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SPECIFICATIONS – ENGINEERING DATA – DIMENSIONS

FRICK RWB II ROTARY SCREW COMPRESSOR UNITS

MODELS: RWB II–60 thru –399 REFRIGERANTS R717 and R22

HIGH STAGE and BOOSTER APPLICATIONS

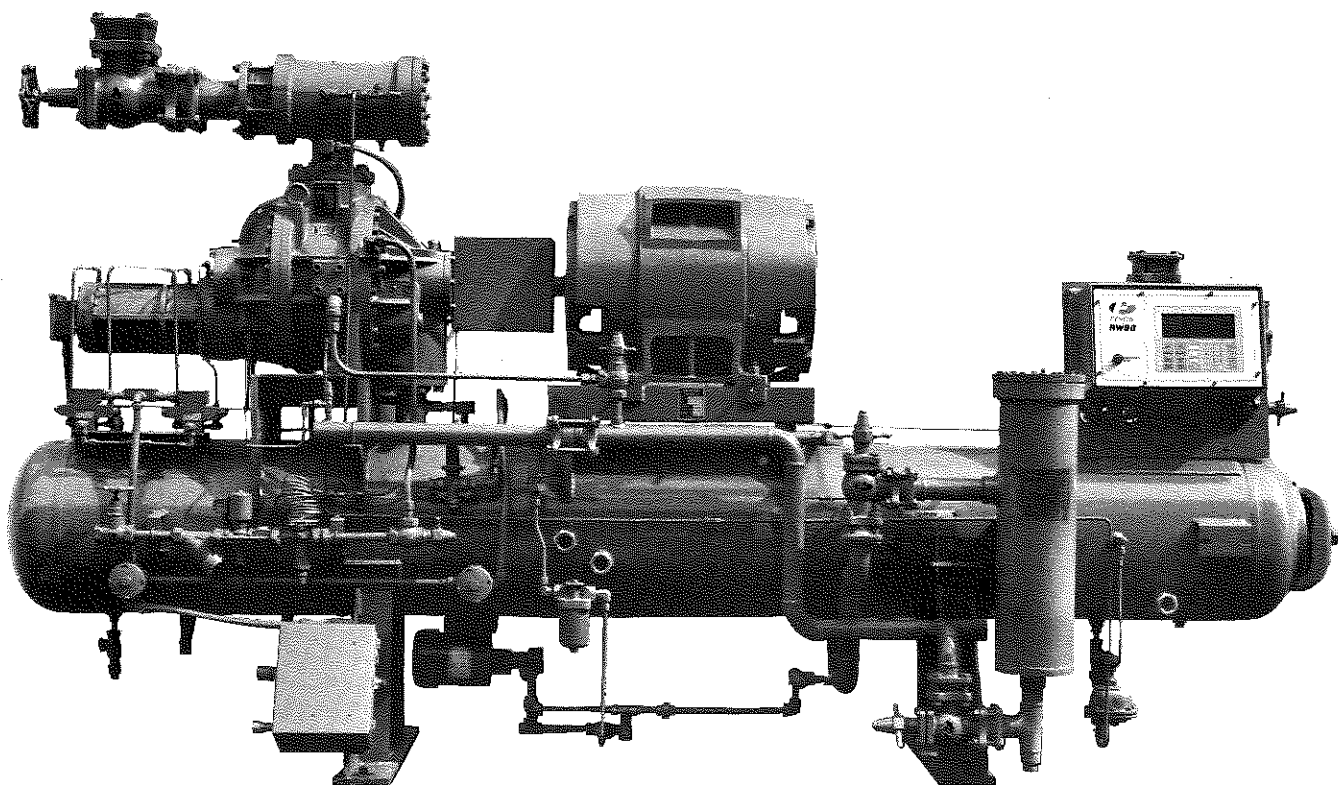
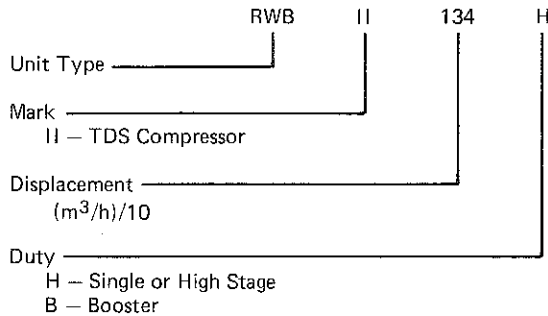


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MODEL NUMBER EXPLANATION



DESCRIPTION

The eight (8) models of the Frick RWB II Rotary Screw Compressor units described herein range in capacity from 357 CFM (607 m³/h) thru 2349 CFM (3992 m³/h) at 3550 RPM. Standard units are designed for use on ammonia, halocarbon and hydrocarbon refrigerants at pressure ratios up to 26:1.

RWB II Rotary Screw Compressor units consist of the following major components: — Frick manufactured TDS Rotary Screw Compressor with patented "Volumizer" variable volume ratio control; drive coupling and guard; SBC microprocessor control panel; power supply/junction box; prelube oil pump for start up only; suction and discharge line stop valves; suction and discharge line check valves; suction scale trap with 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.

MODEL TDS COMPRESSOR

HOUSING — All screw compressor castings are designed and tested to meet the requirements of ASHRAE 15-78 safety code for 350 psig maximum discharge pressure. Castings are close grain, ASTM-A 278 Class 40 cast iron to assure structural integrity, mechanical and thermal stability under all operating conditions.

ROTORS — The rotors are machined from AISI-1137 steel forgings 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 a rated bearing life in excess of 100,000 hours are used for reduced frictional horsepower and superior rotor positioning resulting in reduced power consumption, particularly at the 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.

"VOLUMIZER" VARIABLE VOLUME RATIO CONTROL — The Frick compressor includes a patented method of varying the internal volume ratio to match the system pressure ratio. With control of the internal volume ratio the power penalty associated with over or under compression is eliminated. The volume ratio control is achieved by the use of a slide stop which is a movable portion of the rotor housing that moves axially with the rotors to control the discharge port location. The slide stop is moved by hydraulic actuation of a control piston based on signals from the microprocessor. The range of adjustability is from 2.2 V_i to 5.0 V_i.

CAPACITY CONTROL — Capacity control is achieved by use of a movable slide valve. The slide valve moves axially with the rotors to provide fully modulating capacity control from 100% to approximately 10% of full load capacity. The slide valve is positioned automatically by hydraulic movement of its control piston based on time proportioned signals from the microprocessor. When in the unloaded position, gas is bypassed back to suction through a recirculation slit before compression begins and any work is expended.

LUBRICATION SYSTEM

LUBRICATION SYSTEM — The TDS compressor is designed specifically for operation without an oil pump. All oil required for main oil injection and lubrication is provided by positive gas differential pressure. All oil passes through a 10 — 15 micron filter furnished with isolation stop valves and drain connections for ease of servicing.

The standard high stage unit is furnished with a close-coupled positive displacement pre-lube pump for start-up only. For some low pressure differential applications (refer to page 63) an optional full time or cycling full time lube pump will be required. The cycling full lube pump operates only when the suction — discharge differential is not sufficient to provide adequate lubrication and will shut off automatically to conserve pump motor power when not required.

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 typical low differential pressure across the compressor in booster applications.

OIL SEPARATOR/RESERVOIR — The oil separator 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 and supplied with dual relief valves. Two 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.

On systems utilizing the standard prelube pump, a float switch is installed in the first stage of the oil separator to detect a low oil level. If a low level occurs the float switch will shut the compressor down.

OIL FILTER — All lubrication and injection oil will pass through 10-15 micron full flow filter. The filter is designed for vertical mounting and furnished with isolation stop valves and drain connection for ease of servicing.

LIQUID INJECTION OIL COOLING — The compressor oil is cooled by direct contact with refrigerant injected through one of two optimized port locations prior to the compressor discharge. Liquid feed arrangement includes a stop valve, strainer, sight glass, solenoid valve, metering valve and stop valve. The metering valve will maintain temperature of the oil returning to the compressor between 110°F and 130°F.

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 tubes are 3/4" O.D. to minimize water fouling and the oil temperature is maintained at 110°F to 130°F with a thermally controlled water regulating valve sensing outlet oil temperature.

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 compressor control system is factory mounted, completely piped and wired with all the required safety and operating devices. The control system includes as standard a NEMA 4X microprocessor control panel and a separate NEMA 4 power/supply junction box. All transducers are wired and piped into a common manifold with a NEMA 4X rated housing. A built-in telecommunications interface suitable for connection to standard modems is included.

The microprocessor panel is supplied with a 240 character vacuum fluorescent display with a minimum rated life of 100,000 hours. 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 alarm condition exists or other messages as required.

Through the microprocessor display, by call up, the following control and alarm setpoints will be indicated: low pressure cutout, low pressure alarm, high pressure cutout, high pressure alarm, filter differential alarm, discharge temperature cutout, discharge temperature alarm, oil pressure cutout, oil pressure alarm, suction pressure control, high oil temperature cutout, high oil temperature alarm, liquid injection oil cooling temperature control, low oil temperature cutout, low oil temperature alarm, oil heater temperature control, low oil level and motor load control.

The microprocessor panel provides annunciation to indicate the first cause of shutdown as well as prealarms to warn of potential shutdown conditions. The panel will also store the exact operating conditions at the time of any shutdown or trip, and this data may be recalled via the "freeze display".

Included in the microprocessor is time proportioning capacity control. This method of capacity control reduces hunting and provides a more stable capacity control.

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.

The power supply/junction box is furnished to separate electronic components from heat and electrical noise producing components. This junction box supplies a single terminal point for customer wiring to the package and a convenient location for the elapsed time meter and oil pump manual control switch.

VALVES

VALVES - Check valves are furnished and mounted at the suction and discharge of the compressor. Flanged suction and discharge stop valves are included and shipped mounted. The suction valve is an angle type for reduced suction pressure drop.

ACCESSORIES and OPTIONAL ITEMS

DUAL OIL FILTERS - A second oil filter may be furnished mounted on the unit. Isolation valves are included to provide servicing of the one filter while the unit is running.

FULL LUBE PUMP - Lubrication and oil injection may be achieved by using a positive displacement direct driven gear type oil pump capable of maintaining lube oil supply at low pressure differentials, operating independent of the compressor and controlled so that lubrication of the compressor begins prior to start-up. A cycling option is available to operate the pump only when system differential pressure requires a full lube pump.

ECONOMIZER - Increased refrigeration capacity with relatively low increase in brake horsepower can be achieved by the use of a Frick economizer tube. The economizer consists of a shell and coil or shell and tube liquid subcooler with appropriate controls. Refrigerant vapor from the subcooler is piped to an optimized pressure port on the compressor.

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 RWB II 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 WITH METRIC EQUIVALENTS

RWB II MODEL NO.	TDS COMPRESSOR				UNIT WT LESS MOTOR
	MODEL NO.	DIA mm	L/D	DISPLACEMENT CFM (m ³ /h)	LB(kg)
60	1613	163.2	1.35	357 (607)	4900 (2222)
76	1617	163.2	1.70	450 (765)	5200 (2358)
100	1913	193.0	1.35	592 (1005)	6000 (2721)
134	1918	193.0	1.80	790 (1342)	6300 (2857)
177	2313	233.0	1.35	1042 (1770)	9800 (4445)
222	2317	233.0	1.70	1311 (2228)	10000 (4536)
316	2813	283.0	1.35	1865 (3169)	13500 (6124)
399	2817	283.0	1.70	2349 (3992)	14000 (6350)

EQUIPMENT SELECTION

SCREW COMPRESSOR UNIT

The following information is required for final unit selection:

Refrigerant	R-717, R-22, Other - Consult Frick Co.
Duty	Single Stage, High Stage, Booster, Other - Consult Frick Co.
Compressor RPM	3550 (60 Hz), 2950 (50Hz), (Std) Other - Consult Frick Co.
Lube Oil Pump: Single, High Stage	Prelube (Std)
Lube Oil Pump: Single, High Stage	Full or Cycling Full Lube (Opt)
Lube Oil Pump: Booster	Full Lube (Std)
Oil Filter	Single (Std), Dual (Opt)
Oil Cooling	Liquid Injection (Std)
Water Cooled Cooler (Inlet Water Temp °F, ΔT °F Req'd)	(Opt)
Thermosyphon	(Opt)
Saturated Suction Temperature	°F
Condensing Temperature	°F
Intermediate Temperature (Booster)	°F
Suction Superheat	°F
Liquid Subcooling	°F
Economizer - Kit Only	(Opt)
Economizer - Mounted DX Cooler	(Opt)
Rating	TR BHP (Including Liquid Subcooling, Suction Superheat, Liquid Injection and 50 Hz corrections as applicable)

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 Co.
Motor Speed	RPM (3550 or 2950 \pm 50 RPM)
Motor Specifications	HP, Frame — (See page 68) Service Factor, Full Load Amps Bearings (Ball or Sleeve)
Motor Power	Volts, 3 Phase, Hz (60 or 50 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, Other - Consult Frick Co.
Rotation	Clockwise facing opposite the drive end of motor (facing compressor input shaft).

MOTOR SELECTION

Motors for high stage applications may be selected for the design operating condition, however 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 refer to page 66.

MOTOR STARTER PACKAGE

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

STARTER PACKAGE SPECIFICATIONS FOR RWB II COMPRESSOR UNITS WITH MICROPROCESSOR CONTROL

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 RWB II 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 individual application:

STARTING METHOD — Choose Across-the-line, Autotransformer, Wye-delta open transition or Wye-delta closed transition 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 synch 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.

OVERCURRENT PROTECTION — Choose either the Starter package or the Combination starter package with circuit breaker disconnect. In the majority of cases the Starter package (without circuit breaker disconnect) is chosen and motor overcurrent protection is provided by the motor feeder circuit breaker in the electrical power panel. For high voltage (2300, 4160 v) applications only specify High voltage fused draw-out starter package.

COMPRESSOR MOTOR DATA — Indicate the motor horsepower, voltage, frequency (Hertz), full load amps (FLA) and speed (3550 RPM or 2950 RPM).

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

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

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, contact Frick Company for assistance.

STANDARD CONDITIONS – HIGH STAGE

The RWB II high stage ratings for R717 and R22 are given in the tables on pages 8 through 39. These ratings are based on 3550 RPM (60 Hz), 10°F liquid subcooling, 10°F suction superheat (not contributing to the refrigeration effect) and thermosyphon or water cooled oil cooling.

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

Capacity (TR) = standard rating (or economizer rating) x subcooling correction factor x superheat correction factor x liquid injection correction factor if applicable (see page 56) x 0.81 (50 Hz only).

Brake horsepower (BHP) = standard rating (or economizer rating) x 1.01 (liquid injection correction factor if applicable) x 0.81 (50 Hz only).

LIQUID SUBCOOLING CORRECTION FACTORS – HIGH STAGE

For liquid subcooling other than 10°F, determine the liquid subcooling capacity correction factor (S.C.C.F.) in the following manner using the actual number of degrees of liquid subcooling (S.C.):

$$\text{For R-717: S.C.C.F.} = 1 + (\text{S.C.} - 10^\circ\text{F}) (.0025)$$

$$\text{For R-22: S.C.C.F.} = 1 + (\text{S.C.} - 10^\circ\text{F}) (.005)$$

No brake horsepower correction is required for liquid subcooling.

SUCTION SUPERHEAT CORRECTION FACTORS

For suction superheat in excess of 10°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.):

$$\text{For R-717: S.H.C.F.} = \frac{1}{1 + (\text{S.H.} - 10^\circ\text{F}) (.0027)}$$

$$\text{For R-22: S.H.C.F.} = \frac{1}{1 + (\text{S.H.} - 10^\circ\text{F}) (.0028)}$$

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.

STANDARD CONDITIONS – BOOSTER

The RWB II booster ratings for R717 and R22 are given in the tables on pages 40 through 55. These ratings are based on 3550 RPM (60 Hz) liquid cooled to intermediate temperature, no suction superheat and thermosyphon or water cooled oil cooling.

The final rating for an RWB II 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 0.81 (50 Hz only).

Brake horsepower (BHP) = standard rating x 1.01 (liquid injection correction factor if applicable) x 0.81 (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:

$$\text{For R-717 L.T.D.F.} = 1 - (\text{TD}) (.0025)$$

$$\text{For R-22 L.T.D.F.} = 1 - (\text{TD}) (.005)$$

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.):

$$\text{For R-717 S.H.C.F.} = \frac{1}{1 + (\text{S.H.}) (.0027)}$$

$$\text{For R-22 S.H.C.F.} = \frac{1}{1 + (\text{S.H.}) (.0028)}$$

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.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-60

R717 HIGH STAGE

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	28.1 76.2	27.0 85.8	25.9 96.8	24.9 110.5	23.9 128.1
	-35 TR 5.4* BHP	32.9 79.7	31.6 89.5	30.3 100.4	29.0 112.8	27.9 128.3
	-30 TR 1.6* BHP	38.1 83.4	36.7 93.5	35.3 104.5	33.9 116.8	32.4 130.7
	-25 TR 1.3 BHP	44.0 87.1	42.5 97.7	40.9 109.1	39.3 121.4	37.7 135.1
	-20 TR 3.6 BHP	50.5 90.8	48.8 101.9	47.1 113.8	45.3 126.5	43.5 140.3
	-15 TR 6.2 BHP	57.8 94.3	55.9 106.1	54.0 118.6	52.1 131.9	50.1 146.0
	-10 TR 9.0 BHP	65.9 97.7	63.8 110.3	61.7 123.4	59.5 137.3	57.4 152.0
	-5 TR 12.2 BHP	74.8 100.6	72.5 114.2	70.1 128.2	67.7 142.8	65.4 158.2
	0 TR 15.7 BHP	84.5 103.0	82.1 117.8	79.5 132.8	76.8 148.2	74.2 164.3
	5 TR 19.6 BHP	95.2 104.8	92.5 120.8	89.7 137.0	86.8 153.5	83.9 170.4
	10 TR 23.8 BHP	107.0 105.8	103.9 123.2	101.0 140.7	97.8 158.4	94.6 176.4
	15 TR 28.4 BHP	119.9 106.0	116.5 124.8	113.1 143.6	109.8 162.7	106.3 182.1
	20 TR 33.5 BHP	134.2 105.8	130.3 125.5	126.4 145.9	122.8 166.5	119.0 187.2
	25 TR 39.0 BHP	149.8 105.2	145.1 125.2	141.0 147.2	136.9 169.4	132.8 191.8
	30 TR 45.0 BHP	166.9 104.2	161.9 125.0	156.9 147.4	152.3 171.4	147.7 195.4
	35 TR 51.6 BHP	185.3 102.8	179.8 124.1	174.3 147.2	169.1 172.2	163.9 198.1
	40 TR 58.6 BHP	206.1 103.5	199.4 122.9	193.3 146.6	187.1 171.9	181.7 199.7

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-60E

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (* in Hg)	-40 TR 8.7* BHP	32.7 79.2	32.2 89.8	31.6 102.0	31.1 117.2	30.7 136.6	6" x 4'
	-35 TR 5.4* BHP	37.8 82.9	37.2 93.7	36.6 105.8	36.0 119.7	35.5 136.9	6" x 6'
	-30 TR 1.6* BHP	43.4 86.8	42.8 98.0	42.2 110.2	41.5 124.0	40.8 139.6	
	-25 TR 1.3 BHP	49.6 90.7	49.0 102.4	48.3 115.1	47.6 129.0	46.9 144.5	8" x 4'
	-20 TR 3.6 BHP	56.3 94.5	55.7 106.9	55.1 120.2	54.3 134.5	53.6 150.1	
	-15 TR 6.2 BHP	63.8 98.3	63.2 111.4	62.5 125.3	61.8 140.3	61.0 156.4	8" x 6'
	-10 TR 9.0 BHP	72.0 101.8	71.3 115.8	70.6 130.5	69.9 146.2	69.1 163.0	
	-5 TR 12.2 BHP	80.8 104.9	80.2 120.0	79.4 135.6	78.7 152.1	77.9 169.7	8" x 6'
	0 TR 15.7 BHP	90.2 107.5	89.6 123.8	88.9 140.6	88.1 158.0	87.3 176.5	
	5 TR 19.6 BHP	100.5 109.4	99.9 127.0	99.3 145.1	98.5 163.8	97.6 183.2	10" x 6'
	10 TR 23.8 BHP		110.9 129.5	110.3 149.1	109.5 169.1	108.6 189.8	
	15 TR 28.4 BHP			122.1 152.3	121.4 173.9	120.6 196.0	10" x 6'
	20 TR 33.5 BHP			134.7 154.8	134.1 178.0	133.3 201.8	
	25 TR 39.0 BHP				147.5 181.3	146.8 206.9	
	30 TR 45.0 BHP					161.2 211.0	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							
		CONSULT FRICK COMPANY					

R717 HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

R717-HIGH STAGE

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	35.4 95.9	34.0 108.1	32.6 121.9	31.3 139.2	30.1 161.3
	-35 TR 5.4* BHP	41.4 100.4	39.8 112.7	38.2 126.4	36.6 142.1	35.1 161.5
	-30 TR 1.6* BHP	48.0 105.0	46.2 117.7	44.4 131.6	42.7 147.0	40.8 164.6
	-25 TR 1.3 BHP	55.4 109.7	53.5 123.0	51.5 137.3	49.5 152.9	47.4 170.2
	-20 TR 3.6 BHP	63.6 114.3	61.5 128.4	59.3 143.3	57.1 159.3	54.8 176.6
	-15 TR 6.2 BHP	72.8 118.8	70.4 133.6	68.0 149.4	65.6 166.0	63.1 183.9
	-10 TR 9.0 BHP	83.0 123.0	80.3 138.9	77.6 155.4	75.0 172.9	72.2 191.4
	-5 TR 12.2 BHP	94.2 126.7	91.3 143.8	88.3 161.5	85.3 179.8	82.3 199.2
	0 TR 15.7 BHP	106.5 129.7	103.3 148.3	100.1 167.2	96.8 186.6	93.4 206.9
	5 TR 19.6 BHP	119.9 132.0	116.5 152.1	113.0 172.5	109.4 193.3	105.6 214.6
	10 TR 23.8 BHP	134.8 133.3	130.9 155.1	172.1 177.2	123.2 199.4	119.1 222.2
	15 TR 28.4 BHP	151.0 133.4	146.7 157.1	142.5 180.9	138.2 204.9	133.8 229.2
	20 TR 33.5 BHP	169.0 133.2	164.0 158.0	159.2 183.7	154.6 209.6	149.8 235.8
	25 TR 39.0 BHP	188.7 132.5	182.8 157.6	177.6 185.3	172.3 213.3	167.2 241.5
	30 TR 45.0 BHP	210.2 131.3	203.8 157.4	197.5 185.6	191.7 215.8	186.0 246.0
	35 TR 51.6 BHP	233.4 129.5	226.4 156.3	219.5 185.3	212.9 216.9	206.4 249.5
	40 TR 58.6 BHP	259.5 130.3	251.1 154.7	243.5 184.6	235.6 216.5	228.8 251.4

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-76E

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (* in Hg)	-40 TR 8.7* BHP	41.2 99.7	40.6 113.1	39.8 128.4	39.2 147.5	38.7 172.1	6" x 6'
	-35 TR 5.4* BHP	47.6 104.4	46.9 118.0	46.1 133.3	45.3 150.7	44.7 172.4	
	-30 TR 1.6* BHP	54.6 109.3	53.9 123.4	53.1 138.8	52.3 156.1	51.4 175.8	8" x 4'
	-25 TR 1.3 BHP	62.4 114.2	61.7 129.0	60.9 144.9	59.9 162.4	59.0 182.0	
	-20 TR 3.6 BHP	70.9 119.0	70.2 134.6	69.3 151.3	68.4 169.3	67.4 189.0	8" x 6'
	-15 TR 6.2 BHP	80.4 123.8	79.5 140.2	78.7 157.8	77.8 176.6	76.8 196.9	
	-10 TR 9.0 BHP	90.6 128.2	89.8 145.8	88.9 164.3	88.0 184.1	87.0 205.2	
	-5 TR 12.2 BHP	101.8 132.1	101.0 151.1	100.0 170.8	99.1 191.6	98.1 213.7	
	0 TR 15.7 BHP	113.6 135.3	112.9 155.8	112.0 177.0	111.0 199.0	109.9 222.3	10" x 6'
	5 TR 19.6 BHP	126.5 137.7	125.9 159.9	125.0 182.7	124.0 206.2	122.9 230.7	
	10 TR 23.8 BHP		139.6 163.1	138.9 187.8	137.9 212.9	136.8 239.0	
	15 TR 28.4 BHP			153.8 191.8	152.9 219.0	151.8 246.9	
	20 TR 33.5 BHP			169.7 195.0	168.9 224.2	167.9 254.1	
	25 TR 39.0 BHP				185.8 228.3	184.9 260.5	
	30 TR 45.0 BHP					203.0 265.6	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							

R717 HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-100

RWB II-100

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	48.6 122.5	47.0 136.7	45.4 157.4	43.9 181.5	42.4 211.6
	-35 TR 5.4* BHP	56.5 128.0	54.6 143.9	52.8 162.3	50.9 183.5	49.2 210.7
	-30 TR 1.6* BHP	65.2 133.7	63.2 150.2	61.0 168.2	59.0 188.9	56.9 212.7
	-25 TR 1.3 BHP	74.9 139.6	72.7 156.7	70.4 175.2	68.0 195.5	65.7 218.7
	-20 TR 3.6 BHP	85.8 145.4	83.3 163.4	80.7 182.5	78.1 203.3	75.4 225.9
	-15 TR 6.2 BHP	97.9 151.3	95.0 170.0	92.2 190.1	89.3 211.6	86.3 234.6
	-10 TR 9.0 BHP	111.4 156.7	108.1 176.8	104.9 197.8	101.7 220.1	98.4 243.9
	-5 TR 12.2 BHP	126.2 161.6	122.6 183.2	119.0 205.5	115.3 228.8	111.8 253.5
	0 TR 15.7 BHP	142.5 165.8	138.6 189.1	134.5 213.0	130.4 237.5	126.4 263.3
	5 TR 19.6 BHP	160.4 169.0	156.1 194.2	151.6 219.8	147.1 246.1	142.5 273.1
	10 TR 23.8 BHP	180.1 171.2	175.2 198.4	170.3 226.0	165.3 254.0	160.3 282.8
	15 TR 28.4 BHP	201.5 172.2	196.1 201.5	190.7 231.2	185.3 261.4	179.7 292.0
	20 TR 33.5 BHP	225.0 172.7	219.0 203.4	213.0 235.3	207.0 267.8	200.9 300.6
	25 TR 39.0 BHP	251.0 172.8	243.8 204.1	237.3 238.2	230.7 273.0	224.0 308.2
	30 TR 45.0 BHP	279.2 171.4	271.1 204.7	263.6 239.5	256.4 276.8	249.0 314.6
	35 TR 51.6 BHP	309.9 168.2	301.3 204.0	292.3 240.1	284.2 279.2	276.2 319.6
	40 TR 58.6 BHP	343.7 163.9	333.5 201.8	323.9 240.6	314.4 280.2	305.6 323.1

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-100E

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	56.6 127.4	56.0 145.1	55.4 165.8	55.0 192.4	54.5 225.7	8" x 4'
	-35 TR 5.4* BHP	65.0 133.1	64.4 150.7	63.8 171.1	63.1 194.6	62.7 224.9	8" x 6'
	-30 TR 1.6* BHP	74.3 139.1	73.6 157.3	72.9 177.3	72.3 200.5	71.6 227.3	
	-25 TR 1.3 BHP	84.4 145.3	83.9 164.2	83.2 184.9	82.4 207.6	81.7 233.8	
	-20 TR 3.6 BHP	95.6 151.5	95.0 171.3	94.4 192.7	93.6 216.1	92.8 241.8	
	-15 TR 6.2 BHP	108.1 157.6	107.3 178.4	106.7 200.9	106.0 225.1	105.1 251.4	10" x 6'
	-10 TR 9.0 BHP	121.6 163.3	120.9 185.6	120.1 209.1	119.4 234.3	118.6 261.5	
	-5 TR 12.2 BHP	136.4 168.5	135.6 192.4	134.8 217.4	133.9 243.8	133.2 272.0	
	0 TR 15.7 BHP	152.1 172.9	151.3 198.7	150.5 225.4	149.6 253.3	148.7 282.8	
	5 TR 19.6 BHP	169.3 176.4	168.5 204.2	167.7 232.8	166.7 262.6	165.7 293.6	10" x 8'
	10 TR 23.8 BHP		186.9 208.7	186.1 239.5	185.1 271.3	184.1 304.3	
	15 TR 28.4 BHP			205.9 245.2	204.9 279.3	203.9 314.4	
	20 TR 33.5 BHP			227.1 249.7	226.1 286.4	225.1 324.0	
	25 TR 39.0 BHP				248.7 292.1	247.6 332.5	
	30 TR 45.0 BHP					271.8 339.7	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							

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RWB II-100E HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE -- CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (* in Hg)	-40 TR 8.7* BHP	64.8 163.3	62.7 184.9	60.5 209.9	58.5 242.0	56.5 282.1
	-35 TR 5.4* BHP	75.3 170.6	72.8 191.9	70.4 216.5	67.9 244.7	65.6 280.9
	-30 TR 1.6* BHP	87.0 178.2	84.2 200.2	81.4 224.2	78.6 251.8	75.9 283.6
	-25 TR 1.3 BHP	99.9 186.1	97.0 208.9	93.8 233.6	90.6 260.6	87.5 291.6
	-20 TR 3.6 BHP	114.4 193.9	111.1 217.8	107.7 243.4	104.1 271.0	100.5 301.2
	-15 TR 6.2 BHP	130.6 201.7	126.7 226.7	123.0 253.5	119.1 282.1	115.1 312.9
	-10 TR 9.0 BHP	148.5 208.9	144.2 235.8	139.8 263.7	135.6 293.5	131.3 325.3
	-5 TR 12.2 BHP	168.3 215.5	163.5 244.3	158.6 274.0	153.8 305.1	149.1 338.0
	0 TR 15.7 BHP	190.1 221.1	184.7 252.1	179.3 283.9	173.9 316.7	168.5 351.1
	5 TR 19.6 BHP	213.9 225.4	208.1 259.0	202.1 293.1	196.1 238.1	190.0 364.1
	10 TR 23.8 BHP	240.1 228.3	233.6 264.6	227.1 301.4	220.4 338.7	213.7 377.1
	15 TR 28.4 BHP	268.6 229.7	261.5 268.7	254.3 308.3	247.0 348.5	239.6 389.3
	20 TR 33.5 BHP	299.9 230.3	292.0 271.2	284.0 313.8	276.0 357.0	267.9 400.8
	25 TR 39.0 BHP	334.7 230.4	325.1 272.1	316.4 317.6	307.6 364.0	298.6 411.0
	30 TR 45.0 BHP	372.3 228.5	361.5 272.9	351.5 319.3	341.8 369.1	332.1 419.5
	35 TR 51.6 BHP	413.2 224.3	401.7 272.0	389.7 320.1	379.0 372.2	368.3 426.1
40 TR 58.6 BHP	458.3 218.6	444.6 269.1	431.8 320.8	419.2 373.5	407.5 430.8	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-134E

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	75.4 169.8	74.7 193.5	73.9 221.1	73.3 256.5	72.7 300.9	8" x 6'
	-35 TR 5.4* BHP	86.7 177.5	85.8 201.0	85.0 228.1	84.2 259.5	83.5 299.9	
	-30 TR 1.6* BHP	99.0 185.5	98.2 209.8	97.2 236.5	96.4 267.3	95.4 303.0	10" x 6'
	-25 TR 1.3 BHP	112.6 193.7	111.8 218.9	110.9 246.5	109.9 276.9	108.9 311.8	
	-20 TR 3.6 BHP	127.5 202.0	126.7 228.4	125.8 257.0	124.8 288.1	123.7 322.4	
	-15 TR 6.2 BHP	144.1 210.1	143.1 237.9	142.3 267.9	141.3 300.1	140.2 335.1	
	-10 TR 9.0 BHP	162.1 217.7	161.2 247.5	160.1 278.8	159.2 312.5	158.1 348.7	10" x 8'
	-5 TR 12.2 BHP	181.8 224.7	180.8 256.6	179.7 289.9	178.6 325.0	177.6 362.7	
	0 TR 15.7 BHP	202.8 230.6	201.8 264.9	200.7 300.6	199.4 337.7	198.3 377.1	10" x 10'
	5 TR 19.6 BHP	225.8 235.1	224.7 272.3	223.6 310.4	222.3 350.1	211.0 391.4	
	10 TR 23.8 BHP		249.2 278.3	248.1 319.4	246.8 361.7	245.4 405.7	10" x 10'
	15 TR 28.4 BHP			274.5 326.9	273.2 372.4	271.8 419.2	
	20 TR 33.5 BHP			302.8 333.0	301.5 381.8	300.1 431.9	
	25 TR 39.0 BHP				331.6 389.5	330.2 443.3	
	30 TR 45.0 BHP					362.3 452.9	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							
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R717-HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-177

R717-I-G-H-S-A-M

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	86.1 212.1	82.6 237.9	78.9 266.6	75.1 299.7	71.3 339.9
	-35 TR 5.4* BHP	100.5 222.4	96.6 249.0	92.6 278.1	88.5 310.5	84.2 347.6
	-30 TR 1.6* BHP	116.5 233.1	112.3 260.8	108.0 290.7	103.5 323.3	98.8 359.5
	-25 TR 1.3 BHP	134.4 243.9	129.8 273.0	125.1 304.1	120.1 337.6	115.1 374.0
	-20 TR 3.6 BHP	154.2 254.5	149.3 285.4	144.1 317.9	138.7 352.7	133.2 389.8
	-15 TR 6.2 BHP	176.2 264.6	170.8 297.6	165.1 332.0	159.3 368.3	153.2 406.9
	-10 TR 9.0 BHP	200.4 273.8	194.5 309.4	188.3 346.0	182.0 384.2	175.4 424.4
	-5 TR 12.2 BHP	227.1 281.9	220.6 320.2	213.9 359.6	207.0 400.1	199.9 442.3
	0 TR 15.7 BHP	256.6 289.0	249.3 330.1	242.0 372.3	234.5 415.7	226.7 460.3
	5 TR 19.6 BHP	289.1 294.6	280.9 338.7	272.8 383.9	264.6 430.3	256.1 477.9
	10 TR 23.8 BHP	324.4 297.9	315.6 345.8	306.4 394.2	297.5 443.9	288.3 494.8
	15 TR 28.4 BHP	362.8 298.9	353.4 350.9	343.5 403.1	333.4 456.0	323.3 510.4
	20 TR 33.5 BHP	404.9 297.6	394.4 353.4	383.9 410.1	372.6 466.8	361.5 524.7
	25 TR 39.0 BHP	451.2 295.4	438.9 353.3	427.4 414.3	415.5 475.8	403.0 537.5
	30 TR 45.0 BHP	501.5 292.1	487.9 351.1	474.7 415.7	461.9 482.0	448.5 548.5
	35 TR 51.6 BHP	556.4 287.6	541.1 348.5	526.1 414.3	511.9 485.1	497.7 557.0
40 TR 58.6 BHP	615.3 280.7	599.1 344.0	582.3 411.8	566.0 485.2	550.5 562.0	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

RWB II-177E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (* in Hg)	-40 TR 8.7* BHP	100.2 220.5	98.4 249.0	96.4 280.8	94.1 317.7	91.8 362.5	10" x 6'
	-35 TR 5.4* BHP	115.7 231.4	113.9 260.8	111.9 293.1	109.7 329.3	107.2 371.1	
	-30 TR 1.6* BHP	132.7 242.6	131.0 273.3	129.0 306.6	126.8 343.2	124.3 384.1	
	-25 TR 1.3 BHP	151.4 253.9	149.8 286.2	147.8 320.9	145.6 358.6	143.2 400.0	
	-20 TR 3.6 BHP	171.9 265.1	170.3 299.3	168.4 335.7	166.2 374.9	163.8 417.2	
	-15 TR 6.2 BHP	194.4 275.6	192.9 312.3	191.1 350.8	189.0 391.8	186.6 435.9	
	-10 TR 9.0 BHP	218.8 285.3	217.4 324.7	215.6 365.8	213.7 409.0	211.3 455.0	10" x 10'
	-5 TR 12.2 BHP	245.4 294.0	244.0 336.3	242.3 380.4	240.4 426.3	238.2 474.6	
	0 TR 15.7 BHP	273.9 301.5	272.3 346.8	270.8 394.1	268.9 443.2	266.8 494.4	
	5 TR 19.6 BHP	305.1 307.4	303.3 356.0	301.7 406.6	300.0 459.2	297.9 513.8	12" x 8'
	10 TR 23.8 BHP		336.7 363.8	334.8 417.8	333.1 474.0	331.2 532.3	
	15 TR 28.4 BHP			370.7 427.5	368.8 487.3	366.9 549.6	
	20 TR 33.5 BHP			409.2 435.2	407.1 499.2	405.0 565.5	
	25 TR 39.0 BHP				447.9 509.2	445.6 579.8	
	30 TR 45.0 BHP					489.4 592.1	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							

R717 HIGH STAGE

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NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-222

R717-HIGH STAGE

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	108.4 267.0	104.0 299.5	99.4 335.7	94.6 377.4	89.8 428.0
	-35 TR 5.4* BHP	126.5 280.1	121.7 313.6	116.6 350.3	111.4 390.9	106.1 437.8
	-30 TR 1.6* BHP	146.8 293.5	141.4 328.4	135.9 366.1	130.3 407.2	124.4 452.7
	-25 TR 1.3 BHP	169.2 307.2	163.5 343.8	157.5 383.0	151.3 425.1	144.9 471.0
	-20 TR 3.6 BHP	194.2 320.5	187.9 359.4	181.4 400.3	174.6 444.1	167.7 490.9
	-15 TR 6.2 BHP	221.9 333.1	215.0 374.8	207.9 418.1	200.6 463.7	192.9 512.4
	-10 TR 9.0 BHP	252.4 344.7	244.9 389.6	237.2 435.7	229.2 483.7	220.9 534.4
	-5 TR 12.2 BHP	286.0 355.0	277.8 403.3	269.4 452.8	260.7 503.8	251.7 556.9
	0 TR 15.7 BHP	323.2 364.0	314.0 415.7	304.8 468.8	295.3 523.4	285.5 579.7
	5 TR 19.6 BHP	364.0 371.0	353.7 426.5	343.5 483.4	333.2 541.9	322.5 601.8
	10 TR 23.8 BHP	408.4 375.1	397.4 435.5	385.9 496.4	374.6 558.9	363.0 623.0
	15 TR 28.4 BHP	456.8 376.3	445.0 441.9	432.5 507.6	419.8 574.3	407.1 642.7
	20 TR 33.5 BHP	509.8 374.8	496.6 445.0	483.4 516.5	469.2 587.9	455.2 660.8
	25 TR 39.0 BHP	568.1 372.0	552.7 444.8	538.3 521.7	523.2 599.1	507.5 676.8
	30 TR 45.0 BHP	631.6 367.8	614.3 442.1	597.8 523.5	518.7 607.0	564.8 690.6
	35 TR 51.6 BHP	700.7 362.1	681.4 438.8	662.4 521.7	644.7 610.9	626.7 701.4
	40 TR 58.6 BHP	774.9 353.5	754.4 433.2	733.3 518.5	712.8 611.0	693.2 707.7

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-222E

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	126.2 277.7	123.9 313.5	121.4 353.6	118.6 400.0	115.6 456.5	10" x 6'
	-35 TR 5.4* BHP	145.7 291.4	143.4 328.4	140.9 369.1	138.1 414.7	135.0 467.3	
	-30 TR 1.6* BHP	167.1 305.5	164.9 344.1	162.4 386.1	159.7 432.2	156.5 483.6	10" x 8'
	-25 TR 1.3 BHP	190.7 319.8	188.6 360.3	186.1 404.1	183.4 451.6	180.3 503.7	
	-20 TR 3.6 BHP	216.4 333.8	214.4 376.9	212.1 422.7	209.3 472.1	206.3 525.4	
	-15 TR 6.2 BHP	244.8 347.1	242.9 393.2	240.6 441.7	238.0 493.3	235.0 548.9	10" x 10'
	-10 TR 9.0 BHP	275.6 359.3	273.8 408.9	271.6 460.6	269.1 515.0	266.1 573.0	
	-5 TR 12.2 BHP	309.0 370.2	307.2 423.5	305.2 479.0	302.7 536.8	299.9 597.6	12" x 8'
	0 TR 15.7 BHP	344.9 379.6	342.9 436.8	341.0 496.3	338.7 558.1	335.9 622.6	
	5 TR 19.6 BHP	384.1 387.1	382.0 448.3	379.9 512.0	377.8 578.2	375.1 646.9	
	10 TR 23.8 BHP		423.9 458.1	421.6 526.1	419.4 596.9	417.0 670.3	12" x 10'
	15 TR 28.4 BHP			466.8 538.3	464.4 613.7	462.0 692.0	
	20 TR 33.5 BHP			515.2 548.0	512.6 628.7	510.0 712.1	
	25 TR 39.0 BHP				564.1 641.2	561.1 730.1	
	30 TR 45.0 BHP					616.2 745.6	
	35 TR 51.6 BHP						
	40 TR 58.6 BHP						
		CONSULT FRICK COMPANY					

R717 HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-316

R717-HIGH STAGE

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	154.3 380.3	148.0 426.6	141.4 478.1	134.6 537.5	127.8 609.6
	-35 TR 5.4* BHP	180.0 398.9	173.1 446.6	166.0 498.8	158.5 556.7	150.9 623.4
	-30 TR 1.6* BHP	208.8 418.0	201.2 467.7	193.4 521.4	185.4 579.8	177.0 644.7
	-25 TR 1.3 BHP	240.8 437.4	232.6 489.6	224.1 545.4	215.3 605.4	206.2 670.8
	-20 TR 3.6 BHP	276.4 456.4	267.4 511.8	258.1 570.1	248.5 632.4	238.6 699.1
	-15 TR 6.2 BHP	315.7 474.4	305.9 533.7	295.8 595.4	285.4 660.4	274.5 729.7
	-10 TR 9.0 BHP	359.1 490.9	348.5 554.8	337.4 620.5	326.1 688.9	314.3 761.1
	-5 TR 12.2 BHP	406.9 505.6	395.3 574.3	383.3 644.9	370.9 717.5	358.1 793.1
	0 TR 15.7 BHP	459.8 518.3	446.7 591.9	433.6 667.7	420.1 745.4	406.2 825.5
	5 TR 19.6 BHP	517.9 528.3	503.2 607.3	488.7 688.5	474.1 771.7	458.9 857.1
	10 TR 23.8 BHP	581.1 534.2	565.5 620.2	549.1 706.9	533.0 796.0	516.5 887.2
	15 TR 28.4 BHP	650.0 536.0	633.2 629.3	615.4 722.9	597.3 817.8	579.3 915.2
	20 TR 33.5 BHP	725.4 533.7	706.6 633.8	687.8 735.5	667.7 837.2	647.7 941.0
	25 TR 39.0 BHP	808.3 529.8	786.4 633.5	765.8 742.9	744.5 853.2	722.1 963.8
	30 TR 45.0 BHP	898.6 523.9	874.1 629.6	850.6 745.5	827.6 864.4	803.6 983.6
	35 TR 51.6 BHP	997.0 515.7	969.5 624.9	942.5 743.0	917.2 870.0	891.8 998.9
40 TR 58.6 BHP	1102.5 503.4	1073.4 617.0	1043.3 738.4	1014.1 870.1	986.4 1007.8	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

RWB II-316E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	179.5 395.5	176.3 446.4	172.7 503.5	168.7 569.7	164.4 650.1	10" x 8'
	-35 TR 5.4* BHP	207.3 415.0	204.1 467.6	200.5 525.7	196.5 590.5	192.1 665.5	
	-30 TR 1.6* BHP	237.8 435.0	234.6 490.0	231.1 549.8	227.2 615.5	222.7 688.7	10" x 10'
	-25 TR 1.3 BHP	271.3 455.4	268.3 513.2	264.9 575.5	260.9 643.1	256.6 717.3	
	-20 TR 3.6 BHP	307.9 475.3	305.1 536.7	301.7 602.0	297.9 672.3	293.5 748.2	12" x 8'
	-15 TR 6.2 BHP	348.4 494.3	345.6 560.0	342.4 629.0	338.7 702.6	334.4 781.7	
	-10 TR 9.0 BHP	392.1 511.7	389.5 582.4	386.4 656.0	382.8 733.4	378.6 816.0	12" x 10'
	-5 TR 12.2 BHP	439.6 527.2	437.1 603.1	434.2 682.2	430.7 764.5	426.7 851.0	
	0 TR 15.7 BHP	490.7 540.6	488.0 622.0	485.2 706.7	481.9 794.8	478.0 886.6	12" x 12'
	5 TR 19.6 BHP	546.6 551.2	543.5 638.5	540.6 729.2	537.5 823.5	533.8 921.3	
	10 TR 23.8 BHP		603.2 652.3	599.8 749.2	596.8 850.0	593.3 954.6	16" x 10'
	15 TR 28.4 BHP			664.2 766.6	660.7 873.9	657.3 985.5	
	20 TR 33.5 BHP			733.1 780.5	729.3 895.3	725.7 1014.1	
	25 TR 39.0 BHP				802.6 913.1	798.4 1039.7	
	30 TR 45.0 BHP					876.8 1061.9	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							
		CONSULT FRICK COMPANY					

R717-HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-399

R717 HIGH STAGE

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG				
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	194.3 478.9	186.4 537.2	178.0 602.0	169.5 676.9	160.9 767.6
	-35 TR 5.4* BHP	226.7 502.3	218.0 562.4	209.0 628.1	199.6 701.1	190.1 785.1
	-30 TR 1.6* BHP	263.0 526.4	253.4 589.0	243.6 656.5	233.4 730.2	222.9 811.8
	-25 TR 1.3 BHP	303.2 550.8	292.9 616.5	282.2 686.8	271.1 762.4	259.6 844.7
	-20 TR 3.6 BHP	348.0 574.7	336.7 644.5	325.1 717.9	312.9 796.4	300.5 880.3
	-15 TR 6.2 BHP	397.6 597.4	385.3 672.1	372.6 749.7	359.4 831.6	345.7 918.9
	-10 TR 9.0 BHP	452.2 618.2	438.9 698.6	424.9 781.4	410.6 867.5	395.8 958.4
	-5 TR 12.2 BHP	512.4 636.7	497.8 723.2	482.7 812.1	467.0 903.5	451.0 998.7
	0 TR 15.7 BHP	579.0 652.7	562.5 745.4	546.0 840.8	529.0 938.7	511.5 1039.5
	5 TR 19.6 BHP	652.2 665.3	633.7 764.8	615.4 867.0	597.0 971.8	577.8 1079.3
	10 TR 23.8 BHP	731.8 672.7	712.1 781.0	691.4 890.1	671.1 1002.4	650.5 1117.3
	15 TR 28.4 BHP	818.5 674.9	797.4 792.4	774.9 910.3	752.1 1029.8	729.5 1152.5
	20 TR 33.5 BHP	913.5 672.1	889.8 798.1	866.1 926.2	840.8 1054.2	815.6 1185.0
	25 TR 39.0 BHP	1017.9 667.1	990.3 797.7	964.4 935.5	937.5 1074.4	909.4 1213.7
	30 TR 45.0 BHP	1131.6 659.7	1100.7 792.8	1071.1 938.8	1042.2 1088.5	1011.9 1238.6
	35 TR 51.6 BHP	1255.4 649.4	1220.9 786.9	1186.9 935.6	1155.1 1095.6	1123.0 1257.8
	40 TR 58.6 BHP	1388.3 633.9	1351.7 776.9	1313.9 929.9	1277.1 1095.6	1242.1 1269.1

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

RWB II-399E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-717		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					DX (*) ECONOMIZER
		75 125.8	85 151.7	95 181.1	105 214.2	115 251.5	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG (*in Hg)	-40 TR 8.7* BHP	226.0 498.0	222.0 562.2	217.4 634.1	212.4 717.4	207.0 818.7	10" x 10'
	-35 TR 5.4* BHP	261.0 522.6	257.0 588.9	252.5 662.0	247.4 743.6	241.9 838.0	
	-30 TR 1.6* BHP	299.4 547.8	295.5 617.1	291.0 692.4	286.1 775.0	280.4 867.3	12" x 8'
	-25 TR 1.3 BHP	341.6 573.5	337.9 646.2	333.5 724.7	328.6 809.8	323.1 903.2	
	-20 TR 3.6 BHP	387.8 598.6	384.2 675.8	380.0 758.0	375.1 846.6	369.7 942.2	12" x 10'
	-15 TR 6.2 BHP	438.7 622.4	435.2 705.2	431.2 792.1	426.5 884.7	421.1 984.3	
	-10 TR 9.0 BHP	493.7 644.3	490.5 733.3	486.6 826.1	482.1 923.6	476.8 1027.6	12" x 12'
	-5 TR 12.2 BHP	553.6 663.8	550.4 759.5	546.8 859.0	542.3 962.7	537.4 1071.7	
	0 TR 15.7 BHP	618.0 680.8	614.5 783.2	610.9 890.0	606.8 1000.8	601.9 1116.5	16" x 10'
	5 TR 19.6 BHP	688.3 694.1	684.4 804.0	680.8 918.3	676.8 1037.0	672.1 1160.2	
	10 TR 23.8 BHP		759.6 821.4	755.4 943.4	751.5 1070.4	747.2 1202.1	
	15 TR 28.4 BHP			836.5 965.3	832.0 1100.5	827.8 1241.1	
	20 TR 33.5 BHP			923.2 982.8	918.4 1127.4	913.8 1277.1	16" x 12'
	25 TR 39.0 BHP				1010.7 1149.9	1005.4 1309.2	
	30 TR 45.0 BHP					1104.1 1337.2	
	35 TR 51.6 BHP						
40 TR 58.6 BHP							
		CONSULT FRICK COMPANY					

R717-HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-60

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	33.7 81.8	31.7 90.6	29.6 100.3	27.5 111.3	25.3 123.4	24.3 130.6
	-35 TR 2.6 BHP	38.6 85.2	36.3 94.3	34.0 104.1	31.7 115.0	29.3 126.8	28.1 133.6
	-30 TR 4.9 BHP	43.9 88.6	41.4 98.2	38.9 108.3	36.3 119.2	33.7 130.8	32.4 137.5
	-25 TR 7.4 BHP	49.8 91.8	47.1 101.9	44.3 112.5	41.4 123.7	38.6 135.9	37.1 142.0
	-20 TR 10.2 BHP	56.3 94.9	53.3 105.7	50.2 116.7	47.0 128.4	43.9 140.8	42.3 147.4
	-15 TR 13.2 BHP	63.4 97.5	60.1 109.2	56.7 120.9	53.2 133.1	49.7 145.9	48.0 152.8
	-10 TR 16.5 BHP	71.2 99.5	67.5 112.4	63.8 124.9	60.0 137.7	56.2 151.1	54.2 158.2
	-5 TR 20.1 BHP	79.7 101.2	75.6 114.6	71.5 128.6	67.4 142.2	63.2 156.2	61.1 163.6
	0 TR 24.0 BHP	88.9 102.6	84.5 116.6	80.0 131.4	75.5 146.4	70.8 161.2	68.5 168.9
	5 TR 28.2 BHP	99.0 103.8	94.1 118.2	89.2 133.6	84.2 149.6	79.2 166.0	76.7 174.2
	10 TR 32.8 BHP	110.0 104.3	104.6 119.8	99.2 135.5	93.8 152.3	88.2 169.8	85.5 178.7
	15 TR 37.7 BHP	121.9 104.1	116.0 120.7	110.0 137.3	104.1 154.6	98.1 172.8	95.0 182.5
	20 TR 43.0 BHP	134.7 103.1	128.3 120.8	121.8 138.5	115.3 156.6	108.7 175.6	105.4 185.6
	25 TR 48.8 BHP	148.5 101.0	141.6 120.3	134.5 139.0	127.4 158.2	120.2 177.8	116.6 188.3
	30 TR 54.9 BHP	163.3 98.2	155.8 118.7	148.2 138.8	140.4 159.1	132.6 179.8	128.7 190.3
	35 TR 61.5 BHP	179.6 94.7	171.2 116.3	162.9 137.7	154.5 159.2	146.0 181.1	141.7 192.2
	40 TR 68.5 BHP	196.8 90.0	187.8 113.0	178.7 135.6	169.6 158.5	160.4 181.5	155.8 193.2

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE

RWB II-60E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG							
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	DX (*) ECONOMIZER	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 .5	TR BHP	42.9 90.0	42.0 100.1	41.1 111.2	40.0 123.8	38.8 137.8	37.9 146.1	8" x 6'
	-35 2.6	TR BHP	48.5 93.8	47.6 104.2	46.6 115.5	45.5 128.1	44.3 141.6	43.3 149.5	
	-30 4.9	TR BHP	54.5 97.6	53.5 108.5	52.5 120.1	51.4 132.7	50.2 146.3	49.2 154.1	10" x 6'
	-25 7.4	TR BHP	60.9 101.1	60.0 112.6	58.9 124.9	57.8 137.8	56.6 152.0	55.4 159.2	
	-20 10.2	TR BHP	67.7 104.4	66.8 116.8	65.7 129.6	64.5 143.2	63.3 157.7	62.1 165.4	
	-15 13.2	TR BHP	74.9 107.3	73.9 120.6	72.8 134.3	71.6 148.4	70.3 163.6	69.1 171.7	
	-10 16.5	TR BHP	82.5 109.4	81.5 124.2	80.4 138.7	79.1 153.8	77.8 169.5	76.5 177.9	
	-5 20.1	TR BHP	90.4 111.2	89.3 126.7	88.2 142.9	86.9 158.9	85.6 175.4	84.3 184.2	
	0 24.0	TR BHP	98.8 112.8	97.7 128.9	96.5 146.0	95.3 163.6	93.9 181.2	92.5 190.4	10" x 8'
	5 28.2	TR BHP		106.7 130.7	105.5 148.5	104.1 167.3	102.7 186.7	101.3 196.5	
	10 32.8	TR BHP			114.8 150.7	113.5 170.4	112.0 191.1	110.6 201.8	
	15 37.7	TR BHP			124.6 152.7	123.2 173.1	121.7 194.7	120.2 206.2	
	20 43.0	TR BHP				133.6 175.4	132.0 197.9	130.5 209.9	10" x 10'
	25 48.8	TR BHP	CONSULT FRICK COMPANY			144.5 177.3	142.8 200.6	141.4 213.2	
	30 54.9	TR BHP					154.4 203.0	152.8 215.7	
	35 61.5	TR BHP					166.4 204.7	164.9 218.0	
40 68.5	TR BHP						177.6 219.5		

RWB II-60E HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE — CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-76

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	42.4 103.0	39.9 114.0	37.3 126.3	34.6 140.1	31.9 155.4	30.5 164.5
	-35 TR 2.6 BHP	48.5 107.3	45.7 118.8	42.8 131.1	39.9 144.9	36.9 159.6	35.4 168.2
	-30 TR 4.9 BHP	55.3 111.6	52.1 123.6	48.9 136.3	45.7 150.1	42.4 164.7	40.8 173.2
	-25 TR 7.4 BHP	62.7 115.7	59.2 128.4	55.7 141.7	52.2 155.7	48.5 171.1	46.7 178.8
	-20 TR 10.2 BHP	70.9 119.5	67.1 133.1	63.2 147.0	59.2 161.7	55.3 177.3	53.3 185.6
	-15 TR 13.2 BHP	79.8 122.8	75.6 137.5	71.4 152.3	67.0 167.6	62.6 183.8	60.4 192.4
	-10 TR 16.5 BHP	89.6 125.3	85.0 141.5	80.3 157.3	75.5 173.5	70.7 190.3	68.3 199.2
	-5 TR 20.1 BHP	100.3 127.4	95.2 144.4	90.1 161.9	84.9 179.1	79.5 196.7	76.9 206.0
	0 TR 24.0 BHP	112.0 129.2	106.4 146.9	100.7 165.4	95.0 184.4	89.2 203.0	86.3 212.7
	5 TR 28.2 BHP	124.7 130.7	118.5 148.9	112.3 158.2	106.1 188.4	99.7 209.1	96.5 219.3
	10 TR 32.8 BHP	138.5 131.3	131.7 150.9	124.9 170.6	118.1 191.8	111.1 213.8	107.6 225.1
	15 TR 37.7 BHP	153.5 131.1	146.1 152.0	138.6 172.8	131.1 194.7	123.5 217.6	119.7 229.8
	20 TR 43.0 BHP	169.6 129.8	161.6 152.2	153.4 174.4	145.2 197.2	136.9 221.1	132.7 233.7
	25 TR 48.8 BHP	187.0 127.2	178.3 151.4	169.4 175.0	160.4 199.2	151.4 223.9	146.8 237.1
	30 TR 54.9 BHP	205.7 123.7	196.2 149.5	186.6 174.7	176.8 200.4	167.0 226.4	162.1 239.6
	35 TR 61.5 BHP	226.1 119.3	215.6 146.4	205.2 173.4	194.6 200.4	183.8 228.0	178.5 242.0
	40 TR 68.5 BHP	247.8 113.3	236.4 142.3	225.1 170.8	213.6 199.6	202.0 228.6	196.1 243.3

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE

RWB II-76E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						DX (*) ECONOMIZER				
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9					
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR	54.0	52.9	51.7	50.4	48.9	47.7	10" x 6'				
	.5 BHP	113.4	126.0	140.1	155.9	173.5	183.9					
	-35 TR	61.0	59.9	58.7	57.3	55.8	54.5		10" x 8'			
	2.6 BHP	118.1	131.2	145.4	161.2	178.3	188.3					
	-30 TR	68.6	67.4	66.2	64.8	63.3	61.9			10" x 10'		
	4.9 BHP	122.8	136.6	151.2	167.2	184.2	194.0					
	-25 TR	76.7	75.5	74.2	72.8	71.2	69.8				12" x 8'	
	7.4 BHP	127.3	141.8	157.3	173.6	191.5	200.5					
	-20 TR	85.3	84.1	82.7	81.3	79.7	78.2					CONSULT FRICK COMPANY
	10.2 BHP	131.5	147.0	163.2	180.3	198.5	208.3					
	-15 TR	94.3	93.1	91.7	90.2	88.6	87.0	CONSULT FRICK COMPANY				
	13.2 BHP	135.1	151.9	169.1	186.9	206.0	216.2					
	-10 TR	103.9	102.6	101.2	99.6	98.0	96.4		CONSULT FRICK COMPANY			
	16.5 BHP	137.8	156.4	174.7	193.6	213.4	224.0					
	-5 TR	113.8	112.5	111.0	109.5	107.7	106.1			CONSULT FRICK COMPANY		
	20.1 BHP	140.0	159.5	179.9	222.1	220.8	232.0					
	0 TR	124.5	123.0	121.6	120.0	118.2	116.4				CONSULT FRICK COMPANY	
	24.0 BHP	142.0	162.3	183.8	206.0	228.1	239.7					
	5 TR		134.3	132.8	131.1	129.4	127.6					CONSULT FRICK COMPANY
	28.2 BHP		164.5	187.0	210.7	235.1	247.4					
10 TR			144.6	142.9	141.0	139.3	CONSULT FRICK COMPANY					
32.8 BHP			189.7	214.6	240.7	254.1						
15 TR			156.9	155.1	153.3	151.4		CONSULT FRICK COMPANY				
37.7 BHP			192.2	218.0	245.2	259.7						
20 TR				168.2	166.2	164.4			CONSULT FRICK COMPANY			
43.0 BHP				220.8	249.3	264.3						
25 TR				181.9	179.9	178.0				CONSULT FRICK COMPANY		
48.8 BHP				223.3	252.6	268.5						
30 TR					194.4	192.5					CONSULT FRICK COMPANY	
54.9 BHP					255.7	271.6						
35 TR					209.6	207.7	CONSULT FRICK COMPANY					
61.5 BHP					257.7	274.5						
40 TR						223.6		CONSULT FRICK COMPANY				
68.5 BHP						276.3						

RWB II-76E HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-100

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	57.6 140.8	54.2 155.2	50.7 170.9	47.3 188.3	43.9 207.3	42.1 218.5
	-35 TR 2.6 BHP	65.8 146.7	62.0 161.7	58.1 177.6	54.3 195.1	50.5 213.6	48.6 224.3
	-30 TR 4.9 BHP	74.8 152.6	70.6 168.3	66.3 184.7	62.1 202.3	57.8 220.8	55.7 231.4
	-25 TR 7.4 BHP	84.8 157.7	80.1 174.7	75.4 192.0	70.6 210.0	65.9 229.5	63.5 239.2
	-20 TR 10.2 BHP	95.7 161.9	90.5 180.9	85.3 199.2	80.1 218.0	74.8 237.9	72.2 248.4
	-15 TR 13.2 BHP	107.7 165.1	102.0 186.0	96.2 206.3	90.4 225.9	84.6 246.6	81.7 257.5
	-10 TR 16.5 BHP	120.9 167.8	114.5 190.0	108.1 212.3	101.7 233.8	95.3 255.3	92.1 266.6
	-5 TR 20.1 BHP	135.2 169.7	128.2 193.4	121.2 217.4	114.1 241.0	107.0 263.8	103.5 275.7
	0 TR 24.0 BHP	150.9 171.3	143.1 195.8	135.4 221.6	127.6 247.3	119.8 272.1	115.9 284.6
	5 TR 28.2 BHP	168.0 172.3	159.4 197.6	150.9 224.3	142.3 252.0	133.7 279.8	129.4 293.2
	10 TR 32.8 BHP	186.4 172.6	177.1 199.1	167.6 226.6	158.3 255.9	148.8 285.4	144.1 300.4
	15 TR 37.7 BHP	206.4 172.3	196.1 199.9	185.9 228.4	175.6 258.6	165.3 290.4	160.1 306.5
	20 TR 43.0 BHP	228.1 170.6	216.8 199.7	205.6 229.5	194.3 260.7	183.0 293.7	177.4 311.1
	25 TR 48.8 BHP	251.5 167.6	239.2 198.7	226.8 229.7	214.6 262.3	202.2 296.2	196.0 314.3
	30 TR 54.9 BHP	276.7 163.5	263.3 196.2	249.8 229.0	236.4 263.0	223.0 298.2	216.2 316.4
	35 TR 61.5 BHP	303.8 157.4	289.2 192.5	274.6 227.1	259.9 262.5	245.3 299.4	238.0 318.2
40 TR 68.5 BHP	333.0 149.7	317.1 187.3	301.2 223.7	285.3 261.1	269.3 299.4	261.3 319.1	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-100E

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						DX (*) ECONOMIZER
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR	73.2	71.9	70.4	68.9	67.2	65.8	10" x 6'
	.5 BHP	155.1	171.5	189.5	209.5	231.4	244.4	
	-35 TR	82.7	81.2	79.7	78.1	76.4	74.8	10" x 6'
	2.6 BHP	161.6	178.7	197.0	217.1	238.6	251.0	
	-30 TR	92.8	91.3	89.7	88.0	86.2	84.5	10" x 8'
	4.9 BHP	168.0	186.0	204.9	225.3	246.9	259.2	
	-25 TR	103.6	102.0	100.3	98.6	96.7	95.0	10" x 8'
	7.4 BHP	173.5	193.1	213.1	234.0	256.9	268.2	
	-20 TR	115.2	113.5	111.7	109.8	107.9	106.0*	10" x 10'
	10.2 BHP	178.0	199.9	221.1	243.1	266.4	278.8	
	-15 TR	127.3	125.5	123.6	121.7	119.6	117.6	10" x 10'
	13.2 BHP	181.6	205.5	229.1	252.0	276.4	289.4	
	-10 TR	140.1	138.2	136.3	134.2	132.0	130.0	12" x 8'
	16.5 BHP	184.5	210.0	235.8	261.0	286.4	299.8	
	-5 TR	153.5	151.5	149.4	147.2	144.9	142.8	12" x 8'
	20.1 BHP	186.6	213.7	241.5	269.1	296.2	310.4	
0 TR	167.7	165.6	163.4	161.1	158.7	156.4	12" x 8'	
24.0 BHP	188.2	216.4	246.3	276.3	305.8	320.7		
5 TR		180.7	178.3	175.9	173.4	171.0	12" x 10'	
28.2 BHP		218.4	249.4	281.8	314.7	330.7		
10 TR			194.1	191.6	188.9	186.4	12" x 10'	
32.8 BHP			251.9	286.3	321.2	339.2		
15 TR			210.5	207.8	205.1	202.6	12" x 10'	
37.7 BHP			254.0	289.5	327.2	346.4		
20 TR				225.1	222.2	219.7	12" x 10'	
43.0 BHP				292.0	331.1	351.9		
25 TR				243.4	240.3	237.6	12" x 10'	
48.8 BHP				293.9	334.2	355.9		
30 TR					259.5	256.8	12" x 10'	
54.9 BHP					336.8	358.6		
35 TR					279.7	276.9	12" x 10'	
61.5 BHP					338.4	361.0		
40 TR						297.9	12" x 10'	
68.5 BHP						362.4		

CONSULT
FRICK COMPANY

HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR	76.8	72.2	67.7	63.1	58.5	56.2
	5 BHP	187.7	206.9	227.8	251.0	276.5	291.4
	-35 TR	87.7	82.6	77.5	72.4	67.3	64.7
	2.6 BHP	195.7	215.6	236.8	260.1	284.8	299.1
	-30 TR	99.7	94.1	88.4	82.8	77.1	74.2
	4.9 BHP	203.5	224.4	246.3	269.8	294.4	308.5
	-25 TR	113.0	106.8	100.5	94.2	87.9	84.7
	7.4 BHP	210.3	233.0	256.0	280.0	306.0	318.9
	-20 TR	127.6	120.7	113.7	106.7	99.8	96.3
	10.2 BHP	215.8	241.3	265.5	290.7	317.2	331.2
	-15 TR	143.6	136.0	128.3	120.5	112.8	108.9
	13.2 BHP	220.2	248.0	275.1	301.2	328.8	343.4
	-10 TR	161.2	152.7	144.2	135.6	127.1	122.8
	16.5 BHP	223.7	253.4	283.1	311.8	340.3	355.5
	-5 TR	180.3	170.9	161.5	152.1	142.7	138.0
	20.1 BHP	226.3	257.9	289.8	321.3	351.7	367.6
0 TR	201.2	190.8	180.5	170.1	159.7	154.5	
24.0 BHP	228.4	261.1	295.5	329.7	362.8	379.4	
5 TR	224.0	212.5	201.1	189.7	178.2	172.5	
28.2 BHP	229.8	263.5	299.1	336.0	373.1	390.9	
10 TR	248.5	236.1	223.5	211.0	198.5	192.1	
32.8 BHP	230.2	265.5	302.1	341.2	380.5	400.6	
15 TR	275.2	261.5	247.8	234.1	220.4	213.5	
37.7 BHP	229.7	266.5	304.5	344.8	387.2	408.7	
20 TR	304.2	289.0	274.2	259.1	244.0	236.5	
43.0 BHP	227.5	266.2	306.0	347.7	391.5	414.8	
25 TR	335.3	318.9	302.4	286.2	269.6	261.4	
48.8 BHP	223.4	265.0	306.2	349.7	394.9	419.1	
30 TR	368.9	351.1	333.1	315.2	297.3	288.3	
54.9 BHP	218.0	261.6	305.4	350.6	397.6	421.8	
35 TR	405.1	385.6	366.1	346.5	327.1	317.3	
61.5 BHP	290.8	256.7	302.8	350.0	399.1	424.3	
40 TR	444.1	422.8	401.6	380.4	359.0	348.5	
68.5 BHP	199.5	249.8	298.3	348.2	399.1	425.5	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE

RWB II-134E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-22			SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						DX (*) ECONOMIZER
			75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 .5	TR BHP	97.6 206.7	95.8 228.7	93.9 252.6	91.8 279.3	89.7 308.6	87.7 325.8	10' x 8'
	-35 2.6	TR BHP	110.2 215.4	108.3 238.2	106.3 262.6	104.1 289.5	101.8 318.1	99.8 334.7	
	-30 4.9	TR BHP	123.7 224.0	121.7 247.9	119.5 273.2	117.3 300.4	114.9 329.2	112.7 345.6	10' x 10'
	-25 7.4	TR BHP	138.2 231.4	136.0 257.4	133.8 284.1	131.4 312.1	128.9 342.5	126.6 357.6	
	-20 10.2	TR BHP	153.6 237.4	151.3 266.6	148.9 294.7	146.4 324.1	143.8 355.2	141.3 371.8	12' x 8'
	-15 13.2	TR BHP	169.7 242.1	167.3 274.0	164.8 305.4	162.2 336.0	159.5 368.5	156.9 385.8	
	-10 16.5	TR BHP	186.9 246.0	184.3 280.0	181.7 314.4	178.9 348.0	176.1 381.8	173.3 399.8	12' x 10'
	-5 20.1	TR BHP	204.6 248.8	202.0 285.0	199.2 322.0	196.2 358.9	193.2 394.9	190.4 413.8	
	0 24.0	TR BHP	223.6 251.0	220.8 288.5	217.8 328.3	214.8 368.4	211.6 407.7	208.6 427.6	12' x 10'
	5 28.2	TR BHP		240.9 291.2	237.8 332.5	234.6 375.7	231.2 419.6	228.1 440.9	
	10 32.8	TR BHP			258.8 335.9	255.4 381.7	251.9 428.3	248.6 452.3	12' x 12'
	15 37.7	TR BHP			280.7 338.7	277.1 386.0	273.5 436.2	270.1 461.8	
	20 43.0	TR BHP				300.2 389.4	296.3 441.5	292.9 469.3	16' x 10'
	25 48.8	TR BHP				324.6 391.9	320.4 445.6	316.9 474.5	
	30 54.9	TR BHP					346.0 449.1	342.4 478.1	16' x 10'
	35 61.5	TR BHP					372.9 451.2	369.2 481.4	
40 68.5	TR BHP						397.2 483.2		

CONSULT
FRICK COMPANY

HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-177

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR 5 BHP	102.2 246.4	96.1 270.9	89.9 297.6	83.7 327.2	77.5 359.5	74.3 378.4
	-35 TR 2.6 BHP	116.8 257.0	109.9 282.5	103.0 309.5	96.1 339.1	89.2 370.5	85.7 388.7
	-30 TR 4.9 BHP	132.9 267.1	125.2 294.2	117.6 322.2	109.9 352.1	102.2 383.3	98.3 401.2
	-25 TR 7.4 BHP	150.7 275.8	142.2 305.6	133.6 335.2	125.1 365.8	116.5 398.8	112.2 415.0
	-20 TR 10.2 BHP	170.2 283.4	160.8 316.2	151.3 347.9	141.8 380.0	132.4 413.7	127.6 431.4
	-15 TR 13.2 BHP	191.5 289.4	181.2 325.1	170.8 360.3	160.2 394.0	149.7 429.1	144.5 447.7
	-10 TR 16.5 BHP	214.9 294.2	203.4 332.3	192.0 370.7	180.4 408.1	168.8 444.5	163.0 463.7
	-5 TR 20.1 BHP	240.4 297.7	227.8 338.3	215.1 379.4	202.5 420.4	189.6 459.9	183.2 479.9
	0 TR 24.0 BHP	268.1 300.1	254.3 342.6	240.3 386.6	226.4 431.0	212.4 474.4	205.3 496.2
	5 TR 28.2 BHP	298.3 301.3	283.1 345.8	267.8 391.5	252.5 438.8	237.2 487.2	229.4 510.6
	10 TR 32.8 BHP	331.2 301.9	314.3 347.5	297.6 395.5	280.8 445.4	263.9 496.0	255.5 522.3
	15 TR 37.7 BHP	366.6 301.0	348.2 348.8	329.8 398.1	311.4 450.2	293.0 504.1	283.8 531.7
	20 TR 43.0 BHP	405.1 298.4	385.0 348.6	364.7 399.6	344.6 452.8	324.5 509.9	314.3 539.3
	25 TR 48.8 BHP	446.7 293.1	424.5 346.8	402.6 400.3	380.3 455.6	358.4 514.4	347.4 545.1
	30 TR 54.9 BHP	491.2 284.6	467.4 342.9	443.2 399.3	419.1 457.3	395.0 517.3	383.0 548.7
	35 TR 61.5 BHP	539.7 273.7	513.3 335.8	487.1 396.3	460.9 457.1	434.5 519.2	421.3 551.1
40 TR 68.5 BHP	591.5 259.6	562.9 325.4	534.4 390.6	505.8 454.8	477.2 520.1	462.8 553.1	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

RWB II-177

RWB II-177E

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						DX (*) ECONOMIZER
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR	130.0	127.5	124.8	121.9	118.8	116.1	10" x 10'
	.5 BHP	271.3	299.3	329.9	364.0	401.3	423.1	
	-35 TR	146.8	144.1	141.2	138.2	134.9	132.1	12" x 8'
	2.6 BHP	282.9	312.1	343.3	377.5	413.9	435.0	
	-30 TR	164.9	161.9	158.9	155.7	152.3	149.3	12" x 10'
	4.9 BHP	294.0	325.1	357.5	392.1	428.5	449.5	
	-25 TR	184.2	181.1	177.9	174.5	171.0	167.7	12" x 12'
	7.4 BHP	303.5	337.6	372.0	407.6	446.3	465.4	
	-20 TR	204.7	201.6	198.1	194.6	190.8	187.4	16" x 10'
	10.2 BHP	311.7	349.4	386.1	423.7	463.3	484.3	
	-15 TR	226.3	223.0	219.5	215.6	211.7	208.1	16" x 12'
	13.2 BHP	318.3	359.2	400.1	439.6	481.0	503.0	
	-10 TR	249.1	245.6	242.0	238.0	233.8	230.0	16" x 12'
	16.5 BHP	323.5	367.2	411.7	455.5	498.6	521.5	
	-5 TR	272.8	269.1	265.2	261.2	256.8	252.8	16" x 12'
	20.1 BHP	327.2	373.9	421.5	469.5	516.4	540.3	
0 TR	298.0	294.1	290.1	285.9	281.4	277.2	16" x 12'	
24.0 BHP	329.7	378.6	429.6	481.6	533.1	559.2		
5 TR		320.9	316.6	312.2	307.6	303.3	16" x 12'	
28.2 BHP		382.1	435.2	490.6	548.0	575.9		
10 TR			344.5	339.8	335.0	330.6	16" x 12'	
32.8 BHP			439.7	498.2	558.3	589.7		
15 TR			373.5	368.6	363.5	359.0	16" x 12'	
37.7 BHP			442.7	504.0	567.9	600.9		
20 TR				399.3	393.9	389.3	16" x 12'	
43.0 BHP				508.3	574.9	610.1		
25 TR				431.4	425.9	421.1	16" x 12'	
48.8 BHP				510.6	580.5	617.2		
30 TR					459.7	454.9	16" x 12'	
54.9 BHP					584.2	621.9		
35 TR					495.3	490.2	16" x 12'	
61.5 BHP					586.8	625.2		
40 TR						527.5	16" x 12'	
68.5 BHP						628.1		

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RWB II-177E HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-222

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	128.7 310.2	121.0 341.1	113.2 374.7	105.4 412.1	97.5 452.7	93.6 476.5
	-35 TR 2.6 BHP	147.1 323.6	138.4 355.7	129.7 389.7	121.0 427.1	112.3 466.6	107.9 489.4
	-30 TR 4.9 BHP	167.4 336.4	157.7 370.5	148.0 405.7	138.4 443.3	128.7 482.6	123.8 505.2
	-25 TR 7.4 BHP	189.8 347.3	179.0 384.8	168.3 422.1	157.5 460.6	146.7 502.2	141.3 522.6
	-20 TR 10.2 BHP	214.3 356.8	202.5 398.2	190.5 438.0	178.6 478.5	166.7 520.9	160.7 543.3
	-15 TR 13.2 BHP	241.2 364.4	228.1 409.4	215.0 453.7	201.8 496.1	188.6 540.3	181.9 563.7
	-10 TR 16.5 BHP	270.6 370.5	256.2 418.4	241.8 466.8	227.2 513.9	212.5 559.7	205.2 583.9
	-5 TR 20.1 BHP	302.7 374.9	286.8 426.1	270.9 477.7	254.9 529.4	238.8 579.2	230.7 604.3
	0 TR 24.0 BHP	337.7 377.8	320.2 431.4	302.7 486.9	285.1 542.7	267.5 597.4	258.6 624.9
	5 TR 28.2 BHP	375.6 379.4	356.5 435.4	337.2 493.0	317.9 552.5	298.7 613.5	288.9 643.0
	10 TR 32.8 BHP	417.1 380.2	395.7 437.6	374.7 498.0	353.6 560.8	332.4 624.6	321.8 657.7
	15 TR 37.7 BHP	461.7 379.1	438.5 439.3	415.3 501.3	392.2 567.0	369.0 634.8	357.3 669.6
	20 TR 43.0 BHP	510.1 375.7	484.8 439.0	459.2 503.2	434.0 571.5	408.6 642.1	395.8 679.2
	25 TR 48.8 BHP	562.5 369.1	534.5 436.6	506.9 504.1	478.9 573.8	451.4 647.8	437.4 686.4
	30 TR 54.9 BHP	618.5 358.4	588.6 431.8	558.2 502.8	527.8 575.9	497.4 651.4	482.3 690.9
	35 TR 61.5 BHP	679.7 344.6	646.4 422.9	613.4 499.0	580.4 575.6	547.1 653.7	530.6 694.0
40 TR 68.5 BHP	744.9 326.9	708.8 409.8	672.9 491.9	637.0 572.7	600.9 655.0	582.7 696.5	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

MGA-HS-IQ-11-222

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-222E

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						DX (*) ECONOMIZER
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR	163.7	160.5	157.1	153.5	149.6	146.2	12" x 8'
	.5 BHP	341.6	376.9	415.5	458.4	505.3	532.8	
	-35 TR	184.8	181.4	177.8	174.0	169.9	166.3	12" x 10'
	2.6 BHP	356.2	393.0	432.2	475.4	521.2	547.8	
	-30 TR	207.6	203.9	200.1	196.0	191.8	188.0	12" x 12'
	4.9 BHP	370.2	409.4	450.1	493.8	539.6	566.0	
	-25 TR	232.0	228.1	224.0	219.8	215.3	211.2	16" x 10'
	7.4 BHP	382.2	425.2	468.4	513.3	562.0	586.0	
	-20 TR	257.8	263.9	249.5	245.0	240.3	235.9	16" x 12'
	10.2 BHP	392.5	440.0	486.2	533.6	583.4	609.8	
	-15 TR	284.9	280.8	276.4	271.5	266.6	262.0	16" x 10'
	13.2 BHP	400.8	452.4	503.8	553.5	605.7	633.4	
	-10 TR	313.7	309.3	304.7	299.7	294.5	289.6	16" x 12'
	16.5 BHP	407.3	462.3	518.4	573.6	627.9	656.7	
	-5 TR	343.5	338.8	334.0	328.9	323.4	318.4	24" x 10'
	20.1 BHP	412.1	470.8	530.7	591.3	650.3	680.3	
	0 TR	375.3	370.4	365.2	360.0	354.3	349.1	24" x 12'
	24.0 BHP	415.2	476.7	541.0	606.5	671.3	704.2	
5 TR		404.1	398.7	393.1	387.3	381.9	24" x 10'	
28.2 BHP		481.2	548.0	617.8	690.0	725.3		
10 TR			433.8	427.9	421.8	416.3	24" x 12'	
32.8 BHP			553.8	627.4	703.0	742.6		
15 TR			470.3	464.2	457.8	452.1	24" x 10'	
37.7 BHP			557.5	634.6	715.1	756.7		
20 TR				502.8	496.1	490.2	24" x 12'	
43.0 BHP				640.0	723.9	768.3		
25 TR				543.2	536.3	530.3	24" x 10'	
48.8 BHP				643.0	731.0	777.2		
30 TR					578.9	572.8	24" x 12'	
54.9 BHP					735.6	783.1		
35 TR					623.7	617.3	24" x 10'	
61.5 BHP					738.9	787.3		
40 TR						664.3	24" x 12'	
68.5 BHP						791.0		

CONSULT
FRICK COMPANY

R22 HIGH STAGE

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-316

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	183.2 441.8	172.1 485.8	161.0 533.6	149.9 586.8	138.8 644.7	133.2 678.0
	-35 TR 2.6 BHP	209.2 460.8	196.9 506.5	184.6 555.0	172.2 608.2	159.8 664.4	153.6 696.4
	-30 TR 4.9 BHP	238.1 479.0	224.4 527.6	210.7 577.8	196.9 631.4	183.1 687.3	176.2 718.8
	-25 TR 7.4 BHP	270.0 494.7	254.7 547.9	239.4 601.1	224.1 656.0	208.8 715.1	201.1 743.5
	-20 TR 10.2 BHP	304.9 508.2	288.1 567.0	271.1 623.8	254.1 681.5	237.1 741.8	228.6 773.0
	-15 TR 13.2 BHP	343.1 519.0	324.6 583.0	306.0 646.2	287.1 706.6	268.3 769.5	258.8 802.1
	-10 TR 16.5 BHP	385.0 527.7	364.5 595.9	344.0 664.7	323.3 731.8	302.4 797.1	292.0 830.8
	-5 TR 20.1 BHP	430.7 533.9	408.1 606.7	385.5 680.4	362.7 753.9	339.8 824.8	328.2 859.9
	0 TR 24.0 BHP	480.4 538.1	455.6 614.4	430.6 693.3	405.7 772.9	380.6 850.7	367.9 889.1
	5 TR 28.2 BHP	534.5 540.2	507.2 620.1	479.8 702.1	452.4 786.8	424.9 873.7	411.1 914.9
	10 TR 32.8 BHP	593.4 541.4	563.1 623.2	533.2 709.3	503.0 798.7	472.9 889.5	457.8 935.8
	15 TR 37.7 BHP	656.9 539.8	624.0 625.6	590.9 713.9	558.0 807.4	525.0 904.0	508.4 952.7
	20 TR 43.0 BHP	725.9 535.1	689.8 625.2	653.4 716.6	617.4 813.8	581.3 914.4	563.2 966.3
	25 TR 48.8 BHP	800.3 525.6	760.5 621.8	721.3 717.9	681.5 817.1	642.2 922.5	622.4 976.6
	30 TR 54.9 BHP	880.1 510.4	837.4 614.9	794.2 716.0	750.9 820.2	707.7 927.6	686.3 983.1
	35 TR 61.5 BHP	967.0 490.8	919.7 602.2	872.8 710.6	825.9 819.7	778.5 931.0	754.9 987.4
	40 TR 68.5 BHP	1059.9 465.5	1008.5 583.6	957.5 700.5	906.3 815.5	855.0 932.7	829.1 991.0

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-316E

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						DX (*) ECONOMIZER
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	233.0 486.5	228.4 536.8	223.5 591.7	218.4 652.8	212.8 719.6	208.0 758.1	12" x 10'
	-35 TR 2.6 BHP	263.0 507.3	258.2 559.7	253.0 615.6	247.6 677.0	241.8 742.3	236.7 779.4	12" x 12'
	-30 TR 4.9 BHP	295.4 527.2	290.1 583.0	284.7 641.0	278.9 703.2	272.9 768.5	267.4 805.3	16" x 10'
	-25 TR 7.4 BHP	330.1 544.3	324.6 605.5	318.8 667.0	312.7 731.0	306.3 800.3	300.5 833.8	
	-20 TR 10.2 BHP	366.8 559.0	361.2 626.6	355.0 692.4	348.6 759.9	341.9 830.8	335.7 867.7	
	-15 TR 13.2 BHP	405.4 570.7	399.5 644.2	393.2 717.4	386.3 788.3	379.3 862.5	372.8 901.2	
	-10 TR 16.5 BHP	446.4 580.1	440.1 658.4	433.5 738.3	426.5 816.9	419.0 894.2	412.1 934.4	
	-5 TR 20.1 BHP	488.8 586.8	482.1 670.4	475.2 755.8	468.0 842.0	460.2 926.1	453.0 968.0	24" x 10'
	0 TR 24.0 BHP	534.0 591.2	527.0 678.9	519.7 770.5	512.2 863.7	504.2 956.0	496.7 1001.9	
	5 TR 28.2 BHP		575.0 685.2	567.3 780.4	559.3 879.8	551.1 982.7	543.4 1031.9	
	10 TR 32.8 BHP			617.2 788.6	608.8 893.5	600.2 1001.2	592.3 1056.6	
	15 TR 37.7 BHP			669.2 794.0	660.5 903.8	651.4 1018.4	643.2 1076.7	
	20 TR 43.0 BHP				715.4 911.5	705.8 1030.9	697.4 1093.2	
	25 TR 48.8 BHP				772.9 915.7	763.1 1041.0	754.5 1105.9	
	30 TR 54.9 BHP					823.7 1047.6	815.1 1114.3	
	35 TR 61.5 BHP					887.5 1052.3	878.4 1120.2	
40 TR 68.5 BHP						945.2 1125.4		

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NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

RWB II - HIGH STAGE

HIGH STAGE - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-399

R-22			SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG					
			75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 .5	TR BHP	230.6 556.4	216.7 611.7	202.8 672.0	188.8 738.9	174.8 811.8	167.7 853.8
	-35 2.6	TR BHP	263.5 580.3	248.0 637.9	232.4 698.9	216.9 765.9	201.2 836.7	193.4 876.9
	-30 4.9	TR BHP	299.9 603.2	282.6 664.4	265.3 727.6	247.9 795.0	230.5 865.5	221.8 905.2
	-25 7.4	TR BHP	340.0 622.9	320.7 690.0	301.5 757.0	282.2 826.0	262.9 900.6	253.2 936.3
	-20 10.2	TR BHP	383.9 639.9	362.8 714.1	341.4 785.6	320.0 858.2	298.6 934.2	287.9 973.4
	-15 13.2	TR BHP	432.1 653.6	408.8 734.2	385.3 813.7	361.5 889.8	337.8 969.0	326.0 1010.0
	-10 16.5	TR BHP	484.8 664.5	459.0 750.4	433.2 837.1	407.1 921.6	380.8 1003.7	367.7 1046.2
	-5 20.1	TR BHP	542.4 672.4	513.9 764.1	485.4 856.8	456.8 949.4	427.9 1038.6	413.4 1082.8
	0 24.0	TR BHP	605.0 677.6	573.7 773.7	542.3 873.1	510.9 973.3	479.2 1071.3	463.3 1119.6
	5 28.2	TR BHP	673.1 680.3	638.7 780.9	604.2 884.1	569.7 990.8	535.1 1100.3	517.6 1152.0
	10 32.8	TR BHP	747.3 681.8	709.1 784.8	671.4 893.1	633.5 1005.7	595.5 1120.1	576.5 1178.4
	15 37.7	TR BHP	827.2 679.8	785.7 787.8	744.1 899.0	702.7 1016.8	661.1 1138.4	640.2 1199.7
	20 43.0	TR BHP	914.0 673.8	868.7 787.3	822.8 902.3	777.5 1024.8	732.0 1151.4	709.2 1216.9
	25 48.8	TR BHP	1007.9 661.9	957.7 783.1	908.3 904.1	858.1 1029.0	808.7 1161.7	783.8 1229.8
	30 54.9	TR BHP	1108.3 642.7	1054.5 774.4	1000.1 901.6	945.6 1032.8	891.2 1168.1	864.2 1238.0
	35 61.5	TR BHP	1217.8 618.0	1158.2 758.3	1099.0 894.9	1040.0 1032.2	980.3 1172.4	950.6 1243.4
40 68.5	TR BHP	1334.7 586.2	1270.0 734.8	1205.7 882.1	1141.3 1027.0	1076.6 1174.5	1044.1 1248.0	

NOTE: Capacities Based on 10° Liquid Subcooling, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.

HIGH STAGE – CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM W/ECONOMIZER

RWB II-399E

R-22		SATURATED CONDENSING TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG						
		75 132.2	85 155.7	95 181.8	105 210.8	115 242.7	120.0 259.9	DX (*) ECONOMIZER
SATURATED SUCTION TEMPERATURE, °F / CORRESPONDING PRESSURE, PSIG	-40 TR .5 BHP	293.4 612.7	287.6 676.0	281.5 745.1	275.0 822.1	268.0 906.2	261.9 954.6	16" x 10'
	-35 TR 2.6 BHP	331.2 638.9	325.1 704.9	318.6 775.2	311.7 852.5	304.5 934.8	298.0 981.5	
	-30 TR 4.9 BHP	371.9 663.9	365.4 734.2	358.5 807.2	351.3 885.5	343.6 967.7	336.8 1014.1	
	-25 TR 7.4 BHP	415.7 685.4	408.7 762.5	401.4 840.0	393.8 920.5	385.7 1007.8	378.4 1050.0	16" x 12'
	-20 TR 10.2 BHP	461.9 703.9	454.8 789.0	447.0 872.0	439.0 956.9	430.5 1046.3	422.7 1092.6	
	-15 TR 13.2 BHP	510.5 718.7	503.1 811.2	495.2 903.4	486.5 992.6	477.7 1086.2	469.4 1134.9	24" x 10'
	-10 TR 16.5 BHP	562.1 730.5	554.1 829.1	545.9 929.7	537.0 1028.7	527.6 1126.1	519.0 1176.7	
	-5 TR 20.1 BHP	615.5 739.0	607.1 844.3	598.4 951.8	589.3 1060.4	579.5 1166.2	570.4 1219.0	
	0 TR 24.0 BHP	672.4 744.5	663.6 854.9	654.4 970.2	645.0 1087.6	634.9 1203.9	625.5 1261.7	
	5 TR 28.2 BHP		724.1 862.9	714.3 982.7	704.3 1107.9	694.0 1237.5	684.3 1299.5	
	10 TR 32.8 BHP			777.3 993.1	766.7 1125.2	755.8 1260.8	745.9 1330.5	
	15 TR 37.7 BHP			842.7 999.8	831.7 1138.1	820.3 1282.4	810.0 1355.8	
	20 TR 43.0 BHP				900.9 1147.8	888.8 1298.2	878.3 1376.6	
	25 TR 48.8 BHP				973.3 1153.1	960.9 1310.9	950.1 1392.6	CONSULT FRICK COMPANY
	30 TR 54.9 BHP					1037.3 1319.2	1026.4 1403.2	
	35 TR 61.5 BHP					1117.6 1325.2	1106.1 1410.7	
	40 TR 68.5 BHP						1190.2 1417.2	
							CONSULT FRICK COMPANY	

NOTE: Capacities Based on Economizer, 10° Suction Superheat with the Superheat not contributing to the refrigeration effect.
(*) Suggested DX shell and coil economizer vessel size. No allowance for vapor line pressure drop or liquid temperature split is included in the selections.

R22 HIGH STAGE

RWB II-222

BOOSTER - CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

R-717			SATURATED CONDENSING TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
			-20.0 3.6	-10.0 9.1	0.0 15.7	10.0 23.8	20.0 33.5	30.0 45.1	40.0 58.6
SATURATED SUCTION TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG (* in Hg)	-80. 24.3*	TR BHP	37.1 72.6	35.8 81.0	CONSULT FRICK COMPANY				
	-75. 23.2*	TR BHP	44.7 75.2	43.4 84.1					
	-70. 21.9*	TR BHP	53.6 77.2	52.1 87.0	50.5 96.9	48.7 106.8			
	-65. 20.4*	TR BHP	63.8 78.1	62.2 90.1	60.5 100.7	58.6 111.3	56.5 124.6		
	-60. 18.6*	TR BHP	75.5 78.5	73.8 92.1	71.9 104.4	69.8 115.8	67.6 129.4	65.2 144.8	
	-55. 16.6*	TR BHP	88.8 78.3	86.9 92.7	84.9 107.7	82.6 120.5	80.2 134.3	77.6 150.0	
	-50. 14.3*	TR BHP	103.9 78.4	101.8 93.1	99.6 109.2	97.2 124.5	94.5 139.2	91.7 155.4	88.8 173.1
	-45. 11.7*	TR BHP	120.7 80.4	118.6 92.8	116.2 109.6	113.6 127.7	110.6 143.9	107.6 160.4	104.5 179.0
	-40. 8.7*	TR BHP	140.0 79.6	137.6 93.7	134.9 109.7	132.1 128.6	128.8 148.0	125.4 165.4	122.0 184.4
	-35. 5.4*	TR BHP		158.7 95.3	155.9 109.7	152.8 128.8	149.2 150.1	145.5 170.6	141.5 189.3
	-30. 1.6*	TR BHP		182.6 92.1	179.3 111.6	175.9 128.9	172.0 150.8	167.9 173.7	163.7 195.3
	-25. 1.3	TR BHP			205.5 111.8	201.8 129.8	197.3 151.0	192.9 175.4	188.3 199.5
	-20. 3.6	TR BHP				230.5 131.5	225.7 150.6	220.6 176.1	215.5 202.3
	-15. 6.2	TR BHP				262.4 129.6	257.0 151.0	251.4 175.7	245.8 203.5
	-10. 9.0	TR BHP	CONSULT FRICK COMPANY				291.6 152.7	285.6 174.5	279.1 204.1
	-5. 12.2	TR BHP					329.9 150.1	323.1 175.3	316.2 202.5
	0. 15.7	TR BHP						364.2 176.4	356.9 201.0

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

R-717 BOOSTER-III

BOOSTER — CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-60

R-22		SATURATED CONDENSING TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG										
		-20.0 10.2	-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	14.4 30.7	14.0 33.2	13.5 35.8							
	-75. 18.5*	TR BHP	17.0 31.6	16.4 34.4	15.9 37.1	15.5 39.9						CONSULT FRICK COMPANY
	-70. 16.6*	TR BHP	19.9 32.3	19.3 35.5	18.7 38.5	18.1 41.5	17.7 45.6					
	-65. 14.4*	TR BHP	23.2 32.7	22.5 36.3	21.8 39.7	21.1 43.1	20.6 47.3					
	-60. 12.0*	TR BHP	26.8 32.9	26.1 36.9	25.4 40.8	24.6 44.5	24.0 49.1	23.3 53.7				
	-55. 9.2*	TR BHP	31.0 32.8	30.2 37.2	29.3 41.6	28.4 45.8	27.7 50.7	27.0 55.6	26.3 60.9			
	-50. 6.2*	TR BHP	35.7 33.2	34.7 37.0	33.8 42.0	32.8 46.7	32.0 52.1	31.1 57.5	30.3 62.9			
	-45. 2.7*	TR BHP	40.9 32.8	39.8 37.0	38.7 42.1	37.6 47.4	36.8 53.3	35.8 59.1	34.8 65.0			
	-40. 0.5	TR BHP	46.7 30.9	45.4 37.3	44.2 41.7	43.0 47.6	42.1 54.0	41.1 60.5	39.9 66.8			
	-35. 2.6	TR BHP		51.7 36.7	50.3 41.8	49.0 47.4	48.0 54.4	46.9 61.5	45.6 68.5			
	-30. 4.9	TR BHP		58.6 34.6	57.1 41.9	55.5 46.9	54.6 54.3	53.3 61.8	52.0 69.6			
	-25. 7.4	TR BHP			64.5 41.1	62.8 46.9	61.7 53.7	60.5 61.9	59.0 70.3			
	-20. 10.1	TR BHP			72.7 38.7	70.8 47.0	69.7 53.3	68.3 61.4	66.7 70.4			
	-15. 13.2	TR BHP				79.5 46.1	78.3 53.2	76.9 60.7	75.2 70.0			
	-10. 16.5	TR BHP				89.1 43.2	87.8 53.1	86.3 60.1	84.5 69.4			
	-5. 20.1	TR BHP					98.1 52.1	96.5 60.0	94.7 68.7			
	0. 24.0	TR BHP						107.7 59.9	105.8 67.8			

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

RWB II-60 BOOSTER

BOOSTER – CAPACITY and BRAKE HORSEPOWER RATING @ 3550 RPM

RWB II-76

R-22		SATURATED CONDENSING TEMPERATURE, °F/CORRESPONDING PRESSURE, PSIG						
		-20.0 10.2	-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	18.1 38.6	17.6 41.8	17.0 45.0				
	-75. TR 18.5* BHP	21.4 39.8	20.7 43.3	20.1 46.8	19.5 50.3		CONSULT FRICK COMPANY	
	-70. TR 16.6* BHP	25.0 40.6	24.3 44.6	23.5 48.5	22.8 52.2	22.2 57.4		
	-65. TR 14.4* BHP	29.2 41.2	28.3 45.7	27.5 50.0	26.6 54.3	25.9 59.6		
	-60. TR 12.0* BHP	33.8 41.4	32.9 46.4	31.9 51.4	31.0 56.1	30.2 61.8	29.4 67.7	
	-55. TR 9.2* BHP	39.0 41.3	38.0 46.8	36.9 52.4	35.8 57.6	34.9 63.8	34.0 70.0	33.1 76.7
	-50. TR 6.2* BHP	44.9 41.9	43.7 46.7	42.5 52.9	41.3 58.8	40.3 65.6	39.2 72.4	38.1 79.2
	-45. TR 2.7* BHP	51.5 41.3	50.1 46.6	48.7 53.0	47.3 59.6	46.3 67.1	45.1 74.5	43.8 81.8
	-40. TR 0.5 BHP	58.8 38.9	57.2 47.0	55.7 52.6	54.2 60.0	53.0 68.0	51.7 76.1	50.3 84.2
	-35. TR 2.6 BHP		65.1 46.2	63.4 52.6	61.7 59.7	60.5 68.5	59.1 77.4	57.4 86.2
	-30. TR 4.9 BHP		73.8 43.6	71.9 52.7	69.9 59.0	68.7 68.3	67.2 77.9	65.5 87.7
	-25. TR 7.4 BHP			81.2 51.8	79.1 59.1	77.7 67.6	76.2 77.9	74.3 88.5
	-20. TR 10.1 BHP			91.5 48.8	89.1 59.2	87.7 67.1	86.0 77.4	84.0 88.6
	-15. TR 13.2 BHP		CONSULT FRICK COMPANY		100.1 58.0	98.6 67.0	96.8 76.4	94.7 88.2
	-10. TR 16.5 BHP				112.2 54.4	110.5 66.9	108.7 75.7	106.4 87.3
	-5. TR 20.1 BHP					123.6 65.6	121.5 75.6	119.3 86.5
	0. TR 24.0 BHP						135.6 75.5	133.2 85.4

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

RWB II BOOSTER

LIQUID INJECTION OIL COOLING

High stage compressor units may be supplied with single port (low Vi) or dual port (low Vi and high Vi) liquid injection oil cooling. Single port will be furnished for low compression ratio operation and dual port for high compression ratio operation. Booster compressor units use single port liquid injection oil cooling due to the typically lower compression ratios.

The control system on high stage units with dual port liquid injection oil cooling automatically switches the liquid refrigerant supply to the high port when the compressor is operating at higher compression ratios (above 3.5 Vi) for best efficiency.

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

CONDENSING TEMPERATURE	MAXIMUM EVAP TEMP		MINIMUM * EVAP TEMP
	LIQUID INJ. USE		SINGLE PORT (LOW Vi)
	R717	R22	R717 & R22
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	+35°F	+15°F

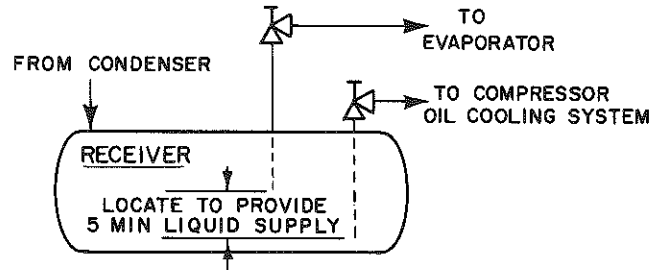
* Dual Injection Kit will be shipped by Frick below these temperatures.

Where low compression ratios are anticipated, thermosyphon or water cooled oil cooling should be used.

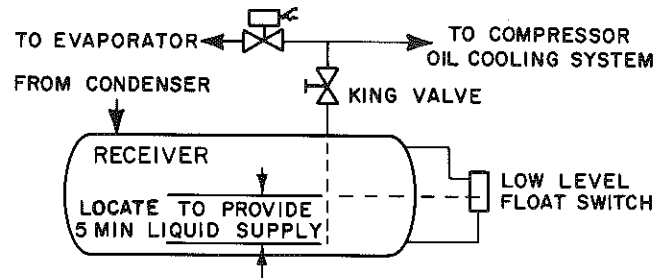
It is imperative that an uninterrupted supply of high pressure liquid refrigerant be provided to the injection system at all times. Two items are of extreme importance, the design of the receiver/liquid injection supply and the size of the liquid line.

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 injection 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.

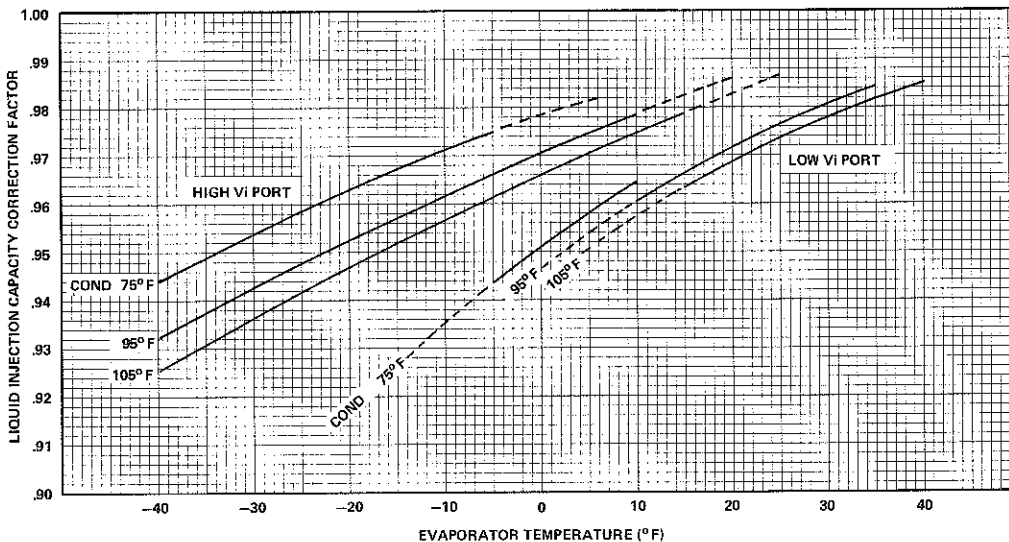


Liquid line sizes and the additional receiver volume (quantity of refrigerant required for five (5) minutes of liquid injection oil cooling) are given in the following table.

REF	RWB II MODEL	LIQUID LINE SIZE (*)		FLOW RATE (LB) 5 MIN	LIQUID VOLUME CU FT
		PIPE SCH 80	TUBING OD		
HIGH STAGE R-717	60,76	3/4	--	50	1.5
	100,134	3/4	--	80	2.0
	177,222	1	--	140	4.0
	316,399	1-1/4	--	250	7.0
HIGH STAGE R-22	60,76	1	1-1/8	170	2.5
	100,134	1-1/4	1-1/8	290	4.0
	177,222	1-1/2	1-3/8	570	8.0
	316,399	2	2-1/8	1050	14.0
BOOSTER R-717	60,76	1/2	--	10	0.5
	100,134	1/2	--	20	0.5
	177,222	3/4	--	30	1.0
	316,399	1	--	40	1.5
BOOSTER R-22	60,76	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
	316,399	3/4	7/8	92	1.2

* 100 foot liquid line. For longer runs increase line size accordingly.

CAPACITY LIQUID INJECTION CORRECTION FACTORS HIGH STAGE - R717 and R22

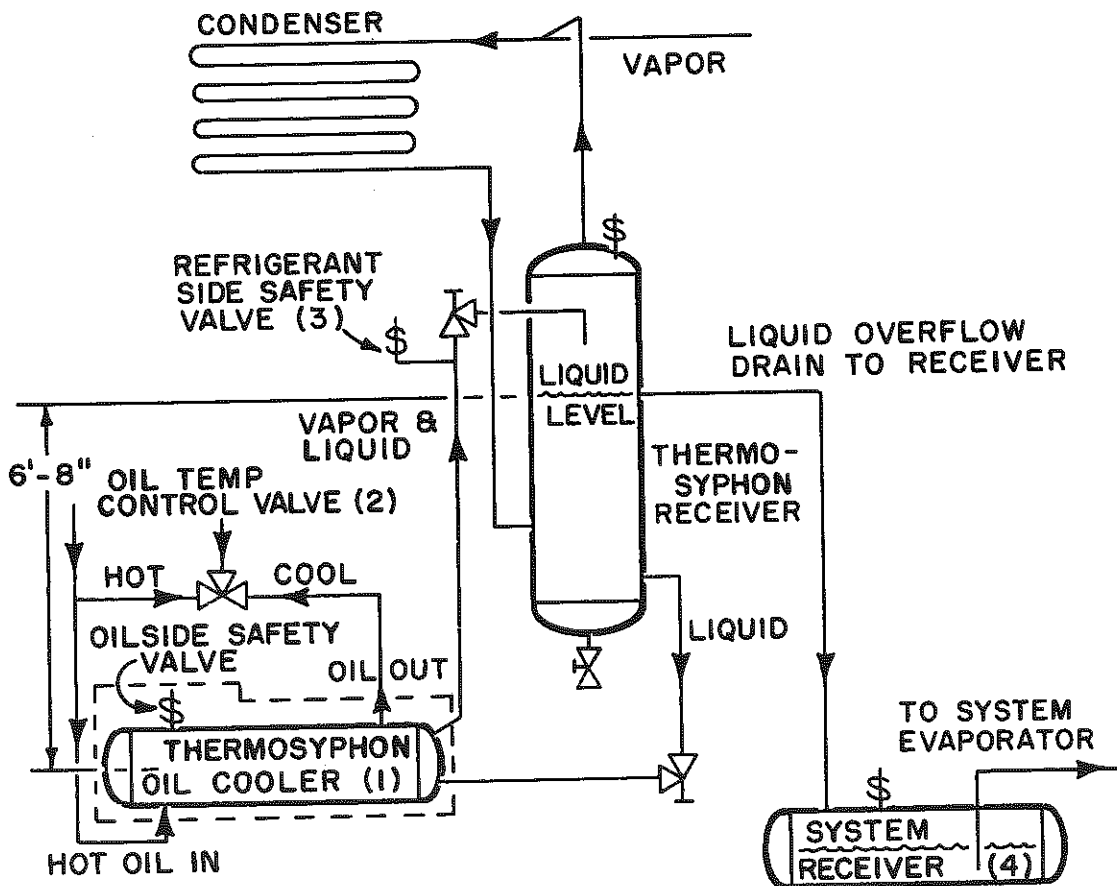


THERMOSYPHON OIL COOLING

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. 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.

TYPICAL PIPING ARRANGEMENT FOR THERMOSYPHON OIL COOLER SYSTEM — Pressure vessels, valves, fittings, piping and controls shown outside of dashed line are dependent upon the application. Consult Frick Company for selection and pricing of these items.



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 is required where discharge 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

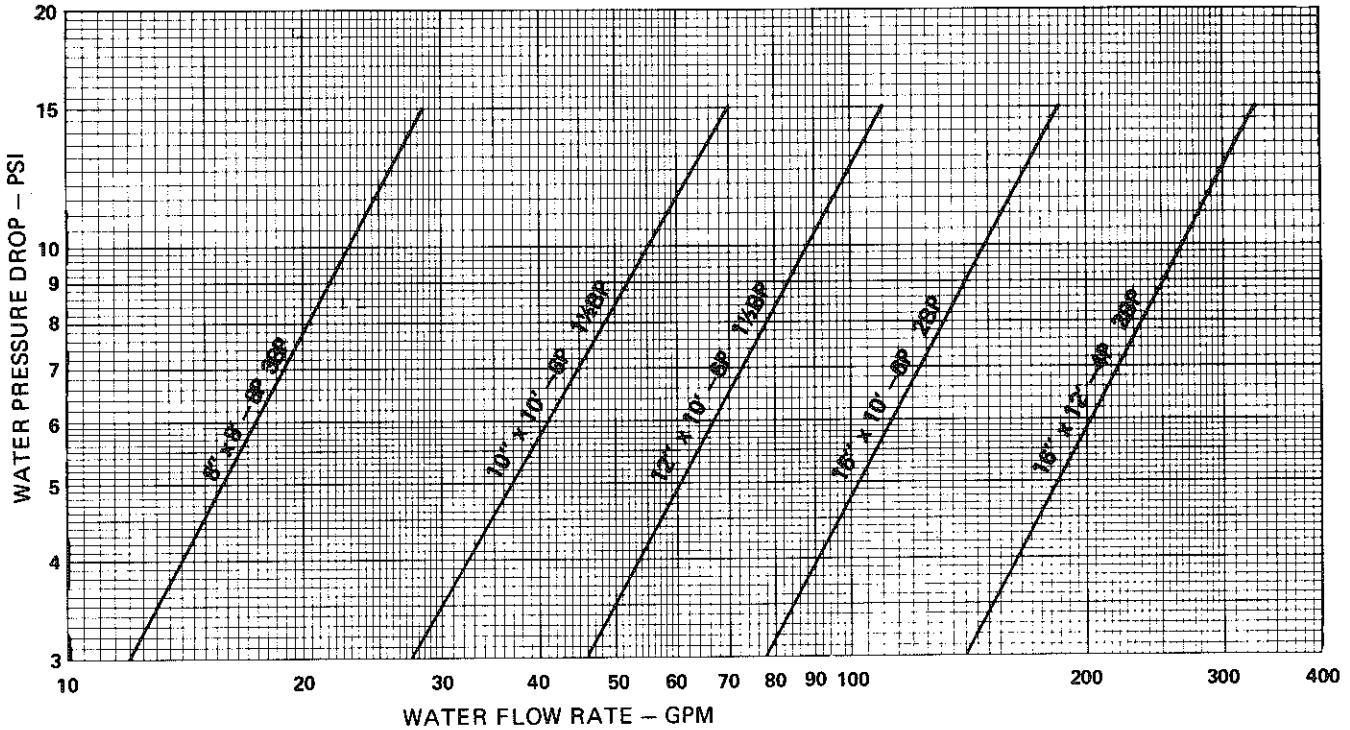
Use the following formula, OCHR tables and graph to determine the cooling water flow (GPM), standard water cooled oil cooler selection and the resulting cooling water pressure drop.

To find the required cooling water flow (GPM) use the following formula:

$$GPM = \frac{OCHR}{500 (T_o - T_i)}$$

- OCHR — Oil cooler heat rejections (1,000 BTU/HR)
- T_o — Cooling water outlet temp (not to exceed 110°F)
- T_i — Cooling water inlet temp (°F)

WATER COOLED OIL COOLER SELECTION



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

Based on 10° superheat. 10° subcooling superheat enthalpy not contributing to refrigerant effect. For applications having greater than 10° F of compressor suction superheat, consult Frick Co.

OIL COOLER HEAT REJECTION(OCHR) — 1,000 BTU/HR (Based on 10°F Superheat, 10°F Liquid Subcooling)

R717 HIGH STAGE

EVAP T °F	COND T °F	RWB II SCREW COMPRESSOR MODELS — HIGH STAGE							
		60	76	100	134	177	222	316	399
-40	75	136	171	213	278	348	429	586	728
-35		138	173	214	279	348	428	580	719
-30		138	174	214	279	346	423	572	707
-25		138	173	214	277	343	418	560	691
-20		138	172	213	275	338	410	545	671
-15		136	171	211	271	330	399	525	644
-10		134	168	207	264	319	383	500	613
- 5		130	163	201	256	304	365	471	575
0		125	157	193	244	287	342	437	533
5		118	148	183	230	267	316	340	485
10		110	137	170	213	243	287	358	433
15		100	125	156	193	217	255	314	378
20		89	112	141	173	189	220	268	322
25		79	99	125	153	161	186	223	267
30		68	85	108	131	133	155	181	216
35		57	72	90	108	108	124	142	169
40	49	62	71	84	83	93	106	125	

OIL COOLER HEAT REJECTION(OCHR) - 1,000 BTU/HR (Based on 10°F Superheat, 10°F Liquid Subcooling)

EVAP T °F	COND T °F	RWB II SCREW COMPRESSOR MODELS - HIGH STAGE							
		60	76	100	134	177	222	316	399
-40	85	163	205	257	336	420	519	716	890
-35		165	207	258	337	422	520	713	885
-30		167	209	260	338	424	521	709	879
-25		168	211	262	340	424	517	702	868
-20		169	212	261	338	422	514	692	854
-15		169	212	262	337	418	508	678	835
-10		168	210	261	335	411	497	659	810
- 5		166	208	258	330	401	482	634	778
0		163	204	253	322	387	464	605	740
5		159	198	246	310	370	442	570	695
10		152	190	236	297	350	415	531	646
15		144	180	224	280	326	385	486	590
20		134	168	210	260	298	351	438	530
25		123	154	193	238	268	313	387	467
30		112	139	177	217	236	275	336	403
35		100	125	159	193	206	239	286	343
40		88	110	140	168	176	203	239	285
-40	95	193	243	308	404	501	621	862	1074
-35		195	245	308	404	505	624	861	1072
-30		198	248	310	405	509	627	861	1069
-25		200	251	313	408	513	629	859	1065
-20		203	254	316	410	515	629	854	1057
-15		205	256	317	411	514	626	846	1046
-10		205	257	319	411	512	622	834	1028
- 5		205	257	319	410	507	613	816	1005
0		204	256	317	406	498	600	793	974
5		202	253	314	399	485	582	764	935
10		198	248	307	389	469	560	728	890
15		192	240	298	376	449	533	688	838
20		185	230	287	359	424	502	642	780
25		175	218	273	340	396	466	590	716
30		164	204	256	317	365	427	535	647
35		151	188	238	293	330	384	477	575
40		139	173	220	269	295	343	420	505
-40	105	231	290	372	489	595	738	1030	1285
-35		230	289	366	481	598	740	1028	1281
-30		233	292	368	481	603	745	1029	1281
-25		236	296	371	484	610	750	1032	1283
-20		240	300	375	489	616	755	1034	1282
-15		243	305	380	493	620	758	1032	1278
-10		246	308	384	496	621	757	1026	1269
- 5		248	311	385	497	622	755	1017	1255
0		249	311	387	498	619	749	1001	1233
5		249	311	387	496	612	737	980	1204
10		248	309	385	490	600	720	951	1166
15		245	305	380	482	585	699	916	1120
20		240	299	371	469	566	672	874	1067
25		232	289	361	453	541	641	827	1007
30		223	278	374	434	513	605	773	939
35		212	264	331	411	480	563	714	865
40		199	247	312	385	441	518	651	787
-40	115	278	349	451	594	706	878	1230	1537
-35		273	342	440	578	704	872	1218	1520
-30		272	342	434	569	709	876	1218	1519
-25		276	346	437	571	717	885	1224	1524
-20		280	351	441	576	726	893	1230	1529
-15		285	357	447	582	735	902	1236	1534
-10		290	363	454	589	743	908	1238	1533
- 5		294	368	459	594	746	910	1236	1528
0		298	372	463	597	750	911	1230	1518
5		299	374	466	600	750	907	1217	1500
10		301	375	468	600	745	898	1198	1473
15		301	375	468	596	736	882	1171	1437
20		299	372	464	589	722	863	1137	1392
25		295	367	457	578	703	837	1095	1338
30		288	358	448	563	680	806	1047	1276
35		280	348	435	544	652	769	991	1206
40		269	334	419	521	618	726	929	1127

RWB II HIGH STAGE

OIL COOLER HEAT REJECTION(OCHR) - 1,000 BTU/HR (Based on 10°F Superheat, 10°F Liquid Subcooling)

RWB II ROTARY SCREW COMPRESSOR UNITS

EVAP T °F	COND T °F	RWB II SCREW COMPRESSOR MODELS - HIGH STAGE							
		60	76	100	134	177	222	316	399
-40	75	83	104	141	181	220	265	348	426
-35		79	99	136	173	209	250	325	398
-30		76	95	129	164	196	233	301	367
-25		71	89	121	152	179	213	273	331
-20		66	82	110	138	162	192	243	294
-15		60	75	99	123	143	168	212	255
-10		54	67	87	107	123	144	179	216
- 5		46	58	74	91	103	120	147	177
0		39	49	61	75	83	97	117	140
5		32	40	49	59	63	74	88	106
10		25	31	37	44	45	53	62	75
15		18	22	25	29	28	32	39	47
20		10	13	12	16	13	14	18	21
25		3	4	2	2	-	-	-	-
30		-	-	-	-	-	-	-	-
35		-	-	-	-	-	-	-	-
40		-	-	-	-	-	-	-	-
-40	85	109	136	184	236	289	350	465	572
-35		106	132	178	228	279	337	444	544
-30		103	128	173	221	268	322	421	515
-25		99	124	167	212	256	306	396	484
-20		95	119	160	202	241	287	369	449
-15		91	113	151	189	224	265	308	411
-10		85	106	140	174	205	241	305	370
- 5		79	98	128	159	185	217	272	329
0		72	89	115	142	164	191	237	286
5		64	80	102	125	143	165	204	246
10		57	71	90	109	122	141	171	206
15		50	62	77	93	102	119	142	170
20		42	53	64	78	84	97	115	137
25		35	43	52	62	65	74	89	106
30		27	34	40	48	50	54	65	77
35		20	24	29	32	34	37	43	51
40		12	16	16	21	17	20	22	26
-40	95	138	173	230	297	369	447	600	740
-35		136	170	227	291	359	433	578	712
-30		133	167	223	284	349	421	557	684
-25		130	163	217	277	339	407	535	655
-20		127	159	212	269	328	391	510	624
-15		124	155	207	261	315	374	484	590
-10		120	149	199	249	298	353	453	552
- 5		115	143	189	235	279	329	420	510
0		109	135	177	220	259	304	385	466
5		102	127	165	203	237	276	347	420
10		95	118	152	186	215	249	305	376
15		87	109	138	169	192	224	276	332
20		80	99	125	152	172	197	242	291
25		72	90	112	135	150	172	210	252
30		64	80	100	119	131	152	181	216
35		56	69	86	102	111	130	152	181
40		48	59	73	88	95	106	125	149
-40	105	171	215	283	366	458	558	755	933
-35		169	211	280	361	449	545	733	904
-30		167	209	277	356	441	531	711	876
-25		165	206	274	350	431	519	691	848
-20		163	203	270	344	422	507	669	818
-15		161	200	266	337	412	492	645	790
-10		158	197	261	330	401	476	620	757
- 5		155	193	255	320	386	457	590	719
0		151	187	246	308	368	434	557	678
5		144	180	235	293	347	408	520	631
10		138	171	224	277	326	380	482	583
15		131	163	211	259	303	351	443	535
20		124	158	197	241	279	325	404	488
25		116	144	184	223	257	297	367	441
30		109	135	171	205	234	271	331	398
35		100	124	156	189	212	242	297	356
40		91	113	143	171	192	220	263	315

OIL COOLER HEAT REJECTION(OCHR) - 1,000 BTU/HR (Based on 10°F Superheat, 10°F Liquid Subcooling)

EVAP T °F	COND T °F	RWB II SCREW COMPRESSOR MODELS - HIGH STAGE								
		60	76	100	134	177	222	316	399	
-40	115	209	261	342	443	557	681	929	1151	
-35		206	258	338	438	548	667	904	1118	
-30		204	255	336	433	540	655	880	1089	
-25		204	255	336	431	536	648	868	1068	
-20		203	253	334	427	528	636	847	1041	
-15		202	252	332	422	520	624	827	1014	
-10		200	249	328	417	512	611	804	985	
- 5		198	247	325	410	502	596	780	952	
0		196	243	320	403	489	579	753	918	
5		193	239	314	393	474	558	721	878	
10		188	232	304	379	453	532	682	829	
15		181	225	294	364	432	504	643	780	
20		175	216	281	346	408	476	602	728	
25		167	207	267	328	384	447	561	677	
30		160	198	254	309	361	417	520	626	
35		152	188	240	291	337	388	480	577	
40		143	177	225	272	314	357	441	530	
-40		125	254	320	412	538	675	827	1136	1410
-35			250	286	407	483	606	739	1106	1369
-30			227	283	371	478	598	727	1082	1337
-25	226		282	369	475	591	716	1061	1310	
-20	226		282	369	473	588	707	1044	1287	
-15	226		281	369	471	581	698	1026	1263	
-10	225		280	366	465	574	687	1012	1241	
- 5	223		278	364	461	565	673	991	1213	
0	222		275	361	454	555	660	969	1185	
5	219		272	356	447	542	641	944	1152	
10	216		267	349	436	525	618	913	1112	
15	210		260	340	423	505	591	876	1065	
20	204		252	329	407	483	562	836	1015	
25	197		244	316	389	458	534	793	960	
30	189		234	302	369	434	501	749	905	
35	182		225	288	350	407	470	705	850	
40	173		214	273	332	385	442	660	796	

R2N H-I-G-I S-T-A-G-E

RWB II ROTARY SCREW COMPRESSOR UNITS
ENGINEERING DATA

OIL COOLER HEAT REJECTION (OCHR) - 1,000 BTU/HR (Based on 10°F Superheat, 120°F Oil Temp.)

RWB II BOOSTER

EVAP T °F	INTER- MEDIATE T °F	RWB II SCREW COMPRESSOR MODELS -- BOOSTER							
		60B	76B	100B	134B	177B	222B	316B	399B
-80	-20	34	42	48	63	76	95	131	162
-75		31	39	44	58	70	87	118	147
-70		27	34	39	51	61	76	103	127
-65		23	29	34	44	50	61	83	102
-60		19	23	29	35	37	45	60	74
-55		13	16	18	23	22	27	36	44
-50		8	10	10	12	8	10	13	16
-45		4	5	3	4	-	-	-	-
-80	-10	40	50	58	77	94	117	161	200
-75		38	47	55	72	88	109	149	185
-70		35	44	51	66	80	99	135	168
-65		33	41	46	60	72	89	120	149
-60		28	34	40	53	61	75	101	124
-55		23	28	33	43	47	57	77	97
-50		17	21	24	32	32	39	52	63
-45		11	14	14	19	16	19	25	30
-40	6	7	6	7	1	2	2	3	
-35	1	1	-	-	-	-	-	-	
-75	0	45	56	66	87	107	133	183	227
-70		43	53	63	82	100	124	170	211
-65		40	50	59	77	93	115	156	194
-60		38	47	54	70	84	104	140	174
-55		33	41	48	62	74	91	121	149
-50		28	35	41	52	59	73	97	104
-45		22	27	32	41	43	53	69	85
-40		15	11	21	27	26	32	42	51
-35	9	5	11	14	9	11	14	17	
-30	4	2	2	3	-	-	-	-	
-70	10	50	63	75	98	121	151	207	258
-65		48	60	71	94	115	142	194	241
-60		46	57	67	88	107	132	180	222
-55		43	53	63	81	98	121	163	202
-50		40	49	56	73	87	107	144	177
-45		34	41	49	64	74	91	120	148
-40		28	34	40	52	57	69	91	112
-35		21	26	30	38	39	47	61	75
-30	14	17	18	23	21	25	32	39	
-25	7	9	8	10	4	5	6	7	
-20	1	2	-	-	-	-	-	-	
-65	20	59	73	88	115	143	177	243	302
-60		56	70	84	110	135	167	228	283
-55		53	67	79	103	126	156	211	262
-50		50	62	74	96	116	143	193	238
-45		46	57	67	87	105	129	172	211
-40		41	50	60	77	92	112	148	182
-35		35	43	51	65	75	91	119	146
-30		28	34	40	51	55	67	87	107
-25	20	25	28	36	36	43	56	68	
-20	12	15	16	20	16	19	25	30	
-15	5	6	3	5	-	-	-	-	
-60	30	68	85	103	135	167	208	285	354
-55		65	81	96	129	159	196	268	332
-50		62	77	93	121	149	184	249	308
-45		59	73	87	113	138	170	228	281
-40		54	67	80	104	125	154	205	252
-35		50	61	73	94	112	137	181	222
-30		43	52	63	81	95	115	151	185
-25		36	44	53	67	75	92	119	145
-20	28	35	41	52	55	66	85	104	
-15	20	24	27	34	34	40	52	62	
-10	11	13	13	17	12	15	19	22	
-5	4	4	2	2	-	-	-	-	

OIL COOLER HEAT REJECTION (OCHR) - 1,000 BTU/HR (Based on 10°F Superheat, 120°F Oil Temp.)

EVAP T °F	INTER- MEDIATE T °F	RWB II SCREW COMPRESSOR MODELS - BOOSTER							
		60B	76B	100B	134B	177B	222B	316B	399B
-50	40	74	92	111	144	177	217	292	359
-45		70	87	105	136	165	202	269	331
-40		66	81	98	126	152	186	244	300
-35		61	75	90	115	137	167	218	266
-30		56	69	82	104	123	149	193	234
-25		49	60	72	91	106	128	164	198
-20		40	51	61	77	87	105	133	160
-15		38	46	56	71	77	94	120	147
-10		29	35	42	53	56	67	85	104
- 5		19	24	27	34	32	38	49	59
0		10	13	13	16	11	13	16	19

R717 BOOSTER

OIL COOLER HEAT REJECTION (OCHR) - 1,000 BTU/HR (Based on 10°F Superheat, 120°F Oil Temp.)

EVAP T °F	INTER- MEDIATE T °F	RWB II SCREW COMPRESSOR MODELS - BOOSTER							
		60B	76B	100B	134B	177B	222B	316B	399B
-80	-20	20	25	23	30	31	37	49	61
-75		14	18	16	21	17	21	27	33
-70		9	11	8	10	2	2	4	4
-65		2	2	-	-	-	-	-	-
-80	-10	26	33	28	43	47	58	77	94
-75		21	27	26	32	34	41	54	67
-70		16	20	17	22	19	24	31	37
-65		10	12	9	11	4	4	6	7
-60		2	3	-	-	-	-	-	-
-80	0	33	40	43	56	64	79	105	130
-75		28	35	36	46	52	63	84	103
-70		23	29	28	36	38	46	60	74
-65		18	22	19	24	23	27	36	44
-60		11	13	10	13	7	8	10	12
-55		4	5	-	-	-	-	-	-
-75	10	35	44	47	61	70	86	115	141
-70		31	38	40	51	58	70	93	114
-65		26	32	31	40	43	53	69	85
-60		20	24	22	27	27	32	43	53
-55		13	16	12	15	11	13	17	20
-50		6	7	2	3	-	-	-	-
-70		20	40	54	54	70	81	99	131
-65	35		44	46	60	67	82	108	133
-60	28		37	37	48	52	64	83	102
-55	24		29	27	35	36	44	57	69
-50	17		20	17	21	18	22	28	35
-45	9		11	6	8	-	-	-	-
-60	30	39	47	50	64	72	87	112	136
-55		33	40	41	52	57	68	87	106
-50		27	32	31	40	41	49	63	75
-45		20	24	21	26	25	30	37	45
-40		14	16	12	15	9	11	15	17
-35		5	5	-	-	-	-	-	-
-55	40	45	55	60	76	85	103	134	163
-50		39	47	50	63	70	84	108	131
-45		32	39	40	50	53	64	81	99
-40		25	31	29	36	37	44	55	66
-35		18	21	18	22	19	23	28	34
-30		9	11	7	8	1	1	1	2

R22 BOOSTER

ECONOMIZER OPERATION – HIGH STAGE

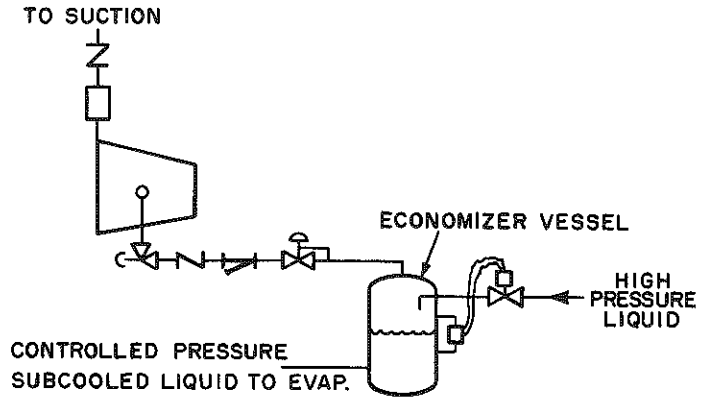
Compressor ratings with the economizer effect included are given in the ratings tables with the "E" suffix. No allowance for vapor line pressure drop or closed type economizer vessel temperature differential have been included.

The economizer option requires a liquid subcooler which is usually a shell and coil heat exchanger, similar to an intercooler, or a direct expansion refrigerant chiller. The recommended economizer systems are shown below.

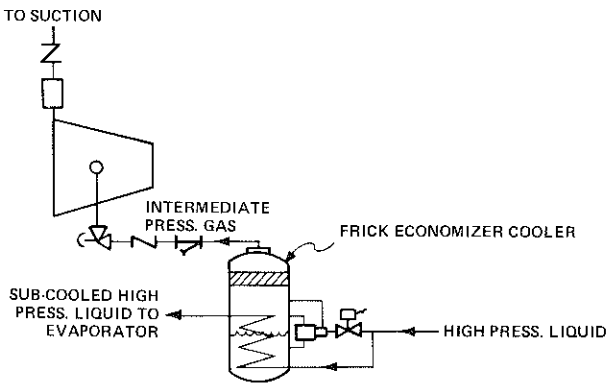
Notice that in both systems there is a strainer and a check valve between the economizer vessel and the economizer port in the compressor. The check valve prevents oil flow from the compressor unit to the economizer during shutdown.

A flash-type subcooler can be used but care should be taken because of the low pressure differential between the flash tank and the evaporators. If a flash tank is used, a back pressure regulator between the flash tank and the economizer must be installed to keep the pressure differential from approaching zero during part load operation.

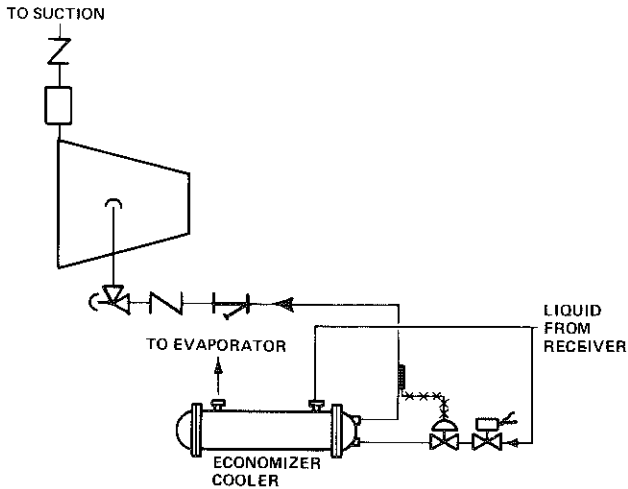
FLASH ECONOMIZER SYSTEM



SHELL and COIL ECONOMIZER SYSTEM

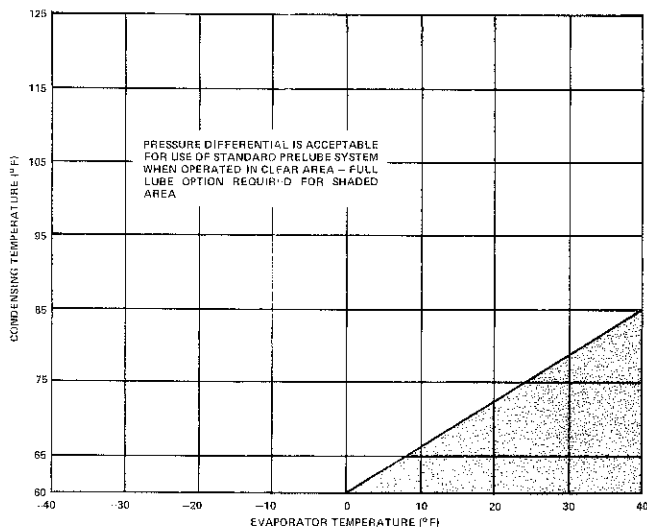


DIRECT EXPANSION ECONOMIZER SYSTEM

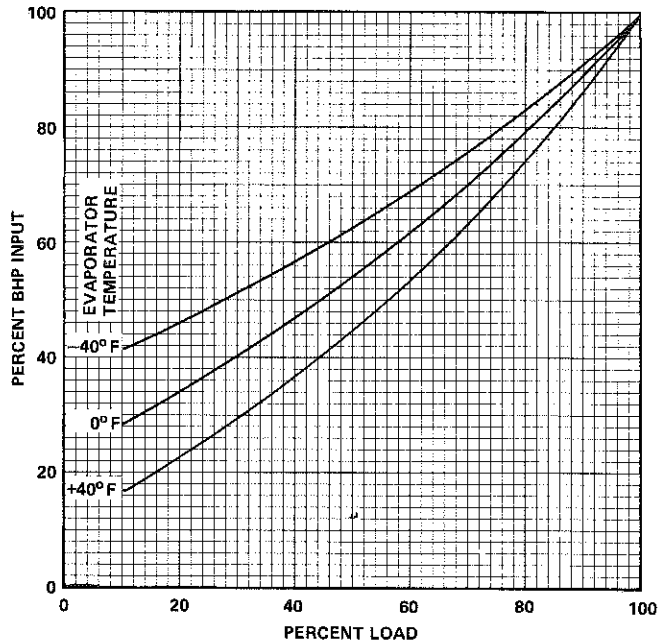


PRELUBE OIL PUMP LIMITS – HIGH STAGE

The standard prelube pump system for compressor operation without a lube oil pump may be used on high stage applications shown in the clear area of graph. The optional full lube oil pump is required only on low differential pressure applications shown in the shaded area of graph. Where condensing temperatures fluctuate into the shaded area only on an occasional basis in the winter, the full lube pump with cycling option avoids unnecessary consumption of pump horsepower.



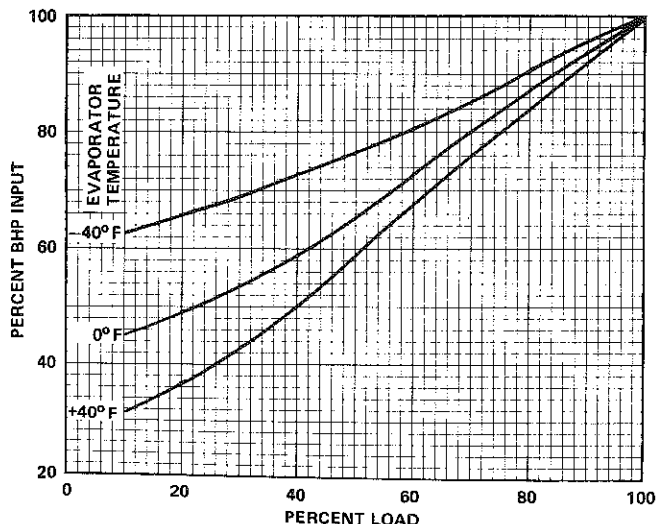
TYPICAL PART LOAD POWER INPUT WITH FALLING CONDENSING TEMPERATURE – HIGH STAGE



The above curve is based on a 20° F linear drop in condensing temperature from full load to 10% of full load. This curve is applicable for R717 (85° F to 105° F full load condensing temperature) and R22 (95° F to 115° F full load condensing temperature). It is not applicable if condensing temperature does not drop with compressor unloading as in the following examples:

1. Water cooled condensing temperatures cannot fall below entering water temperature.
2. Single compressor unloading on a multiple compressor system will have negligible effect on system condensing temperature.
3. No condensing temperature drop will occur if condenser fans are cycled off as the load decreases.

TYPICAL PART LOAD POWER INPUT WITH CONSTANT CONDENSING TEMPERATURE – HIGH STAGE



This curve is applicable for R717 (85° F to 105° F full load condensing temperature) and R22 (95° F to 115° F full load condensing temperature).

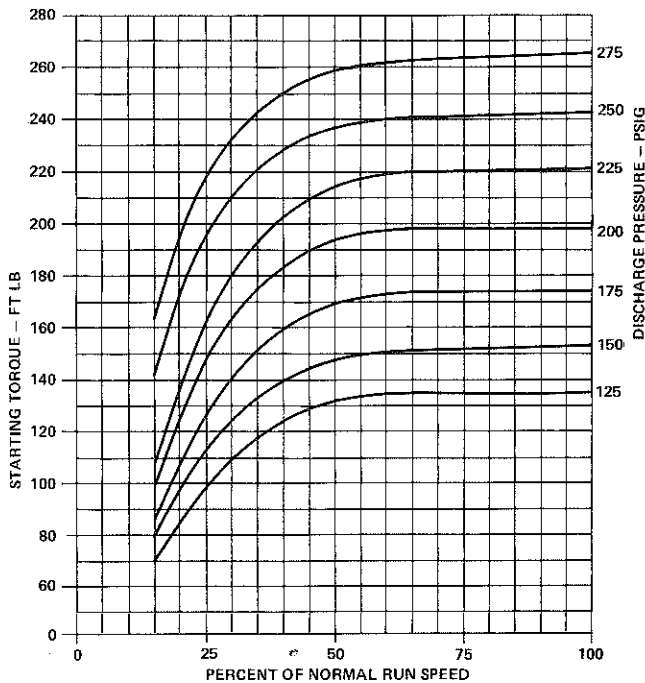
MOTOR SELECTION and STARTING TORQUE

Motors must be sized adequate 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.

SCREW COMPRESSOR SPEED Vs TORQUE CURVE – FULLY UNLOADED – HIGH STAGE



RWB MODEL	STARTING TORQUE (*) MULTIPLIER	BREAK-AWAY TORQUE, FT-LB	INERTIA – WR ² , LB-FT ²
60	0.46	7	3
76	0.58	7	3.5
100	0.75	10	7
134	1.00	10	8
177	1.27	14	14
222	1.60	14	17
316	2.28	20	35
399	2.87	20	43

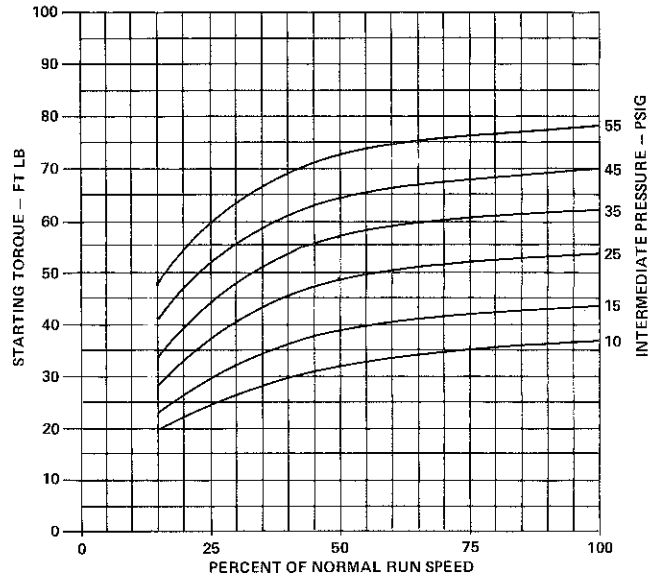
* High Stage or Booster Application

STARTING TORQUE FOR ANY SPECIFIC COMPRESSOR

Multiply starting torque multiplier by starting torque value from high stage or booster curves at 100% of normal run speed. Example:

- RWB II 222 High Stage @225 PSIG Discharge
- Multiplier = 1.60
- Start Torque from Curve = 221 FT LB
- RWB II 222 Starting Torque = 1.60 x 221
- RWB II 222 Starting Torque = 354 FT LB

SCREW COMPRESSOR SPEED Vs TORQUE CURVE – FULLY UNLOADED – BOOSTER

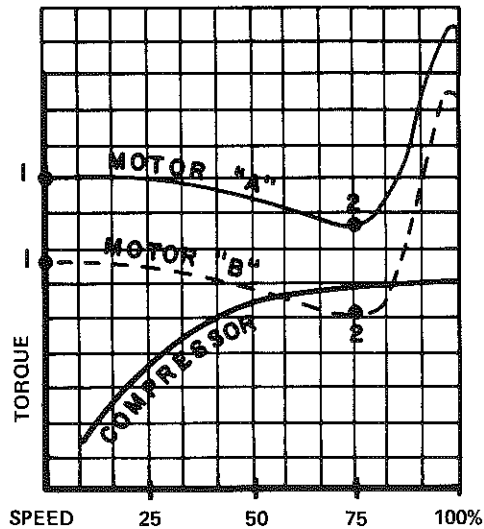


MOTOR/COMPRESSOR TORQUE

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 affect the starting torque available from motors as indicated:

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



Motor "A": Adequate to start the compressor

Motor "B": Will not start the compressor

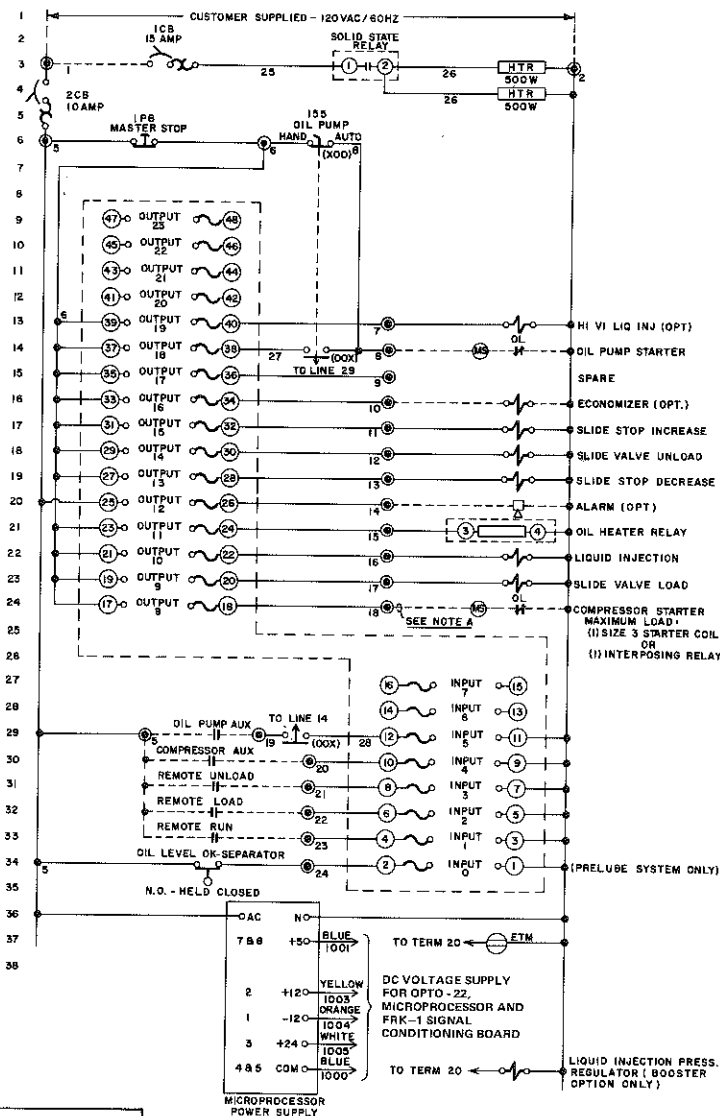
NOTE: Starting torque of both motors (1) is above compressor torque. However, the Pull-Up-Torque (2) of motor "B" is below the compressor torque curve and motor "B" will not accelerate the compressor to 100% speed.

RWB II SCREW COMPRESSOR UNIT w/SBC MICROPROCESSOR CONTROL SYSTEM TYPICAL WIRING DIAGRAM

LINE NO.	TERM NO.	CIRCUIT DESCRIPTION
3	1,2	CONTROL POWER
49,50	3,4	CURRENT TRANSFORMER
14	9,2	OIL PUMP STARTER
20	14,2	ALARM
29	5,19	OIL PUMP AUX
30	5,20	COMPRESSOR AUX
31	5,21	REMOTE UNLOAD
32	5,22	REMOTE LOAD
33	5,23	REMOTE RUN

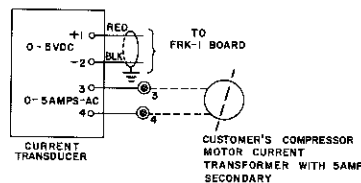
NOTE A:
ADDITIONAL SHUTDOWN INTERLOCKS
(HIGH LEVEL CUTOFF ETC.) MAY BE
INSTALLED IN SERIES WITH THE MOTOR
STARTER COIL.

⊙ TERMINALS IN JUNCTION BOX
--- WIRING BY OTHERS

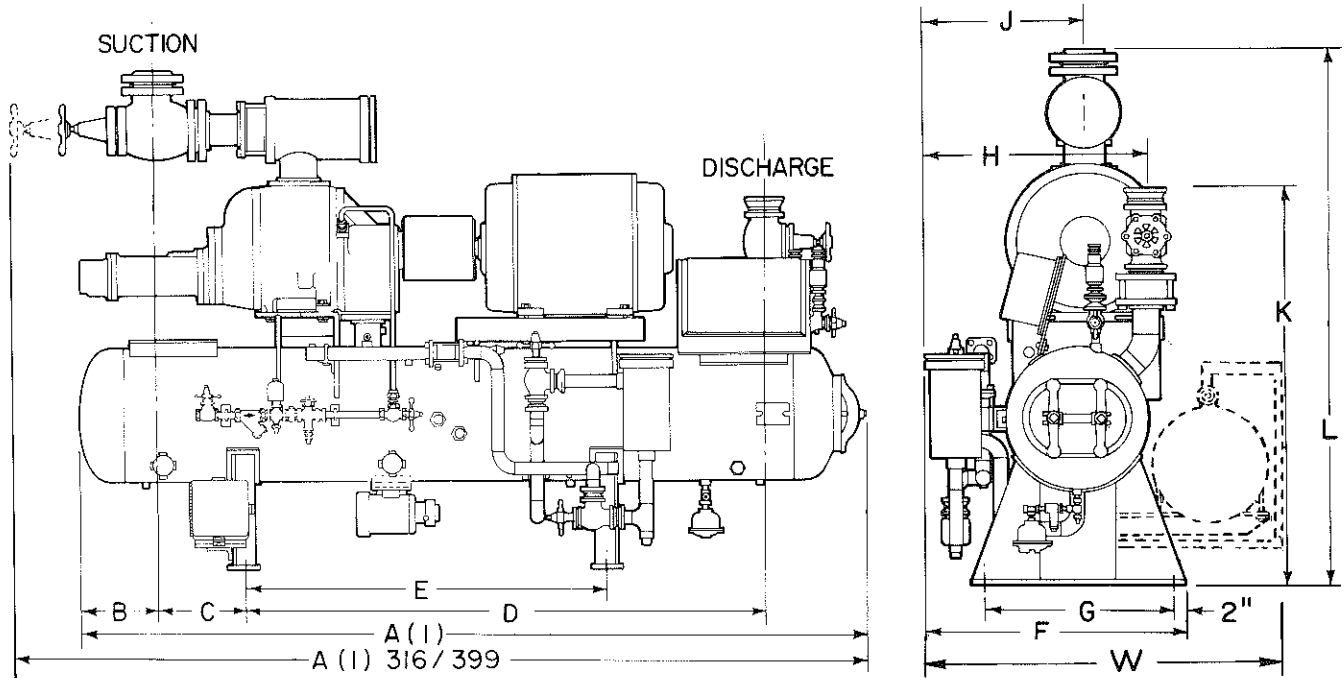


CURRENT TRANSFORMER RATIOS

HORSEPOWER	VOLTAGE						
	200	230	380	460	575	2300	4160
20	100:5	100:5	50:5	50:5	50:5	—	—
25	100:5	100:5	50:5	50:5	50:5	—	—
30	200:5	100:5	100:5	50:5	50:5	—	—
40	200:5	200:5	100:5	100:5	50:5	—	—
50	200:5	200:5	100:5	100:5	100:5	—	—
60	300:5	200:5	200:5	100:5	100:5	—	—
75	300:5	300:5	200:5	200:5	100:5	—	—
100	400:5	300:5	200:5	200:5	200:5	—	—
125	500:5	400:5	300:5	200:5	200:5	—	—
150	500:5	500:5	300:5	300:5	200:5	—	—
200	800:5	600:5	400:5	300:5	300:5	100:5	50:5
250	800:5	800:5	500:5	400:5	300:5	100:5	50:5
300	1000:5	1000:5	600:5	500:5	400:5	100:5	50:5
350	—	1000:5	600:5	500:5	400:5	100:5	100:5
400	—	—	800:5	600:5	500:5	200:5	100:5
450	—	—	800:5	800:5	600:5	200:5	100:5
500	—	—	1000:5	800:5	600:5	200:5	100:5
600	—	—	—	1000:5	800:5	200:5	100:5
700	—	—	—	1000:5	800:5	200:5	200:5
800	—	—	—	1200:5	1000:5	300:5	200:5
900	—	—	—	—	—	300:5	200:5
1000	—	—	—	—	—	300:5	200:5



RWB II ROTARY SCREW COMPRESSOR UNITS
DIMENSIONS



RWB II MODEL NO.	DIMENSIONS - INCHES/MILLIMETERS												CONNECTIONS	
	A (1)	B	C	D	E	F	G	H	J	K	L	W	SUCT	DISCH
60	139/3530	13/330	15/381	93/2362	66/1676	41/1041	32/813	35/889	22/559	59/1499	83/2108	53/1346	4/101.6	3/76.2
76	139/3530	11/280	16/406	93/2362	66/1676	41/1041	32/813	35/889	22/559	59/1499	82/2082	53/1346	4/101.6	3/76.2
100	143/3632	15/381	14/356	95/2413	66/1676	45/1143	32/813	38/965	25/635	67/1702	90/2286	60/1524	5/127.0	4/101.6
134	143/3632	14/356	16/406	95/2413	66/1676	45/1143	32/813	38/965	25/635	67/1702	90/2286	60/1524	5/127.0	4/101.6
177	175/4445	20/508	26/660	108/2743	75/1905	52/1321	40/1016	45/1143	28/711	78/1981	104/2642	67/1702	6/152.4	5/127.0
222	175/4445	19/483	27/686	108/2743	75/1905	52/1321	40/1016	45/1143	28/711	78/1981	103/2616	67/1702	6/152.4	5/127.0
316	211/5360	4.5/114	46/1168	119/3023	88/2235	60/1524	54/1372	48/1219	28/711	89/2260	118/2997	71/1803	8/203.2	6/152.4
399	215/5461	.7/18	50/1270	119/3023	88/2235	60/1524	54/1372	48/1219	28/711	89/2260	118/2997	71/1803	8/203.2	6/152.4

1. Allow 48 in./1219 mm on manway end of unit to pull coalescer element.

STANDARD MOTOR and FRAME SIZES (*)

MOTOR		RWB II MODEL			
HP	FRAME	60/76	100/134	177/222	316/399
20	256T	X			
30	284TS	X			
40	286TS	X	X		
50	324TS	X	X		
60	326TS	X	X		
75	364TS	X	X		
100	365TS	X	X		
125	404TS	X	X	X	
150	405TS	X	X	X	
200	444TS	X	X	X	
250	445TS	X	X	X	
300	447TS		X	X	
350	447TS		X	X	
400	505USS		X	X	X
450	505USS		X	X	X
500	505USS		X	X	X
600	588.5H			X	X
700	5009H				X
800	5809H				X
900	5810H				X
1000	5810H				X

* A special drive or motor exceeding the chart sizes may require a modified package design. When a modified package design is required there will be cost and delivery considerations.

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