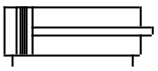
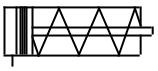
Short-stroke cylinders

Double-acting | **Single-acting**

Magnetic piston

Ø 12 to 80 mm

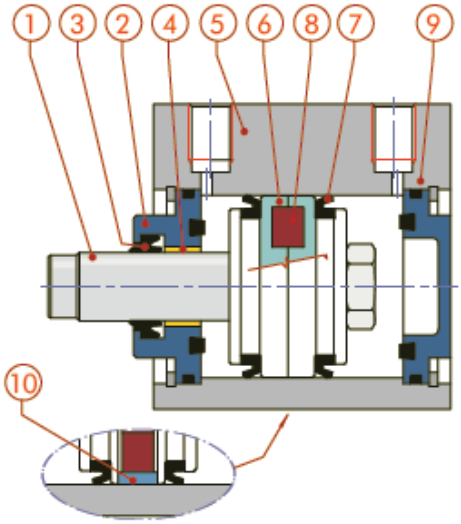
3.DM. Series

Art. No. 105896 to 105951	Art. No. 105952 to 105965
	

Technical data

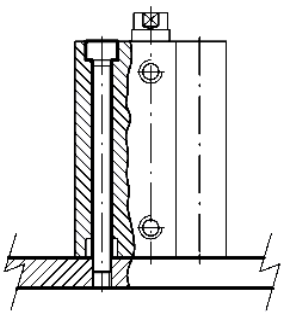
Max. working pressure	**10 bar** (1 MPa – 145 psi)									
Temperature range	**NBR**		Optional							
			Polyurethane		FKM		Low-temp.			
	-10 °C / +80 °C		-10 °C / +80 °C		-10 °C / +150 °C (without magnet)		-35 °C / +80 °C			
Medium	Air **(unlubricate**	**Important:** If lubrication is used, the cylinder must be continuously operated with lubricated air								
Piston Ø	**12**	**16**	**20**	**25**	**32**	**40**	**50**	**63**	**80**	**100**
Piston material	Synthetic (acetal) resin								Aluminium/ PTFE	
Design features	- Drawn, anodised aluminium alloy, jacket - Cover / base: Ø12 to 25 brass 58 Ø 80 to 100 aluminium									
Standard strokes / function	**Function**	**Piston Ø**	**Stroke [mm]**							
	Single-acting	12 to 25 32 to 63	5 to 25 5 to 50							
	Double-acting	12 to 25 32 to 40 50 to 63 80 to 100	5 to 50 5 to 70 5 to 110 5 to 150							
	Double / single-acting	**Anti-rotation**	Ø12 to Ø63 / stroke 5 to 120 mm Ø80 to Ø100 / stroke 5 to 120 mm							
		Perforated rod	Ø12 to Ø63 / stroke 5 to 120 mm Ø50 to Ø63 / stroke 5 to 130 mm Ø80 to Ø100 / stroke 5 to 165 mm							
Options (on request)	- Anti-rotation - Double-acting / single-acting, through rod - Single-acting, retracted piston rod on head / cover side - Through rod, perforated - Female hinge - Male hinge									
Sensing	**Magnetic piston**		Option Without magnet							
Set pressure	**Piston Ø**	**Stroke**	**Set pressure [bar]**							
	12 to 32	Any	**0.6**							
	40 to 100		**0.4**							
Forces generated [6 bar]	See									
Lubrication	Supplied with **continuous lubrication**, **no** external									
Air quality	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: Plastoferrite	
9	Static O-rings	NBR	FKM
10	Pad		PTFE

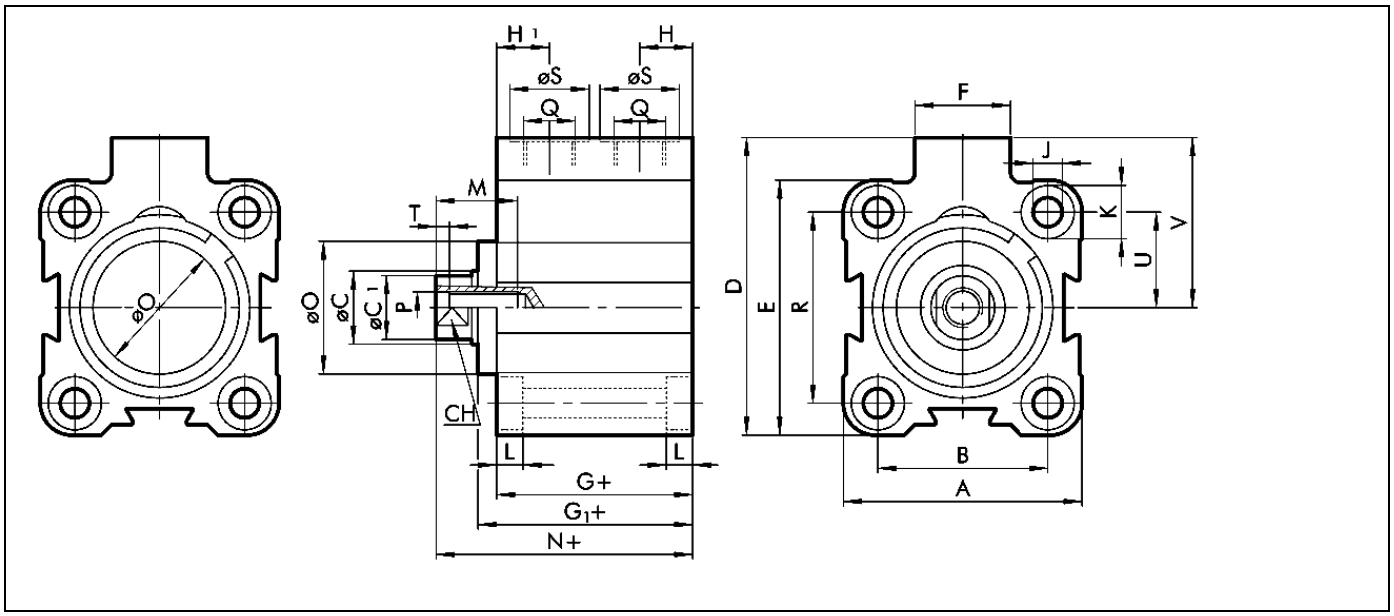
Fixing options for short-stroke cylinders



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

Dimensions

Standard type – double-acting



+ = ADD THE STROKE

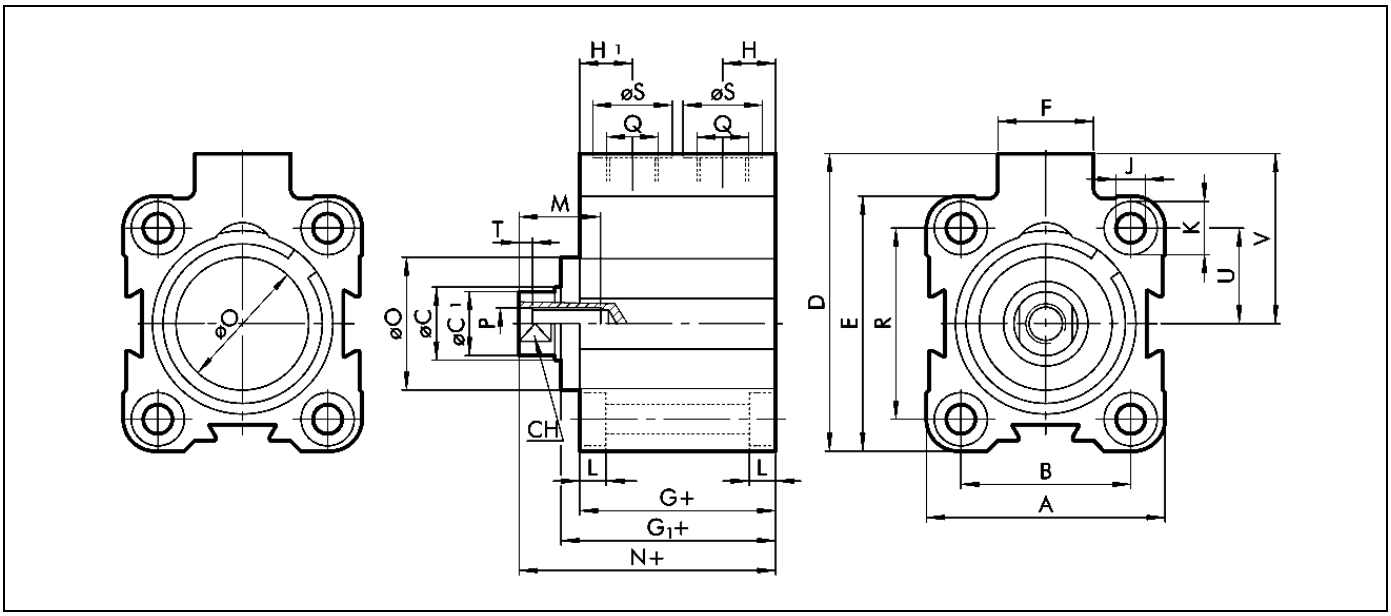
[mm]

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

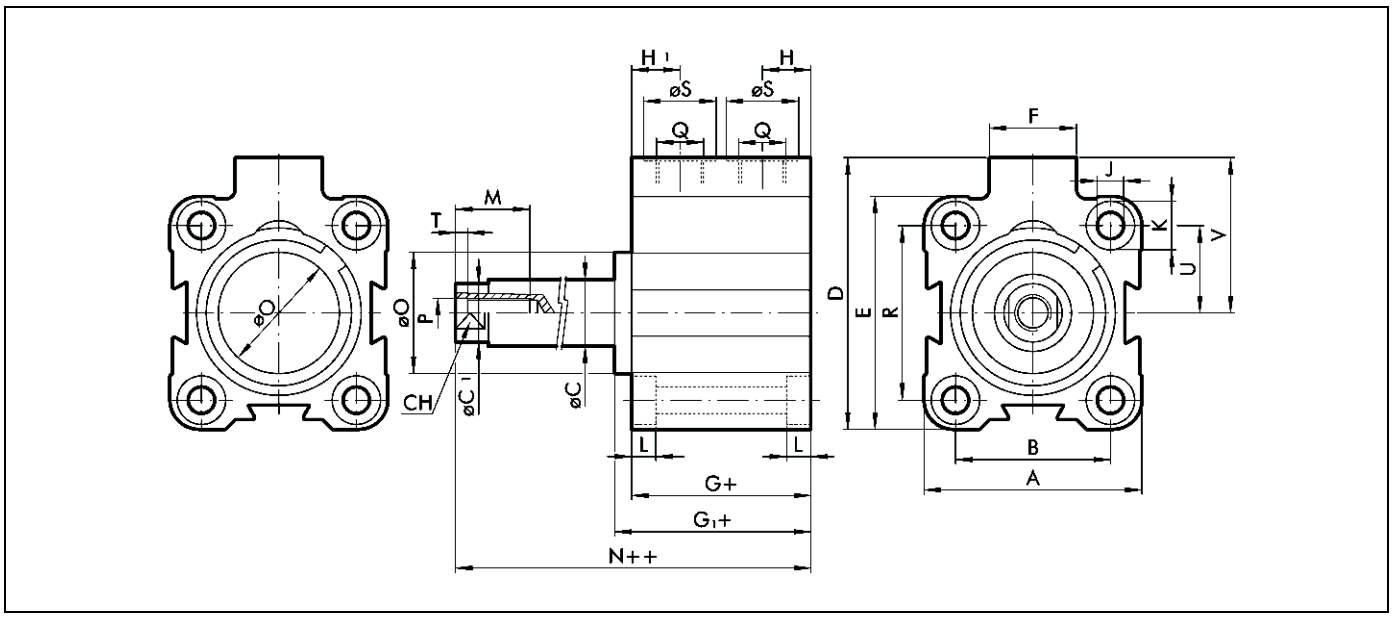
[mm]

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

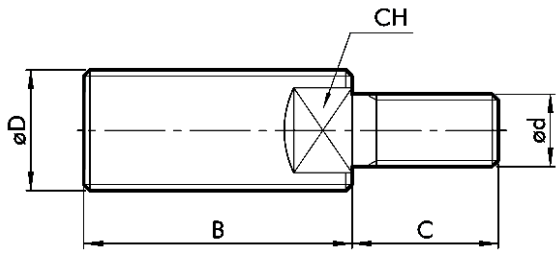
[mm]

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

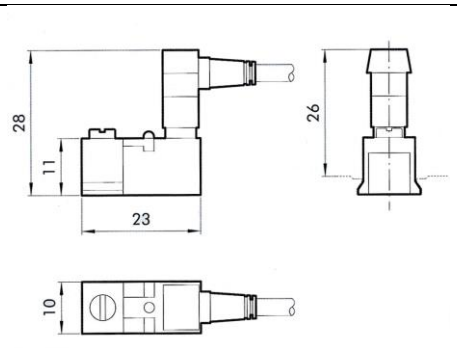


Art. No.		Ø D	Ø d	B	C	CH	Weight [g]
437.701-M	on request	M6	M3	16	6	4	3
437.702-M	on request	M8	M5	20	9	6	8
437.703-M	on request	M10x1.25	M5	22	9	7	12
437.704-M	on request	M10x1.25	M6	22	12	7	14
437.705-M	on request	M12x1.25	M6	24	12	10	14
437.706-M	on request	M16x1.5	M8	32	15	13	20
437.707-M	on request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

Sensors

Dimensions [mm]

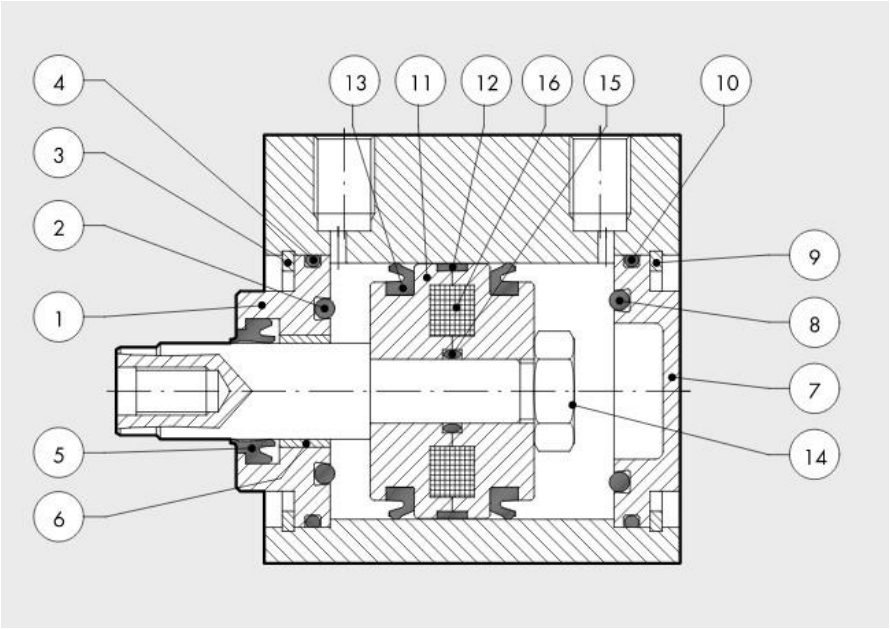
Art. No.	Ident No.	Piston Ø	Designation
435.779-M	**105966**	**12 - 80**	**Reed magnetic sensor (incl. 2.5 m cable)**



Seal sets

Art. No.	Type No.	Piston Ø	Material
129884	435.7012-NBR	12	NBR
129885	435.7016-NBR	16	NBR
129886	435.7020-NBR	20	NBR
129887	435.7025-NBR	25	NBR
129888	435.7032-NBR	32	NBR
129889	435.7040-NBR	40	NBR
129890	435.7050-NBR	50	NBR
129891	435.7063-NBR	63	NBR
129892	435.7080-NBR	80	NBR
129893	435.7012-PU	12	PU
129894	435.7016-PU	16	PU
129895	435.7020-PU	20	PU
129896	435.7025-PU	25	PU
129897	435.7032-PU	32	PU
129898	435.7040-PU	40	PU
129899	435.7050-PU	50	PU
129900	435.7063-PU	63	PU
129901	435.7080-PU	80	PU

Each consists of items 2, 4, 5, 8, 10, 13 and 15



Ordering information

Type No.	Art. 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

Type No.	Art. 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