

FOR THE BEST COMMERCIAL REFRIGERATION EQUIPMENT
CONTACT YOUR LOCAL RUSSELL DISTRIBUTOR

REACH-IN unit coolers

WALK-IN unit coolers

WAREHOUSE unit coolers

LOW VELOCITY unit coolers

HERMETIC CONDENSING UNITS

SEMI-HERMETIC CONDENSING UNITS

REMOTE AIR COOLED CONDENSERS

REMOTE FLUID COOLERS

AIR HANDLERS AND ACCESSORIES

SURFACE COILS

HEAT RECLAIM UNITS AND COILS

SIERRA SYSTEMS

CUSTOMIZED PRODUCTS

RUSSELL

3050 Enterprise St. • P.O. Box 1030

Brea, CA USA 92822-1030

Phone 714 529-1935 • Fax 714 529-7203

www.russellcoil.com

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Russell

QUICK

SELECTIONS

**Refrigerated Box
Loads and Equipment**

Publication 810.3

April 2005

THIS QUICK SELECT POCKET GUIDE
BELONGS TO

ADDRESS _____
CITY-ST-ZIP _____
PHONE _____

IN EMERGENCY _____

NOTIFY _____

PHONE _____

OFFICE _____

DOCTOR _____

PHONE _____

MEDICAL INS _____

RUSSELL REP. _____

PHONE # _____

PARTS HOUSE _____

PHONE# _____

CONTACT NAME _____

OTHER IMPORTANT NUMBERS



Headquarters

Sales and Administration
3050 Enterprise St.
P. O. Box 1030
Brea, California 92822-1030

Telephone

714 529-1935

Fax

714 529-7203

Website

www.russellcoil.com

Manufacturing locations

Scottsboro, Alabama
Yuma, Arizona

Warehouse locations

Ontario, California
Dallas, Texas
Covington, Georgia
Yuma, Arizona
Scottsboro, Alabama
Chicago, Illinois

USING THE QUICK SELECT

Quick select tables are provided for the convenience of the contractor, installer, or salesman for estimating purposes only. Final selection should be made using information available in Russell's Refrigeration Manual or Computer Selection Program. Quick selection tables will permit the rapid choice of a balanced refrigeration system that will satisfy the stated load. All selections have been made by utilizing standard catalog product, however, if custom product is required, Russell is ready to work with you.

STANDARD CONDITIONS FOR QUICK SELECT

Selections are based upon frequently encountered design conditions. Air change and product loads have been calculated with a HEAVY USAGE factor and 10°F temperature reduction for a normal amount of product entering daily. For large rooms or special applications we suggest that you contact your **Russell** distributor or salesman for a computer generated load calculation and equipment selection. Product loads will increase substantially for quick chill, product freezing, product pull down or blast freezing.

Due to variations in box construction and usage at individual installations, **Russell** assumes no liability for selections, information, or recommendations contained in this booklet.

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Minicon Description

Minicon R-Series condensing units are ideally suited for use in a variety of commercial applications such as caterers, convenience stores, restaurants and fast food outlets. R-Series units offer a winning combination of quality, economy, and flexibility coupled with lower long term operating costs.

This low profile product line has been designed around environmentally safe refrigerants. All models utilize R-22 or R-404A. Units are available with a choice of compressors: low cost hermetic and scroll or heavy duty semi-hermetic and discus. In addition to the basic Indoor and Outdoor models described in this bulletin, Russell can also provide pre-engineered system packages with matching evaporators and accessories.

These Minicon condensing units are designed for operation in ambient air temperatures up to 110°F. Oversized condensers are available for most models. Contact Applications Engineering department for requirements exceeding 110°F ambient temperature.

Indoor/Outdoor Models (RES / REH / RED / REO)

- * Semi - Hermetic, Scroll or Discus Compressors
- * Low Profile, copper tube/aluminum fin air cooled condenser
- * Large electrical control panel for power and control circuits
- * Compressor contactor or start kit.
- * Encapsulated high and low pressure controls (adjustable low pressure control on low temp models)
- * Refrigerant receiver with Shut Off valve and relief plug
- * All - weather Housing with raised base
- * UL and cUL listed for indoor or outdoor use

Optimized Packaged Units (RLH / RLS / RLD / RLO)

- * Includes all indoor model features - plus:
 - * Liquid line kit with filter/drier and sight glass with moisture indicator
 - * Suction line piping to exterior of cabinet
 - * Low Ambient - flooded head pressure control valve
 - * Crankcase heater
 - * Electric defrost timer with defrost contactor/relay on low temperature models (ED1-0-230/1)
 - * Air Defrost Timer (2-1/2 through 6 HP High and Medium temp models only, optional for other HP)

Options

- * Winter Low Ambient Flooded control (for 1 1/2 and 2 H.P. units and all Hermetic Units)
- * Outdoor Housing kit for Indoor models
- * Factory installed Air Defrost Timer with contactors and relays
- * Factory installed Electric Defrost Timer with contactors and relays
- * Copper Fins, or Coated Condenser coil
- * Tiered Stacking
- * Liquid Line Solenoid (field installed)
- * Pressure Relief Valve
- * Fused Disconnect (field installed)
- * Suction Accumulator
- * Oil Separator
- * High Ambient Condenser Coil

Plus much more...see catalog 502 for more details or look us up on the web at www.russellcoll.com

Minicon - R Series

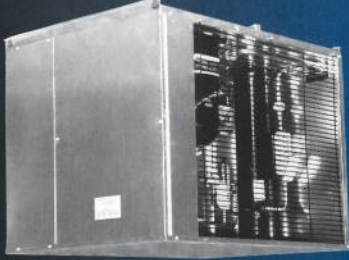
Air Cooled Condensing Units 1/2 Through 6 H.P.

Publication No. 502

1/2 to 3 HP Models



4 to 6 HP Models



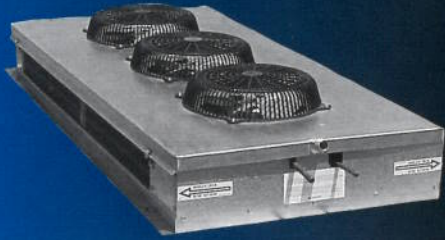
Low, Medium and High Temperature units

R-22 AND R-404A, Hermetic, Semi-Hermetic, discus and scroll compressors

Outdoor and Indoor applications

Extra Low Profile Unit Cooler

Model CTA and CTE



FOR WALK-IN COOLERS AND FREEZERS

40 models with capacity from 4,800 to 25,000 BTUH @ 10° TD

The *Ceiling-Temp* unit cooler is designed for use in walk-in coolers and freezers with low headroom clearance. Typically used in convenience stores, supermarkets, restaurants and other cold storage requirements. The units low height saves valuable shelf space. It's dual air flow design provides even temperatures throughout the box.

- Ideal for use in boxes with glass doors
- Available in air and electric defrost
- Flush to the ceiling mounting- meets NSF standards
- Slotted hangers for easy installation
- Hinged drain pan for easy service access
- Optional white enamel coating
- Angled drain fitting is *sloped* to reduce loss of useful storage space
- Computerized coil circuiting is used to enhance unit performance
- Staggered copper tubes are expanded into corrugated Aluminum fins for increased heat transfer

Low Profile Unit Cooler

Model AA, AE, AH and AG



**Now with Quick
Access End Panels**



FOR WALK-IN COOLERS AND FREEZERS

95 models with capacity from 3,600 to 39,000 BTUH @ 10° TD

The *All-Temp²B* unit cooler is the original low profile unit cooler that has established an industry standard as being the all purpose design for walk in coolers and freezers. It utilizes an air draw through design which features air, electric and hot gas defrost models. Typical uses would be convenience stores, supermarkets, restaurants and other cold storage requirements.

- Available in air, electric and hot gas defrost
- Internal placement of defrost heaters for extremely rapid defrost
- Separate defrost termination and fan delay thermostats allowing ideal location for each control function
- Flush to the ceiling mounting- meets NSF standards
- Slotted hangers for easy installation
- Hinged drain pan for easy service access
- Heavy gauge, rust-free Aluminum housing
- Angled drain fitting is *sloped* to reduce loss of useful storage space
- Computerized coil circuiting is used to enhance unit performance
- Staggered copper tubes are expanded into corrugated Aluminum fins for increased heat transfer

35°F WALK-IN COOLERS

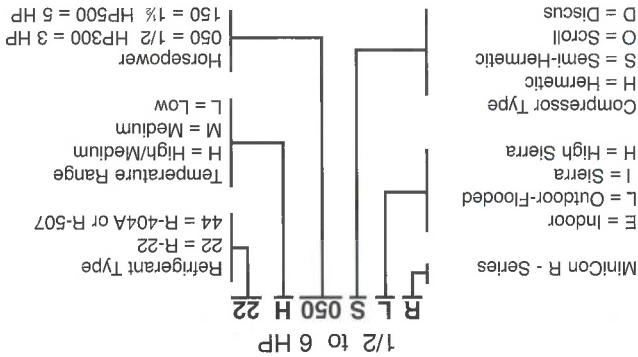
EVAORATOR MODEL & TD		AA	TD	CTA	TD	AA**	TD
OUTSIDE	TOTAL	COND.	DIMENS.	LOAD	BTUH	FEET	TD
9.9	9.9	051H22	6 x 6	5900	18-53B	16-59B	9.9
9.6	9.6	075H22	6 x 8	6600	18-66B	26-70B	9.6
9.6	9.6	075H22	6 x 10	7800	28-76B	26-70B	9.6
10.9	10.9	100H22	6 x 12	8700	28-76B	26-87B	10.9
10.9	10.9	100H22	8 x 8	8100	28-76B	26-87B	10.9
10.8	10.8	100H22	8 x 10	9200	28-87B	26-87B	10.8
10.9	10.9	100H22	8 x 12	10300	28-106B	26-87B	10.9
10.9	10.9	151H22	8 x 14	11100	28-106B	26-115B	10.9
10.9	10.9	151H22	8 x 16	12100	28-122B	26-115B	10.9
8.6	8.6	100H22	10 x 10	10600	28-106B	26-115B	8.6
10.9	10.9	151H22	10 x 12	11600	28-122B	26-115B	10.9
10.9	10.9	151H22	10 x 14	12800	28-134B	26-115B	10.9
9.0	9.0	151H22	10 x 16	14040	28-134B	36-145B	9.0
11.4	11.4	201H22	10 x 18	15300	38-160B	36-145B	11.4
10.0	10.0	201H22	10 x 20	16500	38-160B	36-170B	10.0
10.4	10.4	151H22	12 x 12	13000	28-134B	36-145B	10.4
10.4	10.4	201H22	12 x 14	14500	28-134B	36-145B	10.4
10.0	10.0	201H22	12 x 16	15900	38-160B	36-170B	10.0
10.0	10.0	201H22	12 x 18	17300	38-160B	36-170B	10.0
10.0	10.0	201H22	12 x 20	17800	38-195B	36-170B	10.0
11.3	11.3	251H22	12 x 22	19000	38-195B	46-192B	11.3
11.3	11.3	251H22	12 x 24	20300	38-195B	46-192B	11.3
10.0	10.0	201H22	14 x 14	16100	38-160B	36-170B	10.0
10.0	10.0	201H22	14 x 16	16800	38-160B	36-170B	10.0
11.3	11.3	251H22	14 x 18	18400	38-195B	46-192B	11.3
11.3	11.3	251H22	14 x 20	19800	38-195B	46-192B	11.3
9.8	9.8	251H22	14 x 22	21300	48-212B	46-230B	9.8
9.8	9.8	251H22	14 x 24	22200	48-212B	46-230B	9.8
11.3	11.3	251H22	16 x 16	18500	38-195B	46-192B	11.3
11.3	11.3	251H22	16 x 18	20200	38-195B	46-192B	11.3
9.8	9.8	251H22	16 x 20	21900	48-212B	46-230B	9.8
9.8	9.8	251H22	16 x 24	24600	48-264B	56-245B	9.8
9.5	9.5	301H22	16 x 28	27700	58-275B	66-295B	9.5
9.8	9.8	251H22	18 x 18	22000	48-212B	46-230B	9.8
9.8	9.8	251H22	18 x 20	23300	48-212B	46-230B	9.8
9.5	9.5	301H22	18 x 26	28800	58-275B	66-295B	9.5
8.4	8.4	301H22	18 x 30	30120	58-275B	66-295B	8.4
11.0	11.0	301H22	20 x 20	25300	48-264B	56-245B	11.0
11.1	11.1	401H22	20 x 26	31000	58-275B	66-295B	11.1
11.1	11.1	401H22	20 x 30	34200	58-275B	66-295B	11.1
11.1	11.1	401H22	24 x 24	33000	58-275B	66-295B	11.1
10.1	10.1	401H22	24 x 30	39500	58-275B	66-295B	10.1

* Estimated box load requirement, not system capacity.

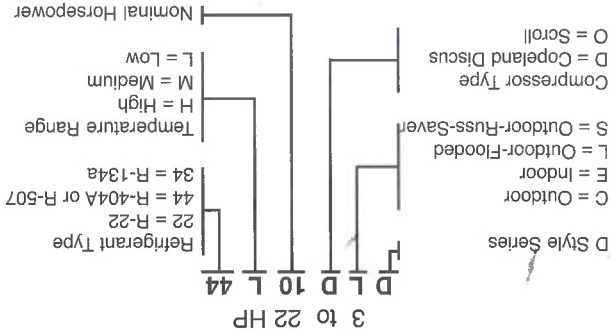
Polyurethane insulation - 4 inches or equivalent
 Approximate compressor run time - 16 hours
 Outdoor ambient - 95°F

Room height - 9 feet, usable for 8 to 10 feet
 Alternate 6 FPI Evaporator selection

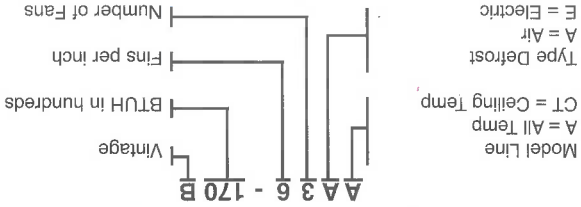
MiniCon Nomenclature



D Series Nomenclature



Evaporator Nomenclature



35°F WALK-IN COOLERS

35°F WALK-IN COOLERS RUSSELL SCROLL R-404A/507 SYSTEMS

OUTSIDE DIMENS.	TOTAL LOAD	COND. UNIT	EVAPORATOR MODEL & TD	
			AA**	TD
6 x 6	5900	050M44	18-538	8.8
6 x 8	6600	075M44	18-668	10.9
6 x 10	7800	075M44	28-768	11.5
6 x 12	8700	075M44	28-978	9.6
8 x 8	8100	075M44	28-768	10.1
8 x 10	9200	101M44	28-978	9.6
8 x 12	10300	101M44	28-1068	11.3
8 x 14	11100	101M44	28-1068	10.0
8 x 16	12100	101M44	28-1228	10.0
10 x 10	10600	101M44	28-1068	11.3
10 x 12	11600	101M44	28-1068	10.0
10 x 14	12800	101M44	28-1228	10.0
10 x 16	14000	150M44	38-1348	10.0
10 x 18	15300	150M44	38-1608	10.0
10 x 20	16500	150M44	38-1608	8.8
12 x 12	13000	150M44	28-1348	12.1
12 x 14	14500	150M44	28-1348	10.0
12 x 16	15900	150M44	38-1608	9.1
12 x 18	17300	201M44	38-1608	12.8
12 x 20	17800	201M44	38-1608	12.3
12 x 22	19000	201M44	38-1958	11.2
12 x 24	20300	201M44	38-1958	11.2
14 x 14	16100	201M44	38-1608	12.8
14 x 16	16800	201M44	38-1608	12.3
14 x 18	18400	201M44	38-1958	11.2
14 x 20	19800	201M44	38-1958	11.2
14 x 22	21300	201M44	48-2128	9.6
14 x 24	22200	201M44	48-2128	9.6
16 x 16	18500	201M44	38-1958	11.2
16 x 18	20200	201M44	38-1958	11.2
16 x 20	21900	201M44	48-2128	9.6
16 x 24	24600	300M44	48-2648	10.4
16 x 28	27700	300M44	58-2758	8.9
18 x 18	22000	250M44	48-2128	10.4
18 x 20	23800	250M44	48-2128	9.6
18 x 26	28800	300M44	58-2758	9.2
18 x 30	32020	301M44	68-3188	9.4
20 x 20	25500	48-2648	58-2758	9.6
20 x 26	31000	301M44	68-3188	10.8
20 x 30	34200	301M44	68-3188	9.4
24 x 24	33000	301M44	68-3188	9.4
24 x 30	39500	400M44	68-3908	10.8

* Estimated box load requirement, not system capacity.

Polyurethane insulation - 4 inches or equivalent

Approximate compressor run time - 16 hours

Outdoor ambient - 95°F

Room height - 9 feet, usable for 8 to 10 feet

** Alternate 6 FPI Evaporator selection

OUTSIDE DIMENS.	TOTAL LOAD	COND. UNIT	EVAPORATOR MODEL & TD	
			AA**	TD
6 x 6	5900	050M44	18-538	8.8
6 x 8	6600	075M44	18-668	10.9
6 x 10	7800	075M44	28-768	11.5
6 x 12	8700	075M44	28-978	9.6
8 x 8	8100	075M44	28-768	10.1
8 x 10	9200	101M44	28-978	9.6
8 x 12	10300	101M44	28-1068	11.3
8 x 14	11100	101M44	28-1068	10.0
8 x 16	12100	101M44	28-1228	10.0
10 x 10	10600	101M44	28-1068	11.3
10 x 12	11600	101M44	28-1068	10.0
10 x 14	12800	101M44	28-1228	10.0
10 x 16	14000	150M44	38-1348	10.0
10 x 18	15300	150M44	38-1608	10.0
10 x 20	16500	150M44	38-1608	8.8
12 x 12	13000	150M44	28-1348	12.1
12 x 14	14500	150M44	28-1348	10.0
12 x 16	15900	150M44	38-1608	9.1
12 x 18	17300	201M44	38-1608	12.8
12 x 20	17800	201M44	38-1608	12.3
12 x 22	19000	201M44	38-1958	11.2
12 x 24	20300	201M44	38-1958	11.2
14 x 14	16100	201M44	38-1608	12.8
14 x 16	16800	201M44	38-1608	12.3
14 x 18	18400	201M44	38-1958	11.2
14 x 20	19800	201M44	38-1958	11.2
14 x 22	21300	201M44	48-2128	9.6
14 x 24	22200	201M44	48-2128	9.6
16 x 16	18500	201M44	38-1958	10.4
16 x 18	20200	201M44	38-1958	9.6
16 x 20	21900	250M44	48-2128	10.4
16 x 24	24600	250M44	48-2648	10.4
16 x 28	27700	300M44	58-2758	8.9
18 x 18	22000	250M44	48-2128	10.4
18 x 20	23800	250M44	48-2128	9.6
18 x 26	28800	300M44	58-2758	9.2
18 x 30	32020	301M44	68-3188	9.4
20 x 20	25500	48-2648	58-2758	9.6
20 x 26	31000	301M44	68-3188	10.8
20 x 30	34200	301M44	68-3188	9.4
24 x 24	33000	301M44	68-3188	9.4
24 x 30	39500	400M44	68-3908	10.8

* Estimated box load requirement, not system capacity.

Polyurethane insulation - 4 inches or equivalent

Approximate compressor run time - 16 hours

Outdoor ambient - 95°F

Room height - 9 feet, usable for 8 to 10 feet

** Alternate 6 FPI Evaporator selection

OUTSIDE DIMENS.	TOTAL LOAD	COND. UNIT	EVAPORATOR MODEL & TD	
			AA**	TD
6 x 6	5900	050M44	18-538	8.8
6 x 8	6600	075M44	18-668	10.9
6 x 10	7800	075M44	28-768	11.5
6 x 12	8700	075M44	28-978	9.6
8 x 8	8100	075M44	28-768	10.1
8 x 10	9200	101M44	28-978	9.6
8 x 12	10300	101M44	28-1068	11.3
8 x 14	11100	101M44	28-1068	10.0
8 x 16	12100	101M44	28-1228	10.0
10 x 10	10600	101M44	28-1068	11.3
10 x 12	11600	101M44	28-1068	10.0
10 x 14	12800	101M44	28-1228	10.0
10 x 16	14000	150M44	38-1348	10.0
10 x 18	15300	150M44	38-1608	10.0
10 x 20	16500	150M44	38-1608	8.8
12 x 12	13000	150M44	28-1348	12.1
12 x 14	14500	150M44	28-1348	10.0
12 x 16	15900	150M44	38-1608	9.1
12 x 18	17300	201M44	38-1608	12.8
12 x 20	17800	201M44	38-1608	12.3
12 x 22	19000	201M44	38-1958	11.2
12 x 24	20300	201M44	38-1958	11.2
14 x 14	16100	201M44	38-1608	12.8
14 x 16	16800	201M44	38-1608	12.3
14 x 18	18400	201M44	38-1958	11.2
14 x 20	19800	201M44	38-1958	11.2
14 x 22	21300	201M44	48-2128	9.6
14 x 24	22200	201M44	48-2128	9.6
16 x 16	18500	300M44	48-2648	10.2
16 x 18	20200	201M44	48-2128	10.2
16 x 20	21900	201M44	48-2128	9.6
16 x 24	24600	300M44	48-2648	10.4
16 x 28	27700	300M44	58-2758	8.9
18 x 18	22000	201M44	48-2128	10.2
18 x 20	23800	201M44	48-2128	9.6
18 x 26	28800	300M44	58-2758	9.2
18 x 30	32020	301M44	68-3188	9.4
20 x 20	25500	48-2648	58-2758	9.6
20 x 26	31000	301M44	68-3188	10.8
20 x 30	34200	301M44	68-3188	9.4
24 x 24	33000	301M44	68-3188	9.4
24 x 30	39500	400M44	68-3908	10.8

35°F WALK-IN COOLERS

OUTSIDE DIMENS.	TOTAL COND.	EVAPORATOR MODEL & TD		AA	TD
		RLS	AA**		
6 X 6	5900	075H22	18-538	11.9	11.1
6 X 10	7800	075H22	28-765	8.9	9.6
6 X 12	8700	100H22	28-978	9.5	10.4
8 X 8	8100	100H22	28-768	11.6	10.4
8 X 10	9200	100H22	38-88	10.3	10.4
8 X 12	10300	100H22	48-112	10.8	10.6
10 X 14	11600	150H22	28-122B	11.3	12.0
10 X 16	12800	150H22	28-134B	9.4	12.0
10 X 18	14200	200H22	38-160B	10.4	13.0
10 X 20	15300	200H22	48-210	10.3	13.0
12 X 12	16500	200H22	38-195B	8.8	8.9
12 X 14	17800	200H22	38-195B	8.8	8.9
12 X 16	18400	200H22	38-195B	8.8	8.9
12 X 18	19300	200H22	38-195B	8.8	8.9
12 X 20	20300	200H22	38-195B	8.8	8.9
12 X 22	21300	300M44	48-210	11.8	11.0
14 X 14	16100	200H22	38-160B	10.4	9.9
14 X 16	16800	200M44	36-170B	10.3	9.9
14 X 18	17300	200M44	36-170B	10.3	9.9
14 X 20	18400	200M44	36-170B	10.3	9.9
14 X 22	19800	300M44	46-192B	8.9	8.9
14 X 24	21300	300M44	46-192B	8.9	8.9
16 X 16	18500	200M44	48-210	11.8	11.0
16 X 18	20200	300M44	46-192B	9.0	8.9
16 X 20	21900	300M44	46-192B	9.0	8.9
16 X 22	22700	300M44	46-192B	9.0	8.9
16 X 24	24600	300M44	46-192B	9.0	8.9
16 X 26	26800	400M22	58-275B	9.5	10.4
16 X 28	27700	300M44	48-212B	11.7	11.0
18 X 18	22000	300H22	48-212B	11.7	11.0
18 X 20	23300	300H22	48-212B	11.7	11.0
18 X 22	23300	300M44	48-212B	11.7	11.0
18 X 24	24600	300M44	48-212B	11.7	11.0
18 X 26	26800	400M22	58-275B	9.5	10.4
18 X 30	34200	400M22	68-318B	9.9	10.5
20 X 30	42000	400M22	68-318B	9.9	10.5
24 X 24	33000	400M22	68-318B	9.9	9.4
24 X 30	39500	400M44	68-318B	9.8	9.4
24 X 36	45600	45600	68-318B	9.8	9.4

* Estimated box load requirement, not system capacity.

Polyurethane insulation - 4 inches or equivalent

Approximate compressor run time - 16 hours

Outdoor ambient - 95°F

Room height - 9 feet, usable for 8 to 10 feet
 ** Alternate 6 FPI Evaporator selection

35°F WALK-IN COOLERS

OUTSIDE DIMENS.	TOTAL COND.	EVAPORATOR MODEL & TD		AA	TD
		RLS	AA**		
6 X 8	6600	100M44	18-66B	12.2	11.6
6 X 10	7800	100M44	28-76B	10.8	11.6
6 X 12	8700	100M44	28-97B	8.8	9.6
8 X 8	8100	100M44	28-76B	10.8	10.4
8 X 10	9200	100M44	28-97B	8.8	10.4
8 X 12	10300	100M44	28-106B	8.1	10.4
8 X 14	11100	200M44	28-106B	12.8	12.0
8 X 16	12100	200M44	28-122B	11.4	12.0
10 X 10	11600	200M44	28-106B	12.8	12.0
10 X 12	12600	200M44	28-106B	12.8	12.0
10 X 14	12800	200M44	28-122B	11.4	12.0
10 X 16	13000	200M44	28-134B	10.6	12.0
10 X 18	14500	200M44	28-134B	10.6	12.0
10 X 20	15900	200M44	38-160B	9.1	12.0
10 X 22	17300	200M44	38-160B	9.1	12.0
10 X 24	17800	200M44	38-160B	9.1	12.0
12 X 12	19000	300M44	38-195B	12.8	12.9
12 X 14	20300	300M44	38-195B	12.8	12.9
12 X 16	20300	300M44	38-195B	12.8	12.9
12 X 18	21300	300M44	38-195B	12.8	12.9
12 X 20	22200	300M44	48-212B	11.9	12.9
12 X 22	23000	300M44	48-212B	11.9	12.9
14 X 14	16100	200M44	38-160B	9.1	8.6
14 X 16	16800	200M44	38-160B	9.1	8.6
14 X 18	17300	200M44	38-160B	9.1	8.6
14 X 20	18400	200M44	38-160B	9.1	8.6
14 X 22	19800	300M44	38-195B	12.8	8.6
14 X 24	21300	300M44	38-195B	12.8	8.6
16 X 16	18500	200M44	48-212B	11.9	8.6
16 X 18	20200	300M44	46-192B	9.0	8.6
16 X 20	21900	300M44	46-192B	9.0	8.6
16 X 22	22700	300M44	46-192B	9.0	8.6
16 X 24	24600	300M44	46-192B	9.0	8.6
16 X 26	26800	400M44	58-275B	11.1	8.6
16 X 28	27700	300M44	48-212B	11.9	8.6
18 X 18	22000	300H22	48-212B	11.9	8.6
18 X 20	23300	300H22	48-212B	11.9	8.6
18 X 22	23300	300M44	48-212B	11.9	8.6
18 X 24	24600	300M44	48-212B	11.9	8.6
18 X 26	26800	400M22	58-275B	9.8	8.6
18 X 30	34200	400M22	68-318B	9.8	8.6
20 X 30	42000	400M22	68-318B	9.8	8.6
24 X 24	33000	400M44	68-318B	9.8	8.6
24 X 30	39500	400M44	68-318B	9.8	8.6
24 X 36	45600	45600	68-318B	9.8	8.6

* Estimated box load requirement, not system capacity.

Polyurethane insulation - 4 inches or equivalent

Approximate compressor run time - 16 hours

Outdoor ambient - 95°F

Room height - 9 feet, usable for 8 to 10 feet
 ** Alternate 6 FPI Evaporator selection

RUSSELL SEMI-HERMETIC R-404A/507 SYSTEMS

0°F WALK-IN FREEZERS

RUSSELL HERMETIC R-404A/507 SYSTEMS

OUTSIDE DIMENS. FEET	TOTAL LOAD BTUH	COND. UNIT RLT.	EVAPORATOR MODEL & TD	
			AE	TD
6 x 6	6300	H165L44	26-60B	12.0
6 x 8	7100	H165L44	26-75B	36-69
6 x 10	8000	H165L44	26-75B	46-90
6 x 12	8700	H165L44	26-92B	8.6
8 x 8	8200	H165L44	26-75B	46-77
8 x 10	9100	H165L44	26-92B	8.6
8 x 12	10000	H215L44	26-92B	12.3
8 x 14	12100	H215L44	36-120B	10.1
10 x 14	13100	H215L44	36-120B	10.1
10 x 16	13100	H215L44	36-120B	9.7
10 x 18	14100	H215L44	36-140B	8.9
12 x 20	15100	H315L44	46-140	10.7
12 x 12	12300	H215L44	36-120B	10.1
12 x 14	13400	H215L44	36-120B	10.1
12 x 16	14600	H215L44	36-140B	8.9
12 x 18	15700	H315L44	46-140	10.7
12 x 20	16200	H315L44	46-164B	9.5
12 x 22	17200	H315L44	46-164B	9.5
12 x 24	18300	O400L44	46-185B	10.3
14 x 14	14700	H215L44	46-140B	8.9
14 x 16	15400	H315L44	46-140B	10.8
14 x 18	16600	O301L44	46-164B	9.3
14 x 20	17800	O400L44	46-185B	10.3
14 x 24	19800	O400L44	46-185B	10.3
16 x 16	16800	O301L44	46-164B	9.3
16 x 18	18100	O400L44	46-164B	11.3
16 x 20	19400	O400L44	46-185B	10.3
16 x 24	21600	O400L44	56-160	11.5
16 x 28	24000	O500L44	66-245B	9.4
18 x 18	19500	O400L44	46-185B	10.3
18 x 20	20600	O400L44	56-210B	9.3
18 x 24	22100	O500L44	56-210B	10.8
18 x 26	26500	O600L44	66-245B	10.7
20 x 24	28100	O600L44	66-280B	9.6
24 x 24	29000	D400L44	(2) 46-140	9.5

* Estimated box load requirement, not system capacity.
 Polyurethane insulation - 4 inches or equivalent
 Approximate compressor run time - 18 hours
 Outdoor ambient - 95°F
 Room height - 9 feet, usable for 8 to 10 feet

0°F WALK-IN FREEZERS

RUSSELL SEMI-HERMETIC R-404A/507 SYSTEMS

OUTSIDE DIMENS. FEET	TOTAL LOAD BTUH	COND. UNIT RLT.	EVAPORATOR MODEL & TD	
			AE	TD
6 x 6	6300	S150L44	26-60B	13.0
6 x 8	7100	S150L44	26-75B	10.9
6 x 10	8000	S150L44	26-75B	10.9
6 x 12	8700	S150L44	26-75B	10.9
8 x 8	8200	S150L44	26-75B	10.9
8 x 10	9100	S200L44	26-92B	9.2
8 x 12	10000	S200L44	26-92B	11.3
8 x 14	10700	S200L44	26-92B	11.3
8 x 16	11600	S200L44	36-120B	9.2
10 x 10	10200	S200L44	36-120B	11.3
10 x 12	11100	S200L44	36-120B	9.2
10 x 14	12100	S200L44	36-120B	9.2
10 x 16	13100	S250L44	36-120B	10.0
10 x 18	14100	S300L44	36-140B	11.2
10 x 20	15100	S300L44	36-140B	11.2
12 x 12	12300	S200L44	36-120B	9.2
12 x 14	13400	S250L44	36-120B	10.0
12 x 16	14600	S300L44	36-140B	11.2
12 x 18	15700	S300L44	36-140B	11.2
12 x 20	16200	S300L44	46-164B	9.9
12 x 22	17200	S300L44	46-164B	9.9
12 x 24	18300	S300L44	46-185B	9.0
14 x 14	14700	S300L44	36-140B	11.2
14 x 16	15400	S300L44	36-140B	11.2
14 x 18	16600	S300L44	46-164B	9.9
14 x 20	17800	S300L44	46-164B	9.9
16 x 16	16800	S300L44	46-164B	9.9
16 x 18	18100	S300L44	46-185B	9.0
16 x 20	19400	D300L44	46-185B	11.9
16 x 24	21600	D300L44	56-210B	10.8
16 x 28	24000	D300L44	66-245B	9.5
18 x 18	19500	D300L44	46-185B	11.9
18 x 20	20600	D300L44	56-210B	10.8
18 x 24	22100	D300L44	66-245B	9.5
18 x 30	27300	D400L44	66-245B	10.8
20 x 20	22100	D300L44	66-245B	9.5
20 x 26	26500	D400L44	66-245B	10.8
20 x 30	29000	D400L44	66-280B	9.7
24 x 24	29000	D400L44	(2) 46-140	9.6

* Estimated box load requirement, not system capacity.
 Polyurethane insulation - 4 inches or equivalent
 Approximate compressor run time - 18 hours
 Outdoor ambient - 95°F
 Room height - 9 feet, usable for 8 to 10 feet

-10°F WALK-IN FREEZERS
RUSSELL SEMI-HERMETIC R-404A/507 SYSTEMS

OUTSIDE DIMENS. FEET	TOTAL LOAD BTUH*	COND. UNIT R/L D/LD	EVAPORATOR MODEL & TD	
			AE	CTE
6 x 6	6600	S150L44	26-60B	36-69
6 x 8	8400	S150L44	26-75B	46-77
6 x 10	8400	S200L44	26-92B	46-90
6 x 12	9200	S200L44	26-92B	46-90
8 x 8	8600	S200L44	26-92B	46-90
8 x 10	9600	S200L44	26-92B	46-90
8 x 12	10600	S300L44	26-92B	46-100
8 x 14	11300	S300L44	36-120B	56-125
8 x 16	12200	S300L44	36-120B	56-125
10 x 10	10800	S300L44	26-92B	46-100
10 x 12	11700	S300L44	36-120B	56-125
10 x 14	12700	S300L44	36-120B	56-125
10 x 16	13800	S300L44	36-140B	46-140
10 x 18	14900	S300L44	36-140B	46-140
12 x 12	12900	S300L44	36-120B	56-125
12 x 14	14100	S300L44	36-140B	46-140
12 x 16	15400	D300L44	46-164B	56-160
12 x 18	16500	D300L44	46-164B	56-160
12 x 20	17100	D300L44	46-185B	56-160
12 x 22	18200	D300L44	46-185B	56-160
14 x 14	15500	D300L44	46-164B	56-160
14 x 16	16300	D300L44	46-164B	56-160
14 x 18	17500	D300L44	46-164B	56-160
14 x 20	18800	D300L44	46-185B	56-160
14 x 22	20000	D300L44	56-210B	66-218
14 x 24	20900	D400L44	56-210B	66-218
16 x 16	17700	D300L44	46-164B	56-160
16 x 18	19100	D300L44	46-185B	56-160
16 x 20	20400	D400L44	56-210B	66-218
16 x 22	22800	D400L44	66-245B	66-218
16 x 24	25300	D500L44	66-245B	66-218
18 x 18	20600	D400L44	56-210B	66-218
18 x 20	21700	D400L44	66-245B	66-218
18 x 22	26000	D500L44	66-245B	66-218
18 x 24	28800	D500L44	66-245B	66-218
20 x 20	23300	D1D4L44	66-245B	66-218
20 x 26	28000	D1D5L44	66-280B	66-218
20 x 30	30600	D1D5L44	66-280B	66-218
24 x 30	29600	D1D5L44	66-280B	66-218

* Estimated box load requirement, not system capacity.
 Polyurethane insulation - 4 inches or equivalent
 Approximate compressor run time - 18 hours
 Outdoor ambient - 95°F
 Room height - 9 feet, usable for 8 to 10 feet
 Room height - 9 feet, usable for 8 to 10 feet

-10°F WALK-IN FREEZERS
RUSSELL HERMETIC R-404A/507 SYSTEMS

OUTSIDE DIMENS. FEET	TOTAL LOAD BTUH*	COND. UNIT R/L	EVAPORATOR MODEL & TD	
			AE	CTE
6 x 6	6600	H165L44	26-60B	36-69
6 x 8	7500	H215L44	26-75B	46-77
6 x 10	8400	H215L44	26-92B	46-90
6 x 12	9200	H215L44	26-92B	46-90
8 x 8	8600	H215L44	26-92B	46-90
8 x 10	9600	H215L44	26-92B	46-90
8 x 12	10600	H315L44	26-92B	46-100
8 x 14	11300	H315L44	36-120B	56-125
8 x 16	12200	H315L44	36-120B	56-125
10 x 10	10800	H315L44	26-92B	46-100
10 x 12	11700	H315L44	36-120B	56-125
10 x 14	12700	O301L44	36-140B	46-140
10 x 16	13800	O301L44	36-140B	46-140
10 x 18	14900	O400L44	46-164B	56-160
10 x 20	15900	O400L44	46-164B	56-160
12 x 12	12900	O301L44	36-120B	56-125
12 x 14	14100	O301L44	36-140B	46-140
12 x 16	15400	O400L44	46-164B	56-160
12 x 18	16500	O400L44	46-164B	56-160
12 x 20	17100	O400L44	46-164B	56-160
12 x 22	18200	O500L44	46-185B	56-160
12 x 24	19300	O500L44	46-185B	56-218
14 x 14	15500	O400L44	46-164B	56-160
14 x 16	16300	O400L44	46-164B	56-160
14 x 18	17500	O400L44	46-164B	56-160
14 x 20	18800	O500L44	46-185B	56-160
14 x 22	20000	O500L44	56-210B	66-218
14 x 24	20900	O500L44	56-210B	66-218
16 x 16	17700	O400L44	46-164B	56-160
16 x 18	19100	O400L44	46-185B	56-160
16 x 20	20400	O500L44	56-210B	66-218
16 x 22	22800	O500L44	66-245B	66-218
16 x 24	25300	O500L44	66-245B	66-218
18 x 18	20600	O400L44	46-164B	56-160
18 x 20	21700	O400L44	66-245B	66-218
18 x 22	26000	O500L44	66-245B	66-218
18 x 24	28800	O500L44	66-245B	66-218
20 x 20	23300	O500L44	66-245B	66-218
20 x 26	28000	O500L44	66-280B	66-218
20 x 30	30600	O500L44	66-280B	66-218
24 x 30	29600	O500L44	66-280B	66-218

* Estimated box load requirement, not system capacity.
 Polyurethane insulation - 4 inches or equivalent
 Approximate compressor run time - 18 hours
 Outdoor ambient - 95°F
 Room height - 9 feet, usable for 8 to 10 feet
 Room height - 9 feet, usable for 8 to 10 feet
 † Models with "RLO" as a prefix use scroll compressors

RUSSELL SEMI-HERMETIC R-404A/507 SYSTEMS

-20°F WALK-IN FREEZERS

OUTSIDE DIMENS. LOAD	COND. UNIT	EVAPORATOR MODEL & TD
FEET BTUH-RL / P/D	AE	TD

6 x 6	S200L44	26-75B	9.6	36-69	10.2
6 x 8	S300L44	26-75B	12.4	46-77	12.1
6 x 10	S300L44	26-92B	10.7	46-90	10.8
6 x 12	S300L44	26-92B	10.7	46-100	10.0
8 x 8	S300L44	26-92B	10.7	46-90	10.8
8 x 10	S300L44	26-92B	10.7	46-100	10.0
8 x 12	D300L44	36-120B	11.6	56-125	11.2
10 x 14	D300L44	36-140B	10.4	46-140	10.3
10 x 16	D300L44	46-164B	9.4	56-160	9.3
10 x 18	D400L44	46-164B	11.2	56-160	11.1
10 x 20	D400L44	46-185B	9.9	56-160	11.1
12 x 12	D300L44	36-140B	10.4	46-140	10.3
12 x 14	D300L44	46-164B	9.4	56-160	9.3
12 x 16	D400L44	46-164B	11.2	56-160	11.1
12 x 18	D400L44	46-185B	9.9	56-160	11.1
12 x 20	D400L44	46-185B	9.9	56-160	11.1
12 x 22	D500L44	56-210B	10.0	(2) 46-100	10.4
14 x 14	D400L44	46-164B	11.2	56-160	11.1
14 x 16	D400L44	46-185B	9.9	56-160	11.1
14 x 18	D400L44	46-185B	9.9	(2) 46-90	10.1
14 x 20	D500L44	56-210B	10.0	(2) 46-100	10.4
14 x 22	D500L44	56-210B	10.0	(2) 46-100	10.4
14 x 24	DLD5L44	66-245B	9.4	(2) 56-125	9.3
16 x 16	D400L44	46-185B	9.9	(2) 46-90	10.1
16 x 18	D500L44	56-210B	10.0	(2) 46-100	10.4
16 x 20	DLD5L44	56-210B	10.6	(2) 46-100	11.0
16 x 24	DLD6L44	66-245B	10.3	(2) 56-125	10.1
16 x 28	DLD6L44	(2) 36-140B	10.3	(2) 46-140	11.2
18 x 18	DLD5L44	66-245B	10.6	(2) 46-100	11.0
18 x 20	DLD6L44	(2) 36-120B	10.4	(2) 56-125	10.1
18 x 26	DLD6L44	(2) 36-140B	11.3	(2) 46-140	11.2
18 x 30	DLD6L44	(2) 46-164B	10.3	(2) 56-160	10.1
20 x 26	DLD6L44	(2) 46-164B	10.3	(2) 56-160	10.1
20 x 30	DLD6L44	(2) 46-164B	10.3	(2) 56-160	10.1
24 x 24	DLD6L44	(2) 46-164B	10.3	(2) 56-160	10.1
24 x 30	DLD9L44	(2) 46-185B	10.3	(2) 66-218	9.0

*Estimated box load requirement, not system capacity.
 Polyurethane insulation - 4 inches or equivalent
 Approximate compressor run time - 18 hours
 Outdoor ambient - 95°F
 Room height - 9 feet, usable for 8 to 10 feet



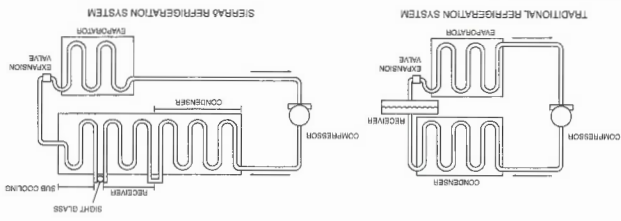
- Our systems are shipped factory assembled and tested
- Two-year warranty on all parts
- No piping or loose components to install which saves you labor cost \$\$\$.
- Factory evacuated, charged and run tested
- Motors and fans common to other HTFG product
- Adjustable digital electrical controllers preset for typical cooler or freezer applications (see below for more details)
- Quick installation
 - Installs in a fraction of the time it takes for a typical split refrigeration system
 - The supply/return register mounts flush with a standard 4" ceiling panel which provides for more storage in your cooler or freezer.
 - Condensate is evaporated so no drain line is required

Saving Time and Money

The APEx is delivered fully assembled and ready to mount. The quick installation saves you time and reduces labor cost. Most APEx units come with a 30" power cord so you can just plug it in and chill.



Heat Transfer Products Group introduces its first complete packaged drop-in system for walk-in coolers and freezers.



U.S. PATENT NUMBER - 5,550,050

Sierra™ is a unique concept in commercial refrigeration that incorporates a number of features which enhance performance, provide energy savings over conventional systems and increase of reliability, thus saving you money.

The heart of the Sierra™ system is a design that eliminates the need for a refrigerant receiver by providing built-in storage capacity in the condenser section of the condensing unit. This small charge in the unit has opened the door for adding new features that are not possible with traditional refrigeration systems.

The Sierra™ system is ideal for a variety of commercial applications such as convenience stores, restaurants and fast food outlets. Sierra's substantial savings in operating costs make it the right choice for commercial warehouses. Sierra™ offers a winning combination of energy savings, lower installed costs, and increased reliability. Models are available from 1/2 to 30 horsepower in low, medium, and high temperature ranges. Systems are available with R-22 and environmentally friendly R-404A. All condensing units are intended for out-door installation. All Sierra™ systems are shipped with piping accessories factory installed that saves on installation time, and takes the guess work out of selecting components.

SIERRA / APEx

+50°F to +55°F PREPARATION ROOMS

Often called meat cutting or work rooms, they use low velocity evaporators. Rooms are usually indoors in a 75 to 85°F ambient, have 3 to 4 inch polyurethane insulation, are 9 to 12 feet high and RH is 55 to 65%. In the load estimation allowance is made for people, lighting, motor loads and machinery normally used. 20 to 22 hours run time is normal.

PREP ROOM LOAD ESTIMATING

Floor Area - Square Feet	BTUH per Square Foot
100 - 300	100
301 - 500	95
501 - 600	90
601 - 700	85
701 - 1000	80

RUSSELL SEMI-HERMETIC R-22 SYSTEMS WITH LOW VELOCITY EVAPORATORS

CONDENSING UNIT R.S.	SYSTEM BTUH	FLOW-TEMP MODEL FL	APPROXIMATE TD
100H22	10700	26-67	16.1
150H22	15000	36-100	15.1
200H22	18800	36-100	18.9
200H22	20300	(2)26-67	15.2
300H22	29200	36-160	18.3
300H22	31000	(2)36-100	15.5
400H22	39400	(2)36-100	19.7
400H22	40500	46-220	18.4
500H22	48600	46-265	18.3
500H22	48800	(2)36-135	18.1

CONDENSING UNIT R.S.	SYSTEM BTUH	FLOW-TEMP MODEL FL	APPROXIMATE TD
100H22	10700	26-67	16.1
150H22	15000	36-100	15.1
200H22	18800	36-100	18.9
200H22	20300	(2)26-67	15.2
300H22	29200	36-160	18.3
300H22	31000	(2)36-100	15.5
400H22	39400	(2)36-100	19.7
400H22	40500	46-220	18.4
500H22	48600	46-265	18.3
500H22	48800	(2)36-135	18.1
500H22	53500	(2)36-135	19.8
500H22	57900	56-370	15.7

System capacity at 95°F Condensing unit ambient.

The approximate air throw of FL evaporators is 10 to 15 feet from each side when no obstruction is present.

Systems with long line runs may require oversized receiver.

TYPICAL CONVENIENCE STORE

BOXLOAD ESTIMATES FOR GLASS DOOR COOLERS AND FREEZERS

BOX LENGTH FEET	USUAL GLASS DOORS	ESTIMATED BOX LOAD	
		+35°F COOLER	-10°F FREEZER
10	3	10000	17000
12	4	12000	20400
14	4	14000	23800
16	5	16000	27200
18	6	18000	30600
20	6	20000	34000
22	7	22000	37400
24	8	24000	40800
26	9	26000	44200
28	10	28000	47600

Polystyrene insulation - 3 or 4 inches
Compressor run time - 16 hr. cooler, 18 hr. freezer

Box ambient - 80°F

Depth - 6 to 10 feet, Height - 7 to 9 feet

Glass doors 1 side, 1 or 2 service doors

Two commonly used estimating methods for convenience store, glass door, cooler and freezer loads :

1. 1000 BTUH per lineal foot of +35°F cooler.

1700 BTUH per lineal foot of -10°F freezer.

(Method used above)

2. 3000 BTUH per glass door for +35°F cooler.

5000 BTUH per glass door for -10°F freezer.

Each of the above methods estimate the TOTAL box load. (Method number 2 is not a capacity adder for glass doors.)

R-22 RECOMMENDED LINE SIZE - O.D. TYPE L COPPER TUBE

SYSTEM CAPACITY BTUH	SUCTION LINE - SUCTION TEMPERATURE - °F												LIQUID LINE					
	+40°F				+20°F				0°F				-20°F			Recv. to X-valve Equivalent Length		
	30'	60'	100'	300'	30'	60'	100'	300'	30'	60'	100'	300'	30'	60'	100'	30'	60'	100'
3000	3/8	3/8	1/2	1/2	3/8	1/2	1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	1/4	1/4	1/4	
4000	3/8	1/2	1/2	3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	5/8	5/8	5/8	1/4	1/4	1/4	
6000	1/2	1/2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	7/8	7/8	7/8	1/4	1/4	3/8	
9000	1/2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
12000	5/8	5/8	7/8	7/8	5/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
15000	5/8	7/8	7/8	7/8	5/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
18000	5/8	7/8	7/8	7/8	5/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
24000	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
30000	7/8	7/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
36000	7/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
42000	7/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
48000	7/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
60000	7/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
72000	1 1/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
84000	1 1/8	1 3/8	1 3/8	1 3/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
96000	1 1/8	1 3/8	1 5/8	1 5/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
120000	1 3/8	1 3/8	1 5/8	1 5/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
150000	1 3/8	1 5/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
180000	1 3/8	1 5/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
210000	1 5/8	2 1/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	
240000	1 5/8	2 1/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	

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R-404A - R-507 RECOMMENDED LINE SIZE - O.D. TYPE L COPPER TUBE

SYSTEM CAPACITY BTUH	SUCTION LINE - SUCTION TEMPERATURE - °F												LIQUID LINE					
	+20°F				0°F				-20°F				-40°F			Recv. to X-valve Equivalent Length		
	30'	60'	100'	300'	30'	60'	100'	300'	30'	60'	100'	300'	30'	60'	100'	30'	60'	100'
3000	3/8	1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/8	3/8	3/8	
4000	1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/8	3/8	3/8	
6000	1/2	5/8	5/8	5/8	1/2	5/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
9000	5/8	5/8	7/8	7/8	5/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
12000	5/8	7/8	7/8	7/8	5/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
15000	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
18000	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	3/8	3/8	3/8	3/8	
24000	7/8	7/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
30000	7/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
36000	1 1/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
42000	1 1/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
48000	1 1/8	1 1/8	1 1/8	1 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
60000	1 1/8	1 3/8	1 3/8	1 3/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
72000	1 3/8	1 3/8	1 5/8	1 5/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
84000	1 3/8	1 3/8	1 5/8	1 5/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
96000	1 3/8	1 5/8	1 5/8	1 5/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
120000	1 5/8	1 5/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
150000	1 5/8	2 1/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
180000	1 5/8	2 1/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
210000	2 1/8	2 1/8	2 1/8	2 1/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	
240000	2 1/8	2 1/8	2 5/8	2 5/8	7/8	7/8	7/8	1 1/8	1 1/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/2	1 1/2	1 1/2	1 1/2	

WALK-IN COOLERS OR FREEZERS 9 FEET HIGH WITH 4 INCH WALLS

OUTSIDE DIMENS. FEET	OUTSIDE FOOT PRINT SQ. FT.	OUTSIDE SURFACE SQ. FEET	APPROX. VOLUME CU. FEET	APPROX. POUNDS PRODUCT
6 x 6	36	288	235	1640
6 x 8	48	348	325	2270
6 x 10	60	408	414	2900
6 x 12	72	468	500	3500
8 x 8	64	416	448	3380
8 x 10	80	484	570	4360
8 x 12	96	552	692	5530
8 x 14	112	620	815	6520
8 x 16	128	688	937	7490
10 x 10	100	560	725	5800
10 x 12	120	636	880	7040
10 x 14	140	712	1036	8280
10 x 16	160	788	1192	9530
10 x 18	180	864	1348	10780
10 x 20	200	940	1503	12020
12 x 12	144	720	1070	8560
12 x 14	168	804	1259	10070
12 x 16	192	888	1448	11580
12 x 18	216	972	1636	13080
12 x 20	240	1056	1825	14600
12 x 22	264	1140	2015	16120
12 x 24	288	1224	2200	17600
14 x 14	196	896	1480	11840
14 x 16	224	988	1700	13600
14 x 18	252	1080	1925	15400
14 x 20	280	1172	2145	17160
14 x 22	308	1264	2370	18960
14 x 24	336	1356	2590	20720
16 x 16	256	1088	1960	15680
16 x 18	288	1188	2215	17720
16 x 20	320	1288	2470	19760
16 x 24	384	1488	2980	23900
18 x 18	324	1296	2500	20000
18 x 20	360	1404	2790	22400
18 x 26	468	1728	3660	29300
18 x 30	540	1944	4235	33900
20 x 20	400	1520	3115	25000
20 x 26	520	1868	4080	32700
20 x 30	600	2100	4725	37800
24 x 24	576	2016	4535	36300
24 x 30	720	2412	5700	45600
24 x 36	864	2808	6870	55000

This data should be used for estimating purpose only.
Allow ±15% average total load for variable of run time, insulation, storage and usage.

PRESSURE - TEMPERATURE CHART

R-22 PSIG	TEMP °F	R-404A PSIG	R-22 PSIG	TEMP °F	R-404A PSIG
0	-40	5	76	45	95
1	-38	6	84	50	103
2	-36	7	92	55	115
3	-34	9	102	60	126
4	-32	10	111	65	137
5	-30	11	121	70	148
6	-28	12	132	75	161
7	-26	13	144	80	174
8	-24	14	156	85	188
9	-22	16	168	90	203
10	-20	17	174	92	210
11	-18	18	179	94	215
12	-16	20	185	96	222
14	-14	21	190	98	229
15	-12	23	196	100	235
16	-10	25	202	102	242
20	-5	28	208	104	249
24	0	33	214	106	256
28	5	38	220	108	264
33	10	44	226	110	271
35	12	46	233	112	279
37	14	48	239	114	286
39	16	50	246	116	294
41	18	53	253	118	302
43	20	56	260	120	311
45	22	58	267	122	319
48	24	61	274	124	328
50	26	64	282	126	336
52	28	67	289	128	345
55	30	70	297	130	354
57	32	72	305	132	364
60	34	76	312	134	373
63	36	79	321	136	383
66	38	82	329	138	392
68	40	85	337	140	402