

Varnish Removal System

VARNISH PROBLEMS SOLVED

The Problem

Varnish is a common problem for a wide range of hydraulic fluids and lubricants, especially in turbine and plastic injection molding applications. It results in valve sticking, shorter fluid life, shorter filter life and unscheduled downtime.

The formation of varnish begins with oxidation of the fluid. Wear particles and moisture generate oxidation. Those factors will react with hydraulic fluid resulting in degradation and rising Total Acid Number (TAN).

The Solution

The Varnish Removal System combines highly efficient varnish removal and oil quality monitoring in one modular system.

The filter unit acts as a kidney loop, continuously circulating fluid through the filter media. In addition an Oil Quality Sensor can be used to monitor oil degradation. The Varnish Removal System can be configured for applications with fluid volumes up to 36,000 liters (9,500 gallons).

The Long Fiber Cellulose / PP cartridges are specially designed for the removal of varnish by-products which are dissolved in the fluid. These cartridges adsorb polar acids by means of special compacted fibers which create an intricate internal flow path. Unlike other technologies, the cartridges do not add water to the fluid. They actually remove water and other solid contaminants.



VX2CV1506110 - Varnish Removal System

This is the most complete varnish removal and prevention system on the market. It removes oxidation by-products and prevents varnish formation during the cooldown.

BENEFITS

- 1 Removes soluble and insoluble varnish contaminants
- 2 Prolongs oil health by reducing additive consumption
- 3 Reduces and prevents servo valve sticking
- 4 Efficiently cleans without adding water or other by-products to the system

Varnish Removal System

System Specs	
Nominal Flow	1 l/min (0.26 GPM) per cartridge
By-pass Opening Pressure	5 bar (72.5 psi)
Pump Safety Valve	15 bar (217 psi)
Fluid Temperature	20° - 80° C (68° - 176° F)
Power Supply	See ordering code
Inlet Connection	Depending on the pump, contact a Des-Case or RMF representative
Outlet Connection	1/2" BSPF female
System Seal	FPM (Viton)

Fluid Compatibility	Mineral oil, synthetic ester, phosphate esters (for other fluids, please contact us)
Dimensions	Unit dependent, contact a Des-Case or RMF representative
Weight	Unit dependent, contact a Des-Case or RMF representative
Element Specs	
Cartridge Material	Long Fiber Cellulose / Polypropylene
Apparent Dirt Holding Capacity	1,955 g (4.3 lb)
Water Absorption	2.6 liters (0.69 gal)

ORDERING CODE

Table 1

Table 2

Table 3

Table 4

Table 5

Table 6

Table 7

Table 8

Table 1: Basic configuration
VX - Varnish Removal System

Table 2: Housing type (max reservoir volume)

- 1A** - Single housing, 1 cartridge (< 3,000 liters / 790 gal)
- 1B** - Single housing, 2 cartridges (3,000 - 6,000 liters / 790 - 1,585 gal)
- 1C** - Single housing, 3 cartridges (6,000 - 9,000 liters / 1,585 - 2,375 gal)
- 2B** - Double housing, 4 cartridges (9,000 - 12,000 liters (2,375 - 3,170 gal)
- 2C** - Double housing, 6 cartridges (12,000 - 18,000 liters / 3,170 - 4,755 gal)
- 3C** - Triple housing, 9 cartridges (18,000 - 27,000 liters (4,755 - 7,130 gal)
- 4C** - Quadruple housing, 12 cartridges (27,000 - 36,000 liters / 7,130 - 9,500 gal)

Table 3: System Seals
V - FPM seals

Table 4: E-motor

- 1** - 230/400 VAC 50Hz / 3 Phase
- 2** - 280/480 VAC 60Hz / 3 Phase
- 3** - 230 VAC 50Hz / 1 Phase
- 4** - 110 VAC 60 Hz / 1 Phase
- 5** - 200/346 VAC 50Hz / 3 Phase
- 6** - 200/346 VAC 60Hz / 3 Phase

Table 5: Pump Option*
50 Hertz

- 501** - 0.6 cc/rev (standard for 1A housing)
- 502** - 1.6 cc/rev (standard for 1B housing)
- 503** - 2.5 cc/rev (standard for 1C housing)
- 504** - 3.15 cc/rev (standard for 2B housing)
- 506** - 5.0 cc/rev (standard for 2C housing)
- 509** - 6.1 cc/rev (standard for 3C housing)
- 512** - 8.2 cc/rev (standard for 4C housing)

60 Hertz

- 601** - 0.6 cc/rev (standard for 1A housing)
- 602** - 1.25 cc/rev (standard for 1B housing)
- 603** - 1.6 cc/rev (standard for 1C housing)
- 604** - 2.5 cc/rev (standard for 2B housing)
- 606** - 3.15 cc/rev (standard for 2C housing)
- 609** - 5.0 cc/rev (standard for 3C housing)
- 612** - 6.1 cc/rev (standard for 4C housing)

*Amount of cartridges refer to filter housing type

Table 6: Control Box

- 0** - None
- 1** - On/Off Control box (standard)

Table 7: Indicator Option

- 0** - Pressure gauge (standard)
- 1** - Additional pressure differential switch

Table 8: Oil Quality Sensor Indicator

- 0** - None
- 1** - OQS installed
- 2** - OQS/OQD installed

Element Part Codes

VXV - FPM seal

EXAMPLE

VX 2C V 1 506 1 1 0