

Operation Manual

Declutchable Wormgear Manual Override

Model: MO30~MO3200/ MOA30~MOA130

Operation

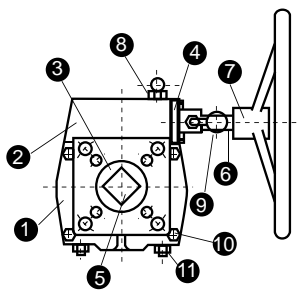
To engage manual operation, first pull out the lock handle and then rotate the clutch lever in anti-clockwise direction until engagement takes place. To return to automatic mode, first pull out the lock handle and then rotate the clutch lever in clockwise direction until engagement takes place.



Aluminum Alloy Body



Cast Iron & Ductile Iron Body



Material of Construction

Model		MO30-MO310	MO850-MO3200	MOA30-MOA130
Item	Description	Standard Material		
1	Cover	Cast Iron	Ductile Iron	Aluminum Alloy
2	Body	Cast Iron	Ductile Iron	Aluminum Alloy
3	Drive Gear	Ductile Iron		
4	Gear Cover	Cast Iron	Ductile Iron	Aluminum Alloy
5	Upper Male Square Stem	Carbon Steel		
6	Handwheel Shaft	Carbon Steel with Chrome Plated		
7	Handwheel	Plated Carbon Steel		
8	Position Lock Assy	Plated Carbon Steel		
9	Position Lever Assy	Plated Carbon Steel		
10	Cover Bolts	Carbon Steel with Zinc Plated		
11	Limit Stops	Stainless Steel		
12	Gear Cover Bolts	Carbon Steel with Zinc Plated		
13	Shaft Bushings	Carbon Steel		
14	Grease Fitting	Brass		
15	Nameplate	Aluminium		
16	O-Ring	NBR(Buna-N)		

Note: Item 12-16 is not shown.

Performance Data Table of MO Series Cast Iron & Ductile Iron Body

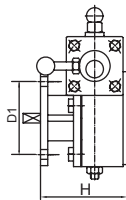
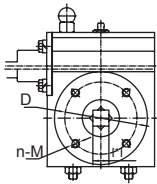
Model	Gear Ratio	Mechanical Efficiency(%)	Max. Output Torque (Nm)	Weight	Double Acting Actuator Model	Single Acting Actuator Model
MO30	26:1	25	300	6	NKD063-NKD105	NKS063-NKS125
MO70	38:1	29	700	13	NKD125-NKD140	NKS125-NKS160
MO120	54:1	18	1200	17	NKD160-NKD190	NKS160-NKS190
MO200	80:1	20	2000	22	NKD210/ NSF14DA	NKS-190-NKS-210/ NSF14SR
MO310	78:1	25	3100	34	NKD240/ NSF14DA	NKS210-NKS240/ NSF14SR
MO850	315:1	14.8	8500	106	NKD270-NKD300/ NSF16DA	NKS240-NKS270/ NSF14SR-NSF25SR
MO1200	333:1	15	12000	159	NSF25DA	NSF25SR
MO1800	490:1	21	18000	178	NSF30DA	NSF25SR-NSF30SR
MO2500	623:1	20.8	25000	210	NSF30DA	NSF30SR
MO3200	945:1	19.9	32000	280	NSF35DA	NSF35SR

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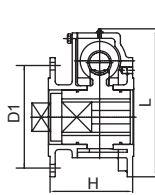
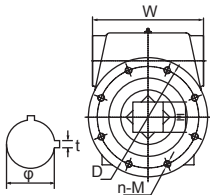
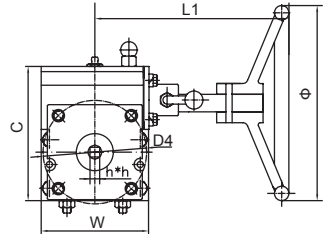
Actuators & Controls

Performance Data Table of MOA Series Aluminum Alloy Body

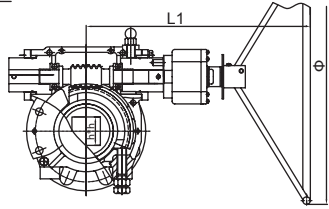
Model	Gear Ratio	Mechanical Efficiency(%)	Max. Output Torque (Nm)	Weight (kg)	DoubleActing Actuator Model	Single Acting Actuator Model
MOA30	40:1	8.6	300	2.3	NKD063~NKD105	NKS063~NKS125
MOA36	38:1	8.6	360	3.5	NKD063~NKD105	NKS063~NKS125
MOA80	36:1	8.5	810	5.6	NKD105~NKD140	NKS125~NKS160
MOA130	50:1	8.5	1310	12.5	NKD160~NKD190	NKS160~NKS210



MO30~MO850



MO1200~MO3200

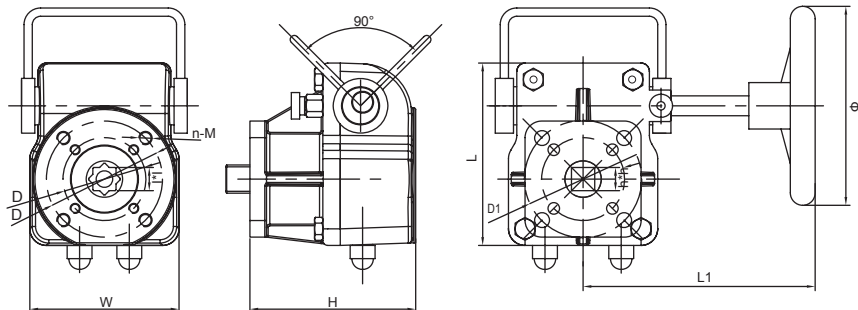


Dimension Table of MO Series Cast Iron & Ductile Iron Body

Model	ISO5211 Top Flange (D1)	Top Connection for Actuator (mm)		ISO5211 Bottom Flange (D)	Bottom Connection for Valve(mm)		n-M	(L) Length (mm)	(W) Width (mm)	(H) Height (mm)	(L1) Center to Hand wheel (mm)	(Φ) Hand wheel Dia. (mm)
		Male Square (h*h)	Round Dia. *Pin Width/ Height (φ*t)		Double Square (I'I)	Round Dia. *Pin Width/ Height (φ*t)						
MO30	F07/F10	14	Please Consult Factory	F05/F07	22	φ22*6/35	4-M8	166	104	85	191	200
MO70	F07/F10	22		F07/F10	36	φ45*14/38	4-M10	191	125	84	225	300
MO120	F12/F14	27		F10 or F12	36	φ60*18/45	4-M10 4-M12	234	175	87	233	300
MO200	F14/F16	36		F14 or F16	36	φ60*18/55	4-M16 4-M20	311	234	115	277	400
MO310	F14/F16	36		F14 or F16	46	φ65*18/62	4-M16 4-M20	351	276	117	363	600
MO850	F16/F25	46		φ70*20/144	F16/F25	55	φ70*20/100	8-M16 8-M20	386	300	244	463
MO1200	F25/F30	55	φ100*28/134	F25 or F30	55	φ100*28/100	8-M16 8-M20	456	360	242	588	800
MO1800	F25/F30	75	φ120*32/117	F25 or F30	75	φ120*32/125	8-M16 8-M20	435	350	252	659	750
MO2500	F30/F35	100	φ148*36/120	F30 or F35	100	φ148*36/132	8-M20 8-M30	532	415	252	692	750
MO3200	F30/F35	100	φ148*36/125	F30 or F35	100	φ148*36/140	8-M20 8-M30	596	415	265	714	750

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Actuators & Controls



Dimension Table of MOA Series Aluminum Alloy Body

Model	ISO5211 Top Flange (D1)	Top Connection	ISO5211 Bottom Flange (D)	Bottom Connection	n-M	(L) Length (mm)	(W) Width (mm)	(H) Height (mm)	(L1) Center to Hand wheel	(Φ) Hand wheel Dia. (mm)
		Male Square (h*h)		Double Square (I*I)						
MOA30	F05/F07	11/14/17	F05/F07	11/14/17	4-M8	120	90	100	130	200
MOA36	F07/F10	14/17/19	F07/F10	14/17/19	4-M8	150	125	100	150	300
MOA80	F10/F12	22/27	F10/F12	22/27	4-M10	185	140	110	180	300
					4-M12					
MOA130	F12 or F14	27/36	F12 or F14	27/36	4-M12	230	190	150	300	400
					4-M16					

Order Information

Product Model	Upper Mounting Connection			Lower Mounting Connection			Hand wheel (mm)
	Top Male Square	Upper Round Dia. Conn. Option	Upper ISO Pattern	Lower Female Double Square	Lower Round Dia. Conn. Option	Lower ISO Pattern	
MO Series:							
MO30:300Nm	14mm	Please Consult Factory	F07/F10	22	φ22*6 / 35	F05/F07	200
MO70:700Nm	22mm		F07/F10	36	φ45*14 / 38	F07/F10	300
MO120:1200Nm	27mm		F12/F14	36	φ60*18 / 45	F10 or F12	300
MO200:2000Nm	36mm		F14/F16	36	φ60*18 / 55	F14 or F16	400
MO310:3100Nm	36mm	F14/F16	F14/F16	46	φ65*18 / 62	F14 or F16	600
MO850:8500Nm	46mm	φ70*20 / 144	F16/F25	55	φ70*20 / 100	F16/F25	700
MO1200:12000Nm	55mm	φ100*28 / 134	F25/F30	55	φ100*28 / 108	F25 or F30	800
MO1800:18000Nm	75mm	φ120*32 / 117	F25/F30	75	φ120*32 / 125	F25 or F30	750
MO2500:25000Nm	100mm	φ148*36 / 120	F30/F35	100	φ148*36 / 132	F30 or F35	750
MO3200:32000Nm	100mm	φ148*36 / 125	F30/F35	100	φ148*36 / 140	F30 or F35	750
MOA Series:							
MOA30:300Nm	11/14/17	N/A	F05/F07	11/14/17	N/A	F05/F07	200
MOA36:360Nm	14/17/19	N/A	F07/F10	14/17/19	N/A	F07/F10	300
MOA80:810Nm	22/27	N/A	F10/F12	22/27	N/A	F10/F12	300
MOA130:1310Nm	27/36	N/A	F12 or F14	27/36	N/A	F12 or F14	400

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Actuators & Controls

NUTORK CORP. manufactures a wide range of pneumatic actuators, electric actuators and the accessories of pneumatic actuator (limit switchbox, solenoid valve, manual override ---etc.) for quarter turn valves

Nutork Corp. supply the following product range:

	<p>NK series rack & pinion type (CE-ATEX certified and PED compliant) 14 models, the output torque from 9Nm(80in.lbs) to 3,920Nm(34,660in.lbs) at 6 bar air supply. ISO5211/DIN3337 for valve connection, VDI/VDE 3845(Namur) standard connection for solenoid valve and shaft top end(limit switchbox or E/P positioner), +/-5 degree stroke adjustment. 25-30um standard hard anodized treatment on actuator body and over 120um epoxy coated on end caps which meet ASTM B117 qualification/salt spread test over 1,000 hours and no corrosion.</p> <p>PTFE, Polyester, Nickel, Ceramic and Epoxy coated are available on request.</p>
	<p>NSF series scotch yoke type pneumatic and hydraulic actuators (CE-ATEX certified and PED compliant) The output torque from 1,660Nm(14,690in.lbs) to 226,200Nm(2,001,870in.lbs) at 6 bar air supply. Anti-corrosion painting on outer body and cylinder as standard. VDI/VDE 3845(Namur) standard connection for shaft top end(limit switchbox or E/P positioner), +/-10 degree stroke adjustment. ISO5211 standard for valve connection. PTFE coated on inner cylinder surface. Hydraulic manual override is available for big size actuator.</p>
	<p>NTE series electric actuator, CE approval 10 models and the output torque from 18Nm(159in.lbs) to 2,000Nm(17,700in.lbs), compact design, die-casting aluminum alloy housing, alloy steel with heat treatment gear driving unit, integral wormgear & drive shaft, 30% duty rating, detachable crank handle, ISO5211(option), IP68 enclosure.</p>
	<p>NTEII series electric actuator, CE approval Dual Power: 12- 24 VAC/DC or 85-265VAC/VDC, Module-in design & encapsulated control pack 10 models and the output torque from 18Nm(159in.lbs) to 2,000Nm(17,700in.lbs), compact design, die-casting aluminum alloy housing, alloy steel with heat treatment gear driving unit, integral wormgear & drive shaft, 30% duty rating, detachable crank handle, ISO5211(option), IP68 enclosure.</p> <p>Option Functions: 1. Integral Local Control Unit. 2. Infrared non-intrusive calibration 3. LCD display(2 lines, 15 character) 4. Electronic over-torque protection 5. Electronic limitation at open & close position and the others.</p>
	<p>NTQ electric actuator, CE approval(IP67 & EExdIIBT4 enclosure) 10 models, the output torque from 100Nm(885in.lbs) to 3,000Nm(26,550in.lbs), de-clutchable manual override, 2xSPDT each for open & close, torque switch: 1xSPDT each for open & close. space heater, self-lock, IP67 & EExdIIBT4 enclosure.</p>
	<p>The fully range accessories(Limit Switchbox, Solenoid Valve, Declutchable Manual Override, Air Filter regulator, E/P Positioner ---etc.)</p>
	<p>Dual Plate Check Valve: Retainerless Type Metal Seat Valve Size : DN40-DN1000/150LB DN40-DN600/ 300LB DN40-DN300/ 600LB-2500LB Full Liner Rubber seat Valve Size : DN40-DN2000/ 125-150LB</p>

As we continue to grow and become a major supplier to the industry. NUTORK CORP. will add the necessary people, inventory and new product to set us apart from the rest of the pack!

NUTORK Corp.

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