

ZeeWeed* 1500 RMS

rackless module system for SUEZ pressurized ultrafiltration (UF)

description and use

Pressurized UF system customers want a cost-effective, worry-free solutions that meet their needs for the lifetime of their plant. These solutions are achieved through a balance of several factors including capital costs, footprint, current and future water demands, supplier experience and after sales support. By developing the modular, rackless system, SUEZ has revolutionized the way membrane systems are designed and built by eliminating the membrane rack.

The SUEZ ZW1500-RMS (Fig. 1) is a self-supported, integrated header solution that leverages SUEZ's decades of membrane development and operational experience to offer one of the most advanced and versatile ultrafiltration technologies on the market.

The ZW1500-RMS uses ZeeWeed membrane technology, a membrane that has been proven to meet or exceed regulatory requirements, regardless of source water quality.



Figure 1: ZW1500-RMS 2x8 configuration



Figure 2: Blue shaded area shows the reduced footprint of the ZW1500-RMS when compared to a typical pressurized UF rack.

why ZW1500-RMS?

The ZW1500-RMS offers several benefits to our customers:

- **Cost** - simplified construction & installation
- **Footprint** - 50% reduction in rack footprint (Fig. 2)
- **Simplicity** - factory pre-assembled equipment (Fig. 3)
- **Reliability** - uses proven ZW1500 membrane module
- **Modularity** - simple building blocks provide plant layout versatility and easy future expansion

NOTE: ZW1500-RMS is not rated for high seismic zones. A seismic kit is available for special acceleration ratings up to 3.0g, upon request.

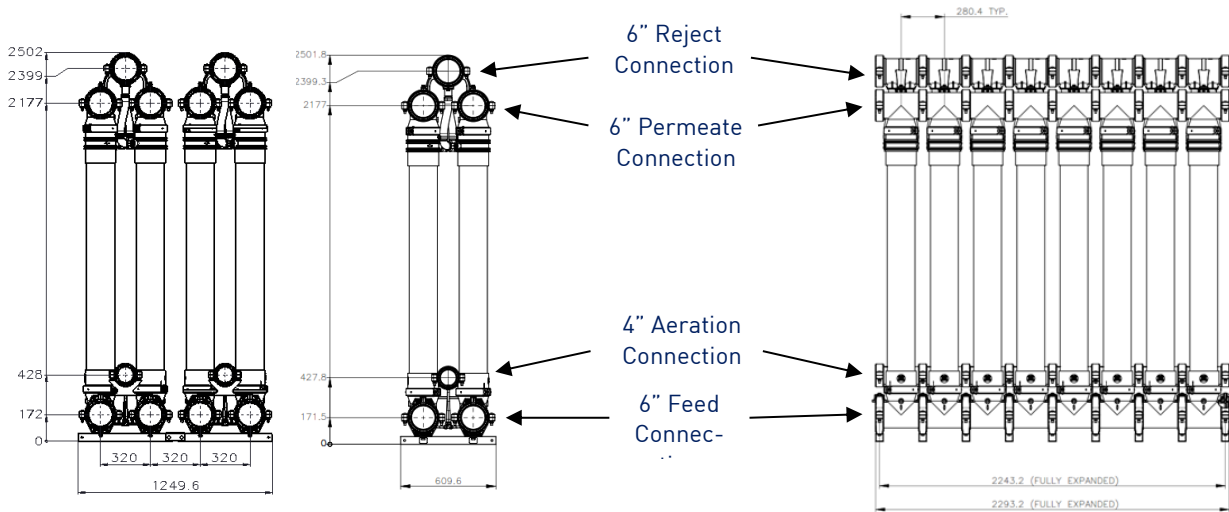


Figure 3: ZW1500-RMS dimensions and connections. 4-module wide and 2-module wide configurations, all dimension in mm.

ZW1500-RMS configurations

Table 1: RMS with 2 rows of modules

Rack Size		# of Modules	Train Length		Train Width		Footprint		Surface Area	
L	W		Ft	m	Ft	m	Ft ²	m ²	Ft ²	m ²
8	2	16	7.5	2.3	2	0.6	15.1	1.4	9,600	892
10	2	20	9.4	2.9	2	0.6	18.8	1.7	12,000	1,115
12	2	24	11.2	3.4	2	0.6	22.4	2.1	14,400	1,338
14	2	28	13.1	4.0	2	0.6	26.1	2.4	16,800	1,561
16	2	32	14.9	4.5	2	0.6	29.8	2.8	19,200	1,784
18	2	36	16.7	5.1	2	0.6	33.5	3.1	21,600	2,007
20	2	40	18.6	5.7	2	0.6	37.1	3.5	24,000	2,230
22	2	44	20.4	6.2	2	0.6	40.8	3.8	26,400	2,453
24	2	48	22.3	6.8	2	0.6	44.5	4.1	28,800	2,676
26	2	52	24.1	7.3	2	0.6	48.2	4.5	31,200	2,899
28	2	56	25.9	7.9	2	0.6	51.9	4.8	33,600	3,122
30	2	60	27.8	8.5	2	0.6	55.5	5.2	36,000	3,345
32	2	64	29.6	9.0	2	0.6	59.2	5.5	38,400	3,567



Table 2: RMS with 4 rows of modules

Rack Size		# of Modules	Train Length		Train Width		Footprint		Surface Area	
L	W		Ft	m	Ft	m	Ft ²	m ²	Ft ²	m ²
8	4	32	7.5	2.3	4	1.2	30.9	2.9	19,200	1,784
10	4	40	9.4	2.9	4	1.2	38.4	3.6	24,000	2,230
12	4	48	11.2	3.4	4	1.2	46.0	4.3	28,800	2,676
14	4	56	13.1	4.0	4	1.2	53.5	5.0	33,600	3,122
16	4	64	14.9	4.5	4	1.2	61.1	5.7	38,400	3,567
18	4	72	16.7	5.1	4	1.2	68.6	6.4	43,200	4,013
20	4	80	18.6	5.7	4	1.2	76.2	7.1	48,000	4,459
22	4	88	20.4	6.2	4	1.2	83.7	7.8	52,800	4,905
24	4	96	22.3	6.8	4	1.2	91.2	8.5	57,600	5,351
26	4	104	24.1	7.3	4	1.2	98.8	9.2	62,400	5,797
28	4	112	25.9	7.9	4	1.2	106.3	9.9	67,200	6,243
30	4	120	27.8	8.5	4	1.2	113.9	10.6	72,000	6,689
32	4	128	29.6	9.0	4	1.2	121.4	11.3	76,800	7,135



model ZW1500-RMS

membrane module specifications

Model	ZeeWeed 1500
Nominal membrane surface area	55.7 m ² (600 ft ²)
Max shipping weight¹	33.5 kg (72 lb)
Lifting weight²	27 – 43 kg (57 - 92 lb)
Membrane material	PVDF
Nominal pore size	0.02 micron
Nominal fiber diameter	OD: 1.2 mm, ID: 0.66 mm
Flow path	Outside-In
Housing material	PVC housing

¹ Packaged, single module

² Varies with solids accumulation, single module

Module Dimensions & Connections	
Diameter	180 mm (7")
Feed & Permeate	RMS flange clamp
Reject	1 ½" (DN40) Victaulic
System Integration	SUEZ RMS

storage and handling

Modules may be stored in the original factory packaging for up to 1 year prior to installation. Modules must be stored between 5°C and 35°C (41°F to 95°F). Do not expose the membrane module to sources of heat, ignition, or direct sunlight (UV light).

operating parameters

Performance	
Flow range	45 - 180 m ³ /day (8 - 33 gpm)
Operating conditions	
Max inlet pressure	379 kPa (55 psi)
TMP range	0 - 276 kPa (0 - 40 psi)
Max temperature	40°C (104°F)
Operating pH	5.0 - 10.0
Air scour flow	5.1 m ³ /h (3 dcfm)
Backwash flow	1.8 m ³ /hr (8 gpm)
Cleaning	
Cleaning pH range	2.0 - 12.0
Max chlorine concentration	1,000 mg/L [as NaOCl] ³

³ Higher concentrations are possible depending on feedwater and pH