

## TVK ZH & TVKP ZH SOFTENING STAINLESS STEEL or PLASTIC FILTER

### – Intermittent Operation (SIMPLE)

#### CHARACTERISTICS

The **TVK ZH** softening stainless steel pressure filters **manufactured by VODASERVIS Ltd.** are made of stainless steel with a certificate of suitability for contact with drinking water. The production technology and the used material guarantee a long service life with no further repairs, coatings, wear replacements.

The **TVKP ZH** softening plastic pressure filters **supplied by VODASERVIS Ltd.**, are made of fiberglass material with a certificate of suitability for contact with drinking water. The device meets the standard requirements for a similar device type.

The filter is a fully automated device designed for intermittent collection of softened water. The device consists of one stainless steel or fiberglass pressure tank filled with ion exchange (anion) cartridge. The TVK ZH filter includes stainless steel water control valves (7 pcs), control unit (pulse volume meter for volume control), compressor and brine tank. It can be supplied with manual control (TVK ZHM). The connecting material is made of stainless steel. You can control TVK ZH filter with one plastic control unit, the other part is a brine tank. The TVK ZH softening filter produced and supplied with outputs ranging from 0.2 to 90 m<sup>3</sup>/hour, and the TVKP ZH is produced and supplied with outputs ranging from 0.2 to 55 m<sup>3</sup>/hour. The volume of soft water is given depending on the amount of charge and the hardness of the inlet water.

Before the softening filter, you always include a filter for mechanical impurities and remove concentration of iron, manganese and chlorine. For these purposes, pre-treatment, for example, with sand, manganese and activated carbon filters (TVK, TVK S and TVK U).

#### FUNCTION DESCRIPTION

After saturation of the ion exchange cartridge contents of the ions of calcium and magnesium (hardness) the filter cartridge must be washed and regenerated. The regeneration of the ion exchange cartridge will be done automatically in time or after passing a determined amount of water through the pulse inlet water meter. At the time of washing and filter regeneration, the water is not regulated. Regeneration salt tablets are used for regeneration. The salt consumption is 0.2 kg/l of ion exchange cartridge.



#### Washing and regeneration takes place gradually:

- *counter-current washing* (rinsing water from bottom to top),
- *salt solution intake* (rinsing with regeneration salt tablet from the brine tank),
- *slow rinsing* (rinsing with water from the top, rinsing brine),
- *rapid rinsing* (rinsing from top to bottom),
- *filling the brine tank with water* (the filter is ready for filtration – hardness removal)

**Utilization** – in water industry, gastronomy, industry, energy, food service, boiler rooms, laundries, households..

**Output** – filters are supplied with output tens of litres per hour / m<sup>3</sup> per hour (see Table).

### Steel tanks dimensions for TVK ZH and TVKP ZH Filters

Type	Diameter (mm)	Capacity max. (m <sup>3</sup> /hod)	Connection (inches)	Shipping Weight (kg)	Operating Weight (kg)	Complete Dimensions (w/d/h) + average brine tank (mm)
TVK 17	168,3	1	3/4	34	67	230/300/1 100 + 600
TVK 20	204	2	1	50	138	280/350/1 400 + 600
TVK 25	254	3	1	62	159	300/400/1 480 + 600
TVK 30	304	4	1	74	220	300/450/1 500 + 600
TVK 40	400	8	1 1/4	90	297	410/600/1 600 + 600
TVK 50	500	12	1 1/4	126	478	520/750/1 950 + 750
TVK 60	630	20	1 1/2	160	746	650/850/2 000 + 750
TVK 70	700	25	2	190	865	700/950/2 050 + 750
TVK 80	800	30	2	270	1 130	800/1 150/2 070 + 900
TVK 90	900	35	2	300	1 431	900/1 150/2 100 + 900
TVK 100	1 000	40	2	340	2 137	1 100/1 300/2 100 + 900
TVK 110	1 100	45	2	390	2 543	1 200/1 400/2 150 + 900
TVK 120	1 200	48	2	492	2 985	1 300/1 520/2 150 + 1 000
TVK 130	1 300	50	2 1/2	566	3 462	1 400/1 750/2 200 + 1 000
TVK 140	1 400	52	2 1/2	748	3 974	1 500/1 800/2 400 + 1 200
TVK 150	1 500	55	2 1/2	864	4 522	1 600/2 000/2 500 + 1 200

Dimensions and output of filters with a diameter of 1 600 – 3 000 mm are delivered at customer request.

Operating Pressure	- max. 6 bar
Pressure Drop	- max. 0,5 bar
Operating Temperature	- max. + 5°C - 45°C (for TVK ZH up to 140°C)
Control Voltage	- 220V / 50hz
Output Device	- 15W+1,1kW (for TVK ZH)

Source of air-control for automatic TVK ZH – compressor.

Dimensions and weights are calculated for automatic TVK filters.