



# ENGINEERING DATA SHEET

## RS250 60Hz

CCN: 47590677001  
 Rev.: C  
 ECN: 1267546  
 Sheet: 1 of 2  
 Date: Sep-2017

Model RS250n-A145

### GENERAL PERFORMANCE DATA

Maximum Target Operating Pressure	(2)	barg (psig)		10.0 (145)						
Rated Discharge Pressure		barg (psig)		10.0 (145)						
Minimum Operating Pressure		barg (psig)		4.5 (65)						
Capacity FAD	(1)		<i>Max RPM</i>	<b>Max</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Min</b>	<i>Min RPM</i>
@ 10 barg (145 psig)		m <sup>3</sup> /min (CFM)	1419	40.7 (1437)	38.0 (1342)	32.8 (1158)	27.4 (968)	22.1 (780)	16.8 (593)	628
@ 9.3 barg (135 psig)		m <sup>3</sup> /min (CFM)	1486	42.6 (1504)	39.8 (1406)	34.1 (1204)	28.3 (999)	22.6 (798)	16.8 (593)	628
@ 8.6 barg (125 psig)		m <sup>3</sup> /min (CFM)	1552	44.6 (1575)	41.9 (1480)	35.7 (1261)	29.4 (1038)	23.2 (819)	16.9 (597)	628
@ 7.9 barg (115 psig)		m <sup>3</sup> /min (CFM)	1617	46.7 (1649)	43.3 (1529)	36.8 (1300)	30.2 (1067)	23.6 (833)	16.9 (597)	628
@ 7.6 barg (110 psig)		m <sup>3</sup> /min (CFM)	1650	47.5 (1677)	44.3 (1564)	37.6 (1328)	30.7 (1084)	23.8 (840)	16.9 (597)	628
@ 6.9 barg (100 psig)		m <sup>3</sup> /min (CFM)	1714	49.6 (1752)	46.0 (1624)	38.7 (1367)	31.5 (1112)	24.3 (858)	16.9 (597)	628
Maximum Operating Ambient Temperature		°C (°F)				46 (115)				
Minimum Operating Ambient Temperature		°C (°F)				2 (36)				
Maximum System Temperature Setting		°C (°F)				109 (228)				
Nominal Power - Main Motor		kW (HP)				250 (335)				
Main Motor Efficiency	(3)	%				96.0%				
Main Inverter Drive Efficiency		%				97.0%				
Package Input Power with Fan - Air Cooled	(4)		<i>Max RPM</i>	<b>Max</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Min</b>	<i>Min RPM</i>
@ 10 barg (145 psig)		kW (HP)	1419	283.5 (380)	263.2 (353)	227.0 (304)	195.0 (262)	159.9 (214)	128.2 (172)	628
@ 9.3 barg (135 psig)		kW (HP)	1486	287.0 (385)	265.8 (356)	227.5 (305)	193.2 (259)	156.4 (210)	122.8 (165)	628
@ 8.6 barg (125 psig)		kW (HP)	1552	289.9 (389)	269.9 (362)	229.0 (307)	192.3 (258)	153.1 (205)	117.4 (157)	628
@ 7.9 barg (115 psig)		kW (HP)	1617	292.4 (392)	268.9 (361)	226.5 (304)	189.0 (253)	148.8 (199)	111.9 (150)	628
@ 7.6 barg (110 psig)		kW (HP)	1650	292.8 (393)	270.1 (362)	226.8 (304)	188.1 (252)	146.9 (197)	109.4 (147)	628
@ 6.9 barg (100 psig)		kW (HP)	1714	294.3 (395)	269.4 (361)	224.6 (301)	184.7 (248)	142.5 (191)	104.0 (139)	628
Specific Power - Air Cooled	(4)(5)		<i>Max RPM</i>	<b>Max</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Min</b>	<i>Min RPM</i>
@ 10 barg (145 psig)		kW/m <sup>3</sup> /min (kW/100CFM)	1419	7.0 (19.7)	6.9 (19.6)	6.9 (19.6)	7.1 (20.2)	7.2 (20.5)	7.6 (21.6)	628
@ 9.3 barg (135 psig)		kW/m <sup>3</sup> /min (kW/100CFM)	1486	6.7 (19.1)	6.7 (18.9)	6.7 (18.9)	6.8 (19.3)	6.9 (19.6)	7.3 (20.7)	628
@ 8.6 barg (125 psig)		kW/m <sup>3</sup> /min (kW/100CFM)	1552	6.5 (18.4)	6.4 (18.2)	6.4 (18.2)	6.5 (18.5)	6.6 (18.7)	6.9 (19.7)	628
@ 7.9 barg (115 psig)		kW/m <sup>3</sup> /min (kW/100CFM)	1617	6.3 (17.7)	6.2 (17.6)	6.2 (17.4)	6.3 (17.7)	6.3 (17.8)	6.6 (18.7)	628
@ 7.6 barg (110 psig)		kW/m <sup>3</sup> /min (kW/100CFM)	1650	6.2 (17.5)	6.1 (17.3)	6.0 (17.1)	6.1 (17.4)	6.2 (17.5)	6.5 (18.3)	628
@ 6.9 barg (100 psig)		kW/m <sup>3</sup> /min (kW/100CFM)	1714	5.9 (16.8)	5.9 (16.6)	5.8 (16.4)	5.9 (16.6)	5.9 (16.6)	6.2 (17.4)	628

### SOUND LEVEL

Noise Level Standard Package - Air Cooled	(6)	Sound Pressure - dB(A)		75
Noise Level Standard Package - Air Cooled		Sound Power - dB(A)		95

### COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)

Heat Removal (Oil Cooler)			<i>Max RPM</i>	<b>Max</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Min</b>	<i>Min RPM</i>
@ 10 barg (145 psig)		kW (1000 Btu/hr)	1419	227.7 (777)	212.6 (725)	182.7 (623)	153.5 (524)	125.4 (428)	97.9 (334)	628
Heat Removal (Oil and Aftercooler)										
@ 10 barg (145 psig)		kW (1000 Btu/hr)	1419	290.1 (990)	270.8 (924)	233.0 (795)	195.5 (667)	159.2 (543)	123.7 (422)	628
Permitted Additional Static Pressure		Pa (in H <sub>2</sub> O)				63 (.25)				
Fan / Blower Airflow		m <sup>3</sup> /min (CFM)				453 (15998)				
Fan / Blower Motor Nominal Power		kW				8.0				
Cooling Air Temperature Rise @ 30°C		°C (°F)				30 (54)				
Aftercooler CTD	(7)	°C (°F)				10 (18)				

### AIR END DATA

Male Rotor Speed		RPM		1297
Tip Speed Rotor		m/sec		22.55
Full Load Shaft Power		kW		258.0



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Model		RS250n-A145
<b>COOLANT LUBRICATION DATA</b>		
Total Coolant Capacity - Air Cooled	litres (US gal)	95.0 (25.1)
<b>PIPING CONNECTIONS</b>		
Air Discharge	Inches Flange	4.00 (8xM16; 7.5 IN B.C)
Package Automatic Condensate Drain	Inches NPT	.38 (FEMALE)
Coolant Drain - Hose Size	Inches	0.875
Diameter of Power Inlet	mm / (inches)	110 (4.3)
<b>DIMENSIONS AND WEIGHT</b>		
Length, Width, Height	mm (inches)	3752, 2150, 2504 (147.7, 84.6, 98.6)
Net Weight - Air Cooled	kg (lb.)	7161 (15787)
GA Drawing Number - Air Cooled		47589258
<b>ELECTRICAL DATA</b> <sup>(13)</sup>		
Motor Protection		TEFC, IP55
Motor, Number of Poles		4
Motor Insulation Class / Temperature Rise		Class F, 155 °C
Full Load Package Current - Air Cooled	<sup>(9)</sup>	
	Amps @ 380V	522
	Amps @ 460V	432
	Amps @ 575V	345
Package Power Factor		0.92
<b>Electrical Installation</b>		
Recommended Supply Cable Size	<sup>(10)</sup>	
	mm <sup>2</sup> /Cu (Kcmil) @ 380V	2x400 (2x700)
	mm <sup>2</sup> /Cu (Kcmil) @ 460V	800 (1250)
	mm <sup>2</sup> /Cu (Kcmil) @ 575V	400 (750)
Maximum Recommended Fuse Rating	<sup>(10)(11)</sup>	
	Amps @ 380V	1000
	Amps @ 460V	1000
	Amps @ 575V	700

**Notes :**

- FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex E
- Maximum pressure at package discharge, value at which compressor will stop when unit operating at maximum target pressure
- Equivalent to IE3 efficiency motor
- Measured at rated capacity and rated pressure
- Specific power guaranteed in accordance with ISO 1217 : 2009 Annex E
- 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
- Fast acting Class-J, T or semiconductor type, current limiting, and Interrupt rating-200,000 Amps RMS. 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%

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