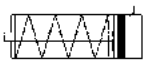
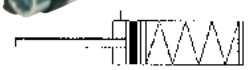
According to project U.N.I.T.O.P. - RUP/7

SERIES CU

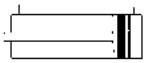
SINGLE ACTING
Front spring

CUS...-FA 

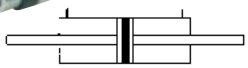
SINGLE ACTING
Rear spring

CUS...-FP 

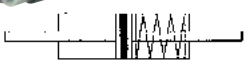
DOUBLE ACTING

CUD...-F 

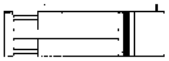
DOUBLE ACTING
Double ended piston rod

CUDP...-F 

SINGLE ACTING
Double ended piston rod

CUSP...-F 

DOUBLE ACTING
Antirotation with double slide bar

CUD...-A 

DOUBLE ACTING
Antirotation - double ended piston rod

CUDP...-A 

STANDARD EQUIPMENT

End stroke elastic bumper
Piston rod with female thread
Permanent magnet on piston rod of cylinder
Slots for assembling of proximity switches for detection of piston in intermediate or end stroke position, without contact.

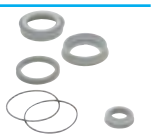
COMPONENTS & ACCESSORIES

Squeeze casted end caps in black anodized light alloy, slide bush for piston rod in self-lubricating sintered bronze.

The body, aesthetic and functional component, manufactured in light alloy, honed and anodized inside and outside (class 20 micron).

Piston rod in rolled stainless steel. Piston in light alloy with a permanent magnet fixed on it.

Seals in polyurethane for high resistance to wear. After first lubrication, they can be used with only filtered air.



Fasteners for fixed or oscillating installation of cylinders.

TECHNICAL DATA

POWER FLUID: filtered air with or without lubrication.

SPEED: ≤ 1 m/sec. without load.

OPERATING PRESSURE: from 1 to 10 bar.

TEMPERATURE RANGE: from -20°to +80°C (max +60°C when using magnetic switches).

AVAILABLE STROKES

	SINGLE ACTING			DOUBLE ACTING					
Bore size Ø mm	Standard strokes mm	Possible strokes mm	Return force of spring*	Standard strokes mm	Possible strokes mm	Thrust force at 6 bar* N	Traction force at 6 bar* N	Weight g	Weight rise per 5mm g
16	5,10,15,20,25	1 ÷ 25	see diagram	5,10,15,20,25,30,40	1 ÷ 200	121	90	90	8
20				5,10,15,20,25,		188	140	140	12
25				30,40,50		295	247	180	14
32				5,10,15,20,25,30,	1 ÷ 300	483	415	280	16
40				40,50,60,80		754	685	400	30
50	10,15,20,25			10,15,20,25,30 40,50,60,80		1177	1057	540	37
63						1869	1750	970	55
80					1 ÷ 400	3015	2825	1560	90
100						4710	4415	2450	100

*Theoretic values

ORDER CODE FOR CYLINDERS

CU	S	P	032	25	F	A	4

UNITOP CYLINDER

D = double acting
S = single acting

P = double ended piston rod

Cylinder bore size 016-020-025-032-040 050-063-080-100

Cylinder stroke

F = piston rod with female thread
M = piston rod with male thread

A = front spring
P = rear spring

X = anti-rotation bracket (only with double acting execution)
4 = double acting hollow piston rod (only with male thread)

ORDER CODE FOR FIXING ACCESSORIES

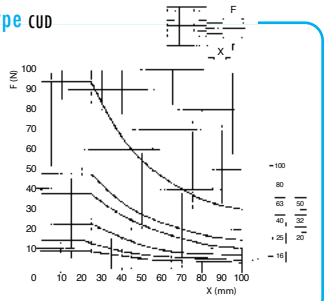
3007 - 032

Fixing Flange — Bore Size Cylinder

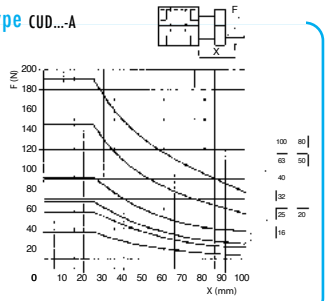
GRAPHS OF LOAD AND TORQUE

as a function of protrusion of radial force F

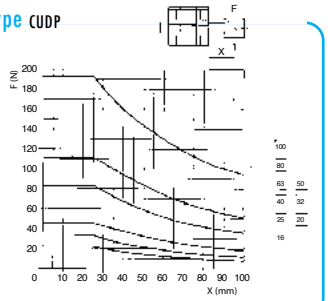
type CUD



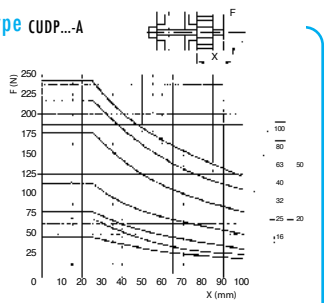
type CUD...-A



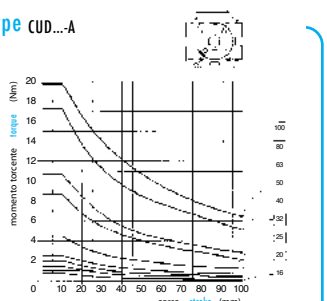
type CUDP



type CUDP...-A

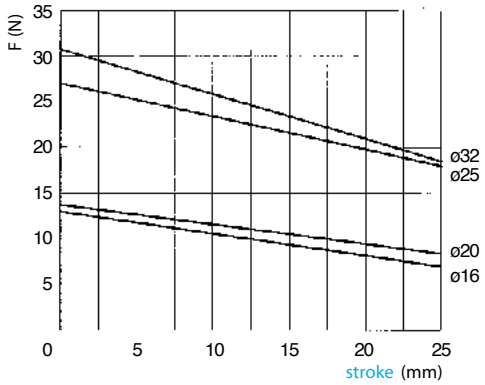


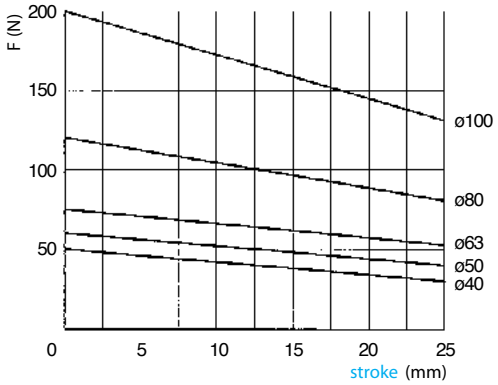
type CUD...-A



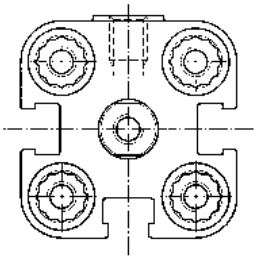
RETURN FORCE OF SPRINGS

theoretic values

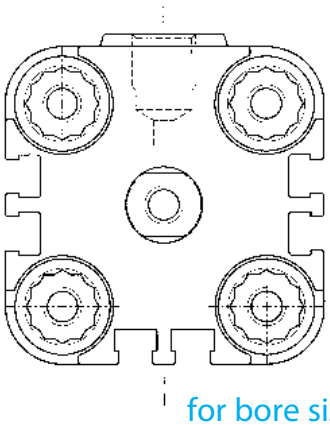




POSITION OF SLOTS FOR MAGNETIC SWITCHES



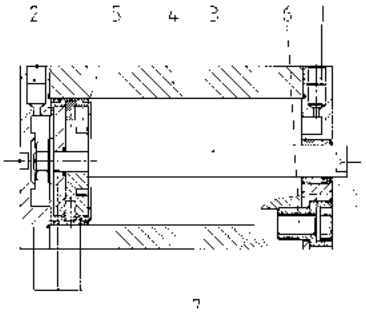
for bore size
16,20,25 mm



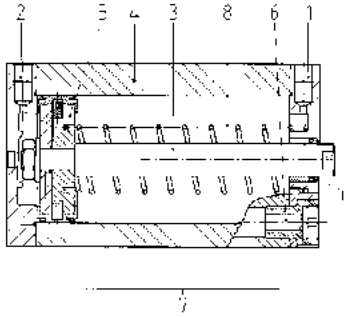
for bore size from
32 to 100 mm

SPARE PARTS

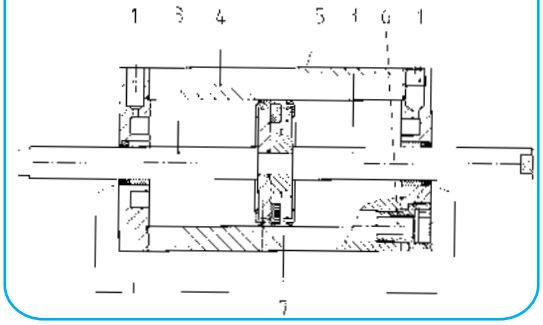
type CUD…-F; CUD…-M



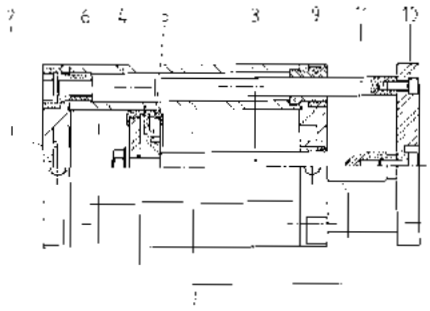
type CUS…-FA; CUS…-FP; CUS…-MA; CUS…-MP



type CUSP…-F; CUSP…-M; CUDP…-F; CUDP…-M; CUSP…-M4; CUDP…-M4

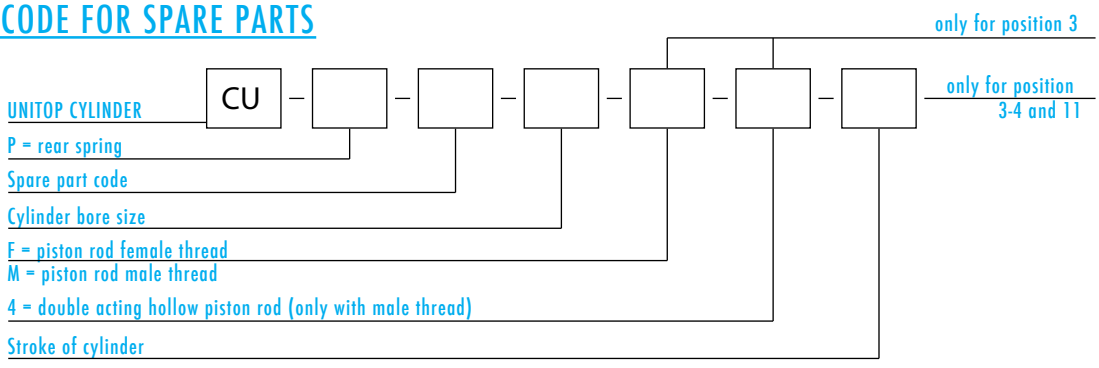


type CUD…-A; CUDP…-A



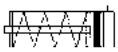
Position	Quantity	Code	Description	Position	Quantity	Code	Description
1	1	GTA	Front end cap group	6	8	VT	Screw
2	1	GTP	Rear end cap group	7	1	SGM	Seals kit
3	1	ST	Piston rod	8	1	ML	Spring
4	1	CM	Body	9	1	GTR	Antirotation front end cap
5	1	GPT	Piston group	10	1	GSA	Antirotation bracket group
				11	2	SA	Slide bars

ORDER CODE FOR SPARE PARTS

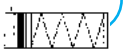


DIMENSIONAL FEATURES

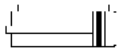
SINGLE ACTING
Front spring

CUS...-FA 

SINGLE ACTING
Rear spring

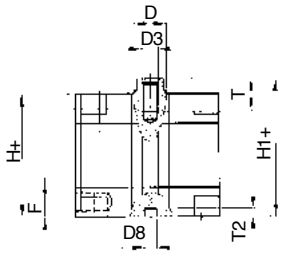
CUS...-FP 

DOUBLE ACTING

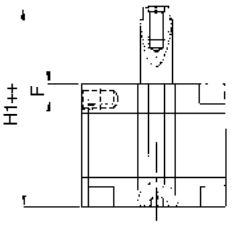
CUD...-F 

STANDARD

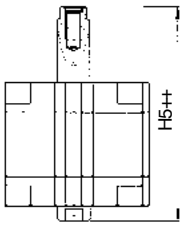
CUS...-FA
CUD...-F

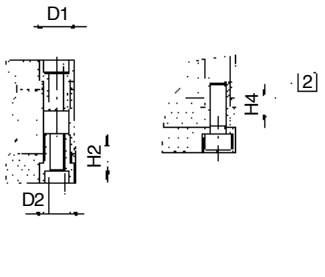


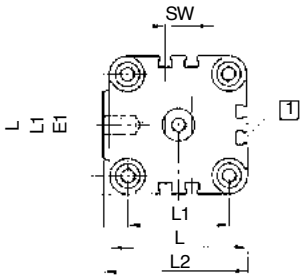
CUS...-FP



CUSP...-F
CUDP...-F







1 Slot for magnetic switch
2 Minimum height of screwing
+ Add the stroke
++ Add the stroke twice

Bore size mm	Ø mm	Ø mm			Ø mm		Ø H9 mm		mm	mm	mm
16	8	3,3	M4	M4	3,2	–	6	M5	8	38	42,5
20	10	4,2	M5	M5	3,8	–	6	M5	8	38	42,5
25	10	4,2	M5	M5	3,8	–	6	M5	8	39,5	45
32	12	5,2	M6	M6	4,5	–	6	G1/8"	8	44,5	50,5
40	12	5,2	M6	M6	4,5	–	6	G1/8"	8	45,5	52
50	16	6,8	M8	M8	6	–	6	G1/8"	8	45,5	53
63	16	8,5	M10	M8	6	–	8	G1/8"	8	50	57,5
80	20	8,5	M10	M10	8	G1/8"	8	G1/8"	8,5	56	64
100	25	8,5	M10	M12	11,7	G1/4"	8	G1/4"	10,5	66,5	76,5

DIMENSIONAL FEATURES

SINGLE ACTING
Front spring

CUS...-MA

SINGLE ACTING
Double ended piston rod

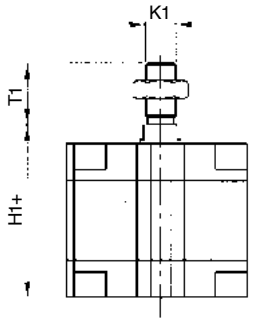
CUSP...-M

DOUBLE ACTING
Double ended piston rod

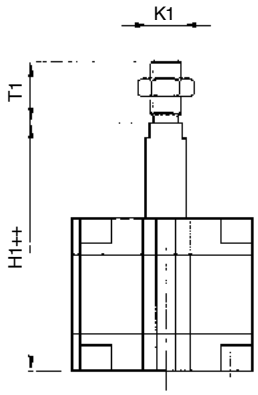
CUDP...-M

SPECIAL FEATURES

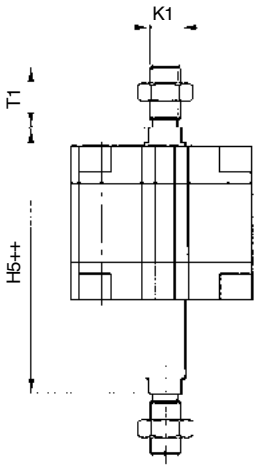
CUS...-MA
CUD...-M



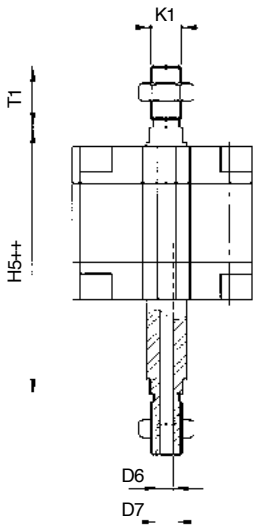
CUS...-MP



CUSP...-M
CUDP...-M



CUDP...-M4

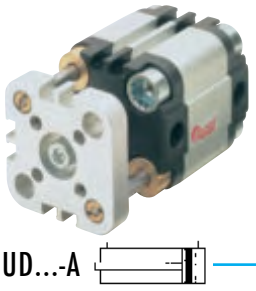


H2 mm	H4 mm	H5 mm	K1	L mm	L1 mm	L2 mm	SW mm	T* mm	T1 mm	T2 mm
18,5	16	47	M8	29	18	30	7	10	20	4
18,5	18	47	M10x1,25	36	22	37,5	8	10	22	4
18,5	18	50,5	M10x1,25	40	26	41,5	8	10	22	4
23	20	56,5	M10x1,25	50	32	52	10	12	22	4
23	20	58,5	M10x1,25	60	42	62,5	10	12	22	4
24,5	20	60,5	M12x1,25	68	50	71	13	16	24	4
27	25	65	M12x1,25	87	62	91	13	16	24	4
27	25	72	M16x1,5	107	82	111	17	20	32	4
32,5	25	86,5	M20x1,5	128	103	133	22	24	40	4

*For versions with double ended piston rod and stroke < 5 mm, this dimension decreases of 6 mm.

DIMENSIONAL FEATURES

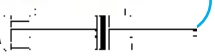
DOUBLE ACTING
Anti-rotation with double slide bar



CUD...-A

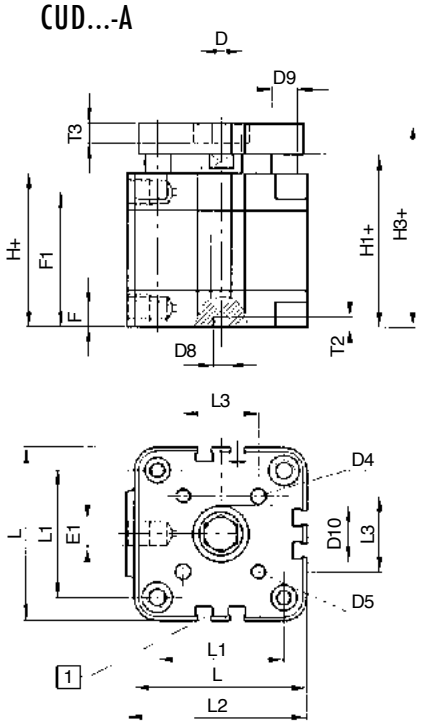
DOUBLE ACTING
Anti-rotation - double ended piston rod

CUDP...-A

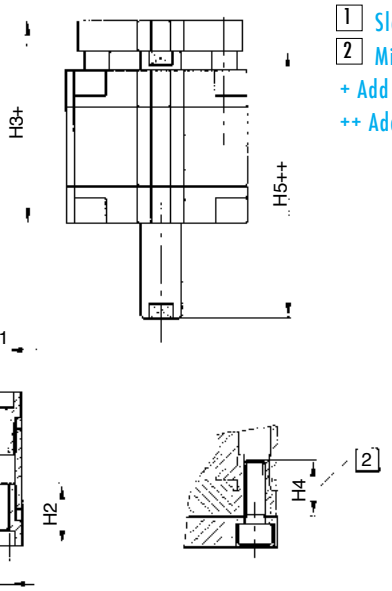


STANDARD

CUD...-A



CUDP...-A

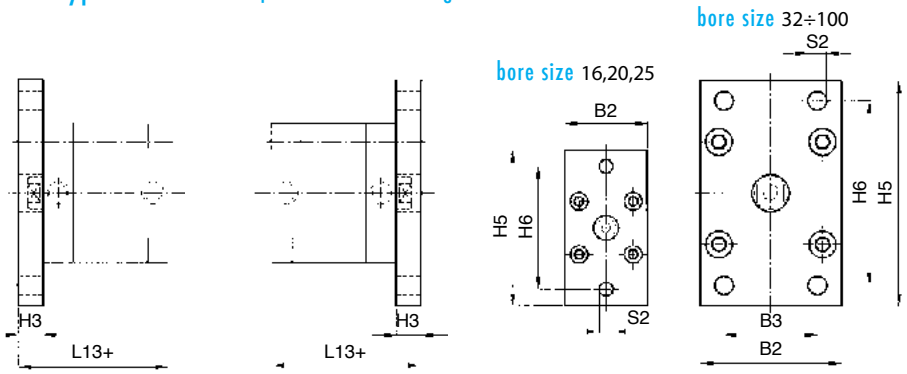


1 Slot for magnetic switch
2 Minimum height of screwing
+ Add the stroke
++ Add the stroke twice

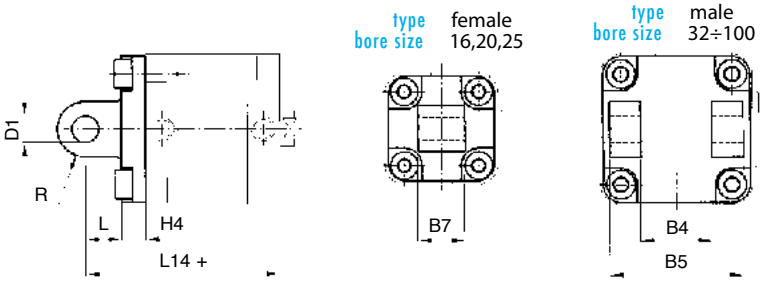
Bore size mm	D Ø mm	D1 Ø mm	D2	D4 H8 mm	D5	D8 Ø H9 mm	D9 Ø mm	D10 Ø H9 mm	E1	F mm	F1 mm	H mm	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	L mm	L1 mm	L2 mm	L3 mm	T2 mm	T3 mm
16	8	3,3	M4	3	M3	6	5	8	M5	8	30	38	42,5	18,5	48,5	16	47	29	18	30	10	4	4,2
20	10	4,2	M5	4	M4	6	6	10	M5	8	30	38	42,5	18,5	50,5	18	47	36	22	37,5	12	4	5,7
25	10	4,2	M5	5	M5	6	6	14	M5	8	31,5	39,5	45	18,5	53	18	50,5	40	26	41,5	15,6	4	4,8
32	12	5,2	M6	5	M5	6	8	17	G1/8"	8	36,5	44,5	50,5	21,5	60,5	20	56,5	50	32	52	19,8	4	6,1
40	12	5,2	M6	5	M5	6	8	17	G1/8"	8	37,5	45,5	52	21,5	62	20	58,5	60	42	62,5	23,3	4	6,1
50	16	6,8	M8	6	M6	6	10	22	G1/8"	8	37,5	45,5	53	22	65	20	60,5	68	50	71	29,7	4	7,6
63	16	8,5	M10	6	M6	8	10	22	G1/8"	8	42	50	57,5	24,5	69,5	25	65	87	62	91	35,4	4	7,6
80	20	8,5	M10	8	M8	8	12	28	G1/8"	8,5	47,5	56	64	27,5	78	25	72	107	82	111	46	4	8,7
100	25	8,5	M10	10	M10	8	12	30	G1/4"	10,5	56	66,5	76,5	32,5	90,5	25	86,5	128	103	133	56,6	4	10,3

FIXING ACCESSORIES

FLANGE type 3007-... zinc-plated steel + 4 fixing screws



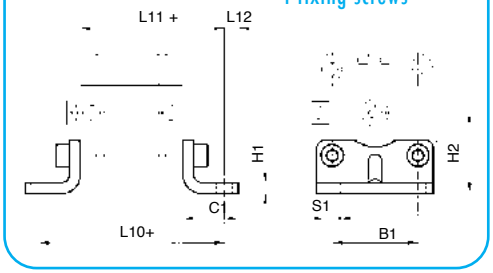
PIVOT type 3002-... type 3001-... light alloy + 4 fixing screws



Bore size mm	Stroke * max. mm
16	50
20	50
25	50
32	100
40	100
50	100
63	100
80	150
100	150

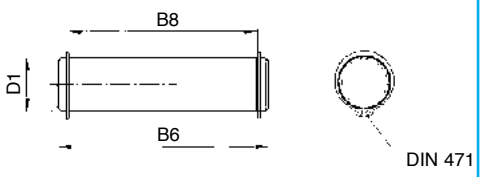
*When using the pivot fixing type 3001, 3002 the stroke of the cylinder should not be longer than the values indicated in the table.

FOOT type 3008-... zinc-plated steel + 4 fixing screws



+ Add the stroke

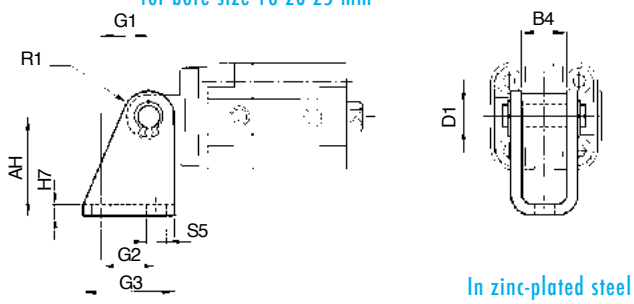
PIN FOR PIVOT typeISEC-... ground steel + 2 seeger



Bore size mm	B1 mm	B2 mm	B3 mm	B4 mm	B5 h14 mm	B6 mm	B7 h14 mm	B8 mm	C1 mm	D1 Ø H9-e8 mm	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	H6 mm	L mm	L10 mm	L11 mm	L12 mm	L13 mm	L14 mm	R Ø mm	S1 mm	S2 mm
16	18	29	–	12,1	–	–	12	–	17,5	6	3	22	10	6	55	43	10	64	51	4,5	48	54	6	5,5	5,5
20	22	36	–	16,1	–	–	16	–	22	8	4	27	10	6	70	55	14	70	54	6	48	58	8	6,6	6,6
25	26	40	–	16,1	–	–	16	–	22	8	4	30	10	6	76	60	14	71,5	55,5	6	49,5	59,5	8	6,6	6,6
32	32	50	32	26	45	52	–	46	26	10	5	32	10	9	80	65	13	80,5	62,5	8	54,5	66,5	10	6,6	7
40	42	60	36	28	52	59	–	53	28	12	5	42,5	10	9	102	82	16	85,5	65,5	8	55,5	70,5	12,5	9	9
50	50	68	45	32	60	67	–	61	32	12	6	47	12	11	110	90	16	93,5	69,5	8	57,5	72,5	12,5	9	9
63	62	87	50	40	70	77	–	71	39	16	6	50,5	15	11	130	110	21	104	77	12	65	82	15	11	9
80	82	107	63	50	90	97	–	91	42	16	8	65,5	15	13	160	135	23	116	86	12	71	92	15	11	12
100	103	128	75	60	110	118	–	111	45	20	8	78	15	15	190	163	26	132,5	99,5	12	81,5	107,5	20	13,5	14

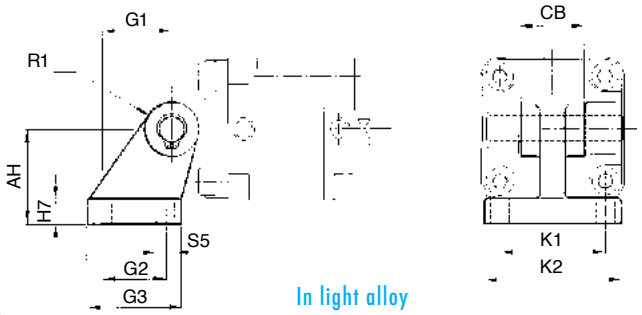
FIXING ACCESSORIES

RIGHT ANGLES JOINT type 3003
for bore size 16-20-25 mm



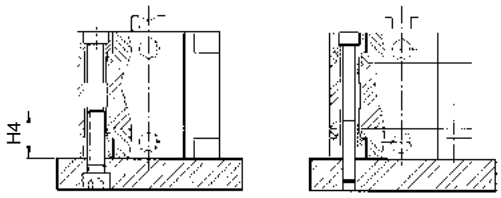
In zinc-plated steel

RIGHT ANGLES JOINT type 2803
for bore size from 32 to100 mm



In light alloy

POSITIONING OF THE CYLINDER WITHOUT FIXINGS

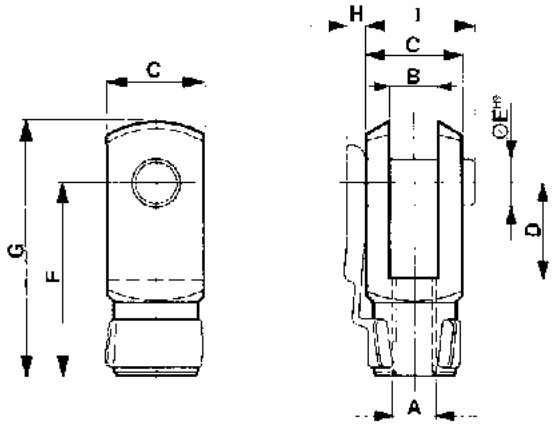


For cylinders with bore size 16 mm use just two screws in diagonal or 4 anti-magneti screws

Bore size mm	B4 mm	D1 Ø H9-e8 mm	AH mm	CB mm	G1 mm	G2 mm	G3 mm	H4 mm	H7 mm	K1 mm	K2 mm	R1 mm	S5 Ø mm
16	12,1	6	27	–	13	15	25	6	3	–	–	7	5,5
20	16,1	8	30	–	16	20	32	6	4	–	–	10	6,6
25	16,1	8	30	–	16	20	32	6	4	–	–	10	6,6
32	26	10	32	26	21	18	31	9	8	38	51	11	6,6
40	28	12	36	28	24	22	35	9	10	41	54	13	6,6
50	32	12	45	32	33	30	45	11	12	50	65	13	9
63	40	16	50	40	37	35	50	11	12	52	67	16	9
80	50	16	63	50	47	40	60	13	14	66	86	16	11
100	60	20	71	60	55	50	70	15	15	76	96	21	11

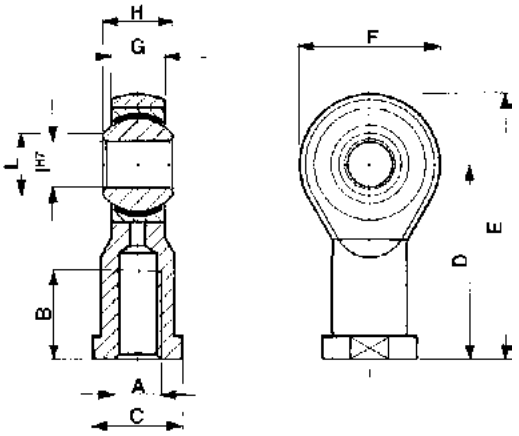
ACCESSORIES FOR PISTON ROD

ROD CLEVIS ISO 8140 - type IFF-...



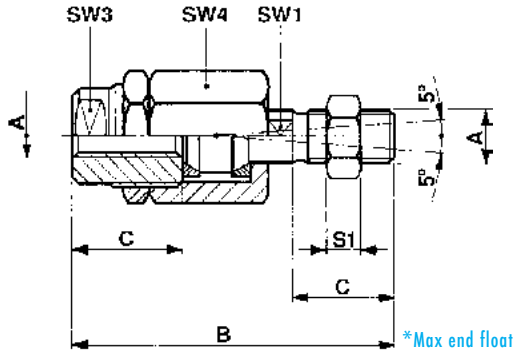
Bore size mm	A	B	C	D	E	F	G	H	I
16	M8	6	12	12	6	24	31	2	14
20	M10x1,25	8	16	16	8	32	42	3	19
25	M10x1,25	10	20	20	10	40	52	3	23
32	M10x1,25	10	20	20	10	40	52	3	23
40	M10x1,25	12	24	24	12	48	62	4	28
50	M12x1,25	16	32	32	16	64	83	4	36
63	M12x1,25	16	32	32	16	64	83	4	36
80	M16x1,5	20	40	40	20	80	105	4	44
100	M20x1,5	20	40	40	20	80	105	4	44

OSCILLATING EYE ISO 8139 - type IKJ-...



Bore size mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	L mm
16	M8	12	11	30	40	20	6,75	9	6	8,9
20	M10x1,25	16	14	36	48	24	9	12	8	10,4
25	M10x1,25	20	17	43	57	28	10,5	14	10	12,9
32	M10x1,25	20	17	43	57	28	10,5	14	10	12,9
40	M10x1,25	22	19	50	66	32	12	16	12	15,4
50	M12x1,25	28	22	64	85	42	15	21	16	19,3
63	M12x1,25	28	22	64	85	42	15	21	16	19,3
80	M16x1,5	33	30	77	102	50	18	25	20	24,3
100	M20x1,5	33	30	77	102	50	18	25	20	24,3

AXIAL AND RADIAL COMPENSATION JOINT - type IKK-...



*Max end float

Bore size mm	A	B mm	C mm	S1 mm	SW1 mm	* mm	SW3 mm	SW4 mm
16	M8	35	10	4	5	1	7	13
20	M10x1,25	57	20	5	7	2	11	17
25	M10x1,25	71	20	5	12	2	19	30
32	M10x1,25	71	20	5	12	2	19	30
40	M10x1,25	75	24	6	12	2	19	30
50	M12x1,25	103	32	8	20	2	30	42
63	M12x1,25	103	32	8	20	2	30	42
80	M16x1,5	119	40	10	20	2	30	42
100	M20x1,5	119	40	10	20	2	30	42

GTA	Front end cap complete with seals and bushing
GTP	Rear end cap complete with seals
GPT	Piston in aluminium complete with seals, magnet, screw nut and spacer for fixing to the piston rod
ML	Front or rear spring for strokes from 5 a 25 mm
VT	Screw for fixing end caps-body
GTR	Front end cap complete with seals and bushing for slide bar
GSA	Antirotation bracket with ring nut and anchor screw
SA	Antirotation slide bars

CYLINDER TYPE	COMPONENTS OF THE CYLINDER
Single acting cylinder - type CUS	1GTA + 1GTP + 1GPT + + 1ML + 8VT
Double acting cylinder - type CUD	1GTA + 1GTP + 1GPT + 8VT
Single acting cylinder - double ended piston rod - type CUSP	2GTA + 1GPT + 1ML + 8VT
Double acting cylinders double ended piston rod - type CUDP	2GTA + 1GPT + 8VT
Double acting cylinder - antirotation - type CUD-…-A	1GTR + 1GTP + 1GPT + 1GSA + 6VT
Double acting cylinder - antirotation - double ended piston rod - type CUDP-…-A	1GTR + 1GTA + 1GPT + 1GSA + 6VT