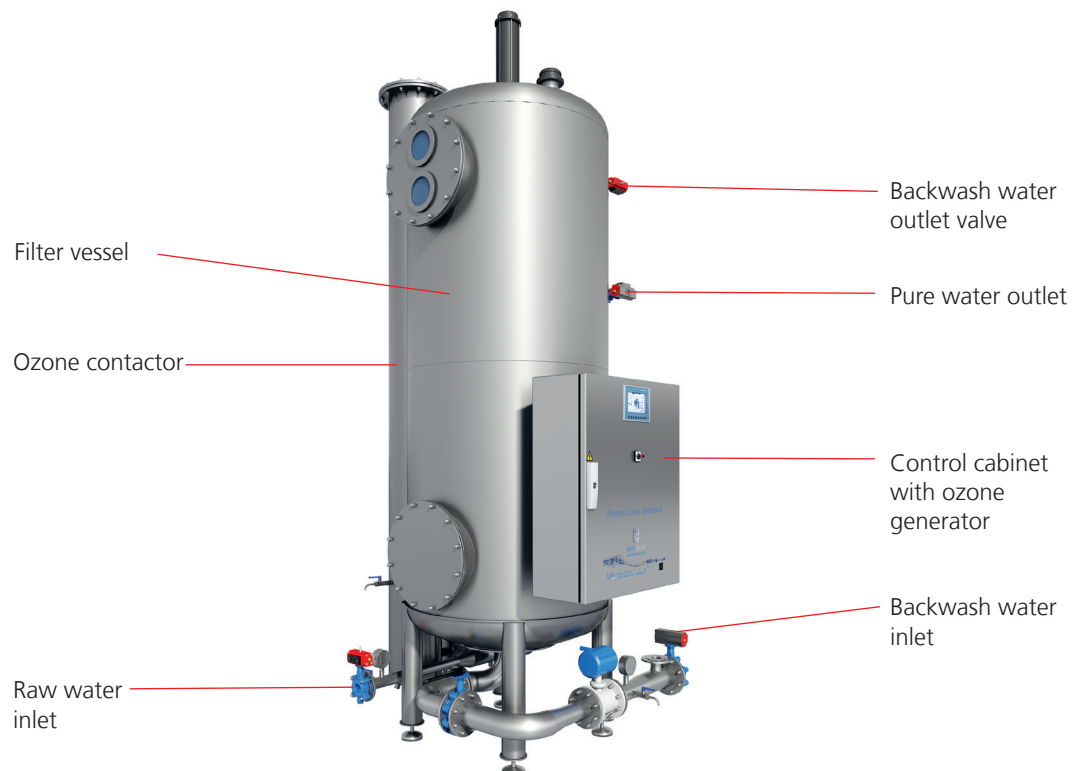


## Drinking water compact systems TWK

The HYDROZON® drinking water compact systems are suitable for almost all applications relating to chemical or oxidative drinking water treatment with subsequent filtration.

In deferrization, demanganization, arsenic removal, aluminium removal and deacidification or ozone bio-filtration, fully-automated systems can be used to implement problem-oriented system solutions that show the natural way to treat and disinfect a very wide variety of raw water to produce the best drinking water. The TWK series units are distinguished by:

- Modular and extremely compact construction of all necessary operating components made of high-quality stainless steel 316 Ti
- Compact performance units from 5 to 200 m<sup>3</sup>/h filter capacity. Any quantity can be realised in group operation
- Low space requirement (integration of all operating units into one unit)
- Operational reliability thanks to sophisticated process technology and proven, high-quality control technology incorporating industrial quality
- Patented ozone generation with state-of-the-art plasma technology
- Optimised venturi/injector system with full-flow mixing for efficient gas supply
- High-quality PLC control system with touch panel for easy, visually-guided operation
- Valve control using the ASi bus system
- Can be integrated into the higher-order process control technology by means of IP connection
- Remote control technology
- Optional hygienisation with ozone is possible

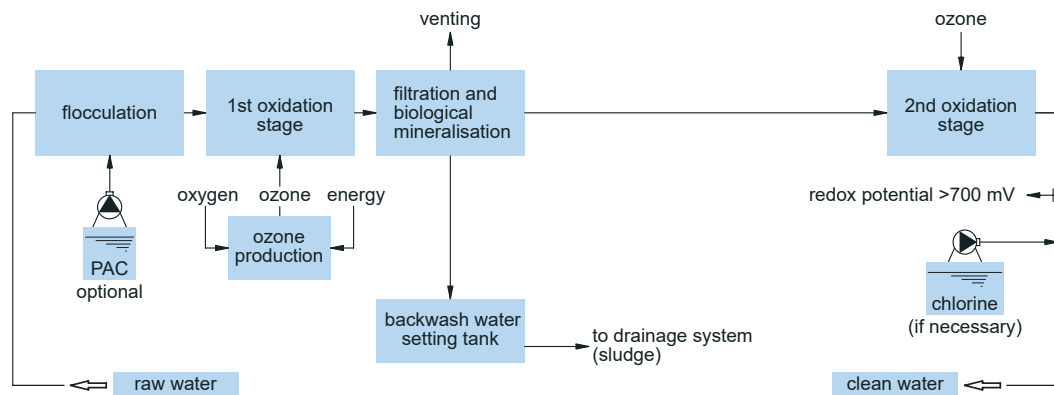


HYDROZON® drinking water compact systems can be integrated into new systems or - thanks to their compact, modular design - retrofitted into existing buildings. Simply switching individual systems allows large fluctuations in the processing quantity to be covered in parallel operation.

The respective problem is solved by individual dimensioning with graduated and fully-developed performance units.

Drinking water treatment in the HYDROZON® process is based on the following basic method:

**The basic process**



The quantity-proportional dosing of flocculant into the raw water optimises the filter-like separation of colloidal particles.

Dissolved organic substances are mineralised by oxidation with ozone or are split up into low-molecular, biologically-assimilable groups. Inorganic compounds such as iron, manganese, arsenic etc. are oxidised to filterable complexes.

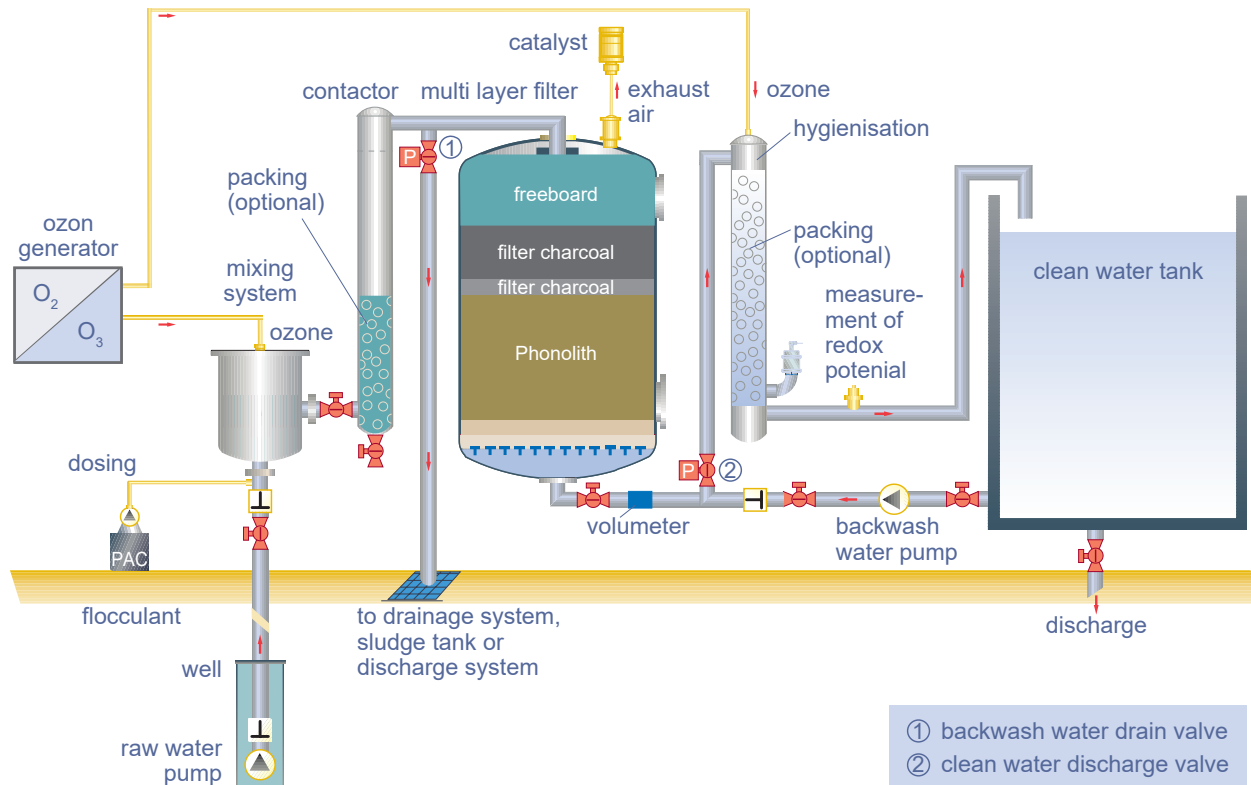
Oxidation that excludes chlorine avoids the formation of trihalogenmethanes (THMs) and reduces the potential for them to form.

The oxidised compounds and flocculated humin complexes are retained in the optimised multi-layer filter. The assimilable organic groups split with ozone are biodegraded in the ozone-free environment of the filter bed.

The final hygienisation of the filtered water with ozone downstream of the biologically-active multi-layer filter ensures hygiene in pure water.

The redox potential, measured in the pure water after hygienisation, indicates the treatment capacity and informs on the ozone requirement of the raw water.

Schematic representation of the basic HYDROZON® process with 2-stage ozonisation:



HYDROZON® drinking water compact systems are available in standardised capacity units of 5 to 190 m<sup>3</sup>/h. Greater performance capacities are realised by several units in parallel or special designs. In the case of extended process technology, the systems are connected in series.

System type	Filter capacity [m <sup>3</sup> /h]	Filter diameter [m]	Ozone volume 7 % (wt) [g O <sub>3</sub> /h]	Backwash water		Installation and operating space *		Required capacity (electrical/hydraulic)	
				Quantity [m <sup>3</sup> /h]	Volume [m <sup>3</sup> /flush]	Width approx. [m]	Depth approx. [m]	Filter operation [kW]	Flushing operation [kW]
TWK 5	3.5 - 7.5	0.80	1 x 25	20	3	2.5	3.0	1.0	1.1
TWK 10	5 - 10	0.90	1 x 35	25	4	2.5	3.0	1.0	1.1
TWK 20	10 - 20	1.30	1 x 50	50	6	2.9	3.2	1.6	2.2
TWK 30	15 - 30	1.60	1 x 85	75	8	3.4	3.5	2.3	3.3
TWK 40	20 - 40	1.90	1 x 130	100	11	3.7	4.2	3.2	4.4
TWK 50	25 - 50	2.10	1 x 130	125	13	4.0	4.5	4.0	5.5
TWK 60	30 - 60	2.20	1 x 130	140	15	4.0	4.6	4.8	6.6
TWK 70	35 - 70	2.40	1 x 130	165	18	4.1	4.8	5.4	7.7
TWK 80	40 - 80	2.60	1 x 180	195	21	4.5	5.0	6.1	8.8
TWK 100	50 - 100	2.80	1 x 180	230	24	4.5	5.2	7.3	11.0
TWK 110	55 - 110	3.00	external	280	42	5.0	5.5	8.0	11.0
TWK 120	60 - 120	3.20	external	320	48	5.2	5.8	8.8	15.0
TWK 140	75 - 145	3.50	external	385	60	5.5	6.0	10.5	15.0
TWK 190	95 - 190	4.00	external	500	72	6.0	7.0	15.0	18.5

\* Height of the systems according to requirements/dimensioning



## Water is Life

Problem-oriented water treatment for local authorities and industry

