



ENGINEERING DATA SHEET

RS185
60Hz

CCN: 47584707001
Rev.: E
ECN: 1293681
Sheet: 1 of 2
Date: May-2018

Model		RS185ie-W110	RS185ie-W125	RS185ie-W145	RS185ie-W200
GENERAL PERFORMANCE DATA					
Maximum Target Operating Pressure	⁽²⁾ 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)	187 (250)	187 (250)	187 (250)	187 (250)
Main Motor Efficiency	%	96.2%	96.2%	96.2%	96.2%
Capacity FAD	⁽¹⁾ m ³ /min (CFM)	40.9 (1444)	39.3 (1388)	36.0 (1271)	30.1 (1063)
Package Input Power with Fan - Water Cooled	⁽⁴⁾ kW	214.9	220.7	219.6	219.7
Specific Power - Water Cooled	⁽⁴⁾⁽⁵⁾ kW/m ³ /min (kW/100CFM)	5.3 (14.9)	5.6 (15.9)	6.1 (17.3)	7.3 (20.7)
SOUND LEVEL					
Noise Level Standard Package - Water Cooled	⁽⁶⁾ Sound Pressure - dB(A)	75	75	75	75
Noise Level Standard Package - Water Cooled	Sound Power - dB(A)	95	95	95	95
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)					
Heat Removal (Oil Cooler)	kW (1000 Btu/hr)	175.1 (597)	181.9 (621)	183.2 (625)	187.6 (640)
Heat Removal (Oil and Aftercooler)	kW (1000 Btu/hr)	238.2 (813)	242.5 (827)	238.8 (815)	234.1 (799)
Permitted Additional Static Pressure	Pa (in H ₂ O)	0 (.00)	0 (.00)	0 (.00)	0 (.00)
Fan Air Flow	m ³ /min (CFM)	142 (5015)	142 (5015)	142 (5015)	142 (5015)
Fan Motor Nominal Power	kW	1.1	1.1	1.1	1.1
Cooling Air Temperature Rise @ 30°C	°C (°F)	10 (18)	10 (18)	10 (18)	10 (18)
Cooling Water Temperature Rise @ 30°C	°C (°F)	20 (36)	20 (36)	20 (36)	20 (36)
Cooling Water Flow	⁽¹⁶⁾ l/min (US gal/min)				
@ 10 °C (50 °F)	l/min (US gal/min)	100.1 (26.5)	99.2 (26.2)	99.0 (26.2)	80.1 (21.2)
@ 20 °C (68 °F)	l/min (US gal/min)	133.5 (35.3)	132.3 (34.9)	132.1 (34.9)	106.8 (28.2)
@ 30 °C (86 °F)	l/min (US gal/min)	189.6 (50.1)	176.5 (46.6)	166.5 (44.0)	149.5 (39.5)
@ 40 °C (104 °F)	l/min (US gal/min)	207.9 (54.9)	191.8 (50.7)	179.4 (47.4)	109.6 (29.0)
@ 46 °C (115 °F)	l/min (US gal/min)	228.8 (60.4)	210.1 (55.5)	195.8 (51.7)	93.5 (24.7)
Cooling Water Max Pressure	bar (psi)	9 (135)	9 (135)	9 (135)	9 (135)
Cooling Water Min Pressure	bar (psi)	1 (15)	1 (15)	1 (15)	1 (15)
Cooling Water Pressure Drop	bar (psi)	0 (2)	0 (2)	0 (2)	0 (1)
Aftercooler CTD	⁽⁷⁾ °C (°F)	8 (15)	8 (15)	8 (15)	8 (15)
AIR END DATA					
STG1 Male Rotor Speed	RPM	1142	1106	1003	846
STG1 Rotor Tip Speed	m/sec	20.87	20.21	18.33	15.46
STG2 Male Rotor Speed	RPM	1306	1262	1138	953
STG2 Rotor Tip Speed	m/sec	17.57	16.98	15.31	12.82
Full Load Shaft Power	kW	205.5	211.1	210.0	210.0
COOLANT LUBRICATION DATA					
Total Coolant Capacity - Water Cooled	⁽¹²⁾ litres (US gal)	129 (34.1)	129 (34.1)	129 (34.1)	129 (34.1)
PIPING CONNECTIONS					
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)	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)
Water Inlet and Outlet Connections	Inches NPT	2.00 (FEMALE)	2.00 (FEMALE)	2.00 (FEMALE)	2.00 (FEMALE)
DIMENSIONS AND WEIGHT					
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 - Water Cooled	kg (lb.)	7380 (16270)	7380 (16270)	7380 (16270)	7380 (16270)
GA Drawing Number - Water Cooled		47589259	47589259	47589259	47589259
ELECTRICAL DATA					
Motor Protection	⁽¹³⁾	TEFC, IP55	TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Water Cooled	⁽⁹⁾				
	Amps @ 380V	423	435	432	432
	Amps @ 460V	350	359	357	357
	Amps @ 575V	280	287	286	286
Main Motor Locked Rotor Current	⁽¹⁴⁾				
	Amps @ 380V	2966	2966	2966	2966
	Amps @ 460V	2450	2450	2450	2450
	Amps @ 575V	2142	2142	2142	2142
Package Power Factor		0.85	0.85	0.85	0.85
Electrical Installation					
Recommended Supply Cable Size	⁽¹⁰⁾				
	mm ² /Cu (Kcmil) @ 380V	500 (900)	500 (900)	500 (900)	500 (900)
	mm ² /Cu (Kcmil) @ 460V	400 (700)	400 (700)	400 (700)	400 (700)
	mm ² /Cu (Kcmil) @ 575V	300 (500)	300 (500)	300 (500)	300 (500)
Maximum Recommended Fuse Rating	⁽¹⁰⁾⁽¹¹⁾				
	Amps @ 380V	700	700	700	700
	Amps @ 460V	600	600	600	600
	Amps @ 575V	500	500	500	500



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Model	RS185ie-W110	RS185ie-W125	RS185ie-W145	RS185ie-W200
MEDIUM VOLTAGE MODEL - ELECTRICAL DATA				
Motor Protection	IP55	IP55	IP55	IP55
Main Motor Current - Water Cooled				
Amps @ 2300V	72	72	72	72
Amps @ 4160V	41	41	41	41
Main Motor Locked Rotor Current				
Amps @ 2300V	396	396	396	396
Amps @ 4160V	226	226	226	226
Fan Motor Current - Water Cooled				
Amps @ 380V	3	3	3	3
Amps @ 460V	3	3	3	3
Amps @ 575V	2	2	2	2
DIMENSIONS AND WEIGHT				
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)
Net Weight - Water Cooled	kg (lb.)	9403 (20730)	9403 (20730)	9403 (20730)
GA Drawing Number - Water Cooled		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 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.