

Model Name		R160I-X110	R160I-X125	R160I-X145	R160I-X200
GENERAL PERFORMANCE DATA					
Maximum Operating Pressure ⁽²⁾	barg (psig)	7.5 (110)	8.5 (125)	10 (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⁾	m ³ /min (cfm)	27.89 (985)	25.63 (905)	24.49 (865)	19.68 (695)
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	HP		200		
Main Motor Efficiency ⁽³⁾	Percent		96.2%		
Pkg. Input Power with Fan Motor - Air Cooled ⁽⁴⁾	kW	176.0	175.5	183.0	180.5
Pkg. Input Power with Fan Motor - Water Cooled ⁽⁴⁾	kW	167.8	167.3	174.8	172.3
Specific Power - Air Cooled ⁽⁴⁾⁽⁵⁾	kW/m ³ /min (kW/100cfm)	6.31 (17.87)	6.85 (19.39)	7.47 (21.16)	9.17 (25.97)
Specific Power - Water Cooled ⁽⁴⁾⁽⁵⁾	kW/m ³ /min (kW/100cfm)	6.02 (17.04)	6.53 (18.48)	7.14 (20.21)	8.76 (24.79)
SOUND LEVEL ⁽⁶⁾					
Standard Package - Air Cooled	dB(A)			75	
Standard Package - Water Cooled	dB(A)			72	
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)					
Heat Removal Oil Cooler	kW (1000 Btu/hr)	168 (573)	168 (573)	155 (530)	178 (607)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	208 (710)	209 (712)	194 (661)	212 (722)
Additional Static Pressure ⁽¹⁶⁾	Pa (in H ₂ O)		60 (0.25) - 250 (1.0)		
Air-cooled					
Fan Air Flow	m ³ /min (cfm)		363 (12829)		
Fan Motor Nominal Power	kW		5.5		
Cooling Air Temperature Rise	°C (°F)	28 (51)	30 (54)	35 (63)	41 (74)
Aftercooler CTD, 50 Hz ⁽⁷⁾	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)
Water-cooled - Standard Duty					
Fan Air Flow	m ³ /min (cfm)		115 (4000)		
Fan Motor Nominal Power	kW		0.8		
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)	214 (57)	214 (57)	218 (58)	218 (58)
@ 20°C (68°F)	l/min (gal/min)	218 (58)	218 (58)	222 (59)	222 (59)
@ 30°C (86°F)	l/min (gal/min)	229 (61)	229 (61)	229 (61)	237 (63)
@ 40°C (104°F)	l/min (gal/min)	233 (62)	237 (63)	241 (64)	241 (64)
@ 46°C (115°F)	l/min (gal/min)	237 (63)	237 (63)	248 (66)	244 (65)
Cooling Water Temperature Rise @ 30°C	°C (°F)	11 (20)	11 (20)	11 (20)	11 (20)
Cooling Water Pressure Drop	bar (psi)		Less Than 0.88 bar (13 psi)		
Cooling Air Temperature Rise @ 30°C	°C (°F)	9 (16)	9 (16)	9 (17)	9 (17)
Water-cooled - Harsh Duty					
Fan Air Flow	m ³ /min (cfm)		115 (4000)		
Fan Motor Nominal Power	kW		0.8		
Aftercooler CTD ⁽⁸⁾	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)
Cooling Water Flow					
@ 10°C (50°F)	l/min (gal/min)	143 (38)	144 (38)	209 (56)	229 (61)
@ 20°C (68°F)	l/min (gal/min)	140 (37)	142 (38)	182 (49)	199 (53)
@ 30°C (86°F)	l/min (gal/min)	141 (38)	143 (38)	164 (44)	173 (46)
@ 40°C (104°F)	l/min (gal/min)	180 (48)	176 (47)	201 (54)	188 (50)
@ 46°C (115°F)	l/min (gal/min)	182 (49)	188 (50)	211 (56)	230 (61)
Cooling Water Temperature Rise @ 30°C	°C (°F)	13 (24)	13 (24)	13 (23)	13 (23)
Cooling Water Pressure Drop	bar (psi)		Less Than 0.88 bar (13 psi)		
Cooling Air Temperature Rise	°C (°F)	8 (15)	8 (15)	8 (15)	9 (16)
AIR END DATA					
Male Rotor Speed	RPM	2758	2552	2455	2031
Male Rotor Tip Speed	m/sec	32.6	30.2	29.0	24.0
Full Load Shaft Power	kW	161	161	168	166



R160i

60 Hz

ENGINEERING DATA SHEET

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CONSTRUCTION, FOUNDATION, AND MOUNTING DATA

PIPING CONNECTIONS

Air Discharge	Inches BSPT/NPT ⁽⁹⁾	3.00
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	Up to 4.0" (removable plate)
Water Inlet and Outlet Connections	Inches BSPT/NPT ⁽⁹⁾	1.50

COOLANT LUBRICATION DATA

Total Coolant Capacity - Air Cooled	litres (US gal)	95 (25)
Total Coolant Capacity - Water Cooled - Std	litres (US gal)	90(24)
Total Coolant Capacity - Water Cooled - Harsh	litres (US gal)	95 (25)

DIMENSIONS & WEIGHT

		Base Mounted
Length, Width, Height	mm (inches)	2855 / 1836 / 2032 (112.4 / 72.3 / 80)
Net Weight - Air Cooled	kg (lb.)	2926(6450)
Net Weight - Water Cooled	kg (lb.)	2903 (6400)
GA Drawing Number - Air Cooled		23570609
GA Drawing Number - Water Cooled		23570617

ELECTRICAL DATA ⁽¹⁴⁾

		380V, 3Φ	440V, 3Φ	460V, 3Φ	575V, 3Φ
Motor Enclosure Protection			IP55 (TEFC)		
Full Load Package Current - Air Cooled ⁽¹⁰⁾	Amps	344	287	275	220
Full Load Package Current - Water Cooled ⁽¹⁰⁾	Amps	336	279	267	212
Package Locked Rotor Current	Amps	2628	2287	2068	1754
Package Power Factor		0.88	0.88	0.88	0.88

Electrical Installation

Recommended Supply Cable Size ⁽¹¹⁾⁽¹⁵⁾	mm ² /Cu (AWG or kcmil)	350(700)	250(500)	200(400)	150(300)
Maximum Recommended Fuse Rating ⁽¹¹⁾⁽¹²⁾	Amps	450	400	350	300

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) 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 procedure.
- (14) Voltage tolerance: 357V - 440V
- (15) Cable size based on 90°C copper cables
- (16) See detailed scope document 23883374

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