

Series 10-/11- 21-/22-CDU

ø6, ø10, ø16, ø20, ø25 Free Mount Cylinder

How to Order

Clean series

10	Relief type
11	Vacuum suction type

Built-in magnet

D	With auto switch
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Bore size (mm)

Cylinder stroke (mm)

Copper, fluorine and silicone-free + low particle generation

21	Relief type
22	Vacuum suction type

Action

D	Double acting
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Number of auto switches

NII	2 pcs.
S	1 pc.
n	n pcs.

Auto switch

Reed switch	D-A93
Solid state	D-M9N, D-M9B

* The minimum stroke for auto switch mounting and operating range are the same as standard products.

Model

Model		Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion							
								Rubber	Air						
Relief type	10-/21-CDU6	6	M5 x 0.8	Non-lube	Double acting Single rod	5, 10, 15, 20, 25, 30	○	○	—						
	10-/21-CDU10	10													
	10-/21-CDU16	16													
	10-/21-CDU20	20													
10-/21-CDU25	25	5, 10, 15, 20, 25, 30, 40, 50													
Vacuum suction type	11-/22-CDU6	6				M5 x 0.8				Non-lube	Double acting Single rod	5, 10, 15, 20, 25, 30	○	○	—
	11-/22-CDU10	10													
	11-/22-CDU16	16													
	11-/22-CDU20	20													
	11-/22-CDU25	25										5, 10, 15, 20, 25, 30, 40, 50			

Specifications

Item	Bore size (mm)		
	6	10/16	20/25
Proof pressure	1.05 MPa		
Maximum operating pressure	0.7 MPa		
Minimum operating pressure	0.12 MPa	0.06 MPa	0.05 MPa
Ambient and fluid temperature	Without auto switch : -10°C to 70°C With auto switch : -10°C to 60°C (No freezing)		
Piston speed	50 to 400mm/s		
Stroke length tolerance	+1.8 0		
Grease	10-/11-: Fluorine grease 21-/22-: Lithium soap based grease		
Cleanliness class (ISO class)	10-: Class 4, 21-: Class 5 11-/22-: Class 3		

Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
6	6
10	10
16/20/25	12

Auto Switch Specifications (Refer to the WEB catalog for detailed specifications and auto switches not in the following table.)

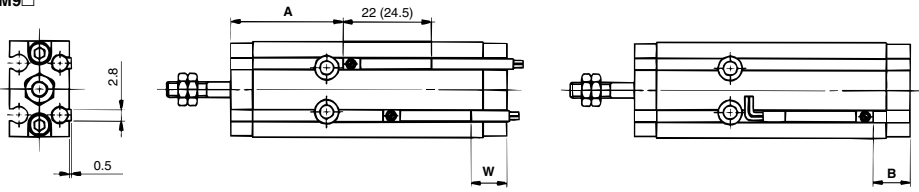
Type	Auto switch part no.	Load voltage	Load current range	Indicator light	Application
Reed auto switch	D-A93	24 VDC	5 to 40mA (24 VDC)	○	Relay, PLC
Solid state auto switch	D-M9B	28 VDC or less	40mA or less	○	IC circuit, Relay, PLC
	D-M9N	24 VDC (10 to 28 VDC)	5 to 40mA	○	24 VDC Relay, PLC

Refer to page 889 for the applicable auto switch list.

PLC: Programmable Logic Controller

Auto Switch Proper Mounting Position (Detection at Stroke End)

D-A9□
D-M9□



(): Dimensions for D-A93

Bore size (mm)	D-A9□			D-M9□		
	A	B	W	A	B	W
6	29.5	5.5	-3.5 (-1)	33.5	9.5	0.5
10	29.5	9.5	-7.5 (-5)	33.5	13.5	-3.5
16	36	11.5	-9.5 (-7)	40	15.5	-5.5
20	41	15	-13 (-10.5)	45	19	-9
25	40.5	16.5	-14.5 (-12)	45.5	20.5	-10.5

Note 1) The above mentioned values are indicated as a guide for auto switch mounting positions for stroke end detection. When actually mounting an auto switch, adjust the position after confirming the operating state of the auto switch.

Note 2) The negative values in the table indicate that the auto switch is mounted inside the cylinder body in case of W and outside in case of B.

Note 3) In case of 5 mm stroke (with 1 pc.) or 10 mm stroke (2 pcs.), the switch(es) may not go off or more than one switch may turn on simultaneously. Set them at 1 to 4 mm out of the values in the above table.

Note 4) (): Dimensions for D-A93.

⚠ Specific Product Precautions

Be sure to read this before handling.

Mounting

⚠ Caution

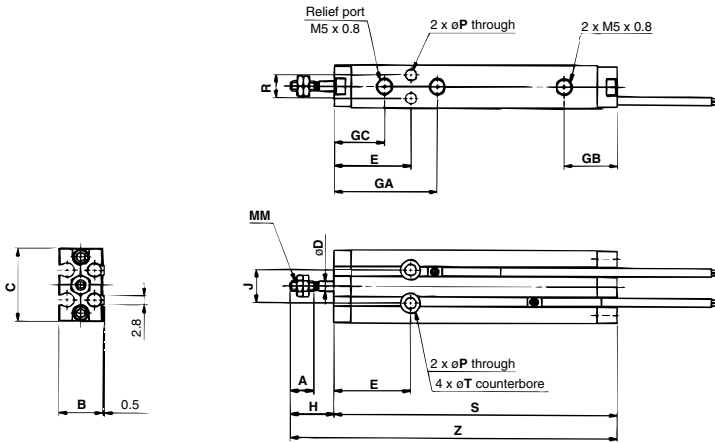
1. Observe the proper tightening torque in the right table in mounting.

Appropriate tightening torque

Bore size (mm)	Hexagon socket head cap screw size (mm)	Appropriate tightening torque (N·m)
ø6, ø10	M3	1.08 ±10%
ø16	M4	2.45 ±10%
ø20, ø25	M5	5.10 ±10%

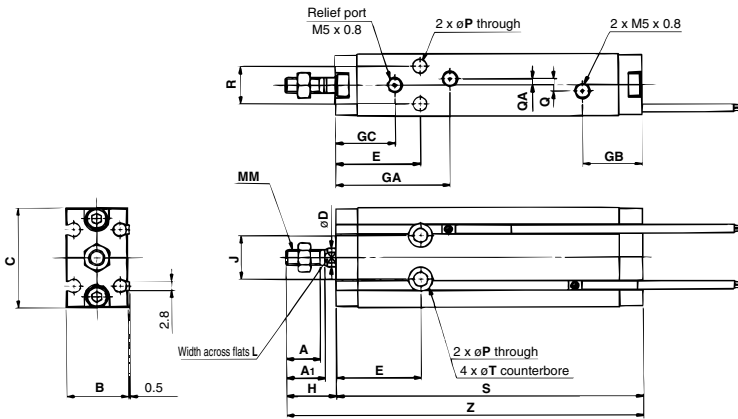
10-CDU6 to 25, 21-CDU6 to 25

ø6/ø10



Bore size	A	B	C	D	E	GA	GB	GC	H	J	MM	P	R	T	S										Z									
															S										Z									
															5	10	15	20	25	30	5	10	15	20	25	30								
6	7	13	22	3	23	31	16	15	13	10	M3 x 0.5	3.2	7	6 depth 4.8	60	65	70	75	80	85	73	78	83	88	93	98								
10	10	15	24	4	24	33.5	16	15.5	16	11	M4 x 0.7	3.2	9	6 depth 5	64	69	74	79	84	89	80	85	90	95	100	105								

ø16 to ø25



Bore size	A	A ₁	B	C	D	E	GA	GB	GC	H	J	L	MM	P	Q	QA	R	T	S										Z									
																			S										Z									
																			5	10	15	20	25	30	40	50	5	10	15	20	25	30	40	50				
16	11	12.5	20	32	6	27	36.5	19	19	16	14	5	M5 x 0.8	4.5	4	2	12	17.6 depth 6.5	72.5	77.5	82.5	87.5	92.5	97.5	—	88.5	93.5	98.5	103.5	108.5	113.5	—	—					
20	12	14	26	40	8	30	40	21.5	22	19	16	6	M6 x 1.0	5.5	9	4.5	16	9.5 depth 8	81	86	91	96	101	106	116	126	100	105	110	115	120	125	135	145				
25	15.5	18	32	50	10	29	40.5	22	22	23	20	8	M8 x 1.25	5.5	9	4.5	20	9.5 depth 9	83	88	93	98	103	108	118	128	106	111	116	121	126	131	141	151				

Directional Control Valves
Air Cylinders
Rotary Actuators
Air Grippers
Air Preparation Equipment
Modular F. R.
Pressure Control Equipment
Fittings & Tubing
Flow Control Equipment
Pressure Switches/Pressure Sensors