# MINIMARINE HEAT EXCHANGER

WATER TO WATER TITANIUM HEAT EXCHANGER FOR USE IN ALL AQUATIC CHILLING/HEATING APPLICATIONS

## BTU PERFORMANCE CHART - 5 GPM @ 5 PSID

Aquatic (process) Flow (GPM) — Δ T OF AQUATIC WATER & HYDRONIC LOOP

| | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
|---|---|---|---|---|---|---|---|
| 10 | 6 000 | 8 500 | 10 750 | 13 250 | 15 500 | 18 000 | 20 500 |
| 20 | 8 500 | 11 500 | 15 250 | 19 000 | 21 750 | 25 000 | 28 750 |
| 30 | 10 000 | 14 000 | 18 250 | 22 250 | 25 750 | 29 750 | 35 000 |
| 40 | 11 000 | 15 250 | 20 250 | 24 500 | 28 750 | 32 500 | 37 750 |
| 50 | 12 000 | 16 500 | 21 500 | 26 500 | 31 000 | 35 250 | 40 250 |
| 60 | 12 500 | 17 750 | 22 750 | 28 000 | 33 000 | 36 750 | 42 000 |
| 70 | 13 500 | 18 500 | 23 750 | 29 000 | 34 500 | 38 500 | 43 500 |
| 80 | 14 000 | 19 250 | 24 250 | 30 000 | 36 500 | 39 500 | 45 000 |
| 90 | 14 500 | 19 750 | 25 750 | 32 750 | 37 750 | 40 250 | 46 000 |

*BTU performance based on 7 GPM process flow @ 10 PSID
*Increase in flow, or delta-T will increase BTU output
*Max Aquatic side PSID at 90 GPM is 3 PSI
*Derating factors for 45F Propylene Glycol solutions: (20% PG - 0.96), (30% PG - 0.94), refer to PG tables for other oper temps & solutions.

## BTU PERFORMANCE CHART - 7 GPM @ 10 PSID

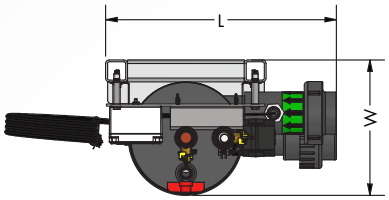
Aquatic (process) Flow (GPM) — Δ T OF AQUATIC WATER & HYDRONIC LOOP

| | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
|---|---|---|---|---|---|---|---|
| 10 | 6 750 | 9 000 | 11 250 | 13 875 | 17 250 | 18 750 | 19 500 |
| 20 | 10 125 | 13 500 | 16 125 | 20 250 | 24 375 | 26 625 | 29 250 |
| 30 | 12 000 | 15 750 | 20 250 | 24 000 | 29 250 | 32 250 | 35 625 |
| 40 | 13 500 | 17 625 | 22 875 | 27 375 | 32 250 | 36 750 | 40 125 |
| 50 | 14 625 | 19 500 | 24 750 | 30 375 | 35 625 | 39 750 | 44 625 |
| 60 | 15 750 | 21 000 | 26 625 | 32 250 | 37 875 | 42 000 | 48 000 |
| 70 | 16 500 | 22 125 | 27 750 | 34 500 | 39 750 | 44 250 | 51 375 |
| 80 | 16 500 | 23 625 | 29 250 | 36 000 | 41 250 | 45 750 | 54 375 |
| 90 | 17 250 | 24 375 | 30 750 | 37 500 | 42 375 | 47 250 | 57 000 |

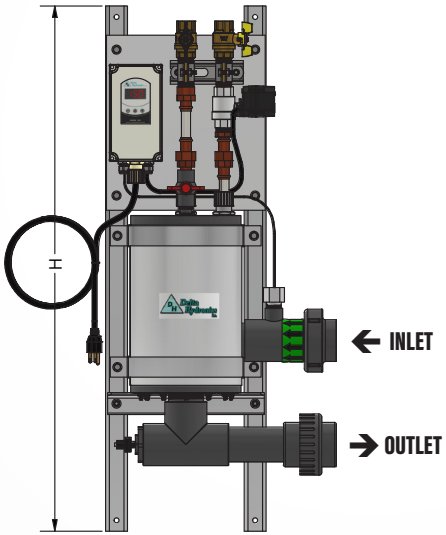
*BTU performance based on 5 GPM process flow @ 5 PSID
*Increase in flow, or delta-T will increase BTU output
*Max Aquatic side PSID at 90 GPM is 3 PSI
*Derating factors for 45F Propylene Glycol solutions: (20% PG - 0.96), (30% PG - 0.94), refer to PG tables for other oper temps & solutions.

## DIMENSIONS

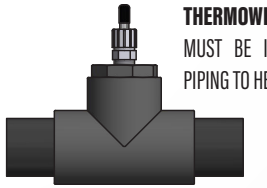
| Aquatic Connection Size | Process Connection Size | Length (L) | Width (W) | Max. Height (H) | Weight (lbs) |
|---|---|---|---|---|---|
| 2" | 3/4" | 15.5" | 11" | 36" | 18 |




PLAN VIEW

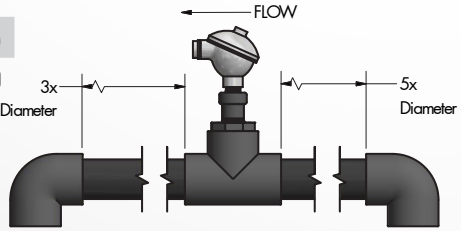



FRONT VIEW



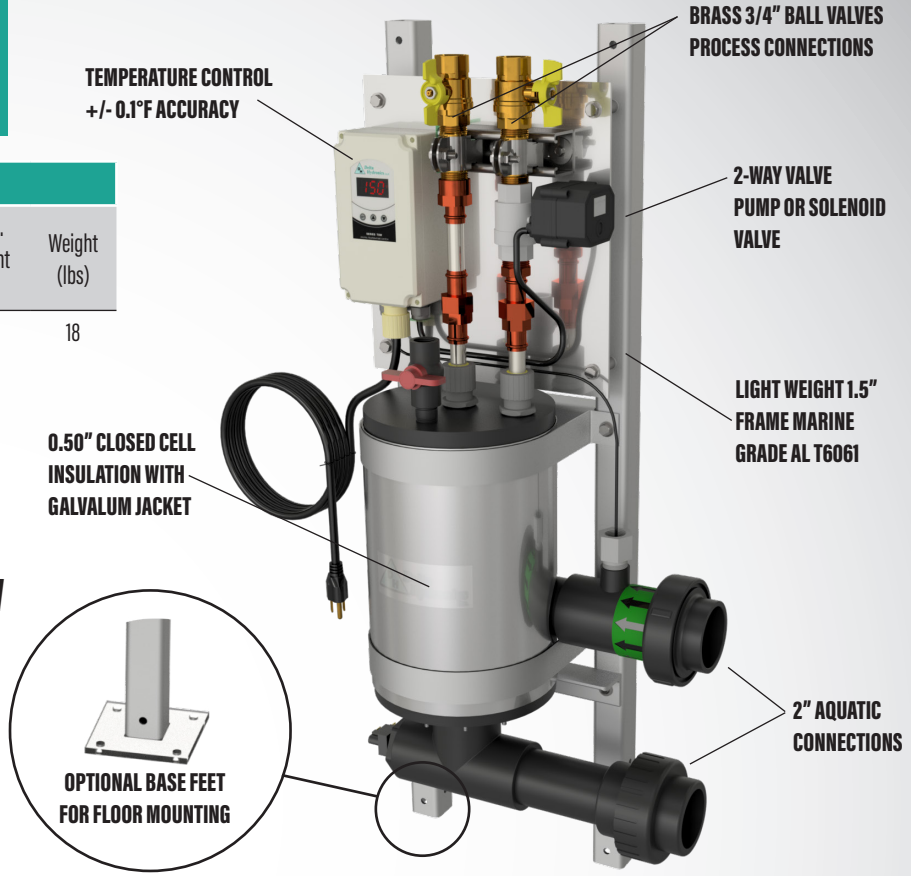
THERMOWELL
*INCLUDED*

**THERMOWELL NOTE:**
MUST BE INSTALLED ON INLET PIPING TO HEAT EXCHANGER.




FIELD INSTALLED FLOW SWITCH
*OPTIONAL*

**FLOW SWITCH NOTE:**
FLOW SWITCH MUST BE INSTALLED HORIZONTALLY ON INLET OF HEAT EXCHANGER, WITH MINIMUM STRAIGHT PIPE DISTANCES BEFORE AND AFTER AS SHOWN IN DRAWING. OPTIONAL FACTORY MOUNT & WIRE.




**NOTES:**

- Gr.2 TITANIUM TUBE HEAT EXCHANGER COIL
- INSULATED SCH80 PVC SHELL
- FRP SUPPORTS W/ 316SS HARDWARE
- TEMPERATURE CONTROLLER CAN BE SET +/- 0.1° F/C
- 120v CONTROLLER AND 2-WAY SOLENOID BALL-VALVE
- COMPLETELY REMOVABLE AND CLEANABLE SHELL & COIL

**OPTIONS:**

- FACTORY MOUNTED & WIRED FLOW SWITCH
- SCH 80 **CPVC** SHELL CONSTRUCTION (Recommended for Heating)
- LIMIT SAFETY SOLENOID VALVE
- FLOOR MOUNT BASE FEET
- FLOW SWITCH ASSEMBLY
- HW/CW FLOW METER
- PUMP OR 2-WAY VALVE FLOW CONTROL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