



# ENGINEERING DATA SHEET

## RS220 60Hz

CCN: 47584714001  
 Rev.: D  
 ECN: 1273617  
 Sheet: 1 of 2  
 Date: Nov-2017

Model		RS220ie-A110	RS220ie-A125	RS220ie-A145	RS220ie-A200
<b>GENERAL PERFORMANCE DATA</b>					
Maximum Target Operating Pressure	<sup>(2)</sup> barg (psig)	7.6 (110)	8.6 (125)	10.0 (145)	13.8 (200)
Rated Discharge Pressure	barg (psig)	6.9 (100)	7.9 (115)	9.3 (135)	13.1 (190)
Minimum Operating Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)
Maximum Operating Ambient Temperature	°C (°F)	46 (115)	46 (115)	46 (115)	46 (115)
Minimum Operating Ambient Temperature	°C (°F)	2 (36)	2 (36)	2 (36)	2 (36)
Maximum System Temperature Setting	°C (°F)	109 (228)	109 (228)	109 (228)	109 (228)
Nominal Power - Main Motor	kW (HP)	224 (300)	224 (300)	224 (300)	224 (300)
Main Motor Efficiency	<sup>(3)</sup> %	96.2%	96.2%	96.2%	96.2%
Capacity FAD	<sup>(1)</sup> m <sup>3</sup> /min (CFM)	48.0 (1695)	44.8 (1582)	42.0 (1483)	36.1 (1275)
Package Input Power with Fan - Air Cooled	<sup>(4)</sup> kW	263.5	261.4	266.6	272.8
Specific Power - Air Cooled	<sup>(4)(5)</sup> kW/m <sup>3</sup> /min (kW/100CFM)	5.5 (15.5)	5.8 (16.5)	6.3 (18.0)	7.6 (21.4)
<b>SOUND LEVEL</b>					
Noise Level Standard Package - Air Cooled	<sup>(6)</sup> Sound Pressure - dB(A)	75	75	75	75
Noise Level Standard Package - Air Cooled	Sound Power - dB(A)	95	95	95	95
<b>COOLING DATA (@ Maximum Ambient Temperature &amp; Maximum Discharge Pressure)</b>					
Heat Removal (Oil Cooler)	kW (1000 Btu/hr)	208.3 (711)	208.7 (712)	215.8 (736)	226.2 (772)
Heat Removal (Oil and Aftercooler)	kW (1000 Btu/hr)	284.1 (969)	279.6 (954)	282.6 (964)	284.0 (969)
Permitted Additional Static Pressure	Pa (in H <sub>2</sub> O)	63 (.25)	63 (.25)	63 (.25)	63 (.25)
Fan Air Flow	m <sup>3</sup> /min (CFM)	453 (15998)	453 (15998)	453 (15998)	453 (15998)
Fan Motor Nominal Power	kW	8.0	8.0	8.0	8.0
Cooling Air Temperature Rise @ 30°C	°C (°F)	28 (51)	28 (51)	29 (52)	29 (53)
Aftercooler CTD	<sup>(7)</sup> °C (°F)	7 (13)	7 (12)	7 (12)	6 (11)
<b>AIR END DATA</b>					
STG1 Male Rotor Speed	RPM	1338	1257	1179	1010
STG1 Rotor Tip Speed	m/sec	24.45	22.97	21.54	18.46
STG2 Male Rotor Speed	RPM	1544	1444	1350	1138
STG2 Rotor Tip Speed	m/sec	20.78	19.43	18.17	15.31
Full Load Shaft Power	kW	244.0	242.0	247.0	253.0
<b>COOLANT LUBRICATION DATA</b>					
Total Coolant Capacity - Air Cooled	<sup>(12)</sup> litres (US gal)	121 (32.0)	121 (32.0)	121 (32.0)	121 (32.0)
<b>PIPING CONNECTIONS</b>					
Air Discharge	<sup>(8)</sup> 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)	4.00 (8xM16; 7.5 IN B.C)
Package Automatic Condensate Drain	Inches NPT	.38 (FEMALE)	.38 (FEMALE)	.38 (FEMALE)	.38 (FEMALE)
Coolant Drain - Hose Size	Inches	0.875	0.875	0.875	0.875
Diameter of Power Inlet	mm (Inches)	110 (4.3)	110 (4.3)	110 (4.3)	110 (4.3)
<b>DIMENSIONS AND WEIGHT</b>					
Length, Width, Height	mm (inches)	4320, 2150, 2504 (170.1, 84.6, 98.6)	4320, 2150, 2504 (170.1, 84.6, 98.6)	4320, 2150, 2504 (170.1, 84.6, 98.6)	4320, 2150, 2504 (170.1, 84.6, 98.6)
Net Weight - Air Cooled	kg (lb.)	7655 (16876)	7655 (16876)	7655 (16876)	7655 (16876)
GA Drawing Number - Air Cooled		47589259	47589259	47589259	47589259
<b>ELECTRICAL DATA</b>					
Motor Protection	<sup>(13)</sup>	TEFC, IP55	TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Air Cooled	<sup>(9)</sup>				
	Amps @ 380V	513	508	519	531
	Amps @ 460V	423	420	428	438
	Amps @ 575V	339	336	343	351
Main Motor Locked Rotor Current	<sup>(14)</sup>				
	Amps @ 380V	4050	4050	4050	4050
	Amps @ 460V	3345	3345	3345	3345
	Amps @ 575V	2638	2638	2638	2638
Package Power Factor		0.86	0.86	0.86	0.86
<b>Electrical Installation</b>					
Recommended Supply Cable Size	<sup>(10)</sup>				
	mm <sup>2</sup> /Cu (Kcmil) @ 380V	800 (1500)	800 (1500)	800 (1500)	800 (1500)
	mm <sup>2</sup> /Cu (Kcmil) @ 460V	500 (900)	500 (900)	500 (900)	500 (900)
	mm <sup>2</sup> /Cu (Kcmil) @ 575V	400 (600)	400 (600)	400 (600)	400 (600)
Maximum Recommended Fuse Rating	<sup>(10)(11)</sup>				
	Amps @ 380V	800	800	800	800
	Amps @ 460V	700	700	700	700
	Amps @ 575V	600	600	600	600



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**RS220**  
60Hz

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Model		RS220ie-A110	RS220ie-A125	RS220ie-A145	RS220ie-A200
<b>MEDIUM VOLTAGE MODEL - ELECTRICAL DATA</b>					
Motor Protection		IP55	IP55	IP55	IP55
Main Motor Current - Air Cooled					
	Amps @ 2300V	86	86	86	86
	Amps @ 4160V	50	50	50	50
Main Motor Locked Rotor Current					
	Amps @ 2300V	518	518	518	518
	Amps @ 4160V	275	275	275	275
Blower Motor Current - Air Cooled					
	Amps @ 380V	19	19	19	19
	Amps @ 460V	16	16	16	16
	Amps @ 575V	13	13	13	13
<b>DIMENSIONS AND WEIGHT</b>					
Length, Width, Height	mm (inches)	5140, 2150, 2504 (202.4, 84.6, 98.6)	5140, 2150, 2504 (202.4, 84.6, 98.6)	5140, 2150, 2504 (202.4, 84.6, 98.6)	5140, 2150, 2504 (202.4, 84.6, 98.6)
Net Weight - Air Cooled	kg (lb.)	9598 (21160)	9598 (21160)	9598 (21160)	9598 (21160)
GA Drawing Number - Air Cooled		47589261	47589261	47589261	47589261

**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 Canada, CTD of CRN Cooler is 11.3°C (20°F) (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.