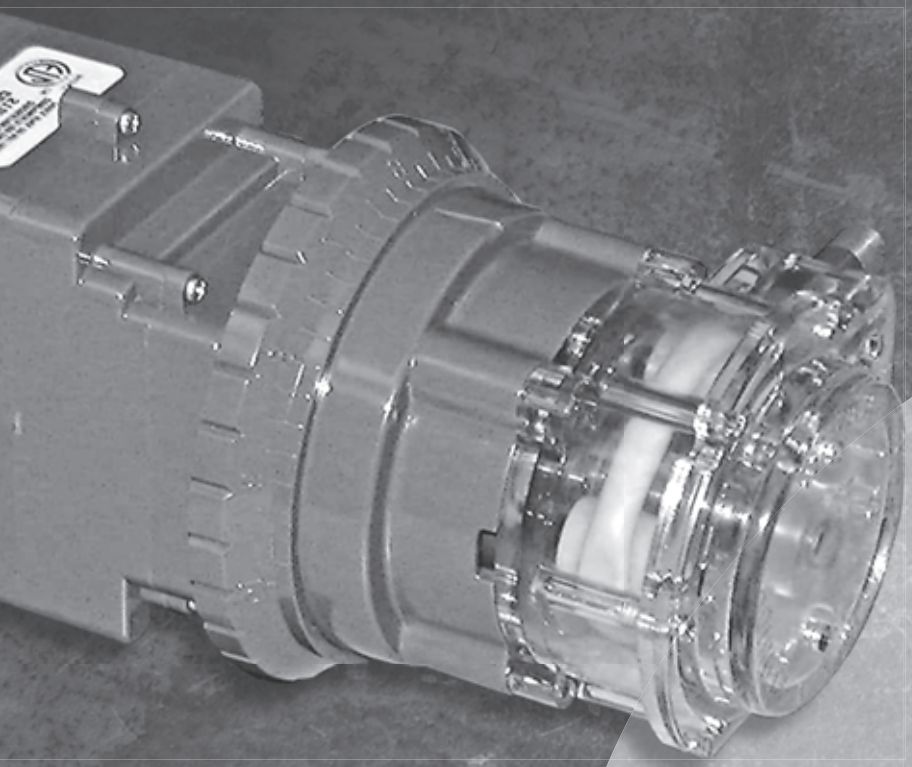
TYPHOON™
PERISTALTIC PUMPS

EOM
Engineering
Operation &
Maintenance

Enhance your process



Peristaltic Pumps

12 rpm to 45 rpm

WILDEN®
A DOVER COMPANY

CE

WIL-13050-E-01
Replaces EOM-AP 6/04

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SECTION 1

CAUTIONS - READ FIRST!

CAUTION: Risk of electrical shock. This pump is supplied with a grounding conductor and grounding type of attached plug. To reduce the risk of electrical shock, be certain that it is connected to a properly grounded grounding type electrical receptacle. This pump is intended for indoor use. TP26 and TP44 models are suitable for outdoor use ONLY when installed with a rain roof.

AVERTISSEMENT: Risque de choc électrique. Cette pompe est équipée d'une fiche de mise à terre. Pour réduire le risque de choc électrique, s'assurer que la fiche est bien raccordée à une prise de courant avec une connexion de mise à terre.

Cette pompe est prévue pour utilisation à l'intérieur.

CAUTION: This feeder and its components have been tested for use with the following chemicals: Sodium Hypochlorite (10-15% solution); Muratic Acid (20-22 Baume, 31.5% HCl); Soda Ash.

NOTE: Cette pompe de dosage et ses composants ont été testés pour utilisation avec les produits chimiques suivants; Hypochlorite de Sodium (solution de 10-15%); Acide Muriatique (20-22 Baume, 31.5% HCl); Cendre de Soude.

CAUTION: Mount pump in a dry location to avoid the risk of flooding the vent openings.

CAUTION: All feeders are portable and are designed to be readily removable from the plumbing system without damage to the connections. They are removable from the building structure without the use of tools.

CAUTION: Always wear safety glasses when installing, operating, or repairing Typhoon Peristaltic Series pumps.

CAUTION: Verify chemical compatibility of wetted components (i.e. tubes, hoses, etc.) with the fluid being pumped. Verify that fumes or vapors are compatible with non-wetted components (i.e. housing).

CAUTION: If you need to plumb the pump to hard piping, a minimum of 18" flexible tubing is required on the inlet and discharge sides to isolate the pump head.

CAUTION: Do not mount the feeder vertically with the motor pointing downward because chemical damage to the motor will occur in the event of leakage or tube rupture.

CAUTION: Do not mount the feeder on any flammable surface. Always use the mounting plate provided with each feeder.

CAUTION: Do not install the unit directly over the solution container. Chemical fumes can cause premature failure of the motor. Solution containers should be kept tightly covered.

CAUTION: CE certified pumps come standard with a rain roof, 6mm suction/discharge tubing, 6mm ferrules, either 230V 50Hz or 250V 50Hz motors, and utilize an CEE 7/7 plug.

CAUTION: Do not use PTFE tape to seal fittings and connections.

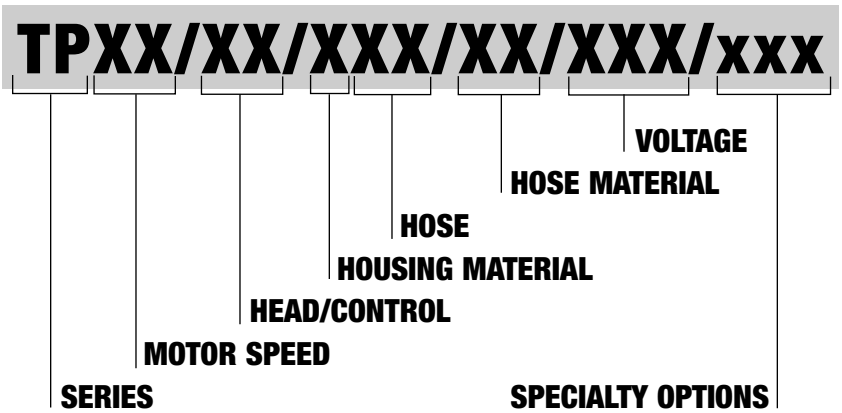
CAUTION: Do not mix chemicals in the solution tank while the feeder is running. Keep the suction line away from the bottom of the solution container to prevent residue pickup and possible clogging.

CAUTION: Do not operate the feeder before the chemical is completely in solution. Follow the chemical manufacturer's instructions for mixing.

CAUTION: Do not install the feeder in a way that will allow a possible cross connection of a non-potable water source to a potable water source.

Member of: Hydraulic INSTITUTE

SECTION 2
PUMP DESIGNATION SYSTEM



TYPHOON PERISTALTIC SERIES

TP = ACCU-PULSE™

MOTOR SPEED*

12 = 12 RPM (automatic)
26 = 26 RPM (black dial ring)
44 = 44 RPM (black dial ring)
45 = 45 RPM (automatic)

HEAD/CONTROL

SF = SINGLE HEAD FIXED CONTROL
SA = SINGLE HEAD ADJUSTABLE CONTROL
DF = DUAL HEAD FIXED CONTROL
DA = DUAL HEAD ADJUSTABLE CONTROL
DD = DUAL HEAD DUAL ADJUSTABLE CONTROL

HOUSING MATERIAL

E = POLYCARBONATE

HOSE

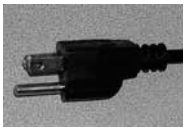
1L = HOSE #1 Low pressure 1.7 bar (25 psig) discharge pressure
2L = HOSE #2 Low pressure 1.7 bar (25 psig) discharge pressure
3L = HOSE #3 Low pressure 1.7 bar (25 psig) discharge pressure
4L = HOSE #4 Low pressure 1.7 bar (25 psig) discharge pressure
5L = HOSE #5 Low pressure 1.7 bar (25 psig) discharge pressure
1H = HOSE #1 High pressure 6.9 bar (100 psig) discharge pressure
2H = HOSE #2 High pressure 6.9 bar (100 psig) discharge pressure
7H = HOSE #7 High pressure 6.9 bar (100 psig) discharge pressure

HOSE MATERIAL

WF = WIL-FLEX™

VOLTAGE

110 = 110V w/ 3-prong plug
220 = 220V w/ 3-prong plug
230 = 230V 50Hz w/ CEE 7/7 plug
(CE certified AP26 and AP44)
250 = 250V 50Hz w/ CEE 7/7 plug
(CE certified AP26 and AP44)


3-Prong U.S. Plug


CEE 7/7 Plug

SPECIALTY OPTIONS**

24H = 24 Hour Timer
7DY = 7 Day Timer

NOTE: CE certified pumps come standard with a rain roof, suction/discharge tubing, 6 mm ferrules, either 230V 50Hz or 250V 50Hz motors, and use a CEE 7/7 plug.

NOTES
See page 3 for output range per hose & model
*TP26 (26 RPM) and TP44 (44 RPM) pumps utilize the same motor with different gears.
**Options for TP12 models only.

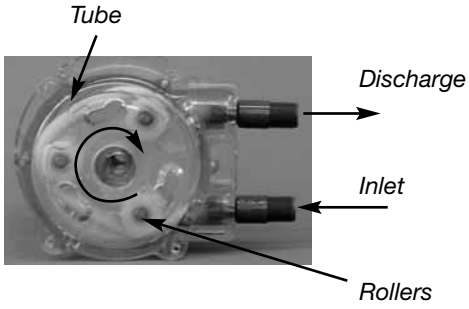
SECTION 3
PRODUCT OVERVIEW

Wilden's Typhoon™ peristaltic pumps are designed to offer precise dosing with unmatched reliability. Typhoon™ pumps are available with fixed flow rate pump heads and with single and dual adjustable pump heads. These pumps offer a patented, adjustable feed rate mechanism. Peristaltic pumps are unique in that output stays at a constant level despite large fluctuations in discharge pressure.

How It Works

Peristalsis occurs when the rotation of the rollers around the inside diameter of the tube housing compresses and dilates the pumping tube.

The Typhoon™ pump is a peristaltic metering pump (positive displacement type). Its motor, when running, turns its shaft at a constant RPM. The shaft is connected to the feed rate controller and pump head. The feed rate controller establishes the rotation of the pump roller assembly based on the location of the dial ring (manually set). The pump roller assembly is rotated which compresses the tube to the pump housing. Fluid is captured in the tube between rollers and is displaced as the rollers rotate.



Single Head - Fixed Control

Available on TP26 and TP44 pumps.

These pumps offer precise fixed-speed dosing of chemicals, based upon the pump rpm and the control settings for the pump.

Dual Head - Fixed Control

Available on TP26 and TP44 pumps.

These pumps come equipped with a dual head for fixed-speed dual chemical pumping or doubling your feed rate.

Dual Head - Dual Adjustable Control

Available on TP26 and TP44 pumps.

The output scale of each head is controlled independently. Feed rate can be doubled or dual chemicals can be pumped simultaneously.

Single Head - Dual Adjustable Control

Available on TP26 and TP44 pumps.

These single head units offer variable feed rate settings allowing chemical output to be scaled from 5% to 100% with a simple turn of a dial.

Dual Head - Adjustable Control

Available on TP26 and TP44 pumps.

These dual head units offer variable feed rate settings for adjustable dual chemical pumping or doubling your feed rate. This control mechanism controls the pump output scale of both heads.

NOTE: #7 HP hose cannot be utilized with dual head pumps. Use #1 HP or #2 HP hose for high pressure applications.

SECTION 4A

SPECIFICATIONS FOR TP26 AND TP44 SERIES

OUTPUT SPECIFICATIONS

Single Head Feeders: Series TP26SA & TP44SA

Output Charts in Gallons Per Day (GPD)*

Fixed rate units are available. Output of fixed rate unit will be the same as setting #10 for TP26SF & TP44SF Series

Series TP26SA - Low Pressure: 0 to 25 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP26SAE1L	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
TP26SAE2L	#2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
TP26SAE3L	#3	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
TP26SAE4L	#4	1.7	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0
TP26SAE5L	#5	2.5	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0
Series TP26SAHP - High Pressure: 0 to 100 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP26SAE1H	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
TP26SAE2H	#2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
TP26SAE7H	#7	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
Series TP44SA - Low Pressure: 0 to 25 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP44SAE1L	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
TP44SAE2L	#2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
TP44SAE3L	#3	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
TP44SAE4L	#4	3.0	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60.0
TP44SAE5L	#5	4.3	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0
Series TP44SAHP - High Pressure: 0 to 100 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP44SAE1H	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
TP44SAE2H	#2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
TP44SAE7H	#7	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0

Dual Head Dual Control Feeders:
Series TP26DD & TP44DD

Output Charts in Gallons Per Day (GPD)* for **Inside Feed Rate**

Feed Rate Control Settings: Numbers on the dial are at 10% increments; each graduation represents a 2.5% step. The Outside Head operates on a percentage of the Inside Head (close to motor). The output of the two heads is equal only on setting #10.

Determining Output: Use the chart to set the desired output for the Inside Head. This will be the Base Output of which the output of the Outside Head will be a percentage.

Example using TP26DD with H5 Hose: Inside head set on #4 - 20 GPD, Outside Head on #3 - 30% of 20 Gallons - 6 GPD. Both heads set on #10 - 50 GPD x 2 for a total of 100 GPD.

Series TP26DD - Low Pressure: 0 to 25 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
		NOTE: This chart is for the inside feed rate only. Use formula provided above to compute the outside feed rate output										
TP26DDE1L	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
TP26DDE2L	#2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
TP26DDE3L	#3	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
TP26DDE4L	#4	1.7	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0
TP26DDE5L	#5	2.5	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0
Series TP44DD - Low Pressure: 0 to 25 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
		NOTE: This chart is for the inside feed rate only. Use formula provided above to compute the outside feed rate output										
TP44DDE1L	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
TP44DDE2L	#2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
TP44DDE3L	#3	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
TP44DDE4L	#4	3.0	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60.0
TP44DDE5L	#5	4.3	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0
Series TP26DDHP - High Pressure: 0 to 100 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
		NOTE: This chart is for the inside feed rate only. Use formula provided above to compute the outside feed rate output										
TP26DDE1H	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
TP26DDE2H	#2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Series TP44DDHP - High Pressure: 0 to 100 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
		NOTE: This chart is for the inside feed rate only. Use formula provided above to compute the outside feed rate output										
TP44DDE1H	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
TP44DDE2H	#2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0

*DAY = 24-Hour Work Day

Double Head Feeders: Series TP26DA & TP44DA

Output Charts in Gallons Per Day (GPD)*

Fixed rate units are available. Output of fixed rate unit will be the same as setting #10 for TP26DF & TP44DF Series

Series TP26DA - Low Pressure: 0 to 25 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP26DAE1L	#1	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
TP26DAE2L	#2	1.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
TP26DAE3L	#3	2.2	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	44.0
TP26DAE4L	#4	3.5	7.0	14.0	21.0	28.0	35.0	42.0	49.0	56.0	63.0	70.0
TP26DAE5L	#5	5.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
Series TP26DAHP - High Pressure: 0 to 100 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP26DAE1H	#1	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
TP26DAE2H	#2	1.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
Series TP44DA - Low Pressure: 0 to 25 psig Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP44DAE1L	#1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
TP44DAE2L	#2	1.7	3.4	6.8	10.2	13.6	17.0	20.4	23.8	27.2	30.6	34.0
TP44DAE3L	#3	4.0	8.0	16.0	24.0	32.0	40.0	48.0	56.0	64.0	72.0	80.0
TP44DAE4L	#4	6.0	12.0	24.0	36.0	48.0	60.0	72.0	84.0	96.0	108.0	120.0
TP44DAE5L	#5	8.5	17.0	34.0	51.0	68.0	85.0	102.0	119.0	136.0	153.0	170.0
Series TP44DAHP - High Pressure: 0 to 100 psig Maximum Discharge Pressure												
Model	Tube Size	Feeder Setting: L	1	2	3	4	5	6	7	8	9	10
TP44DAE1H	#1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
TP44DAE2H	#2	1.7	3.4	6.8	10.2	13.6	17.0	20.4	23.8	27.2	30.6	34.0

Discharge Pressures	0-6.9 bar (0-100 psig)
Output Ranges	0.6-514.8 LPD 0.2-170 GPD
Voltages Available	120V AC 60Hz; 220V AC 60Hz 230V AC 50Hz *International* 250V AC 50Hz *International*
Amp Draw	1.70 120V AC, 0.9 220V AC, 230V AC, 250V AC
Motor RPM	26, 44
Horsepower	1/30 fractional
Connections Available	6 mm (1/4") or 10 mm 3/8")
Max. Operating Temperature	51°C (125°F)
Accessories Included	Suction/Discharge Tubing Spare Pump Tube Connecting Nuts Injection Fittings Ceramic Weight Ferrules Instructions

SECTION 4B
SPECIFICATIONS FOR TP12 SERIES

Typhoon™ TP12 Series pumps are available with either a 24 hour or 7 day timer option for metering and control. The TP12 pumps are available in single pumping head configuration only. Additional pumping heads may damage the pump head or motor assembly. The following chart details the flow range for each model with a variety of low-pressure and high-pressure tube options.

Model	Timer	Max. psig	Min. oz. event/hr	Max. oz. event/hr	Min. ml/ event/hr	Max. ml/ event/hr	Max. GPD
TP12/SF/E1L/WF/xxx/24H	24 hour	25	0.06	1.3	2	39	0.3
TP12/SF/E2L/WF/xxx/24H	24 hour	25	0.2	4.5	6	134	1
TP12/SF/E3L/WF/xxx/24H	24 hour	25	0.5	10	14	302	2
TP12/SF/E4L/WF/xxx/24H	24 hour	25	0.7	15	21	449	3
TP12/SF/E5L/WF/xxx/24H	24 hour	25	1	21	30	625	4
TP12/SF/E1H/WF/xxx/24H	24 hour	100	0.06	1.3	2	39	0.3
TP12/SF/E2H/WF/xxx/24H	24 hour	100	0.2	4.5	6	134	1
TP12/SF/E1L/WF/xxx/7DY	7 day	25	0.06	1.3	2	39	0.3
TP12/SF/E2L/WF/xxx/7DY	7 day	25	0.2	4.5	6	134	1
TP12/SF/E3L/WF/xxx/7DY	7 day	25	0.5	10	14	302	2
TP12/SF/E4L/WF/xxx/7DY	7 day	25	0.7	15	21	449	3
TP12/SF/E5L/WF/xxx/7DY	7 day	25	1	21	30	625	4
TP12/SF/E1H/WF/xxx/7DY	7 day	100	0.06	1.3	2	39	0.3
TP12/SF/E2H/WF/xxx/7DY	7 day	100	0.2	4.5	6	134	1

TP12 Series Pumps

Discharge Pressures .....0–6.9 bar (0–100 psig)
Output Ranges.....1.1–15.1 LPD
0.3–4.0 GPD
Dosing Event .....1–24 per day
Voltages Available .....120V AC 60Hz
Microprocessor .....Programmable timer with 9-volt battery backup for internal clock
Amp Draw .....1.20 maximum
Motor RPM 12
Horsepower .....1/30 fractional
Connections Available .....6 mm (1/4")
Max. OperatingTemperature ..51°C (125°F)

SECTION 4C
SPECIFICATIONS FOR TP45 SERIES

Typhoon™ TP45 pumps come standard with controls designed to work in conjunction with a 4-20 mA signal. This signal may come from a sensor in the process media or system, or from another, master control system programmed with system requirements. The TP45 pumps are available in single pumping head configuration only. Additional heads may damage the pump head or motor assembly. The following chart details the flow range for the TP45 pump with either low-pressure or high-pressure tube options.

Model	Controls	Max. psig	Max. LPD	Max. GPD
TP45/SF/E1H/WF/xxx	4-20 mA	100	18.9	5
TP45/SF/E2H/WF/xxx	4-20 mA	100	64.3	17
TP45/SF/E7H/WF/xxx	4-20 mA	100	151.4	40
TP45/SF/E3L/WF/xxx	4-20 mA	25	151.4	40
TP45/SF/E4L/WF/xxx	4-20 mA	25	227.1	60
TP45/SF/E5L/WF/xxx	4-20 mA	25	321.7	85

TP45 Series Pumps

Discharge Pressures .....0–6.9 bar (0–100 psig)
Output Ranges.....0.9–321.7 LPD
0.3–85.0 GPD
Turndown Ratio .....(variable speed)
20:1, approx. 5% to 100% in 1% increments
Voltages Available .....120V AC 50/60Hz,
220V AC 50/60Hz,
230V AC 50Hz
Amp Draw .....1.50 maximum
Motor RPM 45
Horsepower .....1/30 fractional
Connections Available .....6 mm (1/4") or 10 mm (3/8")
Input Signal .....48V DC,
4-20mA analog signal
Signal Loop Resistance.....128 Ohms
Max. Operating Temperature..51°C (125°F)

SECTION 5

TYPICAL INSTALLATION - TYPHOON™ SERIES

INSTALLATION AND MAINTENANCE

WARNING: Risk of electrical shock. This pump is supplied with a grounding conductor and grounding type of attached plug. To reduce the risk of electrical shock, be certain that it is connected to a properly grounded grounding type electrical receptacle. This pump is intended for indoor use. TP26 and TP44 models are suitable for outdoor use ONLY when installed with a rain roof.

AVERTISSEMENT: Risque de choc électrique. Cette pompe est équipée d'une fiche de mise à terre. Pour réduire le risque de choc électrique, s'assurer que la fiche est bien raccordée à une prise de courant avec une connexion de mise à terre. Cette pompe est prévue pour utilisation àl'intérieur.

NOTE: This feeder and its components have been tested for use with the following chemicals: Sodium Hypochlorite (10-15% solution); Muratic Acid (20-22 Baume, 31.5% HCl); Soda Ash.

NOTE: Cette pompe de dosage et ses composants ont été testés pour utilisation avec les produits chimiques suivants; Hypochlorite de Sodium (solution de 10-15%); Acide Muriatique (20-22 Baume, 31.5% HCl); Cendre de Soude.

- Remove accessories and maintenance manual - DO NOT DISCARD - to verify all parts have been received.
- Remove feeder from box verifying model number and voltage requirement.
- Install base bracket to wall using the center line wall mounting holes. Slide feeder into bracket, pumping head down, or mount horizontally.
- Measure distance to determine the length of line needed on the suction and discharge sides.
- Separate all accessory parts.

- DO
- **Do Not**

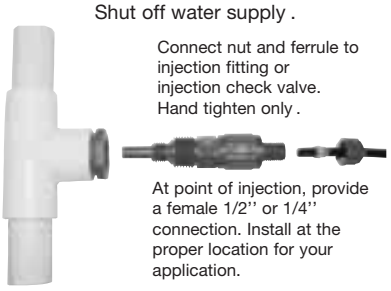
Motor

- Mount pump in a dry location to avoid the risk of flooding the vent openings.
- Use a rain roof to prevent damage in outside applications.
- Connect the feeder to electrical outlet.
- **DO NOT** mount the feeder vertically with the motor pointing downward because chemical damage to the motor will occur in the event of leakage or tube rupture.
- **DO NOT** install the unit directly over the solution container. Chemical fumes can cause premature failure of the motor. Solution containers should be kept tightly covered.
- **DO NOT** mount the feeder on any flammable surface. Always use the mounting plate provided with each feeder.

Discharge Side

Shut off water supply .

Connect nut and ferrule to injection fitting or injection check valve. Hand tighten only .

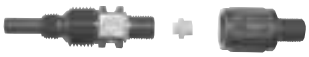


At point of injection, provide a female 1/2'' or 1/4'' connection. Install at the proper location for your application.

To prevent leaks, all the ferrules must be installed as illustrated.

Cut suction/discharge tubing to desired length with enough slack to avoid kinks.

Connect nut, ferrule and discharge tubing to the discharge side of the pump head (labeled out on cover of head). Finger tight only . Do not use thread seal tape.



Note: The use of an injection check valve as shown above is required in all high-pressure applications (26 to 100 psig - 1.73 to 6.9 bar).

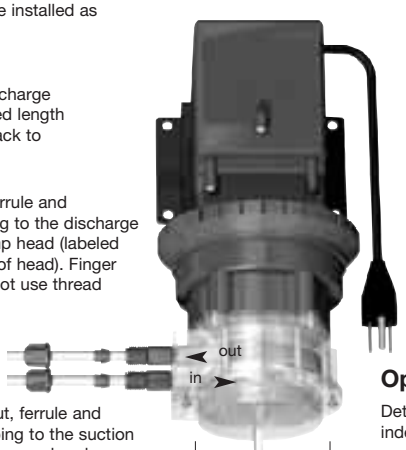
Immerse in Solution Tank.

Suction Side

Run the suction tubing to the solution tank. Allow for some slack in the tube to avoid kinks.

Measure the suction tubing on outside of solution tank to ensure it will be 2-3" from the bottom of the tank. Do not allow weight to sit at the bottom of the tank.

Always use rain roof for outdoor use or if metering pump is subject to washdown.



Connect nut, ferrule and suction tubing to the suction side of the pump head (labeled in on cover of head). Hand tighten only. Do not use thread seal tape.

Correct Mounting Position

Plugging In

Check voltage of the outlet vs. voltage requirement of metering pump with a voltage meter .

Turn pump on and set feed rate dial to desired GPD. Refer to the output chart of your specific model number .

Plug into a grounded power source.

Optional Spill Recovery

Detach cover. Punch out one of the indented holes with a 7/32" punch.

Insert a length of 1/4" suction/discharge tubing into the newly created hole and place the other end back into the solution tank.

Chemicals will drain back into solution tank reducing spillage.

NOTE: Output @ 25 psig = same @ 100 psig

NOTE: PTFE tape should only be used on the NPT side of the injection fitting. Do not use PTFE tape on the main feeder tube fittings (ferrule type).

NOTE: If you need to plumb the pump to hard piping, a minimum of 18" of flexible tubing is required on the inlet.

SECTION 6A

OPERATION - TP26 AND TP44 SERIES PUMPS

The TP26 and TP44 series of chemical dosing pumps is offered with either a 26- or 44 RPM electric motor, fixed or adjustable feed rate settings, and single (SA/SF) or dual tube housing assemblies (DA/DF/DD).

For best results, mount pump in a dry location to avoid the risk of flooding the vent openings. For outside applications, use a rain roof to prevent damage to motor. Connect feeder to electrical output. Upon inspection of all liquid lines, switch toggle switch located on the back of the motor to power unit.

Pump discharge rate can be controlled by adjusting the manual control (dial) on all models equipped with the variable feed rate controller. This feature allows scaled output from 5% to 100%. Each graduation on the dial represents a 2.5% step. Use the chart in Section 4 to select the desired output for the pump head. (See below for determining output for dual head dual control units.) **NOTE:** Flow rate is not altered by a change in discharge pressure, as long as this pressure is below the rated output of the tube installed in the feeder.

INSPECTIONS: Periodic inspections have been found to offer the best means for preventing unscheduled pump downtime. Personnel familiar with the pump's construction and service should be informed of any abnormalities that are detected during operation.

RECORDS: When service is required, a record should be made of all necessary repairs and replacements. Over a period of time, such records can become a valuable tool for predicting and preventing future maintenance problems and unscheduled downtime. In addition, accurate records make it possible to identify pumps that are poorly suited to their applications.

Determining Output for Dual Head Dual Control Models:

The outside head operates on a percentage of the inside head (close to motor). The output of the two heads is equal only on setting #10.

Use the chart in Section 4 to select the desired output for the inside head. This will be the Primary Output.

The outside head's output will be a percentage of this amount.

Example Using TP26DDE5L:

Inside head setting 4 = 20 GPD (60.6 LPD)
Outside head set on 3 = 30% of primary output

for 20 Gallons = 6 GPD
for 60.6 liters = 18.18 LPD

Both heads set on 10 =
50 GPD x 2 for a combined total of 100 GPD
151.40 LPD x 2 for a combined total of 302.80 LPD

Feed Rate Control Settings:
Numbers on the dial are at 10% increments.

Each graduation represents a 2.5% step.

TROUBLESHOOTING - TP26 AND TP44 SERIES PUMPS

PROBLEM	POSSIBLE CAUSE (underlined) & CORRECTION
Motor Screeching or grinding	**IMPORTANT:** If the motor locks up it can: • melt the plastic coil supports in the gearcase housing • melt the fan Worn ball bearings. The sealed ball bearings should spin freely, if it feels like sand is in them, they could bind up. Replace ball bearing assembly.
Feed Rate Control Won't adjust or stuck on one setting Dragging or ratcheting sound	Variable cam might be broken or chemically damaged, or 90° bend has pulled out of the dial ring. Replace variable cam if needed, or re-insert the 90° bend into dial ring boss (hole). Index pin is stuck. Clean the index pin holder of any debris. Re-grease index pin and index pin spring with grease. Variable cam and/or lifter worn. Replace variable cam following directions on back of package. Replace index pin lifter. Holes in index plate are elongated from wear. Replace index plate. **NOTE:** Before re-assembling, always use grease to lubricate the output shaft (on motor), the main shaft (before inserting into roller assembly), the brass spider (on bottom of spider, before placing on top of index plate), and the index pin & spring.
Tube Leaking	**IMPORTANT**: A leaking tube damages the feeder. Inspect the feeder frequently for leakage and wear, and to be sure the tube is properly centered. Tube might be worn or ruptured. Replace the tube following the directions on the back of the package and in the Installation & Maintenance manual. Ferrules must be used in connections and changed every time a tube is changed. Tube not centered and rubs against roller assembly. Replace tube (see instructions for installing & centering). Do not use tools. Tube ruptures because back pressure exceeds psig rating. Replace tube. Check injection point, check valve duckbill and lead tubes for blockage. **NOTE:** The carrier part of the tube (between the two active rollers pressing on inner wall of housing) will have an angular, diamond-like shape if the tube is worn out or if psig rating is exceeded. Normal shape is smooth, like a water drop.
Motor Screeching or grinding	Empty solution tank. Typhoon™ feeders can run dry; fill solution tank and feeder will resume pumping. Suction line above chemical line. Use clay weight (included in accessory kit) to prevent suction line from floating to the top of the solution tank. Cracks. Any cracks in the tube housing will deter proper pumping and wear the tubing. Replace tube and any cracked component of tube Lack of output housing: roller assembly, housing, and tube housing cover. Clogged injection point, lead tube or check valve. Clean and replace as necessary. Injection point is in the wrong location. Injection point should be located after filters and pumps. Worn or ruptured tube. Replace and properly center tube.

SECTION 6B

OPERATION - TP12 SERIES PUMP

The TP12 series chemical dosing pumps are offered with a 12 RPM motor and a single fixed-head tube housing assembly.

For best results, mount the pump in a dry location to avoid the risk of flooding the vent openings. Never connect feeder to electrical output until programmed. Upon inspection of all liquid lines, set the internal timer switches to the proper discharge output rates based upon the tube size and pressure. Set the current time for the controller to ensure unit starts and stops as required (see below for instructions). Turn power on.

Pump discharge rates can be controlled using the internal toggle switches to determine time and volume. Each toggle switch is given a time value based upon the 24-hour or 7-day timer unit installed. For the 24 hour timer model, each switch represents an hour of the day for the unit to discharge. **NOTE**: Flow rates are not altered by a change in discharge head pressure, as long as this pressure is below the rated output of the tube installed in the feeder.

INSPECTIONS: Periodic inspections have been found to offer the best means for preventing unscheduled pump downtime. Personnel familiar with the pump's construction and service should be informed of any abnormalities that are detected during operation.

RECORDS: When service is required, a record should be made of all necessary repairs and replacements. Over a period of time, such records can become a valuable tool for predicting and preventing future maintenance problems and unscheduled downtime. In addition, accurate records make it possible to identify pumps that are poorly suited to their applications.

DANGER: RISK OF ELECTRICAL SHOCK. All settings must be performed with the unit unplugged. Always disconnect power cord prior to removing cover.

WARNING: All TP12 series metering pumps are equipped with a safety interlock switch, ensuring that all of the electrical supply is disconnected from the timer board in the event the cover is removed without unplugging unit. **DO NOT** tamper or alter this switch in any way. Failure to follow this warning will void the product warranty and possibly result in personal injury or property damage.

WARNING: The electrical components of the TP12 series pumps are not user serviceable. Consult the factory for repair or a list of authorized Stenner repair facilities. The plug end of the power cord should never be removed or modified. Failure to follow this warning will void the product warranty and possibly result in personal injury or property damage.

Model Number	Timer	Max. psig	Min. oz event/hour	Max. oz event/hour	Min. ml per event/hour	Max. ml per event/hour	Max. GPD
TP12/SF/E1L/WF/XXX/24H	24 hour	25	0.06	1.3	2.0	39.0	0.3
TP12/SF/E2L/WF/XXX/24H	24 hour	25	0.20	4.5	6.0	134.0	1.0
TP12/SF/E3L/WF/XXX/24H	24 hour	25	0.50	10.0	14.0	302.0	2.0
TP12/SF/E4L/WF/XXX/24H	24 hour	25	0.70	15.0	21.0	449.0	3.0
TP12/SF/E5L/WF/XXX/24H	24 hour	25	1.00	21.0	30.0	625.0	4.0
TP12/SF/E1H/WF/XXX/24H	24 hour	100	0.06	1.3	2.0	39.0	0.3
TP12/SF/E2H/WF/XXX/24H	24 hour	100	0.20	4.5	6.0	134.0	1.0
TP12/SF/E1L/WF/XXX/7DY	7 day	25	0.06	1.3	2.0	39.0	0.3
TP12/SF/E2L/WF/XXX/7DY	7 day	25	0.20	4.5	6.0	134.0	1.0
TP12/SF/E3L/WF/XXX/7DY	7 day	25	0.50	10.0	14.0	302.0	2.0
TP12/SF/E4L/WF/XXX/7DY	7 day	25	0.70	15.0	21.0	449.0	3.0
TP12/SF/E5L/WF/XXX/7DY	7 day	25	1.00	21.0	30.0	625.0	4.0
TP12/SF/E1H/WF/XXX/7DY	7 day	100	0.06	1.3	2.0	39.0	0.3
TP12/SF/E2H/WF/XXX/7DY	7 day	100	0.20	4.5	6.0	134.0	1.0

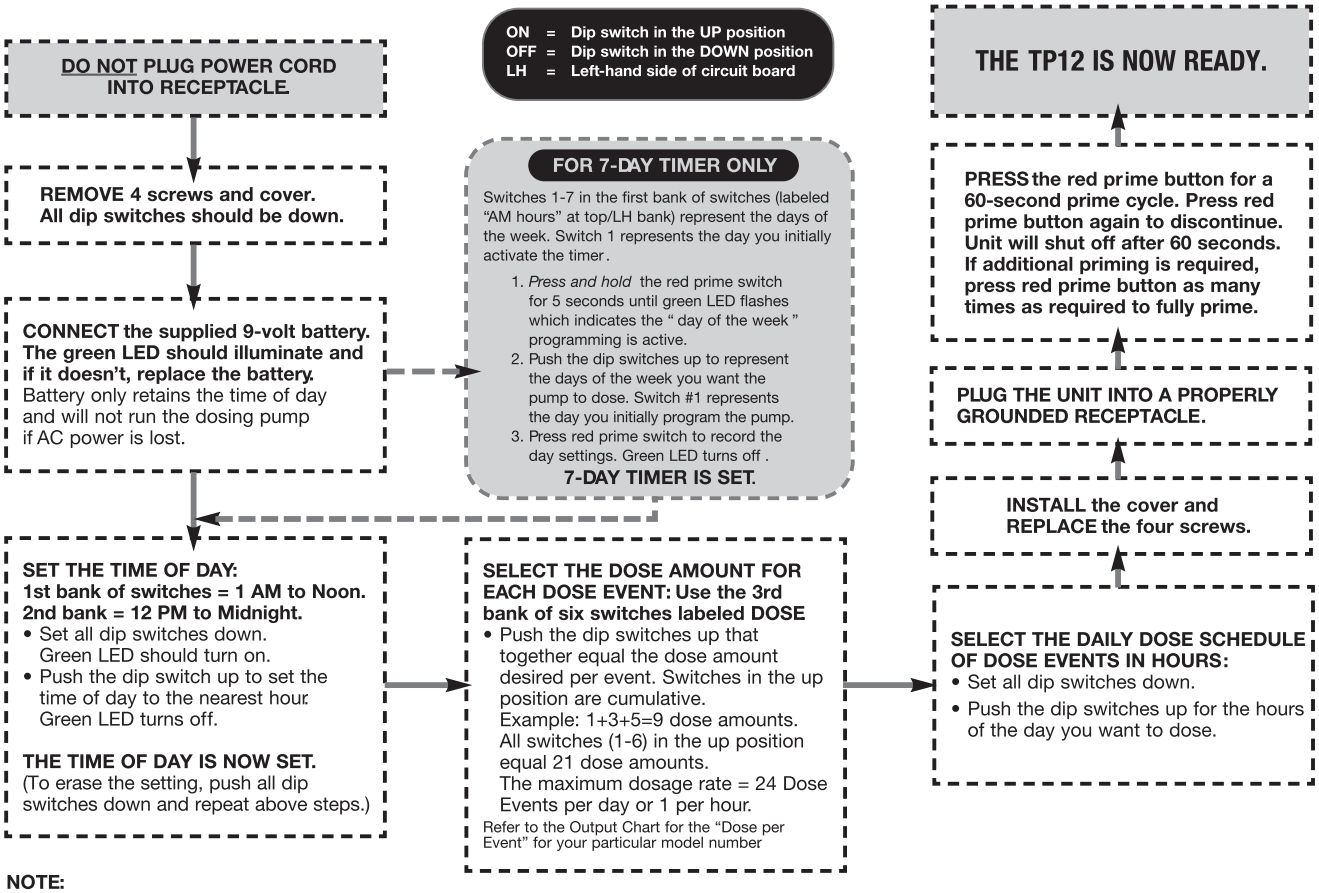
Manufacturer recommends periodic inspection of the pump and a regular tube change schedule to prevent chemical damage to pump or chemical spillage. Precautions to any possible electrical surges/lightning strikes, and water intrusion are recommended and will help to prevent damage to the electronics. The use of a GFIC is recommended.

SET-UP/FUNCTION DEFINITIONS

- **Dose Day** – A day of the week represented by a dip switch (#1-7) equal to the day the timer is originally programmed (Initial Setup=Day 1). *Dose Day* is used ONLY for applications requiring the 7-day timer.
- **Dose Event** – The dose episode represented by the dip switch that corresponds with the hour of the day.
- **Daily Dose Schedule** – The hour of the day *(Dose Event)* that a dose is required to be dispensed.
- **Dose Amount** – The total volume output programmed per event. The dose amount is dispensed according to the *Dose Event* schedule.

Refer to the Output Chart for the dose amount and dose event for your particular model number.

TP12 SERIES PROGRAMMING INSTRUCTIONS: 7-DAY AND 24-HOUR TIMER



NOTE:

- **7-Day Timer Model:** If also used for everyday dosing, first set all days of the week to ON and the unit will function like the 24-hour model. If AC power is lost and battery backup fails, the unit will default to Off state when power is reapplied. Unplug the unit, replace the battery and reprogram all settings.
- **24-Hour Model:** Disregard 7-day timer programming steps. If AC power is lost and battery backup fails, when power is restored the time of day will default to 12 PM and the pump will resume the dose schedule and dose amounts. If the dose schedule needs to match the actual time of day, unplug the unit, replace the battery and reprogram all settings.

SECTION 6C
OPERATION - TP45 SERIES PUMP

The TP45 series chemical dosing pumps are offered with a 45 RPM motor and a single fixed-head tube housing assembly.

For best results, mount the pump is a dry location to avoid the risk of flooding the vent openings. For outside applications, ensure the pump is mounted under some form of overhang to prevent damage to the motor. Connect feeder to electrical supply. Turn power on. Upon inspection of all liquid lines, connect input signal wires and program unit for required flow rates (see below for instructions).

Pump discharge rates can be controlled using the LED panel located on top of the unit. The TP45 can be programmed for a varying flow ranging from 5% to 100% of the flow capabilities of the tube installed in the feeder. This varying flow can be set in increments of 1%. **NOTE**: Flow rates are not altered by a change in discharge head pressure, as long as this pressure is below the rated output of the tube installed in the feeder.

INSPECTIONS: Periodic inspections have been found to offer the best means for preventing unscheduled pump downtime. Personnel familiar with the pump's construction and service should be informed of any abnormalities that are detected during operation.

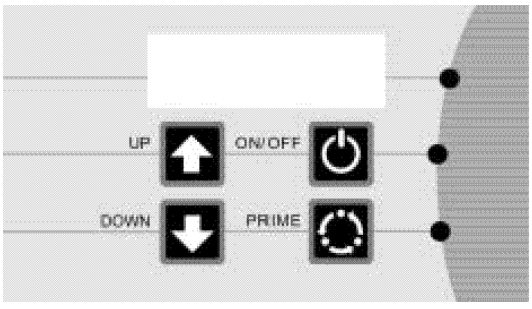
RECORDS: When service is required, a record should be made of all necessary repairs and replacements. Over a period of time, such records can become a valuable tool for predicting and preventing future maintenance problems and unscheduled downtime. In addition, accurate records make it possible to identify pumps that are poorly suited to their applications.

1. Depress the On-Off button located on the keypad to verify the unit has input power. Red LED display will light up when supply voltage is present and unit is turned **ON**. **AP45 Models skip step 2, proceed to step 3.**

   AP45 MODELS – The metering pump can be incremented up and down through the available speed range using the keypad located on the top of the pump.

2. Depress the On-Off button again to turn the metering pump off.

3. To change the mode of operation to **Automatic Mode** (4-20 mA operation) simultaneously depress both the up and down keys and hold for two seconds. The mode of operation will change and be indicated by a small LED dot located at the left side of the display. Any settings entered in the variable speed mode will remain in memory.



4. Depress On-Off button again to turn the metering pump off.

5. **TP45 Models** – If using the **Automatic Mode** of operation (4-20 mA DC analog signal), plug the supplied input signal connector to the corresponding receptacle located on the front of the pump to the right and below the pump head. Connect the two conductors to the supply conductors ensuring proper polarity. Red is + positive / Black is – negative.

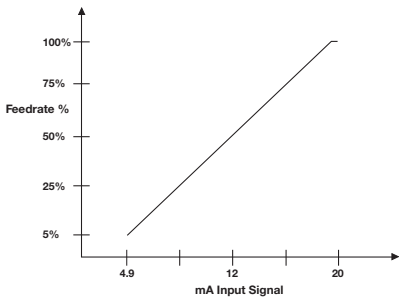
   WARNING - Never connect input signal cord to any AC electrical supply. Pump is not a source of power supply for the 4-20mA signal loop. Refer to input signal specifications. Pump and input signal must be "OFF" before making input signal cord connections. Failure to follow this warning can result in micro controller corruption and, in turn, result in erractic operation. Failure to connect input signal with proper polarity will result in the pump not responding to the input signal.

6. Depress and hold the **PRIME** key on the keypad and allow the pump to fully prime. Check connections for leaks.

7. Set the metering pump to the desired speed **(Variable Speed Mode of Operation)** required for your application. This is the initial setting. Check the entire system for leaks.

8. Provide the required input signal for **Automatic Mode of Operation**. The metering pump will respond to the signal and either speed up or down depending on the signal received. (See below)

The metering pump is designed to respond to 4-20 mA signals as follows: 4 – 4.7 mA = Off or Zero (0) percent motor speed. 4.8 – 19.9 mA the pump will respond in approximately One (1) percent increments every 0.16 mA. Over 19.9 mA the metering pump will operate at 100 percent motor speed.



9. After a suitable amount of time dosing, verify your application with test equipment. Perform final adjustments to the metering pump setting (Variable Speed Mode) or Controller (4-20 mA input adjustments) to provide the required residual or results as determined through adequate test equipment or analysis.

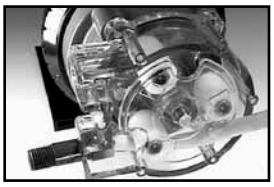
SECTION 7A
TUBE REMOVAL AND MAINTENANCE

TUBE REMOVAL
- Turn feed pump off.
- Unscrew and remove the tube housing cover.
- For TP26 and TP44 pumps, set Feed Rate Dial to #L and leave on this setting until finished.
- Turn feed pump back on and let it run until one of the three slots in the roller assembly lines up with the bottom tube fitting (intake).
- Turn feed pump off.


CAUTION: Pump fresh water through the tubing to clean out chemicals then let pump run dry for a couple of cycles. Use caution when disconnecting feed pump lines, changing the tube or the tube housing. They may contain hazardous chemicals. Protective eye gear, hand gear and clothing should be worn at all times during service to prevent chemical contact. For easier tube changing, reverse the feed pump in the wall mounting bracket so that pump housing is facing upward.

IMPORTANT: When the tube change is completed, return feed pump to normal mounting position.

NOTE: Avoid turning your wrist while installing tube to prevent twisting.

A twisted tube will not center. BE CAREFUL OF YOUR FINGERS. Do not force tube. Avoid kinks.

- With the feed pump still off, lift the tube out of the housing slot and pull it toward the center of the roller.
- Start the motor while pulling on the tube as the slot rotates, until the tube can be completely removed from the housing. Turn feed pump off.

Tube Maintenance

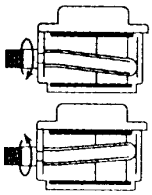
- Before replacing a new tube, always thoroughly rinse out the tube housing and roller assembly to remove chemical residue.
- Based on application, establish a regular tube maintenance schedule. Tube life is affected by back pressure, type of chemical, temperature and duty cycle.
- Always replace ferrules when installing a new tube.
- Check Troubleshooting Section for additional maintenance tips.
- Follow proper tube removal and installation guidelines (refer to instructions on right page).
- On double head and dual head, dual control feed pumps, both tubes should be on the same maintenance schedule.
- On double head feed pumps:
  1. Remove outside head.
  2. Change tube on the inside head first and center
- On dual head, dual control feed pumps:
  1. Change outside head like the single head.
  2. Remove (feed rate and tube housing together).
  3. Change tube on inside head.

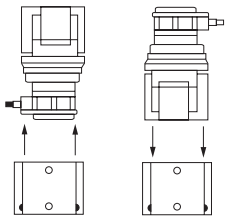
- Remove the roller assembly and thoroughly rinse out any chemical residue which may cause corrosion to the roller bushings.




INSTALLING TUBE
- With the pump still on L setting, run until one of the three slots in the roller assembly lines up with the bottom tube fitting (suction side). Turn pump "off."
- Place the tube fitting into position in the housing and slot.
- Turn the pump "on" and allow the pump to jog the roller assembly while guiding the tube to prevent it from getting pinched between housing and roller assembly.
- When the roller assembly slot reaches the housing slot the fitting inserts into, turn pump "off." Turn Feed Rate Dial to "10." While holding fitting away from roller assembly, turn pump "on" and allow rollers to stretch tube until fitting can be inserted into the housing.
- Turn the pump "off."
- Replace the cover and the screws leaving the front screws over the fitting loose enough to rotate the tube fitting.

NOTE: To obtain maximum tube life, the tube must ride in the center of the rollers.
To center the tube on the rollers, set the Feed Rate Dial to #10, for AP26 and AP44 pumps, turn the feeder on, turn the "IN" tube fitting not more than 1/8th of a turn in the direction in which the tube must move. Observe the tube assembly and adjust in either direction until the tube centers. Turn the feed pump off and tighten the Tube Housing Cover screws.
NOTE: Cover screws are self-tapping and should be hand tightened. Do not over-torque screws. During reassembly, turn screw counter-clockwise until it sets. Then turn screw clockwise.





Tube Removal & Installation

For easier tube changing, reverse the feed pump in the wall mounting bracket.
CAUTION: Before performing maintenance on your pump, pull up the pump from the pump mounting bracket and reverse the pump. This allows a convenient working platform for hose replacement.

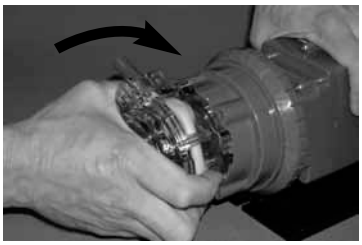
Tube, Tube Housing & Connections

- Use caution when disconnecting the feed pump lines or changing the tube as they may contain hazardous chemicals. Protective eye gear, hand gear and clothing should be worn at all times during service to prevent chemical contact.
- Always rinse off and wipe clean any chemicals, residue and debris from the tube housing and roller assembly before replacing tube.

SECTION 7B

TYPHOON™ TP26 AND TP44 SERIES

DIRECTIONS FOR CONVERTING FROM A SINGLE HEAD UNIT TO A DUAL HEAD UNIT

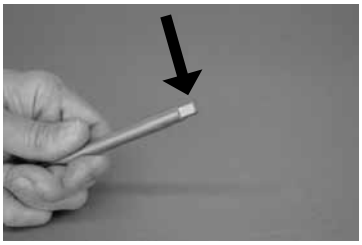


Step 1. *Figure 1*

Switch off the feeder and unplug the power cord. Hold the feed rate control section and turn the complete tube housing clockwise until it stops.

Step 2. *Figure 2*

Pull the complete tube housing straight out. Use pliers to remove main shaft from feed rate control section.



Step 3. *Figure 3*

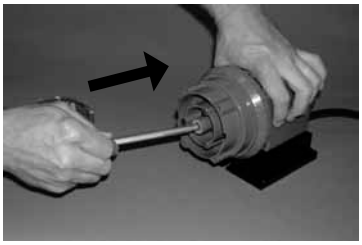


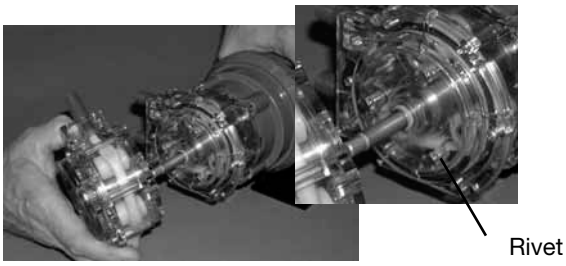
Figure 3A

When replacing the original shaft with the dual head shaft, be sure to insert the end with the flat surface first. (Figure 3) Once inserted, gently twist until shaft drops in place. (Figure 3A)

Step 4. *Figure 4*

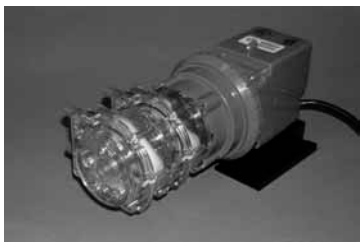
Figure 4A

Grease the tip of main shaft and insert the inside tube housing (three rivets are visible on the tube housing cover) then slide the shaft completely through. (Figure 4) Align the tube housing so that the inlet and discharge face the left side of the motor. Be sure to line up the three feed rate rivets on the pump motor unit with the matching rivet holes of the tube housing. (Figure 4A) Once in place, turn inside tube housing counter-clockwise to lock it in place.



Step 5. *Figure 5*

When attaching the outside tube housing to the unit, align the three rivets of the inside tube housing with the matching rivet holes of the outside tube housing. Once in place, turn outside side tube housing counter-clockwise to lock it in place.



Step 6. *Figure 6*

Your pump is now ready for dual head, single adjustable control dosing.

NOTE: Use steps 1 through 6 when converting a single head fixed rate to a double head fixed rate pump (with the exception of removing shaft).

SECTION 7C

MOTOR, FEED RATE, TUBE HOUSING, AND CONNECTIONS MAINTENANCE

Motor

- Mount pump in a dry location to avoid the risk of flooding the vent openings.
- For TP26 and TP44 pumps, use a rain roof to prevent damage in outside applications.
- Connect the feed pump to electrical outlet.
- **DO NOT** mount the feed pump vertically with the motor pointing downward because chemical damage to the motor will occur in the event of leakage or tube rupture.

DO

Do Not

- **DO NOT** install the unit directly over the solution container. Chemical fumes can cause premature failure of the motor. Solution containers should be kept tightly covered.
- **DO NOT** mount the feed pump on any flammable surface. Always use the mounting plate provided with each feeder.

Feed Rate (TP26 and TP44 models)

- When replacing a cam, remember to dab grease on cam tip before inserting. Also re-grease Index Plate and Spider.
- Spray Dial Ring only with silicone lubricant to allow for smooth turning.

Tube Housing & Connections

- Use caution when disconnecting the feed pump lines or changing the tube as they may contain hazardous chemicals. Protective eye gear, hand gear and clothing should be worn at all times during service to prevent chemical contact.
- Always rinse off and wipe clean any chemicals, residue and debris from the tube housing and roller assembly before replacing tube.
- Inspect roller assembly and tube housing for cracks.
- Insure that the rollers spin freely.
- Check tube regularly for leaks and wear. At the first sign of leakage, replace the pumping tube.
- Replace ferrules whenever changing out a tube.
- Tighten the nuts, finger tight only.
- Follow the guidelines for tube installation and centering.
- Check the lead tube and injection point for blockage. Clear if necessary.
- Pump fresh water through the tubing to clean out chemicals if the unit is to be shut off for a prolonged period.
- **DO NOT** apply lubricating grease or oil to the feed pump tube, tube housing or roller assembly. Some types of grease and oil are incompatible with plastic parts and may cause failure.
- **DO NOT** allow the solution container to become cross-connected to any domestic water supply source. Loss of water supply pressure could allow chemicals to contaminate potable water supplies. Proper installation of the pump will prevent cross-connections.
- **DO NOT** mix chemicals in the solution tank while the feed pump is running. Keep the suction line away from the bottom of the solution container to prevent residue pickup and possible clogging.
- **DO NOT** operate the feed pump before the chemical is completely in solution. Follow the chemical manufacturer's instructions for mixing. Soda ash must be agitated continuously.

TP26 AND TP44 VARIABLE CAM REPLACEMENT

1. Grasp the feed rate control, turn clockwise and pull away to detach from the motor.
2. Remove the three mounting plate screws and the mounting plate.
3. Remove the feed rate dial and observe how the old cam is installed before removing it.
4. Remove old cam from guide slot.
5. Before installing the new cam, lubricate the angled tip with grease from the feed rate control.
6. Feed the angled tip into the slot while making sure that the 90-degree bent end is pointing in the correct direction (see above illustration). To keep the cam from rising up while inserting, place finger as a guide over the cam guide slot. Feed entire cam in until the angled tip is approximately 1/2" from contacting cam. Place the spider on the index plate so the lift is in the 1/2" cam gap and the pin tip is in a hole in the index plate.
7. Insert the 90-degree bent end of the cam into the dial ring boss (hole) and fit the dial ring on the feed rate housing.
8. Put the mounting plate back on the feed rate, aligning the arrows located on the mounting plate and feed rate housing.
9. When replacing the mounting plate screws, start by turning the screws counterclockwise to engage the existing threads. Once properly engaged in threads, turn the screws clockwise.
10. Grasp the dial ring in one hand and the feed rate housing with the other hand with the arrow facing up. Turn the dial ring from L to 10 and back again. Dial ring should move easily, without binding.

NOTE: Failure to engage existing threads may cause cross threading or stripping of the screw bosses requiring replacement of the Feed Rate Housing.

SEPARATING COMPONENTS (SEE SECTION 7B)

Separating feed pump components is easy thanks to Accu-Pulse™ quick locking rivet system.

Switch off the feed pump and unplug the power cord.

Hold the Feed Rate Control section and turn the complete Tube Housing clockwise until it stops.

Pull the complete Tube Housing straight out.

Grasp the Feed Rate Control section and turn clockwise until it stops and pull straight out.

For Double Head and Dual Head Dual Control feed pumps, follow the above steps starting with the outside tube housing first and working toward the motor.

RECONNECTING COMPONENTS

To assemble the Feed Rate Control to the Motor, confirm pressure spring is in place, line up the flat side of the motor shaft with the flat side of the brass spider in the Feed Rate and push on straight. Turn the Feed Rate Control so the rivet holes line up with the rivets on the Motor and turn counter clockwise until it locks into place. The arrow on the Feed Rate dial should be on top.

Put the Tube Housing (with shaft) into the Feed Rate Control and turn it counter clockwise until the shaft falls in place and locks. Line up the rivet holes on the Tube Housing with the rivets on the Feed Rate while pushing and turning it until the snap lock engages. Finally, attach firmly to housing by turning it counter clockwise.

NOTES:

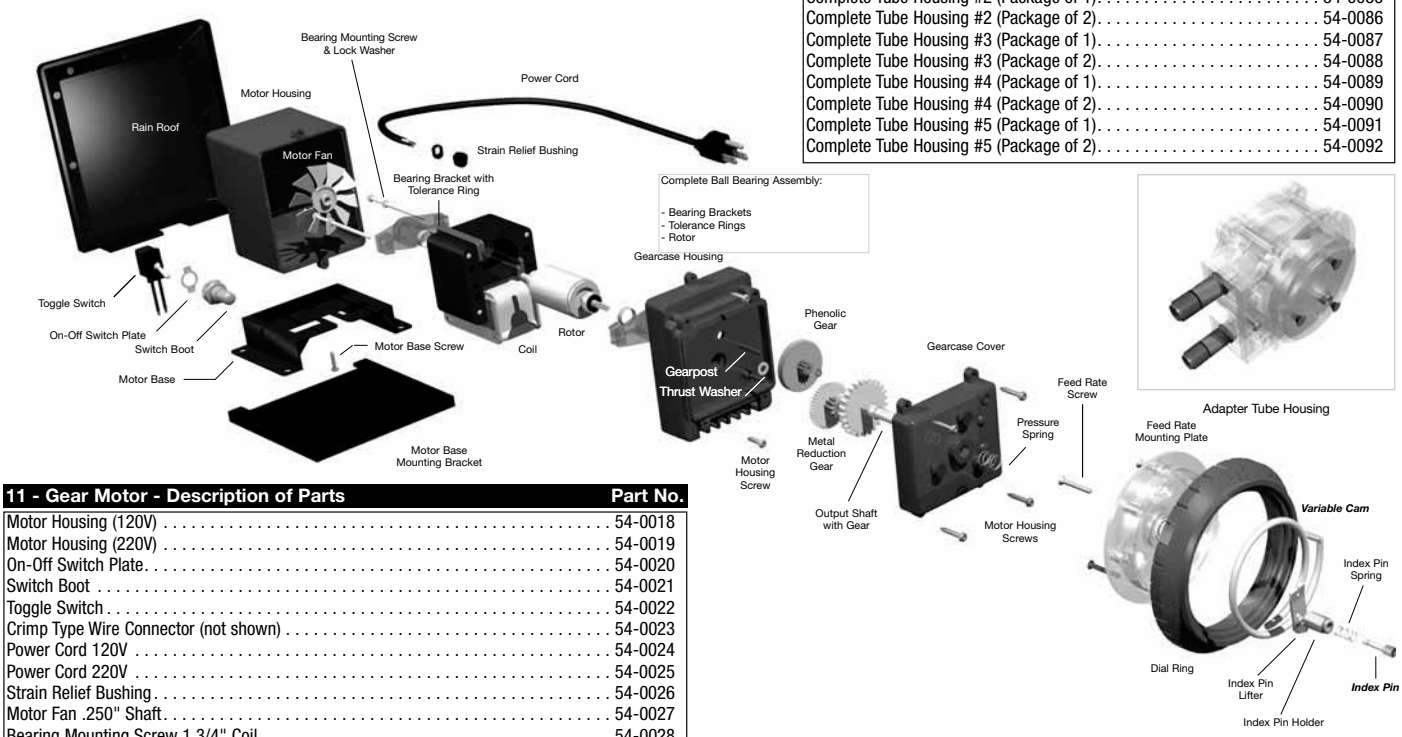
SECTION 8A

TYPHOON™ TP26 AND TP44 SERIES - FEEDER PARTS AND ASSEMBLIES

1 - Gear Motor Assemblies - Adjustable Rate	Part No.
Series TP26SA & TP26DD/DA - Complete Gearmotor 120V 50/60Hz	54-00002
Series TP26SA & TP26DD/DA - Complete Gearmotor 220V 50/60Hz	54-00003
Series TP26SA & TP26DD/DA - Complete Gearmotor 230V 50Hz	54-00004
Series TP44SA & TP44DD/DA - Complete Gearmotor 120V 50/60Hz	54-00005
Series TP44SA & TP44DD/DA - Complete Gearmotor 220V 50/60Hz	54-00006
Series TP44SA & TP44DD/DA - Complete Gearmotor 230V 50Hz	54-00007

2 - Feed Rate Assemblies	Part No.
Series TP26SA - Complete Feed Rate Control with Shaft	54-0052
Series TP26DA - Complete Feed Rate Control with Shaft	54-0054
Series TP26DD - Complete Feed Rate Control with Shaft	54-0056

3 - Tube Housing Assemblies	Part No.
Complete Tube Housing #1 (Package of 1)	54-0083
Complete Tube Housing #1 (Package of 2)	54-0084
Complete Tube Housing #2 (Package of 1)	54-0085
Complete Tube Housing #2 (Package of 2)	54-0086
Complete Tube Housing #3 (Package of 1)	54-0087
Complete Tube Housing #3 (Package of 2)	54-0088
Complete Tube Housing #4 (Package of 1)	54-0089
Complete Tube Housing #4 (Package of 2)	54-0090
Complete Tube Housing #5 (Package of 1)	54-0091
Complete Tube Housing #5 (Package of 2)	54-0092



11 - Gear Motor - Description of Parts	Part No.
Motor Housing (120V)	54-0018
Motor Housing (220V)	54-0019
On-Off Switch Plate	54-0020
Switch Boot	54-0021
Toggle Switch	54-0022
Crimp Type Wire Connector (not shown)	54-0023
Power Cord 120V	54-0024
Power Cord 220V	54-0025
Strain Relief Bushing	54-0026
Motor Fan .250" Shaft	54-0027
Bearing Mounting Screw 1 3/4" Coil	54-0028
Bearing Mounting Screw Lock Washer	54-0029
Ball Bearing Replacement Assembly with Bracket - 1 3/4"	54-0030
Coil 120V 50/60Hz (1.25" x 1.75")	54-0031
Coil 220V 50/60Hz (1.25" x 1.75")	54-0032
Coil 230V 50Hz (1.25" x 1.75")	54-0229
Output Shaft Cup Bearing (not shown)	54-0034
Plastic Gearcase Housing	54-0035
Plastic Gearcase Cover	54-0036
Gearpost	54-0037
Thrust Washer	54-0038
Phenolic Gear (Series TP26SA/SF & TP26DD/DA)	54-0040
Phenolic Gear (Series TP44SA/SF & TP44DD/DA)	54-0041
Metal Reduction Gear (Series TP26SA/SF & TP26DD/DA)	54-0042
Metal Reduction Gear (Series TP44SA/SF & TP44DD/DA)	54-0043
Output Shaft with Gear (Series TP26SA/SF, TP44SA, TP26DD/DA, TP44DD/DA)	54-0044
Output Shaft with Gear (Series TP26SF & TP44SF)	54-0045
Output Shaft with Gear (Series TP26DA & TP44DA)	54-0046
Pressure Spring	54-0047
Motor Housing Screw - Same as Tube Housing Screw	see Chart 10
Motor Base	54-0048
Motor Base Screw	54-0049
Motor Base Mounting Bracket	54-0050
Rain Roof	54-0051

12 - Feed Rate - Description of Parts	Part No.
Feed Rate Screw	54-0058
Feed Rate Mounting Plate	54-0059
Dial Ring for Series TP26SA & TP26DA/DD	54-0060
Variable Cam (Package of 2)	54-0062
Variable Cam (Package of 5)	54-0063
Index Pin Assembly with Lifter (Package of 1)	54-0064
Index Pin Assembly with Lifter (Package of 2)	54-0065
Index Pin Lifter (Package of 2)	54-0066

12 - Feed Rate - Description of Parts (Continued)	Part No.
Index Pin Lifter (Package of 5)	54-0067
Index Pin Holder	54-0068
Index Pin Spring	54-0069
Index Pin	54-0070
Brass Index Spider	54-0071
Index Plate (Package of 1)	54-0072
Index Plate (Package of 5)	54-0073
Roller Clutch	54-0074
O-ring Seal 3/8"	54-0075
Feed Rate Housing with Roller Clutch, Seal & Rivets	54-0076
Feed Rate Rivet	54-0078
Main Shaft for Series TP26SA & TP44SA (Package of 1)	54-0079
Main Shaft for Series (Package of 2)	54-0080
Main Shaft for Series TP26DA & TP44DA	54-0081
Main Shaft for Series TP26DD & TP44DD	54-0082

13 - Tube Housing - Description of Parts	Part No.
Tube Housing Only (Package of 1)	54-0095
Tube Housing Only (Package of 2)	54-0096
Roller Assembly - Complete (Package of 1)	54-0097
Roller Assembly - Complete (Package of 4)	54-0098
Standard Roller	54-0099
Roller Shaft Bushing	54-0100
Tube Housing Cover with Bushing (Package of 1)	54-0102
Tube Housing Cover with Bushing (Package of 4)	54-0103
Tube Housing Cover Screw (Package of 10)	54-0104
Tube Housing Cover Screw (Package of 24)	54-0105
Adapter Tube Housing Cover (Package of 1) (not shown)	54-0106
Adapter Tube Housing Cover (Package of 2) (not shown)	54-0107

Complete Assembly: Gear Motor

Complete Assembly: Feed Rate

Complete Assembly: Single Tube Housing

Complete Assembly: Double Tube Housing

Complete Assembly: Dual Head Dual Control

4 - Adapter Tube Housing Assemblies	Part No.
Complete Adapter Tube Housing #1 (Package of 1)	54-0120
Complete Adapter Tube Housing #1 (Package of 2)	54-0121
Complete Adapter Tube Housing #2 (Package of 1)	54-0122
Complete Adapter Tube Housing #2 (Package of 2)	54-0123
Complete Adapter Tube Housing #3 (Package of 1)	54-0124
Complete Adapter Tube Housing #3 (Package of 2)	54-0125
Complete Adapter Tube Housing #4 (Package of 1)	54-0126
Complete Adapter Tube Housing #4 (Package of 2)	54-0127
Complete Adapter Tube Housing #5 (Package of 1)	54-0128
Complete Adapter Tube Housing #5 (Package of 2)	54-0129

NOTE: A Complete Double Tube Housing Assembly as shown combines an Adapter Tube Housing (see Illustration on left) with a Complete Tube Housing Assembly (see Chart 3).

5 - Sub-assemblies for Dual Head Dual Control	Part No.
Feed Rate Control with Shaft for TP26DD or TP44DD Series	see Chart 2
Complete Adapter Tube Housing.	see Chart 4
Feed Rate Control with Shaft for TP26DA or TP44DA Series.	see Chart 2
Complete Tube Housing.	see Chart 3

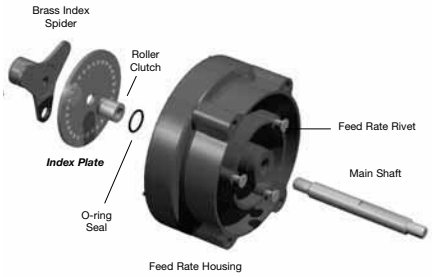
6 - Check Valve Parts	Part No.
1/4" Injection Check Valve (Package of 1)	54-0159
1/4" Injection Check Valve (Package of 5)	54-0160
Check Valve Duckbill Only (Package of 2).	54-0165
Check Valve Duckbill Only (Package of 5).	54-0166

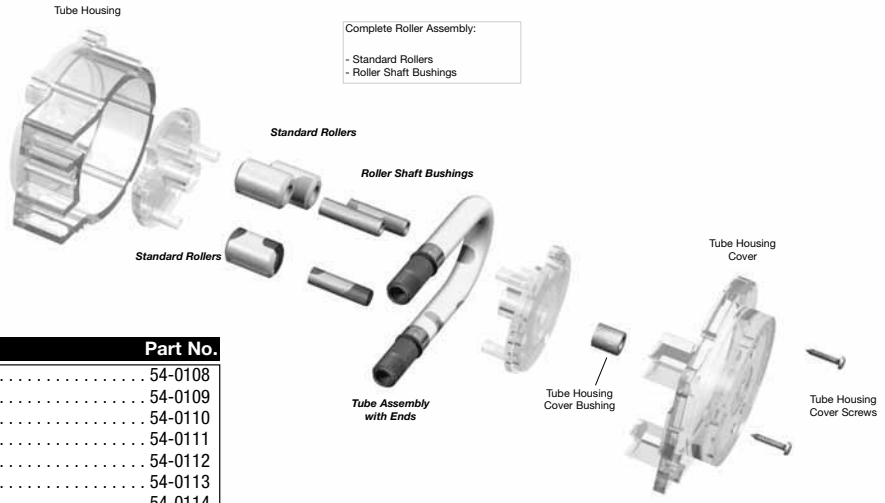
7 - Miscellaneous Accessories	Part No.
Connecting Nut 1/4" (Package of 10).	54-0130
Connecting Nut 1/4" (Package of 24).	54-0131
Injection Point Cap (Package of 5)	54-0132
Injection Point Cap (Package of 24)	54-0133
Ferrule 1/4" (Package of 10)	54-0134
Ferrule 1/4" (Package of 24)	54-0135
Ferrule 6mm (Package of 1)	54-0028
Injection Fitting with Nut & Ferrule (Package of 1).	54-0136
Injection Fitting with Nut & Ferrule (Package of 5).	54-0137
Clay Lead Tube Weight with Ferrule & Nut 1/4" (Package of 1)	54-0138
Clay Lead Tube Weight with Ferrule & Nut 1/4" (Package of 5)	54-0139
Lead Tube - White 20' x 1/4".	54-0143
Lead Tube - White 100' x 1/4".	54-0145
Lead Tube - White 1000' x 1/4".	54-0147
Lead Tube - White 20' x 6mm	54-0027
Suction Line Strainer with Nut & Ferrule.	54-0155
Gearcase Grease	54-0156

8 - Gearmotor Assemblies - Fixed Rate	Part No.
Series TP26SF - Complete Gearmotor 120V 50/60Hz	54-0008
Series TP26SF - Complete Gearmotor 220V 50/60Hz	54-0009
Series TP26SF - Complete Gearmotor 230V 50Hz	54-0010
Series TP44SF - Complete Gearmotor 120V 50/60Hz	54-0011
Series TP44SF - Complete Gearmotor 220V 50/60Hz	54-0012
Series TP44SF - Complete Gearmotor 230V 50Hz	54-0013
Series TP26DF - Complete Gearmotor 120V 50/60Hz	54-0014
Series TP26DF - Complete Gearmotor 220V 50/60Hz	54-0015
Series TP26DF - Complete Gearmotor 230V 50Hz	54-0016
Series TP44DF - Complete Gearmotor 120V 50/60Hz	54-0017

9 - Standard Accessory Kits	Part No.
1/4" Accessory Kit with #1 Tube (White).	54-0178
1/4" Accessory Kit with #2 Tube (White).	54-0180
1/4" Accessory Kit with #3 Tube (White).	54-0182
1/4" Accessory Kit with #4 Tube (White).	54-0184
1/4" Accessory Kit with #5 Tube (White).	54-0186

10- High Pressure Accessory Kits	Part No.
1/4" Accessory Kit with #1 Tube (White)	54-0198
1/4" Accessory Kit with #2 Tube (White)	54-0200
1/4" Accessory Kit with #7 Tube (White)	54-0202



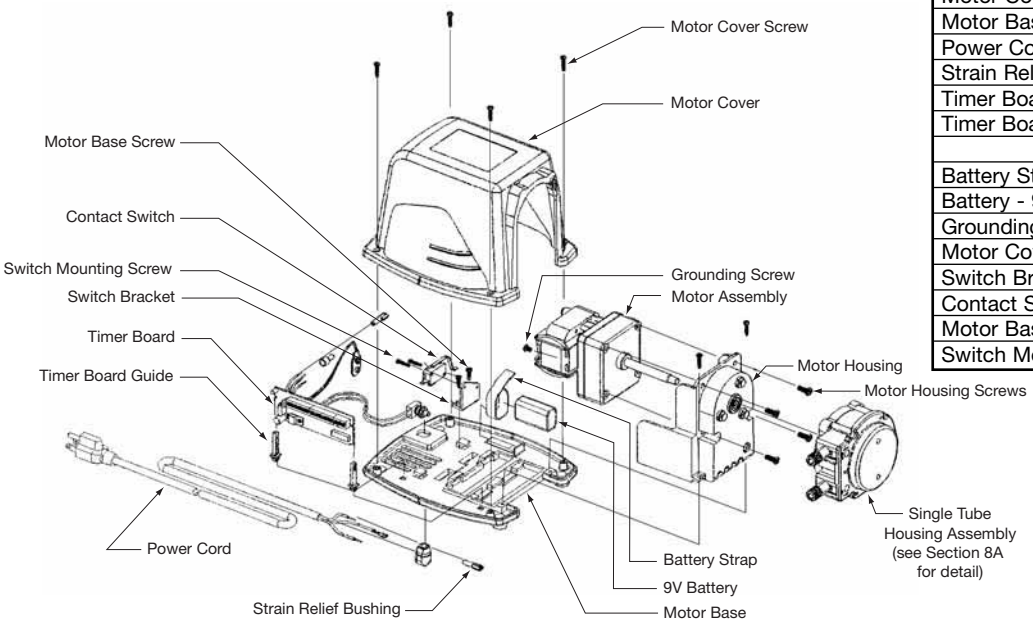


14 - Tube Assemblies	Part No.
Tube Assembly with Ends #1 (Package of 2)	54-0108
Tube Assembly with Ends #1 (Package of 5)	54-0109
Tube Assembly with Ends #2 (Package of 2)	54-0110
Tube Assembly with Ends #2 (Package of 5)	54-0111
Tube Assembly with Ends #3 (Package of 2)	54-0112
Tube Assembly with Ends #3 (Package of 5)	54-0113
Tube Assembly with Ends #4 (Package of 2)	54-0114
Tube Assembly with Ends #4 (Package of 5)	54-0115
Tube Assembly with Ends #5 (Package of 2)	54-0116
Tube Assembly with Ends #5 (Package of 5)	54-0117
Tube Assembly with Ends #7 (Package of 2)	54-0118
Tube Assembly with Ends #7 (Package of 5)	54-0119

NOTE: Italicized parts are primary wear parts.

SECTION 8B

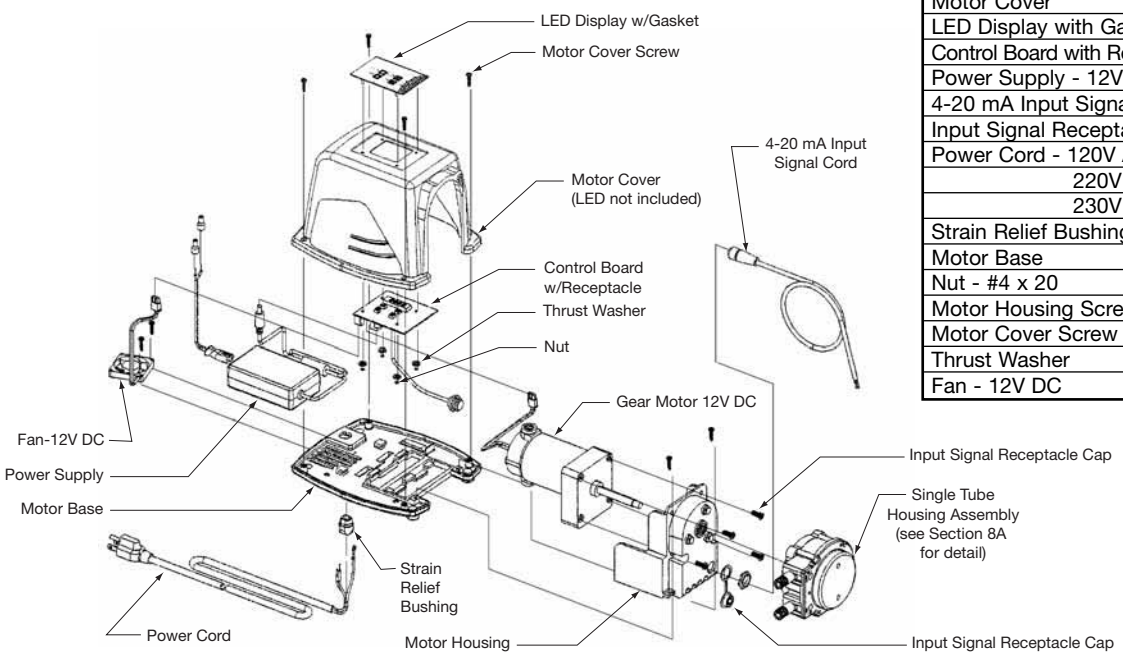
TYPHOON™ TP12 SERIES - MOTOR AND CONTROLLER ASSEMBLIES



15 - Housing Assemblies	Part No.
Motor Housing	54-0230
Motor Assembly	54-0231
Motor Housing Screws	54-0260
Motor Cover Screws	54-0104
Motor Base	54-0232
Power Cord	54-0024
Strain Relief Bushing	54-0233
Timer Board Guide	54-0234
Timer Board - 24 hour	54-0235
7 day	54-0246
Battery Strap	54-0236
Battery - 9V Alkaline	54-0237
Grounding Screw	54-0238
Motor Cover	54-0239
Switch Bracket	54-0240
Contact Switch	54-0241
Motor Base Screw	54-0242
Switch Mounting Screw	54-0243

SECTION 8C

TYPHOON™ TP45 SERIES - MOTOR AND CONTROLLER ASSEMBLIES



16 - Housing Assemblies	Part No.
Motor Housing	54-0230
Gear Motor - 12V DC	54-0251
Motor Cover	54-0252
LED Display with Gasket	54-0253
Control Board with Receptacle	54-0255
Power Supply - 12V DC	54-0256
4-20 mA Input Signal Cord	54-0257
Input Signal Receptacle Cap	54-0258
Power Cord - 120V AC - 6'	54-0024
220V AC - 6'	54-0025
230V AC - 6'	54-0264
Strain Relief Bushing	54-0233
Motor Base	54-0232
Nut - #4 x 20	54-0259
Motor Housing Screw	54-0260
Motor Cover Screw	54-0104
Thrust Washer	54-0038
Fan - 12V DC	54-0261

NOTES:

NOTES:

NOTES:

EC DECLARATION OF CONFORMITY

Manufacturer Name: Wilden Pump and Engineering, LLC
Manufacturer Address: 22069 Van Buren Street
Grand Terrace, California 92313-5607 U.S.A.
Tel. (909) 422-1730 Fax (909) 783-3440
www.wildenpump.com

Declares that the following electrical equipment listed below complies with the relevant essential health and safety requirements of the EC Low Voltage Directive (73/23/EEC. 93/68/EEC) and EC EMC Directive (89/336/EEC, 92/31/EEC) and are in conformity with the applicable standards referenced below based on its design and type, as brought into circulation by us. If this machine is altered in any way, this declaration will lose its validity.

Description: Peristaltic Dosing Pump (230V AC, 250V AC International CEE 7/7 Plug)

Item Number: _____

Serial Number: _____

The following standards have either been referred to or been complied with in part or in full as relevant:

73/23/EEC, 93/68/EEC	EC Low Voltage Directive
89/336/EEC, 92/31/EEC, 93/68/EEC	EC EMC Directive

Applicable Harmonized/IEC Standards:

EN 60335-1:1988
EN 60335-2-41:1990
EN 55014:1993
EN 55104:1995
EN 60555-2:1987

Full name of responsible person:

John D. Allen **Position** President / COO

Signature _____ **Date** March 4, 2003

Full Name of Authorized European Representative:

.....(Typed) **Position**.....(Typed)

Signature..... **Date** .....

Address..... **Phone**.....

.....

WARRANTY

Each and every product manufactured by Wilden Pump and Engineering, LLC is built to meet the highest standards of quality. Every pump is functionally tested to insure integrity of operation.

Wilden Pump and Engineering, LLC warrants that pumps, accessories and parts manufactured or supplied by it to be free from defects in material and workmanship for a period of five (5) years from date of installation or six (6) years from date of manufacture, whichever comes first. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Wilden pumps and parts is beyond our control, we cannot guarantee the suitability of any pump or part for a particular application and Wilden Pump and Engineering, LLC shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Responsibility is limited solely to replacement or repair of defective Wilden pumps and parts.

All decisions as to the cause of failure are the sole determination of Wilden Pump and Engineering, LLC.

Prior approval must be obtained from Wilden for return of any items for warranty consideration and must be accompanied by the appropriate MSDS for the product(s) involved. A Return Goods Tag, obtained from an authorized Wilden distributor, must be included with the items which must be shipped freight prepaid.

The foregoing warranty is exclusive and in lieu of all other warranties expressed or implied (whether written or oral) including all implied warranties of merchantability and fitness for any particular purpose. No distributor or other person is authorized to assume any liability or obligation for Wilden Pump and Engineering, LLC other than expressly provided herein.

PLEASE PRINT OR TYPE AND FAX TO WILDEN

PUMP INFORMATION

Item # _____ Serial # _____

Company Where Purchased _____

YOUR INFORMATION

Company Name _____

Industry _____

Name _____ Title _____

Street Address _____

City _____ State _____ Postal Code _____ Country _____

Telephone _____ Fax _____ E-mail _____ Web Address _____

Number of pumps in facility? _____ Number of Wilden pumps? _____

Types of pumps in facility (check all that apply): ☐ Diaphragm ☐ Centrifugal ☐ Gear ☐ Submersible ☐ Lobe

☐ Other _____

Media being pumped? _____

How did you hear of Wilden Pump? ☐ Trade Journal ☐ Trade Show ☐ Internet/E-mail ☐ Distributor

☐ Other _____

ONCE COMPLETE, FAX TO (909) 783-3440

NOTE: WARRANTY VOID IF PAGE IS NOT FAXED TO WILDEN

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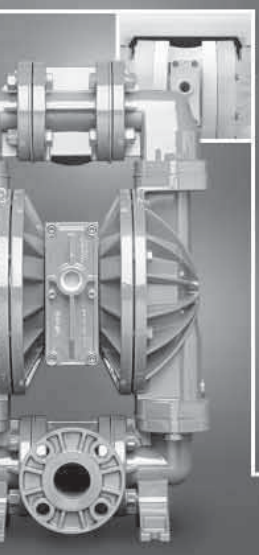

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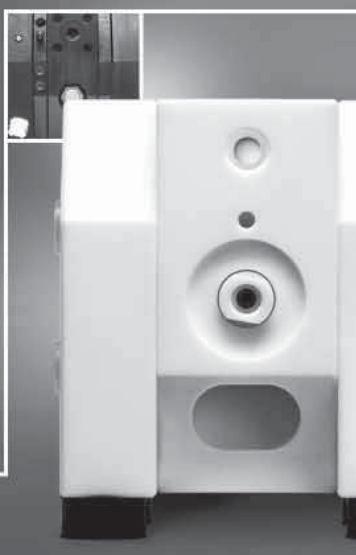

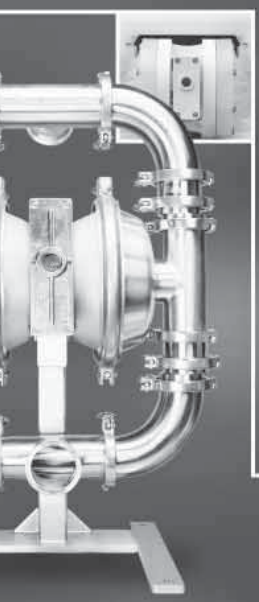

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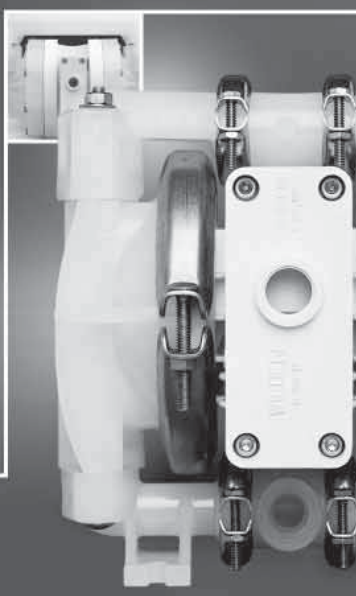

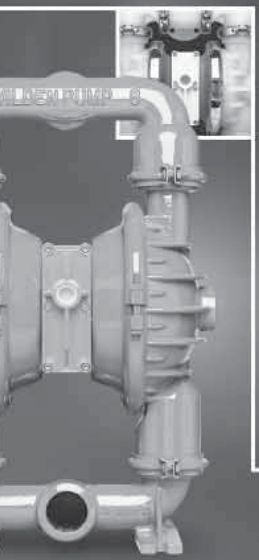

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