

Actuator VM56

VM56 is a powerful but compact actuator up to 5000N max. thrust that is suitable for wide range of applications including medical, homecare, furniture and industrial...etc. The motor orientation can be chosen in every 30 degrees of whole round, which makes it an ideal solution for applications where installation space is limited.



Feature

- Main applications: Furniture, homecare, medical, industrial
- Input voltage: 24V DC
- Max. load: 5000N (push) 3500N (pull)
- Max. speed at no load: 43 mm/sec
- Max. speed at full load: 4 mm/sec @5000N
- Stroke: 50 ~ 400 mm
- Max. current: 5A @ 24V DC
- Noise Level: \leq 65dB
- Motor orientation: 360° in steps of every 30°
- IP Protection level: IPX1
- Color: Black
- Preset cam type limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Ambient operation temperature: -25°C ~ +65°C
- Certified: CE Marking, EMC Directive 93/42/EEC

Option

- Positioning signal feedback with Hall effect sensor x 2
- Positioning feedback with Reed sensor
- Positioning feedback with Potentiometer (POT)
- IPX6 waterproof case

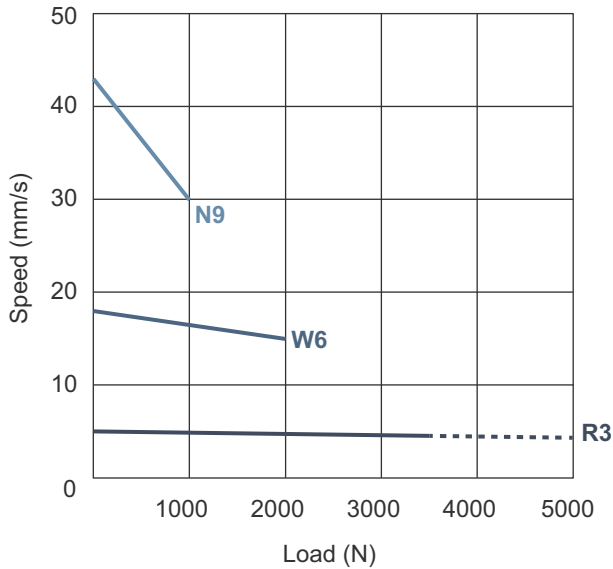
Compatibility

Product	Model	VM56 spec
Control box	CB2P, CB4P, CB4P-HP, MD6C	Without positioning sensor feedback 4-pin Modico H or V type DIN plug
	CB4P-SY	Positioning feedback with Hall effect sensor x 2 6-pin Modico H or V type DIN plug

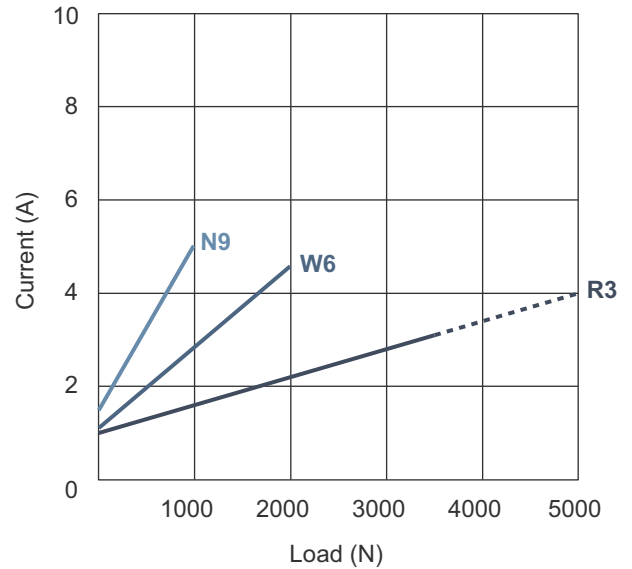
Performance Data

Model No.	Push Max. (N)	Pull Max. (N)	Typical speed (mm/s)		Typical current (A) @ 24V	
			No load	Full load	No load	Full load
VM56-X-24 R3 -XXX.XXX-XXXX0XX	5000	3500	5	4	1.0	4.0
VM56-X-24 W6 -XXX.XXX-XXXX0XX	2000	2000	18	15	1.1	4.6
VM56-X-24 N9 -XXX.XXX-XXXX0XX	1000	1000	43	30	1.5	5.0

Speed vs. Load



Current vs. Load



Push / Pull Load —

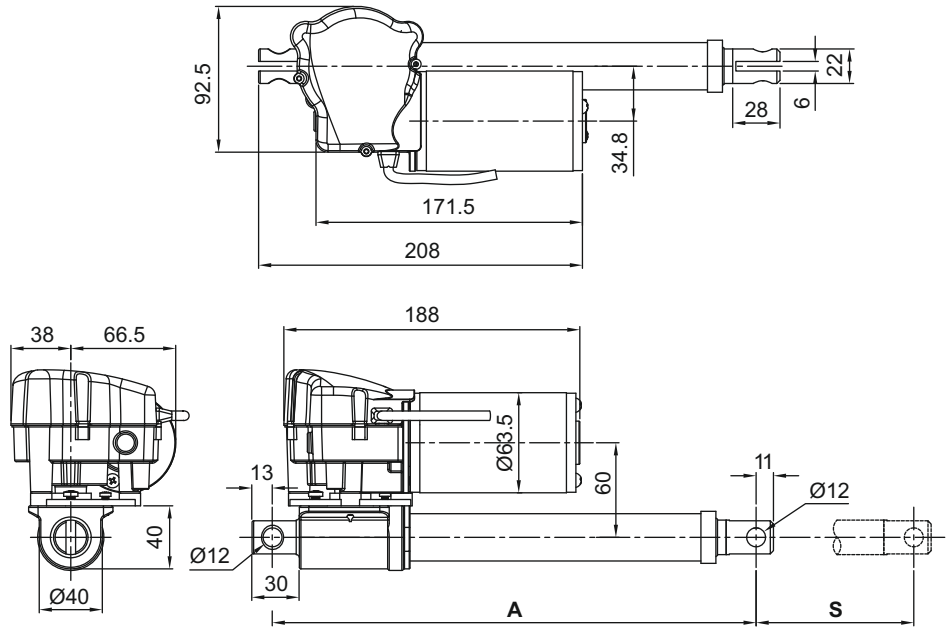
Push Load - - -

Dimensions

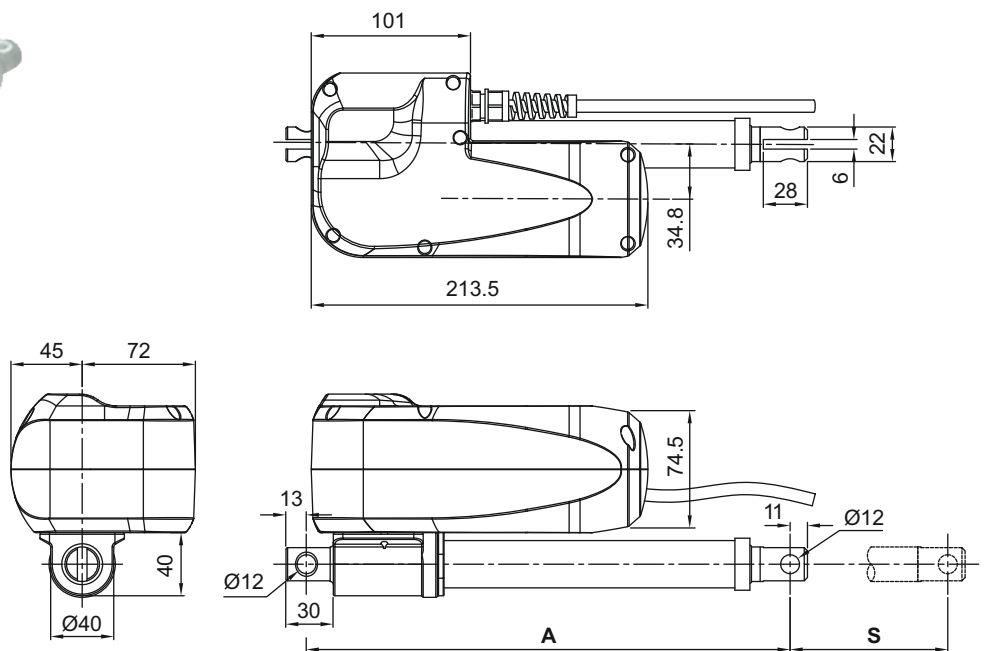
Stroke (S): 50 ~ 400 mm

Retracted Length (A): $\geq S+156$ mm

Standard type

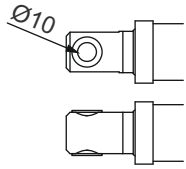


With IPX6 waterproof case

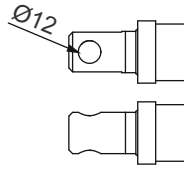


Front Connector

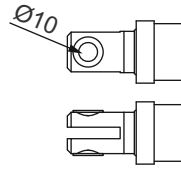
1: Solid with bushing



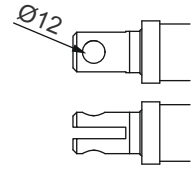
2: Solid w/o bushing



3: Slot with bushing

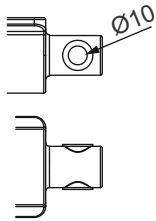


4: Slot w/o bushing

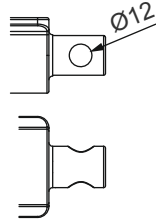


Rear Connector

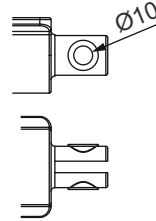
1: Solid with bushing



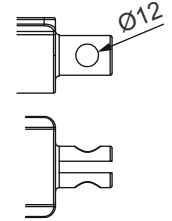
2: Solid w/o bushing



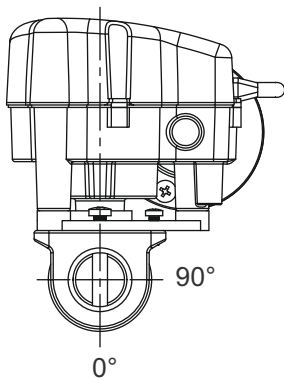
3: Slot with bushing



4: Slot w/o bushing

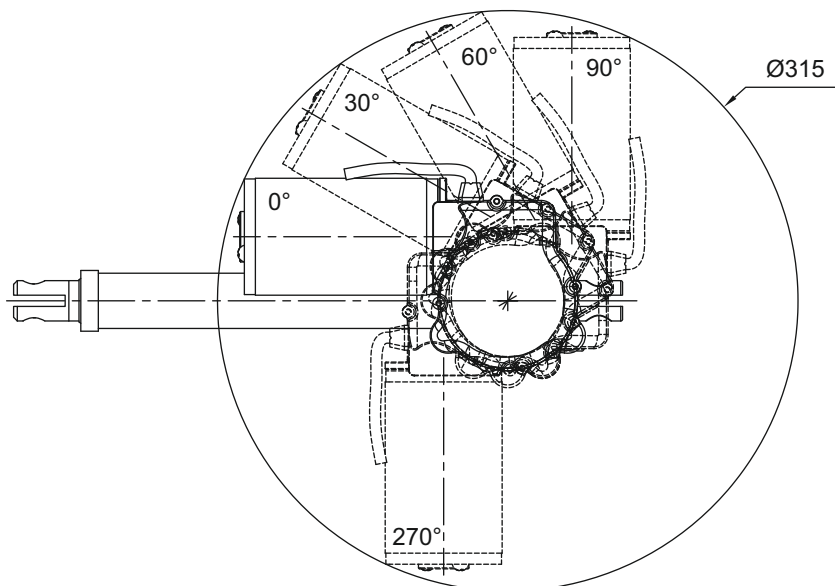


Pivot Orientation of Rear Connectors



Note: Presented with slot type connector as an example.

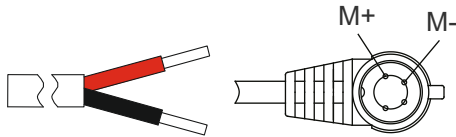
Motor Orientation (360° in steps of every 30°)



Note: This drawing shows orientation definition with example of standard type.

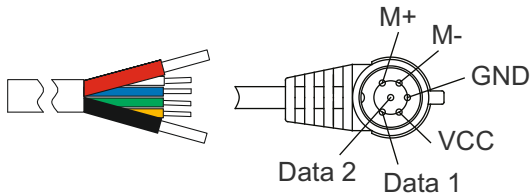
Wiring & Cable plug

Standard type



Power	
Red	Black
M+	M-

With Hall effect sensor x 2 and IPX6 waterproof case



Power		Signal			
Red	Black	Green	Blue	White	Yellow
M+	M-	GND	Data 1	Data 2	VCC

Model No.	Resolution (pulses/mm)
VM56-X-24R3-XXX.XXX-XXXH0XX	9.83
VM56-X-24W6-XXX.XXX-XXXH0XX	4.92
VM56-X-24N9-XXX.XXX-XXXH0XX	2.07

With Reed sensor

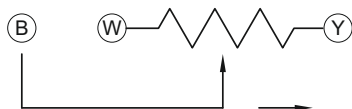
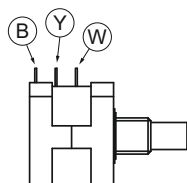
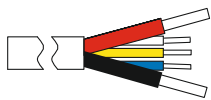


Power		Signal	
Red	Black	White	Yellow
M+	M-	COM	NC

Model No.	Resolution (pulses/mm)
VM56-X-24R3-XXX.XXX-XXXR0XX	2.67
VM56-X-24W6-XXX.XXX-XXXR0XX	1.33
VM56-X-24N9-XXX.XXX-XXXR0XX	0.89

With Potentiometer (POT)

- The resistance value between blue and white wires increases when actuator extends, the resistance between blue and yellow wires decreases at the mean time.
- Following table shows the resistance allocation for stroke 400 mm. The max. resistance value at its full stroke will be proportional to the stroke specification if the model is less than 400 mm, i.e. the increment of resistance per unit stroke length remains unchanged.



Actuator extends

Power		Signal		
Red	Black	White	Yellow	Blue
M+	M-	GND	VCC	Data

Motor and Spindle code	Resistance value (Tolerance: ± 0.10 K Ω)
R3	0.30 ~ 7.50 K Ω
W6, N9	0.30 ~ 7.35 K Ω

Remarks:

Connect Red (M+) to '+' & Black (M-) to '-' of DC power, the actuator will extend.

Ordering Key

VM56 - S - 24R3 - 206 . 256 - 1 1 0 H 0 0 1

Waterproof case	0: None (IPX1) S: Waterproof case (IPX6)
Motor and Spindle type	24R3 24W6 24N9 (Refer to Performance Data)
Retracted length	XXX (Refer to Dimensions)
Extended length	XXX (Refer to Dimensions)
Front connector type	1: Solid with bushing, Ø10 mm 2: Solid w/o bushing, Ø12 mm 3: Slot with bushing, Ø10 mm 4: Slot w/o bushing, Ø12 mm (Refer to Dimensions)
Rear connector type	1: Solid with bushing, Ø10 mm 2: Solid w/o bushing, Ø12 mm 3: Slot with bushing, Ø10 mm 4: Slot w/o bushing, Ø12 mm (Refer to Dimensions)
Pivot orientation of Rear connector	0: 0° 9: 90° (Refer to page 4)
Positioning feedback	0: None H: Hall effect sensor x 2 (must go with IPX6 waterproof case) R: Reed sensor P: Potentiometer
Reserved	0: No meaning
Motor orientation	0: 0° 9: 90° 3: 30° R: 270° 6: 60° (Refer to page 4)
Cable length	1: 750 mm straight 2: 1500 mm straight

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