

X SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
X-4040	99.2	99.0	2600 (9.8)	90(8.4)
X-8040 400	99.2	99.0	12000 (45.4)	400(37.2)
X-8040 440	99.2	99.0	13200(49.9)	440(40.9)

Testing conditions

Test pressure	100 psi(0.69 MPa)
Test temperature	25°C
Test solution concentration (NaCl)	500 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040)
	16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi(0.1 MPa)

Reference data only. Confirm the ordered model and current specification before use.

U SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
U-4040-HF	99.5	99.0	2600 (9.8)	100 (9.3)
U-4040-HR	99.7	99.4	2200(8.3)	100 (9.3)
U-8040-HF	99.0	98.8	12100(45.8)	400(37.2)
U-8040 A	99.2	98.9	9600(36.3)	365(33.9)
U-8040-HR	99.7	99.4	10500(39.7)	400(37.2)
U-8040 440	99.7	99.4	12000(45.4)	440(40.9)

Testing conditions

Test pressure	150 psi(1.03 MPa)
Test temperature	25°C
Test solution concentration (NaCl)	1500 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040) 16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi(0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

L SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
L-4040	99.7	99.5	2600 (9.8)	100 (9.3)
L-8040 400	99.7	99.5	10500 (39.7)	400(37.2)
L-8040 400PRO	99.8	99.6	11500(43.5)	400(37.2)
L-8040 440	99.7	99.5	12650 (48.0)	440(40.9)

Testing conditions

Test pressure	225 psi(1.55 MPa)
Test temperature	25°C
Test solution concentration (NaCl)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040)
	16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi ((0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

FR SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
FR-4040	99.7	99.5	2200(8.3)	90(8.4)
FR-8040 400	99.7	99.5	10500 (39.7)	400(37.2)
FR-8040 400PRO	99.8	99.6	11500(43.5)	400(37.2)

Testing conditions

Test pressure	225 psi (1.55 MPa)
Test temperature	25°C
Test solution concentration (NaCl)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040)
	16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi (0.1 MPa)

Reference data only. Confirm the ordered model and current specification before use.

CR SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
CR-4040	99.5	99.3	2200(8.3)	90(8.4)
CR-8040	99.5	99.3	9000(34.1)	365(33.9)

Testing conditions

Test pressure	225 psi(1.55 MPa)
Test temperature	25°C
Test solution concentration (NaCl)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m³/h) (8040)
	16 gpm (3.6m³/h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.5 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi (0.1 MPa)

Reference data only. Confirm the ordered model and current specification before use.

SW SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
SW-2521	99.7	99.6	300(1.1)	14(1.3)
SW-2540	99.7	99.6	600(2.3)	30(2.8)
SW-4021	99.7	99.6	800(3.0)	36(3.3)
SW-4040-LE	99.8	99.6	1900(7.2)	90(8.4)
SW-4040-HR	99.8	99.7	1600(6.1)	90(8.4)
SW-8040-LE 400	99.8	99.6	9000(34.0)	400(37.2)
SW-8040-HR 400	99.8	99.7	7500(28.4)	400(37.2)
SW-8040-LE 440	99.8	99.6	9900(37.4)	440(40.9)
SW-8040-HR 440	99.8	99.7	8250(31.2)	440(40.9)
SW-8040-FR	99.8	99.6	7500(28.4)	400(37.2)
SW-8040-XLE 400	99.7	99.6	9500(36.0)	400(37.2)
SW-8040-XHR 400	99.85	99.75	7000(26.5)	400(37.2)

Testing conditions

Test pressure	800 psi(5.50 MPa)
Test temperature	25°C
Test solution concentration (NaCl)	32000 mg/L
Test pH	7
Single-element recovery	8%

Operating and cleaning limits

Maximum operating pressure	1200 psi(8.3 MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040)
	16 gpm(3.6 m3/h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi (0.1 MPa)

Reference data only. Confirm the ordered model and current specification before use.

OP SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
RW-400	99.7	99.5	9500(36.0)	400(37.2)
OP5-10	99.8	99.6	11500(43.5)	400(37.2)
OP5-10LE	99.4	99.1	12500(47.3)	400(37.2)
OP5-20	99.7	99.5	11000(41.6)	400(37.2)
OP5-20 MAX	99.7	99.5	12500(47.3)	440(40.9)
OP5-30	99.6	99.5	10500(39.7)	400(37.2)
OP5-30 MAX	99.6	99.5	12000(45.4)	440(40.9)
OP5-30 MAX-F	99.2	98.8	14000(53.0)	440(40.9)

Testing conditions

Test pressure	435 psi(3.0 MPa) (RW400) 225 psi(1.55MPa) (OP5-10, OP5-20) 150 psi (1.03 MPa)(OP5-30)
Test temperature	25°C
Test solution concentration (NaCl)	10000 mg/L (Rw400) 2000 mg/L (OP5-10, OP5-20) 1500 mg/L (OP5-30)
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600psi(4.14MPa) 1000 psi(6.9 MPa) (RW400)
Maximum feed flow	75 gpm (17m ³ /h)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi(0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

HC-HP SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
HC70	99.75	99.6	8800(33.3)	400(37.2)
HC80	99.45	99.25	9100(34.4)	440(40.9)
HC120	90	85	11500(43.5)	370(34.4)
HC160	85	80	13500(51.1)	370(34.4)
HP120	99.75	99.6	7400(28.0)	330(30.7)

Testing conditions

Test pressure	800 psi(5.50MPa) (HC70,HP120) 600psi(4.140MPa) (HC80,HC120,HC160)
Test temperature	25°C
Test solution concentration (NaCl)	32000 mg/L
Test pH	7
Single-element recovery	8%,15%(HC120,HC160)

Operating and cleaning limits

Maximum operating pressure	1305 psi(9.0 MPa) (HC70,HC80,HC120,HC160) 1740 psi(12.0 MPa) (Hp120)
Maximum feed flow	75 gpm (17m³/h)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

SG SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	TOC rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
SG400	99.6	95.0	11500(43.5)	400(37.2)
SG400-LE	99.5	90.0	11500(43.5)	400(37.2)
SG440-LE	99.5	90.0	12000(45.4)	440(40.9)

Testing conditions

Test pressure	225psi(SG400) 150psi(SG400-LE, SG440-LE)
Test temperature	25°C
Test solution concentration (NaCl)	2000 mg/L NaCl+100 mg/L IPA(SG400) 1500 mg/L NaCl+100 mg/L IPA(SG400-LE, SG440-LE)
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m ³ /h)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—13
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

L-HSF SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
L-4040 HSF	99.5	99.0	1900(7.2)	90(8.4)
L-8040 HSF	99.5	99.0	9000(34.0)	390(36.2)

Testing conditions

Test pressure	150psi(1.03MPa)
Test temperature	25°C
Test solution concentration (NaCl)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum operating temperature	45°C
Maximum feed temperature	85°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

FDRO SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)	Feed spacer (mil)
FDRO-3838/31	99.5	1750(6.6)	81(7.5)	31
FDRO-8938/31	99.5	1800(6.8)	85(7.8)	31
FDRO-3840/31	99.5	1800(6.8)	85(7.8)	31
FDRO-3838/28	99.5	9000(34.0)	390(36.2)	28
FDRO-8038/34	99.5	8500(32.2)	370(34.4)	34
FDRO-8038/48	99.5	6200(23.5)	290(27)	48

Testing conditions

Test pressure	150psi(1.03MPa)
Test temperature	25°C
Test solution concentration (NaCl)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	800 psi(5.5MPa)
Maximum operating temperature	45°C
Maximum feed temperature	85°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	2—11
Chemical-cleaning pH range	1—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

NF SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
NF10-4040	≥90.0	3000 (11.3)	90 (8.4)
NF10-8040	≥90.0	15000 (56.8)	400 (37.2)
NF30-4040	≥97.0	2400(9.1)	90(8.4)
NF30-8040	≥97.0	12000 (45.5)	400 (37.2)
NF60-4040	≥98.5	2000 (7.5)	90 (8.4)
NF60-8040	≥98.5	10000 (37.9)	400 (37.2)
NF90-4040	≥99.0	1800 (6.8)	90(8.4)
NF90-8040	≥99.0	9000 (34.1)	400 (37.2)

Testing conditions

Test pressure	70psi(0.48MPa)
Test temperature	25°C
Test solution concentration (MgSO4)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.14 MPa)
Maximum feed flow	75 gpm (17m³/h) (8040) 16 gpm (3.6m³/h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

NF-S SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
NF30-4040S34	≥98.0	2000(7.5)	90(8.4)
NF30-8040S34	≥98.0	10000(37.9)	400(37.2)
NF30-4040S46	≥98.0	1600(6.1)	70(6.5)
NF30-8040S46	≥98.0	8000(30.3)	285(26.5)
NF60-4040S34	≥99.0	1800(6.8)	90(8.4)
NF60-8040S34	≥99.0	9000(34.1)	400(37.2)
NF60-4040S46	≥99.0	1400(5.3)	70(6.5)
NF60-8040S46	≥99.0	7000(26.5)	285(26.5)

Testing conditions

Test pressure	100 psi (0.69MPa)
Test temperature	25°C
Test solution concentration (MgSO4)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	800 psi(5.5MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040)
	16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

SLNF SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Average permeate GPD (m3/day)	Active area ft2 (m2)
SLNF1-4040 90	≥90.0	2000(7.5)	90(8.4)
SLNF1-8040 400	≥90.0	10000(37.9)	400(37.2)
SLNF2-4040 90	≥96.0	1800(6.8)	90(8.4)
SLNF2-8040 400	≥96.0	9000(34.1)	400(37.2)
SLNF3-4040 90	≥98.0	1600(6.1)	90(8.4)
SLNF3-8040 400	≥98.0	8000(30.3)	400(37.2)

Testing conditions

Test pressure	100 psi (0.69MPa)
Test temperature	25°C
Test solution concentration (MgCl2)	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	800 psi(5.5 MPa)
Maximum feed flow	75 gpm (17m ³ /h) (8040)
	16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

HPNF SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Stable salt rejection (%)	Average permeate GPD (m3/day)	Solution type	Active area ft2 (m2)
HPNF1	≥98.0	9000 (34.1)	MgSO ₄	400(37.2)
	40±5	10000(37.9)	NaCl	
HPNF2	≥98.0	8000(30.3)	MgCl ₂	
	65±5	8000(34.1)	NaCl	

Testing conditions

Test pressure	100 psi (0.69MPa)
Test temperature	25°C
Test solution concentration	2000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	1000 psi(6.9 Mpa)
Maximum feed flow	75 gpm (17m ³ /h)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

OUF-K SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Active area ft2 (m2)	Average permeate GPD (m3/day)	Test solution
OUF-4K	400(37.2)	9000(34.0)	PEG4000
OUF-6K	400(37.2)	9500(35.9)	PEG6000
OUF-8K	400(37.2)	10000(37.8)	PEG8000
OUF-10K	400(37.2)	10500(39.7)	PEG10000
OUF-20K	400(37.2)	15000(59.5)	PEG20000

Testing conditions

Test pressure	60 psi (0.41MPa)
Test temperature	25°C
Test solution concentration	1000 mg/L
Test pH	7
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	300 psi(2.07 MPa)
Maximum feed flow	84 gpm (19m³/h)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Continuous-operation pH range	3—10
Chemical-cleaning pH range	2—12
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.

ASNf SERIES | TECHNICAL SPECIFICATION

English technical reference / Source-edition values retained

Specification parameters

Membrane model	Salt rejection (%)	Average permeate GPD (m3/day)	Application medium
ACNF-4040	98.0	1000(3.8)	20% H2SO4; 20% HCl; 4% HNO3; 30% H3PO4
ACNF-8040	98.0	5000 (18.9)	
ASNf-4040	97.0	2000 (7.5)	
ASNf-8040	97.0	10000 (37.9)	

Testing conditions

Test pressure	110 psi
Test temperature	25°C
Test solution concentration	2000 mg/L MgSO ₄ (ACNF) 2000 mg/L MgCl ₂ (ASNf)
Single-element recovery	15%

Operating and cleaning limits

Maximum operating pressure	600 psi(4.0 Mpa)
Maximum feed flow	75 gpm (17m ³ /h) (8040) 16 gpm (3.6m ³ /h) (4040)
Maximum feed temperature	45°C
Maximum feed SDI15	5
Free chlorine concentration	<0.1 mg/L
Maximum pressure drop per element	15 psi (0.1MPa)

Reference data only. Confirm the ordered model and current specification before use.