



DURO-TECH[®]

EXTREME ENVIRONMENT
ELECTROMECHANICAL SOLENOIDS

Engineered to withstand the elements



MAGNET-SCHULTZ OF AMERICA

SPECIALISTS IN ELECTROMAGNETIC DEVICES



HARNESS THE *power*
OF COLLABORATIVE INNOVATION



Turning our knowledge into customer value



DURO-TECH®

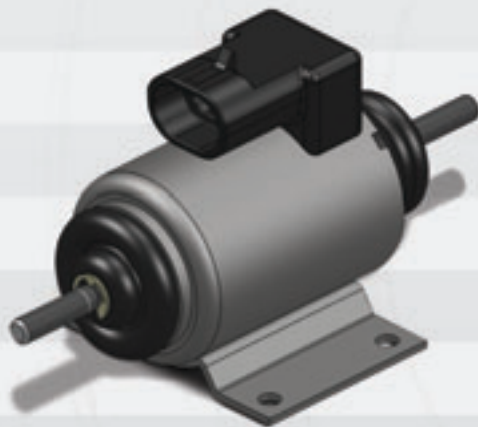
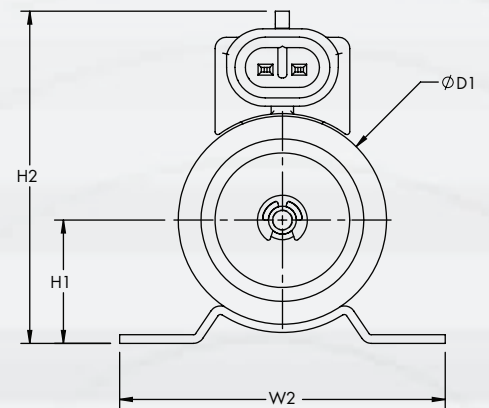
EXTREME ENVIRONMENT ELECTROHYDRAULIC SOLENOID COILS

A leading innovator and manufacturer of Electromagnetic Devices, Magnet-Schultz of America (MSA) offers the versatile DURO-TECH family of Electromechanical solenoids, designed and certified for use in extreme environments. Their rugged tubular design, encapsulated coil and neoprene boots keep dirt and contaminants out, and offer excellent resistance to shock and vibration.

This product family is available as a Push, Pull, or Push-Pull device—providing actuation in one or both directions.

MSA's collaborative innovation approach to product design is perfectly suited to develop customized derivatives/variants of the DURO-TECH family to precisely meet your system's requirements.

Inquire today and learn how we can help resolve your extreme environment application challenges.



Push or Pull Variant
Sizes 37, 45, 63



Push-Pull Variant
Size 37 (45 and 63 available upon request)



PRODUCT FAMILY FEATURES

Dual Action

- Push and/or pull operation
- Armature guided with long-life PTFE bearings
 - Dual spring armature return

Water and Dust Ingression Rating

IP65 —Neoprene dust boots

Thermal Classification

Coil insulation Class H (180°C)

Ambient Temperature Range

-40°C to +50°C

Electrical Connection

- Integrated connectors, free and/or wire leads
- Optional integrated bridge rectifier for AC operation, 37 and 63
 - Integrated TVS diode for voltage suppression available
 - Various DC voltages available

Standard Duty Cycle

- Continuous (100%)
- Intermittent (25%)
- Pulse (5%)
- Custom duty cycles available

Corrosion Protection

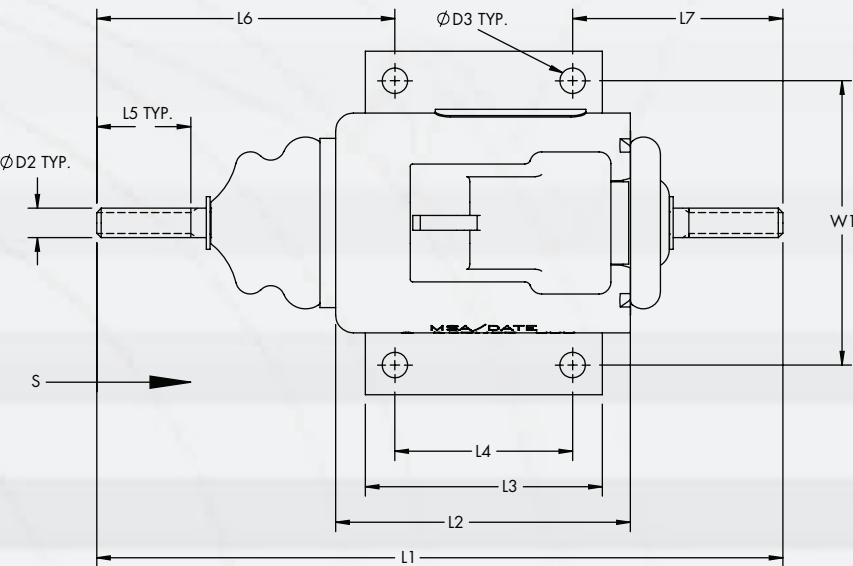
- Standard clear zinc plating
- Zinc-Nickel eletcro-plating (optional)
- Epoxy powder coating (optional)

Mounting

Rugged saddle bracket resists shock and vibration

Clevis Rod End

Optional, all sizes

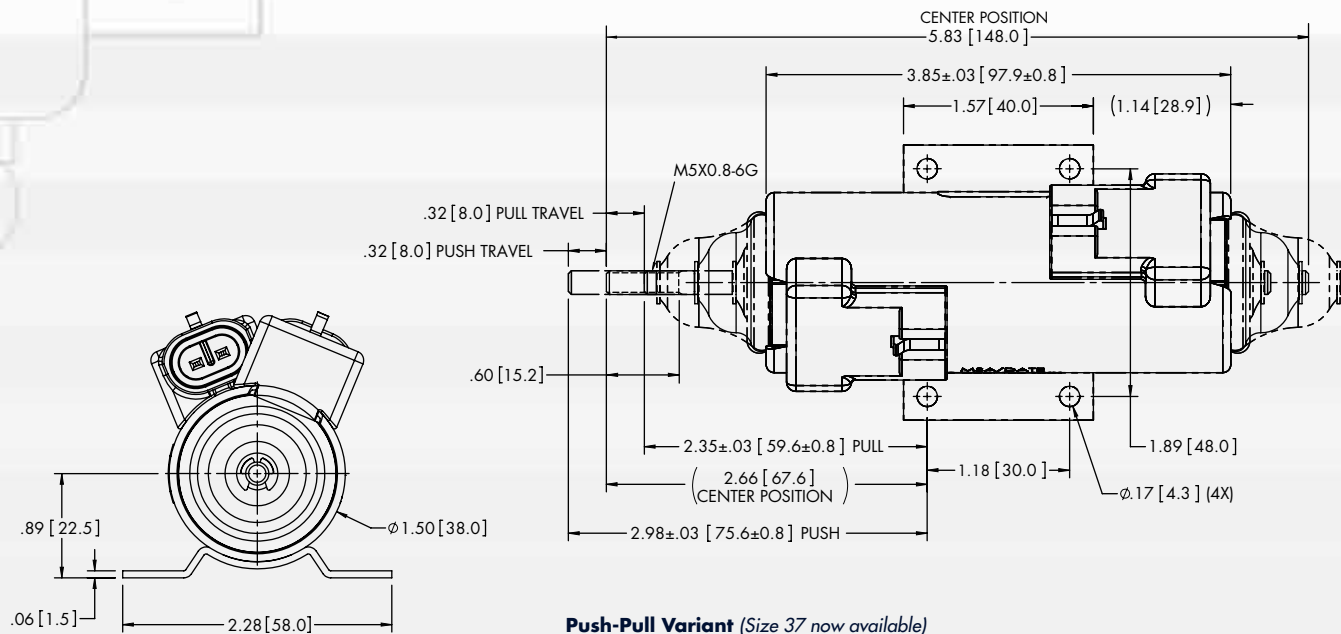


DURO-TECH FAMILY ELECTRICAL CONNECTION OPTIONS			
Size Options (mm)	37	45	63
Deutsch DT04-2P	✓	✓	✓
DIN 43650	✓		✓
Metri-Pack 150 Series Terminals	✓	✓	
Wire Leads (Radial)			✓
Wire Leads (Axial)	✓		✓

PUSH OR PULL VARIANT DIMENSIONS PER SIZE			
D1	37 (mm)	45 (mm)	63 (mm)
D2	M5	M5	M6
D3	M5	M5	M6
D4	4.3	5.1	6.5
D5	28.6	28.6	41
H1	22	27	37
H2	59	69.5	88
L1	116	119	157
L2	50	50	72
L3	40	42	51
L4	30	30	36
L5	19	19	19
L6	50	53.9	74.2
L7	36	35.4	47.1
S	10	13	20
W1	48	60	80
W2	58	72	95

The forces do not take into account the spring force. This dimension dependant on connector option. Dimensions are for reference only. Specifications subject to change without notice. Due to natural dispersion, force values may deviate ± 10% from the values shown.

Learn more about MSA’s DURO-TECH® family of products—visit Magnet-SchultzAmerica.com, or contact us directly at 630.789.0600.



PUSH OR PULL VARIANT—TECHNICAL DATA

Size Options (mm)	37*			45			63		
Armature Weight (kg)	0.1			0.1			0.3		
Solenoid Weight (kg)	0.4			0.6			1.6		
Spring Force at S=0 (N)	4.4			6.1			16.0		
Spring Rate (N/mm)	0.2			0.3			0.4		
Duty Cycle	100%	25%	5%	100%	25%	5%	100%	25%	5%
Rated Power (W)	17	50	153	20	60	180	30	90	270

DURO-TECH FAMILY—RELEVANT FORCE AND STROKE DATA

*Identifies Push-Pull variant size 37

Stroke Per Direction (mm)	Magnetic Force (N)								
0*	27	43	79	32	63	110	96	148	255
1*	18	33	61	25	49	88	66	107	189
2*	19	34	60	27	51	88	65	100	166
3*	18	33	59	25	47	85	64	100	165
4*	17	32	57	25	48	85	63	100	167
5*	16	31	58	25	48	86	63	103	169
6*	16	32	59	24	49	87	64	106	172
7*	15	33	59	24	50	87	62	107	176
8*	13	31	58	22	49	86	57	106	179
9	12	30	57	21	46	84	55	101	177
10	11	29	56	19	44	82	54	100	172
11				18	43	79	51	99	170
12				16	41	75	50	98	168
13				15	40	72	47	97	166
14							46	96	164
15							44	94	163
16							41	93	161
17							39	91	158
18							37	89	155
19							34	87	151
20							33	84	149



MAGNET-SCHULTZ OF AMERICA

SPECIALISTS IN ELECTROMAGNETIC DEVICES

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MSA is certified to ISO 9001:2008

