



GENERAL OVERVIEW

THE DEPICTED PUMP SYSTEM IS INTENDED TO SAFELY TRANSFER USED PETROLEUM PRODUCT FROM A DEDICATED COLLECTION STATION ON THROUGH TO A HOLDING TANK. THE SYSTEM CONSISTS OF AN AIR OPERATED PUMP STATION C/W CONTROLS, PICK-UP LINE C/W FILTER SCREEN AND QUICK COUPLING, AND IN-TANK SAFETY SHUT-DOWN CONTROLS. OPTIONAL ACCESSORIES INCLUDE A WALL MOUNT FUNNEL ASSEMBLY, A PICK-UP WAND AND MATCHING MALE COUPLING FOR USE WITH OWNER SUPPLIED FIXTURES.

THE PUMP SYSTEM OPERATES SAFELY ON COMPRESSED AIR OF 100 PSI OR LESS. THIS EFFECTIVELY ELIMINATES THE EXPLOSION AND FIRE HAZARDS ASSOCIATED WITH SYSTEMS WHICH ARE DRIVEN AND/OR CONTROLLED BY ELECTRICITY.

THE PUMPING CYCLE STARTS WITH CONNECTING THE PICK-UP LINE TO THE DESIRED SOURCE, OPENING THE AIR SUPPLY VALVE AND PRESSING THE START BUTTON. THE PUMP IS NOW ACTIVATED, DRAWS FLUID IN THROUGH THE PICK-UP LINE AND FILTER SCREEN AND SENDS IT ON TO THE HOLDING TANK. THE REGULATOR AND PRESSURE GAUGE ALLOW THE OPERATOR TO ADJUST THE FLOW RATE AND COMPENSATE FOR ANY PUMPING IRREGULARITIES WHICH MAY OCCUR DUE TO VARYING VISCOSITIES. WHEN THE PUMP SYSTEM HAS REMOVED ALL OF ITS SUPPLY OF FLUID, THE PUMP WILL SPEED UP LETTING THE OPERATOR KNOW IT IS TIME TO SHUT THE SYSTEM OFF. A QUICK PRESS OF THE STOP BUTTON AND CLOSING THE AIR SUPPLY VALVE COMPLETES THE OPERATION.

THE IN-TANK SAFETY SHUT DOWN CONTROLS ARE DESIGNED TO STOP THE PUMPING OPERATION ONCE THE TANK HAS REACHED ITS FULL LEVEL. THE NORMAL SHUT-DOWN IS CONTROLLED BY THE SHUT-OFF FLOAT VALVE. THE SHUT-OFF FLOAT VALVE IN THIS SYSTEM IS DESIGNED TO WORK UNDER THE ADVERSE CONDITIONS ASSOCIATED WITH USED AND WASTE PETROLEUM PRODUCTS SUCH AS SLUDGY WASTE OILS. IT IS A FREE OPEN FLOW DESIGN WITH NO PILOT SIGNAL LINES TO PLUG OR MECHANICS TO SEIZE. SHUT DOWN TAKES PLACE AS THE RISING LIQUID IN THE TANK LIFTS THE FLOAT BALL WHICH IN TURN MOVES THE SHUT-OFF DISK INTO PLACE. ONCE IN PLACE THE LINE PRESSURE CREATED BY THE PUMP FORCES THE DISK TO CLOSE CREATING A POSITIVE LOCK AND STOPS ANY LIQUID FROM ENTERING THE TANK. AT THIS POINT THE PUMP WILL NOT OPERATE AND THE OPERATOR KNOWS IT IS TIME TO EMPTY THE TANK. WHEN THE TANK HAS BEEN EMPTIED, OPEN THE FLOAT RESET VALVE FOR 15 SECONDS AND THEN CLOSE. THIS RELEASES ANY BACK PRESSURE AND RETURNS THE FLOAT AND DISK TO NORMAL OPERATING POSITION.

IN THE UNLIKELY EVENT OF THE FLOAT VALVE FAILING, AN EMERGENCY HIGH LEVEL SPILL TUBE SHUT DOWN HAS BEEN PROVIDED AS A BACKUP. WHEN JUST UNDER A CUP OF LIQUID SPILLS INTO THE TUBE, A PRESSURE SIGNAL IS GENERATED AND SENT BACK TO THE PUMP STATION. A SPECIAL ULTRA-SENSITIVE VALVE RECEIVES THIS SIGNAL AND ACTIVATES TO SHUT DOWN THE PUMP'S AIR SUPPLY AND AT THE SAME TIME SUPPLIES AIR TO THE AIRHORN ALARM. WITH THE ALARM SOUNDING IT IS OBVIOUS THAT THE TANK IS FULL AND THAT A PROBLEM EXISTS WITH THE NORMAL SHUT DOWN VALVE. AT THIS POINT SHUT OFF THE MAIN AIR SUPPLY, SHAKE THE TANK EMPTIED, REMOVE THE TANK END COMPONENTS AND EMPTY THE SPILL TUBE. REPAIR OR REPLACE THE SHUT-OFF VALVE AND REINSTALL COMPONENTS INTO THE TANK. THE SYSTEM IS NOW READY TO OPERATE AGAIN.

NOTES

- ALL SYSTEMS ARE TO BE ASSEMBLED, TESTED AND PACKAGED FOR QUICK INSTALLATION C/W ALL NECESSARY SAFETY AND OPERATION MANUALS.
- INSTALLER SHALL SUPPLY PUMP STATION TO TANK PIPING AND MISCELLANEOUS MATERIALS TO FACILITATE INSTALLATION AS EACH INDIVIDUAL SITE MAY REQUIRE.
- ALL SYSTEMS TO BE SUPPLIED WITH COMPLETE OPERATING, SERVICE AND PARTS MANUALS.

MYERS WASTE OIL PUMPING SYSTEMS

KING METAL FABRICATORS LTD.

515 WILSON RD
DARTMOUTH, N.S.
B3B 5G3

PHONE (902) 434-2116
FAX (902) 434-5979

DATE: _____ APPROVED BY: _____ DWG# PS-01A REV _____
DRAWING TITLE: WASTE OIL PUMPING SYSTEM

TANK END PUMP CONTROL ASSEMBLY

- 3/2" mm (1/8") STEEL MANHOLE COVER TO MATCH EXISTING TANK MANHOLE.
- FULL LEVEL, POSITIVE LOCK, SHUT-OFF FLOAT VALVE C/W WITH NECESSARY PIPE AND FITTINGS WELDED THROUGH MANHOLE COVER.
- EMERGENCY SHUT-DOWN, HIGH LEVEL, SPILL TUBE SIGNAL GENERATOR C/W NECESSARY PIPE FITTINGS.
- BLAST CLEAN AND PAINT TO MATCH TANK FINISH.

WASTE OIL PUMP STATION

- PUMP**
 - 3/4" AIR OPERATED DIAPHRAGM PUMP
 - CAPACITY 16 GALLONS PER MINUTE
 - SHOCK MOUNTED TO (WALL MOUNT) CONTROL PANEL
- CONTROL PANEL**
 - FABRICATED FROM 3/2" mm (1/8") STEEL AND FIXTURED TO FACILITATE THE MOUNTING OF ALL COMPONENTS
 - BLAST CLEAN AND PAINT, 5 MIL DRY FILM, HIGH GLOSS EPOXY.
- AIR CONTROLS**
 - MAIN AIR SHUT-OFF VALVE.
 - OPERATING PRESSURE CONTROL REGULATOR AND GAUGE
 - MAIN AIR SUPPLY TO PUMP ON/OFF CONTROL VALVE OPERATED BY MOMENTARY PILOT SIGNAL.
 - MOMENTARY SIGNAL CONTROL STOP AND START VALVES.
 - EMERGENCY HIGH LEVEL SENSING SHUT-OFF VALVE, C/W ALARM AND ALARM AIR SUPPLY VALVE.
 - ALL AIR FITTINGS AND LINES TO BE SIZED TO SUIT PUMP OPERATION REQUIREMENTS. FITTINGS TO BE BRASS, SWIVEL, FULL FLOW, QUICK CONNECT. AIR LINES TO BE NYLON AIR TUBING.

WALL MOUNT FUNNEL ASSEMBLY

- TO BE FABRICATED FROM 3/2" mm (1/8") STEEL
- 35 LITER CAPACITY FUNNEL ASSEMBLY
- LOCKABLE COVER
- RUBBER COVER SEAL C/W ANTI-SPASH GUARD
- REMOVABLE 1/4" PERFORATED FILTER PLATE.
- SLUDGE TRAP
- 3/4" LINE FITTINGS AND 3/4" NON DRIP, MALE, QUICK DISCONNECT.
- BLAST CLEAN AND PAINT, 5 MIL DRY FILM, HIGH GLOSS EPOXY.

- OIL LINES** - 3/4" SCH40 PIPING AND FITTINGS C/W RELEASE VALVE FOR POSITIVE LOCK FLOAT VALVE.
- PICK-UP LINE** - 3/4" X 6'-0" FLEX SUCTION HOSE COMPLETE WITH INLINE STRAINER AND NON-DRIP FEMALE QUICK DISCONNECT.
- GROUNDING** - 3/8" GROUND LUG AND WING NUT.
- 6'-0" 14 Ga. GROUND WIRE C/W BOLT-LUG AND DRUM CLAMP.