



# **CLASSIC SERIES**

**INSTALLATION AND MAINTENANCE MANUAL**

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**PERISTALTIC METERING PUMPS SINCE 1957**

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# WARRANTY AND CUSTOMER SERVICE

## LIMITED WARRANTY

Stenner Pump Company will for a period of one (1) year from the date of purchase (proof of purchase required) repair or replace – at our option – all defective parts. Stenner is not responsible for any removal or installation costs. Pump tube assemblies and rubber components are considered perishable and are not covered in this warranty. Pump tube will be replaced each time a pump is in for service, unless otherwise specified. The cost of the pump tube replacement will be the responsibility of the customer. Stenner will incur shipping costs for warranty products shipped from our factory in Jacksonville, Florida. Any tampering with major components, chemical damage, faulty wiring, weather conditions, water damage, power surges, or products not used with reasonable care and maintained in accordance with the instructions will void the warranty. Stenner limits its liability solely to the cost of the original product. We make no other warranty expressed or implied.

## RETURNS

Stenner offers a 30-day return policy on factory direct purchases. Except as otherwise provided, no merchandise will be accepted for return after 30 days from purchase. To return merchandise at any time, call Stenner at 800.683.2378 for a Return Merchandise Authorization (RMA) number. A 15% re-stocking fee will be applied. Include a copy of your invoice or packing slip with your return.

## DAMAGED OR LOST SHIPMENTS

All truck shipments: Check your order immediately upon arrival. All damage must be noted on the delivery receipt. Call Stenner Customer Service at 800.683.2378 for all shortages and damages within seven (7) days of receipt.

## SERVICE & REPAIRS

Before returning a pump for warranty or repair, remove chemical from pump tube by running water through the tube, and then run the pump dry. Following expiration of the warranty period, Stenner Pump Company will clean and overhaul any Stenner metering pump for a minimum labor charge plus necessary replacement parts and shipping. All metering pumps received for overhaul will be restored to their original condition. The customer will be charged for missing parts unless specific instructions are given. To return merchandise for repair, call Stenner at 800.683.2378 or 904.641.1666 for a Return Merchandise Authorization (RMA) number.

## DISCLAIMER

The information contained in this manual is not intended for specific application purposes. Stenner Pump Company reserves the right to make changes to prices, products, and specifications at any time without prior notice.

# SAFETY INFORMATION



**⚠ WARNING** Warns about hazards that **CAN** cause death, serious personal injury, or property damage if ignored.



**⚠ WARNING** **ELECTRIC SHOCK HAZARD**



**⚠ WARNING** **ELECTRIC SHOCK HAZARD**

Pump supplied with grounding power cord and attached plug. To reduce risk of electrical shock, connect only to a properly grounded, grounding type receptacle. Install only on a circuit protected by a Ground-Fault Circuit-Interrupter (GFCI).



**⚠ AVERTISSEMENT** **DANGER DE CHOC ÉLECTRIQUE**

La pompe est dotée d'un cordon d'alimentation avec mise à la terre muni d'une fiche. Pour réduire le risque de choc électrique, branchez uniquement sur une prise correctement mise à la terre. Installez uniquement sur un circuit protégé par un disjoncteur différentiel.



**DO NOT** alter the power cord or plug end.



**DO NOT** use receptacle adapters.



**DO NOT** use pump with a damaged or altered power cord or plug. Contact the factory or an authorized service facility for repair.



**⚠ WARNING** **HAZARDOUS VOLTAGE**

**DISCONNECT** power cord before removing motor cover for service. **Electrical service by trained personnel only.**



**⚠ WARNING** **EXPLOSION HAZARD**

This equipment **IS NOT** explosion proof. **DO NOT** install or operate in an explosive environment.



**⚠ WARNING** **RISK OF CHEMICAL EXPOSURE**

Potential for chemical burns, fire, explosion, personal injury, or property damage. To reduce risk of exposure, the use of proper personal protective equipment is mandatory.



**⚠ WARNING** **RISK OF FIRE HAZARD**

**DO NOT** install or operate on any flammable surface.



**⚠ WARNING** **RISK OF CHEMICAL OVERDOSE**

To reduce risk, follow proper installation methods and recommendations. Check your local codes for additional guidelines.



**⚠ WARNING** This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction to concerning use of the appliance by a person responsible for their safety.

# SAFETY INFORMATION continued



**CAUTION** Warns about hazards that **WILL** or **CAN** cause minor personal injury or property damage if ignored.



## **CAUTION PLUMBING**

Chemical feed pump installation must always adhere to your local plumbing codes and requirements. Be sure installation does not constitute a cross connection. Check local plumbing codes for guidelines.



**NOTICE:** Indicates special instructions or general mandatory action.



This metering pump is portable and designed to be removable from the plumbing system without damage to the connections.



Before installing or servicing the pump, read the pump manual for all safety information and complete instructions. The pump is designed for installation and service by properly trained personnel.



Installation of product must adhere to all regulatory and compliance codes applicable to the area.



This metering pump and its components have been tested for use with the following chemicals: Sodium Hypochlorite (10-15%), Muriatic Acid (20-22 Baume, 31.5% Hcl), and Soda Ash.



Cette pompe de dosage et ses composants ont été testés pour leur compatibilité avec les produits chimiques suivants : hypochlorite de sodium (10 à 15 %), acide chlorhydrique (20 à 22 % Baume, 31,5 % Hcl), et carbonate de sodium.



**This is the safety alert symbol. When displayed in this manual or on the equipment, look for one of the following signal words alerting you to the potential for personal injury or property damage.**



**PUMP SUITABLE FOR USE OUTDOORS** when installed with a Stenner Rain Roof Part No. MP90000.



Electrical installation should adhere to all national and local codes. Consult a licensed professional for assistance with proper electrical installation.



Removing power from pool/spa recirculation pump must also remove power from pump.



The use of an auxiliary safety device (not supplied), such as a flow switch or sensor, is recommended to prevent feed pump operation in the event of a recirculation pump failure or if flow is not sensed.



Point of chemical injection should be beyond all pumps, filters, and heaters.



Suitable for indoor and outdoor use.



Adaptée à une utilisation aussi bien à l'intérieur qu'à l'extérieur.

# OUTPUTS 45 SERIES

## ADJUSTABLE OUTPUT – APPROXIMATE GPD @ 60Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
45MHP2* 45M1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
45MHP10* 45M2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
45MHP22* 45M3	100 psi (6.9 bar) 25 psi (1.7 bar)	#7 #3	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
45M4	25 psi (1.7 bar)	#4	1.7	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0
45M5	25 psi (1.7 bar)	#5	2.5	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0


## ADJUSTABLE OUTPUT – APPROXIMATE LPD @ 50Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
45MHP2* 45M1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.6	0.9	1.8	2.7	3.6	4.5	5.5	6.4	7.3	8.2	9.1
45MHP10* 45M2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	1.5	3.0	6.1	9.1	12.1	15.1	18.2	21.2	24.2	27.3	30.3
45MHP22* 45M3	100 psi (6.9 bar) 25 psi (1.7 bar)	#7 #3	3.3	6.6	13.3	20.0	26.6	33.3	40.0	46.6	53.3	60.0	66.6
45M4	25 psi (1.7 bar)	#4	5.1	10.6	21.2	31.8	42.4	53.0	63.6	74.2	84.8	95.4	106.0
45M5	25 psi (1.7 bar)	#5	7.6	15.1	30.3	45.4	60.6	75.7	90.8	106.0	121.1	136.3	151.4

## FIXED OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	GPD 60Hz	LPD 50Hz
45MPHP2* 45MP1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	3.0	9.1
45MPHP10* 45MP2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	10.0	30.3
45MPHP22* 45MP3	100 psi (6.9 bar) 25 psi (1.7 bar)	#7 #3	22.0	66.6
45MP4	25 psi (1.7 bar)	#4	35.0	106.0
45MP5	25 psi (1.7 bar)	#5	50.0	151.4

\* Injection check valve is included with pump rated 26-100 psi (1.8-6.9 bar).

 **NOTICE:** The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.

# OUTPUTS 85 SERIES

## ADJUSTABLE OUTPUT – APPROXIMATE GPD @ 60Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
85MHP5* 85M1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
85MHP17* 85M2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
85MHP40* 85M3	100 psi (6.9 bar) 25 psi (1.7 bar)	#7 #3	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
85M4	25 psi (1.7 bar)	#4	3.0	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60.0
85M5	25 psi (1.7 bar)	#5	4.3	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0

## ADJUSTABLE OUTPUT – APPROXIMATE LPD @ 50Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
85MHP5* 85M1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.9	1.5	3.0	4.5	6.1	7.6	9.1	10.6	12.1	13.6	15.1
85MHP17* 85M2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	2.4	5.1	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3	51.5
85MHP40* 85M3	100 psi (6.9 bar) 25 psi (1.7 bar)	#7 #3	6.1	12.1	24.2	36.3	48.5	60.6	76.7	84.8	96.9	109.0	121.1
85M4	25 psi (1.7 bar)	#4	9.1	18.2	36.3	54.5	76.7	90.8	109.0	127.2	145.3	163.5	181.7
85M5	25 psi (1.7 bar)	#5	13.0	25.7	51.5	77.2	103.0	128.7	154.4	180.0	205.9	231.6	257.4

## FIXED OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	GPD 60Hz	LPD 50Hz
85MHP5* 85MP1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	5.0	15.1
85MHP17* 85MP2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	17.0	51.5
85MHP40* 85MP3	100 psi (6.9 bar) 25 psi (1.7 bar)	#7 #3	40.0	121.1
85MP4	25 psi (1.7 bar)	#4	60.0	181.7
85MP5	25 psi (1.7 bar)	#5	85.0	257.4

\* Injection check valve is included with pump rated 26-100 psi (1.8-6.9 bar).



**NOTICE:** The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.

# OUTPUTS 100 SERIES

## ADJUSTABLE OUTPUT – APPROXIMATE GPD @ 60Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
100DMHP5* 100DM1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
100DMHP20* 100DM2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	1.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
100DM3	100 psi (6.9 bar)	#3	2.2	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	44.0
100DM4	25 psi (1.7 bar)	#4	3.5	7.0	14.0	21.0	28.0	35.0	42.0	49.0	56.0	63.0	70.0
100DM5	25 psi (1.7 bar)	#5	5.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0


## ADJUSTABLE OUTPUT – APPROXIMATE LPD @ 50Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
100DMHP5* 100DM1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.9	1.8	3.6	5.5	7.3	9.1	10.9	12.7	14.5	16.4	18.2
100DMHP20* 100DM2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	3.0	6.1	12.1	18.2	24.2	30.3	36.4	42.4	48.5	54.5	60.6
100DM3	100 psi (6.9 bar)	#3	6.7	13.3	26.7	40.0	53.3	66.6	79.9	93.3	106.6	119.9	133.2
100DM4	25 psi (1.7 bar)	#4	10.6	21.2	42.4	63.6	84.8	106.0	127.2	148.4	169.6	190.8	212.0
100DM5	25 psi (1.7 bar)	#5	15.1	30.3	60.6	90.8	121.1	151.4	181.7	212.0	242.2	272.5	302.8

## FIXED OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	GPD 60Hz	LPD 50Hz
100DMHP5* 100DMP1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	6.0	18.2
100DMHP20* 100DMP2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	20.0	60.6
100DMP3	25 psi (1.7 bar)	#3	44.0	133.2
100DMP4	25 psi (1.7 bar)	#4	70.0	212.0
100DMP5	25 psi (1.7 bar)	#5	100.0	302.8

\* Injection check valve is included with pump rated 26-100 psi (1.8-6.9 bar).

 **NOTICE:** The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.



# OUTPUTS 170 SERIES

## ADJUSTABLE OUTPUT – APPROXIMATE GPD @ 60Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
170DMHP9* 170DM1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
170DMHP34* 170DM2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	1.7	3.4	6.0	9.5	13.6	17.0	20.4	23.8	27.2	30.6	34.0
170DM3	25 psi (1.7 bar)	#3	4.0	8.0	16.0	24.0	32.0	40.0	48.0	56.0	64.0	72.0	80.0
170DM4	25 psi (1.7 bar)	#4	6.0	12.0	24.0	36.0	48.0	60.0	72.0	84.0	96.0	108.0	120.0
170DM5	25 psi (1.7 bar)	#5	8.5	17.0	34.0	51.0	68.0	85.0	102.0	119.0	136.0	153.0	170.0


## ADJUSTABLE OUTPUT – APPROXIMATE LPD @ 50Hz

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
170DMHP9* 170DM1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	1.5	3.0	6.1	9.1	12.1	15.1	18.2	21.2	24.2	27.3	30.3
170DMHP34* 170DM2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	5.1	10.3	18.2	28.8	39.1	51.5	61.8	72.1	82.4	92.7	102.6
170DM3	25 psi (1.7 bar)	#3	12.1	24.2	48.5	72.7	96.9	121.1	145.4	169.6	193.8	218.0	242.2
170DM4	25 psi (1.7 bar)	#4	18.2	36.3	72.7	109.0	145.3	181.7	218.0	254.4	290.7	327.0	363.4
170DM5	25 psi (1.7 bar)	#5	25.7	51.5	86.0	154.4	205.9	257.4	308.9	360.4	411.8	463.3	514.8

## FIXED OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	GPD 60Hz	LPD 50Hz
170DMHP9* 170DMP1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	10.0	30.3
170DMHP34* 170DMP2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	34.0	102.6
170DMP3	25 psi (1.7 bar)	#3	80.0	242.2
170DMP4	25 psi (1.7 bar)	#4	120.0	363.4
170DMP5	25 psi (1.7 bar)	#5	170.0	514.8

\* Injection check valve is included with pump rated 26-100 psi (1.8-6.9 bar).

 **NOTICE:** The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.

# OUTPUTS 100MDC SERIES

## DETERMINING OUTPUT FOR DUAL HEAD DUAL CONTROL MODEL

- The dial ring is labeled L-10; L = 5%, 1-10 indicates approximately 10% of maximum output.
- Setting #10 on both feed rate controls will deliver the pump's maximum output.
- The innermost head is the primary output. The outermost head operates at a percentage of the innermost head.
- Example Using 100MCD5

Select the output from the chart for the innermost head, and then calculate the outermost head output.

**Innermost Head Output x Setting % of Outermost Head = Outermost Head Output**

Example: The output of the innermost head at setting #4 = 20 gpd. The output of the outermost head at setting #3 is 30%; and would be calculated 20 gpd x 30% = 6 gpd.

## APPROXIMATE GPD @ 60Hz – INNERMOST HEAD OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
100MDCHP5* 100MDC1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
100MDCHP20* 100MDC2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
100MDC3	25 psi (1.7 bar)	#3	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
100MDC4	25 psi (1.7 bar)	#4	1.7	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0
100MDC5	25 psi (1.7 bar)	#5	2.5	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0

## APPROXIMATE LPD @ 50Hz – INNERMOST HEAD OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING										
			L	1	2	3	4	5	6	7	8	9	10
100MDCHP5* 100MDC1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.6	0.9	1.8	2.7	3.6	4.5	5.5	6.4	7.3	8.2	9.1
100MDCHP20* 100MDC2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	1.5	3.0	6.1	9.1	12.1	15.1	18.2	21.2	24.2	27.3	30.3
100MDC3	25 psi (1.7 bar)	#3	3.3	6.6	13.3	20.0	26.6	33.3	40.0	46.6	53.3	60.0	66.6
100MDC4	25 psi (1.7 bar)	#4	5.1	10.6	21.2	31.8	42.4	53.0	63.6	74.2	84.8	95.4	106.0
100MDC5	25 psi (1.7 bar)	#5	7.6	15.1	30.3	45.4	60.6	75.7	90.8	106.0	121.1	136.3	151.4

\* Injection check valve included with pumps rated 26-100 psi (1.8-6.9 bar).



**NOTICE:** The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.

# OUTPUTS 170MDC SERIES

## DETERMINING OUTPUT FOR DUAL HEAD DUAL CONTROL MODEL

- The dial ring is labeled L-10; L = 5%, 1-10 indicates approximately 10% of maximum output.
- Setting #10 on both feed rate controls will deliver the pump's maximum output.
- The innermost head is the primary output. The outermost head operates at a percentage of the innermost head.
- Example Using 170MDCHP34

Select the output from the chart for the innermost head, and then calculate the outermost head output.

**Innermost Head Output x Setting % of Outermost Head = Outermost Head Output**

Example: The output of the innermost head at setting #8 = 13.6 gpd. The output of the outermost head at setting #6 is 60%; and would be calculated 13.6 gpd x 60% = 8.2 gpd.

## APPROXIMATE GPD @ 60Hz – INNERMOST HEAD OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING											
			L	1	2	3	4	5	6	7	8	9	10	
170MDCHP9* 170MDC1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	
170MDCHP34* 170MDC2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0	
170MDC3	25 psi (1.7 bar)	#3	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	
170MDC4	25 psi (1.7 bar)	#4	3.0	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60.0	
170MDC5	25 psi (1.7 bar)	#5	4.3	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0	

## APPROXIMATE LPD @ 50Hz – INNERMOST HEAD OUTPUT

MODEL	MAXIMUM PRESSURE	PUMP TUBE NUMBER	FEED RATE CONTROL SETTING											
			L	1	2	3	4	5	6	7	8	9	10	
170MDCHP9* 170MDC1	100 psi (6.9 bar) 25 psi (1.7 bar)	#1	0.9	1.5	3.0	4.5	6.1	7.6	9.1	10.6	12.1	13.6	15.1	
170MDCHP34* 170MDC2	100 psi (6.9 bar) 25 psi (1.7 bar)	#2	2.4	5.1	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3	51.5	
170MDC3	25 psi (1.7 bar)	#3	6.1	12.1	24.2	36.3	48.5	60.6	72.7	84.8	96.9	109.0	121.1	
170MDC4	25 psi (1.7 bar)	#4	9.1	18.2	36.3	54.5	72.7	90.8	109	127.2	145.3	163.5	181.7	
170MDC5	25 psi (1.7 bar)	#5	13.0	25.7	51.5	77.2	103.0	128.7	154.4	180.0	205.9	231.6	257.4	

\* Injection check valve included with pumps rated 26-100 psi (1.8-6.9 bar).

**NOTICE:** The information within this chart is solely intended for use as a guide. The output data is an approximation based on pumping water under a controlled testing environment. Many variables can affect the output of the pump. Stenner Pump Company recommends that all metering pumps undergo field calibration by means of analytical testing to confirm their outputs.

# MATERIALS OF CONSTRUCTION

## **All Housings**

Polycarbonate

## **Peristaltic Tube\* & Check Valve Duckbill**

Santoprene®, FDA approved

## **Peristaltic Tube\*\***

Tygothane®, FDA approved

## **Check Valve Duckbill†**

Pellathane®

## **Suction/Discharge Tubing & Ferrules (1/4" & 6 mm)**

Polyethylene, FDA approved

## **Weighted Suction Line Strainer**

Polypropylene or Type 1 Rigid PVC body with Type 1 Rigid PVC cap, NSF listed; ceramic weight

## **All Fasteners**

Stainless Steel

## **Tube Fittings**

Gray: Type 1 Rigid PVC, NSF listed

Black: Polypropylene, NSF listed

## **Check Valve Fittings**

Type 1 Rigid PVC, NSF listed

## **Connecting Nuts**

Type 1 Rigid PVC or Polypropylene

## **3/8" Adapter**

Type 1 Rigid PVC, NSF listed

## **Pump Head Latches**

Polypropylene

\* Santoprene® is a registered trademark of Exxon Mobil Corporation.

\*\*Tygothane® is a registered trademark of Saint-Gobain Performance Plastics.

† Pellathane® is a registered trademark of The Dow Company.

# ACCESSORY CHECKLIST

## PRE-INSTALLATION

### 25 psi (1.7 bar) Accessory Kit Contents\*

- 3 Connecting Nuts 1/4" or 3/8"
- 3 Ferrules 1/4" & 6 mm *Europe* OR 2 Ferrules 3/8"
- 1 Injection Fitting
- 1 Weighted Suction Line Strainer 1/4", 3/8", 6 mm *Europe*
- 1 20' Roll of Suction/Discharge Tubing  
1/4" or 3/8" White or UV Black OR 6 mm White *Europe*
- 1 Additional Pump Tube
- 2 Additional Latches
- 1 Mounting Bracket
- 1 Installation Manual

### 100 psi (6.9 bar) Accessory Kit Contents\*

- 3 Connecting Nuts 1/4" or 3/8"
- 3 Ferrules 1/4" & 6 mm *Europe* OR 2 Ferrules 3/8"
- 1 Injection Check Valve
- 1 Weighted Suction Line Strainer 1/4" or 3/8", 6 mm *Europe*
- 1 20' Roll of Suction/Discharge Tubing  
1/4" or 3/8" White or UV Black OR 6 mm White *Europe*
- 1 Additional Pump Tube
- 2 Additional Latches
- 1 Mounting Bracket
- 1 Installation Manual

\* Double head pumps include an additional set of the accessories listed above.

# INSTALLATION

## ADDITIONAL SAFETY INSTRUCTIONS

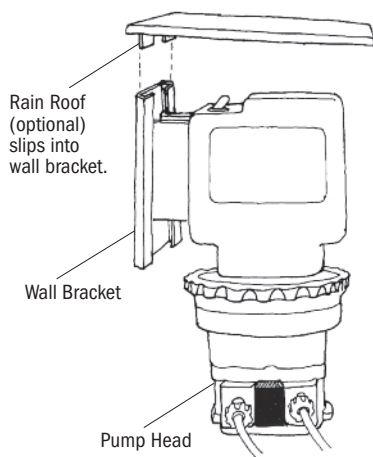
**!** **NOTICE:** Indicates special instructions or general mandatory action.

- !** Read all safety hazards before installing or servicing the pump. The pump is designed for installation and service by properly trained personnel.
- !** Use all required personal protective equipment when working on or near a chemical metering pump.
- !** Install the pump so that it is in compliance with all national and local plumbing and electrical codes.
- !** Use the proper product to treat potable water systems, use only chemicals listed or approved for use.
- !** Install the pump to work in conjunction with pool, spa, well pump, or system controls.
- !** Inspect tube frequently for leakage, deterioration, or wear. Schedule a regular pump tube maintenance change to prevent chemical damage to pump and/or spillage.
- !** Mount pump vertically and use spill recovery to run chemical back to tank in the event of tube failure.
- !** Pump is not recommended for installation in areas where leakage can cause personal injury or property damage.

# INSTALLATION continued

## MOUNT PUMP

- ❗ **Select a dry location (to avoid water intrusion and pump damage) above the solution tank. Best recommended location is above the solution tank in a vertical position with the pump head pointed downward and the spill recovery (see page 18) in place to reduce the risk and severity of damage.**
  - ❗ **To prevent pump damage in the event of a pump tube leak, never mount the pump vertically with the pump head up.**
  - ❗ **To avoid chemical damage from fumes, DO NOT mount pump directly over an open solution tank. Keep tank covered.**
  - ❗ **Avoid flooded suction or pump mounted lower than the solution container. Draw solution from the top of the tank. Pump can run dry without damage. If pump is installed with a flooded suction, a shut-off valve or other device must be provided to stop flow to pump during service.**
1. Use the mounting bracket as a template to drill pilot holes in mounting location.
  2. Secure bracket with fasteners or wall anchors. Slide pump into bracket.
- ❗ **Provide 8" clearance to allow pump orientation to be reversed during tube replacement. DO NOT allow water intrusion into the motor or corrosion and damage will occur.**
  - ❗ **To prevent motor damage, verify with a volt meter that the receptacle voltage corresponds with the pump voltage.**
3. Plug cord into receptacle and turn the motor power switch on. If the pump is adjustable, turn the dial ring to 10.
  4. Activate the pump by the pump control (flow switch, pressure switch, etc.) and verify rotation of the roller assembly within the clear pump head. Turn pump switch off.



# INSTALLATION continued

## ADDITIONAL INSTRUCTIONS FOR CE PUMPS WHEN APPLICABLE

### ADDITIONAL INSTALLATION INSTRUCTIONS

1. All Class II Pumps located in Zone 1 of swimming pool areas require locating where flooding cannot occur.
  2. This pump is intended to be installed as “fixed” as opposed to portable.
  3. The Rain Roof must be installed and “vertical orientation” mounting of entire unit observed.
  4. After installation, the power supply plug must be accessible during use.
  5. This unit must be scrapped if the supply cord is damaged.
  6. Observe and comply with all National Wiring Standards.
- 

### ZUSTÄZLICHE INSTALLIERUNGSANWEISUNGEN

1. Pumpen die sich in Zone 1 vom Schwimmbecken befinden sollen sind so einzurichten daß Überschwemmungen nicht vorkommen werden.
  2. Diese Pumpe ist als fest montierte Ausrüstung bedacht und soll nicht umstellbar gebraucht werden.
  3. Der Regendach muss installiert werden. Eine vertikale Ausrichtung der Montage muß erzielt werden.
  4. Die Stromversorgung muss nach der Installation noch zugänglich sein.
  5. Bei beschädigter Verkabelung ist dieses Gerät nicht mehr zu gebrauchen.
  6. Staatliche Vernetzungsvorschriften müssen eingehalten werden.
- 

### INSTRUCTIONS SUPPLÉMENTAIRES D'INSTALLATION

1. Toutes les pompes installées dans la Zone 1 du périmètre de la piscine doivent être situées de manière à ne pas pouvoir être inondées.
  2. Cette pompe est prévue pour installation fixe et non pas portative.
  3. L'abri anti-pluie doit être installé et l'orientation verticale doit toujours être observée.
  4. Après l'installation, la prise électrique doit rester accessible pendant l'utilisation.
  5. Cette unité doit être mise au rebut si le cordon électrique est endommagé.
  6. Observez et adhérez à toutes les Normes Nationales pour Installations Electriques.
- 

### INSTRUCCIONES ADICIONALES PARA INSTALACION

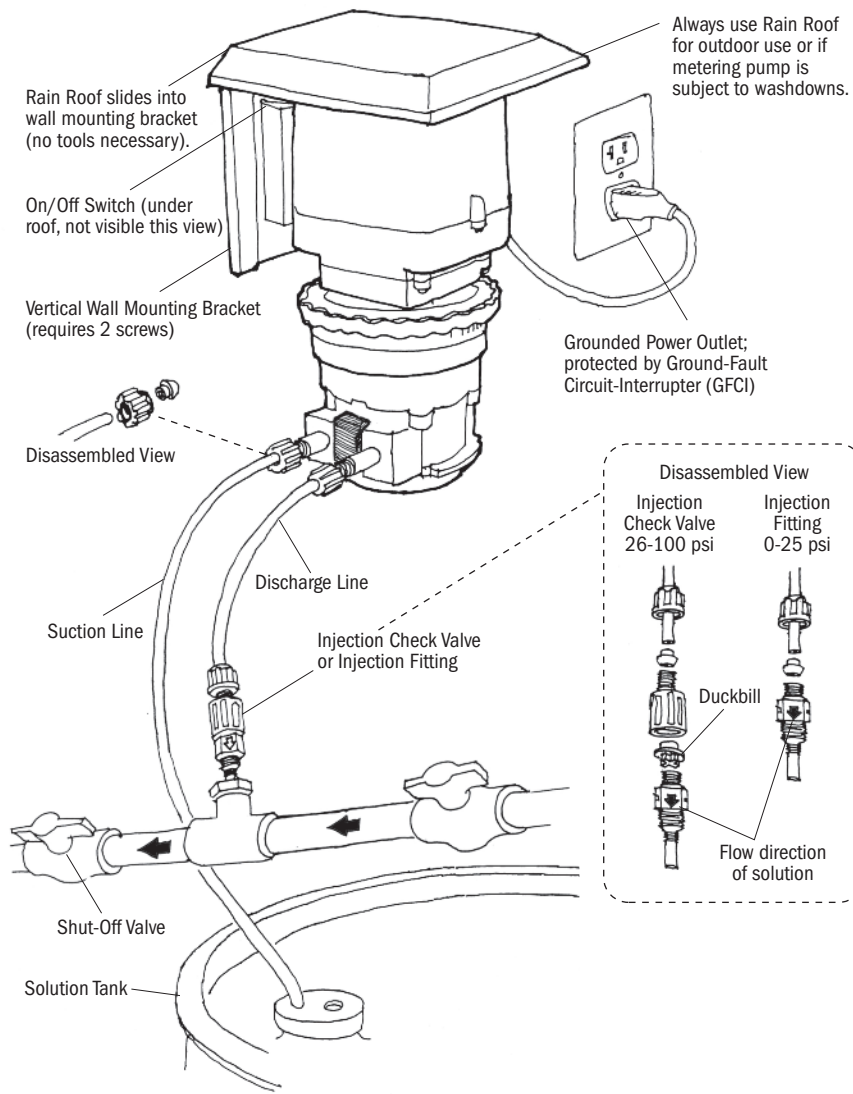
1. Todas las bombas Clase II situadas en la Zona 1 de las áreas de la piscina requieren colocarse donde no puedan ser inundadas.
  2. Esta bomba es para ser instalada “fija” en vez de portátil.
  3. Es necesario instalar el techo de lluvia, y montar la unidad entera siguiendo una orientación vertical.
  4. Después de la instalación el enchufe suministrador de energía debe estar accesible durante el uso.
  5. Se deberá deshechar la unidad si el cordón de abastecimiento se deteriora.
  6. Observe y cumpla con todas las Reglas Nacionales para Instalaciones Eléctricas.
- 

### ISTRUZIONI SUPPLEMENTARI PER L' INSTALLAZIONE

1. Tutte le pompe Classe II localizzate nella Zona 1 della superficie circostante la piscina devono essere collocate dove gli allagamenti non possono accadere.
2. Questa pompa, é inteso, deve essere installata come ‘fissa’ e non come portatile.
3. La tettoia deve essere installata e il montaggio ‘orientazione verticale’ dell’intera unità deve essere osservato.
4. Dopo l’installazione, la spina deve essere accessibile durante l’uso.
5. Questa unità deve essere gettata via se il filo elettrico é danneggiato.
6. Osservare e aderire a tutte le Norme Nazionali Sugli Impianti Elettrici.



# INSTALLATION DIAGRAM

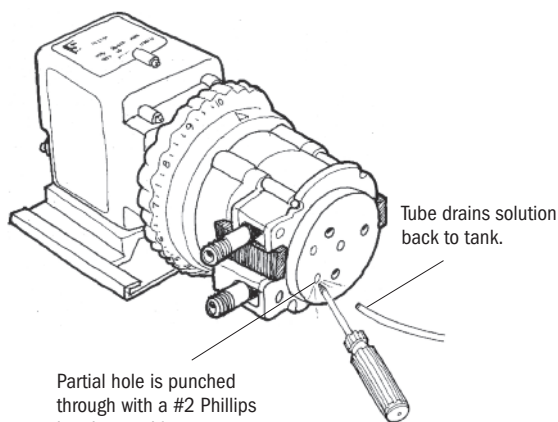


# INSTALLATION continued

## SPILL RECOVERY

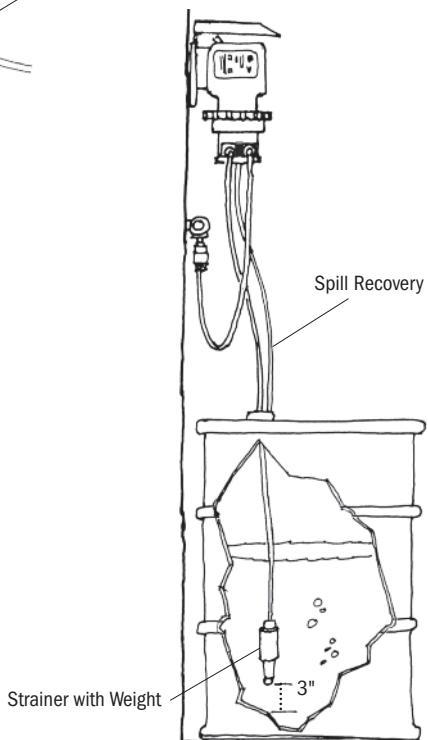
Mount the pump vertically and use the spill recovery to drain chemical back to the tank in the event of tube failure. This will help prevent chemical from collecting in the tube housing and reduces spillage on the floor.

The pump motor is ventilated and water intrusion can cause motor damage. A rain roof is recommended for outdoor and wet environments.



Partial hole is punched through with a #2 Phillips head screwdriver.

Use section of 1/4" suction/discharge tubing and insert in hole.



Spill Recovery

Strainer with Weight

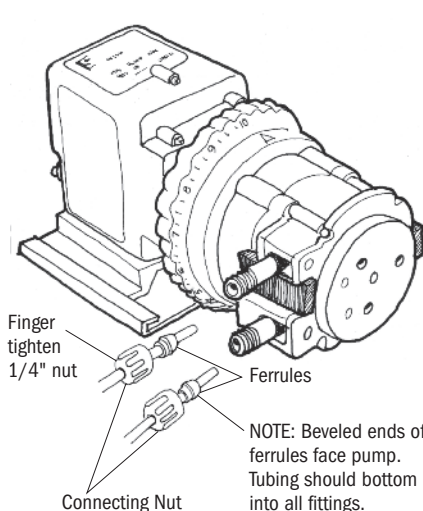
3"

# INSTALLATION continued

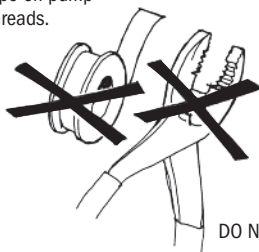
## INSTALL SUCTION LINE TO PUMP HEAD

1. Uncoil the suction/discharge tubing. Use outside of solution tank as a guide to cut proper length of suction line ensuring it will be 2-3" above the bottom of solution tank.
- ! Allow sufficient slack to avoid kinks and stress cracks. Always make a clean square cut to assure that the suction line is burr free. Normal maintenance requires trimming.**
- ! Suction lines that extend to the bottom of the tank can result in debris pickup leading to clogged injectors and possible tube failure.**
2. Make connections by sliding the line(s) through connecting nut\* and ferrule and finger tighten to the corresponding tube fittings.
  3. Finger tighten nut to the threaded tube fitting while holding the tube fitting.
- ! Over tightening the ferrule and nut with a wrench may result in damaged fittings, crushed ferrules, and air pick up.**
- ! DO NOT use thread seal tape on pump tube connections or tools to tighten connections.**

*More on next page*



DO NOT use thread seal tape on pump tube threads.



DO NOT use pliers.

\* For 3/8" connections only. While stabilizing the tube fitting, attach female end of adapter to the tube fitting(s) (ferrule inside). Slide line through 3/8" connecting nut and finger tighten to male end of adapter. If leak occurs, gradually tighten the 3/8" connecting nut as required.

# INSTALLATION continued

## INSTALL SUCTION WEIGHT TO SUCTION LINE

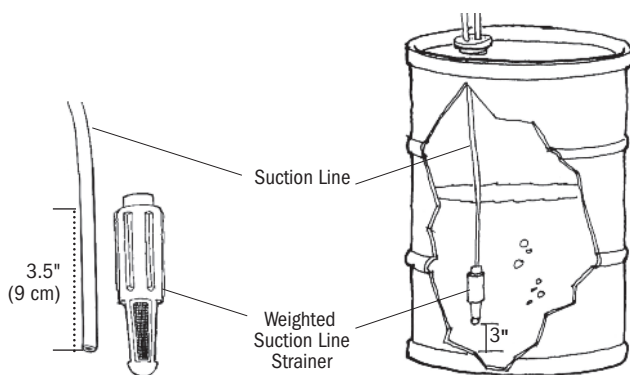
1. Drill a hole into the bung cap or solution tank lid. Slide the tubing through and secure the weighted strainer to the line.
2. To attach the strainer, push approximately 3.5" of suction line through the cap on the strainer body. Pull tubing to make sure it is secure.
3. Suspend slightly above tank bottom to reduce the chance of sediment pickup.



**DO NOT mix chemicals in the solution container. Follow recommended mixing procedures according to the manufacturer.**



**DO NOT operate pump unless chemical is completely in solution. Turn pump off when replenishing solution.**



# INSTALLATION continued

## INSTALL DISCHARGE LINE TO PUMP HEAD AND INJECTION POINT

1. Make a secure finger tight connection on the discharge fitting of the pump head as instructed in Install Suction Line instructions.

**!** **DO NOT use thread seal tape on pump tube connections or tools to tighten connections.**

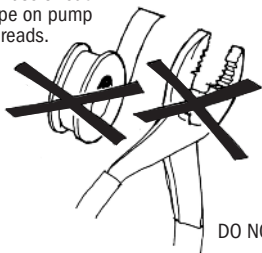
**⚠** **WARNING** **HAZARDOUS PRESSURE: Shut off water or circulation system and bleed off any system pressure.**

**!** **Locate a point of injection beyond all pumps and filters or as determined by the application.**

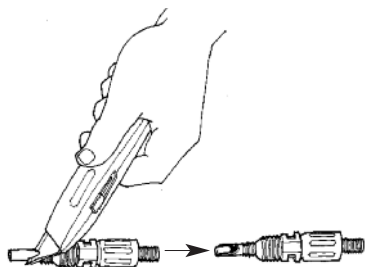
2. A 1/4" or 1/2" Female NPT (FNPT) connection is required for installing the injection fitting. If there is no FNPT fitting available, provide one by either tapping the pipe or installing FNPT pipe tee fitting.
3. Wrap the Male NPT (MNPT) end of injection fitting with 2 or 3 turns of thread seal tape. If necessary, trim the injection fitting quill as required to inject product directly into flow of water.

*More on next page*

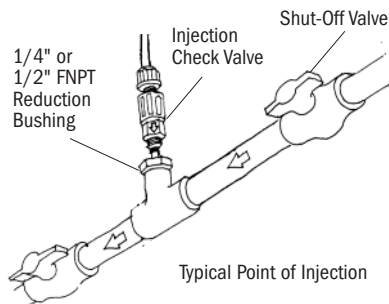
DO NOT use thread seal tape on pump tube threads.



DO NOT use pliers.



Trim Injection Fitting



# INSTALLATION continued

4. Hand tighten the injection fitting into the FNPT fitting.

## **0-25 psi Model (includes injection fitting)**

- a. Install connecting nut\* and ferrule to the pump discharge line. Insert discharge line into injection fitting until it reaches base of fitting.
- b. Finger tighten connecting nut\* to fitting.

## **26-100 psi Model (includes injection check valve)**

- a. Prior to connection, test injection check valve and NPT threads for leaks by pressurizing system. If necessary, tighten an additional 1/4 turn.
- b. Install connecting nut\* and ferrule to the pump discharge line. Insert discharge line into check valve body until it reaches base of body.
- c. Finger tighten connecting nut\* to fitting.

5. Turn pump on and re-pressurize system. Observe chemical flow as actuated by system and check all connections for leaks.
6. After suitable amount of dosing time, perform tests for desired chemical readings (e.g., pH or ppm). If necessary, fine tune dosing levels by rotating dial ring (adjustable pumps only) or by adjusting solution strength.



**The injection point and fitting require periodic maintenance to clean any deposits or buildup. To allow quick access to the point of injection, Stenner recommends the installation of shut-off valves.**

\* For 3/8" connections, insert discharge line until it reaches base of injection fitting (25 psi) or check valve body (100 psi). If leak occurs, gradually tighten the 3/8" connecting nut as required.

# TROUBLESHOOTING – MOTOR



## **WARNING** HAZARDOUS VOLTAGE

**DISCONNECT** power cord before removing motor cover for service. **Electrical service should be performed by trained personnel only.**

PROBLEM	POSSIBLE CAUSE	SOLUTION
Loud or excessive noise	Worn ball bearings Insufficient lubrication Worn gears or gear posts	Replace rotor assembly Apply AquaShield® to gears and gear posts Inspect and/or replace gears and gear posts
Motor does not work; fan does not turn	Faulty electrical supply Rotor bound to coil Damaged motor coil Worn or damaged rotor bearings Damaged power cord Rotor rusted to coil Faulty wire connections Obstructed fan	Check supply voltage circuit Replace bearing brackets if cracked Replace motor coil Replace rotor assembly Inspect and/or replace power cord Clean off coil and rotor or replace Inspect and/or repair electrical connections Remove obstruction
Motor runs; fan turns, output shaft does not	Worn or damaged gears	Replace gears as needed
Motor overheats and shuts off and on	Incorrect voltage High ambient temperature Damaged/malfunctioning coil	Check voltage and frequency matches data label Pumps are rated at 125° F maximum Replace motor coil
Phenolic gear is stripping	Water intrusion Cracked bearing bracket Worn gear posts Rusted helical gear at end of rotor  Worn gear case cover Insufficient lubrication	Use rain roof & replace phenolic gear Replace bearing bracket & phenolic gear Replace gear posts & phenolic gear Buff off rotor or replace rotor, replace phenolic gear Replace gear case Lubricate with AquaShield®

# TROUBLESHOOTING – FEED RATE CONTROL

PROBLEM	POSSIBLE CAUSE	SOLUTION
Adjustment ring will not turn	Seized variable cam	Apply Aquashield® to variable cam & cam slot
	Seized adjustment ring	Clean then lubricate ring with AquaShield®
Adjustment ring turns, output doesn't change	Variable cam disengaged from ring	Re-insert 90 ° end into ring
	Broken variable cam	Replace variable cam
Pump head does not rotate	Worn index plate	Turn over or replace index plate
	Motor problem	Refer to Motor section
	Pump head roller assembly stripped	Replace roller assembly
	Index pin holder loose	Tighten holder into spider assembly
	Index pin broken	Replace index pin and lifter assembly
Pump head rotates continuously	Variable cam	Replace or re-insert variable cam
Erratic indexing	Index plate worn	Turn over or replace index plate
	Variable cam worn	Replace variable cam
	Lifter worn	Replace index pin & lifter assembly



# TROUBLESHOOTING – PUMP HEAD

PROBLEM	POSSIBLE CAUSE	SOLUTION
Components cracking	Chemical attack	Check chemical compatibility
Pump head leaking	Pump tube rupture	Replace pump tube, ferrules; center tube
No pump output, pump head rotates	Depleted solution tank Pump suction line weight is above solution Leak in the suction line Ferrules installed incorrectly, missing or damaged Injection point is clogged Clogged suction and/or discharge line and/or injection check valve Life of pump tube exhausted Suction line is flush with the nose of the weighted strainer	Replenish solution Position suction line 3" above bottom of tank Inspect or replace suction line Replace ferrules Inspect and clean injection point Clean and/or replace as needed Replace pump tube, ferrules; center tube Pull suction line approximately 1" from bottom of strainer, cut bottom of suction tubing at an angle
Low pump output, pump head rotates	Life of pump tube exhausted Rollers worn or broken Injection point is restricted Incorrect tube size High system back pressure	Replace pump tube, ferrules; center tube Replace roller assembly Inspect and clean injection point Replace tube with correct size Verify system pressure against tube psi, replace tube if needed
No pump output, pump head doesn't rotate	Stripped roller assembly Feed rate control problem Motor problem	Replace roller assembly Refer to feed rate control section Refer to motor section
Pump output high	Incorrect tube size or setting Roller assembly broken Malfunctioning feed rate control Incorrect motor rpm	Replace tube with correct size or adjust settings. Replace roller assembly Refer to feed rate control section Replace with motor that matches pump model

# TROUBLESHOOTING – PUMP TUBE







**NOTICE:** A leaking pump tube damages the metering pump. Inspect pump frequently for leakage and wear. Refer to Tube Replacement section for additional safety precautions and instructions.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Tube leaking	Pump tube ruptured	Replace pump tube, ferrules; center tube
	Calcium or mineral deposits	Clean injection fitting, replace pump tube, ferrules; center tube
	Excessive back pressure	Verify system pressure against tube psi, replace tube if needed
	Tube is twisted	Replace pump tube, ferrules; center tube
	Tube not centered	Replace pump tube, ferrules; center tube
Tube life is shortened	Chemical attack	Check chemical compatibility
	Mineral deposits at injection point	Remove deposits, replace pump tube, ferrules; center tube
	Sediment blockage at check valve	Clean injection fitting, ensure suction line is 3" above tank bottom. Use suction line strainer.
	Degraded check valve duckbill	Replace duckbill at every tube change
	Duckbill in wrong orientation	Reverse duckbill orientation
	Seized rollers caused abrasion on tube	Clean roller assembly or replace
	Exposure to heat or sun	DO NOT store tubes in high temperatures or in direct sunlight
Tube connection is leaking	Missing ferrule on 1/4" or 6 mm line	Replace ferrule
	Crushed ferrule	Replace ferrule
	Ferrule in wrong orientation	Reverse orientation of ferrule
	3/8" nut loose	Secure adapter and tighten 3/8" nut as needed
	Missing ferrule in 3/8" adapter	Replace with new adapter fitting or insert new ferrule into adapter

# TUBE REPLACEMENT – SAFETY INFORMATION




## **WARNING** RISK OF CHEMICAL EXPOSURE

-  To reduce risk of exposure, check the pump tube regularly for leakage. At the first sign of leakage, replace the pump tube.
-  To reduce risk of exposure, the use of proper personal protective equipment is mandatory when working on or near chemical metering pumps.
-  To reduce risk of exposure, and also prior to service, shipping, or storage, pump generous amounts of water or a compatible buffer solution to remove chemical from pump.
-  Consult chemical manufacturer and MSDS sheet for additional information and precautions for the chemical in use.
-  Personnel should be skilled and trained in the proper safety and handling of the chemicals in use.
-  Inspect tube frequently for leakage, deterioration, or wear. Schedule a regular pump tube maintenance change to prevent chemical damage to pump and/or spillage.





## **CAUTION** PINCH POINT HAZARD

-  Use extreme caution when replacing pump tube. Be careful of your fingers and DO NOT place fingers near rollers.








## **WARNING** HAZARDOUS PRESSURE/CHEMICAL EXPOSURE

-  Use caution and bleed off all resident system pressure prior to attempting service or installation.
-  Use caution when disconnecting discharge line from pump. Discharge may be under pressure. Discharge line contain chemical.



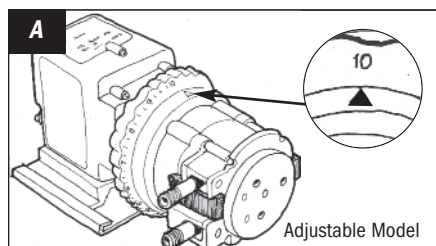
## **NOTICE: Indicates special instructions or general mandatory action.**

-  **DO NOT** apply grease, oil, or lubricants to the pump tube or housing.
-  Prior to pump tube replacement, inspect the entire pump head for cracks or damaged components. Ensure rollers turn freely.
-  Rinse off chemical residue and clean all chemical and debris from pump head components prior to tube replacement. Apply Aquashield® to main shaft and tube housing cover bushing during tube replacement.
-  **DO NOT** pull excessively on pump tube. Avoid kinks or damage during tube installation.
-  Inspect the suction and discharge lines, injection point (into pipe), and injection check valve duckbill for blockages after any tube rupture. Clear or replace as required.

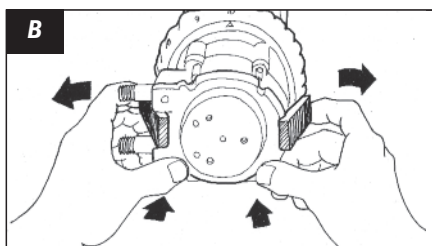
# TUBE REMOVAL

## Illustrated Basic Steps

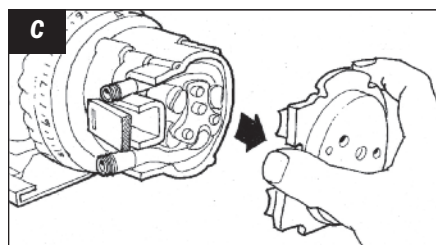
**! NOTICE:** Refer to written instructions for complete steps.



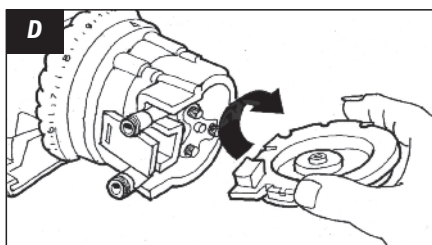
**Adjustable model must be on setting 10**



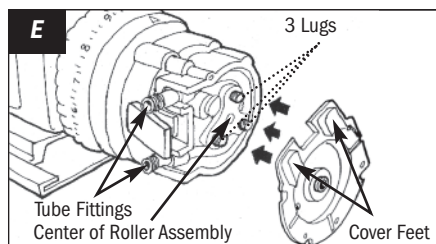
**Open latches**



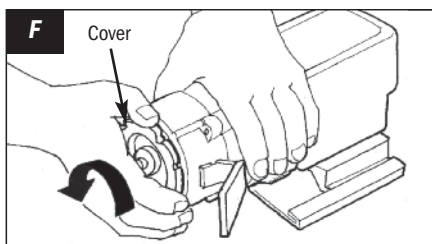
**Remove cover**



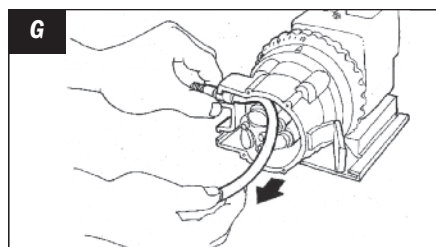
**Invert cover**



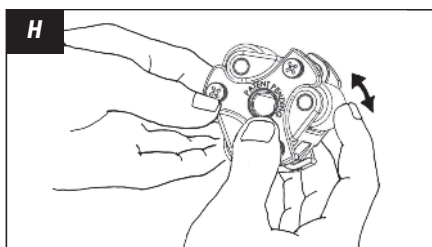
**Align cover feet near tube fittings**



**Collapse roller assembly**



**Remove tube**

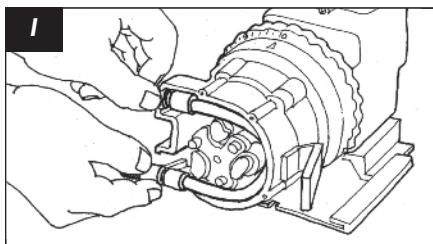


**Check rollers**

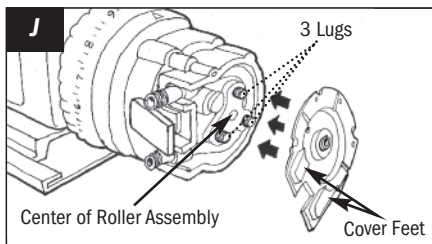
# TUBE INSTALLATION & CENTERING

## Illustrated Basic Steps

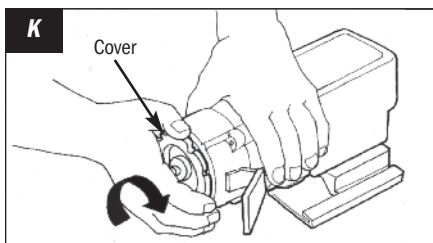
**NOTICE:** Refer to written instructions for complete steps.



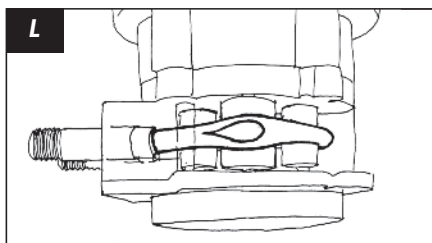
**Place new tube**



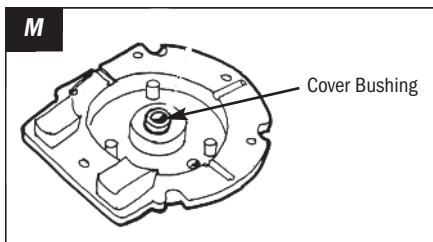
**Align cover feet near the bottom**



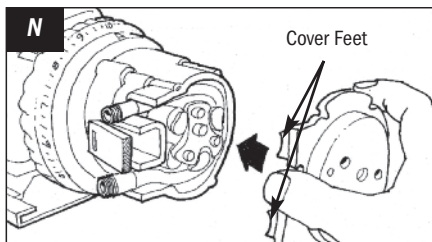
**Expand roller assembly**



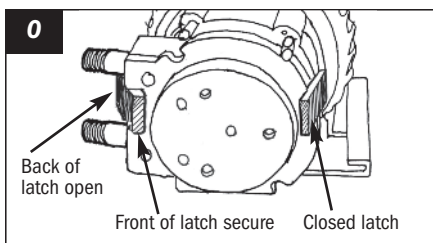
**Confirm roller assembly is expanded**



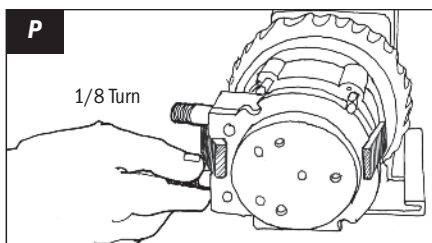
**Apply Aquashield® to cover bushing**



**Install cover feet first**



**Prepare to center tube**



**Center tube**

# TUBE REPLACEMENT – SINGLE HEAD

## Adjustable & Fixed Output Pumps

### PREPARATION

---

1. Follow all safety precautions prior to tube replacement.
2. Prior to service, pump water or a compatible buffer solution through the pump and suction and discharge lines to remove chemical and avoid contact.

### REMOVE THE PUMP TUBE

---

1. Turn the pump off and unplug the power cord. On the adjustable model, ensure that the feed rate control is set to 10. *Illustration A p28*
2. Depressurize and disconnect the suction and discharge lines.
3. Open the back and front of the latches on both sides of the head. Carefully fold latches back to prevent contact with the cover. *Illustration B p28*  
*For CE pump only: Remove the safety screw on cover.*
4. Remove the tube housing cover and flip to use as a tool in the next step.  
*Illustration C & D p28*
5. Align the center of the inverted cover with the center of the roller assembly so that the three holes on the face of the cover align with the three knurled lugs on the roller assembly. Position the cover feet near the tube fittings. *Illustration E p28*  
NOTE: The roller assembly needs to be collapsed to remove the tube.
6. On the adjustable pump, hold the feed rate control securely. On the fixed output pump hold the pump securely. Use the tube housing cover as a wrench and quickly (snap) rotate the cover counter-clockwise to collapse the roller assembly. The tube will no longer be pressed against the tube housing wall. *Illustration F p28*  
NOTE: Counter-clockwise is viewed from facing the head of the pump.
7. Remove and discard the pump tube. *Illustration G p28*
8. Remove the roller assembly, and the tube housing. On the adjustable pump also remove the shaft. Set them aside to reinstall later.
9. Use a non-citrus all-purpose cleaner to clean chemical residue from the tube housing, roller assembly and cover.
10. Check the housing, cover and roller assembly for cracks and replace if cracked.
11. Ensure the rollers turn freely. Replace the roller assembly if the rollers are seized or worn or if there is a reduction or lack of output from the pump. *Illustration H p28*
12. Reinstall the clean tube housing. On an adjustable pump, also install the shaft into the feed rate control.
13. Apply AquaShield® to the shaft tip.
14. Install the roller assembly.

# TUBE REPLACEMENT – SINGLE HEAD

## Adjustable & Fixed Output Pumps

### INSTALL THE PUMP TUBE AND EXPAND THE ROLLER ASSEMBLY

---

#### **IMPORTANT! DO NOT LUBRICATE PUMP TUBE OR ROLLER ASSEMBLY.**

1. Ensure the power to the pump is off and the power cord is unplugged. On the adjustable model, ensure that the feed rate control is set to 10. *Illustration A p28*
2. Place the new tube in the pump head; use your fingers to center it over the rollers. *Illustration I p29*
3. Place the tube housing cover on the tube housing, affix the front latches to the cover lip and then press the latches back to secure.
4. With the cover latched, plug the pump in and turn the power on. Allow the pump to run the roller assembly in its collapsed position for approximately one minute to relax the tube.
5. Turn the pump off and unplug the power cord.
6. Remove the tube housing cover and flip to use as a tool in the next step. *Illustration C & D p28*
7. Align the center of the inverted cover with the center of the roller assembly so that the three holes on the face of the cover align with the three knurled lugs on the roller assembly. Position the cover feet near the bottom. *Illustration J p29*  
NOTE: The roller assembly needs to be expanded so the tube is pressed against the tube housing wall.

*More on next page*

# TUBE REPLACEMENT – SINGLE HEAD

## Adjustable & Fixed Output Pumps

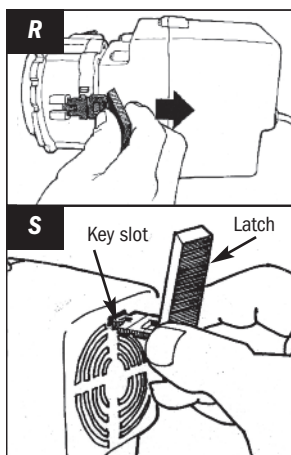
### 8. Expand roller assembly.

#### Adjustable Model

- Hold the feed rate control securely, use the cover as a wrench and quickly (snap) rotate the roller assembly clockwise to expand the roller assembly. The tube will be pressed against the tube housing wall. *Illustration K & L p29* Proceed to step 9.

NOTE: Clockwise is viewed from facing the head of the pump.

#### Fixed Output Model (motor vent with key slot, manufactured after 04/29/11)



- a. Slide one latch out to remove it from the tube housing. Insert the latch end into the key slot in the vent in the rear of the motor housing. While pressing the latch into the rear of the motor, gently rotate the cover clockwise until it stops. *Illustration R & S*
- b. Holding the pump securely, use the cover as a wrench and quickly (snap) rotate the roller assembly clockwise to expand the roller assembly. The tube will be pressed against the tube housing wall. *Illustration K & L p29*

NOTE: Clockwise is viewed from facing the head of the pump.

- c. Remove the latch from the vent and re-attach it to the tube housing. Proceed to step 9.
9. Apply a small amount of AquaShield® to the cover bushing ONLY. DO NOT lubricate the pump tube. *Illustration M p29*
  10. Place the tube housing cover (feet first) on the tube housing, affix the front of the latches to the cover lip and then press the latches back to secure. *Illustration N p29*



# TUBE REPLACEMENT – SINGLE HEAD

## Adjustable & Fixed Output Pumps

### CENTER THE TUBE

---

1. Ensure the pump is off. Lift the latch located between the tube fittings, leaving the end of the latch engaged with the lip on the tube housing cover. Leave the latch on the opposite side engaged. *Illustration O p29*
2. Plug the pump in and turn it on. Turn the tube fitting on the suction side not more than 1/8 of a turn in the direction the tube must move. *Illustration P p29*
3. DO NOT let go of the fitting until the tube rides approximately in center of the rollers.
4. Turn the pump off, let go of the fitting, and secure the latch between the fittings. *For CE pump only: Reinstall the safety screw on the cover.*
5. Inspect the suction and discharge lines, point of injection, and check valve duckbill for blockages. Clean and/or replace as required.
6. Reconnect the suction and discharge lines.
7. Turn the pump on and run for one minute for verify operation.

# CLEANING THE POINT OF INJECTION – SAFETY INFORMATION

**NOTICE:** Indicates special instructions or general mandatory action.

0-25 psi models are installed using an injection fitting and 26-100 psi models use an injection check valve. Both allow the extension tip to be installed in the center of the pipe directly in the flow of water to help reduce deposit accumulation.

**WARNING** Warns about hazards that **CAN** cause death, serious personal injury, or property damage if ignored.

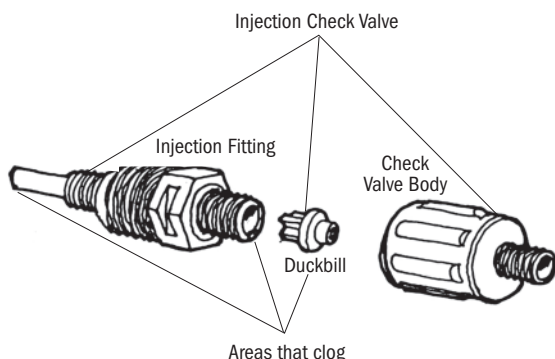
**This is the safety alert symbol. When displayed in this manual or on the equipment, look for one of the following signal words alerting you to the potential for personal injury or property damage.**

**WARNING** **HAZARDOUS PRESSURE/CHEMICAL EXPOSURE**

Use caution and bleed off all resident system pressure prior to attempting service or installation.

Use caution when disconnecting discharge line from pump. Discharge line may be under pressure. Discharge line may contain chemical.

To reduce risk of exposure, the use of proper personal protective equipment is mandatory when working on or near chemical metering pumps.



# CLEANING THE POINT OF INJECTION continued

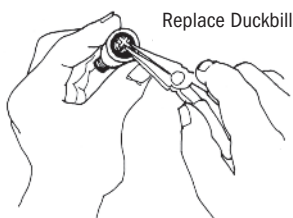
1. Turn metering pump off and unplug cord. Disable water pump or auxiliary equipment electrical supply.
2. Depressurize system and bleed pressure from pump discharge line.
3. Loosen and remove connecting nut and ferrule from the injection check valve or injection fitting to disconnect discharge tubing.

## **26-100 psi Model (includes injection check valve)**

- Unscrew the top fitting (check valve body) to disassemble. The bottom fitting (injection fitting with arrow) should remain attached to the pipe.
- Remove duckbill from check valve body and replace if deteriorated or swollen (replace duckbill with every tube change). If clogged, clean or replace (yearly replacement recommended).
- Examine O-ring in the injection fitting and replace if deteriorated or damaged.

4. Insert a #2 Phillips head screwdriver through injection fitting into the pipe to locate or break up accumulated deposits. If screwdriver cannot be inserted, drill the deposit out of the injection fitting (DO NOT drill through the opposite pipe wall.)

*More on next page*



Periodic inspection and cleaning of the point of injection will maintain proper pump operation and provide maximum tube life.

## CLEANING THE POINT OF INJECTION continued

5. Replace discharge line if cracked or deteriorated. If the end is clogged, cut off the calcified or blocked section of discharge line.

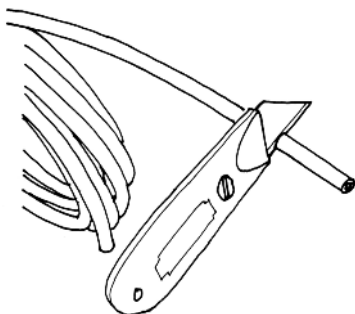
### **0-25 psi Model (includes injection fitting)**

Replace ferrule and reinstall the discharge line to the injection fitting approximately 3/4"-1" until it stops.

### **26-100 psi Model (includes injection check valve)**

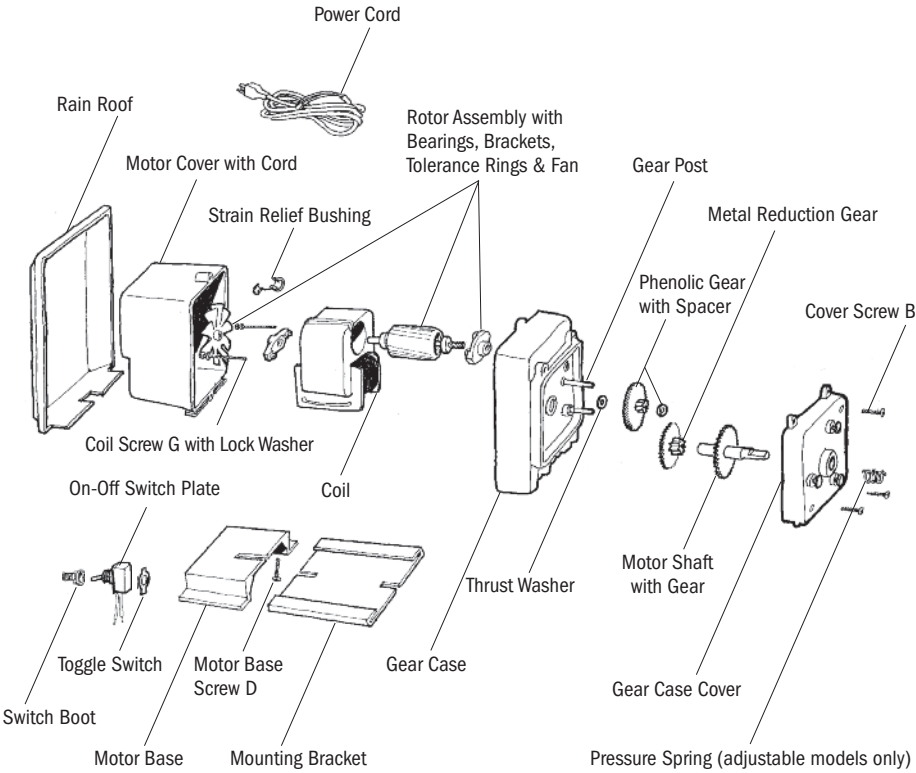
- Reassemble the injection check valve in reverse order.
- Replace ferrule and reinstall the discharge line to the injection check valve approximately 3/4" until it stops.

6. Tighten the connection nut finger tight.
7. Enable the water pump electrical supply and pressurize the water system.
8. Put the metering pump back in service and inspect all connections for leaks.



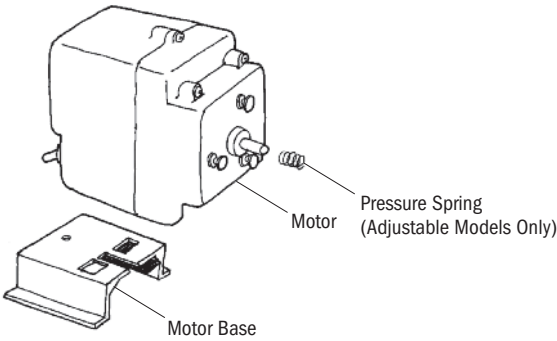
Cut off the calcified or blocked section.

# MOTOR EXPLODED VIEW



Contact factory for part numbers.

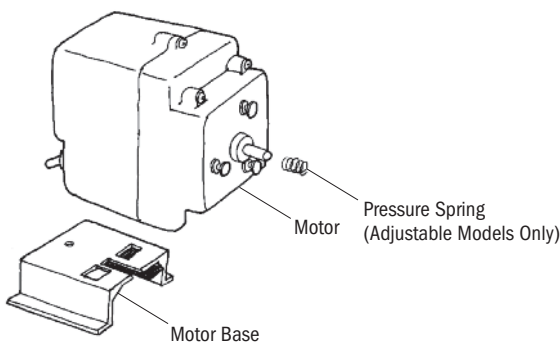
# MOTOR – 60Hz



## 60Hz

	PART NUMBER	UM
For Adjustable Output 45 & 100 Series		
120V	PM6041D	EA
220V	PM6042D	EA
For Adjustable Output 85 & 170 Series		
120V	PM6081D	EA
220V	PM6082D	EA
For Fixed Output 45 Series		
120V	ME6041D	EA
220V	ME6042D	EA
For Fixed Output 85 Series		
120V	ME6081D	EA
220V	ME6082D	EA
For Fixed Output 100 Series		
120V	DM6041D	EA
220V	DM6042D	EA
For Fixed Output 170 Series		
120V	DM6081D	EA
220V	DM6082D	EA

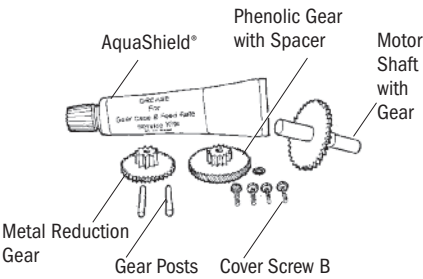
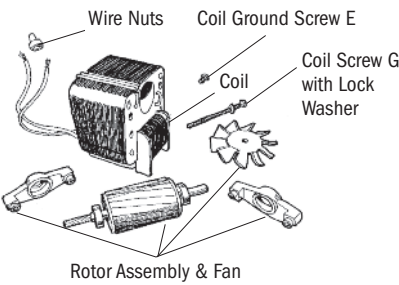
# MOTOR – 50Hz *International*



## 50Hz *International*

	PART NUMBER	UM
For Adjustable Output 45 & 100 Series		
230V	PM64230	EA
250V	PM6426D	EA
For Adjustable Output 85 & 170 Series		
230V	PM68230	EA
250V	PM6826D	EA
For Fixed Output 45 Series		
230V	ME64230	EA
250V	ME6426D	EA
For Fixed Output 85 Series		
230V	ME68230	EA
250V	ME6826D	EA
For Fixed Output 100 Series		
230V	DM64230	EA
250V	DM64250	EA
For Fixed Output 170 Series		
230V	DM68230	EA
250V	DM68250	EA

# MOTOR SERVICE KITS



## MOTOR SERVICE KITS

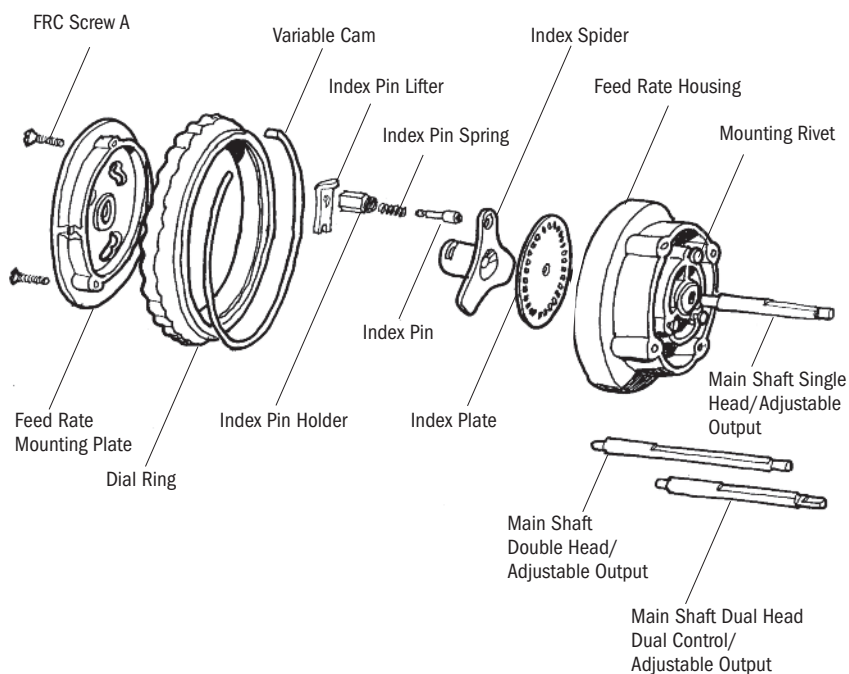
	PART NUMBER	UM
60Hz Kit		
120V	<b>MSK120</b>	KIT
220V	<b>MSK220</b>	KIT

## GEAR CASE SERVICE KITS

	PART NUMBER	UM
For Adjustable Output 45 & 100 Series		
	<b>GSK45A</b>	KIT
For Adjustable Output 85 & 170 Series		
	<b>GSK85A</b>	KIT
For Fixed Output 45 Series		
	<b>GSK45F</b>	KIT
For Fixed Output 85 Series		
	<b>GSK85F</b>	KIT

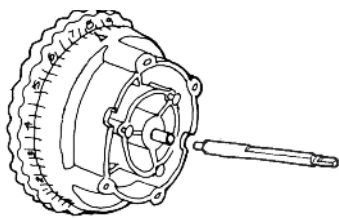


# FEED RATE CONTROL EXPLODED VIEW



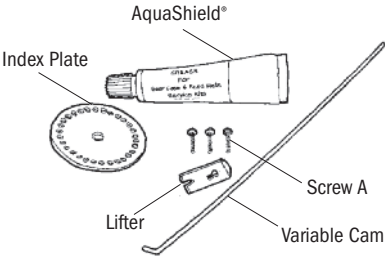
Contact factory for part numbers.

# FEED RATE CONTROL AND SERVICE KIT



## FEED RATE CONTROL WITH SHAFT

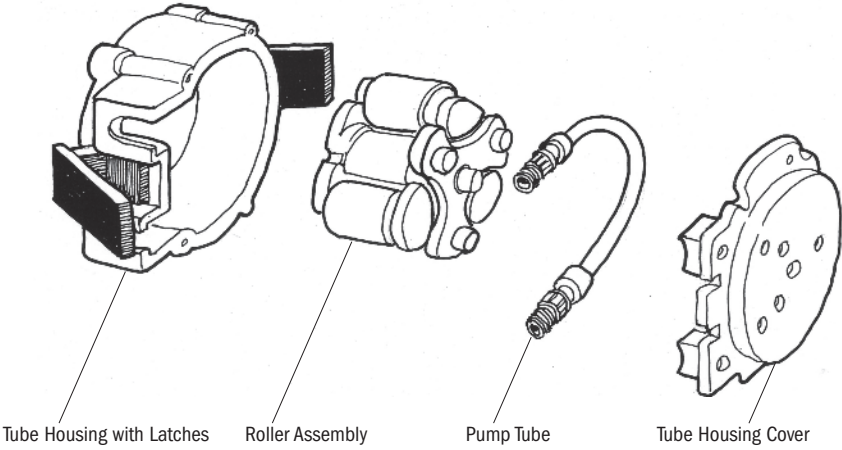
	PART NUMBER	UM
For Adjustable Output Single Head 45 & 85 Series	<b>FC5040D</b>	EA
For Adjustable Output Double Head 100 & 170 Series	<b>DM5040D</b>	EA
For Dual Head Dual Control 100MDC & 170MDC Series	<b>DM504DC</b>	EA



## FEED RATE CONTROL SERVICE KIT

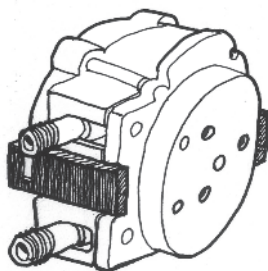
	PART NUMBER	UM
	<b>FSK100</b>	KIT

# PUMP HEAD EXPLODED VIEW



Contact factory for part numbers.

# PUMP HEAD



## Pump Tube\* Pressure Rating

**0-25 psi (0-1.7 bar):** # 1, 2, 3, 4, 5

**26-100 psi (1.8-6.9 bar):** # 1, 2, 7 check valve required

\* Refer to output chart to match tube & pump model.

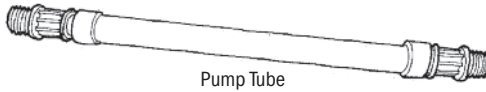
	PART NUMBER	UM
Includes Santoprene® pump tube, ferrules 1/4" select tube # from 1, 2, 3, 4, 5 for __	QP25__-1 QP25__-2	EA 2-PK
Includes Santoprene® pump tube & duckbill, ferrules 1/4" select tube # from 1, 2, 7 for __	QP10__-1	EA
Includes Tygothane*** pump tube, ferrules 1/4" select tube # from 2, 5 for __	QP25T__-1	EA
Includes Tygothane*** #2 pump tube, ferrules 1/4", Pellathane® duckbill	QP10T2-1	EA

## EUROPE

Includes Santoprene® pump tube, ferrules 6 mm select tube # from 1, 2, 3, 4, 5 for __	QP17__-1 QP17__-2	EA 2-PK
Includes Santoprene® pump tube & duckbill, ferrules 6 mm select tube # from 1, 2, 7 for __	QP69__-1	EA
Includes Tygothane*** pump tube, ferrules 6 mm select tube # from 2, 5 for __	QP17T__-1	EA
Includes Tygothane*** #2 pump tube, ferrules 6 mm, Pellathane® duckbill	QP69T2-1	EA

\*\*\* Tygothane® tubes are application specific; confirm chemical compatibility with the chemical resistance guide in the catalog or on the website. In 26-100 psi (1.8-6.9 bar) applications with a Tygothane® tube, a Pellathane® duckbill is in the check valve; both materials are clear.

# PUMP HEAD SERVICE KITS – 0-25 psi (0-1.7 bar)



## FOR 0-25 psi (0-1.7 bar) PUMPS

	PART NUMBER	UM
Santoprene® Kit includes Santoprene® pump tube <i>select tube # from 1, 2, 3, 4, 5 for __</i>	QP25__K	KIT
Tygothane®** Kit includes Tygothane® pump tube <i>select tube # from 2, 5 for __</i>	QP25T__K	KIT

## EUROPE

Santoprene® Kit includes Santoprene® pump tube, ferrules 6 mm <i>select tube # from 1, 2, 3, 4, 5 for __</i>	QP17__K	KIT
Tygothane®** Kit includes Tygothane® pump tube, ferrules 6 mm* <i>select tube # from 2, 5 for __</i>	QP69T__K	KIT

\* Tygothane® tubes are application specific; confirm chemical compatibility with the chemical resistance guide in the catalog or on the website. In 26-100 psi (1.8-6.9 bar) applications with a Tygothane® tube, a Pellathane® duckbill is in the check valve; both materials are clear.

-----

### Pump Tube\*\* Pressure Rating

**0-25 psi (0-1.7 bar):** # 1, 2, 3, 4, 5

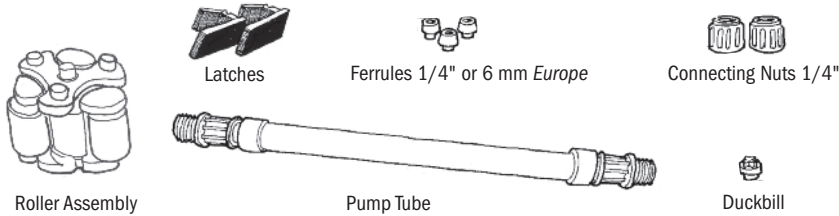
**26-100 psi (1.8-6.9 bar):** # 1, 2, 7 check valve required

\*\* Refer to output chart to match tube & pump model.

-----

# PUMP HEAD SERVICE KITS –

## 26-100 psi (1.8-6.9 bar)



### FOR 26-100 psi (1.8-6.9 bar) PUMPS

	PART NUMBER	UM
Santoprene® Kit includes Santoprene® pump tube & duckbill <i>select tube # from 1, 2, 7 for __</i>	QP10__K	KIT
Tygothane® Kit includes #2 Tygothane® pump tube & Pellathane® duckbill*	QP10T2K	KIT

### EUROPE

Santoprene® Kit includes Santoprene® pump tube & duckbill & ferrules 6 mm <i>select tube # from 1, 2, 7 for __</i>	QP69__K	KIT
Tygothane® Kit includes #2 Tygothane® pump tube, Pellathane® duckbill, ferrules 6 mm	QP69T2K	KIT

\* Tygothane® tubes are application specific; confirm chemical compatibility with the chemical resistance guide in the catalog or on the website. In 26-100 psi (1.8-6.9 bar) applications with a Tygothane® tube, a Pellathane® duckbill is in the check valve; both materials are clear.

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### Pump Tube\*\* Pressure Rating

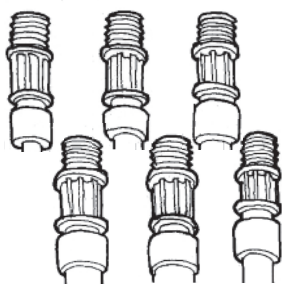
**0-25 psi (0-1.7 bar):** # 1, 2, 3, 4, 5

**26-100 psi (1.8-6.9 bar):** # 1, 2, 7 check valve required

\*\* Refer to output chart to match tube & pump model.

-----

# PUMP TUBES



Tube number located on fitting

## Pump Tube\* Pressure Rating

**0-25 psi (0-1.7 bar):** # 1, 2, 3, 4, 5

**26-100 psi (1.8-6.9 bar):** # 1, 2, 7 check valve required

\* Refer to output chart to match tube & pump model.

	PART NUMBER	UM
Santoprene® pump tube, ferrules 1/4" <i>select tube # from 1, 2, 3, 4, 5, 7 for __</i>	UCCP20__ MCCP20__	2-PK 5-PK
Santoprene® pump tube & duckbills, ferrules 1/4" <i>select tube # from 1, 2, 7 for __</i>	UCCP__FD	2-PK
Tygothane*** pump tube, ferrules 1/4" <i>select tube # from 2, 5 for __</i>	UCTYG0__ MCTYG0__	2-PK 5-PK
Tygothane*** #2 pump tube, ferrules 1/4" & Pellathane® duckbills	UCTY2FD	2-PK

## EUROPE

Santoprene® pump tube, ferrules 6 mm <i>select tube # from 1, 2, 3, 4, 5, 7 for __</i>	UCCP2__CE MCCP2__CE	2-PK 5-PK
Santoprene® pump tube & duckbills, ferrules 6 mm <i>select tube # from 1, 2, 7 for __</i>	UC__FDCE	2-PK
Tygothane*** pump tube, ferrules 6 mm <i>select tube # from 2, 5 for __</i>	UCTY__CE MCTY__CE	2-PK 5-PK
Tygothane*** #2 pump tube, ferrules 6 mm, Pellathane® duckbills	UCTY2DCE	2-PK

\*\* Tygothane® tubes are application specific; confirm chemical compatibility with the chemical resistance guide in the catalog or on the website. In 26-100 psi (1.8-6.9 bar) applications with a Tygothane® tube, a Pellathane® duckbill is in the check valve; both materials are clear.

# CHECK VALVES

Injection Check Valve 1/4"



Injection Check Valve 3/8"



Injection Check Valve 6 mm



## FOR 26-100 psi (1.8-6.9 bar) PUMPS

	PART NUMBER	UM
Includes Santoprene® duckbill, ferrule 1/4"	UCDBINJ MCDBINJ	EA 5-PK
Includes Santoprene® duckbill, ferrule 3/8"	UCINJ38 MCINJ38	EA 5-PK
Includes Pellathane** duckbill, ferrule 1/4"	UCTYINJ MCTYINJ	EA 5-PK
Includes Pellathane** duckbill, ferrule 3/8"	UCTYJ38 MCTYJ38	EA 5-PK

## EUROPE

Includes Santoprene® duckbill, ferrule 6 mm	UCINJCE MCINJCE	EA 5-PK
Includes Pellathane** duckbill, ferrule 6 mm	UCTINJCE MCTINJCE	EA 5-PK

\* Tygothane® tubes are application specific; confirm chemical compatibility with the chemical resistance guide in the catalog or on the website. In 26-100 psi (1.8-6.9 bar) applications with a Tygothane® tube, a Pellathane® duckbill is in the check valve; both materials are clear.



# FOR YOUR RECORDS

Model

Serial Number

Date of Installation




## **STENNER PUMP COMPANY**

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USA

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US Toll Free: 800.683.2378  
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Hours of Operation (EST):  
Mon.-Thu. 7:30 am-5:30 pm  
Fri. 7:00 am-5:30 pm

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