Service Facts

Customer Property: Contains wiring and service information. Please retain.

TSC060-SF-2A

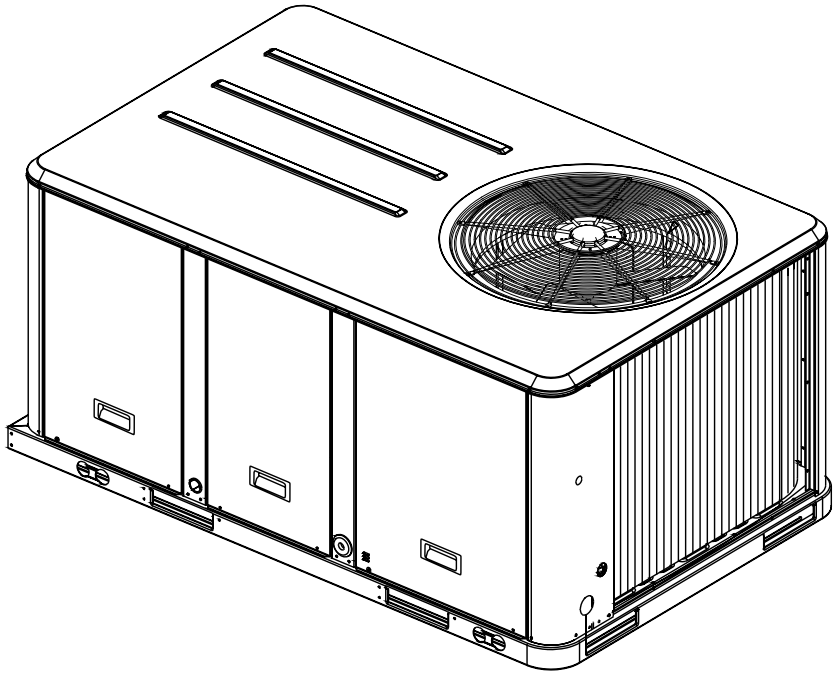
Library	Service Literature
Product Section	Unitary
Product	Package Air Conditioner
Model	TS
Literature Type	Service Facts
Sequence	2A
Date	March 2003
File No.	SV-UN-RT-TSC060-SF-2A 3/03
Supersedes	TSC060-SF-2A 12/01

Models :

TSC060A3E0A0A TSC060AKE0A0A
TSC060A3E1A0A TSC060AKE1A0A
TSC060A3E2A0A TSC060AKE2A0A
TSC060A3E3A0A TSC060AKE3A0A
TSC060A3E4A0A TSC060AKE4A0A
TSC060A3R0A0A TSC060AKR0A0A
TSC060A3R1A0A TSC060AKR1A0A
TSC060A3R2A0A TSC060AKR2A0A
TSC060A3R3A0A TSC060AKR3A0A
TSC060A3R4A0A TSC060AKR4A0A
TSC060A4E0A0A TSC060AWE0A0A
TSC060A4E1A0A TSC060AWE1A0A
TSC060A4E2A0A TSC060AWE2A0A
TSC060A4E3A0A TSC060AWE3A0A
TSC060A4E4A0A TSC060AWE4A0A
TSC060A4R0A0A TSC060AWR0A0A
TSC060A4R1A0A TSC060AWR1A0A
TSC060A4R2A0A TSC060AWR2A0A
TSC060A4R3A0A TSC060AWR3A0A
TSC060A4R4A0A TSC060AWR4A0A

Packaged Electric/Electric

5 Ton Rooftop Units



NOTICE

Warnings and Cautions appear at appropriate locations throughout this manual.
Read these carefully

WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices and where property-damage-only accidents could occur.

Table of Contents

Product Specifications

TSC060A3,4,K,W	208-230/60/3	380/60/3	460/60/3	575/60/3
Cooling Performance				
Gross Cooling Capacity BTUH[1]	63,100	63,100	63,100	63,100
SEER/EER[2]	10.2	10.2	10.2	10.2
Nominal CFM / ARI Rated CFM	2,000/2,000	2,000/2,000	2,000/2,000	2,000/2,000
ARI Net Cooling Capacity	60,000	60,000	60,000	60,000
Integrated Part Load Value	---	---	---	---
System Power (KW)	6.78	6.78	6.78	6.78
Power Connection				
Min. Circuit Ampacity				
Direct Drive - Standard / Oversize	31.5/33.2	19.6 / N/A	16.0/16.3	12.2/12.8
Fuse Size - Standard / Oversize	50/50	30 / N/A	25/25	20/20
Min. Circuit Ampacity				
Belt Drive - Standard	30.3	N/A	15.6	11.8
Fuse Size - Standard	45	N/A	25	15
Compressor				
Number / Type	1/Alliance Scroll	1/Alliance Scroll	1/Alliance Scroll	1/Alliance Scroll
Voltage	208-230/60/3	380/60/3	460/60/3	575/60/3
R. L. Amp / L. R. Amp	18.6/128.0	11.4/64.0	9.5/63.0	7.5/49.0
Sound Rating (BELS)				
Outdoor Coil - Type	Lanced	Lanced	Lanced	Lanced
Tube Size (in.) OD	0.3125	0.3125	0.3125	0.3125
Face Area (sq ft)	8.81	8.81	8.81	8.81
Rows / FPI	2/17	2/17	2/17	2/17
Indoor Coil - Type	Lanced	Lanced	Lanced	Lanced
Tube Size (in.) OD	0.3125	0.3125	0.3125	0.3125
Face Area (sq ft)	5	5	5	5
Rows / FPI	3/16	3/16	3/16	3/16
Refrigerant Control [4]	Short Orifice	Short Orifice	Short Orifice	Short Orifice
Drain Connection Size (in.)	3/4"	3/4"	3/4"	3/4"
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller
No. Used / Diameter (in.)	1/22	1/22	1/22	1/22
Drive Type / No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM	3470	3470	3470	3470
No. Motors / HP	1/0.33	1/0.40	1/0.33	1/0.33
Motor RPM	1115	1115	1115	1115
Direct Drive Indoor Fan -- Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. Speeds	2	2	2	2
Motor Frame Size	48	48	48	48
Standard Motor				
Fan Diameter x Width (in.)	11 x 11	12 x 11	11 x 11	11 x 11
Motor HP	0.90	1.00	0.90	0.90
Motor RPM LO/HI Tap	985/1100	1080/1135	985/1100	985/1100
High Static Motor				
Fan Diameter x Width (in.)	12 x 11	N/A	12 x 11	12 x 11
Motor HP	1.00	N/A	1.00	1.00
Motor RPM LO/HI Tap	1080/1135	N/A	1080/1135	1080/1135
Belt Drive Indoor Fan -- Type	FC Centrifugal	N/A	FC Centrifugal	FC Centrifugal
No. Speeds	Variable Sheave	N/A	Variable Sheave	Variable Sheave
Belt Size	AX26	N/A	AX26	AX26
Motor Frame Size	56	N/A	56	56
Standard Motor				
Fan Diameter x Width (in.)	11 x 11	N/A	11 x 11	11 x 11
Motor HP	1.50	N/A	1.50	1.50
Motor RPM	1750	N/A	1750	1750
Filters - Type-Throwaway [5]		**Standard**	**Optional**	
(No.) Size Recommended (in.)		(2) 20 x 25 x 1	(2) 20 x 25 x 2	
Refrigerant Charge (lbs - R22) [3]	4.9	4.9	4.9	4.9

Footnotes:

1. Cooling Performance is rated at 95 F ambient, 80 F entering dry bulb, 67 F entering wet bulb and nominal cfm listed. ARI capacity is net and includes the effect of fan motor heat.
   Base models are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on ARI Standard 210/240. All models tested in accordance with ARI Standard 210/240.
2. Rated at ARI conditions and in accordance with DOE test procedures.
3. Refrigerant charge shown is a nominal value, for a more precise value see the unit nameplate.
4. Short Orifice is Standard, Expansion Valve is Optional.
5. One Inch Filter is Standard, Two Inch Pleated Filter is Optional.

Direct Drive Indoor Fan Option

External Static Pressure (Inches of Water)

Model No.		Standard Motor				Oversized Motor			
Downflow		High Speed		Low Speed		High Speed		Low Speed	
	CFM	ESP	BHP	ESP	BHP	ESP	BHP	ESP	BHP
	1600	0.95	0.78	0.87	0.64	1.25	0.90	1.10	0.85
	1700	0.90	0.82	0.73	0.65	1.20	0.94	1.00	0.89
	1800	0.85	0.85	0.61	0.65	1.10	0.98	0.90	0.91
	1900	0.75	0.88	0.51	0.65	1.03	1.02	0.80	0.94
	2000	0.65	0.90	0.35	0.66	0.95	1.05	0.70	0.95
	2100	0.55	0.93	0.19	0.66	0.85	1.10	0.55	0.96
	2200	0.45	0.95	0.10	0.67	0.75	1.12	0.40	0.96
	2300	0.35	0.97	---	---	0.65	1.17	0.20	0.97
	2400	0.25	1.00	---	---	0.53	1.20	---	---

Model No.		Standard Motor				Oversized Motor			
Horizontal		High Speed		Low Speed		High Speed		Low Speed	
	CFM	ESP	BHP	ESP	BHP	ESP	BHP	ESP	BHP
	1600	0.90	0.78	0.82	0.64	1.20	0.90	1.05	0.85
	1700	0.85	0.82	0.68	0.65	1.15	0.94	0.95	0.89
	1800	0.80	0.85	0.56	0.65	1.05	0.98	0.85	0.91
	1900	0.70	0.88	0.46	0.65	0.98	1.02	0.75	0.94
	2000	0.60	0.90	0.30	0.66	0.90	1.05	0.65	0.95
	2100	0.50	0.93	0.14	0.66	0.80	1.10	0.50	0.96
	2200	0.40	0.95	0.05	0.67	0.70	1.12	0.35	0.96
	2300	0.30	0.97	---	---	0.60	1.17	0.15	0.97
	2400	0.20	1.00	---	---	0.48	1.20	---	---

NOTES:

1. Data includes pressure drop due to wet coil and factory installed standard filters.
2. Airflow performance at 230, 460, or 575 volts.
3. Fan Motor heat (Mbh) = 4.39 X Fan BHP
4. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Products warranty will not be affected.
5. 5 ton oversized motor performance is with 12 x 11 FC blower wheel.

Belt Drive Indoor Fan Option

TSC060A

Downflow Configuration

	External Static Pressure (Inches of Water)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
			1 1/2 HP Standard Motor & Field Supplied Low Static Drive[1]								1 1/2 HP Standard Motor & Drive									
1600	--	--	704	0.27	754	0.32	806	0.38	856	0.44	900	0.51	942	0.57	981	0.64	1018	0.71	1054	0.77
1800	710	0.29	768	0.36	813	0.41	858	0.47	904	0.54	949	0.61	989	0.68	1028	0.75	1064	0.83	1099	0.90
2000	776	0.39	829	0.46	875	0.52	914	0.58	955	0.65	997	0.72	1038	0.80	1076	0.88	1112	0.96	1146	1.04
2200	844	0.51	892	0.58	939	0.65	976	0.72	1011	0.79	1049	0.86	1087	0.94	1125	1.02	1161	1.11	1194	1.20
2400	912	0.64	956	0.72	1000	0.80	1039	0.88	1072	0.95	1105	1.02	1139	1.11	1174	1.19	1209	1.28	1243	1.37

	1.10		1.20		1.30		1.40		1.50	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1 1/2 HP Standard Motor & Drive									
1600	1087	0.84	1121	0.91	1152	0.98	1185	1.06	1215	1.13
1800	1132	0.98	1165	1.05	1195	1.13	1225	1.20	1255	1.28
2000	1179	1.12	1211	1.21	1241	1.29	1270	1.37	1299	1.46
2200	1226	1.29	1258	1.38	1288	1.47	--	--	--	--
2400	1275	1.47	--	--	--	--	--	--	--	--

TSC060A

Horizontal Configuration

	External Static Pressure (Inches of Water)																			
	0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1 1/2 HP Standard Motor & Field Supplied Low Static Drive[1]								1 1/2 HP Standard Motor & Drive											
960	694	0.27	760	0.35	819	0.42	873	0.49	924	0.57	976	0.67	1025	0.76	1069	0.86	1109	0.95	1147	1.05
1080	766	0.37	824	0.45	881	0.53	932	0.61	980	0.70	1025	0.78	1072	0.88	1115	0.99	1158	1.10	1197	1.21
1200	839	0.49	891	0.57	943	0.66	992	0.76	1038	0.85	1081	0.94	1122	1.03	1164	1.14	1206	1.26	1245	1.37
1320	913	0.64	959	0.72	1008	0.81	1054	0.92	1098	1.02	1139	1.12	1179	1.22	1217	1.33	1254	1.43	--	--
1440	988	0.81	1029	0.89	1074	0.99	1118	1.11	1161	1.22	1200	1.33	1237	1.44	--	--	--	--	--	--

	1.10		1.20		1.30		1.40		1.50	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	1 1/2 HP Standard Motor & Drive									
960	1180	1.14	1211	1.22	1241	1.31	1270	1.40	1299	1.49
1080	1235	1.32	1270	1.43	--	--	--	--	--	--
1200	1283	1.49	--	--	--	--	--	--	--	--
1320	--	--	--	--	--	--	--	--	--	--
1440	--	--	--	--	--	--	--	--	--	--

Factory Supplied Motors, In Commercial Equipment, Are Definite Purpose Motors, Specifically Designed And Tested To Operate Reliably And Continuously At All Cataloged Conditions. Using The Full Horsepower Range Of Our Fan Motors As Shown In Our Tabular Data Will Not Result In Nuisance Tripping Or Premature Motor Failure. Our Product's Warranty Will Not Be Affected.

NOTES:
Data Includes Pressure Drop Due To Wet Coils And Filters.
Fan Motor Heat (MBH) = 3.15 x Fan BHP
1. Field Supplied Fan Sheave AK56 Required. Field Supplied Belt May Be Necessary.

Performance Specifications

Belt Drive Motor Sheave / Fan Speed

Standard Drive	Turns Open	5	4	3	2	1	Closed
	RPM	897	987	1077	1166	1256	1346

Economizer Pressure Drop

	Static Pressure Drop (Inches of W.C.)		
CFM	100% Outside Air	100% Return Air Downflow	100% Return Air Horizontal
1600	0.121	0.042	0.014
2000	0.183	0.070	0.025
2400	0.257	0.103	0.038

Filter Pressure Drop

	Filter Pressure Drop (Inches of W.C.)	
	Standard Filters	Pleated Filters
CFM	1 Inch	2 Inch
1600	0.10	0.15
1800	0.12	0.18
2000	0.15	0.22
2200	0.19	0.25
2400	0.22	0.29

Electric Heater Pressure Drop

kW Input Rating	6.0 kW	12.0 kW	17.4 kW	23.0 kW
CFM	Static Pressure Drop (Inches of W. C.)			
1600	0.036	0.045	0.053	0.053
1800	0.045	0.056	0.067	0.067
2000	0.056	0.070	0.083	0.083
2200	0.068	0.084	0.101	0.101
2400	0.081	0.100	0.120	0.120
	Temperature Rise Across Heater @ 2000 CFM [1]			
	9.5	19	27.5	36.4

Note:

1.Temperature Rise = (Heater kW x 3414)/(1.08 x CFM)

Electro Mechanical Sequence of Operation

Sequence of Operation

These units are offered with two control options, Electro Mechanical and ReliaTel Controls. The ReliaTel Controls is a microelectronic control feature, which provides operating functions that are significantly different than conventional electro mechanical units.

Note: Refer to the unit nameplate. If the ninth digit of the model number equals "E" proceed with the following Sequence of Operation.

Electro Mechanical Control Cooling without an Economizer

When the thermostat switch is set to the "Cool" position and the zone temperature rises above the cooling setpoint, the thermostat Y contacts close. The compressor contactor **(CC1)** coil is energized provided the low pressure control **(LPC1)** and **(HPC1)** are closed. When the CC1 contacts close, compressor **(CPR1)** and the outdoor fan motor **(ODM)** start.

Electro Mechanical Evaporator Fan Operation
When the thermostat fan selection switch is set to the "Auto" position, the thermostat energizes the indoor fan relay **(F)** coil to start the indoor fan motor **(IDM)**.

The control box timer de-energizes the fan relay **(F)** approximately 80 seconds after the cooling requirement has been satisfied to enhance unit efficiency. When the heating cycle is terminated, the indoor fan relay **(F)** coil is de-energized with heater contactors.

When the thermostat fan selection switch is set to the "On" position, the thermostat keeps the indoor fan relay coil **(F)** energized for continuous fan motor operation.

Economizer Set-Up
Adjusting the minimum position potentiometer located on the unit economizer actuator (ECA) sets the required amount of ventilation air.

The suitability of the outside air can be selected utilizing the enthalpy potentiometer on the ECA, as described below:

1. Ambient Temperature - controlling the economizing cycle by sensing the outside air dry bulb temperature. The table below lists the selectable dry bulb values by potentiometer setting.

Potentiometer Setting	Dry Bulb	Enthalpy
A	73*	27
B	70	25
C	67	23
D	63	22

* Factory Setting

Electro Mechanical Control Cooling with an Economizer
The economizer is utilized to control the zone temperature providing the outside air conditions are suitable. Outside air is drawn into the unit through a modulating damper. When cooling is required and economizing is possible, the unit economizer actuator **(ECA)** opens the economizer damper. The ECA continues to modulate the economizer damper open/closed to keep the mixed air temperature in the 50 F to 55 F range.

The thermostat will close the Y contacts to turn on contactor **(CC1)** if mechanical cooling is required.

If economizing is not possible, the ECA drives the damper to the minimum position setpoint when the indoor fan relay **(F)** is energized and allows mechanical cooling operation.

Electro Mechanical Control Heating Operation
When the system switch is set to the "Heat" position and the zone temperature falls below the heating setpoint, the thermostat closes W1 contacts the first stage electric heat contactor **(AH or AH & CH)** is energized.

If the first stage of electric heat can not satisfy the heating requirement, the thermostat closes W2. When the W2 contacts close, the second stage electric heat contactor **(BH or BH & DH)** is energized, if applicable. The thermostat cycles both the first and second stages of heat "On" and "Off" as required to maintain the zone temperature setpoint.

ReliaTel
Sequence of Operation

Sequence of Operation

These units are offered with two control options, Electro Mechanical and ReliaTel Controls. The ReliaTel Controls is a microelectronic control feature, which provides operating functions that are significantly different than conventional electro mechanical units. The master module is the ReliaTel Refrigeration Module **(RTRM)**.

Note: Refer to the unit nameplate. If the ninth digit of the model number equals "R" proceed with the following Sequence of Operation.

The RTRM provides compressor anti-short cycle timing functions through minimum "Off" and "On" timing to increase reliability, performance and to maximize unit efficiency.

Upon power initialization, the RTRM performs self-diagnostic checks to insure that all internal controls are functioning. It checks the configuration parameters against the components connected to the system.

The LED located on the RTRM module is turned "On" within one second after power-up if all internal operations are okay.

ReliaTel Control Cooling without an Economizer

When the system switch is set to the "Cool" position and the zone temperature rises above the cooling setpoint controlband, the RTRM energizes the **(K9)** relay coil located on the RTRM. When the K9 relay contacts close, the compressor contactor **(CC1)** coil is energized provided the low pressure control **(LPC1)** and **(HPC1)** are closed. When the CC1 contacts close, compressor **(CPR1)** and the outdoor fan motor **(ODM)** start to maintain the zone temperature to within ± 2 F of the sensor setpoint at the sensed location.

ReliaTel Control Evaporator Fan Operation
When the fan selection switch is set to the "Auto" position, the RTRM energizes the **(K6)** relay coil approximately 1 second after energizing the compressor contactor coil **(CC1)** in the cooling mode. In the heating mode, the RTRM energizes the **(K6)** relay coil approximately 1 second before energizing the electric heat contactors. Closing the **K6** contacts on the RTRM energizes the indoor fan relay **(F)** coil to start the indoor fan motor **(IDM)**.

The RTRM de-energizes the fan relay **(F)** approximately 60 seconds after the cooling requirement has been satisfied to enhance unit efficiency. When the heating cycle is terminated, the indoor fan relay **(F)** coil is de-energized at the same time as the heater contactors.

When the fan selection switch is set to the "On" position, the RTRM keeps the indoor fan relay coil **(F)** energized for continuous fan motor operation.

When the unit is equipped with the optional fan failure switch, wired between terminals J7-10 and J7-11 on the ReliaTel Options Module **(RTOM)**, the **RTRM** produces an analog output if the fan failure switch **(FFS)** does not open within two minutes after a request for fan operation. When the system is connected to a remote panel, the "SERVICE" LED will be turned on when this failure occurs.

Low Ambient Operation (ReliaTel Control Only)
During low ambient operation, outside air temperature below 55 F, the RTRM will cycle the compressor and outdoor fan motor "Off" for approximately 3 minutes after every 10 minutes of accumulated compressor run time. The indoor fan motor **(IDM)** will continue to operate during this evaporator defrost cycle **(EDC)** and the compressor and outdoor fan will return to normal operation once the defrost cycle has terminated and the compressor "Off" time delay has been satisfied.

ReliaTel Control Cooling with an Economizer
The economizer is utilized to control the zone temperature providing the outside air conditions are suitable. Outside air is drawn into the unit through modulating dampers. When cooling is required and economizing is possible, the RTRM sends the cooling request to the unit economizer actuator **(ECA)** to open the economizer damper. The RTRM tries to cool the zone utilizing the economizer to slightly below the zone temperature setpoint. If the mixed air sensor **(MAS)** senses that the mixed air temperature is below 53 F, the damper modulate toward the closed position. If the zone temperature continues to rise above the zone temperature setpoint controlband and the economizer damper is fully open, the RTRM energizes the compressor contactor **(CC1)**.

The ECA continues to modulate the economizer damper open/closed to keep the mixed air temperature that is calculated by the RTRM.

If economizing is not possible, the ECA drives the damper to the minimum position setpoint when the indoor fan relay **(F)** is energized and allows mechanical cooling operation.

When the unit is equipped with the optional fan failure switch, wired between terminals J7-10 and J7-11 on the **RTOM**, the **RTRM** will stop all cooling functions and produce an analog output if the fan failure switch **(FFS)** does not open within 40 seconds after a request for fan operation. When the system is connected to a remote panel, the "SERVICE" LED will flash when this failure occurs.

Economizer Set-Up
Adjusting the minimum position potentiometer located on the unit economizer actuator (ECA) sets the required amount of ventilation air.

Two of the three methods for determining the suitability of the outside air can be selected utilizing the enthalpy potentiometer on the ECA, as described below:

1. Ambient Temperature - controlling the economizing cycle by sensing the outside air dry bulb temperature. The table below lists the selectable dry bulb values by potentiometer setting.

2. Reference Enthalpy - controlling the economizer cycle by sensing the outdoor air humidity. The table below lists the selectable enthalpy values by potentiometer setting. If the

outside air enthalpy value is less than the selected value, the economizer is allowed to operate.

3. Comparative Enthalpy - By utilizing a humidity sensor and a temperature sensor in both the return air stream and the outdoor air stream, the unit control processor **(RTRM)** will be able to establish which conditions are best suited for maintaining the zone temperature, i.e. indoor conditions or outdoor conditions. The potentiometer located on the ECA is non-functional when both the temperature and humidity sensors are installed.

Potentiometer Setting	Dry Bulb	Enthalpy
A	73*	27
B	70	25
C	67	23
D	63	22

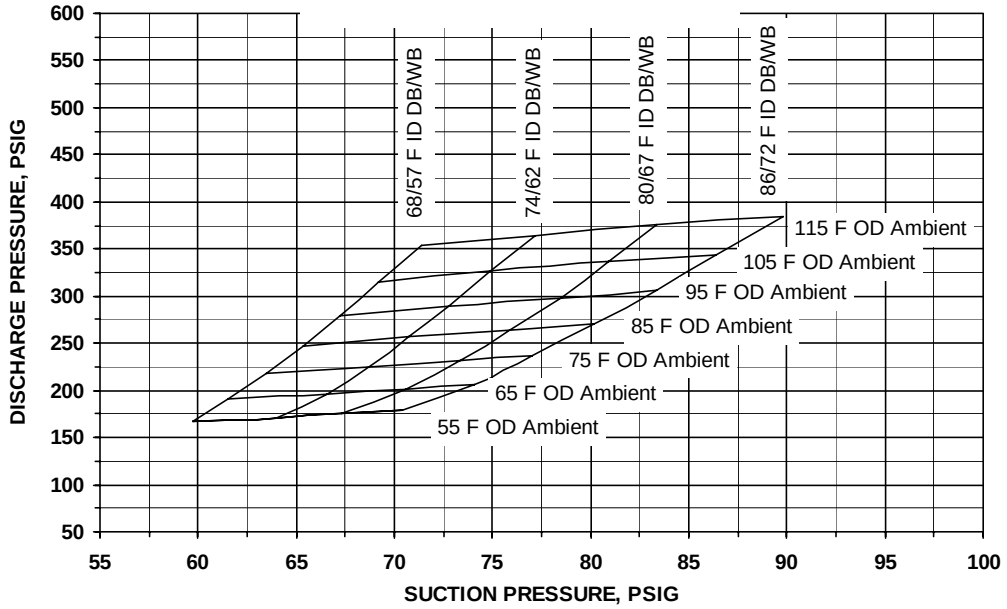
* Factory Setting

ReliaTel Control Heating Operation
When the system switch is set to the “Heat” position and the zone temperature falls below the heating setpoint controlband, the RTRM energizes **K1** relay coil. When the **K1** relay contacts close, located on the RTRM, the first stage electric heat contactor **(AH or AH & CH)** is energized.

If the first stage of electric heat can not satisfy the heating requirement, the RTRM energizes **K2** relay coil. When the **K2** relay contacts close, located on the RTRM, the second stage electric heat contactor **(BH or BH & DH)** is energized, if applicable. The RTRM cycles both the first and second stages of heat “On” and “Off” as required to maintain the zone temperature setpoint.

Refrigeration Data

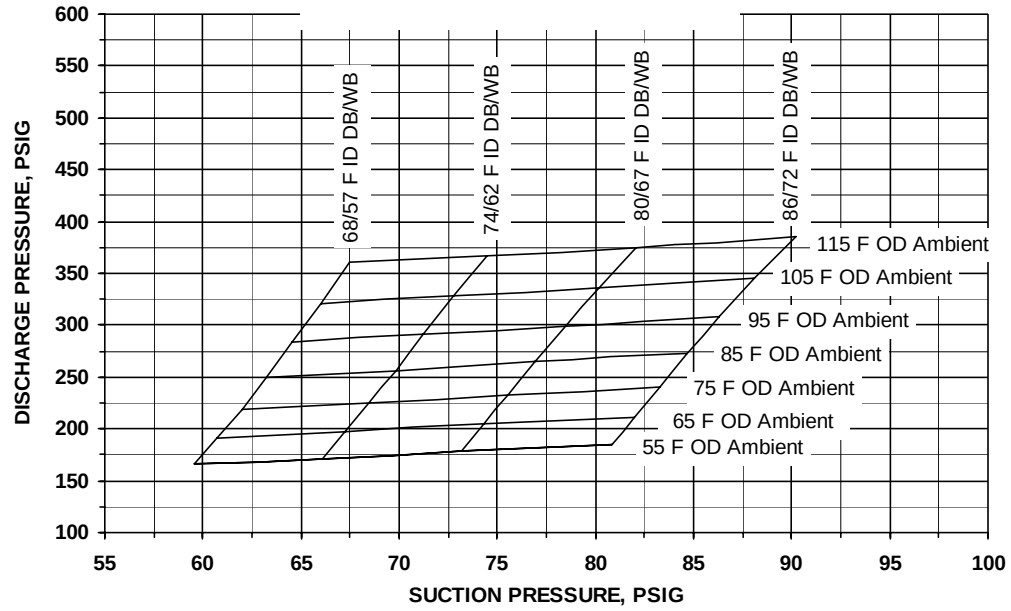
SHORT ORIFICE
COOLING CYCLE PRESSURE CURVE
(Based on Indoor Airflow of 400 CFM / Ton)



To Check Operating Pressures

1. Start the unit and allow the pressures to stabilize.
2. Measure the indoor DB/WB temperature entering the indoor coil.
3. Measure the outdoor air dry bulb temperature
4. Take discharge and suction pressure readings.
5. Plot the outdoor dry bulb and the indoor DB/WB temperature onto the chart.
6. At the point of intersection, read down for the suction pressure and to the left for the discharge pressure.

OPTIONAL EXPANSION VALVE
COOLING CYCLE PRESSURE CURVE
(Based on Indoor Airflow of 400 CFM / Ton)

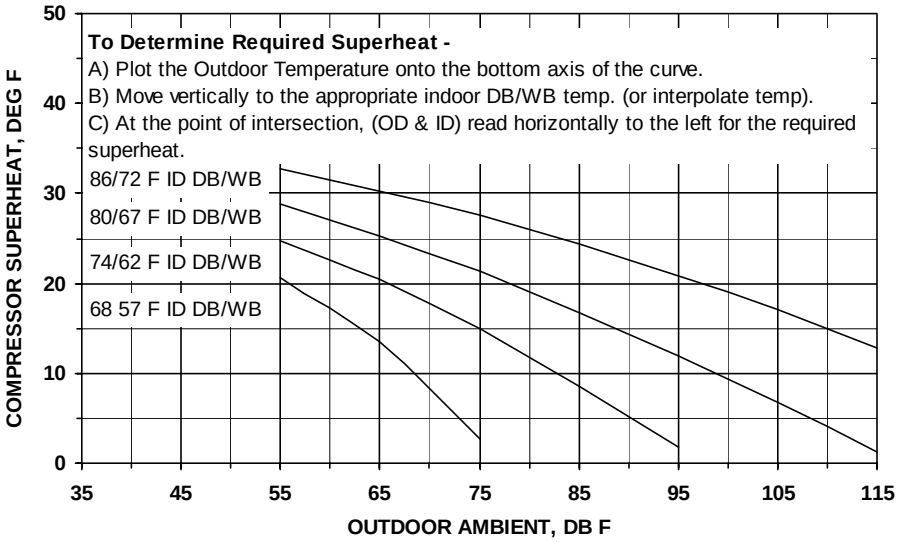


To Check Operating Pressures

1. Start the unit and allow the pressures to stabilize.
2. Measure the indoor DB/WB temperature entering the indoor coil.
3. Measure the outdoor air dry bulb temperature
4. Take discharge and suction pressure readings.
5. Plot the outdoor dry bulb and the indoor DB/WB temperature onto the chart.
6. At the point of intersection, read down for the suction pressure and to the left for the discharge pressure.

Refrigeration Data

SUPERHEAT CHARGING CHART
(Based on Indoor Airflow of 400 CFM / Ton)



1) REFRIGERANT CHARGE - ADD if the superheat is more than 5 F above curve value.
- REDUCE if the superheat is more than 5 F below curve value.
- OK if the superheat is within 5 F of curve value.

2) Do not add refrigerant if the superheat is less than 5 F.
3) Curves are based on 400 CFM/Ton Indoor Airflow @ 50% R.H.
4) System must be running at stablized conditions before measuring superheat.

Mechanical Data

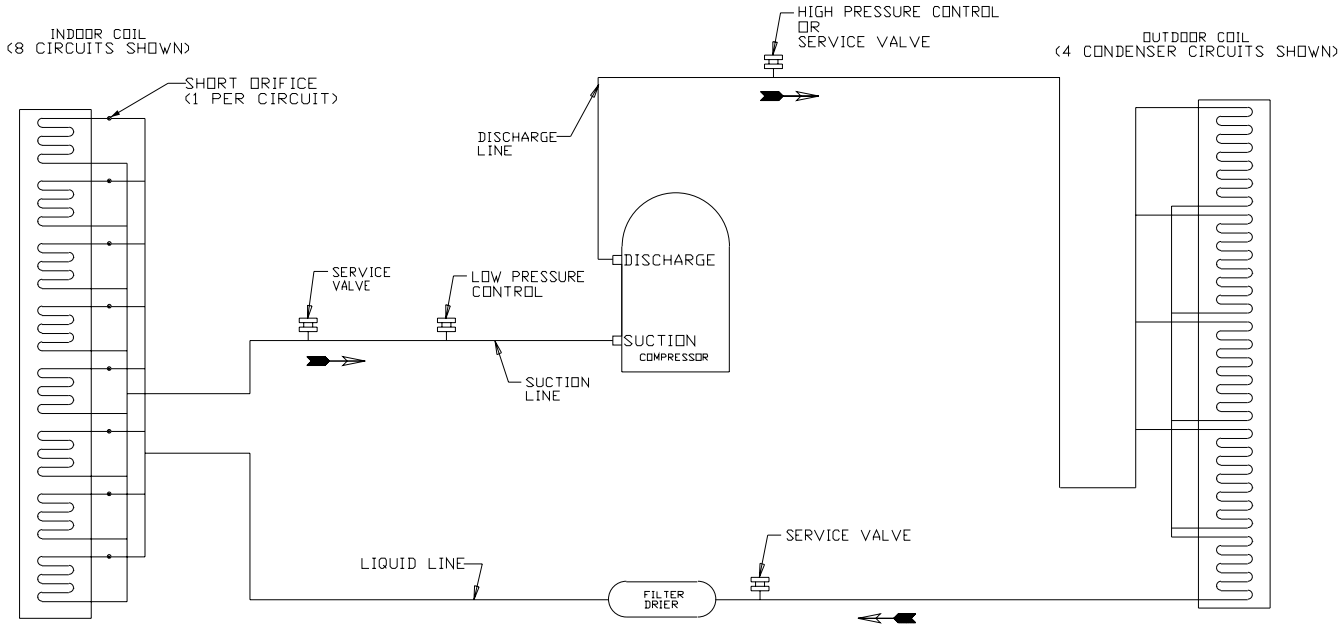
Refrigerant Circuit Diagram

⚠ CAUTION

CONTAINS REFRIGERANT!

SYSTEM CONTAINS OIL AND REFRIGERANT UNDER HIGH PRESSURE. RECOVER REFRIGERANT TO RELIEVE PRESSURE BEFORE OPENING THE SYSTEM.

Failure to follow proper procedures can result in personal illness or injury or severe equipment damage.



UNIT	NO. CIRCUITS INDOOR	NO. CIRCUITS OUTDOOR
YHC036,THC036	8	4
YSC048A1,TSC048A1	10	4
YSC048A3,TSC048A3	9	4
YHC048,THC048	10	6
YSC060,TSC060	12	6
YHC060,THC060	12	7

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