DeltaPro

Air Cooled Chillers

1 to 108 Nominal Tons

R407C Semi - Hermetic Packaged and Split Systems

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Table of Contents

Along with a complete line of standard products that DeltaPro, Inc. offers, we also have the ability to custom build units to each customer's particular needs.

Please contact your representative for a special application.

Due to manufacturer's policy of continuous product improvement, the manufacturer reserves the right to make changes without notice. Drawings in this booklet are representations of the equipment shown.

Contact the factory for specific unit drawings

NOMENCLATURE

Example: ACC 601 1 5 – T8 – SH- PKG

ACC ACC = Air-Cooled Condenser

L = Low Temp. Model (leave blank)= Standard Unit

601 Nominal HP Ex. 601 = 60HP 010 = 1HP etc.

1 1 = Single Circuit Unit 2 = Dual Circuit Unit 3 = Three Circuit Unit

5 4 = R134a 5= R407C 6 = R404A, R507

T8 Electrical Requirement

S6 = 208/230-1-60 S7 = 220-1-50

T7 = 208/230-3-60 T10 = 200/208-3-50

S8 = 460-1-60 T11 = 380-3-50

T8 = 460-3-60

T9 = 575-3-60

SH Compressor Type SH = Semi-Hermetic

PKG PKG = Packaged IES = Insulated Evaporator Section

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

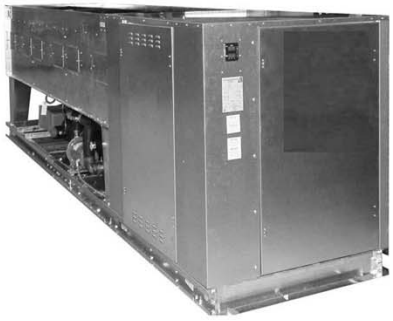
These soultions can effect unit capacities. Please consult the factory on these or other special applications for proper sizing.

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



Consult factory on sizing shillers with glycol or any fluid other then water.

For 100% water:

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

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

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

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 chiller capacity tables, it can be determined that the 301-1 has the capacity to meet the requirements.

DeltaPro

100-1 - 700-1 SEMI- HERMETIC CHILLERS

Capacity Chart

MODEL	COMPRESSOR	LWT	80			90			95			100			105		
		°F	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER
100-1	3DB3R12M	42.0	10.9	9.5	11.2	10.3	10.3	9.9	10.1	10.7	9.4	9.8	11.1	8.8	9.5	11.5	8.3
		44.0	11.3	9.6	11.5	10.7	10.4	10.2	10.4	10.8	9.6	10.2	11.2	9.0	9.8	11.7	8.5
		45.0	11.5	9.6	11.7	11.0	10.5	10.3	10.7	10.9	9.7	10.3	11.3	9.2	10.1	11.8	8.6
		50.0	12.4	9.9	12.3	11.8	10.8	10.9	11.5	11.3	10.2	11.2	11.7	9.6	10.9	12.2	9.1
120-1	3DF3R15M	42.0	12.4	11.7	10.7	11.8	12.6	9.5	11.5	13.1	9.0	11.1	13.6	8.4	10.8	14.1	7.9
		44.0	12.9	11.8	11.0	12.3	12.8	9.7	11.9	13.3	9.2	11.5	13.9	8.6	11.3	14.4	8.1
		45.0	13.1	11.9	11.1	12.4	12.9	9.9	12.1	13.4	9.3	11.8	14.0	8.7	11.5	14.5	8.2
		50.0	14.3	12.4	11.7	13.5	13.4	10.4	13.2	13.9	9.8	12.8	14.5	9.2	12.4	15.0	8.7
150-1	3DS3R17ME	42.0	12.9	13.1	10.7	12.2	14.1	9.4	11.8	14.6	8.8	11.4	15.2	8.2	11.1	15.7	7.8
		44.0	13.3	13.3	10.9	12.7	14.3	9.5	12.3	14.9	8.9	11.8	15.4	8.4	11.4	15.9	7.9
		45.0	13.6	13.4	11.5	12.8	14.4	9.7	12.4	15.0	9.0	12.0	15.5	8.5	11.6	16.1	8.0
		50.0	14.7	13.8	11.5	13.8	14.9	10.1	13.4	15.5	9+.5	12.9	16.1	8.8	12.5	16.7	8.3
200-1	4DA3R18M	42.0	14.8	13.6	11.8	13.8	14.6	10.3	13.4	15.0	9.8	12.9	15.5	9.2	12.5	15.9	8.6
		44.0	15.3	13.8	12.0	14.4	14.8	10.6	13.9	15.3	10.0	13.5	15.8	9.3	13.0	16.3	8.8
		45.0	15.6	13.9	12.2	14.7	14.9	10.7	14.3	15.4	10.1	13.8	15.9	9.4	13.3	16.4	8.9
		50.0	17.2	14.4	13.9	16.2	15.6	11.3	15.6	16.3	10.6	15.1	16.1	10.0	14.6	17.1	9.4
220-1	4DB3R20M	42.0	17.0	15.8	11.8	16.0	17.0	10.3	15.5	17.6	9.7	15.0	18.1	9.2	14.4	18.6	8.6
		44.0	19.6	16.1	12.0	16.5	17.3	10.6	16.0	17.9	9.9	15.5	18.5	9.3	14.9	19.0	8.7
		45.0	17.9	16.2	12.2	16.9	17.4	10.7	16.3	18.1	10.0	15.8	18.6	9.4	15.3	19.2	8.8
		50.0	19.7	16.9	12.8	18.6	18.3	11.3	17.9	18.9	10.6	17.3	18.5	9.9	16.8	20.1	9.3
250-1	4DH3R22M	42.0	19.1	16.9	12.0	18.0	18.2	10.6	17.4	18.8	10.0	16.8	19.5	9.3	9.7	20.1	8.8
		44.0	19.9	17.2	12.4	18.8	16.6	10.9	18.2	19.2	10.2	17.6	19.9	9.5	17.0	20.5	9.0
		45.0	20.3	17.3	12.5	19.1	18.7	11.0	18.6	19.3	10.3	17.9	20.0	9.6	17.3	20.6	9.1
		50.0	22.3	17.9	13.3	21.0	19.4	11.6	20.4	20.1	11.0	19.7	20.9	10.2	19.1	21.6	9.6
301-1	6DB3R32M	42.0	26.6	26.0	11.3	25.0	27.9	10.0	24.3	28.8	9.4	23.4	29.6	8.8	22.6	30.6	8.3
		44.0	27.6	26.5	11.5	26.0	28.4	10.2	25.2	29.3	9.6	24.3	30.2	9.0	23.5	31.2	8.4
		45.0	28.2	26.8	11.7	26.6	28.7	10.3	25.8	29.6	9.7	24.9	30.6	9.1	24.1	31.5	8.5
		50.0	30.8	28.0	12.2	29.0	30.0	10.8	28.0	31.0	10.1	27.1	32.0	9.5	26.2	33.0	8.9
351-1	6B4709PH	42.0	27.5	28.5	10.4	25.8	30.4	9.3	25.1	31.4	8.8	24.2	32.4	8.2	23.3	33.3	7.7
		44.0	28.6	29.0	10.7	27.1	31.0	9.5	26.3	32.0	9.0	25.3	33.1	8.4	24.4	34.0	7.9
		45.0	29.3	29.3	10.9	27.6	31.3	9.7	26.8	32.3	9.1	25.8	33.4	8.5	25.0	34.4	8.0
		50.0	32.3	30.4	11.6	30.4	32.6	10.3	29.4	33.7	9.6	28.3	34.8	9.0	27.5	35.9	8.5
400-1	6B5406PH	42.0	30.4	33.8	9.9	28.5	35.8	8.9	27.6	36.9	8.3	26.7	37.7	7.9	25.8	38.6	7.4
		44.0	31.7	34.5	10.2	29.8	36.6	9.1	28.8	37.6	8.5	27.8	38.5	8.1	26.8	39.4	7.6
		45.0	32.5	34.8	10.3	30.4	36.9	9.2	29.3	38.0	8.6	28.4	38.9	8.2	27.5	39.8	7.7
		50.0	35.7	36.4	10.9	33.3	38.6	9.7	32.3	39.8	9.1	31.3	40.7	8.6	30.1	41.7	8.1
500-1	6B6462PH	42.0	37.8	40.2	10.2	35.8	42.8	9.1	34.8	44.3	8.6	33.5	45.7	8.0	32.5	47.1	7.6
		44.0	39.4	40.8	10.4	37.3	43.6	9.3	36.1	45.0	8.8	35.0	45.5	8.2	33.8	48.0	7.7
		45.0	40.2	41.3	10.6	38.1	44.0	9.4	36.8	45.5	8.9	35.8	46.9	8.4	34.5	48.4	7.8
		50.0	44.3	43.0	11.2	41.8	45.9	10.0	40.8	47.5	9.4	39.3	49.0	8.9	38.3	50.7	8.3
600-1	8DS3R67M	42.0	46.8	51.1	10.1	43.8	54.1	9.0	42.5	55.3	8.5	40.8	56.6	8.0	39.4	57.7	7.6
		44.0	48.6	52.3	10.3	45.6	55.3	9.1	44.2	56.6	8.7	42.5	57.9	8.2	41.1	59.0	7.7
		45.0	50.3	52.8	10.4	46.5	55.9	9.2	45.0	57.1	8.8	43.3	58.5	8.3	41.9	59.7	7.8
		50.0	54.2	55.5	10.8	50.8	58.7	9.7	49.2	60.1	9.2	47.5	61.5	8.7	45.9	62.7	8.2
700-1	8C9400PH	42.0	55.8	61.6	9.8	52.5	65.1	8.8	50.8	67.0	8.4	49.3	68.6	7.9	47.5	70.5	7.5
		44.0	57.5	63.1	9.9	54.6	66.5	9.0	52.9	68.5	8.5	51.3	70.0	8.1	49.2	71.9	7.6
		45.0	58.8	63.9	10.1	55.8	67.2	9.1	54.2	69.1	8.6	52.5	71.8	8.2	50.4	72.6	7.7
		50.0	63.8	67.8	10.5	61.0	70.6	9.6	59.3	72.7	9.1	57.5	74.6	8.6	55.8	76.5	8.1

1 Capacity on this chart are based on regfrigerant R407C. Low ambient or lower leaving water temperatures can require the use of a glycol solution or other fuid blends. These solutins affect the unit capacitties. Please consult the factory on these or other special fluids.
2 KW Input is for compressor(s) only.
3 EER = Energy Efficeincy Ration (BTU/watt-hour). Power inputs include compressor(s), condnser fan motor(s) and control power

Capacity Chart

150-2 - 1400-2 SEMI- HERMETIC CHILLERS

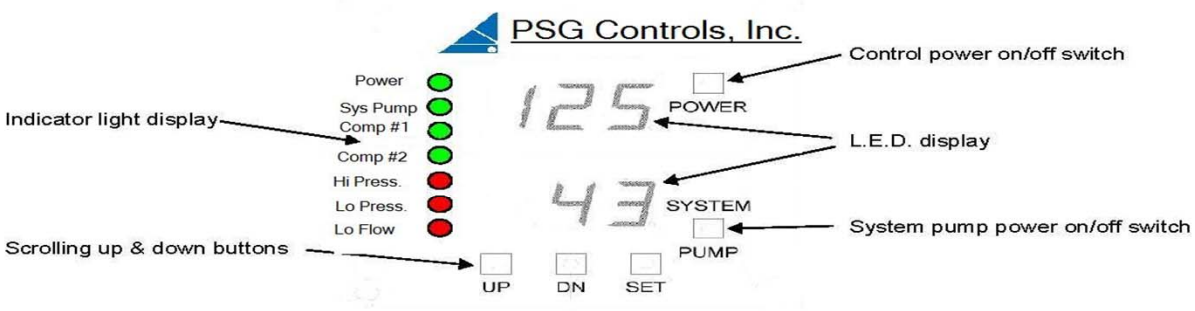
MODEL	COMPRESSOR	LWT	80			90			95			100			105		
		°F	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER	TONS	KW	EER
150-2	3DA3R10M	42.0	15.9	17.7	10.2	15.3	18.9	9.0	14.8	19.5	8.5	14.3	20.2	7.9	13.8	20.8	7.5
		44.0	16.9	17.9	10.4	15.8	19.2	9.2	15.3	19.8	8.7	14.8	20.5	8.1	14.3	21.1	7.6
		45.0	17.2	18.0	10.6	16.2	19.3	9.3	15.7	20.0	8.8	15.1	20.7	8.2	14.6	21.3	7.7
		50.0	18.6	18.5	11.2	17.3	19.8	9.8	16.9	20.6	9.2	16.3	21.4	8.5	15.7	22.1	8.0
200-2	3DB3R12M	42.0	19.3	19.5	10.3	18.1	21.0	9.1	17.6	21.8	8.5	17.0	22.5	8.0	16.4	23.2	7.5
		44.0	19.8	19.7	10.5	18.7	21.3	9.3	18.1	22.1	8.7	17.5	22.9	8.1	17.0	23.6	7.7
		45.0	20.3	19.9	10.6	19.0	21.5	9.4	18.5	22.3	8.8	17.8	23.1	8.2	17.3	23.9	7.8
		50.0	21.8	20.5	11.2	20.6	22.3	9.8	19.9	23.2	9.2	19.3	24.0	8.6	18.7	24.9	8.1
240-2	3DF3R15M	42.0	23.0	23.1	10.0	21.6	25.0	8.8	20.9	25.9	8.3	20.2	26.8	7.7	19.5	27.7	7.3
		44.0	23.8	23.5	10.2	22.3	25.5	9.0	21.7	26.4	8.5	20.8	27.4	7.9	20.2	28.3	7.4
		45.0	24.3	23.7	10.4	22.8	25.7	9.1	22.1	26.6	8.6	21.3	27.6	8.0	20.5	28.5	7.5
		50.0	26.3	24.6	0.9	24.8	26.7	9.6	23.9	27.7	9.0	23.1	28.8	8.4	22.3	29.9	7.8
300-2	3DS3R17M	42.0	25.9	26.3	10.1	24.5	28.4	9.0	23.8	29.4	8.5	23.0	30.4	7.9	22.3	31.4	7.5
		44.0	26.8	26.6	10.4	25.3	28.8	9.2	24.6	29.8	8.6	23.8	30.9	8.1	22.9	32.0	7.6
		45.0	27.2	26.8	10.5	25.7	28.9	9.3	25.0	30.0	8.7	24.1	31.1	8.2	23.3	32.2	7.7
		50.0	29.8	27.7	11.0	27.8	30.0	9.7	26.8	31.2	9.1	26.0	32.4	8.5	25.0	33.6	7.9
400-2	4DA3R18M	42.0	29.3	27.0	11.7	27.4	29.1	10.3	26.7	29.9	9.7	25.7	30.8	9.1	24.8	31.7	8.6
		44.0	30.6	27.5	12.0	28.7	29.6	10.6	27.8	30.5	10.0	26.8	31.5	9.3	25.9	32.4	8.6
		45.0	31.2	27.7	12.2	29.2	29.9	10.7	28.3	30.9	10.1	27.4	31.8	9.4	26.5	32.8	8.9
		50.0	34.3	28.9	12.9	32.2	31.2	11.3	31.3	32.3	10.6	30.2	33.4	10.0	29.2	34.4	9.4
440-2	4DB3R20M	42.0	34.0	31.7	11.7	32.0	34.1	10.3	30.8	35.2	9.7	29.9	36.3	9.1	28.8	37.3	8.6
		44.0	35.3	32.1	12.0	33.2	34.6	10.6	32.0	35.8	9.9	30.9	36.9	9.3	29.9	38.0	8.8
		45.0	35.8	32.4	12.2	33.8	35.0	10.7	32.7	36.2	10.0	31.7	37.2	9.4	30.7	38.4	8.9
		50.0	39.5	33.7	12.8	37.1	36.4	11.3	35.8	37.8	10.5	34.7	39.0	9.9	33.5	40.3	9.3
500-2	4DH3R22M	42.0	38.2	33.7	12.0	35.9	36.4	10.6	34.9	37.3	9.9	33.6	39.0	9.3	32.5	40.2	8.7
		44.0	39.8	34.3	12.3	37.4	37.0	10.8	36.3	38.3	10.2	34.9	39.6	9.5	34.0	40.9	9.0
		45.0	40.7	34.5	12.5	38.3	37.4	11.0	37.2	38.8	10.3	35.8	40.1	9.6	34.8	41.4	9.1
		50.0	44.6	35.8	13.3	41.8	38.8	11.6	40.8	40.3	11.0	39.2	41.8	10.2	38.2	43.2	9.6
601-2	6DB3R32M	42.0	54.5	51.8	11.6	51.2	55.5	10.2	49.5	57.4	9.6	47.8	59.3	9.0	46.1	61.0	8.4
		44.0	56.3	52.8	11.8	52.8	56.5	10.4	51.1	58.4	9.8	49.2	60.2	9.1	47.5	62.0	8.6
		45.0	57.5	53.4	11.9	54.1	57.1	10.5	52.3	59.0	9.9	51.3	60.9	9.2	48.7	62.8	8.7
		50.0	62.8	55.9	12.5	59.0	59.8	11.0	56.8	61.9	10.3	54.9	63.8	9.7	52.9	65.8	9.1
701-2	6D4709PH	42.0	55.9	57.2	10.6	52.5	61.0	9.4	50.8	63.0	8.8	49.1	64.9	8.3	47.4	66.7	7.8
		44.0	58.3	58.2	10.9	54.7	62.1	9.6	52.7	64.0	9.0	50.9	66.0	8.5	49.2	68.2	8.0
		45.0	59.3	58.7	11.0	55.8	62.0	9.7	54.2	64.7	9.2	52.1	67.0	8.6	50.4	68.8	8.1
		50.0	65.0	61.5	11.7	61.3	65.5	10.3	59.3	67.7	9.7	57.4	70.0	9.1	55.4	72.1	8.5
800-2	6B5406PH	42.0	62.5	66.7	10.3	58.8	70.9	9.2	56.8	73.0	8.7	54.9	74.9	8.1	52.5	76.7	7.6
		44.0	65.2	68.0	10.6	61.3	72.2	9.4	59.2	74.2	8.8	56.9	76.3	8.3	54.8	78.3	7.8
		45.0	66.5	68.5	100.7	62.5	72.7	9.5	60.2	75.0	8.9	58.3	77.0	8.4	55.9	79.0	7.9
		50.0	72.9	71.6	11.3	68.8	76.0	10.1	66.3	78.5	9.5	64.2	80.1	8.9	61.9	82.7	8.4
1000-2	6B6462PH	42.0	75.0	82.5	9.6	70.8	88.0	8.6	68.8	90.5	8.1	66.7	93.5	7.7	64.3	96.0	7.2
		44.0	78.3	84.0	9.8	73.8	89.5	8.8	71.7	92.0	8.3	69.4	95.0	7.8	67.3	98.0	7.4
		45.0	80.0	85.0	9.9	74.3	90.5	8.9	73.3	93.0	8.4	70.8	96.0	7.9	68.5	99.0	7.5
		50.0	87.5	89.0	10.5	82.7	95.0	9.4	80.4	98.0	8.8	77.7	101.0	8.3	75.4	104.0	7.8
1200-2	8DS3R67M	42.0	91.7	104.0	9.2	85.6	109.0	8.3	83.3	111.0	7.9	80.0	113.5	7.5	77.1	115.5	7.1
		44.0	95.0	107.0	9.4	89.6	112.0	8.5	86.7	113.8	8.0	84.1	116.2	7.6	80.4	118.3	7.2
		45.0	96.7	108.0	9.5	90.8	113.5	8.6	88.3	116.0	8.1	85.0	117.7	7.7	82.3	119.8	7.3
		50.0	105.8	113.5	9.9	100.0	120.0	8.9	96.7	122.0	8.5	94.2	124.9	8.1	90.8	127.0	7.7
1400-2	8C9400PH	42.0	111.7	124.0	9.4	104.2	131.0	8.4	101.7	134.0	8.0	98.3	137.5	7.5	95.5	141.0	7.1
		44.0	114.2	126.0	9.6	106.7	133.0	8.6	105.8	137.0	8.2	102.5	140.0	7.7	99.2	143.5	7.3
		45.0	115.0	128.0	9.8	107.9	135.0	8.7	108.3	139.0	8.3	105.0	142.0	7.8	93.3	146.0	7.4
		50.0	129.2	134.0	10.2	122.5	142.0	9.2	118.3	146.0	8.7	114.2	149.5	8.2	110.8	153.5	7.8

1 Capacity on this chart are based on regfrigerant R407C. Low ambient or lower leaving water temperatures can require the use of a glycol solution or other fuid blends. These solutins affect the unit capacitties. Please consult the factory On these or other special fuids.

2 KW Input is for compressor(s) only.

3 EER = Energy Efficeincy Ration (BTU/watt-hour). Power inputs include compressor(s), condnser fan motor(s) and control power

Microprocessor Features



Features:

- Control operates to a +/- 1°F accuracy.
- Powered from the chiller 24volt control circuit. No high voltage interference.
- 1 or 2 compressor control capablity
- Operates and displays in °F or °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 & 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 down the chiller)
    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

Standard Features & Options

Air Cooled Chillers Pkg R407C

ACC500-2 PKG MODEL

ACC150-1 PKG MODEL

STANDARD FEATURES (all models)

- DELTAPRO Microprocessor controller
- 24V Control circuit 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
- Direct drive condenser fan motor
- Fan cycle control (+40ºF)
- Rust resistant, high CFM, aluminum condenser fan blade
- Condenser(s): copper tube / aluminum fin
- Condenser clean out ports
- Liquid line drier, sight glass, solenoid, TEV
- Replaceable core liquid line drier (15 to 120hp)
- Removable / hinged access panels
- Galvanized steel sheet metal cabinet & 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 & up
- Compressor fusing
- Fused disconnect
- Non fused disconnect
- Flooded condenser with receiver / head pressure control (-20F)
- Flooded condenser with heated receiver and head pressure control (-20F)
- Factory installed 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
- Condenser heresite coating (coastal protection)
- Copper condenser coil (coastal protection)
- 4 year extended compressor warranty
- Hot gas by-pass capacity control with solenoid valve & time delay relay
- Factory assisted start-up

Semi Hermetic - Single Circuit

R407C Packaged Air Cooled Chillers

DeltaPro	Nominal	Length	Width	Height	Fluid		Compressor		RLA		Fan Motor				Weight
Model	BTUH	Inches	Inches	Inches	Conn.	Qty	HP	Model	Ea.	Ea.	Qty	Fla ea.	MCS	M.O.P.	Pounds
100-1-5-T7-SH									43.6	215		3.3	60	100	
100-1-5-T8-SH	128,400				1.25" FPT		10	3DBR12M	20.0	106		1.6	30	45	1000
100-1-5-T9-SH		85	34	40					16.5	84	2	1.72	25	40	
120-1-5-T7-SH									48.1	275		3.3	70	110	
120-1-5-T8-SH	145,200				1.5" FPT		12	3DF3R15M	23.6	138		1.6	30	50	1200
150-1-5-T7-SH									59.6	275		2.3	80	125	
150-1-5-T8-SH	148,800						15	3DS3R17M	29.0	138		1.2	40	60	1600
150-1-5-T9-SH									23.6	110		0.9	35	50	
200-1-5-T7-SH									66.6	308		2.3	90	150	
200-1-5-T8-SH	171,600	145				1	20	4DA3R18M	33.3	154		1.2	45	80	1700
200-1-5-T9-SH									24.7	135		0.9	35	50	
220-1-5-T7-SH					2" MPT				65.6	374		2.3	90	150	
220-1-5-T8-SH	195,600						22	4DB3R20M	32.8	187		1.2	45	70	1700
220-1-5-T9-SH									26.5	135		0.9	35	60	
250-1-5-T7-SH			44						82.1	428		2.3	110	175	
250-1-5-T8-SH	223,200						25	4DH3R22M	41.1	214		1.2	60	90	1900
250-1-5-T9-SH									34.4	175	3	0.9	50	80	
301-1-5-T7-SH									105.0	565		2.3	150	225	
301-1-5-T8-SH	309,600	183					30	6DB3R32M	52.5	283		1.2	70	110	2050
301-1-5-T9-SH									40.0	230		0.9	60	90	
351-1-5-T7-SH					2.5" MPT				117.1	550		2.3	175	250	
351-1-5-T8-SH	321,600						35	6B4709PH	58.6	275		1.2	80	125	2400
351-1-5-T9-SH									46.4	220	4	0.9	70	100	
400-1-5-T7-SH				54.5					157.1	700		2.3	225	350	
400-1-5-T8-SH	352,000	143					40	6B5406PH	78.6	350		1.2	110	175	2900
400-1-5-T9-SH									62.9	280		0.9	90	125	
500-1-5-T7-SH									160.0	950		2.3	200	350	
500-1-5-T8-SH	441,600						50	6B6462PH	80.0	425		1.2	100	175	3100
500-1-5-T9-SH			84						63.6	340	6	0.9	90	125	
600-1-5-T7-SH		183			3" MPT				224.3	1070		2.3	300	500	
600-1-5-T8-SH	540,000						60	8DS3R67M	112.1	535		1.2	150	250	4900
600-1-5-T9-SH									80.0	405		0.9	110	175	
700-1-5-T7-SH									228.6	1288		2.3	350	500	
700-1-5-T8--SH	650,400						70	8C9400PH	114.3	590	8	1.2	175	250	5200
700-1-5-T9--SH									91.4	472		0.9	125	200	

DeltaPro

Semi Hermetic Dual Circuit

R407C Packaged Air Cooled Chillers

DeltaPro Model	Nominal BTUH	Length Inches	Width Inches	Height Inches	Fluid Conn.	Qty	Compressor HP	Compressor Model	RLA Ea.	LRA Ea.	Fan Motor Qty	Fan Motor Fla ea.	MCS	M.O.P.	Weight Pounds
150-2-5-T7-SH									43.6	215		2.3	100	125	
150-2-5-T8-SH	188,400						7.5	3DA3R10M	20.0	106		1.2	50	60	1800
150-2-5-T9-SH		145							16.5	84	2	0.9	25	35	
200-2-5-T7-SH									43.6	215		2.3	110	125	
200-2-5-T8-SH	222,000						10	3DB3R12M	20.0	106		1.2	50	60	2100
200-2-5-T9-SH			44						16.5	84		0.9	25	35	
240-2-5-T7-SH	265,200								48.1	275		2.3	125	150	2250
240-2-5-T8-SH					2.5" MPT		12	3DF3R15M	23.6	138		1.2	60	80	
300-2-5-T7-SH		183							59.6	275	3	2.3	150	200	
300-2-5-T8-SH	300,000						15	3DS3R17M	29.0	138		1.2	70	90	2600
300-2-5-T9-SH									23.6	110		0.9	35	50	
400-2-5-T7-SH									66.6	308		2.3	175	225	
400-2-5-T8-SH	339,600						20	4DA3R18M	33.3	154		1.2	80	110	3100
400-2-5-T9-SH		143		54.5					24.7	135		0.9	35	50	
500-2-5-T7-SH									65.6	374	4	2.3	175	200	
500-2-5-T8-SH	392,400						22	4DB3R20M	32.8	187		1.2	80	110	2900
500-2-5-T9-SH									26.5	135		0.9	40	60	
601-2-5-T7-SH						2			82.1	428		2.3	200	250	
601-2-5-T8-SH	446,400				3" MPT		25	4DH3R22M	41.1	214		1.2	100	125	2900
601-2-5-T9-SH			84						34.4	175	6	0.9	50	80	
701-2-5-T7-SH									105.0	565		2.3	250	350	
701-2-5-T8-SH	627,600	183					30	6DB3R32M	52.5	283		1.2	150	175	5500
701-2-5-T9-SH									40.0	230		0.9	60	90	
800-2-5-T7-SH									117.1	550		2.3	300	400	
800-2-5-T8-SH	650,400						35	6B4709PH	58.6	275		1.2	150	200	5700
800-2-5-T9-SH									46.4	220		0.9	125	150	
1000-2-5-T7-SH									157.1	700	8	2.3	400	500	
1000-2-5-T8-SH	720,000	223			4" V		40	6B5406PH	78.6	350		1.2	175	250	5800
1000-2-5-T9-SH									62.9	280		0.9	150	200	
1000-2-5-T7-SH									160.0	950		6.6	400	550	
1000-2-5-T8-SH	879,600	228					50	6B6462PH	80.0	425	6	3.1	200	250	6400
1000-2-5-T9-SH									63.6	340		2.5	150	200	
1200-2-5-T7-SH				56.5					224.3	1070		6.6	600	700	
1200-2-5-T8-SH	1,060,000	283	89				60	8DS3R67M	112.1	535	8	3.1	300	350	6500
1200-2-5-T9-SH									80.0	405		2.5	200	250	
1400-2-5-T7-SH					5" V				228.6	1288		6.6	600	800	
1400-2-5-T8-SH	1,295,000	338					70	8C9400PH	114.3	590	10	3.1	300	400	8500
1400-2-5-T9-SH									91.4	472		2.5	250	300	

IES SINGLE CIRCUIT

R407C Split System, Air Cooled

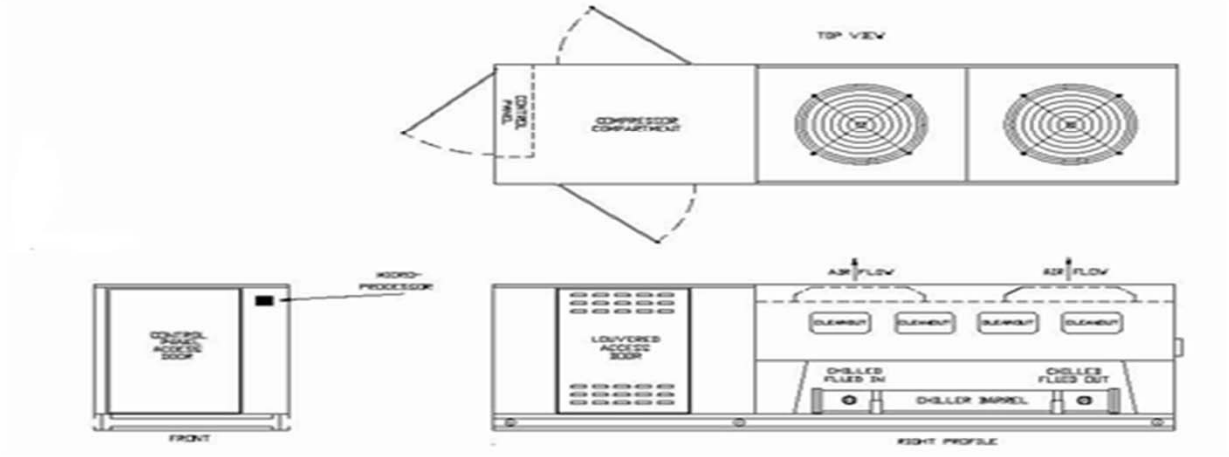
DeltaPro Model	Nominal BTUH	Length Inches	Width Inches	Height Inches	Fluid Conn.	Refrig Dischg	Conn Liquid	Qty	Compressor HP	Compressor Model	RLA Ea.	LRA Ea.	Fan Motor Qty	Fan Motor Fla ea.	MCA	M.O.P.	Weight Pounds	Condenser Selection
100-1-5-T7-SH											43.6	215		3.3	60	100		
100-1-5-T8-SH	128,400				1.25"				10	3DBR12M	20.0	106		1.6	30	45	800	CS120S
100-1-5-T9-SH					FPT						16.5	84	2	1.72	25	40		
120-1-5-T7-SH						1 1/8"					48.1	275		3.3	70	110		
120-1-5-T8-SH	145,200			42			5/8"		12	3DF3R15M	23.6	138		1.6	30	50	825	CS120S
150-1-5-T7-SH											59.6	275		2.3	80	125		
150-1-5-T8-SH	148,800								15	3DS3R17M	29.0	138		1.2	40	60	850	DCM016
150-1-5-T9-SH					2" MPT						23.6	110		0.9	35	50		
200-1-5-T7-SH											66.6	308		2.3	90	150		
200-1-5-T8-SH	171,600							1	20	4DA3R18M	33.3	154		1.2	45	80	950	DCM020
200-1-5-T9-SH		65									24.7	135		0.9	35	50		
220-1-5-T7-SH											65.6	374		2.3	90	150		
220-1-5-T8-SH	195,600					1 3/8"			22	4DB3R20M	32.8	187		1.2	45	70	1000	DCM024
220-1-5-T9-SH							7/8"				26.5	135		0.9	35	60		
250-1-5-T7-SH											82.1	428		2.3	110	175		
250-1-5-T8-SH	223,200								25	4DH3R22M	41.1	214		1.2	60	90	1000	DCM030
250-1-5-T9-SH					2.5" MPT						34.4	175	3	0.9	50	80		
301-1-5-T7-SH											105.0	565		2.3	150	225		
301-1-5-T8-SH	309,600								30	6DB3R32M	52.5	283		1.2	70	110	1100	DCM035
301-1-5-T9-SH			34								40.0	230		0.9	60	90		
351-1-5-T7-SH											117.1	550		2.3	175	250		
351-1-5-T8-SH	321,600			60		1 5/8"			35	6B4709PH	58.6	275		1.2	80	125	1300	DCM040
351-1-5-T9-SH											46.4	220	4	0.9	70	100		
400-1-5-T7-SH							1 1/8"				157.1	700		2.3	225	350		
400-1-5-T8-SH	352,000								40	6B5406PH	78.6	350		1.2	110	175	1400	DCM040
400-1-5-T9-SH											62.9	280		0.9	90	125		
500-1-5-T7-SH											160.0	950		2.3	200	350		
500-1-5-T8-SH	441,600								50	6B6462PH	80.0	425		1.2	100	175	1600	DCM060
500-1-5-T9-SH		85									63.6	340	6	0.9	90	125		
600-1-5-T7-SH					3" MPT						224.3	1070		2.3	300	500		
600-1-5-T8-SH	540,000								60	8DS3R67M	112.1	535		1.2	150	250	1700	DCM060
600-1-5-T9-SH						2 1/8"					80.0	405		0.9	110	175		
700-1-5-T7-SH											228.6	1288		2.3	350	500		
700-1-5-T8--SH	650,400								70	8C9400PH	114.3	590	8	1.2	175	250	1950	DCM082
700-1-5-T9--SH											91.4	472		0.9	125	200		

IES - DUAL CIRCUIT

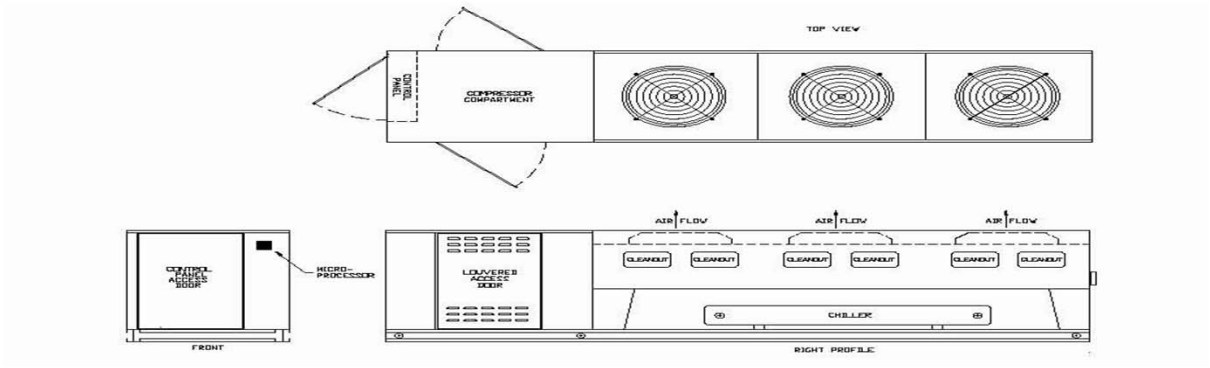
R407C Split System, Air Cooled

DeltaPro Model	Nominal BTUH	Length Inches	Width Inches	Height Inches	Fluid Conn.	Refrig Dischg	Conn Liquid	Qty	Compressor HP	Compressor Model	RLA Ea.	LRA Ea.	Fan Motor Qty	Fan Motor Fla ea.	Fan Motor MCS	Fan Motor M.O.P.	Weight Pounds	Condenser Selection
150-2-5-T7-SH											43.6	215		2.3	100	125		
150-2-5-T8-SH	188,400					7/8"			7.5	3DA3R10M	20.0	106		1.2	50	60	1100	DCM020
150-2-5-T9-SH											16.5	84	2	0.9	25	35		
200-2-5-T7-SH											43.6	215		2.3	110	125		
200-2-5-T8-SH	222,000			42			5/8"		10	3DB3R12M	20.0	106		1.2	50	60	1200	DCM024
200-2-5-T9-SH											16.5	84		0.9	25	35		
240-2-5-T7-SH	265,200					1 1/8"					48.1	275		2.3	125	150	1300	DCM030
240-2-5-T8-SH					2.5" MPT				12	3DF3R15M	23.6	138		1.2	60	80		
300-2-5-T7-SH											59.6	275	3	2.3	150	200		
300-2-5-T8-SH	300,000								15	3DS3R17M	29.0	138		1.2	70	90	1500	DCM035
300-2-5-T9-SH		85									23.6	110		0.9	35	50		
400-2-5-T7-SH											66.6	308		2.3	175	225		
400-2-5-T8-SH	339,600								20	4DA3R18M	33.3	154		1.2	80	110	1650	DCM040
400-2-5-T9-SH											24.7	135		0.9	35	50		
500-2-5-T7-SH											65.6	374	4	2.3	175	200		
500-2-5-T8-SH	392,400			60		1 3/8"			22	4DB3R20M	32.8	187		1.2	80	110	1700	DCM047
500-2-5-T9-SH							7/8"				26.5	135		0.9	40	60		
601-2-5-T7-SH								2			82.1	428		2.3	200	250		
601-2-5-T8-SH	446,400				3" MPT				25	4DH3R22M	41.1	214		1.2	100	125	1800	DCM060
601-2-5-T9-SH			34								34.4	175	6	0.9	50	80		
701-2-5-T7-SH											105.0	565		2.3	250	350		
701-2-5-T8-SH	627,600								30	6DB3R32M	52.5	283		1.2	150	175	1900	DCM070
701-2-5-T9-SH											40.0	230		0.9	60	90		
800-2-5-T7-SH		110									117.1	550		2.3	300	400		
800-2-5-T8-SH	650,400								35	6B4709PH	58.6	275		1.2	150	200	2000	DCM082
800-2-5-T9-SH						1 5/8"					46.4	220		0.9	125	150		
1000-2-5-T7-SH											157.1	700	8	2.3	400	500		
1000-2-5-T8-SH	720,000				4" V				40	6B5406PH	78.6	350		1.2	175	250	2400	DCM095
1000-2-5-T9-SH											62.9	280		0.9	150	200		
1000-2-5-T7-SH											160.0	950		6.6	400	550		
1000-2-5-T8-SH	879,600						1 1/8"		50	6B6462PH	80.0	425	6	3.1	200	250	2800	DCL-112
1000-2-5-T9-SH											63.6	340		2.5	150	200		
1200-2-5-T7-SH											224.3	1070		6.6	600	700		
1200-2-5-T8-SH	1,060,000	120		66					60	8DS3R67M	112.1	535	8	3.1	300	350	3000	DCL-137
1200-2-5-T9-SH						2 1/8"					80.0	405		2.5	200	250		
1400-2-5-T7-SH					5" V						228.6	1288		6.6	600	800		
1400-2-5-T8-SH	1,295,000								70	8C9400PH	114.3	590	10	3.1	300	400	3200	DCL-167
1400-2-5-T9-SH											91.4	472		2.5	250	300		

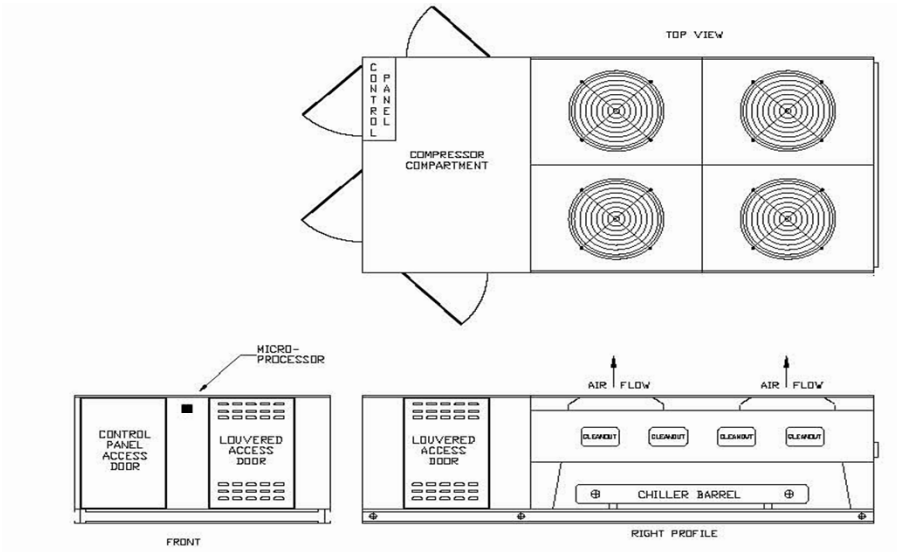
Schematical Drawings



ACC150-1, 220-1, 150-2, 200-2 SH



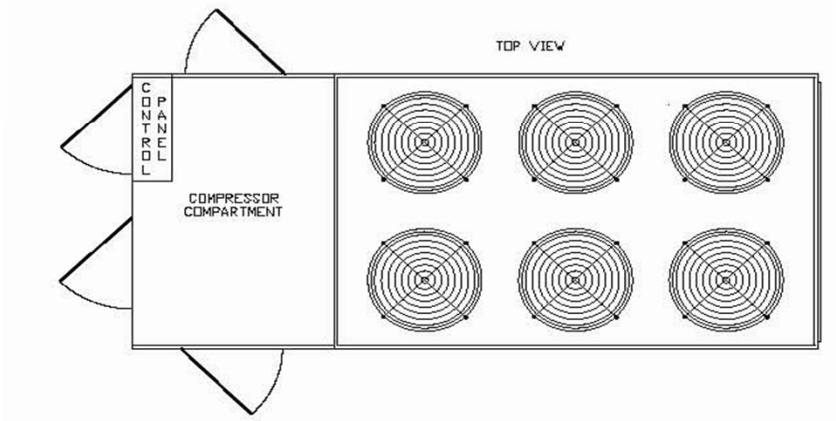
250-1, 301-1, 240-2, & 300-2 SH

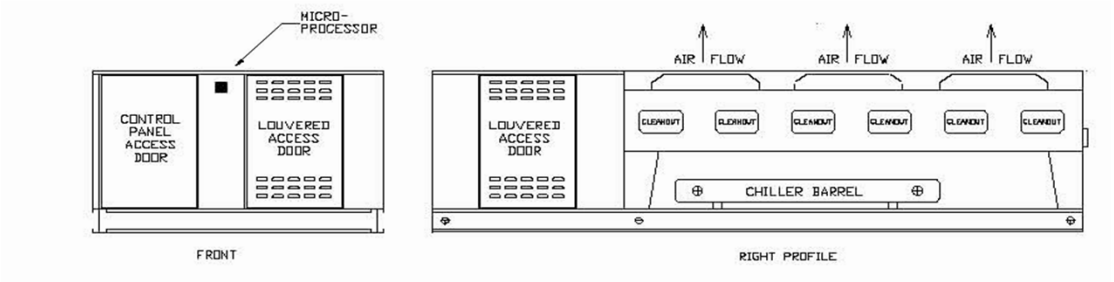


351-1, 400-1, 400-2, and 400-2 SH

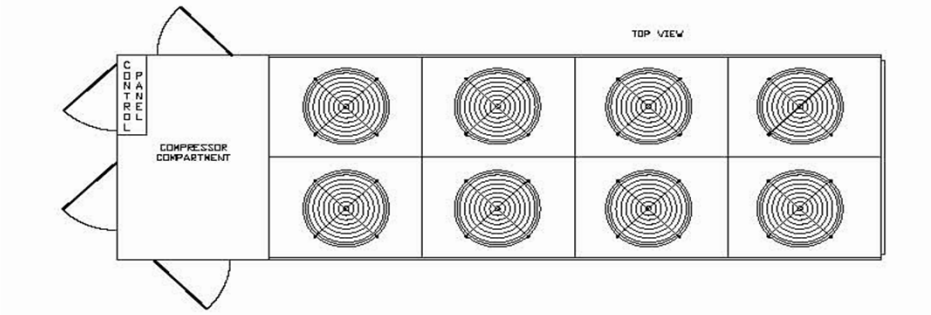
Air Cooled Chiller Package R407C

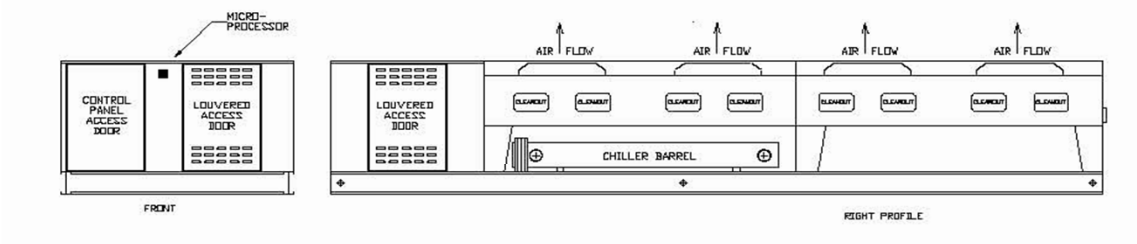
Schematical Drawings





ACC500-1, 600-1, 700-1, 500-2 & 1000-2

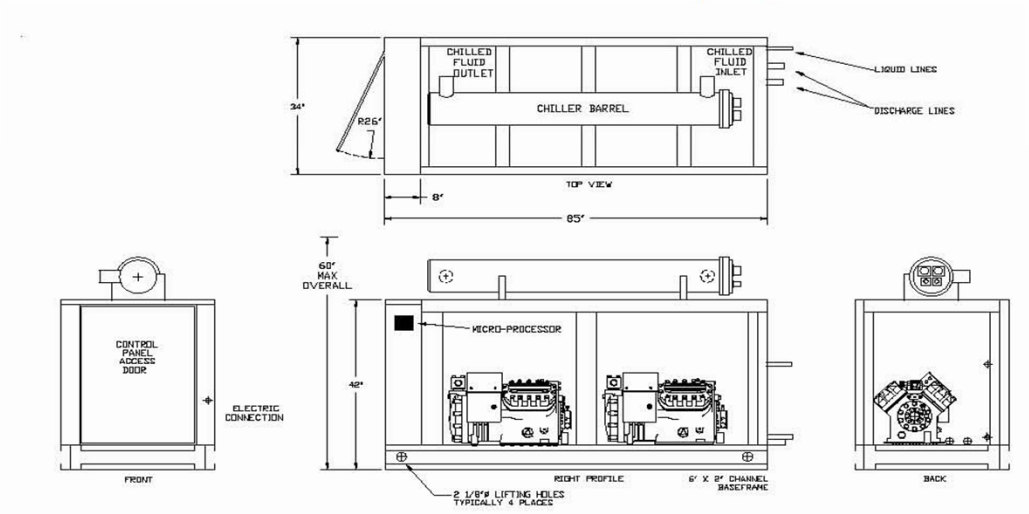




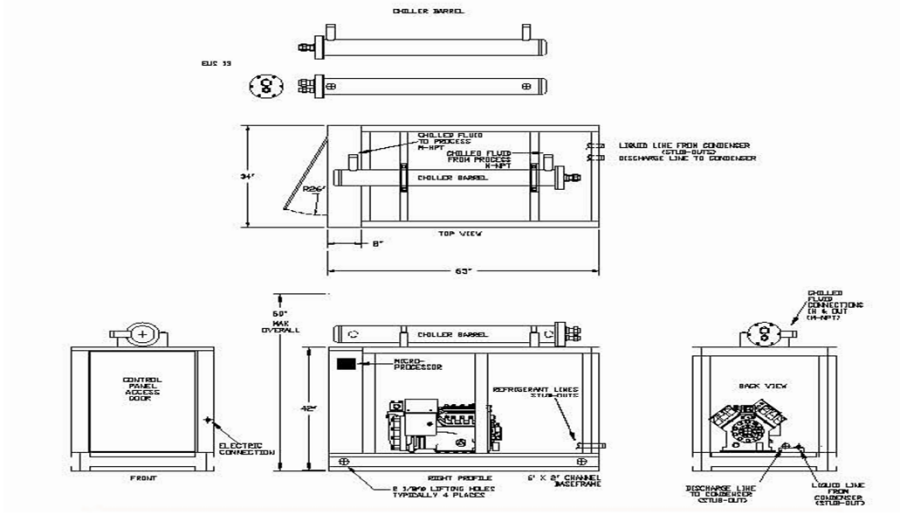
ACC701-2,800-2 & 1200-2

IES Semi Hermetic

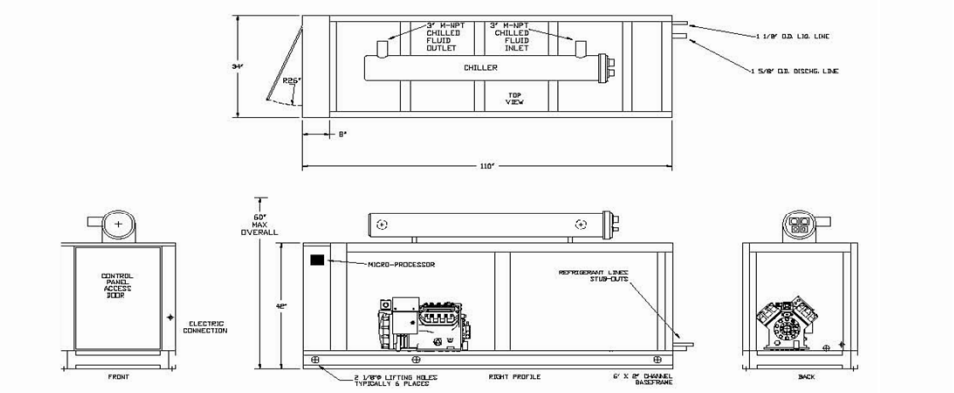
R407C Split System



IES 150-2, 200-2, 300-2, 400-2, 440-2 & 500-2

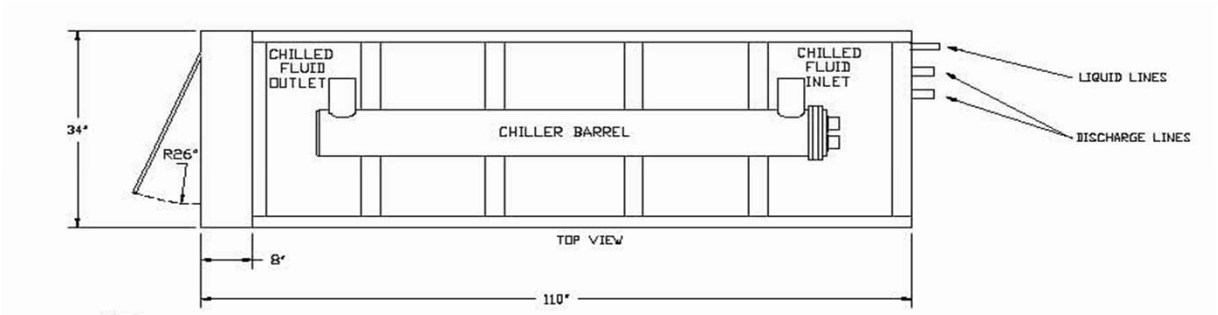


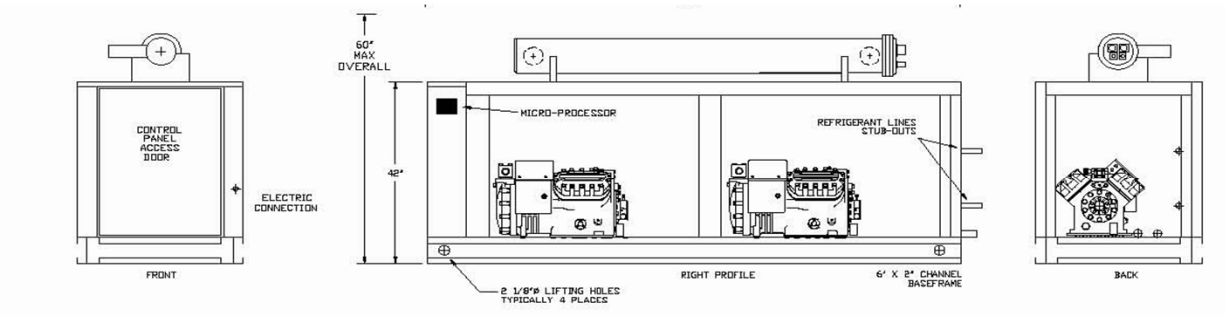
IES 150-1, 220-1, 250-1 & 301-1



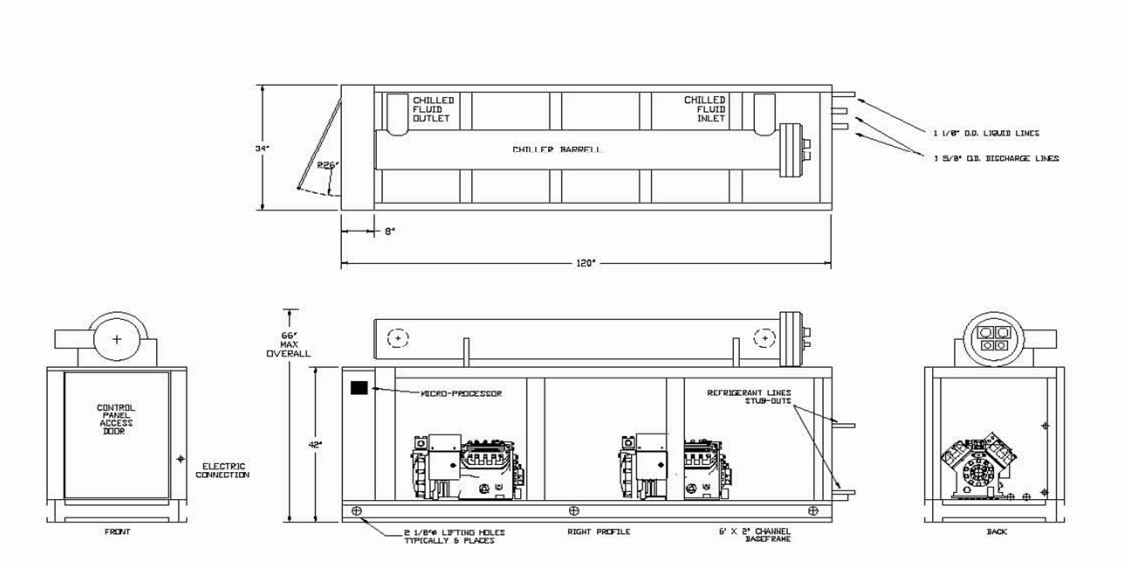
IES 500-1 & 600-1

IES Semi - Hermetic R407C Split System





IES 601-2, 701-2 & 800-2



IES 1000-2 & 1200-2

TANK SECTION

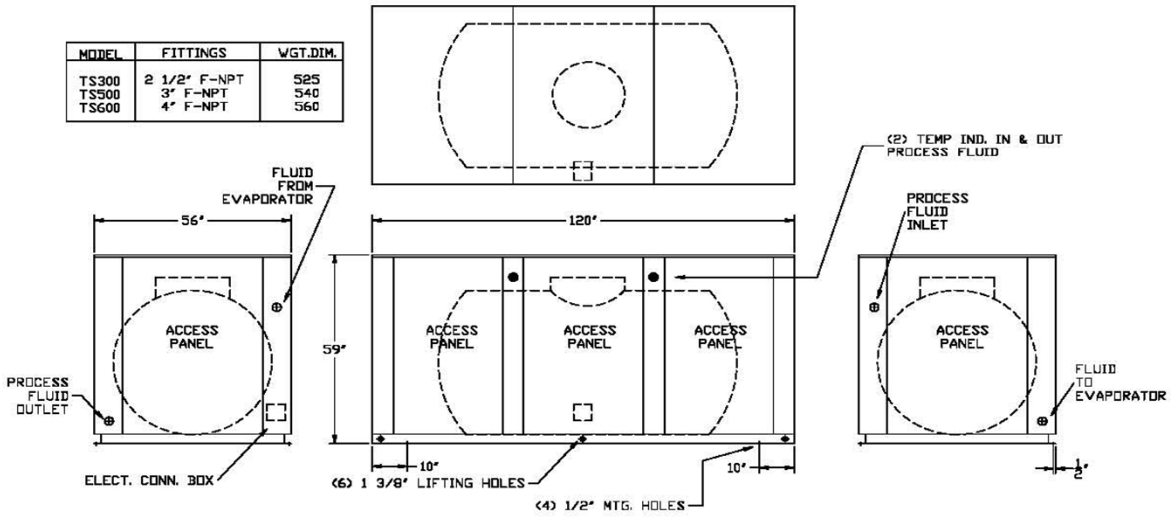
Model	Length in	Width in	Height in	Water Conn	Tank Capacity Gallons	Recirculation Pump	FLA 230/30	FLA 460/30	Wt lbs
TS200S	120	56	59	1-1/2" FPT	200	2 HP	6.4	3.2	500
TS300S	120	56	59	2" FPT	300	2 HP	6.4	3.2	525
TS500S	120	56	59	3" FPT	500	3 HP	9.4	4.5	540
TS600S	120	56	59	4" FPT	600	3 HP	9.4	4.5	560

STANDARD FEATURES:

- Open, vented polyethylene storage tai
- 1/2" tank and fluid piping insulation
- Copper fluid piping
- Tank Vent and drain connections
- Fused evaporator fluid re-circulating STAINLESS STEEL pum
- Control box with pump terminal block
- Painted, galvanized steel sheet metal
- 24 volt L.E.D. process fluid thermome

AVAILABLE OPTIONS:

- STAINLESS STEEL (welded) tank
- Water flow meter
- Fused, STAINLES 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 piping insulation
- Seal-tight electrical connections
- Low flow by pass loop



TS 300-600-1

DeltaPro

GLYCOL FACTOR TABLE

PROPYLENE GLYCOL CAPACITY CORRECTION FACTOR TABLE							
% Propylene Glycol by weight	15%	20%	25%	30%	35%	40%	50%
Freezing Point in ^{0}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							
% Ethylene Glycol by weight	10%	15%	20%	25%	30%	35%	40%
Freezing Point in ^{0}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^{0}F entering fluid temperature, 44^{0}F leaving fluid temperature, 95^{0}F ambient temperature, 0.0005 fouling.

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