



## Short-stroke cylinders

Double-acting | Single-acting

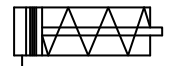
Magnetic piston

Ø 12 to 80 mm

**3.DM. Series**

Ident No.  
105896 to 105951

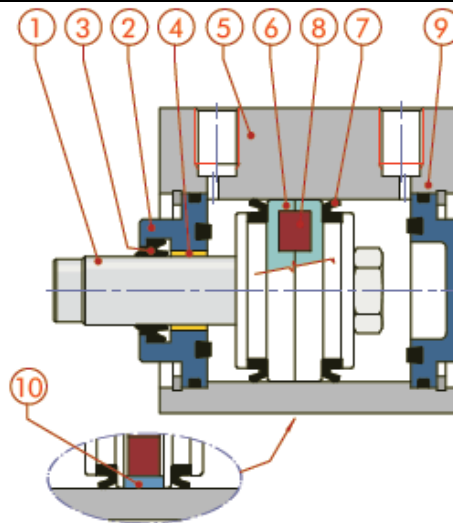
Ident No.  
105952 to 105965



### Technical data

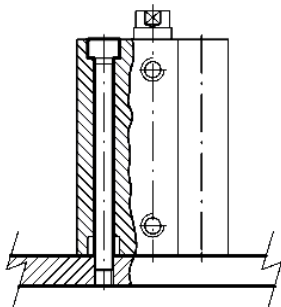
<b>Max. working pressure</b>	<b>10 bar</b> (1 MPa – 145 psi)										
<b>Temperature range</b>	<b>NBR</b>		Optional								
			Polyurethane			FKM		Low-temp.			
	-10 °C / +80 °C		-10 °C / +80 °C			-10 °C / +150 °C (without magnet)		-35 °C / +80 °C			
<b>Medium</b>	Air (unlubricated)		<b>Important:</b> If lubrication is used, the cylinder must be continuously operated with lubricated air								
<b>Piston Ø</b>	<b>12</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>63</b>	<b>80</b>	<b>100</b>	
<b>Piston material</b>	Synthetic (acetal) resin								Aluminium/ PTFE		
<b>Design features</b>	<ul style="list-style-type: none"> <li>- Drawn, anodised aluminium alloy, jacket</li> <li>- Cover / base: Ø12 to 25 brass 58 Ø 80 to 100 aluminium</li> </ul>										
<b>Standard strokes / function</b>	<b>Function</b>		<b>Piston Ø [mm]</b>			<b>Stroke [mm]</b>					
	<b>Single-acting</b>		12 to 25 32 to 63			5 to 25 5 to 50					
	<b>Double-acting</b>		12 to 25 32 to 40 50 to 63 80 to 100			5 to 50 5 to 70 5 to 110 5 to 150					
	<b>Double / single-acting</b>		<b>Anti-rotation</b>			Ø12 to Ø63 / stroke 5 to 120 mm Ø80 to Ø100 / stroke 5 to 120 mm					
			<b>Perforated rod</b>			Ø12 to Ø63 / stroke 5 to 120 mm Ø50 to Ø63 / stroke 5 to 130 mm Ø80 to Ø100 / stroke 5 to 165 mm					
<b>Options (on request)</b>	<ul style="list-style-type: none"> <li>- Anti-rotation</li> <li>- Double-acting / single-acting, through rod</li> <li>- Single-acting, retracted piston rod on head / cover side</li> <li>- Through rod, perforated</li> <li>- Female hinge</li> <li>- Male hinge</li> </ul>										
<b>Sensing</b>	<b>Magnetic piston</b>					Optional: Without magnet					
<b>Set pressure</b>	<b>Piston Ø</b>		<b>Stroke</b>			<b>Set pressure [bar]</b>					
	12 to 32 40 to 100		Any			0.6 0.4					
<b>Forces generated [6 bar]</b>	See										
<b>Lubrication</b>	Supplied with <b>continuous lubrication</b> , no external lubrication										
<b>Air quality</b>	Filtered, at least 50 µm										

### Materials



	Part	Standard	Optional
1	Piston rod	C 45 steel, chrome-plated	Stainless steel
2	Cover / base	Ø12 to Ø25: Brass, cast aluminium	
3	Piston rod gasket	NBR	Polyurethane, FKM
4	Guide bushing	Steel / bronze / PTFE insert	
5	Jacket	Drawn aluminium alloy, anodised	
6	Half-pistons	Ø12 to Ø 63 : Self-lubricating plastic Ø80 to Ø100: Aluminium with PTFE pad	
7	Piston gaskets	NBR	Polyurethane / FKM
8	Magnet	Ø12 to Ø 63: Neodymium Ø80 to Ø100: Plastroferrite	
9	Static O-rings	NBR	FKM
10	Pad		PTFE

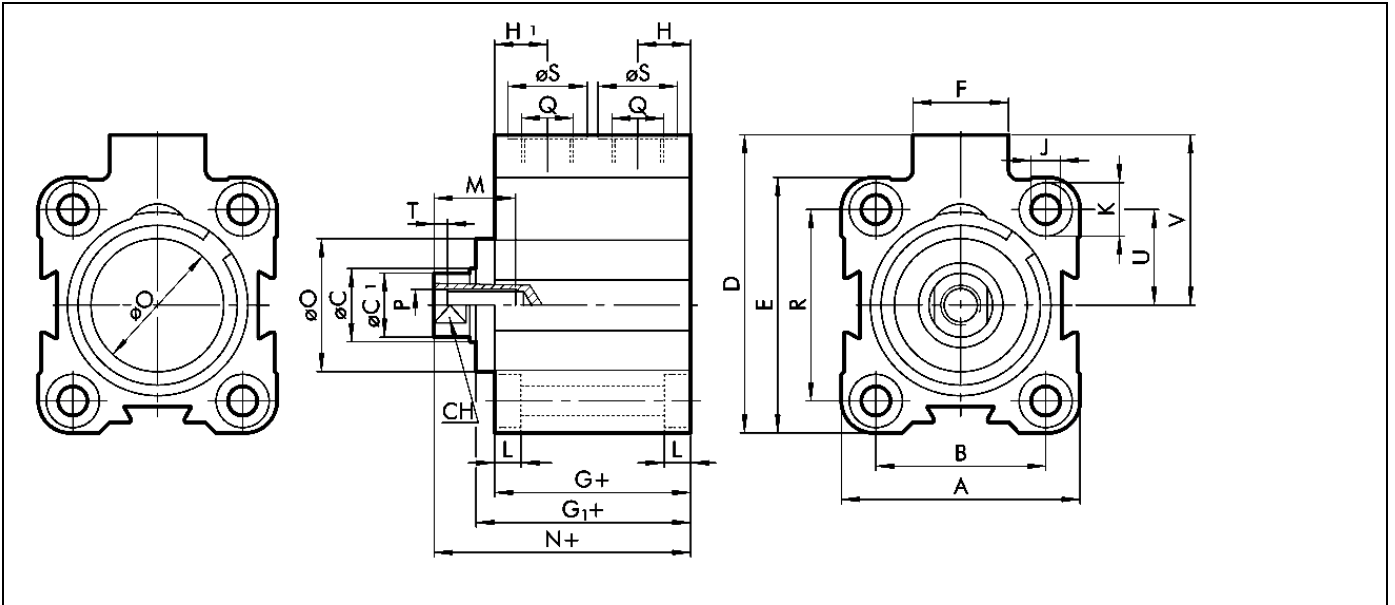
### Fixing options for short-stroke cylinders



Direct fixing using long through screws or tie rods.  
 Fixing materials: **Non-magnetic** stainless steel

## Dimensions

### Standard type – double-acting



**+ = ADD THE STROKE**

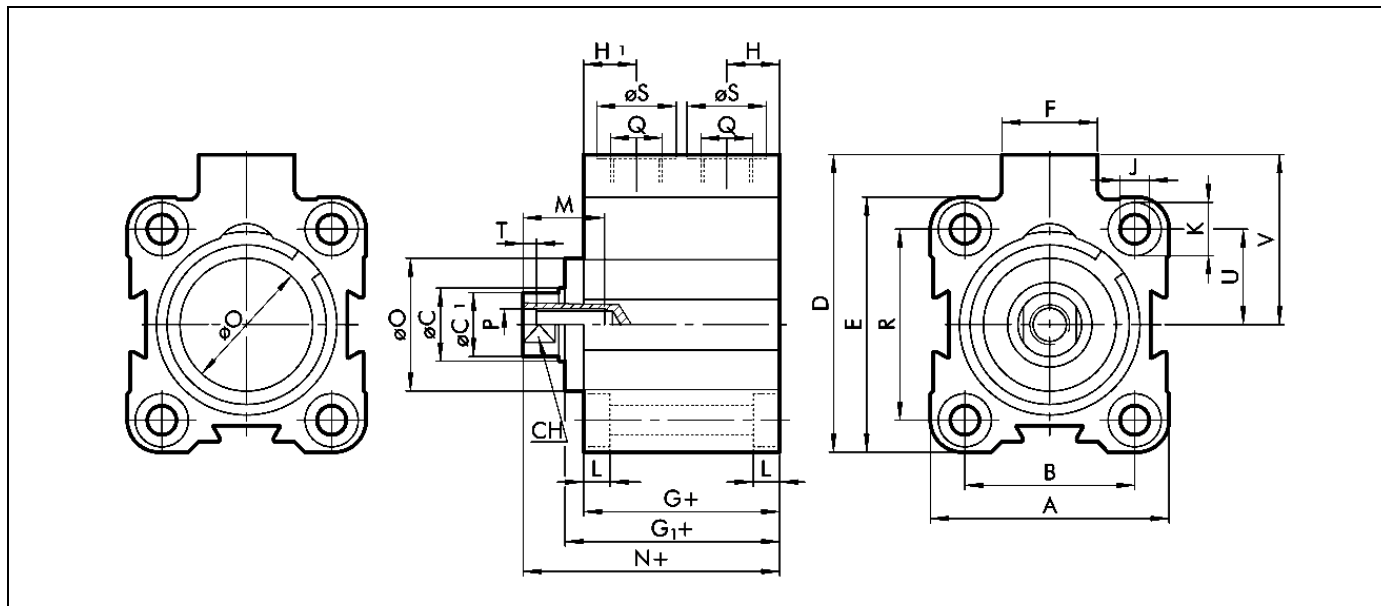
[mm]

Ø	A	B	ØC	ØC1	D	E	F	G	G1	H	H1	J	K	L	M
12	23.5	13	6	5.5	28	26	11	32.5		6.5	10.5	3.7	6	3.7	7
16	28	20	8	7.5	33	28	11	33		6.7	10.5	3.7	6	3.7	10
20	32	22	10	9	37	32	11	32		6.5	10.5	4.6	7.5	4.6	10
25	37	26	10	9	47.5	39	18	33	36.5	8.5	8.5	4.6	7.5	4.6	10
32	45	32	12	11	56	48	18	37	40.8	10	10	5.7	10	5.7	15
40	54.5	40	12	11	62.7	54.5	18	39.5	44.7	10	10	5.7	10	5.7	15
50	66	50	16	15	73	66	18	39.5	46.2	11	11	6.8	11	6.8	18
63	80	62	16	15	88	80	23	42	48.7	12	12	9	15	9	18
80	100	82	20	19	110	100	26	57	67.2	14	14	9	15	9	18
100	124	103	25	24	134	124	26	64	74.7	15	15	11	18	11	20

Ø	N	ØO	P	Q	R	ØS	CH	T	U	V
12	38		M3	M5		8	5	2	9.5	16.5
16	37.5		M5	M5	20	8	7	2	10	19
20	36.5		M5	M5	22	8	8	2	11	21
25	42.5	20	M5	G1/8	28	15	8	2	14	28
32	48.3	25	M6	G1/8	36	15	10	2.5	18	32
40	53.2	30	M6	G1/8	40	15	10	2.5	20	32.5
50	53.2	35	M8	G1/8	50	15	13	3.5	25	40
63	57.7	35	M8	G1/8	62	15	13	3.5	31	48
80	75.2	44	M10	G1/4	82	19	17	4	41	60
100	84.3	56	M12	G1/4	103	19	22	5	51.5	72

## Dimensions

### Single-acting, retracted rod



+ = ADD THE STROKE

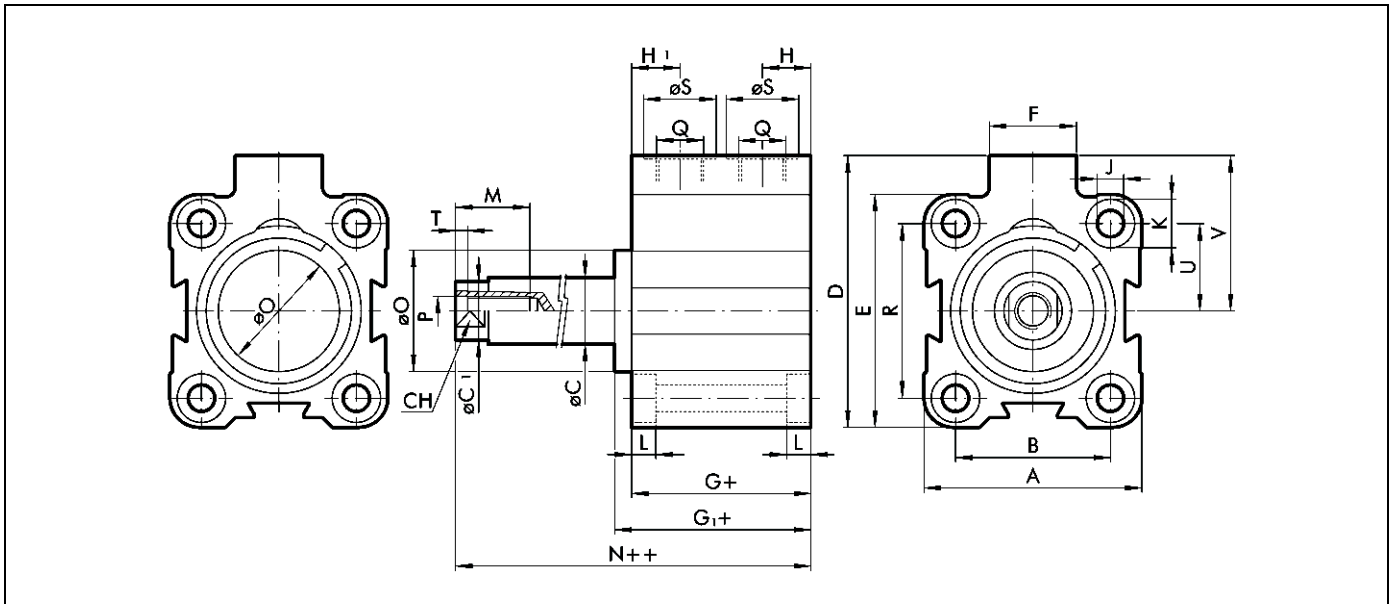
[mm]

Ø	Stroke	A	B	ØC	ØC1	D	E	F	G	G1	H	H1	J	K
12	5 - 25	23.5	13	6	5.5	28	26	11	32.5		6.5	10.5	3.7	6
16	5 - 25	28	20	8	7.5	33	28	11	33		6.7	10.5	3.7	6
20	5 - 25	32	22	10	9	37	32	11	32		6.5	10.5	4.6	7.5
25	5 - 25	37	26	10	9	47.5	39	18	33	36.5	8.5	8.5	4.6	7.5
32	5 - 25	45	32	12	11	56	48	18	37	40.8	10	10	5.5	10
	>25-50								45	48.8				
40	5-25	54.5	40	12	11	62.7	54.5	18	39.5	44.7	10	10	5.5	10
	>25-50								47.5	52.7				
50	5 - 25	66	50	16	15	73	66	18	39.5	46.2	11	11	6.6	11
	>25-50								47.5	54.2				
63	5 - 25	80	62	16	15	88	80	23	42	48.7	12	12	9	15
	>25-50								50	56.7				

Ø	L	M	N	ØO	P	Q	R	ØS	CH	T	U	V
12	3.7	7	38		M3	M5		8	5	2	9.5	16.5
16	3.7	10	37.5		M5	M5	20	8	7	2	10	19
20	4.6	10	36.5		M5	M5	22	8	8	2	11	21
25	4.6	10	42.5	20	M5	G1/8	28	15	8	2	14	28
32	5.7	15	48.3	25	M6	G1/8	36	15	10	2.5	18	32
			56.3									
40	5.7	15	53.2	30	M6	G1/8	40	15	10	2.5	20	35.5
			61.2									
50	6.8	18	53.2	35	M8	G1/8	50	15	13	3.5	25	40
			61.2									
63	9	18	57.7	35	M8	G1/8	62	15	13	3.5	31	48
			65.7									

## Dimensions

### Single-acting, extended rod



**+ = ADD THE STROKE**

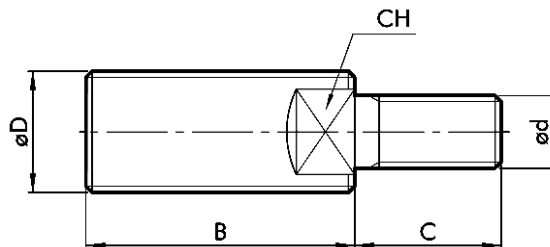
[mm]

Ø	Stroke	A	B	ØC	ØC1	D	E	F	G	G1	H	H1	J	K
12	5 - 25	23.5	13	6	5.5	28	26	11	32.5		6.5	10.5	3.7	6
16	5 - 25	28	20	8	7.5	33	28	11	33		6.7	10.5	3.7	6
20	5 - 25	32	22	10	9	37	32	11	32		6.5	10.5	4.6	7.5
25	5 - 25	37	26	10	9	47.5	39	18	33	36.5	8.5	8.5	4.6	7.5
32	5 - 25	45	32	12	11	56	48	18	37	40.8	10	10	5.5	10
	>25-50								45	48.8				
40	5-25	54.5	40	12	11	62.7	54.5	18	39.5	44.7	10	10	5.5	10
	>25-50								47.5	52.7				
50	5 - 25	66	50	16	15	73	66	18	39.5	46.2	11	11	6.6	11
	>25-50								47.5	54.2				
63	5 - 25	80	62	16	15	88	80	23	42	48.7	12	12	9	15
	>25-50								50	56.7				

Ø	L	M	N	ØO	P	Q	R	ØS	CH	T	U	V
12	3.7	7	38		M3	M5		8	5	2	9.5	16.5
16	3.7	10	37.5		M5	M5	20	8	7	2	10	19
20	4.6	10	36.5		M5	M5	22	8	8	2	11	21
25	4.6	10	42.5	20	M5	G1/8	28	15	8	2	14	28
32	5.7	15	48.3	25	M6	G1/8	36	15	10	2.5	18	32
			56.3									
40	5.7	15	53.2	30	M6	G1/8	40	15	10	2.5	20	35.5
			61.2									
50	6.8	18	53.2	35	M8	G1/8	50	15	13	3.5	25	40
			61.2									
63	9	18	57.7	35	M8	G1/8	62	15	13	3.5	31	48
			65.7									

### Threaded nipple for piston rod

For mounting accessories on the rod



Art. No.		Ø D	Ø d	B	C	CH	Weight [g]
437.701-M	on request	M6	M3	16	6	4	3
437.702-M	on request	M8	M5	20	9	6	8
437.703-M	on request	M10x1.25	M5	22	9	7	12
437.704-M	on request	M10x1.25	M6	22	12	7	14
437.705-M	on request	M12x1.25	M6	24	12	10	14
437.706-M	on request	M16x1.5	M8	32	15	13	20
437.707-M	on request	M20x1.5	M10	40	15	17	96
437.708-M	on request	M20x1.5	M12	40	18	17	102

### Sensors

Dimensions [mm]

Art. No.	Ident No.	Piston Ø	Designation
435.779-M	105966	12 - 80	Reed magnetic sensor (incl. 2.5 m cable)

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### Ordering information

Art. No.	Ident No.
3.DM.12005	105896
3.DM.12010	105897
3.DM.12025	105898
3.DM.12030	105899
3.DM.12040	105900
3.DM.16005	105901
3.DM.16010	105902
3.DM.16025	105903
3.DM.16030	105904
3.DM.16040	105905
3.DM.20005	105906
3.DM.20010	105907
3.DM.20025	105908
3.DM.20030	105909
3.DM.20040	105910
3.DM.20050	105911
3.DM.25005	105912
3.DM.25010	105913
3.DM.25025	105914
3.DM.25030	105915
3.DM.25040	105916
3.DM.25050	105917
3.DM.32005	105918
3.DM.32010	105919
3.DM.32025	105920
3.DM.32030	105921
3.DM.32040	105922
3.DM.32050	105923
3.DM.40005	105924
3.DM.40010	105925
3.DM.40025	105926
3.DM.40030	105927
3.DM.40040	105928
3.DM.40050	105929
3.DM.50005	105930
3.DM.50010	105931
3.DM.50025	105932
3.DM.50030	105933
3.DM.50040	105934
3.DM.50050	105935
3.DM.50070	105936

### Ordering information

Art. No.	Ident No.
3.DM.63005	105937
3.DM.63010	105938
3.DM.63025	105939
3.DM.63030	105940
3.DM.63040	105941
3.DM.63050	105942
3.DM.63070	105943
3.DM.80005	105944
3.DM.80010	105945
3.DM.80025	105946
3.DM.80030	105947
3.DM.80040	105948
3.DM.80050	105949
3.DM.80070	105950
3.DM.80100	105951
3.EMF.12010	105952
3.EMF.12025	105953
3.EMF.16010	105954
3.EMF.16025	105955
3.EMF.20010	105956
3.EMF.20025	105957
3.EMF.25010	105958
3.EMF.25025	105959
3.EMF.32010	105960
3.EMF.32025	105961
3.EMF.40010	105962
3.EMF.40025	105963
3.EMF.50025	105964
3.EMF.63025	105965