

Jamesbury™ manual gear actuators Series MGR

The quarter-turn MGR series manual gear actuator has been engineered to meet the requirements of demanding industrial environments. It has cast iron construction and high performance axial bearings to enable smooth and accurate operation.

The enclosure is sealed to IP67 and polyurethane painted for corrosion protection. They are factory lubricated for their lifetime.

MGR series gear actuators are recommended for use on Jamesbury ball and butterfly valves. For the sake of convenience, and where lever handles present space problems, gear actuators are the ideal choice. MGR series actuators are available factory mounted on valves or separately for field installation.



Features and general specifications

- Sealed to IP67
- Cast iron enclosure with sealed steel input shaft
- Stroke: 0 - 90 deg (+ 5 deg adjustable)
- Up to 26 000 Nm / 19 177 ft lbs output torque
- -4 to +250°F (-20 to +121°C) standard temperature range for continuous operation.
- Grease filled for life, maintenance free
- Polyurethane coating
- Self locking / high efficiency

Options

- Padlock flange for hand-wheel
- VDI/VDE interface for accessories
- Low temperature: -60 to +250°F (-51 to +121°C)
- High temperature: -4 to +392°F (-20 to +200°C)
- Oxygen service
- Marineized or buried service duty (IP68)

Actuator selection

To select the proper actuator for a particular valve and service, first determine the maximum operating torque that will be required for the valve from the valve torque chart in the appropriate valve bulletin, taking into consideration

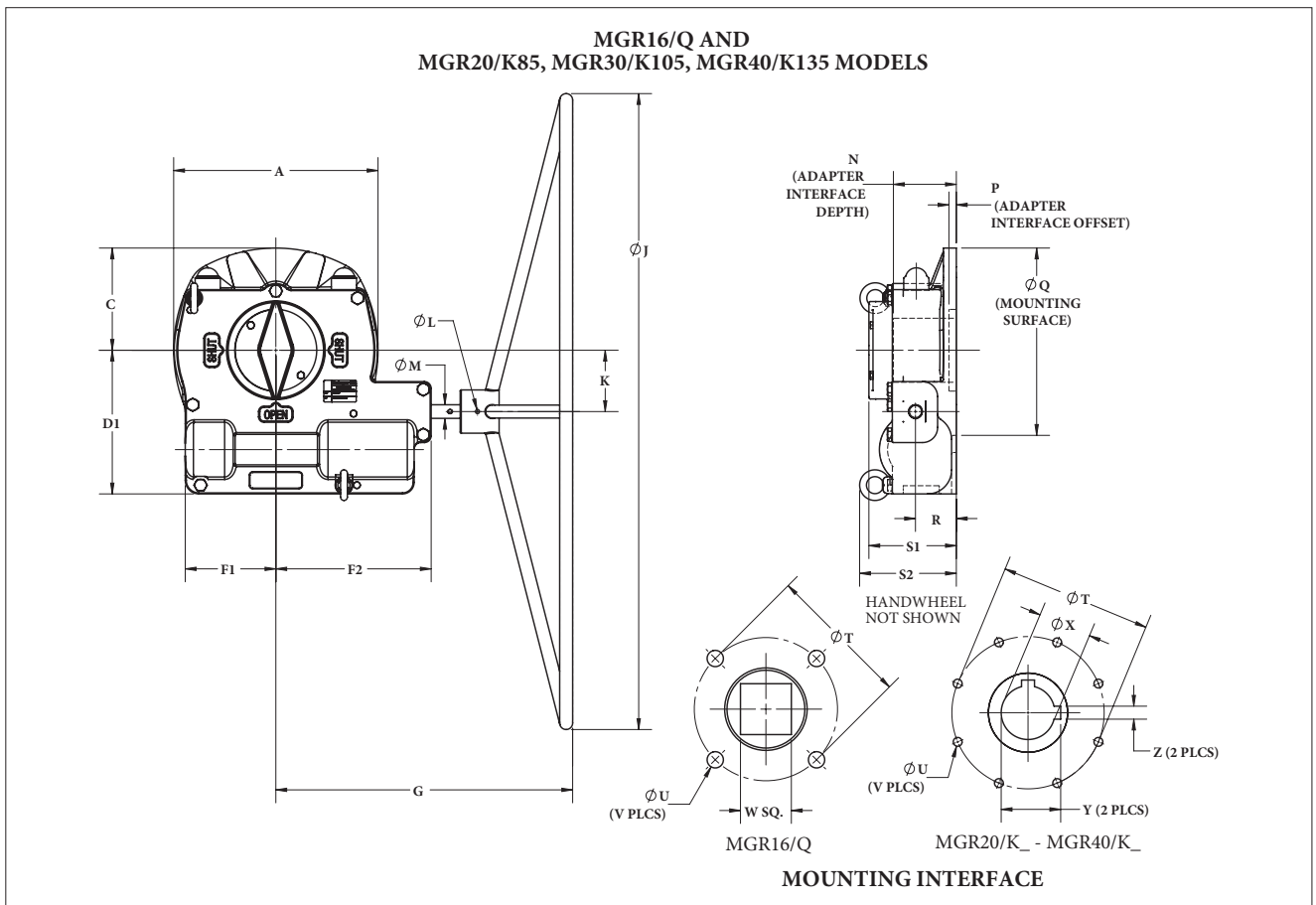
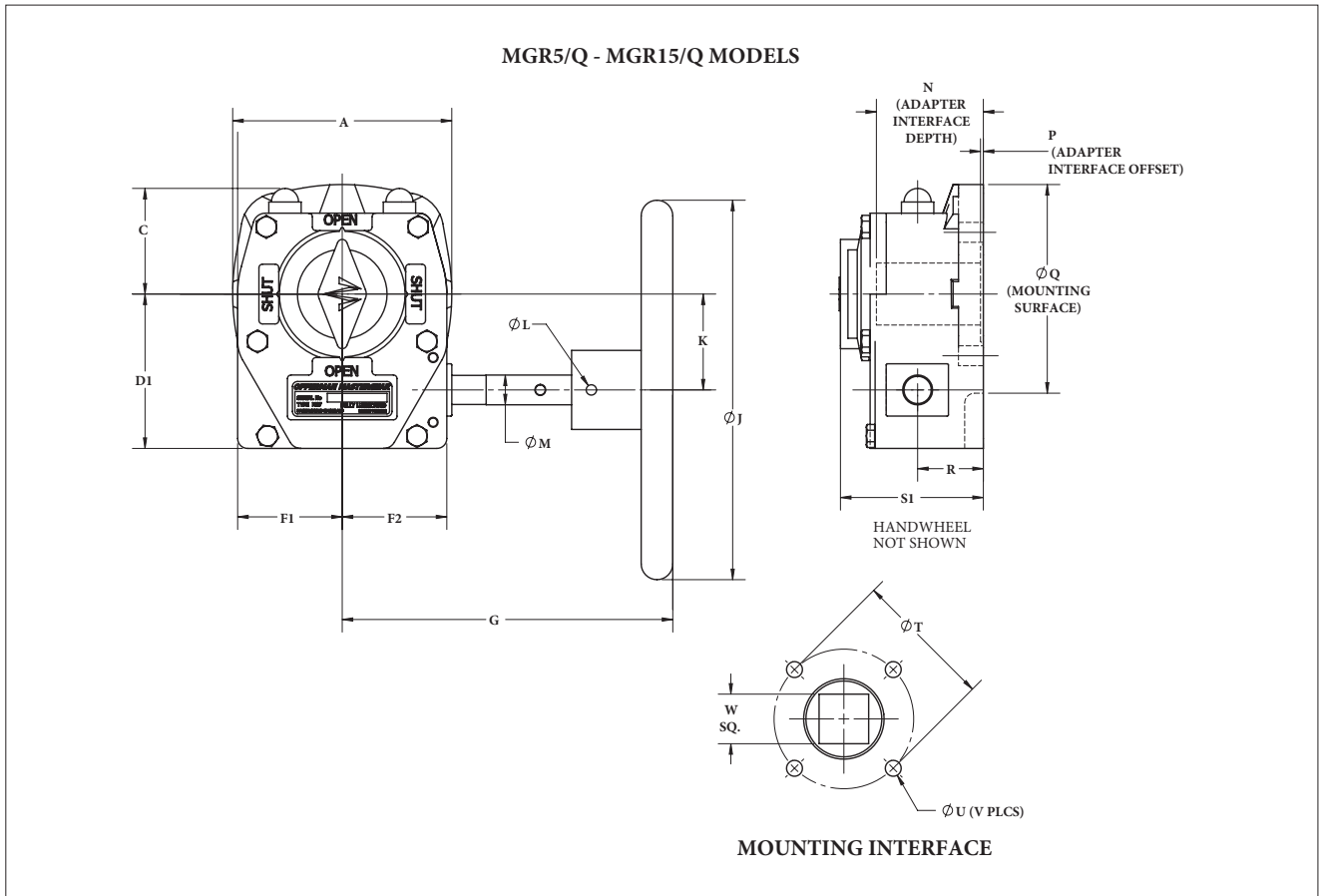
valve size, seat material, maximum pressure differential, and service. Then refer to the tables below and select the actuator that will provide a torque output no less than the required operating torque for the valve.

Actuator selection table

Actuator	Approx. weight	Handwheel diameter	Turns to open	Operating values - per API 608 & 609			Operating values - Max.		
				Rim pull	Max. input torque	Max. output torque	Rim pull	Max. input torque	Max. output torque
				lbs	ft-lbs	ft-lbs	lbs	ft-lbs	ft-lbs
MGR5/Q	5	4	10	69	12	111	69	12	111
MGR7/Q	8	8	9	63	21	243	63	21	243
MGR10/Q	8	12	9	64	32	369	64	32	369
MGR12/Q	19	20	9	74	61	738	74	61	738
MGR14/Q	31	32	10	80	107	1408	84	112	1475
MGR15/Q	49	32	14	80	107	2027	95	126	2397
MGR16/Q	53	32	27	75	101	3319	75	101	3319
MGR20/K85	108	24	61	80	80	6480	82	82	6638
MGR30/K105	142	28	81	77	90	12539	77	90	12539
MGR40/K135	296	28	182	78	91	19177	78	91	19177

Actuator	Approx. weight	Handwheel diameter	Turns to open	Operating values - per API 608 & 609			Operating values - Max.		
				Rim pull	Max. input torque	Max. output torque	Rim pull	Max. input torque	Max. output torque
				kg	N-m	N-m	N	N-m	N-m
MGR5/Q	2	102	10	308	16	150	308	16	150
MGR7/Q	4	203	9	280	28	330	280	28	330
MGR10/Q	4	305	9	283	43	500	283	43	500
MGR12/Q	9	508	9	328	83	1000	328	83	1000
MGR14/Q	14	813	10	356	145	1909	373	152	2000
MGR15/Q	22	813	14	356	145	2748	421	171	3250
MGR16/Q	24	813	27	336	136	4500	336	136	4500
MGR20/K85	49	610	61	356	108	8786	365	111	9000
MGR30/K105	64	711	81	342	121	17000	342	121	17000
MGR40/K135	134	711	182	348	124	26000	348	124	26000

Dimensions



Actuator	Dimensions - Inches																							
	A	C	D1	F1	F2	G	J	K	L	M	N	P	Q	R	S1	S2	ISO 5211	T	U	V	W	X	Y	Z
MGR5/QA	3.15	2.72	2.60	1.16	1.16	8.88	4	1.67	0.16	0.47	1.91	0.08	3.66	1.04	2.20	-	F05	1.97	M6	4	0.55	N/A	N/A	N/A
MGR7/QA	4.02	2.13	3.15	2.01	2.01	8.54	8	2.05	0.20	0.59	2.17	0.19	4.34	1.13	2.41	-	F07	2.76	M8	4	0.75	N/A	N/A	N/A
MGR10/QA	4.02	2.13	3.15	2.01	2.01	9.92	12	2.05	0.20	0.59	2.13	0.19	4.34	1.13	2.41	-	F10	4.02	M10	4	0.87	N/A	N/A	N/A
MGR12/QA	5.43	3.37	4.13	2.56	2.56	11.97	20	2.80	0.24	0.79	3.11	0.24	5.39	1.59	3.42	-	F14	5.51	M16	4	1.42	N/A	N/A	N/A
MGR14/QA	7.87	3.94	4.96	2.95	2.95	12.03	32	3.39	0.24	0.79	3.23	0.34	7.87	1.65	3.61	-	F16	6.50	M20	4	1.81	N/A	N/A	N/A
MGR15/QA	8.69	4.33	4.11	3.58	3.58	13.62	32	4.11	0.24	0.79	2.58	0.32	8.66	1.89	4.04	-	F16	6.50	M20	4	1.81	N/A	N/A	N/A
MGR16/QA	11.21	5.60	5.91	2.93	2.90	13.70	32	2.09	0.24	0.79	2.48	0.12	11.22	2.20	4.69	-	F25	10.00	M16	8	2.17	N/A	N/A	N/A
MGR20/K85A	11.52	5.58	7.67	4.29	4.29	16.92	24	5.51	0.24	0.79	4.76	0.08	11.11	2.42	5.16	-	F25	10.00	M16	8	N/A	3.35	3.74	0.87
MGR30/K105A	14.57	6.69	9.35	5.89	5.89	18.52	28	7.17	0.24	0.79	4.76	0.32	13.39	2.32	5.15	6.77	F30	11.73	M20	8	N/A	4.14	4.59	0.99
MGR40/K135A	17.32	8.17	11.18	6.79	6.79	19.31	28	8.23	0.24	0.79	6.50	0.39	16.34	3.35	6.65	8.46	F35	14.02	M30	8	N/A	5.32	5.88	1.25

Actuator	Dimensions - mm																							
	A	C	D1	F1	F2	G	J	K	L	M	N	P	Q	R	S1	S2	ISO 5211	T	U	V	W	X	Y	Z
MGR5/QA	80	69	66	29	29	226	102	42	4	12	49	2	93	26	56	-	F05	50	M6	4	14	-	-	-
MGR7/QA	102	54	80	51	51	217	200	52	5	15	55	5	110	29	61	-	F07	70	M8	4	19	-	-	-
MGR10/QA	102	54	80	51	51	252	305	52	5	15	54	5	110	29	61	-	F10	102	M10	4	22	-	-	-
MGR12/QA	138	86	105	65	65	304	508	71	6	20	79	6	137	40	87	-	F14	140	M16	4	36	-	-	-
MGR14/QA	200	100	126	75	75	306	813	86	6	20	82	9	200	42	92	-	F16	165	M20	4	46	-	-	-
MGR15/QA	221	110	104	91	91	346	813	104	6	20	66	8	220	48	103	-	F16	165	M20	4	46	-	-	-
MGR16/QA	285	142	150	74	74	348	813	53	6	20	63	3	285	56	119	-	F25	254	M16	8	55	-	-	-
MGR20/K85A	293	142	195	109	109	430	610	140	6	20	121	2	282	61	131	-	F25	254	M16	8	-	85	95	22
MGR30/K105A	370	170	237	150	150	470	711	182	6	20	121	8	340	59	131	172	F30	298	M20	8	-	105	117	25
MGR40/K135A	440	208	284	172	172	490	711	209	6	20	165	10	415	85	169	215	F35	356	M30	8	-	135	149	32

How to order

To order a manual gear actuator, simply specify the appropriate model from the Actuator Selection table on page 2. To specify a complete manual gear actuator, simply make a selection for the code boxes below.

EXAMPLE: A MGR12/QPFA (738 Ft-lbs [1000 N-m] output) actuator with handwheel and padlock flange

1	2	3	4	5	6
MGR	12/Q	PF	-	-	A

1	Product group
MGR	Series MGR

2	Size
5/Q	F05 - 14 mm Female square
7/Q	F07 - 19 mm Female square
10/Q	F10 - 22 mm Female square
12/Q	F14 - 36 mm Female square
14/Q	F16 - 46 mm Female square
15/Q	F16 - 46 mm Female square
16/Q	F25 - 55 mm Female square
20/K85	F25 - 85 mm Female key
30/K105	F30 - 105 mm Female key
40/K135	F35 - 135 mm Female key

3	Operation
- ¹	Handwheel w/o padlock flange
PF	Handwheel with padlock flange

4	Temperature rating
-	Standard temperature: -20 to +121°C (-4 to +250°F)
LT	Low temperature: -51 to +121°C (-60 to +250°F)
HT	High temperature: -20 to +200°C (-4 to +392°F)
OX	Oxygen service: -20 to +121°C (-4 to +250°F)

5	Enclosure rating
-	Standard service - IP67
B ¹	Buried service - IP68
M	Marinized service - IP68 - offshore paint

6	Model
A	Model A

¹ 5. sign "B" includes 2" operating nut in place of a handwheel

Product group / Size	Field mountable accessories	
	Limit switch adapter kit	Padlock flange kit
MGR5/Q	092 2390 00	092 2347 00
MGR7/Q	092 2354 00	092 2348 00
MGR10/Q		
MGR12/Q	092 2355 00	092 2349 00
MGR14/Q	092 2356 00	
MGR15/Q	092 2357 00	092 2350 00
MGR16/Q	092 2358 00	092 2351 00
MGR20/K85	092 2359 00	
MGR30/K105	092 2360 00	092 2352 00
MGR40/K135	092 2361 00	092 2353 00

Valmet Flow Control Oy

Vanha Porvoontie 229, 01380 Vantaa, Finland.

Tel. +358 10 417 5000.

www.valmet.com/flowcontrol

Subject to change without prior notice.

Neles, Neles Easyflow, Jamesbury, Stonel, Valvcon and Flowrox, and certain other trademarks, are either registered trademarks or trademarks of Valmet Oyj or its subsidiaries in the United States and/or in other countries.

For more information www.neles.com/trademarks

