STENNER PUMPS®

CLASSIC SERIES

INSTALLATION AND MAINTENANCE MANUAL

PERISTALTIC METERING PUMPS SINCE 1957

⚠WARNING

TO BE INSTALLED AND MAINTAINED BY PROPERLY TRAINED PROFESSIONAL INSTALLER ONLY. READ MANUAL & LABELS FOR ALL SAFETY INFORMATION & INSTRUCTIONS.

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IMCL 120418b

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.

TRADEMARKS

SAFETY INFORMATION

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

⚠ 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 To reduce the risk of injury, do not permit children to use this product. This appliance is not to be used by persons with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction.

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 metering pump is certified by WQA for use with Water and Sodium Hypochlorite 15%.

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.

SAVE THESE INSTRUCTIONS

CLASSIC 45 – FLOW RATE OUTPUTS

Single Head Adjustable – Gallons per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting L	1	2	3	4	5	6	7	8	9	10
45MHP2*	45MJH1	100 / 6.9	1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
45M1	45MJL1	25 / 1.7												
45MHP10*	45MJH2	100 / 6.9	2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
45M2	45MJL2	25 / 1.7												
45MHP22*	45MJH7	100 / 6.9	7	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
45M3	45MJL3	25 / 1.7	3											
45M4	45MJL4	25 / 1.7	4	1.7	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0
45M5	45MJL5	25 / 1.7	5	2.5	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0

Approximate Outputs @ 60Hz

Single Head Adjustable – Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting L	1	2	3	4	5	6	7	8	9	10
45MHP2*	45MJH1	100 / 6.9	1	0.6	0.9	1.8	2.7	3.6	4.5	5.5	6.4	7.3	8.2	9.1
45M1	45MJL1	25 / 1.7												
45MHP10*	45MJH2	100 / 6.9	2	1.5	3.0	6.1	9.1	12.1	15.1	18.2	21.2	24.2	27.3	30.3
45M2	45MJL2	25 / 1.7												
45MHP22*	45MJH7	100 / 6.9	7	3.3	6.6	13.3	20.0	26.6	33.3	40.0	46.6	53.3	60.0	66.6
45M3	45MJL3	25 / 1.7	3											
45M4	45MJL4	25 / 1.7	4	5.1	10.6	21.2	31.8	42.4	53.0	63.6	74.2	84.8	95.4	106.0
45M5	45MJL5	25 / 1.7	5	7.6	15.1	30.3	45.4	60.6	75.7	90.8	106.0	121.1	136.3	151.4

Approximate Outputs @ 50Hz

Single Head Fixed – Gallons & Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	gpd @ 60Hz	lpd @ 50Hz
45MPHP2*	45MFH1	100 / 6.9	1	3.0	9.1
45MP1	45MFL1	25 / 1.7			
45MPHP10*	45MFH2	100 / 6.9	2	10.0	30.3
45MP2	45MFL2	25 / 1.7			
45MPHP22*	45MFH7	100 / 6.9	7	22.0	66.6
45MP3	45MFL3	25 / 1.7	3		
45MP4	45MLF4	25 / 1.7	4	35.0	106.0
45MP5	45MLF5	25 / 1.7	5	50.0	151.4

Approximate Outputs @ 60 & 50Hz

* Injection check valve is included with pump rated 100 psi (6.9 bar) maximum.

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.

CLASSIC 85 – FLOW RATE OUTPUTS

Single Head Adjustable – Gallons per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
85MHP5*	85MJH1	100 / 6.9	1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
85M1	85MJL1	25 / 1.7												
85MHP17*	85MJH2	100 / 6.9	2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
85M2	85MJL2	25 / 1.7												
85MHP40*	85MJH7	100 / 6.9	7	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
85M3	85MJL3	25 / 1.7	3											
85M4	85MJL4	25 / 1.7	4	3.0	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60.0
85M5	85MJL5	25 / 1.7	5	4.3	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0

Approximate Outputs @ 60Hz

Single Head Adjustable – Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
85MHP5*	85MJH1	100 / 6.9	1	0.9	1.5	3.0	4.5	6.1	7.6	9.1	10.6	12.1	13.6	15.1
85M1	85MJL1	25 / 1.7												
85MHP17*	85MJH2	100 / 6.9	2	2.4	5.1	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3	51.5
85M2	85MJL2	25 / 1.7												
85MHP40*	85MJH7	100 / 6.9	7	6.1	12.1	24.2	36.3	48.5	60.6	76.7	84.8	96.9	109.0	121.1
85M3	85MJL3	25 / 1.7	3											
85M4	85MJL4	25 / 1.7	4	9.1	18.2	36.3	54.5	76.7	90.8	109.0	127.2	145.3	163.5	181.7
85M5	85MJL5	25 / 1.7	5	13.0	25.7	51.5	77.2	103.0	128.7	154.4	180.0	205.9	231.6	257.4

Approximate Outputs @ 50Hz

Single Head Fixed – Gallons & Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	gpd @ 60Hz	lpd @ 50Hz
85MPHP5*	85MFH1	100 / 6.9	1	5.0	15.1
85MP1	85MFL1	25 / 1.7			
85MPHP17*	85MFH2	100 / 6.9	2	17.0	51.5
85MP2	85MFL2	25 / 1.7			
85MPHP40*	85MFH7	100 / 6.9	7	40.0	121.1
85MP3	85MFL3	25 / 1.7	3		
85MP4	85MFL4	25 / 1.7	4	60.0	181.7
85MP5	85MFL5	25 / 1.7	5	85.0	257.4

Approximate Outputs @ 60 & 50Hz

* Injection check valve is included with pump rated 100 psi (6.9 bar) maximum.

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.

CLASSIC 100 – FLOW RATE OUTPUTS

Double Head Adjustable – Gallons per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
100DMHP5*	100JH1	100 / 6.9	1	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
100DM1	100JL1	25 / 1.7												
100DMHP20*	100JH2	100 / 6.9	2	1.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
100DM2	100JL2	25 / 1.7												
100DM3	100JL3	25 / 1.7	3	2.2	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6	44.0
100DM4	100JL4	25 / 1.7	4	3.5	7.0	14.0	21.0	28.0	35.0	42.0	49.0	56.0	63.0	70.0
100DM5	100JL5	25 / 1.7	5	5.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0
				Approximate Outputs @ 60Hz										

Double Head Adjustable – Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
100DMHP5*	100JH1	100 / 6.9	1	0.9	1.8	3.6	5.5	7.3	9.1	10.9	12.7	14.5	16.4	18.2
100DM1	100JL1	25 / 1.7												
100DMHP20*	100JH2	100 / 6.9	2	3.0	6.1	12.1	18.2	24.2	30.3	36.4	42.4	48.5	54.5	60.6
100DM2	100JL2	25 / 1.7												
100DM3	100JL3	25 / 1.7	3	6.7	13.3	26.7	40.0	53.3	66.6	79.9	93.3	106.6	119.9	133.2
100DM4	100JL4	25 / 1.7	4	10.6	21.2	42.4	63.6	84.8	106.0	127.2	148.4	169.6	190.8	212.0
100DM5	100JL5	25 / 1.7	5	15.1	30.3	60.6	90.8	121.1	151.4	181.7	212.0	242.2	272.5	302.8
				Approximate Outputs @ 50Hz										

Double Head Fixed – Gallons & Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	gpd @ 60Hz	lpd @ 50Hz
100DMPHP5*	100FH1	100 / 6.9	1	6.0	18.2
100DMP1	100FL1	25 / 1.7			
100DMPHP20*	100FH2	100 / 6.9	2	20.0	60.6
100DMP2	100FL2	25 / 1.7			
100DMP3	100FL3	25 / 1.7	3	44.0	133.2
100DMP4	100FL4	25 / 1.7	4	70.0	212.0
100DMP5	100FL5	25 / 1.7	5	100.0	302.8
				Approximate Outputs @ 60 & 50Hz	

* Injection check valve is included with pump rated 100 psi (6.9 bar) maximum.

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.

CLASSIC 170 – FLOW RATE OUTPUTS

Double Head Adjustable – Gallons per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
170DMHP9*	170JH1	100 / 6.9	1	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
170DM1	170JL1	25 / 1.7												
170DMHP34*	170JH2	100 / 6.9	2	1.7	3.4	6.0	9.5	13.6	17.0	20.4	23.8	27.2	30.6	34.0
170DM2	170JL2	25 / 1.7												
170DM3	170JL3	25 / 1.7	3	4.0	8.0	16.0	24.0	32.0	40.0	48.0	56.0	64.0	72.0	80.0
170DM4	170JL4	25 / 1.7	4	6.0	12.0	24.0	36.0	48.0	60.0	72.0	84.0	96.0	108.0	120.0
170DM5	170JL5	25 / 1.7	5	8.5	17.0	34.0	51.0	68.0	85.0	102.0	119.0	136.0	153.0	170.0

Approximate Outputs @ 60Hz

Double Head Adjustable – Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
170DMHP9*	170JH1	100 / 6.9	1	1.5	3.0	6.1	9.1	12.1	15.1	18.2	21.2	24.2	27.3	30.3
170DM1	170JL1	25 / 1.7												
170DMHP34*	170JH2	100 / 6.9	2	5.1	10.3	18.2	28.8	39.1	51.5	61.8	72.1	82.4	92.7	102.6
170DM2	170JL2	25 / 1.7												
170DM3	170JL3	25 / 1.7	3	12.1	24.2	48.5	72.7	96.9	121.1	145.4	169.6	193.8	218.0	242.2
170DM4	170JL4	25 / 1.7	4	18.2	36.3	72.7	109.0	145.3	181.7	218.0	254.4	290.7	327.0	363.4
170DM5	170JL5	25 / 1.7	5	25.7	51.5	86.0	154.4	205.9	257.4	308.9	360.4	411.8	463.3	514.8

Approximate Outputs @ 50Hz

Double Head Fixed – Gallons & Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	gpd @ 60Hz	lpd @ 50Hz
170DMPHP9*	170FH1	100 / 6.9	1	10.0	30.3
170DMP1	170FL1	25 / 1.7			
170DMPHP34*	170FH2	100 / 6.9	2	34.0	102.6
170DMP2	170FL2	25 / 1.7			
170DMP3	170FL3	25 / 1.7	3	80.0	242.2
170DMP4	170FL4	25 / 1.7	4	120.0	363.4
170DMP5	170FL5	25 / 1.7	5	170.0	514.8

Approximate Outputs @ 60 & 50Hz

* Injection check valve is included with pump rated 100 psi (6.9 bar) maximum.

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.

CLASSIC 100 DUAL CONTROL – FLOW RATE OUTPUTS

DETERMINE FLOW RATE OUTPUTS FOR EACH PUMP HEAD

Use the innermost pump head flow rate outputs to determine the output for each pump head. Both feed rate controls (FRC) on setting 10 = maximum flow rate capacity of the pump.

Innermost Pump Head
L=5%, 1-10 = approx. 10% of maximum innermost output

Outermost Pump Head
Outermost Output = (Outermost FRC Setting %) x (Innermost Output)

Example
100MDC5 with Innermost FRC setting on 4
1. Innermost FRC setting 4 = 20 gpd
2. If outermost FRC is set on 3, then outermost output is 30% of innermost output; 0.3 x 20 gpd = 6 gpd
3. Outermost = 6 gpd, Innermost = 20 gpd, Total Pump Output = 26 gpd

Innermost Pump Head – Gallons per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
100MDCHP5*	100DH1	100 / 6.9	1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
100MDC1	100DL1	25 / 1.7												
100MDCHP20*	100DH2	100 / 6.9	2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
100MDC2	100DL2	25 / 1.7												
100MDC3	100DL3	25 / 1.7	3	1.1	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
100MDC4	100DL4	25 / 1.7	4	1.7	3.5	7.0	10.5	14.0	17.5	21.0	24.5	28.0	31.5	35.0
100MDC5	100DL5	25 / 1.7	5	2.5	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0
				Approximate Outputs @ 60Hz										

Innermost Pump Head – Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
100MDCHP5*	100DH1	100 / 6.9	1	0.6	0.9	1.8	2.7	3.6	4.5	5.5	6.4	7.3	8.2	9.1
100MDC1	100DL1	25 / 1.7												
100MDCHP20*	100DH2	100 / 6.9	2	1.5	3.0	6.1	9.1	12.1	15.1	18.2	21.2	24.2	27.3	30.3
100MDC2	100DL2	25 / 1.7												
100MDC3	100DL3	25 / 1.7	3	3.3	6.6	13.3	20.0	26.6	33.3	40.0	46.6	53.3	60.0	66.6
100MDC4	100DL4	25 / 1.7	4	5.1	10.6	21.2	31.8	42.4	53.0	63.6	74.2	84.8	95.4	106.0
100MDC5	100DL5	25 / 1.7	5	7.6	15.1	30.3	45.4	60.6	75.7	90.8	106.0	121.1	136.3	151.4
				Approximate Outputs @ 50Hz										

* Injection check valve included with pumps rated 100 psi (6.9 bar) maximum.

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.

CLASSIC 170 DUAL CONTROL – FLOW RATE OUTPUTS

Innermost Pump Head – Gallons per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
170MDCHP9*	170DH1	100 / 6.9	1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
170MDC1	170DL1	25 / 1.7												
170MDCHP34*	170DH2	100 / 6.9	2	0.8	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0
170MDC2	170DL2	25 / 1.7												
170MDC3	170DL3	25 / 1.7	3	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
170MDC4	170DL4	25 / 1.7	4	3.0	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60.0
170MDC5	170DL5	25 / 1.7	5	4.3	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5	85.0
				Approximate Outputs @ 60Hz										

Innermost Pump Head – Liters per Day

Model	Item Number Prefix	Maximum psi / bar	Pump Tube	Feed Rate Control Setting										
				L	1	2	3	4	5	6	7	8	9	10
170MDCHP9*	170DH1	100 / 6.9	1	0.9	1.5	3.0	4.5	6.1	7.6	9.1	10.6	12.1	13.6	15.1
170MDC1	170DL1	25 / 1.7												
170MDCHP34*	170DH2	100 / 6.9	2	2.4	5.1	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3	51.5
170MDC2	170DL2	25 / 1.7												
170MDC3	170DL3	25 / 1.7	3	6.1	12.1	24.2	36.3	48.5	60.6	76.7	84.8	96.9	109.0	121.1
170MDC4	170DL4	25 / 1.7	4	9.1	18.2	36.3	54.5	76.7	90.8	109.0	127.2	145.3	163.5	181.7
170MDC5	170DL5	25 / 1.7	5	13.0	25.7	51.5	77.2	103.0	128.7	154.4	180.0	205.9	231.6	257.4
				Approximate Outputs @ 50Hz										

* Injection check valve included with pumps rated 100 psi (6.9 bar) maximum.

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

Pump Tube
Santoprene®, FDA approved or Versilon®

Check Valve Duckbill
Santoprene®, FDA approved or Pellethane®

Suction/Discharge Tubing & Ferrules
Polyethylene, FDA approved

Suction Line Strainer and Cap
PVC or Polypropylene, NSF listed, with Ceramic Weight

All Fasteners
Stainless Steel

Tube and Injection Fittings
PVC or Polypropylene, NSF listed

Connecting Nuts 1/4", 3/8" and 3/8" Adapter
PVC or Polypropylene, NSF listed

Pump Head Latches
Polypropylene

ACCESSORIES

3 Connecting Nuts 1/4" or 3/8"

3 Ferrules 1/4" or 6 mm *Europe*

1 Injection Fitting 25 psi (1.7 bar) max. or 1 injection check valve 100 psi (6.9 bar) max.

1 Weighted Suction Line Strainer 1/4", 3/8" or 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 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.

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.

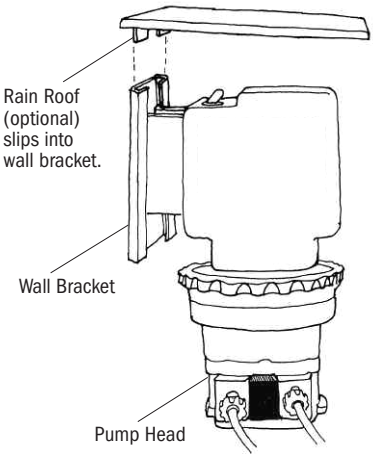
Avoid flooded suction or pump mounted lower than the solution container. Draw solution from the top of the tank. Pump can run dry without damage. If pump is installed with a flooded suction, a shut-off valve or other device must be provided to stop flow to pump during service.

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.

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.

ZUSTAZLICHE INSTALLIERUNGSANWEISUNGUN

1. Pumpen die sich in Zone 1 vom Schwimmbecken befinden sollen sind so einzurichten daß Ueberschwemmungen nicht vorkommen werden.
2. Diese Pumpe ist als fest montierte Ausrustung bedacht und soll nicht umstellbar gebraucht werden.
3. Der Regendach muss installiert werden. Eine vertikale Asrichtung der Montage muß erzielt werden.
4. Die Stromversorgung muss nach der Installierung noch zuganglich sein.
5. Bei beschadigter Verkabelung ist dieses Gerat nicht mehr zu gebrauchen.
6. Staatliche Vernetzungsvorchriften mussen eingehalten werden.

INSTRUCTIONS SUPPLÉMENTAIRES D'INSTALLTION

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.

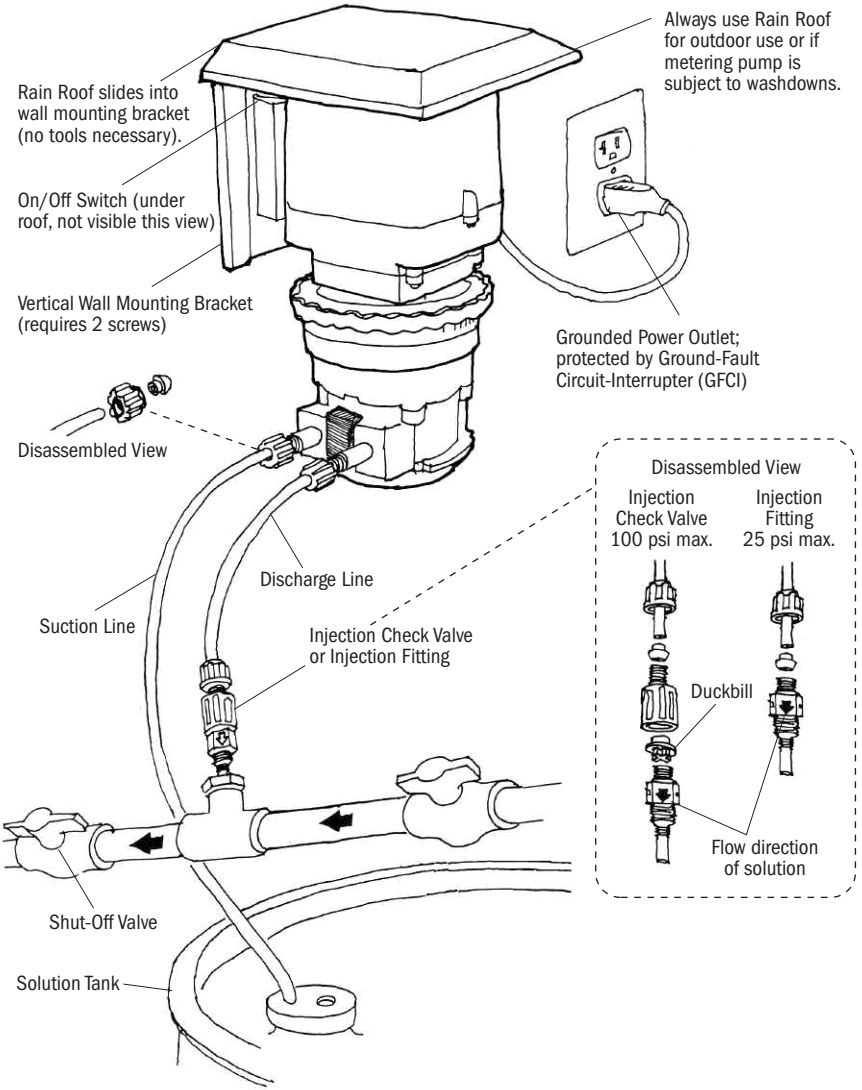
INSTRUCCIONES ADICIONALES PARA INSTALACION

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. Depués 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 no 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 unitá deve essere osservato.
4. Dopo l'installazione, la spina deve essere accessibile durante l'uso.
5. Questa unitá deve essere gettata via se il filo elettrico é danneggiato.
6. Osservare e aderire a tutte le Norme Nazionali Sugli Impianti Elettrici.

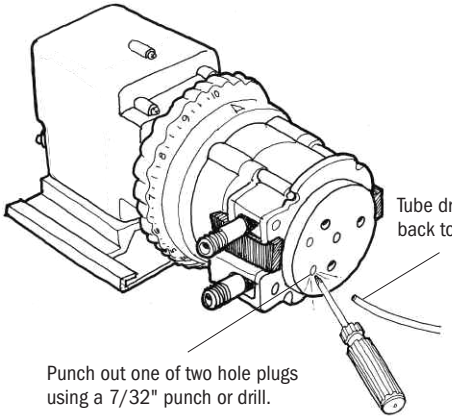
INSTALLATION DIAGRAM

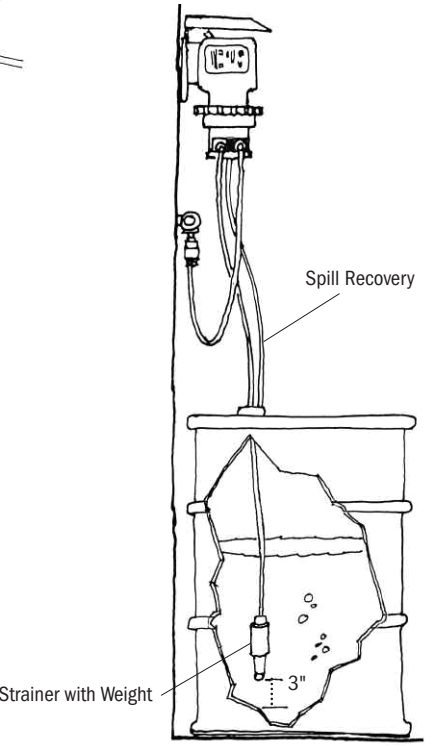


SPILL RECOVERY

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.





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.

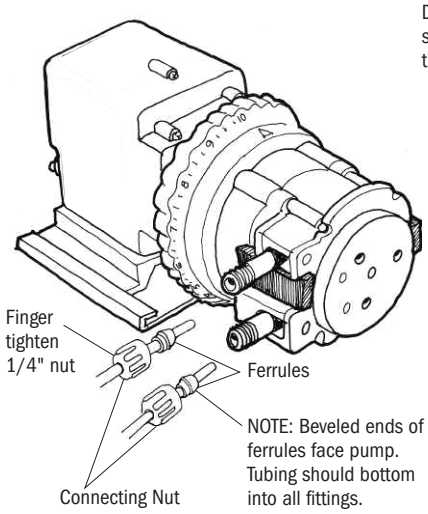
2. Make connections by sliding the line(s) through connecting nut* and ferrule and finger tighten to the corresponding tube fittings.

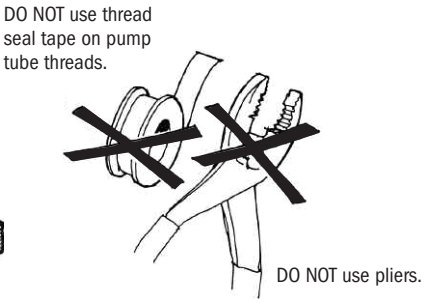
3. Finger tighten nut to the threaded tube fitting while holding the tube fitting.

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





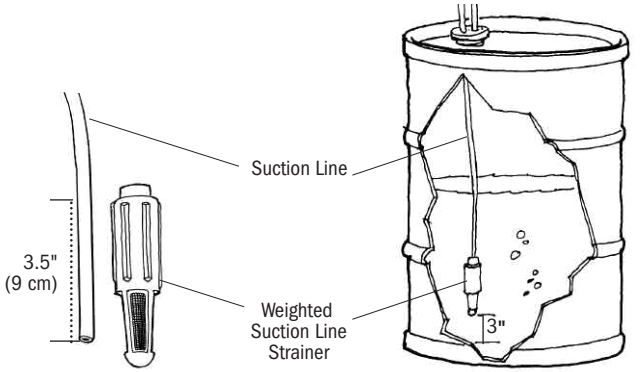
* For 3/8" connections only. While stabilizing the tube fitting, attach female end of adapter to the tube fitting(s) (ferrule inside). Slide line through 3/8" connecting nut and finger tighten to male end of adapter. If leak occurs, gradually tighten the 3/8" connecting nut as required.

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.



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.

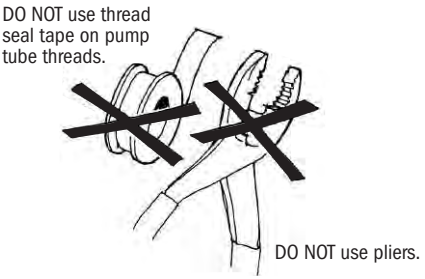
⚠ WARNING HAZARDOUS PRESSURE: Shut off water or circulation system and bleed off any system pressure.

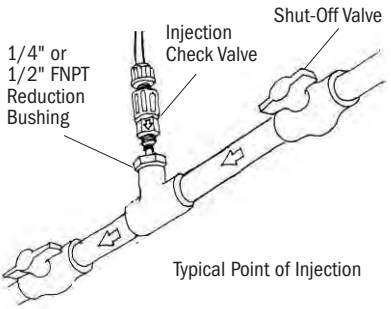
Locate a point of injection beyond all pumps and filters or as determined by the application.

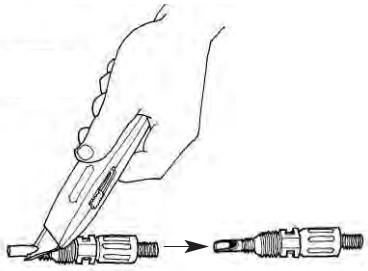
2. A 1/4" or 1/2" Female NPT (FNPT) connection is required for installing the injection fitting. If there is no FNPT fitting available, provide one by either tapping the pipe or installing FNPT pipe tee fitting.

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







Trim Injection Fitting

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

Pump 25 psi max.

a. Install connecting nut and ferrule to the pump discharge line. Insert discharge line into injection fitting until it reaches base of fitting. For 3/8" connections, insert discharge line until if 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.

b. Finger tighten connecting nut to fitting.

Pump 100 psi max.

a. Prior to connection, test injection check valve and NPT threads for leaks by pressurizing system. If necessary, tighten an additional 1/4 turn. 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.

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.

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	Replace rotor assembly
	Insufficient lubrication	Apply AquaShield™ to gears and gear posts
	Worn gears or gear posts	Inspect and/or replace gears and gear posts
Motor does not work; fan does not turn	Faulty electrical supply	Check supply voltage circuit
	Rotor bound to coil	Replace bearing brackets if cracked
	Damaged motor coil	Replace motor coil
	Worn or damaged rotor bearings	Replace rotor assembly
	Damaged power cord	Inspect and/or replace power cord
	Rotor rusted to coil	Clean off coil and rotor or replace
	Faulty wire connections	Inspect and/or repair electrical connections
	Obstructed fan	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	Check voltage and frequency matches data label
	High ambient temperature	Pumps are rated at 125˚F maximum
	Damaged/malfunctioning coil	Replace motor coil
Phenolic gear is stripping	Water intrusion	Use rain roof & replace phenolic gear
	Cracked bearing bracket	Replace bearing bracket & phenolic gear
	Worn gear posts	Replace gear posts & phenolic gear
	Rusted helical gear at end of rotor	Buff off rotor or replace rotor, replace phenolic gear
	Worn gear case cover	Replace gear case
	Insufficient lubrication	Lubricate with AquaShield™

TROUBLESHOOTING – FEED RATE CONTROL

PROBLEM	POSSIBLE CAUSE	SOLUTION
Dial ring will not turn	Seized variable cam	Apply Aquashield™ to variable cam & cam slot in feed rate control housing
	Seized dial ring	Clean then lubricate dial ring with AquaShield™
Dial ring turns, output doesn't change	Variable cam disengaged from dial 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	Replenish solution
	Pump suction line weight is above solution	Position suction line 3" above bottom of tank
	Leak in the suction line	Inspect or replace suction line
	Ferrules installed incorrectly, missing or damaged	Replace ferrules
	Injection point is clogged	Inspect and clean injection point
	Clogged suction and/or discharge line and/or injection check valve	Clean and/or replace as needed
	Life of pump tube exhausted	Replace pump tube, ferrules; center tube
	Suction line is flush with the nose of the weighted strainer	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	Replace pump tube, ferrules; center tube
	Rollers worn or broken	Replace roller assembly
	Injection point is restricted	Inspect and clean injection point
	Incorrect tube size	Replace tube with correct size
	High system back pressure	Verify system pressure against tube psi, replace tube if needed
No pump output, pump head doesn't rotate	Stripped roller assembly	Replace roller assembly
	Feed rate control problem	Refer to feed rate control section
	Motor problem	Refer to motor section
Pump output high	Incorrect tube size or setting	Replace tube with correct size or adjust settings.
	Roller assembly broken	Replace roller assembly
	Malfunctioning feed rate control	Refer to feed rate control section
	Incorrect motor rpm	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**

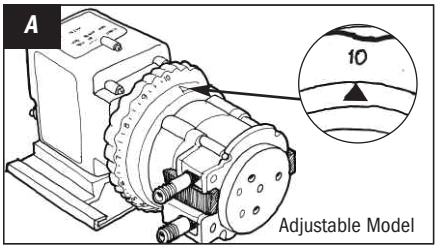
- Use caution and bleed off all resident system pressure prior to attempting service or installation.
- Use caution when disconnecting discharge line from pump. Discharge may be under pressure. Discharge line may contain chemical.

NOTICE: Indicates special instructions or general mandatory action.

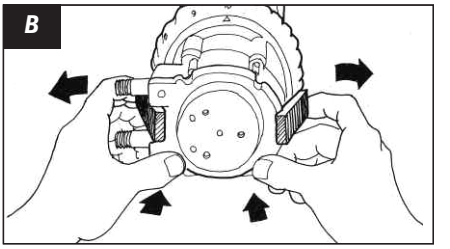
- **DO NOT** apply grease, oil, or lubricants to the pump tube or housing.
- Prior to pump tube replacement, inspect the entire pump head for cracks or damaged components. Ensure rollers turn freely.
- Rinse off chemical residue and clean all chemical and debris from pump head components prior to tube 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

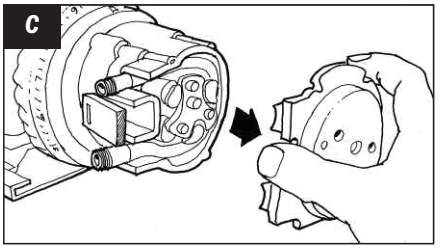
NOTICE: Refer to written instructions for complete steps.



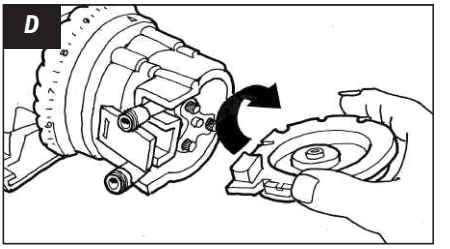
Adjustable model must be on setting 10



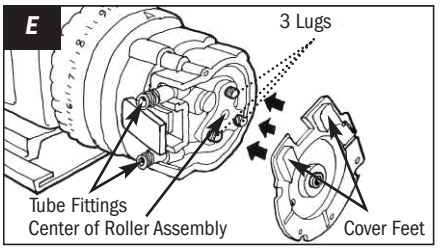
Open latches



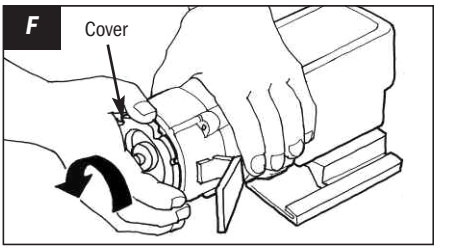
Remove cover



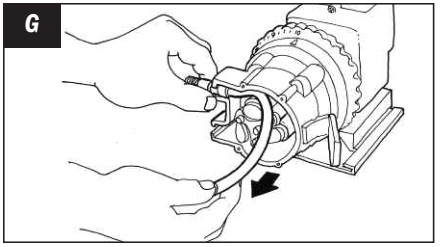
Invert cover



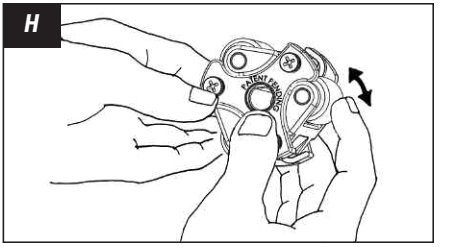
Align cover feet near tube fittings



Collapse roller assembly



Remove tube

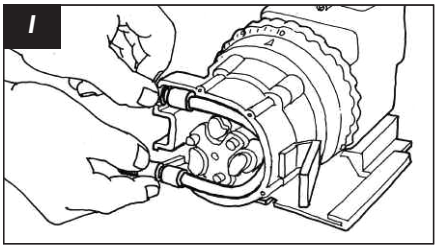


Check rollers

TUBE INSTALLATION & CENTERING
Illustrated Basic Steps

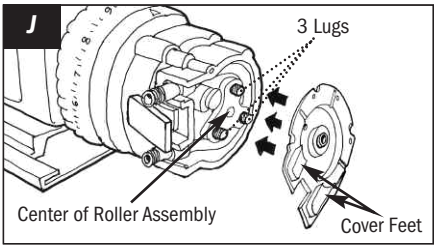
NOTICE: Refer to written instructions for complete steps.

I



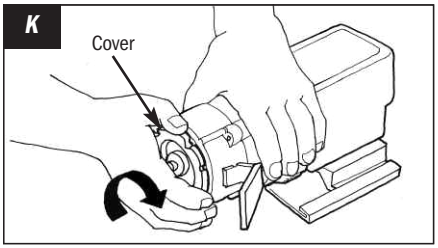
Place new tube

J



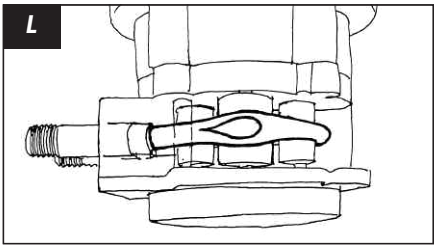
Align cover feet near the bottom

K



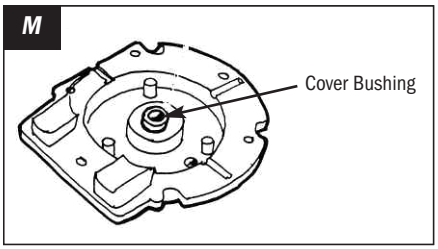
Expand roller assembly

L



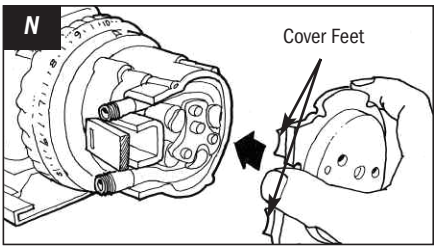
Confirm roller assembly is expanded

M



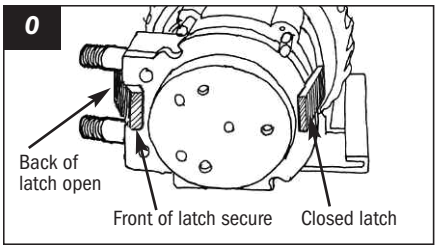
Apply Aquashield™ to cover bushing

N



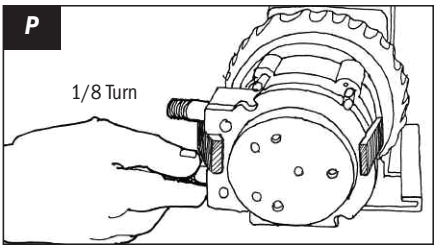
Install cover feet first

O



Prepare to center tube

P



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 motor 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*
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. Be sure the cover is seated with the sleeve bearing on the shaft and is flush with housing, before latching.
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 two minutes 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

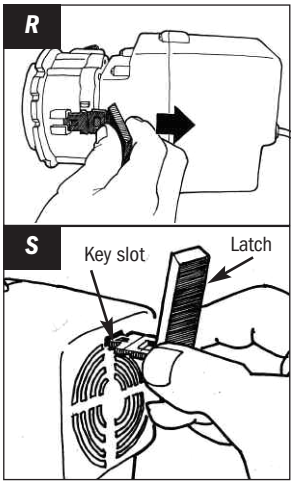
TUBE REPLACEMENT – SINGLE HEAD
Adjustable & Fixed Output Pumps

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.**

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 motor 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*

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. Be sure the cover is seated with the sleeve bearing on the shaft and is flush with the housing, before latching. *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 all deposits and/or replace parts as required. Failure to do so may lead to poor pump performance, including shortened tube life.
6. Reconnect the suction and discharge lines. DO NOT allow the tube fittings to turn inside the pump housing.
7. Turn the pump on and run for two minutes for verify operation.

CLEANING THE POINT OF INJECTION – SAFETY INFORMATION

NOTICE: Indicates special instructions or general mandatory action.

Pumps rated 25 psi maximum are installed with an injection fitting and pumps rated 100 psi maximum are installed with 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.

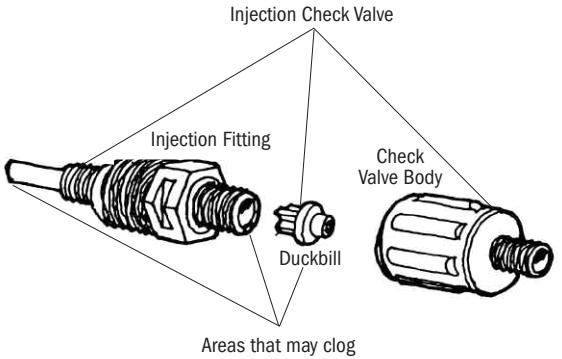
This is the safety alert symbol. When displayed in this manual or on the equipment, look for one of the following signal words alerting you to the potential for personal injury or property damage.

⚠ 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

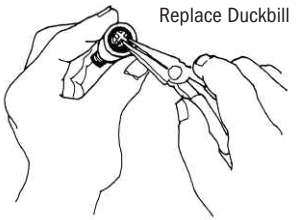
1. Turn metering pump off and unplug cord. Disable water pump or auxiliary equipment electrical supply.
2. Depressurize system and bleed pressure from pump discharge line.
3. Loosen and remove connecting nut and ferrule from the injection check valve or injection fitting to disconnect discharge tubing.

   Pump 100 psi max., go to 4.

   Pump 25 psi max., skip 4 and go to 5.

4. - 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 it.
   - Examine o-ring in the injection fitting and replace if deteriorated or damaged.
5. 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



Clean out accumulated deposits with a #2 Phillips head screwdriver.

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

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

7.

Pump 100 psi max.

a. Reassemble the injection check valve.

b. Replace ferrule and reinstall the discharge line to the injection check valve approximately 3/4" until it stops.

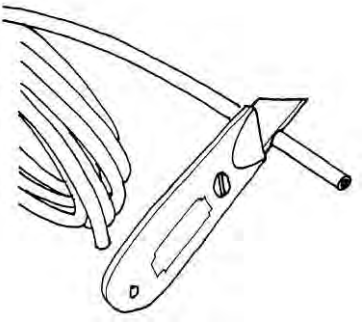
Pump 25 psi max.

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

8. Tighten the connecting nut finger tight.

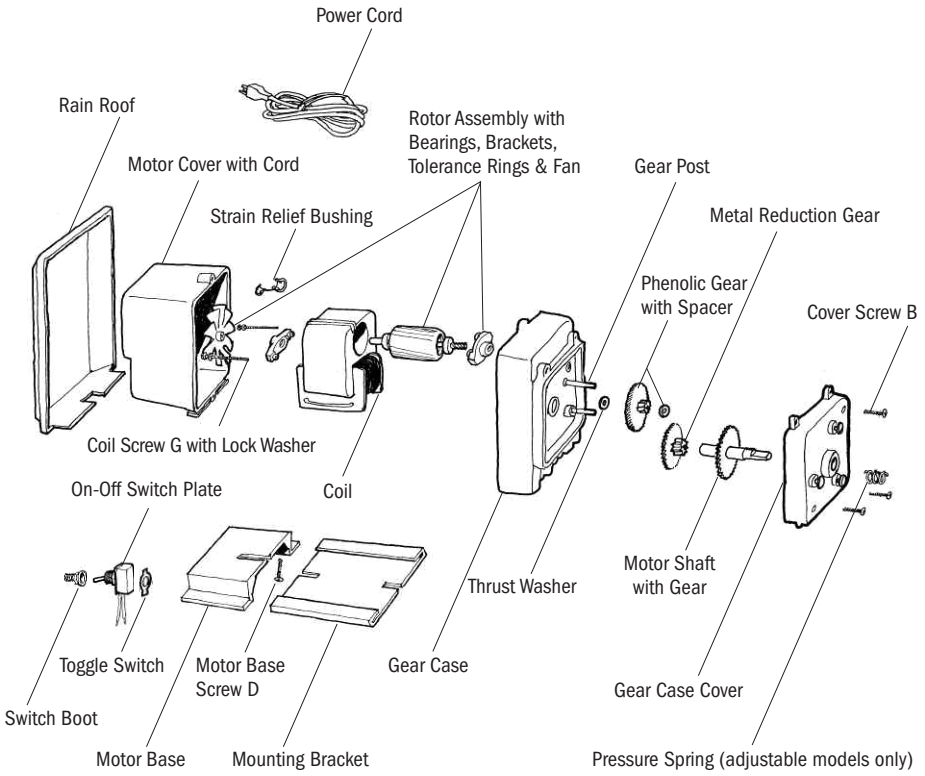
9. Enable the water pump electrical supply and pressurize the water system.
NOTE: The roller assembly needs to be expanded so the tube is pressed against the tube housing wall.

10. Put the metering pump back in service and inspect all connections for leaks.



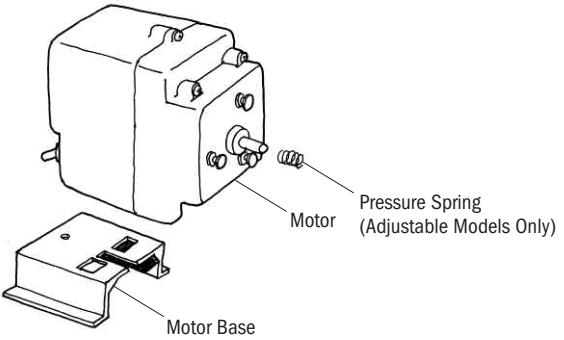
Cut off the calcified or blocked section.

MOTOR EXPLODED VIEW



Contact factory for part numbers.

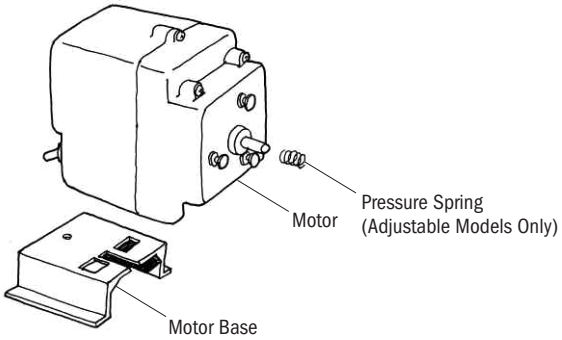
MOTOR 60Hz



Motor 60Hz

DESCRIPTION	WORKS WITH	PART NUMBER	UM
120V	Classic Adjustable 45, 100	**PM6041D**	EA
220V		**PM6042D**	EA
120V	Classic Adjustable 85, 170	**PM6081D**	EA
220V		**PM6082D**	EA
120V	Classic Fixed 45	**ME6041D**	EA
220V		**ME6042D**	EA
120V	Classic Fixed 85	**ME6081D**	EA
220V		**ME6082D**	EA
120V	Classic Fixed 100	**DM6041D**	EA
220V		**DM6042D**	EA
120V	Classic Fixed 170	**DM6081D**	EA
220V		**DM6082D**	EA

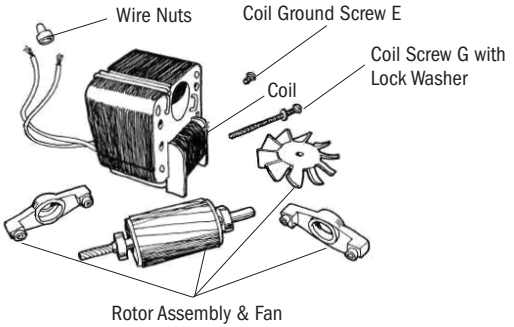
MOTOR 50Hz *International*



Motor 50Hz *International*

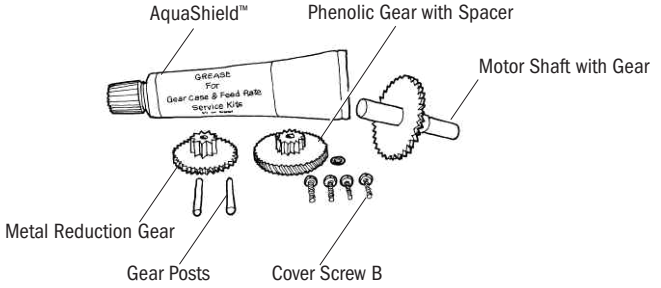
DESCRIPTION	WORKS WITH	PART NUMBER	UM
230V	Classic Adjustable 45, 100	**PM64230**	EA
250V		**PM6426D**	EA
230V	Classic Adjustable 85, 170	**PM68230**	EA
250V		**PM6826D**	EA
230V	Classic Fixed 45	**ME64230**	EA
250V		**ME6426D**	EA
230V	Classic Fixed 85	**ME68230**	EA
250V		**ME6826D**	EA
230V	Classic Fixed 100	**DM64230**	EA
250V		**DM64250**	EA
230V	Classic Fixed 170	**DM68230**	EA
250V		**DM68250**	EA

MOTOR SERVICE KITS



Motor Service Kit 60Hz

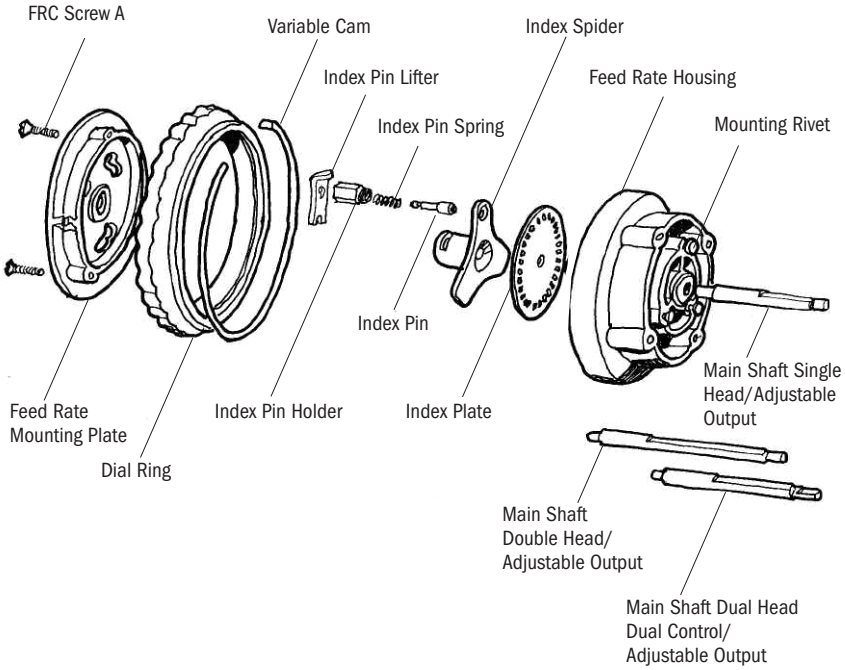
DESCRIPTION	PART NUMBER	UM
120V	**MSK120**	KIT
220V	**MSK220**	KIT



Gear Case Service Kit

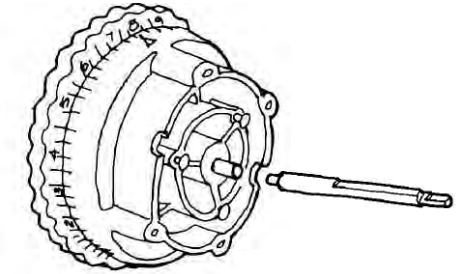
WORKS WITH	PART NUMBER	UM
Classic Adjustable 45, 100	**GSK45A**	KIT
Classic Adjustable 85, 170	**GSK85A**	KIT
Classic Fixed 45	**GSK45F**	KIT
Classic Fixed 85	**GSK85F**	KIT

FEED RATE CONTROL EXPLODED VIEW



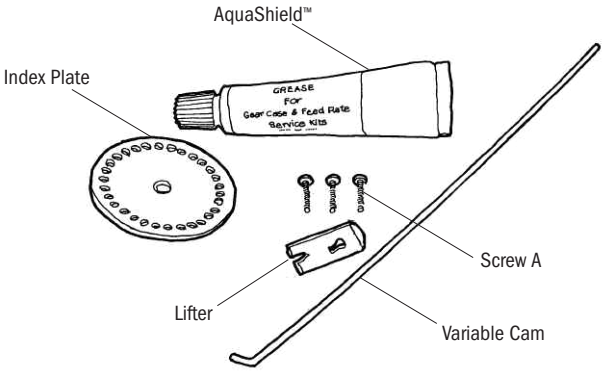
Contact factory for part numbers.

FEED RATE CONTROL AND SERVICE KIT



Feed Rate Control with Shaft

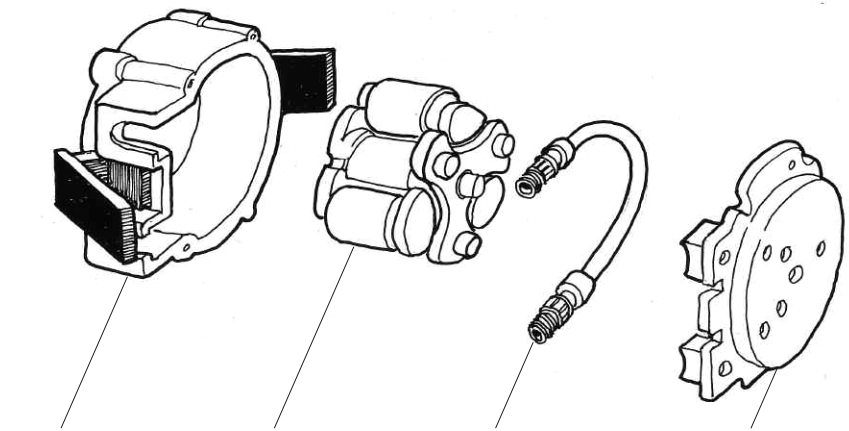
WORKS WITH	PART NUMBER	UM
Classic Adjustable 45, 85	**FC5040D**	EA
Classic Adjustable 100, 170	**DM5040D**	EA
Classic Dual Control 100, 170	**DM504DC**	EA



Feed rate control Service Kit

WORKS WITH	PART NUMBER	UM
Classic Adjustable 45, 85, 100, 170	**FSK100**	KIT

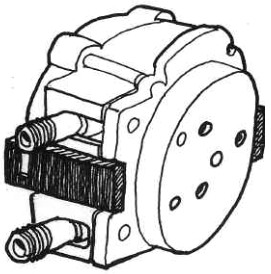
PUMP HEAD EXPLODED VIEW



Pump Head Parts

DESCRIPTION	PART NUMBER	UM
Tube Housing with Latches	QP400–1	EA
	QP400–2	2-PK
Latches	QP401-2	2-PK
Roller Assembly	QP500–1	EA
	QP500–4	4-PK
Rollers, Arms, Bushings and Screws	QP500–3	EA
Tube Housing Cover with Bushing	QP100–1	EA
	QP100–4	4-PK

PUMP HEAD



Pump Tube* Pressure Rating

25 psi (1.7 bar) maximum: # 1, 2, 3, 4, 5

100 psi (6.9 bar) maximum: # 1, 2, 7 check valve required

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

DESCRIPTION	PART NUMBER	UM
Includes Santoprene® pump tube, ferrules 1/4" *select tube # 1, 2, 3, 4 or 5 for __*	**QP25__–1**	EA
	QP25__–2	2-PK
Includes Santoprene® pump tube & duckbill, ferrules 1/4" *select tube # 1, 2 or 7 for __* *#7 is not for Classic 100, 170*	**QP10__–1**	EA
Includes Versilon® pump tube, ferrules 1/4" *select tube # 1, 2, 3, 4 or 5 for __*	**QP25T__–1**	EA
Includes Versilon® pump tube, ferrules 1/4", Pellethane® duckbill *select tube # 1 or 2 for __*	**QP10T__–1**	EA

EUROPE

Includes Santoprene® pump tube, ferrules 6 mm *select tube # 1, 2, 3, 4 or 5 for __*	**QP17__–1**	EA
	QP17__–2	2-PK
Includes Santoprene® pump tube & duckbill, ferrules 6 mm *select tube # 1, 2 or 7 for __* *#7 is not for Classic 100, 170*	**QP69__–1**	EA
Includes Versilon® pump tube, ferrules 6 mm *select tube # 1, 2, 3, 4 or 5 for __*	**QP17T__–1**	EA
Includes Versilon® pump tube, ferrules 6 mm, Pellethane® duckbill *select tube # 1 or 2 for __*	**QP69T__–1**	EA

NOTE: Confirm material compatibility with chemical resistance guide in catalog.

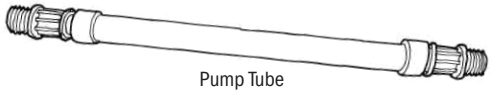
PUMP HEAD SERVICE KITS
25 psi (1.7 bar) Max.


Roller Assembly


Latches


Ferrules 1/4" or 6 mm *Europe*


Connecting Nuts 1/4"


Pump Tube

25 psi maximum

DESCRIPTION	PART NUMBER	UM
Kit includes Santoprene® pump tube *select tube # 1, 2, 3, 4 or 5 for __*	**QP25__K**	KIT
Kit includes Versilon® pump tube *select tube # 1, 2, 3, 4 or 5 for __*	**QP25T__K**	KIT
***EUROPE* 1.7 bar maximum**		
Kit includes Santoprene® pump tube, ferrules 6 mm *select tube # 1, 2, 3, 4, or 5 for __*	**QP17__K**	KIT
Kit includes Versilon® pump tube, ferrules 6 mm *select tube # 1, 2, 3, 4 or 5 for __*	**QP17T__K**	KIT

NOTE: Confirm material compatibility with chemical resistance guide in catalog.

Pump Tube* Pressure Rating

25 psi (1.7 bar) maximum: # 1, 2, 3, 4, 5

100 psi (6.9 bar) maximum: # 1, 2, 7 check valve required

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

PUMP HEAD SERVICE KITS
100 psi (6.9 bar) Max.


Roller Assembly


Latches


Ferrules 1/4" or 6 mm *Europe*


Connecting Nuts 1/4"


Pump Tube


Duckbill

100 psi maximum

DESCRIPTION	PART NUMBER	UM
Kit includes Santoprene® pump tube & duckbill *select tube # 1, 2 or 7 for __* *#7 is not for Classic 100, 170*	**QP10__K**	KIT
Kit includes Versilon® pump tube & Pellethane® duckbill *select tube # 1, or 2 for __*	**QP10T__K**	KIT

EUROPE **6.9 bar maximum**

Kit includes Santoprene® pump tube & duckbill & ferrules 6 mm *select tube # 1, 2 or 7 for __* *#7 is not for Classic 100, 170*	**QP69__K**	KIT
Kit includes Versilon® pump tube, Pellethane® duckbill, ferrules 6 mm *select tube # 1, or 2 for __*	**QP69T__K**	KIT

NOTE: Confirm material compatibility with chemical resistance guide in catalog.

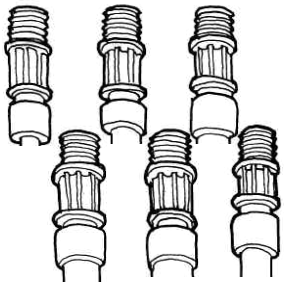
Pump Tube* Pressure Rating

25 psi (1.7 bar) maximum: # 1, 2, 3, 4, 5

100 psi (6.9 bar) maximum: # 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

25 psi (1.7 bar) maximum: # 1, 2, 3, 4, 5

100 psi (6.9 bar) maximum: # 1, 2, 7 check valve required

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

DESCRIPTION	PART NUMBER	UM
Santoprene® pump tube, ferrules 1/4" *select tube # 1, 2, 3, 4, 5 or 7 for __* *#7 is not for Classic 100, 170*	**UCCP20__**	2-PK
	MCCP20__	5-PK
Santoprene® pump tube & duckbills, ferrules 1/4" *select tube # 1, 2 or 7 for __* *#7 is not for Classic 100, 170*	**UCCP__FD**	2-PK
Versilon® pump tube, ferrules 1/4" *select tube # 1, 2, 3, 4 or 5 for __*	**UCTYG0__**	2-PK
	MCTYG0__	5-PK
Versilon® pump tube, ferrules 1/4" & Pellethane® duckbills *select tube # 1 or 2 for __*	**UCTY__FD**	2-PK

EUROPE

Santoprene® pump tube, ferrules 6 mm *select tube # 1, 2, 3, 4 or 5 for __*	**UCCP2__CE**	2-PK
	MCCP2__CE	5-PK
Santoprene® pump tube & duckbills, ferrules 6 mm *select tube # 1, 2 or 7 for __* *#7 is not for Classic 100, 170*	**UC__FDCE**	2-PK
Versilon® pump tube, ferrules 6 mm *select tube # 1, 2, 3, 4 or 5 for __*	**UCTY__CE**	2-PK
	MCTY__CE	5-PK
Versilon® pump tube, ferrules 6 mm, Pellethane® duckbills *select tube # 1 or 2 for __*	**UCTY__DCE**	2-PK

NOTE: Confirm material compatibility with chemical resistance guide in catalog.

CHECK VALVES

Injection Check Valve 1/4"

Injection Check Valve 3/8"

Injection Check Valve 6 mm

100 psi maximum

DESCRIPTION	PART NUMBER	UM
Includes Santoprene® duckbill, ferrule 1/4"	UCDBINJ	EA
	MCDBINJ	5-PK
Includes Santoprene® duckbill, ferrule 3/8"	UCINJ38	EA
	MCINJ38	5-PK
Includes Pellethane® duckbill, ferrule 1/4"	UCTYINJ	EA
	MCTYINJ	5-PK
Includes Pellethane® duckbill, ferrule 3/8"	UCTYIJ38	EA
	MCTYIJ38	5-PK
Includes FKM duckbill, ferrule 1/4"	UCKMINJ	EA
	MCKMINJ	5-PK
Includes FKM duckbill, ferrule 3/8"	UCKMI38	EA
	MCKMI38	5-PK
Injection ball check valve 1/4"	BCV14TVH	EA

***EUROPE* 6.9 bar maximum**

Includes Santoprene® duckbill, ferrule 6 mm	UCINJCE	EA
	MCINJCE	5-PK
Includes Pellethane® duckbill, ferrule 6 mm	UCTINJCE	EA
	MCTINJCE	5-PK
Includes FKM duckbill, ferrule 6 mm	UCKMJCE	EA
	MCKMJCE	5-PK

NOTE: Confirm material compatibility with chemical resistance guide in catalog.

FOR YOUR RECORDS

Pump Item Number

Serial Number

Date of Installation

STENNER PUMPS

STENNER PUMP COMPANY

3174 DeSalvo Road
Jacksonville, Florida 32246 USA

Phone: 904.641.1666
US Toll Free: 800.683.2378
Fax: 904.642.1012

sales@stenner.com
www.stenner.com

Hours of Operation (EST):
Mon.–Thu. 7:30 am–5:30 pm
Fri. 7:00 am–5:30 pm


Assembled in the USA

IMCL 120418b