S Variable Peristaltic Pump - S5V Models SPECIFICATIONS

FLOW RATE OUPUT 6.25 TO 315.0 GPD

1.0 SCOPE

This specification covers the supply, construction materials and operation of a completely functional variable speed peristaltic chemical metering pump including all accessories as shown on the drawings and described herein. The chemical metering pump manufacturer shall be responsible for supplying pump manufacturer accessories featuring a peristaltic pump tube and pump head with 3-point roller design.

1.1 Quality Assurance

For the purpose of establishing quality assurance, experience, and system reliability, the products described herein are based on the metering pumps manufactured by the Stenner Pump Company. All pumps shall be factory-tested for power and function before packaging.

1.2 Warranty

The chemical metering pump manufacturer shall provide a two-year limited warranty on the metering pump from the date of purchase (proof of purchase required).

2.0 PUMP

2.1 Manufacturer: Stenner Pump Company

2.2 Description

A. General

The chemical metering pump shall be a DC motor-driven, peristaltic pump.
The pump shall include brushless DC Motor with ball bearing support, potentiometer, totally enclosed housing with NEMA 4X rating, and S5 pump head. The main shaft shall be splined for ease of maintenance. The pump shall offer a single signal cover with eight screws, O-ring seal, and two liquid tight cord grips for signal cables. Pump shall have integral clear cover on the control panel with screw for tamper resistance.
The power supply shall be 120V 60Hz, 230V 60Hz or 230V 50Hz Single Phase.
The liquid shall only be in contact with the pump tube located within the S5 pump head but may touch accessories including but not limited to, weighted suction line strainer, suction & discharge tubing, and injection ball check valve.

B. Accessories Included

1. Each pump shall come standard with one latching mounting bracket suitable for vertical or horizontal mounting.
2. Each pump shall come standard with three connecting nuts 3/8”.
3. Each pump shall come standard with one injection ball check valve.
4. Each pump shall come standard with one weighted suction line strainer 3/8”.
5. Each pump shall come standard with one 20’ roll of suction/discharge tubing 3/8” white or UV black.
6. Each pump shall come standard with one additional pump tube.
7. Each pump shall come standard with one Installation and Maintenance Manual.

C. Agency Listings and Ratings

1. The pump provided shall require the following agency listings and ratings.
    a. cULus
    b. CE IP65 INTERTEK/ETL with maximum altitude of 2000 m.
    c. NEMA 4X
2. Pumps supplied with Santoprene® tubes shall be tested by IAPMO to confirm to ANSI/NSF STD 61 & 372.
3. Pump supplied with Santoprene® 5G Tube and Ball Check Valve with FKM seat & O-ring, tantalum spring and ceramic ball tested by ETL to conform to ANSI/NSF STD 50.

CI. Materials of Construction

1. The pump shall have a polycarbonate tube housing and tube housing cover. The tube housing cover shall have ceramic bearing for shaft support. The tube housing cover shall be secured to the tube housing via 4 thumbscrews constructed of stainless steel and PVC that do not require a tool to fasten or unfasten.
2. The pump tube shall be Versilon® or FDA approved Santoprene®.
3. The injection ball check valve shall have one of the following:
    a. Ceramic ball FDA approved with tantalum spring; FKM seat & O-ring conforms to ANSI/NSF STD 61 & 372 and ANSI/NSF STD 50.
    b. Ceramic ball FDA approved; stainless steel spring; EPDM seat; Santoprene® O- ring conforms to ANSI/NSF STD 61 & 372.
4. The pump head roller assembly shall have three rollers to compress the pump tube constructed of polycarbonate and three guide rollers constructed of polyethylene.
5. The suction/discharge tubing and ferrules shall be FDA approved polypropylene.
6. Pump tube fittings & injection fittings shall be constructed of NSF listed PVC or polypropylene.
7. Pump tube connecting nuts shall be constructed of PVC or polypropylene (both NSF listed).
8. The pump shall have a suction line strainer and cap constructed of PVC or polypropylene (both NSF listed). The strainer shall also include a ceramic weight.
9. All fasteners shall be stainless steel.
10. The pump shall have Leak Detect components consisting of springs, pins, and clips constructed of Hastelloy®. Leak Detect landing pads shall be gold plated. Leak Detect housing and drip pan shall be polypropylene. Ball detents in transition sleeve shall be stainless steel.

CII. Standard Features

1. The pump shall have a 3-point roller design to assist in anti-siphon protection.
2. The pump shall have a 20:1 turndown controlled via operating mode.
3. The pump shall have reproducible flow rate outputs +/- 2%.
4. The pump shall have a maximum vertical suction lift of 25 ft. (7.6 m)
5. The pump head shall require no valves or tools for easy maintenance.
6. The pump shall be self-priming against maximum working pressure. A foot valve shall not be required.
7. The pump shall not lose prime or vapor lock.
8. The pump shall require tube change procedure that mandates no lubrication.

F. Pump Flow Rate Outputs

S5V MODELS 25 psi (1.7 bar) max.

Pump Prefix	Pump Tube	Turndown Ratio	Gallons per Day	Gallons per Hour	Ounces per Hour	Ounces per Minute	Liters per Day	Liters per Hour	Milliliters per Hour	Milliliters per Minute
S5V5G	5G	20:1	15.8-315.0	0.66-13.13	84.0-1680	1.40-28.00	59.6-1192.0	2.48-49.68	2484.2-49684.0	41.4-828.0
			Approximate outputs @ 50/60Hz							

S5V MODELS 100 psi (6.9 bar) max.

Pump Prefix	Pump Tube	Turndown Ratio	Gallons per Day	Gallons per Hour	Ounces per Hour	Ounces per Minute	Liters per Day	Liters per Hour	Milliliters per Hour	Milliliters per Minute
S5V7G	7G	20:1	6.3-125.0	0.26-5.21	33.4-667.0	0.56-11.11	23.7-473.0	0.99-19.72	985.8-19716.0	16.5-329.5
			Approximate outputs @ 50/60Hz							

2.3 CONTROL

A. Pump shall have 45 RPM maximum

B. Pump shall have the capability to be adjusted manually using the potentiometer from 5% to 100% of the pump's flow rate output.

C. Pump shall have graduations in 5% increments.

D. Pump shall be turned off by rotating the potentiometer fully counterclockwise to off position.

2.4 SETTINGS AND CONFIGURATION

A. Pump shall include highly sensitive leak detector. The sensitivity shall be factory preset to distinguish between water and common water treatment chemicals to reduce the number of false tube leaks.

B. Pump shall have a removable jumper to disable tube leak function and allow pump to continue running in the event of a leak.

C. Pump shall have four LED indicator lights

1. RUN / FAULT
    a. RUN shall be solid green when pump is running and not in drive fault.
    b. FAULT shall blink red if pump has a drive fault error.
2. STANDBY / OFF STANDBY shall be solid red when receiving a contact closure OFF shall blink red when potentiometer is turned fully counterclockwise.
3. LEAK shall blink red when a leak is detected
4. POWER shall be solid green when mains power is connected.

D. Pump shall have three internal relays for output indication from the pump to a control system, another pump or PLC. Relays shall be rated for 24VDC @ 50mA. Each relay shall be normally open and assigned one pump condition: RUN, LEAK or TRANSFER

E. Pump shall have the following output relays

1. LEAK DETECT shall activate a relay by conductivity on Hastelloy pins. Tube leak sensitivity shall be calibrated by a potentiometer located under the signal cover.
2. RUN shall activate a relay when the pump is running.
3. TRANSFER shall activate a relay to transfer operation from the primary pump to a backup pump if a drive fault, loss of power or a leak occurs.

END OF SPECIFICATION

