



## ENGINEERING DATA SHEET

# RSa22i

Total Air System (TAS)  
60Hz

CCN: 47724929001  
Rev.: C  
ECN: 1491901  
Sheet: 1 of 2  
Date: Oct-2023

Model		RSa22i-A103-TAS	RSa22i-A118-TAS	RSa22i-A138-TAS	RSa22i-A193-TAS
<b>GENERAL PERFORMANCE DATA</b>					
Maximum Target Operating Pressure	<sup>(2)</sup> 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)	22 (30)	22 (30)	22 (30)	22 (30)
Main Motor Efficiency	<sup>(3)</sup> %	91.7%	91.7%	91.7%	91.7%
Capacity FAD	<sup>(1)</sup> m <sup>3</sup> /min (CFM)	3.57 (126.0)	3.40 (120.2)	3.15 (111.3)	2.60 (91.7)
Package Input Power with Fan - Air Cooled	<sup>(4)(17)</sup> kW	25.56	25.83	25.81	26.33
Dryer Input Power with Fan - Air Cooled	<sup>(4)</sup> kW	1.23	1.23	1.23	1.23
Specific Power - Air Cooled	<sup>(4)(5)(17)</sup> kW/m <sup>3</sup> /min (kW/100CFM)	7.16 (20.28)	7.59 (21.49)	8.19 (23.19)	10.14 (28.71)
<b>SOUND LEVEL</b>					
Noise Level Standard Package - Air Cooled	<sup>(6)</sup> Sound Pressure - dB(A)	70	70	70	70
Noise Level Standard Package - Air Cooled	Sound Power - dB(A)	86	86	86	86
<b>COOLING DATA (@ Maximum Ambient Temperature &amp; Maximum Discharge Pressure)</b>					
Heat Removal (Oil Cooler)	kW (1000 Btu/hr)	21.2 (72)	23.4 (80)	23.6 (80)	24.7 (84)
Heat Removal (Oil and Aftercooler)	kW (1000 Btu/hr)	25.6 (87)	25.8 (88)	25.9 (88)	26.5 (91)
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 <sub>2</sub> O)	40 (.16)	40 (.16)	40 (.16)	40 (.16)
Fan Air Flow (Compressor)	m <sup>3</sup> /min (CFM)	55 (1942)	55 (1942)	55 (1942)	55 (1942)
Fan Motor Nominal Power	<sup>(18)</sup> kW	N/A	N/A	N/A	N/A
Cooling Air Temperature Rise @ 30°C	°C (°F)	22 (40)	23 (41)	23 (41)	23 (42)
Aftercooler CTD	<sup>(7)</sup> °C (°F)	16 (29)	16 (30)	16 (30)	17 (30)
<b>AIR END DATA</b>					
Male Rotor Speed	RPM	5308	5080	4739	4038
Tip Speed Rotor	m/sec	28.07	26.87	25.06	21.36
Full Load Shaft Power	kW	23.4	23.7	23.7	24.1
<b>COOLANT LUBRICATION DATA</b>					
Total Coolant Capacity - Air Cooled	<sup>(12)</sup> litres (US gal)	10 (2.5)	10 (2.5)	10 (2.5)	10 (2.5)
<b>PIPING CONNECTIONS</b>					
Air Discharge	<sup>(8)</sup> 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)
<b>DIMENSIONS AND WEIGHT</b>					
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
<b>ELECTRICAL DATA</b>					
Motor Protection	<sup>(13)</sup>	TEFC, IP55	TEFC, IP55	TEFC, IP55	TEFC, IP55
Full Load Package Current - Air Cooled	<sup>(9)</sup> Amps @ 200V	90	91	91	93
	Amps @ 230V	79	79	79	81
	Amps @ 460V	40	40	40	41
	Amps @ 575V	32	32	32	33
Main Motor Locked Rotor Current	<sup>(14)</sup> Amps @ 200V	456	456	456	456
	Amps @ 230V	520	520	520	520
	Amps @ 460V	260	260	260	260
	Amps @ 575V	304	304	304	304
Package Power Factor		0.90	0.90	0.90	0.90
Full Load Dryer Current - Air Cooled	Amps @ 115V	18	18	18	18
<b>Electrical Installation</b>					
Recommended Supply Cable Size	<sup>(10)</sup> mm <sup>2</sup> Cu (AWG) @ 200V	43 (1)	43 (1)	43 (1)	43 (1)
	mm <sup>2</sup> Cu (AWG) @ 230V	34 (2)	34 (2)	34 (2)	34 (2)
	mm <sup>2</sup> Cu (AWG) @ 460V	14 (6)	14 (6)	14 (6)	14 (6)
	mm <sup>2</sup> Cu (AWG) @ 575V	9 (8)	9 (8)	9 (8)	9 (8)
Recommended Supply Cable Size Dryer	mm <sup>2</sup> Cu (AWG) @ 115V	4 (12)	4 (12)	4 (12)	4 (12)
Maximum Recommended Fuse Rating	<sup>(10)(11)</sup> Amps @ 200V	125	125	125	125
	Amps @ 230V	110	110	110	110
	Amps @ 460V	60	60	60	60
	Amps @ 575V	45	45	45	45
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 <sup>3</sup> /min (CFM)	23 (800)	23 (800)	23 (800)	23 (800)	
Filter Data						
	ISO Class	Particles			Humidity and Liquid Water	Total Oil
	(Particles, Humidity and Liquid Water, Oil)	[0.1 - 0.5 μm]	[0.5 - 1 μm]	[1 - 5 μm]		
ISO Class Data	(16) 1.5.2	≤20000	≤400	≤10	≤+7 °C	≤0.1

- Notes:**
- FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex C
  - Maximum pressure at package discharge, value at which compressor will stop when unit operating at maximum target pressure
  - IE3 efficiency motor
  - Measured at rated capacity and rated pressure
  - Specific power guaranteed in accordance with ISO 1217 : 2009 Annex C
  - Measured in free field conditions per ISO 2151 using Parallelepiped Method; ducted inlet and outlet, with + 3 dB(A) tolerance
  - CTD based on 100°F/38°C inlet air at 40% Relative Humidity (For alternate conditions contact Ingersoll Rand)
  - BSPT or NPT, depending on regional standard
  - Maximum current includes 10% additional current due to fouled filters and elements
  - 90°C copper cables. Always apply local electrical codes for sizing cables and system protection
  - Time delay fuse recommended. Apply local electrical codes for fuse sizing
  - Coolant volumes listed are approximate. See operator manual for coolant fill procedure
  - 60Hz (±0.5%) motor voltage tolerance: (208)±10% ; (220)±10% ; (230)±10% ; (380)-6/+10% ; (440) ±10% ; (460) ±10% ; (575) -6/+10%
  - Star-Delta starting current inrush is about 33% of direct starting current
  - 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
  - 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%
  - Dryer power is excluded in calculation.
  - 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.