

Data sheet WM22000E-340

22000 lpd (5812 gpd)

With energy recovery system



AUTOMATED FEATURES:

- User friendly interface with single button operation
- Automatically adjusts to changes in feed water temp. and salinity
- Output for start stop of feed pump
- Input for start-stop on tank level switch
- Automatic fresh water flush system (start/stop, 4 hours/24 hours)
- Shut down at high/low membrane pressure, low/high feed water pressure, high salinity product water
- Integrated timer for setting quiet intervals

METERS/MONITORS:

- Custom made controller enables close monitoring
- Coloured icons giving continuous overview
- Single button gives access to lot of data:
 - Product water TDS
 - Product water flow measurement
 - Hour counter
 - Approx. cumulative production
 - Feed/flush water pressure
 - Membrane pressure

PARTS AND MATERIALS:

- Danfoss APPM2 with integrated energy recovery in duplex and super duplex steel
- Saltwater wetted steel parts in duplex or super duplex steel
- Overvoltage protection
- Frame in high quality PEHD polymer

OPTIONS:

- GSM based monitoring, control and alarm messaging
- Variable speed drive for 60 Hz operation

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| Hydraulic Data | |
|--|------------------|
| Nominal water production l/day (gallon/day) | 22000 (5812) |
| Nominal membrane pressure bar (psi) | 56.5 (819) |
| Total dissolved solids, fresh water (TDS) mg/l | <550 |
| Stabilized salt rejection % | 99.4 |
| Membrane pressure range bar (psi) | 20-69 (290-1001) |
| Membrane pressure control | Automatic |
| Total dissolved solids range, feed water (TDS) ² mg/l | 1500 – 45000 |
| Minimum inlet flow (feed & flush) m ³ /h (gallon/h) | 2.72 (719) |
| Minimum flush water volume (3 x flush) l (gallon) | 80 (21.2) |
| Minimum inlet pressure (feed & flush) bar (psi) | 0.5 (7.3) |
| Maximum inlet pressure (feed & flush) bar (psi) | 5 (73) |
| Maximum back pressure on fresh water bar (psi) | 1.0 (14.5) |
| Nominal pump input power ¹ kW | 2.0 |
| Specific pump energy ¹ kWh/m ³ (kWh/1000 gallon) | 2.2 (8.3) |

| Electrical Data | |
|--------------------------------|-----------------------|
| Motor size kW (hp) | 3 (4.0) |
| Maximum consumed power kW | 3.4 |
| Motor voltage ⁴ V | 3 ph: 400 / 208 & 480 |
| Motor speed rpm | 2900 |
| Feed pump control | Relay output |
| Water level signal | Relay input |
| Electrical ingress protection | IP 54 |

| Dimensions | |
|-------------------------------------|-------------------------|
| Watermaker (LxWxH) mm (inch) | 1192x563x730 (47x22x29) |
| Control box (LxWxH) mm (inch) | 400x300x210 (16x12x8) |
| Water inlet/outlet (OD) mm (inch) | 22 (0.9) |
| Weight kg (lb) | 163 (359) |

| Operating limits | |
|---|-----------------------|
| Feed water temperature ² °C (°F) | 0.5 – 45 (32.9 – 113) |
| Ambient temperature °C (°F) | 0.5 – 50 (32.9 – 122) |

| Components | |
|------------------------------------|--|
| Membrane type | DOW/AqSep seawater |
| Membrane quantity | 8 |
| Membrane size Inches | 3x40 |
| High pressure pump & recovery unit | APPM2 - Duplex steel |
| Lubrication, coolants etc. | Not required |
| Frame | Plastic, 316 steel |
| Saltwater exposed parts | Duplex/316 steel, plastic |
| Fresh water parts | 316 steel, brass, plastic |
| Controller | Custom made with display (GSM interface and Variable Speed Drive as options) |

| Part Number ³ | |
|---------------------------------------|----------|
| WM22000E-340 3x208 V, 50 Hz, 2900 rpm | 182B0053 |
| WM22000E-340 3x400 V, 50 Hz, 2900 rpm | 182B0054 |

Rated performance may vary ±15%, Nominal conditions: 25 °C seawater at 32.000 mg/l TDS

¹ Based on simulation in ROSA design software from Dow Water & Process Solutions

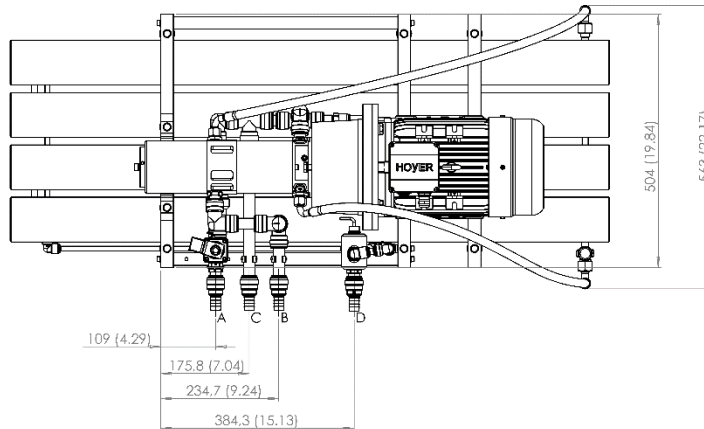
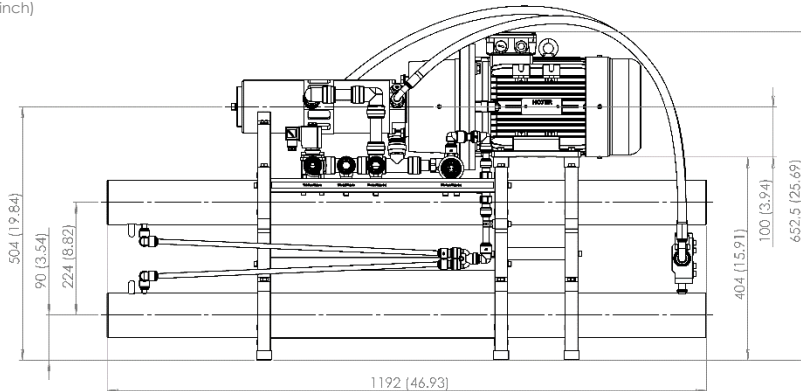
² Water production may need to be adjusted to match the specific combination of temperature and total dissolved solids in the feed water (TDS)

³ Contact AqSep for alternative motor voltages/frequencies

⁴ A variable speed drive is required for operation in 60 Hz grid

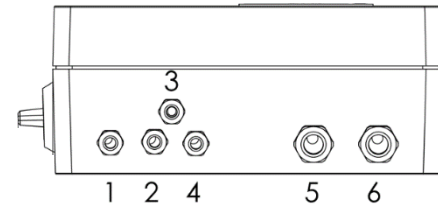
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mm (inch)

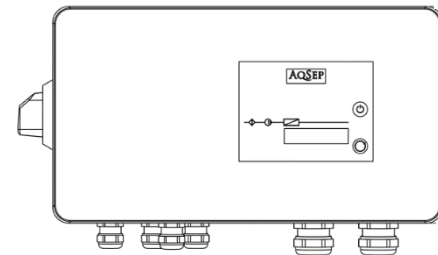


| | |
|---|-----------------|
| A | Flush water IN |
| B | Seawater OUT |
| C | Seawater IN |
| D | Fresh water OUT |

Control Box



| | |
|---|---------------------------|
| 1 | Power Connection |
| 2 | Electrical motor |
| 3 | Solenoid valve |
| 4 | Cable tree – sensors |
| 5 | Feed pump signal – XS1 |
| 6 | Level switch signal – XS2 |



The control box is connected to the sensors on the hydraulic unit via a cable tree of 3 m (9.9 ft.). Separate cables connects the electrical motor and valve.

Mating electrical connectors for start & stop of well pump/isolating valve as well as level switch signal are located inside the control box.

The optional GSM modem is also fitted to the control box.



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