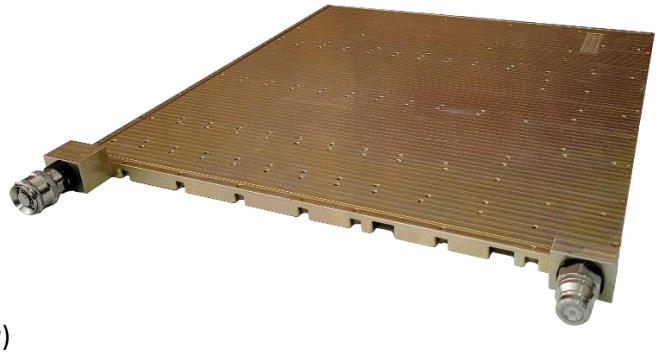
ENERCON P/N M3002-1
Liquid Cooled Cold Plate
Specifications and Parameters

This cold plate is a deep-drilled type, allowing an optimal heat dissipation at a flow rate of 1.8 [GPM]. Due to the resulting 0.0177 [°C/W] thermal resistance at this flow rate, the cold plate can dissipate 1.2 [kW] with an average temperature rise of only 10.0 [°C] (between the cold plate's user interface and inlet fluid), by using a cooling fluid at an inlet temperature of 20 [°C].

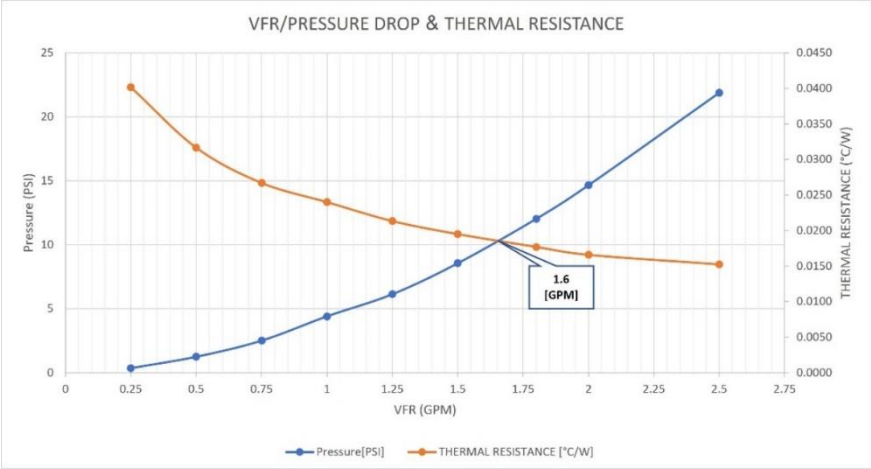


Design Features[1]

- Single side cooling
- Adaptable design platform
- Controlled Pressure drop (using internal orifices)
- High pressure (burst-proof)[2]: 300 [psi]
- Leakage proof[3]: 250 [psi]
- Pressure loss @1.8[GPM] : 12 [psi] (see table below)
- Quick release valves
- Max weight: 6.3 [kg]

Performance Curves

PRESSURE DROP & THERMAL RESISTANCE vs. FLOW RATE

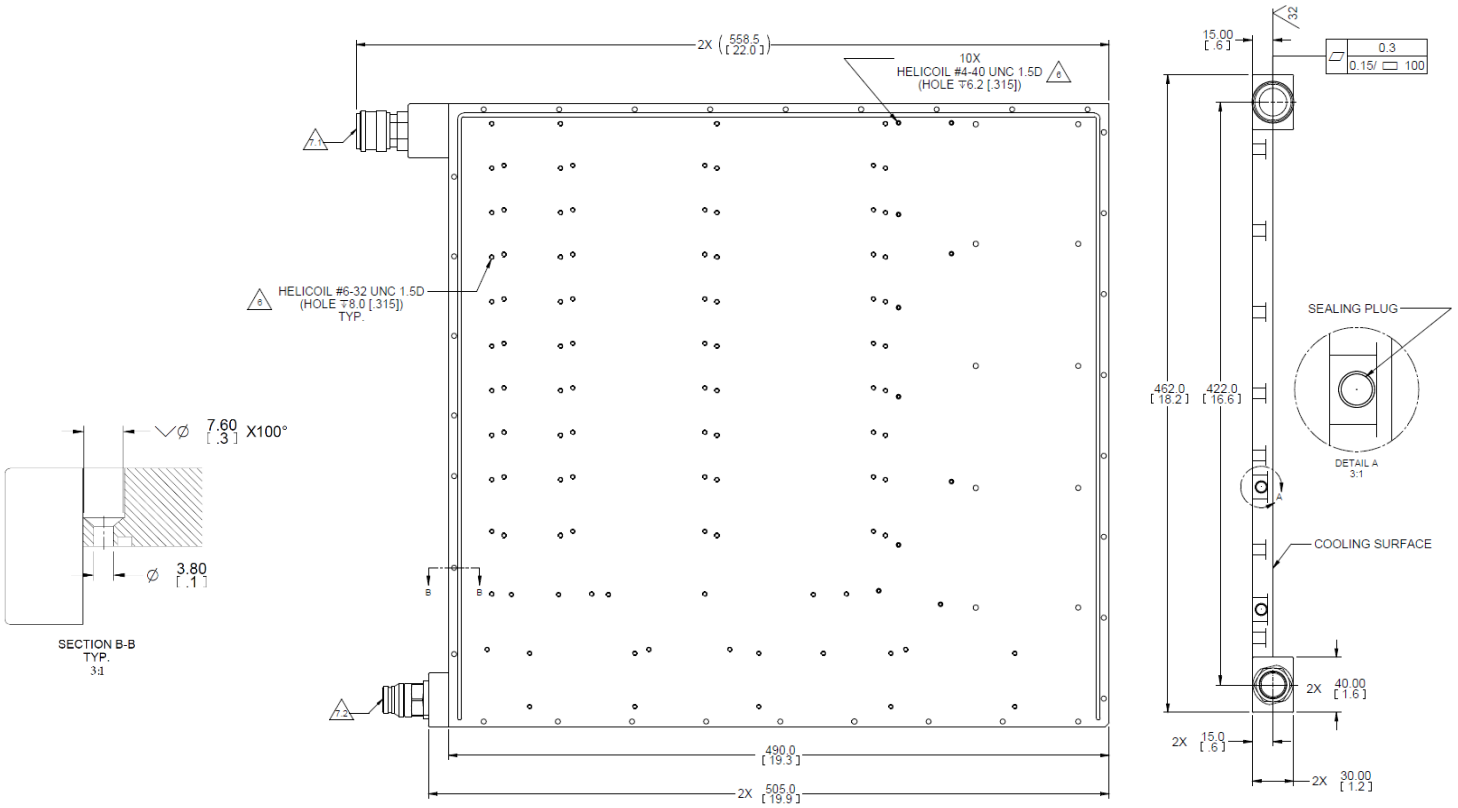


M3002-1		
Flow rate [GPM]	R [°C/W]	ΔP (psi)
0.25	0.0402	0.36
0.50	0.0317	1.25
0.75	0.0267	2.51
1.00	0.0240	4.14
1.25	0.0213	6.14
1.50	0.0195	8.56
1.80	0.0177	12.03
2.00	0.0166	14.66
2.50	0.0152	21.89

[1] Tested using 66% ethylene glycol and 34% distilled water.
Coolant with higher distilled water ratio will result in a lower thermal resistance.
[2] Pressure loss: 0.19 [psi]. Test duration: 10 minutes. Max allowed pressure drop: 0.25 [psi].
[3] Tested in water bath for 5 minutes. Success criteria was no bubbles.
[4] Recommended working point- 1.6 [GPM].

Milpower Source, Inc. • Belmont, NH, **USA** • P: (603) 267-8865
Email: sales@milpower.com • Website: www.milpower.com • CAGE: 0B7R6

Outline Drawing



Notes:

1. Dimensions are in mm [In].
2. Tolerances: X.X +/- 0.2 mm, X.XX+/- 0.10 mm.
3. First angle projection:

4. Material: Al 6061, Thermal treatment T651/ T6511.
5. Finish: chromate conversion coating per MIL-DTL-5541, type I, class 1A.
6. Additional threads and lengths are optional according to customer requirements.
7. Hardware information:
   - 7.1. Coupler (outlet cooling):
     Manufacturer: “HAM-LET GROUP”.
     P/N: QCE6-SS-B-FL37-3-8-R2.
   - 7.2. Nipple (inlet cooling) :
     Manufacturer: “HAM-LET GROUP”.
     P/N: QCE6-SS-SAES-3/8-R150.