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Ingersoll Rand
Industrial Technologies

R75i
60Hz

ENGINEERING DATA SHEET

CCN: 23769656
Rev.: F
ECN: 83739
Sheet: 1 of 2
Date: 15-Jun-2015

Model Name		R75I-X110	R75I-X125	R75I-X145	R75I-X200
GENERAL PERFORMANCE DATA					
Maximum Operating Pressure (2)	barg (psig)	7.5 (110)	8.5 (125)	10.0 (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)	m³/min (CFM)	13.54 (478)	12.88 (455)	11.84 (418)	9.40 (332)
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	95.4%			
Package Input Power with Fan Motor - Air Cooled (4)	kW	87.8	89.4	90.2	90.1
Package Input Power with Fan Motor - Water Cooled (4)	kW	85.4	87.0	87.8	87.7
Specific Power - Air Cooled (4)(5)	kW/m3/min (kW/100cfm)	6.49 (18.37)	6.94 (19.65)	7.62 (21.58)	9.58 (27.14)
Specific Power - Water Cooled (4)(5)	kW/m3/min (kW/100cfm)	6.31 (17.86)	6.75 (19.11)	7.42 (21.)	9.33 (26.41)

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)	69	(237)	71	(242)	72	(246)	73	(249)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	89	(302)	90	(307)	91	(309)	90	(307)
Additional Static Pressure (15)	Pa (in H2O)	60 (.25) - 250 (1.0)							
Air-cooled									
Fan Air Flow	m³/min (CFM)	176 (6200)							
Fan Motor Nominal Power	kW	2.2							
Cooling Air Temperature Rise	°C (°F)	34	(62)	35	(63)	35	(63)	35	(63)
Aftercooler CTD(7)	°C (°F)	8	(15)	8	(15)	8	(15)	8	(15)
Water-cooled - Standard Duty									
Fan Air Flow	m³/min (CFM)	76 (2700)							
Fan Motor Nominal Power	kW	0.4							
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)	76	(20)	75	(20)
@ 20°C (68°F)	l/min (gal/min)	75	(20)	76	(20)	77	(20)	76	(20)
@ 30°C (86°F)	l/min (gal/min)	77	(20)	78	(21)	79	(21)	78	(21)
@ 40°C (104°F)	l/min (gal/min)	79	(21)	81	(22)	81	(22)	80	(21)
@ 46°C (115°F)	l/min (gal/min)	82	(22)	84	(22)	84	(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	m³/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)	131	(35)
@ 20°C (68°F)	l/min (gal/min)	130	(35)	132	(35)	134	(36)	133	(35)
@ 30°C (86°F)	l/min (gal/min)	133	(35)	136	(36)	137	(36)	136	(36)
@ 40°C (104°F)	l/min (gal/min)	139	(37)	142	(38)	143	(38)	141	(38)
@ 46°C (115°F)	l/min (gal/min)	144	(38)	147	(39)	148	(39)	146	(39)
Cooling Water Temperature Rise @ 30°C	°C (°F)	10	(18)	10	(18)	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	3329	3194	2945	2420
Tip Speed Rotor	m/sec	31.1	29.9	27.5	22.6
Full Load Shaft Power	kW	81.1	82.6	83.4	83.3

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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.)	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)		230V. 3Φ	380V. 3Φ	440V. 3Φ	460V. 3Φ	575V. 3Φ
Motor Enclosure Protection				IP 55		
Full Load Package Current - Air Cooled (10)	Amps	281	170	147	141	112
Full Load Package Current - Water Cooled (10)	Amps	272	164	142	136	109
Package Locked Rotor Current	Amps	1505	924	802	767	614
Package Power Factor		0.88	0.88	0.88	0.88	0.88
Electrical Installation						
Recommended Supply Cable Size (11)	mm²/Cu (AWG or kcmil)	240(500)	95(4/0)	95(3/0)	95(3/0)	50(1/0)
Maximum Recommended Fuse Rating (11)(12)	Amps	400	250	250	200	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) 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 proceedure.
(14) Voltage tolerance: (380V) ±6% ; (440, 460, 575V) ±10%
(15) See detailed document 23883374