



TECHNICAL DATA

DEHYDRATOR (PART NO. 16854)

1. PRODUCT NAME

Dehydrator

Package Part Number 16854

Available since 2011.

2A. MANUFACTURED FOR:

The Viking Corporation
210 N. Industrial Park Drive
Hastings, Michigan 49058 U.S.A.
Telephone: (269) 945-9501
(877) 384-5464
Fax: (269) 818-1680
e-mail: techsvcs@vikingcorp.com

2B. MANUFACTURED BY:

Numatics, Incorporated
46280 Dylan Drive
Novi MI 48377-4906 U.S.A.
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3. PRODUCT DESCRIPTION

The Dehydrator is a manually regenerated desiccant-type air dryer. The desiccant acts as a moisture indicator by changing color, and is visible through the sight gauge.

4. TECHNICAL DATA

- A. The desiccant is silica gel having a $-40\text{ }^{\circ}\text{F}$ ($-40\text{ }^{\circ}\text{C}$) dew point at a maximum $180\text{ }^{\circ}\text{F}$ ($82\text{ }^{\circ}\text{C}$) temperature with a regeneration temperature of $275\text{ }^{\circ}\text{F}$ ($135\text{ }^{\circ}\text{C}$). When the silica gel color changes from dark blue to light pink or clear, it has become saturated with moisture and must be changed.
- B. The unit has a maximum drying capacity of 8100 standard cubic feet (229.3 m^3) of air to $-40\text{ }^{\circ}\text{F}$ ($-40\text{ }^{\circ}\text{C}$) atmospheric dew point at inlet condition of 100 PSI (6.895 BAR), 50% relative humidity, $70\text{ }^{\circ}\text{F}$ ($21\text{ }^{\circ}\text{C}$) and 15 scfm (.4247 scmm) before the desiccant becomes saturated.
- C. The maximum air flow rating is 15 standard cubic feet per minute ($0.4247\text{ m}^3/\text{minute}$) at 100 PSI (6.895 BAR) per unit.
- D. All ratings are based on $100\text{ }^{\circ}\text{F}$ ($38\text{ }^{\circ}\text{C}$) saturated inlet air temperatures at 100 PSI (6.895 BAR).
- E. The aluminum bowl holds 2.5 pounds (1.134 kg) of desiccant and is rated for a maximum temperature and pressure at $180\text{ }^{\circ}\text{F}$ ($82\text{ }^{\circ}\text{C}$) and 300 PSI (20.68 BAR).
- F. The silica gel desiccant is provided in a sealed 2.5 pound (1.134 kg) bag.
- G. The unit has $1/4\text{''}$ (6 mm) NPT threads on the inlet and outlet.
- H. The Dehydrator is available as a package unit (Part Number 16854), which includes the dehydrator, desiccant, and mounting brackets.
- I. The unit is to be used on compressed air service only.

5. FEATURES

- A. The desiccant automatically indicates when replacement is required.
- B. The internal air flow design allows for maximum exposure of air to silica gel desiccant.
- C. Easily and quickly serviced.
- D. Built-in particulate after filter prevents downstream dust.
- E. No purge air lost.

6. AVAILABILITY

The Viking Dehydrator is available through a network of domestic and international distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

7. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

8. OPERATION

The Dehydrator directs the incoming air down through the silica gel desiccant. The silica gel absorbs the moisture without physically changing. As the relative humidity increases, the silica gel begins to change color from dark blue to light pink, indicating the desiccant must be replaced.



Viking Technical Data may be found on The Viking Corporation's Web site at <http://www.vikingcorp.com>. The Web site may include a more recent edition of this Technical Data Page.



9. MAINTENANCE

The Dehydrator must be regularly inspected to ensure the drying capability of the desiccant. Replace the desiccant when the color has changed from dark blue to light pink. In addition, the recommended condensate trap should be drained on a regular basis. The frequency of the required maintenance is dependent upon the relative humidity and volume of air to be dried. Regular maintenance of the air supply equipment, such as draining condensation from the air compressor receiver, will increase the life of the desiccant.

WARNING: PRIOR TO PERFORMING ANY MAINTENANCE ON A COMPRESSED AIR SYSTEM, ISOLATE THE EQUIPMENT AND RELIEVE ALL TRAPPED PRESSURE. FAILURE TO DO SO MAY RESULT IN INJURY AND/OR ACCIDENTALLY TRIPPING THE FIRE PROTECTION SYSTEM.

DISASSEMBLY

- A. DO NOT allow the fire protection system air pressure to drop below the minimum system service pressure.
- B. Close the control valve on the system side of the dehydrator.
- C. Close the air supply control valve to the dehydrator.
- D. Open the drain valve on the condensate drip leg to relieve the trapped pressure from the dehydrator. Drain pressure from the dehydrator. Drain all condensate, and then close the valve.
- E. Turn the clamp ring left while holding the bowl, and exert a downward pull until the clamp ring, and the bowl drop free.
- F. Pour out used desiccant.
- G. The bowl can be adversely affected by certain compressor oils, chemicals, household cleansers, solvent, paint, or fumes. Inspect the bowl and immediately replace if crazed, cracked, damaged, or deteriorated. When the bowl becomes dirty, wipe with a clean, dry cloth.
- H. If further disassembly is required, refer to assembly drawing.

REASSEMBLY

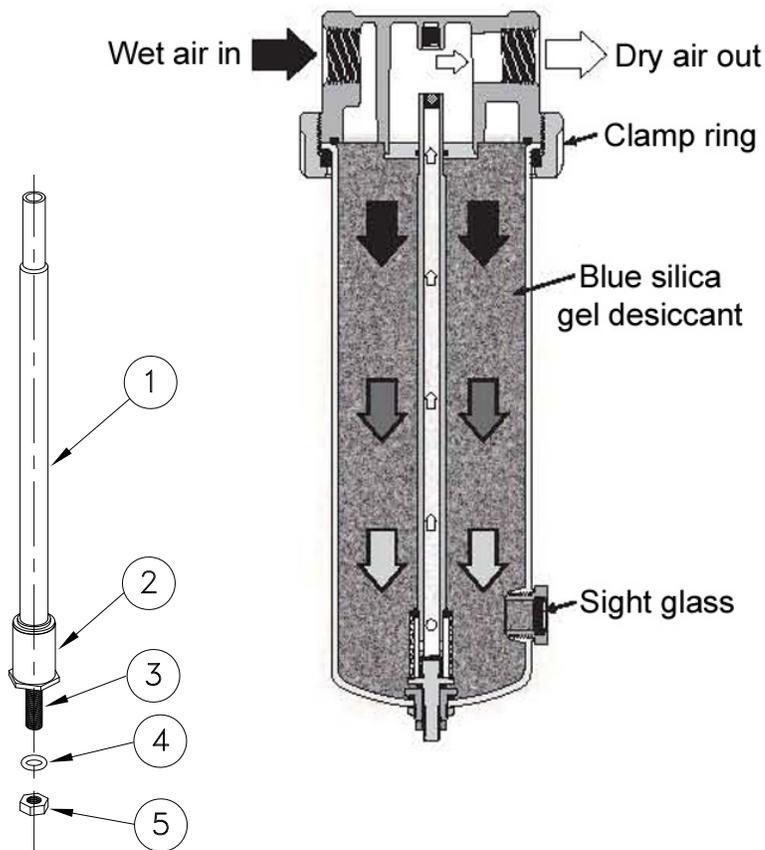
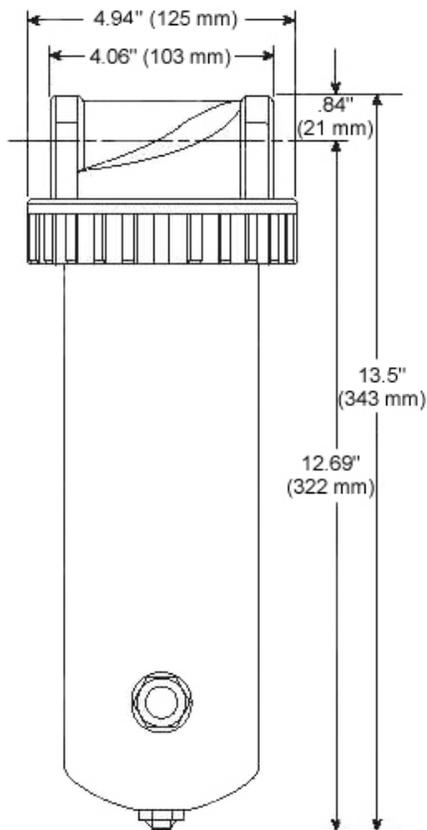
- A. Open desiccant bag and fill bowl. Shake or tap to settle desiccant. Add or remove sufficient quantity of desiccant to make level 1/8" (3.175 mm) below the inner step of the bowl.
- B. Reinstall bowl and clamp ring. Turn the clamp ring to the right until tight.
- C. Open the main air supply valve to pressurize the dehydrator. Check for leaks.
- D. Open the control valve on the system side of the dehydrator. Check for leaks.

10. INSTALLATION

The dehydrator is provided with mounting brackets for mounting on a wall or solid surface. The unit should be located on the service side of the air compressor, as close as possible to the system, and ahead of any other system devices. Install the unit so the air flow is in the direction of the arrow on the top to the unit. A condensate drip leg should be installed on the supply side of, and adjacent to, the dehydrator. To allow for proper servicing, a control valve is required on the supply side, at the base of the moisture trap, and on the system side. Prior to connecting the air lines to the dehydrator, purge all oil and foreign matter from the lines. Connect the dehydrator to the air lines.

When ready to place the system in service, open the bag of desiccant and fill the dehydrator by following the DISASSEMBLY and REASSEMBLY instructions. By installing two or more units in parallel, higher air flows can be dried. Add one unit in parallel for each additional 15 SCFM (0.4247 m³ per minute) flow required, or fraction thereof.

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REPLACEMENT PARTS			
ITEM NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	*	Flow Tube	1
2	*	Screen	1
3	*	Adapter Nut	1
4	*	O-Ring	1
5	*	Retainer Nut	1
6	16855	Desiccant (2.5-lb. bag)	1
7	16856	Mounting Bracket Assembly	2
<small>—Indicates replacement part not available * Indicates replacement part available as a sub-assembly only.</small>			
SUB-ASSEMBLY			
1-5	16857	Replacement Parts Kit	

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