

Cunningham

SINCE 1949

Linear Positioner Cylinder

LINEAR LOGIC™



MODEL HST

3,000 PSI Max Operating Pressure
1½" Through 16" Bores Available

The CUNNINGHAM MFG. CO. hollow rod servo cylinder is equipped with a TEMPOSONICS linear displacement transducer. A permanent magnet in the piston of the cylinder indicates the stroke traveled to as little as + .002 inches tolerance.

- FEATURES:
- Frictionless operation of the electronic parts
 - Absolute system — data not lost after power interruption
 - Rugged — not affected by adverse conditions
 - Direct sensing of position
 - Easy installation of a compact package
 - High speeds possible with no shock
 - Designed for continuous use in mill type applications
 - Standard Cunningham seal kits and parts

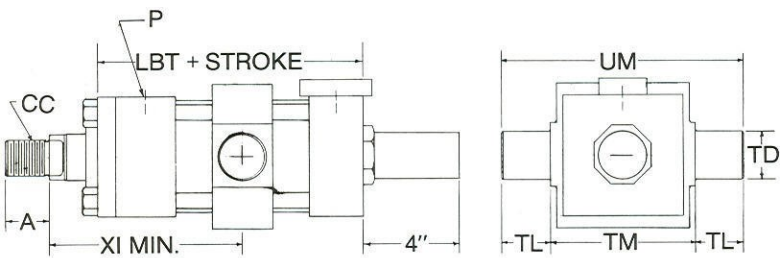
BROCHURE 799 HST

Cunningham Manufacturing Co.

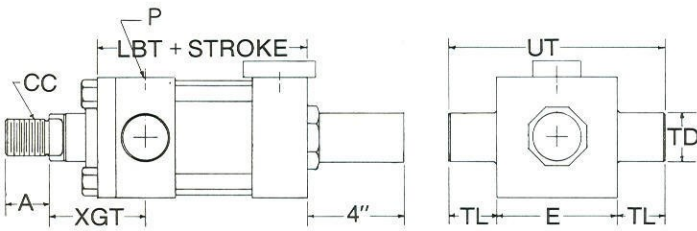
318 SOUTH WEBSTER STREET • SEATTLE, WASHINGTON 98108 • (206) 767-3713 • FAX # 206-762-3457

**TABLE 1
MOUNTING DIMENSIONS**

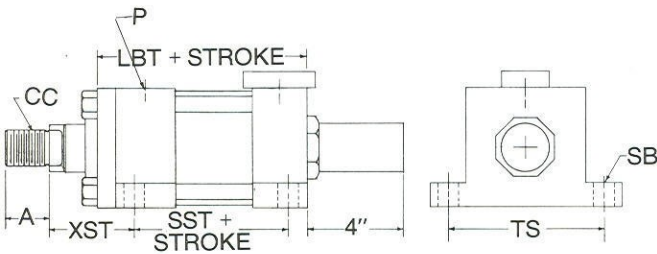
| BORE | 1½ | 2 | 2½ | 3¼ | 4 | 5 |
|---------|-------|-------|-------|--------|--------|--------|
| CB | 13/16 | 15/16 | 15/16 | 19/16 | 21/16 | 29/16 |
| CD | 1/2 | 3/4 | 3/4 | 1 | 13/8 | 13/4 |
| CW | 1/2 | 5/8 | 5/8 | 3/4 | 1 | 1¼ |
| E | 2½ | 3 | 3½ | 4½ | 5 | 6½ |
| F | 3/8 | 5/8 | 5/8 | 3/4 | 7/8 | 7/8 |
| FB | 7/16 | 9/16 | 9/16 | 11/16 | 11/16 | 15/16 |
| LBT | 65/8 | 63/8 | 67/8 | 7½ | 75/8 | 75/8 |
| P | SAE-8 | SAE-8 | SAE-8 | SAE-12 | SAE-12 | SAE-12 |
| R | 1.63 | 2.05 | 2.55 | 3.25 | 3.82 | 4.95 |
| SB | 7/16 | 9/16 | 13/16 | 13/16 | 11/16 | 11/16 |
| SST | 5½ | 4¾ | 47/8 | 53/8 | 5 | 5 |
| TD | 1.000 | 1.375 | 1.375 | 1.750 | 1.750 | 1.750 |
| TF | 37/16 | 41/8 | 45/8 | 57/8 | 63/8 | 83/16 |
| TL | 1 | 13/8 | 13/8 | 1¾ | 1¾ | 1¾ |
| TM | 3 | 3½ | 4 | 5 | 5½ | 7 |
| TS | 3¼ | 4 | 47/8 | 57/8 | 6¾ | 8¼ |
| WT | 33/8 | 33/8 | 31/8 | 2½ | 23/8 | 23/8 |
| XI MIN. | 6¼ | 7¼ | 7¼ | 7¼ | 7¼ | 7¼ |
| XCT | 16¾ | 17 | 17¼ | 17¾ | 183/8 | 18½ |
| XGT | 45/8 | 47/8 | 45/8 | 4¼ | 4¼ | 4¼ |
| XST | 41/8 | 4½ | 47/16 | 315/16 | 41/8 | 41/8 |
| UF | 4¼ | 51/8 | 55/8 | 71/8 | 75/8 | 9¾ |
| UM | 5 | 6¼ | 6¾ | 8½ | 9 | 10½ |
| UT | 4½ | 5¾ | 6¼ | 8 | 8½ | 10 |



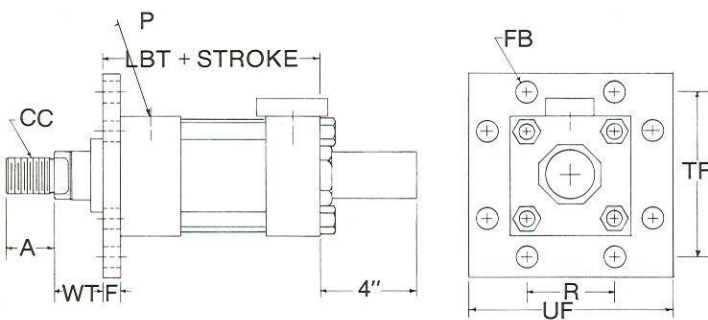
Type T4 — Intermediate Trunnion Mount



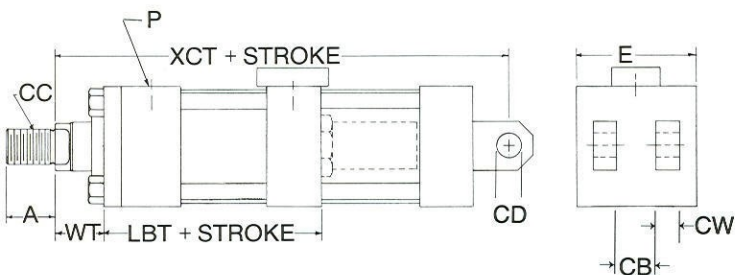
Type T1 — Head Trunnion Mount



Type S2 — Side Lug Mount



Type F5 — Head Flange Mount



Type P1 — Clevis Mount

Many other standard mounts available

WT: Determined for maximum 9" transducer deadband.

**TABLE 2
ROD END DIMENSIONS**

| BORE | ROD DIA.* | 'CC' ROD THD. | 'A' THD. LG. |
|------|-----------|---------------|--------------|
| 1½ | 1 | 7/8 - 14 | 11/8 |
| 2 | 13/8 | 1¼ - 12 | 15/8 |
| 2½ | 1¾ | 1½ - 12 | 2 |
| 3¼ | 2 | 1¾ - 12 | 2¼ |
| 4 | 2½ | 2¼ - 12 | 3 |
| 5 | 3 | 2¾ - 12 | 3½ |

*Many rod diameters available

PORTING:

Rod End Port: SAE straight thread

Blind End Porting Options:

1. Manifold mount for Rexroth Servo
2. Manifold mount for your Servo
3. SAE straight thread
4. Special to suit application



POSITIONER CYLINDER

- 3000 PSI Operating pressure.
- 1½" bore thru 16" bore.
- Strokes up to 180", consult factory over 180".
- Most NFPA mounts available.
- Quick and easy installation.
- Designed for rugged, continuous use.
- Standard parts utilized, no special repair procedures.
- Internal digital transducer, easily replaced in the field.
- Highly accurate ($\pm 0.002"$) repeat positioning.
- High forces obtained with high velocity capabilities.
- Unaffected by adverse environmental conditions, i.e., dirt, dust, temperature, humidity, grease, oil, water.

VALVING / COMBINATIONS

- Servo
- Proportional
- Combination Servo plus Directional
- Proportional plus Directional for high speed application where accurate positioning must be maintained.
- Valve mounting options (manifold mounting) available.

TRANSDUCER AND CONTROLS

- Internal Digital, or Analog Transducer utilizing a magnetostrictive principle.
- Output is absolute (no loss of position), infinite resolution, non-contacting, no friction, no wear or deterioration.
- Excellent repeatability (zero accumulated error).
- Mechanical stoppage of the cylinder will not affect the system.
- Extremely resistant to line noise.
- Feedback is an absolute encoder.

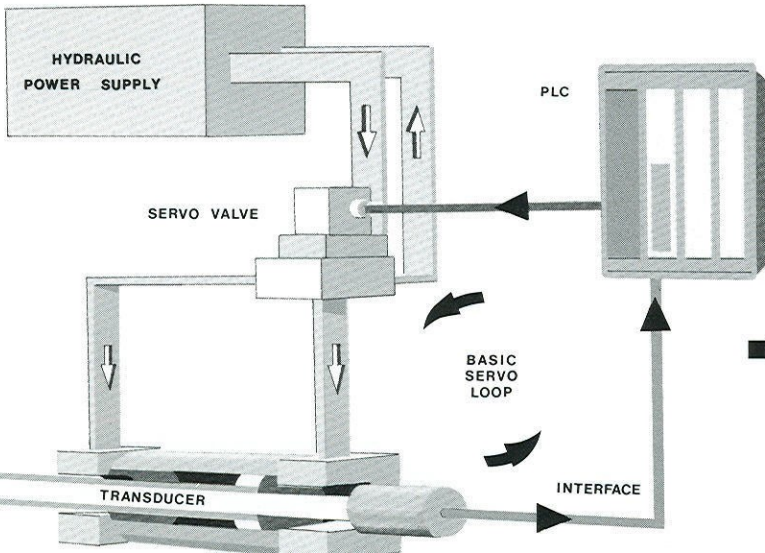
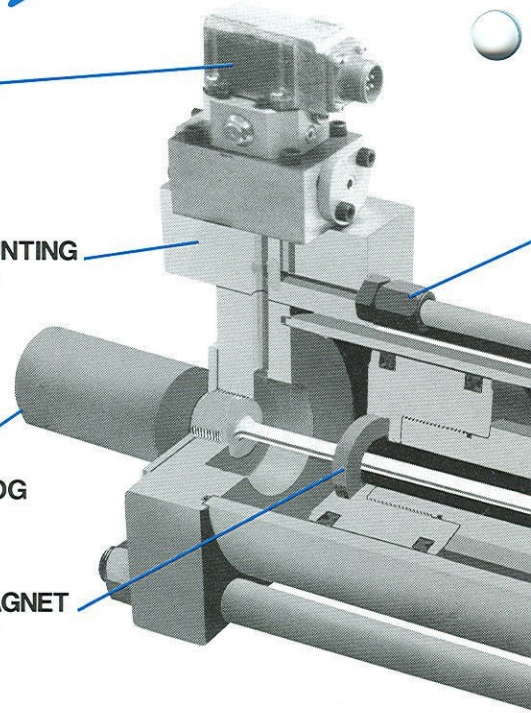
SERVO VALVE

MANIFOLD MOUNTING OPTIONS

DIGITAL OR ANALOG TRANSDUCER

PERMANENT MAGNET IN PISTON

STANDARD NFPA MOUNTING STYLES AVAILABLE



SERVO-LOOP SYSTEM

- Compatible with most computers and PLC's
- System can stand alone with custom operator control console for adjustable and discrete positioning.

Linear Positioner Cylinder

STANDARD PORTS OR DIRECT MANIFOLD MOUNTS

PLUMBING COMPLETE

HOLLOW PISTON ROD TO ACCOMMODATE THE DIGITAL TRANSDUCER

STANDARD SEALS

EXISTING SYSTEM APPLICATIONS

- XY Tables and Profiling
- Robot Arms
- Test equipment; velocity, positioning, deflection
- Windmill blade positioning
- Turbine wicket gates
- Lumber processing equipment; edgers, horizontal resaws, etc.
- Metal forming
- Tube and pipe bending
- Synchronization of multi-cylinder systems
- Automatic profile grinding
- Laser positioners

FOUR POPULAR SYSTEM TYPES

