



ENGINEERING DATA SHEET

R75n

50Hz

CCN: 23769508
 Rev.: G
 ECN: 83739
 Sheet: 1 of 2
 Date: 16-Jun-2015

Model Name		R75N-X7	R75N-X7.5	R75N-X8	R75N-X8.5	R75N-X9.5	R75N-X10
GENERAL PERFORMANCE DATA							
Rated 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 FAD @ Max Speed (1)	m ³ /min (CFM)	13.56 (479)	12.94 (457)	12.66 (447)	12.15 (429)	11.84 (418)	11.50 (406)
Capacity FAD @ Min Speed (1)	m ³ /min (CFM)	3.23 (114)	3.23 (114)	3.23 (114)	3.23 (114)	3.23 (114)	3.23 (114)
Turndown Percentage	Percent	76%	75%	74%	73%	73%	72%
Maximum Target Operating Pressure (2)	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)			75.00 (100)			
Main Drive Efficiency (3)	Percent			97.60%			
Main Motor Efficiency (3)	Percent			95.20%			
Package Input Power w/Fan - Air Cooled (4)	kW	93.0	92.7	92.5	92.6	93.0	94.3
Package Input Power w/Fan - Water Cooled (4)	kW	91.4	91.1	90.9	91.0	91.4	92.7
Specific Power - Air Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	6.86 (19.42)	7.16 (20.28)	7.31 (20.69)	7.62 (21.59)	7.86 (22.25)	8.20 (23.23)
Specific Power - Water Cooled (4)(5)	kW/m ³ /min (kW/100cfm)	6.74 (19.08)	7.04 (19.93)	7.18 (20.34)	7.49 (21.21)	7.72 (21.87)	8.06 (22.83)
SOUND LEVEL (6)							
Standard Package - Air Cooled	dB(A)			69			
Standard Package - Water Cooled	dB(A)			69			
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)							
Heat Removal Oil Cooler	kW (1000 Btu/hr)	68 (231)	68 (232)	68 (232)	68 (233)	70 (238)	71 (242)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	86 (294)	87 (295)	87 (295)	87 (296)	88 (301)	89 (305)
Additional Static Pressure (13)	Pa (in H ₂ O)			60 (0.25) - 250 (1.0)			
Air-cooled							
Fan Air Flow	m ³ /min (cfm)		Nom: 137 (4836)		Max: 176 (6200)		
Fan Motor Nominal Power	kW			2.2			
Cooling Air Temperature Rise	°C (°F)	34 (61)	34 (61)	34 (61)	34 (61)	34 (62)	35 (63)
Aftercooler CTD, 60 Hz (7)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
Water-cooled - Standard Duty							
Fan Air Flow				76 (2700)			
Fan Motor Nominal Power	kW			0.3			
Aftercooler CTD (7)(8)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
Cooling Water Flow							
@ 10°C (50°F)	l/min (gal/min)	80 (21)	79 (21)	79 (21)	79 (21)	80 (21)	81 (21)
@ 20°C (68°F)	l/min (gal/min)	80 (21)	80 (21)	80 (21)	80 (21)	81 (21)	82 (22)
@ 30°C (86°F)	l/min (gal/min)	82 (22)	82 (22)	82 (22)	82 (22)	83 (22)	84 (22)
@ 40°C (104°F)	l/min (gal/min)	85 (22)	85 (22)	84 (22)	85 (22)	86 (23)	86 (23)
@ 46°C (115°F)	l/min (gal/min)	87 (23)	87 (23)	87 (23)	87 (23)	88 (23)	89 (23)
Cooling Water Temperature Rise @ 30°C	°C (°F)	11 (20)	11 (20)	11 (20)	11 (20)	11 (20)	11 (20)
Cooling Water Pressure Drop	bar (psi)			Less than .88 bar (13 psi)			
Cooling Air Temperature Rise @ 30°C	°C (°F)	5 (9)	5 (8)	5 (8)	5 (8)	5 (9)	5 (9)
Water-cooled - Harsh Duty							
Fan Air Flow	m ³ /min (cfm)			76 (2700)			
Fan Motor Nominal Power	kW			0.3			
Aftercooler CTD (8)	°C (°F)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)	8 (15)
Cooling Water Flow							
@ 10°C (50°F)	l/min (gal/min)	138 (36)	137 (36)	137 (36)	137 (36)	139 (37)	140 (37)
@ 20°C (68°F)	l/min (gal/min)	140 (37)	139 (37)	139 (37)	139 (37)	141 (37)	142 (38)
@ 30°C (86°F)	l/min (gal/min)	143 (38)	143 (38)	142 (38)	142 (38)	144 (38)	146 (39)
@ 40°C (104°F)	l/min (gal/min)	148 (39)	148 (39)	148 (39)	148 (39)	150 (40)	152 (40)
@ 46°C (115°F)	l/min (gal/min)	153 (40)	153 (40)	153 (40)	153 (40)	155 (41)	156 (41)
Cooling Water Temperature Rise @ 30°C	°C (°F)	10 (19)	10 (19)	10 (19)	10 (19)	10 (19)	10 (19)
Cooling Water Pressure Drop	bar (psi)			Less than .88 bar (13 psi)			
Cooling Air Temperature Rise	°C (°F)	5 (9)	5 (9)	5 (9)	5 (9)	5 (9)	5 (9)
Air End Data							
Male Rotor Speed	rpm	3412	3260	3190	3065	2980	2900
Tip Speed Rotor	m/sec	31.9	30.5	29.8	28.6	27.9	27.1
Full Load Shaft Power	kW	84.6	84.4	84.2	84.3	84.6	85.9



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CONSTRUCTION, FOUNDATION, AND MOUNTING DATA

PIPING CONNECTIONS

Air Discharge	Inches BSPT/NPT (9)	2.00
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)	49 (13)
Total Coolant Capacity - Water Cooled - Std	litres (US gal)	31 (8)
Total Coolant Capacity - Water Cooled - Harsh	litres (US gal)	TBD

DIMENSIONS & WEIGHT

		Base Mounted
Length, Width, Height	mm (inches)	2432(95.8)/1265(49.8)/ 2032(80)
Net Weight - Air Cooled	kg (lb.)	1420(3131)
Net Weight - Water Cooled	kg (lb.)	1367(3014)
GA Drawing Number - Air Cooled		23701352
GA Drawing Number - Water Cooled		23701345

ELECTRICAL DATA

		380V. 3Φ	400V. 3Φ	415V. 3Φ	440V. 3Φ
Motor Protection		IP23 (ODP)			
Full Load Package Current - Air Cooled (10)	Amps	166	158	152	138
Full Load Package Current - Water Cooled (10)	Amps	161	153	147	134
Package Power Factor		0.94	0.94	0.94	0.94

Electrical Installation

		380V. 3Φ	400V. 3Φ	415V. 3Φ	440V. 3Φ
Recommended Supply Cable Size (11)	mm ² /Cu (AWG or kcmil)	95(4/0)	95(4/0)	95(4/0)	95(4/0)
Maximum Recommended Fuse Rating (11)(12)	Amps	250	250	250	250

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 per ISO 2151 using Hemispherical 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) 90° C copper cables. 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) See detailed scope document 23883374

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