



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

AIR-COOLED CHILLERS



FRACTIONAL LINE PACKAGED SYSTEMS

R134a
EPA COMPLIANT

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Along with a complete line of standard products that Legacy Chiller Systems Inc. offers, we also have the ability to custom build units to each customers particular needs.

Please contact the factory or your Legacy Representative for a special application.

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Due to manufacturers'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.

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NOMENCLATURE

Example: F P AC T 50 S 1 - S1 - H

<u>F</u>	F = Fractional Line
<u>P</u>	P = Packaged ES = Evaporator Section CS = Condenser Section
<u>AC</u>	AC = Air-Cooled Condenser
<u>T</u>	T = Tank Model
<u>50</u>	Nominal HP Ex. 50 = 1/2 HP
<u>S</u>	S = Single Circuit Unit
<u>1</u>	1 = R134a
<u>S1</u>	Electrical Requirement S1 = 115-1-60 S2 = 208/230-1-60
<u>H</u>	Compressor Type H = 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

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

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

25S - 100S FRACTIONAL LINE CHILLERS

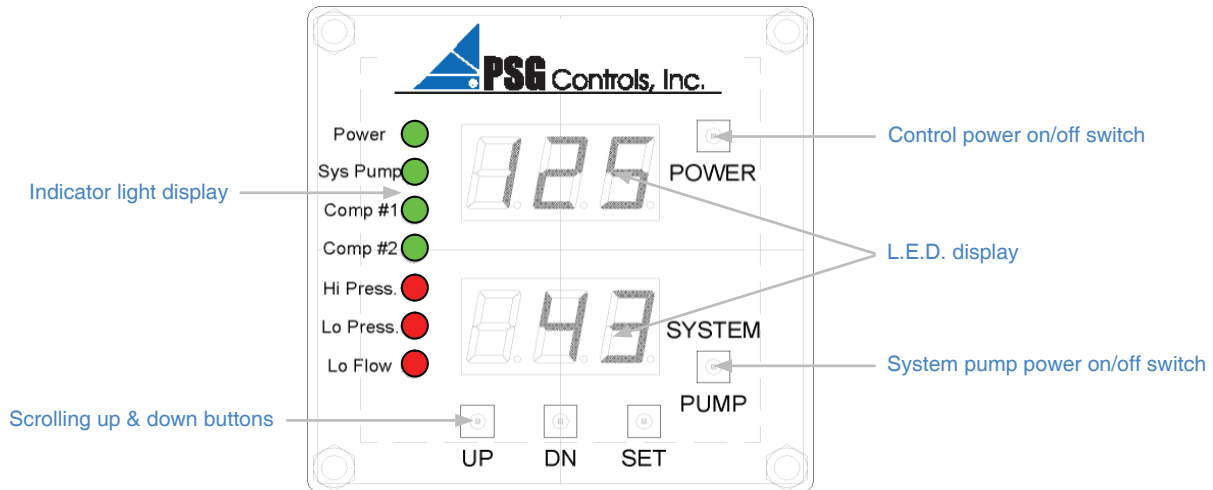
Capacity Table

MODEL	COMPRESSOR	LWT °F	70			80			90			95			100			105		
			BTUH	KW	EER	BTUH	KW	EER	BTUH	KW	EER	BTUH	KW	EER	BTUH	KW	EER	BTUH	KW	EER
25S	NEK6170Z	42.0	2,950	.305	7.2	2,700	.320	6.5	2,450	.335	5.7	2,380	.342	5.4	2,280	.350	5.1	2,130	.361	4.6
		44.0	3,050	.310	7.5	2,800	.325	6.7	2,570	.343	8.9	2,490	.350	5.6	2,380	.358	5.2	2,240	.370	4.8
		45.0	3,125	.313	7.6	2,900	.328	6.8	2,650	.345	6.0	2,550	.355	5.7	2,450	.361	5.3	2,310	.374	4.9
		50.0	3,400	.328	8.1	3,200	.345	7.2	2,980	.362	6.4	2,850	.375	5.9	2,770	.382	5.6	2,660	.390	5.3
33S	NEK6187Z	42.0	3,500	.350	7.8	3,230	.365	6.9	2,960	.382	6.2	2,830	.391	5.8	2,700	.401	5.4	2,600	.408	5.1
		44.0	3,650	.358	8.0	3,380	.372	7.2	3,100	.391	6.3	2,980	.400	6.0	2,820	.409	5.6	2,700	.418	5.3
		45.0	3,750	.361	8.1	3,460	.377	7.3	3,190	.396	6.4	3,050	.405	6.1	2,900	.414	5.7	2,770	.423	5.4
		50.0	4,000	.380	8.6	3,760	.398	7.7	3,500	.417	6.8	3,390	.426	6.4	3,280	.435	6.1	3,130	.446	5.7
50S	T6215Z	42.0	6,420	.730	7.7	5,910	.752	6.9	5,400	.780	6.2	5,180	.795	5.8	4,900	.810	5.4	4,670	.821	5.1
		44.0	6,710	.749	7.9	6,200	.772	7.1	5,680	.800	6.3	5,400	.815	5.9	5,120	.830	5.5	4,890	.842	5.2
		45.0	6,850	.758	8.0	6,600	.780	7.2	5,800	.810	6.4	5,500	.825	6.0	5,250	.840	5.6	5,000	.852	5.3
		50.0	7,430	.800	8.5	6,950	.826	7.6	6,490	.860	6.7	6,200	.880	6.3	5,990	.891	5.9	5,750	.910	5.5
75S	RR81C2E	42.0	9,450	.920	8.4	8,600	.960	7.4	7,700	.990	6.5	7,300	1.01	6.1	6,900	1.01	5.7	6,500	1.02	5.3
		44.0	9,900	.941	8.7	9,000	.983	7.6	8,150	1.02	6.7	7,700	1.03	6.3	7,300	1.03	5.9	6,850	1.05	5.5
		45.0	10,100	.955	8.8	9,200	1.00	7.7	8,300	1.03	6.8	7,900	1.04	6.4	7,500	1.04	6.0	7,000	1.06	5.6
		50.0	11,300	1.02	9.3	10,350	1.06	8.2	9,300	1.09	7.3	8,850	1.11	6.8	8,400	1.12	6.4	7,950	1.13	6.0
100S	RR10K2E	42.0	10,800	1.05	8.7	9,900	1.07	7.9	9,000	1.09	7.0	8,600	1.10	6.6	8,200	1.11	6.3	7,700	1.12	5.8
		44.0	11,300	1.07	8.9	10,400	1.10	8.1	9,500	1.13	7.3	9,000	1.14	6.8	8,700	1.15	6.4	8,200	1.16	6.0
		45.0	11,600	1.09	9.0	10,700	1.11	8.2	9,700	1.14	7.4	9,300	1.15	6.9	8,900	1.16	6.5	8,400	1.18	6.1
		50.0	12,700	1.16	9.5	11,900	1.19	8.6	11,000	1.23	7.7	10,600	1.24	7.2	10,200	1.25	6.9	9,800	1.27	6.5

- Capacities on this chart are based on refrigerant R134a. Low ambient or lower leaving water temperatures can require the use of a glycol solution or other fluid blends. These solutions affect unit capacities. Please consult the factory on these or other special fluids.
- KW input is for compressor(s) only.
- EER = Energy Efficiency Ratio (BTU/watt-hour). Power inputs include compressor(s), condenser fan motor(s) and control power.



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 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

FPACT - FRACTIONAL LINE

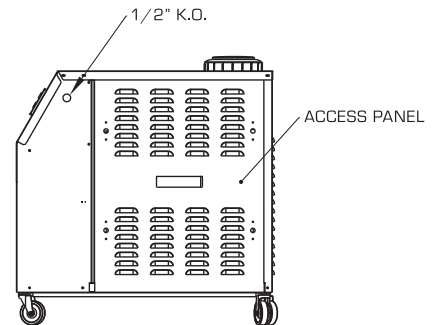
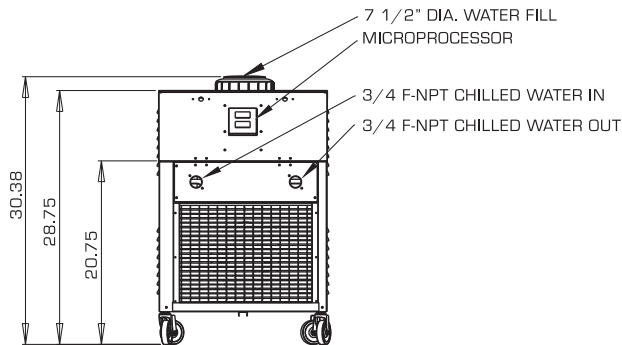
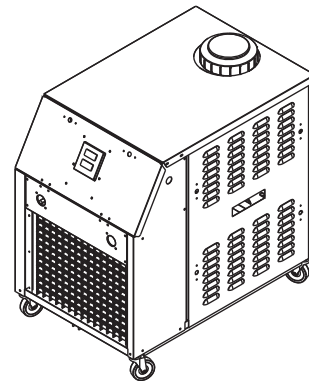
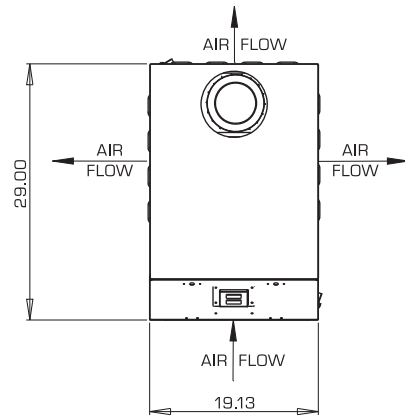
R134a Packaged, Air-Cooled Chillers with Tank

Dimensional and Electrical Specifications

MODEL	BTUH @ 95°F AMB. 50°F Lwt	LENGTH IN.	WIDTH IN.	HEIGHT IN.	TANK GAL.	FLUID CONN.	COMPRESSOR		RLA EA	LRA EA	FAN MOTOR		CHILLER PUMP HP	CHILLER PUMP FLA	MCA	M.O.P.	WT. LBS.
							QTY	HP			QTY	FLA EA.					
25S1-S1-H	2,850	29	19.25	30.5	2.5	3/4" FPT	1	1/4	3.9	28.5	1	0.81	1/12	1.75	15	15	125
33S1-S1-H	3,400							1/3	4.6	37.0					20	25	
50S1-S1-H	6,200							1/2	11.0	45.0					30	40	
75S1-S1-H	9,200		2	24.25				34.5	3/4	15.2	66.3	1/3	4.4	30	40		
100S1-S1-H	10,600	1			16.9	78.0	30		40								

Standard Features

- ETL listed
- Microprocessor controller (see page 6 for details)
- Hermetic compressor
- **STAINLESS STEEL**, brazed plate evaporator with 1/2" insulation and secured in a steel bracket
- Casters (factory mounted)
- Fused, **STAINLESS STEEL** chiller circulation pump
- Insulated polyethylene reservoir tank
- 24V control transformer
- Tubeaxial condenser fan
- Condenser(s): copper tube/aluminum fin
- Compressor motor contactor
- Control circuit fuse
- Painted, galvanized sheet metal cabinet
- 1/2" insulation on all water and low pressure refrigerant lines
- Liquid line drier, sightglass, solenoid, TEV
- Complete refrigerant charge from factory



NOTE: APPROXIMATE NET WEIGHT - 125 LBS EMPTY
2 1/2 GALLON WATER RESERVOIR



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