



## 3.5 LPM VUD

### HY-PRO Vacuum Dehydration

Remove Free & Dissolved Water  
down to 20 PPM (0.002%)

Remove Free & Dissolved Gasses

Visually Monitor Fluid and Process  
through Clear Chamber Covers

High Water Removal Efficiency

High Efficiency Partuculate Filtration

### The VAC-U-Dry Purification Process

Contaminated oil is drawn into the VAC-U-DRY purifier by a high output vacuum pump. The oil passes through the low watt density heater where heated to optimum temperature for the dehydration process (66°C). The oil enters the vacuum chamber passing through specially designed dispersal elements which create a thin film of oil that is exposed to the vacuum. The water is vaporized and then drawn into the condenser where it becomes liquid and drains into the condensate tank. The dehydrated oil flows to the bottom of the vacuum chamber and is removed by the discharge pump.

The oil is pumped through the high efficiency particulate filter assembly ( $\beta_{x_{[c]}} > 1000$ ) and returned to the system. The recirculating line helps the VAC-U-DRY reach optimum temperature in cold start situations and can be used to throttle machine inlet and outlet flow.

### 75% of All Hydraulic Component Failures are Caused by Fluid Contamination

The effects of moisture in your oil systems can drastically reduce on stream plant availability. Bearing life and critical component life is greatly reduced by moisture levels above and within the saturation point. Many systems run constantly above this point due to inefficient dehydration technologies and high ingress. This develops acidity and loss of lubrication properties.

#### Unit Specifications

Flow Rate*	1.89 ~ 6.81 LPM
Vacuum Pump Type	Dry Seal Piston Pump
Amp Draw	230 VAC - 1KW riscaldatore (10 FLA) 230 VAC - 3KW riscaldatore (23 FLA)
Condenser	Air Cooled

\* Flow rate is adjustable based on recirculation line flow. The V1 is designed for reservoirs  $\leq 567$  litri @ 43-65°C



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# VAC-U-DRY V1 PART NUMBER GUIDE

## V1P

Power

Dispersal Element

Media

Seal

Heater

A

Special Options

Table 1 Code	Power Options
12	120 VAC, 1P, 60 Hz
22	220 VAC, 1P, 50 Hz
23	230 VAC, 1P, 60 Hz
46	460 VAC, 1P, 60 Hz

Table 2 Code	Dispersal Element
D	Pleated Dispersal (Viscosity < 150 cSt)
P	Metallic Packed Dispersal (Viscosity > 150 cSt)

Table 3 Code	Discharge Filter Efficiency Rating
1M	$\beta_{2.5[C]} = 1000$ ( $\beta_1 = 200$ )
3M	$\beta_{5[C]} = 1000$ ( $\beta_3 = 200$ )
6M	$\beta_{7[C]} = 1000$ ( $\beta_6 = 200$ )
12M	$\beta_{12[C]} = 1000$ ( $\beta_{12} = 200$ )
25M	$\beta_{22[C]} = 1000$ ( $\beta_{25} = 200$ )
40W	40 $\mu$ Nominal Wire Mesh
74W	74 $\mu$ Nominal Wire Mesh

Table 4 Code	Seal Material
V	Viton (Standard)
E	EPR

Table 5 Code	Heater (KW)
1	1 KW
3*	3 KW

\* Requires E3 Power Option

Table 6 Code	Special Options (Add Options to P/N in Order They Appear in Table)
C	CE Mark + Internal Crating
L	Lifting Eye Kit (Supplied Standard)
T	Hose Kit (Suction & Return Hoses + Wands) (Supplied Standard)
V*	Inlet Control Valve (For Positive Head Inlet)

\* Recommended Option



Height 1066 mm x Width 711 mm x Depth 711 mm, Weight 122 Kgs

# V1 Paper Mill Case Study

A paper mill was experiencing severe water ingress problems and needed to dehydrate its fluids to avoid replacement. Hy-Pro suggested rotating a 3.5 LPM V1 vacuum dehydrator utilizing a pleated dispersal element among the affected fluids.

## Application #1

Initially, Hy-Pro's V1 was placed on a Super Calender CC Lube Reservoir. This reservoir contained 757 liters of PM220 Exxon Mobil at 43°C. The water level of this reservoir when the V1 was introduced was 1400 parts per million (ppm). After 48 hours of continuous operation the water level was reduced to less than 100 ppm.

- Initial Water Level : 1400 ppm
- Duration on Reservoir : 48 hours
- Ending Water Level : < 100 ppm



## Application #2

Next, the V1 was relocated to a vacuum pump oil reservoir on the wet end of the plant. This reservoir contained 1135 liters of fluid at 51°C. At the time of installation the fluid contained 20,000 ppm of water. In less than 72 hours the V1 reduced the water level to 60 ppm.

- Initial Water Level : 20.000 ppm
- Duration on Reservoir : < 72 hours
- Ending Water Level : 60 ppm



## Application #3

Finally, the V1 was installed on a tote containing 757 liters of reclaimed AW46 oil at ambient temperature (~21-26°C). At the time of installation the oil contained 10,000 ppm of water. In less than 24 hours the water was reduced to less than 100 ppm.

- Initial Water Level : 10.000 ppm
- Duration on Reservoir : < 24 hours
- Ending Water Level : < 100 ppm

