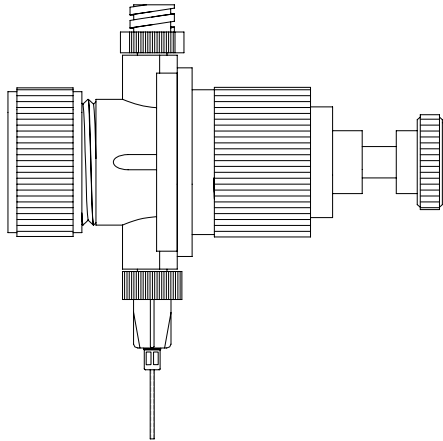


**TECHCON SYSTEMS**  
**TS1212**  
**Disposable Pinch Tube Valve**

User Guide

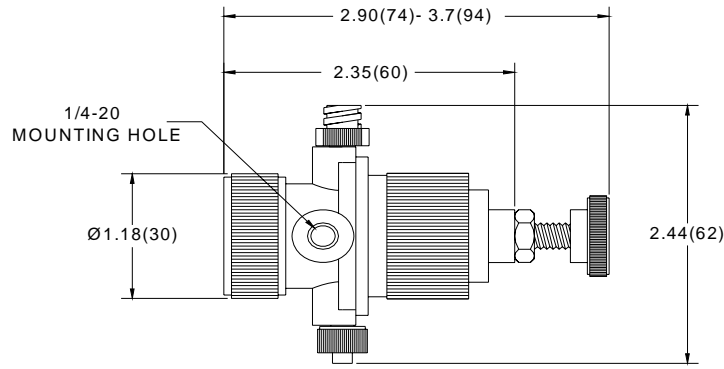


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## 1. SPECIFICATIONS

|                                |   |
|--------------------------------|---|
| 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<br>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.

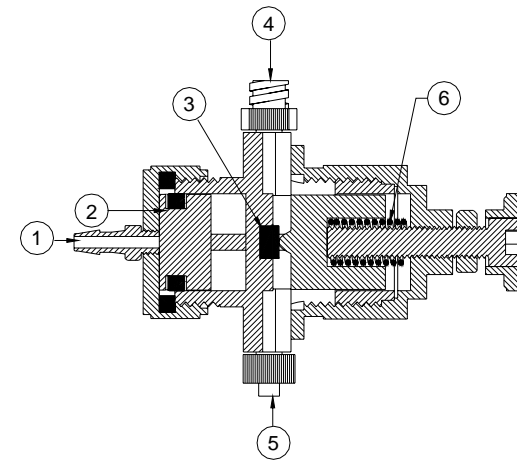
Claim for damage must be made by the consignee to the carrier, and should be reported to the manufacturer.

## 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.

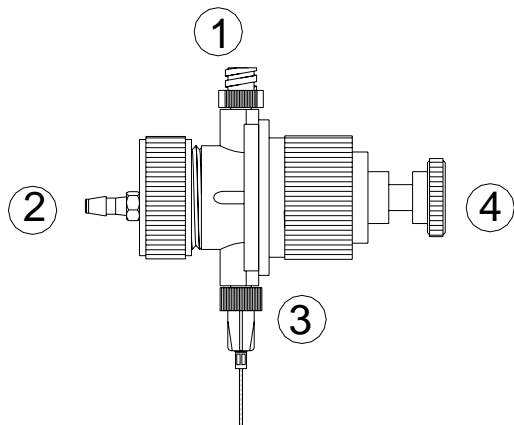


Figure 3.0

## 6. TYPICAL SYSTEM SET UP

PLANT AIR MUST BE PROPERLY FILTERED AND DRY. IF NOT, SPECIFY A 5-MICRON FILTER REGULATOR.

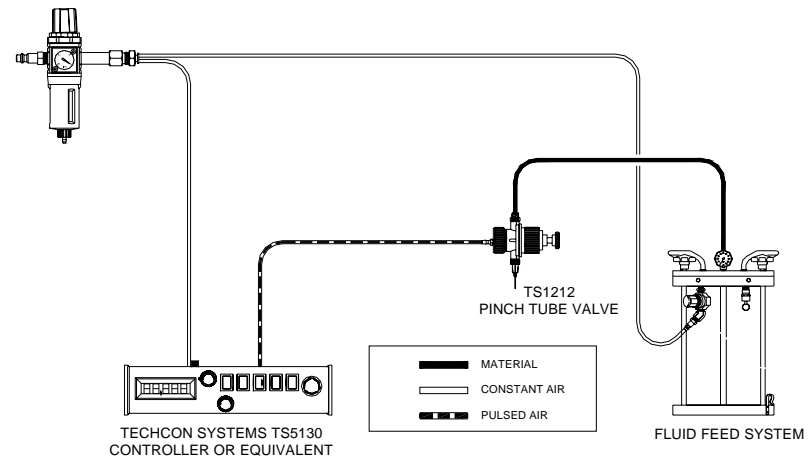


Figure 4.0

## 7. TROUBLE SHOOTING

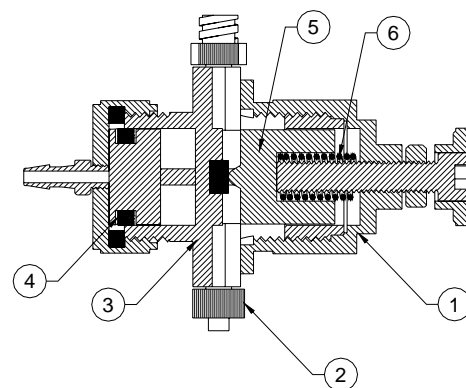
| PROBLEM  | POSSIBLE CAUSE                       | CORRECTION   |
|--|--------------------------------------|--|
| No Fluid Flow  | Fluid pressure too low               | Increase fluid pressure  |
|  | Operating pressure too low           | Increase air pressure to 50 psi (3.4 bars)                               |
|  | 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:

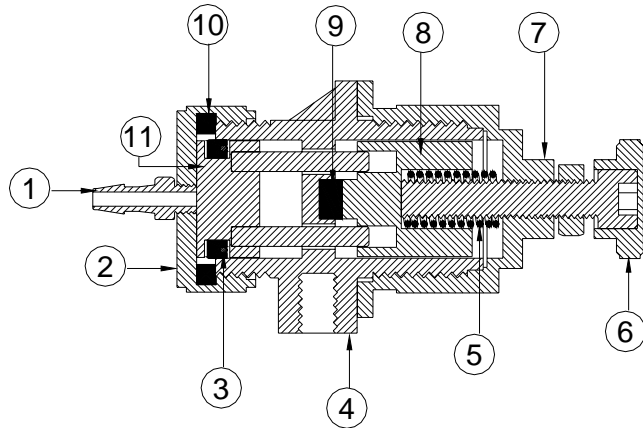


Figure 6.0

| 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