ENGINEERING DATA SHEET

CCN: 47549175001
Rev.: B
ECN: 1009175
Sheet: 1 of 2
Date: January-2016

R45ie-

Total Air System [TAS]

50Hz

Model			R45ie-7.5-TAS	R45ie-8.5-TAS	R45ie-10-TAS
GENERAL PERFORMANCE DATA					
Maximum Target Operating Pressure	(2)	barg (psig)	7.2 (104)	8.2 (119)	9.7 (141)
Rated Discharge Pressure		barg (psig)	7.0 (102)	8.0 (116)	9.5 (138)
Minimum Operating Pressure		barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)
Maximum Operating Ambient Temperature		°C (°F)	46 (115)	46 (115)	46 (115)
Minimum Operating Ambient Temperature		°C (°F)	2 (36)	2 (36)	2 (36)
Maximum System Temperature Setting		°C (°F)	109 (228)	109 (228)	109 (228)
Nominal Power - Main Motor		kW (HP)	45 (60)	45 (60)	45 (60)
Main Motor Efficiency	(3)	%	94.2%	94.2%	94.2%
Capacity FAD	(1)	m³/min (CFM)	8.0 (281)	7.6 (267)	6.8 (241)
Package Input Power with Fan and Dryer- Air Cooled	(4)	kW	58.9	60.6	61.8
Specific Power - Air Cooled	(4)(5)	kW/m^3/min (kW/100CFM)	7.4 (20.9)	8.0 (22.7)	9.1 (25.7)
SOUND LEVEL	(6)				
Noise Level Standard Package - Air Cooled		Sound Pressure - dB(A)	69	69	69
Noise Level Standard Package - Air Cooled		Sound Power - dB(A)	86	86	86
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)					
Heat Removal (Oil Cooler)		kW (1000 Btu/hr)	41.8 (143)	43.8 (149)	45.4 (155)
Heat Removal (Oil and Aftercooler)		kW (1000 Btu/hr)	54.2 (185)	55.5 (189)	56.0 (191)
Heat Removal (Dryer)		kW (1000 Btu/hr)	5.7 (19)	5.7 (19)	5.7 (19)
Permitted Additional Static Pressure		Pa (in H_2O)	63 (.25)	63 (.25)	63 (.25)
Fan Air Flow		m³/min (CFM)	176 (6215)	176 (6215)	176 (6215)
Fan Motor Nominal Power		kW	2.2	2.2	2.2
Cooling Air Temperature Rise		°C (°F)	17 (30)	17 (31)	17 (31)
Aftercooler CTD	(7)	°C (°F)	5 (9)	5 (9)	5 (9)
AIR END DATA					
Male Rotor Speed		RPM	1993	1917	1776
Tip Speed Rotor		m/sec	178.50	178.50	178.50
Full Load Shaft Power		kW	47.7	49.3	50.4
COOLANT LUBRICATION DATA					
Total Coolant Capacity - Air Cooled		litres (US gal)	49 (12.9)	49 (12.9)	49 (12.9)
PIPING CONNECTIONS					
Air Discharge		Inches BSPT	2.0 INCH (FEMALE)	2.0 INCH (FEMALE)	2.0 INCH (FEMALE)
Package Automatic Condensate Drain		Inches BSPT	.375 INCH (FEMALE)	.375 INCH (FEMALE)	.375 INCH (FEMALE)
Coolant Drain - Hose Size		Inches	0.75	0.75	0.75
Diameter of Power Inlet		Inches	Up to 4" (removable plate)	Up to 4" (removable plate)	Up to 4" (removable plate)
DIMENSIONS AND WEIGHT					
Length, Width, Height		mm (inches)	2432, 1265, 2032 (95.8, 49.8, 80)	2432, 1265, 2032 (95.8, 49.8, 80)	2432, 1265, 2032 (95.8, 49.8, 80)
Net Weight - Air Cooled		kg (lb.)	1753 (3865)	1753 (3865)	1753 (3865)
GA Drawing Number - Air Cooled			23701352	23701352	23701352
ELECTRICAL DATA	(13)				
Motor Protection			TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Air Cooled	(9)				
		Amps @ 380V	121	124	127
		Amps @ 400V	115	118	120
		Amps @ 415V	111	114	116
Package Locked Rotor Current					
		Amps @ 380V	886	886	886
		Amps @ 400V	841	841	841
		Amps @ 415V	811	811	811
Package Power Factor			0.87	0.87	0.87
Electrical Installation					
Recommended Supply Cable Size	(10)				
		mm²/Cu (AWG) @ 380V	35.00 (2)	35.00 (2)	35.00 (2)
		mm²/Cu (AWG) @ 400V	35.00 (2)	35.00 (2)	35.00 (2)
		mm²/Cu (AWG) @ 415V	35.00 (2)	35.00 (2)	35.00 (2)
Maximum Recommended Fuse Rating	(10)(11)				
		Amps @ 380V	175	175	175
		Amps @ 400V	175	175	175
		Amps @ 415V	175	175	175

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Refrigerated Dryer Data				
Refrigerant Type		R-404a	R-404a	R-404a
Refrigerant Quantity	Grams (Ounces)	1,800 (63)	1,800 (63)	1,800 (63)

	ISO Class	**Particles**			**Humidity and Liquid Water**	**Total Oil**
Filter Data	(Particles.Humidity and Liquid Water.Oil)	*[0.1 - 0.5 µm]*	*[0.5 - 1µm]*	*[1 - 5µm]*		
ISO Class Data	1.4.2	≤20.000	≤400	≤10	≤+3°C	≤0.1 mg/m³

Notes:

(1) FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex C
(2) Maximum pressure at package discharge, value at which compressor will stop when unit operating at maximum target pressure
(3) IE3 efficiency motor
(4) Measured at rated capacity and rated pressure
(5) Specific power guaranteed in accordance with ISO 1217 : 2009 Annex C
(6) Measured in free field conditions per ISO 2151 using Hemispherical Method; ducted inlet and outlet, with + 3 dB(A) tolerance
(7) CTD based on 100°F/38°C inlet air at 40% Relative Humidity (For alternate conditions contact Ingersoll Rand)
(8) BSPT or NPT, depending on regional standard
(9) Maximum current includes 10% additional current due to fouled filters and elements
(10) 90°C copper cables. Always apply local electrical codes for sizing cables and fusing
(11) Time delay fuse recommended. Apply local electrical codes for fuse sizing
(12) Coolant volumes listed are approximate. See operator manual for coolant fill proceedure
(13) 50Hz (±2%) motor voltage tolerance: (230)±10% ; (380)-6/+10% ; (400) ±10% ; (415)-10/+6%
(14) TAS units deliver ISO Class 1-4-2 quality air measured at steady state conditions in accordance with ISO 8573-1:2010, with inlet air to package of 25°C (77°F) and RH of 60%