



ENGINEERING DATA SHEET

R45ie- Total Air System (TAS) 60Hz

CCN: 47549176001
 Rev.: B
 ECN: 1009175
 Sheet: 1 of 2
 Date: January-2016

Model		R45ie-110-TAS	R45ie-125-TAS	R45ie-145-TAS
GENERAL PERFORMANCE DATA				
Maximum Target Operating Pressure	⁽²⁾ barg (psig)	7.1 (103)	8.2 (118)	9.5 (138)
Rated Discharge Pressure	barg (psig)	6.9 (100)	7.9 (115)	9.3 (135)
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⁾ %	95.0%	95.0%	95.0%
Capacity FAD	⁽¹⁾ m ³ /min (CFM)	8.2 (290)	7.5 (265)	6.8 (240)
Package Input Power with Fan and Dryer- Air Cooled	⁽⁴⁾ kW	59.6	59.5	60.3
Specific Power - Air Cooled	⁽⁴⁾⁽⁵⁾ kW/m ³ /min (kW/100CFM)	7.3 (20.5)	7.9 (22.5)	8.9 (25.2)
SOUND LEVEL				
Noise Level Standard Package - Air Cooled	⁽⁶⁾ 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)	42.7 (146)	43.2 (147)	44.5 (152)
Heat Removal (Oil and Aftercooler)	kW (1000 Btu/hr)	55.5 (189)	54.8 (187)	55.1 (188)
Heat Removal (Dryer)	kW (1000 Btu/hr)	5.7 (19)	5.7 (19)	5.7 (19)
Permitted Additional Static Pressure	Pa (in H ₂ O)	63 (.25)	63 (.25)	63 (.25)
Fan Air Flow	m ³ /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 (31)	17 (30)	17 (31)
Aftercooler CTD	⁽⁷⁾ °C (°F)	5 (9)	5 (9)	5 (9)
AIR END DATA				
Male Rotor Speed	RPM	2052	1902	1764
Tip Speed Rotor	m/sec	178.50	178.50	178.50
Full Load Shaft Power	kW	48.8	48.7	49.5
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 NPT	2.0 INCH (FEMALE)	2.0 INCH (FEMALE)	2.0 INCH (FEMALE)
Package Automatic Condensate Drain	Inches NPT	.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				
Motor Protection	⁽¹³⁾	TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Air Cooled	⁽⁹⁾			
	Amps @ 230V	200	200	203
	Amps @ 380V	121	121	123
	Amps @ 460V	100	100	102
	Amps @ 575V	80	80	81
Package Locked Rotor Current				
	Amps @ 230V	1710	1710	1710
	Amps @ 380V	1035	1035	1035
	Amps @ 460V	855	855	855
	Amps @ 575V	684	684	684
Package Power Factor		0.87	0.87	0.87
Electrical Installation				
Recommended Supply Cable Size	⁽¹⁰⁾			
	mm ² /Cu (AWG) @ 230V	70.00 (2/0)	70.00 (2/0)	70.00 (2/0)
	mm ² /Cu (AWG) @ 380V	35.00 (2)	35.00 (2)	35.00 (2)
	mm ² /Cu (AWG) @ 460V	35.00 (2)	35.00 (2)	35.00 (2)
	mm ² /Cu (AWG) @ 575V	16.00 (6)	16.00 (6)	16.00 (6)
Maximum Recommended Fuse Rating	⁽¹⁰⁾⁽¹¹⁾			
	Amps @ 230V	250	250	250
	Amps @ 380V	175	175	175
	Amps @ 460V	175	175	175
	Amps @ 575V	100	100	100



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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)

Filter Data	ISO Class	Particles			Humidity and Liquid Water	Total Oil
	(Particles, Humidity and Liquid Water, Oil)	[0.1 - 0.5µm]	[0.5 - 1µm]	[1 - 5µm]	≤+3°C	≤0.1 mg/m ³
ISO Class Data	1.4.2	≤20,000	≤400	≤10		

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 procedure
- (13) 60Hz (±0.5%) motor voltage tolerance: (208)±10% ; (220)±10% ; (230)±10% ; (380)-6/+10% ; (440) ±10% ; (460) ±10% ; (575) -6/+10%
- (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%

Product Improvement is a continuing goal at Ingersoll Rand. Design and specifications are subject to change without notice or obligation.