FLUID HANDLING INC

HYDRONICS | STEAM | SOLUTIONS

WHOLESALE PRODUCTS

LINE CARD - 2024

WHAT WE DO

We specialize in Steam, Chilled & Hot Water, Process Heating & Cooling, HVAC and Water/Energy conservation. Applications we can assist you with include (but not limited to):

Boilers (Steam & Hot Water)
Circulating Pumps
Commercial/Industrial Water Heating
Controls & Instrumentation
Closed Circuit Coolers
Condensers
Energy Conservation
Expansion Joints
Heat Exchangers & Heat Transfer Products
Hydronic Accessories & Specialties
Metal & Fabrication Joints
Pipe Motion Control
Pressure Vessels & Tanks

Pumps & Pumping Systems
Packaged Booster Systems
Radiant Floor Heating Systems
Steam & Condensate Handling Products
Steam Ancillary Products
Storage Tanks
Thermal Expansion Tanks
Venting
Water Quality & Filtration
Water Heating Systems
Waste Heat Recovery
and more...

FH INSTITUTE
PROFESSIONAL HVAC|STEAM EDUCATION AND TRAINING

SIGN UP AT WWW.FLUIDH.COM

Our classroom allows us to offer a variety of CEU and PDH courses in Pumping, HVAC and Steam-related topics. Come view and learn on our fully functioning, live Steam and Hot Water hands-on training display boards! In need of specific training? Let us know! We can come to you or host the class in our facility. At Fluid Handling, we strive on education.

Our Wholesale team can organize product training within your branch or at a contractor. We can even bring our classroom on wheels! Our trailer has two full hydronic systems set up inside for training purposes.

MANUFACTURERS WE REPRESENT

REFERENCES

CONVERSION FACTORS

MULTIPLY ⟶	BY ⟶	TO OBTAIN
Cubic Feet	7.48	Gallons
Gallons of Water	8.345	Lbs. of Water
Gallons of Water	0.1337	Cubic Feet
Feet of Water	0.432	PSI
Horsepower	33,000	Foot - Lbs.
Horsepower	0.746	KW
Horsepower	2545	Btu/hr
Horsepower (Boiler)	33,493	Btu/hr
In. of Mercury	1.13	Feet of Water
Kilograms	2.2	Pounds
KW	3413	Btu/hr
Liters	0.2642	Gallons
Parts/million	0.0584	Grains/US gal
Pounds	7,000	Grains
Pounds/sq. inch	2.036	Inches Mercury
Square Foot EDR	240	Btuh
TO OBTAIN ⟵	BY ⟵	DIVIDE

PROPERTIES OF SATURATED STEAM

Gauge Press. (lbs.)	Temp °F	Lat. Heat	Gauge Press. (lbs.)	Temp. °F	Lat. Heat
2	219	965	90	331	885
5	227	960	100	338	880
10	239	952	125	353	868
15	250	945	150	366	857
20	259	939	175	377	847
25	267	933	200	388	838
30	274	928	225	397	830
40	287	919	250	406	822
50	298	911	275	414	812
60	307	904	300	422	805
70	316	897	325	429	797
80	324	891	350	436	786

CONDENSATE PUMP SIZING

PUMPS:
1. Heating Load in Btu/hr _____
2. Load from Step 1 ÷ Latent Heat of available
   steam = _____ #/hr of condensate
3. #/hr condensate ÷ 500 = _____ GPM
   of condensate
4. Recommended Pump Capacity = _____
   (2.5 or 3.0) x Step 3 = _____ GPM
5. Pump Head = _____
   Static Llift in Feet _____
   + Friction Losses in Feet _____
   + Pressure in vessel that pump is pumping
   to_____ PSIG x 2.31 = _____
   = Total head required of pump = _____ Feet

RECEIVER: (Minimum)
Condensate:
1 minute x GPM from Step 4 = _____ Gallons

Boiler Feed:
1 Boiler Horsepower = 1 Gallon receiver cap. (gross)

Capacity of Cylindrical Tank (U.S. Gal.) =
diameter (in feet) squared x length (in feet) x 5.88

CALCULATING HEAT EXCHANGE LOADS

Q = 500 x GPM x (T2 - T1) x SP HT x SP GR

Typical Values for SP HT and SP GR:

| | At 20° F | | At 200°F | |
Fluid	SP HT	SP GR	SP HT	SP GR
Water	*	*	1.0	1.0
50% Eth Gly	.75	1.08	.87	1.02
40% Eth Gly	.81	1.06	.90	1.01
50% Prop Gly	.84	1.06	.92	.99
40% Prop Gly	.88	1.05	.95	.98
SAE 30 Oil	.41	.91	.52	.84
#6 Fuel Oil	.40	1.0	.49	.94
Soybean Oil	.41	.94	.51	.87
Therminol 66	.36	1.03	.44	.96

* Use 1.0 for temperatures of 32°F to 212°F.

USEFUL INFORMATION

Pump Hp =

$$\frac{(GPM \times Ft\ Head \times SP\ Gr)}{3960 \times Pump\ Efficiency}$$

Temperature Conversion
°F = (°C x 9/5) + 32   °C = (°F -32) x 5/9

CONNECT WITH US

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