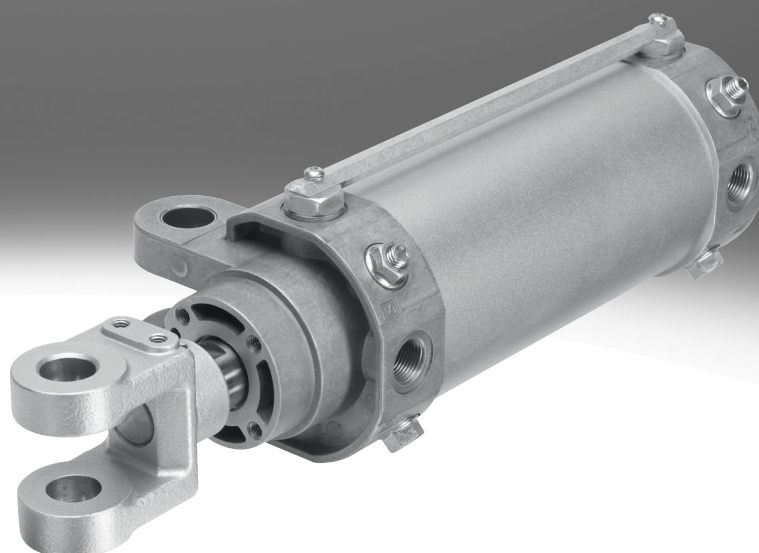


Hinge cylinders DW

FESTO

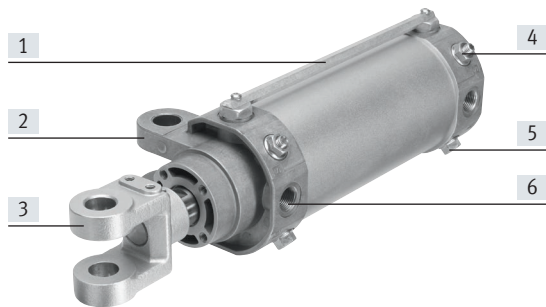


Key features

At a glance

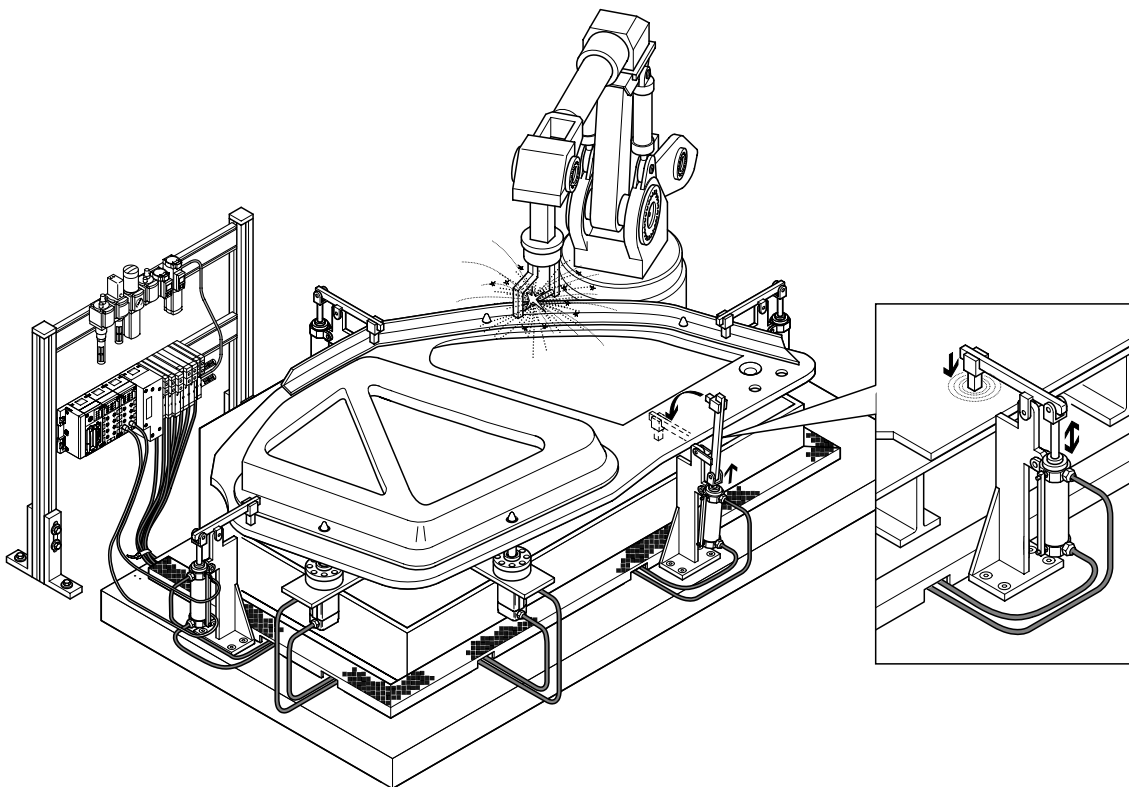
- Hinge cylinder for clamping components during the welding process
- Easy to mount thanks to the swivel bearing on the bearing cap
- Integrated flow control
- Integrated end-position cushioning
- Rod wiper seal to protect against welding spatter
- Asian automotive standard for car body production

The technology in detail

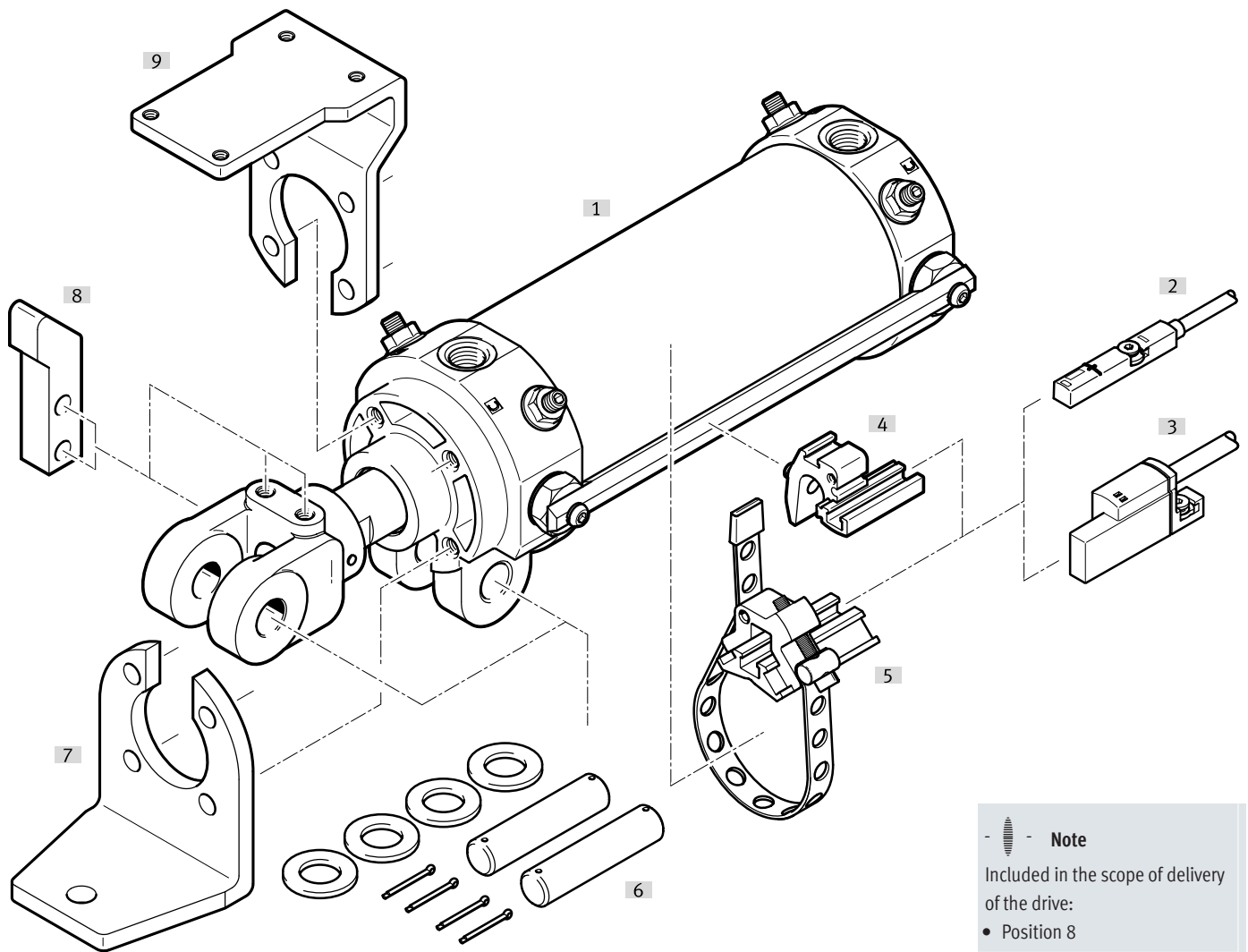


- | | |
|--|--|
| <p>[1] Different options for sensing the piston rod position:</p> <ul style="list-style-type: none"> – Via sensor rail (→ Figure) – Via mounting kit SMBR with proximity switch SMT-8M or SDBT-BSW – Via external proximity switch using a switch lever <p>[2] Swivel bearing on the cylinder. The fork gaps of the rod clevis and swivel bearing are identical</p> | <p>[3] Different rod clevis gaps can be selected</p> <p>[4] Integrated flow control</p> <p>[5] Integrated end-position cushioning</p> <p>[6] Pneumatic connection, either:</p> <ul style="list-style-type: none"> – Via Rc or G thread – Connection options on three sides (e.g. by modifying the sensor rail) |
|--|--|

Use as a clamping cylinder



Peripherals overview



Accessories			
Type	Brief description		→ Page/Internet
[1] Hinge cylinders DW	Double-acting		5
[2] Proximity switch SMT-8M	Proximity switch with flat design for sensing the piston rod position		13
[3] Proximity switch SDBT-BSW	Welding field immune proximity switch for sensing the piston rod position		13
[4] Mounting SMBZ	For mounting the proximity switches SMT-8M or SDBT-BSW on the sensor rail		14
[5] Mounting kit SMBR	For mounting the proximity switches SMT-8M or SDBT-BSW on the cylinder		14
[6] Mounting kit DAMD	- For mounting the drive and attachments on the rod clevis - The scope of delivery of the drive includes 2 bolts, 2 retaining pins and 4 washers		13
[7] Foot mounting HNH	For mounting the cylinder		12
[8] Switch lever KTH	For sensing the piston rod position via external proximity switches		12
[9] Mounting bracket TBH	For mounting external proximity switches		12

Type codes

001	Series	
DW	Hinge cylinder	

002	Rod clevis gap [mm]	
	28	
A	16	
B	19.5	
C	16.5	

003	Piston diameter	
50	50	
63	63	
80	80	

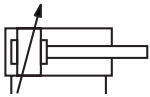
004	Stroke	
50	50	
75	75	
100	100	
125	125	
150	150	

005	Piston rod end	
Y	With rod clevis	

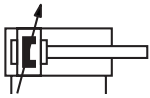
006	Position sensing	
	Without magnet	
A	With magnet and sensor rail	
AB	With magnet	

007	Pneumatic connection	
	Rc thread	
G	G thread	

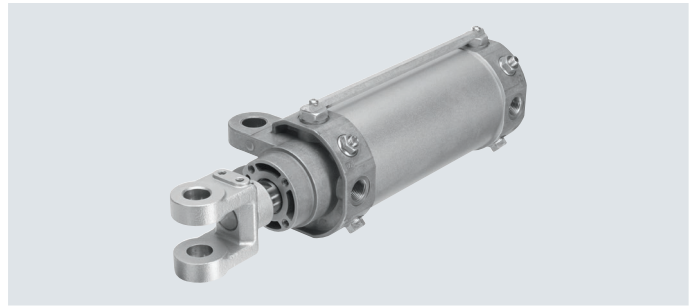
Datasheet



Ø - Diameter
50 ... 80 mm



l - Stroke length
10 ... 200 mm



General technical data

Piston ø			50	63	80
Pneumatic connection			G1/4, Rc1/4	G1/4, Rc1/4	G3/8, Rc3/8
Piston rod thread			M16x1.5		M20x1.5
Piston rod end			Male thread with rod clevis		
Stroke	Standard	[mm]	50, 75, 100, 125, 150		
	Variable	[mm]	10 ... 200		
Rod clevis gap			[mm]	16; 16.5; 19.5	28
Design			Piston rod with rod clevis		
			Swivel mounting on bearing cap		
			Cylinder barrel		
			Piston		
Operating mode			Double-acting		
			Pushing and pulling		
Type of mounting			With swivel mounting on bearing cap		
			With accessories		
Speed control			Integrated flow control at both ends		
Mounting position			Any		
Position sensing			Via proximity switch		
Cushioning			Pneumatic cushioning adjustable at both ends		
Cushioning length			[mm]	20	30

Operating and environmental conditions

Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	[bar]	1 ... 10
Ambient temperature	[°C]	−10 ... +60
Corrosion resistance class CRC ¹⁾		0

1) More information www.festo.com/x/topic/crc

Weight [g]

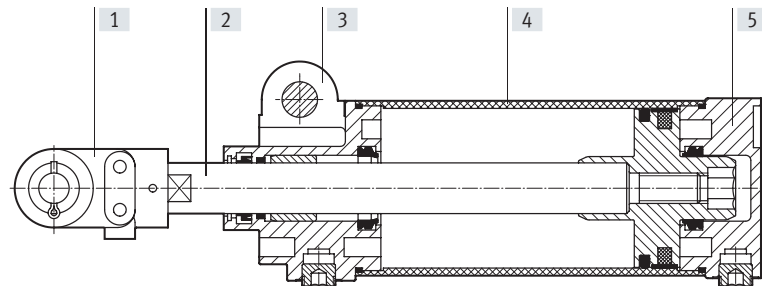
Piston Ø		50	63	80
Basic weight with 0 mm stroke		1338	1600	4185
Additional weight per 10 mm stroke		37	42	65
Moving mass with 0 mm stroke		664	741	1651
Additional weight per 10 mm stroke		25	25	39

Datasheet

Forces [N] and impact energy [J]			
Piston Ø	50	63	80
Theoretical force at 6 bar, advancing	1178	1870	3016
Theoretical force at 6 bar, retracting	990	1682	2721
Impact energy in the end positions	0.7	1.3	1.8

Materials

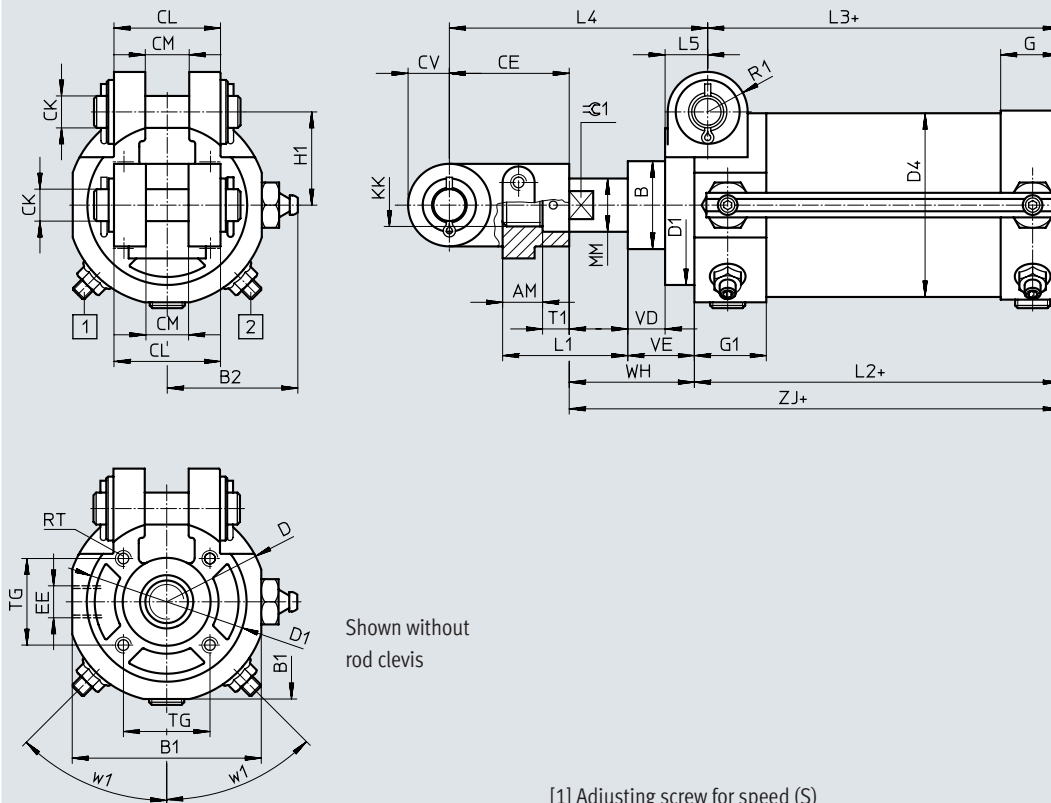
Sectional view



Hinge cylinders		
[1]	Rod clevis	Cast steel
[2]	Piston rod	Quenched and tempered steel, hard-chrome plated
[3]	Bearing cap with mounting	Die-cast aluminium
[4]	Cylinder barrel	Anodised wrought aluminium alloy
[5]	Cover	Anodised die-cast aluminium
–	Seals	Nitrile rubber
Note on materials		RoHS-compliant
		LABS (PWIS) conformity: VDMA24364-B2-L

Datasheet

Dimensions

Download CAD data → www.festo.comShown without
rod clevis

- [1] Adjusting screw for speed (S)
[2] Adjusting screw for end-position cushioning (C)

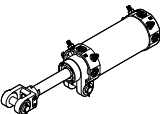
ø [mm]	AM	B ø	B1	B2	CE	CK ø	CL	CM		
								DWA +0.4/+0.1	DWB +0.4/+0.1	DWC +0.4/+0.1
50	15	33	58	42.5	45	12	40	16	19.5	16.5
63			71	49						
80	23	56	89	58.5	58	18	60	28	28	28

ø [mm]	CV	D ø	D1 ø	D4 ø	EE		G	G1	H1 ±0.1
					Rc	G			
50	15.5	61	55	55	Rc1/4	G1/4	22	27	35
63		75	60	69					
80	19	93	70	87	Rc3/8	G3/8	34	34	50

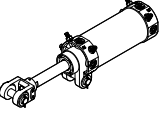
ø [mm]	KK	L1	L2	L3	L4	L5	MM ø	R1	RT
				+0.7/-0.4	+1.5/-2				
50	M16x1.5	47	87	82	97	16	20	15	M6
63									
80	M20x1	47	150	128	110	22	25	20	M6

ø [mm]	T1	TG	VD	VE	W1	WH	ZJ	≈ 1
50	10	32.5	14	25	45°	47	134	17
63								
80	11	32.5	17	33	45°	46	180	19

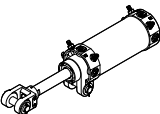
Datasheet

Ordering data – With Rc thread								
	Piston ø [mm]	Stroke [mm]	Rod clevis gap 16 mm		Rod clevis gap 19.5 mm		Rod clevis gap 16.5 mm	
			Part no.	Type	Part no.	Type	Part no.	Type
	50	Without magnet						
		50	549543	DWA-50-50-Y	549553	DWB-50-50-Y	558087	DWC-50-50-Y
		75	549544	DWA-50-75-Y	549554	DWB-50-75-Y	558088	DWC-50-75-Y
		100	549545	DWA-50-100-Y	549555	DWB-50-100-Y	558089	DWC-50-100-Y
		125	549546	DWA-50-125-Y	549556	DWB-50-125-Y	558090	DWC-50-125-Y
		150	549547	DWA-50-150-Y	549557	DWB-50-150-Y	558091	DWC-50-150-Y
		10 ... 200	555710	DWA-50-...-Y	555713	DWB-50-...-Y	558137	DWC-50-...-Y
		With magnet and sensor strip						
		50	549548	DWA-50-50-Y-A	549558	DWB-50-50-Y-A	558092	DWC-50-50-Y-A
		75	549549	DWA-50-75-Y-A	549559	DWB-50-75-Y-A	558093	DWC-50-75-Y-A
		100	549550	DWA-50-100-Y-A	549560	DWB-50-100-Y-A	558094	DWC-50-100-Y-A
		125	549551	DWA-50-125-Y-A	549561	DWB-50-125-Y-A	558095	DWC-50-125-Y-A
		150	549552	DWA-50-150-Y-A	549562	DWB-50-150-Y-A	558096	DWC-50-150-Y-A
		10 ... 200	555711	DWA-50-...-Y-A	555714	DWB-50-...-Y-A	558138	DWC-50-...-Y-A
		With magnet						
		50	549743	DWA-50-50-Y-AB	549707	DWB-50-50-Y-AB	558097	DWC-50-50-Y-AB
		75	549744	DWA-50-75-Y-AB	549708	DWB-50-75-Y-AB	558098	DWC-50-75-Y-AB
		100	549745	DWA-50-100-Y-AB	549709	DWB-50-100-Y-AB	558099	DWC-50-100-Y-AB
		125	549746	DWA-50-125-Y-AB	549710	DWB-50-125-Y-AB	558100	DWC-50-125-Y-AB
		150	549706	DWA-50-150-Y-AB	549711	DWB-50-150-Y-AB	558101	DWC-50-150-Y-AB
		10 ... 200	555712	DWA-50-...-Y-AB	555715	DWB-50-...-Y-AB	558139	DWC-50-...-Y-AB
	63	Without magnet						
		50	549563	DWA-63-50-Y	549573	DWB-63-50-Y	558102	DWC-63-50-Y
		75	549564	DWA-63-75-Y	549574	DWB-63-75-Y	558103	DWC-63-75-Y
		100	549565	DWA-63-100-Y	549575	DWB-63-100-Y	558104	DWC-63-100-Y
		125	549566	DWA-63-125-Y	549576	DWB-63-125-Y	558105	DWC-63-125-Y
		150	549567	DWA-63-150-Y	549577	DWB-63-150-Y	558106	DWC-63-150-Y
		10 ... 200	555716	DWA-63-...-Y	555719	DWB-63-...-Y	558140	DWC-63-...-Y
		With magnet and sensor strip						
		50	549568	DWA-63-50-Y-A	549578	DWB-63-50-Y-A	558107	DWC-63-50-Y-A
		75	549569	DWA-63-75-Y-A	549579	DWB-63-75-Y-A	558108	DWC-63-75-Y-A
		100	549570	DWA-63-100-Y-A	549580	DWB-63-100-Y-A	558109	DWC-63-100-Y-A
		125	549571	DWA-63-125-Y-A	549581	DWB-63-125-Y-A	558110	DWC-63-125-Y-A
		150	549572	DWA-63-150-Y-A	549582	DWB-63-150-Y-A	558111	DWC-63-150-Y-A
		10 ... 200	555717	DWA-63-...-Y-A	555720	DWB-63-...-Y-A	558141	DWC-63-...-Y-A
		With magnet						
		50	549712	DWA-63-50-Y-AB	549730	DWB-63-50-Y-AB	558112	DWC-63-50-Y-AB
		75	549713	DWA-63-75-Y-AB	549732	DWB-63-75-Y-AB	558113	DWC-63-75-Y-AB
		100	549714	DWA-63-100-Y-AB	549733	DWB-63-100-Y-AB	558114	DWC-63-100-Y-AB
		125	549715	DWA-63-125-Y-AB	549734	DWB-63-125-Y-AB	558115	DWC-63-125-Y-AB
		150	549716	DWA-63-150-Y-AB	549735	DWB-63-150-Y-AB	558116	DWC-63-150-Y-AB
		10 ... 200	555718	DWA-63-...-Y-AB	555721	DWB-63-...-Y-AB	558142	DWC-63-...-Y-AB

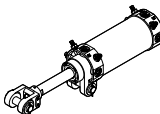
Datasheet

Ordering data – With Rc thread				
	Piston ø [mm]	Stroke [mm]	Rod clevis gap 28 mm	
			Part no.	Type
	80	Without magnet		
		50	557904	DW-80-50-Y
		75	557905	DW-80-75-Y
		100	557906	DW-80-100-Y
		125	557907	DW-80-125-Y
		150	557908	DW-80-150-Y
		10 ... 200	557929	DW-80-...-Y
		With magnet and sensor strip		
		50	557909	DW-80-50-Y-A
		75	557910	DW-80-75-Y-A
		100	557911	DW-80-100-Y-A
		125	557912	DW-80-125-Y-A
		150	557913	DW-80-150-Y-A
		10 ... 200	557930	DW-80-...-Y-A
		With magnet		
		50	557914	DW-80-50-Y-AB
		75	557915	DW-80-75-Y-AB
		100	557916	DW-80-100-Y-AB
		125	557917	DW-80-125-Y-AB
		150	557918	DW-80-150-Y-AB
		10 ... 200	557931	DW-80-...-Y-AB

Datasheet

Ordering data – With G thread								
	Piston ø [mm]	Stroke [mm]	Rod clevis gap 16 mm		Rod clevis gap 19.5 mm		Rod clevis gap 16.5 mm	
			Part no.	Type	Part no.	Type	Part no.	Type
	50	Without magnet						
		50	565721	DWA-50-50-Y-G	565731	DWB-50-50-Y-G	572341	DWC-50-50-Y-G
		75	565722	DWA-50-75-Y-G	565732	DWB-50-75-Y-G	572342	DWC-50-75-Y-G
		100	565723	DWA-50-100-Y-G	565733	DWB-50-100-Y-G	572343	DWC-50-100-Y-G
		125	565724	DWA-50-125-Y-G	565734	DWB-50-125-Y-G	572344	DWC-50-125-Y-G
		150	565725	DWA-50-150-Y-G	565735	DWB-50-150-Y-G	572345	DWC-50-150-Y-G
		10 ... 200	565781	DWA-50-...-Y-G	565784	DWB-50-...-Y-G	572371	DWC-50-...-Y-G
		With magnet and sensor strip						
		50	565726	DWA-50-50-Y-A-G	565736	DWB-50-50-Y-A-G	572346	DWC-50-50-Y-A-G
		75	565727	DWA-50-75-Y-A-G	565737	DWB-50-75-Y-A-G	572347	DWC-50-75-Y-A-G
		100	565728	DWA-50-100-Y-A-G	565738	DWB-50-100-Y-A-G	572348	DWC-50-100-Y-A-G
		125	565729	DWA-50-125-Y-A-G	565739	DWB-50-125-Y-A-G	572349	DWC-50-125-Y-A-G
		150	565730	DWA-50-150-Y-A-G	565740	DWB-50-150-Y-A-G	572350	DWC-50-150-Y-A-G
		10 ... 200	565782	DWA-50-...-Y-A-G	565785	DWB-50-...-Y-A-G	572372	DWC-50-...-Y-A-G
		With magnet						
		50	565777	DWA-50-50-Y-AB-G	565762	DWB-50-50-Y-AB-G	572351	DWC-50-50-Y-AB-G
		75	565778	DWA-50-75-Y-AB-G	565763	DWB-50-75-Y-AB-G	572352	DWC-50-75-Y-AB-G
		100	565779	DWA-50-100-Y-AB-G	565764	DWB-50-100-Y-AB-G	572353	DWC-50-100-Y-AB-G
		125	565780	DWA-50-125-Y-AB-G	565765	DWB-50-125-Y-AB-G	572354	DWC-50-125-Y-AB-G
		150	565761	DWA-50-150-Y-AB-G	565766	DWB-50-150-Y-AB-G	572355	DWC-50-150-Y-AB-G
		10 ... 200	565783	DWA-50-...-Y-AB-G	565786	DWB-50-...-Y-AB-G	572373	DWC-50-...-Y-AB-G
	63	Without magnet						
		50	565741	DWA-63-50-Y-G	565751	DWB-63-50-Y-G	572356	DWC-63-50-Y-G
		75	565742	DWA-63-75-Y-G	565752	DWB-63-75-Y-G	572357	DWC-63-75-Y-G
		100	565743	DWA-63-100-Y-G	565753	DWB-63-100-Y-G	572358	DWC-63-100-Y-G
		125	565744	DWA-63-125-Y-G	565754	DWB-63-125-Y-G	572359	DWC-63-125-Y-G
		150	565745	DWA-63-150-Y-G	565755	DWB-63-150-Y-G	572360	DWC-63-150-Y-G
		10 ... 200	565787	DWA-63-...-Y-G	565790	DWB-63-...-Y-G	572374	DWC-63-...-Y-G
		With magnet and sensor strip						
		50	565746	DWA-63-50-Y-A-G	565756	DWB-63-50-Y-A-G	572361	DWC-63-50-Y-A-G
		75	565747	DWA-63-75-Y-A-G	565757	DWB-63-75-Y-A-G	572362	DWC-63-75-Y-A-G
		100	565748	DWA-63-100-Y-A-G	565758	DWB-63-100-Y-A-G	572363	DWC-63-100-Y-A-G
		125	565749	DWA-63-125-Y-A-G	565759	DWB-63-125-Y-A-G	572364	DWC-63-125-Y-A-G
		150	565750	DWA-63-150-Y-A-G	565760	DWB-63-150-Y-A-G	572365	DWC-63-150-Y-A-G
		10 ... 200	565788	DWA-63-...-Y-A-G	565791	DWB-63-...-Y-A-G	572375	DWC-63-...-Y-A-G
		With magnet						
		50	565767	DWA-63-50-Y-AB-G	565772	DWB-63-50-Y-AB-G	572366	DWC-63-50-Y-AB-G
		75	565768	DWA-63-75-Y-AB-G	565773	DWB-63-75-Y-AB-G	572367	DWC-63-75-Y-AB-G
		100	565769	DWA-63-100-Y-AB-G	565774	DWB-63-100-Y-AB-G	572368	DWC-63-100-Y-AB-G
		125	565770	DWA-63-125-Y-AB-G	565775	DWB-63-125-Y-AB-G	572369	DWC-63-125-Y-AB-G
		150	565771	DWA-63-150-Y-AB-G	565776	DWB-63-150-Y-AB-G	572370	DWC-63-150-Y-AB-G
		10 ... 200	565789	DWA-63-...-Y-AB-G	565792	DWB-63-...-Y-AB-G	572376	DWC-63-...-Y-AB-G

Datasheet

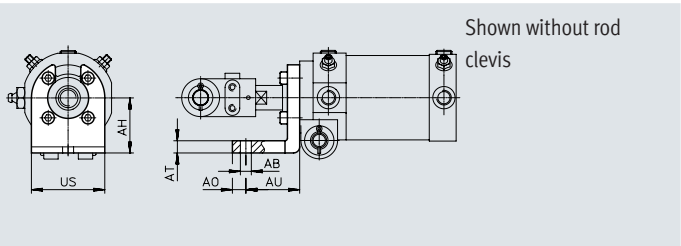
Ordering data – With G thread				
	Piston ø	Stroke	Rod clevis gap 28 mm	
	[mm]	[mm]	Part no.	Type
	80	Without magnet		
		50	565793	DW-80-50-Y-G
		75	565794	DW-80-75-Y-G
		100	565795	DW-80-100-Y-G
		125	565796	DW-80-125-Y-G
		150	565797	DW-80-150-Y-G
		10 ... 200	565808	DW-80-...-Y-G
		With magnet and sensor strip		
		50	565798	DW-80-50-Y-A-G
		75	565799	DW-80-75-Y-A-G
		100	565800	DW-80-100-Y-A-G
		125	565801	DW-80-125-Y-A-G
		150	565802	DW-80-150-Y-A-G
		10 ... 200	565809	DW-80-...-Y-A-G
		With magnet		
		50	565803	DW-80-50-Y-AB-G
		75	565804	DW-80-75-Y-AB-G
		100	565805	DW-80-100-Y-AB-G
		125	565806	DW-80-125-Y-AB-G
		150	565807	DW-80-150-Y-AB-G
		10 ... 200	565810	DW-80-...-Y-AB-G

Accessories

Foot mounting HNH

Materials:
Steel

Scope of delivery:
4 screws

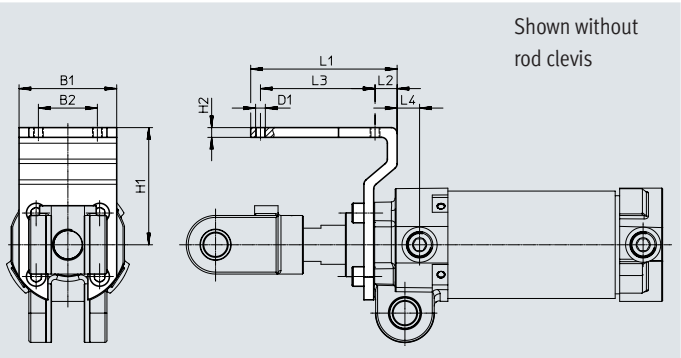


Dimensions and ordering data									
For ø	AB ø	AH	AO	AT	AU	US	Weight [g]	Part no.	Type
50, 63, 80	9	45	11	10	44	60	241	549603	HNH-50/63/80

Mounting bracket TBH

Materials:
Steel

Scope of delivery:
4 screws, short
4 screws, long

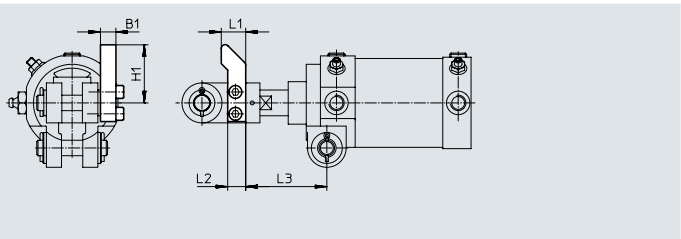


Dimensions and ordering data												
For Ø	B1	B2	D1	H1	H2	L1	L2	L3	L4	Weight [g]	Part no.	Type
50, 63, 80	50	30.2	M5	60	5	75	11.3	58.7	17	282	549605	TBH-50/63/80

Switch lever KTH

Materials:
Steel

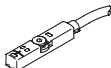
Scope of delivery:
2 screws

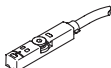


Dimensions and ordering data								
For Ø	B1	H1	L1	L2	L3	Weight [g]	Part no.	Type
50, 63	12	45.2	19	14	63	83	549607	KTH-50/63/80
80	12	45.2	19	14	68.5			

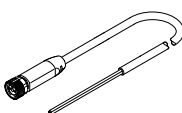
Accessories

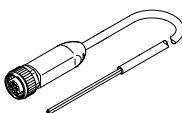
Ordering data – Mounting kit						
	Scope of delivery	For ø	Weight [g]	Part no.	Type	
	2 bolts, 2 retaining pins and 4 washers	50, 63	117	573323	DAMD-F5-S-50	
		80	362	573172	DAMD-F5-S-80	

Ordering data – Proximity switch for T-slot, magneto-resistive							Datasheets → Internet: smt
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O							
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-core	2.5	574335	SMT-8M-A-PS-24V-E-2.5-OE	
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0.3-M8D	
			Plug M12x1, 3-pin	0.3	574337	SMT-8M-A-PS-24V-E-0.3-M12	
		NPN	Cable, 3-core	2.5	574338	SMT-8M-A-NS-24V-E-2.5-OE	
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0.3-M8D	

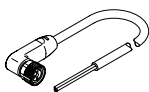
N/C						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-core	7.5	574340	SMT-8M-A-PO-24V-E-7.5-OE

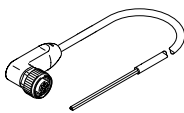
Ordering data – Proximity switch for T-slot, magneto-resistive							Datasheets → Internet: sdbt
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O							
	Inserted in the slot from above	PNP	Cable, 3-core	5	2427616	SDBT-BSW-1L-PU-W-5-N-LE	
			Plug M12x1, 3-pin	0.3	2476855	SDBT-BSW-1L-PU-W-0.3-N-M12	
		NPN	Cable, 3-core	5	2427618	SDBT-BSW-1L-NU-W-5-N-LE	
			Plug M12x1, 3-pin	0.3	2427615	SDBT-BSW-1L-NU-W-0.3-N-M12	
		Contactless	Cable, 2-core	5	2427617	SDBT-BSW-1L-ZU-W-5-N-LE	

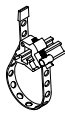
Connecting cables NEBA, straight, M8 connection						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cables NEBA, straight, M12 connection						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M12x1 A-coded to EN61076-2-101	Open end	3	2.5 m	8078236	NEBA-M12G5-U-2.5-N-LE3
				5 m	8078237	NEBA-M12G5-U-5-N-LE3

Accessories

Connecting cables NEBA, angled, M8 connection						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3

Connecting cables NEBA, angled, M12 connection						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M12x1 A-coded to EN61076-2-101	Open end	3	2.5 m	8078245	NEBA-M12W5-U-2.5-N-LE3
				5 m	8078246	NEBA-M12W5-U-5-N-LE3

Ordering data – Mounting kit					Datasheets → Internet: smbr	
					Part no.	Type
	For mounting the proximity switch SMT-8M or SDBT-BSW on the cylinder				538937	SMBR-8-8/100-S6

Ordering data – Mounting kit					Datasheets → Internet: smbz	
					Part no.	Type
	For mounting the proximity switches SMT-8M or SDBT-BSW on the sensor rail				537806	SMBZ-8-32/100