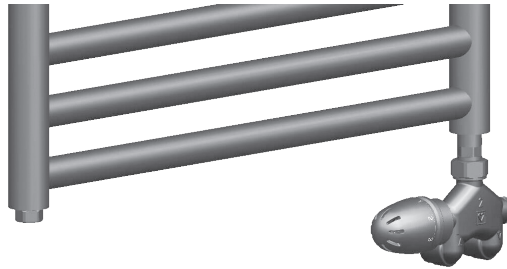


# HERZ 4-way thermostatic valve HERZ for use in one- and two-pipe heating systems used to connect the sectional and tubular heaters

Datasheet for VXA, Issue 1116



Assembly connection HERZ VTA series connection horizontally bottom side



Assembly connection HERZ VTA series connection vertical bottom side



HERZ cover for VTA valves

## ☑ Versions

<b>7767</b>	HERZ-VTA-40-Four-Way Valve	<b>7765 H</b>	Herz 4 WAT 35 and 50 Four-Way Valve
<b>7767 H</b>	HERZ-VTA-50-Four-Way Valve	<b>7783</b>	Herz VUA 40 Four-Way Valve
		<b>7783 H</b>	Herz VUA 50 Four-Way Valve
		<b>7784</b>	Herz VUA 40 Four-Way Valve
		<b>7784 H</b>	Herz VUA 50 Four-Way Valve
		<b>7786</b>	Herz VUA 40 Four-Way Valve
		<b>7786 H</b>	Herz VUA 50 Four-Way Valve

Valve housing made of brass, nickel plated, EPDM seals, spindle seal by means of O-ring, TS-upper parts sealed EPDM O-ring, RL-1-upper parts metal seated.

All models are supplied with screw caps. They can be equipped with a HERZ-thermostat at any time without draining the system.

**It is necessary to pay attention on matching of the thread of the thermostatic valve with thermostatic head**

## ☑ Field of Application

One- and two-pipe water heating systems with calibrated soft steel, copper or plastic pipes.

## ☑ Operating data

Maximum operating temperature	120 °C
Maximum operating pressure	10 bar
Max. pressure difference at thermostaic valve	0,2 bar
Hot water purity in accordance with Austrian standard ÖNORM H 5195 and/or VDI-guideline 2035.	

One-pipe system

Max. Pressure at the pressure test or after radiator dismounting	5 bar
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Ammonia contained in the packing yarn may cause damage of the body of the valve. The thread of the union nut must be lubricated with silicone oil during assembly. Mineral oil would destroy the O-ring of the olives.

Frost and corrosion protection agents based on ethylene glycol are permitted in a volume proportion of 15 ÷ 45% with water. For further information please refer to the data sheets of the manufacturer.

When using HERZ compression unions for copper and steel pipes, observe the permissible temperatures and pressures as per EN 1254-2:1998 specified in Table 5. A maximum operating temperature of 80 °C and maximum operating pressure of 4 bar applies for plastic pipe connections, if permitted by the pipe manufacturer.

### ☑ Preliminary Installation

HERZ-VTA-valves permit the laying of the piping, installation of the valves, and pressure testing before radiators are installed.

### ☑ Radiator Connection

Connection R 1/2" or R 3/4" respectively installed. Radiator screw connection with submerged pipe. The connection with flat seal and the submerged pipe which can be detached make radiator installation easy. The radiator need not be drawn over the submerged pipe. Damage and installation complications in narrow niches are avoided. Submerged pipe enters the distribution chamber, which ensures optimal distribution of the water in the radiator. To prevent the flow of medium in the return flow in radiators, air vents must be installed. Threaded connector can be attached to the appropriate radiator coupling.

### ☑ Labeling the various versions



Body of the valve is labeled with:

„1“ - four way valve for one pipe systems

„2“ - four way valve for two pipe systems

Valves without code are reversible from two to one pipe systems

### ☑ Mounting of Compression Unions onto the Pipe

When mounting the compression unions do not use adjustable pliers or any similar tools since this will result in deformation of the union nut. Steel and copper pipes must be properly calibrated and deburred. It is recommended to use support sleeves. The thread of the union nut must be lubricated with silicone oil during assembly. Mineral oil would destroy the O-ring of the olives. The mounting instructions enclosed with the compression unions must be observed.

### ☑ Compression Unions G 3/4

#### M 22 x 1,5 has to be ordered separately

**6274** Compression adapter metal-to-metal joint.

**6275** Adapter made of brass, nickel-plated with female thread for direct distributor connection, with cone seal.

**6276** Compression adapter with soft seal for copper and steel pipes. Outside pipe diameter 12, 15, and 18 mm.

**6098** Plastic Pipe Connections for PE-X, PB and Aluminium Composite Pipes Dimensionen

**6284** Compression Adapters for Steel and Copper Pipes

Outside pipe diameter 10, 12, 14, 15, and 16 mm

**6286** Design-Compression adapter 12, 15 mm

**6066** Design-Compression adapter for PE-X, PB and aluminium composite pipes

Outside pipe diameter 14 x 2, 16 x 2,

### ☑ **Standard DIN V3838 „Eurokonus“, connection thread G 3/4 A with inner cone**

As the recommended standard DIN V 3838 before the adoption of the final version may change and until a time has not yet set when all the products will conform to these standards, you should avoid combining products from different manufacturers when connecting valves and fittings.

HERZ offers an extensive program of pipes and connections ensures that all fittings and HERZ connection fittings are always compatible with HERZ. In addition, HERZ can not hold responsibility for the products of other manufacturers, and therefore can not give any guarantees for combining products with the products of other manufacturers.

### ☑ **Steel pipes connection according to DIN 2440**

Four-way valves can be connected to a HERZ steel pipes according to DIN 2440 using the 6223 connector.

### ☑ **Water Distribution in One-Pipe Systems**

At nominal valve lift, 40% of the water flow is through the radiator and 60% through the bypass element. The incorporated regulating and shutoff screw permits hydraulic balancing in thermostatic operation and/or shutting off within the radiator.

### ☑ **HERZ-Thermostatic Valve Nominal Lift**



The screw cap serves for operation during the installation phase (pipe flushing). The thermostatic function is activated by removing the screw cap and screwing in the HERZ-thermostatic head without draining the heating system.

Setting the nominal lift with the screw cap:

On the knurled part of the circumference of the screw cap there are two setting marks (webs) in alignment with the “+” and “-” marks.

1. Close the valve by turning the screw cap clockwise.
2. Mark the position corresponding to the setting mark “+”.
3. Turn the screw cap anti-clockwise until the setting mark “-” is at the position marked under item 2.

### ☑ **Thermostat Installation instructions**

If radiators and thermostatic valve covered (curtains, paneling) to form a heat accumulation zone in which the thermostatic element sensing the room temperature does not feel and can not regulate. In these cases, the HERZ thermostatic be used with remote sensor or remote control. For details on HERZ-thermostats refer to the product standard sheets.

### ☑ **HERZ-TS Hand Wheel**



In the exceptional case that the valve is not equipped with a HERZ-thermostatic head, a HERZ-TShand wheel is mounted to replace the screw cap.

**9102** HERZ-TS-90-Hand wheel, Series 9000 „Design“

### ☑ **Summer Setting**

After the end of the heating period open the valve completely by turning it in an anti-clockwise direction to prevent dirt deposits at the valve seat.

### ☑ **Changing the Thermostatic Upper Part**

The thermostatic upper part can be changed by means of the HER-changing tool while the system is under pressure:

- To change the thermostatic upper part in order to remedy defects caused by foreign substances such as dirt, welding or soldering residues.
- In case of two-pipe systems: for retrofitting with thermostatic upper parts with fixed, stepped, kv-values or with presetting function. This permits adaptation of the radiator flow rate to individual requirements.

**☑ Removing the radiator**

After locking of the thermostatic upper parts radiator can be removed without draining the system. Before disassembly, drain the water from the radiator.

VTA Uni One of the thermostatic valves can be closed by a locking cap **6329**, the second by a protective cap or the locking cap **6329**

VUA Valve regulating stem locking is made with HERZ multi-purpose key (1 6625 00)

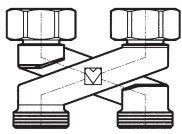
VTA Allen key SW 8. Under the complete rotation valve opening is reaching after 3 ... 3.5 turns of the key.

4WA T35 Valve regulating stem locking is made with HERZ multi-purpose key (1 6625 41) or inner Allen key SW 10.

4WA T50 When you open the regulating stem the full opening is achieved after about 3 to 3.5 turns. Warning: If the radiator again installed and connected and the valve used in two-pipe system (bypass spindle closed), it is advisable to turn first the bypass spindle anticlockwise for about 1 turn to open before the return spindle is opens. After this procedure, the bypass spindle can be closed again.

The open radiator connection at the valve should be protected by a cap R = 3/4 (1 8525 52).

**☑ Flexible X-Shaped Intersection Element**



This special connection element is installed between the valve and piping for the adaptation of distances between pipes and for radiator adaptation.

For details refer to the standard sheet **3004**.

**☑ Changing the O-Ring Chamber**



1. Remove the HERZ-thermostatic head or HERZ-TS-hand wheel.

2. Unscrew the O-ring chamber with the O-ring and replace with a new one. During this change use a wrench to hold the upper part. After removal of the thermostatic head or hand wheel the valve is completely open and therefore sealed tight towards upstream. However, a few drops of water may leak out.

3. For re-assembly follow the above steps in reverse sequence.

Order number of HERZ-TS-90-O-ring set: 1 **6890 00**

**☑ Order Numbers VTA**

**VTA 40** Four-Port Valves for Thermostatic, Connection M28 x 1,5 - Pipe centre distance 40 mm Pipe connections have to be ordered separately.

1 **7767 41** 1/2 for one-pipe system, with dip tube l = 294 mm, Ø = 11 mm

1 **7767 42** 3/4 for one-pipe system, with dip tube l = 291 mm, Ø = 11 mm

1 **7767 51** 1/2 for two-pipe system, with dip tube l = 294 mm, Ø = 11 mm

1 **7767 52** 3/4 for two-pipe system, with dip tube l = 291 mm, Ø = 11 mm

**VTA 50** Four-Port Valves for Thermostatic, Connection M30 x 1,5 - Pipe distance 50 mm. Pipe connections have to be ordered separately.

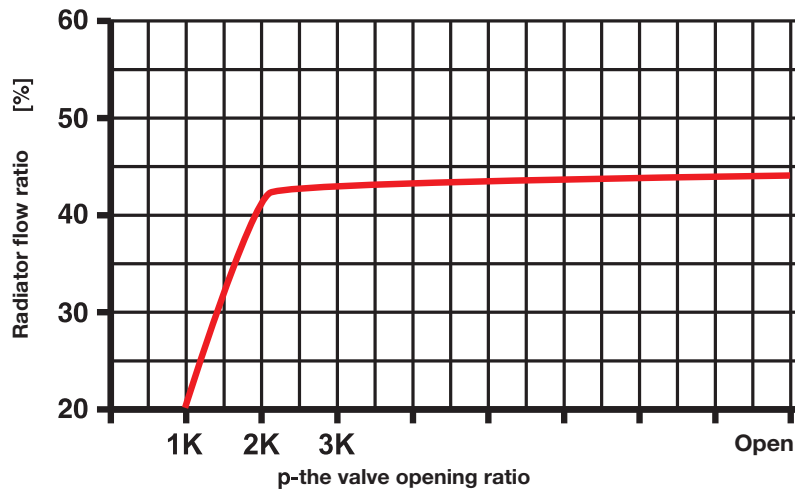
1 **7767 26** 1/2 for one-pipe system, with dip tube l = 294 mm, Ø = 11 mm

1 **7767 27** 1/2 for two-pipe system, with dip tube l = 294 mm, Ø = 11 mm

**☑ VTA p-proportional band kv-values**

p-proportional band [K]	kv-value							
	0,5	1	1,5	2	2,5	3	3,5	4
<b>Preset</b>								
<b>1</b>	0,05	0,11	0,14	0,14	0,14	0,14	0,14	0,14
<b>2</b>	0,13	0,25	0,29	0,30	0,30	0,30	0,30	0,30
<b>3</b>	0,14	0,26	0,38	0,42	0,44	0,44	0,45	0,45
<b>4</b>	0,14	0,27	0,39	0,50	0,54	0,55	0,56	0,57
<b>5</b>	0,15	0,28	0,40	0,53	0,66	0,70	0,72	0,73
<b>6</b>	0,15	0,28	0,41	0,56	0,70	0,76	0,80	0,81

**VTA Presettings for one pipe system**



p [K]	kv-value							
	0,5	1	1,5	2	2,5	3	3,5	4
VTA One pipe	0,15	0,31	0,46	0,60	0,75	0,81	0,82	0,83

**Accessories**

- 1 **3004** 34 Intersection Element in "X"-shape Pipe centre distance 50 mm, connection with cone seal G 3/4.
- 1 **6248** 01 Connection elbow 90°
- 1 **6625** 00 HERZ-Multi-Purpose Key
- 1 **6807** 90 HERZ-TS-90 - Installation Key
- 1 **6822** 40 Double rosette centre pipe distance 40 mm
- 1 **7780** 00 HERZ-Changefi x Tool for HERZ-Thermostatic Upper Parts M 28 x 1,5 mm
- 1 **7780** 98 HERZ-Changefi x Tool for HERZ-Thermostatic Upper Parts M 30 x 1,5 mm

**Replacement parts**

- |        |        |                                     |                                     |
|--------|--------|-------------------------------------|-------------------------------------|
| VTA 40 | 2 pipe | 1 <b>6367</b> 98 with presetting    | 1 <b>6390</b> 91 without presetting |
| VTA 40 | 1 pipe | 1 <b>6390</b> 92 without presetting |                                     |
| VTA 50 | 2 pipe | 1 <b>6398</b> 98 with presetting    | 1 <b>6398</b> 91 without presetting |
| VTA 50 | 1 pipe | 1 <b>6398</b> 92 without presetting |                                     |

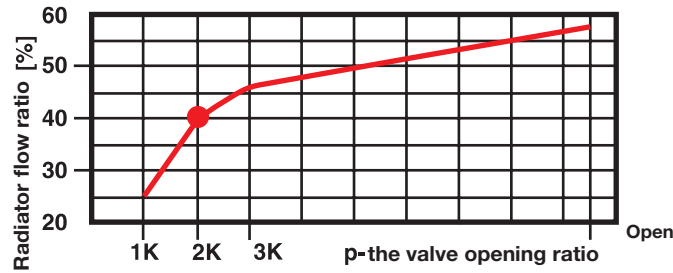
**Order numbers VUA**

- VUA 40** VUA-40-Four-Port Valves for Thermostatic Operation, Connection M 28 x 1,5 Pipe centre distance 40 mm  
Pipe connections have to be ordered separately.
- 1 **7783** 41 1/2 Four-Port Valve Straight model for two-pipe system l = 154, Ø = 11 mm
  - 1 **7783** 51 1/2 Four-Port Valve Straight model for two-pipe system l = 294, Ø = 11 mm
  - 1 **7784** 41 1/2 Four-Port Valve Angle model for two-pipe system l = 154, Ø = 11 mm
  - 1 **7784** 42 1/2 Four-Port Valve Angle model for two-pipe system l = 154, Ø = 11 mm
  - 1 **7786** 41 1/2 Four-Port Valve Straight model for one-pipe system l = 154, Ø = 11 mm
  - 1 **7786** 51 1/2 Four-Port Valve Straight model for one-pipe system l = 294, Ø = 11 mm
- VUA 50** Four-Port Valves for Thermostatic Operation, Connection M 30 x 1,5 Pipe centre distance 50 mm  
Pipe connections have to be ordered separately.
- 1 **7786** 26 1/2 Four-Port Valve Straight model for one-pipe system l = 294, Ø = 11 mm
  - 1 **7783** 26 1/2 Four-Port Valve Straight model for two-pipe system l = 294, Ø = 11 mm
  - 1 **7784** 62 1/2 Four-Port Valve Angle model for one-pipe system l = 154, Ø = 11 mm
  - 1 **7784** 61 1/2 Four-Port Valve Angle model for two-pipe system l = 154, Ø = 11 mm

**VUA p-proportional band kv-values**

Please refer to the table in chapter "VTA p-proportional band kv-values" on Page 4.

**Flow distribution for one pipe system**



	kv-value							
p-proportional band [K]	0,5	1	1,5	2	2,5	3	3,5	4
VUA One pipe	0,15	0,31	0,46	0,60	0,75	0,81	0,82	0,83

**Accessories**

- 1 **3004** 34 Intersection Element in "X"-shape Pipe centre distance 50 mm, connection with cone seal G 3/4.
- 1 **6248** 01 Connection elbow 90°
- 1 **6625** 00 HERZ-Multi-Purpose Key
- 1 **6807** 90 HERZ-TS-90 - Installation Key
- 1 **6822** 40 Double rosette centre pipe distance 40 mm
- 1 **7780** 00 HERZ-Changefi x Tool for HERZ-Thermostatic Upper Parts M 28 x 1,5 mm
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**Replacement parts**

- |        |        |                                     |                                     |
|--------|--------|-------------------------------------|-------------------------------------|
| VUA 40 | 2 pipe | 1 <b>6367</b> 98 with presetting    | 1 <b>6390</b> 91 without presetting |
| VUA 40 | 1 pipe | 1 <b>6390</b> 92 without presetting |                                     |
| VUA 50 | 2 pipe | 1 <b>6398</b> 98 with presetting    | 1 <b>6398</b> 91 without presetting |
| VUA 50 | 1 pipe | 1 <b>6398</b> 92 without presetting |                                     |

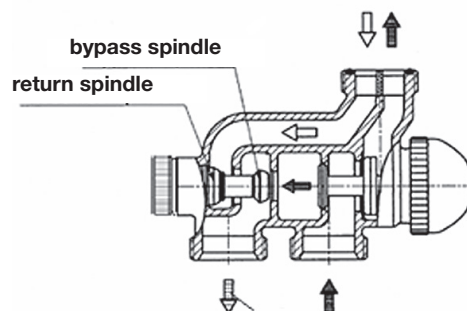
**Order Numbers 4WA-T35**

- 1 **7765** 31 HERZ-4WA-T35-Four-Port Valve Straight model for one- and two-pipe system Central or lateral radiator connection from below, by means of turbulator connection (not included in package), can be switched from one to two-pipe operation. Pipe center distance 35 mm. With M 30 x 1.5 thread for H-Heads. Pipe connection 2 x G 3/4 with cone, radiator connection G 3/4 fl at seal. Pipe connections have to be ordered separately.

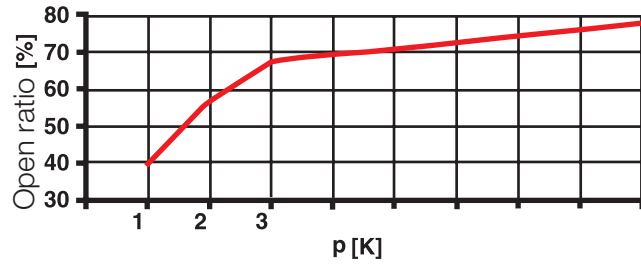
p-band	One pipe system (Ring)	Two pipe system
Closed	0,86	-
2 k	1,38	0,82
3 k	1,44	0,97
Open	1,56	1,19

**Radiator connection one pipe system**

Behind a metal cap there is the shut-off valve for the return (return spindle). In this spindle the bypass spindle for one- or two-pipe system is mounted concentrically. If this spindle clockwise adjusts to the stop, the twin-tube position has been reached. Proceeding from this position, clockwise rotation of the bypass valve is opened, at 1.5 turns the factory setting with 55% radiator share results. The adjustment spindle is operated with the HERZ multi-purpose key (1 6625 41) or an Allen key SW4.



☑ Special design features

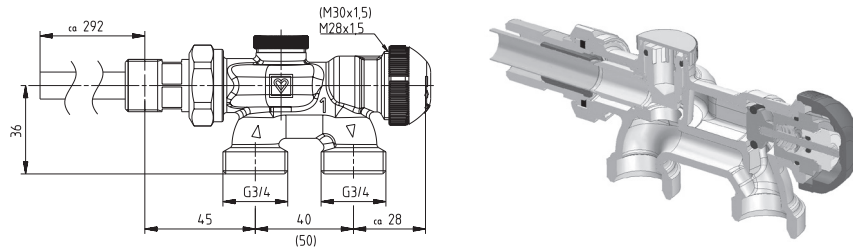


☑ Accessories

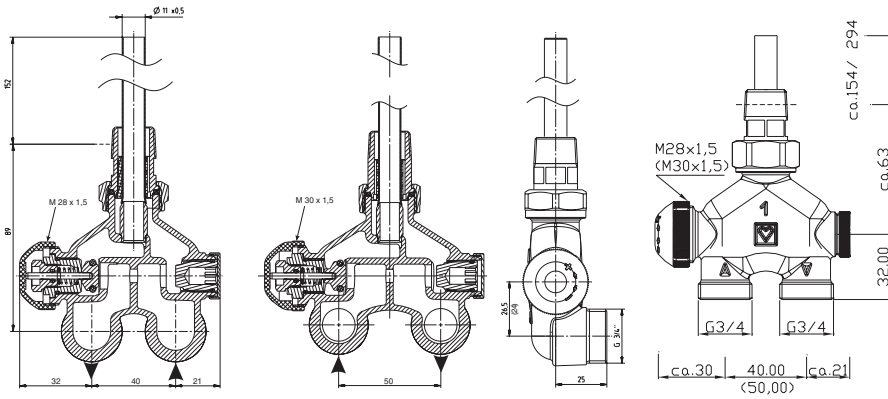
- 1 6625 41 Setting Key For HERZ-4-WA-T35, straight model
- 1 6890 00 HERZ-TS-90-O-Ring-Set
- 1 7780 98 HERZ-Changefix „H“

☑ Installation dimensions in mm

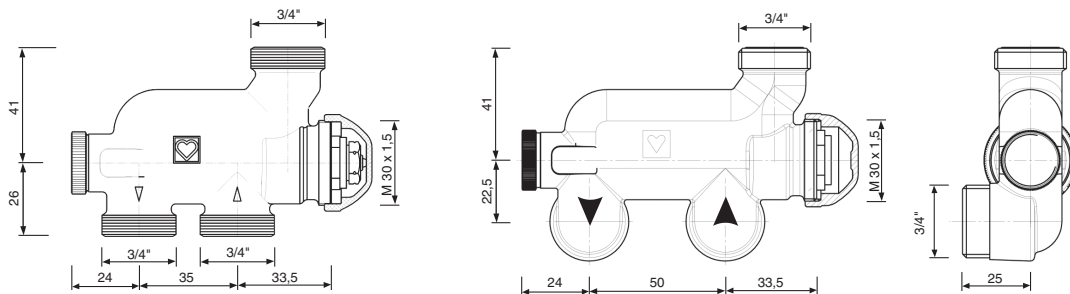
☑ VTA 40/50

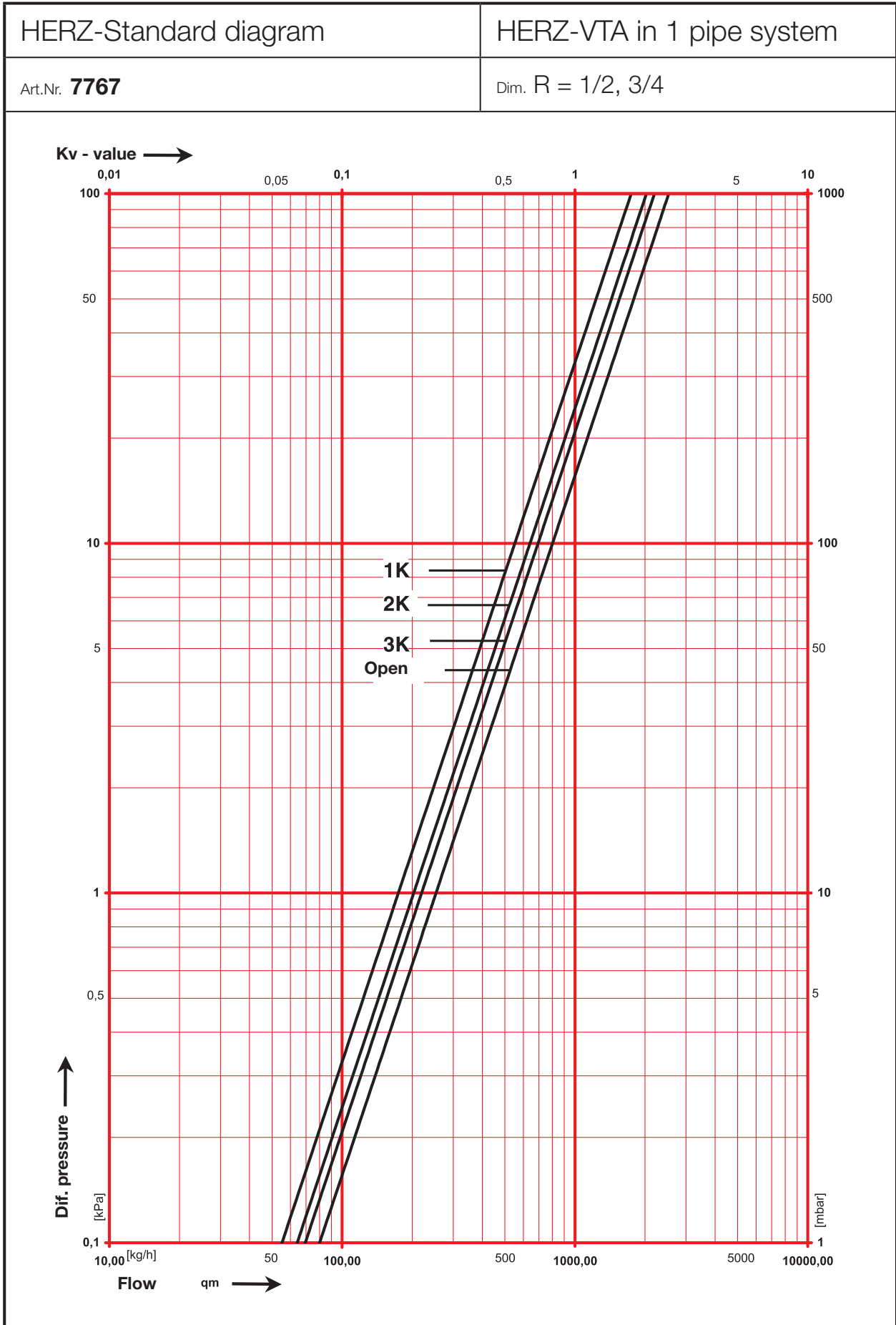


☑ VUA 40/ VUA 50

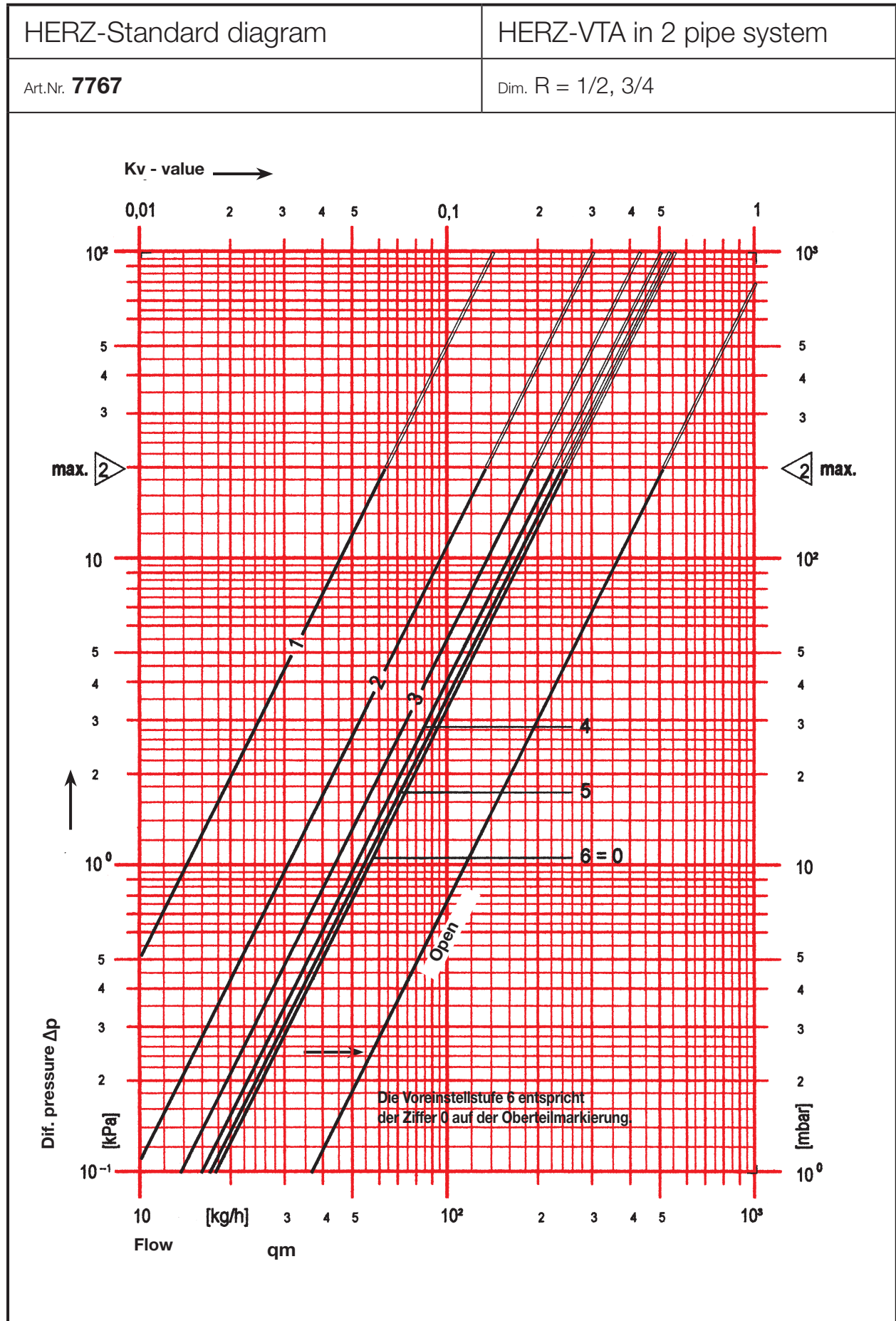


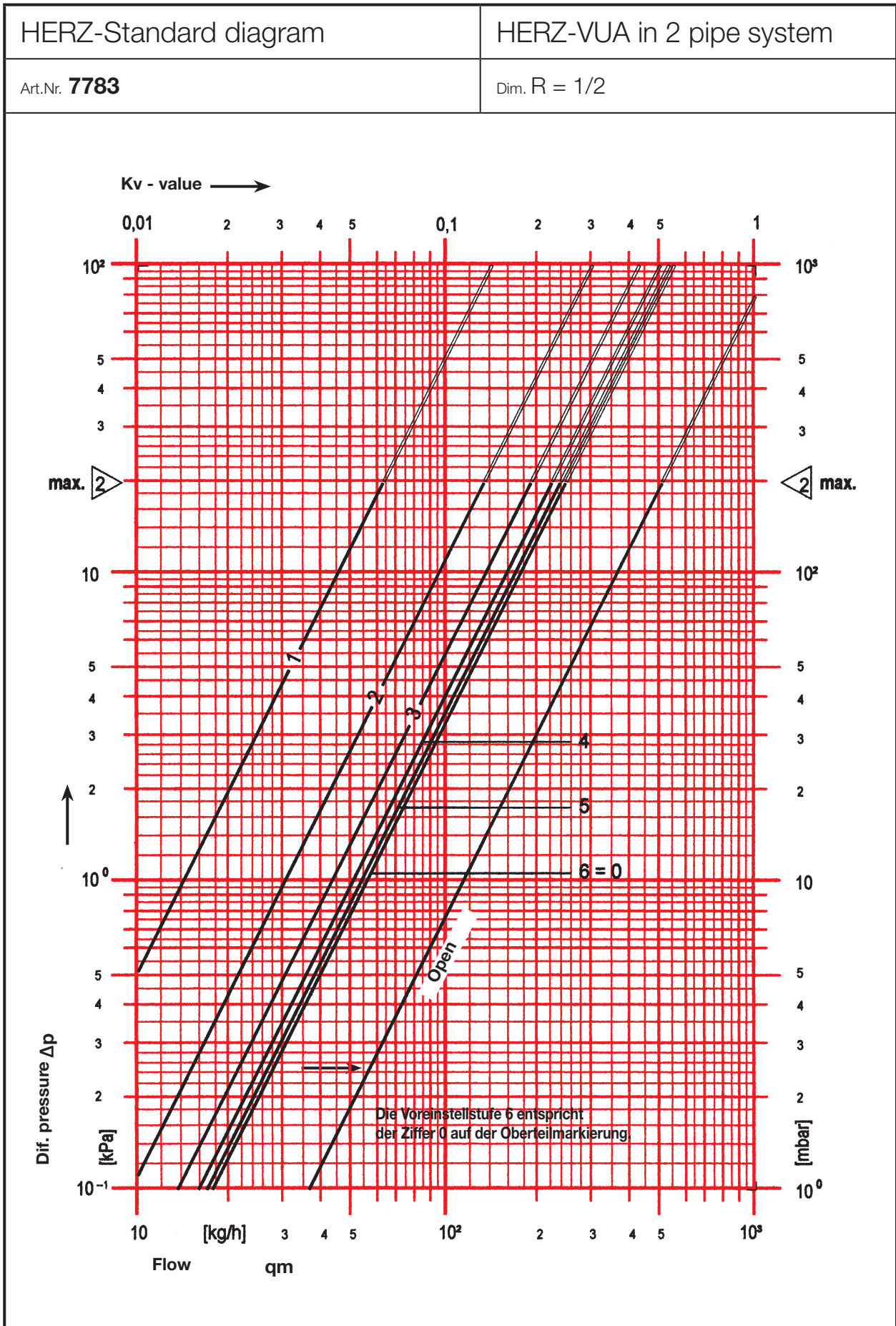
☑ 4WA T



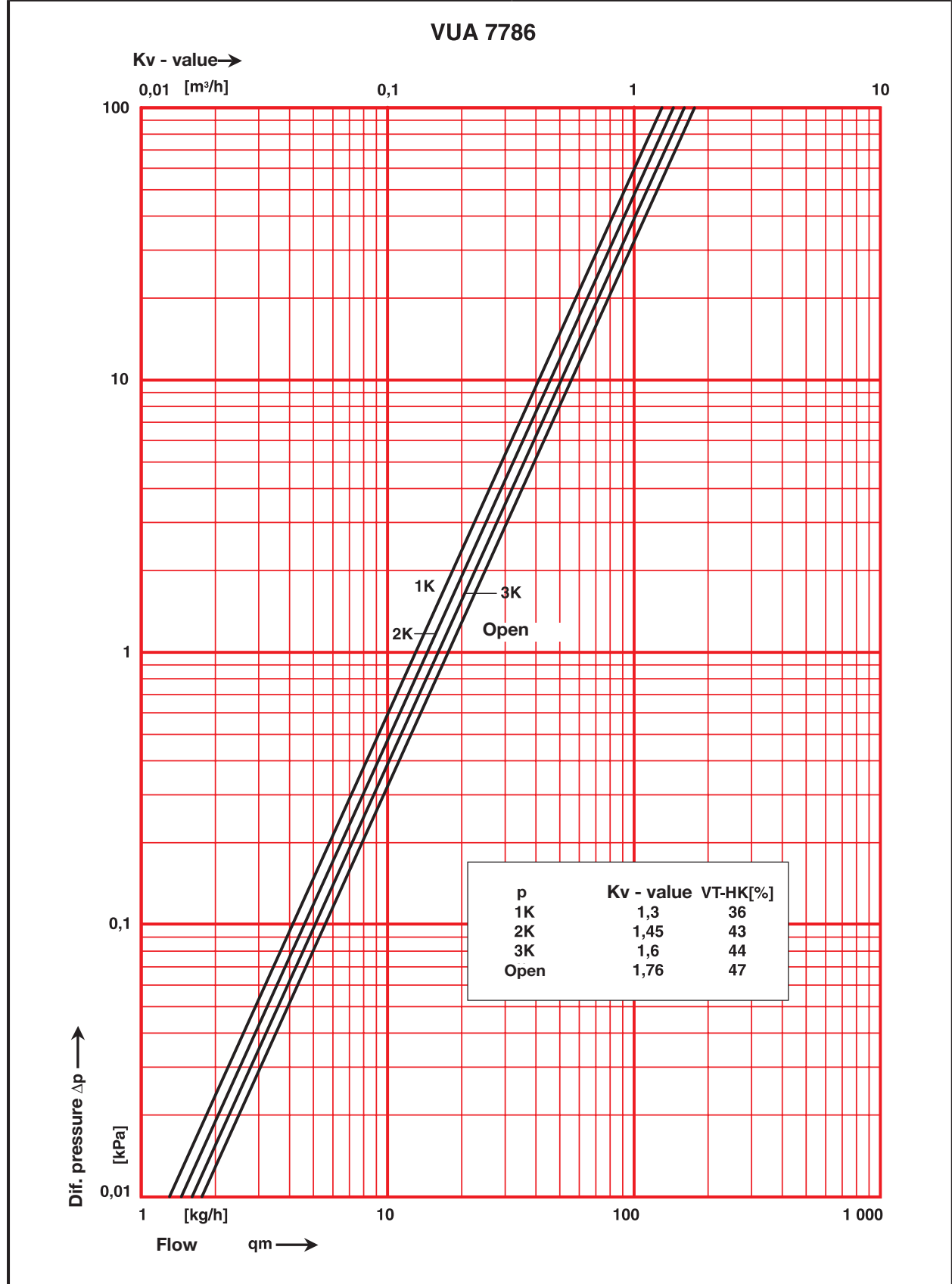








HERZ-Standard diagram	HERZ-VUA in 1 pipe system
Art.Nr. <b>7786</b>	Dim. R = 1/2



HERZ-Standard diagram	4WA-T35, Straight model
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Art. Nr. <b>7765</b>	4WA-T50, Angle model
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