

# VACUUM DEHYDRATION SYSTEM FD-5



**Y2K**  
**Y2K**

**FLUID POWER**



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A DIVISION OF DAKOTA FLUID POWER, INC.

# VACUUM DEHYDRATION SYSTEM FD-5

Don't see the options you need?  
Contact Y2K at 1(888) 925-8882  
or sales@y2kfluidpower.com

## General Overview:

The purpose of the FD-5 Vacuum Dehydration System is to serve as an oil treatment system. By removing water (dissolved, emulsified and free), gasses and solid contaminants the oil can return to its original condition, and be reused in lubricating systems. Having clean, dry oil will allow hydraulic and lubricating systems to perform more efficiently and can result in significant financial gains. The need to purchase new lubricating oils can be reduced and in some cases eliminated completely.

To begin, the oil is brought into the chamber and passed over the heater and heated. It then is dispersed over the Pall Rings, located inside the tower, and then exposed to a vacuum, usually between 22-27"Hg.

After the oil has been degassed and dehydrated it is pumped out of the bottom of the tower via the hydraulic pump into the filter to remove any contaminants before it enters the reservoir or system again.

In order to optimize this process the FD-5 Purifier is partially automated with a PLC and series of electrically controlled switches. Data, diagnostics, alerts and many help screens can be accessed on the control panel touch screen display.

## Typical Industries:

- Power Generation
- Mining
- Pulp and Paper
- Steel
- Automotive Manufacturing

## Typical Applications:

- Filtering Pulp and Paper lube systems
- Filtering steam turbine lube systems
- Filtering hydraulic reservoirs
- Filtering rolling mill lube tanks
- And many other industrial applications containing oil

- The FD-5 can remove 100% of free and emulsified water and up to 90% of dissolved water from industrial oils. It can also remove 100% of free gases and up to 90% of dissolved gases.
- Remove free and dissolved water down to 20 PPM.



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## General Specs & Benefits:

### Process:

- Vacuum Dehydration

### Chamber:

- Pall Dispersion Rings; never have to get in chamber to change filter elements

### Chamber Vacuum:

- Adjustable; Ideal range is 22-27"Hg

### Fluid Temperature:

- Factory set at 145°F and is adjustable up to 165°F

### Filtration:

- 1 ea. - 6x18 Filter Element

### Seal Material(s):

- Buna N, Viton, EPDM or EPR

### Max Fluid Viscosity:

- ISO 680 or 4250 SUS

### Inlet Pressure Maximums:

- 10"Hg Vacuum to 15psig

### Outlet Pressure:

- 65psig Max

### Continuous Heater Flow:

- Minimum 2-5 GPM continuous flow through heater to prevent oil coking

### Console Remote Alarm:

- 250 V, 10 AMP dry contact rating

Contaminant Type	FD-5 Capability
Water	Remove 100% free water plus 90% dissolved water
Particulate	ISO Cleanliness Code 13/11/8; per ISO 4406:1999
Gases	Remove 100% free gases plus 90% dissolved gases
Air	Remove 100% free air plus 90% dissolved air

### Wheel Configuration:

- Caster wheels, pneumatic tires, fork lift pockets or floor mount

### Water Removal Rate:

- The removal rate of water will vary depending on fluid properties and application parameters

### Moisture Content Monitor:

- Measures in % and will shut down when it reads 0%

### Operator Interface Panel Features:

- One button on/off
- Auto shut down if operating parameters move outside of limits
- Panel displays all conditions; including causes and remedies
- Help Screen

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## Technical Specifications:

**Flow Rate:**

5 GPM

**Vacuum Pump Flow Rate:**

13 CFM

**Heater Capacity:**

3 KW @ 15wsi

**Motors:**

Electric, 480 VAC, 3 Phase

**Plumbing Requirements:**

Inlet: 1-1/2" NPT

Outlet: 1-1/4" SAE

**Approximate Dry Weight:**

950 lbs

**Dimensions:**

44.5"L x 30.5"W x 68"H

**Start Up Bypass:**

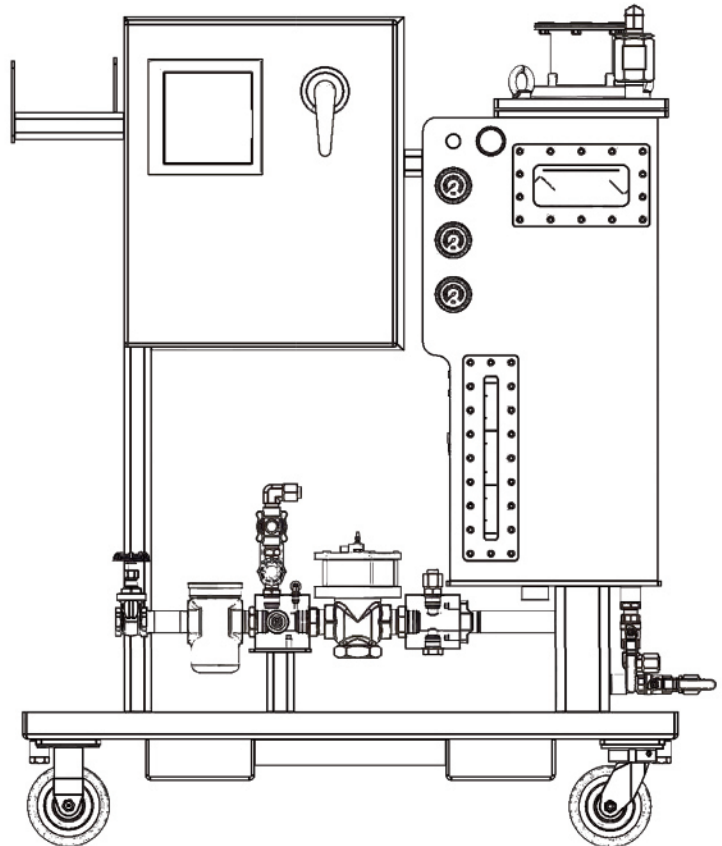
Standard

**Condenser:**

Optional

**Water Monitor:**

Standard



- Are you aware that 75-80% of ALL hydraulic component failures are caused by fluid contamination, including moisture and particulate?