

## Features:

Two built-in cylinders double the output force.

With adjustable screw at both tool plates to provide a wider range of strokes.

Mounted reed switches are non-protruded from the housing groove, ensure proper positions and easy adjustment.

Use unlubricated seals and bush for durable performance, maintenance with ease.

The housing with tapped holes on both sides for optional installation.

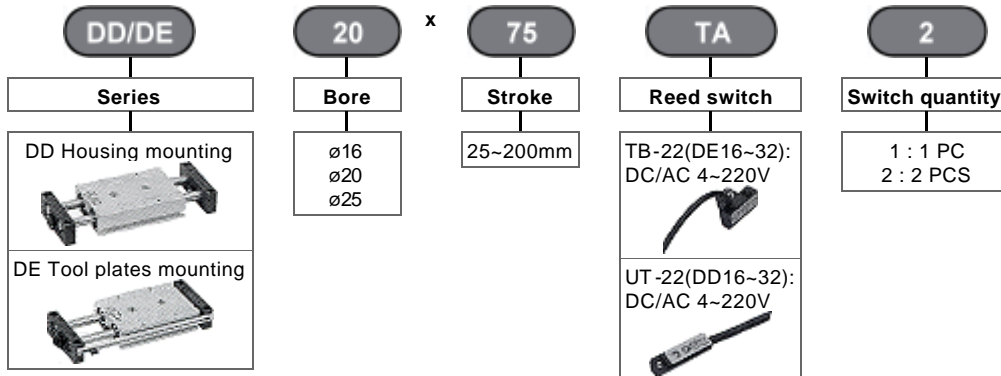
Hollow piston rods are available for DE series to facilitate air supply from one side for ease of piping.



## Specifications:

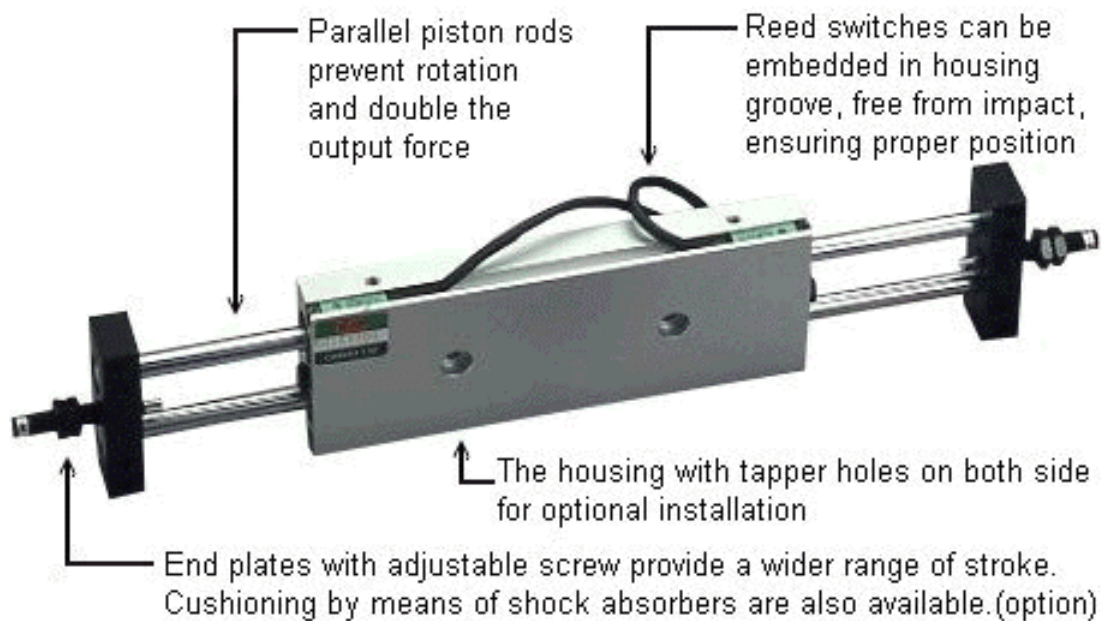
<b>Action</b>	Double acting type
<b>Series</b>	DD(Housing mounting type) DE(Tool plates mounting type)
<b>Bore</b>	ø16, ø20, ø25
<b>Operating fluid</b>	Compressed Air
<b>Operating pressure</b>	1-7kgf/cm <sup>2</sup>
<b>Proof pressure</b>	10.5kgf/cm <sup>2</sup>
<b>Speed range</b>	100~500mm/sec
<b>Temperature range</b>	-10°C~70°C
<b>Cushion</b>	none
<b>Lubrication</b>	Not required
<b>Non-rotating accuracy</b>	±0.1°

## How to Order:

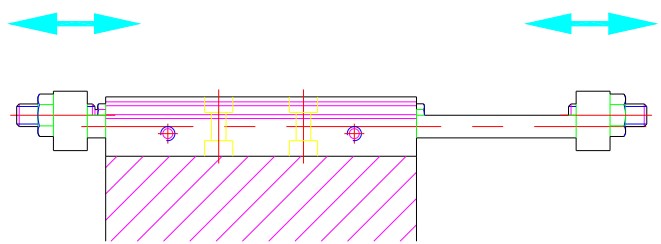


## Theoretical Output Force (kgf):

Bore mm	Rod Dia mm	Direction	Effective Area cm <sup>2</sup>	Compressed air (kgf/cm <sup>2</sup> )								
				2	3	4	5	6	7	8	9	
ø16	8	Push	3.01	6.02	9.03	12.04	15.05	18.06	21.07	24.08	27.09	
		Pull										
ø20	10	Push	4.71	9.42	14.13	18.84	23.55	28.26	32.97	37.68	42.39	
		Pull										
ø25	12	Push	7.55	15.10	22.65	30.20	37.75	45.3	52.85	60.4	67.95	
		Pull										



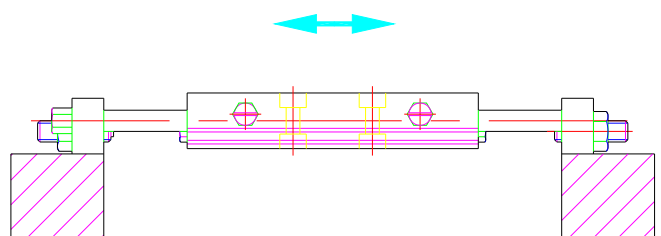
• DD / Housing Mounting Type



Weight Table:

type\stroke	25	50	75	100	125	150	175	200	Above 200
DD16	500	584	667	751	834	918	1001	1085	Per 25mm stroke add 84g
DD20	709	831	953	1075	1197	1319	1441	1563	Per 25mm stroke add 122g
DD25	1191	1370	1549	1728	1907	2086	2265	2444	Per 25mm stroke add 179g

• DE / Tool plates mounting type

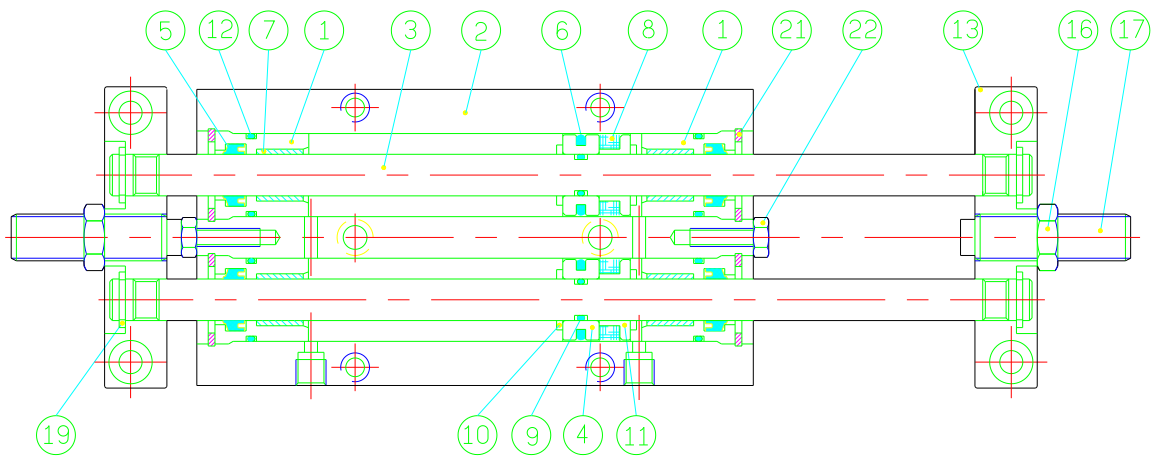


Weight Table:

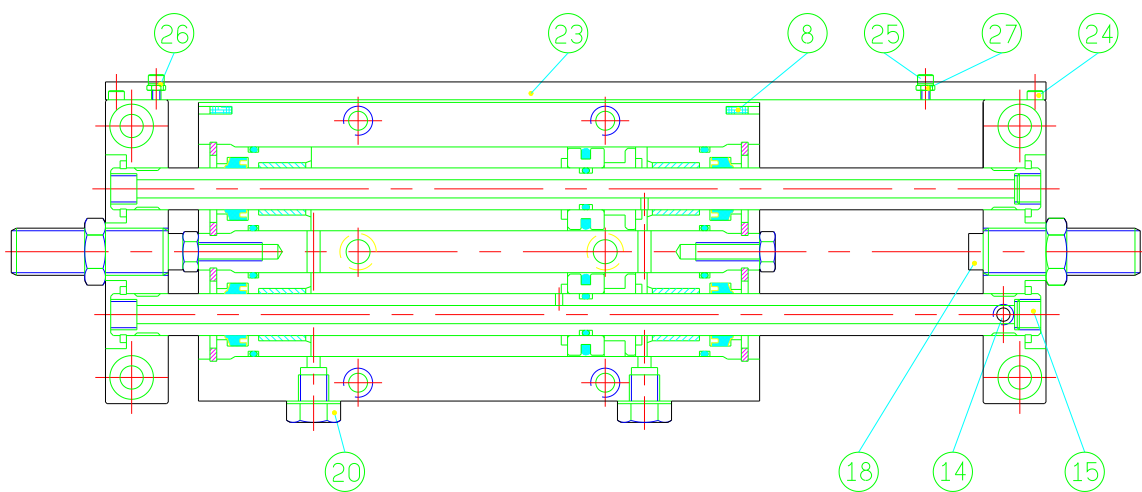
type\stroke	25	50	75	100	125	150	175	200	200
DE16	474	566	657	749	840	932	1023	1115	Per 25mm stroke add 92g
DE20	689	807	925	1043	1161	1279	1397	1515	Per 25mm stroke add 118g
DE25	1133	1313	1493	1673	1853	2033	2213	2393	Per 25mm stroke add 180g

## Internal Construction:

- DD / Housing mounting type



- DD / End plates mounting type



## Parts List:

NO	Description	Material	Qty
1	Front end cover	Anodized aluminium alloy	4
2	Housing	Anodized aluminium alloy	1
3	Piston rod	Hard chrome plated carbon steel	2
4	Piston	Aluminium alloy	2
5	Piston rod seal	NBR	4
6	Piston seal	NBR	2
7	Bush	Oil filled, sintered bronze	4
8	Magnet	Resinous magnet	2
9	Piston rod O-ring	NBR	2
10	Snap ring	SK5M	4
11	Collar	Aluminium alloy	2
12	End cover seal	NBR	4
13	Tool plate	S45C	2
14	Steel ball	S60CM	2
15	Screw(Plug)	Carbon steel	2
16	Screw Nut	Carbon steel	2
17	Adjustable screw	Carbon steel	2
18	Bumper	PU	2
19	Snap ring	SK5M	4
20	Plug	Carbon steel	2
21	Snap ring	SK5M	4

NO	Description	Material	Qty
22	Set screw	Carbon steel	2
23	Sensor mounting gasket	Aluminium alloy	1
24	Snap ring	Stainless steel	2
25	Screw	Stainless steel	2
26	Snap ring	S45C	2
27	Set screw	S45C	2

## Seals List:

Bore\Desc.	5 Piston rod seal	6 Piston seal	9 Piston rod O-ring	12 End cover seal
ø16	DRP8	PZ16	SM6	SM12
ø20	DRP10	PZ20	SM8	SM16
ø25	DRP12	PZ25	SM10	SM21

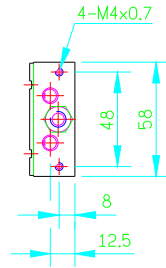
## Standard Stroke:

Unit: mm

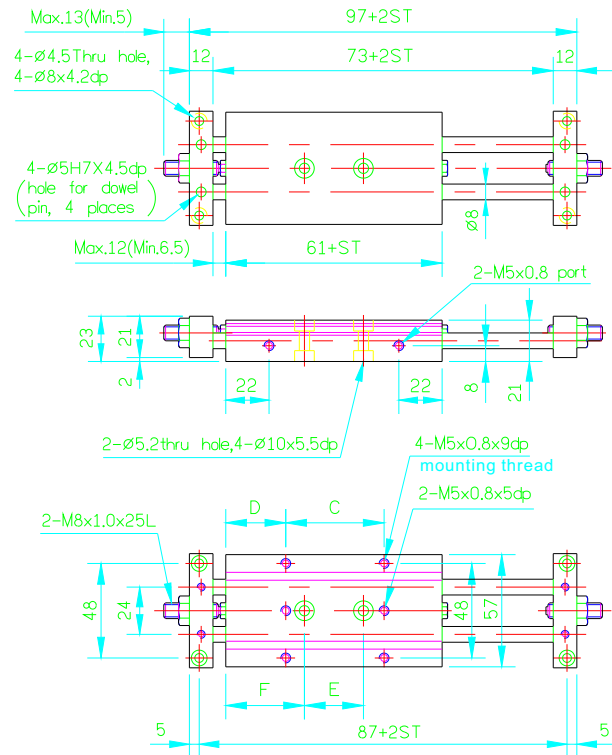
Bore	Stroke
ø16	25, 50, 75, 100, 125, 150, 175, 200
ø20	
ø25	

# External Dimensions / Housing Mounting Type:

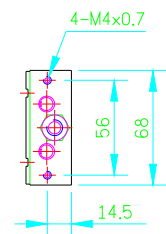
## • DD16



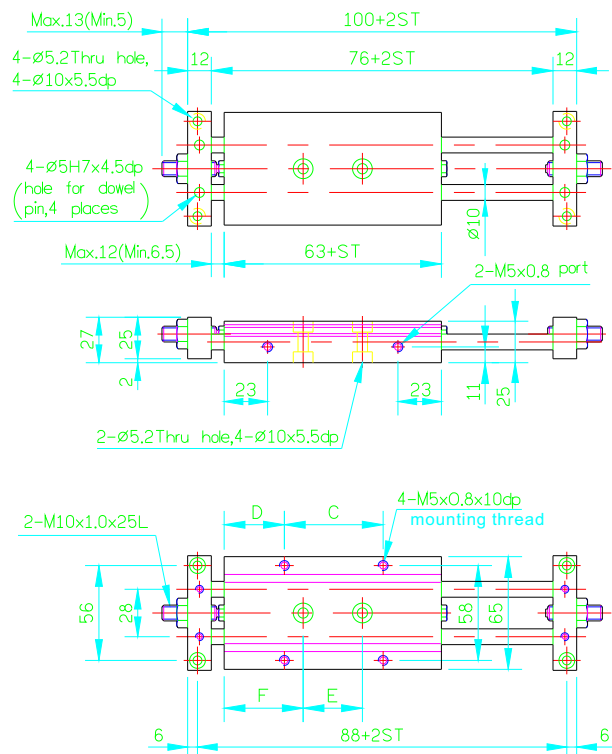
Bore	ø16			
Stroke	C	D	E	F
25	25	30.5	25	30.5
50	50	30.5	30	40
75	75	30.5	45	45.5
100	100	30.5	70	45.5
125	120	33	90	48
150	120	45.5	90	60.5
175	120	58	90	73
200	120	70.5	90	85.5
250	120	70.5	90	85.5



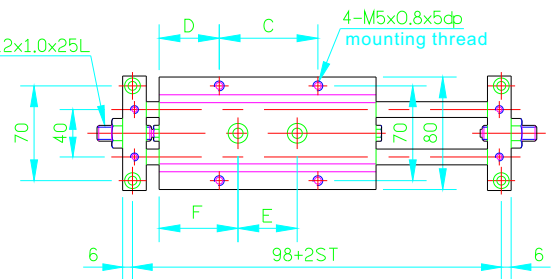
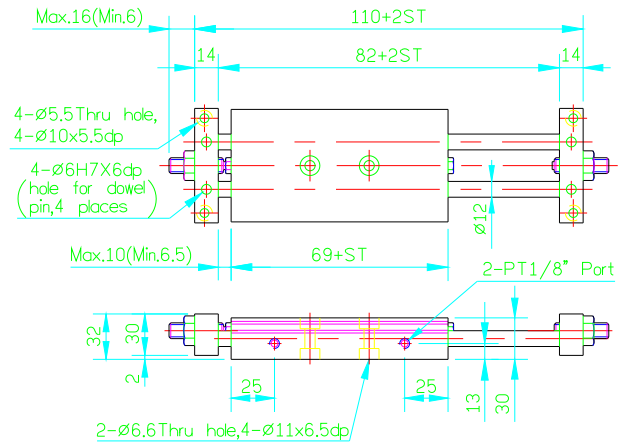
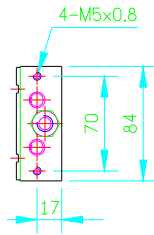
## • DD20



Bore	ø20			
Stroke	C	D	E	F
25	25	31.5	28	30
50	50	31.5	45	34
75	75	31.5	45	46.5
100	100	31.5	70	46.5
125	120	34	90	48
150	120	46.5	90	60.5
175	120	59	90	73
200	120	71.5	90	85.5
250	120	96.5	90	101.5



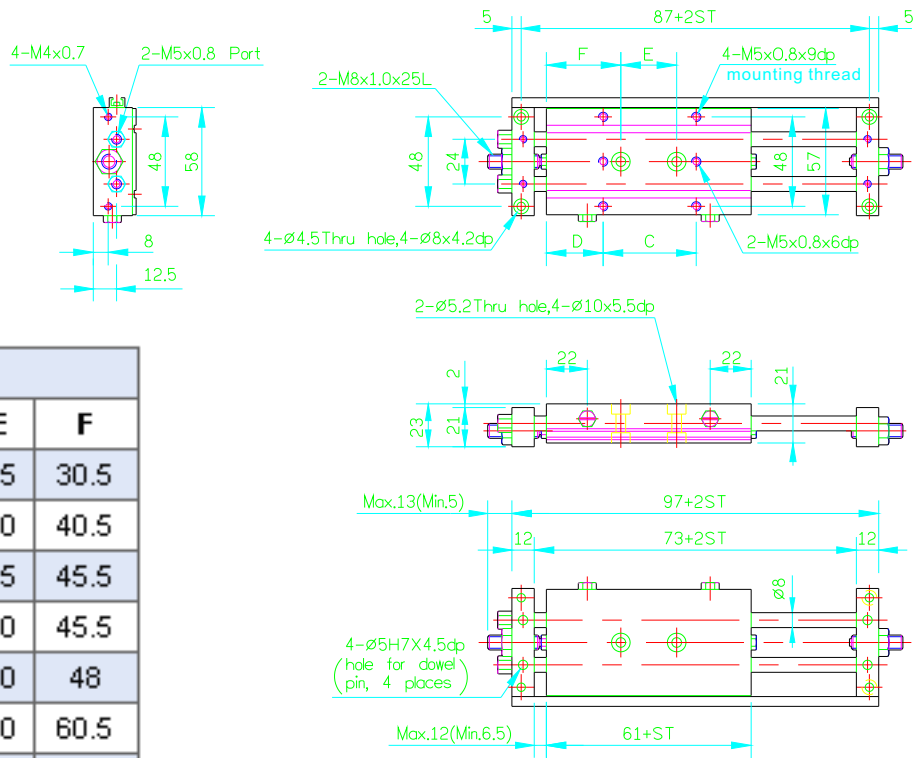
• DD25



Bore	ø25			
Stroke	C	D	E	F
25	25	34.5	25	34.5
50	50	34.5	45	37
75	75	34.5	45	49.5
100	100	34.5	70	49.5
125	100	47	95	49.5
150	100	59.5	100	59.5
175	100	72	100	72
200	100	84.5	100	84.5
250	120	99.5	120	99.5

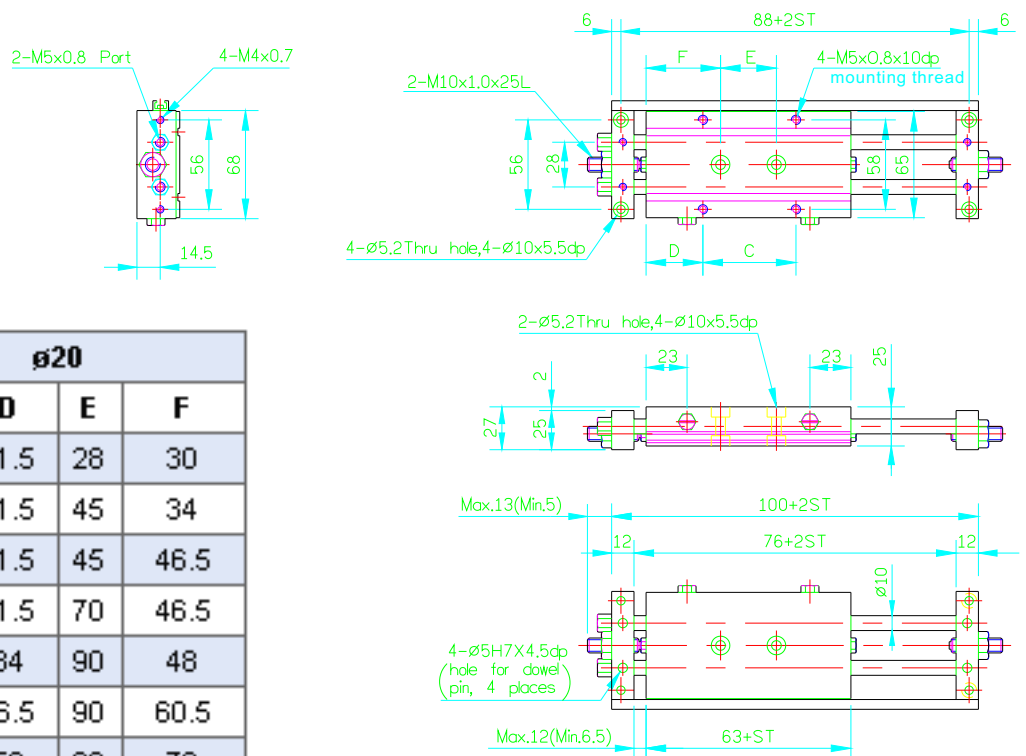
# External Dimensions / Housing Mounting Type:

## • DE16



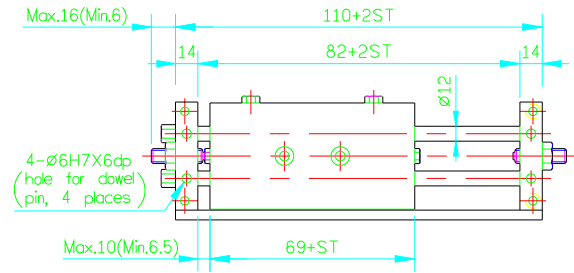
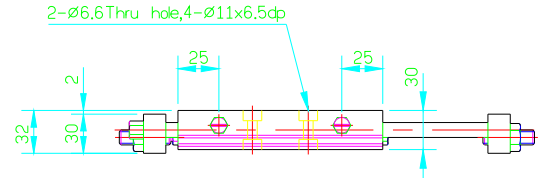
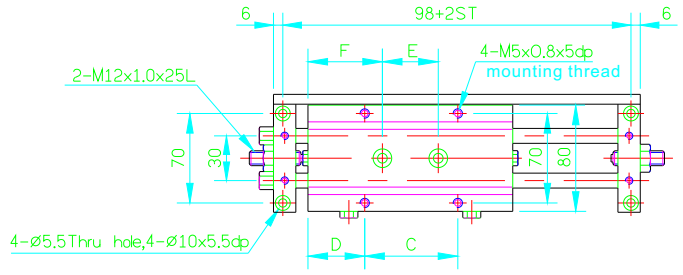
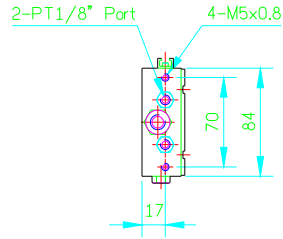
Bore	ø16			
Stroke	C	D	E	F
25	25	30.5	25	30.5
50	50	30.5	30	40.5
75	75	30.5	45	45.5
100	100	30.5	70	45.5
125	120	33	90	48
150	120	45.5	90	60.5
175	120	58	90	73
200	120	70.5	90	85.5
250	120	70.5	90	85.5

## • DE20



Bore	ø20			
Stroke	C	D	E	F
25	25	31.5	28	30
50	50	31.5	45	34
75	75	31.5	45	46.5
100	100	31.5	70	46.5
125	120	34	90	48
150	120	46.5	90	60.5
175	120	59	90	73
200	120	71.5	90	85.5
250	120	96.5	90	101.5

• DE25

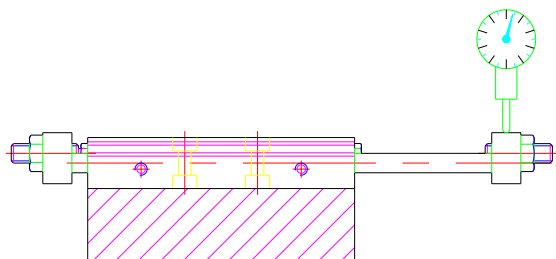


Bore	ø25			
Stroke	C	D	E	F
25	25	34.5	25	34.5
50	50	34.5	45	37
75	75	34.5	45	49.5
100	100	34.5	70	49.5
125	100	47	95	49.5
150	100	59.5	100	59.5
175	100	72	100	72
200	100	84.5	100	84.5
250	120	99.5	120	99.5

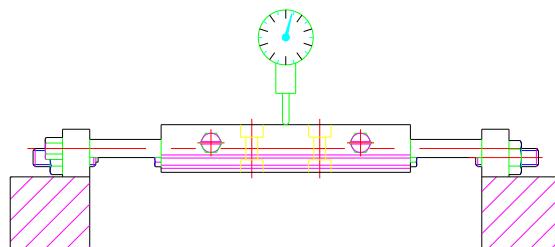
## DD, DE Series Max. Load and Deflection

Type \ Stroke mm	25	50	75	100	125	150	175	200
<b>DD16</b>	0.312	0.216	0.165	0.134	0.113	0.097	0.085	0.076
<b>DD20</b>	0.585	0.412	0.315	0.257	0.216	0.186	0.164	0.146
<b>DD25</b>	0.857	0.604	0.466	0.379	0.320	0.276	0.243	0.217

### Housing mounting type



### End plates mounting type

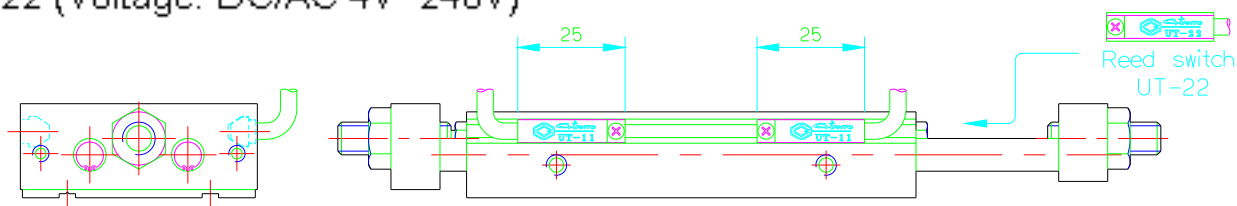


Type	Load kgf	Stroke (mm)	
		100	200
<b>DD16</b>	0.5	0.07	0.44
	1.0	0.15	0.88
	1.5	0.22	1.32
<b>DD20</b>	0.75	0.05	0.31
	1.25	0.1	0.56
	2	0.15	0.88
<b>DD25</b>	1.0	0.03	0.18
	1.5	0.05	0.27
	2.5	0.08	0.45

Type	Load kgf	Stroke (mm)	
		100	200
<b>DE16</b>	1.0	0.02	0.12
	2.0	0.05	0.25
	3.0	0.07	0.37
<b>DE20</b>	1.5	0.02	0.08
	2.5	0.06	0.18
	4	0.08	0.25
<b>DE25</b>	2.0	0.01	0.05
	3.0	0.01	0.08
	5.0	0.02	0.13

### DD Series / Reed Switches Mounting:

Use UT-22 (Voltage: DC/AC 4V~240V)



### DE Series / Reed Switches Mounting:

Use TB-22 (Voltage: DC/AC 4V~240V)

