

EH-PRODUCTS

STANDARD, SPECIALTY AND CUSTOM
ELECTROHYDRAULIC ACTUATORS

Designed for mobile and industrial applications



MAGNET-SCHULTZ OF AMERICA
SPECIALISTS IN ELECTROMAGNETIC DEVICES



HARNESS THE *power*
OF COLLABORATIVE INNOVATION



Turning our knowledge into customer value



EH-PRODUCTS

STANDARD, SPECIALTY AND CUSTOM ELECTROHYDRAULIC ACTUATORS

Magnet-Schultz of America (MSA) is a leading innovator and manufacturer of Solenoids, Electromagnetic devices, Value-Added Assemblies and precision machined components.

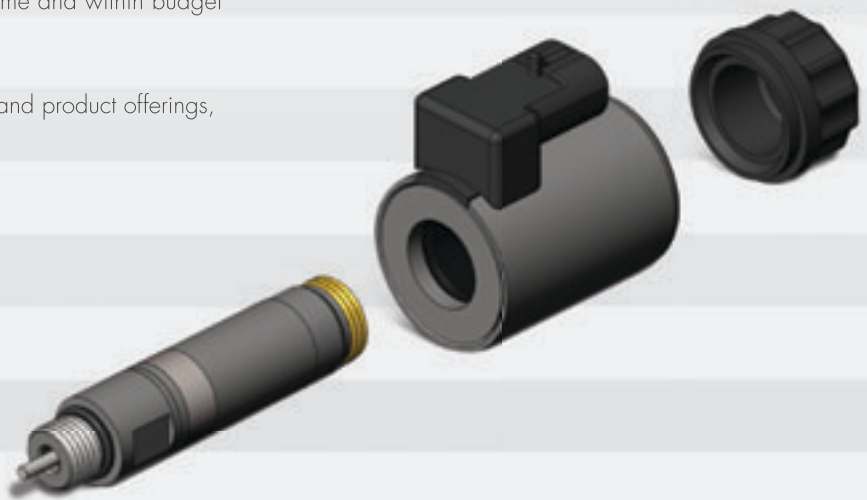
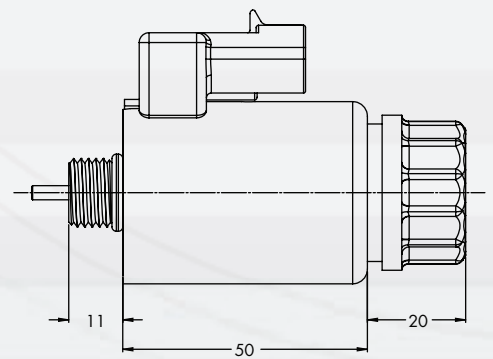
With every advance in technology, Hydraulic Products become more custom in nature. Through collaborative innovation, our engineering expertise provides customers with innovative, highly customized design solutions and end products that outperform the competition. From internal modifications for pressure, force or stroke, to external mounting features, MSA can create a solenoid/actuator system that can achieve the level of performance your application demands.

In combination with our collaborative innovation approach, our technical knowledge of the Electrohydraulic marketplace provides full-service solutions in very challenging mobile and industrial hydraulic applications. Solutions such as Bi-Directional Electrohydraulic Actuators and HAZ-LOC® coils—designed for use in all hazardous location environments—have left a lasting impact on the hydraulics industry for years to come.

Years of lean manufacturing experience, vertical integration and focus on continuous improvement provide:

- Superior, consistent quality and reliability
- Projects that are completed to specification, on time and within budget
- Globally competitive value

To learn more about our company history, capabilities and product offerings, contact Magnet-Schultz of America today.



ON/OFF AND PROPORTIONAL HYDRAULIC SOLENOID ASSEMBLIES—TECHNICAL DATA			
Size Options (mm)	37 ††	45 ††	63 †††
Coil, Outer Diameter (mm/in)	37 / 1.457	45 / 1.772	63 / 2.480
Coil, Axial Length (mm/in)	50 / 1.969	50 / 1.969	73 / 2.874
Solenoid Tube, Outer Diameter (mm/in)	19 / 0.748	22 / 0.866	31 / 1.220
Working Stroke (mm/in)	2 / 0.079	3 / 0.118	4 / 0.157
Holding Force (N/LB)	112 / 25.2 @ 23W	156 / 35.1 @ 26W	300 / 67.4 @ 46W
Nominal Force F _N (N/LB) †	52.5 / 11.8 @ 23W	60 / 13.5 @ 26W	124.5 / 28.0 @ 46W
Hysteresis	< 3% of F _N	< 3% of F _N	< 4% of F _N

These specifications are based off of current standard solenoid reference designs and are intended to be used solely as a guide. † Nominal force values based on mid-stroke value of proportional solenoid version. †† Heat-rise test run at Class H rating with the following conditions: stabilized temperature with no oil flow/natural convection only, TA=50° C, solenoid mounted to a 46 x 46 x 66 (mm) valve block mounted onto a 46 x 66 x 30 (mm) base plate; or ††† solenoid mounted to a 67 x 67 x 82 (mm) valve block mounted onto a 102 x 115 x 30 (mm) base plate.



ELECTRICAL CONNECTION OPTIONS			
Size Options (mm)	37	45	63
Deutsch DT04-2P	✓	✓	✓
DIN 43650	✓		✓
Metri-Pack 150 Series Terminals	✓	✓	
AMP Junior	✓		
Dual Space	✓		
Wire Leads (Axial)	✓		✓
Wire Leads (Radial)			✓

GENERAL SOLENOID ASSEMBLY FEATURES

Multiple Design Types

On/off and proportional

Dual Action

Push and/or pull operation for all sizes

Long Fatigue Life

Up to 20 million cycles

Pressure Ratings

Up to 5,000 PSI

Electrical Connection

Various AC and DC voltages available

Water Ingression Rating

Levels up to IP-X9* for electrical components

Thermal Classification

Magnet wire insulation Class H (180°C)

Additional Options

- Soft start, with replaceable orifices
- Manual overrides—high pressure, twist lock, screw adjustment (all with replaceable seals)
- IP Ratings of 65, 67 and 69
- Multiple connector sizes and AC/DC voltages
- Rectification and suppression against voltage spiking
- Plastic material construction: HTN, PPS, Rynite and Nylon

Learn more about MSA’s customizable Electrohydraulic product families—visit Magnet-SchultzAmerica.com, or contact us directly at 630.789.0600.



ADDITIONAL HYDRAULIC PRODUCTS

Hydraulic Actuator Tubes

Look to MSA for recognized, leading design and quality manufacturing of high-performance Electrohydraulic Actuator Tubes. All sizes and designs include an extensive array of flexible mechanical packaging options and are developed to meet specific performance criteria, or manufactured to existing customer specifications.

Bi-Directional Actuators

MSA presents two unique tube options—the Bi-directional Linear Motor and the conventional Push-Pull Actuator Tube. Each pairs with MSA's removable Electrohydraulic Coils.

- **Linear Motor:** Bi-directional operation and higher operating speeds are achieved by incorporating permanent magnet technology into the design, along with one coil and standard size MSA Electrohydraulic Actuator Tubes.
- **Push-Pull Actuator Tube:** Integrating two standard MSA Electrohydraulic Actuator Tubes and Coils, end-to-end, in one package to provide force and stroke (in each direction) equivalent to the single acting tube.

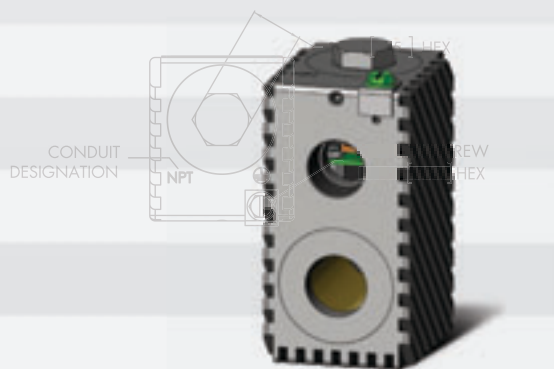


SPOOL LOCK®

Designed for uncompromising performance in the harsh environments of the mobile hydraulics industry, this solenoid is one of the first devices of its kind to withstand submersion and water ingress up to IP-X9.* Rugged construction and the self-mounting design provides protection from vibration and temperature extremes.

Multiple standard and optional features, and output levels are available—
see full SPOOL LOCK brochure for details.

*Based on Magnet-Schultz IP testing procedures. Specific customer testing/requirements also negotiable.



HAZ-LOC®

This family of coils is designed and certified for world-wide use. HAZ-LOC is ideal for hazardous location environments, such as gas and dust atmospheres present in petroleum exploration and production, chemical processing, and facilities involving the transfer and storage of grain or other dry materials.

Standard design of these coils will fit onto hydraulic valves with actuator tube diameters of 13mm, 16mm, 19mm and 22mm. Customized designs can be developed to meet the needs of your application—**see full HAZ-LOC brochure for details.**



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MSA is certified to ISO 9001:2008

