



ENGINEERING DATA SHEET

R55i

50 Hz

CCN: 23769540
 Rev.: F
 ECN: 83739
 Sheet: 1 of 2
 Date: 15-Jun-2015

Model Name		R55I-X7.5	R55I-X8.5	R55I-X10	R55I-X14
GENERAL PERFORMANCE DATA					
Maximum Operating Pressure (2)	barg (psig)	7.5 (110)	8.5 (125)	10 (145)	14 (200)
Rated Discharge Pressure	barg (psig)	7 (100)	8 (115)	9.5 (135)	13.5 (190)
Minimum Operating Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)
Capacity FAD (1)	m ³ /min (CFM)	10.19 (360)	9.43 (333)	8.58 (303)	6.51 (230)
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)		55 (75)		
Main Motor Efficiency (3)	Percent		94.6%		
Package Input Power with Fan Motor - Air Cooled (4)	kW	64.8	66.0	65.1	68.0
Package Input Power with Fan Motor - Water Cooled (4)	kW	62.4	63.6	62.7	65.6
Specific Power - Air Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	6.36 (18.00)	7.00 (19.82)	7.59 (21.49)	0.84 (29.57)
Specific Power - Water Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	6.01 (17.01)	6.74 (19.08)	7.30 (20.68)	0.81 (28.5)
SOUND LEVEL (6)					
Standard Package - Air Cooled	dB(A)			69	
Standard Package - Water Cooled	dB(A)			69	
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)					
Heat Removal Oil Cooler	kW (1000 Btu/hr)	52 (177)	51 (173)	51 (174)	53 (181)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	65 (223)	66 (225)	66 (227)	65 (223)
Additional Static Pressure (15)	Pa (in H ₂ O)		60 (.25) - 250 (1.0)		
Air-cooled					
Fan Air Flow	m ³ /min (CFM)		176 (6200)		
Fan Motor Nominal Power	kW		2.2		
Cooling Air Temperature Rise	°C (°F)	24 (44)	24 (43)	24 (43)	23 (42)
Aftercooler CTD(7)	°C (°F)	5 (9)	5 (9)	5 (9)	5 (9)
Water-cooled - Standard Duty					
Fan Air Flow	m ³ /min (CFM)		76 (2700)		
Fan Motor Nominal Power	kW		0.3		
Aftercooler CTD (7)(8)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)
Cooling Water Flow					
@ 10°C (50°F)	l/min (gal/min)	54 (14)	56 (15)	56 (15)	57 (15)
@ 20°C (68°F)	l/min (gal/min)	55 (15)	56 (15)	57 (15)	57 (15)
@ 30°C (86°F)	l/min (gal/min)	56 (15)	58 (15)	58 (15)	58 (16)
@ 40°C (104°F)	l/min (gal/min)	58 (16)	60 (16)	60 (16)	60 (16)
@ 46°C (115°F)	l/min (gal/min)	61 (16)	62 (16)	62 (17)	62 (16)
Cooling Water Temperature Rise @ 30°C	°C (°F)	15 (28)	15 (28)	15 (28)	15 (28)
Cooling Water Pressure Drop	bar (psi)			Less than .88 bar (13 psi)	
Cooling Air Temperature Rise @ 30°C	°C (°F)	3 (6)	3 (6)	3 (6)	3 (6)
Water-cooled - Harsh Duty					
Fan Air Flow	m ³ /min (CFM)		76 (2700)		
Fan Motor Nominal Power	kW		0.4		
Aftercooler CTD (8)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)
Cooling Water Flow					
@ 10°C (50°F)	l/min (gal/min)	94 (25)	97 (26)	97 (26)	98 (26)
@ 20°C (68°F)	l/min (gal/min)	95 (25)	98 (26)	99 (26)	100 (26)
@ 30°C (86°F)	l/min (gal/min)	98 (26)	101 (27)	101 (27)	102 (27)
@ 40°C (104°F)	l/min (gal/min)	102 (27)	105 (28)	106 (28)	105 (28)
@ 46°C (115°F)	l/min (gal/min)	106 (28)	108 (29)	109 (29)	109 (29)
Cooling Water Temperature Rise @ 30°C	°C (°F)	10 (18)	10 (19)	10 (19)	10 (19)
Cooling Water Pressure Drop	bar (psi)			Less than .88 bar (13 psi)	
Cooling Air Temperature Rise	°C (°F)	3 (6)	4 (6)	4 (6)	4 (6)
Air End Data					
Male Rotor Speed	rpm	2459	2362	2183	1727
Tip Speed Rotor	m/sec	23.0	22.1	20.4	16.1
Full Load Shaft Power	kW	58.7	59.8	59.0	61.7



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CONSTRUCTION, FOUNDATION, AND MOUNTING DATA

PIPING CONNECTIONS

Air Discharge	Inches BSPT/NPT (9)	2.00
Package Automatic Condensate Drain	Inches BSPT/NPT (9)	0.38
Coolant Drain Plug	Inches BSPT/NPT (9)	0.75
Diameter of Power Inlet	mm / inch	Upto 4" (removable plate)
Water Inlet and Outlet Connections	Inches BSPT/NPT (9)	1.50

COOLANT LUBRICATION DATA

Total Coolant Capacity - Air Cooled	litres (US gal)	49 (13)
Total Coolant Capacity - Water Cooled - Std	litres (US gal)	31 (8)
Total Coolant Capacity - Water Cooled - Harsh	litres (US gal)	TBD

DIMENSIONS & WEIGHT

		Base Mounted	
Length / Width / Height	mm (inches)	2432(95.8) / 1265(49.8) / 2032 (80)	
Net Weight - Air Cooled	kg (lb.)	1603(3533)	
Net Weight - Water Cooled	kg (lb.)	1496 (3298)	
GA Drawing Number - Air Cooled		23701352	
GA Drawing Number - Water Cooled		23701345	

ELECTRICAL DATA ⁽¹⁴⁾

		380V. 3Φ	400V. 3Φ	415V. 3Φ
Motor Enclosure Protection			IP 55	
Full Load Package Current - Air Cooled (10)	Amps	134	128	123
Full Load Package Current - Water Cooled (10)	Amps	129	123	118
Package Locked Rotor Current	Amps	1261	1198	1155
Package Power Factor		0.83	0.83	0.83

Electrical Installation

Recommended Supply Cable Size (11)	mm ² /Cu (AWG or kcmil)	70(2/0)	70(2/0)	70(2/0)
Maximum Recommended Fuse Rating ⁽¹¹⁾⁽¹²⁾	Amps	200	200	200

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) 40% Relative Humidity Inlet Air and maximum speed (For alternate conditions contact Ingersoll Rand)
- (8) Ambient temperature equivalent to cooling water inlet temperature
- (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) Time delay fuse recommended. Apply local electrical codes for fuse sizing
- (13) Coolant volumes listed are approximate. See operator manual for coolant fill procedure.
- (14) Voltage tolerance: 357V - 440V
- (15) See detailed document 23883374

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