

## TVK DH & TVKP DH NITRATE STAINLESS STEEL or PLASTIC FILTER

### – Intermittent Operation (SIMPLE)

#### CHARACTERISTICS

The **TVK DH** nitrate 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 DH** nitrate 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 treated water. The device consists of one stainless steel or fiberglass pressure tank filled with ion exchange (anion) cartridge. The filter includes a control unit (including a pulse water meter for a volume device), an interior fitting and a filter cartridge. Another part is a brine tank. TVK DH and TVKP DH are manufactured and supplied with outputs from 0.2 to 55 m<sup>3</sup>/hour. The amount of treated water is based on the amount of ion exchange cartridge, the amount of nitrate in raw water, and the requirement for instantaneous maximum flow.

Before the nitrate filter, you always include a filter for mechanical impurities and remove concentration of iron, manganese and chlorine lower than 0.3 mg/l. For these purposes, pre-treatment, for example, with sand, manganese and activated carbon filters (TVK, TVK S and TVK U) or bag and cartridge filters (RF and SF) are used.

#### FUNCTION DESCRIPTION

After saturation of the ion exchange cartridge contents of the ions of nitrate, 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 theoretical salt consumption is about 0.10-0.15 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 - nitrate removal)

**Utilization** - in 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).

### Approximate tanks dimensions for TVK DH and DHTV DH 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 ZN up to 140°C)
Control Voltage	- 220V / 50hz
Output Device	- 50W

Dimensions and weights are calculated for automatic TVK filters.