

# Reverse Osmosis Systems

Type *High Pressure* 5 m<sup>3</sup>/h and more



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HP 720,000 (40 m<sup>3</sup>/h) with dosing station

## Skid mounted R.O. System consisting of:

**Rigid frame** made of aluminium profile (option: stainless steel frame); **sediment filter** made of stainless steel (type *AquaCare*) with polypropylene filter cartridges (standard size); **dosing station** (option) consisting off: PE tank with sucking lance and level switches, dosing pump (type *Iwaki*, optional *Grundfos*), static mixer (type *AquaCare*) for intermixing the chemicals with the feed water; **pre pressure switch** (feed pressure) for protecting the pumps against cavitations and running dry; automatically driven **inlet ball valve** or butterfly valve; multistage high pressure **circulation pump** (type *Grundfos*) made of stainless steel with air-cooled motor IP 44; soft start; optional: water cooled pumps (type *Grundfos*) for container mounting; **high pressure tubing** made of austenitic stainless steel 1.4571 (316 Ti); connections made with *Victaulic* and/or DIN flanges; **low pressure tubing** made of PVC-U and PE (Polyethylene); **pressure vessels** (type *Kangpu*) made of fibre glass reinforced plastic FPR, surface with paint coat; bacteria resistant low energy thin film composite **TFC membranes** made of polyamide and polysulfone (type *CSM*, optional others); **flushing solenoid**, servo controlled made of brass; **flow meter** (float system) with contact for control (optional: electronic flow meter type *Krohne*); at units larger than 50 m<sup>3</sup>/h electronic types are in series; glycerine filled **pressure gauges** build in a panel for pre pressure, filter pressure, pump pressure, inter bank pressure, booster pump pressure, concentrate pressure, permeate pressure; **sample valves** for each vessel, permeate, concentrate and feed; **central drain** for emptying the whole unit for maintenance; **connectors for chemical flushing** of the membranes (optional CIP clean in place); **conductivity cell** for measuring electrical conductivity (proportional to TDS); reject flow adjusted with a stainless steel **gate valve**; **check valve** for permeate outlet made of PVC; **electric box** with all necessary components and R.O. micro-processor control “RO-matic” with: two row text display (English or German; optional: other languages) and membrane keyboard; displays: electrical conductivity of permeate, flushing function, control of high pressure pump, unit shut off if inlet pressure is lost, control for the dosing system, hour meter for high pressure pump, connections for water level in the collecting tank, potential-free switches for permeate alarm and a general fault signal.

optional: PLC

Adapters for CIP (clean in place) are scope of delivery.

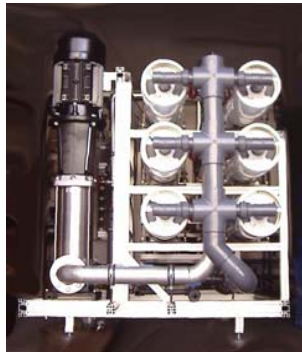
## Technical data of HP 120,000 and more

Type	HP120,000	HP240,000	HP480,000	HP720,000	HP960,000	HP1,200,000	HP2,400,000	HP3,600,000	HP4,800,000	HP6,000,000	
Order number	142-005	142-010	142-020	142-030	142-040	142-050	142-100	142-150	142-200	142-250	
Capacity in m <sup>3</sup> /h*	5	10	20	30	40	50	100	150	200	250	
Capacity in m <sup>3</sup> per day*	120	240	480	720	960	1,200	2,400	3,600	4,800	6,000	
Standard operation data	Recovery**: 75%; Rejection**: > 95%; temperature: 4...30°C; ambient temperature: 4...40°C; feed pressure: 2...6 bar; operation pressure: < 21 bar										
Length of filter cartridge	20"	40"	30"	40"	40"	40"	40"	40"	40"	40"	
Number of filter cartridges	3	3	7	7	15	15	30	45	60	75	
Size of modules	8040										
Number of modules	1	2	4	6	8	10	20	30	40	50	
Type of membrane	TFC, made of polyamide (PA)										
Number of membranes	5	10	20	30	40	50	100	150	200	250	
Water connections:	Feed	d63 (DN50)	d75 (DN65)	d75 (DN65)	d90 (DN80)	d110 (DN100)	d140 (DN125)	d160 (DN150)	d200 (DN180)	d225 (DN200)	d280 (DN250)
	Permeate	d63 (DN50)	d75 (DN65)	d75 (DN65)	d90 (DN80)	d110 (DN100)	d140 (DN125)	d160 (DN150)	d200 (DN180)	d225 (DN200)	d280 (DN250)
	Concentrate	d40 (DN32)	d40 (DN32)	d50 (DN40)	d63 (DN50)	d63 (DN50)	d75 (DN65)	d90 (DN80)	d110 (DN100)	d140 (DN125)	d140 (DN125)
Power consumption in kW		6.0	10.8	15.3	20.1	25	50	75	100	125	
Electrical connection***	400 V, 3PNE, 50 Hz										
Footprint size in mm	5.7 × 1.0	5.7 × 1.0	5.7 × 1.0	5.7 × 1.5	5.7 × 1.5	5.7 × 1.5	5.8 × 2.3	5.8 × 3.1	5.8 × 3.9	5.8 × 4.7	
Height in mm****	1.6	1.6	1.6	1.8	1.8	2.1	2.1	2.3	2.3	2.3	
Weight in kg	1.0	1.1	1.2	1.5	1.8	1.9	2.1	2.4	2.7	3.0	
Shipping weight in kg	1.2	1.3	1.4	1.8	2.1	2.2	2.5	2.9	3.2	3.5	

\* all data at 15°C, 2 bar inlet pressure and 500 ppm inlet water quality

Attention! Inlet water quality: iron < 0.1 mg/l, manganese < 0.05 mg/l, barium and strontium not detectable, chlorine < 0.1 mg/l if any activated carbon filter is mounted at inlet, maximum 2,000 µS/cm (1,300 ppm); SDI<sub>15min</sub> < 3.0. Data will vary with other feed water conditions.

\*\* depending on feed water quality and pre-treatment; \*\*\*other connections possible; \*\*\*\* depending on pump



pressure and permeate tubing



interbank connection



filter



filter cartridges



electric box with all necessary parts