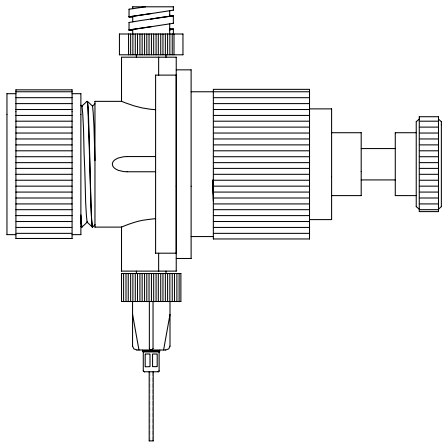
TECHCON SYSTEMS

TS1212

Disposable Pinch Tube Valve

User Guide



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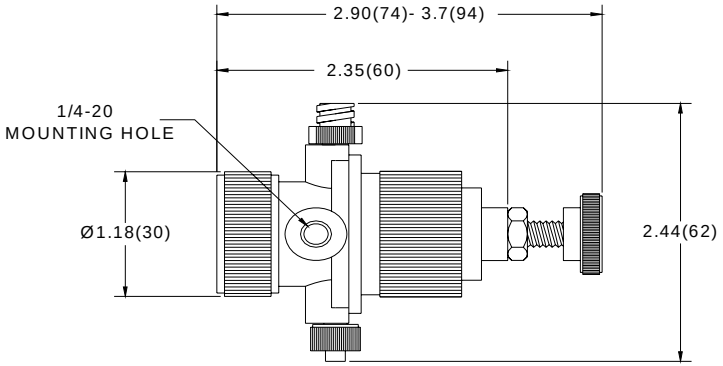
1. SPECIFICATIONS

Size:	3.7” (94mm) long; 1.18”(30mm)
diameter	
Weight:	0.18 lb (83g)
Fluid inlet port:	Female luer lock
Fluid outlet port:	Male luer lock
Air inlet port:	10-32 UNF-2B
Maximum fluid pressure:	60 psi (4.1 bars)
Minimum air pressure required:	50 psi (3.4 bars)
Wetted parts:	Standard: Polyethylene
	Optional: Polypropylene
Operating frequency:	Exceeds 400 cycles/min.
Flow rate at 60 psi (water):	2050 ml/min.
Material viscosity range:	Up to 45,000 Cps.



Dimensions are in inches (mm)

Figure 1.0

2. UNPACKING AND INSPECTION

Carefully unpack the valve and examine the items contained in the carton. These will include:

- Valve Assembly
- Sample Pinch tubes and Needle Kit
- User guide
- Valve Air Hose

Inspect the unit for any damaged which may have occurred in transit. If such damage has occurred, notify the carrier at once.

Claim for damage must be made by the consignee to the carrier, and should be reported to the manufacturer.

3. DESCRIPTION

The TS1212 valve is designed to dispense low to medium viscosity material with precise deposits over a wide range of shot sizes. An internal spring return makes the valve fully adaptable for use with Techcon Systems time/pressure controllers. A short opening stroke provides extremely fast, positive shut-off. An external stroke control adjustment makes it easy for the operator to fine tune shot sizes.

4. THEORY OF OPERATION

The TS1212 is a normally closed, disposable pinch tube valve. Air pressures through port (1) pushes the piston assembly (2) away from the seat (3) allowing fluid to flow from the valve fluid inlet port (4) to the valve fluid outlet port (5). Relieving the input air pressure allows the spring (6) to return the piston back to its position to close the fluid path.

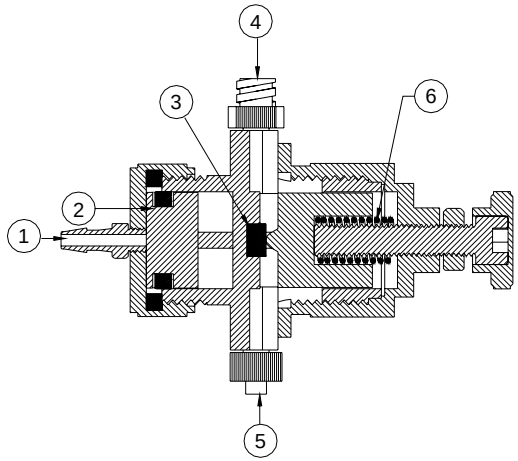


Figure 2.0

5. SET UP INSTRUCTIONS

Refer to Figure 3.0

1. Install a new pinch tube in the valve. Following instructions in Section 6. “Pinch tube replacement” on page 8.
2. If desired, mount the valve to the bracket included.
3. Connect fluid feed line to valve inlet port (1).
4. Install valve actuating air line to air inlet port (2)
5. Connect valve air line to an approved valve controller.
6. Set the fluid reservoir pressure. Do not exceed 60 psi (4.1bars)
7. Make sure all connections are tight
8. Place container under the valve outlet and activate the valve until the fluid flows steady.
9. Attach appropriate dispense tip to the luer lock outlet fitting (3).

The amount of fluid that flows through the valve is determined by:

- Flow control adjustment- Turn adjustment screw (4) counterclockwise to increase fluid flow rate and clockwise to decrease fluid flow rate.
- Length of actuation, set at controller (Valve open time).
- Fluid reservoir pressure.
- Dispensing tip size.

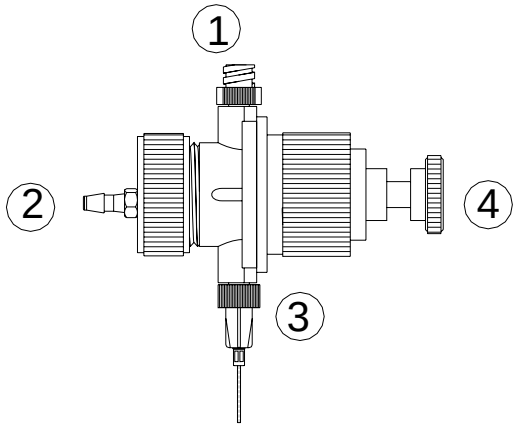


Figure 3.0

6. TYPICAL SYSTEM SET UP

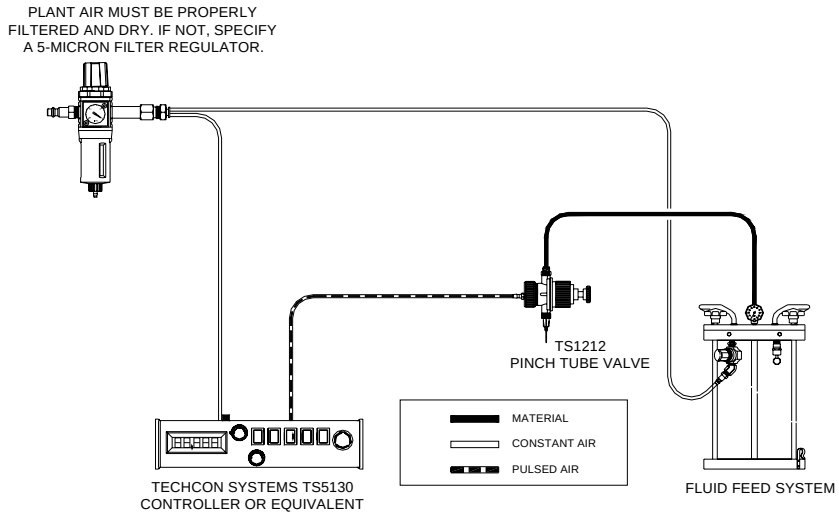


Figure 4.0

7. TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
No Fluid Flow	Fluid pressure too low	Increase fluid pressure
	Operating pressure too low	Increase air pressure to 50 psi (3.4 bars)
	Dispense tip clogged or damaged	Replaced tip
	Fluid cured in pinch tube	Replace with new tube
	The stroke adjustment closed	Open stroke adjustment counterclockwise
Inconsistent Fluid Flow	Fluid pressure fluctuating	Make sure fluid pressure is constant
	Valve operating pressure is too low	Increased valve pressure to 50 psi (3.4 bars)
	Valve open time is not consistent	Check to make sure the valve controller is providing a consistent output
	Air trapped in fluid line	Purge valve
Decrease in fluid flow	Pinch tube lose its flexibility	Replace with new tube
Fluid drools after the valve closes, eventually stopping	Air trapped in fluid line	Purge valve
Steady drip	Pinch tube is not installed properly	Re-install tube, follow instructions

8. PINCH TUBE REPLACEMENT

CAUTION: Make sure the fluid pressure is released before disassemble the valve.

Refer to figure 5.0

1. Release fluid pressure.
2. Disconnect fluid line.
3. Disconnect valve air line.
4. Remove the valve cap (1), the spring (6) and the shut off piston (5)
5. Lift the two ends of the tube (2) out of the grooves of the valve body (3).
6. Hold the pinch tube at the female luer lock fitting and pull it out of the valve body.
7. Dispose the used pinch tube in an appropriate waste container.
8. Install a new pinch tube by inserting the male fitting of the tube through the valve body.
9. Snapped the both ends of the pinch tube into the groove of the valve body.
10. Reinstall the shut off piston, the spring and the flange.

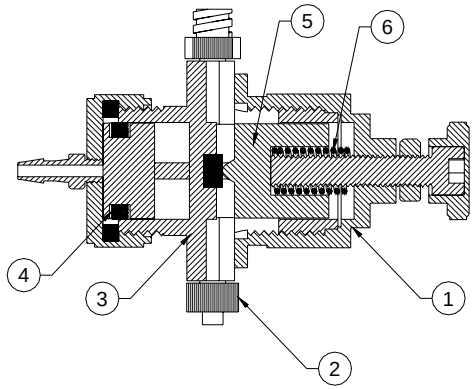


Figure 5.0

9. SPARE PARTS AND ACCESSORIES

9.1 SPARE PARTS:

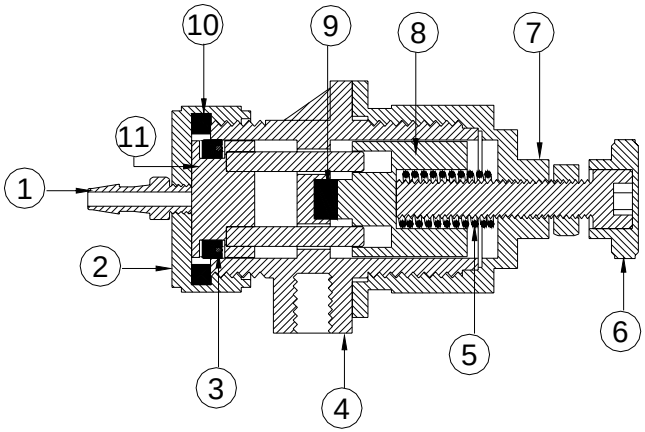


Figure 6.0

No.	Part number	Description
1	TSD922-19	Air Fitting
2	1212-000-003	Cylinder Cap
3	TSD1399-1	Cup Seal
4	1212-000-001	Body
5	TSD1150-5	Spring
6	1212-002-000	Adjustment Knob
7	1212-000-002	Flange
8	1212-000-004	Shut off Piston
9	1212-000-005	Pinch cushion
10	1212-000-007	Gasket
11	1212-003-000	Piston

Replacement Tube:

PART NUMBER	FITTING	I.D. INCH (MM)	MATERIAL
1212-004-000PK	M X F	0.07 (1.78)	LDPE NATURAL
1212-004-002PK	M X F	0.100 (2.54)	LDPE NATURAL
1212-004-002BPK	M X F	0.100 (2.54)	LDPE BLACK
1212-004-100PK	M X F	0.125 (3.18)	POLYURETHANE NATURAL
1212-004-200PK	M X M	0.125 (3.18)	POLYURETHANE NATURAL
1212-004-100BPK	M X F	0.125 (3.18)	POLYURETHANE BLACK

9.2 ACCESSORIES

Bench mounting kit:

PART NUMBER	DESCRIPTION
918-033-000	Production master stand
918-000-012	Rod clamp
1212-000-008	Mounting rod
	(These three components are needed to make a bench mounting stand)

10. LIMITED WARRANTY

Manufacturer warrants this product to the original purchaser for a period of one (1) year from date of purchase to be free from defects in material and workmanship, but not against damages by misuse, negligence, accident, faulty installations and instructions. Manufacturer will repair or replace (at factory's option), free of charge, any component of the equipment thus found to be defective, on return of the component "PREPAID" to the factory during the warranty period. In no event shall any liability or obligation of the Manufacturer arising from this warranty exceed the purchase price of the equipment. This warranty is only valid if the defective product is returned as a complete assembly without physical damage. The Manufacturer's liability, as stated herein, cannot be altered or enlarged except by a written statement signed by an officer of the company. In no event shall the Manufacturer be liable for consequential or incidental damages. A return authorization is required from OK International prior to shipping a defective unit to the factory.

Manufacturer reserves the right to make engineering product modifications without notice.

Send warranty returns to:

OK International
12151 Monarch Street
Garden Grove, Ca 92841