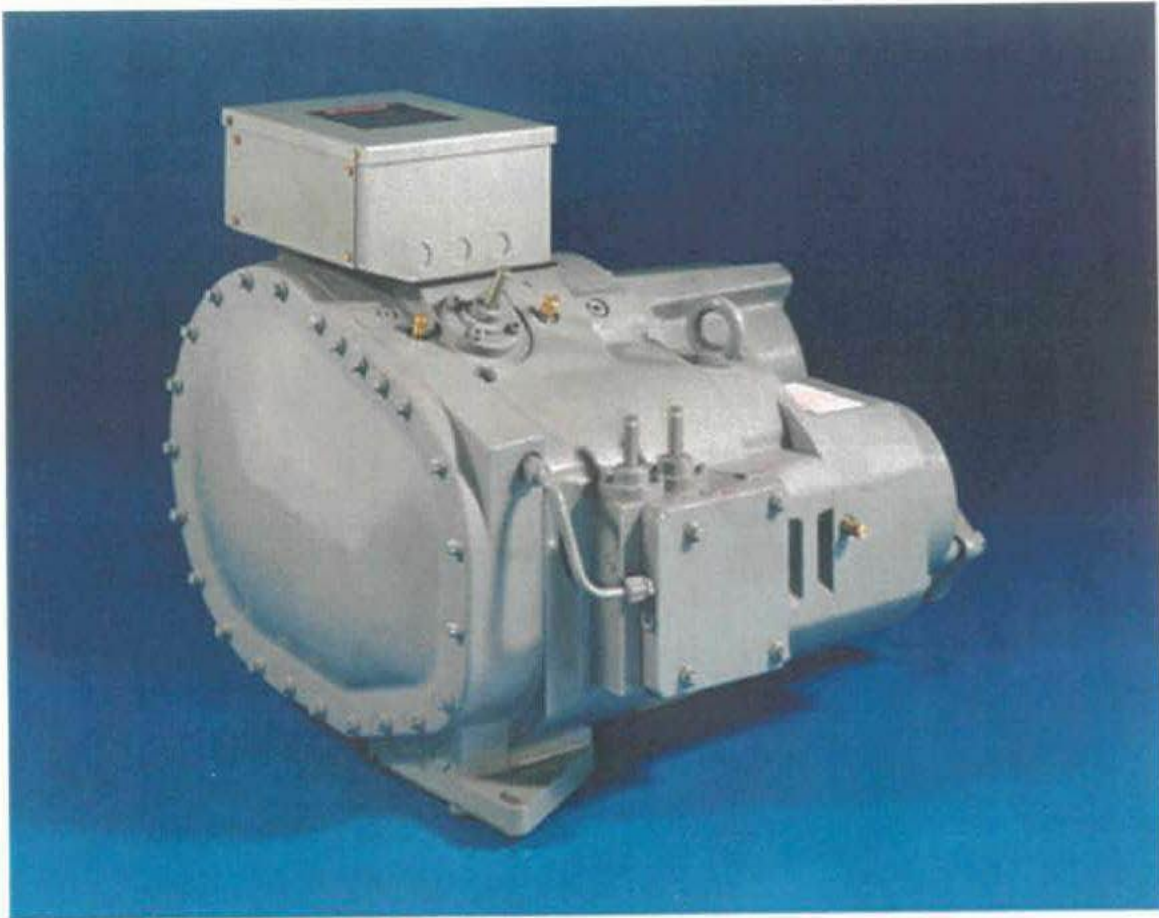


GTS104 Compressor Application Guide



 Carlyle

2. Refrigerants and Lubricants

2.1. Approved Refrigerants

The *GTS104* screw compressor is specifically designed for use in R-134a systems only.

2.2. Approved Lubricants

The *GTS104* screw compressor is approved for use with the following lubricants:

Carrier Material Spec	PP47-32
Approved Lubricant	Castrol SW220
Viscosity Grade	ISO 220
Carrier RCD Part #	
1 gallon	P903-1201
5 gallon	P903-1205

On occasion it may be necessary to use an assembly grease to retain an o-ring within its groove. The *GTS104* screw compressor is approved for use with the following assembly grease:

Carrier Material Spec	PP80-29
Approved Lubricant	Castrol Synplex GP2

3. Environmental and Installation Considerations

3.1 Operating Ambient

The screw compressor is designed to operate in the following ambient temperature ranges:

Non-Operating -40°C (-40.0°F) to 82°C (180°F)

Operating -32°C (-25.6°F) to 55°C (131°F)

3.2. Salt-Spray Requirements

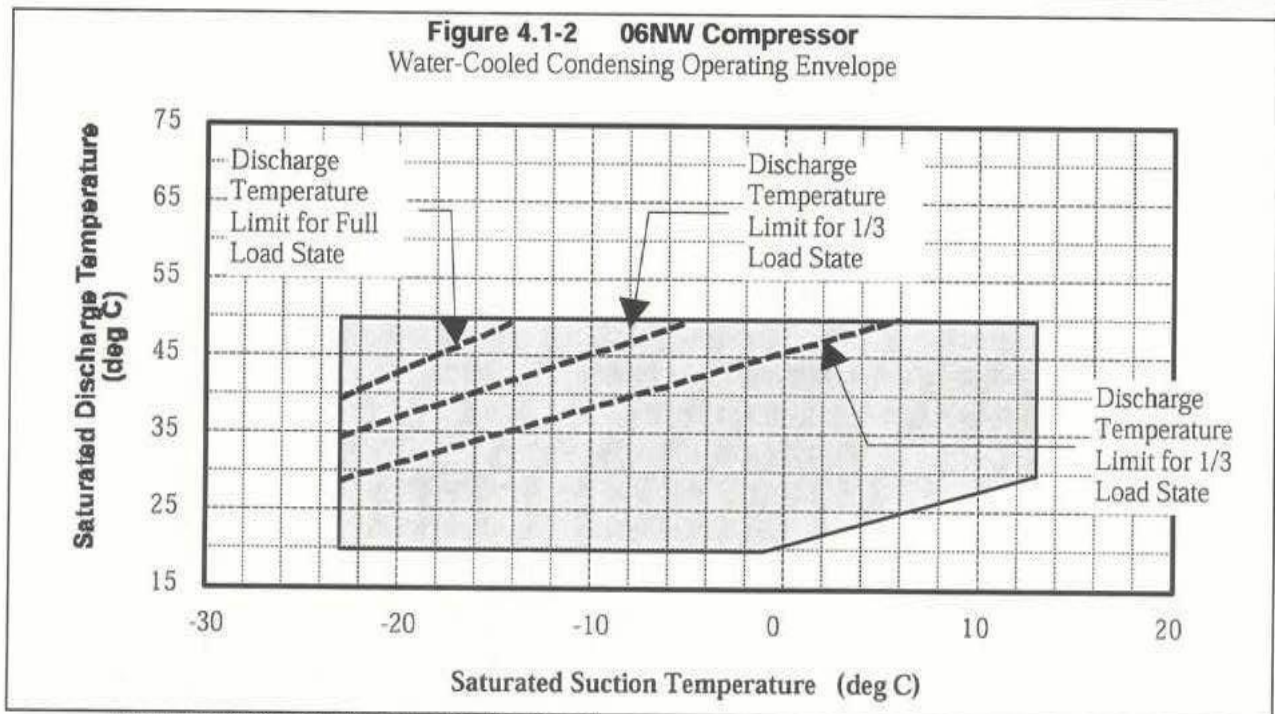
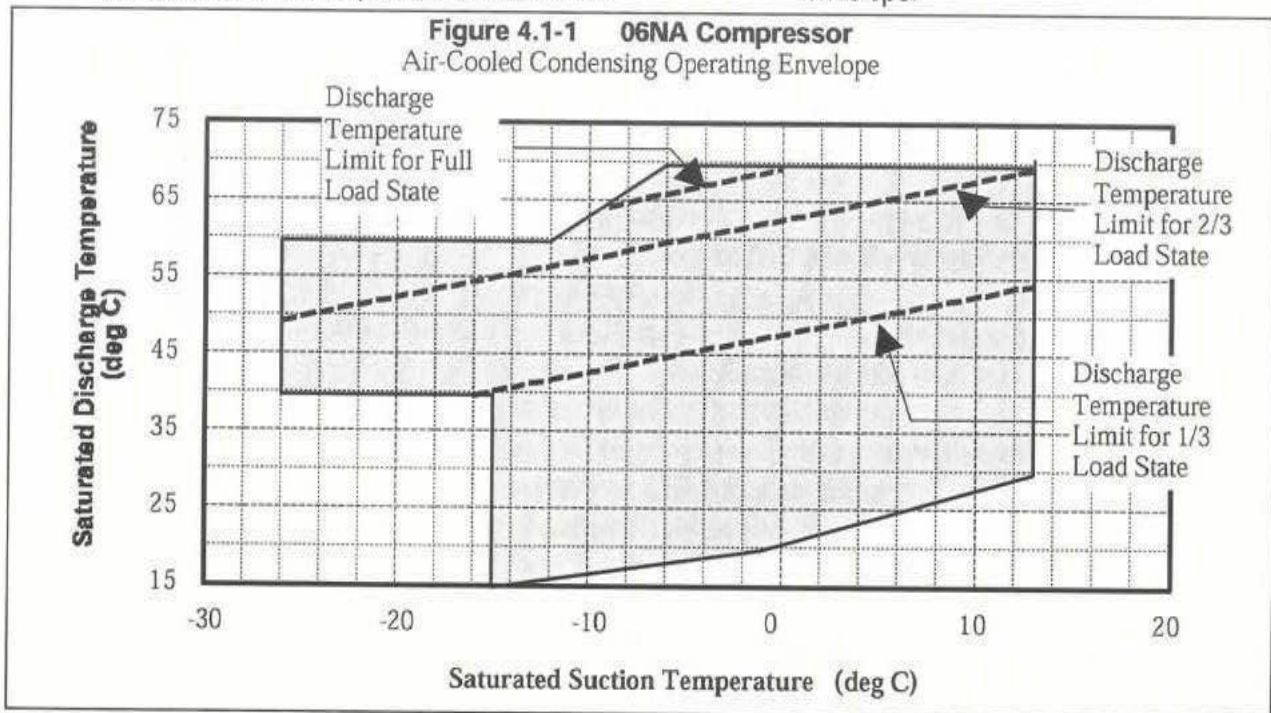
The compressor and its accessories have been tested through 500 hours of salt-spray in compliance with ASTM specification B-117, (Carrier Engineering Requirement R-203).

4. Operating Limits & Controls

4.1 Operating Envelope

The following R-134a operating envelopes, Figures 4.1-1 and 4.1-2, show where the compressor can be operated in both direct

expansion and flooded applications. The envelopes differ for the unique design configuration of the compressor. The fourth digit of the model number dictates the operating envelope.



Pressure limits are described in Section 8.

9. Packaging and Storage Requirements

9.1. Packaging

Packaging for the *GTS104* screw compressor consists of a returnable plastic container and a plastic wood insert to position the compressor inside the container. The compressor is attached to the insert by two bolts. One bolt attaches the compressor through a hole in the suction blank-off plate, and another bolt fastens the compressor at the end of the motor casing through a bracket that is attached to the motor casing.

The bracket is a permanent part of the compressor installed on the compressor prior to the painting process. **THIS BRACKET MUST REMAIN ATTACHED TO THE COMPRESSOR.** Failure to do so could jeopardize the corrosion resistance of the compressor.

9.2. Shipping

All compressors that are shipped within the U.S. will be unstacked (single layer). Compressors that are intended for international shipment may be stacked depending upon the mode of shipment. Any compressors that will be stacked during shipping will require special packaging consideration. Consult Carlyle Compressor for these requirements.

The stacking limit for shipping is two high.

Compressor weights are shown in Table 9.2-1.

9.3. Storage

The compressor packaging allows for stacking of the compressors during storage.

The stacking limit for storage is three high.

Although the *GTS104* compressors are painted in order to meet the 500 hours salt spray requirements, it is preferable to store the compressors indoors where they are shielded from the weather. Outdoor storage is also permissible.

Table 9.2-1
Compressor Weights

Compressor Model Number	Compressor Weight		Shipping Weight	
	lb.	kg.	lb.	kg.
Economized				
06NA-123--E-	835	380	955	435
06NA-146--E-	855	390	975	445
06NA-174--E-	880	400	1000	455
06NA-209--E-	895	405	1015	460
06NA-250--E-	910	415	1030	470
06NA-300--E-	920	415	1040	475
06NW-146--E-	805	365	925	420
06NW-174--E-	825	375	945	430
06NW-209--E-	835	380	955	435
06NW-250--E-	855	390	975	445
06NW-300--E-	880	400	1000	455
Non-Economized				
06NA-123--N-	825	375	945	430
06NA-146--N-	835	380	955	435
06NA-174--N-	855	390	975	445
06NA-209--N-	880	400	1000	455
06NA-250--N-	895	405	1015	460
06NA-300--N-	910	415	1030	470
06NW-123--N-	795	360	915	415
06NW-146--N-	795	360	915	415
06NW-174--N-	805	365	925	420
06NW-209--N-	825	375	945	430
06NW-250--N-	835	380	955	435
06NW-300--N-	855	390	975	445

The compressor weight is without packaging. The shipping weight includes the weight of the compressor, returnable packaging, and cover plates.

10. Compressor Electrical Data

10.1 Allowable Voltage Ranges

The motors for the *GTS104* compressors are designed to be applied within voltage range listed on the table below. Operation outside these ranges is not permitted.

**Table 10.1-1
Allowable Voltage Range**

Model # 9th Digit	60 Hz Voltages			50 Hz Voltages		
	Nominal	Min	Max	Nominal	Min	Max
S	460	396	528	400	342	456
T	575	495	660			
U				230	196	264
W	380	324	483	346	288	396
X	208/230	187	264	200	180	230
Z	200	180	230			

10.2 Electrical Data

**Table 10.2-1
06NA Compressor Motor Data
Air-Cooled Condensing, Economized**

Compressor Electrical Data					
Compressor Model Number	Nominal Voltage/Freq.	RLA	PF	Locked Rotor Amps	
				LRA (Y)	LRA (D)
123 cfm, Air-Cooled Vi, Economized					
06NA*123S6EA	460-60	85.9	.84	183	580
06NA*123T6EA	575-60	68.8	.84	147	484
06NA*123W6EA	380-60	104.0	.84	203	641
06NA*123X6EA	208/230-60	180.5	.84	367	1160
06NA*123Z6EA	200-60	197.7	.84	422	1334
146 cfm, Air-Cooled Vi, Economized					
06NA*146S7EA	460-60	103.4	.85	216	685
	400-50	101.7	.82	226	715
06NA*146T6EA	575-60	82.7	.85	173	548
06NA*146U5EA	230-50	176.8	.82	361	1142
06NA*146W7EA	380-60	125.2	.85	239	757
	346-50	117.5	.82	248	786
06NA*146X7EA	208/230-60	217.2	.85	433	1370
	200-50	203.3	.82	452	1430
06NA*146Z6EA	200-60	237.8	.85	498	1576



<p>Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.</p>	<p>Carlyle Compressor Company © Carrier Corporation 10/99 P.O. Box 4803, Syracuse, NY 13221 Phone: In US & Mexico 1-800-GO-CARLYLE In Canada & Puerto Rico 1-800-258-1123</p>	<p>Lit. No. 574-076 GTS104 Compressor Application Guide Revision 3.3</p>
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