

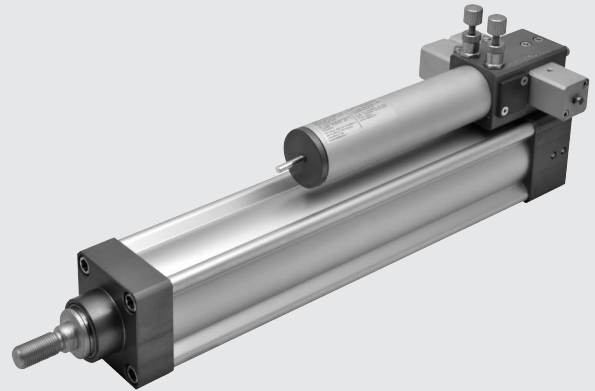
INTEGRATED HYDRAULIC BRAKE

The integrated hydraulic brake is comprised of a pneumatic cylinder that acts as an actuator and an oleo-dynamic circuit that acts as a brake. The dimensions of the pneumatic cylinder comply with ISO 15552. The hydraulic circuit is comprised of a brake fluid tank and one or two flow regulation pins. It can mount one or more (slow-fast) SKIP or STOP valves that are normally open (NO) or normally closed (NC), for the piston rod extension and retraction.

The basic feature of this device is that the driving force and the braking force are coaxial, so they do not generate undesired bending moments on the piston rod and the external structures connected to it. Due to its conception, this brake is particularly compact and has reduced dimensions compared to BRK external hydraulic brakes.


After a certain operating time, the brake fluid tank must be topped up with oil. This needs doing when the oil level reaches the minimum mark on the rod. With the piston rod right out, the minimum level mark must not project less than 8-10 mm from the cap.

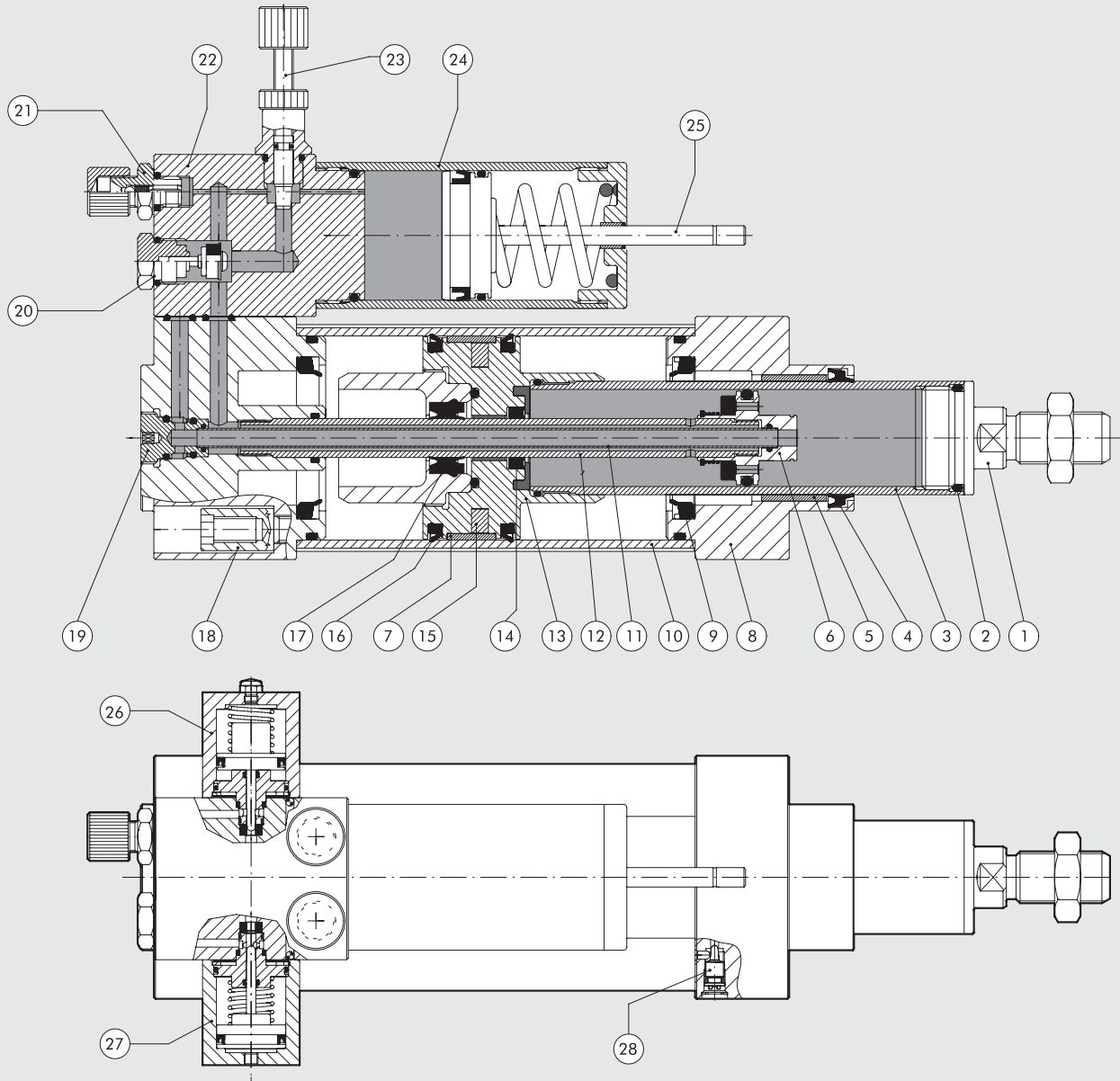
Always use DEXRON ATF hydraulic oil or another compatible product. During the first operating cycles, excess oil is expelled through a hole in the tank.



TECHNICAL DATA		Ø50	Ø63	Ø80
Operating pressure	bar		From 1 to 8	
	MPa		From 0.1 to 0.8	
NC valve actuation pressure	psi		From 14.5 to 116	
	bar		From 3 to 8	
	MPa		From 0.3 to 0.8	
	psi		From 43.5 to 116	
Operating temperature range	°C		From -10 to +70	
	°F		From 14 to 156	
Pneumatic circuit fluid		Lubricated or unlubricated filtered air.		
Hydraulic circuit fluid		DEXRON ATF - the list of compatible oils is available on the web site www.metalwork.it		
Thrust force generated at 6 bar	N	1109	1801	2946
Pull force generated at 6 bar	N	600	1292	2437
Maximum load which can be applied from outside while the rod is lock	N			
• Version without valves and with closed pins:				
Thrust Load on the rod			6000	
Traction Load on the rod			5000	
• Version with STOP NC valves not operated:				
Thrust Load on the rod			6000	
Traction Load on the rod			5000	
• Version with STOP NO valves operated at 6 bar:				
Thrust Load on the rod			6000	
Traction Load on the rod			5000	
• Version with STOP NO valves operated at 8 bar:				
Thrust Load on the rod			6000	
Traction Load on the rod			5000	
Speeds at 6 bar and 20°C		see charts on the following pages		
Standard strokes	mm	50, 100, 150, 200, 250, 300, 350, 400, 450, 500.		
		Other special strokes up to 500 available on request.		
Valve combinations		Piston-out, piston-in and dual regulation		
		The following combinations of valves can be mounted on each regulated section:		
		STOP NO, STOP NC, SKIP NO, SKIP NC, DOUBLE STOP NO, DOUBLE STOP NC,		
		DOUBLE SKIP NO, DOUBLE SKIP NC, STOP NO+STOP NC, SKIP NO+SKIP NC,		
		STOP NO+SKIP NO, STOP NC+SKIP NC, STOP NO+SKIP NC, STOP NC+SKIP NO		
Sensor magnet		All versions are provided with a magnet		

COMPONENTS

 OIL



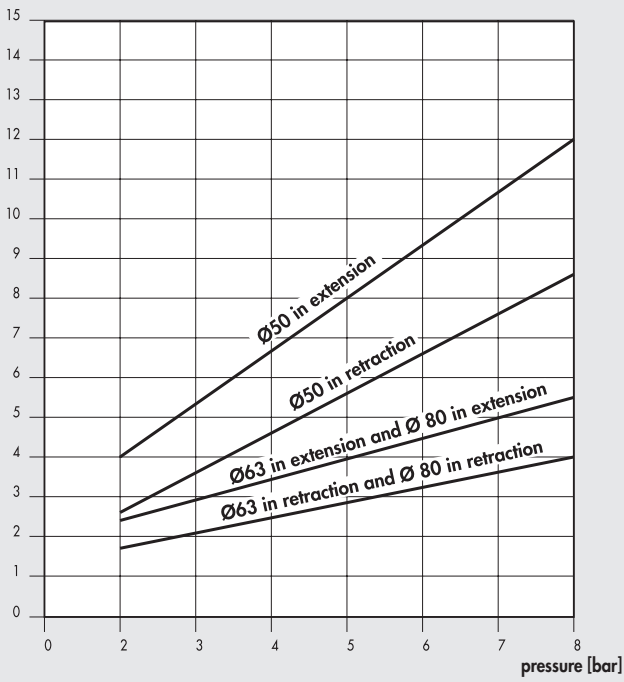
- | | | |
|--|---|---------------------------------------|
| ① GUIDE HOLD: galvanised steel | ⑩ JACKET: anodised and calibrated aluminium section | ⑲ BUSH: nickel-plated brass |
| ② O-RING: NBR | ⑪ INTERNAL PIPE: brass | ⑳ CHECK VALVE |
| ③ PISTON ROD: thickly chromed steel | ⑫ INTERMEDIATE PIPE: steel | ㉑ OIL FILLING VALVE |
| ④ PISTON ROD GASKET: polyurethane | ⑬ PISTON: aluminium | ㉒ REGULATION UNIT: anodised aluminium |
| ⑤ GUIDE BUSHING: steel strip with bronze and PTFE insert | ⑭ PISTON ROD GASKET: polyurethane | ㉓ REGULATION PIN |
| ⑥ INSIDE PISTON: brass | ⑮ MAGNET: plastoferrite | ㉔ OIL RECOVERY TANK |
| ⑦ GUIDE RING: PTFE | ⑯ PISTON GASKET: NBR | ㉕ OIL LEVEL ROD: galvanised steel |
| ⑧ HEAD: anodized aluminium | ⑰ PISTON ROD GASKET: polyurethane | ㉖ NC VALVE |
| ⑨ CUSHIONING GASKET: NBR | ⑱ SECURING/ASSEMBLY SCREW: self-tapping | ㉗ NO VALVE |
| | | ㉘ CUSHIONING PIN |

SPEED

Maximum speed reached. The diagrams show the indicative speed, which depends on the bore and feed pressure. Average values for temperature of 20°C. The maximum speed increases with oil temperature, and vice versa.

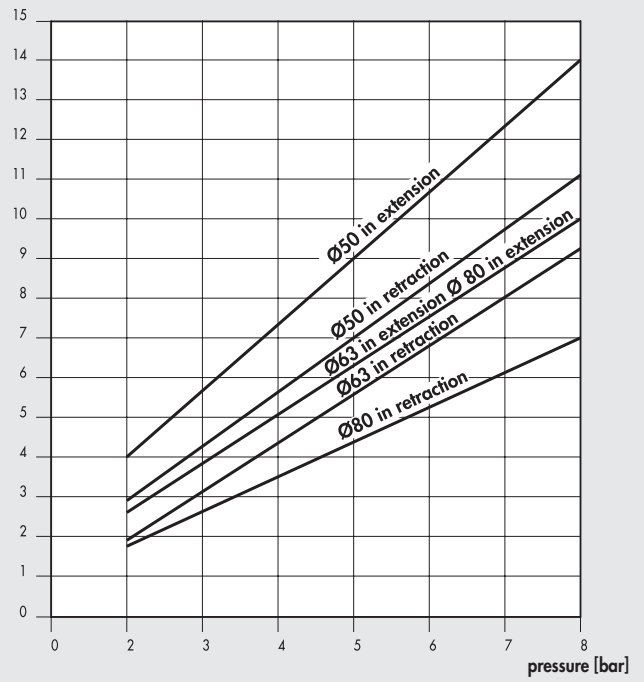
INTEGRATED HYDRAULIC BRAKE WITH VALVES STOP AND WITH VALVES SKIP AND STOP

Speed [m/min]



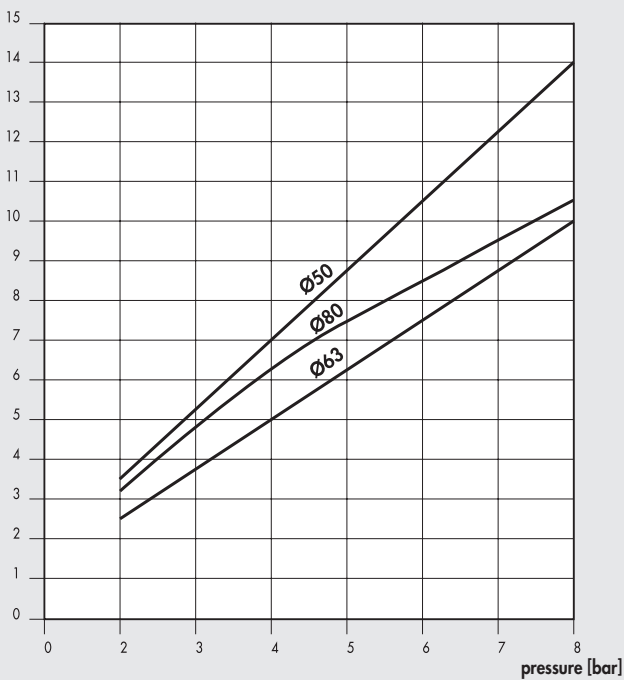
INTEGRATED HYDRAULIC BRAKE WITH VALVES STOP

Speed [m/min]



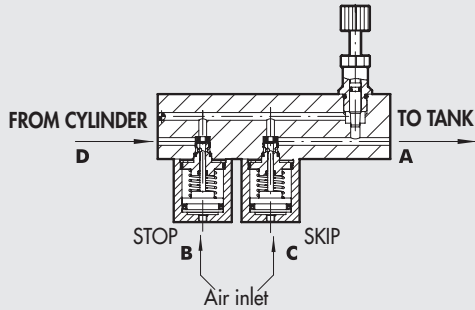
INTEGRATED HYDRAULIC BRAKE WITH REGULATION IN EXTENSION, IN RETRACTION OR DUAL

Speed [m/min]

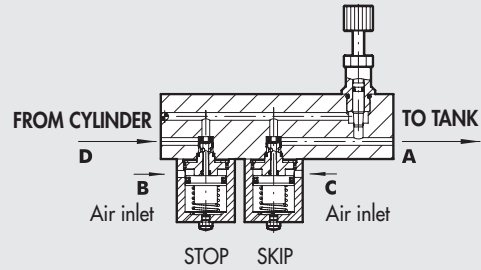


SKIP-STOP APPLICATION WITH VALVES

NO



NC



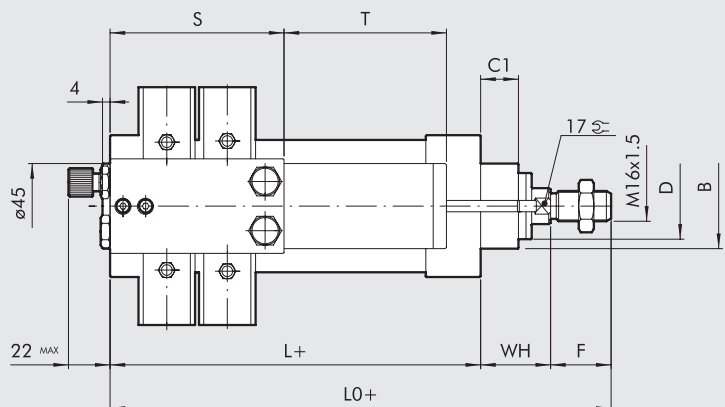
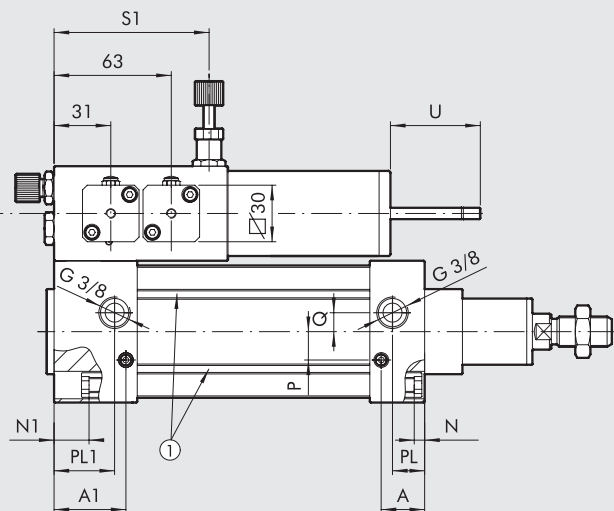
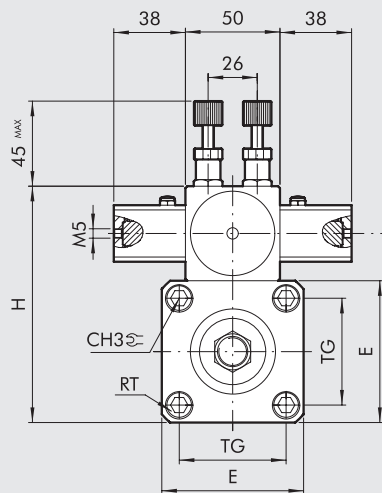
In normally-open (NO) valves, flow moves freely from A to D. When port C is supplied, this operates the SKIP valve and the fluid is forced through the bottleneck generated by the adjusting pin. When port B is supplied, this operates the STOP valve and interrupts the flow of fluid.

In normally-closed NC valves, flow is normally inhibited. When port B is supplied, the fluid flows through but it is forced through the bottleneck generated by the adjusting pin. When port C is supplied, flow moves freely from A to D.

OVERALL DIMENSIONS OF THE VARIOUS VERSIONS

Stroke	T	U max
50	106	25
100	131	30
150	131	35
200	131	40
250	171	45
300	171	50
350	216	55
400	216	60
450	301	65
500	301	70

Type	S	S1
Regulation only	50	40
1 valve for side	50	40
2 valve for side	82	72



+ = ADD THE STROKE

① SLOTS FOR SLIM SENSOR (ONLY ON THE UTILITY PORTS SIDE)

Ø	A	A1	B	C1	CH3	D	E	F	H	L	L0	N	N1	P	PL	PL1	Q	RT	TG	WH
50	28	38	40	15	8	25	65	32	115	128	192	5.5	19	11	22	32	8	M8	46.5	32
63	23	38	45	20	8	35	75	32	125	121	190	5.5	19	15	17	32	10	M8	56.5	37
80	25	36	45	16	10	35	95	32	145	125	190	6	15	15	21	32	10	M10	72	33

KEY TO CODES

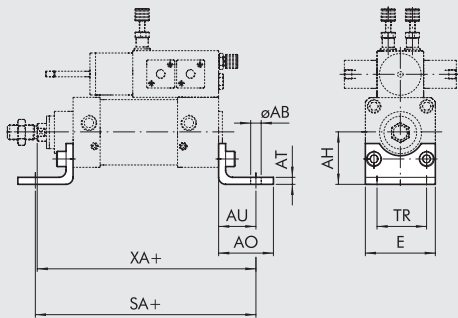
W 1 7 3	2	3	1	0	0 5 0 0
INTEGRATED BRAKE	REGULATION	PISTON ROD EXTENSION CONTROL VALVES	PISTON ROD RETRACTION CONTROL VALVES	BORE	STROKE
W173 Integrated brake	0 Out 1 In 2 Dual	0 Without valves 1 Stop NO 2 Stop NC 3 Skip NO 4 Skip NC 5 Stop NO Skip NO 6 Stop NO Skip NC 7 Stop NC Skip NO 8 Stop NC Skip NC	0 Without valves 1 Stop NO 2 Stop NC 3 Skip NO 4 Skip NC 5 Stop NO Skip NO 6 Stop NO Skip NC 7 Stop NC Skip NO 8 Stop NC Skip NC	A Ø 50 0 Ø 63 1 Ø 80	Specify the desired stroke in 4 digits (e.g. 0500 for stroke 500)

N.B. With at least one extension control valve and one retraction control valve, type W1732__ is required.

ACCESSORIES : FIXINGS

FOOT - MODEL A

+ = ADD THE STROKE



Code	Ø	Ø AB	AH	AO	AT	AU	TR	E	XA	SA	Weight [g]
W0950502001	50	9	45	15	4	32	45	65	192	192	162
W0950632001	63	9	50	15	6	32	50	75	190	185	266
W0950802001	80	12	63	20	6	41	63	95	199	207	456

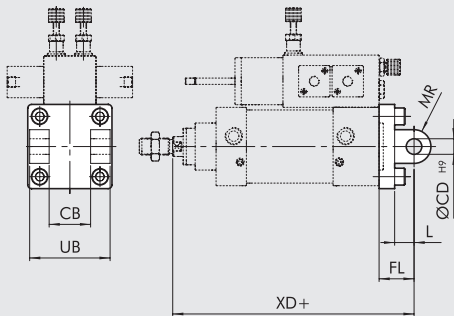
Note: Individually packed with 2 screws.

N.B.: for fixing the rear head is necessary to use:

- Ø50-63 n. 4 screws M8x40 UNI 5931 (see kit 0950636092)
- Ø80 n. 4 screws M10x40 UNI 5931

FEMALE HINGE - MODEL B

+ = ADD THE STROKE



Codice	Ø	UB	CB	FL	MR	L	XD	Weight [g]
W0950502003	50	60	32	27	12	187	12	252
W0950632003	63	70	40	32	16	190	16	394
W0950802003	80	90	50	36	16	194	16	670

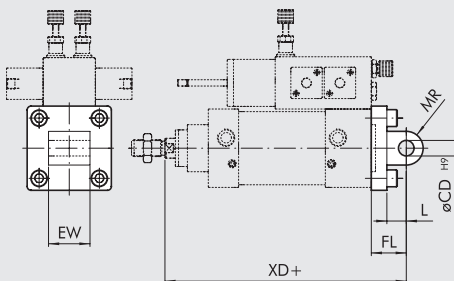
Note: Supplied with 4 screws, 4 washers, 2 snap rings and 1 pin.

N.B.: for fixing the rear head is necessary to use:

- Ø50-63 n. 4 screws M8x40 UNI 5931 (see kit 0950636092)
- Ø80 n. 4 screws M10x40 UNI 5931

MALE HINGE - MODEL BA

+ = ADD THE STROKE



Codice	Ø	EW	FL	MR	ØCD	L	XD	Weight [g]
W0950502004	50	32	27	13	12	15	187	220
W0950632004	63	40	32	17	16	20	190	316
W0950802004	80	50	36	17	16	20	194	578

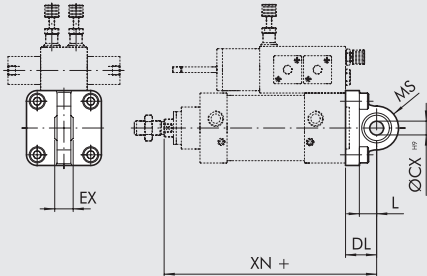
Note: Supplied with 4 screws.

N.B.: for fixing the rear head is necessary to use:

- Ø50-63 n. 4 screws M8x40 UNI 5931 (see kit 0950636092)
- Ø80 n. 4 screws M10x40 UNI 5931

ARTICULATED MALE HINGE - MODEL BAS

+ = ADD THE STROKE



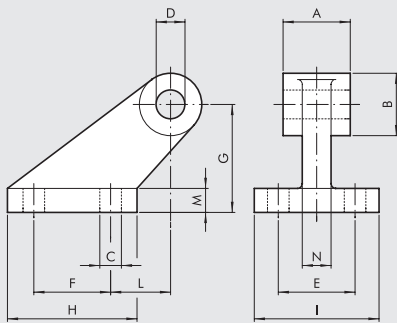
Code	Ø	DL	MS	L	XN	ØCX	EX	Weight [g]
W0950502006	50	27	19	15	187	12	16	236
W0950632006	63	32	24	20	190	16	21	336
W0950802006	80	36	24	20	194	16	21	572

Note: Supplied with 4 screws, 4 washers.

N.B.: for fixing the rear head is necessary to use:

- Ø50-63 n. 4 screws M8x40 UNI 5931 (see kit 0950636092)
- Ø80 n. 4 screws M10x40 UNI 5931

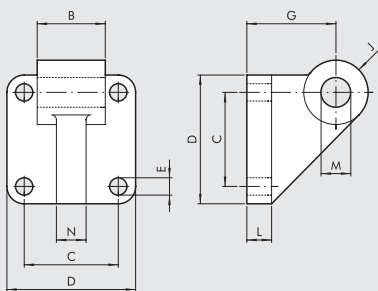
CETOP HINGE FOR MODEL B - MODEL GL



Code	Ø	A	B	C	D	E	F	G	H	I	L	M	N	Weight [g]
W0950502008	50	32	26	9	12	32	32	45	54	52	25	10	12	212
W0950632008	63	40	33	11	16	40	50	63	75	63	32	12	15	440
W0950802008	80	50	33	11	16	40	50	63	75	63	32	12	15	464

Note: Supplied with 4 screws, 4 washers.

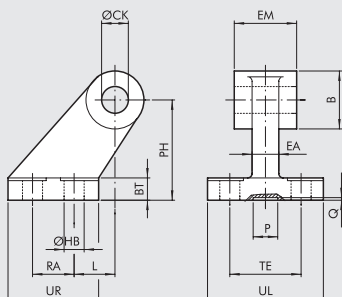
ISO HINGE FOR MODEL B - MODEL GS



Code	Ø	B	C	D	E	G	J	L	M	N	Weight [g]
W0950502108	50	31.5	46.5	65	9	45	13	12	12	12	252
W0950632108	63	39.5	56.5	75	9	50	17	12	16	15	350
W0950802108	80	49.5	72	95	11	63	17	16	16	15	655

Note: Supplied with 4 screws, 4 washers.

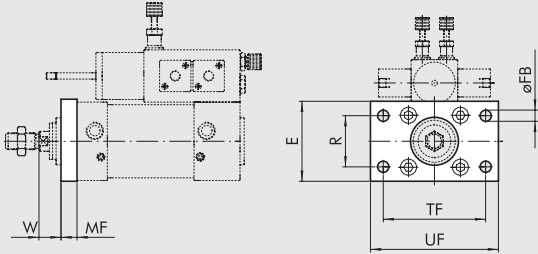
ISO 15552 HINGE FOR MODEL B - MODEL AB7



Code	Ø	EM	B	ØHB	ØCK	TE	RA	PH	UR	UL	L	BT	EA	P	Q	Weight [g]
W0950502017	50	32	26	9	12	50	30	45	45	65	3	12	16	21	3	162
W0950632017	63	40	30	9	16	52	35	50	50	67	2	14*	16	21	3	191
W0950802017	80	50	30	11	16	66	40	63	60	86	7	14	20	21	3	332

* Dimensions not to ISO 15552

FRONT FLANGE - MODEL C

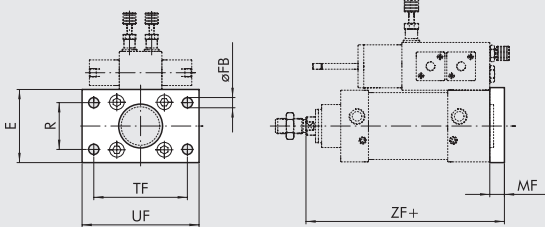


Code	Ø	TF	UF	E	MF	R	øFB	W	Weight [g]
W0950502002	50	90	110	65	12	45	9	20	522
W0950632002	63	100	120	75	12	50	9	25	670
W0950802002	80	126	153	95	16	63	12	17	1420

Note: Supplied with 4 screws.

REAR FLANGE - MODEL C

+ = ADD THE STROKE



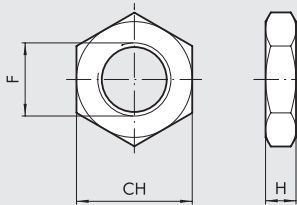
Code	Ø	TF	UF	E	MF	R	øFB	ZF	Weight [g]
W0950502002	50	90	110	65	12	45	9	170	522
W0950632002	63	100	120	75	12	50	9	170	670
W0950802002	80	126	153	95	16	63	12	176	1420

Note: Supplied with 4 screws.

N.B.: for fixing the rear head is necessary to use:

- Ø50-63 n. 4 screws M8x40 UNI 5931 (see kit 0950636092)
- Ø80 n. 4 screws M10x40 UNI 5931

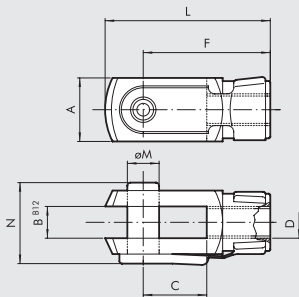
ROD NUT - MODEL S



Code	Ø	F	H	CH	Weight [g]
0950502010	50=80	M16x1.5	8	24	20

Note: Individually packed.

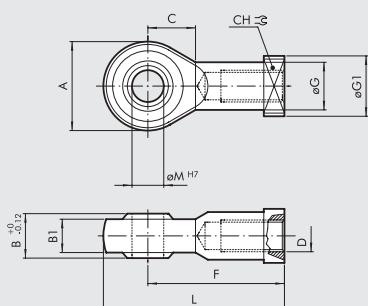
FORK MODEL GK-M



Code	Ø	Ø M	C	B	A	L	F	D	N	Weight [g]
W0950502020	50=80	16	32	16	32	83	64	M16x1.5	40	340

Note: Individually packed.

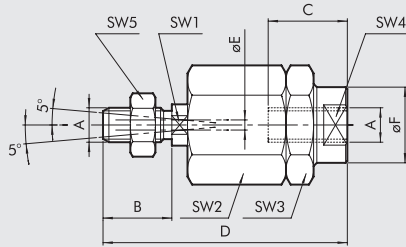
ROD EYE - MODEL GA-M



Code	Ø	Ø M	C	B1	B	A	L	F	D	Ø G	CH	Ø G1	Weight [g]
W0950502025	50=80	16	22	15	21	42	85	64	M16x1.5	22	22	22	226

Note: Individually packed.

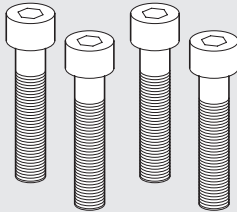
SELF ALIGNING ROD COUPLER - MODEL GA-K



Code	Ø	A	B	C	D	ØF	ØE	SW ₁	SW ₂	SW ₃	SW ₄	SW ₅	Weight [g]
W0950502030	50-80	M16x1.5	32	32	103	32	4	20	41	41	30	24	620

Note: Individually packed.

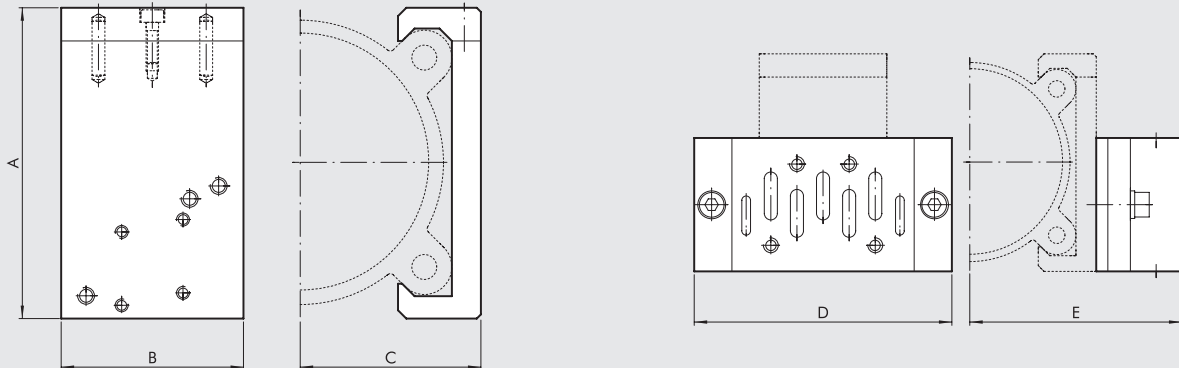
KIT OF REAR HEAD SCREWS Ø50-63



Code	Ø	Description
0950636092	50-63	Kit of M8x40 UNI 5931 rear head fixing screws

Note: 4 items per pack.

CYLINDER BRACKET - VALVE SERIES KCV



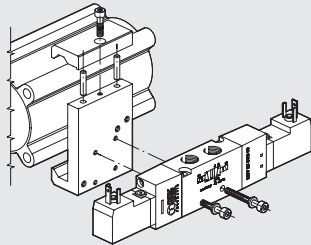
Code	Ø	A	B	C	ISO 1		ISO 2		Applicable valves	Weight [g]
					D	E	D	E		
0950002090	50	71.5	40	37	110	72	124	78	MACH 16 Serie 70 1/8-1/4 ISO 1 - ISO 2	93
0950632090	63	81.5	40	42	110	77	124	83	MACH 16 Serie 70 1/8-1/4 ISO 1 - ISO 2	101
0950802090	80	99	60	53.5	110	88.5	124	94.5	Serie 70 1/8-1/4-1/2 ISO 1 - ISO 2	222

KIT FOR FIXING VALVES TO BRACKETS

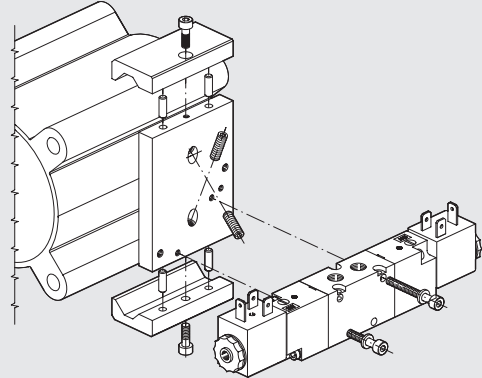
Code	Valve KIT	Composition	Weight [g]
0950002003	MACH 16	2 hex. screws M3x25 with washer	4
0950002004	Series 70 1/8-1/4	2 hex. screws M4x50 with washer	8
0950002001	ISO 1	Adaptor + ISO 1 BASE SIDE + screws + washers (Fig.B)	230
0950002002	ISO 2	Adaptor + ISO 2 BASE SIDE + screws + washers (Fig.B)	350

VALVE ASSEMBLY ON HYDRAULIC BRAKE

PER Ø 50-63

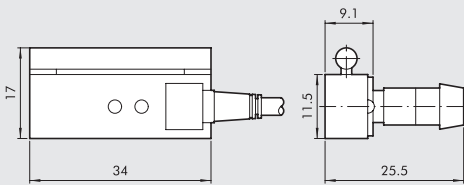


PER Ø 80



ACCESSORIES: MAGNETIC SENSORS

SENSOR SERIES DSM

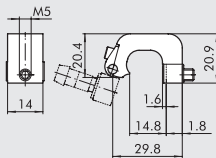


Code	Description
W0950000201	Sensor REED DSM2-C525 HS
W0950000222	Sensor E. HALL PNP DSM3-N225
W0950000232	Sensor E. HALL NPN DSM3-M225

For technical data see page 1-320

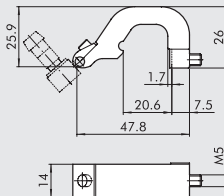
SENSOR BRACKETS

Ø 50÷63



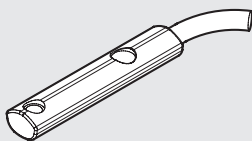
Code	Description
W0950000712	Bracket D.50-63 DST 81

Ø 80



Code	Description
W0950000713	Bracket D.80-125 DST 82

SLIM SENSOR



Code	Description
W0952025390	HALL N.O. sensor, vertical insertion 2.5 m
W0952225390	HALL N.O. sensor, vertical insertion 2.5 m robotics
W0952029394	HALL N.O. sensor, vertical insertion 300 mm M8 robotics
W0952022180	REED N.O. sensor, vertical insertion 2.5 m
W0952222180	REED N.O. sensor, vertical insertion 2.5 m robotics
W0952028184	REED N.O. sensor, vertical insertion 300 mm M8 robotics
W0952125556	HALL N.O. sensor, vertical insertion 2 m ATEX
W0952025500*	HALL N.O. sensor, vertical insertion HS 2.5 m
W0952029504*	HALL N.O. sensor, vertical insertion HS 300 mm M8
W0952022500*	REED N.O. sensor, vertical insertion HS 2.5 m
W0952128184*	REED N.O. sensor, vertical insertion HS 300 mm M8

* For use when standard sensors do not detect the magnet, e.g. near metal masses.
Note: Individually packed. For technical data see page 1-322.