



## ENGINEERING DATA SHEET

# R160ne

60 Hz

CCN: 23663669  
 Rev.: E  
 ECN: 83773  
 Sheet: 1 of 2  
 Date: 25-Jun-2015

Model Name		R160NE-X100	R160NE-X110	R160NE-X115	R160NE-X125	R160NE-X135	R160NE-X145
<b>GENERAL PERFORMANCE DATA</b>							
Package Discharge Pressure	barg (psig)	7 (100)	7.5 (110)	8 (115)	8.5 (125)	9.5 (135)	10 (145)
Minimum Operation Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)
Capacity @ Max Speed FAD <sup>(1)</sup>	m <sup>3</sup> /min (cfm)	30.02 (1060)	29.02 (1025)	28.43 (1004)	27.61 (975)	26.62 (940)	25.54 (902)
Capacity @ Min Speed FAD <sup>(1)</sup>	m <sup>3</sup> /min (cfm)	8.86 (313)	8.95 (316)	9.13 (323)	9.32 (329)	9.51 (336)	9.70 (342)
Turndown Percentage	%	70%	69%	68%	66%	64%	62%
Maximum Target Operating Pressure <sup>(2)</sup>	barg (psig)			10 (145)			
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	kW (HP)			150 (200)			
Main Drive Efficiency <sup>(3)</sup>	Percent			97.6%			
Main Motor Efficiency <sup>(3)</sup>	Percent			96.1%			
Package Input Power - Air Cooled <sup>(4)</sup>	kW	185.3	185.2	185.2	185.3	185.3	185.3
Package Input Power - Water Cooled <sup>(4)</sup>	kW	182.5	182.5	182.5	182.5	182.5	182.5
Specific Power - Air Cooled <sup>(4)(5)</sup>	kW/m <sup>3</sup> /min (kW/100cfm)	6.17 (17.48)	6.38 (18.07)	6.52 (18.45)	6.71 (19.00)	6.96 (19.71)	7.25 (20.54)
Specific Power - Water Cooled <sup>(4)(5)</sup>	kW/m <sup>3</sup> /min (kW/100cfm)	6.08 (17.22)	6.29 (17.8)	6.42 (18.18)	6.61 (18.72)	6.85 (19.41)	7.14 (20.23)
<b>SOUND LEVEL <sup>(6)</sup></b>							
Standard Package - Air Cooled	dB(A)			75			
Standard Package - Water Cooled	dB(A)			72			
<b>COOLING DATA (@ Maximum Ambient Temperature &amp; Maximum Discharge Pressure)</b>							
Heat Removal Oil Cooler	kW (1000 Btu/hr)	171 (583)	173 (590)	167 (570)	169 (577)	156 (532)	167 (570)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	214 (729)	215 (734)	209 (713)	210 (718)	197 (670)	207 (705)
Additional Static Pressure <sup>(16)</sup>	Pa (in H <sub>2</sub> O)			60 (0.25) - 250 (1.0)			
<b>Air-cooled</b>							
Fan Air Flow	m <sup>3</sup> /min (cfm)			363 (12829)			
Fan Motor Nominal Power	kW			7.5			
Cooling Air Temperature Rise	°C (°F)	30 (54)	31 (55)	31 (56)	32 (58)	33 (59)	33 (59)
Aftercooler CTD <sup>(7)</sup>	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
<b>Water-cooled - Standard Duty</b>							
Fan Air Flow	m <sup>3</sup> /min (cfm)			115 (4000)			
Fan Motor Nominal Power	kW			0.8			
Aftercooler CTD <sup>(7)(8)</sup>	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
<b>Cooling Water Flow</b>							
@ 10°C (50°F)	l/min (gal/min)	232 (61)	232 (61)	232 (61)	232 (61)	232 (61)	232 (61)
@ 20°C (68°F)	l/min (gal/min)	232 (61)	232 (61)	232 (61)	232 (61)	232 (61)	232 (61)
@ 30°C (86°F)	l/min (gal/min)	237 (63)	237 (63)	237 (63)	237 (63)	237 (63)	237 (63)
@ 40°C (104°F)	l/min (gal/min)	245 (65)	245 (65)	245 (65)	245 (65)	245 (65)	245 (65)
@ 46°C (115°F)	l/min (gal/min)	252 (67)	252 (67)	252 (67)	252 (67)	252 (67)	252 (67)
Cooling Water Temperature Rise @ 30°C	°C (°F)	11 (20)	11 (20)	11 (20)	11 (20)	11 (20)	11 (20)
Cooling Water Pressure Drop				Less Than 0.88 bar (13 psi)			
Cooling Air Temperature Rise	°C (°F)	9 (16)	9 (16)	9 (16)	9 (16)	9 (16)	9 (16)
<b>Water-cooled - Harsh Duty</b>							
Fan Air Flow	m <sup>3</sup> /min (cfm)			115 (4000)			
Fan Motor Nominal Power	kW			0.8			
Aftercooler CTD <sup>(7)(8)</sup>	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
<b>Cooling Water Flow</b>							
@ 10°C (50°F)	l/min (gal/min)	172 (45)	172 (45)	172 (45)	172 (45)	172 (45)	172 (45)
@ 20°C (68°F)	l/min (gal/min)	180 (47)	180 (47)	180 (47)	180 (47)	180 (47)	180 (47)
@ 30°C (86°F)	l/min (gal/min)	207 (55)	207 (55)	207 (55)	207 (55)	207 (55)	207 (55)
@ 40°C (104°F)	l/min (gal/min)	263 (69)	263 (69)	263 (69)	263 (69)	263 (69)	263 (69)
@ 46°C (115°F)	l/min (gal/min)	301 (80)	301 (80)	301 (80)	301 (80)	301 (80)	301 (80)
Cooling Water Temperature Rise @ 30°C	°C (°F)	83 (22)	83 (22)	83 (22)	83 (22)	83 (22)	83 (22)
Cooling Water Pressure Drop	bar (psi)			Less Than 0.88 bar (13 psi)			
Cooling Air Temperature Rise	°C (°F)	9 (16)	9 (16)	9 (16)	9 (16)	# 9 (16)	9 (16)



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### CONSTRUCTION, FOUNDATION, AND MOUNTING DATA

#### PIPING CONNECTIONS

Air Discharge	Inches BSPT/NPT <sup>(9)</sup>	3.00
Package Automatic Condensate Drain	Inches BSPT/NPT <sup>(9)</sup>	0.38
Coolant Drain Plug	Inches BSPT/NPT <sup>(9)</sup>	0.75
Diameter of Power Inlet	mm / inch	Up to 4.0" (removable plate)
Water Inlet and Outlet Connections	Inches BSPT/NPT <sup>(9)</sup>	1.50

#### COOLANT LUBRICATION DATA

Total Coolant Capacity - Air Cooled <sup>(13)</sup>	litres (US gal)	95 (25)
Total Coolant Capacity - Water Cooled - Std <sup>(13)</sup>	litres (US gal)	90 (24)
Total Coolant Capacity - Water Cooled - Harsh <sup>(13)</sup>	litres (US gal)	TBD

#### DIMENSIONS & WEIGHT

		Base Mounted
Length, Width, Height	mm (inches)	2855 / 1836 / 2032 (112.4 / 72.3 / 80)
Net Weight - Air Cooled	kg (lb.)	2495 (5500)
Net Weight - Water Cooled	kg (lb.)	2472 (5450)
GA Drawing Number - Air Cooled		23570609
GA Drawing Number - Water Cooled		23570617

#### ELECTRICAL DATA <sup>(14)</sup>

		380V, 3Φ	440V, 3Φ	460V, 3Φ	575V, 3Φ
Motor Protection				IP23 (ODP)	
Full Load Package Current - Air Cooled <sup>(10)</sup>	Amps	343	297	284	227
Full Load Package Current - Water Cooled <sup>(10)</sup>	Amps	328	283	271	217
Package Power Factor		0.91	0.91	0.91	0.91

#### Electrical Installation

Recommended Supply Cable Size <sup>(11)(15)</sup>	mm <sup>2</sup> /Cu (AWG or kcmil)	400(700)	400(600)	300(500)	185(350)
Maximum Recommended Fuse Rating <sup>(11)(12)</sup>	Amps	500	500	500	400

#### 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) At maximum speed and flow for the given package discharge pressure
- (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 with ducted inlet and exhaust per ISO 2151 using Parallelepiped Method, with + 3 dB(A) tolerance.
- (7) 40% Relative Humidity Inlet Air and maximum speed ( For alternate conditions contact IR )
- (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) Fast Acting Class-J, T or Semiconductor type fuse required. Apply local electrical codes for fuse sizing
- (13) Coolant volumes listed are approximate. See operator manual for coolant fill procedure.
- (14) Voltage Range: 380-480V ± 6%, 575V +/-6%
- (15) Cable size based on 90°C copper cables
- (16) See detailed scope document 23883374

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