

DEMINERALIZATION SYSTEM SERIES FOR CITY WATER TREATMENT

Some production processes require highly pure water, even completely demineralized. Such water is needed among others in pharmaceutical, cosmetic, food, electric, energetic (steam boiler water) industry, in labs, air conditioning devices etc.

For the city water treatment and demineralization, the ion exchange technology is recommended. Using this method allows removing all ion substances dissolved in water. The ion exchange is performed in a double-tank system. The first tank contains strongly acidic cation exchanger, working in hydrogen cycle, the other one contains strongly alkaline anion exchanger, working in hydroxyl cycle. This requires the extension of the hydraulic installation with the systems for storage and distribution of NaOH and HCl, in order to regenerate the media and neutralize the regeneration sludge.

The other way for demineralization is using mixed media. Mixed media is the combination of ion exchangers – strongly acidic cation exchanger and strongly alkaline anion exchanger. Such process is performed in single-tank systems.

We use the media from the leading ion exchange resin producers: Purolite and Amberlite.

We propose the following system sorts:

- fully automatic – basing on required water conductivity;
- semi automatic – the system regeneration must be started by pressing a button, after exceeding the required water conductivity;
- manual – fully manual control.

As well as the continuous operation systems (Duet type)



Model		DI-8/35	DI-8/44	DI-10/44	DI-10/54	DI-12/52	DI-13/54	DI-14/65
Media tank	Cation exchanger quantity [liter]	1C+1A	1C+1A	1C+1A	1C+1A	1C+1A	1C+1A	1C+1A
	Type [inch]	8 x 35	8 x 44	10 x 44	10 x 54	12 x 52	13 x 54	14 x 65
Media volume	Cation exchanger [liter]	20	25	35	45	65	75	100
	Anion exchanger [liter]	20	25	35	45	65	75	100
Media capacity	Max [val]	30	50	70	90	120	150	200
	Min [val]	18	30	42	54	75	90	120
Flow ^I	min [m ³ /h]	0,5	0,7	0,9	1,5	2	2,5	4
	max [m ³ /h]	1	1,3	1,5	2,2	3	4	6
	rinse [l/min]	6	6	8	8	12	15	19
Water quantity in cycle ^{II}	Max [m ³]	10	18	24	30	42	50	67
	Min [m ³]	6	12	16	20	30	37	45
Regenerant consumption ^{III}	33% acid[kg]	8	10	12	15	17	20	25
	33% NaOH[kg]	9	11	13	16	18	22	28
Sludge quantity [liter]		140	150	180	210	300	400	500
Pressure drop ^{IV} [PSI]		0,2/1	0,2/1	0,2/1	0,2/1	0,2/1	0,2/1	0,2/1
Working pressure [bar]		2 - 8	2 - 8	2 - 8	2 - 8	2 - 8	2 - 8	2 - 8
Water temperature [°C]		1 - 45	1 - 45	1 - 45	1 - 45	1 - 45	1 - 45	1 - 45
Surrounding temperature [°C]		3 - 50	3 - 50	3 - 50	3 - 50	3 - 50	3 - 50	3 - 50
Water connection [inch]		¾ - 1	¾ - 1	¾ - 1	¾ - 1	¾ - 1	¾ - 1	¾ - 1
Dimensions	A [m] – height	1,6	1,6	1,6	1,7	1,7	1,7	1,9
	B [m] – width	1,2	1,2	1,2	1,2	1,3	1,4	1,5
	C [m] – depth	0,4	0,4	0,4	0,4	0,4	0,5	0,5
	D [m] - regenerant	0,2x0,3	0,2x0,3	0,2x0,3	0,3x0,3	0,3x0,3	0,3x0,3	0,3x0,3

Explanations:

- 1K+1A – tank with cation and anion exchanger
- I rinse takes 10 min. by each K and A regeneration
- II for ion compound contents 3 mval/liter
- III hydrochloric or sulphuric acid, depending on the process
- IV min./max. values depend on water quality and feed pressure

Unit calculator:

- inch = 2,54 cm
- GPM = 3,785 liter/min
- 15 PSI = 1 bar
- 1 mval/liter = 2,86 °d = 50 mg CaCO₃/liter

Electrical DATA:

220V; HP 0,5; 2,5A; 85dB

We also offer:

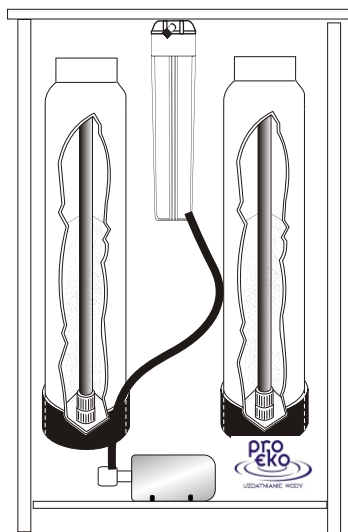
- Softeners and Iron Removers
- Special filters
- UV lamps
- Reverse osmosis
- Chemicals dosing systems
- Demineralizers
- Galvanic waters treatment

The components are TUV and PZH certified, conform to the EU directives



*Due to the fast technology development we reserve the right to change technical data without prior notice

Scheme of manual demineralization



Scheme of automatic demineralization

