



ENGINEERING DATA SHEET

R45n

50Hz

CCN: 24192411
 Rev.: B
 ECN: 82093
 Sheet: 1 of 1
 Date: 20-Aug-2013

Model Name		R45N-X7	R45N-X7.5	R45N-X8	R45N-X8.5	R45N-X9.5	R45N-X10		
GENERAL PERFORMANCE DATA									
Rated Discharge Pressure	barg (psig)	7 (100)	7.5 (110)	8 (115)	8.5 (125)	9.5 (135)	10 (145)		
Minimum Operation Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)		
Capacity FAD @ Max Speed (1)	m ³ /min (CFM)	7.42 (262)	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)	1.78 (63)		
Turndown Percentage	Percent	78%	77%	77%	76%	74%	72%		
Maximum Target Operating Pressure (2)	barg (psig)				10 (145)				
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)	Percent			93.70%					
Package Input Power w/Fan - Air Cooled (4)	kW	54.1	56.5	57.4	57.4	57.4	57.4		
Specific Power - Air Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	7.29 (20.6)	7.64 (21.6)	7.89 (22.3)	8.17 (23.1)	8.52 (24.1)	8.89 (25.2)		
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)	40 (136)	42 (144)	43 (148)	43 (148)	44 (150)	44 (150)		
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	53 (179)	55 (187)	56 (191)	56 (192)	56 (191)	56 (192)		
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)	28 (51)	28 (51)	28 (51)	28 (50)	28 (50)	28 (50)		
Aftercooler CTD, 60 Hz (7)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)		
AIR END DATA									
Male Rotor Speed	rpm	5400	5377	5287	5106	4925	4744		
Tip Speed Rotor	m/sec	36.2	36.1	35.5	34.3	33.1	31.8		
Full Load Shaft Power	kW	48.0	50.2	51.0	51.0	51.0	51.0		
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	mm / inch	Up to 4.0" (removable plate)							
DIMENSIONS & WEIGHT									
				Base Mounted					
Length, Width, Height	mm (inches)	1947(77)/1114(44)/ 1607(63)							
Net Weight - Air Cooled	kg (lb.)	776(1711)							
GA Drawing Number - Air Cooled		24068652							
ELECTRICAL DATA									
		380V. 3Φ		400V. 3Φ		415V. 3Φ		440V. 3Φ	
Motor Protection		IP23 (ODP)							
Full Load Package Current - Air Cooled (10)	Amps	103		98		94		86	
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)		50(1/0)		50(1/0)		50(1/0)	
Maximum Recommended Fuse Rating (11)(12)	Amps	150		150		150		150	
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									

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