ENGINEERING MANUAL

SSR
UP SERIES

Ingersoll Rand
Industrial Technologies

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Point of Manufacture - Londrina, Brazil - Unicov, Czech Republic - SIRC, China - Naroda, India
SSR UP5-18-7 , UP5-18-8 , UP5-18-10 , UP5-18-14
50 HERTZ ENGINEERING DATA

Model		18-7	18-8	18-10	18-14
GENERAL COMPRESSOR DATA					
Capacity (Ref. Intake Cond.) FAD (1)	m³/min (cfm)	3.00 (106.0)	2.87 (101)	2.61 (92.0)	2.01 (71.0)
Maximum Operating Pressure	barg (psig)	7.5 (109)	8.5 (123)	10.0 (145)	14.0 (203)
Minimum Operating Pressure	barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)	4.5 (65)
Maximum Operating Temperature	ºC (ºF)	40 (105)	40 (105)	40 (105)	40 (105)
Minimum Operating Temperature	ºC (ºF)	2 (36)	2 (36)	2 (36)	2 (36)
SOUND LEVEL (2)					
Base mounted Enclosed	dB(A)	68	68	68	68
COOLING DATA					
Air-cooled (Ambient Temperature 40°C/105°F)					
Rated Airend Discharge temperature	°C(°F)	97 (207)	96 (205)	94.5 (202)	92 (197)
A/E Injection Temperature	°C(°F)	82 (180)	82 (180)	82 (180)	82 (180)
Aftercooler - Inlet (3)	°C(°F)	88 (191)	88 (191)	88 (191)	88 (191)
Aftercooler - Outlet	°C(°F)	56 (133)	56 (133)	56 (133)	56 (133)
Heat Removal Oil Cooler	kW (1000 Btu/hr)	17.1 (58.5)	17.7 (59.0)	17.9 (59.9)	18.2 (61.7)
Heat Removal Oil and Aftercooler	kW (1000 Btu/hr)	19.4 (66.3)	19.4 (66.3)	19.4 (66.3)	19.4 (66.3)
Heat Removal dryer Condenser (max)	kW (1000 Btu/hr)	2.6 (8.9)	2.6 (8.9)	2.6 (8.9)	2.6 (8.9)
Coolant Flow	lpm (UK gpm)	33.3 (7.3)	35.5 (7.8)	41.0 (9.0)	52.5 (11.6)
Fan Air Flow	m³/min (cfm)	55.2 (1950)	55.2 (1950)	55.2 (1950)	55.2 (1950)
Dryer Fan airflow	m³/min (cfm)	17.6 (620)	17.6 (620)	17.6 (620)	17.6 (620)
Cooling Air CTD	ºC (ºF)	16.2 (29)	16.2 (29)	16.2 (29)	16.2 (29)
Aftercooler CTD (3)	ºC (ºF)	16 (28)	16 (28)	16 (28)	16 (28)
CONSTRUCTION FOUNDATION AND MOUNTING DATA	Base mounted - see installation drawing			22063325	
	500lt receiver mounted - see installation drawing			22063341	
	750lt receiver mounted - see installation drawing			22063358	
PIPING CONNECTIONS					
Air Discharge Base Mount	Inches BSP (10)	1.0	1.0	1.0	1.0
Air Discharge from Receiver	Inches BSPT	1.0	1.0	1.0	1.0
Coolant Drain	Ball Valve NPT	¼	¼	¼	¼
Power Inlet	mm	29	29	29	29
Package Condensate Drain	Inches BSPT	¼	¼	¼	¼
COOLANT LUBRICATION DATA					
Coolant Sump Capacity	litres (UK gal)	7 (1.54)	7 (1.54)	7 (1.54)	7 (1.54)
Total coolant fill capacity	litres (UK gal)	13 (2.86)	13 (2.86)	13 (2.86)	13 (2.86)

DIMENSIONS		**Base Mounted**	**500 L Rec**	**750 L Rec**
length, width, height	mm	1321/ 914/ 1080	2092/ 914/ 1760	2205/ 914/ 1887
	Inches	52 / 36 / 42.5	83 / 36 / 69.5	87 / 36 / 74
With Optional Dryer	mm	1702/ 914/ 1080	2092/ 914/ 1760	2205/ 914/ 1887
	Inches	67 / 36 / 42.5	83 / 36 / 69.5	87 / 36 / 74

SHIPPING DATA - NET WEIGHTS		**Base Mounted**	**500 L Rec**	**750 L Rec**
	kg (lb.)	532 (1173)	753 (1660)	824 (1817)
With Optional Dryer	kg (lb.)	645 (1418)	866 (1905)	937 (2062)

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Model		**18-7**	**18-8**	**18-10**	**18-14**
AIREND DATA					
Rotor Diameter (male)	mm	107.00	107.00	107.00	107.00
Male Rotor Speed	rpm	3749	3645	3339	2708
Tip Speed	m/sec	21.01	20.42	18.7	15.2

ELECTRICAL DATA - ALL UNITS SSR UP5-18		**220v**	**380v**	**400v**
Nominal Power - Driver	kW	18.5	18.5	18.5
Rated Power - Fan	kW	Main motor driven	Main motor driven	Main motor driven
Applied Power at maximum pressure - Full Package	kW	19.4	19.4	19.4
Drive Motor Protection		IP55 TEFV	IP55 TEFV	IP55 TEFV
Nominal Current - Drive Motor (8)	Amps	60.5	36.8	35.0
Package Current - maximum pressure	Amps	64.5	39.2	37.3
Drive Motor RPM		1474.0	1474.0	1474.0
Drive Motor Frame		180M	180M	180M
Drive Motor Full Voltage Locked Rotor Current(star) (5)	Amps	165	96	91
Drive Motor Efficiency (8)		0.925	0.925	0.925
Drive Motor Power Factor (8)		0.82	0.82	0.82
Test certificate number (4)		tba	tba	S310230
Dryer electrical data	230-1-50			
Full Load Current	4.5			
Starting Current	20			
Electrical Installation				
Minimum Supply Cable Size (6)	mm²/Cu	tba	10.0	10.0
Suggested Fuse Rating (7)	Amps	tba	50.0	50.0
Recommended wire Size - Dryer (8) (13)	18 AWG			

Refrigerated Dryer Data		**ISO Class**	
Pressure Dew Point ISO Class (12)	°C (°F)	6	9°C (48°F)
Refrigerant weight of R-134a	Grams / (Oz)		320/(11.6)

Filter Data	**Model**	**Particulate**		**Liquid**	
		ISO Class	**Filtration**	**ISO Class**	**Filtration**
Primary filter detail - at 21°C (70°F)	IR GP123	3	1 micron	3	0.6 mg/m³ (0.5 ppm)

Pressure Drop data by operating pressure		**barG**	**psig**	**barG**	**psig**	**barG**	**psig**	**barG**	**psig**
	barG / (psig)	**7.5**	**109**	**8.5**	**123**	**10.0**	**145**	**14.0**	**203**
Dryer Pressure Drop	barG / (psig)	0.27	3.9	0.26	3.8	0.17	2.5	0.16	2.3
Primary filter wet pressure drop	barG / (psig)	0.12	1.8	0.12	1.7	0.11	1.6	0.10	1.4
Total Pressure Drop (11) For ISO Class 3.6.3 air	barG / (psig)	0.39	5.70	0.38	5.50	0.28	4.10	0.26	3.70

Notes :