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Oil Flushing Skids Profile

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OIL FLUSHING SKIDS

EQUIPMENT DATA SHEET

Dpstar Group has a range of specialized oil flushing skids designed to efficiently remove particulate contamination from lubrication and hydraulic oil systems. Dpstar's oil flushing skids combine pump, filter and heater into one compact unit. This allows for a small footprint and the ability to set up close to the system being worked on.

Cleaning oil systems by using an external flushing skid such as Dpstar's all-in-one units allows systems to achieve the required cleanliness specification in much shorter durations.

FLUSHING EQUIPMENT

OVERVIEW

PUMP

The pump on the flushing skid is designed to deliver a higher flow rate than the permanent equipment pump of the system being cleaned. The higher velocity in the piping allows for shorter cleaning durations than if the system pump is used.

FILTERS

Dpstar's oil flushing skids are equipped with high efficiency filters to capture particulate as small as 1 micron. The differential pressure across the filters is monitored during the flush as an indication of the quantity of particulate being removed from the system. At a predetermined differential pressure the filters are changed out.

HEATERS

Heating the flushing oil will lower its viscosity and allow for a better cleaning effect during the flush. Dpstar's oil flushing skids have temperature controllable fluid heaters to maintain the flushing oil at optimum temperature during the cleaning.

Figure 1. Dpstar HVOF Flushing Skid—OFS-600

EX Certification & Approval

Ex-proof Logo II 2GD Ex db [ia Ga]/[ib Gb] IIB+H2 T4/T5/T6 Gb Ex tb IIIC T135/T100/T85°C Db

Ambient Temperature	:	-60°C +60°C
Degree Of Protection	:	IP66
Conformity	:	Directive ATEX 2014/34/EU TP TC 012/2011
Standards	:	IEC-EN60079-0 IEC-EN60079-1 IEC-EN60079-11 IEC-EN60079-31
Category	:	Suitable for Zone 1 - 21 (gas) and Zone 2 - 22 (dust)
Type of Protection	:	Ex db; Ex db [ia]; Ex db [ib]; Ex tb
Marking	:	Ex db IIB+H2 T4/T5/T6 Gb; Ex db [ia Ga] IIB+H2 T4/T5/T6 Gb; Ex db [ib Gb] IIB+H2 T4/T5/T6 Gb Ex tb IIIC T135/T100/T85°C Db

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APPLICATIONS

Foreign contaminants in hydraulic and lubrication oil can cause premature failure of the system. A high velocity oil flush utilizes turbulent flow to pick up and carry foreign material out of the lubrication system. A high velocity flush is required during pre-commissioning activities, major turnarounds and when a failure that distributes wear metals into the lubrication system occurs.

Dpstar's Oil Flushing Skids remove microscopic particulate to achieve oil cleanliness. Plant reliability services performed with these skids include:

- High Velocity Hot Oil Flushes (HVOF)
- Lube Oil Flushing
- MHC & EHC Turbine Oil Flushing
- Hydraulic Oil Flushing

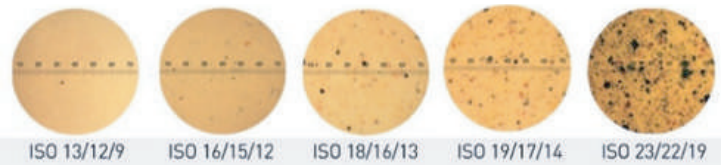

Figure 2. Example of ISO 4406 Contamination Levels

Figure 3. 700 GPM Oil Flushing Skid with Pump, Filter and Heater

FLUSHING SKID TECHNICAL SPECIFICATIONS

All oil flushing skids have a variable flow pump, oil heater and filter combined into one compact unit

Equipment Name	Flow Rate	Max Pressure	Weight	Height	Depth	Width	Power Requirements	Heater
MOFS-100	100 gpm	50 psig	2400 lbs	84"	48"	68"	480V 60 Amps 3 Phase	36kW
MOFS-150	150 gpm	90 psig	2200 lbs	78"	48"	96"	480V 80 Amps 3 Phase	50kW
MOFS-200	200 gpm	100 psig	3255 lbs	65"	41"	85"	480V 77 Amps 3 Phase	40kW
MOFS-350	350 gpm	100 psig	3800 lbs	68"	48"	96"	480V 80 Amps 3 Phase	32kW
MOFS-600	600 gpm	100 psig	4200 lbs	68"	60"	96"	480V 140 Amps 3 Phase	60kW
MOFS-700	700 gpm	70 psig	4200 lbs	68"	60"	96"	480V 150 Amps 3 Phase	72kW
MOFS-1000	1000 gpm	100 psig	5200 lbs	83"	60"	100"	480V 175 Amps 3 Phase	40kW

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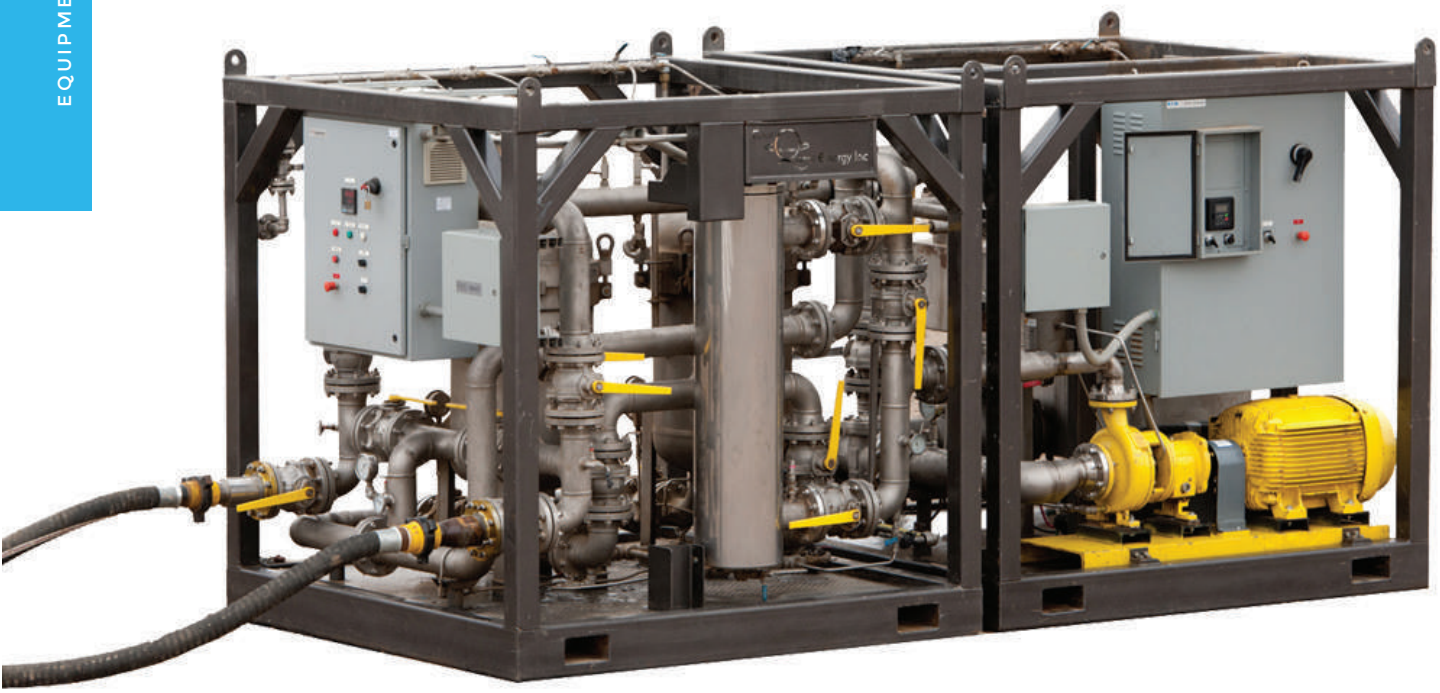
FLUSHING SKID 2000 (MFS-2000)

EQUIPMENT PROFILE



MFS-2000

The MFS-2000 is a fully integrated skid-mounted flushing and filtration unit specifically designed for quick set up and operation. The unit can provide controlled flow rates from 200 to 2000 litres (52.8 to 528 gallons) per minute for flushing, chemical cleaning, or filtering operations. This system is ideal for applications where a high degree of cleanliness is required to meet operational or OEM specifications.

EQUIPMENT

The MFS-2000 comes equipped with a 270, 000 BTU per hour electric heating element, a dual seal stainless steel 75 HP pump capable of pressure up to 150 psi, a stainless steel 0.75 m3 (26.5 ft3) chemical additive tank, and two vertical four-bag filter vessels containing four 7" x 32" high-flow bag filter elements able to meet standards as demanding as 1 micron. The MFS-2000 is also equipped with fully integrated stainless steel piping between elements, including a reverse flow manifold and easy access connection points for suction and discharge.

CAPABILITIES

Flow Capability	:	200 to 2000 litres per minute
Discharge Pressure	:	Up to 150 psig
Filtration Range	:	1 to 50 micron
Operating Temperature Range	:	5˚C to 95˚C

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MFS-2000 FOOTPRINT

	Length	Width	Height	Weight
Pumping Skid	2.2 m (7’3”)	2.2 m (7’3”)	2.3 m (7’7”)	3000 kg (6600 lbs)
Filtration Skid	2.2 m (7’3”)	2.2 m (7’3”)	2.3 m (7’7”)	2600 kg (5700 lbs)

MFS-2000 FOOTPRINT

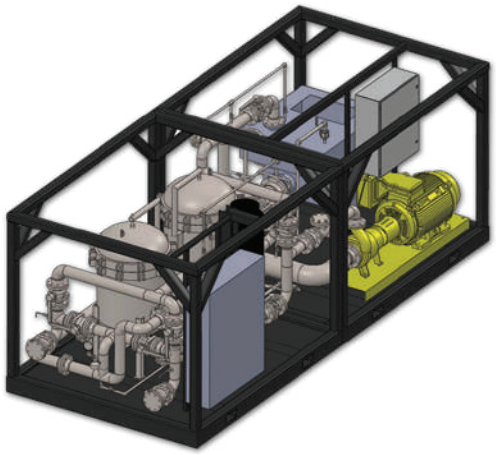
The MFS-2000 is suitable for both water and oil base applications, and is ideal for any of the following:

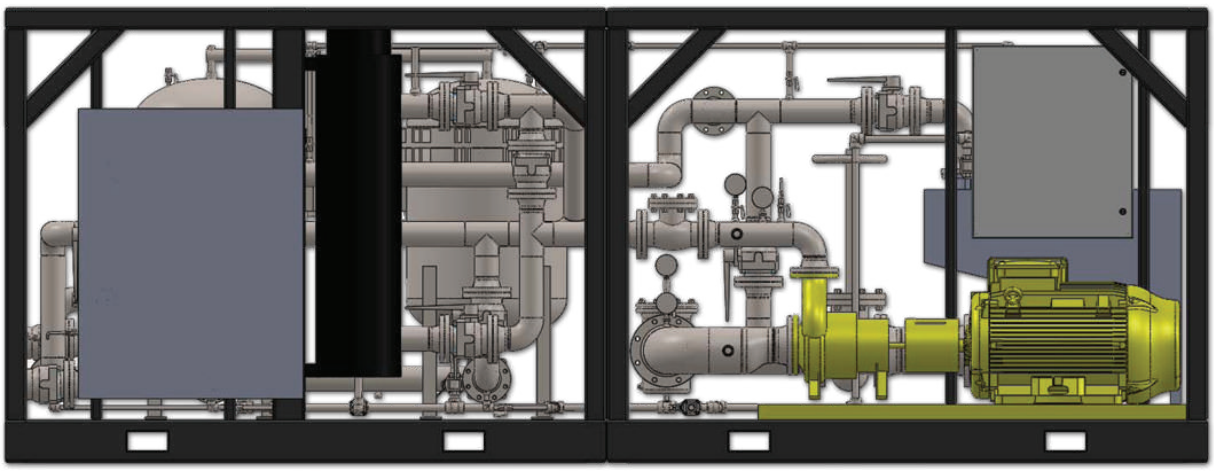
- Lube oil flushing
- Chemical cleaning
- High velocity flushing
- Glycol filtration

REQUIREMENTS

The MFS-2000 is required to either have spill containment or be placed in a berm. Heating and hoarding is required at subzero temperatures. The MFS-2000 requires the following power requirements at maximum duty:

Element	Current	Power
Centrifugal Pump	75 amps	60 kW
Heater	100 amps	80 kW
480V, 60Hz, 3 Phase Power		
600V, 60Hz, 3 Phase Power		





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