

# DGRE DIRECT ACTING HOT GAS BYPASS REGULATOR

DGRE Series Direct Acting Hot Gas Bypass Regulators are designed for use on light commercial systems. They provide precision system capacity balance at an economical price. When suction pressure decreases below set point, the regulator opens and allows discharge gas to be bypassed. The discharge gas may be bypassed into the evaporator or the suction line. When bypassed to the suction line, a liquid injection Thermo Valve must be installed to properly desuperheat the suction gas returning to the compressor. The adjustable DGRE rated capacity will be attained when the suction pressure falls 6°F below the corresponding set point saturation temperature.



## ORDERING INFORMATION FOR DGRE VALVES

PCN	DESCRIPTION
049640	DGRE 12 S 7 B SAE EE
029806	DGRE 12 S 7 C ODF EE
049861	DGRE 12 S 9 B SAE EE

## FEATURES AND SPECIFICATIONS

- ☆ Compact hermetic construction
- ☆ External equalizer
- ☆ Maximum working pressure: 440 psig
- ☆ Adjustment range: 0-80 psig (factory setting 50 psig)
- ☆ UL file number SA5312
- ☆ CSA file number 44005
- ☆ CRN file number OC0824.9 (see page A)

## NOMINAL CAPACITY TABLE IN TONS (kW)

VALVE	R-12	R-134a	R-22	R-407C	R-507/404A	R-502
DGRE-12	8.3 (29.4)	9.7 (34.2)	15.4 (54.6)	15.4 (54.6)	14.5 (51.3)	13.6 (48.0)

All capacities shown are based on 40°F Evaporator Temperature, 100°F Condensing Temperature, Valve Full Open, Compressor Discharge Temperature is 50°F higher than Isentropic Compression and 25°F Superheat at the compressor inlet see extended capacity tables page 71.

**For conditions other than nominal, divide required capacity by the appropriate multiplier found on page 70.**

## NOMENCLATURE EXAMPLE: DGRE 12S7 B SAE EE

DGR	E	12	S	7	B	SAE EE
Valve Series	External Equalizer (omit for internal equalizer)	Size	Connection S = ODF connections	Connection (in 1/8")	EE Connection A = NONE, B = 1/4" SAE C = 1/4" ODF	External Equalizer Type

# EXTENDED HOT GAS BYPASS MULTIPLIER FACTOR TABLES

## R12 TABLE OF MULTIPLIERS – FAHRENHEIT

COND. TEMP. °F	EVAPORATOR TEMPERATURE °F									
	50	40	30	20	10	0	-10	-20	-30	-40
80	0.952	0.927	0.905	0.884	0.862	0.840	0.816	0.793	0.770	0.747
100	1.071	1.000	0.977	0.953	0.928	0.904	0.879	0.854	0.827	0.802
120	1.235	1.205	1.175	1.143	1.110	1.079	1.044	1.012	0.977	0.946
140	1.439	1.399	1.359	1.318	1.277	1.236	1.192	1.151	1.107	1.065

## R22 TABLE OF MULTIPLIERS – FAHRENHEIT

COND. TEMP. °F	EVAPORATOR TEMPERATURE °F									
	50	40	30	20	10	0	-10	-20	-30	-40
80	0.836	0.819	0.804	0.786	0.770	0.752	0.734	0.716	0.696	0.678
100	1.023	1.000	0.981	0.958	0.937	0.913	0.889	0.865	0.841	0.791
120	1.230	1.177	1.153	1.124	1.095	1.066	1.038	1.008	0.976	0.947
140	1.402	1.366	1.335	1.298	1.264	1.227	1.190	1.153	1.113	1.076

## R134a TABLE OF MULTIPLIERS – FAHRENHEIT

COND. TEMP. °F	EVAPORATOR TEMPERATURE °F									
	50	40	30	20	10	0	-10	-20	-30	-40
80	0.810	0.792	0.775	0.756	0.737	0.719	0.699	0.679	0.659	0.639
100	1.027	1.000	0.987	0.956	0.931	0.906	0.880	0.854	0.827	0.800
120	1.231	1.198	1.166	1.132	1.098	1.062	1.026	0.991	0.954	0.917
140	1.440	1.396	1.353	1.307	1.263	1.217	1.170	1.122	1.074	1.026

## R404A/507 TABLE OF MULTIPLIERS – FAHRENHEIT

COND. TEMP. °F	EVAPORATOR TEMPERATURE °F									
	50	40	30	20	10	0	-10	-20	-30	-40
80	0.905	0.872	0.863	0.824	0.816	0.790	0.767	0.728	0.703	0.677
100	1.045	1.000	0.989	0.943	0.929	0.896	0.864	0.813	0.780	0.745
120	1.170	1.111	1.092	1.026	1.010	0.966	0.926	0.856	0.812	0.768
140	1.165	1.073	1.053	0.971	0.949	0.896	0.841	0.754	0.699	0.643

## HOT GAS BYPASS REGULATORS EXTENDED CAPACITIES

### DGR(E) & EGR(E) VALVES FOR R134a IN TONS

TOTAL TONS BYPASSED	COMPONENT TYPE	EVAPORATOR TEMPERATURE °F																
		40°	30°	20°	10°	0°	-10°	-20°	-30°	-40°								
1/2	BYPASS REGULATOR	EGRE6	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12							
	HOT GAS SOL.	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3							
	LIQ. INI. VALVE	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C							
1	BYPASS REGULATOR	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—							
	HOT GAS SOL.	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	—							
	LIQ. INI. VALVE	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C	—							
2	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	<table border="1" style="margin: auto;"> <tr> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> </table> <p style="text-align: center; font-size: small;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL
	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL														
	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL														
HOT GAS SOL.	200RB5	200RB5	200RB5	200RB5														
LIQ. INI. VALVE	LCL2B	LCL2B	LCL2C	LCL2C														
3	BYPASS REGULATOR	DGRE12	DGRE12	—	—	<table border="1" style="margin: auto;"> <tr> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> </table> <p style="text-align: center; font-size: small;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL
	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL														
	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL														
HOT GAS SOL.	200RB6	200RB6	—	—														
LIQ. INI. VALVE	LCL2B	LCL2B	—	—														

### DGR(E) & EGR(E) VALVES FOR R22 IN TONS

TOTAL TONS BYPASSED	COMPONENT TYPE	EVAPORATOR TEMPERATURE °F																										
		40°	30°	20°	10°	0°	-10°	-20°	-30°	-40°																		
1/2	BYPASS REGULATOR	EGRE4	EGRE4	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE8																	
	HOT GAS SOL.	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2																	
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C																	
1	BYPASS REGULATOR	EGRE4	EGRE6	EGRE6	EGRE6	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8																	
	HOT GAS SOL.	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3																	
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C																	
2	BYPASS REGULATOR	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12																	
	HOT GAS SOL.	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4																	
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C																	
3	BYPASS REGULATOR	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—																	
	HOT GAS SOL.	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	—																	
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL2C	LCL2C	LCL2C	LCL2C	—																	
4	BYPASS REGULATOR	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—																	
	HOT GAS SOL.	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	—	—	—																	
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	LCL2C	LCL3C	—	—	—																	
5	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—	—																	
	HOT GAS SOL.	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	—	—	—	—																	
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	LCL2C	—	—	—	—																	
6	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—	—	—																	
	HOT GAS SOL.	200RB6	200RB6	200RB6	200RB6	200RB6	—	—	—	—	—																	
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	—	—	—	—	—																	
7	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—	—	—	—																	
	HOT GAS SOL.	240RA8	240RA8	240RA8	240RA8	—	—	—	—	—	—																	
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL3B	—	—	—	—	—	—																	
8	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	—	—	—	—	—	—	—																	
	HOT GAS SOL.	240RA8	240RA8	240RA8	—	—	—	—	—	—	—																	
	LIQ. INI. VALVE	LCL3A	LCL3A	LCL3B	—	—	—	—	—	—	—																	
9	BYPASS REGULATOR	DGRE12	DGRE12	—	—	<table border="1" style="margin: auto;"> <tr> <td>LCL 1A</td> <td>HFSC 1/2CL</td> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2A</td> <td>HFSC 1CL</td> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> <tr> <td>LCL 3A</td> <td>HFSC 2CL</td> <td>LCL 3B</td> <td>HFSC 2GL</td> <td>LCL 3C</td> <td>HFSC 2UL</td> </tr> </table> <p style="text-align: center; font-size: small;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL	LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL
	LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C						HFSC 1/2UL																	
	LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C						HFSC 1UL																	
LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL																							
HOT GAS SOL.	240RA8	240RA8	—	—																								
LIQ. INI. VALVE	LCL3A	LCL3A	—	—																								
10	BYPASS REGULATOR	DGRE12	—	—	—	<table border="1" style="margin: auto;"> <tr> <td>LCL 1A</td> <td>HFSC 1/2CL</td> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2A</td> <td>HFSC 1CL</td> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> <tr> <td>LCL 3A</td> <td>HFSC 2CL</td> <td>LCL 3B</td> <td>HFSC 2GL</td> <td>LCL 3C</td> <td>HFSC 2UL</td> </tr> </table> <p style="text-align: center; font-size: small;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL	LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL
	LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C						HFSC 1/2UL																	
	LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C						HFSC 1UL																	
LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL																							
HOT GAS SOL.	240RA8	—	—	—																								
LIQ. INI. VALVE	LCL3A	—	—	—																								

# HOT GAS BYPASS REGULATORS EXTENDED CAPACITIES

## DGR(E) & EGR(E) VALVES FOR R12 IN TONS

TOTAL TONS BYPASSED	COMPONENT TYPE	EVAPORATOR TEMPERATURE °F																
		40°	30°	20°	10°	0°	-10°	-20°	-30°	-40°								
1/2	BYPASS REGULATOR	EGRE4	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	DGRE12	DGRE12							
	HOT GAS SOL. LIQ. INJ. VALVE	200RB3 LCL1B	200RB3 LCL1B	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C							
1	BYPASS REGULATOR	EGRE6	EGRE6	EGRE6	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—							
	HOT GAS SOL. LIQ. INJ. VALVE	200RB4 LCL1B	200RB4 LCL1B	200RB4 LCL1C	200RB4 LCL1C	200RB4 LCL1C	200RB4 LCL1C	200RB4 LCL1C	200RB4 LCL1C	200RB4 LCL1C	— —							
2	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	<table border="1" style="margin: auto;"> <tr> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> </table> <p style="text-align: center;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL
	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL														
LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL															
HOT GAS SOL. LIQ. INJ. VALVE	200RB5 LCL2B	200RB5 LCL2B	200RB5 LCL2C	200RB5 LCL2C														
3	BYPASS REGULATOR	DGRE12	DGRE12	—	—	<table border="1" style="margin: auto;"> <tr> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> </table> <p style="text-align: center;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL
	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL														
LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL															
HOT GAS SOL. LIQ. INJ. VALVE	200RB6 LCL2B	200RB6 LCL2B	— —	— —														

## DGR(E) & EGR(E) VALVES FOR R404A & R507 IN TONS

TOTAL TONS BYPASSED	COMPONENT TYPE	EVAPORATOR TEMPERATURE °F																																
		30°	20°	10°	0°	-10°	-20°	-30°	-40°																									
1/2	BYPASS REGULATOR	EGRE4	EGRE4	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE8																								
	HOT GAS SOL. LIQ. INJ. VALVE	100RB2 LCL1A	100RB2 LCL1A	100RB2 LCL1B	100RB2 LCL1B	100RB2 LCL1B	100RB2 LCL1C	100RB2 LCL1C	100RB2 LCL1C	100RB2 LCL1C																								
1	BYPASS REGULATOR	EGRE4	EGRE6	EGRE6	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8																								
	HOT GAS SOL. LIQ. INJ. VALVE	200RB3 LCL1A	200RB3 LCL1A	200RB3 LCL1B	200RB3 LCL1B	200RB3 LCL1B	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C	200RB3 LCL1C																								
2	BYPASS REGULATOR	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12																								
	HOT GAS SOL. LIQ. INJ. VALVE	200RB4 LCL2A	200RB4 LCL2A	200RB4 LCL2B	200RB4 LCL2B	200RB4 LCL2B	200RB4 LCL2C	200RB4 LCL2C	200RB4 LCL2C	200RB4 LCL2C																								
3	BYPASS REGULATOR	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—																								
	HOT GAS SOL. LIQ. INJ. VALVE	200RB5 LCL2A	200RB5 LCL2A	200RB5 LCL2B	200RB5 LCL2B	200RB5 LCL3B	200RB5 LCL3C	200RB5 LCL3C	200RB5 LCL3C	— —																								
4	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—																								
	HOT GAS SOL. LIQ. INJ. VALVE	200RB6 LCL2A	200RB6 LCL3A	200RB6 LCL3B	200RB6 LCL3B	200RB6 LCL3B	200RB6 LCL3C	— —	— —	— —																								
5	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—	—																								
	HOT GAS SOL. LIQ. INJ. VALVE	200RB6 LCL3A	200RB6 LCL3A	200RB6 LCL3B	200RB6 LCL3B	200RB6 LCL3B	— —	— —	— —	— —																								
6	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	—	—	—	—	—																								
	HOT GAS SOL. LIQ. INJ. VALVE	240RA8 LCL3A	240RA8 LCL3A	240RA8 LCL3B	240RA8 LCL4B	— —	— —	— —	— —	— —																								
7	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	—	—	—	—	—	—																								
	HOT GAS SOL. LIQ. INJ. VALVE	240RA8 LCL4A	240RA8 LCL4A	240RA8 LCL4B	— —	— —	— —	— —	— —	— —																								
8	BYPASS REGULATOR	DGRE12	DGRE12	—	—	<table border="1" style="margin: auto;"> <tr> <td>LCL 1A</td> <td>HFSC 1/2CL</td> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2A</td> <td>HFSC 1CL</td> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> <tr> <td>LCL 3A</td> <td>HFSC 2CL</td> <td>LCL 3B</td> <td>HFSC 2GL</td> <td>LCL 3C</td> <td>HFSC 2UL</td> </tr> <tr> <td>LCL 4A</td> <td>HFSC 3CL</td> <td>LCL 4B</td> <td>HFSC 3GL</td> <td>—</td> <td>—</td> </tr> </table> <p style="text-align: center;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL	LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL	LCL 4A	HFSC 3CL	LCL 4B	HFSC 3GL	—	—
	LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C						HFSC 1/2UL																							
LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL																													
LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL																													
LCL 4A	HFSC 3CL	LCL 4B	HFSC 3GL	—	—																													
HOT GAS SOL. LIQ. INJ. VALVE	240RA8 LCL4A	240RA8 LCL4A	— —	— —																														
9	BYPASS REGULATOR	DGRE12	—	—	<table border="1" style="margin: auto;"> <tr> <td>LCL 1A</td> <td>HFSC 1/2CL</td> <td>LCL 1B</td> <td>HFSC 1/2GL</td> <td>LCL 1C</td> <td>HFSC 1/2UL</td> </tr> <tr> <td>LCL 2A</td> <td>HFSC 1CL</td> <td>LCL 2B</td> <td>HFSC 1GL</td> <td>LCL 2C</td> <td>HFSC 1UL</td> </tr> <tr> <td>LCL 3A</td> <td>HFSC 2CL</td> <td>LCL 3B</td> <td>HFSC 2GL</td> <td>LCL 3C</td> <td>HFSC 2UL</td> </tr> <tr> <td>LCL 4A</td> <td>HFSC 3CL</td> <td>LCL 4B</td> <td>HFSC 3GL</td> <td>—</td> <td>—</td> </tr> </table> <p style="text-align: center;">* Refer to page 5 for "HFSC" make up instructions.</p>					LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL	LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL	LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL	LCL 4A	HFSC 3CL	LCL 4B	HFSC 3GL	—	—	
	LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL						LCL 1C	HFSC 1/2UL																							
LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL																													
LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL																													
LCL 4A	HFSC 3CL	LCL 4B	HFSC 3GL	—	—																													
HOT GAS SOL. LIQ. INJ. VALVE	240RA9 LCL4A	— —	— —	— —																														

# DGR(E) & EGR(E) VALVES FOR R407C IN TONS

TOTAL TONS BYPASSED	COMPONENT TYPE	EVAPORATOR TEMPERATURE °F									
		40°	30°	20°	10°	0°	-10°	-20°	-30°	-40°	
1/2	BYPASS REGULATOR	EGRE4	EGRE4	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE8
	HOT GAS SOL.	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C
1	BYPASS REGULATOR	EGRE4	EGRE6	EGRE6	EGRE6	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8
	HOT GAS SOL.	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C
2	BYPASS REGULATOR	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12
	HOT GAS SOL.	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C	LCL1C
3	BYPASS REGULATOR	EGRE8	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-
	HOT GAS SOL.	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	-
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL2C	LCL2C	LCL2C	LCL2C	-
4	BYPASS REGULATOR	EGRE8	EGRE8	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-
	HOT GAS SOL.	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	-	-
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	LCL2C	LCL2C	LCL3C	-	-
5	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-	-
	HOT GAS SOL.	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	-	-	-
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	LCL2C	-	-	-	-
6	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-	-	-
	HOT GAS SOL.	200RB6	200RB6	200RB6	200RB6	200RB6	-	-	-	-	-
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	-	-	-	-	-
7	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-	-	-	-
	HOT GAS SOL.	240RA8	240RA8	240RA8	240RA8	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL3B	-	-	-	-	-	-
8	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	-	-	-	-	-	-	-
	HOT GAS SOL.	240RA8	240RA8	240RA8	-	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL3A	LCL3A	LCL3B	-	-	-	-	-	-	-
9	BYPASS REGULATOR	DGRE12	DGRE12	-	-	-	-	-	-	-	-
	HOT GAS SOL.	240RA8	240RA8	-	-	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL3A	LCL3A	-	-	-	-	-	-	-	-
10	BYPASS REGULATOR	DGRE12	-	-	-	-	-	-	-	-	-
	HOT GAS SOL.	240RA8	-	-	-	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL3A	-	-	-	-	-	-	-	-	-

LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL
LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL
LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL

\* Refer to page 5 for "HFSC" make up instructions.

# DGR(E) & EGR(E) VALVES FOR R502 IN TONS

TOTAL TONS BYPASSED	COMPONENT TYPE	EVAPORATOR TEMPERATURE °F									
		40°	30°	20°	10°	0°	-10°	-20°	-30°	-40°	
1/2	BYPASS REGULATOR	EGRE4	EGRE4	EGRE4	EGRE4	EGRE4	EGRE4	EGRE4	EGRE4	EGRE4	EGRE6
	HOT GAS SOL.	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2	100RB2
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C	LCL1C
1	BYPASS REGULATOR	EGRE4	EGRE4	EGRE4	EGRE4	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6
	HOT GAS SOL.	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3	200RB3
	LIQ. INI. VALVE	LCL1A	LCL1A	LCL1A	LCL1B	LCL1B	LCL1B	LCL1B	LCL1C	LCL1C	LCL1C
2	BYPASS REGULATOR	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	EGRE6	DGRE12	DGRE12	DGRE12	DGRE12
	HOT GAS SOL.	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4	200RB4
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	LCL2B	LCL2B	LCL2C	LCL2C	LCL2C
3	BYPASS REGULATOR	EGRE6	EGRE6	EGRE6	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-
	HOT GAS SOL.	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	200RB5	-
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL2A	LCL2B	LCL2B	LCL2B	LCL3B	LCL3C	LCL3C	-
4	BYPASS REGULATOR	EGRE6	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-	-
	HOT GAS SOL.	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	-	-
	LIQ. INI. VALVE	LCL2A	LCL2A	LCL3A	LCL3B	LCL3B	LCL3B	LCL3B	LCL3C	-	-
5	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-	-
	HOT GAS SOL.	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	200RB6	-	-	-
	LIQ. INI. VALVE	LCL3A	LCL3A	LCL3A	LCL3B	LCL3B	LCL3B	-	-	-	-
6	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-	-	-
	HOT GAS SOL.	240RA8	240RA8	240RA8	240RA8	240RA8	-	-	-	-	-
	LIQ. INI. VALVE	LCL3A	LCL3A	LCL3A	LCL3B	LCL4B	-	-	-	-	-
7	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	DGRE12	-	-	-	-	-	-
	HOT GAS SOL.	240RA8	240RA8	240RA8	240RA8	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL3A	LCL4A	LCL4A	LCL4B	-	-	-	-	-	-
8	BYPASS REGULATOR	DGRE12	DGRE12	DGRE12	-	-	-	-	-	-	-
	HOT GAS SOL.	240RA8	240RA8	240RA8	-	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL4A	LCL4A	LCL4A	-	-	-	-	-	-	-
9	BYPASS REGULATOR	DGRE12	DGRE12	-	-	-	-	-	-	-	-
	HOT GAS SOL.	240RA9	240RA9	-	-	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL4A	LCL4A	-	-	-	-	-	-	-	-
10	BYPASS REGULATOR	DGRE12	-	-	-	-	-	-	-	-	-
	HOT GAS SOL.	240RA9	-	-	-	-	-	-	-	-	-
	LIQ. INI. VALVE	LCL4A	-	-	-	-	-	-	-	-	-

LCL 1A	HFSC 1/2CL	LCL 1B	HFSC 1/2GL	LCL 1C	HFSC 1/2UL
LCL 2A	HFSC 1CL	LCL 2B	HFSC 1GL	LCL 2C	HFSC 1UL
LCL 3A	HFSC 2CL	LCL 3B	HFSC 2GL	LCL 3C	HFSC 2UL
LCL 4A	HFSC 3CL	LCL 4B	HFSC 3GL	-	-

\* Refer to page 5 for "HFSC" make up instructions.