



PERIDOS Series

Operating instructions



Read the operating manual!

The user is responsible for installation and operation related mistakes!



Table of Contents

1 System Overview 3
1.1 Safety 3
1.2 Warranty 3
1.3 Receiving 3
1.4 Customer Modification 3
1.5 Information for Returning Pumps..... 3
2 PERIDOS Series Pump and Pumphead..... 4
2.1 Tubing, Spindle and Cover Installation..... 5
2.2 Mounting Pump on Gearbox, Installation of Collett..... 6
2.3 Pump Mounting and Collet Installation Procedure 7
2.4 Hose and Roller Installation 7
2.5 Tubing & Connections..... 13
3 PERIDOS Series Gearbox 14
3.1 Run-in Period 14
3.2 PERIDOS Series Motor Wiring 14
4 PERIDOS Pump Controller 15
4.1 Operation and Wiring 15
4.2 Programming 15
4.3 To Display in GPH 16
4.4 Setting the maximum pumping rate..... 16
4.5 Controller Wiring Examples..... 17
5 PERIDOS Series Tubing Rupture Detector 18
5.1 Alarm Causes 18
5.2 What to do in an alarm condition 18
5.3 Resuming Service 18
5.4 Resetting the alarm 18

1 System Overview

The PERIDOS Chemical Feed Pump consists of a controller, motor, gearbox and peristaltic pump.

1.1 Safety

In the interests of safety, this pump and the tubing selected should only be used by competent, suitably trained personnel after they have read and understood this manual, and considered any hazard involved. Any person who is involved in the installation or maintenance of this equipment should be fully competent to carry out the work. Maintenance and repair should be performed by qualified personnel only. Make sure that no voltage is applied while work is being carried out on the pump or motor. The motor must be secured against accidental start up.



1.2 Warranty

Lutz-JESCO America, Inc. warrants the PERIDOS Series pumps to be free of defects in material and workmanship for a period of eighteen months from the date of sale to the user, or two years from the date of shipment, whichever ever occurs first. An MC Series control, or any component contained therein, which under normal use becomes defective within the stated warranty time period, shall be returned to Lutz-JESCO America, Inc., freight prepaid, for examination (contact Lutz-JESCO America, Inc. for authorization prior to returning any product). Lutz-JESCO America, Inc. reserves the right to make the final determination as to the validity of a warranty claim, and sole obligation is to repair or replace only components, which have been rendered defective due to faulty material or workmanship. No warranty claim will be accepted for components which have been damaged due to mishandling, improper installation, unauthorized repair and/or alteration of the product, operation in excess of design specifications or other misuse, or improper maintenance. Lutz-JESCO America, Inc. makes no warranty that its products are compatible with any other equipment, or to any specific applica-



tion, to which they may be applied and shall not be held liable for any other consequential damage or injury arising from the use of its products. This warranty is in lieu of all other warranties, expressed or implied. No other person, firm or corporation is authorized to assume, for Lutz-JESCO America, Inc., any other liability in connection with the demonstration or sale of its products.

1.3 Receiving

Inspect all cartons for damage, which may have occurred during shipping. Carefully unpack equipment and inspect thoroughly for damage or shortage. Report any damage to carrier and/or shortages to supplier. All major components and connections should be examined for damage and tightness, with special attention given to PC boards, plugs, knobs and switches.

1.4 Customer Modification

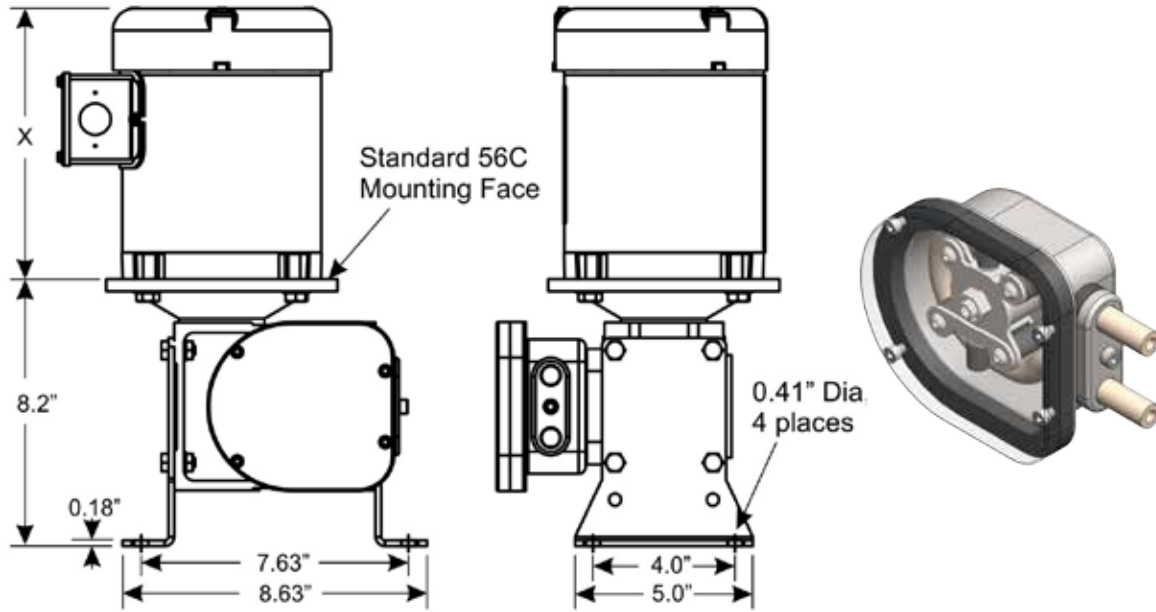
Lutz-JESCO America, Inc., its sales representatives and distributors, welcome the opportunity to assist our customers in applying our products. Many customizing options are available to aid in this function. Lutz-JESCO America, Inc. cannot assume responsibility for any modifications not authorized by its engineering department.

1.5 Information for Returning Pumps

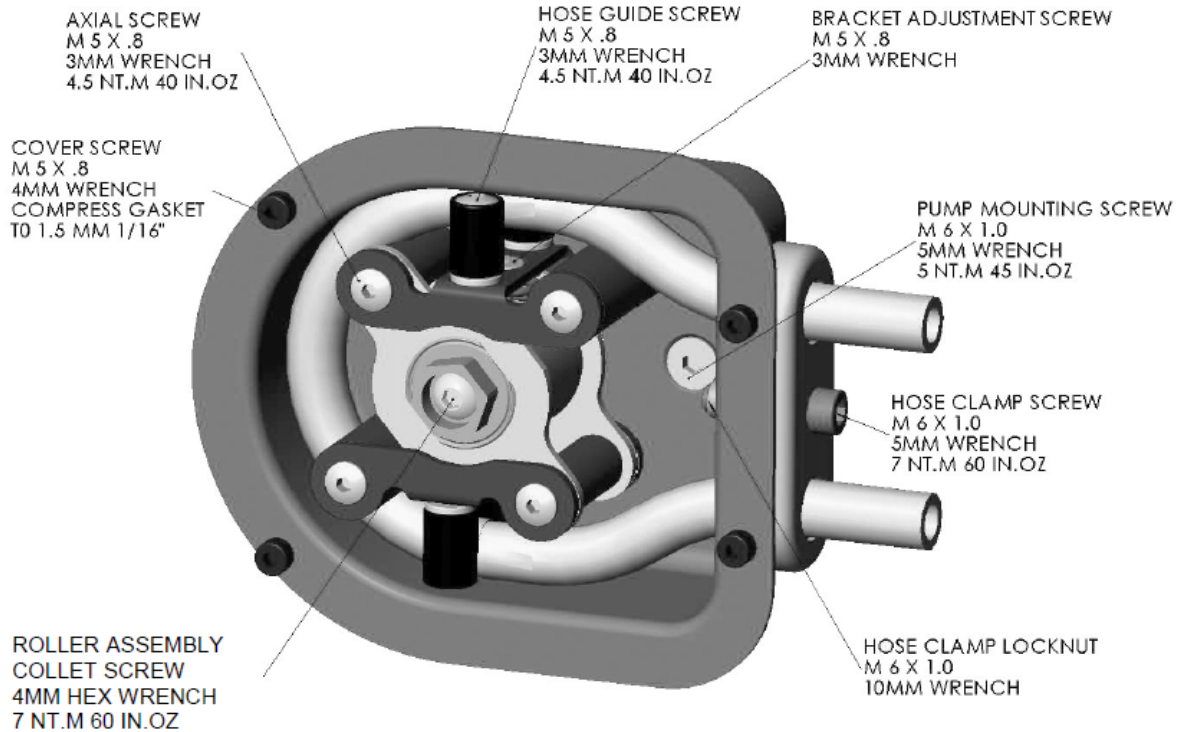
Equipment that has been contaminated with, or exposed to, body fluids, toxic chemicals or any other substance hazardous to health must be decontaminated before it is returned to Lutz-JESCO America, Inc. or its distributor.

If the pump has been used, the fluids that have been in contact with the pump and the cleaning procedure must be specified along with a statement that the equipment has been decontaminated.

2 PERIDOS Series Pump and Pumphead



The PERIDOS Series pumphead has two spring-loaded working rollers, which automatically compensate for minor variations in tubing wall thickness, giving extended tube life.



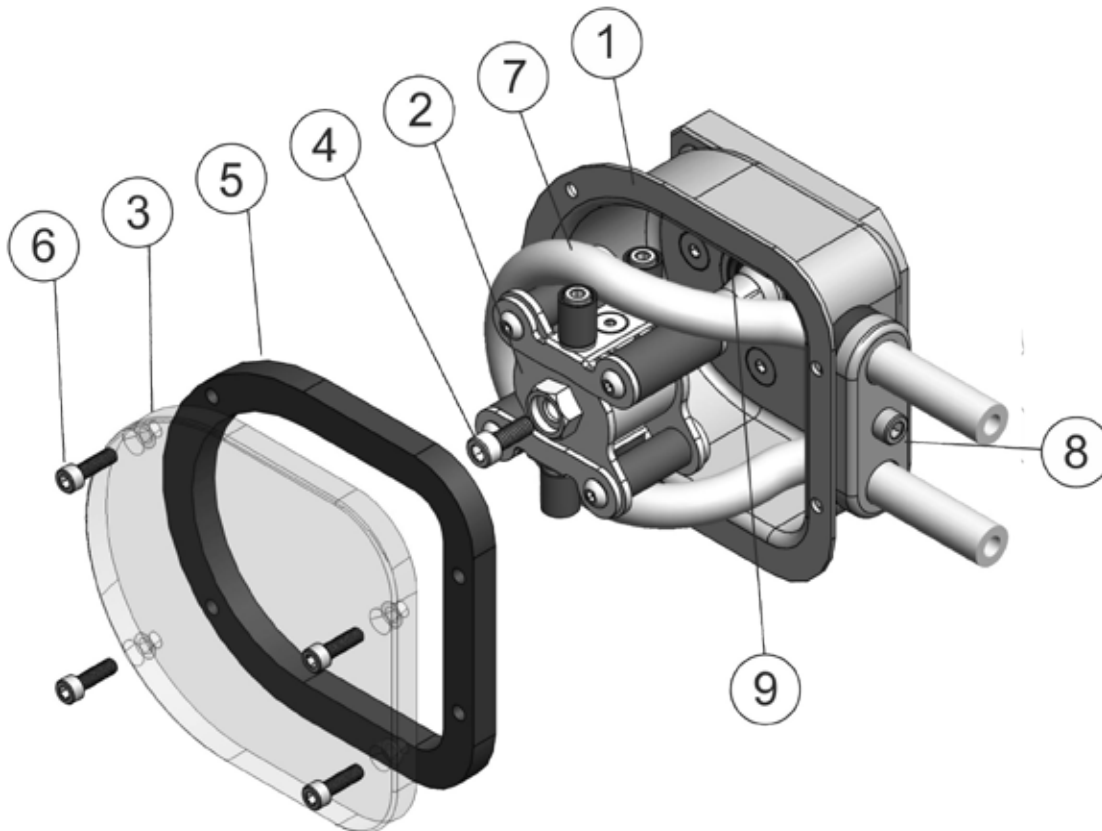
IMPORTANT: The PERIDOS Series is equipped with a pump cover for safety and protection against chemical spills. The cover must be installed whenever the pump is in use.

2.1 Tubing, Spindle and Cover Installation

! IMPORTANT: Disconnect pump controller from power supply BEFORE changing tubing!

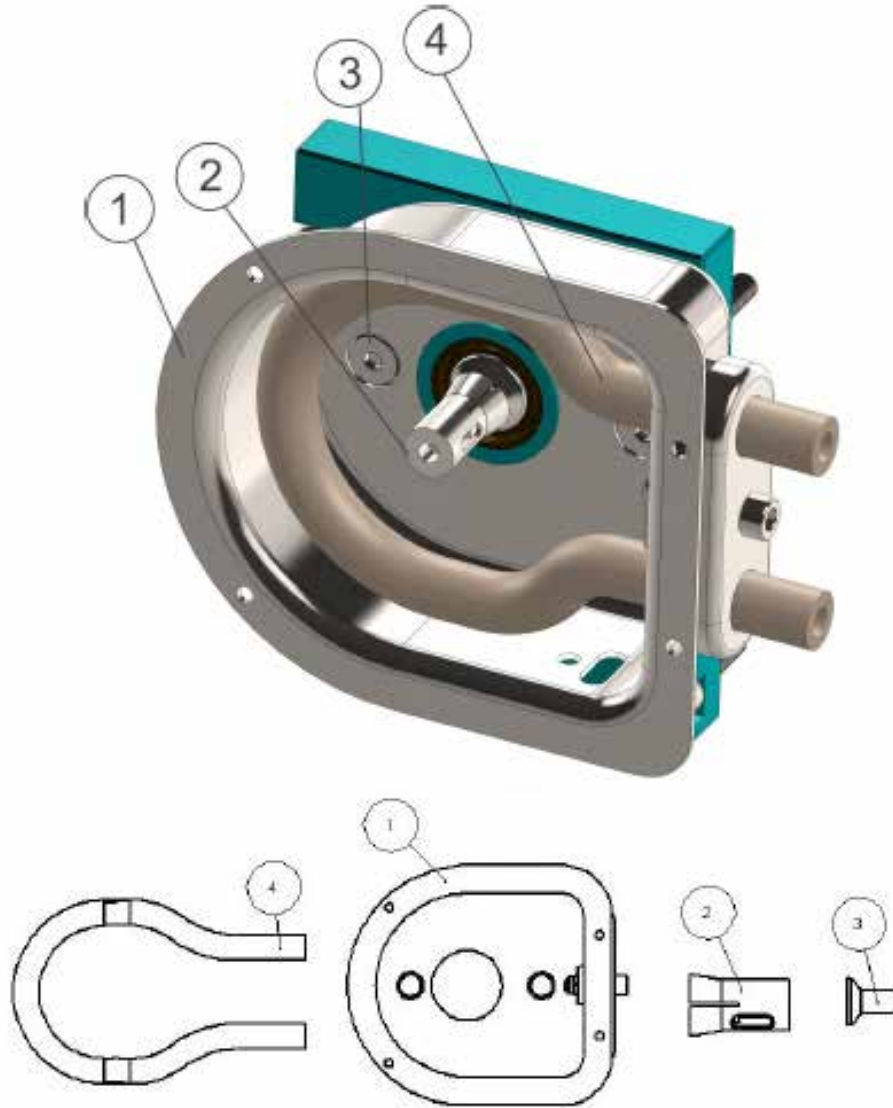
Item No.	Qty.	Part No.	Description
1	1	n/a	Pump Collet & Hose Assy.
2	1	100329	Roller Assembly
3	1	100330	Cover
4	1	100324	Collet Screw
5	1	100305C	Cover Gasket
6	4	100307C	Cover Screw
7	1	n/a	Tube
8	1	Varies with tubing selection*	Tube Seal
9	1	Shaft Seal 10x28x7	Shaft Seal

*Tube Seal PN	100329	100330	100331	100332	100333	100334
---------------	--------	--------	--------	--------	--------	--------



Hose is shown bent forward out of the pump housing to illustrate the correct hose and roller assembly position, prior to sliding the hose and spindle into the housing and over the collet.

2.2 Mounting Pump on Gearbox, Installation of Collett



Item No.	Qty	Part No.	Description
1	1	NA	Pump Housing with Tube Seal
2	1	100306	Collet
3	2	100330	Pump Mounting Screws
4	1	NA	Tubing

2.3 Pump Mounting and Collet Installation Procedure

- 1 To install the pump housing on the gearbox, slide it over the central pilot on the gearbox adaptor plate. Next install and torque the mounting screws to 5 NT.M (45 in. oz).
- 2 Next install the collet on the gearbox shaft. There is a slot in the collet that the flat drive tang on the gearbox shaft must slide into. Orient the collet to allow the drive tang to slide into the slot and push the collet completely onto the gearbox shaft. When the collet bottoms out it is in the correct position.

2.4 Hose and Roller Installation

! IMPORTANT: Disconnect pump controller from power supply **BEFORE** changing tubing! Make sure pump suction and discharge lines are completely drained and isolated. Note that the hose seal size must match the selected tubing size.

Disassembly:

1. Remove four (4) 4mm pump cover screws.

2. Loosen Tube Seal Clamp Screw with 5mm hex wrench.



3. Remove 5mm collet screw.



4. Remove the roller assembly.



5. Remove worn pump tubing from pumphead.



6. Remove and inspect collet for wear. Note that the collet may remain in the roller assembly when the roller assembly is removed from the pump shaft.



7. Clean inside of pump housing with damp rag or an appropriate cleaning solution to remove any chemical or tubing residue.



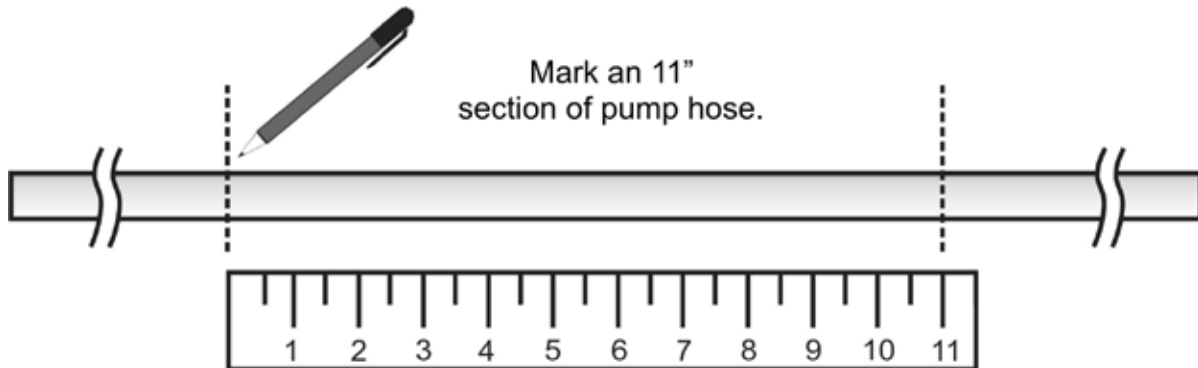
Reassembly:

1. Reinstall the collet onto the pump shaft.

There is a slot in the collet that the flat drive tang on the gearbox shaft must slide into. Orient the collet to allow the drive tang to slide into the slot and push the collet completely onto the gearbox shaft. When the collet bottoms out it is in the correct position.



2. Mark an 11" section of hose, which will be the portion contained within the pump. Leave sufficient excess on the suction and discharge sides of the pump for the desired connections. If you leave the excess intake hose in a coil near the pump it will make it easy to feed a new section of hose through the rollers when the section in the pump becomes worn.



3. Install tubing into the pumphead.

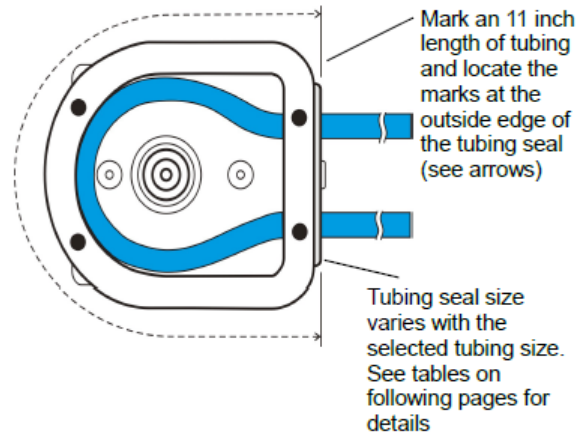
Note: during hose installation the loop of hose may develop a twist. Examine the hose for this condition and if needed turn one end of the hose where it exits the hose clamp to eliminate the twist. Correctly adjusted the hose loop will be flat and parallel to the front face of the pump housing.



4. Loop tubing around roller assembly between guides as shown. Remove slack in tubing while rotating roller assembly and sliding onto collet.



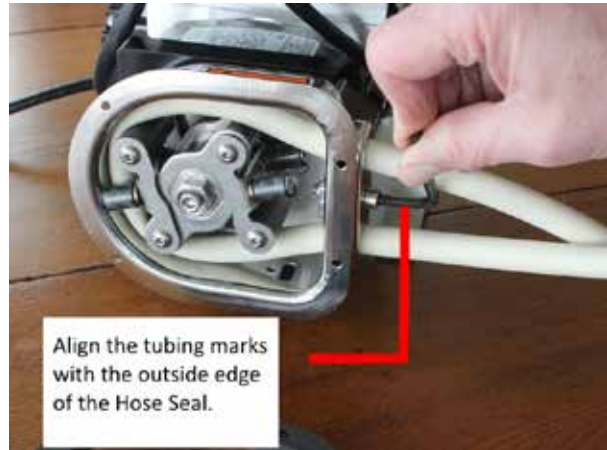
5. Align marks on tubing with outside edge of the tubing clamp.



6. Reinstall collet screw firmly.



7. Tighten hose seal clamp screw. Be sure to tighten firmly to prevent “tubing walk.” Tubing walk can occur when the hose seal is the wrong size or is not sufficiently tight to keep the rollers from pulling the hose through the pump as it rotates.

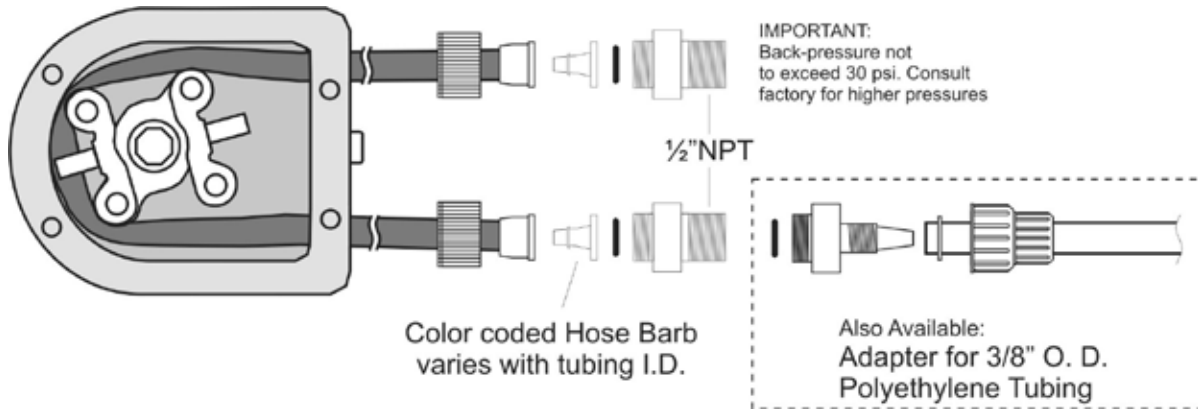


8. Inspect pump cover gasket. Replace if damaged. Reinstall pump cover gasket and cover.



2.5 Tubing & Connections

Tubing adapters are available for many configurations. See the drawing below for details.



PERIDOS SERIES ESTIMATED PUMPING CAPACITY*						*Actual flow rates may vary
Tubing No.	#119	#120	#15	#24	#35	#36
Tubing Size	1.6mm bore (1/16")	3.2mm bore (1/8")	4.8mm bore (3/16")	6.4mm bore (1/4")	8mm bore (5/16")	9.6mm bore (3/8")
GPH @ 1.6 - 300 rpm	0.01 - 2.1 (0.7 - 135 ml/m)	0.05 - 9.5 (3.2 - 600 ml/m)	0.1 - 14.9 (6.4 - 1200 ml/m)	0.2 - 38.0 (12.8 - 2400 ml/m)	0.2 - 53.7 (18.0 - 3390 ml/m)	0.3 - 70.3 (23.6 - 4440 ml/m)
Max Pressure (psi)	100	100	80	60	30	30
ml/rev	0.45	2	4	8	11.3	14.8
Hose Barb - PVC Color / PN	Black HBCS2416P	Gray HBCS2432P	White HBCS2448P	Black HBCS2464P	Gray HBCS2480P	White HBCS96P
Hose Barb - PTFE Color / PN	White HBCS2416T	White HBCS2432T	White HBCS2448T	White HBCS2464T	White HBCS2480T	White HBCS96T
Tube Seal PN	100329	100330	100331	100332	100333	100334
Pump Tubing FLOPRENE	FLO.016.024	FLO.032.024	FLO.048.024	FLO.064.024	FLO.080.024	FLO.096.024
Pump Tubing VITON	VIT.016.024	VIT.032.024	VIT.048.024	VIT.064.024	VIT.080.024	VIT.096.024

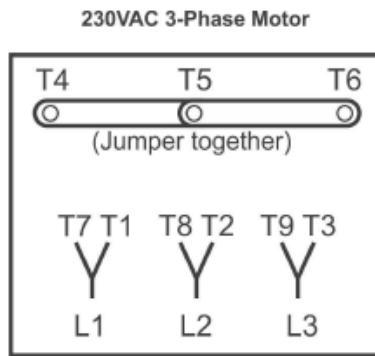
3 PERIDOS Series Gearbox

3.1 Run-in Period

The maximum efficiency of worm reducers is obtained after a “Run-In” period. The length of time required will depend on the load applied and may be two to four hours at rated load and will be considerably longer at lighter loads. During Run-In a slightly higher than normal current and temperatures along with lower efficiency and output torque can be expected. The gearbox is sealed and does not require additional lubrication.

3.2 PERIDOS Series Motor Wiring

- Motor type: Permanent Split Capacitor or 3-Phase Inverter Duty
- Rotation: Reversible
- Insulation: Class B minimum
- Finish: Powder-coat gloss black



To reverse rotation, interchange any two line leads.

4 PERIDOS Pump Controller

4.1 Operation and Wiring

IMPORTANT: Make sure the Mains voltage jumper is in the correct location for the supplied voltage. See the Pump Controller operating instructions booklet for details.

Shown here are program settings specific to the operation with the PERIDOS H Peristaltic Pump.

4.2 Programming

The programming differs from the factory defaults shown in the SM Vector Operating Instruction booklet only in relation to the following parameters:

KB Default Program Settings

- 0.04 = 0000 GFCI disabled, enable if power pump through GFCI mains circuit (some additional noise from the drive is normal).
- 1.00 = 0001 Remote Start/Stop contacts enable (CHANGE TO 0000 to use 4-20 with manual start/stop)
- 1.05 = 0003 Power fail auto restart
- 2.00 = 0003 Freq Control Analog 2 (4-20mA)
- 2.01 = 0001 Speed change w/o pressing enter
- 2.02 = 0002 Enable external Local/Remote switching
- 3.00 = 0005 Stored Set Frequency (5hz)
- 3.02 = 0100 Upper Frequency Limit
- 4.00 = 0000 Display in user defined units (Hz)
- 5.00 = 0000 Enable Run Relay N.O.
- 7.03 = 0010 Remote Start/Stop - N.O. Start
- 7.04 = 0000 External Local/Remote Select OFF (13 for remote auto select)
- 7.06 = 0008 External Fault input select
- 8.00 = 0001 NC Fault Relay
- 8.01 = 0009 Enable Status Output
- 9.07 = 0020 4-20mA Input

- 8.09* = 0002 When speed feedback 4-20ma output is connected

NOTES:

- *8.09 = 0000 to avoid fault when 4-20mA Output is disconnected when not using 4-20mA output
- Keypad speed can only be changed in local mode
- For manual speed with remote start/stop set 2.00 to 0000
- For remote (4-20ma) speed with manual (keypad) start/stop set 1.00 to 0000
- Large hose pumps - Boost Value 3.11 default 7, up to 12 or higher
- 6.05 = 1010 reset to Lutz-Jesco Defaults

4.3 To Display in GPH

- Fill a calibration cylinder (best to use water, not chemical for testing and calibration)
- Run the pump at full speed and time the drawdown for 30 sec. (from zero level in cylinder).
- Note the level in the calibration cylinder when 30 seconds has elapsed. That will be your full scale pumped flow rate.
- Set menu 4.00 to 0001 (custom units).
- Set menu 4.01 to the GPH of the pump at full speed.

4.4 Setting the maximum pumping rate.

1. Fill a calibration cylinder (best to use water, not chemical for testing and calibration)
2. Run the pump at full speed and time the drawdown for 30 sec. (from zero level in cylinder)
3. Note the level in the calibration cylinder when 30 seconds elapses. That will be your full scale pumped flow rate.
4. Divide the full scale pumped flow volume by the maximum hertz setting for your pump to get volume for 1 HZ
5. Divide the desired maximum pumping rate by volume/hz found in #4. This is the value for the program setting in 3.02.

EXAMPLE:

If drawdown test is 50 GPH and your maximum pump frequency is 80 HZ (Upper Frequency Limit; menu 3.02)

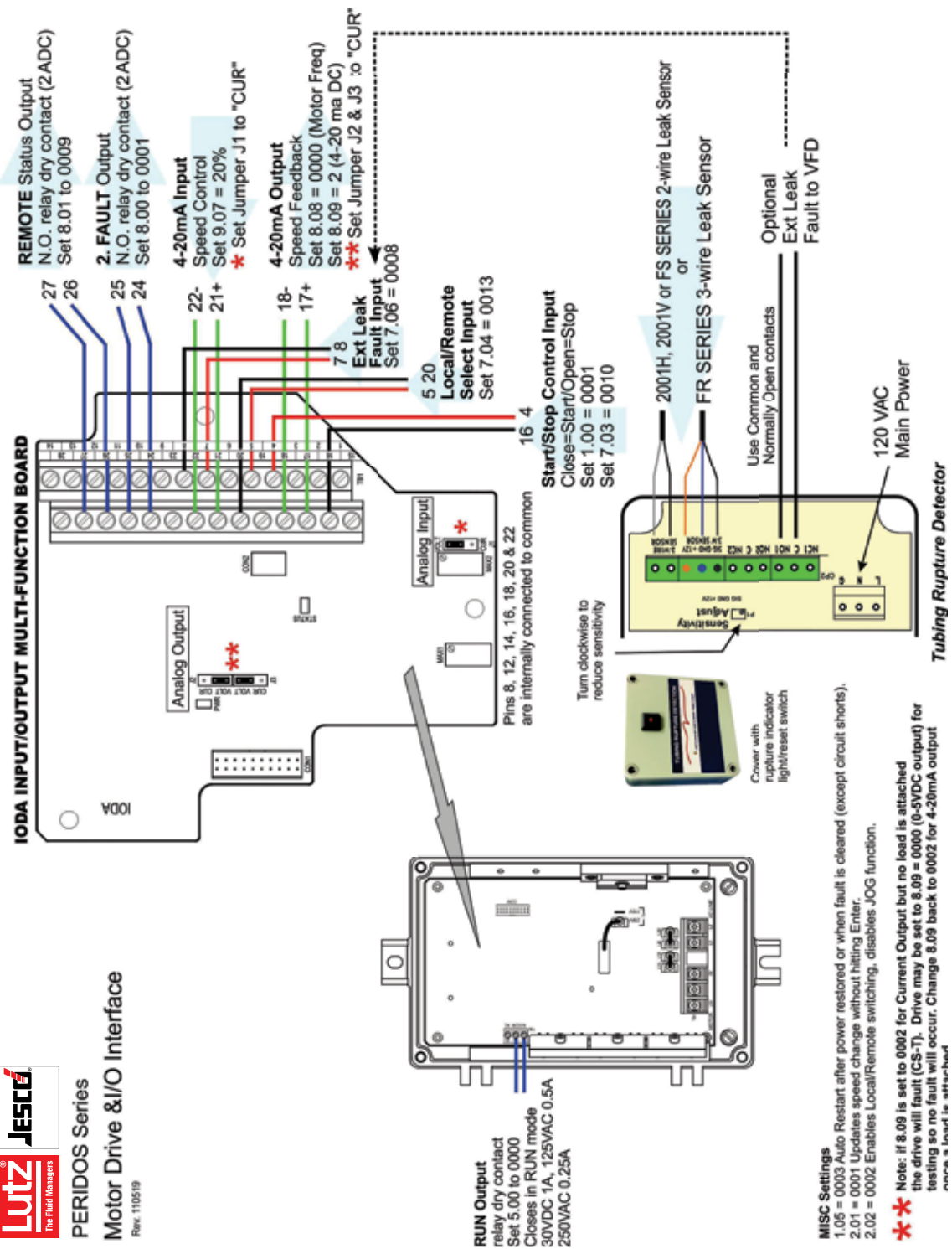
Divide $50 / 80 = 0.625$ GPH @1 Hz.

If desired maximum pumping rate is to be 35 GPH then divide $35 / 0.625 = 56$ HZ.

Program setting 3.02 to 56.

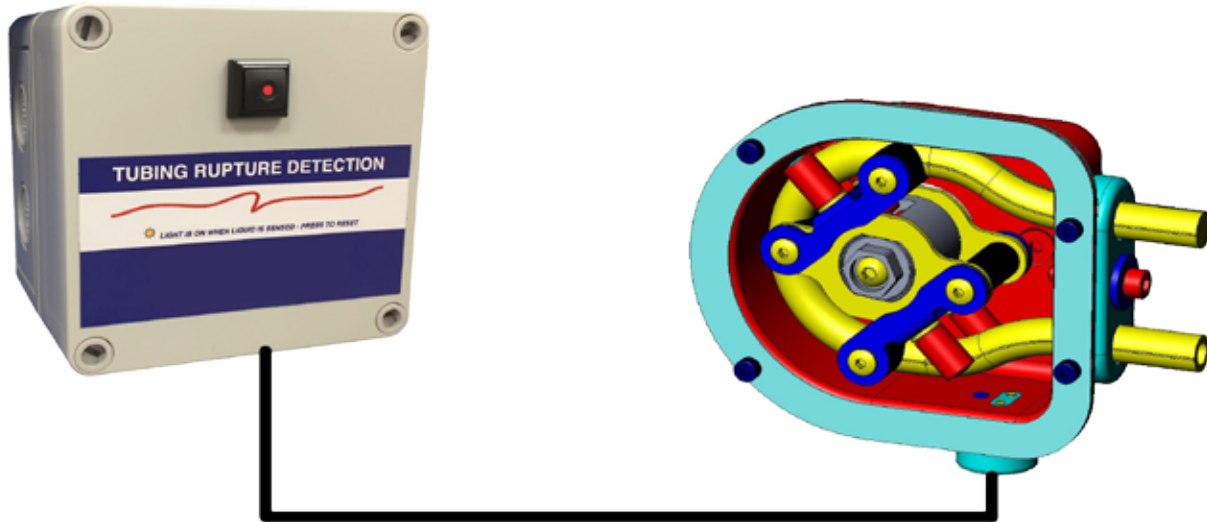
20mA speed control input will equal 35 GPH pumping rate.

4.5 Controller Wiring Examples



5 PERIDOS Series Tubing Rupture Detector

Rupture Detector System Overview



5.1 Alarm Causes

A rupture alarm is triggered by the presence of a conductive fluid in the pump. When the fluid bridges the two stainless steel electrodes in the LIQUID SENSOR in the pump the alarm is triggered.

5.2 What to do in an alarm condition

To clear the alarm, first stop the pump and disconnect power from the pump controller. Remove the pump cover and remove the ruptured pump tubing. Clean the inside of the pump with a soft rag. Remove any liquid or tubing debris from the inside of the pump and the area around the LIQUID SENSOR. Inspect rollers and clean if necessary.

5.3 Resuming Service

Install a fresh tubing insert and the pump is ready to resume service.

5.4 Resetting the alarm

Press the pushbutton (Red LED leak indicator and reset switch) on the front of the Tubing Rupture Detector to reset the alarm.

! IMPORTANT: Resetting the Tubing Rupture Detector will cause the pump to resume turning !

! ALWAYS reinstall the pump cover BEFORE resetting the tubing rupture detector !

This Page Intentionally Left Blank.



Total Fluid Management

Lutz-JESCO America is your reliable partner for all of your chemical metering and transfer applications. Our Distribution Program includes our state-of-the-art Metering Pumps, the Lutz industry-standard Drum and Container Pumps, and our time-proven AODD Pumps.

Please contact us for more information!

Lutz-JESCO, Corp. · 55 Bermar Park · Rochester, NY 14624
Phone: (585) 426-0990 · Tollfree: (800) 554-2762 · Fax: (585) 426-4025
www.lutzjescoamerica.com