

2DA3R89KE-TFD

HFC, R-407C, 60 Hz, 3 - Phase, 460 V , [Also Available with Variable Frequency Drives](#)

Air Conditioning

Production Status: Available for sale to all U.S. customers. Please check with your local Copeland Representative for international availability.

Summary

Performance		
Evaporator Temp. (°F)	45.00	35
Condensing Temp. (°F)	130.00	105
Return Gas Temp. (°F)	65.00	55
Liquid Temp. (°F)	115.00	90
Capacity (BTU/hr)	103500	96100
Power (W):	9480	6930
Current (Amps):	13.6	11
EER(BTU/Wh):	10.9	13.85
Mass Flow (lbs/hr):	1510	1240
Sound Data @		
Sound Power (dBA):	0 Avg	0 Max
Vibration mils(peak-peak):	0.0 Avg	5.9 Max
Record Date:	2010-11-23	
Mechanical		
Displacement (in^3/Rev):	18.66	
Displacement (ft^3/Hr):		
Overall Length (in):	23.60	
Overall Width (in):	15.40	
Overall Height (in):	18.60	
Mounting Length (in):	11.60	
Mounting Width (in):	11.00	
Mounting Height (in):	20.10	

Suction Size (in),Type:	1 3 / 8 Sweat
Discharge Size (in),Type:	7 / 8 Sweat
Initial Oil Charge (oz):	80
Oil Recharge (oz):	72
Oil Type:	POE
Net Weight (lbs):	323.0

Internal Free Volume (in^3):

*Overall compressor height on Copeland Brand Product's specified mounting grommets.

Electrical

LRA High* (Amps):	85
LRA Low*(Amps):	
LRA Half Winding (Amps):	
MCC (Amps):	19.4
Max Operating Current (Amps):	
RLA, MCC/1.4(use for contactor selection)(Amps):	13.9
RLA, MCC/1.56(use for breaker & wire size selection)(Amps):	12.4
RPM:	1750
Box IP :	
UL File No:	SA-2337
UL File Date:	1988-07-13

*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.

Capacitors

Type	Part No	Low MFD	High MFD	Volts	User Description
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No data available in table

Alternate Applications

Refrigerant	Voltage	Phase	Frequency	Application
R-22 HCFC	380/420	3	50	Air Conditioning
R-22 HCFC	380/420	3	50	Medium Temp, Low Condensing
R-22 HCFC	460	3	60	Medium Temp, Low Condensing

Refrigerant	Voltage	Phase	Frequency	Application
R-404A HFC	380/420	3	50	Medium Temp, Low Condensing
R-404A HFC	460	3	60	Medium Temp, Low Condensing
R-407A HFC	460	3	60	Air Conditioning
R-407A HFC	380/420	3	50	Air Conditioning
R-407A HFC	380/420	3	50	Medium Temp, Low Condensing
R-407A HFC	460	3	60	Medium Temp, Low Condensing
R-407C HFC	460	3	60	Medium Temp, Low Condensing

Service Parts

Service Parts				
Reference	Component	Quantity	Description	Comment
99	003-0020-02	1	PLATE-MUFFLER	
99	003-0099-00	1	PLATE-BOTTOM	
99	005-0163-00	1	COVER-TERMINAL BOX	
99	020-0003-28	1	GASKET-O-RING	SENTRONIC SENSOR O-RING GASKET
99	020-0104-00	1	GASKET-HOUSING COVER	
99	020-0146-00	1	GASKET-TERM MTG PLATE	
99	020-0297-13	1	GASKET-SENTRONIC SENSOR	
99	020-0489-00	1	GASKET-DISCH COVER PLATE	?GVSSUCTION
99	020-0678-00	1	GASKET-CLOSURE PLATE	
99	020-0709-00	1	GASKET-STATOR COVER	

Accessories

Accessories		
Category	Part Number	Description
Electrical Components	085-0160-00	3 Phase Voltage Monitor. For use with all Copeland 3 Phase Compressors. Consult model family nomenclature for electrical definition in the model number.
Miscellaneous	998-AB52-01	Akylbenzene Oil. Approved for use with specific Copeland Semi Hermetic After Market Compressors. Consult model family nomenclatures for oil identifier in the model number.
Digital Components	023-0039-01	Coil, 120V, Alco - Demand cooling valve (Unloader Valve)
Digital Components	023-0039-02	Coil, 240V, Alco - Demand cooling valve (Unloader Valve)
Demand Cooling	085-0110-00	Control Module 120V 50/60 Hz - Demand Cooling

Category	Part Number	Description
Demand Cooling	085-0110-01	Control Module 240V 50/60 Hz - Demand Cooling
Mounting	998-0700-09	Control Mounting Bracket Kit
(1) Variable Frequency Drive	EVH-344016-R21BEN	Copeland EVH VFD , 10 HP, 400 VAC, 3Ø, 16A, With DC link Choke & Add on EMI filter, Removeable LCD Display, IP21, BACnet/Modbus
(1) Variable Frequency Drive	EVH-344016-R21BDN	Copeland EVH VFD , 10 HP, 400 VAC, 3Ø, 16A, With DC link Choke (Standard EVH), Removeable LCD Display, IP21, BACnet/Modbus
(1) Variable Frequency Drive	EVH-344016-R54BDN	Copeland EVH VFD , 10 HP, 400 VAC, 3Ø, 16A, With DC link Choke (Standard EVH), Removeable LCD Display, IP54, BACnet/Modbus

Electrical Components

Electrical Components

Nomenclature

2DA3R89KE-TFD
FAMILY
2D: 2 Cylinders Discus
DISPLACEMENT
A: Standard Valve Plate
MODEL VARIATIONS
3: Standard (Discus II)
PRIMARY APPLICATION RANGE
R: ARI High Temp, Rated @ 45/130
NOMINAL CAPACITY AT RATING CONDITION
89: Capacity
CAPACITY MULTIPLIER
K: 1000*Capacity
OIL TYPE
E: POE Oil
COMPRESSOR MOTOR TYPE
T: GENERAL : 3 LEAD SINGLE VOLTAGE, 6 LEAD PART WINDING (575 VOLT), 9 LEAD DUAL VOLTAGE
COMPRESSOR MOTOR PROTECTION
F: INTERNAL INHERENT PROTECTION-ONE PROTECTOR USE WITH CONTACTOR

ELECTRICAL CODES

D: 460-60hz-3ph 380/400-50hz-3ph

Miscellaneous

Alternate Application				
Refrigerant	Freq	Phase	Voltage	Application
CFC R-502	60	3 Ø	460 V	R2 MT
CFC R-502	50	3 Ø	380/420 V	R2 MT
HCFC R-22	60	3 Ø	460 V	R2 MD
HCFC R-22	50	3 Ø	380/420 V	R1 AC
HCFC R-22	50	3 Ø	380/420 V	R2 MD
HFC R-407A	60	3 Ø	460 V	R1 AC
HFC R-407A	60	3 Ø	460 V	R2 MD
HFC R-407A	50	3 Ø	380/420 V	R1 AC
HFC R-407A	50	3 Ø	380/420 V	R2 MD
HFC R-404A	60	3 Ø	460 V	R2 MD
Nomenclature				
2DA3R89KE-TFD				

Bill-of-Materials

2DA3R89KE-TFD - BILL OF MATERIALS	
100 - Common U.S. OEM Bill Of Materials	
Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	
Mounting Assembly	Not Available
Sight Glass	

Crankcase Heater
Schrader Valve
Tandem Ready
Module Voltage
Reference Drawing

1C0 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	
Mounting Assembly	Not Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	

200 - Common U.S. OEM Bill Of Materials

Suction Connection	Stub
Suction Size	1 3/8"
Discharge Connection	Stub
Discharge Size	1 1/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	

201 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	

210 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	

800 - Common U.S. Service Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"

Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	
Mounting Assembly	Not Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	

8R0 - Common U.S. Service Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	
Mounting Assembly	Not Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	

8S0 - Common U.S. Service Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	
Mounting Assembly	Not Available

Sight Glass
Crankcase Heater
Schrader Valve
Tandem Ready
Module Voltage
Reference Drawing

C00 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	497-1319-00_004.pdf

C01 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	
Mounting Assembly	Not Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	

Module Voltage

Reference Drawing

C10 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
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Suction Size	1 3/8"
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Discharge Connection	Sweat
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Discharge Size	7/8"
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Electrical Connection	Terminal Block
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Mounting Assembly	Available
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Sight Glass

Crankcase Heater

Schrader Valve

Tandem Ready

Module Voltage

Reference Drawing

C33 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
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Suction Size	1 3/8"
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Discharge Connection	Sweat
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Discharge Size	7/8"
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Electrical Connection	Terminal Block
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Mounting Assembly	Available
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Sight Glass

Crankcase Heater

Schrader Valve

Tandem Ready

Module Voltage

Reference Drawing

C40 - Common U.S. OEM Bill Of Materials

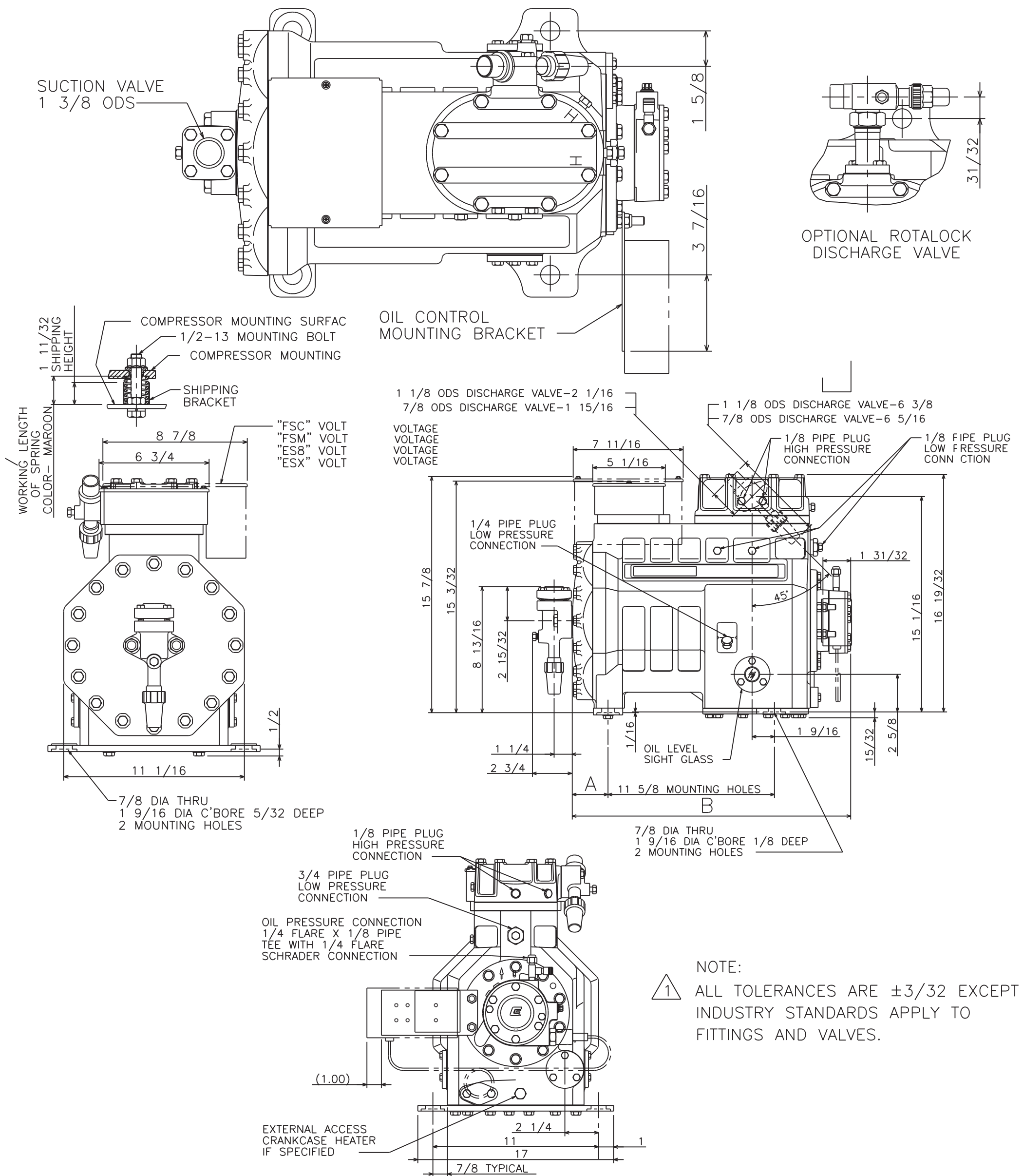
Suction Connection	Sweat
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Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	497-1319-00_004.pdf

C57 - Common U.S. OEM Bill Of Materials

Suction Connection	Sweat
Suction Size	1 3/8"
Discharge Connection	Sweat
Discharge Size	7/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	

Drawing



SPECIFICATIONS	
ES NO.	DESCRIPTION
ES22-122	PACKAGING
ES81-159	CLEANLINESS
ES81-250	IDENTIFICATION
ES92-167	REGULATORY COMPLIANCE
ES92-155	CONVERSION-METRIC

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