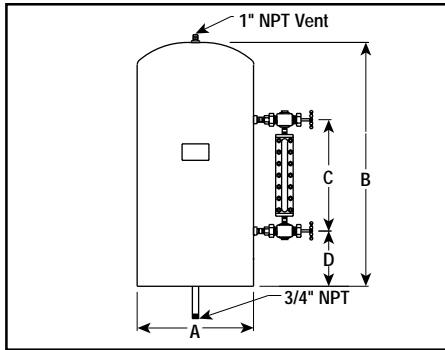


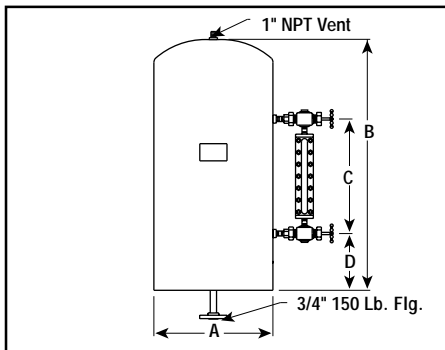
System Options Expansion Tanks

Dimensions (Inches)

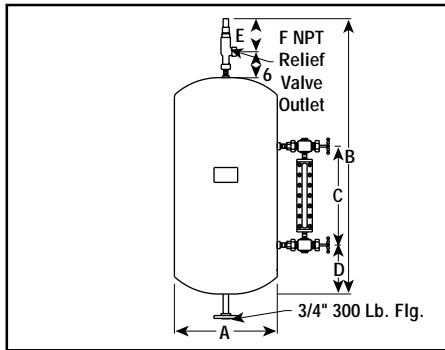
CWG



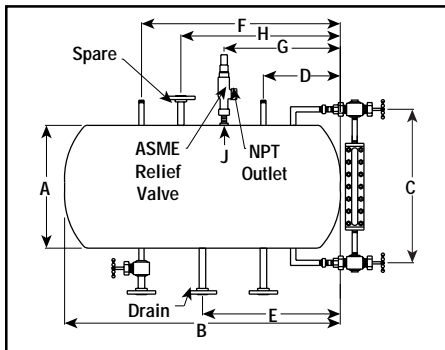
COS/PFC



CLD



CLS



Applications

An expansion tank is an essential component to all heat transfer systems. Heat transfer fluids expand with an increase in temperature. Expansion tanks allow for and contain the increase in volume due to temperature. In addition, cold expansion tanks provide a "seal" on the system reducing oxidation of the fluid. They also add to the net positive suction head (NPSH) on the inlet to the pump.

Sizing

Expansion tanks should be sized based on the amount of thermal expansion of the heat transfer fluid in the system. The actual size of the tank should be at least double the anticipated increase in fluid volume. Tank capacity should be increased if the process piping is extensive and contains a significant volume of fluid. The following tables indicate the typical tank sizes for most systems.

Steel Tanks Non-ASME rated 75 psig for CWG, COS and PFC Heat Transfer Systems — includes sight glass, 1" NPT vent and 3/4" NPT or 150 Lb. flanged system connection.

| Tank Capacity (Gal.) | Dimensions (In.) | | | | CWG | | | COS/PFC | | | Wt. Empty (Lbs.) |
|----------------------|------------------|--------|----|--------|---------|-----|-------|---------|---------------|----------|------------------|
| | A | B | C | D | kW | PCN | Stock | kW | PCN | Stock | |
| 12 | 12 | 25-1/2 | 14 | 5-3/4 | 6-18 | — | NS | 9-12 | 099944 | NS | 32 |
| 18 | 12 | 37-1/2 | 20 | 8-3/4 | 24-30 | — | NS | 15-30 | 099952 | NS | 44 |
| 30 | 16 | 38-1/4 | 20 | 9-1/8 | 40-100 | — | NS | 40 | 099960 | S | 65 |
| 42 | 20 | 35 | 20 | 7-1/2 | 125-200 | — | NS | 60-80 | 099979 | S | 80 |
| 80 | 20 | 63 | 38 | 12-1/2 | 250-400 | — | NS | 100-200 | 099987 | S | 120 |
| 115 | 24 | 63-3/8 | 38 | 12-1/2 | — | — | NS | 250-400 | 099995 | S | 145 |
| 215 | 30 | 73-3/8 | 38 | 17-1/8 | — | — | NS | 450-600 | — | NS | 210 |

Stock Status: S = stock AS = assembly stock NS = non-stock
To Order—Specify tank capacity, system type, kW, PCN and quantity.

Steel Tanks ASME rated 150 psig @ 650 F for CLD Heat Transfer Systems — includes ASME relief valve, reflex type sight glass and 3/4" 150 Lb. flanged system connection.

| Tank Capacity (Gal.) | Dimensions (In.) | | | | | | CLD | | | Wt. Empty (Lbs.) |
|----------------------|------------------|--------|--------|--------|---------|-------|---------|-----|-------|------------------|
| | A | B | C | D | E | F | kW | PCN | Stock | |
| 12 | 12 | 27 | 15 | 6 | 6-3/8 | 1 | 9-12 | — | NS | 50 |
| 18 | 12 | 39 | 22 | 8-1/2 | 6-3/8 | 1 | 15-30 | — | NS | 60 |
| 30 | 14 | 47 | 22 | 12-1/2 | 6-3/8 | 1 | 40 | — | NS | 70 |
| 42 | 16 | 50-1/2 | 22 | 14-1/2 | 6-3/8 | 1 | 60-80 | — | NS | 105 |
| 80 | 20 | 63 | 38-1/2 | 12-1/4 | 6-3/8 | 1 | 100-200 | — | NS | 205 |
| 120 | 24 | 65 | 38-1/2 | 12-1/4 | 7-13/16 | 1-1/4 | 250-400 | — | NS | 310 |

Stock Status: S = stock AS = assembly stock NS = non-stock
To Order—Specify tank capacity, system type, kW, PCN and quantity.

Steel Tanks ASME rated 200 psig @ 650 F for CLS Heat Transfer Systems — includes ASME relief valve, reflex type sight glass and two 1" 300 Lb. flanged system connections. Two 1/4" NPT fittings are provided for nitrogen (N₂) purge connections.

| Tank Capacity (Gal.) | Dimensions (In.) | | | | | | | | | CLS | | | Wt. Empty (Lbs.) |
|----------------------|------------------|----|----|----|----|----|----|----|-------|---------|-----|-------|------------------|
| | A | B | C | D | E | F | G | H | J | kW | PCN | Stock | |
| 12 | 12 | 28 | 20 | 12 | 16 | 20 | 15 | 18 | 1 | 9 | — | NS | 50 |
| 18 | 12 | 40 | 20 | 12 | 20 | 32 | 18 | 26 | 1 | 12-20 | — | NS | 60 |
| 30 | 14 | 47 | 22 | 12 | 24 | 39 | 20 | 32 | 1 | 30 | — | NS | 70 |
| 42 | 16 | 51 | 24 | 13 | 25 | 42 | 20 | 34 | 1 | 40 | — | NS | 105 |
| 80 | 20 | 63 | 28 | 14 | 31 | 50 | 22 | 40 | 1 | 60-80 | — | NS | 205 |
| 120 | 24 | 66 | 32 | 16 | 33 | 52 | 22 | 40 | 1 | 100-200 | — | NS | 310 |
| 160 | 24 | 86 | 32 | 16 | 43 | 72 | 28 | 58 | 1-1/4 | 250-300 | — | NS | 350 |
| 215 | 30 | 77 | 38 | 18 | 38 | 63 | 28 | 42 | 1-1/4 | 350-400 | — | NS | 405 |
| 250 | 30 | 88 | 38 | 18 | 44 | 74 | 28 | 58 | 1-1/2 | 500-600 | — | NS | 540 |

Stock Status: S = stock AS = assembly stock NS = non-stock
To Order—Specify tank capacity, system type, kW, PCN and quantity.

System Options

Cooling Modules

Float & Level Switches

Cooling Applications

Many processes require cooling as well as heating. Chromalox electric heat transfer systems can be designed with a cooling cycle using the same heat transfer fluid. This is accomplished by adding a water-cooled, air-cooled or refrigerated heat exchanger in the piping loop. By using mechanical refrigeration, systems can be designed to operate between -20 and 750°F (-28 and 398°C). Heat exchangers can be factory installed in CWG, COS, PFC, CLD and CLS systems.

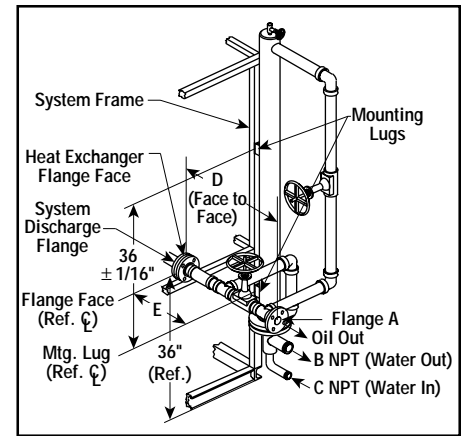
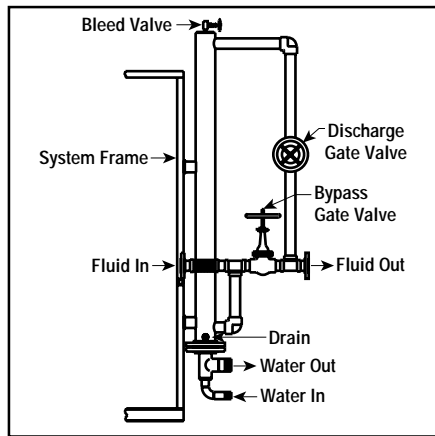
Stock Cooling Modules — On new or existing COS, PFC or PFV systems. Chromalox can supply an RJC type cooling module. RJC modules are oil-to-water heat exchangers providing rapid cool down of heat transfer fluid. RJC modules are designed as an “add on” to be installed in line with the system piping. The module can be bolted to the existing framework of the system and quickly connected in line with the discharge piping of the unit. Modules can be connected in series for additional cooling capacity.

Liquid Level Controls — A liquid level control or float switch can be mounted on an expansion tank to automatically shut down the heat transfer system in case of low fluid levels. Two different switches are available for non-

pressurized systems (CWG, COS and PFC) and for pressurized systems (CLD and CLS). They are available with NEMA IV weather resistant and NEMA VII explosion proof enclosures. The non-pressurized switch can be used with most heat transfer fluids having a minimum specific gravity of 0.85. The control designed for pressurized applications will work with all heat transfer fluids having a minimum specific gravity of 0.70.

Controls and Other Options — Specialized electronic and hydraulic control schemes are available using the latest proportional and digital control equipment. Contact your Local Chromalox Sales office for details on the many heat transfer equipment options and accessories.

Dimensions (Inches)

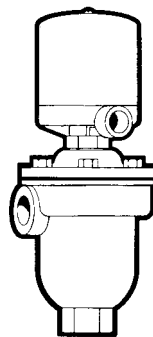


Specifications and Ordering Information

| Cooling Capacity Surface Area (Ft ²) | Piping Connections and Dimensions (In.) | | | | | Use With COS/CLD | kW | Model | Stock | PCN | Wt. (Lbs.) |
|--|---|-------|-------|--------|--------|------------------|-----------------|----------|---------------|-----|------------|
| | 1-1/2" Flg. (150 Lbs.) A | B | C | D | E | | | | | | |
| 10.8 | 1-1/2 | 1-1/2 | 1 | 29-1/2 | 14-1/8 | 9-30 | RJC-12M1.5 | NS | 106964 | 294 | |
| 10.8 | 2 | 1-1/2 | 1 | 29-1/2 | 14-1/8 | 40-80 | RJC-12M2 | NS | 106972 | 310 | |
| 19.78 | 2 | 2-1/2 | 1-1/4 | 29-1/2 | 13-1/8 | 40-80 | RJC-20M2 | NS | 106980 | 390 | |
| 25.35 | 2 | 2-1/2 | 1-1/4 | 29-1/2 | 13-1/8 | 40-80 | RJC-25M2 | S | 106999 | 442 | |
| 25.35 | 3 | 2-1/2 | 1-1/4 | 29-1/2 | 13-1/8 | 100-400 | RJC-25M3 | NS | — | 456 | |

Stock Status: S = stock AS = assembly stock NS = non-stock
To Order—Specify model, system type, kW, PCN and quantity.

Liquid Level Control



Note — For Non-Pressurized CWG, COS and PFC Systems and for Pressurized CLD and CLS Systems

To Order — Specify system model, electrical enclosure and expansion tank size.