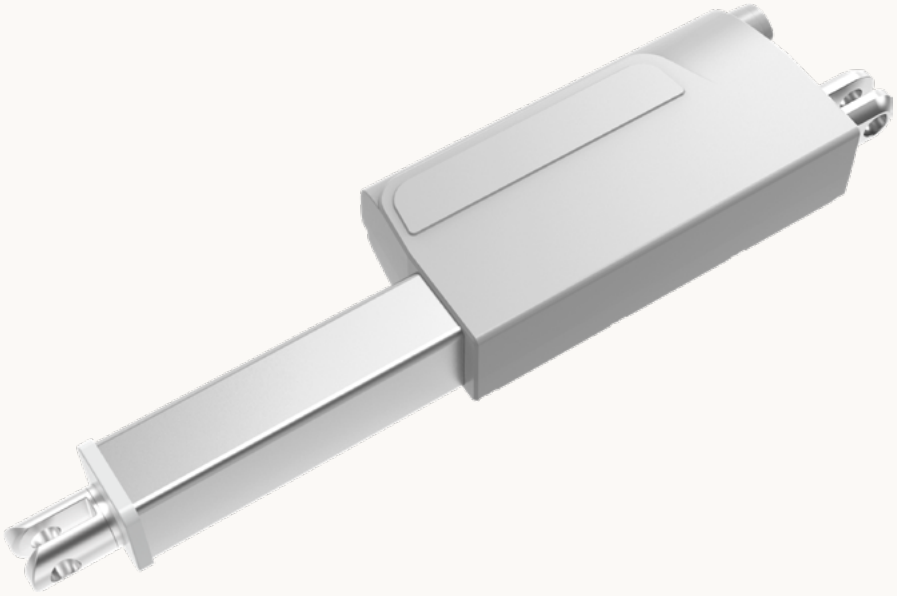
TA38M

series



Product Segments

- **Care Motion**
- **Comfort Motion**
- **Industrial Motion**

TiMOTION's TA38M series linear actuator is specially designed for medical applications where a compact linear actuator is needed. The TA38M features a very slim design with a small installation size of only stroke plus 115mm (note 1), providing manufacturers great freedom during the design process. The palm-sized motor with up to 2000N force is excellent for all kinds of space-limited products.

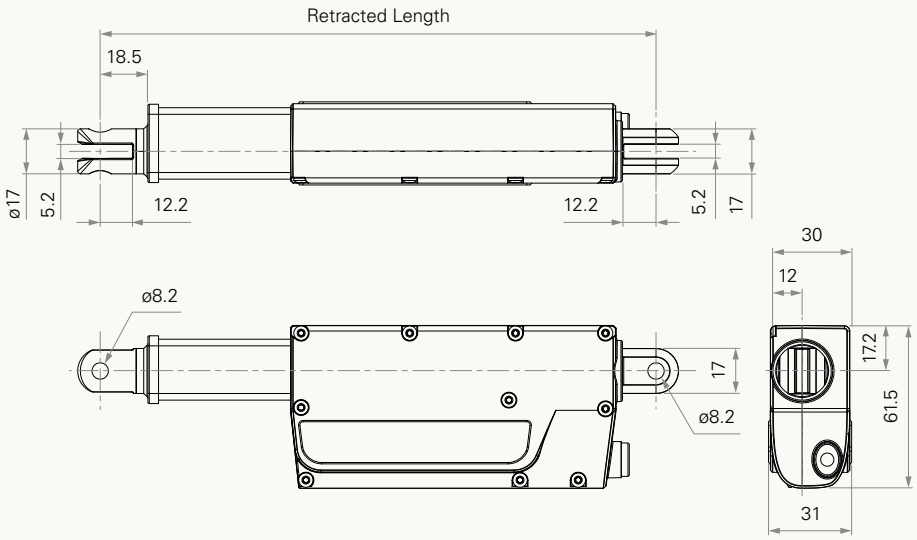
Note 1: If stroke is from 20 to 45mm, the retracted length needs to ≥ 160mm.

General Features

Max. load	2,000N (push); 1,500N (pull)
Max. speed at max. load	6.2mm/s
Max. speed at no load	20mm/s
Retracted length	≥ 160mm (depending on chosen options)
IP Rating	IP66
Stroke	20~300mm
Output signals	Hall sensors
Voltage	12/24V DC; 12/24V DC (PTC)
Color	Black, grey
Operational temperature range	+5°C~+45°C

Drawing

Standard Dimensions
(mm)



Load and Speed

CODE	Load (N)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull		No Load 32V DC	With Load 24V DC	No Load 32V DC	With Load 24V DC
2725 Motor, Motor Speed (6000RPM, Duty Cycle 10%)							
B	1500	1500	1200	1.3	3.8	15.8	9.2
C	2000	1500	2000	1.3	3.8	11.4	6.2
E	500	500	500	1.3	2.0	20.0	14.2
2721 Motor (four-pole), Motor Speed (6000RPM, Duty Cycle 10%)							
F	1500	1500	1200	1.6	3.4	15.7	6.7

Note

1 Please refer to the approved drawing for the final authentic value.

2 The current & speed in table are tested with 24V DC motor. With a 12V DC motor, the current is approximately twice the current measured in 24V DC; speed will be similar for both voltages.

3 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in.

4 The current & speed in table are tested when the actuator is extending under push load.

5 The data in the performance charts shows theoretical value using specific TiMOTION control boxes. Please contact TiMOTION for more details.

6 Standard stroke: Min. ≥ 20mm, Max. please refer to below table.

CODE	Load (N)	Max Stroke (mm)
B	≤ 1500	300
C	2000	300

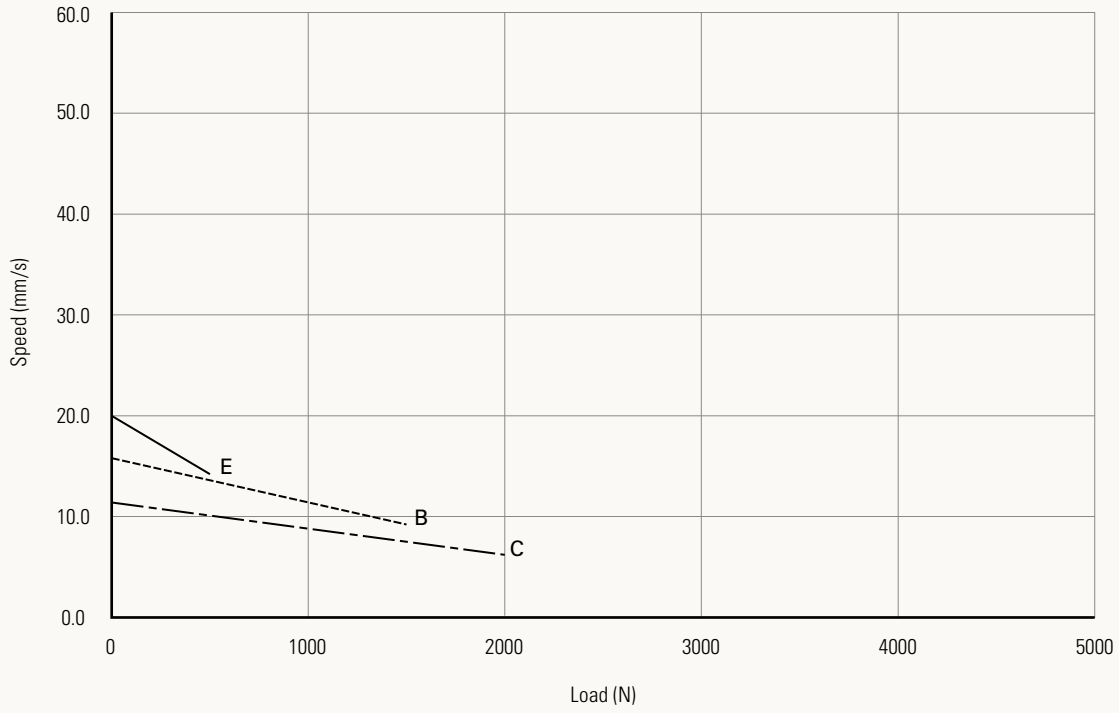
7 Standard stroke: Min. ≥ 40mm, Max. please refer to below table.

CODE	Load (N)	Max Stroke (mm)
E	≤ 1500	300

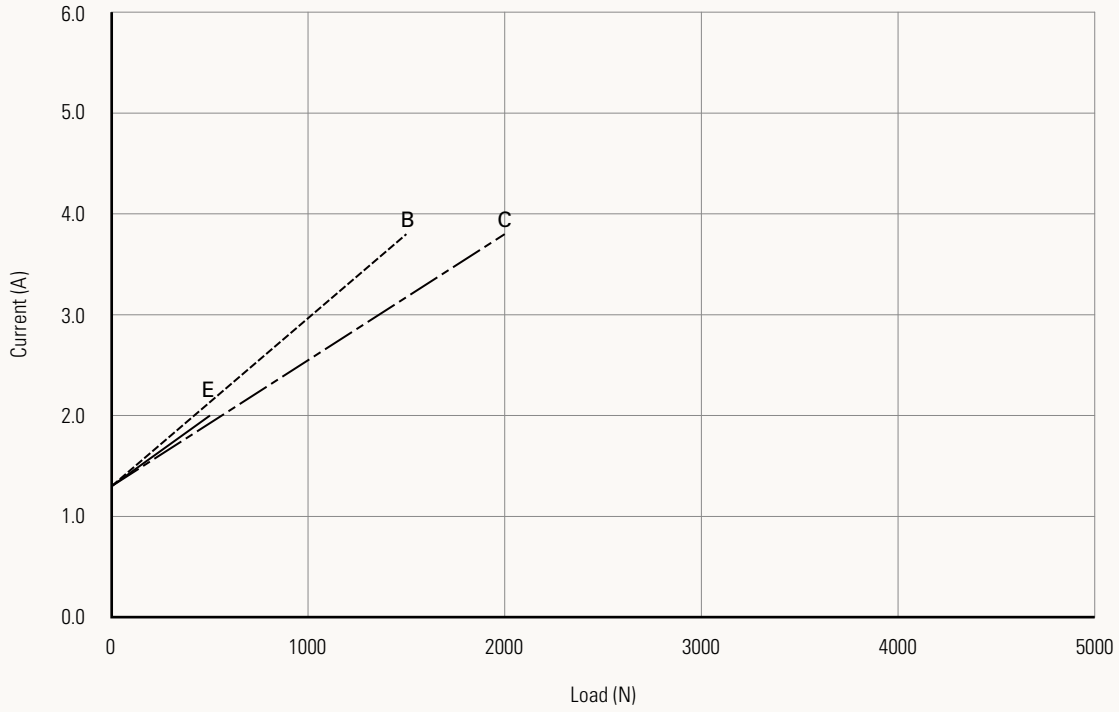
Performance Data (24V DC Motor)

2725 Motor, Motor Speed (6000RPM, Duty Cycle 10%)

Speed vs. Load



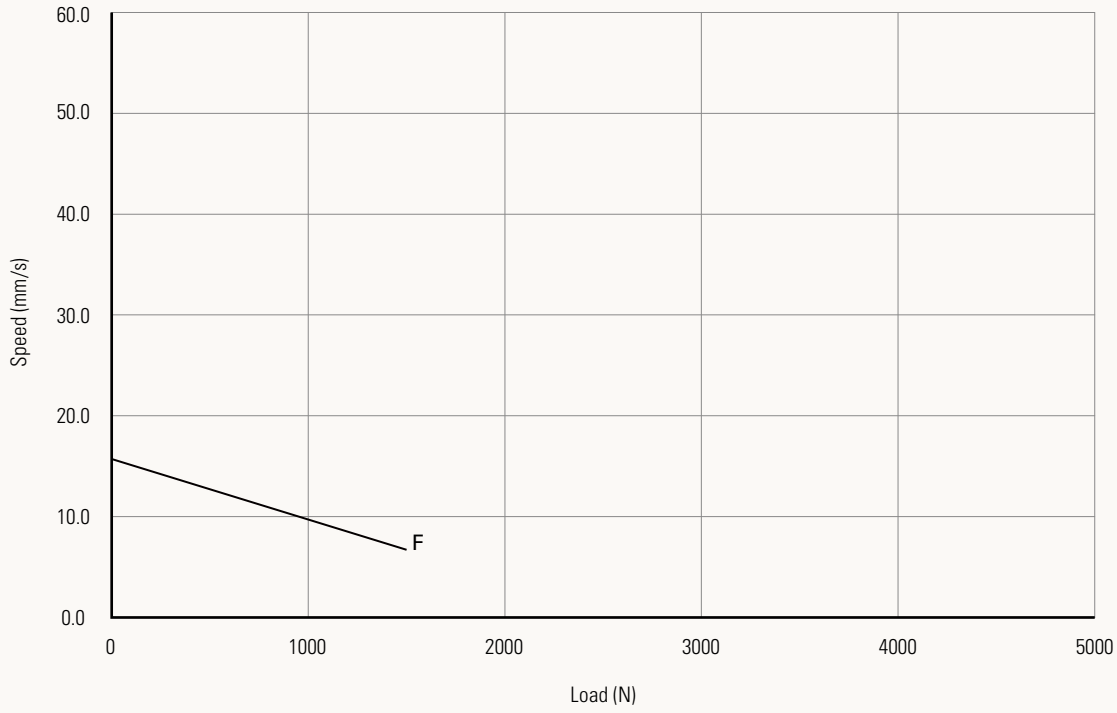
Current vs. Load



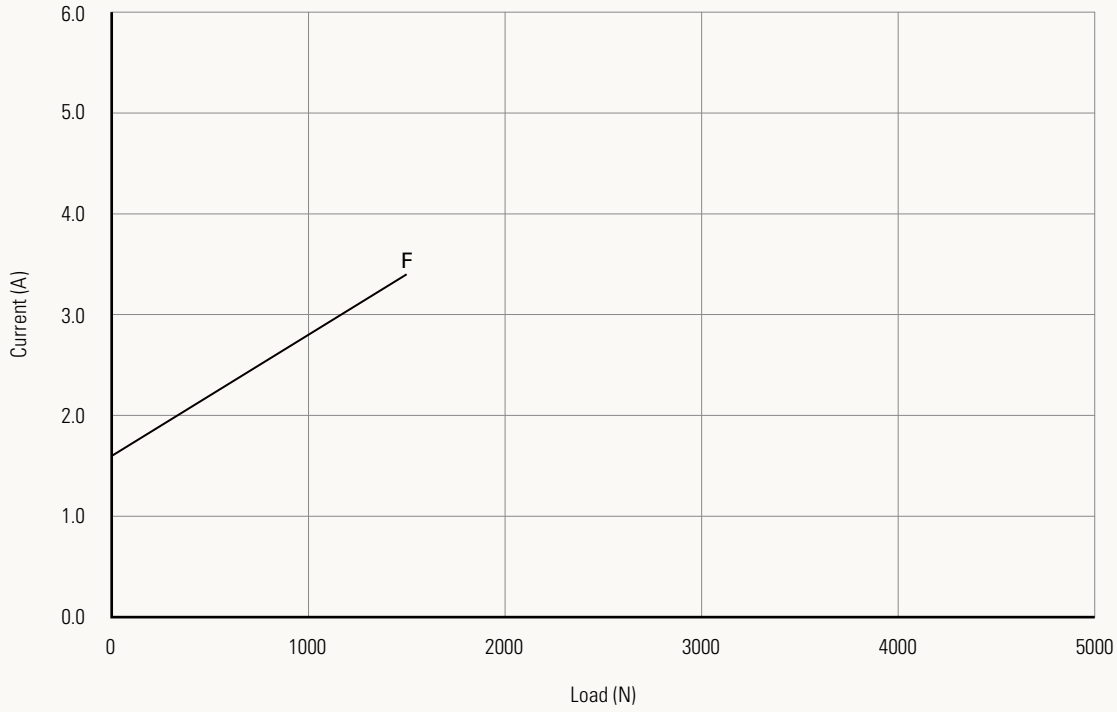
Performance Data (24V DC Motor)

2721 Motor (four-pole), Motor Speed (6000RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



TA38M Ordering Key

TiMOTION

TA38M

Version: 20250221-I

Voltage See page 6	1 = 12V DC	2 = 24V DC	5 = 24V DC, PTC	6 = 12V DC, PTC
Load and Speed	See page 2			
Stroke (mm)	See page 2			
Retracted Length (mm)	See page 6			
Rear Attachment (mm) See page 6	E = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 6.2 G = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 8.2			
Front Attachment (mm) See page 7	E = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 6.2 G = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 8.2 N = Aluminum casting, without slot, hole 6.2 P = Aluminum casting, without slot, hole 8.2			
Direction of Rear Attachment (Counterclockwise) See page 7	1 = 90°	2 = 0°		
Color	1 = Black	2 = Pantone 428C		
IP Rating	1 = Without	2 = IP54	3 = IP66	
Special Functions for Spindle Sub-Assembly	0 = Without	2 = Standard push only		
Functions for Limit Switches See page 7	1 = Two switches at full retracted / extended positions to cut current 3 = Two switches at full retracted / extended positions to send signal			
Output Signals	0 = Without	5 = Hall sensor * 2		
Connector See page 8	1 = DIN 6P, 90° plug 2 = Tinned leads 4 = Big 01P, plug C = Y cable (For direct cut system, water proof, anti pull)		E = Molex 8P, plug F = DIN 6P, 180° plug P = Molex 8P, 90° plug, without anti-clip Q = Molex 6P, 90° plug, without anti-clip	
Cable Length (mm)	0 = Straight, 100 1 = Straight, 500 3 = Straight, 1000	5 = Straight, 1500 6 = Straight, 2000 7 = Curly, 200	8 = Curly, 400 B~H = For direct cut system. See page 8	

TA38M Ordering Key Appendix

Retracted Length (mm)

1. Calculate A+B+C = Y
2. The retracted length needs to ≥ Stroke+Y (RL needs to ≥ 160mm)
3. Code#E Standard stroke: Min. ≥ 40mm and the retracted length needs to ≥ S+125mm

A.

Front Attach.	Rear Attach.	
	General	PTC Option (Voltage #5 & #6)
	E, G	E, G
E, G	+115	+123
N, P	+108	+116

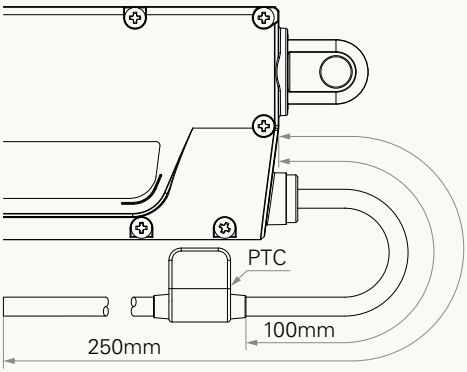
B.

Stroke (mm)	General	PTC Option (Voltage #5 & #6)
20~200	-	-
201~250	+13	+5
251~300	+18	+10

C.

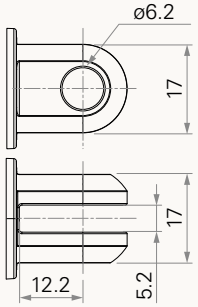
Spindle Functions	Load (N)
	General
	< 2500
0	-
2	+5

Voltage

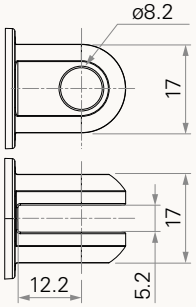


Rear Attachment (mm)

E = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 6.2



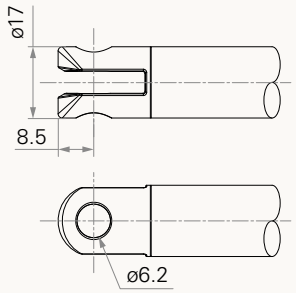
G = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 8.2



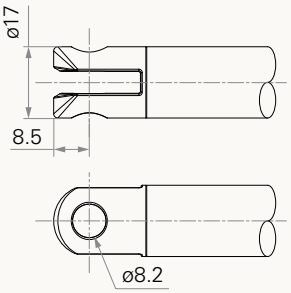
TA38M Ordering Key Appendix

Front Attachment (mm)

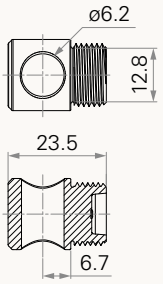
E = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 6.2



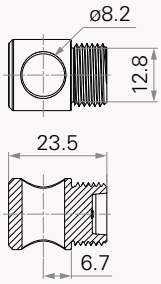
G = Aluminum casting, U clevis, width 5.2, depth 12.2, hole 8.2



N = Aluminum casting, without slot, hole 6.2

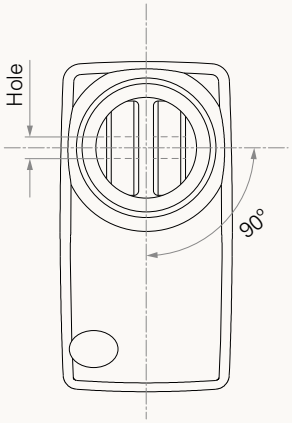


P = Aluminum casting, without slot, hole 8.2

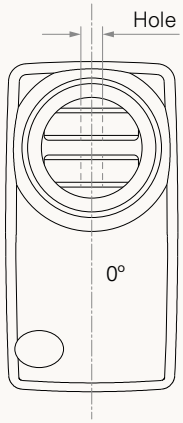


Direction of Rear Attachment (Counterclockwise)

1 = 90°



2 = 0°



Functions for Limit Switches

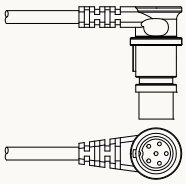
Wire Definitions

CODE	Pin					
	1 (Green)	2 (Red)	3 (White)	4 (Black)	5 (Yellow)	6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch

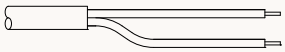
TA38M Ordering Key Appendix

Connector

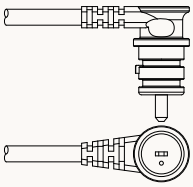
1 = DIN 6P, 90° plug



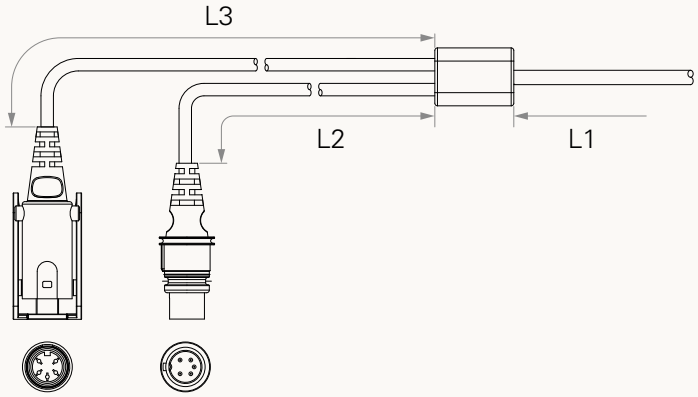
2 = Tinned leads



4 = Big 01P, plug



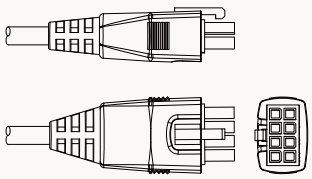
C = Y cable (For direct cut system, water proof, anti pull)



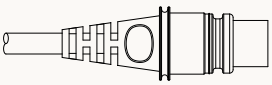
Cable Length for Direct Cut System (mm)

CODE	L1	L2	L3
B	100	100	100
C	100	1000	400
D	100	2700	500
E	1000	100	100
F	100	600	1000
G	1500	1000	1000
H	100	100	1200

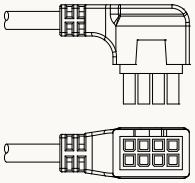
E = Molex 8P, plug



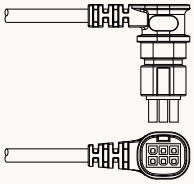
F = DIN 6P, 180° plug



P = Molex 8P, 90° plug, without anti-clip



Q = Molex 6P, 90° plug, without anti-clip



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