FINISH THOMPSON INC.

PF SERIES PUMPS

PFS
OPERATION & PARTS MANUAL

For Serial Number 162858 & lower
Rev 4

FINISH THOMPSON INC.
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EU Declaration of Conformity

CE

Finish Thompson Inc. hereby declares that the following machine(s) fully comply with the applicable health and safety requirements as specified by the EU Directives listed. The product may not be taken into service until it has been established that the drive motor for the Drum and Container Pump complies with the provisions of all relevant EU Directives. The complete product complies with the provisions of the EU Directive on machinery safety provided motors manufactured by Finish Thompson Inc. are used.

This declaration is valid provided that the devices are fully assembled and no modifications are made to these devices.

Type of Device:
Drum and Container Pump Tubes

BTS – 40	EPPI/EPPS 15/27/40	EFP/EFV/EFS-16/27/40/48/54
HVDP LR-27/40/48	HVDP HR-27/40/28	PFM-27/40/48/60
PFP-15/27/40/48/60/72	PFS-27/40/48/60/72	PFV-27/40/48/60/72
TBP-27/40/48	TBS-40	TTC/TTS-27/40/48
STTS-40	TMS-40	

Models:

EU Directives:
Machinery Safety (2006/42/EC)

Applied Harmonized Standards:
EN ISO 12100
EN 809

Manufacturer: Finish
Thompson Inc.
921 Greengarden Road
Erie, Pennsylvania 16501-1591 U.S.A

Signed,

Corey D Bowers

President

1 August 2016

Person(s) Authorized to Compile Technical File: Finish Thompson GmbH
Otto-Hahn-Strasse 16
Maintal, D-63477 DEU
Telephone: 49 (0)6181-90878-0

Introduction

This manual pertains to the PF Series, specifically the PFS stainless steel drum pump. Finish Thompson Inc. thanks you for choosing our products. We believe the use of our products will be fully satisfactory. When properly installed and operated, your Finish Thompson motor and pump will provide long, trouble-free service; therefore, please read this manual carefully before carrying out any operations on the pump/motor unit. Any use other than that described herein is considered incorrect; and, consequently, Finish Thompson Inc. shall not be held responsible for any damages to people or property. In case of doubt or enquiries, please reply to our Technical Service department directly at the following address:

Finish Thompson, Inc.
921 Greengarden Rd.
Erie, PA 16501 U.S.A.
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Technical Service Hotlne: 1-800-888-3743 or email techservice@finishthompson.com

PUMP SPECIFICATIONS	
	MODEL PFS
Outer Tube Diameter	2" (51 mm)
Discharge Type	1" hose barb
Max. Specific Gravity	1.83
Max. Viscosity	2000 cP
Min./ Max. Fluid Temperature	-20°F (5° F with Perlast o-rings) Min. to 220° F Max.
	[-4° C (21° C) Min. to 105° C Max.]
Wetted Materials	316 Stainless Steel, FKM, PTFE, ETFE

Warranty, General Terms & Conditions

1. The following terms and conditions apply to the sale of machinery, components and related services and products, of Finish Thompson Inc. (hereinafter "the products")

2. Finish Thompson Inc. (the manufacturer) warrants only that:

   a) its products are free of defects in material, design and workmanship at the time of original purchase;

   b) its products will function in accordance with Finish Thompson Inc. operation manuals; Finish Thompson Inc. does not guarantee that the product will meet the precise needs of the Customer, except for those purposes set out in any invitation to render documents or other documents specifically made available to Finish Thompson Inc. before entering into this agreement;

   c) high quality materials are used in the construction of the pumps and that machining and assembly are carried out to the highest standards. Except as expressly stated above, Finish Thompson Inc. makes no warranties, express or implied, concerning the products, including all warranties of fitness for a particular purpose. This warranty shall not be applicable in circumstances other than defects in material, design, and workmanship. In particular warranty shall not cover the following:

   d) Periodic checks, maintenance, repair and replacement of parts due to normal wear and tear;

   e) Damage to the product resulting from:

      i. Tampering with, abuse or misuse, including but not limited to failure to use the product for its normal purposes as stated at the time of purchase or in accordance with Finish Thompson, Inc. instructions for use and maintenance of the product, or the installation or improper ventilation or use of the product in a manner inconsistent with the technical or safety standard in force;

      ii. Repairs performed by non-authorized service workshop, or opening of the unit by non-authorized personnel, or use of non genuine Finish Thompson Inc. parts;

      iii. Accidents, force majeure or any cause beyond the control of Finish Thompson Inc., including but not limited to lightning, water, fire, earthquake, and public disturbances, etc.

3. The warranty shall cover the replacement or repair of any part, which is documented to be faulty due to construction or assembling, with new or repaired parts free of charge delivered by Finish Thompson, Inc. Parts subjected to normal wear and tear shall not be covered by the warranty. Finish Thompson, Inc. shall decide as to whether the defective or faulty part shall be replaced or repaired. Transportation charges are prepaid to Finish Thompson.

4. The warranty of the products shall be valid for a period of **12 months** from the date of delivery, under the condition that notice of the alleged defect to the products or parts thereof be given to Finish Thompson, Inc. within the term of 8 days from the discovery.

5. Repair or replacement under the terms of this warranty shall not give a right to an extension to, or a new commencement of, the period of warranty. Repair or replacement under the terms of this warranty may be fulfilled with functionally equivalent reconditioned units. Finish Thompson Inc. qualified personnel shall be solely entitled to carry out repair or replacement of faulty parts after careful examination of the motor. Faulty parts or components when replaced by Finish Thompson Inc. will become the property of Finish Thompson Inc. If this warranty does not apply, the purchaser shall bear all cost for labor, material and transportation.

6. Finish Thompson Inc. will not be liable on any claim, whether in contact, tort, or otherwise, for any indirect, special, incidental, or consequential damages, caused to the customer or to third parties, including loss of profits, process down time, transportation costs, costs associated with replacement or substitution products, labor costs, installation or removal costs. In any and all events, manufacturer's liability shall not exceed the purchase price of the product and/or accessories.

7. **Return Policy.** Should you have any problems with this product, please contact the distributor in your area. The distributor will determine if a return to the factory is necessary and will contact the factory for a Return Authorization Number. Otherwise, contact our Technical Service Hotline (1-800-888-3743) or e-mail techservice@finishthompson.com if you have any questions regarding product operation or repair.

Safety

1. **Introduction**

   This manual contains all the information needed for the correct installation, use and maintenance of your new Finish Thompson
   pump. It should be read and understood by all the personnel involved in installation, operating and servicing of the pump before it is started.

2. **Operator Qualification and Training**

   The personnel in charge of the installation, the operation, and the maintenance of the pump must be qualified and able to perform the operations described in this manual. Finish Thompson, Inc. shall not be held responsible for the training level of personnel and for the fact that they are not fully aware of the contents of this manual.

3. **Safety Instructions**

FOR YOUR OWN SAFETY

BEFORE using or servicing your pump, please make sure to wear the proper clothing, eye protection and follow standard safety procedures when handling corrosive or personally harmful materials.

GENERAL DANGER

ALWAYS use a stainless steel pump tube with an explosion proof electric motor or air motor and static protection kit with grounded discharge hose when pumping or mixing flammable or combustible material.
NEVER leave the pump unattended while in use.

NEVER use in pressurized containers.

ALWAYS store unit upright, i.e. motor above pump, and away from corrosive liquids and vapors.

DANGER: POWER SUPPLY

Refer to instructions for the appropriate motor in the Operation & Installation Manual - Drum Pump Motors.

4. **Noise Level**

   Refer to specifications in the Operation & Installation Manual - Drum Pump Motors.

5. **Modifications and Spare Parts**

   Any changes concerning the service of the pump as originally purchased can be executed only after written approval from Finish Thompson Inc. It is recommended to use only genuine Finish Thompson Inc. spare parts and approved accessories. The use of non-original spare parts or non-approved accessories will void warranty and removes any responsibility on the manufacturer's behalf for any damage caused to people or things.

Installation & Maintenance Instructions

Installation

1. Remove the drum pump and motor from its packaging and inspect for shipping damage.
2. Turn the pump coupling to verify there is no binding. Verify the housing cover (item 21) is on tight (it has a left hand thread.
3. Adjust the coupling so that the empty slots in the insert are at 3 and 9 o'clock with the pump discharge at 12 o'clock.
4. Install the motor according to instructions in the appropriate motor manual.
5. Attach 1" i.d. discharge hose and secure with hose clamp.
6. Install into the container.

Maintenance

Disassembly

1. Remove the housing cover (item 21) by turning it clockwise (left hand thread) while gripping the impeller housing (item 18).
2. Turn the impeller until a hole in the shaft can be seen through the square slot in the impeller housing (item 18), and insert 3/32 pin into the hole. Holding the pin, turn the impeller (item 15) counterclockwise (right-hand thread) and remove it.
3. Remove the impeller housing (item 18) by gripping the intake tube and turning the housing clockwise (left hand thread).
4. Place a wooden board or rubber mat on the floor (to protect the threads on the bottom of the shaft) and gently tap the shaft (item 19) on it until the inner tubes (items 11, 15, 25, & 26), center bearing (item 13), and bottom bearing (item 16) drops out. Continue to tap the shaft until both bearings (item 3) are exposed at the top of the pump.
5. Pull the bearings and shaft out through the top of the pump.

Inspection

1. Check the housing cover (item 21), the impeller (item 20), and the impeller housing (item 18) for wear, rubbing, or damage from foreign objects. Replace if damaged.

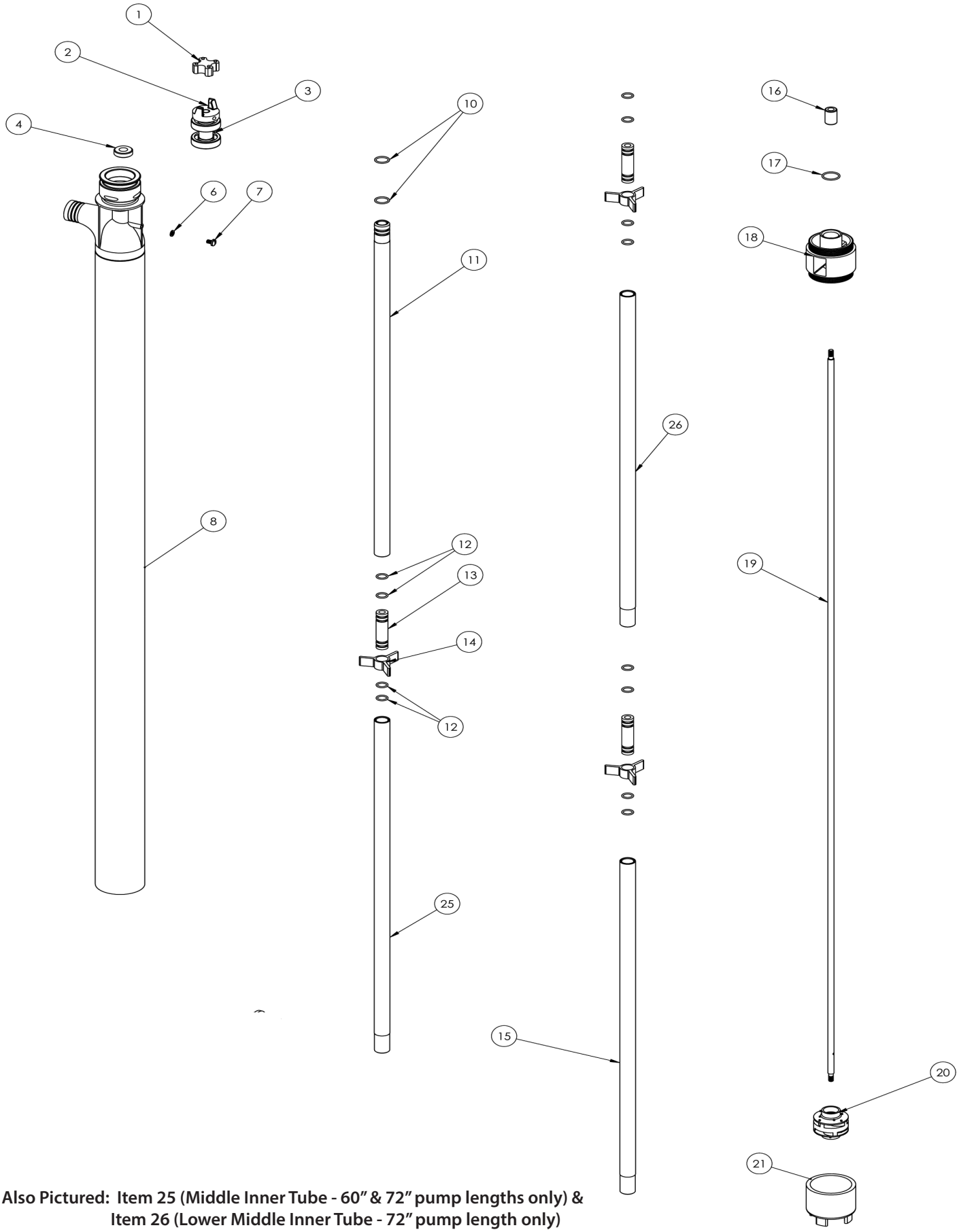
   Note: The double impeller design of this pump is dependant on the impeller working correctly. Any damage to the impeller can cause pump failure.
2. Inspect the pump shaft (item 19) for wear in the bearing (item 3) and the lip seal (item 4) areas. Replace the shaft if needed.
3. Inspect the bottom bearing (item 16) for internal wear. Inspect all o-rings (items 10, 12 & 17) for nicks or chemical attack. Replace as needed.
4. Inspect the bearing assembly (item 3) for rust or corrosion.
5. If the bearing assembly needs to be replaced, unthread it from the shaft. Insert 3/32" pin into the hole at the bottom and hold the bearing assembly by the half coupling. Turn the shaft counterclockwise (right hand thread) to loosen and remove. If corroded, then a penetrating fluid may be used on the threads to help loosen.

   Note: Never reuse the lip seal.

Reassembly

1. Install new lip seal (item 4) into the pump head with the grooved side facing the bottom of the pump.
2. If bearing assembly is replaced -- thread the shaft (item 19) into the bearing assembly (item 3) with the 3/32 hole in the shaft on the other end. Carefully insert the shaft straight through the lip seal (to avoid seal damage) from the top and seat the bearing assembly (item 3) into the pump head.
3. If o-rings are replaced -- install 2 inner tube o-rings (item 12) in the grooves. Install the impeller housing o-ring (item 17) inside the top of the housing. Apply a small amount of Vaseline to the o-rings to aid in assembly.
4. With the pump on a bench, slide the inner tubes (items 11, 15, 25, & 26) assembly onto the shaft until it engages inside the intake tube assembly (item 8). Push until both o-rings (item 10) are seated.
5. Slide the impeller housing (item 18) over the shaft, center the bottom of the lower inner tube into the counter bore in the top of the impeller housing (item 2), and push / thread into the intake tube (item 8) bottom (left hand thread).
6. Gripping the coupling at the top of the pump, thread the impeller (item 20) on right hand thread. Install the housing cover (item 21) left hand thread. Turn the coupling to verify there is no binding inside the pump.

PFS SPARE PARTS EXPLODED VIEW



Also Pictured: Item 25 (Middle Inner Tube - 60" & 72" pump lengths only) & Item 26 (Lower Middle Inner Tube - 72" pump length only)

PUMP SPARE PARTS LIST
(for serial numbers 162858 and lower)

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	**COUPLING INSERT**	
			J100014
2	1	**COUPLING HALF**	
			J100012
3*	1	**BEARING ASSEMBLY**	
			A101110
4*	1	**VAPOR SEAL**	
			M100008
6	1	**LOCK WASHER**	
		#8 BRASS	J100823
7	1	**SCREW**	
		#8-32 X 1/4 BRASS PAN HEAD	J100822
8	1	**INTAKE TUBE ASSEMBLY**	
		27″ MODELS	A101725-1
		40″ MODELS	A101725-3
		48″ MODELS	A101725-4
		60″ MODELS	A101725-5
		72″ MODELS	A101725-6
10*	2	**INNER TUBE O-RING**	
		FKM	J100249
		EPDM	106519
		FFKM	105621
11	1	**STAINLESS STEEL UPPER INNER TUBE**	
		27″ MODELS	M100786-1
		40″ MODELS	M100786-3
		48″ MODELS	M100786-4
		60″ MODELS	M100786-3
		72″ MODELS	M100786-3
12*	1	**CENTER BEARING O-RING**	
		FKM	J100018
		EPDM	106798
		FFKM	111511
13*	1	**CENTER BEARING**	
		PTFE	M100010
14*	1	**BEARING GUIDE**	
		PTFE	M101603-3
15	1	**LOWER INNER TUBE**	
		27″ MODELS	M100789-1
		40″ MODELS	M100789-3
		48″ MODELS	M100789-4
		60″ MODELS	M100789-3
		72″ MODELS	M100789-3
16*	1	**BOTTOM BEARING**	
		PTFE	M100007
17	1	**IMPELLER HOUSING O-RING**	
		FKM	J100019
		EPDM	106799
		FFKM	105622
18†	1	**IMPELLER HOUSING (sold as a kit with Item 21)**	
		Stainless steel	108131
19	1	**SHAFT**	
		27″ MODELS	M100004-5
		40″ MODELS	M100004-7
		48″ MODELS	M100004-8
		60″ MODELS	M100004-12
		72″ MODELS	M100004-13
20*	1	**PFS IMPELLER ASSEMBLY**	
			A100002-3

21†	1	**PFS HOUSING COVER (sold as a kit with Item 18)**	
			See Item 18
25		**UPPER MIDDLE INNER TUBE**	
		27″ MODELS	N/A
		40″ MODELS	N/A
		48″ MODELS	N/A
		60″ MODELS	M100789-3
		72″ MODELS	M100789-3
26	1	**LOWER MIDDLE INNER TUBE**	
		72″ MODELS	M100789-1

*Recommended Spare Parts

†If replacing either item number 18 or 21, you must order both to assure proper fit.

Note: *Bearing assembly and vapor seal can be purchased as a kit using part number 106567.*