



A DIVISION OF DAKOTA FLUID POWER, INC.

## PORTABLE MEMBRANE DEHYDRATION SYSTEM

### Portable & Convenient

When you need to remove large amounts of water from your reservoirs, but the lack of portability and electrical requirements of a conventional VAC Dehydration system hinders your efforts, Y2K has got you covered. Built with your needs in mind, we designed a unit that is portable and easy to get around while 110 Volts makes it easy to find power. Utilizing a standard filter cart frame, we made our unit easy to transport and move through doors, catwalks and most hard to reach areas a conventional dehydrator cannot fit. The portable vacuum dehydrator has the ability to filter oil viscosities up to 600cSt (ISO VG 680) at 100°F within ambient temperature ranges of -15°F to 180°F. All Y2K products are 100% customizable upon request.



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## Typical Industries:

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

## Typical Applications:

- Hydraulic Reservoirs
- Pulp and Paper Lube Systems and Gearboxes
- Cooling Tower Gearboxes
- And Many Other Applications

### Removes:

- 100% Free Water
- 100% Emulsified Water
- Dissolved water to < 25 ppm or less
- Particulates to < 3 um

## Replacement Elements:

| Part Number | BETA Rating   | Desired Cleanliness Level (ISO Code) |
|-------------|---------------|--------------------------------------|
| P1066       | β4(c)=2000    | 14/12/9 - 13/11/8                    |
| P1065       | β7(c)=2000    | 18/16/13 - 15/13/10                  |
| P1063       | β10(c)=1000   | 19/17/14 - 18/16/13                  |
| P1064       | β25(c)=2000   | 20/18/15 - 19/17/14                  |
| P1048WR     | Water Removal |                                      |

All D Series elements measure 5" x 14".

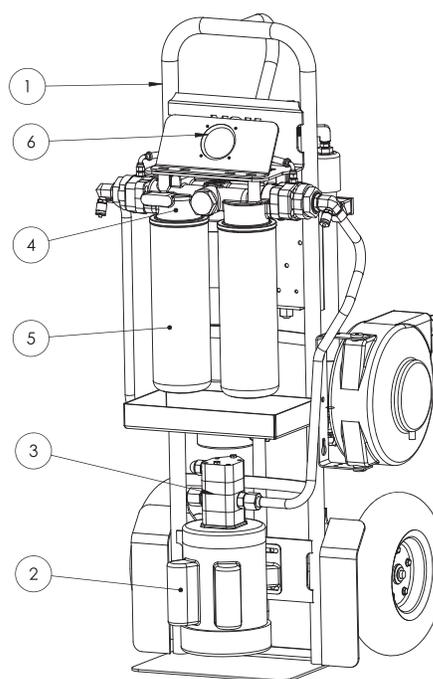
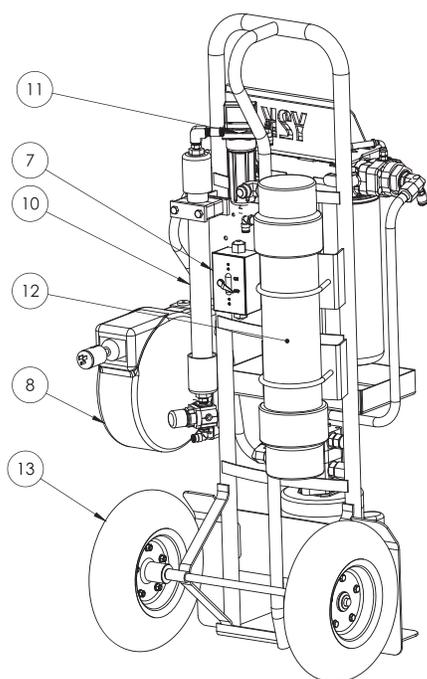
## Standard Features

|                               |  |
|-------------------------------|--|
| <b>Frame:</b>                 | Carbon steel with drip tray; no flat tires                               |
| <b>Paint:</b>                 | Multiple color options available   |
| <b>Motor:</b>                 | 1HP, 115vac, 60Hz  |
| <b>Filter Heads:</b>          | Dual stage, medium pressure, steel heads                                 |
| <b>Pump:</b>                  | Heavy duty, steel gear pump. Available in 2 GPM                          |
| <b>Connections:</b>           | Various quick connect options available                                  |
| <b>Hoses:</b>                 | 2 ea., 7ft Clear PVC, steel reinforced suction and discharge hoses       |
| <b>Power Switch:</b>          | Sealed on/off power switch   |
| <b>Membrane Dryer:</b>        | Patented membrane dryer with hollow fiber membranes                      |
| <b>Coalescing Pre Filter:</b> | Reduces particulates and oil from plant air                              |
| <b>Air Dryer:</b>             | Dries Incoming plant air to -40 degrees or lower dew point               |
| <b>Filter Indicators:</b>     | Slide bar indicators trigger at 50 psid when elements need to be changed |
| <b>Pump Relief:</b>           | Opens at 150 PSI   |
| <b>Options:</b>               | Additional options available.  |
| <b>Weight:</b>                | Approx. 170 lbs ( <i>will vary depending on options</i> )                |
| <b>Dimensions:</b>            | 23"L x 23"W x 52"H   |

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## Components:

| Item Number | Description           | Qty. |
|-------------|-----------------------|------|
| 1           | Frame                 | 1    |
| 2           | Motor                 | 1    |
| 3           | Pump                  | 1    |
| 4           | Filter Head           | 2    |
| 5           | Filter Element        | 2    |
| 6           | Filter Indicator      | 2    |
| 7           | Switch On/Off         | 1    |
| 8           | Cord Reel             | 1    |
| 9           | Differential Gauge    | 1    |
| 10          | Air Dryer             | 1    |
| 11          | Coalescing Pre Filter | 1    |
| 12          | Membrane Dryer        | 1    |
| 13          | 13" No-Flat tires     | 2    |

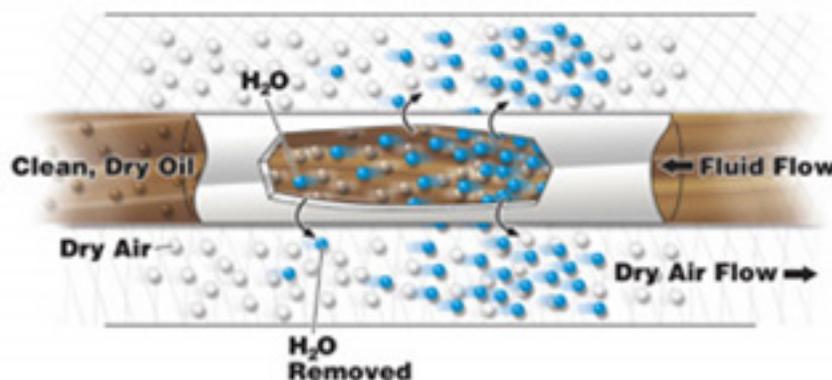


\*Membrane system requires compressed air, Requirement of a minimum of 2.5 SCFM at 100 PSIG continuous duty.

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## Membrane Dryer Technology

Our advanced separation technology allows the water to pass directly from the oil into a dry air stream (or vacuum). This is achieved without any of the problems usually associated with conventional vacuum purifiers (foaming, flooding, viscosity changes, etc.). Oil flows through the system and over the patented structured packing which distributes the oil into relatively thin films with a large contact area. Dry compressed air is used to create a driving force for the mass transfer of the water to diffuse from the oil and into the air. The air with dissolved water vapor is then exhausted to atmosphere.



## Air Dryer Technology

Humid (compressed) air enters the membrane and its hollow fibers. A small amount of purged air is metered and directed to the outside of the fibers. Humidity is transferred through the fiber and is sent through the module to atmosphere as humid air. Dried air is sent out as low as -40 degree or lower dew point.



Typically, the degree of water removal will depend on the type of oil, its affinity for water (water solubility), and the rate of water ingress into the system.