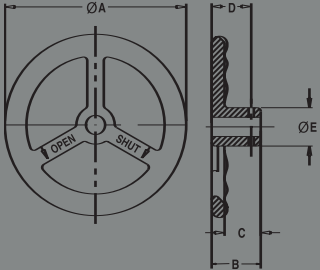




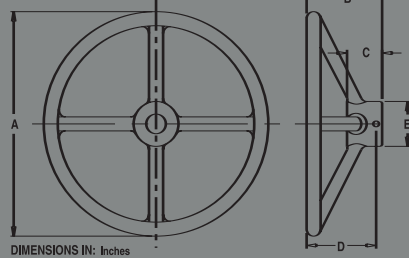
Handwheel Selection

Type	A	B	C	D	E	Weight	Type	A	B	C	D	E	Weight
CR6	6	1.60	0.51	1.25	1.25	2 lbs	R14	14	4.37	1.56	4.06	2	3 lbs
CR9	9	1.25	0.49	0.94	1.50	2.25 lbs	R18	18	5.25	2.25	4.94	2.50	6.5 lbs
R8	8	2.63	1.25	2.32	1.25	2.25 lbs	R24	24	6.50	2.25	6.19	2.50	9 lbs
R10	10	3.37	1.56	3.06	2	2.25 lbs							

TYPE: CR6 & CR9 CAST IRON



TYPE: TUBULAR STEEL



DIMENSIONS IN: Inches

Full Range of Mastergear 1/4 Turn Manual Valve Operators

SE Series

- Economy series up to 8800 in-lbs
- Cast iron/Stamped steel construction
- 3 frame sizes
- Rated for up to 1000 cycles with 50% overload capability— Safety factor
- Self-locking gearing
- Adjustable stop in closed position/ Fixed stop in open position
- ISO base bolt circle
- Removable output drive bushing

9800 Series

- General purpose series up to 10,560 in-lbs
- High strength light alloy construction
- 3 frame sizes
- Rated for up to 2000 cycles with 100% overload capacity—Safety factor
- High-efficiency, self-locking gearing
- Adjustable stops in open & closed positions
- ISO bolt circle diameter straddling center
- Removable output drive bushing
- Powder coating available to suit most environments
- Handwheel, limit switches & other accessory equipment options

M Series

- High performance series up to 2,400,000 in-lbs
- Cast iron construction
- 21 frame sizes
- Rated for up to 5000 cycles with 100% overload capacity—Safety factor
- Maximum gearing efficiency combined with self-locking gearing
- Adjustable stops in open & closed positions
- ISO bolt circle diameter. Non-ISO base available within the size of the actuator base
- Removable drive bushing options
- Environmental specification options
- Handwheel & input shaft options
- Extensive range of accessory equipment, including limit switches

Specifications are subject to change without notice



VL Motion Systems Inc.
www.vlmotion.com
Toll Free 1-866-267-8077

Mastergear
Worldwide Locations:
Mastergear (GmbH)
Neu-Anspach, Germany
Costruzioni Meccaniche
Legnanesi S.r.L. (CML)
Legnano, Italy
Opperman
Mastergear, Ltd.
Newbury, Berkshire
England

Valve Actuators



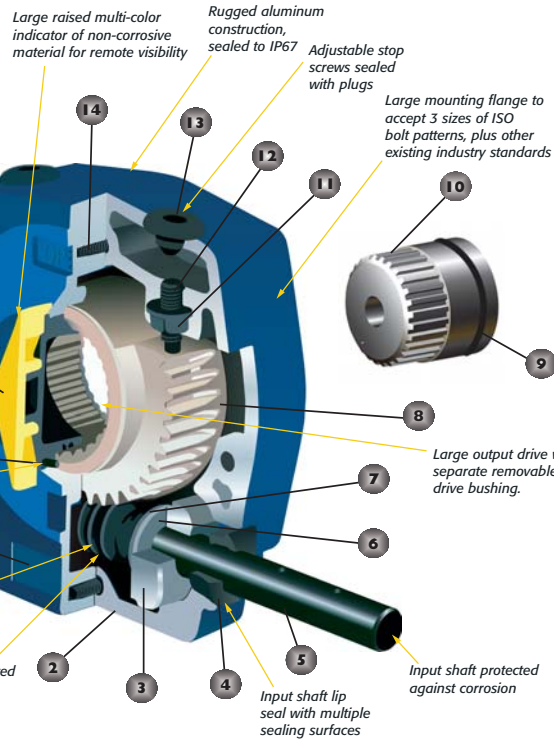
9800 SERIES • ALUMINUM

1/4 Turn Gearboxes For Manual Operation

THE NEXT GENERATION
IN ALUMINUM

General Description

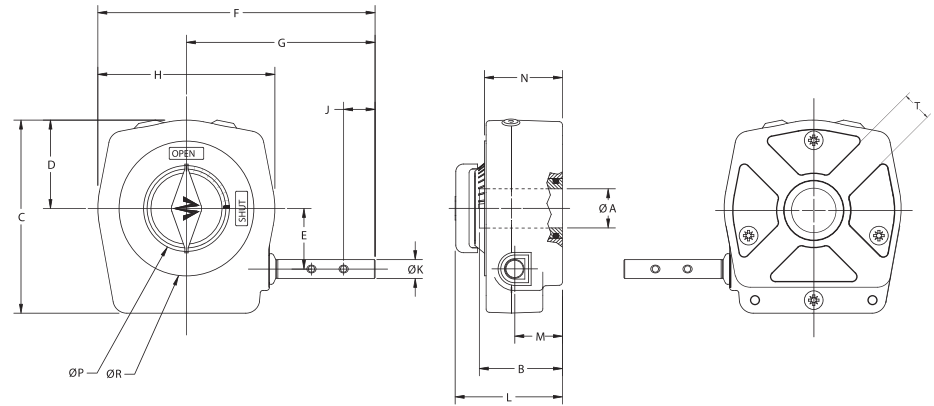
Aluminum construction and rugged design of the **Mastergear 9800 series** range of manual valve actuators guarantees it has been engineered to meet the arduous requirements demanded of industrial environments. Through corrosion resistant treatment of the input shaft and the use of lip seals with multiple sealing surfaces, the 9800 range is sealed to IP67 and achieves exceptional durability. All models use high performance axial needle roller bearings, which combined with a one-piece input wormshaft, maximizes the available mechanical advantage and overall unit efficiency.



Features & General Specifications

- ◆ **Aluminum** Enclosure
- ◆ Sealed to IP67
- ◆ Maintenance Free
- ◆ Optional Stainless Steel Padlock Flange
- ◆ Interchangeable output drive bushings
- ◆ Self Locking/High Efficiency Gears
- ◆ High Mechanical Advantage
- ◆ 90° ± 5° (Adjustable) Travel
- ◆ To 10,560 in-lbs Output Torque
- ◆ 3 Frame Sizes
- ◆ 50% Grease Filled for Life
- ◆ -40° to +176° Temperature Range for Continuous Operation
- ◆ Versatility for Direct Mounting to Valve

Item	Component	Material Description	Material Specification
1	Upper	Aluminum	380 Alloy
2	Lower	Aluminum	380 Alloy
3	Wormshaft Bearing	Sintered Iron-Copper	FC0200-18
4	Oil Seal	Injection Molded Plastic	Hytrek 4556
5	Wormshaft	Nitempered Steel	AISI 4140, Hardened
6	Bearing Thrust Washer	Needle Thrust Washer	Type AS
7	Thrust Bearing	Needle Thrust Bearing	Type AXK
8	Quadrant	Sintered Copper Steel	FC0205-50
9	Lower O-Ring	Molded Rubber	Nitrile
10	Drive Bushing	Sintered Copper Steel	FC0205-40
11	Flange Nut	Flange Hex Nut	High Tensile Steel
12	Stop Screw	Socket Set Screw	High Tensile Steel
13	Stop Screw Plug	Molded Rubber	Nitrile
14	Fixing Screws	Torx Head, Taprite	Hardened Alloy Steel
15	Indicator Cap	Injection Molded Plastic	Low Density Polyethylene
16	Indicator Flag	Injection Molded Plastic	Low Density Polyethylene
17	Upper O-Ring	Molded Rubber	Nitrile
18	Nameplate	Self-Adhesive Aluminum	Grey on Bright Background



ACTUATOR TYPE	9801		9804		9807	
Max Output Torque (2000 Cycles)	2000 in-lbs	226 Nm	4400 in-lbs	500 Nm	8800 in-lbs	1000 Nm
Max Output Torque (1000 Cycles)	2400 in-lbs	271 Nm	5280 in-lbs	600 Nm	10,560 in-lbs	1200 Nm
Mechanical Advantage	1:1	1:1	1:1	1:1	1:1.3	1:1.3
Max Input Torque (2000 Cycles)	182 in-lbs	21 Nm	400 in-lbs	45 Nm	779 in-lbs	88 Nm
Max Input Torque (1000 Cycles)	218 in-lbs	25 Nm	480 in-lbs	55 Nm	935 in-lbs	106 Nm
Ratio	40:1	40:1	40:1	40:1	42:1	42:1
Turns To Close	10	10	10	10	10.5	10.5
Valve Mounting Flange	FA05, FA07, FA10	F05, F07, F10	FA07, FA10, FA12	F07, F10, F12	FA10, FA12, FA14, FA16	F10, F12, F14, F16
MSS SP-101						
MEASUREMENT	Inches	mm	Inches	mm	Inches	mm
A Max Valve Stem Diameter	0.98	24.9	1.20	30.5	1.77	45.0
B Max Valve Stem Height	2.16	54.8	2.34	59.6	2.78	70.7
C	4.71	119.7	5.82	147.9	7.43	188.7
D	1.52	38.5	2.0	52.0	2.63	66.7
E	2.21	56.2	2.56	65.1	3.22	81.8
F	6.94	176.3	7.88	200.2	9.83	249.8
G	4.72	120.0	5.32	135.1	6.61	168.0
H	4.43	112.6	5.13	130.2	6.44	163.5
J	0.79	20.0	0.98	25.0	1.26	32.0
K	0.59	15.0	0.59	15.0	0.79	20.0
L	2.62	66.6	2.85	72.5	3.43	87.0
M	1.04	26.4	1.18	29.8	1.49	37.7
N (Adjusted for 90° Turn)	1.99	50.5	2.03	51.4	2.61	66.3
P	2.15	54.6	2.74	69.7	3.73	94.7
R	3.38	85.8	4.40	111.8	5.86	148.9
T	0.75	19.1	0.86	21.8	1.00	25.4
Unit Weight	3.5 lbs	15 N	5 lbs	23 N	11 lbs	48.5 N
Recommended Handwheel (At Max Torque)	CR6	CR6	R14	R14	R24	R24
See back page for dimensions						

Information in this brochure is believed to be accurate. Mastergear reserves the right to alter specifications without notice. Please contact factory for certified drawings or specifications.