

Lifting Column DMD

12, 24 and 36 Vdc - load up to 6800 N



» Ordering Key - see page 81

» Glossary - see page 85

» Electric Wiring Diagram - see page 56

Standard Features and Benefits

- Designed for industrial use
- Rugged, robust and strong
- Self supporting column in extruded anodized aluminum
- Acme or ball screw drive
- High load torque capability
- Overload clutch for mid and end of stroke protection
- T-slot grooves along the entire profile
- Maintenance free

General Specifications

Parameter	DMD
Screw type	acme or ball
Internally restrained	yes
Manual override	no
Dynamic braking	no
Holding brake acme screw models ball screw models	no, self-locking yes
End of stroke protection	overload clutch
Mid stroke protection	overload clutch
Motor protection	auto reset thermal switch
Motor connection	cable
Motor connector	no
Certificates	CE
Options	potentiometer*

* For encoder feedback, contact customer support.

Performance Specifications

Parameter		DMD
Maximum load, dynamic / static	[N]	
DMD •• -05A5 (acme screw)		1100 / 11350
DMD •• -10A5 (acme screw)		2250 / 11350
DMD •• -20A5 (acme screw)		2250 / 11350
DMD •• -05B5 (ball screw)		2250 / 18000
DMD •• -10B5 (ball screw)		4500 / 18000
DMD •• -20B5 (ball screw)		4500 / 18000
DMD •• -21B5 (ball screw)		6800 / 18000
Maximum load torque, dynamic / static	[Nm]	
acme screw models		565 / 565
ball screw models		710 / 710
Speed, at no load / at maximum load	[mm/s]	
DMD •• -05A5 (acme screw)		54 / 32
DMD •• -10A5 (acme screw)		30 / 18
DMD •• -20A5 (acme screw)		15 / 12
DMD •• -05B5 (ball screw)		61 / 37
DMD •• -10B5 (ball screw)		30 / 19
DMD •• -20B5 (ball screw)		15 / 12
DMD •• -21B5 (ball screw)		15 / 11
Available input voltages	[Vdc]	12, 24, 36
Standard stroke lengths	[in]	4, 6, 8, 10, 12, 14, 16, 18, 20, 24
Operating temperature limits	[°C]	-25 – +65
Full load duty cycle @ 25 °C	[%]	25
End play, maximum	[mm]	1,0
Restraining torque	[Nm]	0
Lead cross section	[mm ²]	2,5
Cable length	[mm]	2000
Protection class		IP65

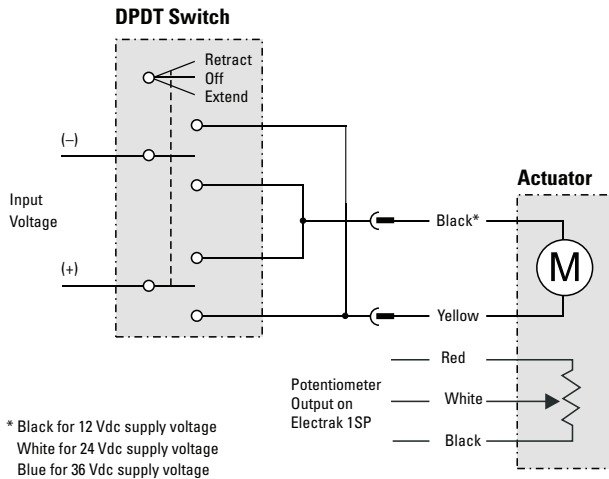
Compatible Controls

Control model	See page
DPDT switch	61
AC-063	62

Electrical Wiring Diagrams

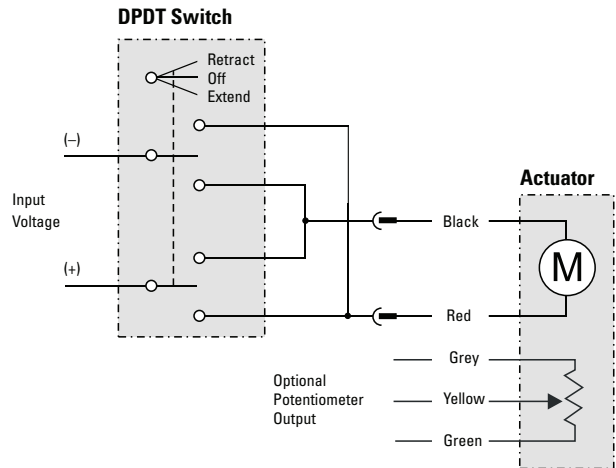
DC-actuators

Electrak 1 and 1SP



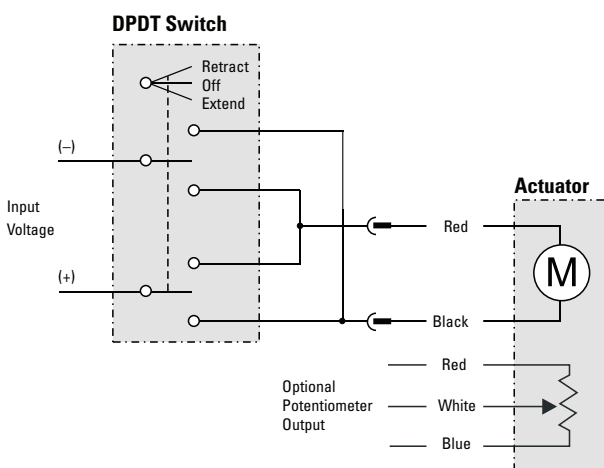
Connect the yellow lead to positive and black, white or blue* to negative to extend the actuator. Change polarity to retract the actuator. The potentiometer output has 0 ohm between white and red when the actuator is fully retracted. The actuator should be protected from overload conditions by a customer provided fuse in the circuit (6 A for 12 Vdc, 3 A for 24 Vdc and 2 A for 36 Vdc).

Electrak 10, LA14



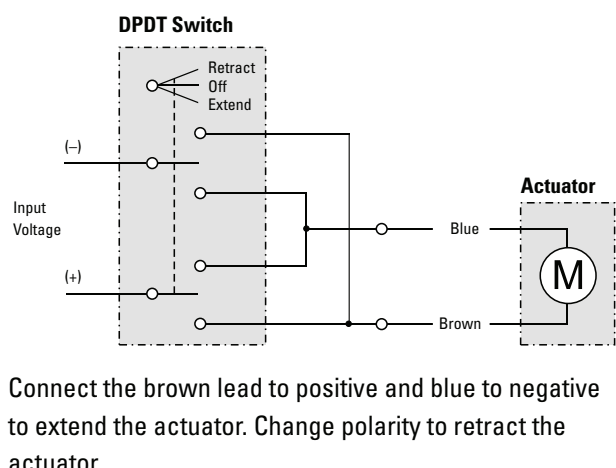
Connect the red lead to positive and black to negative to extend the actuator. Change polarity to retract the actuator. The potentiometer output has 0 ohm between grey and yellow when the actuator is fully extended.

Electrak 050



Connect the black lead to positive and red to negative to extend the actuator. Change polarity to retract the actuator. The potentiometer output has 0 ohm between white and red when the actuator is fully retracted.

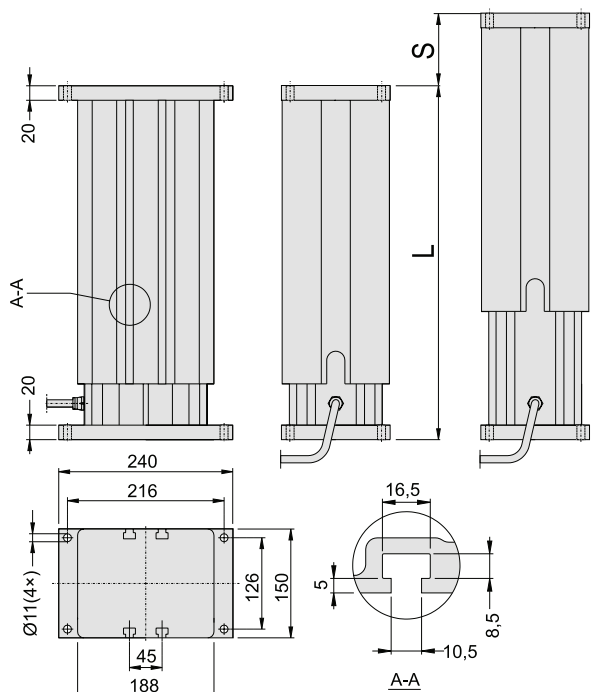
DMD



Connect the brown lead to positive and blue to negative to extend the actuator. Change polarity to retract the actuator.

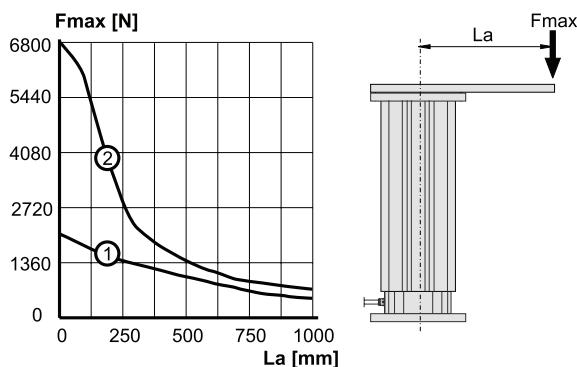
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S: stroke L: retracted length

Off Center Load Capacity



Fmax: maximum load operated La: length of lever arm

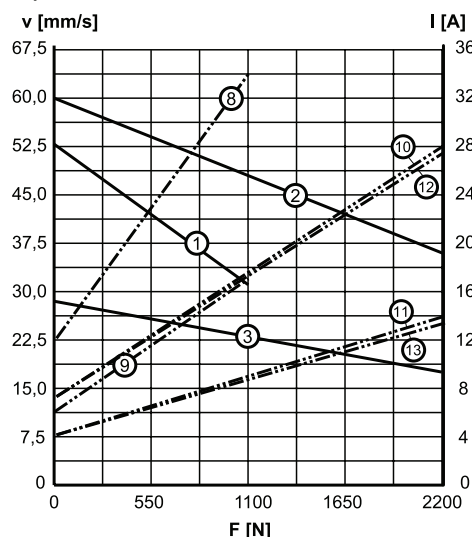
1: acme screw models
2: ball screw models

Stroke (S)	[inch (mm)]	4 (101,6)	6 (152,4)	8 (203,2)	10 (254,0)	12 (304,8)	14 (355,6)	16 (406,4)	18 (457,2)	20 (508,0)	24 (609,6)
Retracted length (L), acme screw models	[mm]	329,6	380,4	431,2	482,0	532,8	633,6	684,4	735,2	786,0	887,6
Retracted length (L), ball screw models	[mm]	369,6	420,4	471,2	522,0	572,8	673,6	724,4	775,2	826,0	927,6
Add on length for potentiometer*	[mm]	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0
Weight, acme screw models	[kg]	18,7	20,2	21,6	23,1	24,6	27,3	28,7	30,2	31,7	34,6
Weight, ball screw models	[kg]	20,4	21,9	23,4	24,8	26,3	29,0	30,4	31,9	33,4	36,3
Add on weight for potentiometer*	[kg]	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3

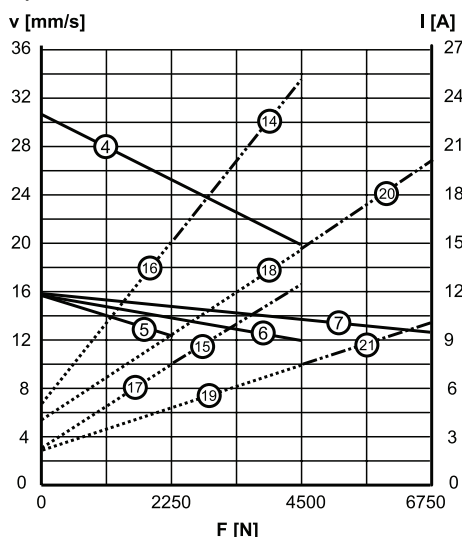
* Potentiometer is optional

Performance Diagrams

Speed and Current vs. Load - Chart 1



Speed and Current vs. Load - Chart 2



V: speed I: current F: load

- 1: speed DMD ••-05A5 - chart 1
- 2: speed DMD ••-05B5 - chart 1
- 3: speed DMD ••-10A5 - chart 1
- 4: speed DMD ••-10B5 - chart 2
- 5: speed DMD ••-20A5 - chart 2
- 6: speed DMD ••-20B5 - chart 2
- 7: speed DMD ••-21B5 - chart 2
- 8: current DMD12-05A5 - chart 1
- 9: current DMD24-05A5 - chart 1
- 10: current DMD12-05B5 - chart 1
- 11: current DMD24-05B5 - chart 1
- 12: current DMD12-10A5 - chart 1
- 13: current DMD24-10A5 - chart 1
- 14: current DMD12-10B5 - chart 2
- 15: current DMD24-10B5 - chart 2
- 16: current DMD12-20A5 - chart 2
- 17: current DMD24-20A5 - chart 2
- 18: current DMD12-20B5 - chart 2
- 19: current DMD24-20B5 - chart 2
- 20: current DMD12-21B5 - chart 2
- 21: current DMD24-21B5 - chart 2

Contact customer service for data on 36 Vdc models.

Lifting Column DMA

230 and 400 Vac - load up to 6800 N



» Ordering Key - see page 81

» Glossary - see page 85

» Electric Wiring Diagram - see page 58

Standard Features and Benefits

- Designed for industrial use
- Rugged, robust and strong
- Self supporting column in extruded anodized aluminum
- Acme or ball screw drive
- High load torque capability
- Overload clutch for mid and end of stroke protection
- T-slot grooves along the entire profile
- Maintenance free

General Specifications

Parameter	DMA
Screw type	acme or ball
Internally restrained	yes
Manual override	no
Dynamic braking	no
Holding brake	
acme screw models	no, self-locking
ball screw models	yes
End of stroke protection	overload clutch
Mid stroke protection	overload clutch
Motor protection	auto reset thermal switch
Motor connection	cable
Motor connector	no
Certificates	CE
Options	potentiometer

Performance Specifications

Parameter	DMA
Maximum load, dynamic / static [N]	
DMA22-05A5 (acme screw)*	1100 / 11350
DMA •• -10A5 (acme screw)	2250 / 11350
DMA •• -20A5 (acme screw)	2250 / 11350
DMA •• -05B5 (ball screw)	2250 / 18000
DMA •• -10B5 (ball screw)	4500 / 18000
DMA •• -20B5 (ball screw)	4500 / 18000
DMA •• -21B5 (ball screw)	6800 / 18000
Maximum load torque, dynamic / static [Nm]	
acme screw models	565 / 565
ball screw models	710 / 710
Speed, at no load / at maximum load [mm/s]	
DMA22-05A5 (acme screw)*	48 / 38
DMA •• -10A5 (acme screw)	30 / 18
DMA •• -20A5 (acme screw)	15 / 12
DMA •• -05B5 (ball screw)	61 / 37
DMA •• -10B5 (ball screw)	30 / 19
DMA •• -20B5 (ball screw)	15 / 12
DMA •• -21B5 (ball screw)	15 / 11
Available input voltages [Vac]	
Single phase**	230
Three phase	400
Input frequency [Hz]	
1 × 230 Vac model	50/60
3 × 400 Vac model	50
Standard stroke lengths [in]	4, 6, 8, 10, 12, 14, 16, 18, 20, 24
Operating temperature limits [°C]	-25 – +65
Maximum on time [s]	45
Full load duty cycle @ 25 °C [%]	25
End play, maximum [mm]	1,0
Restraining torque [Nm]	0
Lead cross section [mm ²]	2,5
Cable length [mm]	2000
Protection class	IP45

* Not possible with 400 Vac input voltage

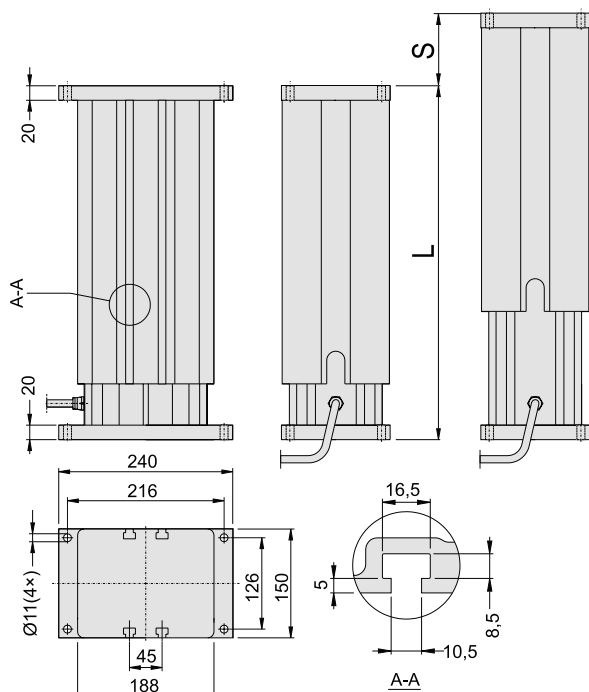
** 10 µF capacitor required to run the actuator, p/n 9200-448-003

Compatible Controls

Control model	See page
DPDT switch	61

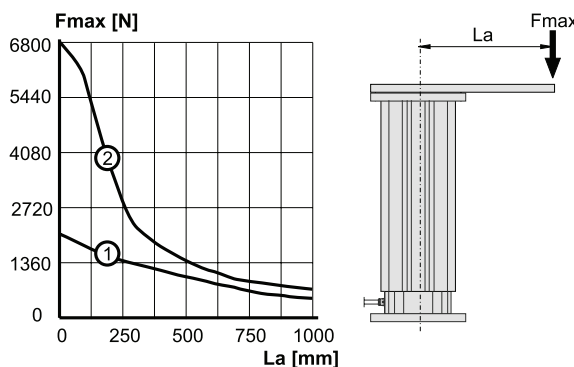
Lifting Column DMA

230 and 400 Vac - load up to 6800 N



S: stroke L: retracted length

Off Center Load Capacity



Fmax: maximum load operated La: length of lever arm

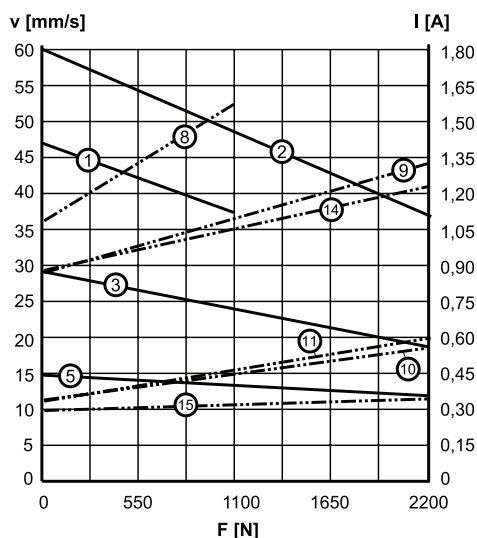
1: acme screw models
2: ball screw models

Stroke (S)	[inch (mm)]	4 (101,6)	6 (152,4)	8 (203,2)	10 (254,0)	12 (304,8)	14 (355,6)	16 (406,4)	18 (457,2)	20 (508,0)	24 (609,6)
Retracted length (L), acme screw models	[mm]	329,6	380,4	431,2	482,0	532,8	633,6	684,4	735,2	786,0	887,6
Retracted length (L), ball screw models	[mm]	369,6	420,4	471,2	522,0	572,8	673,6	724,4	775,2	826,0	927,6
Add on length for potentiometer*	[mm]	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0	55,0
Weight, acme screw models	[kg]	20,9	22,4	23,8	25,3	26,8	29,5	30,9	32,4	33,9	36,8
Weight, ball screw models	[kg]	22,6	24,1	25,6	27,0	28,5	31,2	32,6	34,1	35,6	38,6
Add on weight for potentiometer*	[kg]	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3

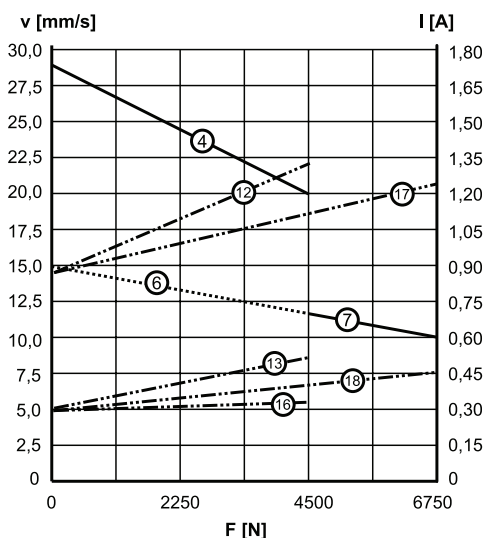
* Potentiometer is optional

Performance Diagrams

Speed and Current vs. Load - Chart 1



Speed and Current vs. Load - Chart 2



V: speed I: current F: load

- 1: speed DMA22-05A5 - chart 1
- 2: speed DMA ••-05B5 - chart 1
- 3: speed DMA ••-10A5 - chart 1
- 4: speed DMA ••-10B5 - chart 2
- 5: speed DMA ••-20A5 - chart 1
- 6: speed DMA ••-20B5 - chart 2
- 7: speed DMA ••-21B5 - chart 2
- 8: current DMA22-05A5 - chart 1
- 9: current DMA22-05B5 and DMA22-10A5 - chart 1
- 10: current DMA42-05B5 - chart 1
- 11: current DMA42-10A5 - chart 1
- 12: current DMA42-10B5 and DMA22-20B5 - chart 2
- 13: current DMA42-10B5 - chart 2
- 14: current DMA22-20A5 - chart 1
- 15: current DMA42-20A5 - chart 1
- 16: current DMA42-20B5 - chart 2
- 17: current DMA22-21B5 - chart 2
- 18: current DMA42-21B5 - chart 2

Ordering Keys

Lifting Columns

LC1600, LC2000, LC3000				
1	2	3	4	5
LC2000	N	24	-400341	NX
1. Model LC1600 = LC1600 LC2000 = LC2000 LC3000 = LC3000 2. Type N = standard 3. Supply voltage 24 = 24 VDC (1) see more on page 39	4. Stroke and retracted length LC1600: -200380 = 200 and 380 mm -250430 = 250 and 430 mm -300480 = 300 and 480 mm -350580 = 350 and 581 mm -400630 = 400 and 631 mm LC2000: -400341 = 400 and 341 mm (1) see more on page 39 LC3000: -400530 = 400 and 530 mm (1) see more on page 41	5. Connection, electronic limit switches and encoder options LC1600: LX = Cable (L = 900 mm), flying leads, electronic limit switches NE = Cable (L = 1900 mm), Molex connector, encoder feedback ⁽²⁾ NX = Cable (L = 1900 mm), Molex connector, no encoder feedback ⁽³⁾ LC2000, LC 3000: NE = Cable (L = 1900 mm), Molex connector, encoder feedback ⁽⁴⁾ NX = Cable (L = 1900 mm), Molex connector, no encoder feedback (1) This is just an example, see section Ordering Stroke, Retracted Length and Weight on page 39 (LC2000) and page 41 (LC3000) for directions on how to calculate this number. (2) Encoders are used when synchronizing multiple units. This option may only be used in conjunction with the DCG-254 control. (3) This option may only be used in conjunction with the DCG-154 control. (4) Encoders are used when synchronizing multiple units.		

DMD			
1	2	3	4
DMD24 -	10B5 -	16	PO
1. Model and input voltage DMD12 - = DMD, 12 Vdc DMD24 - = DMD, 24 Vdc DMD36 - = DMD, 36 Vdc	2. Dynamic load capacity, screw type and maximum speed 05A5 - = 1100 N, acme, 54 mm/s 10A5 - = 2250 N, acme, 30 mm/s 20A5 - = 2250 N, acme, 15 mm/s 05B5 - = 2250 N, ball, 61 mm/s 10B5 - = 4500 N, ball, 30 mm/s 20B5 - = 4500 N, ball, 15 mm/s 21B5 - = 6800 N, ball, 15 mm/s	3. Stroke 04 = 4 inch (101,6 mm) 06 = 6 inch (152,4 mm) 08 = 8 inch (203,2 mm) 10 = 10 inch (254,0 mm) 12 = 12 inch (304,8 mm) 14 = 14 inch (355,6 mm) 16 = 16 inch (406,4 mm) 18 = 18 inch (457,2 mm) 20 = 20 inch (508,0 mm) 24 = 24 inch (609,6 mm)	4. Options¹ PO = potentiometer ¹ Leave position blank for no option.

DMA			
1	2	3	4
DMA22 -	20A5 -	06	
1. Model and input voltage DMA22 - = DMA, 1 × 230 Vac DMA42 - = DMA, 3 × 400 Vac	2. Dynamic load capacity, screw type and maximum speed 05A5 - = 1100 N, acme, 54 mm/s ¹ 10A5 - = 2250 N, acme, 30 mm/s 20A5 - = 2250 N, acme, 15 mm/s 05B5 - = 2250 N, ball, 61 mm/s 10B5 - = 4500 N, ball, 30 mm/s 20B5 - = 4500 N, ball, 15 mm/s 21B5 - = 6800 N, ball, 15 mm/s	3. Stroke 04 = 4 inch (101,6 mm) 06 = 6 inch (152,4 mm) 08 = 8 inch (203,2 mm) 10 = 10 inch (254,0 mm) 12 = 12 inch (304,8 mm) 14 = 14 inch (355,6 mm) 16 = 16 inch (406,4 mm) 18 = 18 inch (457,2 mm) 20 = 20 inch (508,0 mm) 24 = 24 inch (609,6 mm)	4. Options² PO = potentiometer ¹ 05A5 not possible with 400 Vac input voltage. ² Leave position blank for no option.