



ENGINEERING DATA SHEET

R45n Total Air System (TAS) 60Hz

CCN: 24192585
Rev.: C
ECN: 83426
Sheet: 1 of 2
Date: 3-Feb-2015

Model Name	R45N-X-TAS					
GENERAL PERFORMANCE DATA						
Rated Discharge Pressure	barg (psig)	7 (100)	7.5 (110)	8 (115)	8.5 (125)	9.5 (135)
Minimum Operation Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)
Capacity FAD @ Max Speed (1)	m ³ /min (CFM)	7.39 (261)	7.28 (257)	7.02 (248)	6.74 (238)	6.46 (228)
Capacity FAD @ Min Speed (1)	m ³ /min (CFM)	1.64 (58)	1.67 (59)	1.67 (59)	1.70 (60)	1.76 (62)
Turndown Percentage	Percent	78%	77%	76%	75%	73%
Maximum Target Operating Pressure (2)	barg (psig)			9.5 (138)		
Maximum Operating Ambient Temperature	°C (°F)			46 (115)		
Minimum Operating Ambient Temperature	°C (°F)			2 (35)		
Maximum System Temperature Setting	°C (°F)			109 (228)		
Nominal Power - Main Motor	kW (HP)			45.00 (60)		
Main Drive Efficiency (3)	Percent			97.00%		
Main Motor Efficiency (3)	%			93.70%		
Pkg Input Power w/Fan and Dryer- Air Cooled (4)	kW	58.0	59.5	59.5	59.6	58.9
Specific Power - Air Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	7.84 (22.2)	8.17 (23.1)	8.47 (24.0)	8.84 (25.0)	9.12 (25.8)
SOUND LEVEL (6)						
Standard Package - Air Cooled	dB(A)	69				
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)						
Heat Removal Oil Cooler	kW (1000 Btu/hr)	41 (140)	43 (146)	43 (147)	43 (148)	43 (147)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	52 (179)	54 (184)	54 (185)	54 (186)	54 (184)
Additional Static Pressure (13)	Pa (in H ₂ O)	See document 23883374				
Fan Air Flow	m ³ /min (cfm)	Nom: 84 (2984)		Max: 108 (3825)		
Fan Motor Nominal Power	kW	1.5				
Cooling Air Temperature Rise	°C (°F)	29 (52)	28 (51)	28 (51)	28 (50)	28 (50)
Aftercooler CTD(7)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
AIR END DATA						
Male Rotor Speed	rpm	5377	5287	5106	4925	4744
Tip Speed Rotor	m/sec	36.1	35.5	34.3	33.1	31.8
Full Load Shaft Power	kW	48.9	50.3	50.3	50.4	49.7
COOLANT LUBRICATION DATA						
Total Coolant Capacity - Air Cooled	litres (US gal)	26 (6.9)				
PIPING CONNECTIONS						
Air Discharge	Inches BSPT/NPT (9)	1.50				
Package Automatic Condensate Drain	Inches BSPT/NPT (9)	0.38				
Coolant Drain - Hose Size	Inches	0.88				
Diameter of Power Inlet	Inches	Up to 4.0" (removable plate)				
DIMENSIONS & WEIGHT						
			Base Mounted			
Length, Width, Height	mm (inches)	1947(77)/1114(44)/1635(64)				
Net Weight - Air Cooled	kg (lb.)	926(2041)				
GA Drawing Number - Air Cooled		24068652				
ELECTRICAL DATA						
		380V. 3Φ	460V. 3Φ	575V. 3Φ	440V. 3Φ	
Motor Protection		IP23 (ODP)				
Full Load Package Current - Air Cooled (10)	Amps	105.8	87.5	70.2	91.3	
Package Power Factor		0.93	0.93	0.93	0.93	
Electrical Installation						
Recommended Supply Cable Size (11)	mm ² /Cu (AWG or kcmil)	50(1/0)	35(1)	35(1)	35(1)	
Maximum Recommended Fuse Rating (11)(12)	Amps	150	150	150	150	



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Refrigerated Dryer Data

Pressure Dew Point ISO Class (14)	°C (°F)	ISO Class
		4

Refrigerant Weight of R-404a	Grams(oz)	1250(44)
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Filter Data

	ISO Class	Particulate Filtration	ISO Class	Liquid Filtration
Filter Detail - at 21°C (70°F)	2	0.01 micron	1	0.01 mg/m ³ (0.1 ppm)

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) At maximum speed and flow for the given package discharge pressure
 - (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, with + 3 dB(A) tolerance.
 - (7) 40% Relative Humidity Inlet Air and maximum speed (For alternate conditions contact IR)
 - (9) BSPT or NPT, depending on regional standard
 - (10) Maximum current includes 10% additional current due to fouled filters and elements
 - (11) 90°C copper cables. Always apply local electrical codes for sizing cables and fusing.
 - (12) Fast Acting Class-J, T or Semiconductor type fuse required. Apply local electrical codes for fuse sizing
 - (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%.
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Product Improvement is a continuing goal at Ingersoll Rand. Design and specifications are subject to change without notice or obligation.