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Copeland[™]
brand products



EMERSON[™]



Project Report

Refrigerant	R449A Dew Point
High Side Properties:	
Condensing Temperature, °C	45.00
Abs. Condensing Pressure, bar	18.75
Dew Point, °C	45.00
Bubble Point, °C	40.50
Saturated vapour enthalpy, kJ/kg	413.00
Specific volume of saturated vapour, dm ³ /kg	11.30
Liquid Temperature, °C	40.50
Liquid enthalpy, kJ/kg	261.00
Low Side Properties:	
Evaporating Temperature, °C	-10.00
Evaporating Abs. Pressure, bar	3.58
Dew Point, °C	-10.00
Bubble Point, °C	-15.80
With vapour at, °C	0.00
Specific volume, dm ³ /kg	66.40
Enthalpy, kJ/kg	402.00
Operating Conditions:	
Evaporating Temperature, °C	-10.00
Condensing Temperature, °C	45.00
Suction Superheat, K	10.00
Subcooling, K	0.00
Compressor Selected	ZF11K4E-TFD

PERFORMANCE AT SPECIFIED OPERATING POINT
ZF11K4E-TFD Data at 50 Hz

Cooling Capacity, kW	5.33
Power, kW	2.59
COP	2.06
Current at 400 V, A	4.93
Suction Mass Flow, g/s	38.00
Heating Capacity, kW	7.80
Isentropic Eff., %	60.75

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Displacement @ 50 Hz, m ³ /h	9.95
Length/Width, mm	243/244
Height, mm	405
Net Weight, kg	28
Gross Weight, kg	31
Rotalock Suction, inch	1 1/4
Rotalock Discharge, inch	1
Oil Quantity, l	1.5
Oil type (original charge)	POE RL32-3MAF
Oil type (approved oils)	POE RL32-3MAF, POE MOBIL EAL Arctic 22 CC
Base mounting (hole dia), mm	190 x 190 (8.5)
Sound Pressure @ 1m (LT), dBA	63
Sound Power (LT), dBA	74
Sound Power with Sound Shell (LT), dBA	64
Sound Conditions (LT, Temperatures:	-35 / 40 / 20 °C at 50 Hz
Evap./Cond./Suction at freq./speed)	
PED Category	1
Max. Internal Free Volume, l	4.10
High Side PS gauge, bar	28.8
Low Side PS gauge, bar	21
Low Side TS Max., °C	50
Refrigerant's GWP	1397
Refrigerant's classification	A1

COMPRESSOR ELECTRICAL DATA (380-420 V / 3~ / 50 Hz)

Maximum Operating Current, A	7.1
Locked Rotor Current, A	46
Winding Resistance, ohm	4.03
Default Enclosure Class	IP 21 (IEC 34)

ACCESSORIES INCLUDED

Discharge Temperature Protection	Discharge line thermostat
Mounting Grommets	Standard

ACCESSORIES OPTIONAL

Crankcase Heater	70 W External
Oil Control System	ALCO Trax-Oil OM3
Sound Attenuation	Sound Shell (10dBA)
Current Sensing Relay	External
Liquid Injection	DTC Valve
Rotalock valves	suction and discharge

MODEL NUMBER	A±3.0	B	C	D±3.0	F	G ₋	H
ZF06K4/K4E	368.7	343.1	243.8	202.2	279.4	68.9	43.4
ZF08K4/K4E ZF09K4/K4E	391.3	365.7	263.7	222.1	302.0	74.6	49.1
ZF11K4/K4E	405.0	379.4	276.4	234.8	315.7	74.6	49.1
ZS15K4/K4E	368.7	343.1	243.8	202.2	OMIT	68.9	43.4
ZS19K4/K4E ZS21K4/K4E	391.3	365.7	263.7	222.1	OMIT	74.6	49.1
ZS26K4/K4E	405.0	379.4	276.4	234.8	OMIT	74.6	49.1
ZB15KC/KCE ZB19KC/KCE	368.7	343.1	243.8	202.2	OMIT	68.9	43.4
ZB21KC/KCE	391.3	365.7	263.7	222.1	OMIT	74.6	49.1
ZB26KC/KCE	405.0	379.4	276.4	234.8	OMIT	74.6	49.1
ZB29KCE	423.4	397.1	293.5	252.0	OMIT	74.6	49.1

