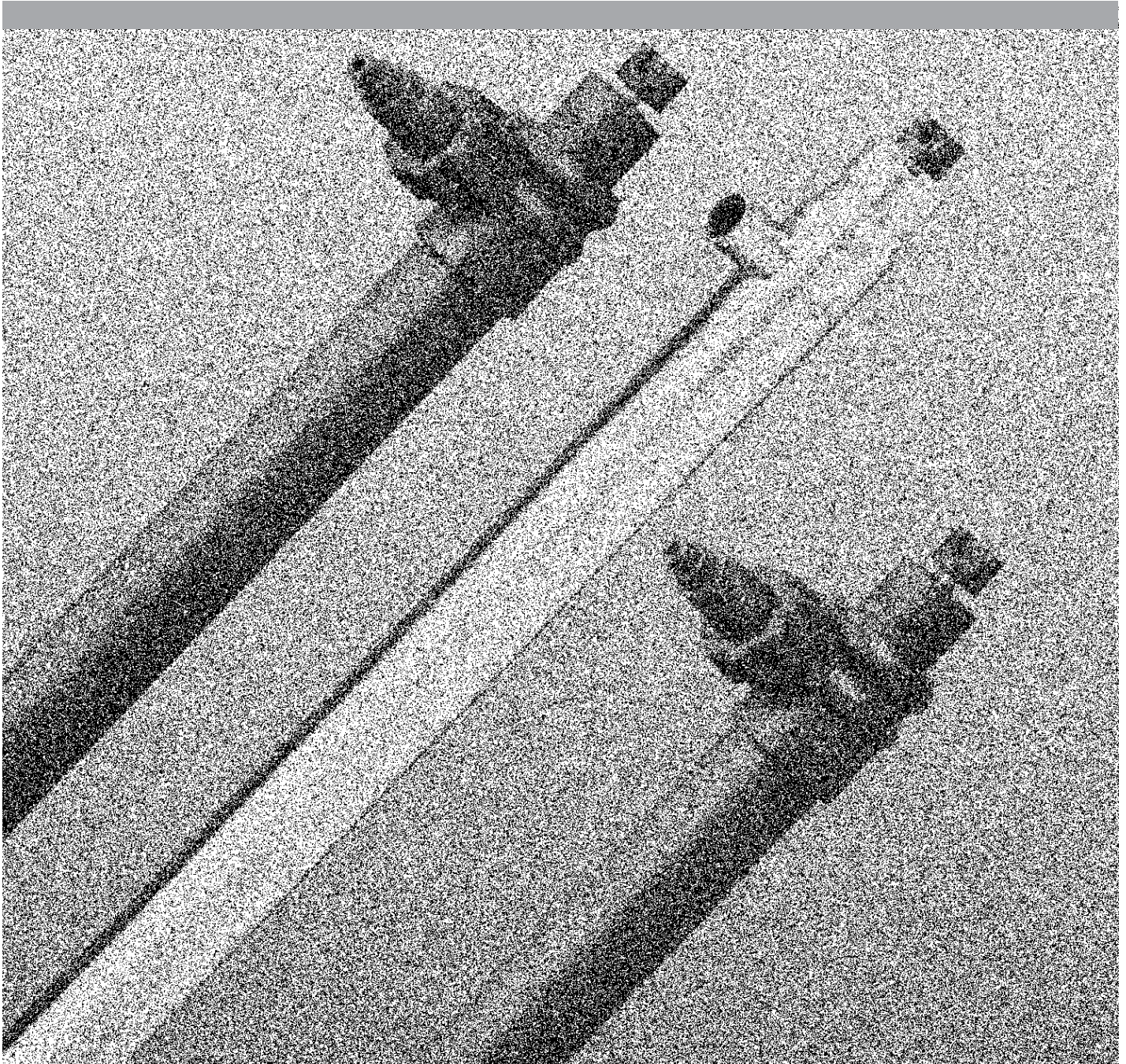




*FINISH THOMPSON INC.*

# **OPERATION AND PARTS MANUAL**

## **DRUM PUMPS AND MIXERS**



Models: TBS TBP PFM PFP PFV PFS TTC TTS STTS TMS BTS



**FINISH THOMPSON INC.**

921 Greengarden Road • Erie, PA 16501-1591 U.S.A.  
Ph 814-455-4478 • Fax 814-455-8518  
Email [fti@finishthompson.com](mailto:fti@finishthompson.com) • [www.finishthompson.com](http://www.finishthompson.com)

**EU Declaration of Conformity**



Finish Thompson Inc. hereby declares that the following machine(s) fully comply with the applicable health and safety requirements as specified by the EC 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 EC Directives. The complete product complies with the provisions of the EC 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

**Models:**

BTS - 40  
HVDP LR-27/40/48  
PFP-15/27/40/48/60/72  
TBP-27/40/48  
STTS-40

EPPI/EPPS 15/27/40  
HVDP HR-27/40/28  
PFS-27/40/48/60/72  
TBS-40  
TMS-40

EFV/EFV/EFS-16/27/40/48  
PFM-27/40/48/60  
PFV-27/40/48/60/72  
TTC/TTS-27/40/48

**EC Directives:**

Machinery Safety (2006/42/EC)

**Applied Harmonized Standards:**

EN ISO 12100 Part 1  
EN ISO 12100 Part 2  
EN 809

Manufacturer:

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

Signed,

\_\_\_\_\_  
President

December 29, 2009

# TABLE OF CONTENTS

# TABLA DE CONTENIDO

Introduction.....	4
Warranty and Return Policy.....	4
Maintenance and Safety Precautions .....	5
PF Series - PFM/PFP/PFV/PFS Models.....	6
Assembly Drawing and Parts List	
TB Series - TBS Model.....	8
Assembly Drawing and PartsList	
TB Series - TBP Model.....	9
Assembly Drawing and PartsList	
TT Series - TTC/TTS Models.....	10
Assembly Drawing and Parts List	
TT Series - STTS Model.....	11
Assembly Drawing and Parts List	
TM Series - TMS Model.....	12
Assembly Drawing and Parts List	
BT Series - BTS Model.....	13
Assembly Drawing and Parts List	
Static Protection Kit Guidelines.....	14

Introducción .....	4
Garantía y Póliza de Devolución .....	4
Mantenimiento y Precauciones de Seguridad .....	5
Serie PF - Modelos PFM/PFP/PFV/PFS.....	6
Dibujo de Armadura y Lista de Partes	
Serie TB - Modelos TBS.....	8
Dibujo de Armadura y Lista de Partes	
Serie TB - Modelos TBP.....	9
Dibujo de Armadura y Lista de Partes	
Serie TT - Modelos TTC/TTS.....	10
Dibujo de Armadura y Lista de Partes	
Serie TT - Modelo STTS .....	11
Dibujo de Armadura y Lista de Partes	
Serie TM - Modelo TMS .....	12
Dibujo de Armadura y Lista de Partes	
Serie BT - Modelo BTS .....	13
Dibujo de Armadura y Lista de Partes	
Guías para el Equipo de Protección Estático .....	15

## INTRODUCTION

FTI has been an international designer and manufacturer of drum pumps and mixers for over twenty years. We make drum pump selection easy with our complete line of interchangeable motors and tubes. When properly installed and operated, your Finish Thompson drum pump or mixer will provide long, trouble free service.

## WARRANTY

Finish Thompson, Inc (manufacturer) warrants this product to be free of defects in materials and workmanship for a period of one year from date of purchase by original purchaser. If a warranted defect, which is determined by manufacturer's inspection, occurs within this period, it will be repaired or replaced at the manufacturer's option, provided (1) the product is submitted with proof of purchase date and (2) transportation charges are prepaid to the manufacturer. Liability under this warranty is expressly limited to repairing or replacing the product or parts thereof and is in lieu of any other warranties, either expressed or implied. This warranty does apply only to normal wear of the product or components. This warranty does not apply to products or parts broken due to, in whole or in part, accident, overload, abuse, chemical attack, tampering, or alteration. The manufacturer accepts no responsibility for product damage or personal injuries sustained when the product is modified in any way. If this warranty does not apply, the purchaser shall bear all cost for labor, material and transportation.

Manufacturer shall not be liable for incidental or consequential damages including, but not limited to process down time, transportation costs, costs associated with replacement or substitution products, labor costs, product installation or removal costs, or loss of profit. In any and all events, manufacturer's liability shall not exceed the purchase price of the product and/or accessories.

## RETURN POLICY

Should you have any problems with this product, please contact the distributor in your area. The distributor will then determine if a return to the factory is necessary and will contact the factory for a return authorization number.

## INTRODUCCIÓN

FTI ha sido diseñador y fabricante internacional de bombas de tambor y mezcladoras por más de veinte años. Hacemos selección de bombas de tambor fácil con nuestra línea completa de motores y tubos intercambiables. Cuando se instala y se maneja correctamente, su bomba de tambor o mezcladora Finish Thompson le dará servicio por un largo tiempo y sin problemas.

## GARANTÍA

Finish Thompson, Inc (el fabricante) garantiza este producto contra todo defecto de materiales y mano de obra durante un periodo de 365 días des de la fecha de adquisición por parte del comprador original. Si, dentro de este periodo, se detecta algún defecto cubierto por la garantía mediante una inspección del fabricante, éste se encargará de corregirlo, mediante reparación o sustitución, a su elección, siempre y cuando: (1) el producto le sea devuelto con algún comprobante de la fecha de compra y (2) a portes pagados. La responsabilidad de esta garantía se limita expresamente a la reparación o sustitución del producto o de partes del mismo, y sustituye a cualquier otra garantía expresa o implícita. Esta garantía sólo se aplica al desgaste del producto o de sus componentes derivado del uso normal. No es aplicable a productos o piezas cuya rotura se deba, en todo o en parte, a accidentes, sobrecargas, abusos, agresión química, manipulación o alteración. El fabricante declina toda responsabilidad por daños en el producto o lesiones personales que se produzcan después de modificar el producto en cualquier forma. Si el comprador no hace valer esta garantía, deberá asumir todos los gastos de mano de obra, material y transporte.

El fabricante no es responsable de los daños consecutivos o resultantes incluidos, aunque sin limitación, los relacionados con la parada de procesos, costes de transporte, costes asociados a la sustitución de productos, costes de mano de obra, costes de retirada o instalación de productos, o pérdida de beneficios. En cualquier caso, la responsabilidad del fabricante no sobrepasará el precio de compra del producto y/o los accesorios.

## PÓLIZA DE DEVOLUCIÓN

Si usted tiene cualquier problema con este producto, por favor póngase en contacto con el distribuidor en su area. Entonces el determinará si una devolución a la fábrica es necesaria y se pondrá en contacto con la fábrica para obtener un número de autorización de devolución.

## SAFETY PRECAUTIONS

**ALWAYS** wear protective clothing, eye protection and follow standard safety procedures when handling corrosive or personally harmful materials.

**NEVER** use a plastic pump or an open, splashproof or TEFC motors when pumping or mixing flammable or combustible material.

**ALWAYS** place pump or mixer in liquid before starting, make sure pump and hose are properly supported.

**NEVER** use in pressurized containers.

**ALWAYS** make sure pump or mixer is properly grounded when pumping or mixing flammable or combustible materials. Must use Static Protection Kit (refer to Page 14).

**ALWAYS** use protective gloves when handling TM Series mixers to prevent contact with hot surfaces.

**ALWAYS** use a chemically compatible hose rated for the temperature of the product being pumped.

## MAINTENANCE PRECAUTIONS

**ALWAYS** check compatibility and temperature range of pump with liquids used. A Chemical Resistance and Material Selection Guide can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com)

**NEVER** run dry.

**NEVER** use with liquids containing solids that can damage internals (i.e. metal chips) without optional strainer.

**ALWAYS** flush unit with water after each use.

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

**NEVER** run against a closed discharge for extended periods of time.

## PRECAUCIONES DE SEGURIDAD

**SIEMPRE** vista con ropa protectora, protección de ojo

**NUNCA** use una bomba de plástico o los motores abiertos, contra salpiqueos o TEFC cuando se bombea o se mezcla materiales combustibles o inflamables.

**SIEMPRE** ponga la bomba o la mezcladora en líquido antes de empezar.

**SIEMPRE** asegúrese que la bomba y la manguera estén correctamente sostenidas.

**NUNCA** uso en un envase presurizado.

**SIEMPRE** asegúrese que la bomba o mezcladora esté correctamente establecida cuando bombee o mezcle materiales combustibles o inflamables. Debe usar el Equipo de Protección Estático (refiarse a la pagina 15).

**SIEMPRE** use guantes protectivos cuando manipule mezcladoras de Serie TM para evitar contacto con superficies calientes.

**SIEMPRE** usa una manguera que es compatible con químicas e está tasada para la temperatura del producto que bombea.

## PRECAUCIONES DE MANTENIMIENTO

**SIEMPRE** Verifique la compatibilidad entre la bomba y los líquidos y el intervalo de temperatura. Si lo desea, descargue una Guía de Selección de materiales y Resistencia química en nuestra página web [www.finishthompson.com](http://www.finishthompson.com).

**NUNCA** No haga funcionar la bomba en seco.

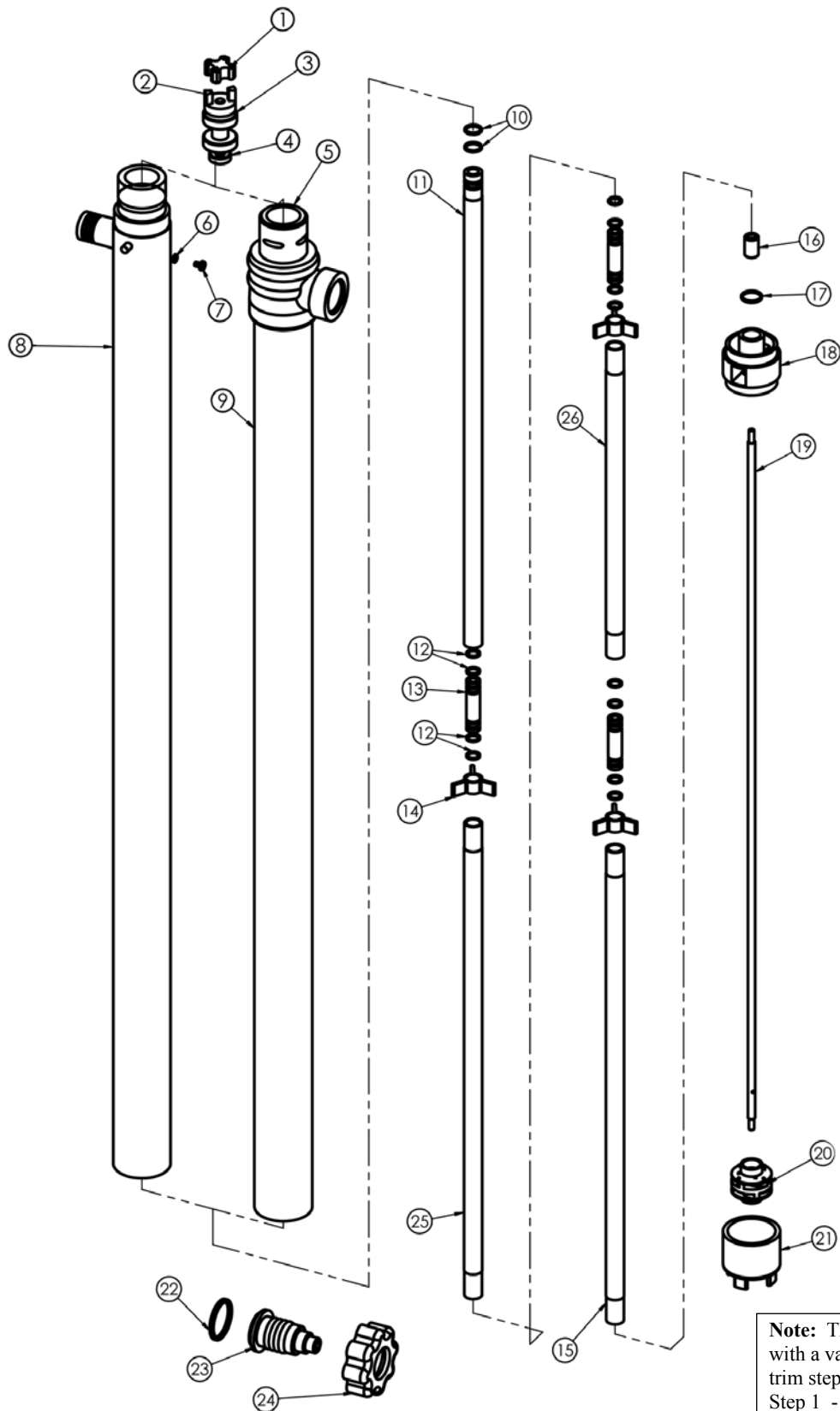
**NUNCA** No utilice la bomba con líquidos que contengan sólidos que puedan dañar las partes internas (por ejemplo, virutas metálicas) sin utilizar un filtro (opcional).

**SIEMPRE** Lave la bomba con agua después de cada uso.

**SIEMPRE** Almacene la unidad en posición vertical, es decir, con el motor sobre la bomba, y lejos de vapores y líquidos corrosivos

**NUNCA** funcione contra una descarga cerrada por períodos del tiempo extendidos.

# PF SERIES - PFM/PFP/PFV/PFS MODELS



**Note:** The PFM, PFP, and PFV ship with a variable orifice. To vary flow, trim steps:  
 Step 1 - restricts flow to 10 gpm.  
 Step 2 - 20 gpm  
 Step 3 - 30 gpm  
 Step 4 - maximum opening

Item	Description	Part Number		
		PFM/PFP (PolyPro)	PFV (PVDF)	PFS (SS)
1	Coupling Insert	J100014	J100014	J100014
2	Half Coupling	J100012	J100012	J100012
3*	Bearing Assembly	A101110	A101110	A101110
4*	PF Vapor Seal	M100008	M100008	M100008
5	PF Head	M100866-1	M100866-2	—
6	#8 Brass Lock Washer	—	—	J100823
7	#8-32 x 1/4 Pan HD M/S Brass	—	—	J100822
8	PFS 27 Intake Tube Assembly	—	—	A101725-1
"	PFS 40 Intake Tube Assembly	—	—	A101725-3
"	PFS 48 Intake Tube Assembly	—	—	A101725-4
"	PFS 60 Intake Tube Assembly	—	—	A101725-5
"	PFS 72 Intake Tube Assembly	—	—	A101725-6
9	PF 27 Intake Tube	M100005-1	M100005-5	—
"	PF 40 Intake Tube	M100005-3	M100005-6	—
"	PF 48 Intake Tube	M100005-4	M100005-7	—
"	PF 60 Intake Tube	M100005-8	M100005-12	—
"	PF 72 Intake Tube	M100005-11	M100005-10	—
10	Upper Inner Tube O-Ring	J100249	J100249	J100249
11	PF 27 Upper Inner Tube	M100050-1	M100050-5	M100786-1
"	PF 40 Upper Inner Tube	M100050-3	M100050-6	M100786-3
"	PF 48 Upper Inner Tube	M100050-4	M100050-7	M100786-4
"	PF 60 & PF 72 Upper Inner Tubes	M100050-3	M100050-6	M100786-3
12	Center Bearing O-Ring	J100018	J100018	J100018
13*	Center Bearing	M100010	M100010	M100010
14*	PF Bearing Guide	M101603-2	M101603-1	M101603-3
15	PF 27 Lower Inner Tube	M100003-1	M100003-5	M100789-1
"	PF 40 Lower Inner Tube	M100003-3	M100003-6	M100789-3
"	PF 48 Lower Inner Tube	M100003-4	M100003-7	M100789-4
"	PF 60 & PF 70 Lower Inner Tube	M100003-3	M100003-6	M100789-3
16*	Bottom Bearing	M100007	M100007	M100007
17	Impeller Housing O-Ring	J100019	J100019	J100019
18*	PF Impeller Housing	M100018-1	M100018-2	M101696
19**	PF 27 Main Shaft	M100004-1	M100004-1	M100004-5
"	PF 40 Main Shaft	M100004-3	M100004-3	M100004-7
"	PF 48 Main Shaft	M100004-4	M100004-4	M100004-8
"	PF 60 Main Shaft	M100004-9	M100004-9	M100004-12
"	PF 72 Main Shaft	M100004-11	M100004-11	M100004-13
20*	PF Impeller Assembly	A100002-2	A100002-2	A100002-3
21*	PF Housing Cover	M101612-1	M101612-2	M100726
22	Discharge O-Ring	J100991	J100991	—
23	PF Spout - 1" barb - standard	M100028-1	M100028-2	—
23	PF Spout - 3/4" barb - optional	105439-1	105439	—
23+	PF Spout - 1" MNPT - optional	106599	106599-1	—
24	PF Discharge Nut - standard	M101610-1	M101610-2	—
24+	PF Discharge Nut - optional	106622	106622-1	—
25	PF 60 & PF 72 Middle Inner Tube	M100003-3	M100003-6	M100789-3
26	PF 72 Lower Middle Inner Tube	M100003-1	M100003-5	M100789-1

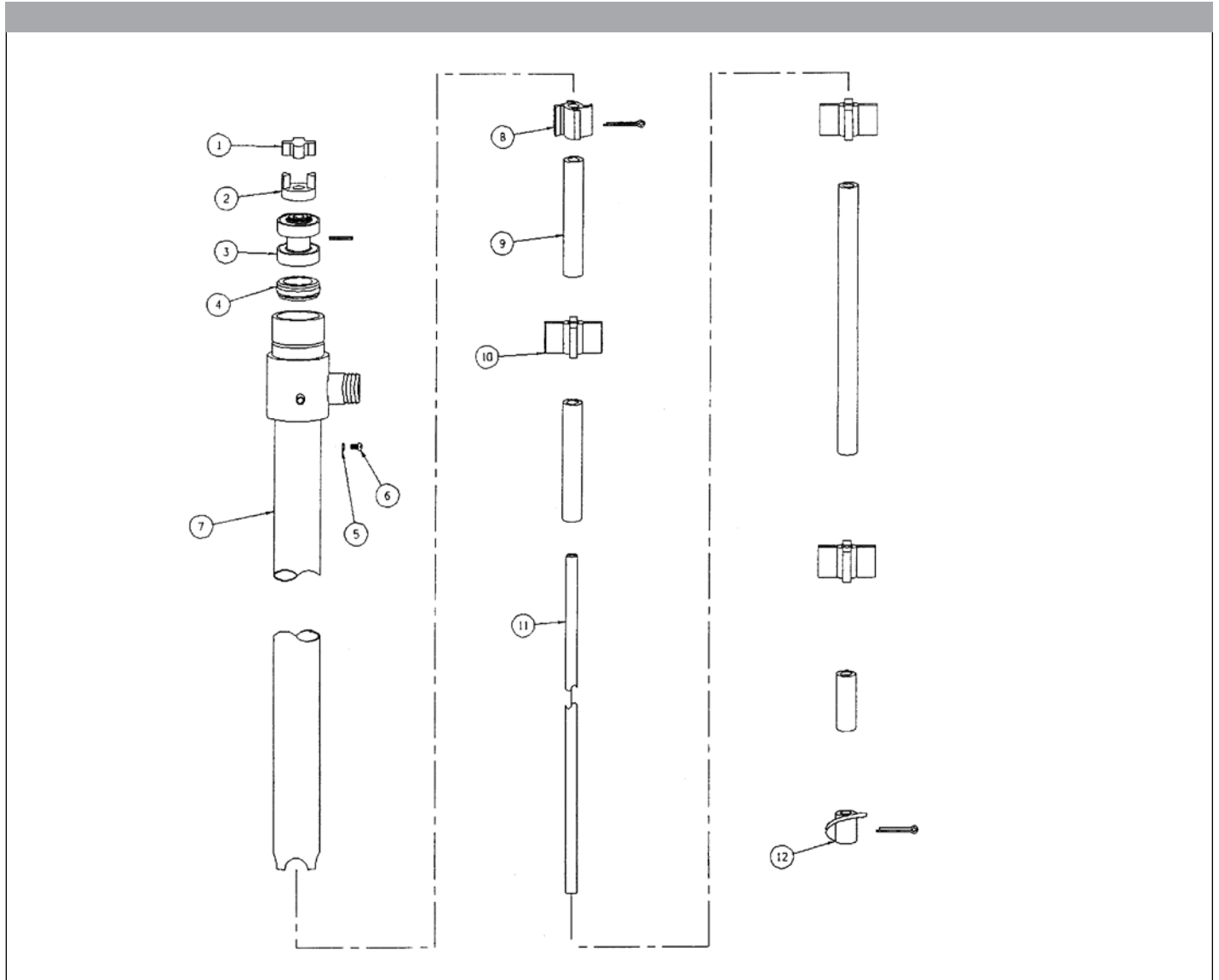
\* Recommended Spare Parts (PFS should not require items 18 & 21, but if replaced, they must be replaced together.) Bearing assembly (item 3) and vapor seal (item 4) can be purchased as a kit, P/N 106567.

\*\* For PFM main shaft, use part number for PFS main shaft.

+ Optional discharge nut must be used with 1" MNPT PF spout.

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

# TB SERIES - TBS MODELS

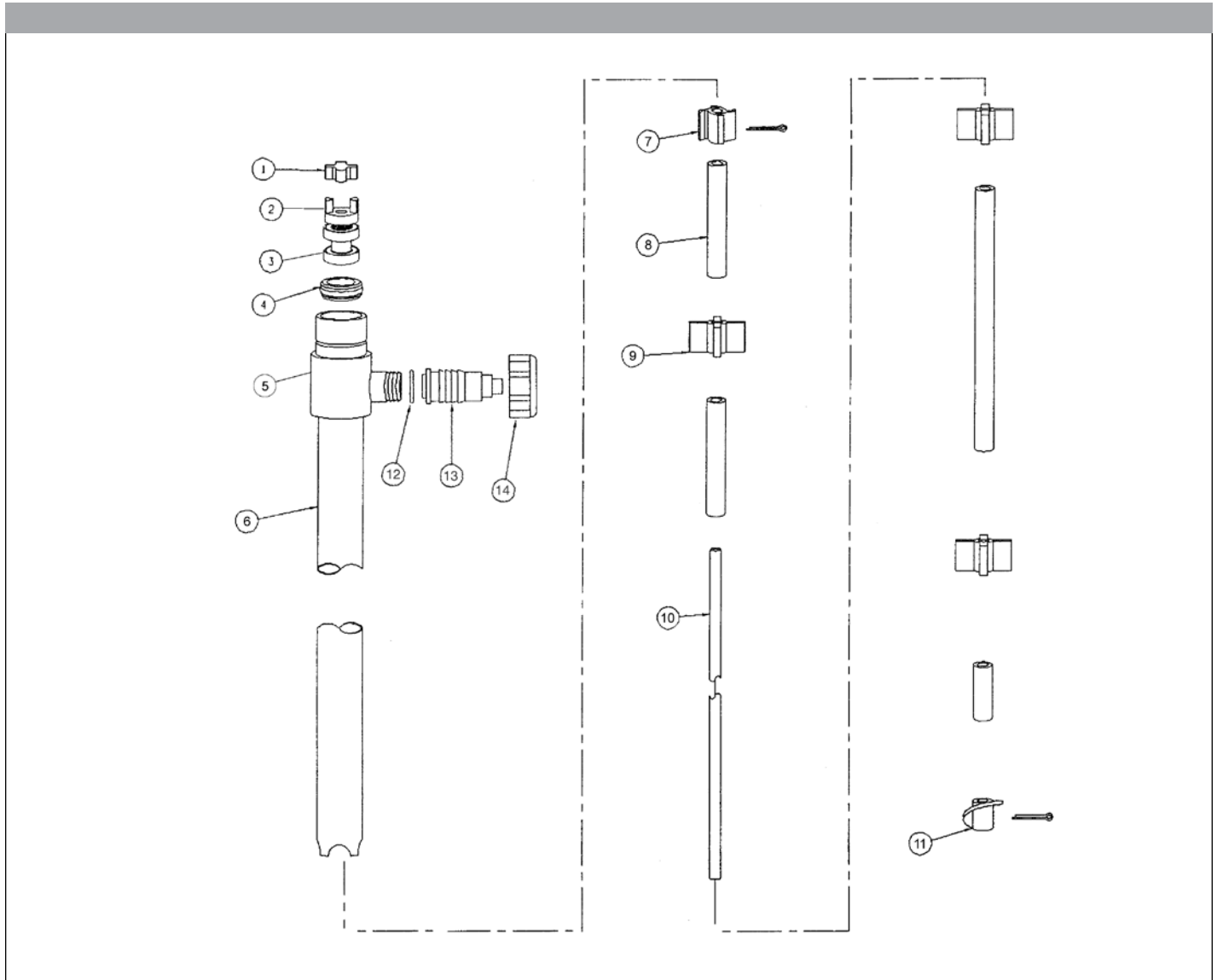


Item	Description	Part Number	Item	Description	Part Number
1	Coupling Insert	J100014	8	TBS Impeller Assembly w/SS Pin	A100030
2	Half Coupling	J100013	9	TB 40 Spacer Set	A100031-1
3*	Bearing Assembly	A101672	10*	Center Bearing	M100039
4*	Seal Assembly	A100284	11	TBS 40 Main Shaft	M100011-3
5	#8 Brass Lock Washer	J100823	12*	TBS Compressor w/SSTL Pin	A100033
6	#8-32 x 1/4 Pan HD Brass M/S	J100822			
7	TBS 40 Intake Tube Assembly	A100927-4			

\* Recommended Spare Parts

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

# TB SERIES - TBP MODEL



Item	Description	Part Number
1	Coupling Insert	J100014
2	Half Coupling	J100012
3*	Bearing Assembly w/ Roll Pin	A101110
4*	Seal Assembly	A103186
5	Pump Head	M102222
6	Intake Tube - 40"	M102221-2
6	Intake Tube - 27"	M102221-1
6	Intake Tube - 48"	M102221-3

Item	Description	Part Number
7	Impeller Assembly w/Hastelloy Pin	A103190
8	Spacer Set - 48"	A103189-3
8	Spacer Set - 40"	A103189-2
8	Spacer Set - 27"	A103189-1
9*	Center Bearing	M100039-1
10	Main Shaft - 48"	M102219-3
10	Main Shaft - 40"	M102219-2
10	Main Shaft - 27"	M102219-1
11	Compressor w/Hastelloy Pin	A103191
12	Discharge o-ring	J100991
13	Spout	106753
14	Discharge Nut	M101610-2

\* Recommended Spare Parts

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

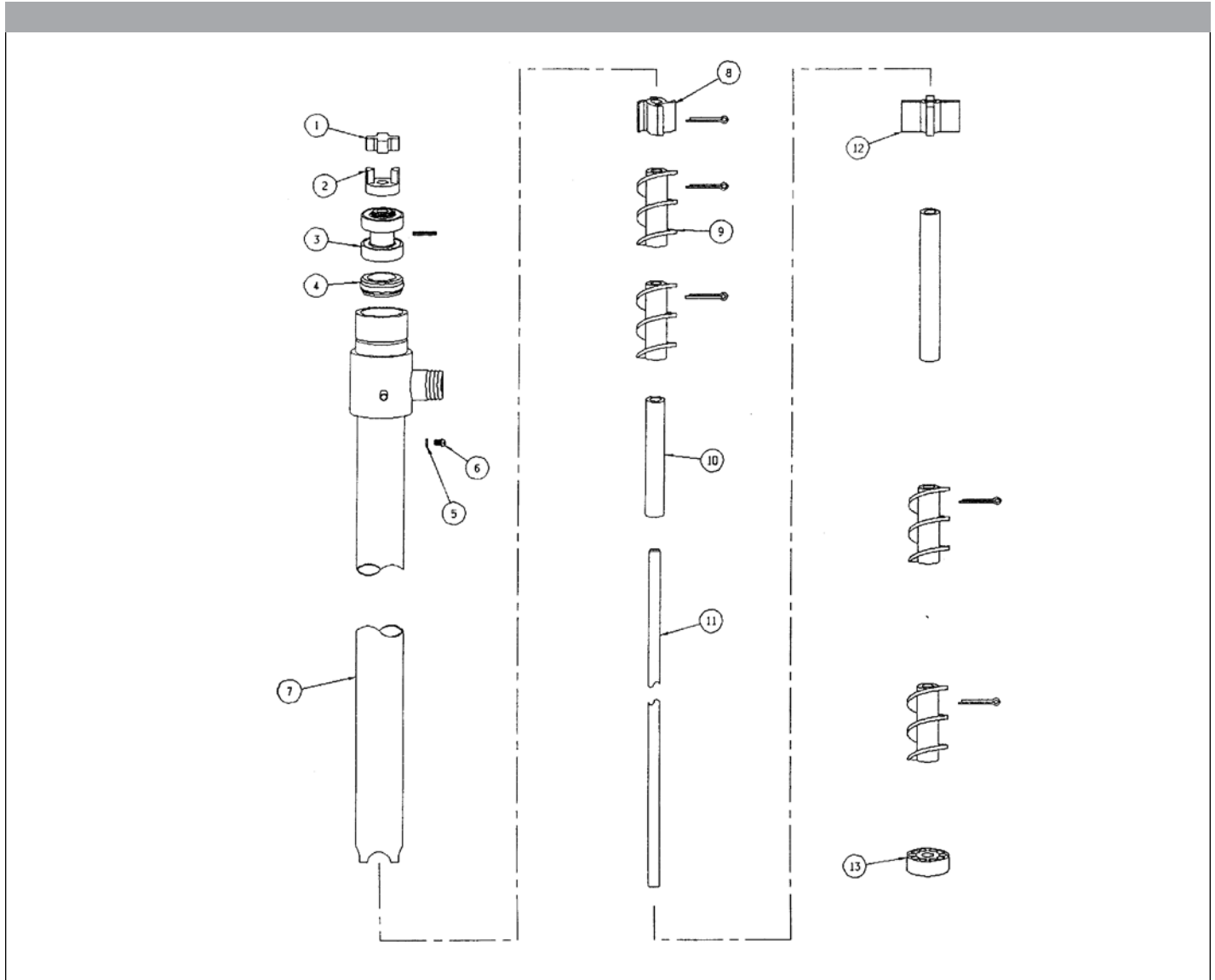
**NOTE:** The TBP ships with a variable orifice. To vary flow, trim steps.

Step 1 - 10 GPM - no trim required,

Step 2 - 15 GPM

Step 3 is the maximum opening

# TT SERIES - TTC/TTS MODELS



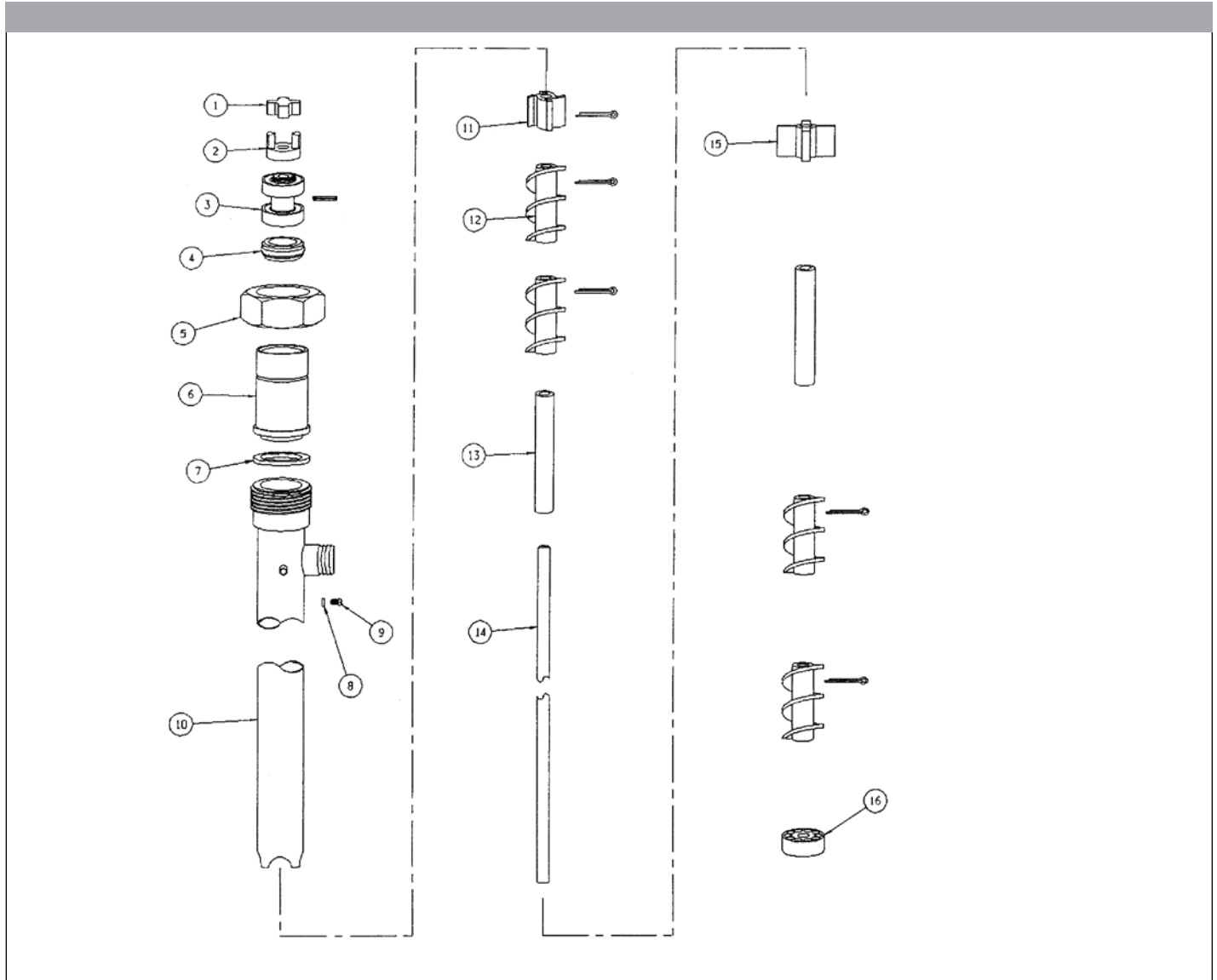
Item	Description	Part Number
1	Coupling Insert	J100014
2	Half Coupling	J100013
3*	Bearing Assembly w/Roll Pin	A101672
4*	Seal Assembly	A100284
5	#8 Brass Lock Washer	J100823
6	#8-32 x 1/4 Pan HD Brass M/S	J100822
7	TTS 27 Intake Tube Assembly	A100927-1
"	TTS 48 Intake Tube Assembly	A100927-3
"	TTC 27 Intake Tube Assembly	A100926-1
"	TTC 48 Intake Tube Assembly	A100926-3
"	TTC 40 Intake Tube Assembly	A100926-4
"	TTS 40 Intake Tube Assembly	A100927-4
8	TTS Impeller Assembly	A100030
"	TTC Impeller Assembly	A100039

Item	Description	Part Number
9*	TTS Compressor w/SSTL Pin	A100044
"	TTC Compressor w/Inconel Pin	A100325
10	TTC/TTS 40 Spacer Set	A100043-1
"	TTC/TTS 48 Spacer Set	A100043-2
11	TTS 27 Main Shaft	M100972-1
"	TTS 48 Main Shaft	M100972-3
"	TTC 27 Main Shaft	M100972-4
"	TTC 48 Main Shaft	M100972-6
"	TTS 40 Main Shaft	M100972-7
"	TTC 40 Main Shaft	M100972-8
12*	Center Bearing	M100039
13*	Bottom Bearing	M100047

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

\* Recommended Spare Parts

# TT SERIES - STTS MODEL SANITARY

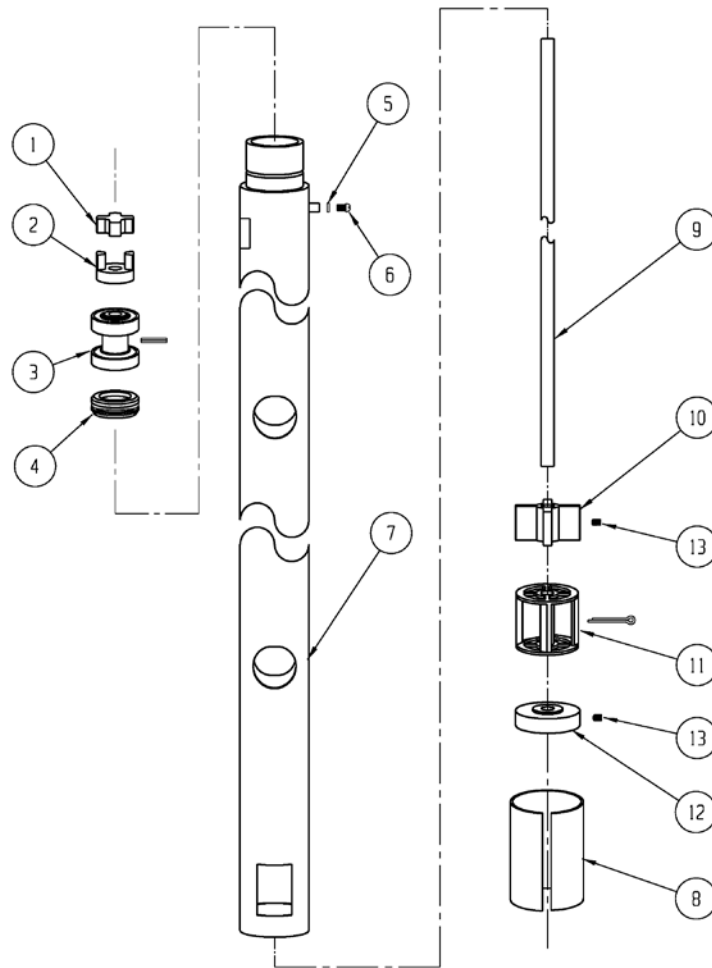


Item	Description	Part Number	Item	Description	Part Number
1	Coupling Insert	J100014	10	STTS 40 Intake Tube Assembly	A100080-1
2	Half Coupling	J100013	11	Impeller Assembly w/Pin	A101674
3*	Bearing Assembly w/Roll Pin	A101672	12*	Compressor w/SSTL Pin	A101673
4*	Seal Assembly	A100284	13	Spacer Set	A100043-1
5	SSTL Union Nut	J100083	14	STTS 40 Main Shaft	M100974-1
6	STTS Bearing Housing	M100078	15*	Center Bearing	M100039
7*	Union Nut Gasket	J100084	16*	Bottom Bearing	M100047
8	#8 Brass Lock Washer	J100823			
9	#8-32 x 1/4 Pan HD Brass M/S	J100822			

\* Recommended Spare Parts

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

# TM SERIES - TMS MODEL

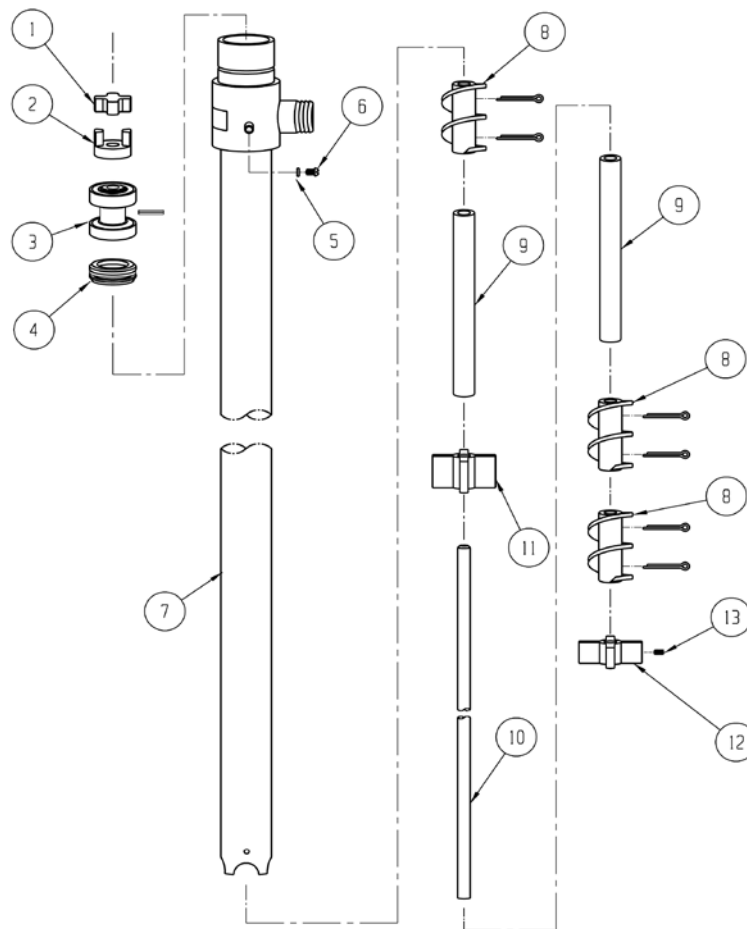


Item	Description	Part Number	Item	Description	Part Number
1	Coupling Insert	J100014	8	Sleeve	M100070
2	Half Coupling	J100013	9	TMS 40 Shaft	M100970-1
3*	Bearing Assembly w/Roll Pin	A101672	10*	Center Bearing	M100073
4*	Seal Assembly	A100284	11	Turbine Assembly w/SS Pin	A100070
5	#8 Brass Lock Washer	J100823	12*	Bottom Bearing	M100071
6	#8-32 x 1/4 Pan HD Brass M/S	J100822	13	#8-32 x 3/8 SSTL Set Screw	J100072
7	TMS 40 Tube Mixer Assembly	A101192-1			

\* Recommended Spare Parts

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

# BT SERIES - BTS MODEL

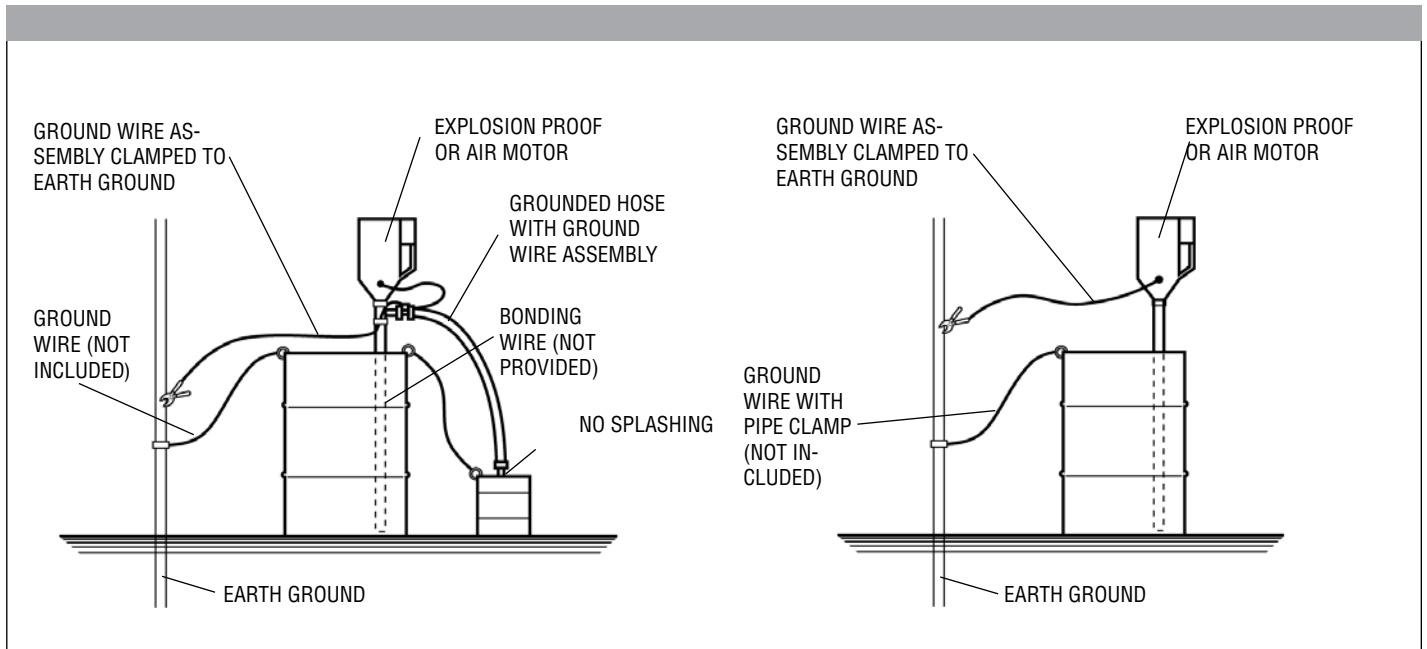


Item	Description	Part Number	Item	Description	Part Number
1	Coupling Insert	J100096	8*	Compressor w/SSTL Pin	A100092
2	Half Coupling	105595-1	9	Spacer Set	A100106
3*	Bearing Assembly w/Roll Pin	A101672	10	BTS 40 Main Shaft	M100083-1
4*	Seal Assembly	A100284	11*	Center Bearing	M100073
5	#8 Brass Lock Washer	J100823	12*	Bottom Bearing	M100084
6	#8-32 x 1/4 Pan HD Brass M/S	J100822	13	#8-32 x 3/8 SSTL Set Screw	J100072
7	BTS 40 Intake Tube Assembly	A100091-1			

\* Recommended Spare Parts

**Note:** Repair instructions can be downloaded from our web site at [www.finishthompson.com](http://www.finishthompson.com) or contact Technical Service at 1-800-888-3743.

# STATIC PROTECTION KIT



## DRUM PUMP INSTALLATION

1. Install the pump and Static Protection Kit as described and shown.
2. Connect ground wire assembly to earth ground using supplied clamp.
3. Connect ground wire between drum and earth ground.
4. Connect ground wire between receiving container and earth ground (or use bonding wire to connect to drum).

**⚠ CAUTION** - Check electrical continuity of all components before pumping. All should be one (1) ohm or less.

## TUBE MIXER INSTALLATION

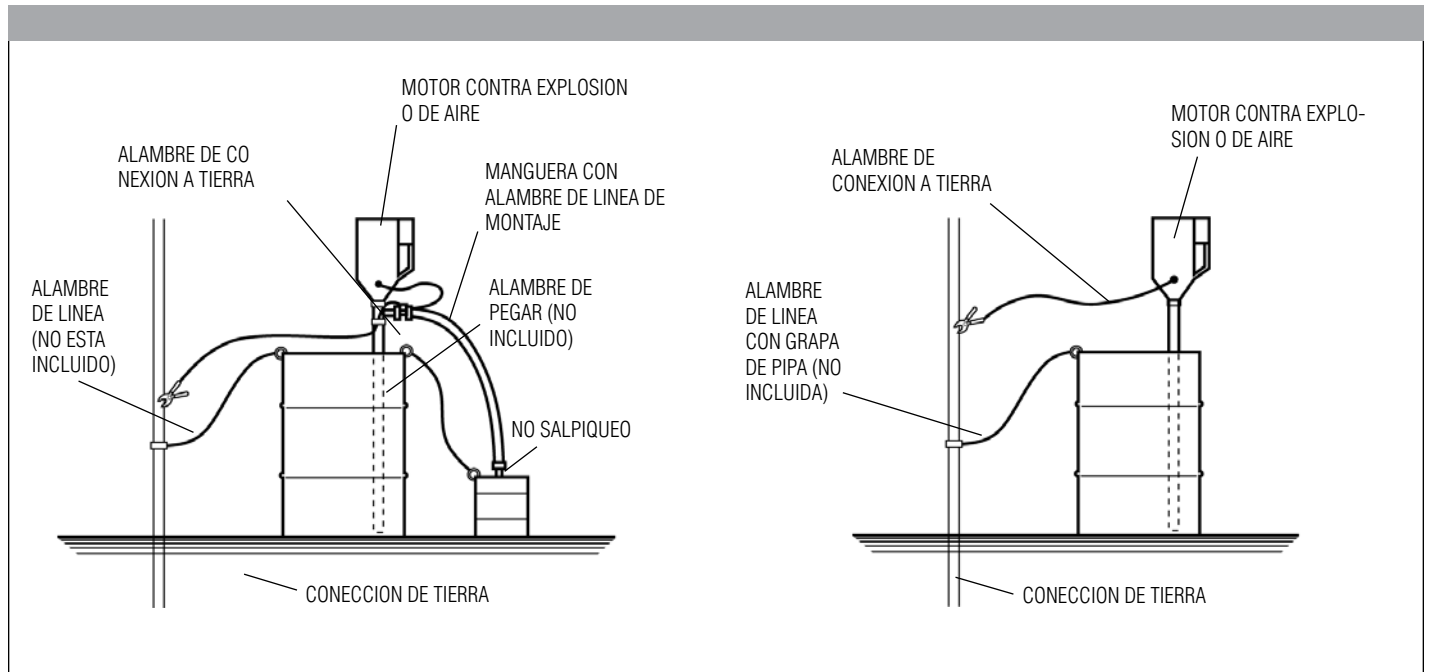
1. Install the mixer and Static Protection Kit as described and shown.
2. Connect ground wire assembly to earth ground using supplied clamp.
3. Connect ground wire between drum and earth ground.

**⚠ CAUTION** - Check electrical continuity of all components before pumping. All should be one (1) ohm or less.

## OPERATION AND SAFETY GUIDELINE

- Use only metallic pump tubes with explosionproof motors to transfer flammable or combustible liquids.
- Area for use must comply with NFPA 30 guidelines for safe storage and use of flammable and combustible liquids.
- All containers and other equipment must be metal and grounded.
- Follow NFPA 77 guidelines for control of static electricity.
- Avoid splashing. Splash filling can create static electricity and is extremely hazardous.
- Fluid velocity must be 3 feet/second maximum (7 GPM in 1" hose).

# EQUIPO DE PROTECCIÓN ESTÁTICO



## INSTALACIÓN DE LA BOMBA DE MOTOR

1. Instale la bomba y el Equipo de Protección Estático como se describe y se muestra.
2. Conecte el alambre a la conexión de tierra, usando la grapa que se le ha surtido.
3. Conecte el alambre de tierra entre el tambor y la conexión de tierra.
4. Conecte el alambre de tierra entre el recipiente receptor y la conexión de tierra (o use alambre de pegar para conectar al tambor).

**⚠ CUIDADO** - Revise la continuidad eléctrica de todos los componentes antes de bombear. Todos deben ser un (1) ohm o menos.

## INSTALACIÓN DEL MEZCLADOR

1. Instale la mezcladora y el Equipo de Protección Estático como se describe y se muestra.
2. Conecte el alambre a la conexión de tierra, usando la grapa que se le ha surtido.
3. Conecte el alambre de línea entre el tambor y la conexión de tierra.

**⚠ CUIDADO** - Revise la continuidad eléctrica de todos los componentes antes de bombear. Todos deben ser un (1) ohm o menos.

## GUIAS DE OPERACIÓN Y SEGURIDAD

- Use solamente tubos de bomba metálicos con motores contra explosivos para transferir líquidos combustibles o inflamables.
- El lugar de uso debe estar de acuerdo con las normas NFPA 30, para almacenar seguramente líquidos combustibles e inflamables.
- Todo recipiente y otro equipo debe ser de metal y conectado a tierra.
- Siga las guías NFPA 77 para el control de electricidad estática.
- Evite salpiquear. El llenar con salpiqueo puede crear electricidad estática y es extremadamente peligroso.
- La velocidad del fluido debe ser de 3 pies/segundo máximo (7 GPM en manguera de 1").



**FINISH THOMPSON INC.**

921 Greengarden Road • Erie, PA 16501-1591 U.S.A.  
Ph 814-455-4478 • Fax 814-455-8518  
Email [fti@finishthompson.com](mailto:fti@finishthompson.com) • [www.finishthompson.com](http://www.finishthompson.com)

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