



ENGINEERING DATA SHEET

RSa18i

Total Air System (TAS)
60Hz

CCN: 47724928001
Rev.: C
ECN: 1491901
Sheet: 1 of 2
Date: Oct-2023

Model		RSa18i-A103-TAS	RSa18i-A118-TAS	RSa18i-A138-TAS	RSa18i-A193-TAS	
GENERAL PERFORMANCE DATA						
Maximum Target Operating Pressure	(2)	barg (psig)	7.1 (103)	8.1 (118)	9.5 (138)	13.3 (193)
Rated Discharge Pressure		barg (psig)	6.9 (100)	7.9 (115)	9.3 (135)	13.1 (190)
Minimum Operating Pressure		barg (psig)	5.2 (75)	5.2 (75)	5.2 (75)	5.2 (75)
Maximum Operating Ambient Temperature		°C (°F)	40 (104)	40 (104)	40 (104)	40 (104)
Minimum Operating Ambient Temperature		°C (°F)	2 (36)	2 (36)	2 (36)	2 (36)
Maximum System Temperature Setting		°C (°F)	115.5 (240)	115.5 (240)	115.5 (240)	115.5 (240)
Nominal Power - Main Motor		kW (HP)	19 (25)	19 (25)	19 (25)	19 (25)
Main Motor Efficiency	(3)	%	91.7%	91.7%	91.7%	91.7%
Capacity FAD	(1)	m³/min (CFM)	3.04 (107.5)	2.91 (102.7)	2.74 (96.8)	2.13 (75.1)
Package Input Power with Fan - Air Cooled	(4)(17)	kW	21.12	21.53	22.11	22.18
Dryer Input Power with Fan - Air Cooled	(4)	kW	1.23	1.23	1.23	1.23
Specific Power - Air Cooled	(4)(5)(17)	kW/m³/min (kW/100CFM)	6.94 (19.65)	7.40 (20.96)	8.06 (22.84)	10.43 (29.54)
SOUND LEVEL						
Noise Level Standard Package - Air Cooled	(6)	Sound Pressure - dB(A)	70	70	70	70
Noise Level Standard Package - Air Cooled		Sound Power - dB(A)	86	86	86	86
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)						
Heat Removal (Oil Cooler)		kW (1000 Btu/hr)	17.5 (60)	19.4 (66)	20.2 (69)	20.8 (71)
Heat Removal (Oil and Aftercooler)		kW (1000 Btu/hr)	21.1 (72)	21.5 (73)	22.2 (76)	22.4 (76)
Heat Removal (Dryer)		kW (1000 Btu/hr)	4.2 (14)	4.2 (14)	4.2 (14)	4.2 (14)
Permitted Additional Static Pressure		Pa (in H ₂ O)	40 (.16)	40 (.16)	40 (.16)	40 (.16)
Fan Air Flow (Compressor)		m³/min (CFM)	55 (1942)	55 (1942)	55 (1942)	55 (1942)
Fan Motor Nominal Power	(18)	kW	N/A	N/A	N/A	N/A
Cooling Air Temperature Rise @ 30°C		°C (°F)	19 (33)	19 (34)	19 (35)	19 (35)
Aftercooler CTD	(7)	°C (°F)	13 (23)	13 (24)	14 (25)	14 (25)
AIR END DATA						
Male Rotor Speed		RPM	4455	4277	4074	3375
Tip Speed Rotor		m/sec	23.56	22.62	21.54	17.85
Full Load Shaft Power		kW	19.4	19.7	20.3	20.3
COOLANT LUBRICATION DATA						
Total Coolant Capacity - Air Cooled	(12)	litres (US gal)	10 (2.5)	10 (2.5)	10 (2.5)	10 (2.5)
PIPING CONNECTIONS						
Air Discharge	(8)	Inches NPT	1.0" INCH (FEMALE)	1.0" INCH (FEMALE)	1.0" INCH (FEMALE)	1.0" INCH (FEMALE)
Package Automatic Condensate Drain		Inches NPT	.25 INCH (FEMALE)	.25 INCH (FEMALE)	.25 INCH (FEMALE)	.25 INCH (FEMALE)
Coolant Drain - Hose Size		Inches NPT	1/2 INCH (FEMALE)	1/2 INCH (FEMALE)	1/2 INCH (FEMALE)	1/2 INCH (FEMALE)
Diameter of Power Inlet		mm (Inches)	38 (1.5)	38 (1.5)	38 (1.5)	38 (1.5)
DIMENSIONS AND WEIGHT						
Length, Width, Height (Base Mounted)		mm (inches)	1522, 870, 1160 (59.9, 34.3, 45.7)	1522, 870, 1160 (59.9, 34.3, 45.7)	1522, 870, 1160 (59.9, 34.3, 45.7)	1522, 870, 1160 (59.9, 34.3, 45.7)
Net Weight - Air Cooled Base Mounted		kg (lb.)	707 (1559)	707 (1559)	707 (1559)	707 (1559)
GA Drawing Number - Air Cooled		Base Mounted	47763591	47763591	47763591	47763591
		Receiver Mounted	47749762	47749762	47749762	47749762
ELECTRICAL DATA						
Motor Protection	(13)		TEFC, IP55	TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Air Cooled	(9)	Amps @ 200V	75	76	78	79
		Amps @ 230V	65	67	68	69
		Amps @ 460V	33	34	34	35
		Amps @ 575V	26	27	28	28
Main Motor Locked Rotor Current	(14)	Amps @ 200V	552	552	552	552
		Amps @ 230V	649	649	649	649
		Amps @ 460V	325	325	325	325
		Amps @ 575V	237	237	237	237
Package Power Factor			0.90	0.90	0.90	0.90
Full Load Dryer Current - Air Cooled		Amps @ 115V	18	18	18	18
Electrical Installation						
Recommended Supply Cable Size	(10)	mm²Cu (AWG) @ 200V	34 (2)	34 (2)	34 (2)	34 (2)
		mm²Cu (AWG) @ 230V	27 (3)	27 (3)	27 (3)	27 (3)
		mm²Cu (AWG) @ 460V	9 (8)	9 (8)	9 (8)	9 (8)
		mm²Cu (AWG) @ 575V	9 (8)	9 (8)	9 (8)	9 (8)
Recommended Supply Cable Size Dryer		mm²Cu (AWG) @ 115V	4 (12)	4 (12)	4 (12)	4 (12)
Maximum Recommended Fuse Rating	(10)(11)	Amps @ 200V	125	110	110	110
		Amps @ 230V	90	90	90	90
		Amps @ 460V	45	45	45	45
		Amps @ 575V	40	40	40	40
Maximum recommended Fuse rating dryer		Amps @ 115V	20	20	20	20



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Refrigerated Dryer Data					
Refrigerant Type		R134a	R134a	R134a	R134a
Refrigerant Quantity	Grams (Ounces)	REFER LABEL	REFER LABEL	REFER LABEL	REFER LABEL
Fan Air Flow	m ³ /min (CFM)	23 (800)	23 (800)	23 (800)	23 (800)
ISO Class		Particles			Humidity and Liquid Water
(Particles, Humidity and Liquid Water, Oil)		[0.1 - 0.5 μm]	[0.5 - 1 μm]	[1 - 5 μm]	Total Oil
ISO Class Data	(14) 1.5.2	≤20000	≤400	≤10	≤+7 °C

Notes:

1. FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex C
2. Maximum pressure at package discharge, value at which compressor will stop when unit operating at maximum target pressure
3. IE3 efficiency motor
4. Measured at rated capacity and rated pressure
5. Specific power guaranteed in accordance with ISO 1217 : 2009 Annex C
6. Measured in free field conditions per ISO 2151 using Parallelepiped Method; ducted inlet and outlet, with + 3 dB(A) tolerance
7. CTD based on 100°F/38°C inlet air at 40% Relative Humidity (For alternate conditions contact Ingersoll Rand)
8. BSPT or NPT, depending on regional standard
9. Maximum current includes 10% additional current due to fouled filters and elements
10. 90°C copper cables. Always apply local electrical codes for sizing cables and system protection
11. Time delay fuse recommended. Apply local electrical codes for fuse sizing
12. Coolant volumes listed are approximate. See operator manual for coolant fill procedure
13. 60Hz (±0.5%) motor voltage tolerance: (208)±10% ; (220)±10% ; (230)±10% ; (380)-6/+10% ; (440) ±10% ; (460) ±10% ; (575) -6/+10%
14. Star-Delta starting current inrush is about 33% of direct starting current
15. During the Star-Delta open-starting transition, the in-rush current value could instantaneously peak from 1.8 to 2.8 times the noted Locked-Rotor-Amperage (LRA) values
16. TAS units deliver ISO Class 1-5-2 quality air measured at steady state conditions in accordance with ISO 8573-1:2010, with inlet air to package of 25°C (77°F) and RH of 60%
17. Dryer power is excluded in calculation.
18. Package cooling fan mounted to main drive motor shaft extension.

Product Improvement is a continuing goal at Ingersoll Rand. Design and specifications are subject to change without notice or obligation.