

Improved Oil Processing with Low Maintenance System

Velcon Filters has over 50 years experience designing and manufacturing coalescing filtration equipment. The TOC Series units combine the latest coalescing technology with the finest available microglass filter media to restore turbine lube oil to an exceptionally clean and dry condition. The units can be used to upgrade or replace older, low efficiency reservoir filtration systems.

PERFORMANCE

- Restore oil to an ISO cleanliness of 14/11 or better
- Continuously remove free water down to 150 ppm
- Prevent system sludging and premature oil degradation
- Field test data available on request

SIMPLICITY

- Compact, one button operation for round-the-clock service
- No adjustment needed for varying contaminant inlet levels
- Prefilter extends life of specialized coalescing elements
- One-page operation summary, components labeled to match gauges

RELIABILITY

- Rugged ASME design vessels assure safe, leak-free service
- Heavy-duty Viking pump is factory coupled for years of maintenance free service – there are no other moving parts
- Magnetic starter with overload protection
- Complete system is factory hydro-tested and operated before shipping



TOC30 three stage filtration system with Pre-Filter, Filter/Separator, and Polishing Filter. Shown with high water level shut-off probe/switch.



TOC30 with optional inlet oil heater and automatic water drain.

TOC Series Turbine Oil Coalescing Systems

SPECIFICATIONS

Electrical

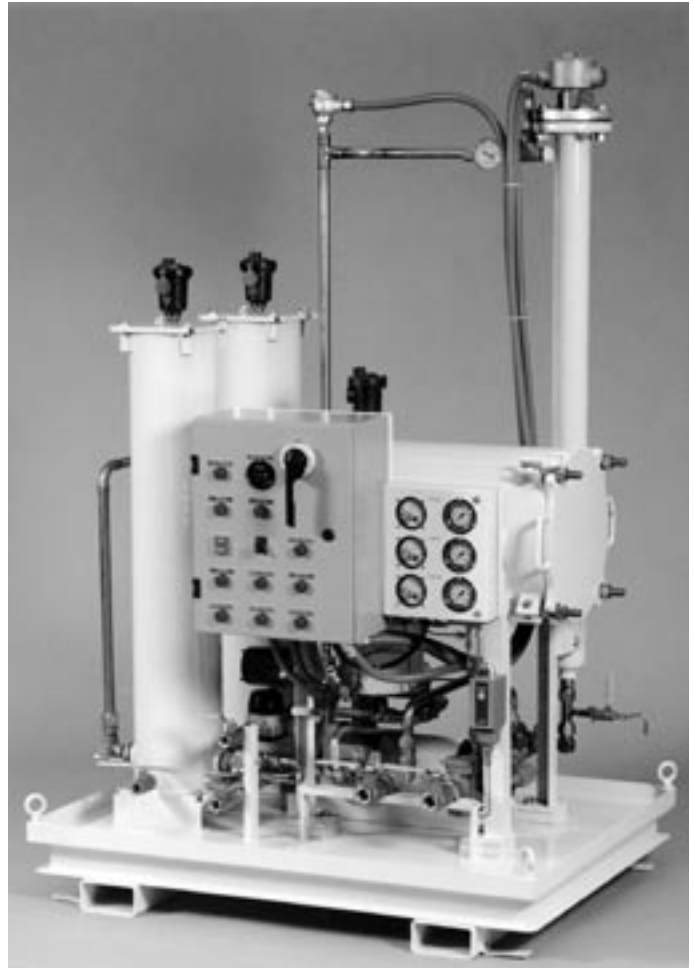
- 1750 RPM TEFC motor
- NEMA 4 motor control enclosure with “motor running” light
- Magnetic motor starter with manual reset and over-load protection
- Liquid-tight flexible conduit complete from panel to motor in accordance with IEEE standards. User to supply power cord and plug.
- Adjustable high pressure shut-off switch
- All electrical components UL listed/CSA approved

Mechanical

- Positive displacement gear pump with factory set internal bypass and external adjustable flow bypass, maximum output pressure 100 psi
- 304 stainless steel tubing with JIC plated steel fittings. External hoses not supplied.
- 1/4 turn ball valves installed on drains, inlet and outlet, and at each stage for isolation. All flow valves are full port design.
- Inlet/outlet connections with cam and groove fitting quick-disconnect male coupling with dust caps
- Pressure vessels built in accordance with ASME Sec. VIII for maximum operating pressure of 150 psi. Carbon steel construction.
- Self-venting automatic air eliminators on each stage
- 60 mesh in-line strainer, no tools needed for inspection

General

- Effluent sampling port for quick check on system performance
- Static and differential pressure gauges, with stainless steel tubing, for monitoring each stage
- Oven-cured, high corrosion resistant, powder coat white paint (polyester polyurethane)
- All controls and connections accessible from one side of system
- Filters tested to ANSI B93.31 (ISO 4572), multi-pass method for evaluating filtration performance of fine hydraulic fluid power filter elements. Beta ratio data available upon request.



TOC10 shown with optional inlet oil heater, polishing filter, and automatic water drain. Three stages of filtration are Pre-Filter A, Filter/Separator B, and Polishing Filter C (optional on TOC10). See HOW IT WORKS on next page.

HOW IT WORKS

The TOC Series Turbine Oil Coalescing Systems remove water and dirt from turbine lube oil. Contaminants are removed in stages (see photo) A, B, and C:

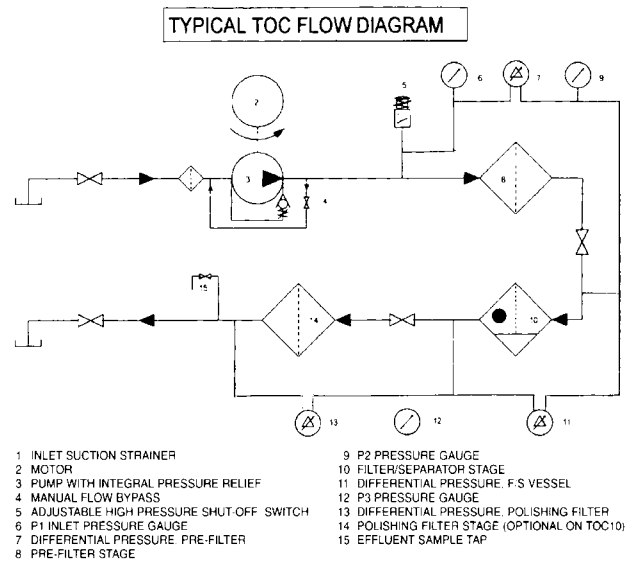
- A.** Particulate solid contaminants are removed in the Pre-Filter stage (#8 in diagram below) by cost effective, high surface area pleated synthetic media cartridges. This extends the life of the specialized filters downstream.

- B.** Free and emulsified water are removed in the Filter/ Separator stage (#10 below). Finely dispersed water passes through the coalescer element and grows into larger drops. These drops collect in the vessel sump where they are drained. A Teflon® coated screen separator prevents any small water drops from entering the effluent oil stream. Fine particulate solid contaminants are also removed by the coalescer elements.

- C.** The final Polishing stage (#14 below, optional on TOC10) uses synthetic media elements to remove fine particles.

TOC Series Flow Diagram

- 1 Inlet Suction Strainer
- 2 Motor
- 3 Pump with Integral Pressure Relief
- 4 Manual Flow Bypass
- 5 Adjustable High Pressure Shut-Off Switch
- 6 P1 Inlet Pressure Gauge
- 7 Differential Pressure, Pre-Filter
- 8 Pre-Filter Stage
- 9 P2 Pressure Gauge
- 10 Filter/Separator Stage
- 11 Differential Pressure, F/S Vessel
- 12 P3 Pressure Gauge
- 13 Differential Pressure, Polishing Filter
- 14 Polishing Filter Stage (Optional on TOC10)
- 15 Effluent Sample Tap



CARTRIDGES AND GASKETS

STAGE	TOC10	TOC30
PRE-FILTER	VF82SYS150	VF82SYS150
FILTER CARTRIDGE	FOS-618PLP8	FOS-618PLP8
QTY REQUIRED	2	2
RECOMM SPARES	4	4
LID GASKET	G-1045	G-1045
RECOMM SPARES	1	1
FILTER/SEPARATOR	HV1622TO30	HV2233SYS150
COALESCER CARTRIDGE	CC-62285	CC-63385
QTY REQUIRED	3	4
RECOMM SPARES	3	4
SEPARATOR CARTRIDGE	SO-424V	SO-430C
QTY REQUIRED	1	2
RECOMM SPARES	-	-
LID GASKET	G-2033	G-2036
RECOMM SPARES	1	1
POLISHING FILTER	VF82SYS150 (OPT)	VF82SYS150
FILTER CARTRIDGE	FOS-618PL1/2	FOS-618PL1/2
QTY REQUIRED	2	2
RECOMM SPARES	2	2
LID GASKET	G-1045	G-1045
RECOMM SPARES	1	1

TOC Series Turbine Oil Coalescing Systems

SPECIFICATIONS

	TOC10	TOC30
FLOWRATE	10 GPM	30 GPM
MOTOR HP	1 HP	2 HP
CONNECTION SIZE	1" MALE CAM	1 1/2" MALE CAM
DIMENSIONS (LxWxH) *	40" x 51" x 60"	42" x 66" x 60"
WEIGHT *	1,241 lbs	1,750 lbs
SHIPPING WT *	1,650 lbs	2,250 lbs

* For a basic unit with no options.

ORDERING INFORMATION

Specify model number as shown below. Units are shipped with one set of cartridges installed.

TOC10-1	115 v, 1 ph, 60 Hz
TOC10-2 or TOC30-2	230 v, 1 ph, 60 Hz
TOC10-3 or TOC30-3	230 v, 3 ph, 60 Hz
TOC10-4 or TOC30-4	460 v, 3 ph, 60 Hz

Also available: 50 Hz power, explosion proof motor, variable speed motor, low RPM motor (contact factory).

OPTIONS & ACCESSORIES


TOC10	TOC30	
552Z040	552Z050	Filter Bypass
553Z040	553Z050	4-Way Inlet Valve
724Y030	724Y030	High Water Level Shut-Off
025Y006	N/A	Polishing Filter Vessel
491Y001	491Y002	Polyurethane Casters (TOC10: 8", TOC30: 10")
491Y010	491Y012	Pneumatic Casters (TOC10: 10", TOC30: 12")
661Y012	661Y012	Remote Stop/Start Switch (w/25 ft cord)
744Y003	744Y001	Hour Meter
722Y006	722Y006	Digital Flowmeter/Totalizer

Also available: inlet oil heaters, auto water drain (contact factory).

RECOMMENDED SPARES

See Cartridges and Gaskets Table on page 3.

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Velcon products are sold and serviced by a world-wide representative network. To order, contact Headquarters or your **LOCAL REPRESENTATIVE**:

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