

ENGINEERING MANUAL

SSR UP SERIES



CCN: 23753411
Rev.: D ECO 81751
Ref.: 9904
Page: 100
Date: 30th April 2013
Cancels: 01st January 2011

Point of Manufacture - Campbellsville, Kentucky USA
SSR UP6-20-125 , UP6-20-150 , UP6-20-200
60 HERTZ ENGINEERING DATA

Model		20-125	20-150	20-200
GENERAL COMPRESSOR DATA				
Capacity (Ref. Intake Cond.) FAD (1)	cfm (m ³ /min)	77 (2.1)	67 (1.9)	58 (1.64)
Maximum Operating Pressure	psig (barg)	125 (8.5)	150 (10.3)	200 (13.8)
Minimum Operating Pressure	psig (barg)	65 (4.5)	65 (4.5)	65 (4.5)
Maximum Operating Temperature	°F (°C)	105 (40)	105 (40)	105 (40)
Minimum Operating Temperature	°F (°C)	36 (2)	36 (2)	36 (2)

SOUND LEVEL (2)				
Base mounted Enclosed	dB(A)	68	68	68

COOLING DATA				
Air-cooled (Ambient Temperature 40°C/105°F)				
Rated Airend Discharge temperature	°F (°C)	205 (96)	202 (94)	197 (92)
A/E Injection Temperature	°F (°C)	180 (82)	180 (82)	180 (82)
Aftercooler - Inlet (3)	°F (°C)	182 (83)	179 (82)	179 (82)
Aftercooler - Outlet	°F (°C)	130 (53.3)	126 (53.3)	124 (53.3)
Heat Removal Oil Cooler	1000 Btu/hr (kW)	41.8 (12.3)	49.6 (14.5)	51.3 (15)
Heat Removal Oil and Aftercooler	1000 Btu/hr (kW)	56.0 (16.4)	56.0 (16.4)	56.0 (16.4)
Heat Removal dryer Condenser (max)	1000 Btu/hr (kW)	6.3 (1.8)	6.3 (1.8)	6.3 (1.8)
Oil Flow	US gpm (lpm)	7.0 (26.5)	9.2 (34.7)	12.2 (46.1)
Fan Air Flow	cfm (m ³ /min)	1770 (50.1)	1770 (50.1)	1770 (50.1)
Dryer Fan airflow	cfm (m ³ /min)	420 (11.9)	420 (11.9)	420 (11.9)
Cooling Air CTD	°F (°C)	27 (15)	27 (15)	27 (15)
Aftercooler CTD (3)	°F (°C)	26 (14)	22 (12)	20 (11)

CONSTRUCTION FOUNDATION AND MOUNTING DATA	Base mounted - see installation drawing	22063333
	120 Gal receiver mounted - see installation drawing	22063366
	240 Gal receiver mounted - see installation drawing	22063374

PIPING CONNECTIONS				
Air Discharge Base Mount	Inches NPT	1.0	1.0	1.0
Air Discharge from Receiver	Inches NPT	1.0	1.0	1.0
Coolant Drain	Ball Valve -Inch NPT	¼	¼	¼
Power Inlet	Inches	1¼	1¼	1¼
Package Condensate Drain	Inches	¼	¼	¼

COOLANT LUBRICATION DATA				
Coolant Sump Capacity	US Gal	1.82 (7.0)	1.82 (7.0)	1.82 (7.0)
Total coolant fill capacity	US Gal	3.38 (13.0)	3.38 (13.0)	3.38 (13.0)

DIMENSIONS		Base Mounted	120 Gal Rec	240 Gal Rec
length, width, height	Inches	52 / 36 / 42.5	77.5 / 36 / 71	94 / 36 / 76.5
	mm	1321/ 914/ 1080	1962/ 914/ 1796	2390/ 914/ 1940
With Optional Dryer	Inches	67 / 36 / 42.5	77.5 / 36 / 72	95 / 36 / 76.5
	mm	1702/ 914/ 1080	1962/ 914/ 1797	2390/ 914/ 1941

SHIPPING DATA - NET WEIGHTS		Base Mounted	120 Gal Rec	240 Gal Rec
	lb. (kg)	1183 (538)	1510 (685)	1779 (807)
With Optional Dryer	lb. (kg)	1408 (640)	1735 (789)	2004 (911)

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AIREND DATA

Rotor Diameter (male)	inches	4.21	4.21	4.21
Male Rotor Speed	rpm	3114	2826	2337
Tip Speed	ft/sec	57.2	51.9	43

ELECTRICAL DATA - ALL UNITS SSR UP6-20

ELECTRICAL DATA - ALL UNITS SSR UP6-20			200v		230v		380v		460v		575v	
Nominal Power - Driver	hp		20.0		20.0		20.0		20.0		20.0	
Rated Power - Fan	hp		Main Motor Driven		Main Motor Driven		Main Motor Driven		Main Motor Driven		Main Motor Driven	
Applied Power at maximum pressure - Full Package	hp		22.0		22.0		22.0		22.0		22.0	
			ODP	TEFC	ODP	TEFC	ODP	TEFC	ODP	TEFC	ODP	TEFC
Motor Enclosure												
Nominal Current - Drive Motor (8)	Amps		58.1	56.7	50.6	49.4	30.6	29.9	25.3	24.7	20.2	19.8
Package Current - maximum pressure	Amps		65	63.1	56.4	54.8	34.1	33.3	28.2	27.5	22.6	22
Drive Motor RPM			1765	1770	1765	1770	1765	1770	1765	1770	1765	1770
Drive Motor Frame			256TZ	160 L	256TZ	160 L	256TZ	160 L	256TZ	160 L	256TZ	160 L
Drive Motor Full Voltage Locked Rotor (star) Amps (7)			336.0	(150)	292.0	(130)	176.7	(79)	146.0	(65)	117.0	(52)
Drive Motor Efficiency (10)			0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Drive Motor Power Factor (10)			0.82	0.84	0.82	0.84	0.82	0.84	0.82	0.84	0.82	0.84
Test certificate number			TBA		23512	S312382	TBA	TBA	23512	S312382	TBA	
Dryer electrical data			115-1-60									
Full Load Current	9.6											
Starting Current	45											
Electrical Installation												
Mains Supply Cable (8)	Gage		4	4	4	4	6	6	10	10	10	10
Suggested Fuse Rating	Amps		90	90	80	80	50	50	40	40	35	35
Recommended wire Size - Dryer (8) (13)	16 AWG											

Refrigerated Dryer Data

		ISO Class	
Pressure Dew Point ISO Class (12)	°C (°F)	6	8°C (46°F)
Refrigerant weight of R-134a	Grams / (Oz)	320/(11.6)	

Filter Data

Filter Data	CCN	ISO Class	Filtration	ISO Class	Filtration			
Primary filter detail - at 21°C (70°F)	85570588	3	1 micron	3	0.6 mg/m ³ (0.5 ppm)			
Pressure Drop data by operating pressure		barG	psig	barG	psig	barG	psig	
		8.6	125	10.3	150	13.8	200	
	Dryer Pressure Drop	barG / (psig)	0.23	3.3	0.15	2.2	0.07	1.0
	Primary filter wet pressure drop	barG / (psig)	0.11	1.5	0.10	1.4	0.09	1.2
	Total Pressure Drop ⁽¹¹⁾ For ISO Class 3.6.3 air	barG / (psig)	0.34	4.8	0.25	3.6	0.16	2.2

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 PNEUROP/CAGI test codes, with +/- 3 dB(A) tolerance.
- (3) 40% Relative Humidity Inlet Air
- (4) Predicted CAT cell data at rated discharge pressure.
- (7) Star Delta Starting Inrush excluding transient spike.
- (8) 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.
- (10) Measured at nominal motor power
- (11) Total package including compressor, integral dryer with pre and final compressed air filters
- (12) Dew point measured In accordance with ISO 8573-1:2001. With inlet air to package of 25°C (77 °F) and RH at 60%
- (13) Always apply local electrical codes for sizing cables and fusing