



Legacy Chiller Systems, Inc.
www.Legacychillers.com
877-988-5464

AIR-COOLED CHILLERS



1 to 108
NOMINAL TONS

SEMI-HERMETIC
PACKAGED AND SPLIT-SYSTEMS

R407C
EPA COMPLIANT

NOMENCLATURE



Example: P AC L 301 S 6 - T3 - S

| | |
|-------------------|---|
| <u>P</u> | P = Packaged ES = Evaporator Section |
| <u>AC</u> | AC = Air-Cooled Condenser |
| <u>L</u> | L = Low Temp. Model Blank = Standard Unit |
| <u>301</u> | Nominal HP Ex. 301 = 30HP 010 = 1HP etc. |
| <u>S</u> | S = Single Circuit Unit D = Dual Circuit Unit M = Three Circuit Unit |
| <u>6</u> | 1 = R134a 3= R407C 6 = R404A, R507 |
| <u>T3</u> | Electrical Requirement S2 = 208/230-1-60 S6 = 220-1-50 T3 = 208/230-3-60 T7 = 200/208-3-50 S4 = 460-1-60 T9 = 380-3-50 T4 = 460-3-60 T5 = 575-3-60 |
| <u>S</u> | Compressor Type S = Semi-Hermetic |

Low ambient, or lower leaving water temperatures, can require the recirculation of glycol solutions or other fluid blends.

These solutions can effect unit capacities. Please consult the factory on these or other special applications for proper sizing.





Consult factory on sizing chillers with glycol or any fluid other than water.

AIR-COOLED SELECTION PROCEDURES

To properly select an air-cooled packaged chiller, the following information must be known:

1. The required cooling capacity, BTUH.
2. Delta T of entering and leaving fluid temperatures.
3. Fluid factor (ex. water = 500).
4. GPM of process fluid to be circulated.
5. Design ambient air temperature.

If you know any three of the items 1 through 4 above, you can calculate the fourth by using the formulas below.

For 100% water:

Cooling capacity (in BTUH) = GPM x Delta T x 500

$$\text{GPM} = \frac{\text{Capacity (in BTUH)}}{\text{Delta T} \times 500}$$

$$\text{Delta T} = \frac{\text{Capacity (in BTUH)}}{\text{GPM} \times 500}$$

Sample selection:

Select an air-cooled, packaged chiller to cool 58 GPM of 100% water from 54°F to 44°F. Design ambient air temperature 95°F.

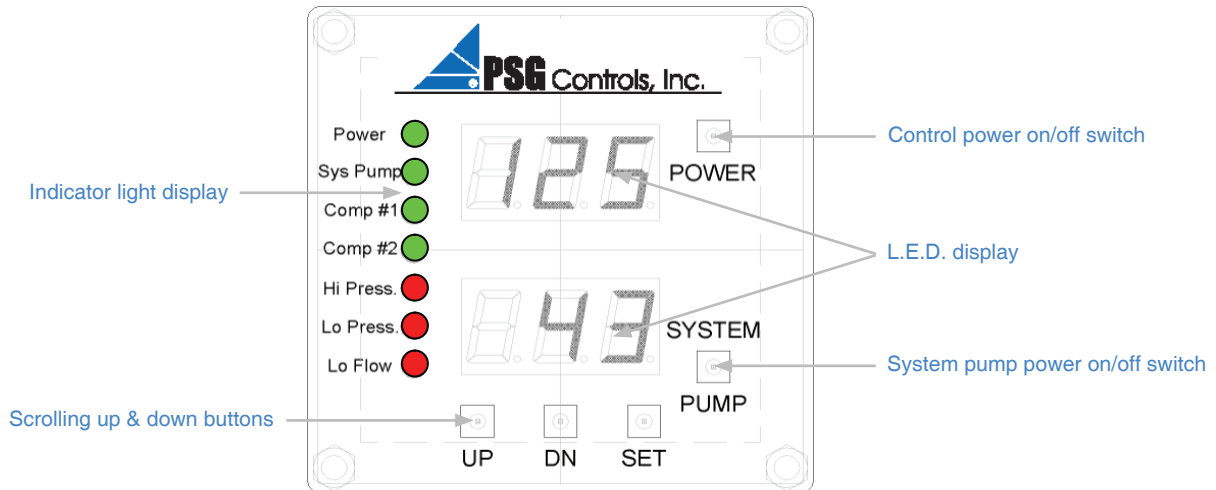
Find:

Air-cooled chiller model.

Solution:

1. Chilled fluid Delta T = 54°F - 44°F = 10°F
2. Capacity (in BTUH) = 58 GPM x 10°F Delta T x 500 = 290,000 BTUH
3. From the PAC chiller capacity tables, it can be determined that the PAC301S has the capacity to meet the requirements.

MICROPROCESSOR FEATURES



Standard Features

- Control operates to a +/- 1°F accuracy
- Powered from the chiller 24 volt control circuit. No high voltage interference.
- 1 or 2 compressor control capability
- Operates and displays in °F and °C
- Controls chiller on inlet or outlet temperature
- Scroll through set up and review mode
- 30-second compressor time delay to prevent short cycling and nuisance faults
- 60-second hot gas solenoid delay to prevent false hot gas feeding during compressor start up
- Lock out relay shuts down the chiller when control fault settings activate
- Automatic compressor lead lag on dual circuit chillers
- Weather resistant for outdoor use
- Basic chiller functionality for ease of set up and operation
- Factory configured for job site operation
- Factory default function code to reset the controller to the initial factory settings
- Two L.E.D. display windows
 - a) Inlet and outlet temperature during chiller operation
 - b) Displays refrigerant high and low pressure in review mode
 - 1) No cap tubes to break causing a loss of refrigerant and down time
 - 2) No refrigerant recovery to change out the pressure transducer
- Indicator lights
 - a) Chiller control power on/off switch with green indicator
 - b) System pump on/off switch with green indicator
 - c) Compressor run indicator lights
 - d) High and low refrigerant pressure red fault indicator
 - e) Low fluid flow red indicator
- Display flashes all chiller safety faults
 - a) High fluid temperature outlet alarm
Display only - does not shut the chiller down
 - b) Low fluid temperature outlet alarm
Shuts down the chiller and requires manual reset
 - c) High refrigerant pressure
Shuts down the chiller and requires manual reset
 - d) Low refrigerant pressure
Shuts down the chiller and requires manual reset
 - e) Low water flow through evaporator
Shuts down the chiller and automatically resets when flow is restored
- Monitors and logs compressor run hours

PAC SEMI-HERMETIC

R407C Packaged, Air-Cooled Chillers

Standard Features and Options

Standard Features *(all models)*

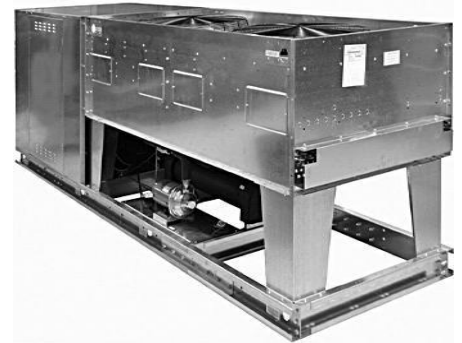
- **Microprocessor controller** (see page 8 for details)
- **24V control transformer**
- **Refrigerant suction accumulator**
- **(1-12HP) 316 STAINLESS STEEL**, copper brazed plate evaporator with 1/2" insulation and secured in a steel bracket
- **(15-120HP) Shell and tube chiller barrel**
- **Water flow switch**
- **Condenser fan and control circuit fusing**
- Semi-hermetic compressor with crankcase heater
- **Compressor vibration eliminators & spring isolator kit**
- Compressor oil safety control
- Compressor and condenser motor contactors
- **Fan cycle control (+40°F)**
- Rust resistant, high CFM, aluminum condenser fan blade
- Condenser(s): copper tube/aluminum fin
- **Condenser clean out ports**
- Liquid line drier, sightglass, solenoid, TEV
- Replaceable core liquid line drier (15 to 120HP)
- **Removable/hinged access panels**
- Galvanized steel sheet metal cabinet and base frame
- 1/2" insulation on all water and refrigerant suction lines
- **Complete refrigerant charge from factory**
- **Computerized factory run test under load conditions**

Available Options *(all models)*

- **ChillerGuard® Internet Interface Device**
- Compressor cylinder unloading 7.5HP and up
- Compressor fusing
- Fused disconnect
- Non-fused disconnect
- Flooded condenser with receiver/head pressure control (-20°F)
- Flooded condenser with heated receiver/head pressure control (-20°F)
- Factory installed evaporator heat tape freeze protection thermostatically controlled
- Special piping for de-ionized and reverse osmosis water systems
- Shell and tube chiller barrel (1 to 12HP)
- Fused, **STAINLESS STEEL** system process pump
- Pump isolation ball valve
- Dual system process pump with manual or auto changeover
- Water flow meter
- Phase monitor
- "Gold" finned condenser coil (*coastal protection*)
- "Copper" finned condenser coil (*coastal protection*)
- Heresite-coated condenser coil (*coastal protection*)
- 4 year extended compressor warranty
- **Hot gas by-pass capacity control with solenoid valve and time delay relay**
- **Factory-assisted start-up**

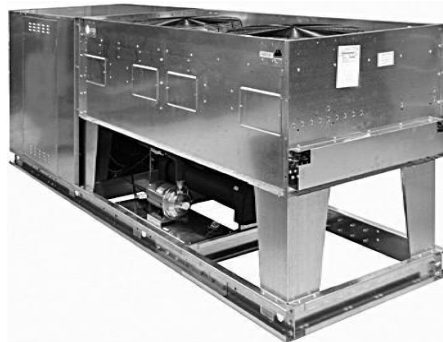


PAC500D Models *(shown)*



PAC150S Models *(shown)*

| MODEL | NOMINAL BTUH | LENGTH IN. | WIDTH IN. | HEIGHT IN. | FLUID CONN. | COMPRESSOR | | | RLA EA | LRA EA | FAN MOTOR | | MCA | M.O.P. | WT. LBS. |
|------------|--------------|------------|-----------|------------|-------------|------------|----|----------|--------|--------|-----------|---------|-----|--------|----------|
| | | | | | | QTY | HP | MODEL | | | QTY | FLA EA. | | | |
| 100S3-T3-S | 128,400 | 85 | 34 | 40 | 1.25" FPT | 1 | 10 | 3DB3R12M | 43.6 | 215 | 2 | 3.3 | 60 | 100 | 1000 |
| 100S3-T4-S | | | | | | | | | 20.0 | 106 | | 1.6 | 30 | 45 | |
| 100S3-T5-S | | | | | | | | | 16.5 | 84 | | 1.72 | 25 | 40 | |
| 120S3-T3-S | 145,200 | 145 | 44 | 54.5 | 1.5" FPT | 1 | 12 | 3DF3R15M | 48.1 | 275 | 2 | 3.3 | 70 | 110 | 1200 |
| 120S3-T4-S | | | | | | | | | 23.6 | 138 | | 1.6 | 30 | 50 | |
| 150S3-T3-S | 148,800 | 145 | 44 | 54.5 | 2" MPT | 1 | 15 | 3DS3R17M | 59.6 | 275 | 2 | 2.3 | 80 | 125 | 1600 |
| 150S3-T4-S | | | | | | | | | 29.0 | 138 | | 1.2 | 40 | 60 | |
| 150S3-T5-S | | | | | | | | | 23.6 | 110 | | 0.9 | 35 | 50 | |
| 200S3-T3-S | 171,600 | 145 | 44 | 54.5 | 2" MPT | 1 | 20 | 4DA3R18M | 66.6 | 308 | 2 | 2.3 | 90 | 150 | 1700 |
| 200S3-T4-S | | | | | | | | | 33.3 | 154 | | 1.2 | 45 | 80 | |
| 200S3-T5-S | | | | | | | | | 24.7 | 135 | | 0.9 | 35 | 50 | |
| 220S3-T3-S | 195,600 | 145 | 44 | 54.5 | 2" MPT | 1 | 22 | 4DB3R20M | 65.6 | 374 | 2 | 2.3 | 90 | 150 | 1700 |
| 220S3-T4-S | | | | | | | | | 32.8 | 187 | | 1.2 | 45 | 70 | |
| 220S3-T5-S | | | | | | | | | 26.5 | 135 | | 0.9 | 35 | 60 | |
| 250S3-T3-S | 223,200 | 183 | 44 | 54.5 | 2.5" MPT | 1 | 25 | 4DH3R22M | 82.1 | 428 | 3 | 2.3 | 110 | 175 | 1900 |
| 250S3-T4-S | | | | | | | | | 41.1 | 214 | | 1.2 | 60 | 90 | |
| 250S3-T5-S | | | | | | | | | 34.4 | 172 | | 0.9 | 50 | 80 | |
| 301S3-T3-S | 309,600 | 183 | 44 | 54.5 | 2.5" MPT | 1 | 30 | 6DB3R32M | 105.0 | 565 | 3 | 2.3 | 150 | 225 | 2050 |
| 301S3-T4-S | | | | | | | | | 52.5 | 283 | | 1.2 | 70 | 110 | |
| 301S3-T5-S | | | | | | | | | 40.0 | 230 | | 0.9 | 60 | 90 | |
| 351S3-T3-S | 321,600 | 183 | 44 | 54.5 | 2.5" MPT | 1 | 35 | 6B4709PH | 117.1 | 550 | 4 | 2.3 | 175 | 250 | 2400 |
| 351S3-T4-S | | | | | | | | | 58.6 | 275 | | 1.2 | 80 | 125 | |
| 351S3-T5-S | | | | | | | | | 46.4 | 220 | | 0.9 | 70 | 100 | |
| 400S3-T3-S | 352,000 | 143 | 84 | 54.5 | 3" MPT | 1 | 40 | 6B5406PH | 157.1 | 700 | 4 | 2.3 | 225 | 350 | 2900 |
| 400S3-T4-S | | | | | | | | | 78.6 | 350 | | 1.2 | 110 | 175 | |
| 400S3-T5-S | | | | | | | | | 62.9 | 280 | | 0.9 | 90 | 125 | |
| 500S3-T3-S | 441,600 | 183 | 84 | 54.5 | 3" MPT | 1 | 50 | 6B6462PH | 160.0 | 950 | 6 | 2.3 | 200 | 350 | 3100 |
| 500S3-T4-S | | | | | | | | | 80.0 | 425 | | 1.2 | 100 | 175 | |
| 500S3-T5-S | | | | | | | | | 63.6 | 340 | | 0.9 | 90 | 125 | |
| 600S3-T3-S | 540,000 | 183 | 84 | 54.5 | 3" MPT | 1 | 60 | 8DS3R67M | 224.3 | 1070 | 6 | 2.3 | 300 | 500 | 4900 |
| 600S3-T4-S | | | | | | | | | 112.1 | 535 | | 1.2 | 150 | 250 | |
| 600S3-T5-S | | | | | | | | | 80.0 | 405 | | 0.9 | 110 | 175 | |
| 700S3-T3-S | 650,400 | 183 | 84 | 54.5 | 3" MPT | 1 | 70 | 8C9400PH | 228.6 | 1288 | 8 | 2.3 | 350 | 500 | 5200 |
| 700S3-T4-S | | | | | | | | | 114.3 | 590 | | 1.2 | 175 | 250 | |
| 700S3-T5-S | | | | | | | | | 91.4 | 472 | | 0.9 | 125 | 200 | |

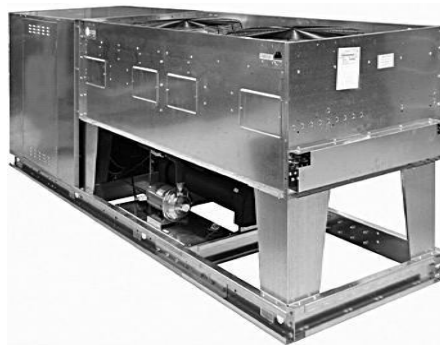


PAC SEMI-HERMETIC - DUAL CIRCUIT

R407C Packaged, Air-Cooled Chillers

Dimensional and Electrical Specifications

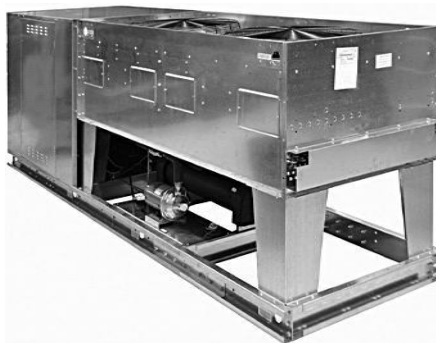
| MODEL | NOMINAL BTUH | LENGTH IN. | WIDTH IN. | HEIGHT IN. | FLUID CONN. | COMPRESSOR | | | RLA EA | LRA EA | FAN MOTOR | | MCA | M.O.P. | WT. LBS. | | | | | | | | | |
|-------------|--------------|------------|-----------|------------|-------------|------------|------|----------|--------|--------|-----------|---------|------|----------|----------|-----|----------|-------|-----|-----|------|-----|-----|------|
| | | | | | | QTY | HP | MODEL | | | QTY | FLA EA. | | | | | | | | | | | | |
| 150D3-T3-S | 188,400 | 145 | 44 | 54.5 | 2.5" MPT | 2 | 7.5 | 3DA3R10M | 41.0 | 215 | 2 | 2.3 | 100 | 125 | 1800 | | | | | | | | | |
| 150D3-T4-S | | | | | | | | 20.0 | 106 | 1.2 | | 50 | 60 | | | | | | | | | | | |
| 150D3-T5-S | | | | | | | | 16.4 | 84 | 0.9 | | 25 | 35 | | | | | | | | | | | |
| 200D3-T3-S | 222,000 | 183 | 44 | | | | 54.5 | 2.5" MPT | 2 | 10 | 3DB3R12M | 43.6 | 215 | 2 | 2.3 | 110 | 125 | 2100 | | | | | | |
| 200D3-T4-S | | | | | | | | | | | 20.0 | 106 | 1.2 | | 50 | 60 | | | | | | | | |
| 200D3-T5-S | | | | | | | | | | | 16.5 | 84 | 0.9 | | 25 | 35 | | | | | | | | |
| 240D3-T3-S | 265,200 | 183 | 44 | | | | | | | 54.5 | 2.5" MPT | 2 | 12 | 3DF3R15M | 48.1 | 275 | 3 | 2.3 | 125 | 150 | 2250 | | | |
| 240D3-T4-S | | | | | | | | | | | | | | 23.6 | 138 | 1.2 | | 60 | 80 | | | | | |
| 300D3-T3-S | | | | | | | | | | | | | | 59.6 | 275 | 2.3 | | 150 | 200 | | | | | |
| 300D3-T4-S | 300,000 | 143 | 84 | | | | | | | | | | 54.5 | 3" MPT | 2 | 15 | 3DS3R17M | 29.0 | 138 | 3 | 1.2 | 70 | 90 | 2600 |
| 300D3-T5-S | | | | | | | | | | | | | | | | | 23.6 | 110 | 0.9 | | 35 | 50 | | |
| 400D3-T3-S | | | | | | | | | | | | | | | | | 66.6 | 308 | 2.3 | | 175 | 225 | | |
| 400D3-T4-S | 339,600 | 143 | 84 | 54.5 | 3" MPT | 2 | | | | | | | | | | 20 | 4DA3R18M | 33.3 | 154 | 4 | 1.2 | 80 | 110 | 3100 |
| 400D3-T5-S | | | | | | | | | | | | | | | | | 24.7 | 135 | 0.9 | | 35 | 50 | | |
| 440D3-T3-S | | | | | | | | | | | | | | | | | 65.6 | 374 | 2.3 | | 175 | 200 | | |
| 440D3-T4-S | 392,400 | 183 | 84 | | | | 54.5 | 3" MPT | 2 | | | | | | | 22 | 4DB3R20M | 32.8 | 187 | 4 | 1.2 | 80 | 110 | 2900 |
| 440D3-T5-S | | | | | | | | | | | | | | | | | 26.5 | 135 | 0.9 | | 40 | 60 | | |
| 500D3-T3-S | | | | | | | | | | | | | | | | | 82.1 | 428 | 2.3 | | 200 | 250 | | |
| 500D3-T4-S | 446,400 | 183 | 84 | | | | | | | 54.5 | 3" MPT | 2 | | | | 25 | 4DH3R22M | 41.1 | 214 | 6 | 1.2 | 100 | 125 | 2900 |
| 500D3-T5-S | | | | | | | | | | | | | | | | | 34.4 | 172 | 0.9 | | 50 | 80 | | |
| 601D3-T3-S | | | | | | | | | | | | | | | | | 105.0 | 565 | 2.3 | | 250 | 350 | | |
| 601D3-T4-S | 627,600 | 223 | 89 | | | | | | | | | | 56.5 | 4" V | 2 | 30 | 6DB3R32M | 52.5 | 283 | 6 | 1.2 | 150 | 175 | 5500 |
| 601D3-T5-S | | | | | | | | | | | | | | | | | 40.0 | 230 | 0.9 | | 60 | 90 | | |
| 701D3-T3-S | | | | | | | | | | | | | | | | | 117.0 | 550 | 2.3 | | 300 | 400 | | |
| 701D3-T4-S | 650,400 | 228 | 89 | 56.5 | 4" V | 2 | | | | | | | | | | 35 | 6B4709PH | 58.6 | 275 | 8 | 1.2 | 150 | 200 | 5700 |
| 701D3-T5-S | | | | | | | | | | | | | | | | | 46.4 | 220 | 0.9 | | 125 | 150 | | |
| 800D3-T3-S | | | | | | | | | | | | | | | | | 157.1 | 700 | 2.3 | | 400 | 500 | | |
| 800D3-T4-S | 720,000 | 228 | 89 | | | | 56.5 | 4" V | 2 | | | | | | | 40 | 6B5406PH | 78.6 | 350 | 6 | 1.2 | 175 | 250 | 5800 |
| 800D3-T5-S | | | | | | | | | | | | | | | | | 62.9 | 280 | 0.9 | | 150 | 200 | | |
| 1000D3-T3-S | | | | | | | | | | | | | | | | | 160.0 | 950 | 6.6 | | 400 | 550 | | |
| 1000D3-T4-S | 879,600 | 283 | 89 | | | | | | | 56.5 | 5" V | 2 | | | | 50 | 6B6462PH | 80.0 | 425 | 6 | 3.1 | 200 | 250 | 6400 |
| 1000D3-T5-S | | | | | | | | | | | | | | | | | 63.6 | 340 | 2.5 | | 150 | 200 | | |
| 1200D3-T3-S | | | | | | | | | | | | | | | | | 224.3 | 1070 | 6.6 | | 600 | 700 | | |
| 1200D3-T4-S | 1,060,000 | 338 | 89 | | | | | | | | | | 56.5 | 5" V | 2 | 60 | 8DS3R67M | 112.1 | 535 | 8 | 3.1 | 300 | 350 | 6500 |
| 1200D3-T5-S | | | | | | | | | | | | | | | | | 80.0 | 405 | 2.5 | | 200 | 250 | | |
| 1400D3-T3-S | | | | | | | | | | | | | | | | | 228.6 | 1288 | 6.6 | | 600 | 800 | | |
| 1400D3-T4-S | 1,295,000 | 338 | 89 | 56.5 | 5" V | 2 | | | | | | | | | | 70 | 8C9400PH | 114.3 | 590 | 10 | 3.1 | 300 | 400 | 8500 |
| 1400D3-T5-S | | | | | | | | | | | | | | | | | 91.4 | 472 | 2.5 | | 250 | 300 | | |



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| MODEL | NOMINAL BTUH | L IN. | W IN. | H IN. | FLUID CONN. | REFRIG. CONN. | | COMPRESSOR | | | RLA EA | LRA EA | FAN MOTOR | | MCA | M.O.P. | WT. LBS. | CONDENSER SELECTION |
|------------|--------------|-------|-------|-----------|-------------|---------------|--------|------------|----------|-------|--------|--------|-----------|---------|-----|--------|----------|---------------------|
| | | | | | | DISCH. | LIQUID | QTY | HP | MODEL | | | QTY | FLA EA. | | | | |
| 100S3-T3-S | 128,400 | 65 | 42 | 1.25" FPT | 1 1/8" | 5/8" | 1 | 10 | 3DB3R12M | 43.6 | 215 | 2 | 3.3 | 60 | 100 | 800 | CS120S | |
| 100S3-T4-S | | | | | | | | | | 20.0 | 106 | | 1.6 | 30 | 45 | | | |
| 100S3-T5-S | | | | | | | | | | 16.5 | 84 | | 1.72 | 25 | 40 | | | |
| 120S3-T3-S | 145,200 | 65 | 42 | 1.25" FPT | 1 1/8" | 5/8" | 1 | 12 | 3DF3R15M | 48.1 | 275 | 2 | 3.3 | 70 | 110 | 825 | CS120S | |
| 120S3-T4-S | | | | | | | | | | 23.6 | 138 | | 1.6 | 30 | 50 | | | |
| 150S3-T3-S | 148,800 | 65 | 42 | 1.25" FPT | 1 1/8" | 5/8" | 1 | 15 | 3DS3R17M | 59.6 | 275 | 2 | 2.3 | 80 | 125 | 850 | DCM016 | |
| 150S3-T4-S | | | | | | | | | | 29.0 | 138 | | 1.2 | 40 | 60 | | | |
| 150S3-T5-S | | | | | | | | | | 23.6 | 110 | | 0.9 | 35 | 50 | | | |
| 200S3-T3-S | 171,600 | 65 | 42 | 2" MPT | 1 1/8" | 5/8" | 1 | 20 | 4DA3R18M | 66.6 | 308 | 2 | 2.3 | 90 | 150 | 950 | DCM020 | |
| 200S3-T4-S | | | | | | | | | | 33.3 | 154 | | 1.2 | 45 | 80 | | | |
| 200S3-T5-S | | | | | | | | | | 24.7 | 135 | | 0.9 | 35 | 50 | | | |
| 220S3-T3-S | 195,600 | 65 | 42 | 2" MPT | 1 3/8" | 7/8" | 1 | 22 | 4DB3R20M | 65.6 | 374 | 2 | 2.3 | 90 | 150 | 1000 | DCM024 | |
| 220S3-T4-S | | | | | | | | | | 32.8 | 187 | | 1.2 | 45 | 70 | | | |
| 220S3-T5-S | | | | | | | | | | 26.5 | 135 | | 0.9 | 35 | 60 | | | |
| 250S3-T3-S | 223,200 | 65 | 42 | 2" MPT | 1 3/8" | 7/8" | 1 | 25 | 4DH3R22M | 82.1 | 428 | 3 | 2.3 | 110 | 175 | 1000 | DCM030 | |
| 250S3-T4-S | | | | | | | | | | 41.1 | 214 | | 1.2 | 60 | 90 | | | |
| 250S3-T5-S | | | | | | | | | | 34.4 | 172 | | 0.9 | 50 | 80 | | | |
| 301S3-T3-S | 309,600 | 65 | 42 | 2.5" MPT | 1 3/8" | 7/8" | 1 | 30 | 6DB3R32M | 105.0 | 565 | 3 | 2.3 | 150 | 225 | 1100 | DCM035 | |
| 301S3-T4-S | | | | | | | | | | 52.5 | 283 | | 1.2 | 70 | 110 | | | |
| 301S3-T5-S | | | | | | | | | | 40.0 | 230 | | 0.9 | 60 | 90 | | | |
| 351S3-T3-S | 321,600 | 65 | 42 | 2.5" MPT | 1 5/8" | 7/8" | 1 | 35 | 6B4709PH | 117.1 | 550 | 4 | 2.3 | 175 | 250 | 1300 | DCM040 | |
| 351S3-T4-S | | | | | | | | | | 58.6 | 275 | | 1.2 | 80 | 125 | | | |
| 351S3-T5-S | | | | | | | | | | 46.4 | 220 | | 0.9 | 70 | 100 | | | |
| 400S3-T3-S | 352,000 | 65 | 42 | 2.5" MPT | 1 5/8" | 7/8" | 1 | 40 | 6B5406PH | 157.1 | 700 | 4 | 2.3 | 225 | 350 | 1400 | DCM040 | |
| 400S3-T4-S | | | | | | | | | | 78.6 | 350 | | 1.2 | 110 | 175 | | | |
| 400S3-T5-S | | | | | | | | | | 62.9 | 280 | | 0.9 | 90 | 125 | | | |
| 500S3-T3-S | 441,600 | 65 | 42 | 3" MPT | 1 1/8" | 7/8" | 1 | 50 | 6B6462PH | 160.0 | 950 | 6 | 2.3 | 200 | 350 | 1600 | DCM060 | |
| 500S3-T4-S | | | | | | | | | | 80.0 | 425 | | 1.2 | 100 | 175 | | | |
| 500S3-T5-S | | | | | | | | | | 63.6 | 340 | | 0.9 | 90 | 125 | | | |
| 600S3-T3-S | 540,000 | 65 | 42 | 3" MPT | 1 1/8" | 7/8" | 1 | 60 | 8DS3R67M | 224.3 | 1070 | 6 | 2.3 | 300 | 500 | 1700 | DCM060 | |
| 600S3-T4-S | | | | | | | | | | 112.1 | 535 | | 1.2 | 150 | 250 | | | |
| 600S3-T5-S | | | | | | | | | | 80.0 | 405 | | 0.9 | 110 | 175 | | | |
| 700S3-T3-S | 650,400 | 65 | 42 | 3" MPT | 2 1/8" | 7/8" | 1 | 70 | 8C9400PH | 228.6 | 1288 | 8 | 2.3 | 350 | 500 | 1950 | DCM082 | |
| 700S3-T4-S | | | | | | | | | | 114.3 | 590 | | 1.2 | 175 | 250 | | | |
| 700S3-T5-S | | | | | | | | | | 91.4 | 472 | | 0.9 | 125 | 200 | | | |

- See Bulletin D50-DCM-PDI-1 for condenser section specifications.
- See Installation Instruction Manual Refrigerant Chart for additional refrigerant charge needed for extended pipe length.



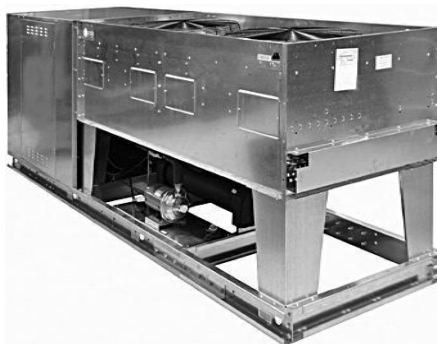
ES - DUAL CIRCUIT

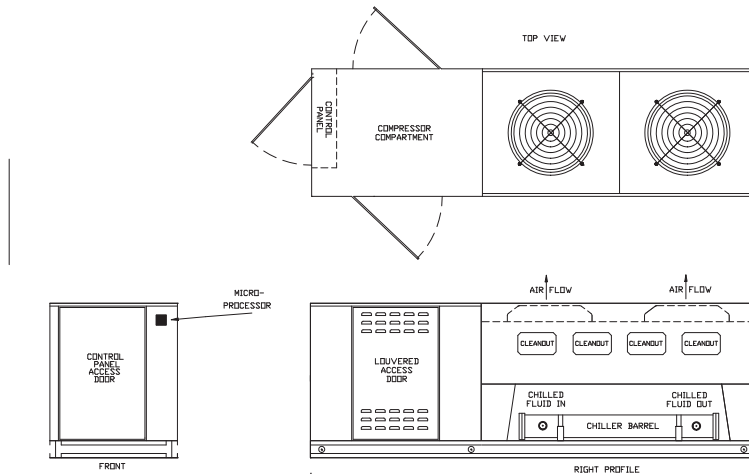
R407C Split-System, Air-Cooled Chillers

Dimensional and Electrical Specifications

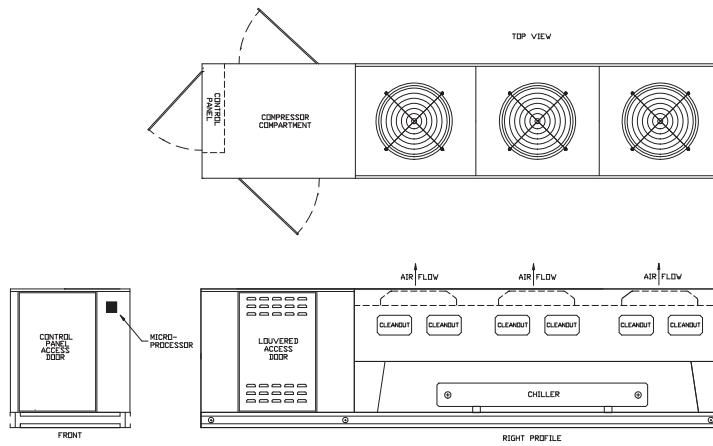
| MODEL | NOMINAL BTUH | L IN. | W IN. | H IN. | FLUID CONN. | REFRIG. CONN. | | COMPRESSOR | | | RLA EA | LRA EA | FAN MOTOR | | MCA | M.O.P. | WT. LBS. | CONDENSER SELECTION |
|-------------|--------------|-------|-------|-------|-------------|---------------|--------|------------|----------|-------|--------|--------|-----------|---------|-----|--------|----------|---------------------|
| | | | | | | DISCH. | LIQUID | QTY | HP | MODEL | | | QTY | FLA EA. | | | | |
| 150D3-T3-S | 188,400 | 85 | 34 | 42 | 2.5" MPT | 7/8" | 5/8" | 7.5 | 3DA3R10M | 41.0 | 215 | 2 | 2.3 | 100 | 125 | 1100 | DCM020 | |
| 150D3-T4-S | | | | | | | | | | 20.0 | 106 | | 1.2 | 50 | 60 | | | |
| 150D3-T5-S | | | | | | | | | | 16.4 | 84 | | 0.9 | 25 | 35 | | | |
| 200D3-T3-S | 222,000 | 85 | 34 | 42 | 2.5" MPT | 1 1/8" | 5/8" | 10 | 3DB3R12M | 43.6 | 215 | 2 | 2.3 | 110 | 125 | 1200 | DCM024 | |
| 200D3-T4-S | | | | | | | | | | 20.0 | 106 | | 1.2 | 50 | 60 | | | |
| 200D3-T5-S | | | | | | | | | | 16.5 | 84 | | 0.9 | 25 | 35 | | | |
| 240D3-T3-S | 265,200 | 85 | 34 | 42 | 2.5" MPT | 1 1/8" | 5/8" | 12 | 3DF3R15M | 48.1 | 275 | 3 | 2.3 | 125 | 150 | 1300 | DCM030 | |
| 240D3-T4-S | | | | | | | | | | 23.6 | 138 | | 1.2 | 60 | 80 | | | |
| 300D3-T3-S | | | | | | | | | | 59.6 | 275 | | 2.3 | 150 | 200 | | | |
| 300D3-T4-S | 300,000 | 85 | 34 | 42 | 2.5" MPT | 1 1/8" | 5/8" | 15 | 3DS3R17M | 29.0 | 138 | 3 | 1.2 | 70 | 90 | 1500 | DCM035 | |
| 300D3-T5-S | | | | | | | | | | 23.6 | 110 | | 0.9 | 35 | 50 | | | |
| 400D3-T3-S | | | | | | | | | | 66.6 | 308 | | 2.3 | 175 | 225 | | | |
| 400D3-T4-S | 339,600 | 85 | 34 | 42 | 2.5" MPT | 1 1/8" | 5/8" | 20 | 4DA3R18M | 33.3 | 154 | 4 | 1.2 | 80 | 110 | 1650 | DCM040 | |
| 400D3-T5-S | | | | | | | | | | 24.7 | 135 | | 0.9 | 35 | 50 | | | |
| 440D3-T3-S | | | | | | | | | | 65.6 | 374 | | 2.3 | 175 | 200 | | | |
| 440D3-T4-S | 392,400 | 85 | 34 | 42 | 2.5" MPT | 1 3/8" | 7/8" | 22 | 4DB3R20M | 32.8 | 187 | 4 | 1.2 | 80 | 110 | 1700 | DCM047 | |
| 440D3-T5-S | | | | | | | | | | 26.5 | 135 | | 0.9 | 40 | 60 | | | |
| 500D3-T3-S | | | | | | | | | | 82.1 | 428 | | 2.3 | 200 | 250 | | | |
| 500D3-T4-S | 446,400 | 85 | 34 | 60 | 3" MPT | 1 3/8" | 7/8" | 25 | 4DH3R22M | 41.1 | 214 | 6 | 1.2 | 100 | 125 | 1800 | DCM060 | |
| 500D3-T5-S | | | | | | | | | | 34.4 | 172 | | 0.9 | 50 | 80 | | | |
| 601D3-T3-S | | | | | | | | | | 105.0 | 565 | | 2.3 | 250 | 350 | | | |
| 601D3-T4-S | 627,600 | 85 | 34 | 60 | 3" MPT | 1 3/8" | 7/8" | 30 | 6DB3R32M | 52.5 | 283 | 6 | 1.2 | 150 | 175 | 1900 | DCM070 | |
| 601D3-T5-S | | | | | | | | | | 40.0 | 230 | | 0.9 | 60 | 90 | | | |
| 701D3-T3-S | | | | | | | | | | 117.0 | 550 | | 2.3 | 300 | 400 | | | |
| 701D3-T4-S | 650,400 | 85 | 34 | 60 | 3" MPT | 1 3/8" | 7/8" | 35 | 6B4709PH | 58.6 | 275 | 8 | 1.2 | 150 | 200 | 2000 | DCM082 | |
| 701D3-T5-S | | | | | | | | | | 46.4 | 220 | | 0.9 | 125 | 150 | | | |
| 800D3-T3-S | | | | | | | | | | 157.1 | 700 | | 2.3 | 400 | 500 | | | |
| 800D3-T4-S | 720,000 | 85 | 34 | 60 | 4" V | 1 3/8" | 7/8" | 40 | 6B5406PH | 78.6 | 350 | 8 | 1.2 | 175 | 250 | 2400 | DCM095 | |
| 800D3-T5-S | | | | | | | | | | 62.9 | 280 | | 0.9 | 150 | 200 | | | |
| 1000D3-T3-S | | | | | | | | | | 160.0 | 950 | | 6.6 | 400 | 550 | | | |
| 1000D3-T4-S | 879,600 | 85 | 34 | 60 | 4" V | 1 1/8" | 7/8" | 50 | 6B6462PH | 80.0 | 425 | 6 | 3.1 | 200 | 250 | 2800 | DCL-112 | |
| 1000D3-T5-S | | | | | | | | | | 63.6 | 340 | | 2.5 | 150 | 200 | | | |
| 1200D3-T3-S | | | | | | | | | | 224.3 | 1070 | | 6.6 | 600 | 700 | | | |
| 1200D3-T4-S | 1,060,000 | 85 | 34 | 66 | 5" V | 2 1/8" | 7/8" | 60 | 8DS3R67M | 112.1 | 535 | 8 | 3.1 | 300 | 350 | 3000 | DCL-137 | |
| 1200D3-T5-S | | | | | | | | | | 80.0 | 405 | | 2.5 | 200 | 250 | | | |
| 1400D3-T3-S | | | | | | | | | | 228.6 | 1288 | | 6.6 | 600 | 800 | | | |
| 1400D3-T4-S | 1,295,000 | 85 | 34 | 66 | 5" V | 2 1/8" | 7/8" | 70 | 8C9400PH | 114.3 | 590 | 10 | 3.1 | 300 | 400 | 3200 | DCL-167 | |
| 1400D3-T5-S | | | | | | | | | | 91.4 | 472 | | 2.5 | 250 | 300 | | | |

1. See Bulletin D50-DCL-PDI for condenser section specifications.
2. For ES1000D and 1200D models, use D050-DVC-PDI-28 for condenser specifications.
3. See Installation Instruction Manual Refrigerant Chart for additional refrigerant charge needed for extended pipe length.

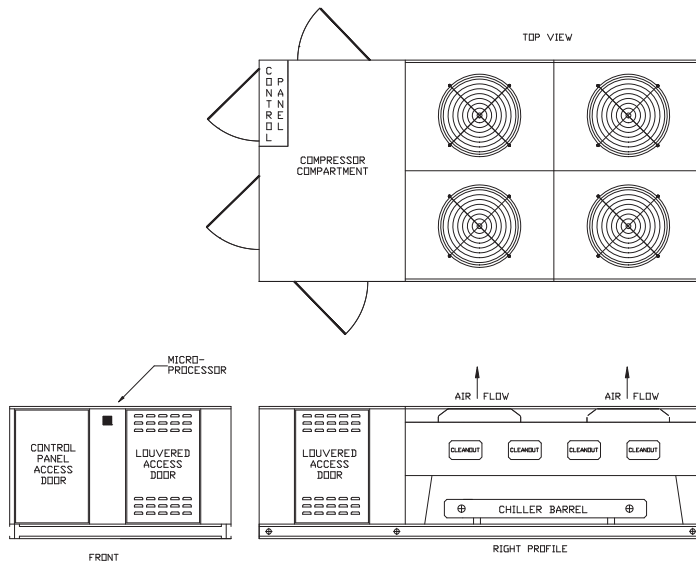




PAC150S, 200S, 220S, 150D & 200D SEMI-HERMETIC



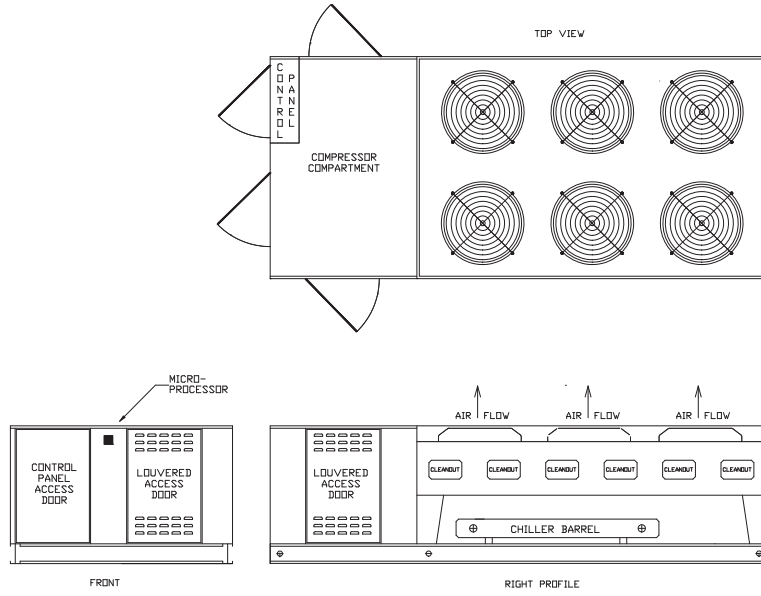
PAC250S, 301S, 240D & 300D SEMI-HERMETIC



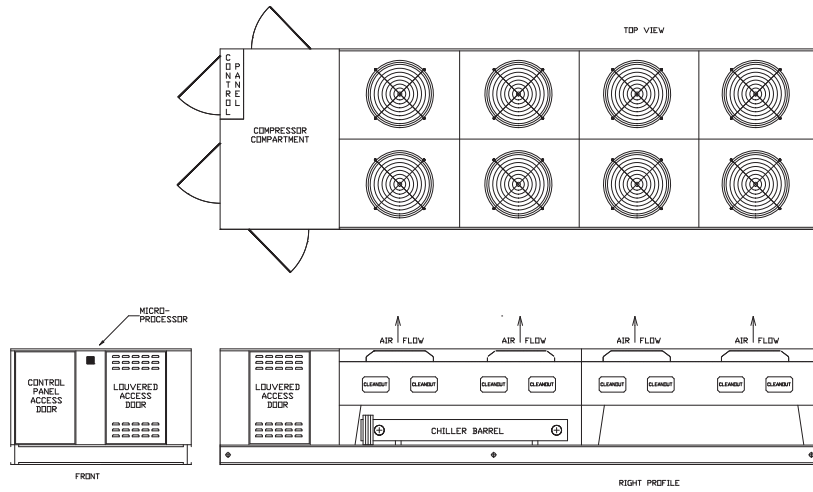
PAC351S, 400S, 400D & 400D SEMI-HERMETIC

PAC SEMI-HERMETIC
R407C Packaged, Air-Cooled Chillers

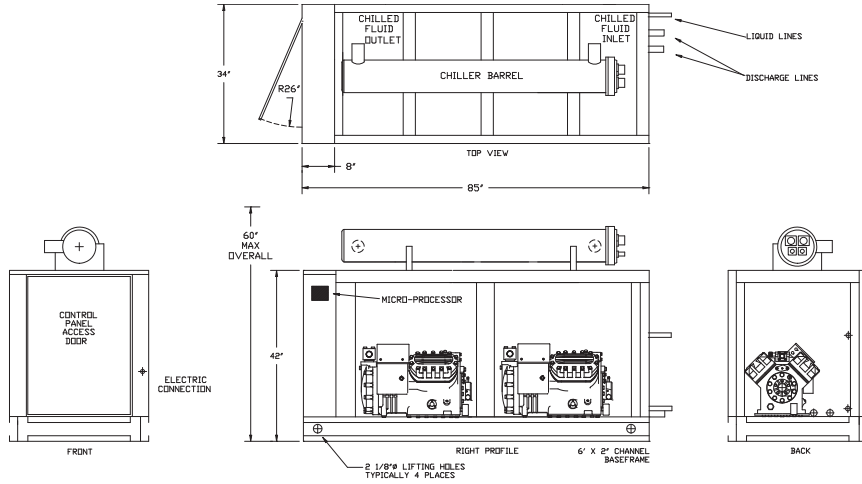
Schematical Drawings



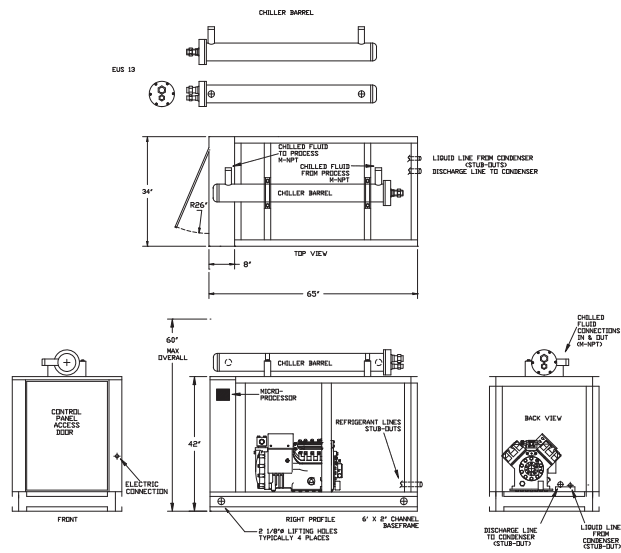
PAC500S, 600S, 700S, 500D 601D & 1000D SEMI-HERMETIC



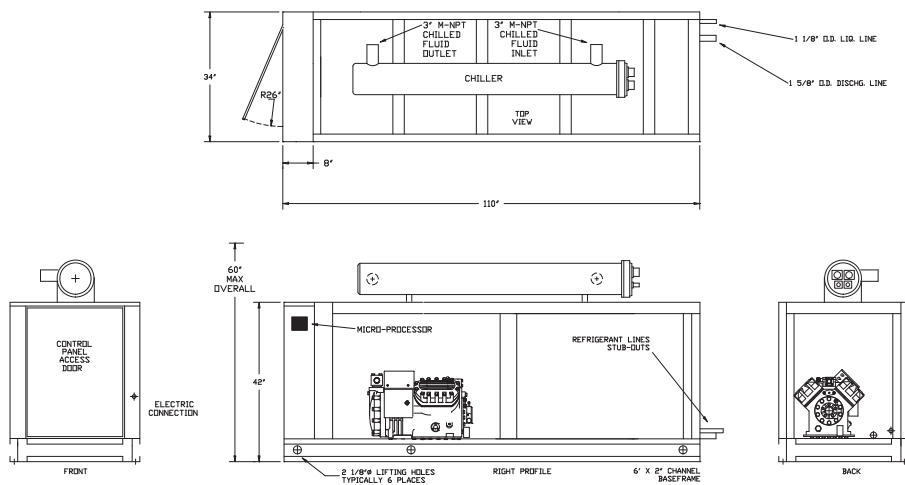
PAC701D, 800D & 1200D SEMI-HERMETIC



ES150D, 200D, 240D, 300D, 400D, 440D & 500D SEMI-HERMETIC



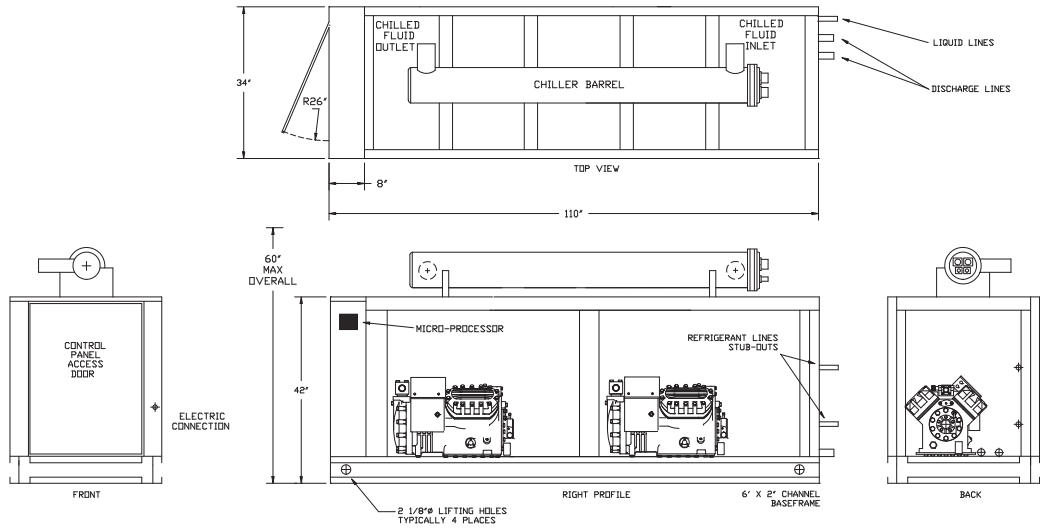
ES150S, 200S, 220S, 250S & 301S SEMI-HERMETIC



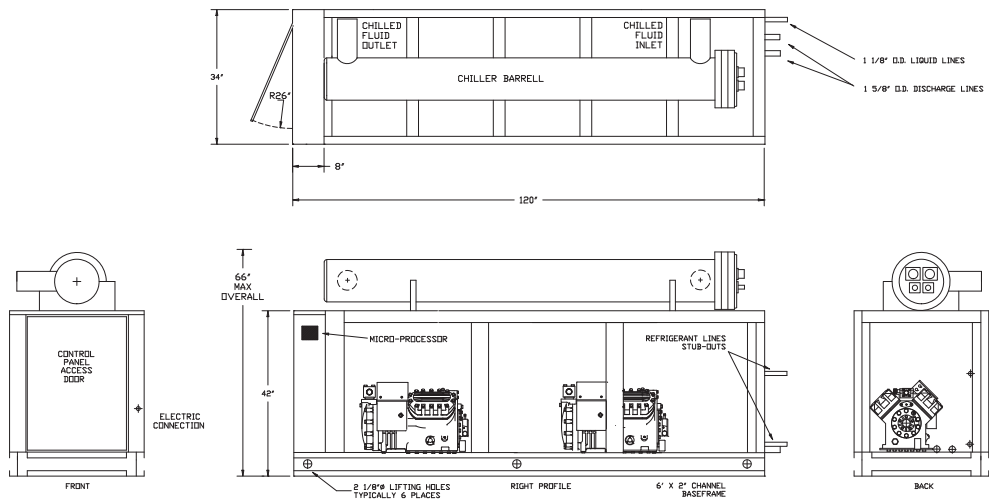
ES500S & 600S SEMI-HERMETIC

ES SEMI-HERMETIC
R407C Split-System, Air-Cooled Chillers

Schematical Drawings



ES601D, 701D & 800D SEMI-HERMETIC



ES1000D & 1200D SEMI-HERMETIC

TANK SECTION

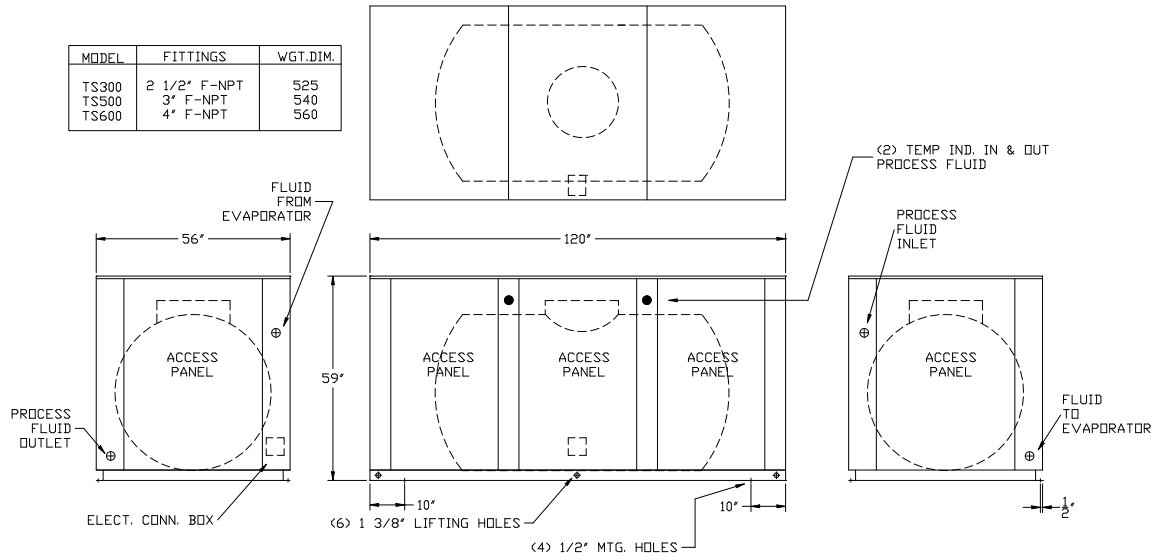
| MODEL | LENGTH IN. | WIDTH IN. | HEIGHT IN. | WATER CONN. | TANK CAPACITY | RECIRCULATION PUMP | FLA 230/3Ø | FLA 460/3Ø | WT. LBS. |
|--------|------------|-----------|------------|-------------|---------------|--------------------|------------|------------|----------|
| TS200S | 120 | 56 | 59 | 1 1/2" FPT | 200 GALLONS | 2HP | 6.4 | 3.2 | 500 |
| TS300S | | | | 2" FPT | 300 GALLONS | | | | 525 |
| TS500S | | | | 3" FPT | 500 GALLONS | 3HP | 9.4 | 4.5 | 540 |
| TS600S | | | | 4" FPT | 600 GALLONS | | | | 560 |

Standard Features

- Open, vented polyethylene storage tank
- 1/2" tank and fluid piping insulation
- Copper fluid piping
- Tank vent and drain connections
- Fused evaporator fluid re-circulating STAINLESS STEEL pump
- Fluid pump discharge ball valve and cleanable "Y" strainer
- Control box with pump terminal block
- Painted, galvanized steel sheet metal cabinet
- 24 volt L.E.D. process fluid thermometers

Available Options

- STAINLESS STEEL (welded) tank
- Water flow meter
- Fused, STAINLESS STEEL process pump
- Tank fluid sight glass
- Tank liquid level indicator with dry contacts
- Special piping for de-ionized and reverse osmosis water systems
- STAINLESS STEEL sheet metal cabinet
- 1" tank and piping insulation
- Seal-tight electrical connections
- Low flow by-pass loop



TS300 - 600S

GLYCOL FACTOR TABLES

PROPYLENE GLYCOL CAPACITY CORRECTION FACTOR TABLE

| PERCENT PROPYLENE GLYCOL BY WEIGHT | 15% | 20% | 25% | 30% | 35% | 40% | 50% |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| FREEZING POINT IN °F | 24 | 18 | 15 | 9 | 5 | -5 | -30 |
| CAPACITY FACTOR MULTIPLIER* | 0.992 | 0.986 | 0.972 | 0.960 | 0.950 | 0.928 | 0.878 |
| PRESSURE DROP MULTIPLIER | 1.04 | 1.08 | 1.13 | 1.21 | 1.26 | 1.47 | 2.79 |

ETHYLENE GLYCOL CAPACITY CORRECTION FACTOR TABLE

| PERCENT ETHYLENE GLYCOL BY WEIGHT | 10% | 15% | 20% | 25% | 30% | 35% | 40% |
|------------------------------------|------|------|------|------|------|------|------|
| FREEZING POINT IN °F | 25 | 21 | 17 | 11 | 5 | 0 | -10 |
| CAPACITY FACTOR MULTIPLIER* | 0.98 | 0.96 | 0.95 | 0.93 | 0.92 | 0.91 | 0.89 |
| PRESSURE DROP MULTIPLIER | 1.08 | 1.11 | 1.16 | 1.21 | 1.27 | 1.32 | 1.38 |

* At standard ARI 590 conditions: 54°F entering fluid temperature, 44°F leaving fluid temperature, 95°F ambient temperature, 0.0005 fouling.

