Schulz ADS-100-UP

Schulz ADS-100-UP Non-cycling Compressed Air Dryer Instruction Manual

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Schulz ADS-100-UP Non-cycling Compressed Air Dryer. Please read this manual thoroughly before operating the unit and retain it for future reference. This air dryer is designed to remove moisture from compressed air, improving the performance and longevity of pneumatic tools and machinery.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in serious injury or property damage.

- Always disconnect power before performing any maintenance or service.
- Ensure the unit is properly grounded to prevent electrical shock.
- Do not exceed the maximum inlet pressure of 203 PSI.
- Operate the dryer in a well-ventilated area.
- Wear appropriate personal protective equipment (PPE) when working with compressed air systems.
- Keep children and unauthorized personnel away from the operating unit.
- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

3. Product Overview

The Schulz ADS-100-UP is a non-cycling refrigerated compressed air dryer designed for industrial applications. It features an electronic controller for precise management of drying processes.

Key Features:

- Maximum operating pressure of 203 PSI.
- Digital display for temperature monitoring.
- Integrated timer for automatic drain valve control.
- Condenser fan controlled by a temperature probe.
- Single-phase electrical operation (115V).
- Removable panels for easy access to internal components.

Figure 1: Front-side view of the Schulz ADS-100-UP Non-cycling Compressed Air Dryer. The unit is blue with a power cord and various connections visible.

4. Setup

4.1 Unpacking and Inspection

Carefully remove the air dryer from its packaging. Inspect the unit for any signs of shipping damage. Report any damage to your supplier immediately.

4.2 Location Requirements

- Install the dryer in a clean, dry, and well-ventilated area.
- Ensure ambient and inlet air temperatures do not exceed 100°F (38°C).
- Allow sufficient space around the unit for proper airflow and maintenance access.
- Mount the dryer on a level, stable surface capable of supporting its weight (approximately 88 lbs).

4.3 Electrical Connection

The ADS-100-UP requires a 115V, single-phase electrical supply. Connect the dryer to a dedicated, properly fused, and grounded electrical circuit. Consult a qualified electrician if you are unsure about the electrical requirements or connection procedures.

4.4 Air Connections

Connect the compressed air inlet and outlet lines to the dryer using 1-1/4" NPT-F fittings. Ensure all connections are tight and leak-free. Install an appropriate pre-filter upstream of the dryer to protect it from particulate matter and oil aerosols, and an after-filter downstream if required by your application.

5. Operating Instructions

5.1 Initial Start-up

1. Ensure all air and electrical connections are secure.
2. Open the inlet and outlet air valves to allow compressed air to flow through the dryer.
3. Connect the power cord to a suitable electrical outlet.
4. The electronic controller will power on, and the digital display will show the current temperature.
5. Allow the dryer to operate for approximately 15-20 minutes to reach optimal operating temperature before evaluating performance.

5.2 Normal Operation

The ADS-100-UP is a non-cycling dryer, meaning its refrigeration system runs continuously to maintain a consistent dew point. The electronic controller manages the drain valve operation via a timer and controls the condenser fan based on temperature readings to ensure efficient moisture removal.

5.3 Shut-down

1. Close the inlet air valve to the dryer.
2. Allow the dryer to depressurize.
3. Disconnect the power supply.

6. Maintenance

Regular maintenance is crucial for the longevity and efficient operation of your air dryer.

6.1 Daily Checks

- Verify the automatic drain valve is functioning correctly and discharging condensate.
- Check the digital display for normal temperature readings.
- Inspect for any unusual noises or vibrations.

6.2 Monthly Checks

- Clean the exterior of the dryer.
- Inspect all air and electrical connections for tightness and wear.

6.3 Quarterly Checks

- Clean the condenser coils to ensure proper heat dissipation. Use compressed air or a soft brush.
- Check the refrigerant lines for any signs of leaks or damage.

NOTE: For any internal repairs or refrigerant system servicing, contact a qualified technician.

7. Troubleshooting

This section provides solutions to common operational issues. For problems not listed here, contact customer support.

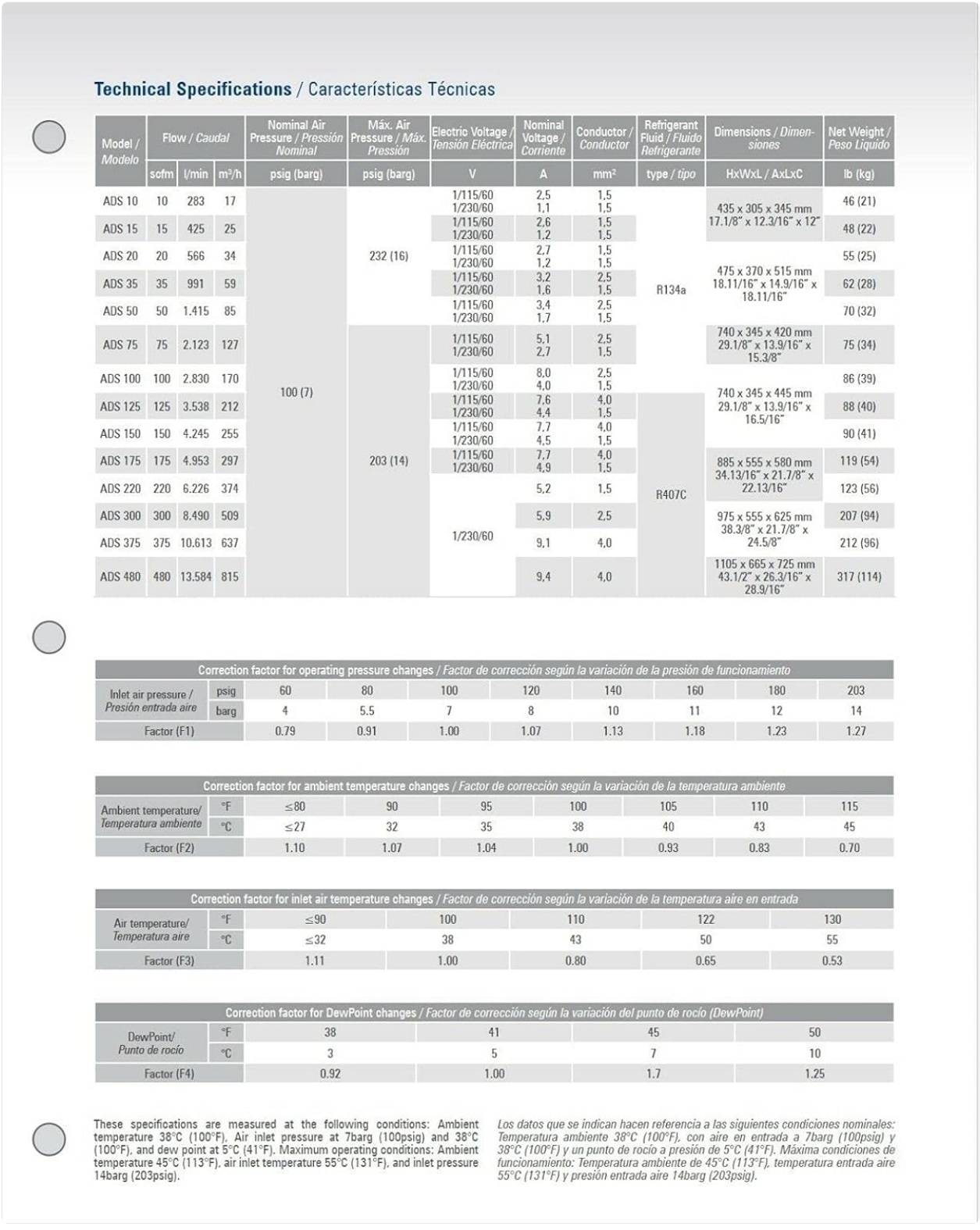
Problem	Possible Cause	Solution
Dryer does not power on	No electrical supply; Blown fuse/tripped breaker	Check power connection; Reset breaker or replace fuse.
High dew point / Ineffective drying	High ambient/inlet temperature; Dirty condenser; Refrigerant leak; Overload	Ensure proper ventilation; Clean condenser coils; Contact service for leaks; Check for proper sizing.
Automatic drain valve not operating	Clogged drain; Electrical fault; Timer setting incorrect	Clean drain valve; Check electrical connections; Verify timer settings.
Unusual noise or vibration	Loose components; Fan obstruction; Compressor issue	Inspect for loose parts; Clear fan obstruction; Contact service for compressor issues.

8. Specifications

Detailed technical specifications for the Schulz ADS-100-UP Non-cycling Compressed Air Dryer.

- **Model:** ADS-100-UP
- **Flow Capacity:** 100 CFM (Cubic Feet Per Minute)
- **Rated Pressure:** 175 PSI
- **Maximum Pressure:** 203 PSI
- **Connection Size:** 1-1/4" NPT-F
- **Voltage:** 115V

- **Frequency:** 60 Hz
- **Phase:** Single
- **Overall Dimensions (H x W x L):** 30 x 14 x 17 inches
- **Item Weight:** 88 pounds
- **Recommended Uses:** Powering pneumatic tools, running air-powered machinery
- **Special Feature:** Automatic Shut-Off



Technical Specifications / Características Técnicas

Model / *Modelo*	Flow / *Caudal*			Nominal Air Pressure / *Presión Nominal*	Máx. Air Pressure / *Máx. Presión*	Electric Voltage / *Tensión Eléctrica*	Nominal Voltage / *Corriente*	Conductor / *Conductor*	Refrigerant Fluid / *Fluido Refrigerante*	Dimensions / *Dimensiones*	Net Weight / *Peso Líquido*
	scfm	l/min	m³/h	psig (barg)	psig (barg)	V	A	mm²	type / *tipo*	HxWxL / AxLxC	lb (kg)
ADS 10	10	283	17	100 (7)	232 (16)	1/115/60 1/230/60	2,5 1,1	1,5 1,5	R134a	435 x 305 x 345 mm 17.1/8" x 12.3/16" x 12"	46 (21)
ADS 15	15	425	25			1/115/60 1/230/60	2,6 1,2	1,5 1,5			48 (22)
ADS 20	20	566	34			1/115/60 1/230/60	2,7 1,2	1,5 1,5		475 x 370 x 515 mm 18.11/16" x 14.9/16" x 18.11/16"	55 (25)
ADS 35	35	991	59			1/115/60 1/230/60	3,2 1,6	2,5 1,5			62 (28)
ADS 50	50	1.415	85			1/115/60 1/230/60	3,4 1,7	2,5 1,5			70 (32)
ADS 75	75	2.123	127		203 (14)	1/115/60 1/230/60	5,1 2,7	2,5 1,5		740 x 345 x 420 mm 29.1/8" x 13.9/16" x 15.3/8"	75 (34)
ADS 100	100	2.830	170			1/115/60 1/230/60	8,0 4,0	2,5 1,5		740 x 345 x 445 mm 29.1/8" x 13.9/16" x 16.5/16"	86 (39)
ADS 125	125	3.538	212			1/115/60 1/230/60	7,6 4,4	4,0 1,5	R407C		88 (40)
ADS 150	150	4.245	255			1/115/60 1/230/60	7,7 4,5	4,0 1,5			90 (41)
ADS 175	175	4.953	297			1/115/60 1/230/60	7,7 4,9	4,0 1,5		885 x 555 x 580 mm 34.13/16" x 21.7/8" x 22.13/16"	119 (54)
ADS 220	220	6.226	374			1/230/60	5,2	1,5			123 (56)
ADS 300	300	8.490	509				5,9	2,5		975 x 555 x 625 mm 38.3/8" x 21.7/8" x 24.5/8"	207 (94)
ADS 375	375	10.613	637				9,1	4,0			212 (96)
ADS 480	480	13.584	815				9,4	4,0		1105 x 665 x 725 mm 43.1/2" x 26.3/16" x 28.9/16"	317 (114)

Correction factor for operating pressure changes / *Factor de corrección según la variación de la presión de funcionamiento*

Inlet air pressure / *Presión entrada aire*									
	psig	60	80	100	120	140	160	180	203
	barg	4	5.5	7	8	10	11	12	14
Factor (F1)		0.79	0.91	1.00	1.07	1.13	1.18	1.23	1.27

Correction factor for ambient temperature changes / *Factor de corrección según la variación de la temperatura ambiente*

Ambient temperature/ *Temperatura ambiente*								
	°F	≤80	90	95	100	105	110	115
	°C	≤27	32	35	38	40	43	45
Factor (F2)		1.10	1.07	1.04	1.00	0.93	0.83	0.70

Correction factor for inlet air temperature changes / *Factor de corrección según la variación de la temperatura aire en entrada*

Air temperature/ *Temperatura aire*						
	°F	≤90	100	110	122	130
	°C	≤32	38	43	50	55
Factor (F3)		1.11	1.00	0.80	0.65	0.53

Correction factor for DewPoint changes / *Factor de corrección según la variación del punto de rocío (DewPoint)*

DewPoint/ *Punto de rocío*					
	°F	38	41	45	50
	°C	3	5	7	10
Factor (F4)		0.92	1.00	1.7	1.25

These specifications are measured at the following conditions: Ambient temperature 38°C (100°F), Air inlet pressure at 7barg (100psig) and 38°C (100°F), and dew point at 5°C (41°F). Maximum operating conditions: Ambient temperature 45°C (113°F), air inlet temperature 55°C (131°F), and inlet pressure 14barg (203psig).

Los datos que se indican hacen referencia a las siguientes condiciones nominales: Temperatura ambiente 38°C (100°F), con aire en entrada a 7barg (100psig) y 38°C (100°F) y un punto de rocío a presión de 5°C (41°F). Máxima condiciones de funcionamiento: Temperatura ambiente de 45°C (113°F), temperatura entrada aire 55°C (131°F) y presión entrada aire 14barg (203psig).

Figure 2: Technical data table showing specifications for various Schulz ADS series models, including flow, pressure, electrical, refrigerant, dimensions, and weight.

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your authorized Schulz dealer or the manufacturer directly. Keep your purchase receipt and product model number (ADS-100-UP) readily available when contacting support.