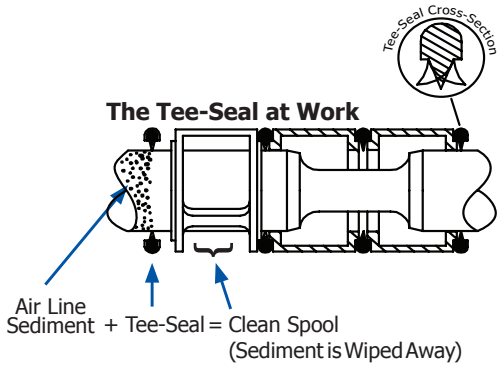




5/2

5/3

# Compact Spool Valves - Design Features



## Valves

- Inline or manifold mount: flexible, efficient.
- Balanced spool construction allows ports to be plugged for 2 way or 3 way function, or restricted for inexpensive cylinder exhaust speed control.
- Wide variety of options and operators available.
- Specific application needs? Consult the factory. We will build it for you.



## Tapered Tee-Seal ..... Eats Dirt

- Bidirectional tapered Tee-Seal eliminates sticking problems.
  - Flexes to clean spool
  - Mechanically Locked
  - No Spiral Twist
  - No Extrusion
  - Air Line Sediment is Wiped Away.
- Tested tough and proven reliable according to SAE specifications: Rust and water injected every 864,000 cycles for 20 million cycles.



## Solenoid ... Guaranteed Against Burnout

- Three-way pilot uses full air line pressure to shift the valve.
- Pilot is internally supplied when the pressure at port one is 35 to 150 PSIG (240 to 1030 kPa).
- Coil is hermetically sealed as an integral watertight molded unit.
- Intrinsically-safe and explosion-proof versions available.
- Push Non-Locking Override is standard. (Extended Turn and Turn-Locking available)



## Products Certifie To:

- CSA - (C22.2 and UL STD 429)
- Factory Mutual - Explosion Proof Environments
- ATEX - Explosion Proof Environments
- CE - EMF and Low Voltage Directives

# Compact Spool Valves - Specs & Model Numbers

## Specifications

| Valve Operation  |  | Valve Operation   |  |
|--|--|---|--|
| <p><b>L07</b> <b>L65</b><br/><b>L20</b></p>  |  | <p><b>5/3 BLOCK</b><br/> <b>Maintained Energized 12:</b><br/>                     Pressure from Port 1 to Port 2<br/>                     Exhaust from Port 4 to Port 5<br/> <b>De-Energized:</b> All ports Blocked<br/> <b>Maintained Energized 14:</b><br/>                     Pressure from Port 1 to Port 4<br/>                     Exhaust from Port 2 to Port 3</p>   |  |
| <p><b>5/2 SINGLE</b><br/> <b>De-Energized:</b><br/>                     Pressure from Port 1 to Port 2<br/>                     Exhaust from Port 4 to Port 5<br/> <b>Energized:</b><br/>                     Pressure from Port 1 to Port 4<br/>                     Exhaust from Port 2 to Port 3</p>                            |  | <p><b>5/3 EXHAUST</b><br/> <b>Maintained Energized 12:</b><br/>                     Pressure from Port 1 to Port 2<br/>                     Exhaust from Port 4 to Port 5<br/> <b>De-Energized:</b><br/>                     Port 2 open to Port 3, Port 4 open to Port 5<br/>                     Port 1 Blocked<br/> <b>Maintained Energized 14:</b><br/>                     Pressure from Port 1 to Port 4<br/>                     Exhaust from Port 2 to Port 3</p> |  |
| <p><b>5/2 DOUBLE</b><br/> <b>Momentarily Energized 12:</b><br/>                     Pressure from Port 1 to Port 2<br/>                     Exhaust from Port 4 to Port 5<br/> <b>Momentarily Energized 14:</b><br/>                     Pressure from Port 1 to Port 4<br/>                     Exhaust from Port 2 to Port 3</p> |  | <p><b>5/3 PRESSURE</b><br/> <b>Maintained Energized 12:</b><br/>                     Pressure from Port 1 to Port 2<br/>                     Exhaust from Port 4 to Port 5<br/> <b>De-Energized:</b><br/>                     Port 1 open to Ports 2 &amp; 4; Ports 3 &amp; 5 Blocked<br/> <b>Maintained Energized 14:</b><br/>                     Pressure from Port 1 to Port 4<br/>                     Exhaust from Port 2 to Port 3</p>                             |  |
| <b>Operating Temperatures</b><br>  | <b>Solenoid Pilot Operated</b>   | <b>Treated Buna-N Seals (Treated NBR, Standard)</b>   | <b>Fluoroelastomer Seals (FPM (FKM), Option A)</b>               |
|  | Standard<br>High Temp Coil (Option CT)   | -18°C to +50°C (0°F to +123°F)<br>-18°C to +82°C (0°F to +180°F)  | -18°C to +50°C (0°F to +123°F)<br>-18°C to +82°C (0°F to +180°F) |
| <b>Operating Pressures</b><br>   | <b>Solenoid Pilot Operated</b>   | <b>Inlet Port</b>   | <b>External Pilot Port</b>                                       |
|  | Standard 2 Position<br>Standard 3 Position<br>External Pilot (Option B)  | 240 - 1030 kPa (35 - 150 PSIG)<br>345 - 1030 kPa (50 - 150 PSIG)<br>Vacuum - 240 kPa (Vacuum - 35 PSIG)   | -<br>-<br>240 - 1030 kPa (35 - 150 PSIG)                         |
|  | <b>Media - Air Or Inert Gas</b>  |   |  |
| <b>Filtration &amp; Lubrication</b><br>  | Air Line Lubrication of Automatic Valve products is not required, but is recommended to maximize service life. Oils should be compatible with seal material, have an ISO 32 viscosity, and have an aniline range between 82°C (180°F) and 99°C (210°F). Filter to 50 microns or better. For temperatures below 40°F, air must be dry to prevent formation of ice. Refer to the Maintenance section of this catalog for recommended lubricants. |   |  |

## Model Numbers

| Series   | Body Type          | Port Size      | Function                        | Body Design | Operator 1  | Center Operator  | Operator 2                 | Voltage <sup>3</sup>                                      | Options*                              |
|--|--------------------|----------------|---------------------------------|-------------|---|------------------|----------------------------|---|---------------------------------------|
| <b>L07</b>   | 0 Inline, Manifold | 2 1/8<br>3 1/4 | A 4 Way 2 Position              | A Single    | A Air Pilot   | D 3 Pos'n Spring | A Air Pilot                | -AA 110/50, 120/60  | A Fluoroelastomer Seals               |
|  |                    |                | B 4 Way 2 Position <sup>1</sup> | B Double    | F Hand Lever - Line                                     |                  | C 3 Position Spring Manual | -AB 220/50, 240/60, 125VDC                                | B External Pilot Connection           |
|  |                    |                | C 4 Way 3 Position Block        |             | G Hand Lever - Manifold                                 |                  | M 2 Position Detent Manual | -DA 22/50, 24/60, 12VDC                                   | C Conduit Coil                        |
|  |                    |                | D 4 Way 3 Position Exhaust      |             | I Palm Button   |                  | N 3 Position Detent Manual | -DB 24VDC   | CT Conduit Coil High Temperature      |
|  |                    |                | E 4 Way 3 Position Pressure     |             | J Cam   |                  | R 2 Position Spring        |   | D Dustproof                           |
| <b>L20</b>   | 0 Inline, Manifold | 3 1/4<br>4 3/8 |                                 |             | K Foot Pedal  |                  |                            | G 18" Flying Leads  |                                       |
|  |                    |                |                                 |             | L Foot Treadle  |                  |                            |   | L Low Watt Coil (2.5 Watts)           |
| <b>L65</b>   | 0 Inline           | 6 3/4<br>7 1   |                                 |             | V Intrinsically-Safe Solenoid <sup>2</sup> (24VDC only) |                  |                            | LL Lowest Watt Coil (0.7 Watts) with Type 2 override only |                                       |
|  |                    |                |                                 |             | W Weather-Proof Solenoid                                |                  |                            |   | S 303 Stainless Steel Body (L20 only) |
| SS 316 Stainless Steel Body (L20 only)<br>W G (BSPP) Threads<br>Y Explosion-Proof Coil (CSA, FM)<br>Z Explosion-Proof Coil (ATEX)<br>1 Push Turn-Locking Override<br>2 Extended Turn-Locking Override<br>4 No Override |                    |                |                                 |             |   |                  |                            |   |                                       |

\* Not all Options are available for all models. Refer to "Options" at the end of this Section for additional information.

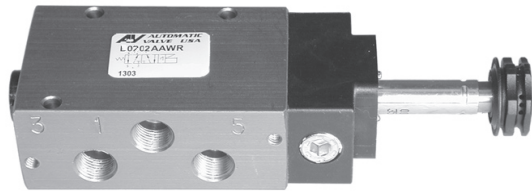
<sup>1</sup> Use varies. Consult the Factory for details. <sup>2</sup> Can not be used on a manifold. <sup>3</sup> Consult the Factory for additional voltages.



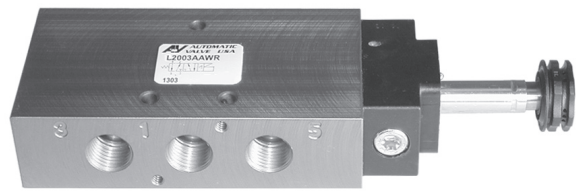
5/2 5/3

# Compact Spool Valves - Standard Solenoid

## Single

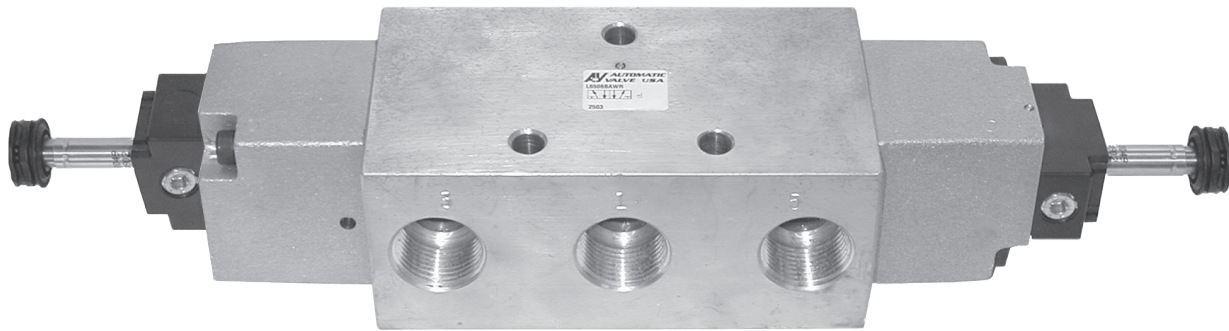


L0702AAWR



L2003AAWR

## Double



L6506BBWW

## Model Numbers

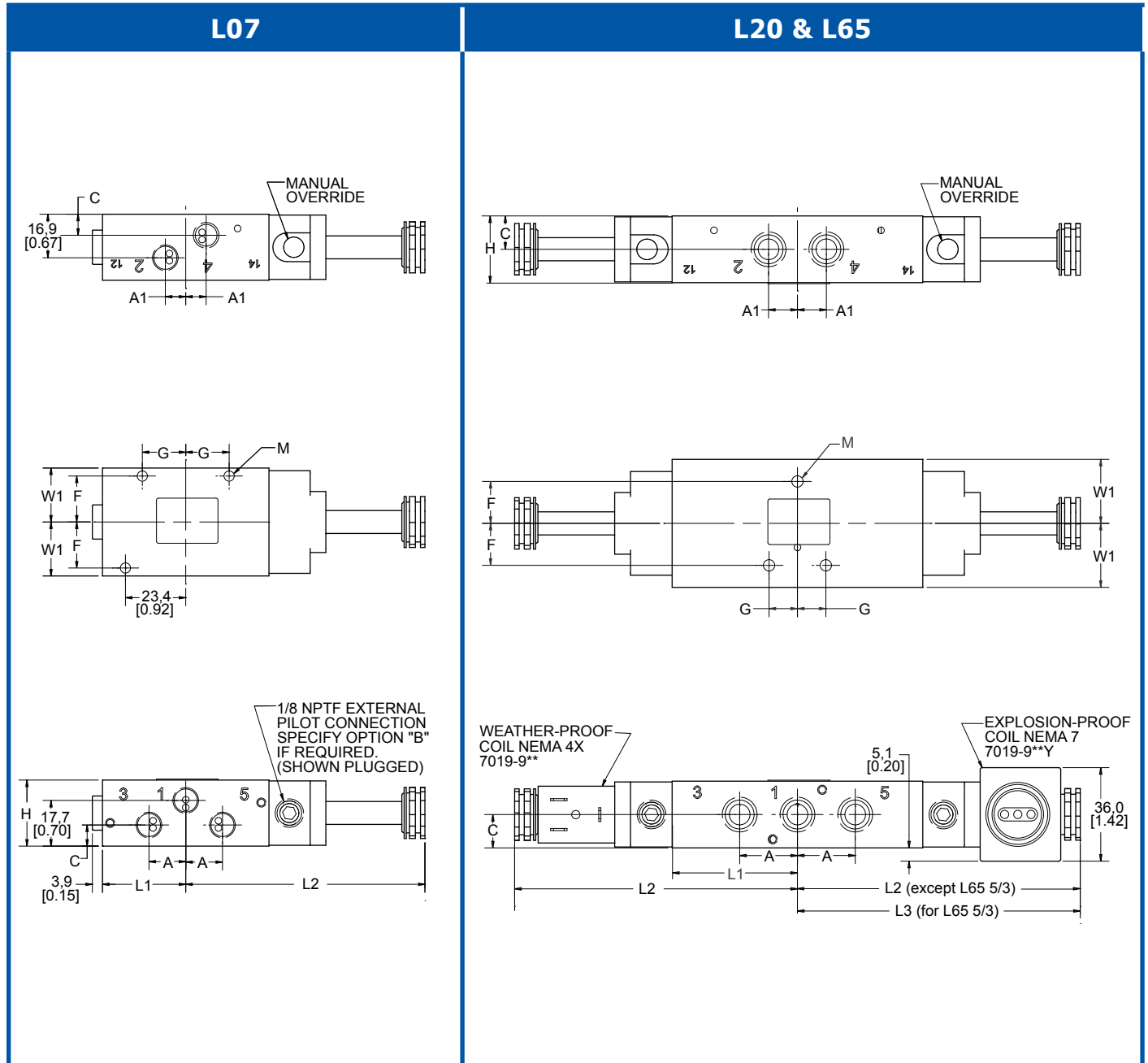
| Series | Port Size      |              | Flow<br>l/min<br>(Cv) |               | 5/2          |              | 5/3           |               |               | Body Material         | Seal Material | Weight<br>kg (lb) |
|--------|----------------|--------------|-----------------------|---------------|--------------|--------------|---------------|---------------|---------------|-----------------------|---------------|-------------------|
|        |                |              |                       |               | Single       | Double       | Block         | Exhaust       | Pressure      |                       |               |                   |
|        |                |              |                       |               |              |              |               |               |               |                       |               |                   |
| L07    | 1/8            |              | 690<br>(0.7)          | 538<br>(0.5)  | L0702AAWR-** | L0702ABWW-** | L0702CBWDW-** | L0702DBWDW-** | L0702EBWDW-** | Aluminum              | NBR           | 0,3<br>(0,6)      |
|        | 1/4<br>(1,2,4) | 1/8<br>(3,5) |                       |               | L0703AAWR-** | L0703ABWW-** | L0703CBWDW-** | L0703DBWDW-** | L0703EBWDW-** |                       |               |                   |
| L20    | 1/4            |              | 1770<br>(1.8)         | 1381<br>(1.4) | L2003AAWR-** | L2003ABWW-** | L2003CBWDW-** | L2003DBWDW-** | L2003EBWDW-** | Aluminum <sup>1</sup> | NBR           | 0,5<br>(0,9)      |
|        | 3/8            |              |                       |               | L2004AAWR-** | L2004AAWW-** | L2004CBWDW-** | L2004DBWDW-** | L2004EBWDW-** |                       |               |                   |
| L65    | 3/4            |              | 8860<br>(9.0)         | 6911<br>(7.0) | L6506BAWR-** | L6506BBWW-** | L6506CBWDW-** | L6506DBWDW-** | L6506EBWDW-** | Aluminum              | NBR           | 1,86<br>(4.1)     |
|        | 1<br>(1,2,4)   | 3/4<br>(3,5) |                       |               | L6507BAWR-** | L6507BBWW-** | L6507CBWDW-** | L6507DBWDW-** | L6507EBWDW-** |                       |               |                   |

\*\* = Coil Voltage Code. Coils also sold separately. Refer to "Electrical Information" at the end of this Section for additional information.

<sup>1</sup>Body Available in 303 or 316 Stainless Steel (L20 only). Refer to "Options" at the end of this Section for additional information.

# Compact Spool Valves - Standard Solenoid

## Dimensional Information



| Series     | A            | A1           | C            | F            | G            | H            | L1           | L2           | L3          | M            | W1           |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| <b>L07</b> | 14,3<br>0.56 | 7,9<br>0.31  | 7,9<br>0.31  | 18,3<br>0.72 | 16,9<br>0.66 | 25,4<br>1.00 | 32,3<br>1.27 | 92,7<br>3.65 | -           | 4,0<br>0.16  | 21,0<br>0.83 |
| <b>L20</b> | 22,2<br>0.88 | 11,1<br>0.44 | 12,7<br>0.50 | 16,1<br>0.64 | 10,9<br>0.43 | 25,4<br>1.00 | 48,2<br>1.90 | 109<br>4.28  | -           | 4,4<br>0.17  | 24,6<br>0.97 |
| <b>L65</b> | 50,8<br>2.00 | 25,4<br>1.00 | 28,6<br>1.12 | 23,4<br>0.92 | 25,4<br>1.00 | 57,2<br>2.25 | 117<br>4.61  | 175<br>6.88  | 219<br>8.63 | 9,14<br>0.35 | 36,5<br>1.44 |

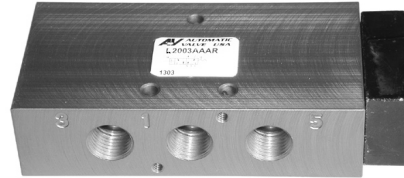
Units of Measure: Top - mm, Bottom - inches

# Compact Spool Valves - Air Pilot

## Single

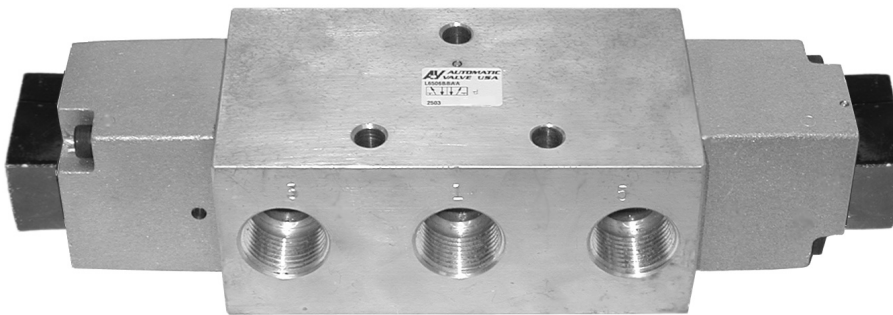


L0702AAAR



L2003AAAR

## Double

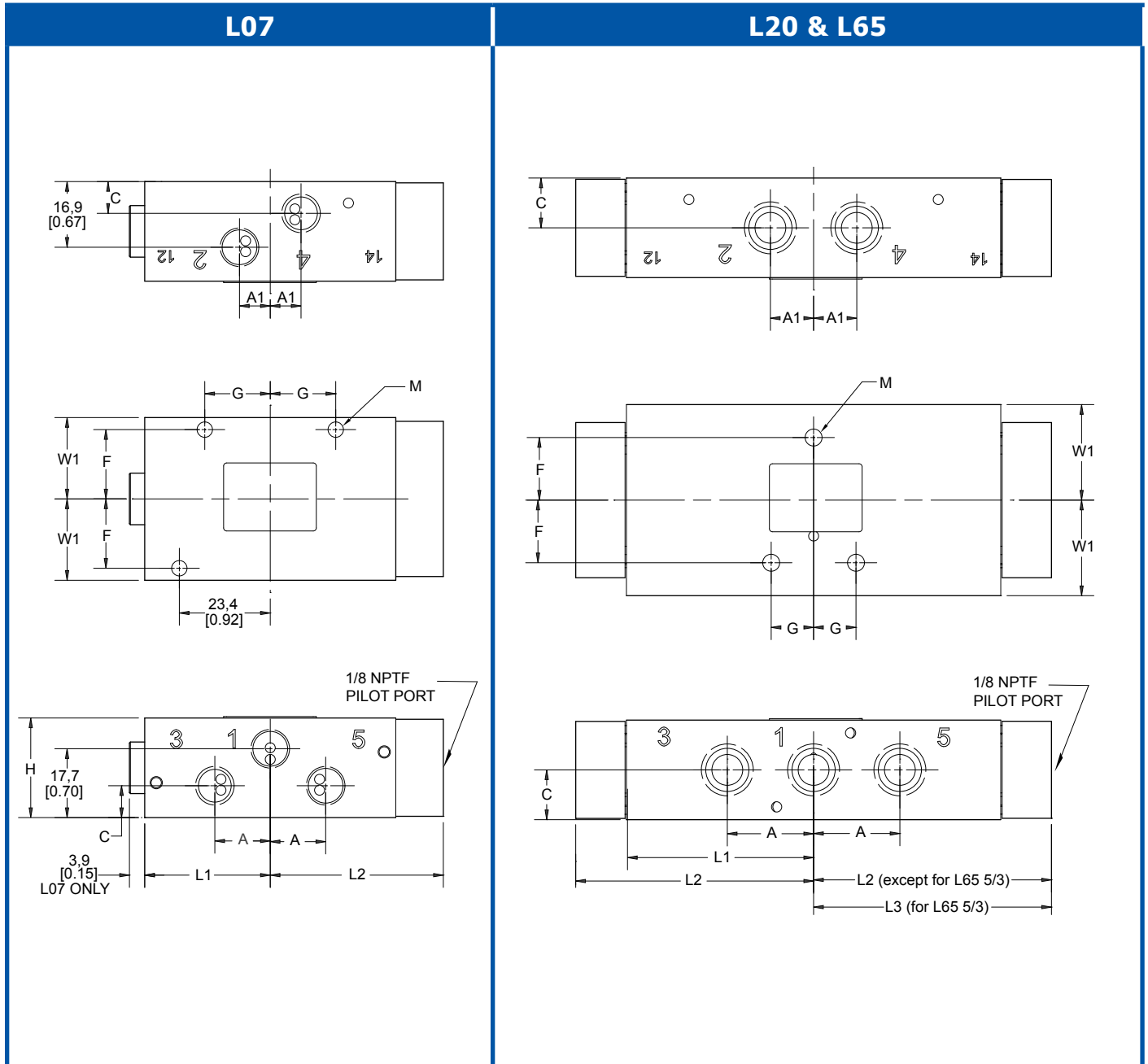


L6506BBAA

## Model Numbers

| Series | Port Size      |              | Flow<br>l/min (Cv) |               | 5/2       |           | 5/3        |            | Body Materials | Seal Materials  | Wt<br>kg<br>(lb) |
|--------|----------------|--------------|--------------------|---------------|-----------|-----------|------------|------------|----------------|-----------------|------------------|
|        |                |              |                    |               | Single    | Double    | Block      | Exhaust    |                |                 |                  |
|        |                |              | 5/2                | 5/3           |           |           |            |            |                |                 |                  |
| L07    | 1/8            |              | 690<br>(0.7)       | 538<br>(0.5)  | L0702AAAR | L0702ABAA | L0702CBADA | L0702DBADA | L0702EBADA     | Aluminum<br>NBR | 0,3<br>(0.6)     |
|        | 1/4<br>(1,2,4) | 1/8<br>(3,5) |                    |               | L0703AAAR | L0703ABAA | L0703CBADA | L0703DBADA | L0703EBADA     |                 |                  |
| L20    | 1/4            |              | 1770<br>(1.8)      | 1381<br>(1.4) | L2003AAAR | L2003ABAA | L2003CBADA | L2003DBADA | L2003EBADA     | Aluminum<br>NBR | 0,5<br>(0.9)     |
|        | 3/8            |              |                    |               | L2004AAAR | L2004ABAA | L2004CBADA | L2004DBADA | L2004EBADA     |                 |                  |
| L65    | 3/4            |              | 8860<br>(9.0)      | 6911<br>(7.0) | L6506BAAR | L6506BBAA | L6506CBADA | L6506DBADA | L6506EBADA     | Aluminum<br>NBR | 1,86<br>(4.1)    |
|        | 1<br>(1,2,4)   | 3/4<br>(3,5) |                    |               | L6507BAAR | L6507BBAA | L6507CBADA | L6507DBADA | L6507EBADA     |                 |                  |

## Dimensional Information

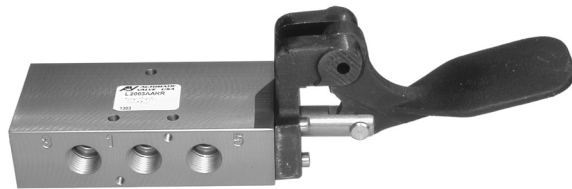


| Series     | A            | A1           | C            | F            | G            | H            | L1            | L2           | L3          | M            | W1           |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|-------------|--------------|--------------|
| <b>L07</b> | 14,3<br>0.56 | 7,9<br>0.31  | 7,9<br>0.31  | 18,3<br>0.72 | 16,9<br>0.66 | 25,4<br>1.00 | 32,3<br>1.27  | 45,0<br>1.77 | -           | 4,0<br>0.16  | 21,0<br>0.83 |
| <b>L20</b> | 22,2<br>0.88 | 11,1<br>0.44 | 12,7<br>0.50 | 16,1<br>0.64 | 10,9<br>0.43 | 25,4<br>1.00 | 48,2<br>1.90  | 61,0<br>2.40 | -           | 4,4<br>0.17  | 24,6<br>0.97 |
| <b>L65</b> | 50,8<br>2.00 | 25,4<br>1.00 | 28,6<br>1.12 | 23,4<br>0.92 | 25,4<br>1.00 | 57,2<br>2.25 | 115,9<br>4.56 | 129<br>6.81  | 217<br>8.56 | 9,14<br>0.35 | 36,5<br>1.44 |

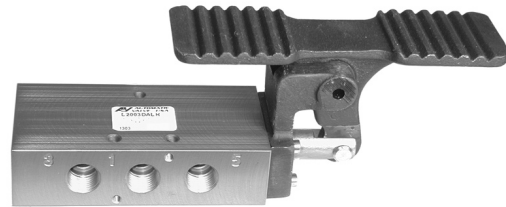
Units of Measure: Top - mm, Bottom - inches



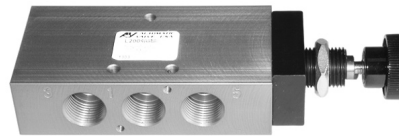
# Compact Spool Valves - Manual & Mechanical

**Foot Pedal**


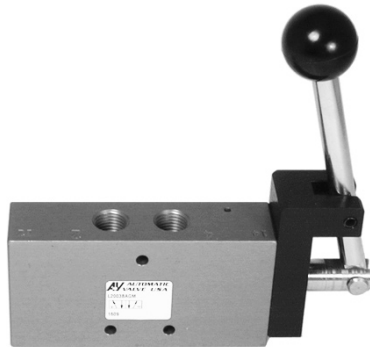
L2003AAKR

**Foot Treadle**


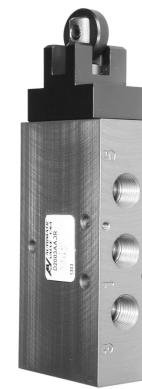
L2003BALM

**Palm Button**


L2004AAIR

**Hand Lever,  
(Manifold Mounted)**


L2003BAGM

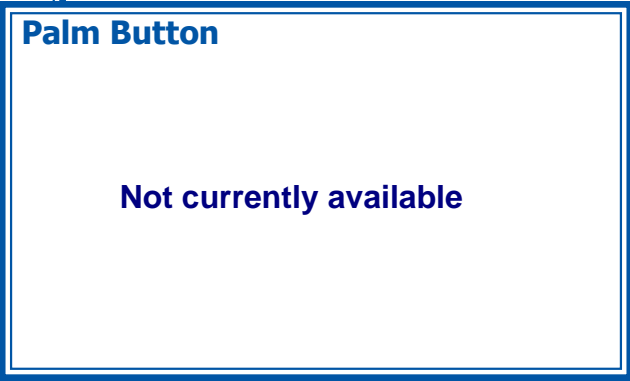
**Cam Roller**


L2003AAJR

## Model Numbers

| Series | Port Size | Flow<br>(5/2)<br>l/min<br>(Cv) | Operator                       | 5/2       |               | Material |      | Wt<br>kg<br>(lb) |
|--------|-----------|--------------------------------|--------------------------------|-----------|---------------|----------|------|------------------|
|        |           |                                |                                | Detented  | Spring Return | Body     | Seal |                  |
|        |           |                                |                                |           |               |          |      |                  |
| L20    | 1/4       | 1770<br>(1.8)                  | Foot Pedal                     | -         | L2003AAKR     | Aluminum | NBR  | 0,7<br>(1.1)     |
|        |           |                                | Foot Treadle                   | L2003BALM | L2003AALR     |          |      |                  |
|        |           |                                | Hand Lever<br>Line Mounted     | L2003BAFM | L2003AAFR     |          |      |                  |
|        |           |                                | Hand Lever<br>Manifold Mounted | L2003BAGM | L2003AAGR     |          |      |                  |
|        |           |                                | Palm Button                    | L2003BAIM | L2003AAIR     |          |      |                  |
|        |           |                                | Cam Roller                     | -         | L2003AAJR     |          |      |                  |
|        | 3/8       | 1770<br>(1.8)                  | Foot Pedal                     | -         | L2004AAKR     | Aluminum | NBR  | 0,7<br>(1.1)     |
|        |           |                                | Foot Treadle                   | L2004BALM | L2004AALR     |          |      |                  |
|        |           |                                | Hand Lever<br>Line Mounted     | L2004BAFM | L2004AAFR     |          |      |                  |
|        |           |                                | Hand Lever<br>Manifold Mounted | L2004BAGM | L2004AAGR     |          |      |                  |
|        |           |                                | Palm Button                    | L2004BAIM | L2004AAIR     |          |      |                  |
|        |           |                                | Cam Roller                     | -         | L2004AAJR     |          |      |                  |

# Compact Spool Valves - Manual & Mechanical

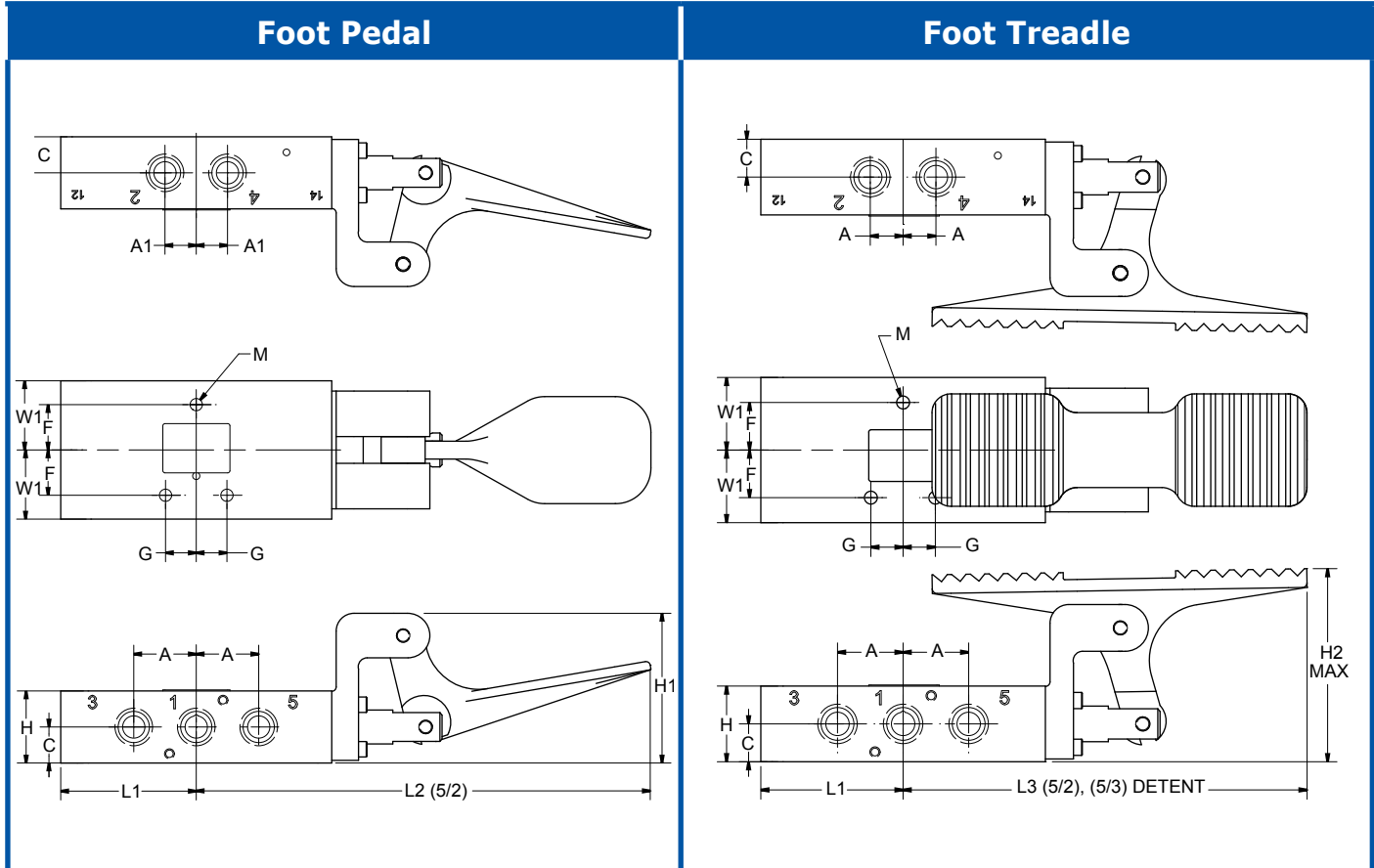


## Model Numbers

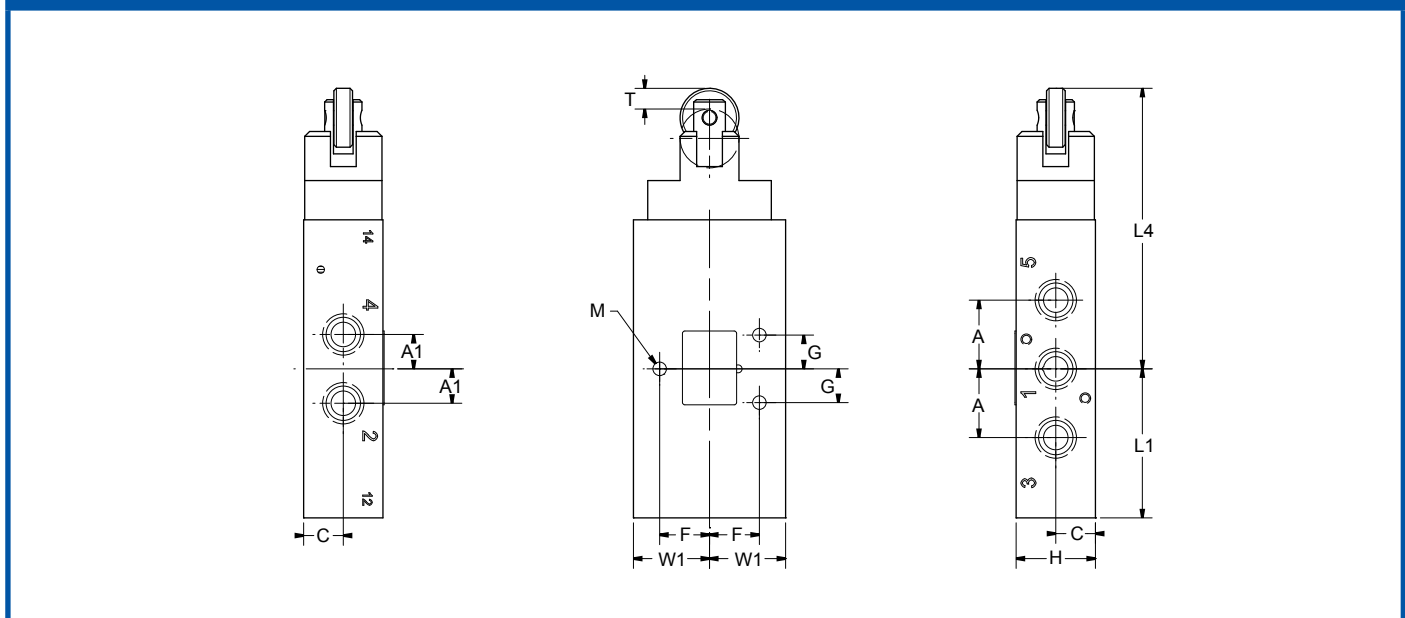
| Series | Port Size | Flow (5/3)<br>1/min (Cv) | Operator                    | 5/3       |           |           |               |           |           | Body Material | Seal Material | Weight kg (lb) |
|--------|-----------|--------------------------|-----------------------------|-----------|-----------|-----------|---------------|-----------|-----------|---------------|---------------|----------------|
|        |           |                          |                             | Detented  |           |           | Spring Center |           |           |               |               |                |
|        |           |                          |                             | Block     | Exhaust   | Pressure  | Block         | Exhaust   | Pressure  |               |               |                |
| L20    | 1/4       | 1381<br>(1.4)            | Foot Treadle                | L2003CALN | L2003DALN | L2003EALN | L2003CBLC     | L2003DBLC | L2003EBLC | Aluminum      | NBR           | 0,7<br>(1,5)   |
|        |           |                          | Hand Lever Line Mounted     | L2003CAFN | L2003DAFN | L2003EAFN | L2003CBFC     | L2003DBFC | L2003EBFC |               |               |                |
|        |           |                          | Hand Lever Manifold Mounted | L2003CAGN | L2003DAGN | L2003EAGN | L2003CBGC     | L2003DBGC | L2003EBGC |               |               |                |
|        |           |                          | Palm Button                 | -         | -         | -         | -             | -         | -         |               |               |                |
|        | 3/8       |                          | Foot Treadle                | L2004CALN | L2004DALN | L2004EALN | L2004CBLC     | L2004DBLC | L2004EBLC | Aluminum      | NBR           | 0,7<br>(1,5)   |
|        |           |                          | Hand Lever Line Mounted     | L2004CAFN | L2004DAFN | L2004EAFN | L2004CBFC     | L2004DBFC | L2004EBFC |               |               |                |
|        |           |                          | Hand Lever Manifold Mounted | L2004CAGN | L2004DAGN | L2004EAGN | L2004CBGC     | L2004DBGC | L2004EBGC |               |               |                |
|        |           |                          | Palm Button                 | -         | -         | -         | -             | -         | -         |               |               |                |



## Dimensional Information



## Cam Roller



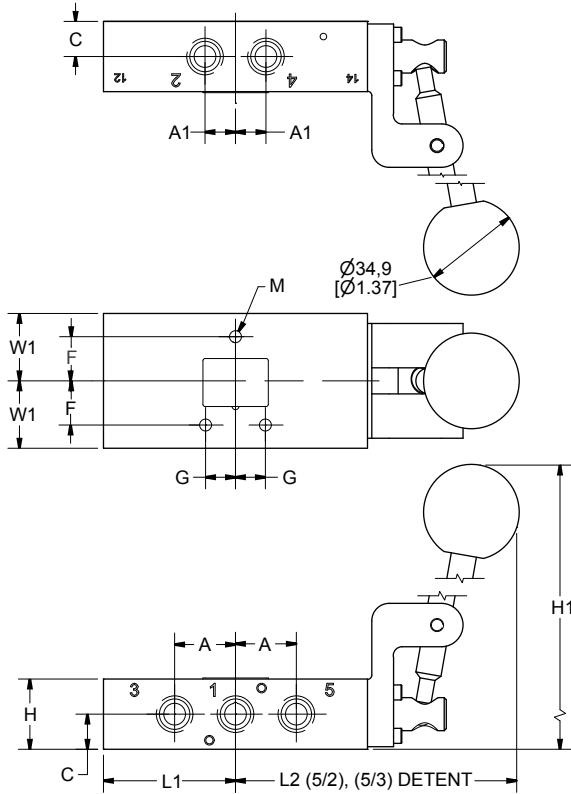
| Series     | A            | A1           | C            | F            | G            | H            | H1           | H2           | L1           | L4           | M           | T           | W1           |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|
| <b>L20</b> | 22,2<br>0.88 | 11,1<br>0.44 | 12,7<br>0.50 | 16,1<br>0.64 | 10,9<br>0.43 | 25,4<br>1.00 | 52,4<br>2.06 | 85,7<br>3.38 | 48,2<br>1.90 | 90,4<br>3.56 | 4,4<br>0.17 | 7,6<br>0.30 | 24,6<br>0.97 |

Units of Measure: Top - mm, Bottom - inches

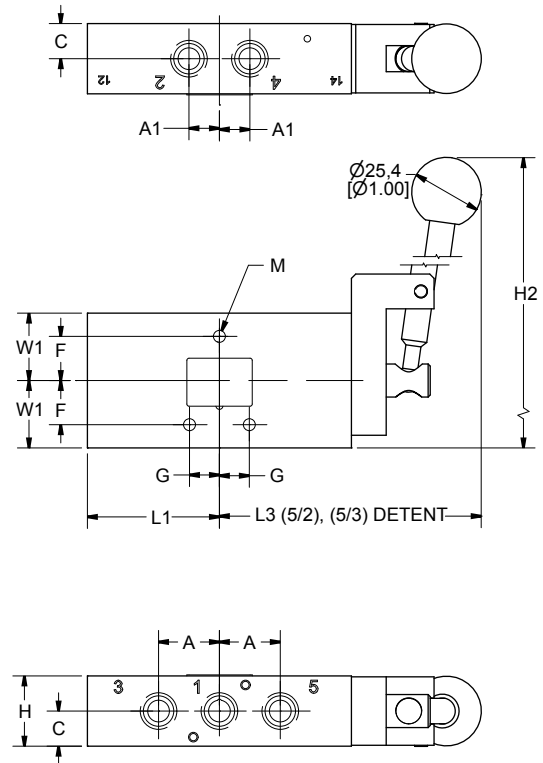
## Dimensional Information

### Hand Lever

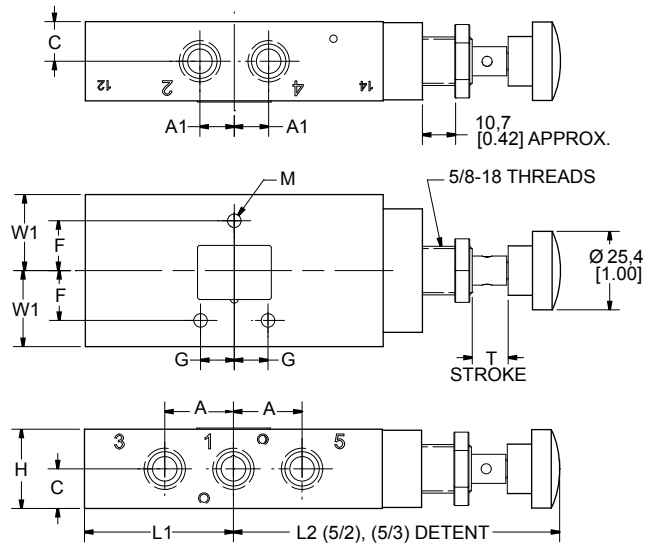
#### Line Mounted



#### Manifold Mounted



### Palm Button



| Series     | A            | A1           | C            | F            | G            | H            | H1          | H2          | L1           | L2          | L3          | M           | T           | W1           |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|
| <b>L20</b> | 22,2<br>0.88 | 11,1<br>0.44 | 12,7<br>0.50 | 16,1<br>0.64 | 10,9<br>0.43 | 25,4<br>1.00 | 136<br>5.35 | 140<br>5.50 | 48,2<br>1.90 | 105<br>4.14 | 105<br>4.14 | 4,4<br>0.17 | 9,5<br>0.38 | 24,6<br>0.97 |

Units of Measure: Top - mm, Bottom - inches

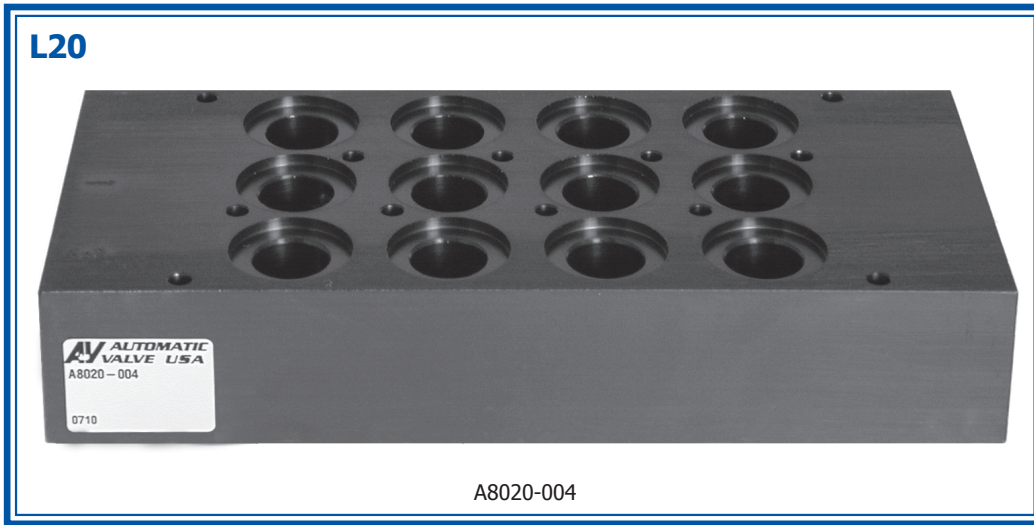
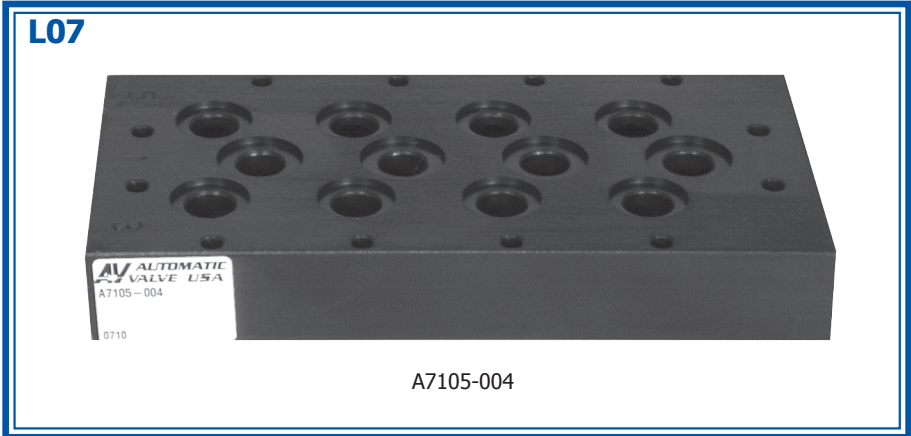


5/2 5/3

# Compact Spool Valves - Manifolds

## Features

- Common inlet and common exhaust ports.
- Top cylinder ports.
- Valve mounting screws attached from bottom.
- Seals and mounting hardware included.



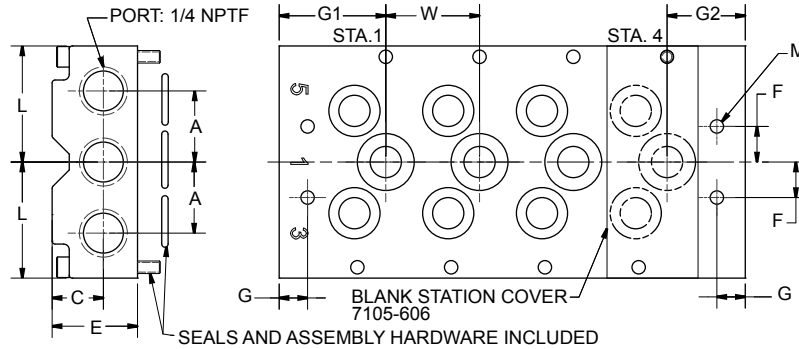
## Model Numbers

| Series | Manifold*       |              |                |                | Accessories   |                     |
|--------|-----------------|--------------|----------------|----------------|---------------|---------------------|
|        | No. of Stations | Model Number | Ports 3, 1 & 5 | Weight kg (lb) | Blocking Disk | Blank Station Cover |
| L07    | 2               | A7105-002    | 1/4            | 0,2 (0.5)      | A7105-202     | 7105-606            |
|        | 4               | A7105-004    |                | 0,36 (0.8)     |               |                     |
|        | 6               | A7105-006    |                | 0,5 (1.2)      |               |                     |
|        | 8               | A7105-008    |                | 0,7 (1.6)      |               |                     |
|        | 10              | A7105-010    |                | 0,9 (2.0)      |               |                     |
| L20    | 2               | A8020-002    | 3/8            | 0,42 (0.9)     | A8020-202     | 8020-606            |
|        | 4               | A8020-004    |                | 0,6 (1.3)      |               |                     |
|        | 6               | A8020-006    |                | 0,8 (1.7)      |               |                     |
|        | 8               | A8020-008    |                | 1,0 (2.2)      |               |                     |
|        | 10              | A8020-010    |                | 1,19 (2.7)     |               |                     |

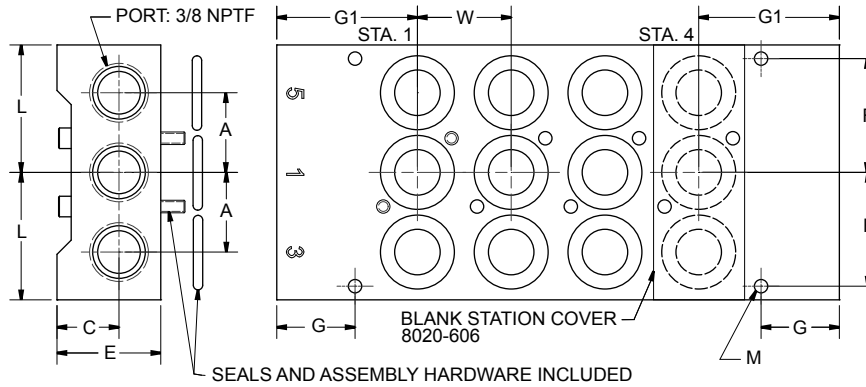
\*Seals and Mounting Hardware included.

## Dimensional Information

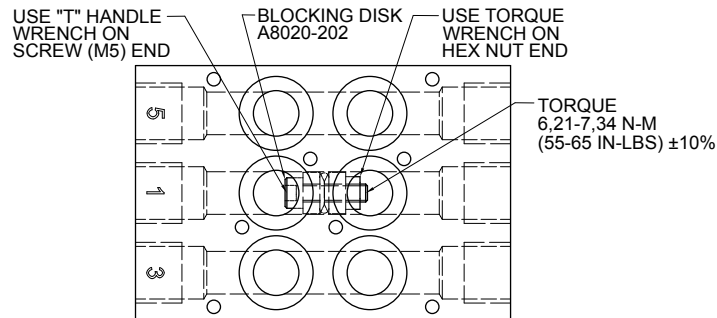
### L07 Manifold



### L20 Manifold



### Blocking Disk



| Series | Port Size | A            | C            | E            | F            | G            | G1           | G2           | L            | M           | W            |
|--------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|
| L07    | 1/4       | 19,8<br>0.78 | 14,3<br>0.56 | 23,8<br>0.94 | 9,9<br>0.39  | 7,9<br>0.31  | 29,7<br>1.17 | 22,2<br>0.86 | 32,4<br>1.28 | 3,7<br>0.15 | 26,2<br>1.03 |
| L20    | 3/8       | 22,2<br>0.88 | 17,3<br>0.68 | 31,8<br>1.25 | 31,8<br>1.25 | 21,8<br>0.86 | 39,3<br>1.55 | -            | 35,6<br>1.40 | 3,7<br>0.15 | 26,2<br>1.03 |

Units of Measure: Top - mm, Bottom - inches

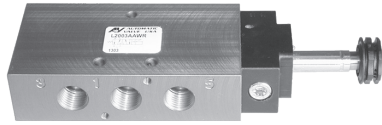


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5/3

# Compact Pool Valves - Configuration Example

**Valve With W-Solenoid Cap + Coil = Valve With Coil**



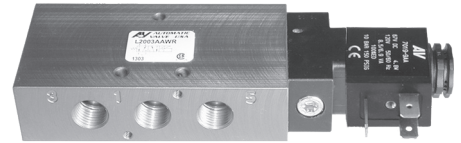
**L2003AAWR**

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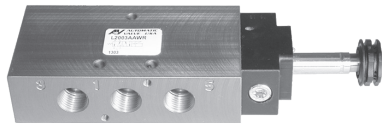


NEMA 4x with DIN  
43650 Form B  
Connection  
**7019-9\*\***

=



**L2003AAWR-\*\***



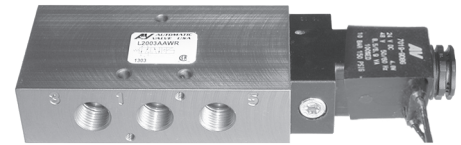
**L2003AAWR**

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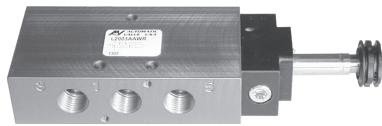


NEMA 4x with  
18" Leads  
**7019-9\*\*G**

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**L2003AAWR-\*\*G**



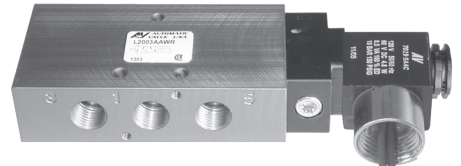
**L2003AAWR**

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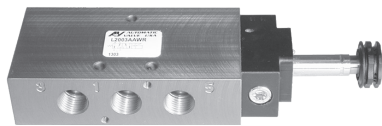


NEMA 4x 1/2" Conduit  
with 30" Leads  
**7019-9\*\*C**

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**L2003AAWR-\*\*C**



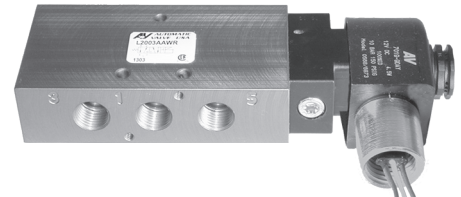
**L2003AAWR**

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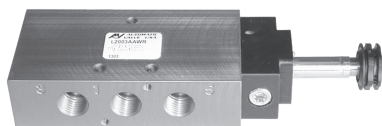


Explosion-Proof 1/2"  
Conduit with 24" Leads  
**7019-9\*\*Y**

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**L2003AAWR-\*\*Y**



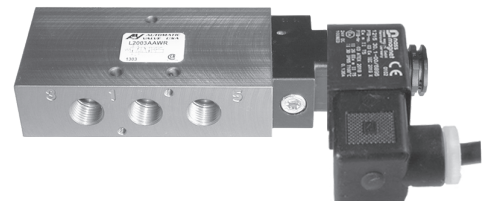
**L2003AAWR**

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ATEX Explosion-Proof  
with 39" Cable  
**7152-9\*\***

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**L2003AAWR-\*\*Z**

# Compact Spool Valves - Electrical Information






## Part Numbers

| Description   | Operator Type | Instructions   | Wt. Kg(lb)     | Coil Part Number<br>**=Voltage                                |
|---|---------------|--|----------------|---|
| <b>Weather-Proof</b><br>DIN 43650<br>Industrial Form B Connection<br>NEMA 4X  | <b>W</b>      | Order coil separately<br>(specify voltage code from below) | 0,05<br>(0.12) | <b>7019-9**</b>   |
| <b>Weather-Proof</b><br>18" Leads<br>NEMA 4X  | <b>W</b>      | Order coil separately<br>(specify voltage code from below) | 0,05<br>(0.12) | <b>7019-9**G</b>  |
| <b>Weather-Proof</b><br>1/2" Conduit with 30" Leads<br>NEMA 4X  | <b>W</b>      | Order coil separately<br>(specify voltage code from below) | 0,05<br>(0.12) | <b>7019-9**C</b><br><b>7019-9**CT</b><br>(high temp 82°C max) |
| <b>Explosion-Proof</b><br>1/2" Conduit with 24" Leads<br>CSA & FM Approved<br>CL. I; Zone1 ExmII T4; AExmII<br>CL. I; Div.1; GR. A, B, C, D<br>CL. II; GR. E, F, G CL. III<br>T4 Ta=-20°C to +60°C<br>NEMA 4, 4X, 7C, 7D, 9 | <b>W</b>      | Order coil separately<br>(specify voltage code from below) | 0,20<br>(0.44) | <b>7019-9**Y</b>  |
| <b>Intrinsically-Safe</b><br>Strain Relief<br>Ex ia<br>CL. I; GR. A, B, C, D<br>CL. II; GR. E, F, G<br>CL. III; Div.1; T5   | <b>V</b>      | Coil and Connector included<br>with valve (24VDC only)     | 0,21<br>(0.46) | <b>A7106-374-DB</b>   |
| <b>A7106-374 Must be Used with an Intrinsically-Safe Barrier</b><br>For more information refer to "Intrinsic Safety" insert on Page D7.   |               |  |                |   |
| <b>Explosion-Proof</b><br>3m Cable & Strain Relief<br>Ex m II T5 PTB 03 ATEX2018 X<br>EX II 2 G EEx m II T5<br>EX II 2 D IP65 T95°C   | <b>Z</b>      | Order coil separately<br>(specify voltage code from below) | 0,36<br>(0.78) | <b>7152-9**</b>   |

## Voltage Codes (Lower wattage options available, consult factory)

| ** Code   | Voltage +/- 10%  |                 | Current (Amps) |      |      |       |         |      |      |       | Resistance (OHMS @ 25°C) |      |      |       | Power (AC=VA, DC=Watts) |      |      |       |      |      |     |  |
|-----------|------------------|-----------------|----------------|------|------|-------|---------|------|------|-------|--------------------------|------|------|-------|-------------------------|------|------|-------|------|------|-----|--|
|           | Operator Type:   |                 | Inrush         |      |      |       | Holding |      |      |       | W                        |      | V    |       | Z                       |      | W    |       | V    |      | Z   |  |
|           | NEMA 4           | NEMA 7,9 & ATEX | W              |      | V    |       | Z       |      | W    |       | V                        |      | Z    |       | W                       |      | V    |       | Z    |      |     |  |
|           |                  |                 | NEMA           | ATEX | NEMA | ATEX  | NEMA    | ATEX | NEMA | ATEX  | NEMA                     | ATEX | NEMA | ATEX  | NEMA                    | ATEX | NEMA | ATEX  | NEMA | ATEX |     |  |
|           |                  | 4, 4x           | 7, 9           | Exia | Exm  | 4, 4x | 7, 9    | Exia | Exm  | 4, 4x | 7, 9                     | Exia | Exm  | 4, 4x | 7, 9                    | Exia | Exm  | 4, 4x | 7, 9 | Exia | Exm |  |
| <b>DA</b> | 24/50<br>24/60   | -               | .36            | -    | -    | -     | .24     | -    | -    | -     | 32                       | -    | -    | -     | 6.9                     | -    | -    | -     |      |      |     |  |
| <b>AA</b> | 120/50<br>120/60 | 120/60          | .08            | .10  | -    | .04   | .05     | .05  | -    | .03   | 840                      | 530  | -    | 1664  | 6.9                     | 6.5  | -    | 3.4   |      |      |     |  |
| <b>AB</b> | 230/50<br>230/60 | 240/60          | .04            | .05  | -    | .02   | .03     | .03  | -    | .01   | 3310                     | 2345 | -    | 6730  | 6.4                     | 6.8  | -    | 3.3   |      |      |     |  |
| <b>DA</b> | 12 VDC           | 12VDC           | .38            | .38  | -    | .27   | .38     | .38  | -    | .27   | 32                       | 32   | -    | 45    | 4.8                     | 4.5  | -    | 3.5   |      |      |     |  |
| <b>DB</b> | 24 VDC           | 24VDC           | .20            | .19  | .05  | .14   | .20     | .19  | .05  | .14   | 121                      | 128  | 275  | 177   | 4.8                     | 4.5  | 1.6  | 3.5   |      |      |     |  |
| <b>AB</b> | 125 VDC          | -               | .04            | -    | -    | -     | .04     | -    | -    | -     | 3310                     | -    | -    | -     | 5.9                     | -    | -    | -     |      |      |     |  |

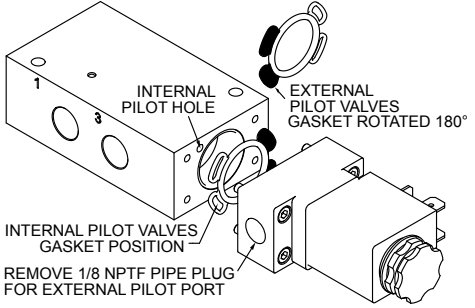
## Connectors (Not polarity dependent)

| DIN 43650 Industrial Form B |  |                          |  |                           |  |  |  |
|-----------------------------|---|--------------------------|---|---------------------------|---|---|---|
|                             | Maximum Cable Diameter: 9mm (0.35")   |                          |   |                           |   |   |   |
| Type                        | Strain Relief without Cord  | Strain Relief with Light |   | 1/2" Conduit without Cord | Molded with 6' Cord   | Strain Relief with Light & 6' Cord  |   |
|                             |   | 100-240 AC<br>48-120 DC  | 6-48 AC/DC  |                           |   | 100-240 AC<br>48-120 DC   | 6-48 AC/DC  |
| Part Number                 | <b>7020-001</b>   | <b>7020-AA</b>           | <b>7020-DB</b>  | <b>7039-001</b>           | <b>7020-006</b>   | <b>7094-006</b>   | <b>7094-007</b>   |



# Compact Spool Valves - Options & Accessories

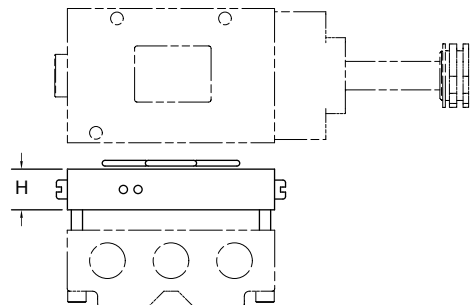
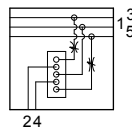
## Options (Add the suffix to the end of the Model Number in alpha-numeric order)

| Suffix    | Option                                  | Description   |
|-----------|---|---|
| <b>A</b>  | <b>Fluoroelastomer Seals</b>            | For applications where fluid media or ambient conditions are not compatible with nitrile seals.<br><i>Note: Fluorocarbon seals do not increase the effective temperature range of the valve.<br/>For high temperature applications, consult the factory.</i>  |
| <b>B</b>  | <b>External Pilot</b>                   | For solenoid applications where the pressure to port one is less than 2 BAR (35 PSIG). See example below for field conversion.<br><b>Field Conversion</b> <ul style="list-style-type: none"> <li>Remove solenoid and cap from the valve body.</li> <li>Rotate the gasket 180° so that the internal pilot hole in the valve body is covered by the gasket.</li> <li>Refasten the gasket, cap and solenoid to the valve body. Make sure the gasket completely covers the internal pilot hole before tightening the M3 screws. Torque to 1,02 N-m (9 in-lbs) ±10%.</li> <li>Remove the 1/8 NPTF pipe plug from the cap and make the external pilot connection.</li> </ul>  |
| <b>C</b>  | <b>Conduit Coil</b>                     | Refer to the "Electrical Information" page in this section for details.   |
| <b>CT</b> | <b>Conduit Coil High Temperature</b>    | Refer to the "Electrical Information" page in this section for details.   |
| <b>D</b>  | <b>Dustproof</b>                        | For applications in extremely dusty and contaminated environments. Vent ports are plugged and spring pad breather vent is eliminated.   |
| <b>G</b>  | <b>Coil With 18" Leads</b>              | Refer to the "Electrical Information" page in this section for details.   |
| <b>L</b>  | <b>Low Watt Coil</b>                    | Power Consumption = 2.5 Watts. Standard as Push Non-Locking Override. Also available with Option 2, Extended Turn-Locking Override.   |
| <b>LL</b> | <b>Lowest Watt Coil</b>                 | Power Consumption = 0.7 Watts. Standard as Extended Turn-Locking Override.  |
| <b>S</b>  | <b>303 Stainless Steel</b>              | 303 Stainless Steel body, all other external parts are corrosion resistant; for corrosive environment applications. (L20 only)  |
| <b>SS</b> | <b>316 Stainless Steel</b>              | 316 Stainless Steel body, all other external parts are corrosion resistant; for corrosive environment applications. (L20 only)  |
| <b>W</b>  | <b>G Threads</b>                        | All ports tapped to metric "G" standard (for 3/8", 3/4", 1"). Not required for 1/8" or 1/4" ports, which use a universal G/NPT tap.   |
| <b>Y</b>  | <b>Explosion-Proof Coil (CSA, FM)</b>   | Refer to the "Electrical Information" page in this section for details.   |
| <b>Z</b>  | <b>Explosion-Proof Coil (Atex, PTB)</b> | Refer to the "Electrical Information" page in this section for details.   |
| <b>1</b>  | <b>Push Turn-Locking Override</b>       | Solenoid cap provides an override that is pushed in and turned to actuate & lock in the "on" position.  |
| <b>2</b>  | <b>Extended Turn-Locking Override</b>   | Solenoid cap provides an extended override that is turned to lock in the "on" position.   |
| <b>4</b>  | <b>No Override</b>                      | Solenoid cap does not provide a manual override.  |

## Accessories

### Interposed Flow Control

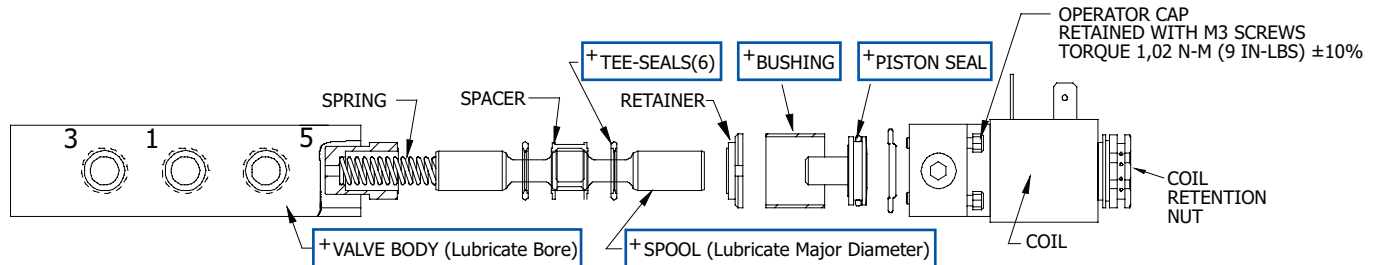
- Restricts air flow from port 2 to port 3 and from port 4 to port 5.
- Mounts between the valve and the manifold.



| Series     | Model Number     | Dimension<br>H | Weight<br>Kg (lb) |
|------------|------------------|----------------|-------------------|
| <b>L07</b> | <b>B7106-005</b> | 12,7<br>0.50   | 0,06<br>(0.14)    |
| <b>L20</b> | <b>B8022-005</b> | 12,7<br>0.50   | 0,09<br>(0.19)    |

# Compact Spool Valves - Service Information

**Valve must be disconnected from all air and electrical power sources before disassembly.**



Shown: L20 Single 2 Position Valve

+ = Items that Must Be Lubricated

## Service Kit Installation Instructions

1. Follow appropriate lock-out/tag-out procedures. Do not attempt to service a valve, if you are not familiar with lock-out/tag-out procedures.
2. Turn off electrical power to the valve.
3. Remove valve from all electrical and air power sources.
4. Ensure all stored air power is exhausted.
5. Remove coil by first removing the coil retention nut.
6. Remove the operator cap by first removing the 4 socket head cap screws.
7. Remove existing serviceable components by "pushing" internal components gently out of the valve body.
8. Clean the spool with a clean cloth.
9. Discard the spring (Single Spring Return models only).
10. Lubricate the designated + items in the above assembly drawing with a thin film of lubricant - the item should look "WET" with no excess lubricant visible.
11. Replace components as shown above.
  - 11.1 Replace spring pad and spring (Single Spring Return models only).
  - 11.2 Alternate Tee-seals and spacers.
  - 11.3 Once all 6 Tee-seals are installed, replace the retainer, bushing and piston.
12. Orientate the operator cap by aligning the open end of the gasket with the pilot hole in the valve body.
13. Torque cap screws into body to 1,02 N-m (9 in-lbs) ±10%. Alternate tightening of the screws, so cap "squeezes" evenly onto the body.

**Air Line Lubrication** of Automatic Valve products is not required, but is recommended to maximize service life. Oils should be compatible with seal material, have an ISO 32 or lighter viscosity, and have an aniline point between 82°C (180°F) and 99°C (210°F). Refer to the Maintenance Section of this catalog for recommended lubricants.

## Model Numbers: Service Kits

| Series     | Body Style  |  |   |
|------------|-------------|--|---|
|            | Description | Model Number   | Contents  |
| <b>L07</b> | Single      | <b>K-L07-SGL</b><br><b>K-L07-SGL-A</b> (Fluoroelastomer) | Tee-Seals (6), Piston Seal (1), Spring (1), Lubricant |
|            | Double      | <b>K-L07-DBL</b><br><b>K-L07-DBL-A</b> (Fluoroelastomer) | Tee-Seals (6), Piston Seals (2), Lubricant            |
| <b>L20</b> | Single      | <b>K-L20-SGL</b><br><b>K-L20-SGL-A</b> (Fluoroelastomer) | Tee-Seals (6), Piston Seal (1), Spring (1), Lubricant |
|            | Double      | <b>K-L20-DBL</b><br><b>K-L20-DBL-A</b> (Fluoroelastomer) | Tee-Seals (6), Piston Seals (2), Lubricant            |
| <b>L65</b> | Single      | <b>K-L65-SGL</b><br><b>K-L65-SGL-A</b> (Fluoroelastomer) | Tee-Seals (6), Piston Seal (1), Spring (1), Lubricant |
|            | Double      | <b>K-L65-DBL</b><br><b>K-L65-DBL-A</b> (Fluoroelastomer) | Tee-Seals (6), Piston Seals (2), Lubricant            |