

The Best Way To Automate Your Process



Gear Operators Technical Brochure

Max-Air Technology Inc. | Rotary Actuators & Valve Automation Solutions

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Gear Operators GO Series Manual & GOW Series Declutchable Gear Operators



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Max-Air Technology offers two primary types of gear operators for use with quarter-turn valves; a manual gear, and a declutchable gear. Direct ISO 5211 valve mounting for easy and compact handwheel operation. Declutchable override gear with triple epoxy coated IP67 housing mounts between ISO 5211 valve and actuator interfaces. Features an easy declutch mechanism, integrated block and Lockout/Tagout bleed capability and lockout/tagout holes.

GO/GS Series Part Number Builder



GOW Series Part Number Builder





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Table of Contents

Pg - Description 02 - Part Number Builder 03 - Table of Contents 04 - Features & Benefits 06 - Accessories 08 - GO Series: Exploded Views & Materials 09 - GO Series: Technical Data: Torques & Dimensions 12 - GS Series: Exploded Views & Materials 13 - GS Series: Technical Data: Torques & Dimensions 14 - GOW Series: Exploded Views & Materials 15 - GOW Series: Technical Data: Torques & Dimensions



3-YEAR LIMITED WARRANTY Max-Air Technology Inc. | The Best Way to Automate Your Process

Max-Air Technology provides the following warranty regarding its products. THE WARRANTY STATED HEREIN IS EXPRESSLY IN LIEU OF ALL OTHER

WARRANTIES AND REPRESENTATIONS, EXPRESSED OR IMPLIED, OR STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Max-Air Technology warrants its products shall be delivered free from defects in materials and workmanship when these products are used for the purpose for which they were designed and manufactured. Max-Air Technology does not warrant its products against chemical or stress corrosion or against any other failure other than from defects in materials or workmanship. The applicable warranty period is dependent on the clearly identified brand labeling.

> The warranty period for Max-Air, Max-Electric, Delta T, and Sesto Valves brand labeled products is for thirty-six (36) months from the delivery date to the Purchaser.

Any claims regarding this warranty must be in writing and received by Max-Air Technology before the last effective date of the warranty period, failing which this warranty shall expire. Upon Max-Air Technology's receipt of a warranty claim, Max-Air Technology reserves the right to inspect the product(s) in question at either the field location or at Max-Air Technology manufacturing plant. If, after inspection of the product(s) in question, Max-Air Technology is limited to the refunding of the purchase price or repair or replacement thereof at Max-Air Technology's option. Warranty repair, replacement or reperformance by Seller shall not extend or renew the applicable warranty period. Max-Air Technology product is modified or any repairs, labor, material or other expenses that are not specifically authorized in writing by Max-Air Technology – Max-Air Technology product is modified or altered at any location other than Max-Air Technology – Wentzville (Missouri) or Max-Air Technology – Agrate Brianza (MB) ITALY without the express written authorization of Max-Air Technology, it is expressly not covered by this warranty. The warranties and remedies are conditioned upon (a) proper storage, installation, use, operation, and maintenance of products, (b) Purchaser keeping accurate and complete records of operation and maintenance during the warranty period and providing Max-Air Technology access to those records, and (c) modification or repair of products only as authorized by Max-Air Technology in writing. Failure to meet any such conditions renders the warranty null and void. Max-Air Technology is not responsible for normal wear and tear. The warranty for such products shall be subject only to the warranty relief, if any, provided by the suppliers and/or manufacturers of such products.

Manual Operators

Handwheel driven gear operators for standalone operation or declutchable manual override.

Heavy Duty Gear Operators w/ **Options**

Max-Air Technology offers two primary types of gear operators for use with guarter-turn valves; a manual gear, and a declutchable gear. Both types are designed with a broad output torque range, and are generally designed for use with ISO 5211 valve mounting interfaces, but not required. For the declutchable gear, an ISO 5211 interface is standard for the actuator and valve connections. Both units come standard with a female double square output drive, which directly couples to square valve stems, or quickly adapts to smaller square drives, or double-D and keyed drives with the use of adapter bushings.

Standard Features:

- Direct ISO 5211 standard valve mounting
- Compact Design
- **ISO Valve Connection**
- Durable Epoxy Coating(GO/GOW Series)
- Wide temperature range w/ corresponding high/low temperature gaskets and grease





GOW Series Declutchable

Declutchable override gear with triple epoxy coated IP67 housing mounts between ISO 5211 valve and actuator interfaces. Features an easy declutch mechanism, integrated block and bleed capability and lockout/tagout holes.

Lockout/Tagout Standard

Torque Range	See Selection Guide Below
Rotation	90 ±5° Degrees
Ambient Temp. Range	-4°F to 176°F Standard/ -40°F Low/ +248°F High

Mounting	ISO 5211
Materials	WCB, Cast Iron, Stainless Steel
Available Options	See Selection Guide Below

Gear Operator Series Selection

GO/GS Series Manual Gear

Direct ISO 5211 valve mounting for easy

and compact handwheel operation.

Start from the top of the chart and work down to select the correct Gear Operator Series.

Туре	Manual Operation			Declutchable Operation		
Torque	Up to 885,000 in-lbs			Up to 61,955 in-lbs		
Environment	Standard		Corrosive		Standard & Corrosive	
Temperature	Standard	Extreme (High/Low)	Standard	Extreme (High/Low)	Standard	Extreme (High/Low)
Recommended Series/Options	GO Series	GO Series w/ Temp. Seals	GS Series	GS Series w/ Temp. Seals	GOW Series	GOW Series w/ Temp. Seals
Features	N/A			Lockout Planted	ate Standard Block & Bleed	
Available Options	Chain Wheel Operators Stem Extensions Square Operating Nuts Custom Size Handwheel Limit Switch Mounting Kits Optional Lockout Plate			Stem Ex Custom Size Custom Actu for 33,40, a	etensions Handwheels Jator Adapters and 70 Sizes	





Gear Operators Technical Brochure



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GOW Series Declutchable

Max-Air offers a declutchable override gear with triple epoxy coated IP67 housing mounts between ISO 5211 valve and actuator interfaces. It features an easy declutch mechanism, integrated block and bleed capability and lockout/tagout holes. GOW Series comes standard with a female double square output drive, which directly couples to square valve stems, or quickly adapt to smaller square drives, or double-D and keyed drives with the use of adapter bushings.

Seals	Temperature Range	
Standard (BUNA-N)	-4°F (-20°C) to 176°F (80°C)	
High Temp. (FKM)	5°F (-15°C) to +248°F (120°C)	
Low Temp. (BUNA-N)	-40°F (-40°C) to 176°F (80°C)	

Integrated Block & Bleed Air Tubing GOW Series includes an integrated block & bleed valve triggered by the clutching mechanism which can be used. If using a separate block & bleed device, please follow manufacturer's instructions. Air tubing from integrated block & bleed valve to actuator air ports should be as follows. If not using, leave ports plugged or install dust screens/filters.

"R" -Relief - Exhaust to Atmosphere



Auto Mode Pressurized supply air flows freely into "P" port and out "A" port to the Actuator/Solenoid.



Override Bar

Manual Mode Pressurized supply air flow is blocked at "P" port. Air exhausts from the actuator/solenoid "A" port through "R" port to atmosphere.

GO Series Manual

Direct ISO 5211 valve mounting for easy and compact handwheel operation. The GO Series comes standard with a female double square output drive, which directly couples to square valve stems, or quickly adapt to smaller square drives, or double-D and keyed drives with the use of adapter bushings.

Seals	Temperature Bange
Standard (BUNA-N)	-4°F (-20°C) to 176°F (80°C)
High Temp. (FKM)	5°F (-15°C) to +248°F (120°C)
5 1 1 1 1	- (/ /
Low Temp. (Silicone)	-40°F (-40°C) to 176°F (80°C)



GO/GS Series Accessories

Exploded View, Materials of Construction, & Dimensional Data

GO/GS LSB Mounting Kit

Part #	DESCRIPTION
LSB-GLK-01	304SS 30X80X30 KIT FOR GO-01 ISO GEAR OPERATOR, PROVIDES MOUNTING FOR LIMIT SWITCH OR OTHER NAMUR ACCESSORIES.
LSB-GLK-02	304SS 30X80X30 KIT FOR GO-02 ISO GEAR OPERATOR, PROVIDES MOUNTING FOR LIMIT SWITCH OR OTHER NAMUR ACCESSORIES.
LSB-GLK-03	304SS 30X80X30 KIT FOR GO-03 ISO GEAR OPERATOR, PROVIDES MOUNTING FOR LIMIT SWITCH OR OTHER NAMUR ACCESSORIES.
LSB-GLK-04	304SS 30X80X30 KIT FOR GO-04 ISO GEAR OPERATOR, PROVIDES MOUNTING FOR LIMIT SWITCH OR OTHER NAMUR ACCESSORIES.
LSB-GLK-05	304SS 30X130X30 KIT FOR GO-05 ISO GEAR OPERATOR, PROVIDES MOUNTING FOR LIMIT SWITCH OR OTHER NAMUR ACCESSORIES.
LSB-GLK-06	304SS 30X130X30 KIT FOR GO-06 ISO GEAR OPERATOR, PROVIDES MOUNTING FOR LIMIT SWITCH OR OTHER NAMUR ACCESSORIES.



GO/GS Lockout Kit

Part #	DESCRIPTION
SL-01-ISO	SL-01-ISO 304SS LOCKOUT KIT FOR GO-01-ISO SERIES GEAR OPERATORS
SL-02-ISO	SL-02-ISO 304SS LOCKOUT KIT FOR GO-02-ISO SERIES GEAR OPERATORS
SL-03-ISO	SL-03-ISO 304SS LOCKOUT KIT FOR GO-03-ISO SERIES GEAR OPERATORS
SL-04-ISO	SL-04-ISO 304SS LOCKOUT KIT FOR GO-04-ISO SERIES GEAR OPERATORS
SL-05-ISO	SL-05-ISO 304SS LOCKOUT KIT FOR GO-05-ISO SERIES GEAR OPERATORS
SL-06-ISO	SL-06-ISO 304SS LOCKOUT KIT FOR GO-06-ISO SERIES GEAR OPERATORS

IMPORTANT NOTE: If ordering switch kit and lockout kit together please contact us as modifications are needed

GO Handwheel Extension

Part #	DESCRIPTION
GO-01/02-HWEXT-XX	CARBON STEEL HANDWHEEL EXTENSION FOR GO-01/02
GO-03-HWEXT-XX	CARBON STEEL HANDWHEEL EXTENSION FOR GO-03
GO-04/05-HWEXT-XX	CARBON STEEL HANDWHEEL EXTENSION FOR GO-04/05
GO-06-HWEXT-XX	CARBON STEEL HANDWHEEL EXTENSION FOR GO-06

GS Handwheel Extension

Part #	DESCRIPTION
GS-02-HWEXT-XX	STAINLESS STEEL HANDWHEEL EXTENSION FOR GS-02
GS-03-HWEXT-XX	STAINLESS STEEL HANDWHEEL EXTENSION FOR GS-03
GO-04/05-HWEXT-XX	STAINLESS STEEL HANDWHEEL EXTENSION FOR GS-04/05
GO-06-HWEXT-XX	STAINLESS STEEL HANDWHEEL EXTENSION FOR GS-06

XX Specifies the length in inches for the handwheel. Consult factory as extensions can reduce the torque of the valve and rim pull



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GO Series Technical Data

Exploded View, Materials of Construction, & Dimensional Data

GO Series

Exploded View & Bill of Materials



#	DESCRIPTION	MATERIALS	
1	Hand Wheel	Cast Iron	
2	Shaft Gasket	Plated Carbon Steel	
3	Shaft Holders	Plated Carbon Steel	
4	Shaft Washers	Cast Iron	
5	Shaft Bearings	Poly-fiber	
6	Worm Shaft	Plated Carbon Steel	
7	Body	Cast Iron	
8	Travel Stops	Plated Carbon Steel	
9	Segment Gear	Ductile Iron	
10	Cover Gaskets	Poly-fiber	

#	DESCRIPTION	MATERIALS
11	Cover	Cast Iron
12	Indicator	Plated Steel
13	Indicator Screws	Plated Carbon Steel
14	Cover Plate Washers	BUNA-N
15	Cover Plate Screws	Plated Carbon Steel







Note: F25 mounting pattern has 8 x threaded holes

	(in-lbs)	Gear Ratio	Pull (lbs)	(lbs)
GO-01-ISO	1,330	40:1	54	3
GO-02-ISO	1,770	37:1	66	6
GO-03-ISO	4,425	42:1	81	12
GO-04A-ISO	8,850	42:1	135	22
GO-04B-ISO	8,850	42:1	135	22
GO-05A-ISO	15,900	60:1	124	41
GO-05B-ISO	15,900	60:1	124	41
GO-06A-ISO	30,090	68:1	185	78
GO-06B-ISO	30,090	68:1	185	78
GO-07-ISO	39,825	88:1	185	101

	A	В	с	D	E	ød	ØHW	ØBCD1	M1↓ Depth	ØBCD2	M2↓ Depth	ISO Mount	DSQ
GO-01-ISO	1.69	3.16	2.12	3.9	1.02	0.472	6	1.968	M6x1.0 - 0.394	2.756	M8x1.25 - 0.551	F05+F07	0.433
GO-02-ISO	2.49	3.64	2.25	5.8	1.16	0.472	6	2.756	M8x1.25 - 0.630	-	-	F07	0.669
GO-03-ISO	2.38	4.66	2.51	8.4	1.44	0.591	10	2.756	M8x1.25 - 0.669	4.016	M10x1.5 - 0.669	F07+F10	0.866
GO-04A-ISO	2.63	6.51	3.08	8.3	1.73	0.787	12	4.016	M10x1.5 - 0.984	5.512	M16x2.0 - 0.787	F10+F14	1.063
GO-04B-ISO	2.63	6.51	3.08	8.3	1.73	0.787	12	4.921	M12x1.75 - 0.866	-	-	F12	1.063
GO-05A-ISO	3.49	7.86	3.42	11.1	1.96	0.787	16	4.921	M12x1.75 - 1.063	6.496	M20x2.5 - 0.906	F12+F16	1.811
GO-05B-ISO	3.49	7.86	3.42	11.1	1.96	0.787	16	5.512	M16x2.0 - 0.984	-	-	F14	1.811
GO-06A-ISO	4.98	10.1	3.86	13.5	2.00	1.181	16	6.496	M20x2.5 - 0.984	-	-	F16	1.811
GO-06B-ISO	4.98	10.1	3.86	13.5	2.00	1.181	16	5.512	M16x2.0 - 0.984	-	-	F14	1.811
GO-07-ISO	6.05	12.4	3.99	14.4	1.99	1.181	16	6.496	M20x2.5 - 0.984	10.000	M16x2.0 - 0.866	F16+F25	1.811

GO Series Technical Data

Exploded View, Materials of Construction, & Dimensional Data

GO-08-ISO thru GO-10-ISO







	Torque (in-lbs)	Gear Ratio	Max Rim Pull (lbs)	Weight (lbs)
GO-08A-ISO	70,806	184:1	135	172
GO-08B-ISO	70,806	184:1	135	172
GO-09A-ISO	97,358	250:1	135	238
GO-09B-ISO	97,358	250:1	135	238
GO-09C-ISO	97,358	250:1	135	238
GO-10A-ISO	212,418	720:1	111	408

	A (in)	B (in)	C (in)	D (in)	H (in)	ØE(in)	k (in)	t (in)	a (in)	b (in)	8 x M
GO-08A-ISO	5.39	13.74	11.26	15.08	5.43	20	0.631	2.482	10.00	2.144	M16x2.0
GO-08B-ISO	5.39	13.74	11.26	15.08	5.43	20	0.709	2.852	10.00	2.506	M16x2.0
GO-09A-ISO	7.13	17.28	13.98	16.26	7.48	20	0.788	3.352	10.00	2.967	M16x2.0
GO-09B-ISO	7.13	17.28	13.98	16.26	7.48	20	0.867	3.770	10.00	3.360	M16x2.0
GO-09C-ISO	7.13	17.28	13.98	16.26	7.48	20	0.985	4.179	10.00	3.754	M16x2.0
GO-10A-ISO	9.33	20.79	18.23	19.72	7.48	24	1.103	4.652	11.73	4.148	M20x2.5



GO-11-ISO thru GO-14-ISO







	Torque (in-lbs)	Gear Ratio	Rim Pull (lbs)	Weight (lbs)
GO-11-ISO	309,776	882:1	148	562
GO-12-ISO	442,537	1242:1	128	683
GO-13-ISO	619,552	1430:1	154	970
GO-14-ISO	885,075	1418:1	197	1543

	øнw	d (in)	b (in)	t (in)	D1 (in)	n-M	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	H (in)	h (in)	ISO	Optional ISO
GO-11-ISO	27.6	4.72	1.26	5.31	14	8-M30x3.5	25.5	22.5	22	16.3	11.1	5.94	6.77	3.31	F35	F30
GO-12-ISO	27.6	4.72	1.26	5.31	14	8-M30x3.5	27	25.9	24	18.7	12.2	7.56	8.86	4.21	F35	F30, F40
GO-13-ISO	27.6	5.91	1.42	6.57	16	8-M36x4.0	27.8	27.4	27.2	18.7	13.7	7.56	9.09	4.33	F40	F35
GO-14-ISO	31.5	5.91	1.42	6.57	16	8-M36x4.0	32.3	32.5	29.9	22	15.4	10.4	10.6	5.12	F40	F35, F48

GS Series Technical Data

Exploded View, Materials of Construction, & Dimensional Data

GS Series

Exploded View & Bill of Materials



#	DESCRIPTION	MATERIALS
1	Hand Wheel	SS316
2	Shaft Gasket	316SS
3	Shaft Holders	316SS
4	Shaft Washers	316SS
5	Shaft Bearings	Poly-fiber
6	Worm Shaft	SS316
7	Body	CF8M
8	Travel Stops	316SS
9	Segment Gear	Aluminum Bronze
10	Cover Gaskets	Poly-fiber

#	DESCRIPTION	MATERIALS
11	Cover	CF8M
12	Indicator	316SS
13	Indicator Screws	3316SS
14	Cover Plate Washers	BUNA-N
15	Cover Plate Screws	316SS





	A	В	с	D	E	ød	ØH	ØBCD1	M1↓ Depth	ØBCD2	M2↓ Depth	ISO Mount	DSQ
GS-02-ISO	2.49	3.64	2.25	5.8	1.16	0.472	6	2.756	M8x1.25 - 0.630	-	-	F07	0.669
GS-03-ISO	2.38	4.66	2.51	8.4	1.44	0.591	10	2.756	M8x1.25 - 0.669	4.016	M10x1.5 - 0.669	F07-F10	0.866
GS-04A-ISO	2.63	6.51	3.08	8.3	1.73	0.787	12	4.016	M10x1.5 - 0.984	5.512	M16x2 - 0.787	F10-F14	1.063
GS-04B-ISO	2.63	6.51	3.08	8.3	1.73	0.787	12	4.921	M12x1.75 - 0.866	-	-	F12	1.063
GS-05A-ISO	3.49	7.86	3.42	11.1	1.96	0.787	16	4.921	M12x1.75 - 1.063	6.496	M20x2.5 - 0.906	F12-F16	1.811
GS-05B-ISO	3.49	7.86	3.42	11.1	1.96	0.787	16	5.512	M16x2.0 - 0.984	-	-	F14	1.811
GS-06A-ISO	4.98	10.1	3.86	13.5	2	1.181	16	6.496	M20x2.5 - 0.984	-	-	F16	1.811
GS-06B-ISO	4.98	10.1	3.86	13.5	2	1.181	16	5.512	M16x2.0 - 0.984	-	-	F14	1.811
GS-07-ISO	6.05	12.4	3.99	14.4	2	1.181	16	6.496	M20x2.5 - 0.984	10	M16x2 - 0.866	F16-F25	1.811

GOW Series Technical Data

Exploded View, Materials of Construction, & Dimensional Data



#	DESCRIPTION	MATERIALS
1	Body	Coated WCB
2	Travel Stops	304SS
3	Segment Gear Assembly	Plated Steel
4	Cover	Coated WCB
5	Locking Pin Assembly	Aluminum Steel
6	Worm Bearing Cap	Aluminum
7	Block & Bleed Valve	Coated Steel
8	Clutch Lever	Plated Steel
9	Worm Gear Assembly	Plated Steel
10	Worm Bearing Cap	Coated Steel

#	DESCRIPTION	MATERIALS
11	Handweheel	Cast Iron
12	Handwheel Locking Plates	Coated Steel
13	Handwheel Retaining Screw	304 SS



GOW02 thru GOW70







	Torque (in-lbs)	Gear Ratio	Max Rim Pull (lbs)	Weight (lbs)
GOW02	1,770	35:1	50	12
GOW06	5,310	55:1	94	33
GOW09	7,966	55:1	126	37
GOW12	10,621	55:1	144	39
GOW16	14,161	60:1	103	73
GOW20	17,701	60:1	112	75
GOW33	29,207	67:1	142	120
GOW40	35,403	67:1	148	139
GOW70	61,955	315:1	99	243

	Α	В	С	D1+D2	D3+D4+D5	E	L	M1	M2	М3	M4	M5	T 1	T2	H1	H2	K	J
GOW02	4.7	3.9	4.09	F05+F07	F05+F07	1.75	4.7	0.28	0.35	M6↓0.35	M8↓0.47	-	0.551	0.669	0.67	0.98	8	1/4" NPT
GOW06	7.6	5.8	5.71	F07+F10	F07+F10	2.80	6.9	0.35	0.43	M8↓0.47	M10↓0.59	-	0.866	1.063	0.87	1.18	8	1/4" NPT
GOW09	7.6	5.8	5.71	F07+F10	F07+F10+F12	2.80	7.0	0.35	0.43	M8↓0.47	M10↓0.59	M12↓0.71	1.063	1.063	1.10	1.18	10	1/4" NPT
GOW12	7.6	5.8	5.71	F07+F10	F07+F10+F12	2.80	7.1	0.35	0.43	M8↓0.47	M10↓0.59	M12↓0.71	1.063	1.063	1.10	1.18	12	1/4" NPT
GOW16	10.2	7.7	7.54	F10+F12	F10+F12	4.23	10.6	0.43	0.51	M10↓0.59	M12↓0.71	-	1.417	1.417	1.34	1.57	14	1/4" NPT
GOW20	10.2	7.7	7.54	F10+F12	F10+F12	4.23	10.7	0.43	0.51	M10↓0.59	M12↓0.71	-	1.417	1.417	1.34	1.57	16	1/4" NPT
GOW33*	13.1	10.0	7.13	F16	F12+F16	4.84	10.7	0.87	0.87	M12↓0.71	M20↓1.18	-	1.811	1.811	1.77	6.93	24	1/4" NPT
GOW40*	13.1	10.0	7.13	F16	F12+F16	4.84	10.8	0.87	0.87	M12↓0.71	M20↓1.18	-	1.811	1.811	1.77	6.93	28	1/4" NPT
GOW70*	15.3	11.7	9.80	F16+F25	F16+F25	6.14	16.5	0.87	8x0.51	M20↓1.18	8xM16↓0.94	-	1.811	1.811	1.77	7.72	20	1/2" NPT

Dimensions in inches.

*Note: Removable Drive, Custom Machined Drives Available.

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