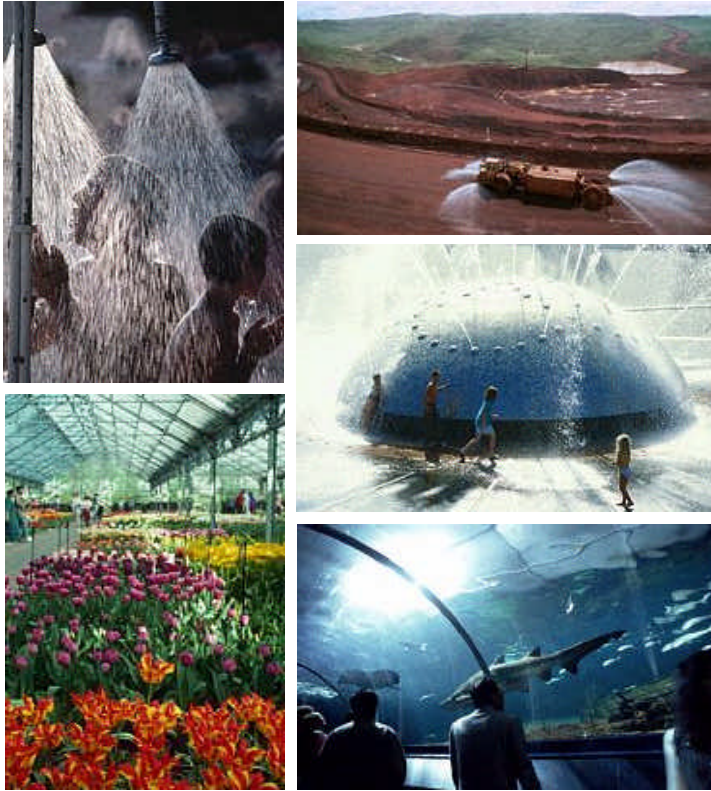
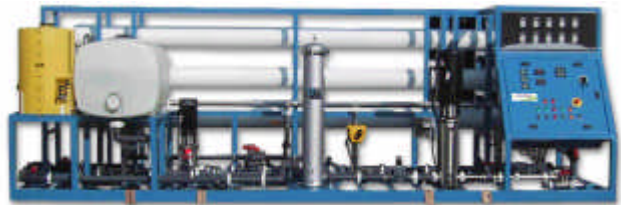


# *Hercules™ NF*



Hercules™ brand Nanofiltration (NF) membrane systems from Haliant Technologies provide the right combination of value and features required for any desalination application. Every Hercules™ Nanofiltration system is manufactured from the highest quality components to the exacting standards of all Haliant Technologies equipment. Standard Hercules™ Nanofiltration models are available for any brackish water industrial application from 360 to over 150,000 GPD.

Consider a Hercules™ Nanofiltration System to achieve limited rejection of monovalent salts (such as NaCl) and high rejection of the multi-valent salts typically found in hard waters. Nanofiltration can also be effective as pre-treatment for Reverse Osmosis as a replacement for water softeners or other media.



## Industrial Nanofiltration Systems

# Hercules™ NF



### Design Assumptions

- Feed water of 500 mg/L TDS at 25 C, SDI < 3, Turbidity < 1
- Negligible permeate backpressure
- 3rd year of operation allowing for Flux Decline and Salt Passage Increase
- Flux, Minimum Brine Flow, and Recovery in accordance with membrane manufacturers recommendations
- 90% Salt Rejection elements (standard) provide approx. 92-97% hardness reduction
- 80% Salt Rejection elements (optional) provide approx.
- 80-85% hardness reduction (motor HP is 50% of std. unit)

### Standard Features

Fiberglass-Wrapped Nanofiltration Membranes  
 316SS Pump, Valves, Pressure Gauges  
 Corrosion-Resistant Piping and Tubing  
 60Hz/230V-460V, 3-phase motor  
 Automatic High and Low Feed Pressure Shut-off  
 Permeate and Concentrate Flowmeters  
 Automatic Feed Water Shut-off Valve  
 5-micron Sediment Prefilter  
 Fiberglass or Stainless Steel Pressure Vessels  
 Prefilter Pressure Gauges

### Optional Features

Chemical Dosing System  
 Clean-in-Place System  
 TDS, pH, Temperature, Turbidity Instruments  
 PLC Control  
 Special Color or Private Label  
 80% Salt Rejection Configuration  
 50Hz Motor  
 Concentrate Recycling  
 Automatic Feed Water or Permeate Flush  
 Crating

### System Specifications

MODEL	SYSTEM CONFIGURATION											
	PRODUCTION		RECOVERY	NUMBER	MOTOR		APPROXIMATE SHIPPING DIMENSIONS			APPROXIMATE SKID DIMENSIONS		
	GPD	m3/D	(%)	AND SIZE	60Hz	50Hz	(L x W x H)	(L x W x H)	WEIGHT	(L x W x H)	(L x W x H)	WEIGHT
			ELEMENTS	(HP)	(KW)	(inches)	(cm)	(lbs/Kg)	(inches)	(cm)	(lbs/Kg)	
HERC-NF-1	1,600	6	18	1 (4")	1.5	1.5	26 x 26 x 57	66 x 66 x 145	74/34	20 x 20 x 50	51 x 51 x 127	60/27
HERC-NF-2	3,200	12	32	2 (4")	1.5	1.5	26 x 26 x 57	66 x 66 x 145	89/40	20 x 20 x 50	51 x 51 x 127	74/34
HERC-NF-3	4,800	18	43	3 (4")	1.5	1.5	26 x 26 x 57	66 x 66 x 145	99/45	20 x 20 x 50	51 x 51 x 127	85/39
HERC-NF-4	6,400	24	51	4 (4")	1.5	1.5	26 x 26 x 57	66 x 66 x 145	106/48	20 x 20 x 50	51 x 51 x 127	92/42
HERC-NF-5	7,200	30	55	6 (4")	2	1.5	120 x 40 x 72	315 x 102 x 183	1175/534	108 x 32 x 60	274 x 81 x 152	875/398
HERC-NF-10	14,400	50	55	12 (4")	3	3	120 x 50 x 72	315 x 127 x 183	1300/591	108 x 42 x 60	274 x 96 x 152	1000/455
HERC-NF-15	21,600	80	60	18 (4")	4	3	168 x 50 x 72	427 x 127 x 183	1475/670	156 x 42 x 60	396 x 96 x 152	1150/523
HERC-NF-20	28,800	110	65	24 (4")	4	4	168 x 60 x 72	427 x 152 x 183	1700/773	156 x 52 x 60	396 x 132 x 152	1350/614
HERC-NF-25	36,000	130	65	30 (4")	5.5	4	168 x 60 x 72	427 x 152 x 183	1900/864	156 x 52 x 60	396 x 132 x 152	1550/705
HERC-NF-30	43,200	170	65	36 (4")	5.5	5.5	168 x 60 x 72	427 x 152 x 183	2100/955	156 x 52 x 60	396 x 132 x 152	1750/795
HERC-NF-45	64,800	250	60	12 (8")	10	7.5	228 x 60 x 84	579 x 152 x 213	2900/1318	216 x 48 x 72	549 x 122 x 183	2500/1136
HERC-NF-60	86,400	330	65	16 (8")	10	15	228 x 60 x 84	579 x 152 x 213	3450/1568	216 x 48 x 72	549 x 122 x 183	3050/1386
HERC-NF-75	10,800	410	75	20 (8")	15	15	228 x 74 x 84	579 x 188 x 213	4050/1841	216 x 62 x 72	549 x 157 x 183	3600/1636
HERC-NF-90	129,600	490	75	24 (8")	15	15	228 x 74 x 84	579 x 188 x 213	4600/2091	216 x 62 x 72	549 x 157 x 183	4150/1886
HERC-NF-110	158,400	600	75	30 (8")	15	15	306 x 74 x 84	777 x 188 x 213	5400/2455	288 x 62 x 72	732 x 157 x 183	4800/2182



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