



ENGINEERING DATA SHEET

R7.5n (IE3) Total Air System (TAS) 60Hz

CCN: 47523376001
Rev.: J
ECN: 1082712
Sheet: 1 of 2
Date: 13-Mar-2017

Model Name		R7.5n-X100	R7.5n-X110	R7.5n-X115	R7.5n-X125	R7.5n-X135
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)(13)	m ³ /min (CFM)	1.11 (39.3)	1.08 (38.3)	1.03 (36.3)	0.983 (34.7)	0.945 (33.4)
Capacity FAD @ Min Speed (1)(13)	m ³ /min (CFM)	0.416 (14.7)	0.405 (14.3)	0.400 (14.1)	0.391 (13.8)	0.385 (13.6)
Turndown Percentage	Percent	62.6%	62.7%	61.1%	60.2%	59.3%
Maximum Target Operating Pressure (2)	barg (psig)			9.5 (138)		
Maximum Operating Ambient Temperature	°C (°F)			40 (104)		
Minimum Operating Ambient Temperature	°C (°F)			2 (35)		
Maximum System Temperature Setting	°C (°F)			109 (228)		
Nominal Power - Main Motor	kW (HP)			7.5 (10.0)		
Main Drive Efficiency (3)	Percent			95.9%		
Main Motor Efficiency (3)	%			90.2%		
Pkg Input Power w/Fan and Dryer- Air Cooled (4)	kW	11.47	11.5	11.47	11.5	11.51
Specific Power - Air Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	10.31 (29.19)	10.60 (30.03)	11.16 (31.60)	11.73 (33.23)	12.18 (34.49)
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)	7.7 (26.3)	7.7 (26.3)	7.8 (26.6)	7.8 (26.6)	7.9 (27.0)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	9.1 (31.1)	9.1 (31.1)	9.1 (31.1)	9.1 (31.1)	9.2 (31.4)
Additional Static Pressure (13)	Pa (in H ₂ O)			See document 23883374		
Fan Air Flow - Compressor	m ³ /min (cfm)			34.0 (1200)		
- Dryer	m ³ /min (cfm)			15.3 (541)		
Fan Motor Nominal Power - Compressor	kW			0.3		
Fan Motor Efficiency	Percent			71.0%		
Cooling Air Temperature Rise	°C (°F)	25 (45)	25 (45)	25 (45)	25 (45)	25 (45)
Aftercooler CTD(7)	°C (°F)	7.5 (13.5)	7.5 (13.5)	7.5 (13.5)	7.5 (13.5)	7.5 (13.5)
AIR END DATA						
Male Rotor Speed	rpm	4839	4630	4533	4356	4194
Tip Speed Rotor	m/sec	18.8	18.0	17.6	16.9	16.31
Full Load Shaft Power	kW	8.72	8.75	8.72	8.77	8.76
COOLANT LUBRICATION DATA						
Total Coolant Capacity - Air Cooled	litres (US gal)			5 (1.32)		
PIPING CONNECTIONS						
Air Discharge	Inches BSPT			0.75		
Package Automatic Condensate Drain(8)	mm			10		
Coolant Drain - Hose Size	Inches			0.88		
Diameter of Power Inlet	Inches			M32 gland cable (cable diameters 12-21mm / 0.47-82)		
DIMENSIONS & WEIGHT						
		Receiver 120gal / 80gal				
Length, Width, Height	mm (inches)	1843(72.55)x764(30)x1808.5(71.2) / 1740.5(68.5)x764(30)x1706.5(67.2)				
Net Weight - Air Cooled	kg (lb.)	502 (1107) / 470 (1036)				
GA Drawing Number - Air Cooled		47518742 / 47518743				
ELECTRICAL DATA						
		208/230V 3Φ	220V 3Φ	380V 3Φ	440V 3Φ	460V 3Φ 575V 3Φ
Motor Protection		IP55	IP55	IP55	IP55	IP55
Full Load Package Current - Air Cooled (10)	Amps	41.7/37.5	39.4	22.5	20	18.7 14.7
Package Power Factor						
Electrical Installation						
Recommended Supply Cable Size (11)	mm ² /Cu (AWG or kcmil)	6 (AWG8)	6 (AWG8)	2.5 (AWG12)	2.5 (AWG12)	2.5 (AWG12) 1.5 (AWG14)
Maximum Recommended Fuse Rating (11)(12)	Amps	50/60	50	40	40	40 35



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Refrigerated Dryer Data		ISO Class	
Pressure Dew Point ISO Class (14)	°C (°F)	5	
Refrigerant Weight of R134a	Grams(oz)	320(11.29)	
Filter Data		Particulate	Liquid
		ISO Class	Filtration
Filter Detail - at 21°C (70°F)		1	0.01 micron
			ISO Class
			Filtration
			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)
- (8) Draining port Include push-in connector for nylon tubing
- (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
- (13) Performance predicted for variable pressure settings using 10barg configuration pulleys
- (14) TAS units deliver ISO Class 1-5-1 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.