

ENGINEERING MANUAL

SSR
Small UP - Total Air System



CCN: 23753759
Rev.: D ECO 81751
Ref.: 9902
Page: 606
Date: 30th April 2013
Cancels: 01st January 2011

Point of Manufacture - Campbellsville, USA

60 HERTZ ENGINEERING DATA

Model		UP6-15cTAS-125	UP6-15cTAS-150	UP6-15cTAS-210
GENERAL COMPRESSOR DATA				
Capacity (Ref. Intake Condition.) FAD ⁽¹⁾	m³/min (cfm)	1.47 (52)	1.33 (47.3)	1.01 (35.9)
Maximum & Rated Operating Pressure	barg (psig)	8.6 (125)	10.3 (150)	14.5 (210)
Rated package discharge Pressure ⁽¹³⁾	barg (psig)	8.0 (116)	9.9 (143)	14.1 (205)
Minimum Operating Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)
Maximum Operating Temperature	°C (°F)	40 (105)	40 (105)	40 (105)
Minimum Operating Temperature	°C (°F)	2 (36)	2 (36)	2 (36)
SOUND LEVEL (2)				
Base mounted Enclosed	dB(A)	69	69	69
COOLING DATA				
Air-cooled (Ambient Temperature 40°C/104°F)				
Coolant Discharge temperature	°C(°F)	100 (212)	99 (210)	98 (208)
A/E Injection Temperature	°C(°F)	82 (180)	81 (178)	80 (176)
(3) Aftercooler - Inlet	°C(°F)	90 (194)	89 (192)	89 (192)
Aftercooler - Outlet	°C(°F)	51 (124)	51 (124)	51 (124)
Heat Removal Oil Cooler	kW (1000 Btu/hr)	10.3 (35.1)	10.3 (35.1)	10.3 (35.1)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	12.3 (42.0)	12.3 (42.0)	12.3 (42.0)
Heat Removal Dryer Condenser (Max)	kW (1000 Btu/hr)	1.4 (4.8)	1.4 (4.8)	1.4 (4.8)
Coolant Flow	lpm (UK gpm)	17.0 (3.7)	21.0 (4.6)	32.0 (7.0)
Cooling Air				
	Main Cooling Air Flow	m³/min (cfm)	30.0 (1060)	30.0 (1060)
	Dryer Cooling Airflow	m³/min (cfm)	Included	Included
Cooling Air CTD	°C (°F)	40 (72)	40 (72)	40 (72)
Aftercooler CTD (3)	°C (°F)	11 (20)	11 (20)	11 (20)
CONSTRUCTION FOUNDATION AND				
PIPING CONNECTIONS				
Air Discharge Base Mount	Inches BSPT (9)	0.75		
Air Discharge from ASME Receiver	Inches NPT	0.75		
Package Automatic Condensate Drain	Inches NPT	0.25		
Coolant Drain	Drain Plug	9/16"-SAE		
Power Inlet (Main)	Inch	1"		
Power Inlet (Dryer)	Inch	1/2"		
COOLANT LUBRICATION DATA				
Coolant Sump Capacity	litres (US gal)	3 (.8)		
Total coolant fill capacity	litres (US gal)	4.5 (1.2)		
DIMENSIONS				
length, width, height	mm	Basemount 1042/734/914	80 gal 1362/734/1541	120 gal 1897/734/1541
	Inches	41/28.9/36	53.6/28.9/60.7	74.7/28.9/60.7
GA Drawing Numbers		22431811	22431829	22469191
SHIPPING DATA - NET WEIGHTS				
Total Air System package	kg (lb.)	Basemount 330 (725)	80 gal 455 (1000)	120 gal 470 (1035)

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Compressor Module Data				
Rotor Diameter (male)	mm	74.25	74.25	74.25
Male Rotor Speed	rpm	6250	5700	4675
Tip Speed	m/sec	24.30	22.16	18.17
Power Data				
Applied main motor power ⁽⁸⁾	HP	16.5	16.5	16.5
Applied Power - Fan	HP	Included	Included	Included
Applied Power - Dryer compressor	HP	0.6	0.6	0.6
Applied Power - Dryer Fan	HP	Included	Included	Included
Applied Power - Full Package ⁽⁸⁾	HP	17.1	17.1	17.1

ELECTRICAL DATA - ALL UNITS SSR UP6-15c		115-1-60	200v	230v	380v	460v	575v
*** NOTE BLUE SHADE DENOTES SINGLE PHASE ***							
Nominal Current - Main Drive Motor ⁽⁸⁾ ODP/TEFC	Amps		39.3/39	34.2/33.9	20.7/20.5	17.1/16.9	13.7/13.5
Maximum Applied Power - TAS Package ⁽¹⁰⁾ ODP/TEFC	Amps		43.2/42.9	37.6/37.3	22.8/22.6	18.8/18.6	15.1/14.9
Starting current -- Direct on Line	Amps		244.0	212.0	128.0	106.0	85.0
Starting current -- Star Delta Start	Amps		N/A	N/A	79.0	N/A	N/A
Main Motor Data							
Nominal Power - Main Driver	HP		15.0	15.0	15.0	15.0	15.0
Drive Motor enclosure Protection			ODP / TEFC	ODP/TEFC	ODP/TEFC	ODP/TEFC	ODP/TEFC
Drive Motor RPM			3500	3500	3500	3500	3500
Drive Motor Frame			215TZ	215TZ	215TZ	215TZ	215TZ
Drive Motor Locked Rotor DOL/(S/D) ⁽⁵⁾	Amps		244.0	212.0	128(79)	106.0	85.0
Drive Motor Efficiency ⁽⁸⁾			89.5/90.2	89.5/90.2	89.5/90.2	89.5/90.2	89.5/90.2
Drive Motor Power Factor ⁽⁸⁾			0.9	0.9	0.9	0.9	0.9
Test Certificate Number ⁽⁴⁾						AT43068 BK75308	
Dryer Electrical Data							
Full Load Current	Amps	5					
Starting Current	Amps	30					
Electrical Installation -- Total Air System							
Recommended wire size - Main motor - ⁽⁶⁾	Awg		4	6	8	10	10
Suggested Fuse Rating ⁽⁷⁾	Amps		75	65	35	30	25
Recommended wire size - Dryer - ⁽⁶⁾	Awg	18					

Refrigerated Dryer Data		ISO Class	
Pressure Dew Point ISO Class ⁽¹¹⁾	°C (°F)	5	lower than 7°C (44°F)
Refrigerant weight of R-134a	Grams / (Oz)		350/(12.7)

Filter Data	CCN	Particulate		Liquid	
		ISO Class	Filtration	ISO Class	Filtration
		3	1 micron	3	0.6 mg/m ³ (0.5 ppm)
Primary filter detail - at 21°C (70°F)	85567162			1	0,01 mg/m ³ (0.01 ppm)
Final filter detail - at 21°C (70°F)	85567170	2	0.01 micron		

Pressure Drop data by operating pressure		barG	psig	barG	psig	barG	psig
	barG / (psig)	8.6	125	10.3	150	14.5	210
Dryer Pressure Drop	barG / (psig)	0.28	4	0.21	3	0.14	2
Primary filter wet pressure drop	barG / (psig)	0.14	2	0.10	1.5	0.07	1
Final filter wet pressure drop	barG / (psig)	0.21	3	0.14	2	0.10	1.5
Total Pressure Drop ⁽¹⁰⁾ For ISO Class 2.5.1 air	barG / (psig)	0.62	9	0.45	6.5	0.31	4.5

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 PN8NTC2.3, with +/- 3 dB(A) tolerance.
- (3) 40% Relative Humidity Inlet Air (For alternate conditions refer to SSR toolbox or contact IR)
- (4) Motor test certificate
- (5) Inrush amps
- (6) 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.
- (7) Recommended Time delay Fuse. Refer to local code for proper fuse sizing
- (8) Measured at rated compressor duty
- (9) Installation kit will provide flexible connection to NPT or BSPT
- (10) Total Air System package including compressor, integral dryer with pre and final compressed air filters
- (11) 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) Discharge pressure when operating at compressor rated pressure, with clean wetted filters