



SURFACE VEHICLE RECOMMENDED PRACTICE

J2383™

MAY2023

Issued 1998-03
Revised 2012-06
Reaffirmed 2023-05

Superseding J2383 NOV2017

Air Dryer Installation Procedure

RATIONALE

SAE J2383 has been reaffirmed to comply with the SAE Five-Year Review policy.

1. SCOPE

This SAE Recommended Practice establishes uniform Installation Parameters for desiccant Air Dryers for vehicles with compressed air systems.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publication

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J2384 Air Dryer Test Procedure

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Documents

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3. DEFINITIONS

3.1 AIR DRYER

A device that cools, filters, and dries the air delivered by an air compressor.

3.2 COMPRESSOR LOAD CYCLE

The time during which the air compressor is building air pressure in an air system.

3.3 COMPRESSOR UNLOAD CYCLE

The time during which the air compressor is not building air pressure in an air system.

3.4 DESICCANT

A substance that adsorbs and desorbs moisture from air.

3.5 DISCHARGE LINE UNLOADED COMPRESSOR (DLU)

This version of air compressor has no integral unloading mechanism. Unloading is accomplished downstream of the compressor by releasing air from the discharge line through a valve or dryer, directly to the atmosphere.

3.6 DUTY CYCLE

Compressor loaded time divided by engine on time.

3.7 DRYING CYCLE

The time during which the air dryer cools, filters, and removes moisture from the air.

3.8 INTEGRAL PURGE AIR DRYER

A dryer for which the air for regeneration is internal to the dryer.

3.9 OUTLET CHECK VALVE

A valve that prevents downstream air from flowing back through the air dryer.

3.10 PRESSURE-CONTROLLED CHECK VALVE

A valve which permits downstream air to flow back for purging in a System Purge Air Dryer while protecting reservoir pressure.

3.11 PURGE CYCLE

The time during which the air dryer is undergoing decompression and regeneration.

3.12 PURGE TANK AIR DRYER

A dryer for which the air for regeneration comes from a dedicated external reservoir.

3.13 PURGE VALVE

A valve that allows the collected moisture and contamination to be expelled from the air dryer during the purge cycle.

3.14 REGENERATION

The controlled backflow of air through the desiccant to remove moisture and contaminants.

3.15 REGENERATION VALVE

A valve that controls the amount of air from the air reservoirs that is used for regeneration in a System Purge Air Dryer.

3.16 SYSTEM PURGE AIR DRYER

A dryer for which the air for regeneration comes from the air system reservoirs.

3.17 TURBO CUT-OFF VALVE

A valve that closes the dryer inlet during the compressor unload cycle to avoid engine turbocharge or air compressor discharge pressure loss.

3.18 CONTINUOUS FLOW AIR DRYER

A dryer or combination of dryers that can continuously dry the air. The dryer or combination of dryers can be controlled by internal or external components.

3.19 COMPRESSOR UNLOADER

Provides a method to unload and load the air compressor. The unloading can be accomplished by a mechanical mechanism that is remote or integral to the air compressor (operated by a pneumatic, electrical, or other source) or by a mechanical clutch between the air compressor and its power source (engine, electric motor other source).

3.20 AIR DRYER MODULE

An air dryer that incorporates in the assembly other non-air dryer functions that result in an integrated package for installation in the vehicle. The functions can include but are not limited to the governor, reservoir, pressure protection valves, single check valves and double check valves.

4. AIR DRYER INSTALLATION PARAMETERS

4.1 Dryer Operating Requirements

Operating Requirements are to be as follows except where the air dryer manufacturer specifies otherwise:

- | | |
|--------------------------------|------------------------------|
| a. Inlet Temperature | 71 °C (160 °F) typical max |
| b. Governed Operating Pressure | 10.2 bar max (150 psig max) |
| c. Ambient Temperature | -40 to 52 °C (-40 to 125 °F) |