

ADDITION OF REFRIGERANT OIL		
Distance (FEET)	SUCTION LINE SIZE	
	5/8, 3/4, 7/8	1 1/8
0 - 40	----	----
40	1 oz.	2 oz.
50	2 oz.	4 oz.
60	3 oz.	6 oz.
70	4 oz.	8 oz.
80	5 oz.	10 oz.
90	6 oz.	12 oz.
100	7 oz.	14 oz.

ADDITION OF REFRIGERANT CHARGE	
LIQUID LINE DIAMETER	OZ. PER LINEAR FT. OVER 20
1 / 4	.2
5 / 16	.4
3 / 8	.6
1 / 2	1.2

FILTER DRYERS	
Liquid Line Drier	
Size	Add Oz.
5 Cu. In.	5
8 Cu. In.	8
16 Cu. In.	11
30 Cu. In.	17

REFRIGERANT CAPACITY REDUCTION								
Outdoor Unit	Suction Line Size	EFFECTIVE LINE LENGTHS *						
		40'	50'	60'	70'	80'	90'	100'
012	5 / 8	0.4%	0.7%	1.0%	1.4%	1.7%	2.0%	2.2%
018	5 / 8	0.5%	0.7%	1.0%	1.4%	1.7%	2.0%	2.2%
024	5 / 8	0.9%	1.5%	2.0%	2.6%	3.2%	3.8%	4.4%
	3 / 4	0.6%	1.0%	1.3%	1.7%	2.1%	2.5%	2.8%
030	3 / 4	0.9%	1.5%	2.0%	2.6%	3.2%	3.8%	4.4%
036	3 / 4	1.2%	2.0%	2.8%	3.6%	4.4%	5.2%	6.0%
	7 / 8	0.6%	1.0%	1.4%	1.8%	2.1%	2.5%	2.9%
042	3 / 4	2.0%	3.0%	4.0%	4.9%	5.8%	----	----
	7 / 8	0.7%	1.1%	1.6%	2.0%	2.5%	2.9%	3.3%
	1 1/8	0.3%	0.5%	0.7%	0.9%	1.1%	1.3%	1.4%
048	7 / 8	0.8%	1.3%	1.9%	2.4%	2.9%	3.4%	4.0%
	1 1/8	0.2%	0.4%	0.5%	0.7%	0.8%	1.0%	1.1%
060	7 / 8	1.3%	2.2%	3.2%	4.1%	5.0%	5.9%	6.8%
	1 1/8	0.4%	0.7%	0.9%	1.2%	1.4%	1.7%	1.9%

*EFFECTIVE LINE LENGTHS MUST INCLUDE ELBOWS AND TURNS IN THE TOTAL LENGTH.

System Charging Procedure

NOTES: Optimum performance for systems with orifice or cap tubes is obtained with 15 – 20 °F super-heat at compressor inlet.

REFRIGERANT CHARGE BY SUPERHEAT METHOD									
SUPERHEAT MEASURED AT SERVICE VALVE				SATURATED TEMPERATURE - PRESSURE CHART					
Outdoor Temp (°F)	Indoor Conditions DB/WB (50%R.H.)			(°F)	R22-PSIG	(°F)	R22-PSIG	(°F)	R22-PSIG
	75 / 63	80 / 67	85 / 71	32	57.5	44	74.5	80	143.6
105	2-6	2-6	10-12	33	58.8	45	76.0	85	155.7
100	2-6	5-7	12-14	34	60.1	46	77.6	90	168.4
95	2-6	8-10	14-17	35	61.5	47	79.2	95	181.8
90	4-6	11-13	16-19	36	62.8	48	80.8	100	195.8
85	7-10	14-16	19-22	37	64.2	49	82.4	105	210.8
80	10-13	16-19	22-25	38	65.6	50	84.0	110	226.4
75	13-16	19-22	24-27	39	67.1	55	92.6	115	242.7
70	17-20	22-25	27-30	40	68.5	60	101.6	120	259.9
65	20-23	25-28	29-33	41	70.0	65	111.2	125	277.9
60	23-27	27-31	32-36	42	71.4	70	121.4	130	296.8
55	26-30	29-34	34-38	43	73.0	75	132.2	140	337.3

Systems with Orifice or Cap Tube Evaporator Coil

1. Determine required super heat from chart.
 2. Measure suction line temperature 6 inches from service valve.
 3. Measure suction line pressure at service valve and determine saturated suction temperature from chart.
 4. Subtract saturated suction temperature from measured temperature to obtain superheat.
 5. Refer to chart and adjust charge as required for correct superheat at ambient conditions.
 6. All condensing units are charged with enough refrigerant for 20 feet of connecting line and a matching indoor coil.
- Some matching coils may need more refrigerant than the factory charge. Always check charge by superheat method explained above.

Oil Trapping

If the evaporator is above the condenser, horizontal pitch runs Down to condenser. When evaporator is below condenser, Put at least one oil trap in the suction line for every 20 feet (6m.) Of rise (max 50ft./15m. rise with three traps).

Filter Dryers

Its highly recommended the installation of filter dryers on all installations

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