

ENGINEERING MANUAL

SSR



Small UP - Total Air System

CCN: 23753759
 Rev.: H CN 1330784
 Ref.: 9902
 Page: 606
 Date: 5th Dec 2018
 Cancels: 10th Nov 2017

Point of Manufacture - Campbellsville, USA

60 HERTZ ENGINEERING DATA

Model		UP6-15cTAS-125	UP6-15cTAS-150	UP6-15cTAS-210	
*** DENOTES NOT AVAILABLE IN NORTH AMERICA ***					
GENERAL COMPRESSOR DATA					
Capacity (Ref. Intake Condition.) FAD ⁽¹⁾	m ³ /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	m ³ /min (cfm)	30.0 (1060)	30.0 (1060)	30.0 (1060)	
Dryer Cooling Airflow	m ³ /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	1040/728/936	1737/737/1513	1350/737/1616	1846/737/1616
	Inches	40.9/28.7/36.9	68.4/29.0/59.6	53.2/29.0/63.6	72.7/29.0/63.7
GA Drawing Numbers		22431811	24470304	22431829	22469191
SHIPPING DATA - NET WEIGHTS					
Total Air System package	kg (lb.)	331 (730)	456 (1005)	454 (1000)	463 (1021)

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Model	UP6-15cTAS-125	UP6-15cTAS-150	UP6-15cTAS-210																		
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 ⁽⁹⁾	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																					
*** NOTE BLUE SHADE DENOTES SINGLE PHASE ***																					
Nominal Current - Main Drive Motor ⁽⁸⁾ ODP	Amps	39.1	34.0	20.6	17.0	13.7															
Maximum Applied Power - TAS Package ⁽¹⁰⁾ ODP	Amps	43.1	37.4	22.8	18.7	15.1															
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	ODP	ODP	ODP	ODP	ODP															
Drive Motor RPM		3530	3530	3530	3530	3530															
Drive Motor Frame		215TZ	215TZ	215TZ	215TZ	215TZ															
Drive Motor Locked Rotor DOL ⁽⁵⁾	Amps	282.0	256.0	148.0	128.0	104.0															
Drive Motor Efficiency ⁽⁸⁾		90.2	90.2	90.2	90.2	90.2															
Drive Motor Power Factor ⁽⁸⁾		0.9	0.9	0.9	0.9	0.9															
Test Certificate Number ⁽⁴⁾		FD-2016-119463	FD-2016-172404	FDC 086601.2017	FD-2016-172404	FD-2016-172436															
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																					
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																					
Primary filter detail - at 21°C (70°F)		<table border="1"> <thead> <tr> <th colspan="2">Particulate</th> <th colspan="2">Liquid</th> </tr> <tr> <th>ISO Class</th> <th>Filtration</th> <th>ISO Class</th> <th>Filtration</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1 micron</td> <td>3</td> <td>0.6 mg/m³ (0.5 ppm)</td> </tr> <tr> <td>2</td> <td>0.01 micron</td> <td>1</td> <td>0.01 mg/m³ (0.01 ppm)</td> </tr> </tbody> </table>		Particulate		Liquid		ISO Class	Filtration	ISO Class	Filtration	3	1 micron	3	0.6 mg/m ³ (0.5 ppm)	2	0.01 micron	1	0.01 mg/m ³ (0.01 ppm)		
Particulate		Liquid																			
ISO Class	Filtration	ISO Class	Filtration																		
3	1 micron	3	0.6 mg/m ³ (0.5 ppm)																		
2	0.01 micron	1	0.01 mg/m ³ (0.01 ppm)																		
Final filter detail - at 21°C (70°F)																					
Pressure Drop data by operating pressure																					
	barG / (psig)	barG	psig	barG	psig	barG	psig														
Dryer Pressure Drop	barG / (psig)	8.6	125	10.3	150	14.5	210														
Primary filter wet pressure drop	barG / (psig)	0.28	4	0.21	3	0.14	2														
Final filter wet pressure drop	barG / (psig)	0.14	2	0.10	1.5	0.07	1														
Total Pressure Drop ⁽¹⁰⁾ For ISO Class 2.5.1 air	barG / (psig)	0.21	3	0.14	2	0.10	1.5														
	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 PNEUROPI/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