



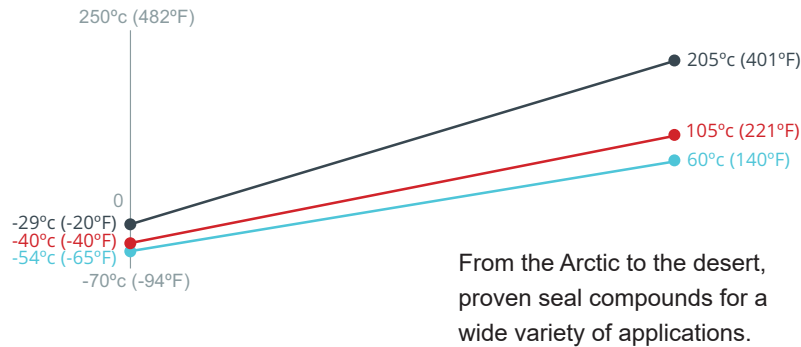
# MS SERIES

## Hydraulic Spring-Return

Taking Spring-Return Actuation to the Next Level

- Preloads up 72,000 lbs
- SIL-3 Capable
- GT3 Triple Seal Gland for Severe Service Applications
- Fail-Open or Fail-Close

# Specifications



- **Thrust: up to 72,000 lbs**
- **Bore size: 1½" - 14"**
- **Configuration: Single-Stage**
- **Stroke Range: Up to 24"**
- **Pressure Rating: 3000 psi**
- **Rod Size: 1" to 7"**

# Add-Ons

## Mounting Kits: ISO, MSS & Customized Patterns Available

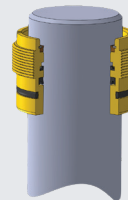
Cowan valve mounting kits can be designed for any linear valve. Mounting kits available in steel and stainless steel construction.



**Anti-Rotation Torque Arm:**  
Maintains constant alignment between valve stem and cylinder piston-rod. Compatible with rotary type switch boxes and beacons.

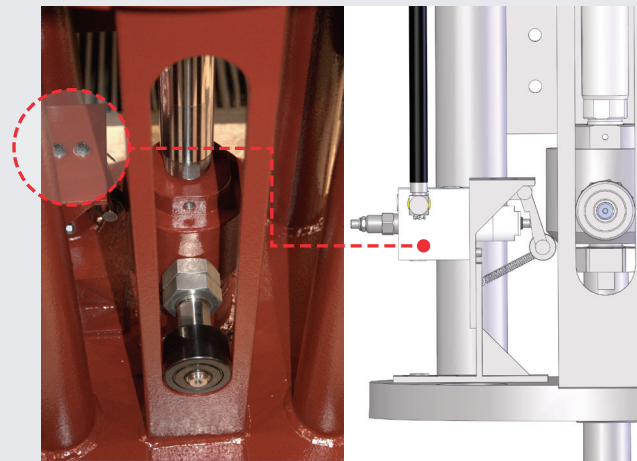
**Field-Adjustable Travel Stops:**  
to limit stroke for position-seated or limited-travel applications. Ensures valve reaches positive sealing every time without damage to valve internals

## Gland Seals



**GT3 Gland for Harsh Environments:**  
Triple-seal gland with dual wipers. Rugged metallic scraper and urethane double-acting wiper deflect contamination away from the rod seal for long service life.

- Low Temp available
- Cast iron construction for applications where yellow metals are not allowed



**Dual Speed Manifold**  
Dual-Speed Cam-Operated hydraulic manifold reduces speed at end of stroke to help prevent water hammer.

# How to Order

Actuation Solutions and Systems for the World's Most Challenging Environments

## SERIES

MS - Hydraulic Spring-Return

## BORE SIZE

C - 1 1/2" L - 6"  
 D - 2" M - 7"  
 E - 2 1/2" N - 8"  
 G - 3 1/4" P - 10"  
 H - 4" R - 12"  
 K - 5" S - 14"

## ROD DIAMETER

E - 1"  
 G - 1 3/8"  
 H - 1 3/4"  
 J - 2"  
 K - 2 1/2"  
 L - 3"  
 M - 3 1/2"

## ROD END

A4 - Series A Female  
 N1 - Small Male Rod End

## TANDEM

TC - Tandem Cylinder  
 - Omit for single-stage

## SPRING PRELOAD

XXXXX - Spring preload in lbs  
 See catalogue for values

## PORTS & POSITIONS

NX - NPT  
 TX - BSPT  
 SX - SAE

\*\* X denotes 2nd prt position in relation to 1st port

## STROKE

XX.XX Stroke in inches

## MOUNTINGS

I## - ISO Mounting Flange  
 M## - MSS Mounting Flange  
 PM - Pedestal Mount  
 X3 - Tie rods extended head end

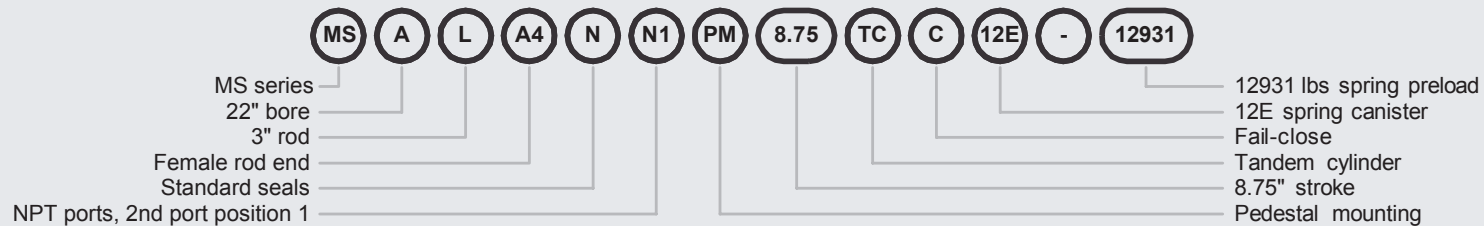
## APPLICATION MOD

- Omit if none required  
 GT3 - Triple Seal Gland  
 P2 - Magnetic piston (Max 14" bore)  
 S5 - Hydraulic use (150 PSI)  
 W1 - "AWWA" Cylinder  
 List application mods alpha numerically

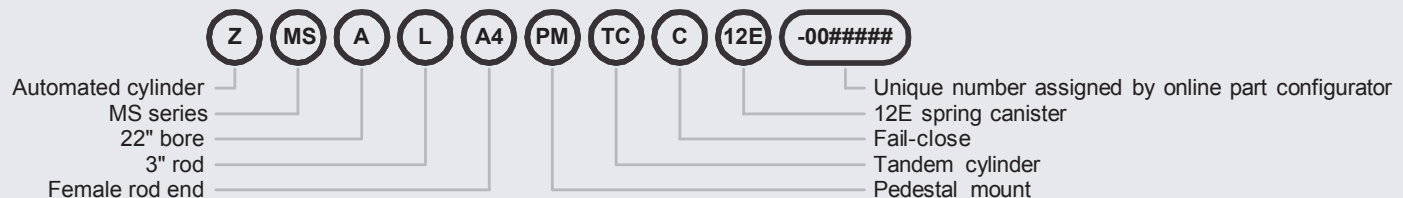
## MODS

- Omit if none required  
 A# - Thread extensions ex: A2.50 = A = 2.50"  
 C1 - Epoxy Paint (Do not specify with ASC or AWWA)  
 M2 - Stainless Steel tie rods (Do not specify with ASC or AWWA)  
 M3 - Stainless Steel piston rod  
 M7 - Steel Barrel  
 LE - Lifting lugs (8" bore and above)  
 W# - Rod Extension ex: W2.50 = W = 2.50"  
 Modifications to be listed alpha numerically after the stroke #  
 ex: MSNEA48NN11X012.0A2.50C1W5.50

## EXAMPLE



## EXAMPLE WITH AUTOMATION OPTIONS



**Related materials**

Visit our website to download or request a printed catalogue.



**Solutions Include:**

**Valve Actuators**

**Fail-Safe Systems**

**Digital Process Control Panels**

**Pneumatic Process Control Panels**

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