

OPERATOR MANUAL
HYDRA-SUPREME FLUID SCRUBBING SYSTEM
MODEL 810-050.2
STOLLE MACHINERY EQUIPMENT APPLICATION

INTRODUCTION:

HTI Filtration fluid scrubbing systems are high performance industrial filters designed to remove particulate, oxidized oil and water from hydraulic and lubricating fluid systems. Model 810-050.2 is specifically designed for cleaning the combination lubricating/hydraulic oil in Stolle body makers where 3 phase power is required. Manufactured from durable corrosion resistant materials, it 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 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 60-65 PSI, the pressure switch activates to alert the operator of 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 from the inlet port to prevent recirculating the same oil over and over. The rotary ring gear pump provides extremely smooth fluid delivery to prevent pulsation from dislodging debris from the filter element. Combining smooth delivery with the proper flow volume assures high trapping efficiency and long element life. Under normal conditions, your 800-026 element should last 1-2 months before requiring changeout. The filtration efficiency begins to drop off sharply as the pressure rises above 60-65 PSI and the filter element may begin shedding debris back into the oil above 70 PSI.

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/ ISO 150 oil at 100° -120°F is 12-18 PSI.

Typical change out point is 60-70 PSI or a 50-PSI increase in original operating pressure but not to exceed 75 PSI.

Pump output pressure is controlled by a non-adjustable, external valve and an adjustable internal relief valve that is factory set to open at 70 PSI and go into complete bypass at 90-PSI maximum. *Do not tamper with the internal valve assembly.* Simply removing the acorn nut can result in an intake air leak that will require a new gasket to correct.

Under no circumstance should your unit ever exceed 90 PSI. Should this occur, shut down the system and contact the HTI Filtration Technical Service Department at (719) 490-8800 or email sales@htifiltration.com for assistance.

SYSTEM LOCATION:

Although the Hydra-Supreme system uses a self-priming pump, it is important to keep the filter as close to the reservoir as possible. The suction line should be less than 8' long and use ¾" fittings throughout the delivery line.

Set the filtration system on a solid, level surface. Allow a minimum of 24" of frontal clearance for service access. Filter system should be kept free of moisture and under 140° F.

PLUMBING:

The suction port utilizes a 3/4" inlet with 37 deg JIC hose fittings. A maximum hose length of 8' is recommended as is the use of sealing caulk or tape on all threaded fittings.

The return port utilizes a 3/4" line with JIC hose fittings. Sealing caulk or tape is also recommended 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 810-050 systems operates on both 200-400 VAC 50Hz & 230-460 VAC 60 Hz 3 Phase power sources.

Motors are also available for 575 Volt-60Hz systems upon request.

The pressure switch operates on 24 VDC power exclusively.

INITIAL START-UP PROCEDURE

Upon completion of the electrical and hydraulic connections, the filtration system is ready for start-up. The pressure relief valve is factory set for a maximum pressure of 90 PSI. If your unit exceeds this level during any phase of operation, turn it off immediately and contact HTI Filtration for instructions.

Open all valves on the inlet and return lines.

Crack open the bleed valve on the top of the canister.

Turn on the pump.

Close the bleed valve as oil starts to flow from it.

Confirm that the start-up pressure is between 12-20 PSI at 100 -120 F.

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. 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 illuminates. 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 filter change out.

NOTE: Do not attempt to reduce or increase the operating pressure by adjusting the internal pressure relief valve on the pump. This safety device has been set and locked into place at the factory. Attempting to adjust the pressure setting screw can jam the relief valve and prevent proper movement. Improperly removing the acorn nut may also result in air leaking into the system, which will require frequent system bleeding until the acorn nut seal is replaced.

FILTER ELEMENT REPLACEMENT

- Step 1: Turn off the Filter System. It is not necessary to turn off the bodymaker to service the filter.
- Step 2: Open the drain cock on the bottom of the canister, and then open the bleed cock on the top of the lid. The drain hose can be used to direct the draining oil to a receptacle. Drained oil can later be used to refill the canister.
- Step 3: Remove the canister clamp ring and lift off the canister lid.
- Step 4: Examine the canister "O" ring for cracks and wear spots. If the canister lid seal was leaking, or if the "O" ring shows signs of wear, replace the ring.
- Step 5: Unscrew the "T" handle assembly that holds the filter in place by rotating the handle in a counterclockwise motion. The cup seal on the handle assembly should be smooth and free of rough spots or tears. Replacement seals are available.
- Step 6: Slice open the end of the plastic bag holding the new element. Remove the new element and set in a clean area. Lift used element off of center post
- Step 7: Slide new filter over the center post. Make sure the wire lifting bale is at the top and the black O-ring is at the bottom. Secure the element with the "T" handle by screwing it back into the center tube with a clockwise motion until it seats.
- Step 8: Close drain cock and refill canister with oil.
- Step 9: Put the "O" ring back on the canister lip, replace lid, clamp and tighten.
- Step 10: Start the pump motor and allow air to bleed out through bleed cock on top of canister. Close bleed cock when fluid starts to come out. Wipe off unit and check for leaks.



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.**

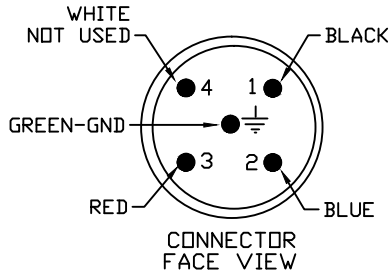


540-010 – Hand tighten to a maximum of 30 Ft L\Lbs.

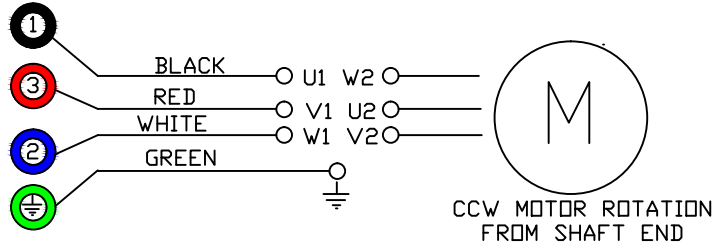


HIGH VOLTAGE 5 PIN CONNECTOR

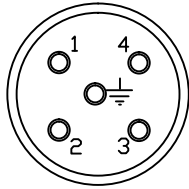
WIRING WHEN USING:
 RECEPTACLE: MELTRIC 33-18047-NNF
 HOUSING - MELTRIC FH-111



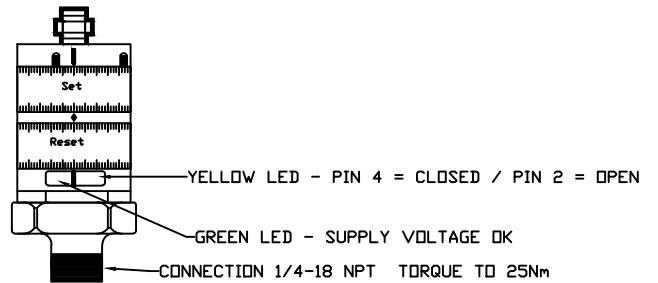
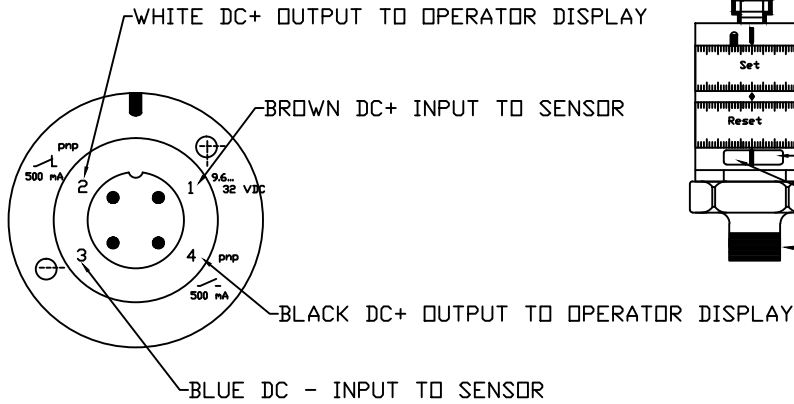
BLACK-LINE 1
 WHITE-LINE 2
 RED-LINE 3
 GREEN-GROUND



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

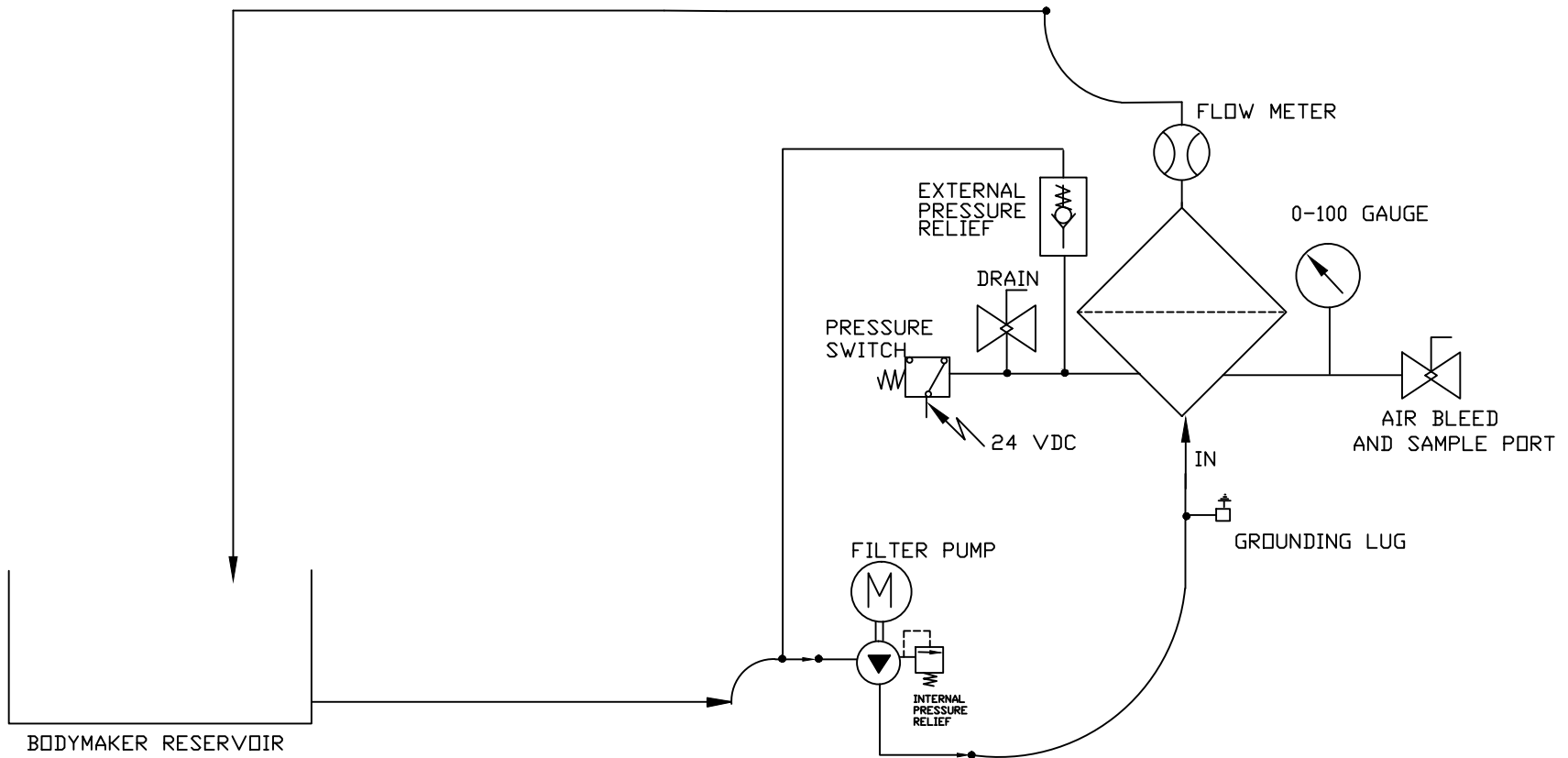


MOTOR CIRCUIT

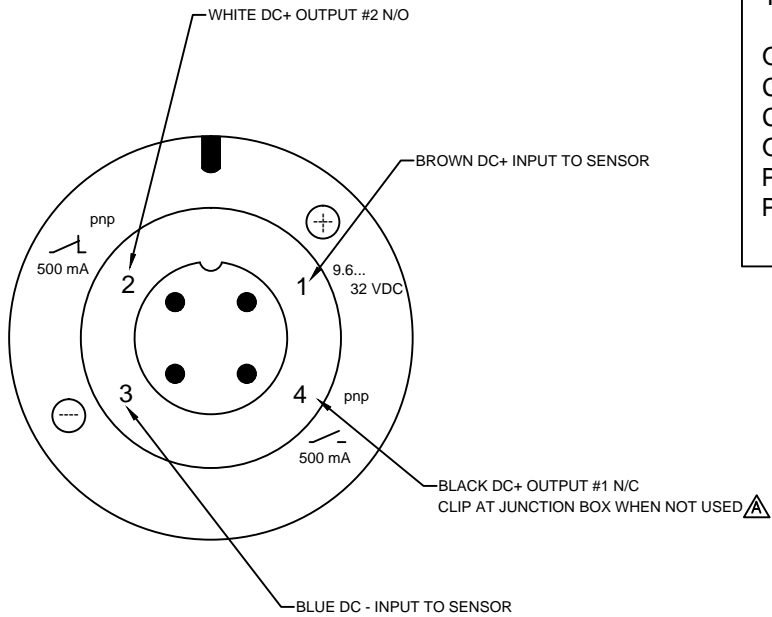


WARNING LIGHT CIRCUIT

DWG. TITLE 810-050.2 WIRING		HTI FILTRATION		810-050.2 WIRING SCHEMATIC			
PROJECT DESCRIPTION STOLLE EQUIPMENT STANDARD 3 PHASE FILTER		7716 Gary Watson Pt Colorado Springs CO, USA 80915		0	03-15-18	SP	SP ORIGINAL ISSUE
DRAWING NO. 810-050 WS	REVISION	CUST. CONTR. NO. -		REV.	DATE:	DRAWN BY	CHKD BY DESCRIPTION
				CUSTOMER STOLLE EQUIPMENT			



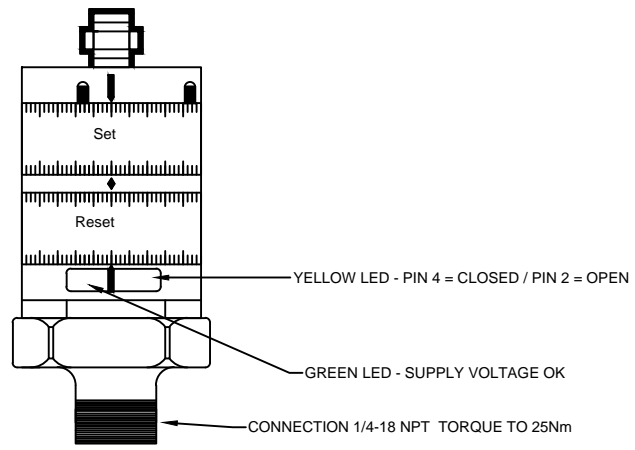
DWG. TITLE 810-050.2 FLOW DIAGRAM				HTI FILTRATION		810-050.3 FLOW SCHEMATIC			
PROJECT DESCRIPTION HYDRA SUPREME LUBRICATING OIL FILTER				7716 Gary Watson Pt Colorado Springs CO, USA 80915					
JOB NO.	DRAWING NO.	REVISION	CUST. CONTR. NO.	REV.	DATE:	DRWN BY	CHKD BY	DESCRIPTION	
-	810-050.2FD	-	-	CUSTOMER		STOLLE MACHINERY			



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 810-050.2

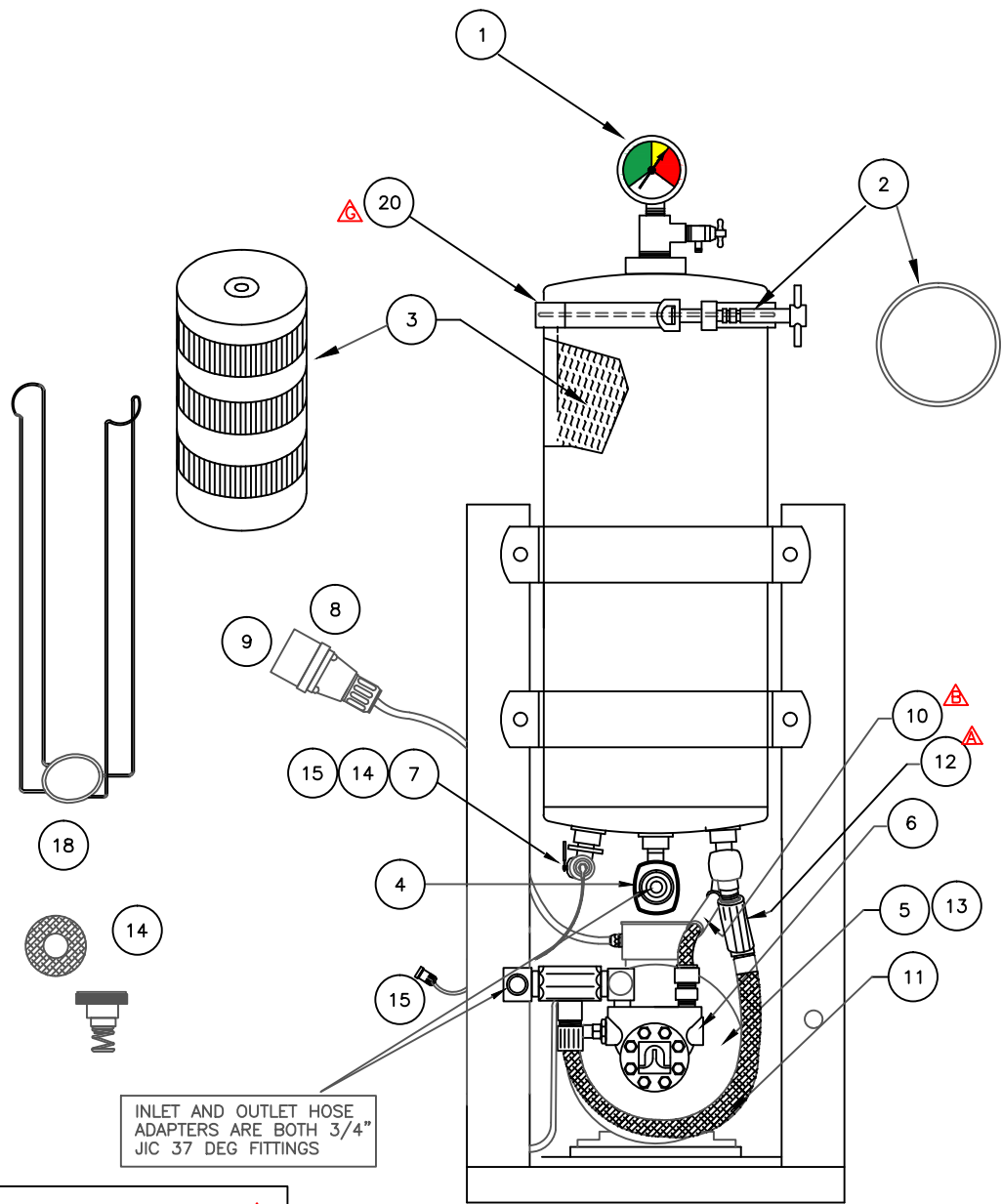
Please Note: All pressure readings are to be taken with the system at normal operating temperatures.

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	CONFIRM THAT INTERNAL RELIEF HAS NOT BEEN TAMPERED WITH; TAP ON EXTERNAL RELIEF TO RESEAT VALVE
LOW FLOW RATE WITH HIGH PRESSURE	LOADED FILTER	REPLACE FILTER ELEMENT
	RESTRICTED OUTLET LINES	CHECK AND CLEAR RETURN LINES
EXCESSIVE PRESSURE	RELIEF VALVE SET TOO HIGH	RE-SET RELIEF VALVE TO 75 PSI
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

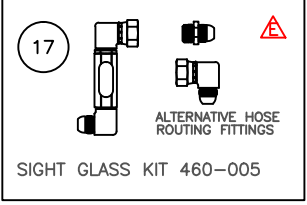
REPLACEMENT PARTS

ITEM NO.	DESCRIPTION	HTI NO	STOLLE NO
1	PRESSURE GAUGE	610-024	095896
2	LID SEAL	450-002	089879
3	FILTER ELEMENT	800-026	088279
4	FLOW METER	630-006	-
5	MOTOR 3 PHASE 50/60 HZ CE/IEC	780-024	094970
6	1.5 GPM / 5.25 LPM PUMP- PRE-SET	770-015.1	090126
7	PRESSURE SWITCH W/LED	620-004	095749
8	HIGH VOLTAGE PLUG-33-18047	260-034	222000311
9	PLUG HOUSING FH-111	260-035	222000313
10	PUMP OULET HOSE	460-027	094971
11	PRESSURE RELIEF HOSE	460-032	094972
12	PRESSURE RELIEF VALVE	430-073	
13	METRIC MOTOR PUMP ADAPTER	790-009	089915
14	PUMP SEAL REPAIR KIT	460-057	095057
15	RIGHT ANGLE CONNECTOR/CORD	620-007	095764
16	CLEAR SWITCH COVER	620-006	095765
17	OIL SIGHT GLASS KIT	460-005	095935
18	ELEMENT LIFTER	530-008	-
19	2 PIECE LID CLAMP-OBSOLETE	-	-
20	V-BAND LID CLAMP	540-010	222247714

▲ PRESSURE RELIEF VALVE & HOSE CHANGES AT SERIAL # 5342



INLET AND OUTLET HOSE ADAPTERS ARE BOTH 3/4" JIC 37 DEG FITTINGS



DWG. TITLE		810-050.2 PARTS LIST		HTI FILTRATION		H	08/29/2022	SP	SP	CHANGE TO NPT CHECK VALVE- #5342				
PROJECT DESCRIPTION		STOLLE NO. 724325 BODYMAKER OIL FILTER				G	12/22/2020	SP	SP	ADD 1 PIECE & V-BAND LID CLAMP				
DRAWING NO.		810050.2PL		7716 Gary Watson Pt Colorado Springs CO, USA 80915		F	10/30/2020	SP	SP	ADD ELEMENT LIFTER				
REVISION		H		CUST. CONTR. NO.		-		-		E	07/24/2018	SP	SP	UPDATE PUMP NUMBER, ADD SIGHT GLASS
DATE:		05/13/2015		DRWN BY:		SP		SP		D	05/13/2015	SP	SP	UPDATE PRESSURE GAUGE
DESCRIPTION:		STOLLE MACHINERY		CUSTOMER:		STOLLE MACHINERY		STOLLE MACHINERY						



HTI FILTRATION INC.

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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.