



ENGINEERING DATA SHEET

R75i

50Hz

CCN: 23769557
 Rev.: F
 ECN: 83739
 Sheet: 1 of 2
 Date: 15-Jun-2015

Model Name		R75I-X7.5	R75I-X8.5	R75I-X10	R75I-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)	13.34 (471)	12.77 (451)	11.61 (410)	8.83 (312)
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)		75 (100)		
Main Motor Efficiency (3)	Percent		95.0%		
Package Input Power with Fan Motor - Air Cooled (4)	kW	88.0	89.4	89.7	90.7
Package Input Power with Fan Motor - Water Cooled (4)	kW	85.6	87.0	87.3	88.3
Specific Power - Air Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	6.60 (18.68)	7.00 (19.82)	7.73 (21.88)	0.82 (29.07)
Specific Power - Water Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	6.41 (18.16)	6.81 (19.28)	7.52 (21.28)	0.80 (28.29)
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)	68 (233)	70 (238)	70 (241)	73 (249)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	87 (298)	89 (303)	89 (303)	88 (302)
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)	34 (61)	35 (62)	35 (62)	34 (62)
Aftercooler CTD(7)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)
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)	74 (20)	75 (20)	75 (20)	76 (20)
@ 20°C (68°F)	l/min (gal/min)	75 (20)	76 (20)	76 (20)	77 (20)
@ 30°C (86°F)	l/min (gal/min)	77 (20)	78 (21)	78 (21)	78 (21)
@ 40°C (104°F)	l/min (gal/min)	80 (21)	81 (22)	81 (22)	81 (22)
@ 46°C (115°F)	l/min (gal/min)	82 (22)	83 (22)	83 (22)	83 (22)
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)	4 (8)	5 (8)	5 (8)	5 (8)
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)	128 (34)	130 (35)	131 (35)	132 (35)
@ 20°C (68°F)	l/min (gal/min)	130 (35)	133 (35)	133 (35)	134 (36)
@ 30°C (86°F)	l/min (gal/min)	134 (36)	136 (36)	136 (36)	137 (36)
@ 40°C (104°F)	l/min (gal/min)	139 (37)	142 (38)	142 (38)	141 (38)
@ 46°C (115°F)	l/min (gal/min)	144 (38)	147 (39)	147 (39)	146 (39)
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)	5 (8)	5 (9)	5 (9)	5 (9)
Air End Data					
Male Rotor Speed	rpm	3296	3155	2897	2354
Tip Speed Rotor	m/sec	30.8	29.5	27.1	22.0
Full Load Shaft Power	kW	81.0	82.3	82.6	83.6

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.)	1718 (3787)
Net Weight - Water Cooled	kg (lb.)	1611 (3552)
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	179	171	164
Full Load Package Current - Water Cooled (10)	Amps	174	166	160
Package Locked Rotor Current	Amps	1490	1416	1365
Package Power Factor		0.83	0.83	0.83

Electrical Installation

		380V. 3Φ	400V. 3Φ	415V. 3Φ
Recommended Supply Cable Size (11)	mm ² /Cu (AWG or kcmil)	95(4/0)	95(4/0)	95(4/0)
Maximum Recommended Fuse Rating ⁽¹¹⁾⁽¹²⁾	Amps	250	250	250

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.