

OPERATORS MANUAL
HYDRA-SUPREME FLUID SCRUBBING SYSTEM
MODEL 810-044
CANFORMING EQUIPMENT APPLICATION
50/60 HZ

INTRODUCTION:

Hydra-Supreme fluid scrubbing systems are high performance industrial filters designed to remove particulate, oxidized oil and water from hydraulic and lubricating fluid systems. This particular model, 810-044 is specifically designed for cleaning the lubricating oil in can making systems using 0.50 Hz, 3 phase electrical to power the pump assembly. Manufactured from durable, corrosion resistant materials, the filter system is designed for constant, uninterrupted use without immediate supervision. This system will assure the required high degree of fluid purity with an absolute minimum of maintenance and service requirements.

SYSTEM OPERATION:

The Hydra-Supreme fluid scrubbing system utilizes a patented cellulose element to clean the working fluid of accumulated debris. The cleaning process utilizes three interlocking processes to remove solid particulate, varnish and water from the oil. By combining barrier filtration, chromatographic separation and absorption all three of the listed contaminants can be removed from the oil simultaneously and efficiently. As the filter traps the contaminants, it builds up resistance and the pressure rises. At 65-70 PSI the pressure switch contacts activate the warning light signaling the need for filter replacement.

The proper function of the filter depends on the correct placement of the inlet and return lines, the correct flow volume, delivery and pressure. The transfer lines should pull fluid from the reservoir and return it to a location at least 24" away to prevent recirculating the same oil over and over. A flow schematic drawing is provided. The rotary ring gear pump utilized on the system provides extremely smooth fluid delivery that prevents debris from being dislodged from the filter element. Combining smooth delivery with the proper flow volume assures high trapping efficiency and long element life. Under normal conditions, your Hydra-Supreme element should last 4-6 weeks before requiring changeout. The filtration efficiency begins to drop off sharply as the pressure rises above 65 PSI and the filter element should be replaced.

SYSTEM PRESSURE:

Pressure readings will vary with the viscosity of the oil used, the operating temperature of the reservoir and the amount of debris absorbed by the filter.

Typical start-up pressures using 750 SUS oil at 100° F is 15-20 PSI.

Typical change out point is 60-65 PSI or a 50 PSI increase in original operating pressure, but not to exceed 75 PSI.

Pump output pressure is controlled by an internal relief valve that is factory set to open at 65 PSI and go into complete bypass at 100-PSI. *Do not change this setting.*

Removing the acorn nut to adjust the relief setting can result in an intake air leak that will require a new gasket to correct the problem.

Under no circumstance should your unit ever exceed 100 PSI. Should this occur, shut down the system and contact the HTI Technical Service Department at (719) 490-8800 for assistance.

SYSTEM LOCATION:

The Hydra-Supreme system uses a self priming pump and should be located as close to the machine reservoir as practical and never more than 12' away. Set the filtration system on a solid, level surface. Allow a minimum of 24" of frontal clearance for service access. The filter system should be kept free of moisture and under 140° F.

PLUMBING:

The suction and return line ports utilizes 3/4" JIC hose fittings. A maximum hose length of 12' is recommended as is the use of sealing caulk or tape on all threaded fittings.

Ball valves can be installed on both connections for easy shut-off during installation, adjustment or service.

ELECTRICAL:

The filter power system should be independent of the machine power as the oil scrubbing system should run continuously for efficient contaminant control.

The motor for 810-044 systems is 0.50 HP/.37 KW 230-400 VAC 50-60 Hz 3 Phase.

The pressure switch and warning light operate on 24VDC.

Twist lock connectors on all cables are provided for power connections.

INITIAL START-UP PROCEDURE

NOTE: It is important that proper pump rotation be established prior to start-up of the filter. **Proper rotation is counter-clockwise as seen from the shaft (pump) end of the motor.**

Upon completion of the electrical and hydraulic connections and the establishment of proper pump rotation, the Hydra-Supreme is ready for start-up. The pressure relief valve is factory set for a maximum operating pressure of 85 PSI. If your unit exceeds this level during any phase of operation it should be turned off immediately and HTI Filtration should be contacted for instructions.

1. Open all valves on the inlet and return lines.
2. Crack open the bleed valve on the top of the canister.
3. Turn on the pump.
4. Close the bleed valve as oil starts to flow from it.
5. Check for fluid leaks before leaving the area.

Field Adjustment of Pressure Switch

The pressure switch can be field set to accommodate local circumstances or preferences; however, the switch comes preset from our factory and *should only be changed if you are encountering problems*. Before changing any settings on an HTI System, run the body maker until the oil is at the normal operating temperature (typically between 100-120°F).

1. Turn filter system on and allow oil to fill the canister while venting the air through the bleed cock on the canister lid.
2. As soon as fluid flows from bleed cock, close and secure.
3. Slowly close the outlet hose ball valve until the system pressure is at 55-58 PSI as shown on the pressure gauge atop the canister.
4. Remove clear cover of pressure switch. Rotate yellow ring to 'UNLOCK' position. Adjust the set point by rotating the SET ring until the LED illuminate and the strobe light activates. The RESET ring should be set 5 PSI below the level of the SET ring. Place the cover back on the switch and open the ball valve to restore full flow to the filter.

The filter pump and safety relief valve will start to bypass oil internally at 60 PSI, so setting the pressure sensor higher will defeat the purpose of informing the operator of a pending need for a filter change.



HTI FILTRATION INC.

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May 11, 2021

**Product Safety Bulletin
Lid Clamp Tightening Instructions
HTI Part # 540-010 & 540-012**

HTI Filtration continuously monitors our products in the field to improve our equipment capabilities and safety. We have been informed that some canisters are developing leaks at the lid seal area after being in service for several years. After consulting with the canister manufacturer, it has been determined that this can be caused by overtightening the stamped steel 2-piece lid clamps, HTI Part # 540-012.

To prevent distortion of the canister body and lid flanges, please follow the following torque specifications for the older 540-012 lid clamps and the newer 540-010 V-Band clamps.

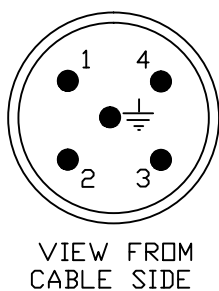
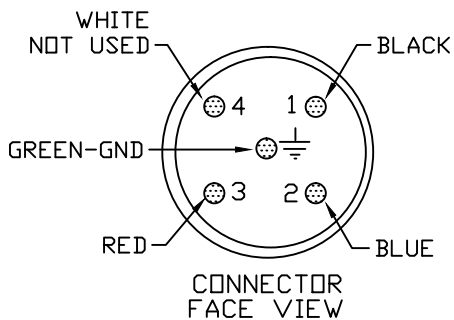
540-012 – Alternate tightening: from one side to the other until clamps are fully nested into each other and you have achieved an even pull down of the cover. **DO NOT OVER TIGHTEN.**



540-010 – Hand tighten to a maximum of 30 Ft L\Lbs.

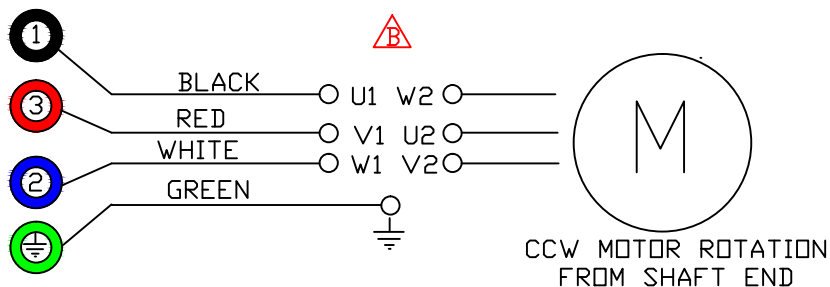


HIGH VOLTAGE 5 PIN CONNECTOR



RECEPTACLE: MELTRIC 33-18047-NNF
HOUSING - MELTRIC FH-111

BLACK-LINE 1
WHITE-LINE 2
RED-LINE 3
GREEN-GROUND

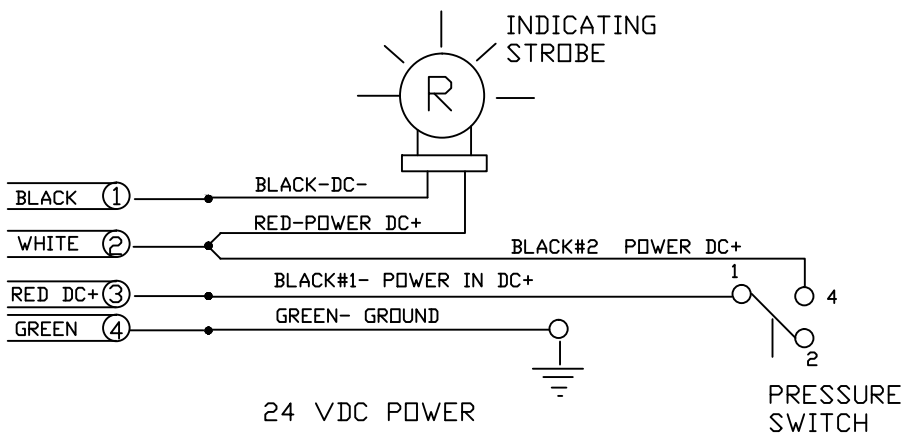
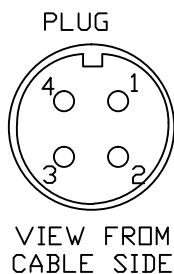
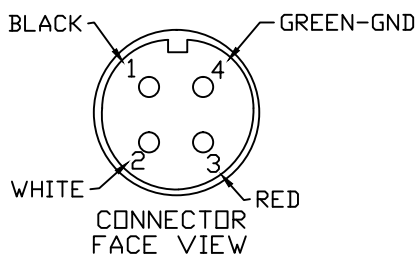


200-415 VAC 50 HZ - 230-460 VAC 60 HZ
WIRING TO NE 60204-1 STD Y CONFIGURATION

MOTOR CIRCUIT

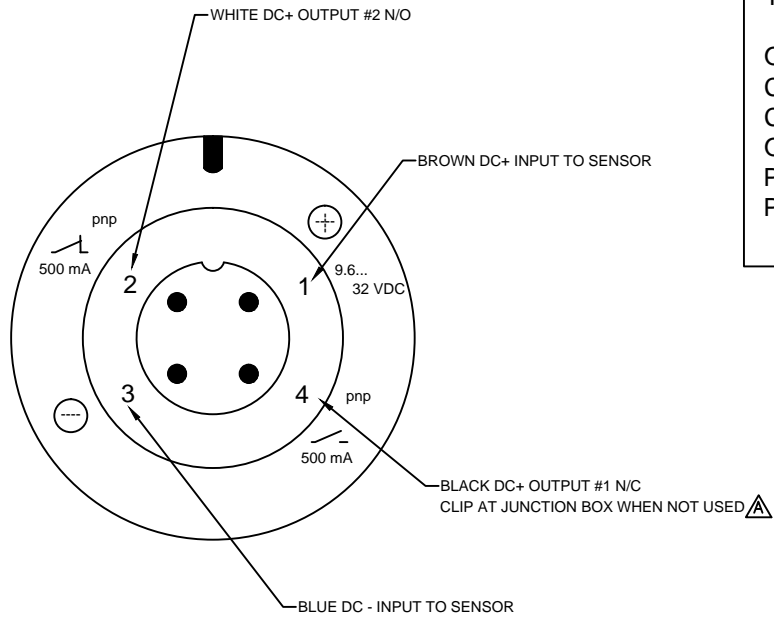
LOW VOLTAGE 4 PIN CONNECTOR

PLUG W/CABLE- BRADCONNECTIVITY 104002A01F150



WARNING LIGHT CIRCUIT

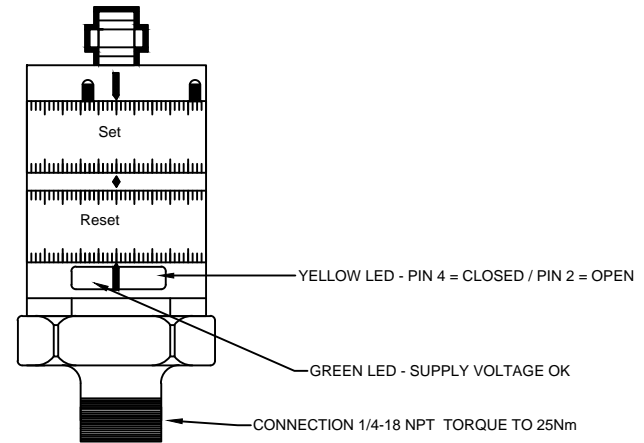
DWG. TITLE 810-044 WIRING		HTI FILTRATION		810-044 WIRING SCHEMATIC				
PROJECT DESCRIPTION STOLLE EQUIPMENT STANDARD 3 PHASE FILTER		7716 Gary Watson Pt Colorado Springs, CO CO 80906		B	03-05-08	SP	SP	CORRECT BLOCK NUMBERS
DRAWING NO. 810-044 WS		REVISION B	CUST. CONTR. NO. -	A	09-24-07	SP	SP	MELTRIC CONNECTORS ADDED
				REV.	DATE:	DRWN BY	CHKD BY	DESCRIPTION
				CUSTOMER STOLLE EQUIPMENT				



TECHNICAL DATA -	
OPERATING VOLTAGE -	9.6 TO 32 VDC
CURRENT RATING (mA) -	500
CURRENT CONSUMPTION -	<25
OPERATING TEMPERATURE -	-25 TO 80 C
PROTECTION -	IP 67 / III
PRESSURE RANGE-	0...10 BAR 0...145 PSI

NOTE:
 USE 620-005 RIGHT ANGLE CONNECTOR
 M12 micro DC (4 pin) 5m 22 AWG, Black
 PUR jacket

USE 620-006 CLEAR COVER



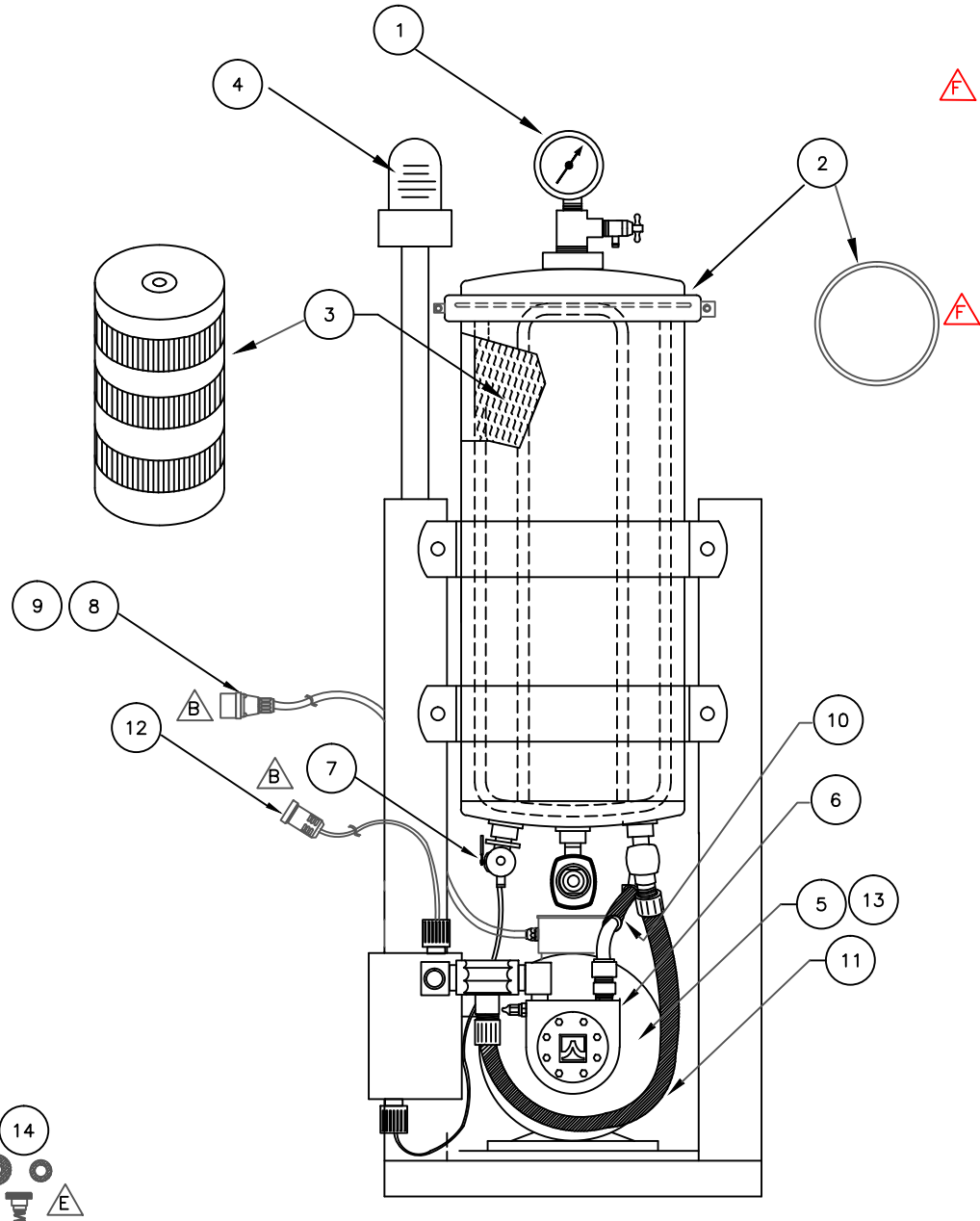
DWG. TITLE PRESSURE SWITCH ILLUSTRATION				HTI FILTRATION						
PROJECT DESCRIPTION PRESSURE SWITCH 620-004						7716 GARY WATSON PT COLORADO SPRINGS CO 80915		A	02-20-24	SP
JOB NO.	DRAWING NO.	REVISION	CUST. CONTR. NO.			0	08-10-12	SP	SP	ORIGINAL ISSUE
-	620-004	A	-			REV.	DATE:	DRWN BY	CHKD BY	DESCRIPTION
						CUSTOMER				

TROUBLESHOOTING GUIDE

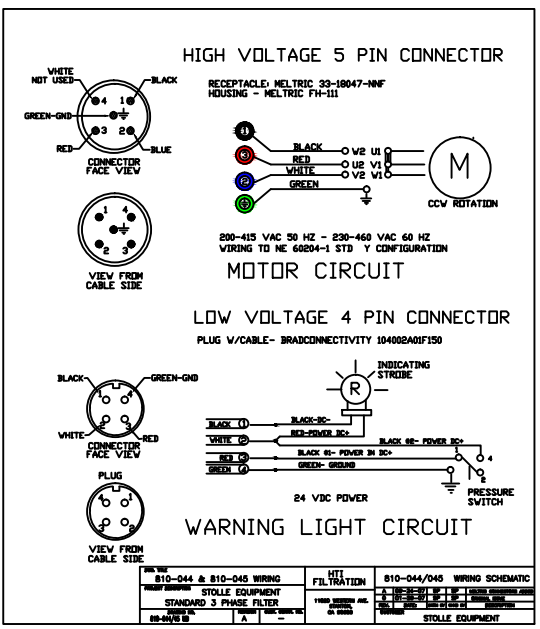
HTI Filtration Model 810-044

Please note: All pressure readings are to be taken with the system at normal operating temperatures.

SYMPTOM	CAUSE	CORRECTIVE ACTION
ERRATIC FLOW RATE, BUBBLES IN OIL STREAM	AIR LEAK IN INLET FITTING	CHECK FITTINGS FOR TIGHTNESS AND INTEGRITY
	CUT OR PINCHED FEED HOSE	VISUALLY CHECK INLET HOSE FOR DEFECTS
	LOW FLUID LEVEL	CHECK FLUID LEVEL IN RESERVOIR
EXCESSIVE VACUUM (ABOVE 20")	INLET PIPING RESTRICTION	CHECK INLET HOSE FOR RESTRICTION OR BLOCKAGE
	OIL TOO THICK (OVER 900 SUS @100°F)	CHECK OIL VISCOSITY (MAX: 900 SUS @100°F)
	OIL RUNS TOO COLD-OIL DOESN'T GET OVER 80° F.	CHANGE TO LIGHTER GRADE OIL
LOW FLOW RATE WITH LOW PRESSURE	OIL LEAKING OUT OF SYSTEM	CHECK FOR LEAKS IN PLUMBING
	INSUFFICIENT MOTOR POWER	CHECK FOR PROPER PUMP VOLTAGE AND ROTATION
	OIL BYPASSING THROUGH RELIEF VALVE	TURN SYSTEM OFF TO RESEAT RELIEF VALVE
LOW FLOW RATE WITH HIGH PRESSURE	LOADED FILTER	REPLACE FILTER ELEMENT
	RESTRICTED OUTLET LINES	CHECK AND CLEAR RETURN LINES
EXCESSIVE PRESSURE	RELIEF VALVE NOT OPENING	REPLACE VALVE
SHORT FILTER LIFE	EXCESSIVE WATER IN OIL	BLEED OFF WATER IN RESERVOIR, FIX LEAK
	EXCESSIVE SLUDGE IN OIL	CLEAN OUT RESERVOIR
LEAK AT LID CLAMP	CUT OR ERODED SEAL	REPLACE AS NEEDED
WARNING LIGHT COMES ON BELOW 60 PSI OR ABOVE 65 PSI	PRESSURE SWITCH SET WRONG	RESET PRESSURE SWITCH



BILL OF MATERIAL				
NO. REQD.	ITEM NO.	DESCRIPTION	HTI NO	STOLLE NO
-	1	PRESSURE GAUGE	610-024	095896
-	2	LID SEAL	450-002	089879
-	3	OIL FILTER ELEMENT	800-026	088279
-	4	STROBE LIGHT ASSEMBLY 24 VDC	270-010	094969
-	5	MOTOR 3 PHASE 50/60 HZ CE/IEC	780-024	094970
-	6	1.5 GPM / 5.25 LPM PUMP	770-015.1	090126
-	7	PRESSURE SWITCH	620-004	095749
-	8	HIGH VOLTAGE PLUG-33-18047	260-034	222000311
-	9	PLUG HOUSING FH-111	260-035	222000313
-	10	PUMP OULET HOSE	460-030	094971
-	11	PRESSURE RELIEF HOSE	460-029	094972
-	12	LOW VOLTAGE CONN 104002A01F150	260-037	093707
-	13	METRIC MOTOR PUMP ADAPTER	790-009	-
-	14	PUMP SEAL REPAIR KIT	460-057	095057



DWG. TITLE HS410-C2-B6L-C50/60 CE/IEC		
PROJECT DESCRIPTION STOLLE NO. 724220 BODYMAKER OIL FILTER		
DRAWING NO. 810044PL	REVISION F	CUST. CONTR. NO. -

HTI
FILTRATION
7716 Gary Watson Pt
Colorado Springs
CO 80915

810-044 CE/IEC				
F	04/25/19	SP	SP	UPDATE SWITCH & GAUGE
E	11/27/07	SP	SP	ADD PUMP SEAL KIT
D	10/29/07	SP	SP	ADD ELECTRICAL SCHEMATIC
REV.	DATE:	DRWN BY	CHKD BY	DESCRIPTION
CUSTOMER				STOLLE MACHINERY



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STANDARD WARRANTY

This filter system was inspected before shipment from our plant. To the original purchaser of this system, HTI Filtration warrants its products free from defects in material and workmanship for a period of one (1) year from date of purchase.

HTI Filtration makes no other express warranty and excludes (and buyer waives) any and all implied warranties including, without limitation to, implied warranties in connection with the design, sale, merchantability or fitness of the goods for any particular use or purpose.

In order for any claim under this warranty to be valid, HTI Filtration must receive notice in writing from the buyer within a reasonable time period, not to exceed thirty (30) calendar days after any defect is discovered. The claim must include a detailed report of the conditions of use at the time of discovery of defect. Parts which fail or become defective during the warranty period (except as a result of freezing, melting, improper installation, use or care), shall be replaced or repaired at HTI Filtration's option at no charge within 90 days of the receipt of the defective part, barring unforeseen delays. HTI Filtration shall in no event be responsible for the repairs made by others without the express written permission and consent of HTI Filtration.

To obtain warranty replacement or repairs, defective components or parts should be returned, freight prepaid, to place of purchase or nearest authorized service center. HTI Filtration shall not be responsible for cartage, removal and/or reinstallation labor or any other such costs incurred in obtaining warranty replacements. In no event shall HTI Filtration be responsible for any incidental or consequential damage, whether foreseeable or not and whether or not such damage occurs, or is discovered before or after repair or replacement.

The forgoing warranty does not apply to wear components, seals or filtration elements.

This warranty extends only to the original buyer and HTI Filtration makes no other warranty, expressed or implied, to other persons or entities. If buyer makes any warranty or representation inconsistent with or in addition to the warranty stated hereinabove, the buyer shall, at their own expense, defend and hold HTI Filtration harmless from any claim thereon of any nature whatsoever.