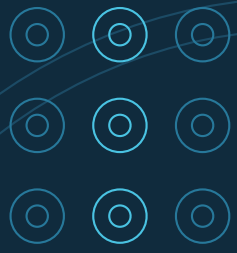
neptuno water technology

TECHNICAL CATALOGUE / ENGLISH

MBR membranes

PVDF hollow-fibre modules and cassettes for municipal and industrial wastewater treatment.



Technical product catalogue | English edition

4	0.03 µm	PVDF
PRODUCTS	NOMINAL PORE SIZE	MEMBRANE MATERIAL

Neptuno Water Technology | Membrane bioreactor solutions

Choose the right format

Two module variants and two complete membrane cassettes, with shared operating limits shown once.

Model	Format	Membrane area
VI 3384-HS	Module	34.4 / 31.6 m^2
VI 3384-LS	Module	40.9 m^2
VI 3270HS-24S	24-unit cassette	2452.8 m^2 total
VI 3280HS-24S	24-unit cassette	2400 m^2 total

VI 3384-HS effective membrane area: 34.4 / 31.6 m^2. Cassette areas are totals; per-unit areas appear in the cassette specifications.

Shared operating conditions

2-9.5
OPERATING pH

2-12
CIP pH

1-40 °C
TEMPERATURE

<0.3 bar
OPERATING TMP

<0.55 bar
MAXIMUM TMP

2000 ppm
RECOMMENDED NaOCl CIP

Built for wastewater treatment

- Hydrophilic PVDF, advanced coating, uniform 0.03 µm pores and high open porosity provide stable permeability and fouling resistance. Fibre tensile strength exceeds 600 N, with zero breakage.
- For municipal and industrial wastewater with varying feed-water quality; removes particles, bacteria, viruses and colloids.

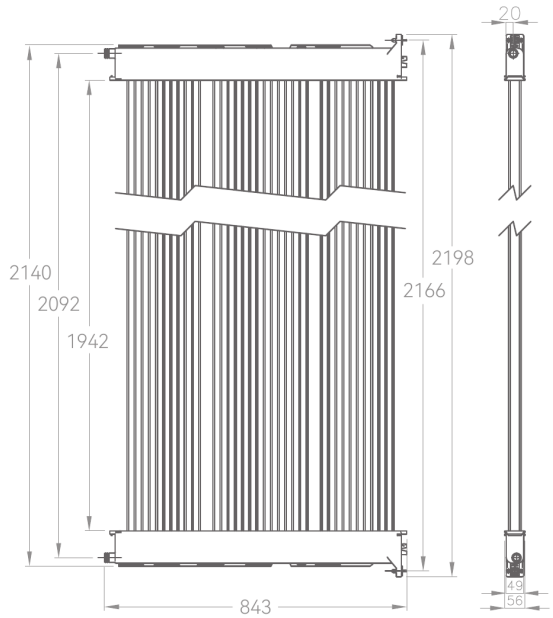
TMP = transmembrane pressure; CIP = cleaning in place; NaOCl = sodium hypochlorite.

VI 3384 modules

Two membrane-area variants with a common physical envelope and outside-in filtration.

Property	VI 3384-HS	VI 3384-LS
Membrane type	Hollow fibre	Hollow fibre
Material	PVDF	PVDF
Nominal pore size	0.03 µm	0.03 µm
Fibre ID / OD	1.0 / 2.0 mm	1.0 / 2.0 mm
Effective area	34.4 / 31.6 m^2	40.9 m^2
Housing / end cap	UPVC / ABS	UPVC / ABS
Filtration mode	Outside-in	Outside-in
Dimensions (mm)	843 × 2198 × 49	843 × 2198 × 49
Weight	20 kg	20 kg

Dimension reference



Integration & performance

- Robust structure accommodates higher sludge concentrations and varying inlet-water quality.
- Compatible with other ultrafiltration and microfiltration systems for straightforward installation.

Drawing notes

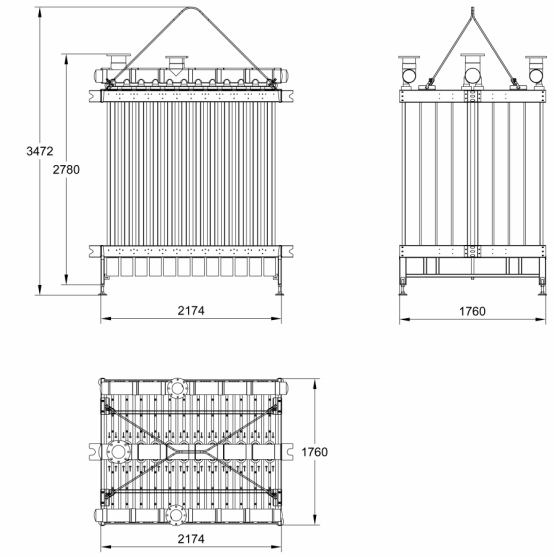
- All drawing dimensions are in mm. The same drawing applies to both variants.
- Listed depth: 49 mm. Side-view dimensions also show 56 mm and a 20 mm feature.
- Additional drawing references: 2140, 2092, 1942 and 2166 mm.

OUTSIDE-IN FILTRATION | SHARED OPERATING LIMITS: PAGE 2

VI 3270HS-24S

24 membrane units with integrated high-efficiency pulse aeration.

Specification	Value
Support material	PET
Effective area per membrane unit	102.2 m^2
Membrane units per cassette	24
Total membrane area	2452.8 m^2
Flux range	10-60 L/(m^2·h)
Dimensions	2174 × 1760 × 2780 mm
Air inlet	2 × DN125, PN10
Permeate / backwash connection	1 × DN150, PN10
Air demand	160-350 Nm^3/h



- Hollow-fibre PVDF membrane, PET support and 0.03 µm nominal pore size.
- The drawing includes a 3472 mm overall height with the lifting arrangement; listed cassette body height is 2780 mm.

Pure-water permeability reaches up to 3000 L/(m^2·h·bar) at 20 °C. The process flux range is 10-60 L/(m^2·h).

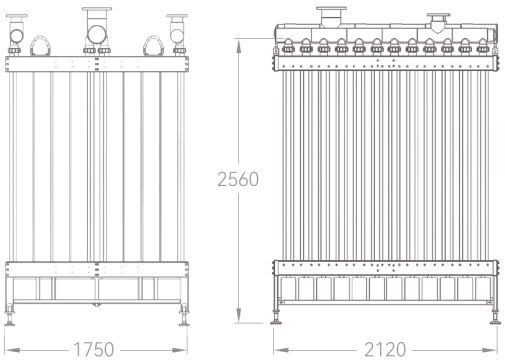
Optimised cassette structure and pulse aeration are designed to reduce fouling, chemical consumption and operating energy.

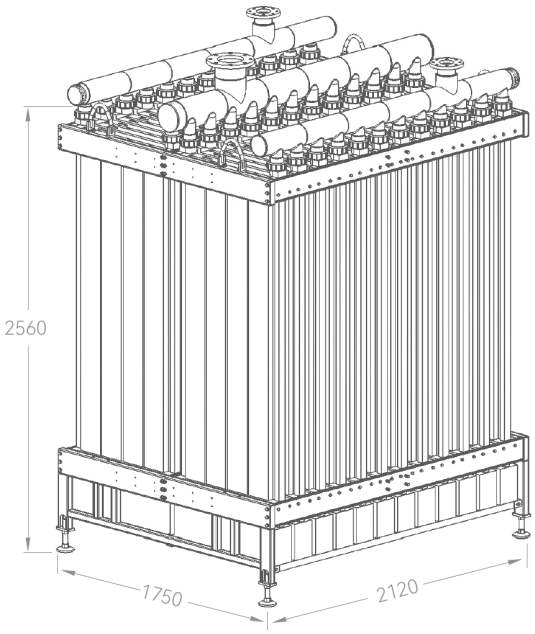
PULSE AERATION | SHARED OPERATING LIMITS: PAGE 2

VI 3280HS-24S

24 membrane units with integrated high-efficiency pulse aeration.

Specification	Value
Support material	PET
Effective area per membrane unit	100 m^2
Membrane units per cassette	24
Total membrane area	2400 m^2
Flux range	10-60 L/(m^2·h)
Dimensions	2120 × 1750 × 2560 mm
Air inlet	2 × DN100, PN10
Permeate / backwash connection	1 × DN200, PN10
Air demand	160-350 Nm^3/h





- Hollow-fibre PVDF membrane, PET support and 0.03 µm nominal pore size.
- All drawing dimensions are in mm. Orthographic and isometric views show the 2120 × 1750 × 2560 mm cassette envelope.

Pure-water permeability reaches up to 3000 L/(m^2·h·bar) at 20 °C. The process flux range is 10-60 L/(m^2·h).

For both cassette models, daily backwashing and online cleaning restore flux. Offline cleaning is typically required less than once per year, depending on operation.

PULSE AERATION | SHARED OPERATING LIMITS: PAGE 2

Commissioning, operation & storage

The storage method depends on whether modules are unused, operating or removed from service.

01 Before commissioning or restart

- Check water quality and instrumentation before initial use and after an extended shutdown; confirm conditions are within the stated operating limits.
- Modules are hydrophilised and shipped dry. Soak the modules in clean water for at least 30 minutes before allowing raw water containing activated sludge into the membrane tank.

02 In operation

- Once in operation, do not allow modules to dehydrate or dry. Drying reduces flux and requires restoration efforts.
- Provide continuous aeration while modules are suspended in the activated-sludge tank.

03 Store unused modules

- Store flat at 5-40 °C, away from direct sunlight. Do not immerse dry-shipped unused modules in water.
- Prevent freezing. For unavoidable cold-region transport or storage, use antifreeze protection liquid in accordance with the product operating procedures.
- Avoid compression, heavy objects, prolonged ultraviolet exposure and direct sunlight.

04 Remove used modules from service

- Remove adhering sludge before disassembly for storage. Soak the modules in sodium hypochlorite solution with effective chlorine concentration of at least 100 ppm.

05 Protect during site works

- Cover modules with a fireproof layer wherever sparks may arise from welding, fusing or grinding.

01 SOAK
Clean water ≥30 min

02 OPERATE
Wet + continuous aeration

03 PRESERVE
Effective chlorine ≥100 ppm

Technical reference & support

Product navigation, technical terms and support for your MBR installation.

Abbreviations & units

Terms	Meaning
Operating terms	TMP: transmembrane pressure. CIP: cleaning in place.
Dimensions & flow	ID / OD: fibre inside / outside diameter. LMH: L/(m²·h), permeate flux per unit membrane area. Nm³/h: normal cubic metres per hour.
Materials	PVDF: polyvinylidene fluoride. PET: polyethylene terephthalate. UPVC: unplasticised polyvinyl chloride. ABS: acrylonitrile butadiene styrene.

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Plan your MBR installation

Discuss feed-water quality, design flow, tank space, connection requirements and the cleaning strategy with Neptuno. Confirm the membrane-area option and operating conditions during application design.

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