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SPECIFICATIONS - ENGINEERING DATA - DIMENSIONS

RDB

ROTARY SCREW COMPRESSOR UNITS

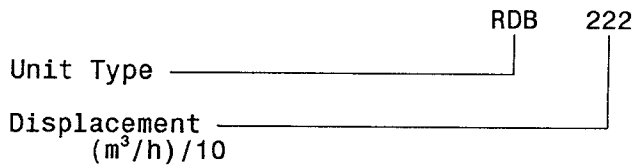
MODELS: RDB-50 through RDB-546

**REFRIGERANTS R717 and R22
BOOSTER APPLICATIONS**

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MODEL NUMBER EXPLANATION



DESCRIPTION

The RDB Rotary Screw Compressor Unit line consists of nine (9) models ranging in capacity from 291 CFM (495 m³/h) through 3190 CFM (5420 m³/h) at 60 Hz. Standard units are designed for use on ammonia, halocarbon and hydrocarbon refrigerants for booster service.

Standard units consist of the following major components: Frick manufactured TDSL Rotary Screw Compressor compressor/motor base; drive coupling and guard; SBC microprocessor control panel or electromechanical control center (standard); full lube oil pump; suction and discharge line stop valves; suction and discharge line check valves; suction scale trap with internal strainer; and a three stage horizontal oil separator/reservoir. All components have been selected for maximum reliability and arranged to assure accessibility for service. The units are factory packaged, complete with wiring and piping. All piping connecting the various elements of the compressor unit is done in accordance with ANSI B31.5.

MODEL TDSL COMPRESSOR

HOUSING: All screw compressor castings are designed and tested to meet the requirements of ASHRAE 15-78 safety code for 305 PSIG maximum discharge pressure. Castings are close grain, ASTM-A-48 Class 40 cast iron to assure structural integrity, mechanical and thermal stability under all operating conditions.

ROTORS: The rotors are machined from AISI-1141 steel bar to the exacting tolerances of the latest SRM asymmetric profile. The four lobed male rotor is directly connected to the driver. The six lobed female rotor is driven by the male rotor on a thin oil film.

BEARINGS: Antifriction bearings with an L10 rated bearing life in excess of 100,000 hours, at design conditions, are used for reduced frictional horsepower and superior rotor positioning, resulting in reduced power consumption, particularly at higher pressure ratios. Cylindrical roller bearings are provided to handle the radial loads and the thrust loads are absorbed by angular contact ball bearings. In addition, thrust balance pistons are provided to reduce the thrust load and improve bearing life.

SHAFT SEAL: The compressor shaft seal is a single face type with a spring loaded carbon rotating surface riding against a cast iron stationary seat. The seal is capable of sealing up to 350 PSIG, but is vented to low pressure to provide extended seal life.

CAPACITY CONTROL: Capacity control is achieved by use of two oil pressure activated by-pass ports which provide 100%, 75%, and 50% of full load capacity. The compressor will start at minimum capacity (50%).

LUBRICATION SYSTEM

LUBRICATION SYSTEM: The lubrication system on a unit designed for booster duty includes a full lube oil pump. The full lube pump is supplied as standard equipment due to the typically low differential pressure across the compressor in booster applications. All oil passes through a 15 micron filter furnished with isolation stop valves and drain connections for ease of servicing.

OIL SEPARATOR/RESERVOIR: The primary oil separator for models RDB 50 and RDB 67 is tilted at a 15° angle providing a large cross-sectional area at the upper end for low gas separation velocity while at the same time providing a deep oil sump at the lower end for reliable lube oil supply. The oil separator for models RDB 100 through RDB 546 is a horizontal, three stage design with integral sump. Two sight glasses are located in the reservoir section and one in the coalescing section. The separator is designed and constructed in accordance with ASME Section VIII, Div. 1 for a maximum design working pressure of 300 PSIG for models 50 and 67, 250 PSIG for models 100 through 222, 150 PSIG for models 316 through 546, and supplied with single (models 50 and 67) or dual relief valves (models 100-546). One (models 50 and 67), two (models 100-222), or three (models 316 - 546) 500 watt heaters maintain oil temperature at 67°F minimum during compressor shutdown and are replaceable without shutting the compressor down.

Coalescent separator elements are provided for final gas/oil separation of particles down to less than 1 micron. Oil is drained from the coalescer section and returned to the compressor suction during operation.

OIL FILTERS: All lubrication and injection oil passes through one of two 15 micron filters. One filter is for main oil injection and the other feeds the bearings, slide valve, and slide stop. The filters are designed for vertical mounting and are furnished with isolation stop valves and drain connections for ease in servicing.

OIL COOLING

LIQUID INJECTION OIL COOLING: The compressor oil is cooled by direct contact with the refrigerant to the compressor discharge. Liquid feed arrangements include isolation valves, strainer, solenoid valve, sight glass, a thermal expansion temperature control valve, and a pressure differential control valve. The temperature control valve will maintain the temperature of the oil returning to the compressor between 110°F and 130°F for ammonia and between 120°F and 150°F for halocarbons.

WATER COOLED OIL COOLING: The optional water cooled oil cooler is a shell and tube design with oil on the shell side. The cooler is designed and constructed according to ASME Section VIII Div. 1 with a MAWP of 150 PSIG on the tube side and 300 PSIG on the shell side. The finned tubes are 5/8" O.D. to minimize water fouling and the oil temperature is maintained between 110°F and 130°F for ammonia and halocarbons with a thermally controlled water regulating valve sensing outlet oil temperature. The oil cooler is mounted on the unit with the oil piping connected. Water connections and controls are field installed.

THERMOSYPHON OIL COOLING: The optional thermosyphon cooler is a shell and tube design constructed in accordance with ASME Div. 1 with a MAWP of 300 PSIG on the shell side and 300 PSIG on the tube side. The oil cooler is mounted on the unit with the oil piping connected. Refrigerant connections and controls are field installed.

MICROPROCESSOR CONTROL CENTER

The microprocessor compressor control system is factory mounted, completely piped and wired with all the required safety and operating devices. The single box NEMA 4 control panel houses both the microprocessor control and the junction box. All transducers are wired and piped into a common manifold. A built-in telecommunications interface suitable for connection to a remote computer, CRT, terminal printer, or standard modem is included.

Fixed and variable setpoints are displayed on individual screens for convenient definition. A combined total of 160 characters on 1 display provide complete operating and monitoring conditions for full operator information. Displays have a minimum rated life of 100,000 hours. Back lighting switch provides increased illumination under low ambient light conditions. Continuous display indicates: suction pressure and temperature, discharge pressure and temperature, oil pressure and temperature, filter pressure drop, slide valve position and mode, volume ratio position and mode, pump on/off, percent of full load motor amps, and compressor operating mode. The microprocessor continuous display will also indicate that an alarm condition exists or other messages as required.

The following adjustable and fixed control setpoints will be indicated by call up, through the microprocessor display: capacity control, low suction pressure alarm and cutout, motor recycle delay, current transformer factor, motor load control, high discharge pressure alarm and cutout, oil heater control, liquid injection oil cooling temperature control, oil heater temperature control, high discharge temperature alarm and cutout, high oil temperature alarm and cutout, low oil temperature alarm and cutout, low oil pressure alarm and cutout.

An annunciator display stores the cause, day, date and time of occurrence for an alarm or cutout and, in the event of a cutout, the operating conditions at the time of cutout are stored in a "Freeze display". This significantly reduces system downtime by providing valuable troubleshooting and maintenance information. A pre-alarm annunciator warns of potential shutdown conditions, displaying potential problems.

A time proportioning capacity control resets at varying time intervals corresponding to deviations from compressor setpoints, providing stable operation under widely changing load conditions.

The microprocessor monitors operating conditions and controls the compressor at the most efficient volume ratio at both full and part load conditions with standard or economizer operation.

Provision is made for automatic start-up and shutdown on system suction pressure for individual unit operation. Changes can be made to alternate suction pressure operation at a preset day and time without reprogramming, making it ideal for swing duty service.

The real time clock control provides time determination of setpoints, shutdowns, and operating conditions for logging of system operation.

An access code protection permits Authorized Personnel Only to vary adjustable setpoints. Setpoint display is available without the access code.

The microprocessor maintains memory storage of all setpoints and timing for up to one year with power shut off.

The keyboard on the microprocessor includes: auto, remote, and manual control of the slide stop and slide valve; compressor run, stop, remote start; alarm silence; and display control. An emergency stop button is clearly mounted on the microprocessor panel.

ELECTROMECHANICAL CONTROL (Standard)

An electromechanical control center of gasketed NEMA 1 construction is factory mounted and wired. Safety controls include high and low pressure cutouts, oil pressure cutout and high discharge temperature cutout. Standard operating controls include compressor manual/remote switch, safety reset push button, remote/auto/manual capacity control switch, manual capacity control switch, liquid injection temperature control, automatic capacity control pressure switches including solenoids and three-step volume ratio controls.

A manual reset is included for safety trips. Gauges for suction pressure, oil pressure and discharge pressure are panel mounted.

ACCESSORIES and OPTIONAL ITEMS

Electromechanical Control Only (Standard on Microprocessor Control)

AMMETER/MOTOR LOAD LIMITER: Automatically switches operation to part load whenever the motor current exceeds the preset point, preventing unit shutdown.

Microprocessor or Electromechanical

DUAL OIL FILTERS: Duplicate oil filters may be furnished mounted on the unit. Isolation valves are included to provide servicing of the primary filter set while the unit is running.

MOTORS: The compressor drive motor can be supplied and mounted by Frick Company. In addition, a customer supplied motor can be factory mounted by Frick Company.

STARTERS: Starter packages complete with all accessories needed to interface with the RDB, pre-wired to numbered terminal strips are available.

SPECIAL PACKAGES: For special refrigerant selection, special drivers, or any dual or two stage applications, consult Frick Company.

STANDARD DESIGN DATA

RDB PLUS MODEL NO.	TDS COMPRESSOR			
	MODEL NO.	DIA mm	L/D	DISPLACEMENT CFM (m ³ /h)
50	193S	193	1.35	296 (502)
67	193L	193	1.80	395 (671)
100	193S	193	1.35	592 (1005)
134	193L	193	1.80	790 (1342)
177	233S	233	1.35	1042 (1770)
222	233L	233	1.70	1311 (2228)
316	283S	283	1.35	1865 (3169)
399	283L	283	1.70	2349 (3992)
546	283XL	283	2.40	3216 (5464)

**EQUIPMENT SELECTION
SCREW COMPRESSOR UNIT**

The following information is required for final unit selection:

Refrigerant _____ R-717, R-22
Other - Consult Frick Company
Duty _____ Booster
Other - Consult Frick Company
Compressor RPM _____ 1750 or 3550 (60 Hz), (Std)
1450 or 2950 (50 Hz) Other-Consult Frick Company
Lube Oil Pump: Booster _____ Full Lube (Std)
Oil Filters _____ Single (Std), Dual (Opt)
Oil Cooling _____ Liquid Injection (Std)
Water Cooled (Inlet/Outlet Water Temp Req'd) (Opt)
Thermosyphon _____ (Opt)
Saturated Suction Temperature _____ °F
Condensing Temperature _____ °F
Intermediate Temperature (Booster) _____ °F
Suction Superheat _____ °F
Liquid Subcooling _____ °F
Rating _____ TR _____ BHP (Including Liquid
Subcooling, Suction Superheat)

COMPRESSOR DRIVER

The following information is required for proper coordination of the screw compressor unit and the compressor driver.

Driver Type _____ Electric Motor
Other - Consult Frick Company
Motor Speed _____ RPM 1750 or 3550 RPM (60 Hz)
Motor Specifications _____ HP _____ Frame
_____ Service Factor _____ Full Load Amps
_____ Bearings (Ball or Sleeve)
Motor Power _____ Volts, 3 Phase _____ Hz (60 Hz)
Motor Supplied By _____ Frick, Others
Motor Mounted By _____ Frick, Others
Motor Enclosure _____ ODP, TEFC
_____ Explosion Proof _____ Class _____ Group
Motor Starting Method _____ Across-the-line,
Wye-delta, Autotransformer, Solid State
* Motor Rotation _____

* **NOTE:** Compressor rotation is clockwise when facing end of compressor shaft. **MOTOR ROTATION MUST BE COUNTER-CLOCKWISE WHEN FACING END OF MOTOR SHAFT.** Most motors have dual rotation, but some such as the large TEFC motors are single rotation only for purposes of fan cooling and must be ordered with the correct rotation.

MOTOR SELECTION

Motors for booster applications need to be sized for start-up and pull-down duty as well as for the design condition. For booster applications start-up and pull-down will quite often be the more demanding requirement.

For starting torque see Compressor Speed/Torque Curve.

MOTOR STARTER PACKAGES

The following specifications describe a motor starter package, complete with all electrical accessories necessary to interface with the RDB compressor unit. These starter packages are available from Frick Company with all necessary interlocks prewired to terminals numbered for direct connection to the RDB unit junction box.

Specify starting method and overcurrent protection for _____ HP, _____ Volt/3 Phase, _____ Hz, _____ FLA, _____ RPM compressor motor, complete with overload heaters, 2KVA-120 volt control power transformer, _____:5 amp-15 VA signal current transformer and normally open auxiliary contact. Starter package includes one across-the-line fused oil pump starter for _____ HP, _____ Volt/Phase, _____ Hz, _____ FLA, _____ RPM motor complete with overload heaters and normally open auxiliary contact. All interlocks wired to terminals marked in accordance with the RDB unit junction box. Specify _____ NEMA rating for enclosure, NEMA 1 is standard. The maximum starter coil load on terminal 18 shall be (1) size 3 starter coil or (1) interposing relay.

The following information must be specified for each application:

STARTING METHOD: Choose Across-the-line, Autotransformer, Wye-delta Open Transition, Wye-delta Closed Transition, or Solid State starting.

ACROSS-THE-LINE STARTING: Yields full motor starting torque. However, power companies and/or in-house power distribution systems often require other starting methods to achieve reduced starting inrush current. **NOTE:** Reducing the inrush current also reduces the starting torque. A careful analysis of compressor torque requirements versus the available motor starting torque must be made. This can be accomplished by plotting the motor speed-torque curve (obtained from motor vendor) against the compressor speed-torque curve. The available motor torque should exceed the compressor torque requirement by a minimum of 20% at the worst portion of the curve. This usually occurs at approximately half-speed in the region known as the motor pull up torque (P.U.T.). When plotting these curves please remember that for starting methods other than across-the-line, the motor torque values are reduced as follows:

AUTOTRANSFORMER: The Autotransformer starter has three voltage taps: 50%, 65% and 80%. The starter, unless specified otherwise, is normally shipped connected to the 65% voltage tap. This can be changed in the field as required. The starting torque available is:

80% Tap - 64% of normal torque
65% Tap - 42% of normal torque
50% Tap - 25% of normal torque

WYE-DELTA (OPEN or CLOSED TRANSITION): Starting torque available is 33% of normal. While Wye-delta open transition starters exhibit the same torque characteristics as Wye-delta closed transition starters, closed transition is the more preferred method. This is because open transition allows the motor to get out of sync with the power line during transition. This can result in damaging power spikes that tend to nuisance trip circuit breakers and shorten motor and power distribution equipment life. This is especially true for screw compressors which represent relatively low inertia loads.

SOLID STATE: Solid State starters have complex current and torque relationships. In addition, solid state starters require careful coordination between the starter and other protective devices to prevent compressor failure due to shorted starter outputs. If a solid state starter is being considered, consult Frick Company for assistance.

OVERCURRENT PROTECTION: Choose either the Starter package or the Combination starter package with circuit breaker disconnect. For high voltage (2300V, 4160V) applications, specify High voltage fused draw-out starter package.

COMPRESSOR MOTOR DATA: Indicate the motor _____ HP, _____ voltage, _____ Hz, _____ FLA (full load amps), and _____ speed (1750 RPM or 3550 RPM).

CURRENT TRANSFORMER RATIO: Select the appropriate current transformer ratio from the chart on the wiring diagram.

OIL PUMP MOTOR DATA: The oil pump motor data is determined by Frick Company for each application. Standard units with either the prelube system or the optional full lube system will have an integral horsepower pump.

STANDARD CONDITIONS - BOOSTER

The RDB booster ratings for R-717 and R-22 are based on liquid cooled to intermediate temperature, no suction superheat and, thermosyphon or water cooled oil cooling.

SELECTION PROCEDURE - BOOSTER

The final rating for a RDB unit at any condition is determined from the standard rating and all of the applicable correction factors.

Capacity (TR) = standard rating x liquid temperature correction factor x superheat correction factor x 0.98 (liquid injection correction factor if applicable) x 0.83 (50 Hz only).

Brake Horsepower (BHP): standard rating x 1.01 (liquid injection correction factor if applicable) x 0.83 (50 Hz only).

LIQUID TEMPERATURE CORRECTION FACTORS BOOSTER

For liquid temperatures greater than the saturated intermediate temperature, determine the liquid temperature de-rating factor (L.T.D.F.) in the following manner:

For R-717: $L.T.D.F. = 1 - (TD)(.0025)$

For R-22: $L.T.D.F. = 1 - (TD)(.005)$

Where TD is the temperature difference in degrees between the actual liquid temperature and the saturated intermediate temperature. No brake horsepower correction is required.

SUCTION SUPERHEAT CORRECTION FACTORS BOOSTER

For suction superheat in excess of 0°F determine the suction superheat capacity correction factor (S.H.C.F.) in the following manner using the actual number of degrees of suction superheat (S.H.):

FOR R-717:

$$S.H.C.F. = \frac{1}{1 + (S.H.)(.0027)}$$

FOR R-22:

$$S.H.C.F. = \frac{1}{1 + (S.H.)(.0028)}$$

It is recommended that a minimum of 10°F of suction superheat be maintained to insure that all refrigerant entering the compressor is in the vapor state.

No brake horsepower correction is required for suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 1750 RPM, 60 Hz Motors

RDB-50

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG							
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6	
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. 24.3*	TR BHP	7.7 14.4	7.3 16.1	6.8 17.8	6.3 19.8	5.7 22.4	5.2 25.8	4.6 37.5
	-75. 23.2*	TR BHP	9.4 14.8	9.0 16.8	8.5 18.7	8.0 20.6	7.4 23.0	6.8 25.9	6.2 32.7
	-70. 21.9*	TR BHP	11.3 15.2	10.9 17.3	10.4 19.4	9.9 21.6	9.3 24.0	8.6 26.7	8.0 31.5
	-65. 20.4*	TR BHP	13.6 15.4	13.1 17.8	12.6 20.1	12.0 22.4	11.4 25.2	10.7 27.9	10.0 31.7
	-60. 18.6*	TR BHP	16.1 15.6	15.6 18.1	15.1 20.7	14.5 23.3	13.8 26.2	13.1 29.2	12.4 32.5
	-55. 16.6*	TR BHP	19.0 16.0	18.5 18.4	17.9 21.2	17.3 24.0	16.6 27.2	15.9 30.5	15.1 33.7
	-50. 14.3*	TR BHP	22.3 16.4	21.7 18.8	21.1 21.6	20.4 24.7	19.7 28.1	18.9 31.7	18.1 35.1
	-45. 11.7*	TR BHP	26.1 16.7	25.4 19.2	24.7 21.9	24.0 25.1	23.2 28.8	22.4 32.7	21.5 36.6
	-40. 8.7*	TR BHP	30.3 16.8	29.5 19.7	28.8 22.5	28.0 25.5	27.1 29.5	26.3 33.5	25.4 37.8
	-35. 5.4*	TR BHP	35.0 15.6	34.1 20.0	33.3 23.1	32.5 26.1	31.6 29.9	30.6 34.2	29.6 38.8
	-30. 1.6*	TR BHP	40.4 12.7	39.3 19.5	38.4 23.6	37.5 26.8	36.5 30.5	35.4 34.9	34.3 39.6
	-25. 1.3	TR BHP	46.3 7.7	45.2 17.6	44.1 23.5	43.0 27.6	42.0 31.2	40.8 35.4	39.6 40.3
	-20. 3.6	TR BHP		51.6 14.0	50.4 22.4	49.2 27.9	48.0 32.0	46.8 36.1	45.6 41.2
	-15. 6.2	TR BHP		58.8 8.3	57.4 19.8	56.1 27.3	54.8 33.0	53.5 37.1	52.1 41.7
	-10. 9.0	TR BHP			65.2 15.4	63.7 25.5	62.3 33.2	60.8 38.0	59.3 42.6
	-5. 12.2	TR BHP			73.8 9.0	72.1 22.2	70.5 32.4	68.9 39.1	67.2 43.6
0. 15.7	TR BHP				81.3 17.0	79.5 30.3	77.8 39.2	75.9 45.0	

CONSULT
FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 1750 RPM, 60 Hz Motors

RDB-67

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG							
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6	
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 24.3* BHP	10.2 19.2	9.7 21.5	9.1 23.8	8.4 26.4	7.7 29.9	6.9 34.4	6.2 50.0	
	-75. TR 23.2* BHP	12.5 19.8	11.9 22.4	11.3 24.9	10.6 27.5	9.8 30.7	9.0 34.5	8.3 43.6	
	-70. TR 21.9* BHP	15.1 20.2	14.5 23.1	13.9 25.9	13.2 28.8	12.3 32.0	11.5 35.6	10.7 42.0	
	-65. TR 20.4* BHP	18.1 20.5	17.5 23.7	16.8 26.8	16.1 29.9	15.2 33.6	14.3 37.2	13.4 42.3	
	-60. TR 18.6* BHP	21.4 20.9	20.8 24.2	20.1 27.6	19.3 31.1	18.5 35.0	17.5 39.0	16.5 43.4	
	-55. TR 16.6* BHP	25.4 21.3	24.6 24.6	23.9 28.3	23.0 32.0	22.1 36.3	21.2 40.7	20.1 45.0	
	-50. TR 14.3* BHP	29.8 21.8	29.0 25.1	28.1 28.7	27.2 32.9	26.3 37.5	25.3 42.2	24.1 46.8	
	-45. TR 11.7* BHP	34.8 22.3	33.8 25.7	32.9 29.3	32.0 33.5	30.9 38.4	29.9 43.6	28.7 48.8	
	-40. TR 8.7* BHP	40.4 22.4	39.4 26.3	38.4 30.0	37.3 34.0	36.2 39.3	35.0 44.7	33.8 50.5	
	-35. TR 5.4* BHP	46.7 20.8	45.5 26.7	44.4 30.8	43.3 34.8	42.1 39.9	40.8 45.6	39.5 51.7	
	-30. TR 1.6* BHP	53.8 16.9	52.5 26.0	51.2 31.5	50.0 35.7	48.7 40.6	47.3 46.5	45.8 52.8	
	-25. TR 1.3 BHP	61.7 10.2	60.2 23.5	58.7 31.4	57.4 36.7	56.0 41.6	54.5 47.2	52.9 53.8	
	-20. TR 3.6 BHP		68.9 18.7	67.2 29.9	65.7 37.2	64.1 42.7	62.5 48.2	60.7 54.9	
	-15. TR 6.2 BHP		78.4 11.0	76.6 26.4	74.8 36.4	73.1 43.9	71.3 49.4	69.5 55.6	
	-10. TR 9.0 BHP		CONSULT FRICK COMPANY		86.9 20.6	84.9 34.0	83.0 44.3	81.1 50.7	79.1 56.8
	-5. TR 12.2 BHP				98.3 11.9	96.1 29.6	94.0 43.2	91.8 52.1	89.6 58.2
	0. TR 15.7 BHP				108.4 22.7	106.0 40.4	103.7 52.3	101.2 60.0	

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-100

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG							
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6	
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 24.3* BHP	15.6 32.3	14.8 35.8	13.9 39.4	12.9 43.8	11.8 49.7	10.6 57.1	9.7 78.9	
	-75. TR 23.2* BHP	19.1 33.2	18.3 37.2	17.3 41.1	16.3 45.3	15.1 50.7	13.9 56.9	12.9 70.2	
	-70. TR 21.9* BHP	23.1 33.8	22.2 38.3	21.2 42.7	20.2 47.2	18.9 52.7	17.6 58.5	16.5 68.2	
	-65. TR 20.4* BHP	27.6 34.3	26.7 39.2	25.7 44.0	24.6 48.9	23.3 55.1	21.9 60.9	20.6 68.8	
	-60. TR 18.6* BHP	32.9 34.9	31.8 39.9	30.7 45.2	29.6 50.5	28.3 57.2	26.9 63.8	25.4 70.8	
	-55. TR 16.6* BHP	38.8 35.2	37.7 40.5	36.5 46.2	35.2 52.0	33.8 59.1	32.4 66.5	30.8 73.5	
	-50. TR 14.3* BHP	45.5 35.3	44.3 41.4	43.0 46.8	41.7 53.2	40.2 60.9	38.6 68.9	36.9 76.5	
	-45. TR 11.7* BHP	53.1 35.9	51.7 42.1	50.3 47.8	48.9 54.2	47.3 62.4	45.6 70.8	43.8 79.7	
	-40. TR 8.7* BHP	61.6 35.7	60.2 42.8	58.6 49.1	57.0 55.0	55.3 63.7	53.5 72.7	51.6 82.0	
	-35. TR 5.4* BHP	71.2 33.1	69.5 43.3	67.9 50.4	66.1 56.4	64.3 64.5	62.4 74.2	60.3 84.1	
	-30. TR 1.6* BHP	81.9 27.0	80.1 42.2	78.3 51.5	76.3 58.4	74.3 65.7	72.2 75.5	70.1 86.0	
	-25. TR 1.3 BHP	93.8 16.3	91.8 38.3	89.8 51.6	87.7 60.3	85.5 67.2	83.1 76.5	80.8 87.6	
	-20. TR 3.6 BHP		104.9 30.5	102.6 49.3	100.3 61.4	97.9 69.2	95.4 77.8	92.8 89.2	
	-15. TR 6.2 BHP		119.3 18.1	116.9 43.9	114.3 60.7	111.6 71.3	108.9 79.4	106.0 90.0	
	-10. TR 9.0 BHP		CONSULT FRICK COMPANY		132.6 34.4	129.8 57.1	126.8 72.8	123.8 81.3	120.7 91.2
	-5. TR 12.2 BHP				150.0 20.1	146.8 50.0	143.5 72.2	140.2 84.2	136.9 92.5
0. TR 15.7 BHP				165.6 38.6	162.0 68.4	158.2 86.1	154.5 95.4		

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-134

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 24.3* BHP	20.8 43.1	19.8 47.8	18.6 52.6	17.3 58.4	15.8 66.2	14.1 76.1	12.9 105.2
	-75. TR 23.2* BHP	25.5 44.2	24.3 49.5	23.1 54.8	21.7 60.4	20.2 67.7	18.5 75.9	17.1 93.6
	-70. TR 21.9* BHP	30.8 45.1	29.6 51.1	28.3 56.9	26.9 63.0	25.3 70.3	23.5 78.0	22.0 90.9
	-65. TR 20.4* BHP	36.9 45.8	35.6 52.2	34.2 58.7	32.8 65.2	31.1 73.5	29.2 81.2	27.5 91.8
	-60. TR 18.6* BHP	43.8 46.6	42.4 53.2	41.0 60.3	39.4 67.4	37.7 76.3	35.8 85.1	33.8 94.4
	-55. TR 16.6* BHP	51.7 47.0	50.2 53.9	48.6 61.6	47.0 69.4	45.1 78.9	43.2 88.7	41.1 98.0
	-50. TR 14.3* BHP	60.7 47.1	59.0 55.2	57.3 62.5	55.6 70.9	53.6 81.2	51.5 91.9	49.2 102.0
	-45. TR 11.7* BHP	70.7 47.8	69.0 56.1	67.1 63.7	65.2 72.2	63.1 83.2	60.8 94.4	58.5 106.3
	-40. TR 8.7* BHP	82.1 47.6	80.2 57.1	78.2 65.5	76.0 73.3	73.8 84.9	71.4 96.9	68.9 109.3
	-35. TR 5.4* BHP	94.9 44.1	92.7 57.7	90.5 67.2	88.2 75.2	85.7 86.1	83.2 99.0	80.4 112.2
	-30. TR 1.6* BHP	109.1 35.9	106.8 56.3	104.3 68.7	101.7 77.9	99.1 87.6	96.3 100.6	93.4 114.7
	-25. TR 1.3 BHP	125.0 21.8	122.4 51.0	119.7 68.7	116.9 80.4	114.0 89.6	110.8 102.0	107.7 116.8
	-20. TR 3.6 BHP		139.8 40.7	136.8 65.8	133.8 81.9	130.5 92.3	127.2 103.7	123.7 118.9
	-15. TR 6.2 BHP		159.1 24.1	155.8 58.5	152.3 80.9	148.8 95.1	145.2 105.8	141.4 120.0
	-10. TR 9.0 BHP			176.8 45.9	173.0 76.2	169.0 97.1	165.0 108.4	160.9 121.6
	-5. TR 12.2 BHP			199.9 26.7	195.8 66.6	191.3 96.3	186.9 112.3	182.5 123.3
	0. TR 15.7 BHP				220.8 51.5	216.0 91.2	211.0 114.8	206.0 127.1

CONSULT
FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-177

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR	27.8	26.4	24.8	23.2	21.1	18.8	16.9
	24.3* BHP	54.7	61.4	68.4	76.9	86.8	96.1	135.5
	-75. TR	34.0	32.5	30.9	29.1	27.0	24.6	22.5
	23.2* BHP	56.4	63.4	70.8	78.6	88.1	96.8	120.4
	-70. TR	41.1	39.5	37.8	35.9	33.8	31.3	29.0
	21.9* BHP	57.4	65.5	73.3	81.3	91.2	100.2	117.1
	-65. TR	49.2	47.5	45.7	43.7	41.6	39.0	36.5
	20.4* BHP	57.8	67.2	75.7	84.5	95.1	104.8	118.4
	-60. TR	58.4	56.6	54.7	52.6	50.3	47.8	45.1
	18.6* BHP	59.1	67.8	77.9	87.4	98.8	110.2	121.9
	-55. TR	69.0	67.0	64.9	62.7	60.3	57.7	54.8
	16.6* BHP	60.6	68.6	79.3	89.9	102.3	114.9	126.7
	-50. TR	81.0	78.8	76.5	74.2	71.5	68.8	65.8
	14.3* BHP	61.6	70.3	79.9	92.1	105.4	119.1	132.1
	-45. TR	94.4	92.0	89.6	87.0	84.2	81.2	78.2
	11.7* BHP	62.8	72.0	81.2	93.1	108.0	122.6	137.7
-40. TR	109.6	107.1	104.3	101.5	98.4	95.2	91.9	
8.7* BHP	62.4	73.7	83.3	93.8	109.9	125.9	141.8	
-35. TR	126.6	123.7	120.7	117.7	114.4	110.9	107.4	
5.4* BHP	57.6	74.9	85.6	95.7	110.9	128.5	145.9	
-30. TR	145.6	142.5	139.2	135.9	132.2	128.5	124.5	
1.6* BHP	46.7	72.9	87.9	98.4	112.3	130.1	149.0	
-25. TR	166.8	163.3	159.7	156.0	152.1	148.0	143.8	
1.3 BHP	28.1	66.0	88.3	101.8	114.8	131.4	151.4	
-20. TR		186.6	182.5	178.3	174.1	169.6	165.0	
3.6 BHP		52.5	84.5	103.8	118.4	133.7	153.8	
-15. TR		212.3	207.9	203.3	198.6	193.7	188.4	
6.2 BHP		31.1	75.1	103.0	122.2	137.2	155.0	
-10. TR			235.9	230.8	225.5	220.2	214.7	
9.0 BHP			58.9	97.1	124.7	141.4	158.3	
-5. TR			266.7	261.2	255.3	249.5	243.5	
12.2 BHP			34.3	85.1	123.6	145.8	162.4	
0. TR				294.6	288.0	281.7	275.0	
15.7 BHP				65.8	116.5	149.0	167.6	

CONSULT
FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-222

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 24.3* BHP	35.0 68.9	33.3 77.3	31.3 86.2	29.2 96.8	26.6 109.3	23.7 121.0	21.2 170.7
	-75. TR 23.2* BHP	42.8 71.0	40.9 79.8	38.9 89.1	36.6 99.0	34.0 111.0	31.0 122.0	28.4 151.6
	-70. TR 21.9* BHP	51.7 72.3	49.7 82.4	47.6 92.4	45.3 102.4	42.5 114.8	39.4 126.1	36.6 147.4
	-65. TR 20.4* BHP	61.9 72.8	59.8 84.6	57.5 95.4	55.0 106.4	52.3 119.8	49.1 132.0	46.0 149.1
	-60. TR 18.6* BHP	73.6 74.4	71.3 85.4	68.9 98.0	66.3 110.1	63.4 124.4	60.2 138.7	56.7 153.5
	-55. TR 16.6* BHP	86.9 76.3	84.4 86.3	81.8 99.8	79.0 113.2	75.9 128.8	72.7 144.7	69.0 159.5
	-50. TR 14.3* BHP	102.0 77.5	99.2 88.6	96.3 100.6	93.4 115.9	90.1 132.7	86.6 150.0	82.9 166.3
	-45. TR 11.7* BHP	118.9 79.0	115.9 90.7	112.8 102.2	109.6 117.2	106.0 136.0	102.3 154.4	98.5 173.4
	-40. TR 8.7* BHP	138.0 78.6	134.8 92.8	131.4 104.9	127.9 118.1	124.0 138.4	119.9 158.5	115.8 178.6
	-35. TR 5.4* BHP	159.4 72.5	155.8 94.3	152.0 107.8	148.3 120.6	144.1 139.6	139.7 161.8	135.2 183.7
	-30. TR 1.6* BHP	183.4 58.8	179.4 91.8	175.3 110.7	171.1 123.9	166.5 141.5	161.8 163.8	156.8 187.6
	-25. TR 1.3 BHP	210.1 35.4	205.7 83.0	201.1 111.2	196.4 128.2	191.5 144.6	186.3 165.5	181.0 190.6
	-20. TR 3.6 BHP		234.9 66.1	229.9 106.4	224.5 130.7	219.3 149.1	213.6 168.4	207.7 193.6
	-15. TR 6.2 BHP		267.3 39.1	261.8 94.6	256.0 129.7	250.1 153.9	243.9 172.8	237.3 195.2
	-10. TR 9.0 BHP			297.0 74.1	290.7 122.3	284.0 157.1	277.3 178.0	270.4 199.3
	-5. TR 12.2 BHP			335.9 43.2	328.9 107.1	321.5 155.7	314.2 183.6	306.6 204.5
0. TR 15.7 BHP				371.0 82.8	362.7 146.7	354.7 187.6	346.4 211.0	

CONSULT
FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-316

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR	49.9	47.3	44.5	41.5	37.8	33.7	30.2
	24.3* BHP	98.0	109.9	122.6	137.8	155.5	172.2	242.8
	-75. TR	60.9	58.2	55.3	52.1	48.4	44.1	40.4
	23.2* BHP	101.1	113.6	126.8	140.9	157.9	173.5	215.7
	-70. TR	73.6	70.7	67.7	64.4	60.5	56.1	52.0
	21.9* BHP	102.9	117.3	131.4	145.7	163.4	179.5	209.8
	-65. TR	88.1	85.1	81.8	78.3	74.5	69.9	65.4
	20.4* BHP	103.6	120.3	135.7	151.4	170.4	187.8	212.1
	-60. TR	104.7	101.5	98.0	94.3	90.2	85.7	80.7
	18.6* BHP	105.9	121.5	139.5	156.6	177.1	197.4	218.5
	-55. TR	123.6	120.0	116.3	112.4	108.0	103.4	98.2
	16.6* BHP	108.6	122.9	142.0	161.1	183.3	206.0	227.0
	-50. TR	145.1	141.2	137.1	132.9	128.1	123.3	117.9
	14.3* BHP	110.3	126.0	143.2	164.9	188.8	213.4	236.7
	-45. TR	169.2	164.9	160.5	155.9	150.9	145.5	140.2
	11.7* BHP	112.4	129.0	145.4	166.8	193.5	219.7	246.8
-40. TR	196.4	191.9	186.9	181.9	176.4	170.7	164.8	
8.7* BHP	111.8	132.1	149.3	168.1	196.9	225.6	254.1	
-35. TR	226.8	221.7	216.3	211.0	205.1	198.7	192.4	
5.4* BHP	103.2	134.1	153.4	171.6	198.6	230.2	261.4	
-30. TR	260.9	255.3	249.4	243.4	236.9	230.3	223.1	
1.6* BHP	83.6	130.7	157.5	176.3	201.3	233.1	266.9	
-25. TR	298.9	292.7	286.1	279.5	272.5	265.2	257.6	
1.3 BHP	50.4	118.2	158.2	182.4	205.7	235.5	271.2	
-20. TR		334.3	327.1	319.5	312.0	303.9	295.6	
3.6 BHP		94.0	151.4	186.0	212.1	239.6	275.5	
-15. TR		380.4	372.5	364.2	355.8	347.1	337.6	
6.2 BHP		55.7	134.6	184.5	219.0	245.9	277.8	
-10. TR			422.7	413.6	404.1	394.5	384.7	
9.0 BHP			105.5	174.0	223.5	253.3	283.6	
-5. TR			478.0	468.0	457.5	447.0	436.3	
12.2 BHP			61.5	152.4	221.5	261.2	291.0	
0. TR				527.9	516.1	504.7	492.8	
15.7 BHP				117.9	208.8	266.9	300.3	

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-399

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR	62.8	59.6	56.0	52.2	47.6	42.4	38.1
	24.3* BHP	123.4	138.4	154.4	173.5	195.8	216.9	305.8
	-75. TR	76.6	73.3	69.6	65.7	60.9	55.5	50.8
	23.2* BHP	127.3	143.0	159.7	177.4	198.9	218.5	271.6
	-70. TR	92.6	89.0	85.2	81.1	76.2	70.7	65.5
	21.9* BHP	129.5	147.7	165.5	183.5	205.8	226.0	264.2
	-65. TR	110.9	107.1	103.1	98.6	93.8	88.1	82.4
	20.4* BHP	130.5	151.5	170.9	190.6	214.6	236.5	267.1
	-60. TR	131.9	127.8	123.4	118.8	113.6	107.9	101.7
	18.6* BHP	133.4	153.1	175.7	197.2	223.0	248.6	275.1
	-55. TR	155.6	151.1	146.5	141.5	136.0	130.2	123.6
	16.6* BHP	136.8	154.7	178.9	202.9	230.8	259.4	285.8
	-50. TR	182.8	177.8	172.6	167.3	161.4	155.2	148.5
	14.3* BHP	138.9	158.7	180.3	207.7	237.8	268.7	298.0
	-45. TR	213.1	207.7	202.2	196.4	190.0	183.3	176.5
	11.7* BHP	141.6	162.5	183.1	210.0	243.7	276.6	310.7
-40. TR	247.3	241.6	235.4	229.1	222.1	214.9	207.5	
8.7* BHP	140.8	166.3	188.0	211.6	247.9	284.1	320.0	
-35. TR	285.6	279.2	272.4	265.7	258.2	250.2	242.3	
5.4* BHP	129.9	168.9	193.2	216.0	250.1	289.9	329.2	
-30. TR	328.5	321.4	314.0	306.6	298.4	290.0	281.0	
1.6* BHP	105.3	164.6	198.3	222.0	253.5	293.6	336.1	
-25. TR	376.4	368.6	360.3	351.9	343.2	333.9	324.4	
1.3 BHP	63.5	148.8	199.2	229.7	259.1	296.6	341.6	
-20. TR		420.9	411.9	402.3	392.9	382.8	372.2	
3.6 BHP		118.4	190.6	234.2	267.1	301.8	346.9	
-15. TR		479.0	469.1	458.6	448.1	437.1	425.2	
6.2 BHP		70.1	169.5	232.4	275.7	309.6	349.8	
-10. TR			532.2	520.8	508.8	496.8	484.5	
9.0 BHP			132.8	219.1	281.4	319.0	357.1	
-5. TR			601.9	589.4	576.1	562.9	549.4	
12.2 BHP			77.4	192.0	279.0	328.9	366.5	
0. TR				664.8	649.9	635.6	620.6	
15.7 BHP				148.4	262.9	336.1	378.1	

CONSULT
FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-546

R-717		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 3.6	-10.0 9.0	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.0	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 24.3* BHP	85.4 167.7	81.0 188.2	76.2 209.8	71.0 235.8	64.7 266.2	57.6 294.8	51.7 415.6
	-75. TR 23.2* BHP	104.2 173.0	99.7 194.4	94.6 217.0	89.2 241.1	82.8 270.3	75.5 297.0	69.1 369.2
	-70. TR 21.9* BHP	125.9 176.1	121.0 200.8	115.8 224.9	110.2 249.4	103.6 279.7	96.1 307.2	89.1 359.1
	-65. TR 20.4* BHP	150.8 177.4	145.6 205.9	140.1 232.2	134.1 259.1	127.4 291.7	119.7 321.5	112.0 363.1
	-60. TR 18.6* BHP	179.2 181.3	173.6 208.0	167.7 238.8	161.4 268.1	154.3 303.1	146.7 337.9	138.2 373.9
	-55. TR 16.6* BHP	211.5 185.9	205.4 210.3	199.1 243.1	192.4 275.8	184.8 313.7	177.0 352.5	168.0 388.5
	-50. TR 14.3* BHP	248.4 188.8	241.6 215.7	234.6 245.0	227.4 282.3	219.3 323.2	211.0 365.2	201.8 405.0
	-45. TR 11.7* BHP	289.6 192.5	282.2 220.8	274.8 248.9	266.9 285.5	258.2 331.3	249.1 376.0	240.0 422.3
	-40. TR 8.7* BHP	336.1 191.4	328.4 226.1	319.9 255.5	311.4 287.6	301.9 336.9	292.1 386.1	282.0 434.9
	-35. TR 5.4* BHP	388.2 176.6	379.4 229.5	370.3 262.6	361.1 293.6	351.0 340.0	340.1 394.0	329.3 447.4
	-30. TR 1.6* BHP	446.5 143.1	436.9 223.7	426.8 269.6	416.7 301.7	405.5 344.5	394.1 399.0	381.9 456.8
	-25. TR 1.3 BHP	511.6 86.2	500.9 202.3	489.7 270.7	478.3 312.1	466.5 352.1	453.8 403.1	440.9 464.2
	-20. TR 3.6 BHP		572.1 160.9	559.8 259.1	546.8 318.3	534.1 363.1	520.2 410.2	505.9 471.6
	-15. TR 6.2 BHP		651.0 95.3	637.5 230.4	623.3 315.9	609.0 374.8	594.1 420.8	577.9 475.4
	-10. TR 9.0 BHP			723.4 180.5	707.9 297.8	691.6 382.5	675.2 433.5	658.5 485.4
	-5. TR 12.2 BHP			818.0 105.2	801.1 260.9	783.0 379.1	765.1 447.1	746.7 498.1
0. TR 15.7 BHP				903.5 201.7	883.4 357.4	863.8 456.9	843.5 513.9	

CONSULT
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NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 1750 RPM, 60 Hz Motors

RDB-50

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG							
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5	
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 20.2* BHP	11.4 20.1	11.0 22.3	10.7 24.8	10.3 27.3	9.8 30.8	9.4 35.2	8.8 44.2	
	-75. TR 18.5* BHP	13.4 20.6	13.0 23.0	12.6 25.4	12.2 28.0	11.7 31.4	11.2 35.3	10.6 41.9	
	-70. TR 16.6* BHP	15.6 21.0	15.2 23.6	14.8 26.2	14.3 28.8	13.7 32.2	13.2 35.9	12.5 41.2	
	-65. TR 14.4* BHP	18.2 21.4	17.7 24.1	17.2 26.9	16.7 29.7	16.1 33.0	15.4 36.8	14.8 41.3	
	-60. TR 12.0* BHP	21.1 21.7	20.5 24.5	20.0 27.5	19.4 30.6	18.7 34.0	18.0 37.7	17.3 41.9	
	-55. TR 9.2* BHP	24.3 22.0	23.7 24.8	23.1 28.0	22.4 31.3	21.7 34.9	20.9 38.7	20.1 42.8	
	-50. TR 6.2* BHP	27.9 21.8	27.3 25.1	26.5 28.4	25.8 31.9	25.0 35.8	24.1 39.8	23.2 43.8	
	-45. TR 2.7* BHP	32.0 21.1	31.2 25.4	30.4 28.7	29.6 32.3	28.8 36.5	27.8 40.8	26.7 45.1	
	-40. TR 0.5 BHP	36.5 19.5	35.6 25.3	34.8 29.0	33.8 32.6	32.9 37.0	31.9 41.6	30.7 46.2	
	-35. TR 2.6 BHP	41.4 16.8	40.5 24.6	39.5 29.3	38.5 33.0	37.5 37.4	36.4 42.2	35.1 47.1	
	-30. TR 4.9 BHP	46.8 12.9	45.9 22.9	44.8 29.4	43.7 33.4	42.6 37.7	41.5 42.5	40.1 47.8	
	-25. TR 7.4 BHP	52.8 7.4	51.8 19.8	50.6 28.6	49.4 33.8	48.3 38.2	47.0 43.0	45.5 48.4	
	-20. TR 10.1 BHP		58.2 15.2	57.0 26.6	55.7 34.0	54.5 38.7	53.1 43.5	51.5 48.9	
	-15. TR 13.2 BHP		65.3 8.8	64.0 23.1	62.5 33.1	61.3 39.8	59.8 44.0	58.1 49.3	
	-10. TR 16.5 BHP		CONSULT FRICK COMPANY		71.6 17.7	70.0 30.8	68.7 39.5	67.1 45.2	65.4 50.0
	-5. TR 20.1 BHP				79.9 10.3	78.2 26.8	76.8 38.2	75.1 46.6	73.1 50.7
	0. TR 24.0 BHP				87.1 20.6	85.6 35.2	83.9 45.7	81.7 52.8	

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 1750 RPM, 60 Hz Motors

RDB-67

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG							
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5	
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. 20.2*	TR BHP	15.2 26.7	14.7 29.8	14.2 33.0	13.7 36.4	13.1 41.1	12.5 46.9	11.8 58.9
	-75. 18.5*	TR BHP	17.8 27.4	17.3 30.6	16.8 33.9	16.2 37.4	15.6 41.9	14.9 47.0	14.1 55.9
	-70. 16.6*	TR BHP	20.8 28.0	20.3 31.4	19.7 34.9	19.0 38.4	18.3 42.9	17.6 47.8	16.7 55.0
	-65. 14.4*	TR BHP	24.2 28.5	23.6 32.1	22.9 35.9	22.2 39.6	21.4 44.0	20.6 49.0	19.7 55.1
	-60. 12.0*	TR BHP	28.1 29.0	27.4 32.7	26.6 36.7	25.8 40.8	24.9 45.3	24.0 50.2	23.0 55.9
	-55. 9.2*	TR BHP	32.4 29.3	31.6 33.1	30.8 37.3	29.9 41.8	28.9 46.6	27.8 51.5	26.7 57.1
	-50. 6.2*	TR BHP	37.2 29.0	36.3 33.5	35.4 37.8	34.4 42.5	33.4 47.8	32.2 53.0	30.9 58.4
	-45. 2.7*	TR BHP	42.6 28.1	41.6 33.8	40.6 38.3	39.5 43.1	38.4 48.7	37.1 54.3	35.6 60.1
	-40. 0.5	TR BHP	48.6 26.0	47.5 33.7	46.3 38.7	45.1 43.5	43.9 49.3	42.5 55.4	40.9 61.6
	-35. 2.6	TR BHP	55.2 22.5	54.0 32.8	52.7 39.1	51.3 44.0	50.1 49.8	48.6 56.2	46.8 62.9
	-30. 4.9	TR BHP	62.5 17.1	61.2 30.5	59.8 39.2	58.3 44.6	56.9 50.3	55.3 56.7	53.4 63.8
	-25. 7.4	TR BHP	70.5 9.9	69.0 26.4	67.5 38.1	65.9 45.1	64.4 50.9	62.7 57.3	60.7 64.5
	-20. 10.1	TR BHP		77.7 20.2	76.0 35.5	74.2 45.3	72.6 51.6	70.8 58.0	68.7 65.2
	-15. 13.2	TR BHP		87.1 11.7	85.3 30.8	83.4 44.1	81.7 53.1	79.8 58.7	77.5 65.8
	-10. 16.5	TR BHP			95.5 23.6	93.4 41.1	91.6 52.7	89.5 60.2	87.1 66.7
	-5. 20.1	TR BHP			106.6 13.7	104.2 35.7	102.4 50.9	100.1 62.1	97.5 67.6
0. 24.0	TR BHP				116.1 27.4	114.2 47.0	111.8 60.9	109.0 70.5	

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NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-100

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 20.2* BHP	23.2 45.5	22.5 50.1	21.7 55.3	21.0 60.7	20.0 68.6	19.1 78.7	17.8 97.8
	-75. TR 18.5* BHP	27.3 46.6	26.5 51.5	25.6 56.7	24.8 62.1	23.8 69.5	22.7 78.3	21.4 92.3
	-70. TR 16.6* BHP	31.9 47.4	31.0 52.9	30.1 58.2	29.1 63.9	28.0 71.1	26.8 79.2	25.4 90.5
	-65. TR 14.4* BHP	37.1 48.2	36.1 53.8	35.1 59.8	34.0 65.7	32.7 72.9	31.4 80.9	29.9 90.6
	-60. TR 12.0* BHP	43.0 48.9	41.9 54.7	40.8 61.1	39.5 67.5	38.1 74.9	36.6 82.8	35.1 91.8
	-55. TR 9.2* BHP	49.6 49.2	48.4 55.4	47.1 62.1	45.7 69.1	44.2 76.9	42.5 84.9	40.8 93.7
	-50. TR 6.2* BHP	56.9 48.9	55.6 56.0	54.2 63.0	52.7 70.3	51.1 78.7	49.2 87.3	47.2 95.8
	-45. TR 2.7* BHP	65.2 48.0	63.7 56.3	62.1 63.5	60.4 71.1	58.7 80.2	56.7 89.3	54.5 98.6
	-40. TR 0.5 BHP	74.4 44.5	72.7 56.7	71.0 64.1	69.1 72.0	67.2 81.1	65.1 91.0	62.7 101.0
	-35. TR 2.6 BHP	84.6 38.4	82.6 55.7	80.7 65.1	78.6 72.4	76.6 81.8	74.3 92.2	71.7 102.9
	-30. TR 4.9 BHP	95.8 29.3	93.7 51.8	91.4 65.6	89.2 73.5	87.1 82.5	84.6 92.9	81.8 104.3
	-25. TR 7.4 BHP	108.2 16.8	105.8 44.9	103.4 64.3	100.8 74.9	98.6 83.4	95.9 93.4	92.9 105.3
	-20. TR 10.1 BHP		119.1 34.4	116.4 60.0	113.6 75.6	111.2 85.0	108.4 94.6	105.1 106.1
	-15. TR 13.2 BHP		133.7 19.9	130.7 52.1	127.7 73.9	125.0 86.9	122.0 95.6	118.6 106.6
	-10. TR 16.5 BHP			146.3 40.1	143.0 69.1	140.3 87.5	137.0 98.0	133.4 108.3
	-5. TR 20.1 BHP			163.3 23.3	159.7 60.2	156.8 85.0	153.4 100.7	149.4 110.0
	0. TR 24.0 BHP				177.8 46.4	174.9 78.8	171.2 100.9	167.0 113.3

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FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-134

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR	30.9	30.0	29.0	27.9	26.7	25.4	23.7
	20.2* BHP	60.7	66.9	73.8	80.9	91.4	105.0	130.4
	-75. TR	36.3	35.3	34.2	33.0	31.7	30.3	28.5
	18.5* BHP	62.1	68.7	75.6	82.8	92.7	104.5	123.1
	-70. TR	42.5	41.4	40.1	38.8	37.3	35.7	33.9
	16.6* BHP	63.2	70.5	77.6	85.2	94.7	105.6	120.6
	-65. TR	49.5	48.2	46.8	45.3	43.6	41.9	39.9
	14.4* BHP	64.2	71.8	79.7	87.6	97.1	107.9	120.8
	-60. TR	57.3	55.8	54.3	52.7	50.8	48.9	46.8
	12.0* BHP	65.1	72.9	81.5	90.0	99.9	110.3	122.4
	-55. TR	66.2	64.5	62.8	61.0	59.0	56.7	54.4
	9.2* BHP	65.6	73.9	82.8	92.1	102.6	113.2	124.9
	-50. TR	75.9	74.2	72.3	70.2	68.1	65.7	63.0
	6.2* BHP	65.2	74.7	83.9	93.7	105.0	116.4	127.8
	-45. TR	86.9	84.9	82.8	80.5	78.3	75.7	72.7
	2.7* BHP	64.0	75.1	84.7	94.8	106.9	119.1	131.5
	-40. TR	99.2	96.9	94.6	92.1	89.6	86.8	83.6
0.5 BHP	59.3	75.6	85.5	96.0	108.2	121.3	134.6	
-35. TR	112.8	110.2	107.5	104.9	102.2	99.1	95.7	
2.6 BHP	51.2	74.3	86.8	96.6	109.1	122.9	137.2	
-30. TR	127.7	124.9	121.9	118.9	116.1	112.7	109.0	
4.9 BHP	39.0	69.1	87.5	98.0	110.1	123.9	139.1	
-25. TR	144.2	141.0	137.8	134.4	131.4	127.9	123.8	
7.4 BHP	22.4	59.8	85.7	99.9	111.3	124.5	140.4	
-20. TR		158.8	155.2	151.5	148.2	144.6	140.2	
10.1 BHP		45.8	79.9	100.8	113.3	126.1	141.4	
-15. TR		178.2	174.3	170.2	166.7	162.7	158.1	
13.2 BHP		26.5	69.5	98.6	115.9	127.5	142.2	
-10. TR			195.1	190.6	187.0	182.7	177.9	
16.5 BHP			53.5	92.1	116.6	130.7	144.5	
-5. TR			217.8	212.9	209.1	204.5	199.1	
20.1 BHP			31.0	80.3	113.3	134.3	146.6	
0. TR				237.1	233.2	228.3	222.7	
24.0 BHP				61.9	105.0	134.5	151.1	

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NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-177

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG							
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5	
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. 20.2*	TR BHP	41.5 77.1	40.2 85.7	38.9 94.7	37.4 104.3	35.8 118.4	34.0 139.0	43.1 217.8
	-75. 18.5*	TR BHP	48.8 78.5	47.4 87.9	45.9 97.3	44.3 107.1	42.5 119.8	40.5 136.8	47.8 193.4
	-70. 16.6*	TR BHP	57.1 79.5	55.5 89.7	53.8 99.8	52.0 110.1	50.0 122.4	47.9 137.3	53.1 179.2
	-65. 14.4*	TR BHP	66.4 80.6	64.7 91.0	62.8 102.1	60.8 113.0	58.5 125.7	56.2 139.4	59.1 170.7
	-60. 12.0*	TR BHP	77.0 81.7	75.0 92.0	72.9 103.8	70.7 115.8	68.2 129.1	65.5 142.8	65.8 165.5
	-55. 9.2*	TR BHP	88.8 82.9	86.6 92.9	84.2 105.1	81.8 118.0	79.1 132.3	76.1 146.5	73.4 162.5
	-50. 6.2*	TR BHP	102.0 84.5	99.5 94.4	96.9 106.2	94.2 119.5	91.4 135.1	88.0 150.5	84.4 165.7
	-45. 2.7*	TR BHP	116.8 82.0	114.0 96.2	111.0 107.4	107.9 120.7	105.0 136.9	101.5 153.7	97.5 170.3
	-40. 0.5	TR BHP	133.1 75.0	130.0 97.0	126.8 108.9	123.3 122.0	120.1 138.1	116.4 156.0	112.2 172.9
	-35. 2.6	TR BHP	151.1 64.1	147.9 94.3	144.2 110.7	140.4 123.3	136.9 139.2	132.9 157.4	128.5 175.2
	-30. 4.9	TR BHP	171.0 48.4	167.5 87.3	163.4 111.1	159.2 125.2	155.5 140.5	151.3 158.4	146.5 178.3
	-25. 7.4	TR BHP	192.8 27.6	189.0 75.2	184.7 108.3	180.0 126.5	176.1 142.5	171.4 159.7	166.3 180.2
	-20. 10.1	TR BHP		212.6 57.4	208.0 101.1	202.9 127.1	198.6 144.8	193.7 161.3	188.1 181.5
	-15. 13.2	TR BHP		238.5 33.1	233.6 87.9	228.0 124.4	223.4 148.1	218.2 163.8	212.1 182.5
	-10. 16.5	TR BHP			261.5 67.6	255.5 116.7	250.5 148.4	245.0 168.2	238.5 185.2
	-5. 20.1	TR BHP			291.9 39.3	285.4 102.1	280.1 144.3	274.1 173.1	267.3 188.5
0. 24.0	TR BHP				318.1 79.1	312.4 134.0	305.9 172.5	298.9 193.7	

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NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-222

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 20.2* BHP	52.3 97.1	50.6 107.9	49.0 119.3	47.2 131.3	45.1 149.1	42.9 175.0	54.3 274.2
	-75. TR 18.5* BHP	61.5 98.8	59.7 110.7	57.7 122.5	55.7 134.8	53.5 150.9	51.0 172.2	60.2 243.5
	-70. TR 16.6* BHP	71.9 100.1	69.9 113.0	67.8 125.7	65.5 138.6	63.0 154.2	60.3 172.8	66.8 225.7
	-65. TR 14.4* BHP	83.7 101.4	81.4 114.5	79.1 128.6	76.6 142.3	73.7 158.2	70.7 175.5	74.4 214.9
	-60. TR 12.0* BHP	97.0 102.9	94.4 115.8	91.8 130.7	89.0 145.8	85.9 162.6	82.5 179.8	82.9 208.4
	-55. TR 9.2* BHP	111.9 104.4	109.0 117.0	106.0 132.3	103.0 148.6	99.6 166.6	95.8 184.5	92.5 204.6
	-50. TR 6.2* BHP	128.5 106.4	125.4 118.9	122.0 133.8	118.6 150.4	115.1 170.1	110.9 189.5	106.3 208.7
	-45. TR 2.7* BHP	147.1 103.2	143.5 121.1	139.8 135.2	135.9 152.0	132.2 172.3	127.8 193.6	122.7 214.5
	-40. TR 0.5 BHP	167.7 94.5	163.7 122.1	159.6 137.1	155.3 153.6	151.2 173.9	146.6 196.4	141.2 217.8
	-35. TR 2.6 BHP	190.3 80.7	186.2 118.8	181.5 139.4	176.8 155.2	172.4 175.3	167.4 198.2	161.8 220.7
	-30. TR 4.9 BHP	215.3 61.0	210.9 109.9	205.8 139.9	200.5 157.7	195.8 176.9	190.5 199.5	184.4 224.5
	-25. TR 7.4 BHP	242.8 34.8	238.0 94.7	232.6 136.4	226.6 159.3	221.7 179.4	215.8 201.1	209.4 226.9
	-20. TR 10.1 BHP		267.8 72.3	262.0 127.3	255.5 160.0	250.1 182.3	243.9 203.2	236.9 228.5
	-15. TR 13.2 BHP		300.4 41.6	294.1 110.7	287.1 156.6	281.3 186.5	274.8 206.2	267.1 229.8
	-10. TR 16.5 BHP			329.2 85.2	321.7 147.0	315.4 186.9	308.5 211.8	300.4 233.2
-5. TR 20.1 BHP			367.6 49.4	359.4 128.6	352.7 181.7	345.2 217.9	336.6 237.4	
0. TR 24.0 BHP				400.5 99.6	393.4 168.7	385.2 217.3	376.4 243.9	

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NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-316

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 20.2* BHP	74.4 138.2	72.1 153.6	69.7 169.7	67.1 186.9	64.2 212.1	61.0 249.1	57.1 288.5
	-75. TR 18.5* BHP	87.4 140.6	84.9 157.5	82.2 174.3	79.3 191.9	76.1 214.7	72.6 245.1	68.5 277.2
	-70. TR 16.6* BHP	102.3 142.4	99.4 160.7	96.4 178.9	93.2 197.3	89.6 219.4	85.8 245.9	81.4 274.8
	-65. TR 14.4* BHP	119.1 144.4	115.9 163.0	112.5 183.0	108.9 202.5	104.9 225.2	100.6 249.8	96.0 277.2
	-60. TR 12.0* BHP	138.0 146.4	134.3 164.8	130.6 185.9	126.7 207.5	122.2 231.3	117.4 255.8	112.4 282.5
	-55. TR 9.2* BHP	159.2 148.5	155.1 166.5	150.9 188.3	146.5 211.4	141.8 237.1	136.3 262.6	130.8 289.3
	-50. TR 6.2* BHP	182.8 151.4	178.4 169.2	173.6 190.4	168.7 214.0	163.7 242.1	157.7 269.6	151.3 297.0
	-45. TR 2.7* BHP	209.4 146.9	204.2 172.4	199.0 192.4	193.4 216.3	188.1 245.2	181.9 275.5	174.6 305.2
	-40. TR 0.5 BHP	238.6 134.4	233.0 173.7	227.2 195.1	220.8 218.4	215.2 247.5	208.6 279.5	201.0 312.2
	-35. TR 2.6 BHP	270.8 114.8	265.0 169.0	258.3 198.4	251.6 220.9	245.4 249.5	238.2 282.1	230.2 317.6
	-30. TR 4.9 BHP	306.3 86.7	300.0 156.4	292.9 199.0	285.3 224.3	278.6 251.7	271.0 283.8	262.4 320.6
	-25. TR 7.4 BHP	345.4 49.5	338.6 134.8	331.0 194.1	322.4 226.7	315.5 255.3	307.1 286.2	298.0 322.9
	-20. TR 10.1 BHP		381.0 102.9	372.7 181.1	363.5 227.7	355.9 259.5	347.1 289.1	337.1 325.1
	-15. TR 13.2 BHP		427.4 59.3	418.5 157.5	408.5 222.9	400.3 265.3	390.9 293.4	380.0 326.9
	-10. TR 16.5 BHP			468.5 121.2	457.7 209.2	448.8 266.0	438.9 301.3	427.4 331.8
	-5. TR 20.1 BHP			523.0 70.3	511.5 183.0	501.9 258.5	491.2 310.1	479.0 337.9
0. TR 24.0 BHP				569.9 141.7	559.8 240.0	548.1 309.1	535.6 350.9	

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NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-399

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 20.2* BHP	93.6 174.0	90.8 193.4	87.7 213.7	84.5 235.3	80.8 267.1	76.8 313.6	71.9 363.3
	-75. TR 18.5* BHP	110.1 177.1	106.9 198.4	103.5 219.5	99.9 241.6	95.8 270.4	91.5 308.6	86.3 349.1
	-70. TR 16.6* BHP	128.8 179.3	125.2 202.4	121.4 225.3	117.3 248.4	112.8 276.3	108.0 309.7	102.5 346.1
	-65. TR 14.4* BHP	149.9 181.8	145.9 205.2	141.7 230.4	137.2 255.0	132.1 283.5	126.7 314.5	120.9 349.1
	-60. TR 12.0* BHP	173.8 184.4	169.1 207.6	164.5 234.2	159.5 261.2	153.9 291.3	147.9 322.1	141.5 355.7
	-55. TR 9.2* BHP	200.5 187.1	195.3 209.7	190.0 237.1	184.5 266.2	178.5 298.6	171.6 330.7	164.7 364.3
	-50. TR 6.2* BHP	230.3 190.6	224.6 213.0	218.6 239.7	212.5 269.5	206.2 304.9	198.6 339.5	190.5 373.9
	-45. TR 2.7* BHP	263.6 184.9	257.2 217.1	250.6 242.3	243.5 272.4	236.9 308.8	229.1 346.9	219.9 384.3
	-40. TR 0.5 BHP	300.4 169.3	293.4 218.8	286.0 245.7	278.0 275.0	271.0 311.6	262.7 352.0	253.1 393.2
	-35. TR 2.6 BHP	341.0 144.6	333.7 212.9	325.3 249.8	316.8 278.1	309.0 314.1	299.9 355.2	289.9 399.9
	-30. TR 4.9 BHP	385.7 109.2	377.8 196.9	368.8 250.6	359.3 282.5	350.9 317.0	341.3 357.4	330.5 403.7
	-25. TR 7.4 BHP	435.0 62.3	426.4 169.7	416.8 244.4	406.0 285.4	397.3 321.5	386.7 360.4	375.2 406.6
	-20. TR 10.1 BHP		479.8 129.6	469.4 228.1	457.7 286.7	448.2 326.7	437.0 364.0	424.5 409.4
	-15. TR 13.2 BHP		538.2 74.6	527.0 198.3	514.4 280.6	504.0 334.1	492.3 369.5	478.5 411.7
	-10. TR 16.5 BHP			589.9 152.6	576.4 263.4	565.2 334.9	552.7 379.5	538.2 417.8
	-5. TR 20.1 BHP			658.6 88.6	644.1 230.4	632.0 325.5	618.6 390.5	603.2 425.5
0. TR 24.0 BHP				717.7 178.5	704.9 302.3	690.2 389.3	674.4 441.8	

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

BOOSTER - CAPACITY (TR) AND POWER RATING (BHP) @ 3550 RPM, 60 Hz Motors

RDB-546

R-22		SATURATED INTERMEDIATE TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.1	-10.0 16.5	0.0 24.0	10.0 32.8	20.0 43.0	30.0 54.9	40.0 68.5
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. TR 20.2* BHP	127.3 236.5	123.3 262.9	119.2 290.4	114.8 319.8	109.8 363.1	104.4 426.3	97.8 493.7
	-75. TR 18.5* BHP	149.7 240.7	145.3 269.6	140.6 298.3	135.7 328.4	130.2 367.5	124.3 419.5	117.2 474.5
	-70. TR 16.6* BHP	175.0 243.7	170.2 275.1	165.0 306.2	159.5 337.6	153.3 375.5	146.8 420.9	139.3 470.4
	-65. TR 14.4* BHP	203.8 247.1	198.3 278.9	192.6 313.2	186.4 346.6	179.5 385.4	172.3 427.5	164.3 474.5
	-60. TR 12.0* BHP	236.2 250.6	229.9 282.1	223.5 318.3	216.8 355.1	209.1 395.9	201.0 437.8	192.3 483.5
	-55. TR 9.2* BHP	272.5 254.2	265.5 285.0	258.2 322.3	250.8 361.9	242.7 405.8	233.3 449.4	223.8 495.2
	-50. TR 6.2* BHP	312.9 259.1	305.3 289.5	297.1 325.8	288.8 366.4	280.2 414.4	270.0 461.5	258.9 508.3
	-45. TR 2.7* BHP	358.3 251.4	349.6 295.0	340.6 329.3	331.0 370.2	322.0 419.7	311.3 471.5	298.9 522.4
	-40. TR 0.5 BHP	408.3 230.1	398.8 297.3	388.8 334.0	377.9 373.8	368.3 423.5	357.1 478.4	343.9 534.4
	-35. TR 2.6 BHP	463.4 196.5	453.5 289.3	442.1 339.6	430.6 378.0	419.9 427.0	407.7 482.8	394.0 543.6
	-30. TR 4.9 BHP	524.3 148.5	513.5 267.6	501.2 340.6	488.3 384.0	476.9 430.8	463.9 485.8	449.1 548.7
	-25. TR 7.4 BHP	591.2 84.7	579.6 230.7	566.5 332.2	551.9 387.9	539.9 436.9	525.6 489.8	510.0 552.6
	-20. TR 10.1 BHP		652.1 176.1	637.9 310.0	622.1 389.7	609.2 444.1	594.0 494.8	577.0 556.5
	-15. TR 13.2 BHP		731.5 101.4	716.2 269.5	699.2 381.4	685.0 454.1	669.1 502.2	650.4 559.6
	-10. TR 16.5 BHP			801.8 207.4	783.4 358.0	768.2 455.2	751.2 515.7	731.5 567.8
	-5. TR 20.1 BHP			895.2 120.4	875.4 313.2	859.0 442.4	840.7 530.7	819.8 578.3
0. TR 24.0 BHP				975.5 242.6	958.1 410.8	938.0 529.1	916.7 600.5	

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FRICK COMPANY

NOTE: Capacities based on liquid at intermediate saturation temperature and no suction superheat.

LIQUID INJECTION OIL COOLING

Booster compressor units use single port liquid injection oil cooling due to the typically lower compression ratios.

The following table gives the evaporator temperature limits for liquid use and single port application

CONDENSING TEMPERATURE	MAXIMUM EVAP TEMP		MINIMUM* EVAP TEMP
	LIQ. INJ. USE		SINGLE PORT (Low Vi)
	R-717	R-22	R-717 & R-22
75°F	10°F	5°F	- 5°F
85°F	25°F	15°F	5°F
95°F	35°F	25°F	10°F
105°F	+40°F	40°F	15°F

* Dual Injection Kit will be shipped by Frick below these temperatures.

BOOSTER LIQUID INJECTION CORRECTION FACTORS

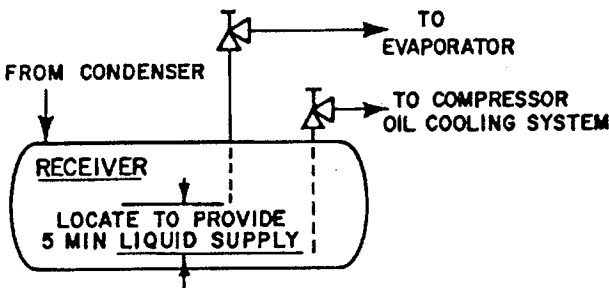
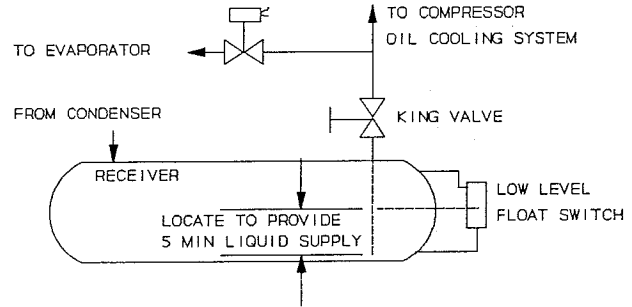
- R717 and R22: No correction factor for either capacity (TR) or power (BHP).

It is **IMPERATIVE** that an uninterrupted supply of high pressure liquid refrigerant be provided to the injection system at all times. Two items are of extreme importance, the design of the receiver/liquid injection supply and the size of the liquid line.

It is recommended that the receiver be oversized sufficiently to retain a five (5) minute supply of refrigerant for oil cooling. The evaporator supply must be secondary to this consideration. Two methods of accomplishing this are shown.

The dual dip tube method uses two dip tubes in the receiver. The liquid tube is below the evaporator tube to assure continued oil cooling when the receiver level is low.

The level control method utilizes a float level control on the receiver to close a solenoid valve feeding the evaporator when the liquid falls below that amount necessary for five (5) minutes of liquid injection oil cooling.



Liquid line sizes and the additional receiver volume (quantity of refrigerant required for five (5) minutes of liquid injection oil cooling) are given in the following table.

REF	RDB MODEL	LIQ. LINE SIZE' Inches			5 MINUTE LIQUID SUPPLY	
		PIPE	TUBING	OD	MASS LB	VOLUME CU FT
B O O S T E R	R	50,67	1/2	-	10	0.5
		100,134	1/2	-	20	0.5
		177,222	3/4	-	30	1.0
	7	316/399	1	-	40	1.5
		546	1	-	60	2.0
R	50,67	3/4	5/8	33	0.4	
		100,134	3/4	7/8	44	0.6
		177,222	3/4	7/8	59	0.8
	2	316,399	3/4	7/8	92	1.2
		546	1	1-1/8	125	1.7

1. Lines are sized for a maximum 100 feet liquid line. For longer runs, increase line size accordingly.

THERMOSYPHON OIL COOLING

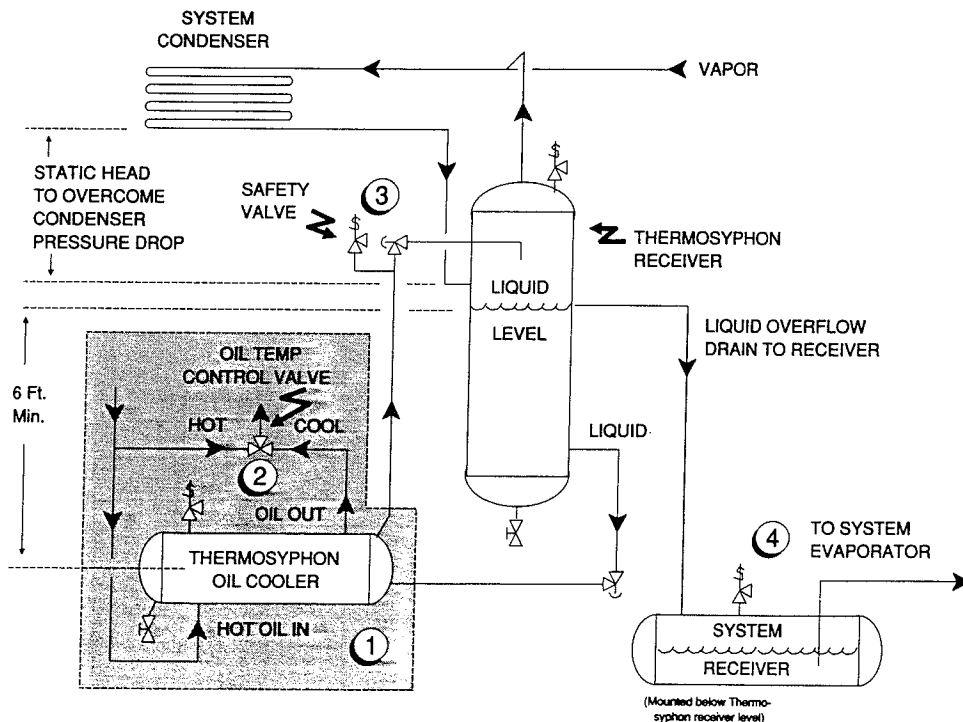
Thermosyphon oil coolers, like water (or glycol) cooled oil coolers, eliminate the capacity and power penalties associated with liquid injection oil cooling. Thermosyphon oil coolers have the further advantages of eliminating water (or glycol) pump power consumption and maintenance, tube fouling and potential system contamination.

The principle of operation is as follows (see diagram). A supply of high pressure liquid is maintained in a receiver at a predetermined minimum head above the oil cooler and below the condenser. Gravity causes the liquid refrigerant to flow to the oil cooler where a portion of the liquid is boiled off, thereby cooling the hot oil. New liquid from the receiver displaces the lighter refrigerant liquid/vapor mixture which rises to the receiver, dropping out the remaining liquid before allowing the vapor to return to the condenser, completing the cycle.

PIPING ARRANGEMENT FOR THERMOSYPHON OIL COOLING SYSTEMS

The components and piping of a thermosyphon oil cooling system include a liquid source at condensing pressure, adequate static heads to provide fluid flow, appropriate control valves, safety relief valves, service valves and pump out connections. The arrangement of component placement and fluid flow requirements must be designed to suit the individual refrigeration system layout with consideration given to piping safety practices.

The component and piping arrangement shown below is intended only to illustrate the operating principles of thermosyphon oil cooling. Other component layouts may be better suited to a specific installation.



1. Thermosyphon oil cooler is supplied with the oil side piped to the compressor unit and stub ends supplied on the refrigerant side.
2. Three-way oil temperature control valve required where condensing temperature is expected to go below 65°F.
3. Refrigerant side safety valve is required in this location only when refrigerant isolation valves are installed.
4. System receiver must be mounted below thermosyphon receiver level in this arrangement.

WATER COOLED OIL COOLER SELECTION

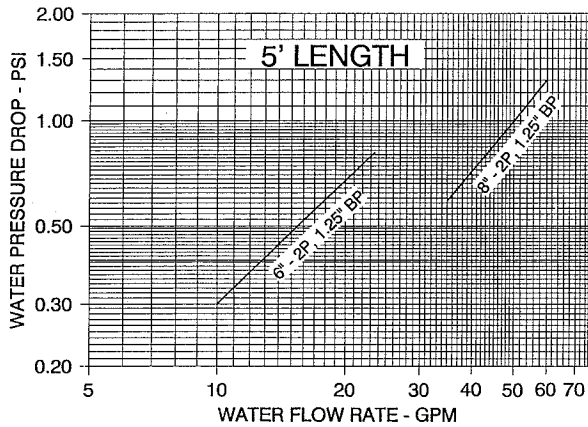
Required cooling water flow (GPM) is determined from the following formula.

$$m^3/Hr = \frac{OCHR}{500(T_o - T_i)}$$

OCHR - Oil Cooler Heat Rejection (BTU/HR)
See Tables

T_o - Cooling Water Outlet Temperature
(Not to exceed 110°F)

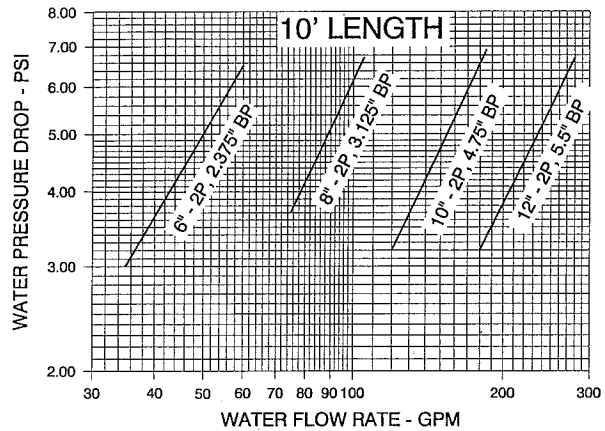
T_i - Cooling Water Inlet Temperature (°F)



**TABLE
WATER COOLED OIL COOLER SELECTION**

SIZE - Inches		APPROX WATER FLOW RANGE (GPM)
COOLER	WATER CONN (1)	
1524mm Length		
152.4	38.1 (1-1/2) NPT	2.3 - 5.3
203.2	63.5 (2-1/2) NPT	7.9 - 13.6
3048mm Length		
152.4	38.1 (1-1/2) NPT	7.9 - 13.6
203.2	63.5 (2-1/2) NPT	17.0 - 27.2
254.0	76.2 (3) NPT	27.2 - 48.8
304.8	101.6 (4) NPT	40.9 - 78.3

1. Actual connections provided in inches, metric dimensions provided for reference only.



OIL COOLER HEAT REJECTION (OCHR) - 1,000 BTU/HR

Based on 10°F superheat, 120°F oil temperature with superheat enthalpy not contributing to refrigerant effect. For applications having greater than 10°F of compressor suction superheat, consult Frick Company.

EVAP T°F	COND T°F	RDB SCREW COMPRESSOR MODELS - BOOSTER								
		50	67	100	134	177	222	316	399	546
-80	-20.0	19.8	26.1	44.9	59.7	71.7	88.3	124.5	155.0	209.6
-75		17.6	23.1	40.8	53.6	64.1	78.6	110.6	137.4	185.6
-70		15.1	19.8	35.4	46.2	54.1	66.0	92.6	114.7	154.9
-65		11.9	15.8	29.0	37.8	42.1	51.2	71.6	88.5	121.7
-60		8.6	11.3	22.3	29.1	31.2	37.9	52.9	65.2	87.9
-55		5.0	6.7	14.8	19.1	20.7	24.6	34.3	42.1	56.6
-50		1.4	1.8	6.5	8.4	8.2	9.9	13.6	16.7	22.7
-80	-10.0	24.5	32.8	55.1	72.7	89.8	106.0	156.4	195.2	264.2
-75		23.0	30.6	51.5	67.8	82.5	101.3	142.8	177.7	240.5
-70		20.8	27.6	46.9	61.7	74.2	90.8	127.8	158.9	214.7
-65		18.2	24.0	41.1	53.8	64.3	78.3	109.8	136.1	183.8
-60		14.9	19.5	34.4	45.0	51.6	62.4	87.3	108.0	145.6
-55		11.1	14.9	27.1	35.1	38.4	46.2	64.5	79.5	107.2
-50		7.6	9.9	20.0	25.9	26.7	32.0	44.5	54.7	73.6
-45	3.7	4.8	11.0	15.7	14.7	17.6	24.5	30.1	40.8	
-40	0.0	0.0	4.1	5.4	2.6	3.1	4.3	5.2	6.8	
-80	0.0	29.6	39.3	65.7	86.0	110.4	135.8	191.8	239.5	325.1
-75		28.4	37.7	62.6	82.5	102.6	126.4	178.5	222.6	301.6
-70		26.8	35.5	58.7	77.2	94.9	116.4	164.2	204.5	276.9
-65		24.5	32.6	53.7	70.6	85.7	105.0	147.7	183.5	248.3
-60		21.9	27.6	47.9	62.6	75.4	91.6	128.8	159.6	215.7
-55		18.6	24.6	40.9	53.3	62.7	75.8	106.2	131.3	177.2
-50		14.6	19.3	33.0	42.8	48.0	57.8	80.6	99.3	133.9
-45	10.5	13.8	25.1	32.5	34.1	40.8	57.1	69.9	94.2	
-40	6.5	8.5	17.8	23.0	21.7	25.8	35.8	43.9	58.9	
-35	2.3	2.8	10.1	13.0	9.7	11.5	15.7	19.2	25.9	
-30	0.0	0.0	2.1	2.7	0.0	0.0	0.0	0.0	0.0	
-80	10.0	35.5	47.1	78.3	103.5	133.8	165.7	234.7	296.7	399.0
-75		34.3	45.3	74.8	98.8	124.8	154.1	217.8	272.4	369.5
-70		32.9	43.7	71.4	94.2	114.5	144.0	203.5	254.2	344.1
-65		31.1	41.3	67.0	88.0	109.2	133.8	188.8	235.0	318.4
-60		29.0	38.3	61.8	81.1	99.8	121.6	171.4	212.6	288.1
-55		26.1	34.5	55.6	72.8	88.5	107.8	151.0	187.1	253.3
-50		22.7	30.0	48.3	63.0	75.6	91.3	128.1	158.3	211.3
-45	18.7	24.6	40.1	52.0	60.3	72.3	101.2	124.8	168.7	
-40	14.2	19.0	31.2	40.5	44.0	52.5	73.3	90.1	121.5	
-35	9.5	12.8	23.2	30.1	30.0	35.5	49.4	60.9	81.7	
-30	5.5	7.0	16.4	21.1	17.2	20.2	28.1	34.1	46.1	
-25	1.6	1.5	9.0	11.5	5.9	6.8	9.4	11.5	15.3	
-20	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	
-80	20.0	43.3	57.5	95.1	126.2	162.6	201.8	286.6	358.9	487.6
-75		41.5	55.1	90.6	119.7	152.3	190.7	267.1	334.4	453.9
-70		40.3	53.4	87.1	115.2	144.9	178.3	253.2	316.0	428.5
-65		39.1	41.8	84.0	110.8	137.7	169.6	239.9	299.2	405.7
-60		37.2	49.3	79.6	104.7	129.6	158.6	224.0	278.6	376.8
-55		34.8	46.2	74.1	97.2	119.6	145.7	205.9	255.2	346.0
-50		32.0	42.3	67.6	88.5	107.8	131.1	184.1	228.1	309.2
-45	28.5	37.5	59.9	78.3	94.4	113.7	159.6	197.6	267.7	
-40	24.3	32.1	51.4	66.8	78.8	94.5	132.5	163.5	221.0	
-35	19.5	25.6	41.8	54.1	61.4	73.0	102.3	125.8	170.1	
-30	14.6	19.2	32.4	41.9	45.1	53.5	74.3	91.3	123.0	
-25	10.3	13.0	23.7	30.6	30.4	35.7	49.8	61.0	82.4	
-20	5.4	7.1	15.6	20.2	17.9	20.8	28.9	35.3	47.4	
-15	0.9	1.0	8.0	10.2	6.0	6.9	9.5	11.4	15.6	

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RDB ROTARY SCREW COMPRESSOR UNITS
ENGINEERING DATA

OIL COOLER HEAT REJECTION (OCHR) - 1,000 BTH/HR

Based on 10°F superheat, 120°F oil temperature with superheat enthalpy not contributing to refrigerant effect. For applications having greater than 10°F on compressor suction superheat, consult Frick Company.

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EVAP T°F	COND T°F	RDB SCREW COMPRESSOR MODELS - BOOSTER									
		50	67	100	134	177	222	316	399	546	
-80	30.0	53.0	70.1	114.7	152.0	187.4	232.5	332.3	411.4	558.1	
-75		49.5	65.6	106.5	140.6	174.4	215.3	303.2	379.9	515.1	
-70		47.6	63.1	101.6	133.8	166.2	204.3	288.3	359.0	486.2	
-65		46.1	61.3	98.0	128.7	159.5	195.1	274.7	341.4	461.9	
-60		46.0	61.0	98.0	129.3	161.1	197.7	279.7	348.9	473.9	
-55		44.3	58.7	94.0	123.7	153.1	187.2	264.6	329.3	446.9	
-50		42.0	55.5	88.4	116.1	142.5	173.5	245.3	304.6	414.0	
-45		38.9	51.6	81.3	106.5	130.1	157.5	222.1	275.6	373.6	
-40		35.2	46.4	73.5	95.8	116.3	139.8	197.0	243.7	330.4	
-35		31.1	40.9	64.4	83.7	100.3	120.1	168.9	208.3	282.4	
-30		26.1	34.2	54.6	70.9	82.2	97.8	137.3	169.0	228.9	
-25		20.7	27.3	44.2	57.2	64.0	75.7	106.0	130.1	175.8	
-20		15.7	20.5	34.0	43.7	47.6	55.7	78.1	95.6	129.3	
-15		10.9	14.1	24.6	31.4	33.2	38.8	54.0	66.1	89.0	
-10		6.0	7.9	15.8	20.5	20.4	23.6	32.8	40.1	54.2	
-5		1.3	3.6	8.8	11.2	8.4	9.7	13.4	16.2	21.8	
0		0.0	0.0	0.5	0.6	0.0	0.0	0.0	0.0	0.0	
-80		40.0	83.1	110.4	170.6	225.9	288.5	358.7	508.8	637.4	865.3
-75			67.7	90.0	141.4	187.1	236.8	293.5	416.0	519.1	706.1
-70	61.0		81.0	128.0	168.6	212.7	262.7	371.8	466.0	629.9	
-65	57.3		76.1	120.2	158.6	198.4	243.5	344.7	429.7	582.6	
-60	54.9		72.7	114.6	150.7	187.5	229.5	323.9	402.8	546.1	
-55	52.8		70.0	110.0	144.2	178.2	216.9	305.6	379.1	513.6	
-50	50.9		67.1	105.3	137.8	168.5	203.9	287.0	355.3	481.0	
-45	48.7		64.2	100.1	130.4	158.5	190.5	272.3	330.2	446.5	
-40	45.8		60.1	92.2	119.7	144.6	172.8	242.0	297.9	401.8	
-35	41.7		54.8	83.7	108.4	130.0	154.3	215.5	264.5	357.2	
-30	37.2		52.3	74.2	95.5	113.3	133.6	186.0	227.6	307.0	
-25	32.2		41.9	64.1	82.2	95.1	111.6	154.9	188.9	254.3	
-20	27.2		35.4	53.9	68.7	77.9	90.5	125.2	152.1	204.4	
-15	22.9		30.0	47.5	61.3	68.8	80.5	114.0	138.8	188.1	
-10	17.6		23.0	36.6	46.9	52.4	61.0	85.4	104.2	142.3	
-5	12.6		16.4	25.9	33.1	36.5	43.9	61.3	74.7	101.0	
0	8.0		10.3	18.1	23.0	25.4	29.2	40.7	49.4	66.6	

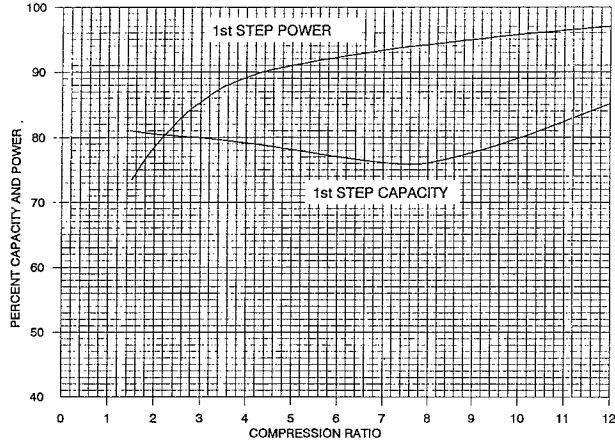
OIL COOLER HEAT REJECTION (OCHR) - 1,000 BTU/HR

Based on 10°F superheat, 120°F oil temperature with superheat enthalpy not contributing to refrigerant effect. For applications having greater than 10°F of compressor suction superheat, consult Frick Company.

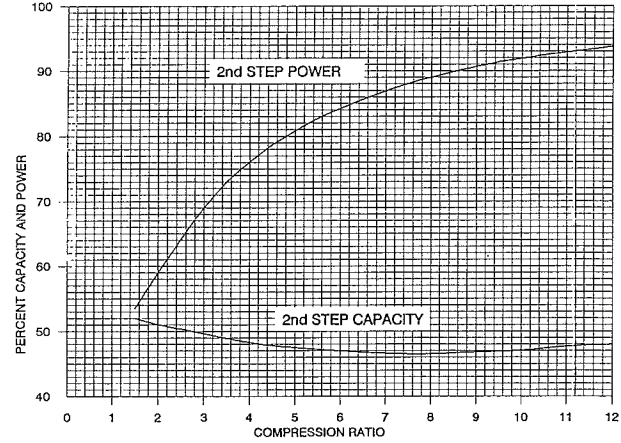
EVAP T°F	COND T°F	RDB SCREW COMPRESSOR MODELS - BOOSTER								
		50	67	100	134	177	222	316	399	546
-80	-20.0	7.0	9.2	22.2	28.7	28.7	34.5	48.2	59.1	79.8
-75		2.6	3.4	13.7	17.8	13.9	16.6	22.8	28.0	37.7
-70		0.0	0.0	4.5	5.8	0.0	0.0	0.0	0.0	0.0
-80	-10.0	12.7	16.7	32.8	42.6	47.1	56.7	79.3	97.8	132.1
-75		8.3	11.0	24.4	31.7	32.5	39.0	54.5	67.0	90.4
-70		3.5	4.7	15.6	20.2	17.0	20.2	28.1	34.5	46.4
-65		0.0	0.0	5.8	7.5	0.3	0.4	0.5	0.7	0.9
-80	0.0	18.8	24.8	44.9	58.7	67.2	81.0	114.0	140.9	190.6
-75		14.4	19.0	36.2	47.1	52.7	63.0	88.4	109.1	147.4
-70		9.8	12.9	27.2	35.3	37.3	48.5	61.9	76.9	103.3
-65		5.2	6.4	17.9	23.3	21.1	25.1	34.9	42.8	57.7
-60		0.0	0.0	7.9	10.4	3.8	4.5	6.3	7.7	10.4
-80	10.0	25.4	33.3	58.1	76.0	90.7	108.9	153.3	190.1	257.1
-75		21.1	27.9	49.2	64.2	74.8	90.1	126.8	156.9	212.3
-70		16.6	21.9	40.5	52.4	59.4	71.0	100.2	123.1	166.7
-65		11.6	15.4	30.9	40.1	43.1	51.2	71.9	88.4	119.7
-60		6.6	8.7	21.2	27.4	26.3	31.0	43.4	53.3	72.1
-55		1.1	1.3	10.7	13.9	8.5	10.2	14.2	17.3	23.0
-80	20.0	34.8	45.9	77.6	101.9	123.7	150.3	211.5	265.1	357.7
-75		29.8	39.5	67.2	87.9	104.8	126.6	178.7	221.4	300.4
-70		25.6	33.4	57.4	74.9	87.5	105.1	148.2	183.1	248.3
-65		20.4	26.8	47.5	61.8	70.5	84.2	118.6	146.4	198.3
-60		15.2	20.0	37.5	48.7	53.4	63.5	89.1	110.0	148.8
-55		9.7	12.5	27.1	35.1	35.6	42.0	58.9	72.4	98.0
-50		3.8	4.9	16.1	20.8	17.1	20.0	28.2	34.5	46.8
-45		0.0	0.0	4.6	5.9	0.0	0.0	0.0	0.0	0.0
-80		30.0	45.2	59.5	98.8	129.0	163.0	196.7	276.1	341.7
-75	39.2		51.7	84.9	110.6	135.5	162.6	228.2	281.3	380.3
-70	34.0		44.7	73.4	95.0	113.1	134.8	188.8	232.1	313.6
-65	29.2		38.2	62.7	81.0	93.4	110.8	154.6	189.6	256.0
-60	23.8		31.2	52.1	67.0	75.7	89.1	124.1	151.7	204.8
-55	18.4		24.0	41.7	53.4	58.6	68.5	95.1	116.1	156.3
-50	12.9		16.7	31.4	40.1	41.6	48.3	66.9	81.4	109.4
-45	6.9		8.9	20.6	26.3	24.0	27.7	38.1	46.3	62.8
-40	0.5		0.7	10.8	13.8	7.5	8.7	12.0	14.7	19.8
-80	40.0		68.3	89.2	145.5	190.2	276.4	332.0	374.7	464.9
-75		56.7	74.7	119.6	156.2	213.9	256.1	306.3	381.1	516.4
-70		48.1	63.3	101.2	131.8	172.9	204.3	258.3	319.1	432.5
-65		41.3	54.3	86.5	112.4	139.2	165.4	217.8	268.2	363.6
-60		35.1	46.0	73.7	95.4	113.4	133.7	182.4	224.1	303.3
-55		29.2	38.2	61.7	79.9	91.2	107.3	149.7	183.4	248.8
-50		23.3	30.5	45.1	64.9	72.7	85.0	118.7	145.2	196.4
-45		17.6	22.9	39.9	51.1	54.9	63.7	89.9	108.3	146.3
-40		11.4	14.8	32.7	36.4	34.5	39.7	58.2	70.7	95.4
-35		4.7	6.1	16.9	21.2	15.0	17.6	27.8	33.8	45.5
-30		0.0	0.0	5.2	6.5	0.0	0.0	0.0	0.0	0.0

R
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**TYPICAL PART LOAD POWER INPUT WITH
CONSTANT CONDENSING TEMPERATURE -
1ST STEP UNLOAD
(Nominally 80% of Full Load Capacity)**



**TYPICAL PART LOAD POWER INPUT WITH
CONSTANT CONDENSING TEMPERATURE -
2ND STEP UNLOAD
(Nominally 50% of Full Load Capacity)**



These curves are applicable for R717 (-10°F to 40°F full load condensing temperature) and R22 (10°C to 40°F full load condensing temperature).

To use the above charts:

- a. Compression Ratio calculation (use absolute pressure not gauge pressure):

$$\text{Compression Ratio} = \frac{\text{Discharge Pressure (absolute)}}{\text{Suction Pressure (absolute)}}$$

- b. Select the step to be used, 1st Step or 2nd Step.
- c. Using the compression ratio calculated above, find the capacity and power correction factors (%).

MOTOR SELECTION and STARTING TORQUE

Motors must be sized adequately for all expected operating conditions since start-up, pull down, and load variations quite often require significantly more horsepower than nominal design.

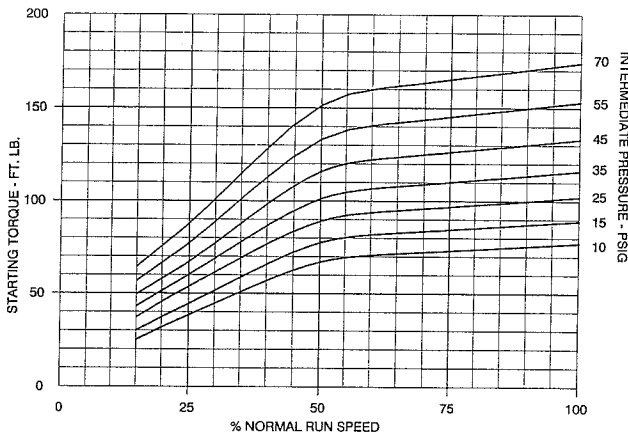
Motor starting torque capacity must also be considered, especially when other than across-the-line start is employed. Motor starting and pull-up-torque must be at least 20% greater than compressor requirements at maximum expected start-up conditions. Refer to the torque data.

NOTE: Motor starting torque varies considerably with various manufacturers - obtain specific torque data for the motor being used.

RDB MODEL	STARTING TORQUE (1) MULTIPLIER	BREAK-AWAY TORQUE FT-LB	(2) (3) INERTIA WR ² , FT-LB ²
50	0.75	10	7
67	1.00	10	8
100	0.75	10	7
134	1.00	10	8
177	1.32	14	14
222	1.66	14	17
316	2.36	20	35
399	2.98	20	43
546	4.05	23	58

- (1) Booster Application.
- (2) Not including coupling.
- (3) Inertia resolved to drive shaft.

RDB SCREW COMPRESSOR SPEED vs STARTING TORQUE CURVE - FULLY UNLOADED -



MODELS 50 thru 546

STARTING TORQUE FOR SPECIFIC COMPRESSOR

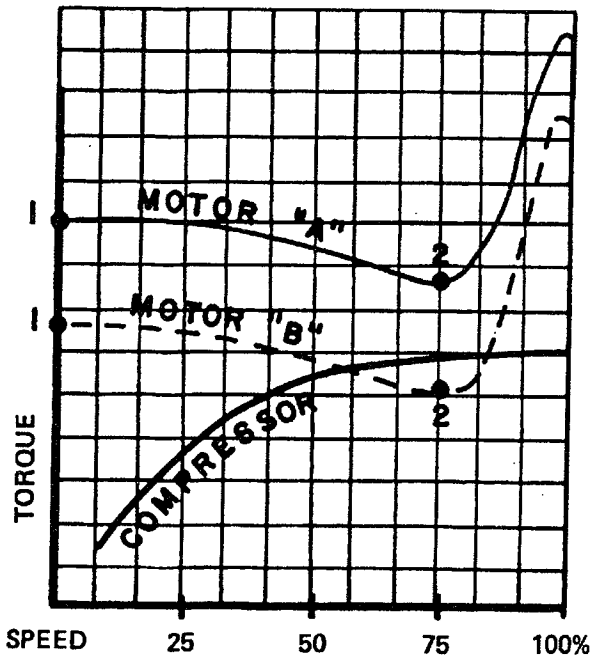
Multiply the starting torque value from booster curves at 100% of normal run speed by starting torque multiplier for appropriate compressor size.

MOTOR/COMPRESSOR TORQUE

Assure that the motor STARTING and MINIMUM PULL-UP TORQUE capabilities will exceed the compressor requirements at the anticipated condition that will be experienced during normal starting.

NOTE: Wye-delta and auto transformer (reduced voltage) motor starting methods drastically effect the starting torque available from motors as indicated:

- Across-the-Line Auto Transformer Wye-delta
- 100% Torque
- 25 - 64% Torque
- 33% Torque



Motor "A": Adequate to start the compressor.

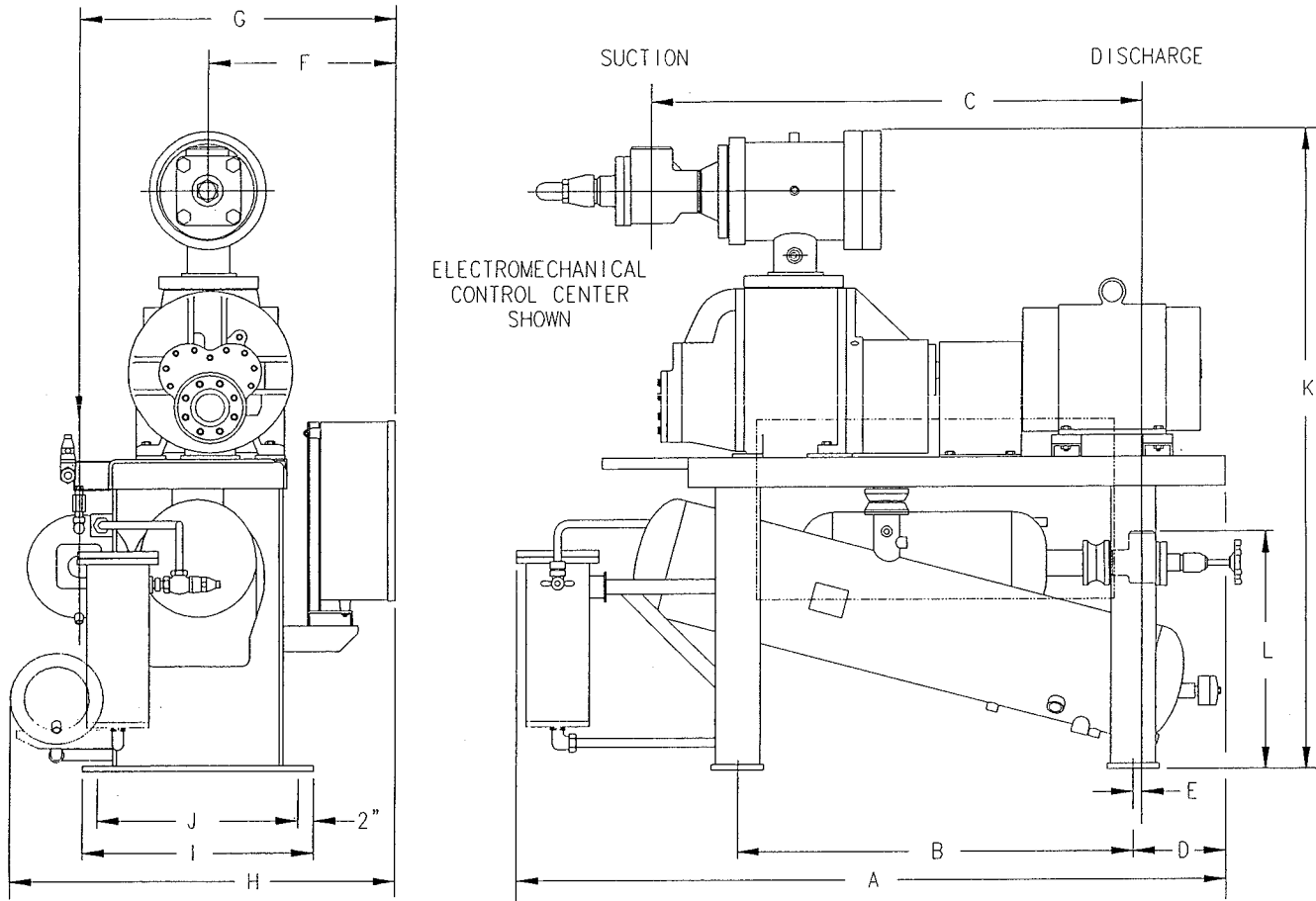
Motor "B": Will not start the compressor

NOTE: Starting torque of both motors (1) is above compressor torque. However, the Pull-Up torque (2) of motor "B" is below the compressor torque curve and motor "B" will not accelerate the compressor to 100% speed.

STANDARD MOTOR and FRAME SIZES

A special drive or motor exceeding the Standard Motor and Frame Size Chart (see table of contents) may require modified package design. When a modified package design is required there will be cost and delivery considerations.

RDB ROTARY SCREW COMPRESSOR
DIMENSIONS

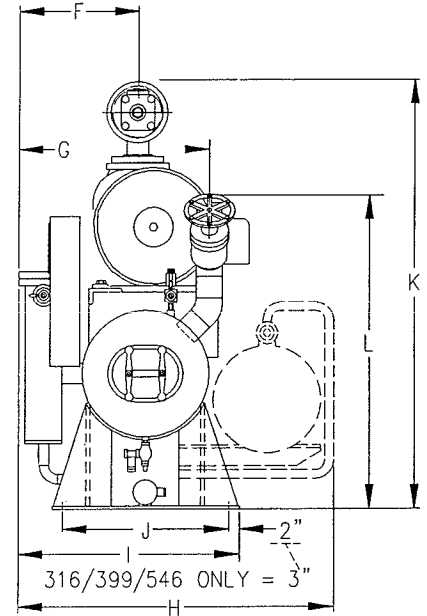
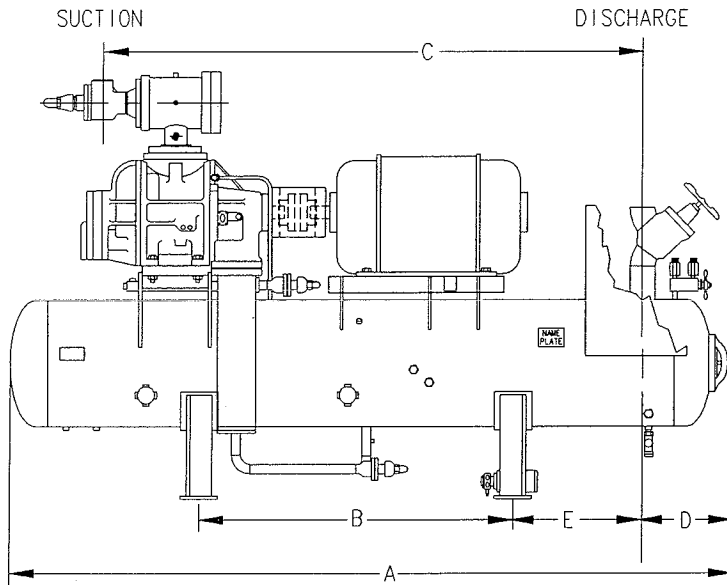


RDB MODEL NO.	APPROXIMATE DIMENSIONS - INCHES/MILLIMETERS													
	A	B	C		D	E	F(3)	G(2,3)	H(1)	I(1)	J	K(1)		L(1)
			R-717	R-22								R-717	R-22	
50	96/2451	53/1348	62/1565	62/1565	12/305	2/51	25/635	43/1092	52/1321	31/788	27/686	89/2264	84/2142	32/803
67	96/2451	53/1348	65/1640	65/1640	12/305	2/51	25/635	43/1092	52/1321	31/788	27/686	88/2230	83/2108	32/803

- (1) Maximum dimension.
- (2) Arrow indicates centerline of separator discharge.
- (3) Subtract 1-1/3 inches (33.8 mm) for units with microprocessor control.

RDB MODEL NO.	STANDARD CONNECTIONS INCHES (MILLIMETERS) (1)			
	R-717		R-22	
	SUCT	DISCH	SUCT	DISCH
50	4" (101.6)	4" (101.6)	5" (127.0)	4" (101.6)
67	4" (101.6)	4" (101.6)	6" (152.4)	4" (101.6)

1. All connections are provided in inches, metric dimensions given for reference only.



RDB MODEL NO.	APPROXIMATE DIMENSIONS MILLIMETERS													
	A(1)	B	C		D	E	F	G	H(2)	I(2)	J	K(2)		L(2)
			R-717	R-22								R-717	R-22	
100	115/2919	60/1524	93/2348	93/2350	19/476	11/280	25/613	39/994	52/1321	44/1108	32/813	84/2139	84/2139	56/1413
134	115/2919	60/1524	95/2405	95/2407	19/476	11/280	25/613	39/994	52/1321	44/1108	32/813	83/2105	83/2105	56/1413
177	130/3302	66/1677	103/2620	103/2622	20/495	15/381	27/682	44/1108	59/1499	51/1292	40/1016	94/2381	93/2361	69/1739
222	130/3302	66/1677	107/2724	107/2724	20/495	15/381	29/682	44/1108	59/1499	51/1292	40/1016	95/2420	94/2392	69/1739
316	157/3986	82/2083	132/3353	132/3353	23/591	17/432	32/752	49/1241	72/1829	62/1565	54/1372	105/2669	107/2714	78/1975
399	161/4069	82/2083	132/3351	132/3351	25/635	17/432	36/860	52/1368	74/1880	64/1622	54/1372	105/2675	113/2854	81/2051
546	174/4401	82/2083	147/3739	147/3739	28/699	21/534	37/916	62/1557	78/1982	69/1729	54/1372	124/3126	124/3126	97/2458

- (1) Allow 48"/1219 millimeters on manway end of unit to pull coalescer element.
- (2) Maximum dimension.

RDB MODEL NO.	STANDARD CONNECTIONS INCHES (MILLIMETERS) (1)	
	R-717 or R-22	
	SUCT	DISCH
100	5" (127.0)	4" (101.6)
134	6" (152.4)	4" (101.6)
177	6" (152.4)	5" (127.0)
222	8" (203.2)	5" (127.0)
316	8" (203.2)	6" (152.4)
399	8" (203.2)	6" (152.4)
546	10" (254.0)	8" (203.2)

1. All connections are provided in inches, metric dimensions given for reference only.

RDB ROTARY SCREW COMPRESSOR UNITS
DIMENSIONS

STANDARD MOTOR AND FRAME SIZE CHART

MOTOR HP	RDB COMPRESSOR UNIT MODEL					
	50 & 67	100 & 134	177 & 222	316	399	546
25	284T	-	-	-	-	-
30	286T	-	-	-	-	-
40	324T	-	-	-	-	-
50	326T	324TS	-	-	-	-
60	364T/TS	326TS	-	-	-	-
75	365T/TS	364TS	364TS	-	-	-
100	-	365TS	365TS	-	-	-
125	-	404TS	404TS	-	-	-
150	-	405TS	405TS	405TS	-	-
200	-	-	444TS	444TS	444TS	-
250	-	-	445TS	445TS	445TS	445TS
300	-	-	-	449TS	449TS	449TS
350	-	-	-	-	449TS	449TS
400	-	-	-	-	449TS	449TS
450	-	-	-	-	-	449TS
500	-	-	-	-	-	449TS



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