SUPPLEMENTAL CHARGING INFORMATION

R-454B SPLIT SYSTEM HEAT PUMP

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MARNING:

Split System Heat Pumps are shipped charged with R-454B refrigerant and ready for installation. If repairs make it necessary for evacuation and charging, it should only be attempted by qualified trained personnel thoroughly familiar with this equipment. Under no circumstances should the owner attempt to install and/or service this equipment. Failure to comply with this warning could result in property damage, personal injury, or death.

After refrigerant line connections are completed, but BEFORE
the unit's base valves are opened, it is required that you
pressure test with an inert gas, leak check, and evacuate the
indoor section and all line connections (using proper methods)
before finalizing the full system refrigerant charge.

A CAUTION:

The outdoor unit shall be isolated during pressure testing. If at any time the outdoor unit does need to be pressure tested then the pressure must never exceed 450 psig or the compressor may be damaged and the warranty voided.

- When pressure testing the indoor unit and lineset the minimum pressure to be used shall be the maximum allowable pressure on the indoor unit's rating label.
- The refrigerant joints between the lineset and indoor unit, and any other field-made refrigerant joints inside the home or building shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 200 psig. No leak shall be detected.
- Along with typical charging best practices, the following additional requirements shall be followed due to the mildly flammable refrigerant used in this system
 - Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
 - Cylinders shall be kept in an appropriate position according to the instructions.
 - Ensure that the refrigerating system is earthed prior to charging the system with refrigerant
 - Label the system when charging is complete (if not already).
 - Extreme care shall be taken not to overfill the refrigerating system.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.
- Refer to the Quick Reference Data sheet for additional charging information for this unit with the approved Nordyne indoor units. For reference, these units are listed in the AHRI Directory with all approved combinations of indoor coils and units. Installing these outdoor units on systems that combine it with an indoor coil or unit not listed there, is not recommended. When approved combinations of indoor and outdoor units are installed, they should be set up to operate within the airflow and other operational parameters prescribed in all of the units provided instructions and technical specifications.

- Installation of this outdoor unit with other, non-listed indoor unit combinations may require different airflows, expansion devices, charge values and system setup from the instructions provided here and with this unit. Nordyne does not recommend the use of this product in unlisted combinations, and the system performance and efficiency values of unlisted unit combinations may be different than the listed product combinations.
- The refrigerant charge can be checked and adjusted through the service ports provided external to the outdoor unit. Use only gauge sets with hoses which have a "Schrader" depression device present to actuate the valve. A common suction port for heating mode charging is included and located on the compressor access panel above the outdoor unit service valves.
- An automatic high-pressure switch is factory-installed installed in these units and is located on the discharge line after the unit's compressor. This switch is designed to protect the system when very high pressures occur during abnormal conditions. Under normal conditions, the switch is closed. If the system pressure rises to 650 psig, then the switch will open and de-energize the contactor coil in the outdoor unit. The switch will close again once the liquid pressure decreases to 460 psig and allow the unit to restart after a 5 minute short cycle delay.
- A low-pressure switch is factory installed (certain models) and located internally on the suction line of the outdoor unit. The switch is designed to protect the compressor from a loss of charge by interrupting the thermostat inputs to the unit. If the suction pressure falls below 20 psig, the switch will open and de-energize the outdoor unit. The switch will close again when the suction pressure increases above 35 psig. When the switch opens and then closes, there is a 3 minute short cycling delay before the outdoor unit will energize. Under normal conditions the switch is closed.
- NOTE: After completing the charging of the system the final system charge shall be recorded in the appropriate location on the outdoor unit's rating plate.

Charging the Unit in AC mode

If the outdoor temperature is 65 degrees F or higher:

After completing the refrigerant line connections, leak checking the system, and evacuating the indoor section and all line connections (using proper methods), perform the following steps:

- Determine the recommended charge addition (if applicable) for the system being installed. This information is in the unit's QRD (Quick Reference Data sheet).
- 2. Calculate the amount of additional refrigerant needed for the line set length of the actual installation. This information is on the first page of the unit's QRD (Quick Reference Data sheet).
- 3. Weigh in the additional charge amounts determined by step 1 and 2 above.
- 4. Adjust the charge to match the superheat (for fixed orifice systems) or subcooling (for TXV systems). The charging tables are on the inside of the outdoor unit's electrical box cover panel. These tables provide superheat targets for fixed orifice systems and subcooling targets for TXV systems. The system should be charged so that the measured superheat/ subcooling are within 1 degree F of the target listed in the table.

For fixed orifice systems:

- If your measured superheat at the suction valve is LESS THAN the recommended superheat value in the table then REMOVE refrigerant.
- If your measured superheat at the suction valve is GREATER THAN the recommended superheat value in the table then ADD refrigerant.

For TXV systems:

 If your measured subcooling at the liquid valve is LESS THAN the recommended subcooling value in the table then ADD refrigerant. If your measured subcooling at the liquid valve is GREATERTHAN the recommended subcooling value in the table then REMOVE refrigerant.

If the outdoor temperature is between 35 degrees F and 65 degrees F:

After completing the refrigerant line connections, leak checking the system, and evacuating the indoor section and all line connections (using proper methods), perform the following steps:

- 1. Determine the recommended charge addition (if applicable) for the system being installed. This information is in the unit's QRD (Quick Reference Data sheet).
- 2. Calculate the amount of additional refrigerant needed for the line set length of the actual installation. This information is on the first page of the unit's QRD (Quick Reference Data sheet).
- 3. Weigh in the additional charge amounts determined by step 1 and 2 above.
- 4. Block off the discharge of the outdoor fan. **NOTE:** One half of the unit should be covered corner to corner as shown in Figure 1, (page 3).
- With the unit in cooling mode, Adjust the charge to match the superheat (for fixed orifice systems) or subcooling (for TXV systems). There are two different resources for doing this:
 - a.) The chargecalculator.com website. This will walk you through the charging process step by step.
 - b.) The low ambient charging tables on the inside of the outdoor unit's electrical box cover panel. These tables provide superheat targets for fixed orifice systems and subcooling targets for TXV systems. The system should be charged so that the measured superheat/subcooling are within 1 degree F of the target listed in the table.

For fixed orifice systems:

- If your measured superheat at the suction valve is LESS THAN the recommended superheat value in the table then REMOVE refrigerant.
- If your measured superheat at the suction valve is GREATER THAN the recommended superheat value in the table then ADD refrigerant.

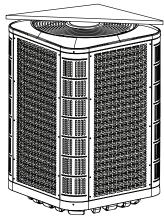
For TXV systems:

- If your measured subcooling at the liquid valve is LESS THAN the recommended subcooling value in the table then ADD refrigerant.
- If your measured subcooling at the liquid valve is GREATER THAN the recommended subcooling value in the table then REMOVE refrigerant

If the outdoor temperature is below 35 degrees F:

After completing the refrigerant line connections, leak checking the system, and evacuating the indoor section and all line connections (using proper methods), perform the following steps:

- 1. Determine the recommended charge addition (if applicable) for the system being installed. This information is in the unit's QRD (Quick Reference Data sheet).
- 2. Calculate the amount of additional refrigerant needed for the line set length of the actual installation. This information is on the first page of the unit's QRD (Quick Reference Data sheet).
- 3. Weigh in the additional charge amounts determined by steps 1 and 2 above.
- 4. Return to the system when the outdoor temperature is 35 degrees F or higher and follow the steps defined in step 4 of the "If the outdoor temperature is between 35 degrees and 65 degrees F" or "If the outdoor temperature is 65 degree F or higher" sections above as applicable.



NOTE: One half of the unit should be covered corner to corner.

Figure 1. Blocked Off Outdoor Fan Discharge

SH4BE5M1SP18K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		II	NDOO	R WE	T-BU	LB TE	MPE	RATU	RE (°F	-)	
1SP	-	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	3.4	3.3	3.0	3.0	3.0	3.0	-	-	-	-	-
	65	5.2	5.0	4.7	4.2	3.7	3.1	3.0	3.0	-	-	-
Į Ž	70	6.6	6.4	6.1	5.6	5.0	4.3	3.6	3.0	3.0	3.0	-
ERA	75	7.9	7.7	7.3	6.8	6.1	5.4	4.6	3.8	3.0	3.0	3.0
MP	80	9.0	8.7	8.3	7.8	7.1	6.3	5.5	4.7	3.8	3.0	3.0
3.75	85	9.8	9.6	9.2	8.6	8.0	7.2	6.4	5.5	4.6	3.7	3.0
J C E	90	10.6	10.4	10.0	9.4	8.8	8.0	7.2	6.3	5.4	4.5	3.6
	95	11.3	11.1	10.7	10.2	9.6	9.3	8.0	7.1	6.2	5.3	4.4
P DH	100	11.9	11.7	11.4	11.0	10.4	9.7	8.9	8.0	7.1	6.2	5.4
206	105	12.5	12.4	12.1	11.7	11.2	10.5	9.8	9.0	8.1	7.3	6.4
OUTDOOR DRY-BULB TEMPERATURE	110	-	13.1	12.9	12.6	12.1	11.5	10.8	10.1	9.3	8.5	7.7
9	115	-	-	13.8	13.5	13.1	12.6	12.0	11.4	10.6	9.9	9.2

	BE5M- P18K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	135.9	188.6
	65	136.6	204.2
TEMPERATURE	70	137.4	221.0
ERA	75	138.2	239.0
MP	80	139.0	258.3
	85	139.8	278.8
DRY-BULB	90	140.6	300.6
H-}.	95	141.4	323.6
	100	142.3	347.8
90	105	143.1	373.3
OUTDOOR	110	144.0	400.0
٥	115	144.8	427.9

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	E5M-	INDOOR WET-BULB TEMPERATURE (°F)										
1SP1	1SP18K		59	61	63	65	67	69	71	73	75	77
₽	35	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
LB TEM- F)	40	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Y-BU	45	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
OR DE	50	4.2	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
OUTDOOR DRY-BULB PERATURE (°F)	55	5.6	4.4	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Or	60	7.3	5.9	4.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 680 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BE5M1SP24K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		II	NDOO	R WE	T-BU	LB TE	MPER	RATU	RE (°F	=)	
1SP2	24K	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	3.4	3.3	3.0	3.0	3.0	3.0	-	-	-	-	-
	65	5.2	5.0	4.7	4.2	3.7	3.1	3.0	3.0	-	-	-
TEMPERATURE	70	6.6	6.4	6.1	5.6	5.0	4.3	3.6	3.0	3.0	3.0	-
ERA	75	7.9	7.7	7.3	6.8	6.1	5.4	4.6	3.8	3.0	3.0	3.0
MP	80	9.0	8.7	8.3	7.8	7.1	6.3	5.5	4.7	3.8	3.0	3.0
	85	9.8	9.6	9.2	8.6	8.0	7.2	6.4	5.5	4.6	3.7	3.0
DRY-BULB	90	10.6	10.4	10.0	9.4	8.8	8.0	7.2	6.3	5.4	4.5	3.6
	95	11.3	11.1	10.7	10.2	9.6	10.0	8.0	7.1	6.2	5.3	4.4
	100	11.9	11.7	11.4	11.0	10.4	9.7	8.9	8.0	7.1	6.2	5.4
900	105	12.5	12.4	12.1	11.7	11.2	10.5	9.8	9.0	8.1	7.3	6.4
OUTDOOR	110	-	13.1	12.9	12.6	12.1	11.5	10.8	10.1	9.3	8.5	7.7
<u>و</u>	115	-	-	13.8	13.5	13.1	12.6	12.0	11.4	10.6	9.9	9.2

	BE5M- P24K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
Ĵ.	60	130.4	191.8
} } }	65	130.9	207.7
Į Ž	70	131.5	225.0
TEMPERATURE (°F)	75	132.2	243.7
MP	80	133.0	263.9
	85	133.8	285.4
<u> </u>	90	134.8	308.4
B- 	95	135.8	332.9
- E	100	137.0	358.7
OUTDOOR DRY-BULB	105	138.2	386.0
Ĕ	110	139.5	414.7
0	115	140.8	444.9

- -Subcooling tolerance is ± 1°F
- -Boxed data point is the performance rated condition
- -The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set
- -The data provided is from a system operating at 805 SCFM
- -Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4BI	E5M-	INDOOR WET-BULB TEMPERATURE (°F)										
	1SP24K		59	61	63	65	67	69	71	73	75	77
- ₩	35	4.7	4.7	4.8	5.0	5.4	5.8	6.4	7.1	8.0	8.9	10.0
LB TEM- F)	40	4.1	3.8	3.7	3.7	3.8	4.1	4.4	4.9	5.5	6.3	7.1
OOR DRY-BULB PERATURE (°F)	45	3.7	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.4	3.9	4.5
OR DE	50	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
OUTDOOR DRY-BULB PERATURE (°F)	55	3.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Of	60	4.5	3.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

- -Subcooling tolerance is ± 1°F
- -Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BE5M1SP30K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		II	NDOO	R WE	T-BU	LB TE	MPE	RATU	RE (°F	=)	
1SP3	-	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	5.9	5.8	5.5	5.2	4.7	4.2	-	-	-	-	-
	65	7.7	7.5	7.2	6.7	6.2	5.6	4.9	4.2	-	-	-
TUL	70	9.1	8.9	8.6	8.1	7.5	6.8	6.1	5.3	4.5	3.7	-
ERA	75	10.4	10.2	9.8	9.3	8.6	7.9	7.1	6.3	5.4	4.6	3.8
MPI	80	11.5	11.2	10.8	10.3	9.6	8.8	8.0	7.2	6.3	5.4	4.6
3 TE	85	12.3	12.1	11.7	11.1	10.5	9.7	8.9	8.0	7.1	6.2	5.3
ULE	90	13.1	12.9	12.5	11.9	11.3	10.5	9.7	8.8	7.9	7.0	6.1
 \ \	95	13.8	13.6	13.2	12.7	12.1	11.2	10.5	9.6	8.7	7.8	6.9
DB *	100	14.4	14.2	13.9	13.5	12.9	12.2	11.4	10.5	9.6	8.7	7.9
OUTDOOR DRY-BULB TEMPERATURE	105	15.0	14.9	14.6	14.2	13.7	13.0	12.3	11.5	10.6	9.8	8.9
)TI	110	-	15.6	15.4	15.1	14.6	14.0	13.3	12.6	11.8	11.0	10.2
ار م	115	-	-	16.3	16.0	15.6	15.1	14.5	13.9	13.1	12.4	11.7

	BE5M- 230K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	126.4	196.8
3E (65	127.5	212.9
DRY-BULB TEMPERATURE	70	128.6	230.4
ERA	75	129.7	249.4
MP	80	130.7	269.9
3 TE	85	131.8	291.9
ULE	90	132.9	315.3
.Y-B	95	133.9	340.2
NO N	100	135.0	366.5
00F	105	136.0	394.3
OUTDOOR	110	137.1	423.6
OL	115	138.1	454.4

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	E5M-	INDOOR WET-BULB TEMPERATURE (°F)										
1SP3	1SP30K		59	61	63	65	67	69	71	73	75	77
₽	35	4.6	4.7	4.9	5.0	5.2	5.3	5.4	5.6	5.7	5.9	6.0
LB TEM- F)	40	5.3	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.5
Y-BU	45	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2
OR DE	50	7.4	7.2	7.0	6.7	6.5	6.3	6.1	5.8	5.6	5.4	5.2
OUTDOOR DRY-BULB PERATURE (°F)	55	8.9	8.6	8.2	7.9	7.5	7.2	6.9	6.5	6.2	5.9	5.5
010	60	10.8	10.3	9.8	9.3	8.9	8.4	8.0	7.5	7.0	6.6	6.1

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 965 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BE5M1SP36K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		II	NDOO	R WE	T-BU	LB TE	MPER	RATU	RE (°F	=)	
1SP:		57	59	61	63	65	67	69	71	73	75	77
(°F)	60	5.6	5.5	5.2	4.9	4.4	3.9	-	-	-	-	-
	65	7.4	7.2	6.9	6.4	5.9	5.3	4.6	3.9	-	-	-
Į Ž	70	8.8	8.6	8.3	7.8	7.2	6.5	5.8	5.0	4.2	3.4	-
TEMPERATURE	75	10.1	9.9	9.5	9.0	8.3	7.6	6.8	6.0	5.1	4.3	3.5
MP	80	11.2	10.9	10.5	10.0	9.3	8.5	7.7	6.9	6.0	5.1	4.3
	85	12.0	11.8	11.4	10.8	10.2	9.4	8.6	7.7	6.8	5.9	5.0
DRY-BULB	90	12.8	12.6	12.2	11.6	11.0	10.2	9.4	8.5	7.6	6.7	5.8
	95	13.5	13.3	12.9	12.4	11.8	10.4	10.2	9.3	8.4	7.5	6.6
	100	14.1	13.9	13.6	13.2	12.6	11.9	11.1	10.2	9.3	8.4	7.6
900	105	14.7	14.6	14.3	13.9	13.4	12.7	12.0	11.2	10.3	9.5	8.6
OUTDOOR	110	-	15.3	15.1	14.8	14.3	13.7	13.0	12.3	11.5	10.7	9.9
<u>م</u>	115	-	-	16.0	15.7	15.3	14.8	14.2	13.6	12.8	12.1	11.4

	BE5M- P36K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	132.4	199.6
) JE (65	133.3	216.8
TEMPERATURE	70	134.1	235.3
ERA	75	135.0	255.3
MP	80	135.8	276.5
	85	136.7	299.2
DRY-BULB	90	137.5	323.3
H-}.	95	138.4	348.7
	100	139.3	375.5
OUTDOOR	105	140.2	403.7
Ĕ	110	141.1	433.2
00	115	141.9	464.1

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	E5M-	INDOOR WET-BULB TEMPERATURE (°F)											
	1SP36K		59	61	63	65	67	69	71	73	75	77	
₽	35	10.4	10.3	10.2	10.2	10.1	10.0	10.0	9.9	9.8	9.8	9.7	
LB TEM- F)	40	10.5	10.2	9.8	9.5	9.1	8.8	8.4	8.1	7.8	7.4	7.1	
Y-BU	45	11.0	10.4	9.8	9.2	8.5	7.9	7.3	6.7	6.1	5.5	4.8	
OR DE	50	12.0	11.1	10.2	9.3	8.4	7.5	6.6	5.7	4.8	3.9	3.0	
OUTDOOR DRY-BULB PERATURE (°F)	55	13.3	12.1	11.0	9.8	8.6	7.4	6.3	5.1	3.9	3.0	3.0	
0	60	15.1	13.6	12.2	10.7	9.3	7.8	6.4	4.9	3.5	3.0	3.0	

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1160 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BE5M1SP42K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		II	NDOO	R WE	T-BU	LB TE	MPE	RATU	RE (°F	=)	
1SP4	-	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	5.1	4.2	3.4	3.0	3.1	4.0	-	-	-	-	-
	65	7.6	6.7	5.8	5.2	5.0	5.6	7.0	9.5	-	-	-
Į,	70	9.6	8.7	7.7	7.0	6.6	6.9	7.9	10.0	13.4	18.1	-
DRY-BULB TEMPERATURE	75	11.2	10.3	9.3	8.4	7.9	7.9	8.7	10.4	13.2	17.5	23.3
MP	80	12.3	11.5	10.5	9.6	8.9	8.7	9.2	10.5	13.0	16.7	21.9
3.75	85	13.1	12.4	11.5	10.5	9.8	9.4	9.6	10.6	12.7	15.9	20.6
J C E	90	13.5	13.0	12.2	11.2	10.4	9.9	9.9	10.7	12.3	15.2	19.3
	95	13.7	13.4	12.7	11.8	11.0	10.1	10.2	10.7	12.0	14.5	18.2
P DH	100	13.6	13.5	13.0	12.2	11.4	10.7	10.5	10.7	11.8	13.9	17.2
00	105	13.4	13.6	13.2	12.6	11.8	11.1	10.8	10.9	11.7	13.5	16.4
OUTDOOR	110	-	13.5	13.4	12.9	12.2	11.6	11.2	11.2	11.8	13.3	15.9
ا ا	115	-	-	13.5	13.3	12.7	12.1	11.7	11.6	12.1	13.3	15.6

_	3E5M- P42K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	133.8	197.6
3E (65	133.8	213.5
TEMPERATURE	70	134.0	230.7
ERA	75	134.2	249.3
MP	80	134.6	269.2
3 TE	85	135.1	290.5
ULE	90	135.8	313.1
l.Y-B	95	136.6	337.0
3 DF	100	137.5	362.3
00F	105	138.6	389.0
OUTDOOR DRY-BULB	110	139.8	417.0
OL	115	141.1	446.3

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4BI	E5M-	INDOOR WET-BULB TEMPERATURE (°F)											
	1SP42K		59	61	63	65	67	69	71	73	75	77	
- ₩	35	15.4	15.4	15.5	15.8	16.1	16.6	17.2	17.9	18.7	19.7	20.7	
LB TEM- F)	40	14.8	14.6	14.5	14.5	14.6	14.8	15.2	15.7	16.3	17.0	17.9	
YY-BU	45	14.5	14.0	13.7	13.5	13.4	13.4	13.5	13.8	14.2	14.7	15.3	
OR DF	50	14.4	13.8	13.2	12.7	12.4	12.2	12.1	12.2	12.3	12.6	13.0	
OUTDOOR DRY-BULB PERATURE (°F)	55	14.7	13.8	13.0	12.3	11.8	11.4	11.1	10.9	10.8	10.9	11.0	
Of	60	15.3	14.1	13.1	12.2	11.5	10.8	10.3	9.9	9.6	9.4	9.3	

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1385 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BE5M1SP48K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		II	NDOO	R WE	T-BU	LB TE	MPER	RATU	RE (°F	=)	
1SP4	18K	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	4.4	4.3	4.0	3.7	3.2	3.0	-	-	-	-	-
	65	6.2	6.0	5.7	5.2	4.7	4.1	3.4	3.0	-	-	-
TEMPERATURE	70	7.6	7.4	7.1	6.6	6.0	5.3	4.6	3.8	3.0	3.0	-
ERA	75	8.9	8.7	8.3	7.8	7.1	6.4	5.6	4.8	3.9	3.1	3.0
MP	80	10.0	9.7	9.3	8.8	8.1	7.3	6.5	5.7	4.8	3.9	3.1
	85	10.8	10.6	10.2	9.6	9.0	8.2	7.4	6.5	5.6	4.7	3.8
DRY-BULB	90	11.6	11.4	11.0	10.4	9.8	9.0	8.2	7.3	6.4	5.5	4.6
	95	12.3	12.1	11.7	11.2	10.6	9.9	9.0	8.1	7.2	6.3	5.4
	100	12.9	12.7	12.4	12.0	11.4	10.7	9.9	9.0	8.1	7.2	6.4
20F	105	13.5	13.4	13.1	12.7	12.2	11.5	10.8	10.0	9.1	8.3	7.4
OUTDOOR	110	-	14.1	13.9	13.6	13.1	12.5	11.8	11.1	10.3	9.5	8.7
<u>م</u>	115	-	-	14.8	14.5	14.1	13.6	13.0	12.4	11.6	10.9	10.2

	BE5M- P48K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	129.9	199.5
) JE (65	130.7	215.8
TEMPERATURE	70	131.4	233.4
ERA	75	132.2	252.3
MP	80	132.9	272.7
	85	133.7	294.3
DRY-BULB	90	134.4	317.3
B- 	95	135.2	341.7
	100	135.9	367.5
OUTDOOR	105	136.7	394.5
Ĕ	110	137.4	423.0
٥	115	138.2	452.8

- -Subcooling tolerance is ± 1°F
- -Boxed data point is the performance rated condition
- -The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set
- -The data provided is from a system operating at 1505 SCFM
- -Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4BI	E5M-	INDOOR WET-BULB TEMPERATURE (°F)												
	1SP48K		59	61	63	65	67	69	71	73	75	77		
- ₩	35	9.6	9.5	9.5	9.4	9.3	9.3	9.2	9.1	9.1	9.0	9.0		
LB TEM- F)	40	9.8	9.4	9.1	8.7	8.4	8.0	7.7	7.3	7.0	6.7	6.3		
OOR DRY-BULB PERATURE (°F)	45	10.3	9.7	9.0	8.4	7.8	7.2	6.6	5.9	5.3	4.7	4.1		
OR DE	50	11.2	10.3	9.4	8.5	7.6	6.7	5.8	4.9	4.0	3.2	3.0		
OUTDOOR DRY-BULB PERATURE (°F)	55	12.6	11.4	10.2	9.0	7.9	6.7	5.5	4.3	3.2	3.0	3.0		
Of	60	14.3	12.9	11.4	10.0	8.5	7.1	5.6	4.2	3.0	3.0	3.0		

- -Subcooling tolerance is ± 1°F
- -Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BE5M2SX60K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	E5M-		IN	IDOO	R WE	T-BUL	B TE	MPER	ATUF	RE (°F)	
2SX		57	59	61	63	65	67	69	71	73	75	77
(°F)	60	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-	-	-
	65	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-
TUL	70	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-
TEMPERATURE	75	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MPI	80	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3 TE	85	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
DRY-BULB	90	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
 \ Y-B	95	3.2	3.2	3.1	3.1	3.0	3.6	3.0	3.0	3.0	3.0	3.0
OB .	100	3.8	3.7	3.7	3.6	3.5	3.4	3.3	3.2	3.0	3.0	3.0
900	105	4.5	4.5	4.4	4.3	4.2	4.1	4.0	3.8	3.7	3.5	3.4
OUTDOOR	110	-	5.5	5.4	5.3	5.2	5.1	4.9	4.8	4.6	4.4	4.2
<u>م</u>	115	-	-	6.8	6.7	6.6	6.4	6.3	6.1	5.9	5.7	5.4

_	3E5M- (60K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
°F)	60	122.5	201.5
3E (65	124.1	218.4
TUT	70	125.7	236.4
ERA	75	127.1	255.6
MP	80	128.5	276.0
3 TE	85	129.7	297.6
ULE	90	130.9	320.4
H-Y!	95	132.0	344.4
DB *	100	133.1	369.5
00F	105	134.0	395.9
OUTDOOR DRY-BULB TEMPERATURE (°F)	110	134.9	423.4
0	115	135.6	452.1

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	E5M-		INDOOR WET-BULB TEMPERATURE (°F)											
2SX6		57	59	61	63	65	67	69	71	73	75	77		
-	35	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
LB TEM- F)	40	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
OOR DRY-BULB PERATURE (°F)	45	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
OR DE	50	4.2	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
OUTDOOR DRY-BULB PERATURE (°F)	55	5.6	4.4	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Or	60	7.3	5.9	4.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 2010 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4ME5M1SP24K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)													
1SP2		57	59	61	63	65	67	69	71	73	75	77			
(°F)	60	4.1	3.2	3.0	3.0	3.0	3.0	-	-	-	-	-			
	65	6.6	5.7	4.8	4.2	4.0	4.6	6.0	8.5	-	-	-			
TEMPERATURE	70	8.6	7.7	6.7	6.0	5.6	5.9	6.9	9.0	12.4	17.1	-			
ERA	75	10.2	9.3	8.3	7.4	6.9	6.9	7.7	9.4	12.2	16.5	22.3			
MP	80	11.3	10.5	9.5	8.6	7.9	7.7	8.2	9.5	12.0	15.7	20.9			
3.1	85	12.1	11.4	10.5	9.5	8.8	8.4	8.6	9.6	11.7	14.9	19.6			
, CE	90	12.5	12.0	11.2	10.2	9.4	8.9	8.9	9.7	11.3	14.2	18.3			
_ `	95	12.7	12.4	11.7	10.8	10.0	8.9	9.2	9.7	11.0	13.5	17.2			
DH ~	100	12.6	12.5	12.0	11.2	10.4	9.7	9.5	9.7	10.8	12.9	16.2			
906	105	12.4	12.6	12.2	11.6	10.8	10.1	9.8	9.9	10.7	12.5	15.4			
OUTDOOR DRY-BULB	110	-	12.5	12.4	11.9	11.2	10.6	10.2	10.2	10.8	12.3	14.9			
<u>م</u>	115	-	-	12.5	12.3	11.7	11.1	10.7	10.6	11.1	12.3	14.6			

	ЛЕ5М- Р24К	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	131.4	193.3
3E (65	132.3	210.6
TUT	70	133.3	228.8
ERA	75	134.2	248.1
MP	80	135.1	268.4
3 TE	85	136.0	289.7
ULE	90	136.8	312.0
l.Y-B	95	137.6	335.3
3 DF	100	138.4	359.7
OUTDOOR DRY-BULB TEMPERATURE	105	139.1	385.0
) TI	110	139.9	411.4
OL	115	140.5	438.8

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)											
1SP2	24K	57	59	61	63	65	67	69	71	73	75	77	
	35	3.6	3.7	3.7	3.6	3.5	3.3	3.1	3.0	3.0	3.0	3.0	
LB TEM- F)	40	4.2	4.2	4.1	3.9	3.7	3.4	3.1	3.0	3.0	3.0	3.0	
OOR DRY-BULB PERATURE (°F)	45	5.1	5.0	4.8	4.5	4.2	3.8	3.4	3.0	3.0	3.0	3.0	
OR DE	50	6.4	6.1	5.8	5.5	5.1	4.6	4.0	3.4	3.0	3.0	3.0	
OUTDOOR DRY-BULB PERATURE (°F)	55	8.0	7.6	7.2	6.8	6.3	5.7	5.0	4.3	3.5	3.0	3.0	
0	60	9.9	9.4	8.9	8.4	7.8	7.1	6.3	5.5	4.6	3.7	3.0	

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 885 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4ME5M1SP30K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4M	E5M-		II	NDOC	R WE	T-BU	LB TE	MPE	RATU	RE (°I	=)	
1SP:		57	59	61	63	65	67	69	71	73	75	77
(°F)	60	4.1	3.2	3.0	3.0	3.0	3.0	-	-	-	-	-
	65	6.6	5.7	4.8	4.2	4.0	4.6	6.0	8.5	-	-	-
DRY-BULB TEMPERATURE	70	8.6	7.7	6.7	6.0	5.6	5.9	6.9	9.0	12.4	17.1	-
ERA	75	10.2	9.3	8.3	7.4	6.9	6.9	7.7	9.4	12.2	16.5	22.3
MP	80	11.3	10.5	9.5	8.6	7.9	7.7	8.2	9.5	12.0	15.7	20.9
3.75	85	12.1	11.4	10.5	9.5	8.8	8.4	8.6	9.6	11.7	14.9	19.6
J.	90	12.5	12.0	11.2	10.2	9.4	8.9	8.9	9.7	11.3	14.2	18.3
_ \	95	12.7	12.4	11.7	10.8	10.0	10.1	9.2	9.7	11.0	13.5	17.2
DH Z	100	12.6	12.5	12.0	11.2	10.4	9.7	9.5	9.7	10.8	12.9	16.2
906	105	12.4	12.6	12.2	11.6	10.8	10.1	9.8	9.9	10.7	12.5	15.4
OUTDOOR	110	-	12.5	12.4	11.9	11.2	10.6	10.2	10.2	10.8	12.3	14.9
ا ا	115	-	-	12.5	12.3	11.7	11.1	10.7	10.6	11.1	12.3	14.6

_	ИЕ5М- Р30К	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	131.1	197.7
3E (65	132.3	214.9
TUT	70	133.5	233.3
TEMPERATURE	75	134.6	252.9
MP	80	135.7	273.6
3 TE	85	136.6	295.6
ULE	90	137.5	318.7
l.Y-B	95	138.3	343.0
OF S	100	139.0	368.6
00F	105	139.6	395.3
OUTDOOR DRY-BULB	110	140.2	423.2
00	115	140.6	452.3

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)											
1SP3	30K	57	59	61	63	65	67	69	71	73	75	77	
₽	35	8.6	8.7	8.9	9.0	9.2	9.3	9.4	9.6	9.7	9.9	10.0	
LB TEM- F)	40	9.3	9.3	9.3	9.3	9.3	9.3	9.4	9.4	9.4	9.4	9.5	
OOR DRY-BULB PERATURE (°F)	45	10.2	10.1	10.0	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.2	
OR DE	50	11.4	11.2	11.0	10.7	10.5	10.3	10.1	9.8	9.6	9.4	9.2	
OUTDOOR DRY-BULB PERATURE (°F)	55	12.9	12.6	12.2	11.9	11.5	11.2	10.9	10.5	10.2	9.9	9.5	
0	60	14.8	14.3	13.8	13.3	12.9	12.4	12.0	11.5	11.0	10.6	10.1	

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1095 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

SH4ME5M1SP36K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)												
1SP3		57	59	61	63	65	67	69	71	73	75	77		
(°F)	60	3.1	3.0	3.0	3.0	3.0	3.0	-	-	-	-	-		
	65	5.6	4.7	3.8	3.2	3.0	3.6	5.0	7.5	-	-	-		
TUL	70	7.6	6.7	5.7	5.0	4.6	4.9	5.9	8.0	11.4	16.1	-		
ERA	75	9.2	8.3	7.3	6.4	5.9	5.9	6.7	8.4	11.2	15.5	21.3		
MPI	80	10.3	9.5	8.5	7.6	6.9	6.7	7.2	8.5	11.0	14.7	19.9		
3 TE	85	11.1	10.4	9.5	8.5	7.8	7.4	7.6	8.6	10.7	13.9	18.6		
ULE	90	11.5	11.0	10.2	9.2	8.4	7.9	7.9	8.7	10.3	13.2	17.3		
 \ \	95	11.7	11.4	10.7	9.8	9.0	9.0	8.2	8.7	10.0	12.5	16.2		
DB *	100	11.6	11.5	11.0	10.2	9.4	8.7	8.5	8.7	9.8	11.9	15.2		
JOF	105	11.4	11.6	11.2	10.6	9.8	9.1	8.8	8.9	9.7	11.5	14.4		
OUTDOOR DRY-BULB TEMPERATURE	110	-	11.5	11.4	10.9	10.2	9.6	9.2	9.2	9.8	11.3	13.9		
O	115	-	-	11.5	11.3	10.7	10.1	9.7	9.6	10.1	11.3	13.6		

	ИЕ5М- Р36К	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
°F)	60	126.1	194.0
3E (65	127.0	211.4
TUT	70	128.0	229.9
ERA	75	128.9	249.4
MP	80	129.9	269.9
3 TE	85	130.9	291.5
ULE	90	131.8	314.1
l.Y-B	95	132.8	337.8
DR 1	100	133.7	362.5
OUTDOOR DRY-BULB TEMPERATURE (°F)	105	134.7	388.2
) TI	110	135.7	414.9
00	115	136.6	442.7

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)											
1SP3	36K	57	59	61	63	65	67	69	71	73	75	77	
\	35	3.8	3.9	3.9	3.8	3.7	3.5	3.3	3.0	3.0	3.0	3.0	
LB TEM- F)	40	4.4	4.4	4.3	4.1	3.9	3.6	3.3	3.0	3.0	3.0	3.0	
γγ-BU JRE (°	OUTDOOR DRY-BULB PERATURE (°F) 20 22 40 40 40		5.2	5.0	4.7	4.4	4.0	3.6	3.1	3.0	3.0	3.0	
OR DF	50	6.6	6.3	6.0	5.7	5.3	4.8	4.2	3.6	3.0	3.0	3.0	
лтрос РЕ	55	8.2	7.8	7.4	7.0	6.5	5.9	5.2	4.5	3.7	3.0	3.0	
O	60	10.1	9.6	9.1	8.6	8.0	7.3	6.5	5.7	4.8	3.9	3.0	

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1100 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)													
1SP4	-	57	59	61	63	65	67	69	71	73	75	77			
(°F)	60	3.6	3.0	3.0	3.0	3.0	3.0	-	-	-	-	-			
	65	6.1	5.2	4.3	3.7	3.5	4.1	5.5	8.0	-	-	-			
TUL	70	8.1	7.2	6.2	5.5	5.1	5.4	6.4	8.5	11.9	16.6	-			
ERA	75	9.7	8.8	7.8	6.9	6.4	6.4	7.2	8.9	11.7	16.0	21.8			
MPI	80	10.8	10.0	9.0	8.1	7.4	7.2	7.7	9.0	11.5	15.2	20.4			
3 TE	85	11.6	10.9	10.0	9.0	8.3	7.9	8.1	9.1	11.2	14.4	19.1			
ULE	90	12.0	11.5	10.7	9.7	8.9	8.4	8.4	9.2	10.8	13.7	17.8			
 \ Y-B	95	12.2	11.9	11.2	10.3	9.5	9.8	8.7	9.2	10.5	13.0	16.7			
OB .	100	12.1	12.0	11.5	10.7	9.9	9.2	9.0	9.2	10.3	12.4	15.7			
900	105	11.9	12.1	11.7	11.1	10.3	9.6	9.3	9.4	10.2	12.0	14.9			
OUTDOOR DRY-BULB TEMPERATURE	110	-	12.0	11.9	11.4	10.7	10.1	9.7	9.7	10.3	11.8	14.4			
Ou	115	-	-	12.0	11.8	11.2	10.6	10.2	10.1	10.6	11.8	14.1			

	ИЕ5М- Р42К	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	128.7	190.0
3E (65	129.9	207.0
TUT	70	131.0	225.1
DRY-BULB TEMPERATURE	75	132.2	244.4
MP	80	133.3	264.8
3 TE	85	134.3	286.2
ULE	90	135.3	308.9
 \ \	95	136.3	332.6
DB =	100	137.2	357.4
) 30F	105	138.1	383.4
OUTDOOR	110	139.0	410.5
no	115	139.8	438.7

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)											
1SP4	-	57	59	61	63	65	67	69	71	73	75	77	
	35	10.3	10.2	10.2	10.1	10.0	10.0	9.9	9.8	9.8	9.7	9.7	
LB TEM- F)	40	10.5	10.1	9.8	9.4	9.1	8.7	8.4	8.0	7.7	7.4	7.0	
OOR DRY-BULB PERATURE (°F)	45	11.0	10.4	9.7	9.1	8.5	7.9	7.3	6.6	6.0	5.4	4.8	
OR DE	50	11.9	11.0	10.1	9.2	8.3	7.4	6.5	5.6	4.7	3.9	3.0	
OUTDOOR DRY-BULB PERATURE (°F)	55	13.3	12.1	10.9	9.7	8.6	7.4	6.2	5.0	3.9	3.0	3.0	
0	60	15.0	13.6	12.1	10.7	9.2	7.8	6.3	4.9	3.4	3.0	3.0	

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1335 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4ME5M1SP48K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4M	E5M-	INDOOR WET-BULB TEMPERATURE (°F)													
1SP4	I8K	57	59	61	63	65	67	69	71	73	75	77			
(°F)	60	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-	-	-			
	65	5.5	4.6	3.7	3.1	3.0	3.5	4.9	7.4	-	-	-			
TUL	70	7.5	6.6	5.6	4.9	4.5	4.8	5.8	7.9	11.3	16.0	-			
TEMPERATURE	75	9.1	8.2	7.2	6.3	5.8	5.8	6.6	8.3	11.1	15.4	21.2			
MP	80	10.2	9.4	8.4	7.5	6.8	6.6	7.1	8.4	10.9	14.6	19.8			
3 TE	85	11.0	10.3	9.4	8.4	7.7	7.3	7.5	8.5	10.6	13.8	18.5			
ULE	90	11.4	10.9	10.1	9.1	8.3	7.8	7.8	8.6	10.2	13.1	17.2			
 - 	95	11.6	11.3	10.6	9.7	8.9	7.5	8.1	8.6	9.9	12.4	16.1			
DH .	100	11.5	11.4	10.9	10.1	9.3	8.6	8.4	8.6	9.7	11.8	15.1			
00	105	11.3	11.5	11.1	10.5	9.7	9.0	8.7	8.8	9.6	11.4	14.3			
OUTDOOR DRY-BULB	110	-	11.4	11.3	10.8	10.1	9.5	9.1	9.1	9.7	11.2	13.8			
OL	115	-	-	11.4	11.2	10.6	10.0	9.6	9.5	10.0	11.2	13.5			

•	ME5M- P48K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	120.7	193.1
) JE (65	122.3	210.8
Į į	70	123.9	229.6
TEMPERATURE	75	125.3	249.4
MP	80	126.7	270.3
	85	128.0	292.2
Į į	90	129.2	315.2
DRY-BULB	95	130.3	339.3
	100	131.4	364.4
OUTDOOR	105	132.4	390.6
Ē	110	133.3	417.9
ا ا	115	134.2	446.2

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4M	E5M-			INDO	OR WE	ET-BU	LB TE	MPER	ATUR	RE (°F)		
1SP4	18K	57	59	61	63	65	67	69	71	73	75	77
₽	35	8.3	8.4	8.6	8.7	8.9	9.0	9.1	9.3	9.4	9.6	9.7
LB TEM- F)	40	9.0	9.0	9.0	9.0	9.0	9.0	9.1	9.1	9.1	9.1	9.2
OOR DRY-BULB PERATURE (°F)	45	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1	9.0	8.9
OR DE	50	11.1	10.9	10.7	10.4	10.2	10.0	9.8	9.5	9.3	9.1	8.9
OUTDOOR DRY-BULB PERATURE (°F)	55	12.6	12.3	11.9	11.6	11.2	10.9	10.6	10.2	9.9	9.6	9.2
0	60	14.5	14.0	13.5	13.0	12.6	12.1	11.7	11.2	10.7	10.3	9.8

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1395 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

SH4BF5M2SX24K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	F5M-	INDOOR WET-BULB TEMPERATURE (°F)												
2SX2	-	57	59	61	63	65	67	69	71	73	75	77		
(°F)	60	6.9	6.8	6.5	6.2	5.7	5.2	-	-	-	-	-		
	65	8.7	8.5	8.2	7.7	7.2	6.6	5.9	5.2	-	-	-		
TUT	70	10.1	9.9	9.6	9.1	8.5	7.8	7.1	6.3	5.5	4.7	-		
TEMPERATURE	75	11.4	11.2	10.8	10.3	9.6	8.9	8.1	7.3	6.4	5.6	4.8		
MPE	80	12.5	12.2	11.8	11.3	10.6	9.8	9.0	8.2	7.3	6.4	5.6		
	85	13.3	13.1	12.7	12.1	11.5	10.7	9.9	9.0	8.1	7.2	6.3		
DRY-BULB	90	14.1	13.9	13.5	12.9	12.3	11.5	10.7	9.8	8.9	8.0	7.1		
	95	14.8	14.6	14.2	13.7	13.1	12.4	11.5	10.6	9.7	8.8	7.9		
	100	15.4	15.2	14.9	14.5	13.9	13.2	12.4	11.5	10.6	9.7	8.9		
OUTDOOR	105	16.0	15.9	15.6	15.2	14.7	14.0	13.3	12.5	11.6	10.8	9.9		
DOT	110	-	16.6	16.4	16.1	15.6	15.0	14.3	13.6	12.8	12.0	11.2		
00	115	-	-	17.3	17.0	16.6	16.1	15.5	14.9	14.1	13.4	12.7		

	BF5M- (24K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
(°F)	60	139.3	195.6
3E (65	139.7	211.5
TEMPERATURE	70	140.1	228.9
ERA	75	140.6	247.7
MP	80	141.1	268.0
	85	141.8	289.7
	90	142.5	312.8
DRY-BULB	95	143.3	337.4
	100	144.2	363.4
OUTDOOR	105	145.1	390.9
Ĕ	110	146.1	419.8
<u>م</u>	115	147.2	450.1

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	F5M-	INDOOR WET-BULB TEMPERATURE (°F)												
2SX2		57	59	61	63	65	67	69	71	73	75	77		
- ₩	35	5.6	5.7	5.9	6.0	6.2	6.3	6.4	6.6	6.7	6.9	7.0		
LB TEM- F)	40	6.3	6.3	6.3	6.3	6.3	6.3	6.4	6.4	6.4	6.4	6.5		
OOR DRY-BULB PERATURE (°F)	45	7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2		
OR DE	50	8.4	8.2	8.0	7.7	7.5	7.3	7.1	6.8	6.6	6.4	6.2		
OUTDOOR DRY-BULB PERATURE (°F)	55	9.9	9.6	9.2	8.9	8.5	8.2	7.9	7.5	7.2	6.9	6.5		
Of	60	11.8	11.3	10.8	10.3	9.9	9.4	9.0	8.5	8.0	7.6	7.1		

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 855 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

SH4BF5M2SX36K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	F5M-	INDOOR WET-BULB TEMPERATURE (°F)												
2SX	-	57	59	61	63	65	67	69	71	73	75	77		
(°F)	60	4.4	4.3	4.0	3.7	3.2	3.0	-	-	-	-	-		
	65	6.2	6.0	5.7	5.2	4.7	4.1	3.4	3.0	-	-	-		
TEMPERATURE	70	7.6	7.4	7.1	6.6	6.0	5.3	4.6	3.8	3.0	3.0	-		
ERA	75	8.9	8.7	8.3	7.8	7.1	6.4	5.6	4.8	3.9	3.1	3.0		
M	80	10.0	9.7	9.3	8.8	8.1	7.3	6.5	5.7	4.8	3.9	3.1		
	85	10.8	10.6	10.2	9.6	9.0	8.2	7.4	6.5	5.6	4.7	3.8		
J C E	90	11.6	11.4	11.0	10.4	9.8	9.0	8.2	7.3	6.4	5.5	4.6		
DRY-BULB	95	12.3	12.1	11.7	11.2	10.6	9.5	9.0	8.1	7.2	6.3	5.4		
	100	12.9	12.7	12.4	12.0	11.4	10.7	9.9	9.0	8.1	7.2	6.4		
90	105	13.5	13.4	13.1	12.7	12.2	11.5	10.8	10.0	9.1	8.3	7.4		
OUTDOOR	110	-	14.1	13.9	13.6	13.1	12.5	11.8	11.1	10.3	9.5	8.7		
ا ا	115	-	-	14.8	14.5	14.1	13.6	13.0	12.4	11.6	10.9	10.2		

	3F5M- (36K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
Ĵ.	60	133.8	209.3
) JE (65	134.5	226.6
Į Ž	70	135.1	245.3
TEMPERATURE (°F)	75	135.9	265.2
MP	80	136.6	286.3
	85	137.4	308.8
<u> </u>	90	138.2	332.5
B- 	95	139.1	357.5
- BB	100	139.9	383.7
OUTDOOR DRY-BULB	105	140.8	411.3
Ē	110	141.8	440.1
5	115	142.7	470.1

- -Subcooling tolerance is ± 1°F
- -Boxed data point is the performance rated condition
- -The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set
- -The data provided is from a system operating at 1265 SCFM
- -Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	F5M-	INDOOR WET-BULB TEMPERATURE (°F)												
2SX3		57	59	61	63	65	67	69	71	73	75	77		
- ₩	35	7.6	7.5	7.5	7.4	7.3	7.3	7.2	7.1	7.1	7.0	7.0		
LB TEM- F)	40	7.8	7.4	7.1	6.7	6.4	6.0	5.7	5.3	5.0	4.7	4.3		
OOR DRY-BULB PERATURE (°F)	45	8.3	7.7	7.0	6.4	5.8	5.2	4.6	3.9	3.3	3.0	3.0		
OR DE	50	9.2	8.3	7.4	6.5	5.6	4.7	3.8	3.0	3.0	3.0	3.0		
OUTDOOR DRY-BULB PERATURE (°F)	55	10.6	9.4	8.2	7.0	5.9	4.7	3.5	3.0	3.0	3.0	3.0		
Of	60	12.3	10.9	9.4	8.0	6.5	5.1	3.6	3.0	3.0	3.0	3.0		

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

SH4BF5M2SX48K

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	F5M-		II	NDOC	R WE	T-BU	LB TE	MPE	RATU	RE (°I	=)	
2SX4	-	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-	-	-
	65	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-
T.	70	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-
ERA	75	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MP	80	3.2	3.2	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3 TE	85	3.6	3.6	3.6	3.5	3.4	3.3	3.2	3.2	3.2	3.2	3.4
ULE	90	4.1	4.1	4.0	4.0	3.9	3.8	3.8	3.8	3.8	4.0	4.2
	95	4.5	4.5	4.5	4.4	4.4	4.6	4.4	4.4	4.5	4.7	5.0
DB *	100	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0	5.2	5.4	5.8
906	105	5.2	5.2	5.2	5.2	5.3	5.3	5.4	5.5	5.8	6.1	6.5
OUTDOOR DRY-BULB TEMPERATURE	110	-	5.5	5.5	5.5	5.6	5.6	5.8	6.0	6.3	6.7	7.2
00	115	-	-	5.6	5.7	5.7	5.9	6.1	6.3	6.7	7.1	7.7

	3F5M- (48K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)
°F)	60	125.7	204.6
) JE (65	127.1	220.9
TEMPERATURE (°F)	70	128.3	238.6
ERA	75	129.5	257.5
MP	80	130.5	277.6
	85	131.5	299.0
<u> </u>	90	132.4	321.7
B- 	95	133.2	345.7
- BB	100	133.9	370.9
OUTDOOR DRY-BULB	105	134.5	397.3
Ĕ	110	135.0	425.0
00	115	135.4	454.0

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4B	F5M-	INDOOR WET-BULB TEMPERATURE (°F)												
2SX4		57	59	61	63	65	67	69	71	73	75	77		
\	35	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
ULB TEM-	40	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
γγ-BU JRE (°	45	3.8	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
OOR DRY-B PERATURE	50	4.7	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
OUTDOOR DRY-BULB PERATURE (°F)	55	6.1	4.9	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
O	60	7.8	6.4	4.9	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0		

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 1530 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

COOLING CHARGING TABLE (SUBCOOLING TARGETS FOR SYSTEMS WITH TXV INDOOR METERING DEVICES

ESTIMATED PRESSURES (TXV IN COOLING MODE)

SH4B	F5M-		II	NDOC	R WE	T-BU	LB TE	MPE	RATU	RE (°I	=)	
2SX(-	57	59	61	63	65	67	69	71	73	75	77
(°F)	60	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-	-	-
	65	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-	-	-
Į,	70	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	-
TEMPERATURE	75	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MP	80	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	85	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
DRY-BULB	90	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
H-≻	95	3.2	3.2	3.1	3.1	3.0	3.6	3.0	3.0	3.0	3.0	3.0
	100	3.8	3.7	3.7	3.6	3.5	3.4	3.3	3.2	3.0	3.0	3.0
OUTDOOR	105	4.5	4.5	4.4	4.3	4.2	4.1	4.0	3.8	3.7	3.5	3.4
Ę	110	-	5.5	5.4	5.3	5.2	5.1	4.9	4.8	4.6	4.4	4.2
7	115	-	-	6.8	6.7	6.6	6.4	6.3	6.1	5.9	5.7	5.4

	BF5M- (60K	SUCT. PRESS. (psig)	LIQ. PRESS. (psig)		
(°F)	60	122.5	201.5		
	65	124.1	218.4		
OUTDOOR DRY-BULB TEMPERATURE	70	125.7	236.4		
	75	127.1	255.6		
	80	128.5	276.0		
	85	129.7	297.6		
	90	130.9	320.4		
	95	132.0	344.4		
	100	133.1	369.5		
	105	134.0	395.9		
	110	134.9	423.4		
	115	135.6	452.1		

LOW AMBIENT CHARGING TABLE (COOLING MODE WITH HALF BLOCKED FAN & TXV COOLING MODE METERING DEVICE)

SH4BF5M- 2SX60K		INDOOR WET-BULB TEMPERATURE (°F)										
		57	59	61	63	65	67	69	71	73	75	77
OUTDOOR DRY-BULB TEM- PERATURE (°F)	35	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	40	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	45	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	50	4.2	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	55	5.6	4.4	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	60	7.3	5.9	4.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

⁻Subcooling tolerance is ± 1°F

⁻Boxed data point is the performance rated condition

⁻The conditions for the refrigerant pressure data is 80 deg F dry bulb, 67 deg F wet bulb indoor and 25 ft line set

⁻The data provided is from a system operating at 2010 SCFM

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

⁻Subcooling tolerance is ± 1°F

⁻Charging the system at conditions in the dark gray area of the chart is less accurate and you may need to confirm the charge when the system is operating at a different condition.

