HYDRO **ION**®
Water softener
Type: VAD - IP

Application

HYDRO **ION**® water softener used to soften / partly soften cold drinking and process water as well as water coming from boreholes, process plants, cooling plants, boiler-feed and air-conditioning systems.

Duplex design to guarantee a constant supply of soft water.
Regeneration is possible either with full or alternatively with reduced salt volume.

Units with low salt use according to DIN 19636- 100 and DIN EN 14743.

Function

Our HYDRO **ION**® water softener operates according to the ion exchange process.

Our HYDRO **ION**® Duplex water softener type VAD - IP is suited for installation sites with a constant demand of soft water.
The central control valve in sturdy and service friendly design, with integrated volume control regulates automatically operation/ regeneration.
The integrated valve switches between operation, regeneration and standby.

Regeneration starts once the adjusted soft water volume has been achieved. Forced regeneration is provided after 4 days at the latest to disinfect the system if there is less water removal.

There is a chlorinator as disinfection unit fitted in the brine pipe, especially for units with low salt use.

Residual capacity, flow, failure detection, history and diagnostic function are shown in the controller display.

Description / Scope of supply

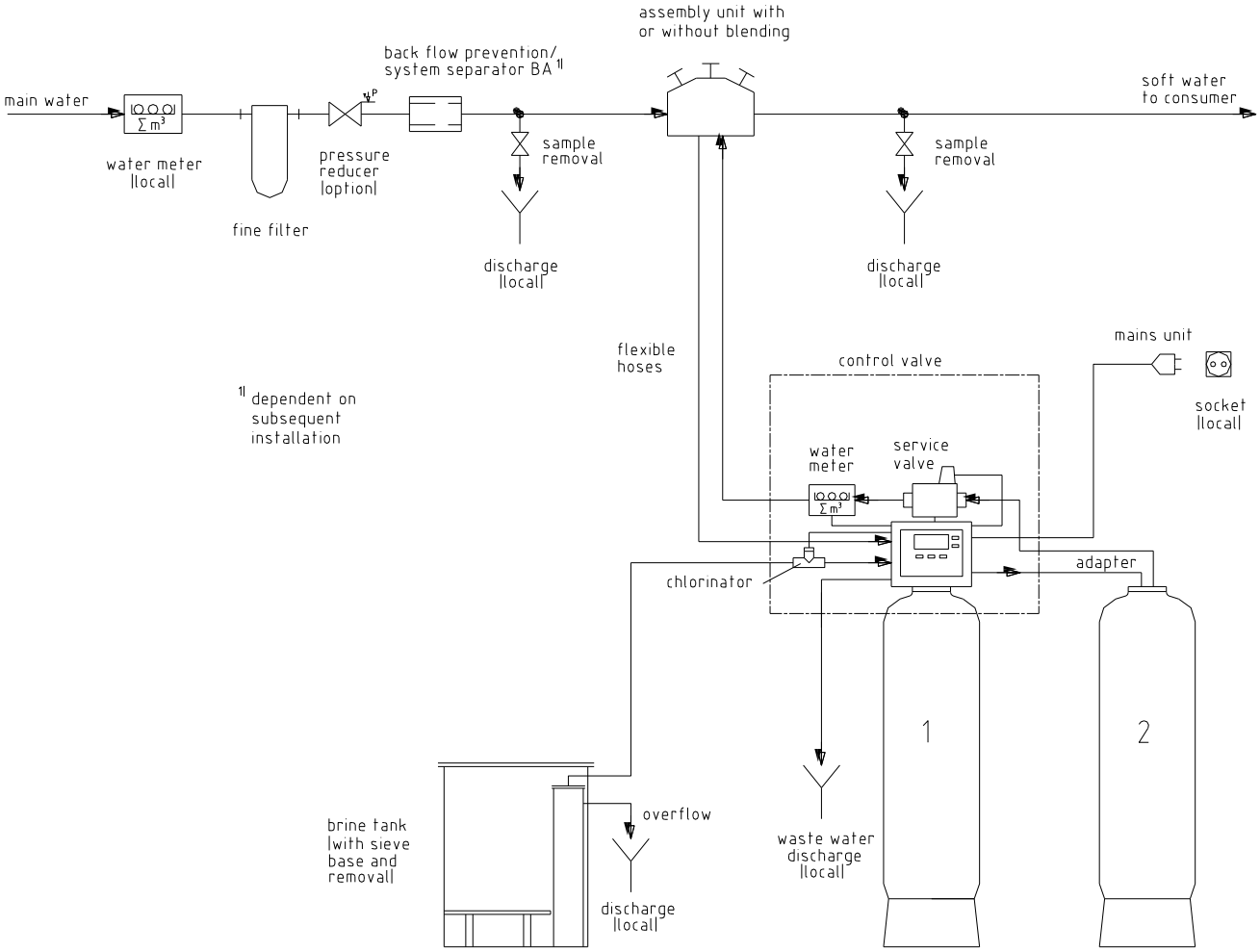
HYDRO **ION**® water softener comprising:
2 x pressure vessels
2 x ion exchange resin with quartz gravel as support layer
1 x central control valve of Noryl in Duplex design (1“)
incl. water meter, service valve, chlorinator
1 x brine tank made of PE incl. sieve base
1 x brine safety valve
1 x adapter for the connection of the second tank
1 x mains unit
2 x relay output (12 V DC) – fault message / output dosing pump
1 x operation manual
1 x measuring kit total hardness

Accessories

Assembly mounting DN 25 (incl. blending) - art.-no. 511.000
Assembly mounting DN 25 (excl. blending) - art.-no. 510.016

Information / Installation conditions

- Technical data and general technical guidelines as well as all local installation regulations shall be guaranteed.
- The regulations as per DIN 1988 require a safety stop against backflow (system separation).
- A fine filter shall be installed before the softener to prevent particles penetrating the pipeline.
- The ambient temperature and any possible radiation heat shall not exceed a temperature of 40°C.
- The installation site shall be protected against frost.
- The installation area shall be free from vapor from solvents, color, lacquer and chemicals.
- A mains connection for the microprocessor control (230 V / 50 Hz) shall be provided adjacent to the plant.
- A drain (min. DN 50) shall be provided to discharge the wash water into channel.
- Any lifting appliance used shall be resistant against salt water.



Technical data HYDRO **ION® VAD - IP - A**

Technical data			HYDRO **ION® VAD**				
System with full salting (Type A)			**15 IP–A**	**25 IP–A**	**50 IP–A**	**75 IP–A**	**100 IP–A**
Connection mains / soft water line			DN 25 (1")				
Drain line (min.)			DN 50				
Mains electrical connection			230 V / 50 Hz				
Electrical connection (secondary)			14 V DC				
Water temperature(min./max.)			5 °C / 30 °C				
Ambient temperature (min./max.)			5 °C / 40 °C				
Operational pressure (min./max.) [2]			2 bar / 8 bar				
Performance data							
Nominal flow [1]		m³/h	1,5	2,5	3,5	4,5	5,0
Flow rate at blending (300 ppm to 60 ppm)		m³/h	2,6	4,3	6,1	7,8	8,7
Pressure loss at nom flow[1]		bar	0,24	0,46	0,73	0,98	1,09
Capacity at 300 ppm $CaCo_3$ [1]		m³	3,1	5,3	10,7	16,2	21,6
Salt consumption / regen		kg	3	5	10	15	20
Waste water / regen		m³	0,10	0,18	0,37	0,55	0,75
Volume and weights							
Resin vessel volume		Ltr.	31,6	38,4	79,5	115	153
Quantity of resin		Ltr.	2 x 15	2 x 25	2 x 50	2 x 75	2 x 100
Quantity of gravel		kg	2 x 3	2 x 4	2 x 7	2 x 10	2 x 10
Brine tank volume		Ltr.	85	140	190	340	340
Regeneration salt stock		kg	50	50	75	125	125
Operational weight (complete unit) max.		kg	160	200	350	530	650
Abmessungen							
Height (min.)	H	mm	1300	1300	1650	1750	1800
Width	B	mm	1200	1300	1500	1750	1900
Depth	T	mm	400	570	570	750	750
Diameter pressure tank	D1	mm	233	258	310	363	413
Diameter brine tank (min. / max.)	D2	mm	380 x 380	460 / 565	460 / 565	594 / 723	594 / 723
Height pressure tank (max.)	H1	mm	896 ± 4	897 ± 4	1232 ± 6	1344 ± 6	1341 ± 6
Height system **± 30 mm**	H2	mm	1100	1100	1450	1550	1550
Height brine tank	H3	mm	800	843	1123	1200	1200
Ceiling height		mm	1800	1800	1800	2000	2000
Clearance tank / tank		mm	295	295	500	500	550

[1] Parameters are dependent on operation mode and water input quality.
[2] At operating pressure min. the flow pressure is decisive, at operating pressure max. the static pressure is decisive

For the use in the field of boiler feed water, preliminary treatment and reverse osmosis a project planning is always required performed by our Applications engineering department!

Technical data HYDRO **ION® VAD - IP - B**

Technical data			HYDRO **ION® VAD**				
Systems with economise salting (Type B)			**15 IP–B**	**25 IP–B**	**50 IP–B**	**75 IP–B**	**100 IP–B**
Connection mains / soft water line			DN 25 (1")				
Drain line (min.)			DN 50				
Mains electrical connection			230 V / 50 Hz				
Electrical connection (secondary)			14 V DC				
Water temperature(min./max.)			5 °C / 30 °C				
Ambient temperature (min./max.)			5 °C / 40 °C				
Operational pressure (min./max.) [2]			2 bar / 8 bar				
Performance data							
Nominal flow [1]		m³/h	1,5	2,5	3,5	4,5	5,0
Flow rate at blending (300 ppm to 60 ppm)		m³/h	2,6	4,3	6,1	7,8	8,7
Pressure loss at nom flow[1]		bar	0,24	0,46	0,73	0,98	1,09
Capacity at 300 ppm $CaCo_3$ [1]		m³	2,3	3,9	7,8	11,8	15,7
Salt consumption / regen		kg	1,2	2,0	4,0	6,0	8,0
Waste water / regen		m³	0,09	0,15	0,30	0,47	0,63
Volume and weights							
Resin vessel volume		Ltr.	31,6	38,4	79,5	115	153
Quantity of resin		Ltr.	2 x 15	2 x 25	2 x 50	2 x 75	2 x 100
Quantity of gravel		kg	2 x 3	2 x 4	2 x 7	2 x 10	2 x 10
Brine tank volume		Ltr.	85	140	190	190	340
Regeneration salt stock		kg	50	50	75	75	125
Operational weight (complete unit) max.		kg	160	200	350	470	650
Dimensions							
Height (min.)	H	mm	1300	1300	1650	1750	1800
Width	B	mm	1200	1300	1500	1600	1900
Depth	T	mm	400	570	570	570	750
Diameter pressure tank	D1	mm	233	258	310	363	413
Diameter brine tank (min. / max.)	D2	mm	380 x 380	460 / 565	460 / 565	460 / 565	594 / 723
Height pressure tank (max.)	H1	mm	896 ± 4	897 ± 4	1232 ± 6	1344 ± 6	1341 ± 6
Height system **± 30 mm**	H2	mm	1100	1100	1450	1550	1550
Height brine tank	H3	mm	800	843	1123	1123	1200
Ceiling height		mm	1800	1800	1800	2000	2000
Clearance tank / tank		mm	295	295	500	500	550

[1] Parameters are dependent on operation mode and water input quality.
[2] At operating pressure min. the flow pressure is decisive, at operating pressure max. the static pressure is decisive

For the use in the field of boiler feed water, preliminary treatment and reverse osmosis is this model series not suitable!

Pressure drop curve HYDRO **ION® VAD – IP**