

ENGINEERING MANUAL

SSR UP SERIES



CCN: 23753551
 Rev: D ECO: 80204
 Ref.: 9905
 Page: 106
 Date: 17th October 2011
 Cancels: 01st January 2011

Confidential Information

Points of Manufacture - Campbellsville Facility, Kentucky & SIRC, Shanghai, PRC.
 UP6 50PE 115, UP6 50PE 125, UP6 50PE 150, UP6 50PE 200
 60 HERTZ ENGINEERING DATA

Model		UP6 50PE 115	UP6 50PE 125	UP6 50PE 150	UP6 50PE 200
GENERAL COMPRESSOR DATA					
Capacity (Ref. Intake Cond.) FAD (1)	cfm (m³/min)	212 (6.02)	208 (5.89)	201 (5.70)	167 (4.73)
Maximum Operating Pressure	psig (barg)	115 (8.0)	125 (8.5)	150 (10.3)	200 (13.8)
Minimum Operating Pressure	psig (barg)	65 (4.5)	65 (4.5)	65 (4.5)	65 (4.5)
Maximum Operating Temperature	°F (°C)	115 (46)	115 (46)	115 (46)	115 (46)
Minimum Operating Temperature	°F (°C)	36 (2)	36 (2)	36 (2)	36 (2)

SOUND LEVEL (2)					
Base mounted Enclosed	dB(A)	69	69	69	69

COOLING DATA

Air-cooled (Ambient Temperature 46°C/115°F)

Max Airend Discharge Temperature	°F (°C)	216 (102)	216 (102)	216 (102)	216 (102)
A/E Injection Temperature	°F (°C)	177 (81)	177 (81)	177 (81)	177 (81)
Aftercooler - Inlet (3)	°F (°C)	216 (102)	215 (102)	212 (100)	207 (97)
Aftercooler - Outlet	°F (°C)	130 (54)	130 (54)	130 (54)	130 (54)
Heat Removal Oil Cooler	1000 Btu/hr (kW)	117.8 (34.5)	118.7 (34.8)	120.9 (35.4)	124.5 (36.5)
Heat Removal Oil and Aftercooler	1000 Btu/hr (kW)	151.4 (44.4)	151.4 (44.4)	152.6 (44.7)	153.2 (44.9)
Oil Flow	US gpm (lpm)	12.3 (46.4)	12.8 (48.3)	14.0 (53.0)	16.5 (62.4)
Fan Air Flow	cfm (m³/min)	3900 (110.4)	3900 (110.4)	3900 (110.4)	3900 (110.4)
Cooling Air CTD	°F (°C)	42 (23)	42 (23)	42 (23)	42 (23)
Aftercooler CTD (3)	°F (°C)	15 (8.3)	15 (8.3)	15 (8.3)	15 (8.3)

CONSTRUCTION FOUNDATION AND MOUNTING DATA	Base mounted - see installation drawing	22246326
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PIPING CONNECTIONS

Air Discharge Base Mount	Inches NPT	1½	1½	1½	1½
Condensate Drain	Inches NPT	1/4	1/4	1/4	1/4
Coolant Drain	Ball Valve -Inch NPT	½	½	½	½
Power Inlet	Inches	2.½	2.½	2.½	2.½

COOLANT LUBRICATION DATA

Coolant Sump Capacity	US Gal. (liters)	3.7 (14)	3.7 (14)	3.7 (14)	3.7 (14)
Total coolant fill capacity	US Gal. (liters)	5.5 (21)	5.5 (21)	5.5 (21)	5.5 (21)

DIMENSIONS (with or without dryer)

		Base Mounted			
length, width, height	Inches	67.4/ 54.3 / 52.8			
	mm	1712/ 1379 / 1344			

SHIPPING DATA - NET WEIGHTS

	lb. (kg)	TEFC Motor	ODP motor
		2476 (1123)	2384 (1081)
With Optional Dryer		2716 (1232)	2624 (1190)

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Model		UP6 50PE 115	UP6 50PE 125	UP6 50PE 150	UP6 50PE 200						
AIREND DATA											
Rotor Diameter (male)	inches	5.05	5.05	5.05	5.05						
Male Rotor Speed	rpm	4498	4356	4040	3536						
Tip Speed	ft/sec	99.07	95.95	88.99	77.88						
ELECTRICAL DATA - ALL UNITS SSR UP6-50PE	Volts	200		230		380		460		575	
Nominal Power - Driver	hp	50.0		50.0		50.0		50.0		50.0	
Rated Power - Fan	hp	1.5		1.5		1.5		1.5		1.5	
Maximum Applied Power - Package	hp	56.5		56.5		56.5		56.5		56.5	
		ODP	TEFC	ODP	TEFC	ODP	TEFC	ODP	TEFC	ODP	TEFC
Motor Enclosure											
Nominal Current - Drive Motor (6)	Amps	141.0	138.0	122.6	120.0	74.2	72.6	61.3	60.0	49.0	48.0
Package Current (includes fan) - maximum pressure	Amps	162.8	159.8	141.6	139.0	85.7	84.1	70.8	69.5	56.6	55.6
Drive Motor RPM		1775	1775	1775	1775	1775	1775	1775	1775	1775	1775
Drive Motor Frame		326T	326T	326T	326T	326T	326T	326T	326T	326T	326T
Drive Motor Locked Rotor - Full Voltage - EISA	Amps	960.6	1087.2	835.3	945.4	505.6	572.2	417.6	472.7	334.1	378.2
Drive Motor Efficiency (6) - EISA		0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945
Drive Motor Power Factor (6) - EISA		0.8	0.82	0.8	0.82	0.8	0.82	0.8	0.82	0.8	0.82
Fan Motor Efficiency (6)		0.855		0.855		0.855		0.855		0.855	
Fan Motor Power Factor (6)		0.62		0.62		0.62		0.62		0.62	
Fan Motor Full Voltage Locked Rotor Current		43.7		38		23		19		15.2	
Dryer Electrical Data											
Full Load Current		5.0		4.5		Not Applicable		2.2		Not Applicable	
Starting Current		38.0		38.0				16.0			
Electrical Installation											
Mains Supply Cable (5)	Gage	250	250	4/0	4/0	1	1	2	2	3	3
Suggested Fuse Rating	Amps	225	200	200	175	110	110	100	90	75	70
Recommended wire size - Dryer (6) (7)	18 AWG										
Refrigerated Dryer Data											
	ISO Class 6										
Pressure Dew Point ISO Class (8)	°C (°F)	10° C (50° F)									
Refrigerant weight of R404-a	grams (oz)	840 (29.5)									
Pressure Drop											
Dryer Pressure Drop (9)	barG / (psig)	0.21 / (3.0)									

Notes :

- (1) FAD (Free Air Delivery) is full package performance including all losses. Tested in accordance with ISO 1217 : 1996 Annex C.
- (2) Measured in free field conditions in accordance with ISO 2151; 2004 annex C, with + 3 dB(A) tolerance.
- (3) 40% Relative Humidity Inlet Air
- (5) This is a minimum requirement based on 90°C wire - It may be necessary to use larger cables to comply with local regulations or if the voltage drop exceeds 5% of the nominal voltage.
- (6) Measured at nominal motor power
- (7) Always apply local electrical codes for sizing and fusing
- (8) Dewpoint measured at 85 deg F, 12% RH ambient conditions with 125 PSIG dryer inlet pressure
- (9) Pressure drop measured at 125 psi and adjusted for 115 psi capacity. Higher pressure machines will have lower pressure drops.