



ENGINEERING DATA SHEET

RS220
60Hz

CCN: 47584713001
Rev.: E
ECN: 1299681
Sheet: 1 of 2
Date: May-2018

Model	RS220i-W110	RS220i-W125	RS220i-W145
GENERAL PERFORMANCE DATA			
Maximum Target Operating Pressure	⁽²⁾ barg (psig) 7.6 (110)	8.6 (125)	10.0 (145)
Rated Discharge Pressure	barg (psig) 6.9 (100)	7.9 (115)	9.3 (135)
Minimum Operating Pressure	barg (psig) 4.5 (65)	4.5 (65)	4.5 (65)
Maximum Operating Ambient Temperature	°C (°F) 46 (115)	46 (115)	46 (115)
Minimum Operating Ambient Temperature	°C (°F) 2 (36)	2 (36)	2 (36)
Maximum System Temperature Setting	°C (°F) 109 (228)	109 (228)	109 (228)
Nominal Power - Main Motor	kW (HP) 224 (300)	224 (300)	224 (300)
Main Motor Efficiency	% ⁽³⁾ 96.2%	96.2%	96.2%
Capacity FAD	⁽¹⁾ m ³ /min (CFM) 46.5 (1642)	44.7 (1579)	39.9 (1409)
Package Input Power with Fan - Water Cooled	⁽⁴⁾ kW 259.3	263.3	253.9
Specific Power - Water Cooled	⁽⁴⁾⁽⁵⁾ kW/m ³ /min (kW/100CFM) 5.6 (15.8)	5.9 (16.7)	6.4 (18.0)
SOUND LEVEL ⁽⁶⁾			
Noise Level Standard Package - Water Cooled	Sound Pressure - dB(A) 75	75	75
Noise Level Standard Package - Water Cooled	Sound Power - dB(A) 95	95	95
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)			
Heat Removal (Oil Cooler)	kW (1000 Btu/hr) 213.6 (729)	218.9 (747)	213.3 (728)
Heat Removal (Oil and Aftercooler)	kW (1000 Btu/hr) 285.4 (974)	287.8 (982)	274.9 (938)
Permitted Additional Static Pressure	Pa (in H ₂ O) 0 (.00)	0 (.00)	0 (.00)
Fan Air Flow	m ³ /min (CFM) 142 (5015)	142 (5015)	142 (5015)
Fan Motor Nominal Power	kW 1.1	1.1	1.1
Cooling Air Temperature Rise @ 30°C	°C (°F) 10 (18)	10 (18)	10 (18)
Cooling Water Temperature Rise @ 30°C	°C (°F) 20 (36)	20 (36)	20 (36)
Cooling Water Flow	⁽¹⁶⁾ l/min (US gal/min)		
@ 10 °C (50 °F)	117.4 (31.0)	119.2 (31.5)	113.8 (30.1)
@ 20 °C (68 °F)	156.5 (41.3)	158.9 (42.0)	151.8 (40.1)
@ 30 °C (86 °F)	239.7 (63.3)	233.2 (61.6)	200.9 (53.1)
@ 40 °C (104 °F)	271.6 (71.7)	262.9 (69.4)	222.3 (58.7)
@ 46 °C (115 °F)	303.2 (80.1)	292.9 (77.4)	245.5 (64.9)
Cooling Water Max Pressure	bar (psi) 9 (135)	9 (135)	9 (135)
Cooling Water Min Pressure	bar (psi) 1 (15)	1 (15)	1 (15)
Cooling Water Pressure Drop	bar (psi) 0 (4)	0 (4)	0 (3)
Aftercooler CTD	⁽⁷⁾ °C (°F) 8 (15)	8 (15)	8 (15)
AIR END DATA			
Main Rotor Speed	RPM 1469	1416	1269
Tip Speed Rotor	m/sec 25.54	24.62	22.06
Full Load Shaft Power	kW 248.2	252.1	243.0
COOLANT LUBRICATION DATA ⁽¹²⁾			
Total Coolant Capacity - Water Cooled	litres (US gal) 102 (26.9)	102 (26.9)	102 (26.9)
PIPING CONNECTIONS ⁽⁸⁾			
Air Discharge	Inches FLANGE 4.00 (8xM16; 7.5 IN B.C.)	4.00 (8xM16; 7.5 IN B.C.)	4.00 (8xM16; 7.5 IN B.C.)
Package Automatic Condensate Drain	Inches NPT .38 (FEMALE)	.38 (FEMALE)	.38 (FEMALE)
Coolant Drain - Hose Size	Inches 0.875	0.875	0.875
Diameter of Power Inlet	mm (Inches) 110 (4.3)	110 (4.3)	110 (4.3)
Water Inlet and Outlet Connections	Inches NPT 2.00 (FEMALE)	2.00 (FEMALE)	2.00 (FEMALE)
DIMENSIONS AND WEIGHT			
Length, Width, Height	mm (inches) 3752, 2150, 2504 (147.7, 84.6, 98.6)	3752, 2150, 2504 (147.7, 84.6, 98.6)	3752, 2150, 2504 (147.7, 84.6, 98.6)
Net Weight - Water Cooled	kg (lb.) 6270 (13823)	6270 (13823)	6270 (13823)
GA Drawing Number - Water Cooled	47589258	47589258	47589258
ELECTRICAL DATA ⁽¹³⁾			
Motor Protection	TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Water Cooled ⁽⁹⁾			
Amps @ 380V	505	512	494
Amps @ 460V	417	423	408
Amps @ 575V	334	339	327
Main Motor Locked Rotor Current ⁽¹⁴⁾			
Amps @ 380V	4050	4050	4050
Amps @ 460V	3345	3345	3345
Amps @ 575V	2638	2638	2638
Package Power Factor	0.86	0.86	0.86
Electrical Installation			
Recommended Supply Cable Size ⁽¹⁰⁾			
mm ² /Cu (Kcmil) @ 380V	800 (1500)	800 (1500)	800 (1500)
mm ² /Cu (Kcmil) @ 460V	500 (900)	500 (900)	500 (900)
mm ² /Cu (Kcmil) @ 575V	400 (600)	400 (600)	400 (600)
Maximum Recommended Fuse Rating ⁽¹⁰⁾⁽¹¹⁾			
Amps @ 380V	800	800	800
Amps @ 460V	700	700	700
Amps @ 575V	600	600	600



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MEDIUM VOLTAGE MODEL - ELECTRICAL DATA			
Motor Protection	IP55	IP55	IP55
Main Motor Current - Water Cooled			
Amps @ 2300V	86	86	86
Amps @ 4160V	50	50	50
Main Motor Locked Rotor Current			
Amps @ 2300V	518	518	518
Amps @ 4160V	275	275	275
Fan Motor Current - Water Cooled			
Amps @ 380V	3	3	3
Amps @ 460V	3	3	3
Amps @ 575V	2	2	2
DIMENSIONS AND WEIGHT			
Length, Width, Height	mm (inches)	4577, 2150, 2504 (180.2, 84.6, 98.6)	4577, 2150, 2504 (180.2, 84.6, 98.6)
Net Weight - Water Cooled	kg (lb.)	8350 (18409)	8350 (18409)
GA Drawing Number - Water Cooled		47589260	47589260

- Notes:**
- FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex C
 - Maximum pressure at package discharge, value at which compressor will stop when unit operating at maximum target pressure
 - IE3 efficiency motor
 - Measured at rated capacity and rated pressure
 - Specific power guaranteed in accordance with ISO 1217 : 2009 Annex C
 - Measured in free field conditions per ISO 2151 using Hemispherical Method; ducted inlet and outlet, with + 3 dB(A) tolerance
 - CTD based on 100°F/38°C inlet air at 40% Relative Humidity (For alternate conditions contact Ingersoll Rand)
 - BSPT or NPT, depending on regional standard
 - Maximum current includes 10% additional current due to fouled filters and elements
 - 90°C copper cables. Always apply local electrical codes for sizing cables and system protection
 - Time delay fuse recommended. Apply local electrical codes for fuse sizing
 - Coolant volumes listed are approximate. See operator manual for coolant fill procedure
 - 60Hz (±0.5%) motor voltage tolerance: (208)±10% ; (220)±10% ; (230)±10% ; (380)-6/+10% ; (440) ±10% ; (460) ±10% ; (575) -6/+10%
 - Star-Delta starting current inrush is about 33% of direct starting current
 - During the Star-Delta open-starting transition, the in-rush current value could instantaneously peak from 1.8 to 2.8 times the noted Locked-Rotor-Amperage (LRA) values

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