ELEMENTY TRANSPORTOWE, MOCUJĄCE ZŁĄCZNE

TRANSPORT FASTENERS

CZOPY MOCUJĄCE
LIFTING BOLTS
PN-83/M-66102

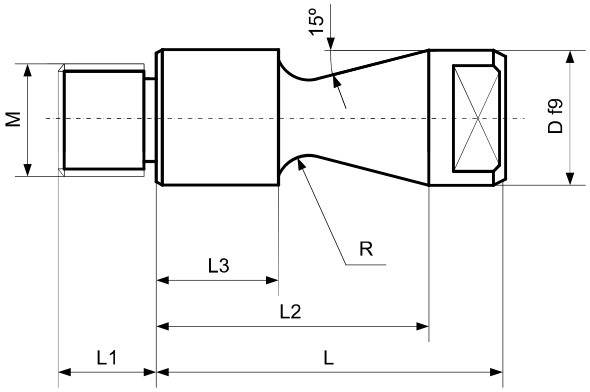
CMB

Materiał / *Material*

1.0503

Jak zamówić / *How to order*

Symbol: **CMB.032**



Symbol	D	M	L	L1	L2	L3	R
CMB.020	20	M16x1,5	40	13	28	14	6
CMB.025	25	M20x1,5	45	16	32	16	6
CMB.032	32	M24x2,0	50	19	37	17	8
CMB.040	40	M30x2,0	72	19	53	28	12
CMB.050	50	M42x2,0	80	19	56	28	12

CZOPY TRANSPORTOWE
LIFTING PINS
VDI 3366

CMT
C101-02

Materiał / *Material*

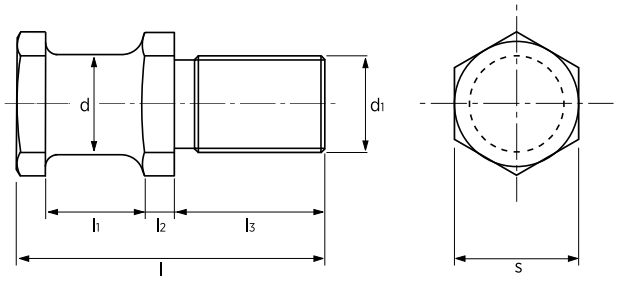
C45E
700÷800 N/mm²

Jak zamówić / *How to order*

Symbol: **CMT.032**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 czopy transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Symbol	Symbol GSB	d ±0,1	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d1	l ±1	l1	l2	l3 ±0,5	s
CMT.016	C101-02-016-016	16	250	500	M16	58	20	5,5	28	24
CMT.020	C101-02-020-020	20	500	1000	M20	68	22	6,5	34	30
CMT.025	C101-02-025-024	25	1000	2000	M24	78	25	8	38	36
CMT.032	C101-02-032-030	32	1500	3000	M30	95	32	10	45	41
CMT.040	C101-02-040-036	40	2500	5000	M36	118	40	12	56	50

CZOPY TRANSPORTOWE
LIFTING BRACKETS
VDI 3366

CTA
C101-04

Materiał / *Material*

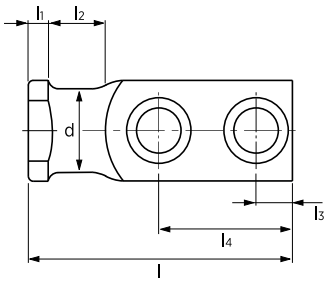
C45E
700÷800 N/mm²

Jak zamówić / *How to order*

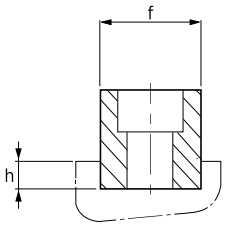
Symbol: **CTA.050**

Uwaga / *Attention*

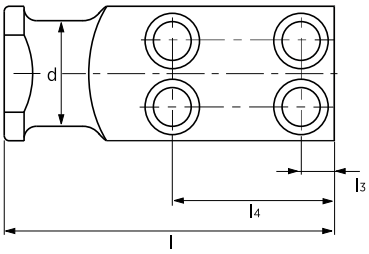
Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 czopy transportowe.
Brak śrub w zestawie, zamów osobno, śruby str. J144
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting brackets.
No screws included, order separately - page J144



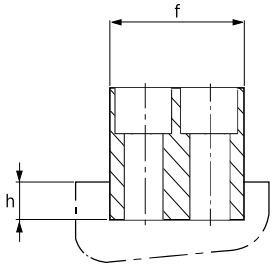
Gniazdo
Seat



Symbol	Symbol GSB	d	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	l	l1	l2	l3	l4	f +1 +0,5	h	Śruby *Screws* DIN 912 8.8
CTA.016	C101-04-020-080	16	320	640	80	6	20	10	44	20	6	M8x30
CTA.020	C101-04-025-090	20	630	1260	90	8	25	10	47	25	8	M10x35
CTA.025	C101-04-035-100	25	1250	2500	100	8	30	12	50	35	10	M12x40
CTA.032	C101-04-040-120	32	2000	4000	120	10	32	16	62	40	10	M16x55
CTA.040	C101-04-050-140	40	3200	6400	140	10	40	18	72	50	12	M20x70
CTA.050	C101-04-060-160	50	5000	10000	160	12	45	22	81	60	14	M24x70



Gniazdo
Seat



Symbol	Symbol GSB	d	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	l	l1	l2	l3	l4	f +1 +0,5	h	Śruby *Screws* DIN 912 8.8
CTA.063	C101-04-080-200	63	8000	16000	200	12	50	20	98	80	16	M20x100
CTA.080	C101-04-100-250	80	12500	25000	250	15	65	25	125	100	18	M24x110
CTA.100	C101-04-120-300	100	20000	40000	300	15	80	30	155	120	20	M30x130

CZOPY TRANSPORTOWE Z ZABEZPIECZENIEM LINY

LIFTING BRACKETS WITH ROPE SAFETY STOP

CTB

C101-05

Materiał / *Material*

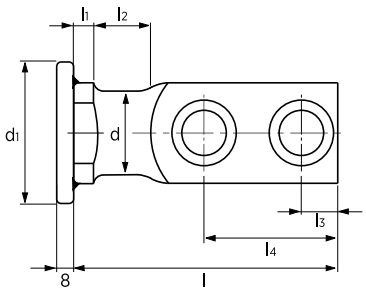
C45E
700÷800 N/mm²

Jak zamówić / *How to order*

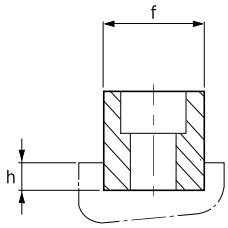
Symbol: **CTB.050**

Uwaga / *Attention*

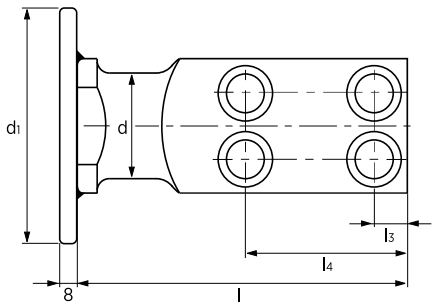
Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 czopy transportowe.
Brak śrub w zestawie, zamów osobno, śruby str. J144
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting brackets.
No screws included, order separately - page J144



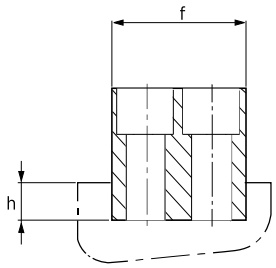
Gniazdo
Seat



Symbol	Symbol GSB	d	d1	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	l	l1	l2	l3	l4	f +1 +0,5	h	Śruby *Screws* DIN 912 8.8
CTB.016	C101-05-020-080	16	60	320	640	80	6	20	10	44	20	6	M8x30
CTB.020	C101-05-025-090	20	70	630	1260	90	8	25	10	47	25	8	M10x35
CTB.025	C101-05-035-100	25	70	1250	2500	100	8	30	12	50	35	10	M12x40
CTB.032	C101-05-040-120	32	110	2000	4000	120	10	32	16	62	40	10	M16x55
CTB.040	C101-05-050-140	40	110	3200	6400	140	10	40	18	72	50	12	M20x70
CTB.050	C101-05-060-160	50	150	5000	10000	160	12	45	22	81	60	14	M24x70



Gniazdo
Seat



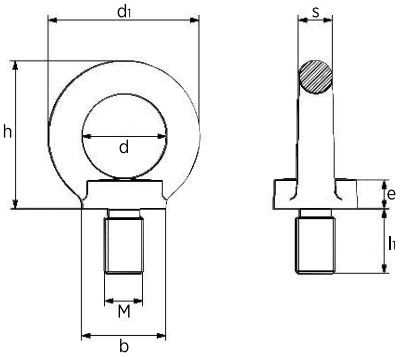
Symbol	Symbol GSB	d	d1	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	l	l1	l2	l3	l4	f +1 +0,5	h	Śruby *Screws* DIN 912 8.8
CTB.063	C101-05-080-200	63	150	8000	16000	200	12	50	20	98	80	16	M20x100
CTB.080	C101-05-100-250	80	150	12500	25000	250	15	65	25	125	100	18	M24x110
CTB.100	C101-05-120-300	100	150	20000	40000	300	15	80	30	155	120	20	M30x130

ŚRUBY Z UCHEM
LIFTING EYE BOLTS

C102-01

Jak zamówić / *How to order*

Symbol: **C102-01-063-016**



Symbol	Mxl1	d	d1	h	b	e	s	Waga *Weight* (kg)
C102-01-045-006	M6x13	25	45	45	25	10	10	0,09
C102-01-045-008	M8x13	25	45	45	25	10	10	0,09
C102-01-045-010	M10x17	25	45	45	25	10	10	0,11
C102-01-063-012	M12x21	35	63	62	35	14	14	0,27
C102-01-063-014	M14x21	35	63	62	35	14	14	0,29
C102-01-063-016	M16x27	35	63	62	35	14	14	0,31
C102-01-090-020	M20x30	50	90	90	50	20	20	0,86
C102-01-090-024	M24x36	50	90	90	50	20	20	0,90
C102-01-108-030	M30x45	60	108	109	65	24	24	1,70
C102-01-126-036	M36x54	70	126	128	75	26	28	2,15

MxI1	0°	0°	0° - 45°	45° - 60°	0° - 45°	45° - 60°	Max. moment dokręcenia (Nm) *Max. Tightening Couple (Nm)*
	1	2	2	2	3/4	3/4	
M6x13	0,4	0,8	0,14	0,1	0,2	0,14	3,5
M8x13	0,8	1,6	0,28	0,2	0,4	0,28	8
M10x17	1	2	0,35	0,25	0,5	0,35	16
M12x21	1,6	3,2	0,56	0,4	0,8	0,56	28
M14x21	3	6	1	0,75	1,5	1	45
M16x27	4	8	1,4	1	2	1,4	70
M20x30	6	12	2,1	1,5	3	2,1	135
M24x36	8	16	2,8	2	4	2,8	230
M30x45	12	24	4,2	3	6	4,2	465
M36x54	16	32	5,6	3,9	7,8	5,4	814

ŚRUBY Z UCHEM

LIFTING EYE BOLTS

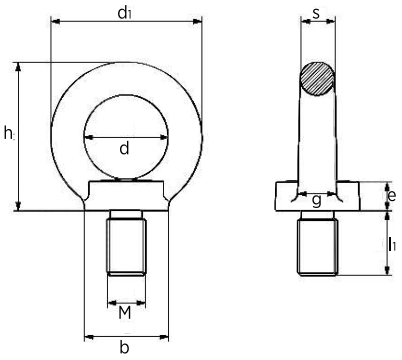
DIN 580

CMU

C102-02

Jak zamówić / *How to order*

Symbol: **CMU16**



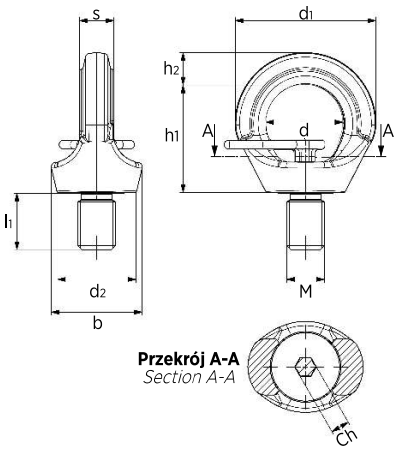
Symbol	Symbol GSB	Mxl1	d	d1	h	b	e	s	g	Dopuszczalne obciążenie robocze (t) *Working Load Limit (t)*			Maksymalny moment dokręcania *Max. Tightening Couple*	Waga *Weight*
										⊥	45° ∧	90° ⊢	(Nm)	(kg)
CMU06	C102-02-036-006	M6x13	20	36	36	20	6	8	10	0,075	0,055	0,038	3,5	0,06
CMU08	C102-02-036-008	M8x13	20	36	36	20	6	8	10	0,14	0,10	0,07	8	0,06
CMU10	C102-02-045-010	M10x17	25	45	45	25	8	10	12	0,23	0,17	0,115	16	0,11
CMU12	C102-02-054-012	M12x20,5	30	54	53	30	10	12	14	0,34	0,24	0,17	28	0,18
CMU14	C102-02-063-014	M14x27	35	63	62	35	12	14	16	0,49	0,35	0,245	45	0,27
CMU16	C102-02-063-016	M16x27	35	63	62	35	12	14	16	0,70	0,50	0,35	70	0,28
CMU20	C102-02-072-020	M20x30	40	72	71	40	14	16	19	1,20	0,86	0,60	135	0,45
CMU24	C102-02-090-024	M24x36	50	90	90	50	18	20	24	1,80	1,29	0,90	230	0,74
CMU30	C102-02-108-030	M30x45	60	108	109	65	22	24	28	3,20	2,30	1,60	465	1,66
CMU36	C102-02-126-036	M36x54	70	126	128	75	26	28	32	4,60	3,30	2,30	814	2,65

ŚRUBY Z UCHEM OBROTOWYM
ROTATING EYE BOLTS

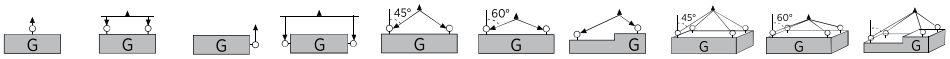
C102-03

Jak zamówić / *How to order*

Symbol: **C102-03-090-024**



Symbol	Mxl1	Dopuszczalne obciążenie robocze (t) *Working Load Limit W.L.L (t)*	d	d1	d2	h1	h2	b	s	Ch	Waga *Weight* (kg)
C102-03-046-008	M8x12	0,3	25	46	25,5	33,7	10	30	9,8	6	0,12
C102-03-046-010	M10x15	0,4	25	46	25,5	33,7	10	30	9,8	6	0,12
C102-03-0555-012	M12x18	0,75	30	55,5	30,6	41,5	12,5	36,5	11,5	8	0,20
C102-03-0645-016	M16x24	1,5	35	64,5	36,5	49,5	14,5	42	15,7	10	0,35
C102-03-0745-020	M20x30	2,3	40	74,5	42	58	16	52,5	18	12	0,60
C102-03-090-024	M24x36	3,2	49	90	50	69	20,5	61	22	12	1,00
C102-03-111-030	M30x45	4,5	60	111	66	86	25,5	75	28	17	2,00
C102-03-135-036	M36x55	7	74	135	77	105	32	96,5	30	22	3,40



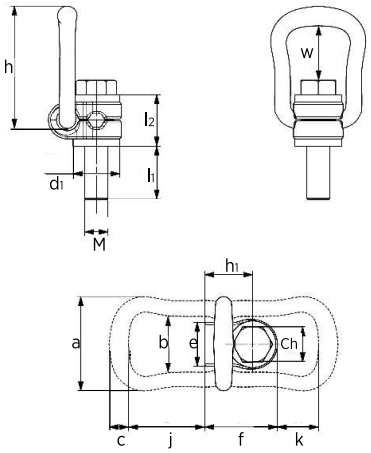
Mxl1	0°	0°	90°	90°	0° - 45°	45° - 60°	Asymet. *Asimm*	0° - 45°	45° - 60°	Asymet. *Asimm*	Max. moment dokręcenia *Max. Tightening Couple (Nm)*
	1	2	1	2	2			3/4			
M8x12	1	2	0,3	0,6	0,42	0,3	0,3	0,63	0,45	0,3	8
M10x15	1	2	0,4	0,8	0,56	0,4	0,4	0,84	0,6	0,4	16
M12x18	2	4	0,75	1,5	1	0,75	0,75	1,6	1,12	0,75	25
M16x24	4	8	1,5	3	2	1,5	1,5	3,15	2,25	1,5	60
M20x30	6	12	2,3	4,6	3,22	2,3	2,3	4,83	3,45	2,3	110
M24x36	8	16	3,2	6,4	4,48	3,2	3,2	6,7	4,8	3,2	195
M30x45	12	24	4,5	9	6,3	4,5	4,5	9,4	6,7	4,5	320
M36x55	16	32	7	14	9,8	7	7	14,7	10,5	7	585

OGNIWA OBROTOWE Z ZACISKIEM
ROTATING EYE BOLTS WITH CLAMP

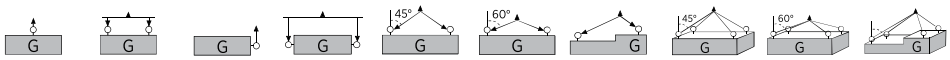
C102-04

Jak zamówić / *How to order*

Symbol: **C102-04-111-020**



Symbol	Mxl1	Dopuszczalne obciążenie robocze (t) *Working Load Limit W.L.L (t)*	d1	h	h1	l1	l2	a	b	c	e	f	w	j	k	Ch	Waga *Weight* (kg)
C102-04-078-008	M8x15	0,3	25	78	26,5	15	30	57	34	10	24	41	43	51	35	13	0,275
C102-04-078-010	M10x15	0,63	25	78	26,5	15	30	57	34	10	24	41	42	51	35	17	0,29
C102-04-085-012	M12x23	1	32	85	33	23	36	66	38	13,5	30	50	40	52	28	19	0,50
C102-04-085-016	M16x24	1,5	32	85	33	24	36	66	38	13,5	30	50	38	52	28	24	0,51
C102-04-111-020	M20x31	2,5	45	111	42,5	31	44	87	55	16	48	68	54	71	36	30	1,25
C102-04-111-024	M24x37	4	45	111	42,5	37	44	87	55	16	48	68	51	71	36	36	1,30
C102-04-145-030	M30x45	5	60	145	58,5	45	65	109	66	22,5	54	91	62	86	47	46	3,25
C102-04-190-036	M36x59	8	70	190	72,5	59	81	136	78	28	62	108	88	115	74	55	5,90



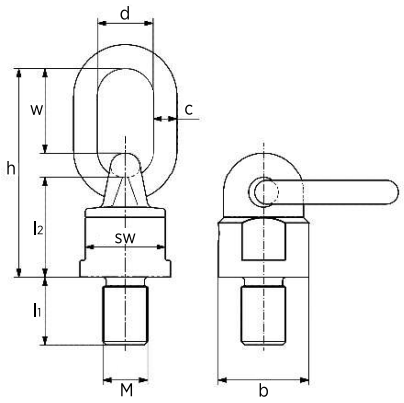
Mxl1	0°	0°	90°	90°	0° - 45°	45° - 60°	Asymet. *Asimm*	0° - 45°	45° - 60°	Asymet. *Asimm*	Max. moment dokręcenia *Max. Tightening Couple (Nm)*
	1	2	1	2	2			3/4			
M8x15	0,3	0,6	0,3	0,6	0,42	0,3	0,3	0,63	0,45	0,3	30
M10x15	0,63	1,26	0,63	1,26	0,88	0,63	0,63	1,32	0,95	0,63	60
M12x23	1	2	1	2	1,4	1	1	2,1	1,5	1	100
M16x24	1,5	3	1,5	3	2,1	1,5	1,5	3,15	2,25	1,5	150
M20x31	2,5	5	2,5	5	3,5	2,5	2,5	5,25	3,75	2,5	250
M24x37	4	8	4	8	5,6	4	4	8,4	6	4	400
M30x45	5	10	5	10	7	5	5	10,5	7,5	5	500
M36x59	8	16	8	16	11,2	8	8	16,8	12	8	800

OGNIWA OBROTOWE Z PIERŚCIENIEM
ROTATING EYE BOLTS WITH RING

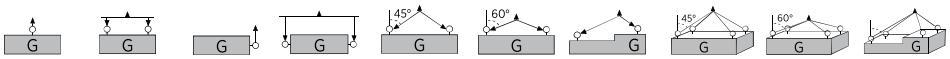
C102-05

Jak zamówić / *How to order*

Symbol: **C102-05-105-2030**



Symbol	Mxl1	Dopuszczalne obciążenie robocze (t) *Working Load Limit W.L.L (t)*	d	h	l2	b	c	w	sw	Waga *Weight* (kg)
C102-05-105-0816	M8x16	0,3	30	105	50	38	13	46	30	0,48
C102-05-105-1018	M10x18	0,3	30	105	50	38	13	46	30	0,48
C102-05-105-1218	M12x18	0,5	30	105	50	38	13	46	30	0,50
C102-05-105-1620	M16x20	1,12	30	105	50	38	13	46	30	0,53
C102-05-105-2030	M20x30	1,12	30	105	50	38	13	46	30	0,53
C102-05-153-2430	M24x30	3,15	40	153	68	58	18	70	48	1,63
C102-05-205-3035	M30x35	8	50	205	95	85	23	95	75	5,30



Mxl1	0°	0°	90°	90°	0° - 45°	45° - 60°	Asymet. *Asimm*	0° - 45°	45° - 60°	Asymet. *Asimm*	Max. moment dokręcenia *Max. Tightening Couple (Nm)*
	1	2	1	2	2			3/4			
M8x16	0,6	1,2	0,3	0,6	0,42	0,3	0,3	0,63	0,45	0,3	16
M10x18	0,6	1,2	0,3	0,6	0,42	0,3	0,3	0,63	0,45	0,3	16
M12x18	1	2	0,5	1	0,75	0,5	0,5	1,1	0,75	0,5	28
M16x20	2	4	1,12	2	1,5	1,12	1,12	2,36	1,6	1,12	70
M20x30	2	4	1,12	2	1,5	1,12	1,12	2,36	1,6	1,12	135
M24x30	6,3	12,5	3,15	6,3	4,25	3,15	3,15	6,3	4,75	3,15	230
M30x35	12,5	25	8	16	11,2	8	8	16,8	12	8	465

TULEJKI DO SWORZNI TRANSPORTOWYCH
BUSHES FOR LIFTING PINS

C104-01

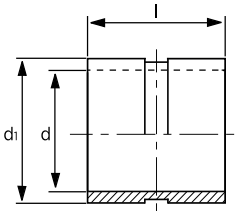
Materiał / Material

St35

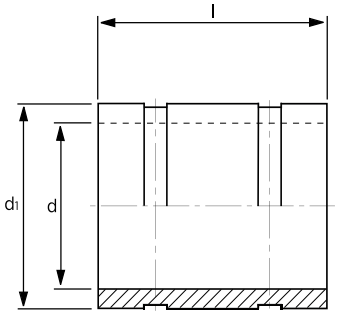
Jak zamówić / *How to order*

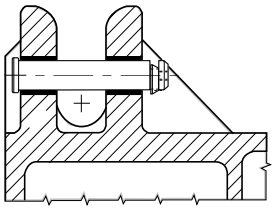
Symbol: **C104-01-052-060**

Forma A
Form A



Forma B
Form B





Symbol	FORMA *FORM*	d	d1	l
C104-01-034-040	A	34	44	40
C104-01-042-050	A	42	52	50
C104-01-052-060	A	52	62	60
C104-01-065-080	A	65	75	80
C104-01-078-1001	B	78	100	100
C104-01-078-1002	B	78	105	100

SWORZNIE TRANSPORTOWE
LIFTING PINS

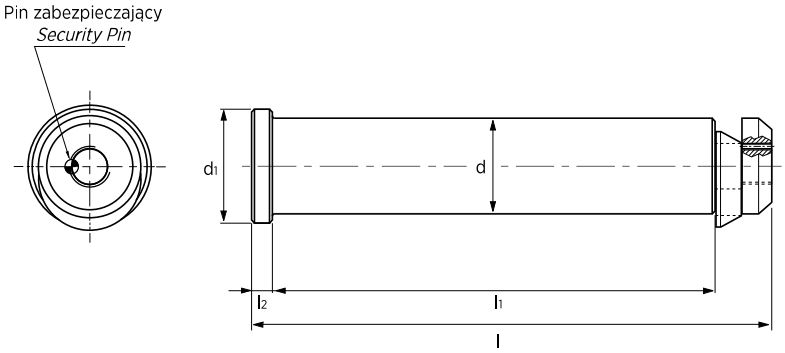
C103-01

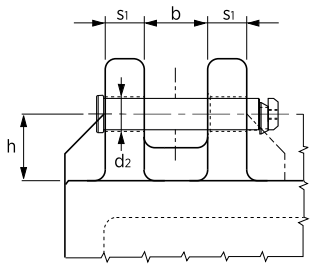
Jak zamówić / *How to order*

Symbol: **C103-01-050-027**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.





Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d h11	d_1	l +1	l_1 +1	l_2	d_2 +1	h	b	s_1	Materiał *Material*
C103-01-032-175	3200	6400	32	40	175	145	10	34	63	60	40	C45E
C103-01-032-017	3200	6400	32	40	175	145	10	34	63	60	40	42CrMo4+QT
C103-01-040-225	5000	10000	40	50	225	188	10	42	80	80	50	C45E
C103-01-040-022	5000	10000	40	50	225	188	10	42	80	80	50	42CrMo4+QT
C103-01-050-273	8000	16000	50	60	273	230	11	52	100	100	60	C45E
C103-01-050-027	8000	16000	50	60	273	230	11	52	100	100	60	42CrMo4+QT
C103-01-063-347	12500	25000	63	75	347	295	14	65	125	120	80	C45E
C103-01-063-034	12500	25000	63	75	347	295	14	65	125	120	80	42CrMo4+QT
C103-01-076-422	31500	63000	76	95	422	360	15	78	160	140	100	42CrMo4+QT
C103-01-076-042	31500	63000	76	95	422	360	15	78	160	140	100	42CrMo4+QT

SWORZNIE TRANSPORTOWE
LIFTING PINS

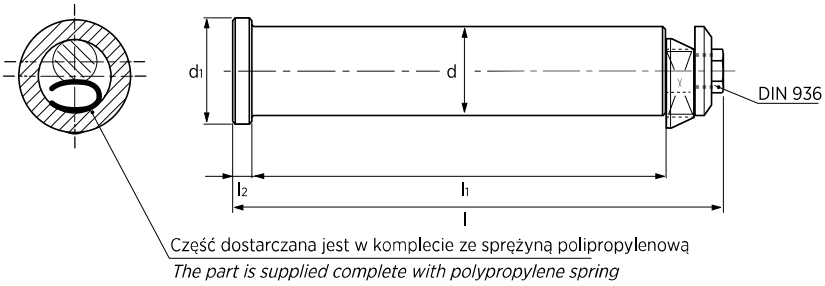
C103-02

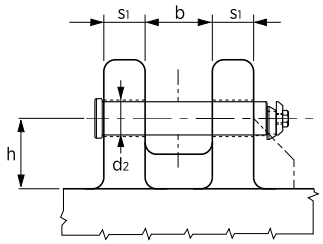
Jak zamówić / *How to order*

Symbol: **C103-02-043-195**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.





Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d h11	d_1	l	l_1	l_2	d_2	h	b	s_1	Materiał *Material*
C103-02-029-150	4000	8000	29	38	178,5	150	6	30	60	60	40	42CrMo4+QT
C103-02-033-170	7000	14000	33	43	200,5	170	6	35	65	60	50	42CrMo4+QT
C103-02-043-195	10000	20000	43	53	233	195	8	45	85	80	50	42CrMo4+QT
***C103-02-053-235**	16000	32000	53	65	282	235	10	55	105	100	60	42CrMo4+QT
C103-02-053-180	16000	32000	53	65	227	180	10	55	75	65	50	42CrMo4+QT
C103-02-063-215	26000	52000	63	78	272,5	215	12	65	100	80	60	42CrMo4+QT
***C103-02-063-295**	25000	50000	63	78	352,5	295	12	65	130	120	80	42CrMo4+QT
***C103-02-078-355**	40000	80000	78	95	421,5	355	14	81	150	140	100	42CrMo4+QT

* Tylko na wymianę
** Only for replacement*

SWORZNIE TRANSPORTOWE
LIFTING PINS

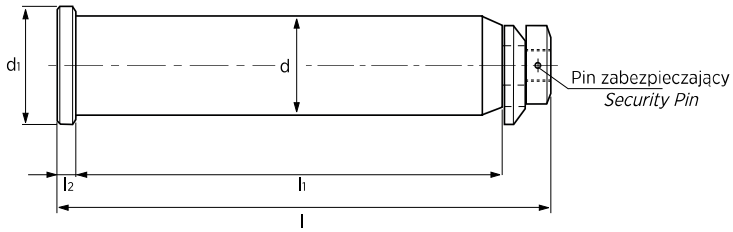
C103-03

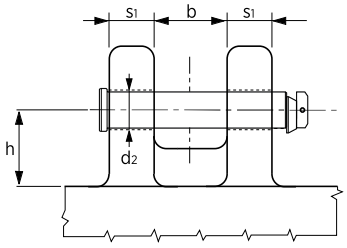
Jak zamówić / *How to order*

Symbol: **C103-03-035-125**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.





Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d -0,3	d_1	l ±1	l_1	l_2	d_2	h min	b	s_1	Materiał *Material*
C103-03-035-125	1500	3000	35	45	165	125	10	37	60	50	30	42CrMo4+QT
C103-03-050-190	5500	10050	50	63	230	190	10	52	130	70	50	42CrMo4+QT
C103-03-063-280	23000	45500	63	76	320	280	10	65	145	100	80	42CrMo4+QT
C103-03-080-320	30000	60000	80	89	370	320	15	82	145	100	100	42CrMo4+QT

SWORZNIE TRANSPORTOWE
LIFTING PINS

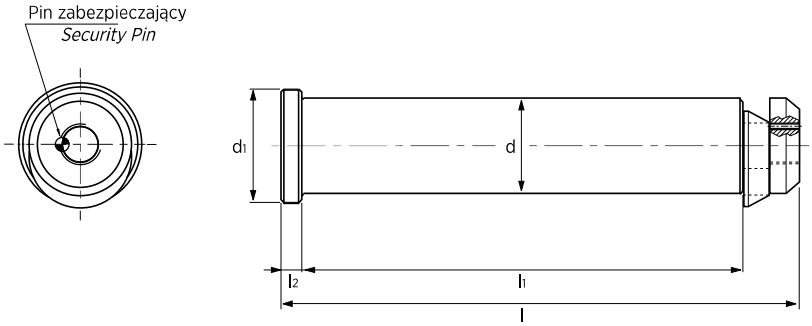
C103-04

Jak zamówić / *How to order*

Symbol: **C103-04-050-220**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d h11	d_1	l +1	l_1	l_2	Materiał *Material*
C103-04-030-158	3200	6400	30	40	158	129	10	C45E
C103-04-040-187	5000	10000	40	50	187	155	10	C45E
C103-04-050-220	8000	16000	50	60	220	180	11	C45E
C103-04-060-246	12500	25000	60	70	246	205	11	C45E
C103-04-080-305	18000	36000	80	90	305	205	12	C45E

SWORZNIE TRANSPORTOWE
LIFTING PINS

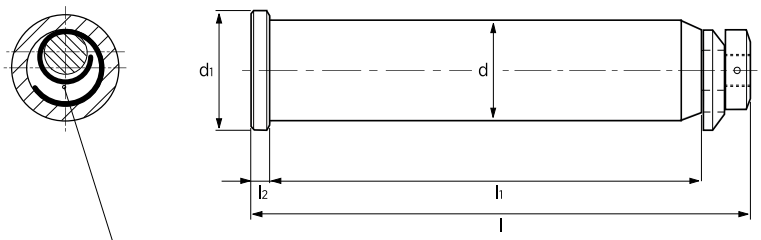
C103-04

Jak zamówić / *How to order*

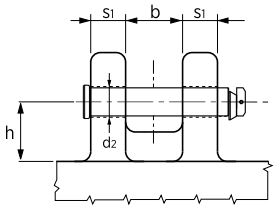
Symbol: **C103-04-050-190**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Część dostarczana jest w komplecie ze sprężyną stalową
The part is supplied complete of steel spring



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d -0,3	d_1	l	l_1	l_2	d_2	h min	b	s_1	Materiał *Material*
C103-04-050-190	5500	10050	50	63	230	190	10	52	130	70	50	42CrMo4+QT
C103-04-063-280	23000	45500	63	76	320	280	10	65	145	100	80	42CrMo4+QT
C103-04-080-320	30000	60000	80	89	370	320	15	82	145	100	100	42CrMo4+QT

SWORZNIE TRANSPORTOWE
LIFTING PINS

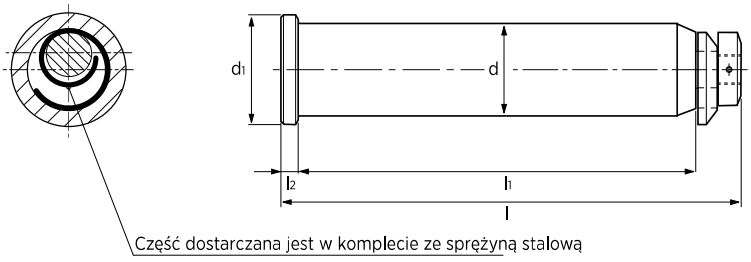
C103-04

Jak zamówić / *How to order*

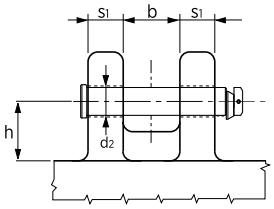
Symbol: **C103-04-063-028**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Część dostarczana jest w komplecie ze sprężyną stalową
The part is supplied complete of steel spring



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d -0,3	d_1	l	l_1	l_2	d_2	h min	b	s_1	Materiał *Material*
C103-04-050-019	10000	20000	50	63	230	190	10	52	70	85	50	42CrMo4+QT
C103-04-063-028	20000	40000	63	76	320	280	10	65	100	110	80	42CrMo4+QT
C103-04-080-032	40000	80000	80	89	375	320	15	82	105	110	100	42CrMo4+QT

SWORZNIE TRANSPORTOWE
LIFTING PINS

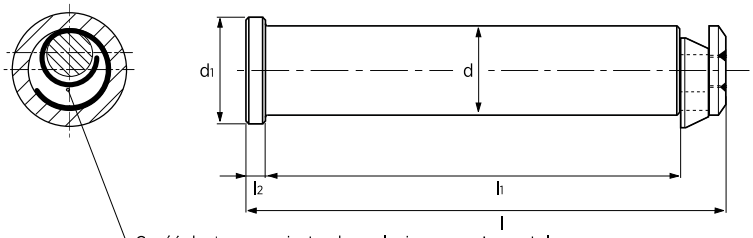
C103-05

Jak zamówić / *How to order*

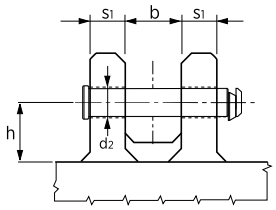
Symbol: **C103-05-050-021**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Część dostarczana jest w komplecie ze sprężyną stalową
The part is supplied complete of steel spring



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d h11	d_1	l ±1	l_1	l_2	d_2 +0,5	h	b	s_1	Materiał *Material*
C103-05-032-013	6000	12000	32	40	154	132	6	34	55	50	37,5	ST52
C103-05-032-132	6000	12000	32	40	154	132	6	34	55	50	37,5	C45E
C103-05-040-017	9000	18000	40	50	197,5	170	8	42	70	65	47,5	ST52
C103-05-040-170	9000	18000	40	50	197,5	170	8	42	70	65	47,5	C45E
C103-05-050-021	14000	28000	50	63	247,5	212	10	52	90	80	60	ST52
C103-05-050-212	14000	28000	50	63	247,5	212	10	52	90	80	60	C45E
C103-05-063-026	22500	45000	63	80	309	265	12	65	100	100	75	ST52
C103-05-063-265	22500	45000	63	80	309	265	12	65	100	100	75	C45E

SWORZNIE TRANSPORTOWE
LIFTING PINS

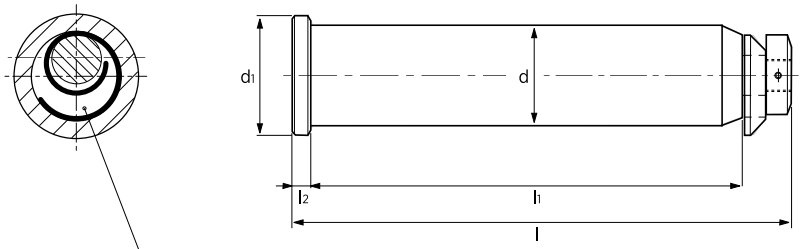
C103-06

Jak zamówić / *How to order*

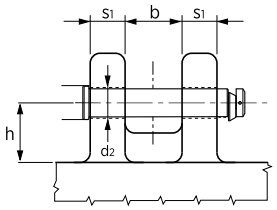
Symbol: **C103-06-050-230**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Część dostarczana jest w komplecie ze sprężyną stalową
The part is supplied complete of steel spring



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d -0,2	d_1	l +1	l_1 +1	l_2	d_2	h	b	s_1	Materiał *Material*
C103-06-032-155	3400	6800	32	40	177	155	5	34	65	70	40	42CrMo4+QT
C103-06-040-188	5650	11300	40	50	220	188	7	42	85	80	50	42CrMo4+QT
C103-06-050-230	8950	17900	50	60	270	230	9	52	100	100	60	42CrMo4+QT
C103-06-063-295	14350	28700	63	75	342	295	16	65	125	120	80	42CrMo4+QT
C103-06-080-335	26700	53400	80	89	387	335	16	82	160	120	100	42CrMo4+QT

SWORZNIE TRANSPORTOWE
LIFTING PINS

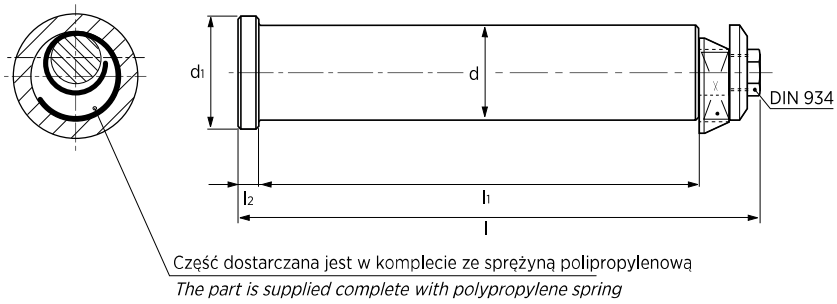
C103-07

Jak zamówić / *How to order*

Symbol: **C103-07-02000**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d h11	d_1	l	l_1	l_2	Materiał *Material*
C103-07-00600	600	1200	15,6	25	102,5	77	6	C45E
C103-07-01000	1000	2000	20,6	30	113,5	86	6	C45E
C103-07-02000	2000	4000	25,6	35	128,5	100	6	C45E
C103-07-04000	4000	8000	33	43	166,5	135	6	C45E
C103-07-07000	7000	14000	43	53	210,5	175	8	C45E

SWORZNIE TRANSPORTOWE
LIFTING PINS

C103-09

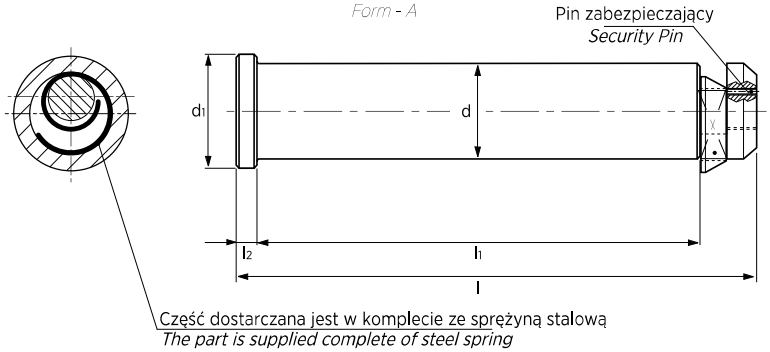
Jak zamówić / *How to order*

Symbol: **C103-09-050-221**

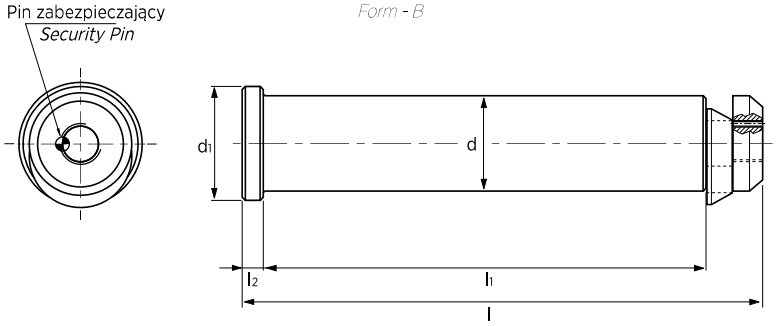
Uwaga / *Attention*

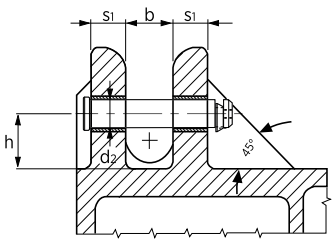
Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 sworznie transportowe.
For safety reason, please consider always that the weight of the die has to be supported by 2 lifting pins.

Forma - A
Form - A



Form - B
Form - B





Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	d h11	d_1	l	l_1	l_2	d_2	h	b	s_1	Forma *Form*	Materiał *Material*
C103-09-032-175	3200	6400	32	40	175	145	10	34	63	60	40	A	C45E
C103-09-040-225	5000	10000	40	50	225	188	10	42	80	80	50	A	C45E
C103-09-050-273	8000	16000	50	60	273	230	11	52	100	100	60	A	C45E
C103-09-063-347	12500	25000	63	75	347	295	14	65	125	120	80	A	C45E
C103-09-076-422	31500	63000	76	95	422	360	15	78	160	140	100	A	42CrMo4+QT
C103-09-050-221	8000	16000	50	60	221	182	11	-	-	-	-	B	C45E
C103-09-063-277	12500	25000	63	75	277	225	14	-	-	-	-	B	C45E

UCHWYTY TRANSPORTOWE ZE SWORZNIAMI

LIFTING BRACKETS WITH PINS

C105-01

Materiał / *Material*

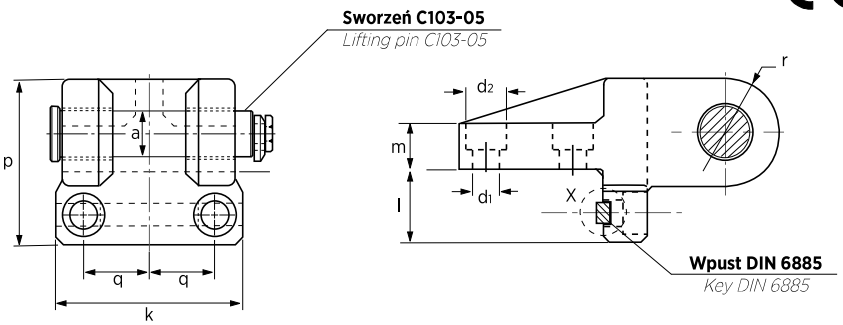
C45E
800÷1000 N/mm²

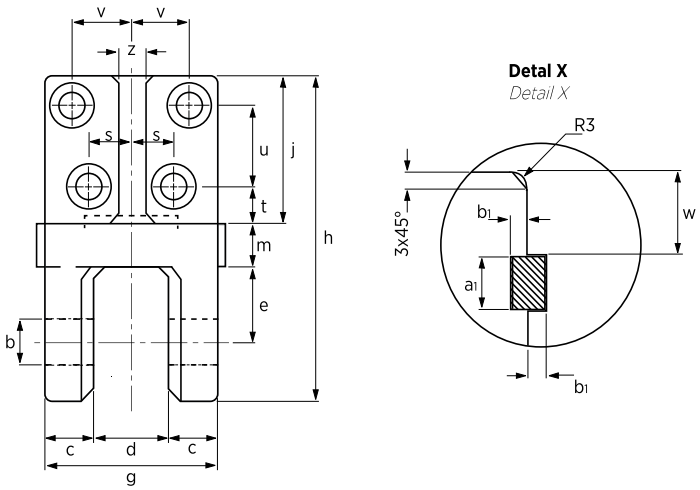
Jak zamówić / *How to order*

Symbol: **C105-01-04000**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 uchwyty transportowe. Brak śrub w zestawie, zamów osobno, śruby str. J144
For safety reason, please consider always that the weight of the die has to be supported by just 2 lifting brackets. No screws included, order separately - page J144





Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	a	b H13	c	d	d1 H13	d2 H13	e	g	h	j
C105-01-04000	4000	8000	32	33	35	55	18	28	55	125	221	100
C105-01-06300	6300	12600	40	41	50	60	22	36	60	160	270	125

Symbol	k	l	m	p	q	r	s	t	u	v	w	z	a1 E9	b1 +0,1
C105-01-04000	135	50	30	111	48	36	28	20	60	42	24	20	14	4,5
C105-01-06300	180	60	40	140	65	45	40	30	70	55	27	25	16	5

UCHWYTY TRANSPORTOWE ZE SWORZNIAMI

LIFTING BRACKETS WITH PINS

C105-02

Materiał / *Material*

C45E
800÷1000 N/mm²

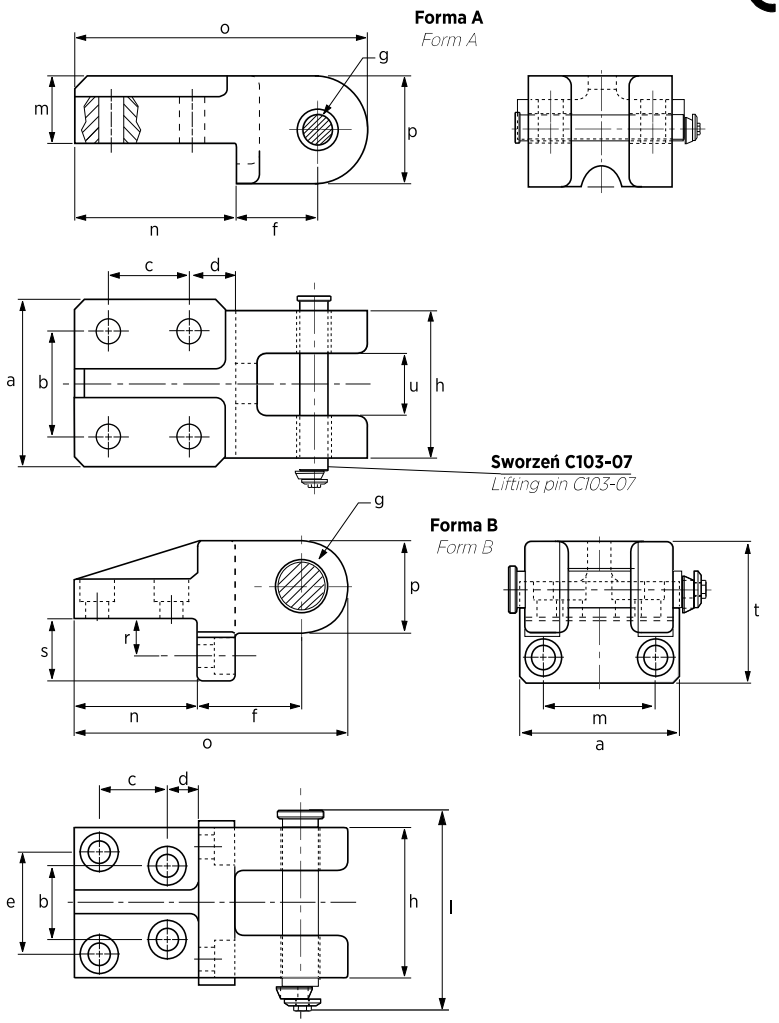
Jak zamówić / *How to order*

Symbol: **C105-02-01000**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 uchwyty transportowe. Brak śrub w zestawie, zamów osobno, śruby str. J144

For safety reason, please consider always that the weight of the die has to be supported by just 2 lifting brackets. No screws included, order separately - page J144



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	Forma *Form*	a	b	c	d	e	f
C105-02-00600	600	1200	A	80	50	40	22,5	-	39
C105-02-01000	1000	2000	A	90	60	40	27,5	-	42
C105-02-02000	2000	4000	A	100	65	65	32,5	-	60
C105-02-04000	4000	8000	B	135	56	60	20	84	85
C105-02-07000	7000	14000	B	180	80	70	30	110	100

Symbol	g	h	l	m	n	o	p	r	s	t	u
C105-02-00600	16	70	102,5	32	80	145	52	-	-	-	30
C105-02-01000	21	79	113,5	36	90	160	56	-	-	-	35
C105-02-02000	26	90	128,5	50	120	215	70	-	-	-	40
C105-02-04000	34	125	166,5	96	100	221	72	30	50	111	55
C105-02-07000	44	160	210,5	130	125	270	90	35	60	140	60

UCHWYTY TRANSPORTOWE ZE SWORZNIAMI

LIFTING BRACKETS WITH PINS

C105-03

Materiał / *Material*

St52

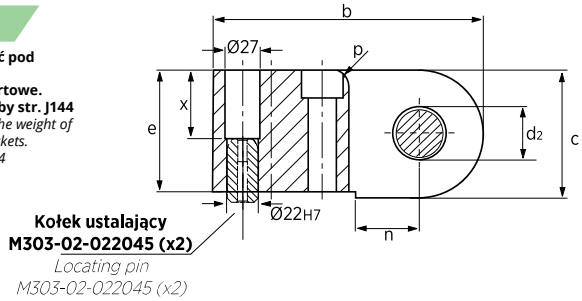
Jak zamówić / *How to order*

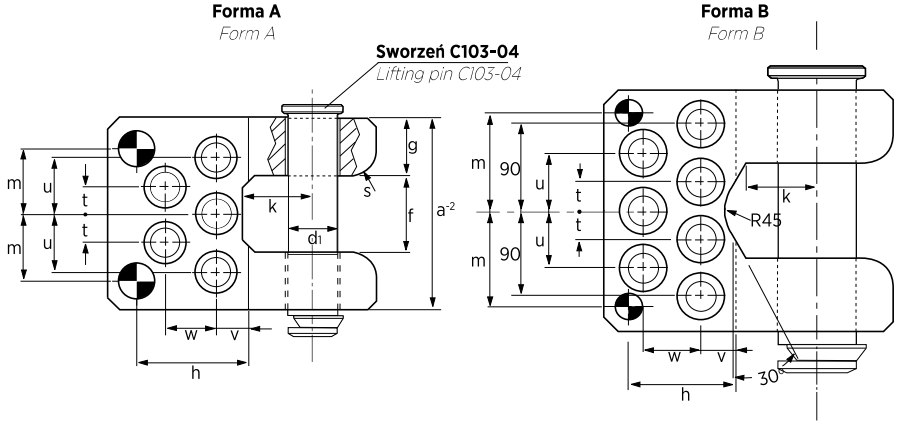
Symbol: **C105-03-16000**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 uchwyty transportowe. Brak śrub w zestawie, zamów osobno, śruby str. J144

For safety reason, please consider always that the weight of the die has to be supported by just 2 lifting brackets. No screws included, order separately - page J144





Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	Forma *Form*	a	b	c	d1	d2	e	f	g
C105-03-06400	3200	6400	A	126	185	80	30	32	75	50	38
C105-03-10000	5000	10000	A	150	210	100	40	42	95	60	45
C105-03-16000	8000	16000	A	175	240	120	50	52	115	75	50
C105-03-25000	12500	25000	A	200	300	140	60	62	130	80	60
C105-03-36000	18000	36000	B	250	300	160	80	82	150	100	75

Symbol	h *±0,02*	k	m	n	p	s	t	u	v	w	x	Śruby *Screws*
C105-03-06400	85	50	45	40	12	16	20	40	30	35	40	M16x80
C105-03-10000	87	55	52	50	12	20	22,5	45	25	40	60	M20x100
C105-03-16000	95	70	62,5	60	16	24	25	50	35	45	80	M24x120
C105-03-25000	145	80	77,5	65	20	30	35	65	60	65	95	M36x160
C105-03-36000	105	95	100	90	20	30	30	60	30	60	115	M30x160

UCHWYTY TRANSPORTOWE ZE SWORZNIAMI

LIFTING BRACKETS WITH PINS

C105-04

Materiał / *Material*

St52

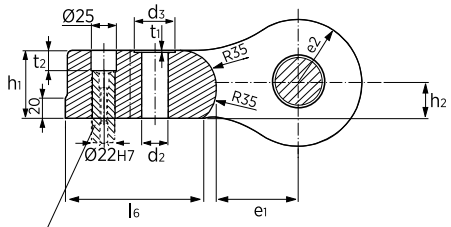
Jak zamówić / *How to order*

Symbol: **C105-04-08000**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 uchwyty transportowe. Brak śrub w zestawie, zamów osobno, śruby str. J144

For safety reason, please consider always that the weight of the die has to be supported by just 2 lifting brackets. No screws included, order separately - page J144

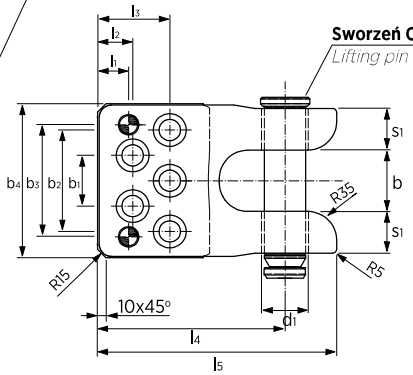


Kołek ustalający M303-02-022045 (x2)

Locating pin M303-02-022045 (x2)

Forma A

Form A

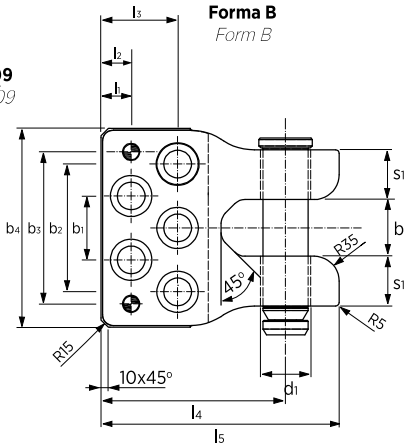


Sworzeń C103-09

Lifting pin C103-09

Forma B

Form B



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	Forma *Form*	b	b1	b2	b3	b4	d1	d2	d3
C105-04-08000	8000	16000	A	75	62	124	137	188	52	26	40
C105-04-12500	12500	25000	B	80	90	180	214	280	65	39	58

Symbol	e1	e2	h1	h2	l1	l2	l3	l4	l5	l6	s1	t1	t2
C105-04-08000	80	62,5	67	35	37,5	42,5	87,5	227,5	290	135	51	2	20
C105-04-12500	90	75	91	47	42	-	107	258	333	150	70	7	46

UCHWYTY TRANSPORTOWE ZE SWORZNIAMI

LIFTING BRACKETS WITH PINS

C105-06

Materiał / *Material*

St52

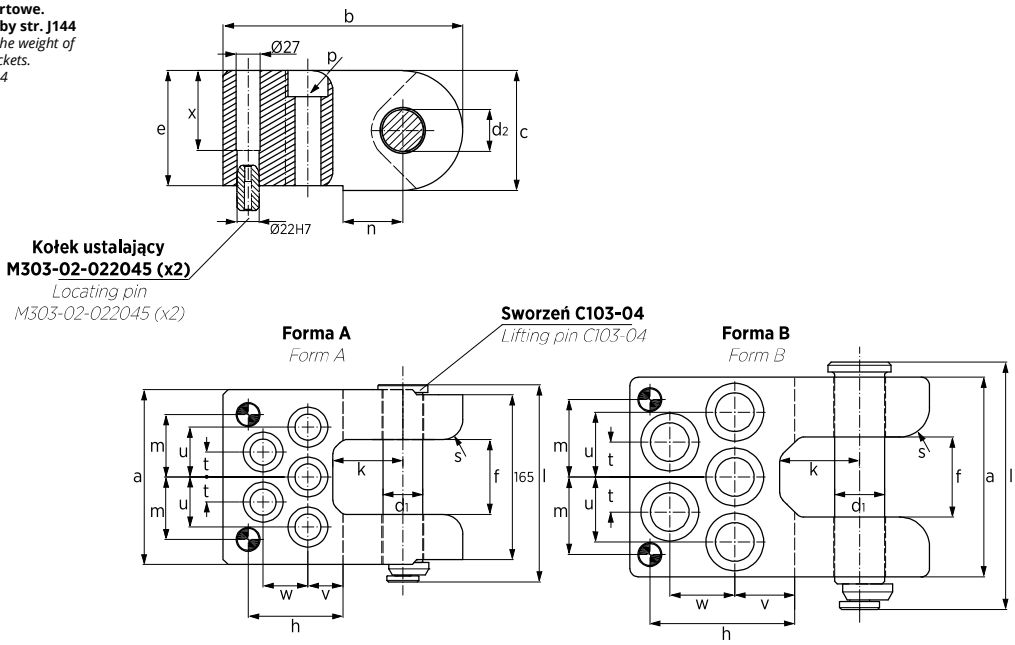
Jak zamówić / *How to order*

Symbol: **C105-06-08000**

Uwaga / *Attention*

Ze względów bezpieczeństwa, należy wziąć pod uwagę, że zawsze waga tłocznika musi być obsługiwana przez 2 uchwyty transportowe. Brak śrub w zestawie, zamów osobno, śruby str. J144

For safety reason, please consider always that the weight of the die has to be supported by just 2 lifting brackets. No screws included, order separately - page J144



Symbol	Max obciążenie *Max load* (kg)	Max waga tłocznika *Max die weight* (kg)	Forma *Form*	a	b	c	d1	d2	e	f
C105-06-08000	8000	16000	A	175	240	120	40	42	115	75
C105-06-12500	12500	25000	B	200	300	140	50	52	130	80

Symbol	h ±0,02	k	m	n	p	s	t	u	v	w	x	Śruby *Screws*
C105-06-08000	95	70	62,5	60	20	24	25	50	35	45	80	M24x120
C105-06-12500	145	80	77,5	65	20	30	35	65	60	65	95	M36x160

WKŁADKI GWINTOWANE
THREADED STEEL INSERT

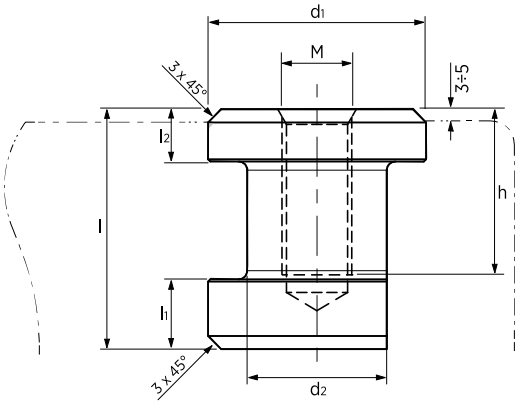
C105-05

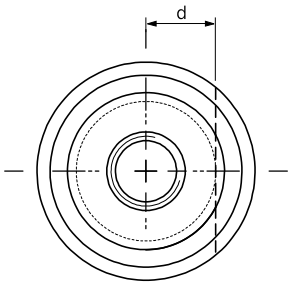
Materiał / *Material*

42CrMo4+QT

Jak zamówić / *How to order*

Symbol: **C105-05-055-1642**





Symbol	M	d	d1	d2	l	l1	l2	h	Udźwig / *Max Load* (kg)	
									1x	2÷4
C105-05-055-1642	M16	16	50	32	55	16	12	42	1000	2000
C105-05-065-2047	M20	18	65	36	65	16	12	47	2100	4200
C105-05-075-2257	M22	20	65	40	75	16	12	57	2800	5600
C105-05-075-2457	M24	20	65	40	75	16	12	57	3000	6000
C105-05-090-3067	M30	30	85	60	90	20	20	67	5000	10000
C105-05-100-3677	M36	40	107	80	100	22	22	77	6500	13000
C105-05-130-4295	M42	40	107	80	130	25	25	95	7200	14400
C105-05-150-48110	M48	40	107	80	150	30	30	110	8000	16000

PODNOŚNIKI DO BLACHY
SHEET LIFTING PIN

SLP

Materiał / *Material*

1.7131

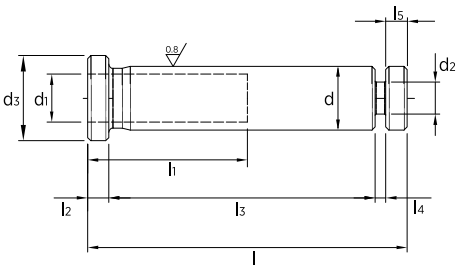
Twardość / *Hardness*

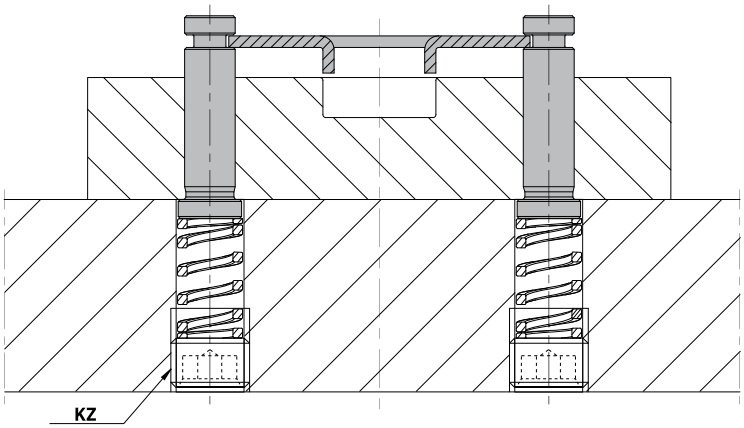
58 ÷ 60 HRC

Jak zamówić / *How to order*

Symbol: **SLP.10.040.032**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	d h6	l -0,5	l1	l2	l3 ±0,1	l4	d1	l5	d2 -0,05/-0,1	d3 -0,2/-0,5
SLP.06.029.025	6	29,5	-	2	25	0,5	-	2	3	8
SLP.06.030.025	6	30	-	2	25	1	-	2	3	8
SLP.06.036.032	6	36,5	-	2	32	0,5	-	2	3	8
SLP.06.037.032	6	37	-	2	32	1	-	2	3	8
SLP.08.031.020	8	31	-	3	20	3	-	5	5	10
SLP.08.031.025	8	31	-	3	25	1	-	2	5	10
SLP.08.032.025	8	32	-	3	25	2	-	2	5	10
SLP.08.036.025	8	36	-	3	25	3	-	5	5	10
SLP.08.038.032	8	38	-	3	32	1	-	2	5	10
SLP.08.039.032	8	39	-	3	32	2	-	2	5	10
SLP.08.043.032	8	43	-	3	32	3	-	5	5	10
SLP.08.046.040	8	46	-	3	40	1	-	2	5	10
SLP.08.047.040	8	47	-	3	40	2	-	2	5	10
SLP.08.051.040	8	51	-	3	40	3	-	5	5	10
SLP.10.033.025	10	33	18	3	25	2	6,5	3	6	12,5
SLP.10.034.025	10	34	18	3	25	3	6,5	3	6	12,5
SLP.10.036.025	10	36	-	3	25	3	-	5	6	12
SLP.10.040.032	10	40	24	3	32	2	6,5	3	6	12,5
SLP.10.041.032	10	41	24	3	32	3	6,5	3	6	12,5
SLP.10.043.032	10	43	-	3	32	3	-	5	6	12
SLP.10.048.040	10	48	30	3	40	2	6,5	3	6	12,5
SLP.10.049.040	10	49	30	3	40	3	6,5	3	6	12,5
SLP.10.051.040	10	51	-	3	40	3	-	5	6	12
SLP.10.061.050	10	61	-	3	50	3	-	5	6	12
SLP.12.033.025	12	33	18	3	25	2	8,5	3	7	16
SLP.12.034.025	12	34	18	3	25	3	8,5	3	7	16
SLP.12.040.032	12	40	24	3	32	2	8,5	3	7	16
SLP.12.041.032	12	41	24	3	32	3	8,5	3	7	16
SLP.12.048.040	12	48	30	3	40	2	8,5	3	7	16
SLP.12.049.040	12	49	30	3	40	3	8,5	3	7	16

PODNOŚNIKI DO BLACHY
SHEET LIFTING PIN

SLP

Symbol	d h6	l -0,5	l1	l2	l3 ±0,1	l4	d1	l5	d2 -0,05/-0,1	d3 -0,2/-0,5
SLP.13.036.025	13	36	-	3	25	3	-	5	7	16
SLP.13.043.032	13	43	-	3	32	3	-	5	7	16
SLP.13.051.040	13	51	-	3	40	3	-	5	7	16
SLP.13.061.050	13	61	-	3	50	3	-	5	7	16
SLP.16.042.032	16	42	24	3	32	3	10,5	4	7	20
SLP.16.043.032	16	43	-	3	32	3	-	5	8	20
SLP.16.044.032	16	44	24	3	32	5	10,5	4	8	20
SLP.16.050.040	16	50	30	3	40	3	10,5	4	8	20
SLP.16.051.040	16	51	-	3	40	3	-	5	8	20
SLP.16.052.040	16	52	30	3	40	5	10,5	4	8	20
SLP.16.060.050	16	60	40	3	50	3	10,5	4	8	20
SLP.16.061.050	16	61	-	3	50	3	-	5	8	20
SLP.16.062.050	16	62	40	3	50	5	10,5	4	8	20
SLP.20.052.040	20	52	30	5	40	3	12,5	4	12	25
SLP.20.054.040	20	54	30	5	40	5	12,5	4	12	25
SLP.20.062.050	20	62	40	5	50	3	12,5	4	12	25
SLP.20.064.050	20	64	40	5	50	5	12,5	4	12	25
SLP.20.075.063	20	75	50	5	63	3	12,5	4	12	25
SLP.20.077.063	20	77	50	5	63	5	12,5	4	12	25

KORKI ZAMYKAJĄCE
SCREW PLUG

KZ

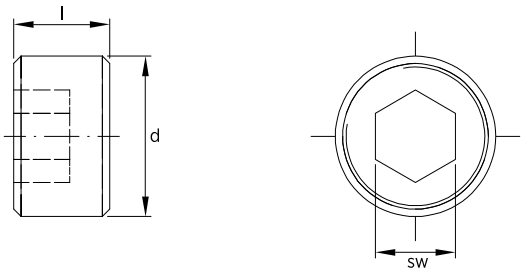
Materiał / *Material*

Stal / *Steel* **12.9**

Jak zamówić / *How to order*

Symbol: **KZ.016**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	l	sw
KZ.012	M12x1,5	10	6
KZ.014	M14x1,5	10	6
KZ.016	M16x1,5	10	8
KZ.018	M18x1,5	10	10
KZ.020	M20x1,5	12	10
KZ.022	M22x1,5	12	12
KZ.024	M24x1,5	12	14
KZ.027	M27x1,5	12	14
KZ.036	M36x1,5	12	17

KĄTOWNIKI POZYCJONUJĄCE
GAGE

M301-00

Materiał / *Material*

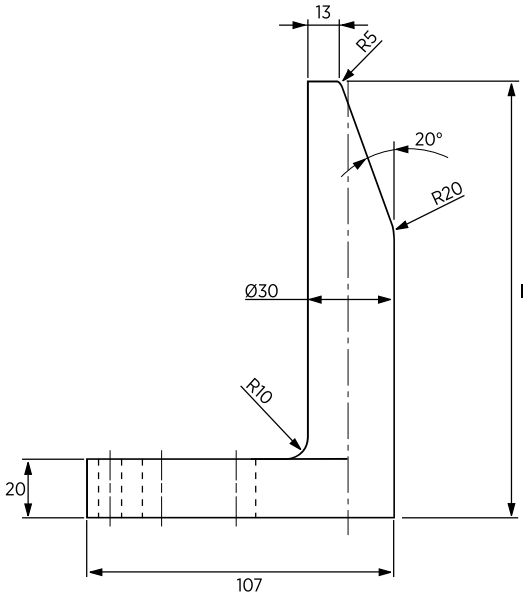
CK60 kuty / *forged*

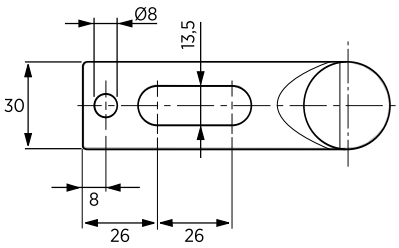
Jak zamówić / *How to order*

Symbol: **M301-00-150**

Max długość 350mm
Max. length 350mm

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l
M301-00-065	65
M301-00-090	90
M301-00-120	120
M301-00-150	150
M301-00-180	180
M301-00-250	250
M301-00-300	300
M301-00-350	350

KĄTOWNIKI POZYCJONUJĄCE HARTOWANE
GAGE HARDENED

M301-01

Materiał / *Material*

CK60 kuty / *forged*

Twardość / *Hardness*

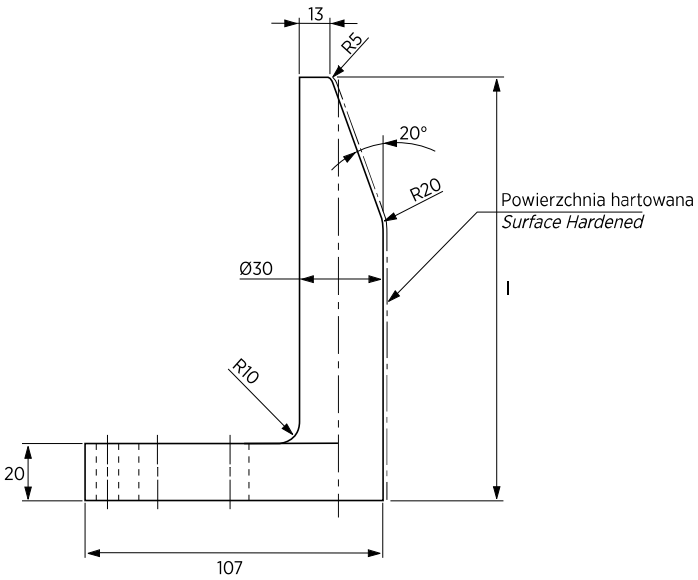
56 ÷ 60 HRC

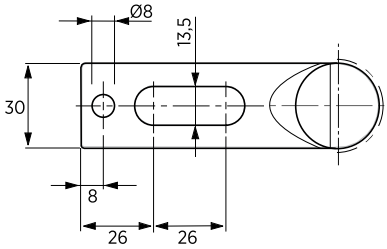
Jak zamówić / *How to order*

Symbol: **M301-01-150**

Max długość 350mm
Max. length 350mm

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l
M301-01-065	65
M301-01-090	90
M301-01-120	120
M301-01-150	150
M301-01-180	180
M301-01-250	250
M301-01-300	300
M301-01-350	350

KĄTOWNIKI POZYCJONUJĄCE HARTOWANE POD SENSOR

GAGE FOR SENSOR, HARDENED

M301-02

Materiał / *Material*

1. CK60 kuty / *forged*
2. ST37

Twardość / *Hardness*

1. 50 ÷ 55 HRC

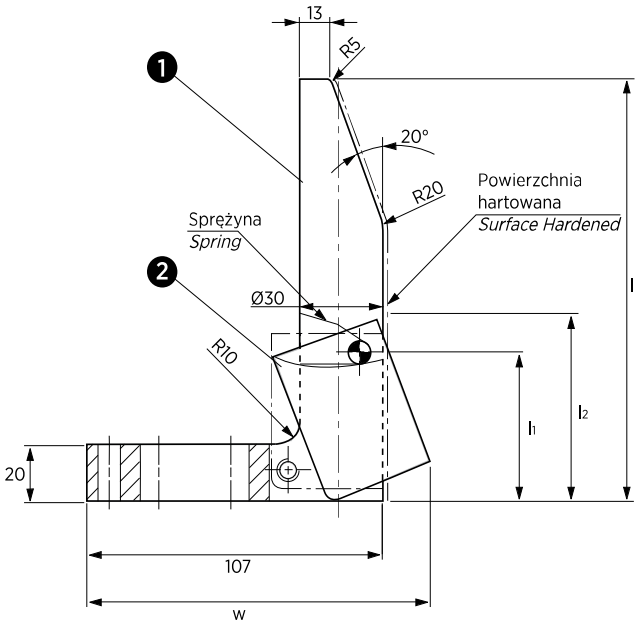
Jak zamówić / *How to order*

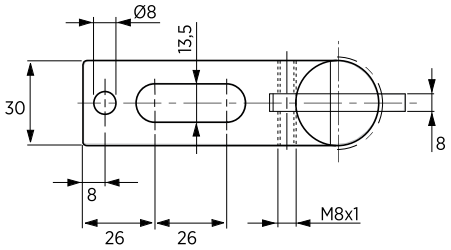
Symbol: **M301-02-150**
lub
Rozmiar l jest określony przez klienta
l is given by the customer
np / *for example:*
l=165

Symbol: **M301-02-165**

Max długość 250mm
Max. length 250mm

Inne wymiary na żądanie
Other dimensions on demand





Symbol	w	l	l1	l2
M301-02-120	120	120	55	70
M301-02-150	120	150	55	70
M301-02-180	124	180	105	120
M301-02-250	124	250	105	120

Symbol	w	l	l1	l2
M301-02-l	120	121 ÷ 179	55	70
M301-02-l	124	181 ÷ 249	105	120

M301-03

Producent / *Manufactured by*

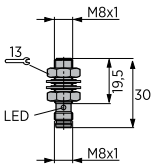
BALLUFF

Jak zamówić / *How to order*

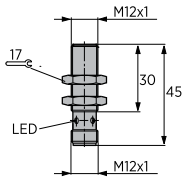
Symbol: **M301-03-01-003**

SENSORY
SENSORS

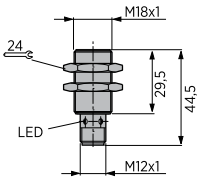
M301-03-01-001



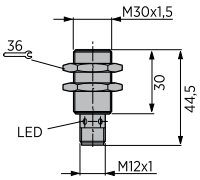
M301-03-01-002



M301-03-01-003

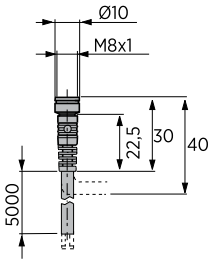


M301-03-01-004

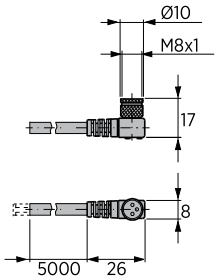


ZŁĄCZA
CONNECTORS

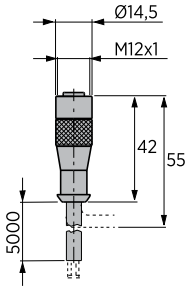
M301-03-02-001



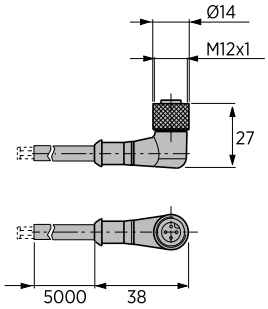
M301-03-02-002



M301-03-02-003



M301-03-02-004



	Symbol			
	M301-03-01-001	**M301-03-01-002**	**M301-03-01-003**	**M301-03-01-004**
Znamionowe napięcie robocze (Ue) *Rated operational voltage (Ue)*	24 V DC	24 V DC	24 V DC	24 V DC
Napięcie zasilania (Ub) *Supply voltage (Ub)*	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Prąd zasilania bez obciążenia (Io max.) *No load supply current (Io max.)*	≤ 7 mA	≤ 10 mA	≤ 10 mA	≤ 25 mA
Prąd resztkowy (Ir) *Residual current (Ir)*	≤ 10 µA	≤ 50 µA	≤ 50 µA	≤ 80 µA
Dokładność powtórzeń (R) *Repeat accuracy (R)*	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Zakres temperatury otoczenia (Ta) *Ambient temperature range (Ta)*	-40...+85° C	-25...+85° C	-25...+70° C	-25...+70° C
Częstotliwość cykli operacyjnych (f) *Frequency of operating cycles (f)*	5000 Hz	2000 Hz	1000 Hz	150 Hz
Stopień ochrony wg IEC 60529 *Degree of protection per IEC 60529*	IP 68	IP 68	IP 67	IP 67
Materiał obudowy *Housing Material*	Stal nierdzewna *Stainless Steel*	Stal nierdzewna *Stainless Steel*	Mosiądz *Brass*	Mosiądz *Brass*
Połączenie *Connection*	Złącze *Connector*	Złącze *Connector*	Złącze *Connector*	Złącze *Connector*
Zatwierdzenie *Approval*	CE/UL	CE/UL	CE/UL	CE/UL

KĄTOWNIKI POZYCJONUJĄCE HARTOWANE POD SENSOR

GAGE FOR SENSOR, HARDENED

M301-04

Materiał / *Material*

STAL / *STEEL*

Twardość / *Hardness*

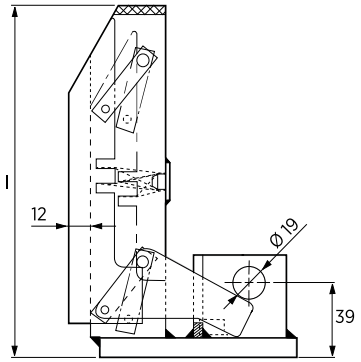
60 ÷ 62 HRC

Jak zamówić / *How to order*

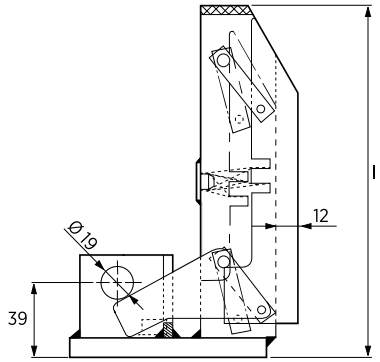
Symbol: **M301-04-0185004**

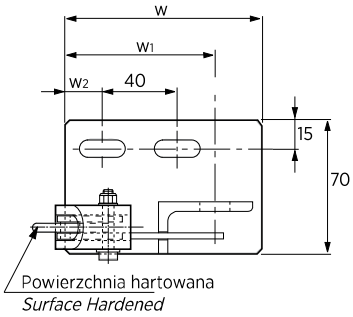
Inne wymiary na żądanie
Other dimensions on demand

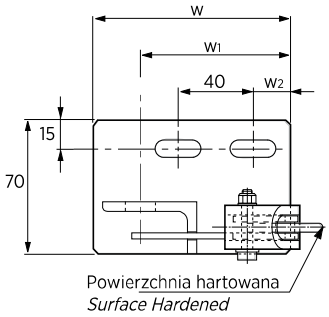
Forma - A
Form - A



Forma - B
Form - B







Symbol	Forma *Form*	w	l	w1	w2
M301-04-0145001	A	105	145	80	25
M301-04-0145002	B	105	145	80	25
M301-04-0145030	A	101	145	76	21
M301-04-0145031	B	101	145	76	21
M301-04-0185003	A	105	185	80	25
M301-04-0185004	B	105	185	80	25
M301-04-0185032	A	101	185	76	21
M301-04-0185033	B	101	185	76	21
M301-04-0225005	A	105	225	80	25
M301-04-0225006	B	105	225	80	25
M301-04-0225034	A	101	225	76	21
M301-04-0225035	B	101	225	76	21

KĄTOWNIKI POZYCJONUJĄCE HARTOWANE POD SENSOR

GAGE FOR SENSOR, HARDENED

M301-05

Materiał / *Material*

1. CK60 kuty / *forged*
2. ST37

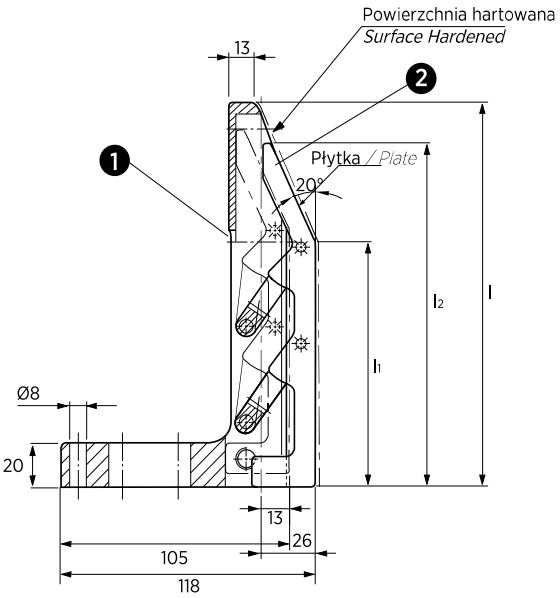
Twardość / *Hardness*

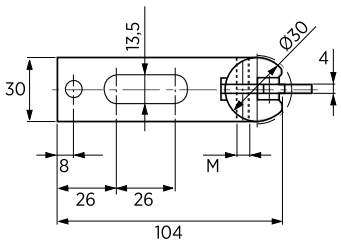
1. 58 ÷ 60 HRC
2. 58 ÷ 60 HRC

Jak zamówić / *How to order*

Symbol: **M301-05-180**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l	l1	l2	M
M301-05-120	120	78	113	M8x1
M301-05-120-002	120	78	113	M12x1
M301-05-150	150	90	130	M8x1
M301-05-150-002	150	90	130	M12x1
M301-05-180	180	114	160	M8x1
M301-05-180-002	180	114	160	M12x1
M301-05-250	250	114	160	M8x1
M301-05-250-002	250	114	160	M12x1
M301-05-250-003	250	184	230	M8x1
M301-05-250-004	250	184	230	M12x1

KĄTOWNIKI POZYCJONUJĄCE CZOŁOWE
FRONT GAGE

M301-06

Materiał / *Material*

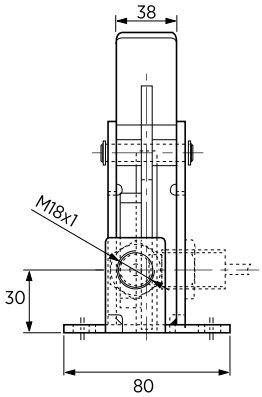
St37

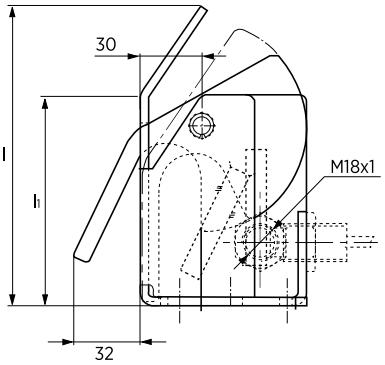
Jak zamówić / *How to order*

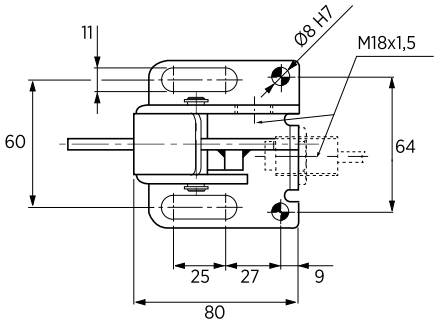
Symbol: **M301-06-100-142**

Sensor nie jest załączony w zestawie.
Sensor not included.

Inne wymiary na żądanie
Other dimensions on demand







Symbol	l	l1
M301-06-075-117	117	75
M301-06-100-142	142	100
M301-06-150-192	192	150

KĄTOWNIKI POZYCJONUJĄCE
GAGE

M301-09

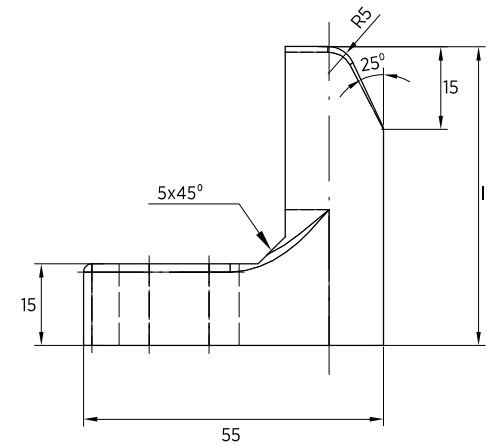
Materiał / *Material*

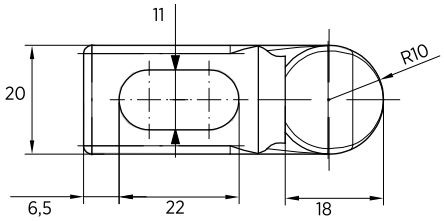
CK45 kuty / *forged*

Jak zamówić / *How to order*

Symbol: **M301-09-090**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l
M301-09-055	55
M301-09-065	65
M301-09-090	90
M301-09-095	95
M301-09-120	120

KĄTOWNIKI POZYCJONUJĄCE
GAGE

M301-10/11

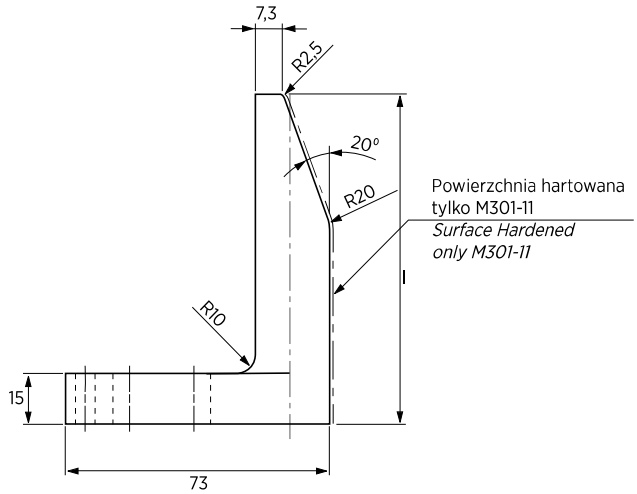
Materiał / *Material*

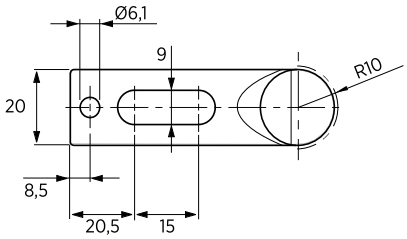
CK60 kuty / *forged*

Jak zamówić / *How to order*

Symbol: **M301-11-065**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l	Twardość *Hardeness*
M301-10-065	65	-
M301-10-090	90	-
M301-11-065	65	58 ÷ 60 HRC
M301-11-090	90	58 ÷ 60 HRC

PRECYZYJNE KĄTOWNIKI POZYCJONUJĄCE HARTOWANE

PRECISION GAGE HARDENED

M301-12

Materiał / *Material*

CK60 kuty / *forged*

Twardość / *Hardness*

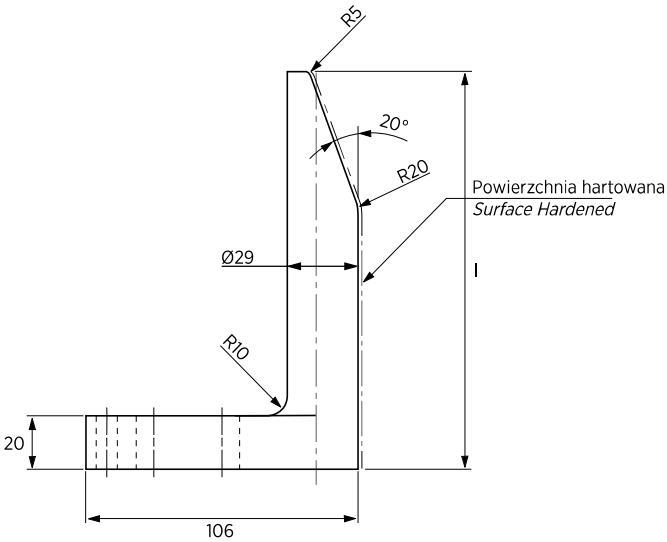
58 ÷ 60 HRC

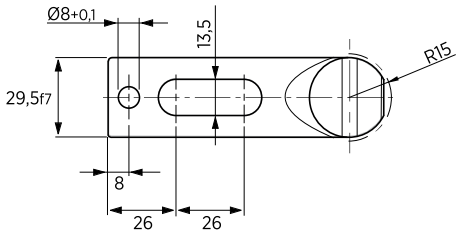
Jak zamówić / *How to order*

Symbol: **M301-12-120**

Max długość 350mm
Max. length 350mm

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l
M301-12-065	65
M301-12-090	90
M301-12-120	120
M301-12-150	150
M301-12-180	180
M301-12-250	250
M301-12-300	300
M301-12-350	350

KĄTOWNIKI POZYCJONUJĄCE
GAGE

M301-14

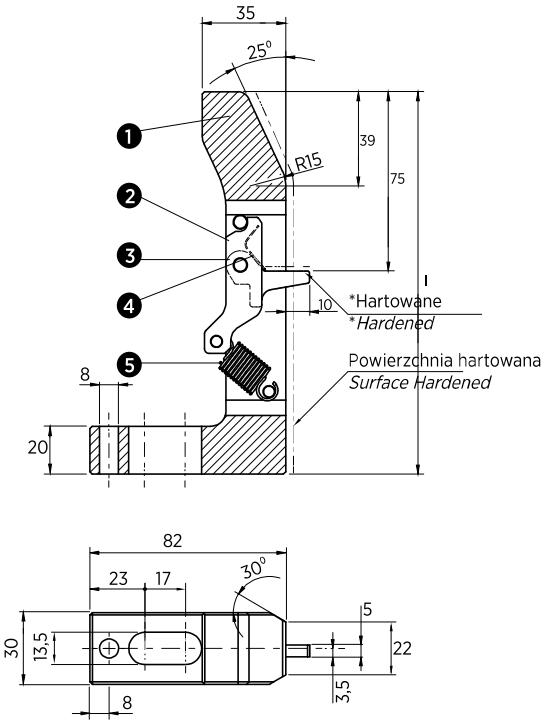
Materiał / *Material*

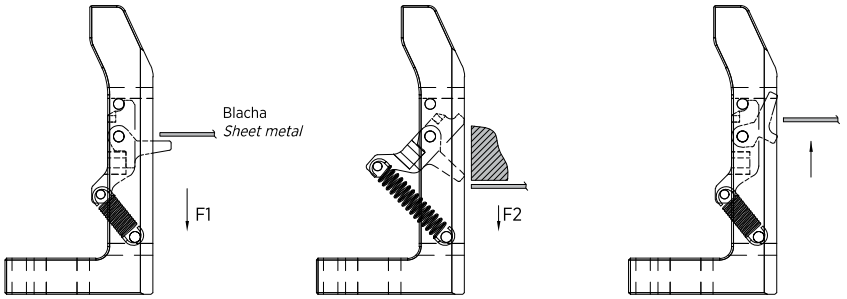
1. **CK45**
   Twardość / *Hardness*
   58 ÷ 60 HRC
2. **CK45**
   Twardość / *Hardness*
   54 ÷ 56 HRC
3. **CK45**
   ***Twardość** / *Hardness*
   ***58 ÷ 60 HRC**
4. **Sprężyna** / *Spring*
5. **Sprężyna** / *Spring*

Jak zamówić / *How to order*

Symbol: **M301-14-180**

Inne wymiary na żądanie
Other dimensions on demand





Pozycja ładowania
Load position

Pozycja zamknięta
Closing position

Pozycja wyciągowa
Extraction position

Symbol	l	F1 (N)	F2 (N)
M301-14-160	160	5,90	18,50
M301-14-1601		10,00	30,00
M301-14-1602		22,00	65,00
M301-14-170	170	5,90	18,50
M301-14-1701		10,00	30,00
M301-14-1702		22,00	65,00
M301-14-180	180	5,90	18,50
M301-14-1801		10,00	30,00
M301-14-1802		22,00	65,00
M301-14-190	190	5,90	18,50
M301-14-1901		10,00	30,00
M301-14-1902		22,00	65,00
M301-14-200	200	5,90	18,50
M301-14-2001		10,00	30,00
M301-14-2002		22,00	65,00

KĄTOWNIKI POZYCJONUJĄCE
CAGE

M301-17

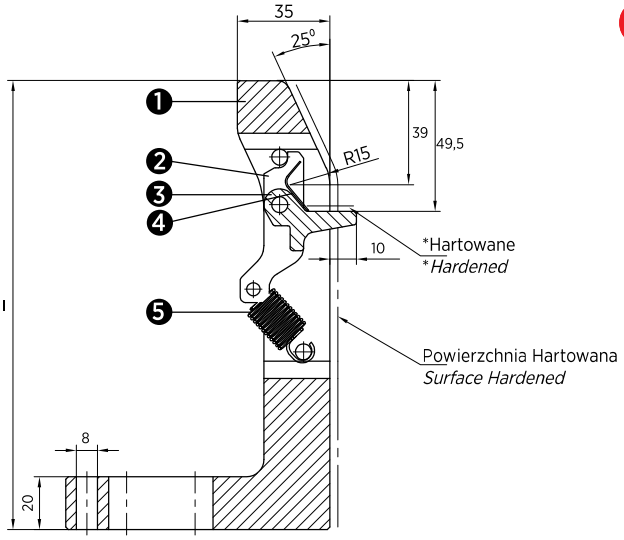
Materiał / *Material*

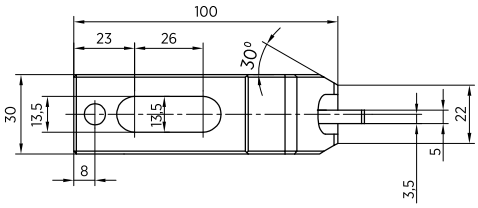
1. **CK45**
   Twardość / *Hardness*
   58 ÷ 60 HRC
2. **CK45**
   Twardość / *Hardness*
   54 ÷ 56 HRC
3. **CK45**
   ***Twardość** / *Hardness*
   ***58 ÷ 60 HRC**
4. **Sprężyna** / *Spring*
5. **Sprężyna** / *Spring*

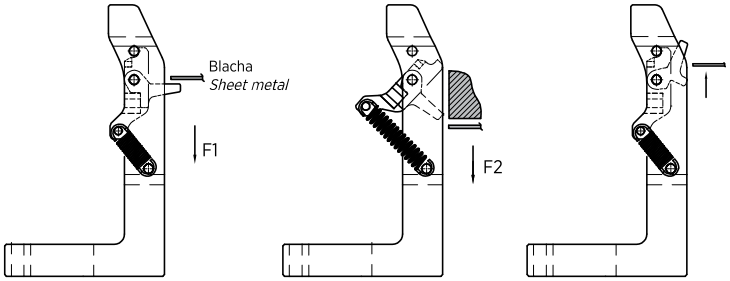
Jak zamówić / *How to order*

Symbol: **M301-17-170**

Inne wymiary na żądanie
Other dimensions on demand







Pozycja ładowania
Load position

Pozycja zamknięta
Closing position

Pozycja wyciągowa
Extraction position

Symbol	l	F1 (N)	F2 (N)
M301-17-160	160	5,90	18,50
M301-17-1601		10,00	30,00
M301-17-1602		22,00	65,00
M301-17-170	170	5,90	18,50
M301-17-1701		10,00	30,00
M301-17-1702		22,00	65,00
M301-17-180	180	5,90	18,50
M301-17-1801		10,00	30,00
M301-17-1802		22,00	65,00
M301-17-190	190	5,90	18,50
M301-17-1901		10,00	30,00
M301-17-1902		22,00	65,00

Symbol	l	F1 (N)	F2 (N)
M301-17-200	200	5,90	18,50
M301-17-2001		10,00	30,00
M301-17-2002		22,00	65,00
M301-17-210	210	5,90	18,50
M301-17-2101		10,00	30,00
M301-17-2102		22,00	65,00
M301-17-250	250	5,90	18,50
M301-17-2501		10,00	30,00
M301-17-2502		22,00	65,00
M301-17-300	300	5,90	18,50
M301-17-3001		10,00	30,00
M301-17-3002		22,00	65,00

KONTROLERY POŁOŻENIA MATERIAŁU
POSITION CONTROL FOR BLANKS

M301-15

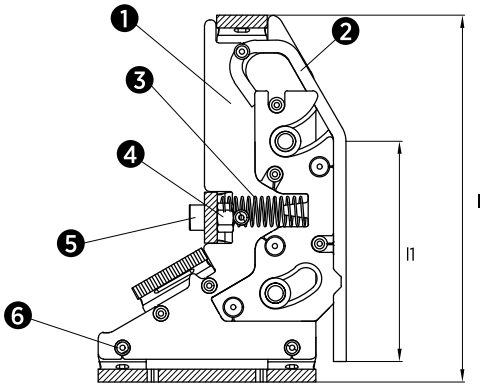
Materiał / *Material*

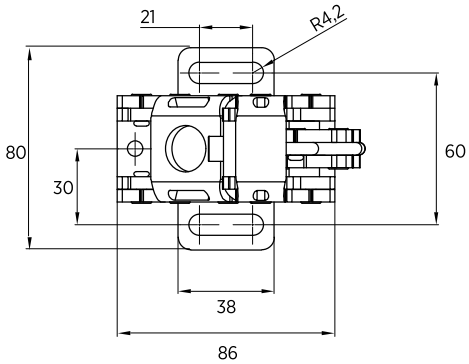
1. **S235**
2. **1.4021 40-45HRC**
3. **Sprężyna** /*Spring* **DIN 2098**
4. **Nakrętka** /*Nut* **M6 DIN 934**
5. **Śruba** /*Screw* **M6x12 DIN 912**
6. **Nit** / *Rivet* **Ø4x14 DIN 7337**

Jak zamówić / *How to order*

Symbol: **M301-15-185**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l1	l
M301-15-145	87	145
M301-15-185	127	185
M301-15-225	167	225

KĄTOWNIKI POZYCJONUJĄCE
GAGE

M301-16

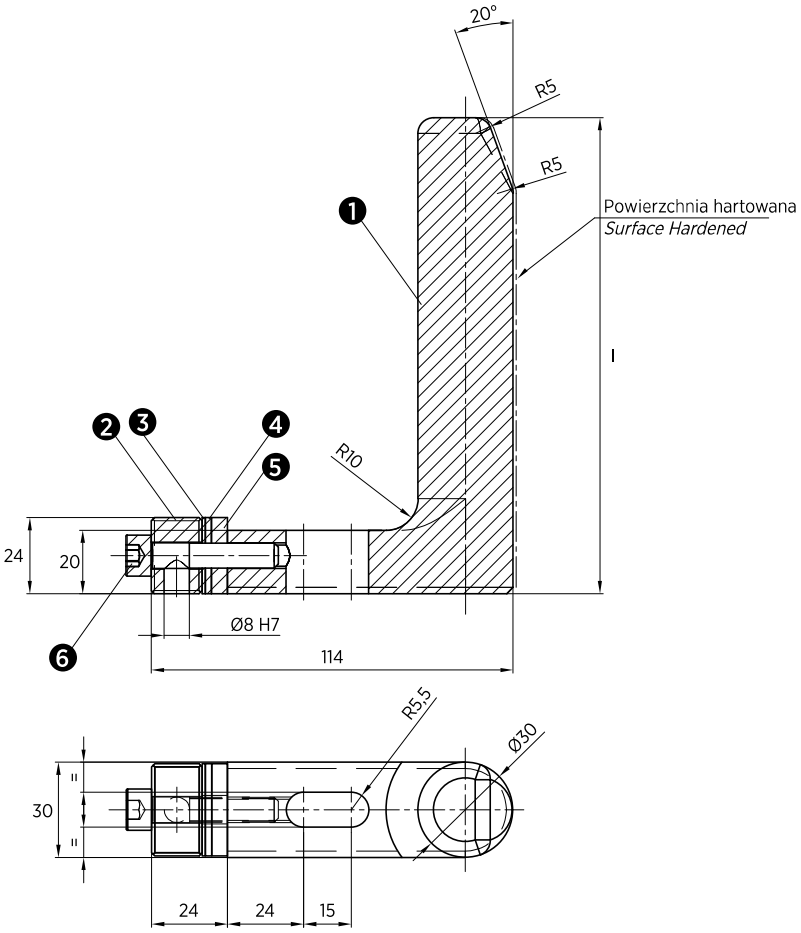
Materiał / *Material*

1. C45
2. C45
3. C15
4. C15
5. C15
6. C-M8X40-12,9

Jak zamówić / *How to order*

Symbol: **M301-16-150**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l
M301-16-065	65
M301-16-090	90
M301-16-120	120
M301-16-150	150
M301-16-190	190
M301-16-220	220

KĄTOWNIKI POZYCJONUJĄCE HARTOWANE
GAGE HARDENED

M301-13

Materiał / *Material*

21MnCr5

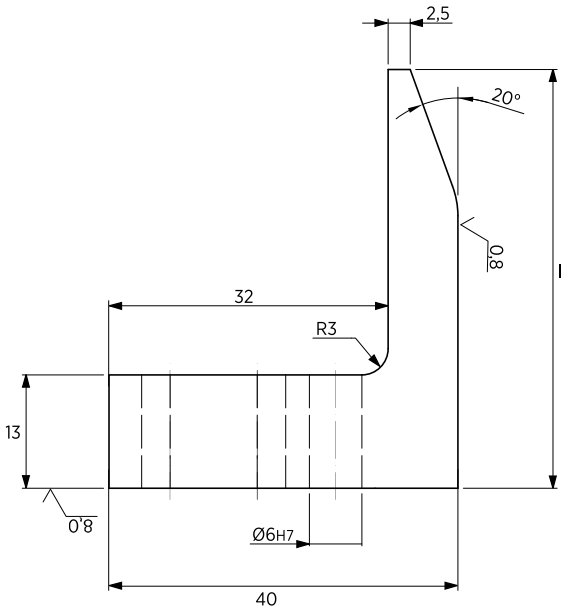
Twardość / *Hardness*

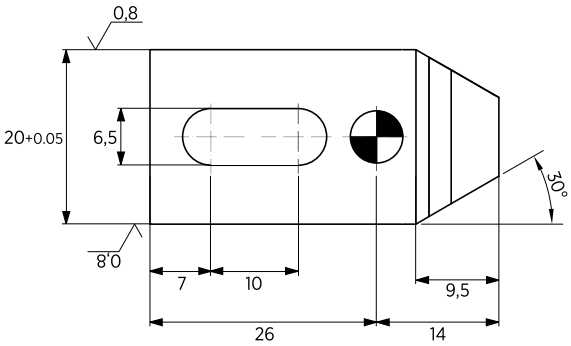
58 ÷ 60 HRC

Jak zamówić / *How to order*

Symbol: **M301-13-068**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l
M301-13-028	28
M301-13-038	38
M301-13-048	48
M301-13-058	58
M301-13-068	68
M301-13-078	78
M301-13-088	88

ZESPOŁY CENTRUJĄCE
LOCATING CONE

M302-01

Materiał / *Material*

1. **16MnCr5 kuty** / *forged*
2. **16MnCr5 kuty** / *forged*
3. **CK45**

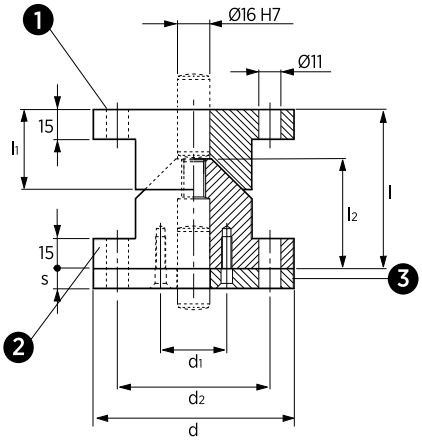
Twardość / *Hardness*

1. **60 ÷ 64 HRC**
2. **60 ÷ 64 HRC**

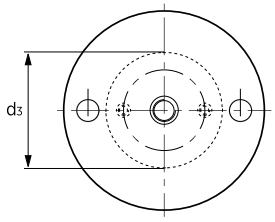
Jak zamówić / *How to order*

Symbol: **M302-01-100-205**

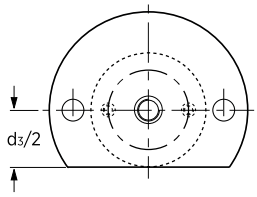
Inne wymiary na żądanie
Other dimensions on demand



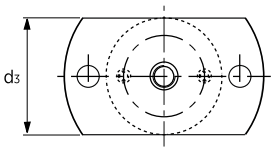
Forma - A
Form - A



Forma - B
Form - B



Forma - C
Form - C



Symbol	Forma *Form*	d	l ±0,05	l1	l2	d1	d2	d3	s
M302-01-100-001	A	100	80	40	55	40,5	76	58	10,5
M302-01-100-002	C	100	80	40	55	40,5	76	58	10,5
M302-01-100-005	A	100	80	40	55	40,5	76	58	5,5
M302-01-100-010	A	100	80	40	55	40,5	76	58	10
M302-01-100-105	B	100	80	40	55	40,5	76	58	5,5
M302-01-100-110	B	100	80	40	55	40,5	76	58	10
M302-01-100-205	C	100	80	40	55	40,5	76	58	5,5
M302-01-100-210	C	100	80	40	55	40,5	76	58	10
M302-01-120-001	A	120	90	50	65	50,5	96	78	10,5
M302-01-120-002	C	120	90	50	65	50,5	96	78	10,5
M302-01-120-005	A	120	90	50	65	50,5	96	78	5,5
M302-01-120-010	A	120	90	50	65	50,5	96	78	10
M302-01-120-105	B	120	90	50	65	50,5	96	78	5,5
M302-01-120-110	B	120	90	50	65	50,5	96	78	10
M302-01-120-205	C	120	90	50	65	50,5	96	78	5,5
M302-01-120-210	C	120	90	50	65	50,5	96	78	10

ZESPOŁY CENTRUJĄCE
LOCATING CONE

M302-02

Materiał / *Material*

1. **16MnCr5 kuty** / *forged*
2. **16MnCr5 kuty** / *forged*
3. **CK45**

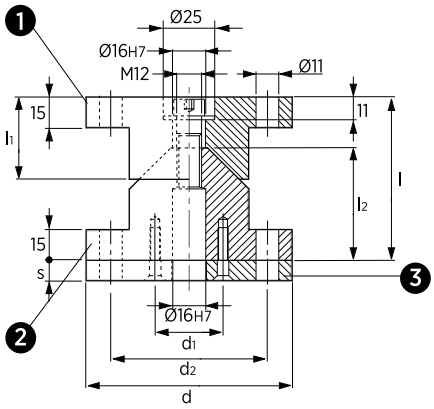
Twardość / *Hardness*

1. **60 ÷ 64 HRC**
2. **60 ÷ 64 HRC**

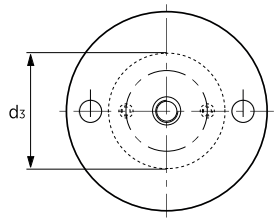
Jak zamówić / *How to order*

Symbol: **M302-02-120-005**

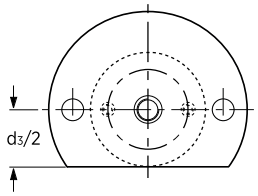
Inne wymiary na żądanie
Other dimensions on demand



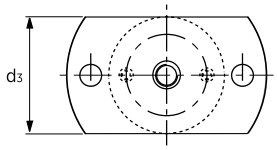
Forma - A
Form - A



Forma - B
Form - B



Forma - C
Form - C



Symbol	Forma *Form*	d	l ±0,05	l1	l2	d1	d2	d3	s
M302-02-100-005	A	100	80	40	55	40,5	76	58	5,5
M302-02-100-010	A	100	80	40	55	40,5	76	58	10
M302-02-100-105	B	100	80	40	55	40,5	76	58	5,5
M302-02-100-110	B	100	80	40	55	40,5	76	58	10
M302-02-100-205	C	100	80	40	55	40,5	76	58	5,5
M302-02-100-210	C	100	80	40	55	40,5	76	58	10
M302-02-100-215	C	100	80	40	55	40,5	76	58	10,5
M302-02-120-005	A	120	90	50	65	50,5	96	78	5,5
M302-02-120-010	A	120	90	50	65	50,5	96	78	10
M302-02-120-105	B	120	90	50	65	50,5	96	78	5,5
M302-02-120-110	B	120	90	50	65	50,5	96	78	10
M302-02-120-205	C	120	90	50	65	50,5	96	78	5,5
M302-02-120-210	C	120	90	50	65	50,5	96	78	10
M302-02-120-215	C	120	90	50	65	50,5	96	78	10,5

PODKŁADKI POD ZESPÓŁ CENTRUJĄCY
SHIM PLATES

M302-03

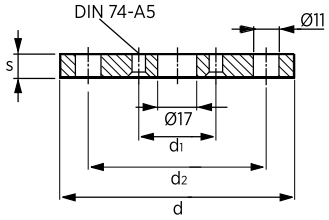
Materiał / *Material*

CK45

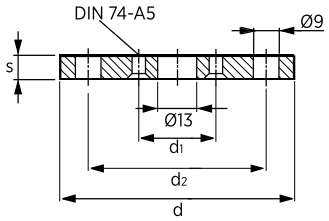
Jak zamówić / *How to order*

Symbol: **M302-03-100-205**

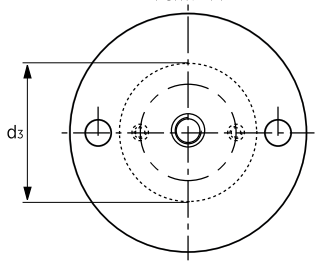
Inne wymiary na żądanie
Other dimensions on demand



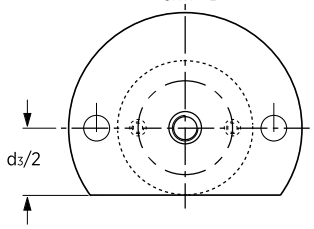
M302-03-080



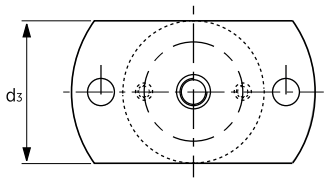
Forma - A
Form - A



Forma - B
Form - B



Forma - C
Form - C



Symbol	Forma *Form*	d	d1	d2	d3	s
M302-03-080-005	A	80	32	63	48	5
M302-03-080-055	A	80	32	63	48	5,5
M302-03-080-105	C	80	32	63	48	5
M302-03-080-155	C	80	32	63	48	5,5
M302-03-100-005	A	100	40,5	76	58	5,5
M302-03-100-010	A	100	40,5	76	58	10
M302-03-100-105	B	100	40,5	76	58	5,5
M302-03-100-110	B	100	40,5	76	58	10
M302-03-100-205	C	100	40,5	76	58	5,5
M302-03-100-210	C	100	40,5	76	58	10
M302-03-100-215	C	100	40,5	76	58	10,5
M302-03-120-005	A	120	50,5	96	78	5,5
M302-03-120-010	A	120	50,5	96	78	10
M302-03-120-105	B	120	50,5	96	78	5,5
M302-03-120-110	B	120	50,5	96	78	10
M302-03-120-205	C	120	50,5	96	78	5,5
M302-03-120-210	C	120	50,5	96	78	10
M302-03-120-215	C	120	50,5	96	78	10,5

ZESPOŁY CENTRUJĄCE
LOCATING CONE

M302-08

Materiał / *Material*

1. **16MnCr5 kuty** / *forged*
2. **16MnCr5 kuty** / *forged*
3. **CK45**

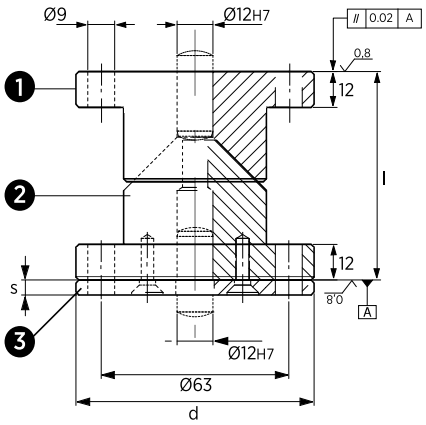
Twardość / *Hardness*

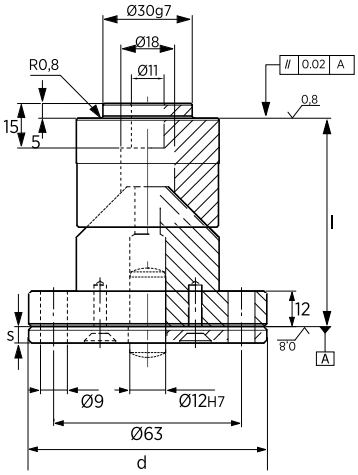
1. **60 ÷ 64 HRC**
2. **60 ÷ 64 HRC**

Jak zamówić / *How to order*

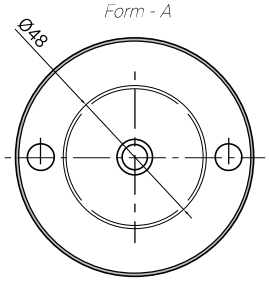
Symbol: **M302-08-080-105**

Inne wymiary na żądanie
Other dimensions on demand

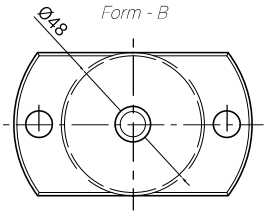




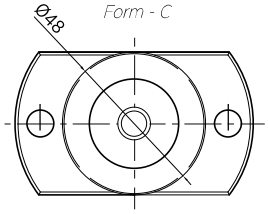
Forma - A
Form - A



Forma - B
Form - B



Forma - C
Form - C



Symbol	Forma *Form*	d	s	l ±0,05
M302-08-080-005	A	80	5	70
M302-08-080-055	A	80	5,5	70
M302-08-080-105	B	80	5	70
M302-08-080-155	B	80	5,5	70
M302-08-080-205	C	80	5	70
M302-08-080-255	C	80	5,5	70

KOŁKI USTALAJĄCE
LOCATING PINS

M303-01

Materiał / *Material*

16MnCr5

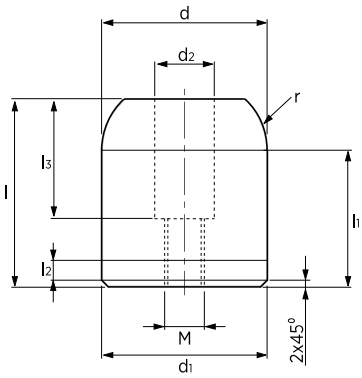
Twardość / *Hardness*

58 ÷ 60 HRC

Jak zamówić / *How to order*

Symbol: **M303-01-022045**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d j6	d -0,05/-0,1	l	l1	l2	l3	d2 ±0,2	M	r
M303-01-022045	22	22	45	37,5	8	25	14	M10	12,5
M303-01-032050	32	32	50	40	10	35	18	M12	20
M303-01-040055	40	40	55	40	10	35	18	M12	20
M303-01-050055	50	50	55	40	10	35	18	M12	20

KOŁKI USTALAJĄCE
LOCATING PINS

M303-02

Materiał / *Material*

16MnCr5

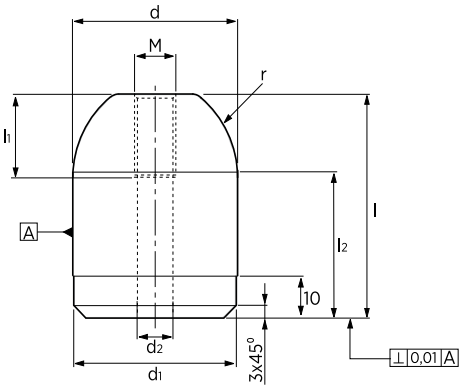
Twardość / *Hardness*

58 ÷ 60 HRC

Jak zamówić / *How to order*

Symbol: **M303-02-040055**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d h6	l	l1	l2	d1 -0,05	d2	M	r
M303-02-022045	22	45	16	35	22	7	M8	15
M303-02-022055	22	55	16	45	22	7	M8	15
M303-02-032050	32	50	20	37,50	32	9	M10	20
M303-02-040055	40	55	20	35	40	9	M10	25
M303-02-040065	40	65	20	45	40	9	M10	25
M303-02-040085	40	85	20	65	40	9	M10	25
M303-02-050055	50	55	20	41,25	50	9	M10	25
M303-02-056080	56	80	20	60	56	9	M10	30

SWORZNIE DOCISKU
AIR PINS

M304-01

Materiał / *Material*

CK45 kuty / *forged*
800÷1000 N/mm²

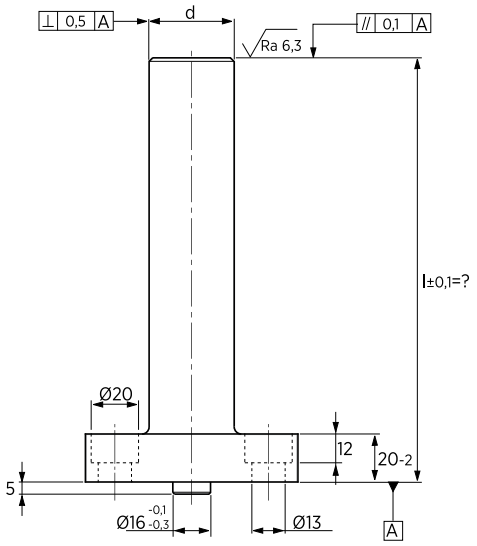
Jak zamówić / *How to order*

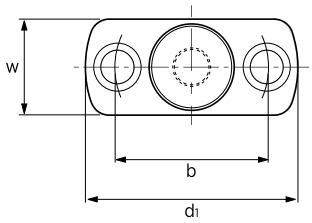
Symbol: **M304-01-036-l**

Długość l jest podawana przez klienta (max długość 360 mm)
Size of l is given by customer (max length 360mm)
np / *for example:*
l=165

Symbol: **M304-01-036-165**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	d +2	w	b	d1 ±1	Max obciążenie *Max load* (kN)
M304-01-036-l	36	40	65	90	50
M304-01-045-l	45	50	75	100	70

SWORZNIE DOCISKU
AIR PINS

M304-07

Materiał / *Material*

CK45 kuty / *forged*
800÷1000 N/mm²

Jak zamówić / *How to order*

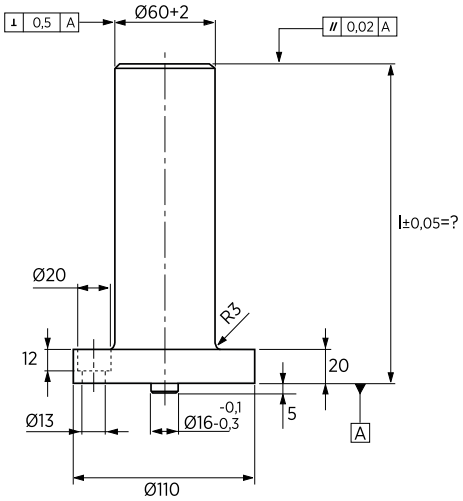
Symbol: **M304-07-01-l**

Długość l jest podawana przez klienta (max długość 440 mm)
Size of l is given by customer (max length 440mm)

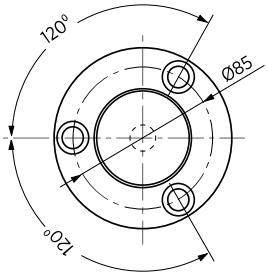
np / *for example:*
l=165

Symbol: **M304-07-00-165**

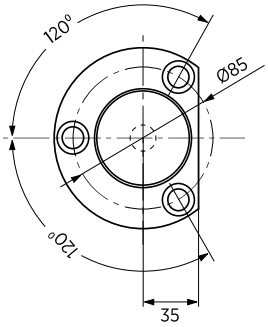
Inne wymiary na żądanie
Other dimensions on demand



Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*	Max obciążenie *Max load* (kN)
M304-07-00-l	A	80
M304-07-01-l	B	80

SWORZNIE DOCISKU
AIR PINS

M304-08

Materiał / *Material*

42CrMo4+QT kuty / *forged*
800÷1000 N/mm²

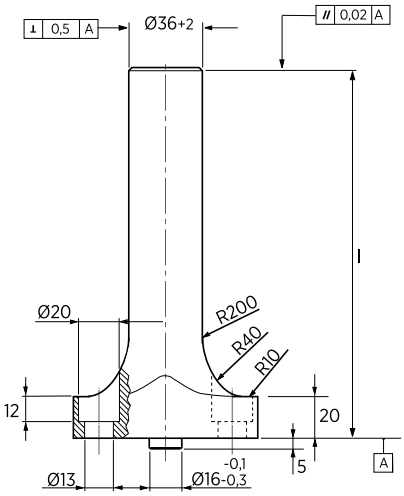
Jak zamówić / *How to order*

Symbol: **M304-08-00-205**

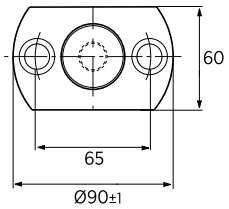
00 - Forma A / *Form A*
01 - Forma B / *Form B*
02 - Forma C / *Form C*

Długość max 360 mm
Max length 360mm)

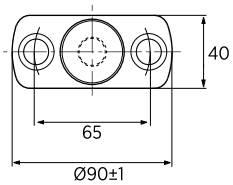
Inne wymiary na żądanie
Other dimensions on demand



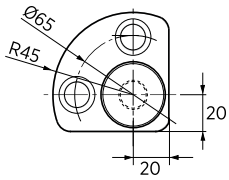
Forma - A
Form - A
(M304-08-00)



Forma - B
Form - B
(M304-08-01)



Forma - C
Form - C
(M304-08-02)



Symbol	l ±0,05	Max obciążenie *Max load* (kN)
M304-08-??-150	150	50
M304-08-??-155	155	50
M304-08-??-160	160	50
M304-08-??-165	165	50
M304-08-??-170	170	50
M304-08-??-175	175	50
M304-08-??-180	180	50
M304-08-??-185	185	50
M304-08-??-190	190	50
M304-08-??-195	195	50
M304-08-??-200	200	50
M304-08-??-205	205	50

Symbol	l ±0,05	Max obciążenie *Max load* (kN)
M304-08-??-210	210	50
M304-08-??-215	215	50
M304-08-??-220	220	50
M304-08-??-225	225	50
M304-08-??-230	230	50
M304-08-??-235	235	50
M304-08-??-240	240	50
M304-08-??-245	245	50
M304-08-??-250	250	50
M304-08-??-255	255	50
M304-08-??-260	260	50
M304-08-??-265	265	50

Symbol	l ±0,05	Max obciążenie *Max load* (kN)
M304-08-??-270	270	50
M304-08-??-275	275	50
M304-08-??-280	280	50
M304-08-??-285	285	50
M304-08-??-290	290	50
M304-08-??-295	295	50
M304-08-??-300	300	50
M304-08-??-310	310	50
M304-08-??-320	320	50
M304-08-??-330	330	50
M304-08-??-340	340	50
M304-08-??-350	350	50
M304-08-??-360	360	50

SWORZNIE DOCISKU
AIR PINS

M304-09

Materiał / *Material*

CK45 kuty / *forged*
800÷1000 N/mm²

Jak zamówić / *How to order*

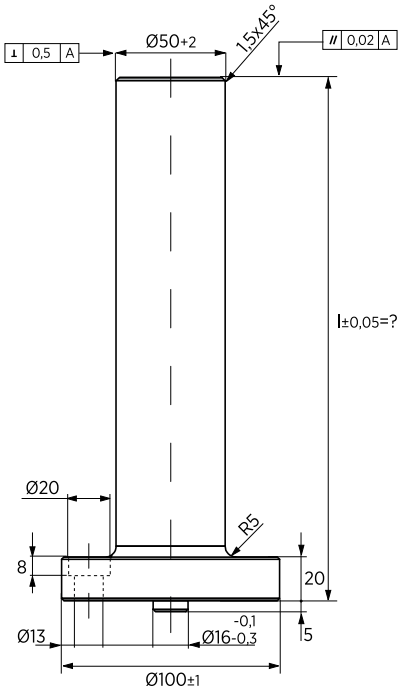
Symbol: **M304-09-00-l**

Długość l jest podawana przez klienta (max długość 600 mm)
Size of l is given by customer (max length 600mm)

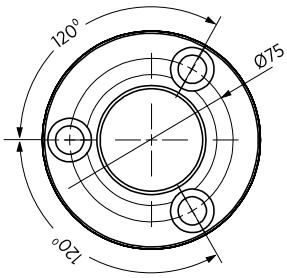
np / *for example:*
l=165

Symbol: **M304-09-00-165**

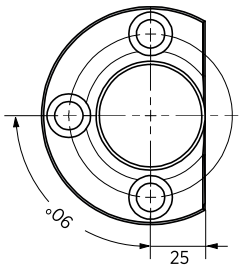
Inne wymiary na żądanie
Other dimensions on demand



Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*	Max obciążenie *Max load* (kN)
M304-09-00-l	A	80
M304-09-01-l	B	80

SWORZNIE DOCISKU
AIR PINS

M304-10

Materiał / *Material*

1.7227 (42CrMoS4+QT)

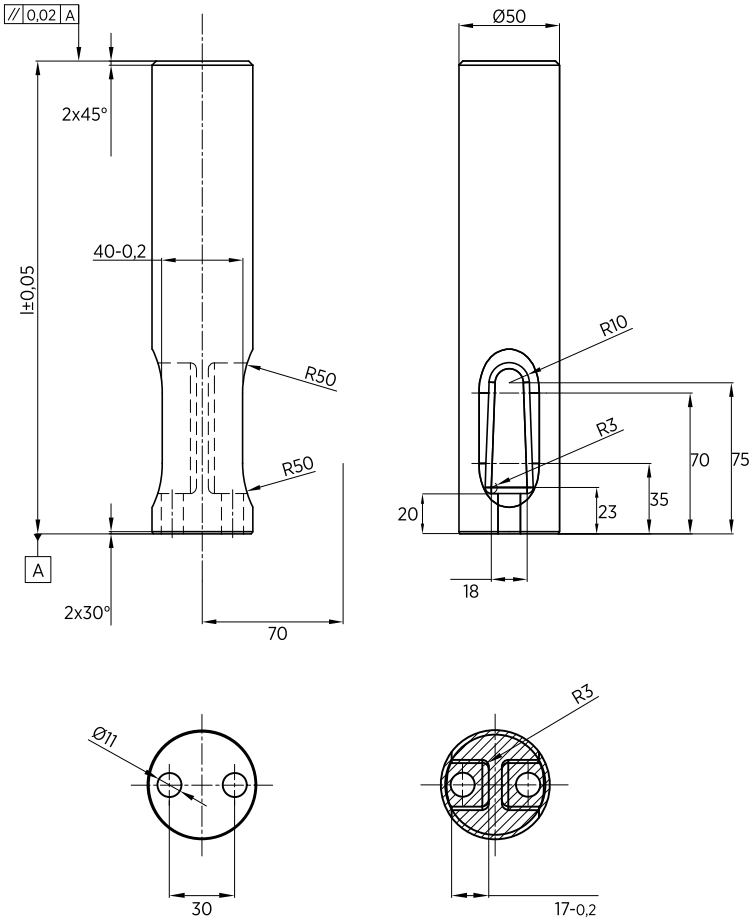
Jak zamówić / *How to order*

Symbol: **M304-10-l**

Długość l jest podawana przez klienta
Size of l is given by customer
np / *for example:*
l=165

Symbol: **M304-10-165**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Max obciążenie *Max load* (kN)
M304-10-l	80

Elementy transportowe, mocujące i złączne

PODNOŚNIKI SAMOSMARNE
SELF-LUBRICATING LIFTERS

M305-04

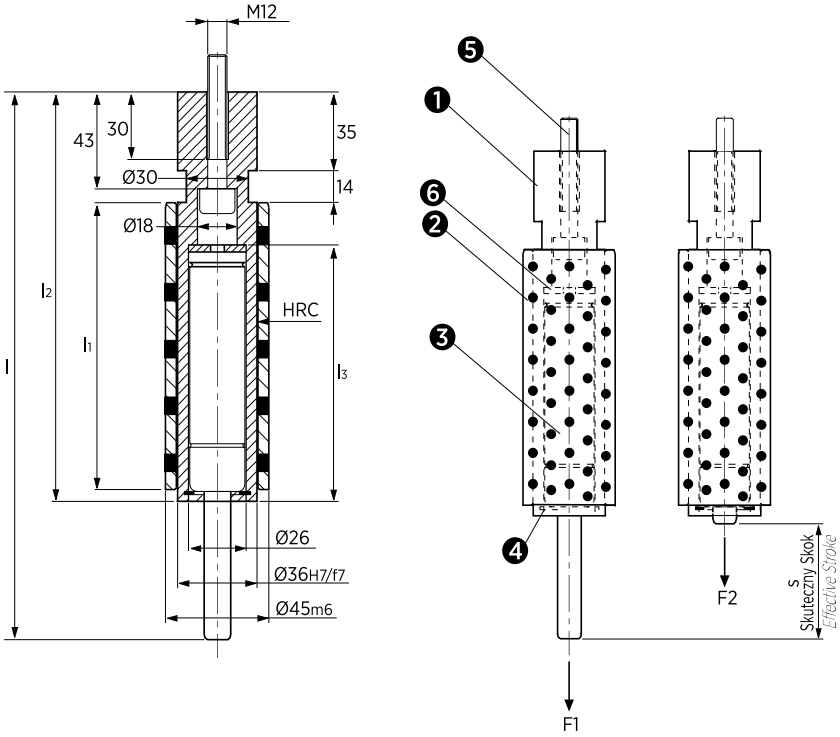
Materiał / *Material*

1. **Tuleja** / *Sleeve*
   CK45
   HRC 58÷62
2. **Tuleja** / *Bushes*
   Brąz + grafit
   Bronze with Non-Liquid Lubricant
   HB ≥190
3. **Sprężyna gazowa** / *Gas spring*
4. **DIN 472**
5. **M10x60 DIN 912**
6. **90MnCrV8**
   HRC 54÷60

Jak zamówić / *How to order*

Symbol: **M305-04-65200**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1	l2	l3	F1 daN	F2 daN	s
M305-04-50050	240	115	182	118	50	68	50
M305-04-50100	240	115	182	118	100	136	50
M305-04-50150	240	115	182	118	150	204	50
M305-04-50200	240	115	182	118	200	272	50
M305-04-65050	274	145	200	135	50	68	65
M305-04-65100	274	145	200	135	100	136	65
M305-04-65150	274	145	200	135	150	204	65
M305-04-65200	274	145	200	135	200	272	65
M305-04-80050	314	170	220	155	50	68	80
M305-04-80100	314	170	220	155	100	136	80
M305-04-80150	314	170	220	155	150	204	80
M305-04-80200	314	170	220	155	200	272	80

PODNOŚNIKI KOŁNIERZOWE
FLANGE LIFTER

M305-05

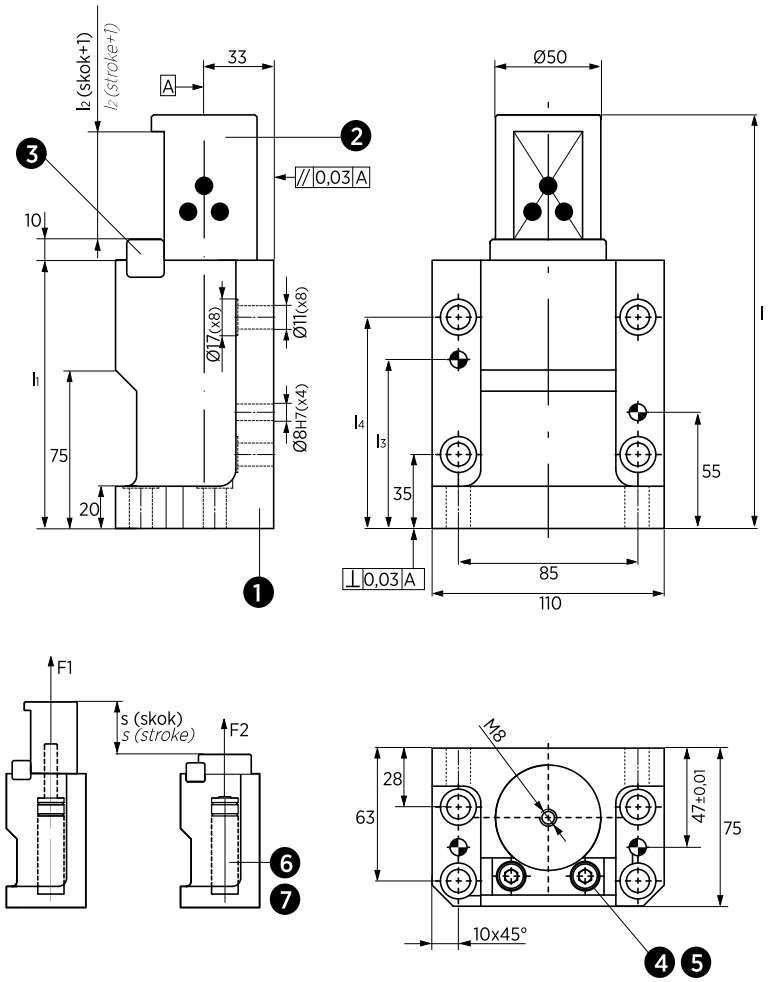
Materiał / *Material*

1. **CK45**
2. **Brąz + grafit**
   Bronze + Graphite
   HB > 190
3. **36NiCrMo4**
4. **M8x30 DIN912**
5. **Schnorr Ø8**
6. **Sprężyna gazowa** / *Gas spring*
7. **M6x12 DIN 7991**

Jak zamówić / *How to order*

Symbol: **M305-05-50200**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1	l2	l3	l4	F1 daN	F2 daN	s
M305-05-50050	196	127	51	80	100	50	86	50
M305-05-50100	196	127	51	80	100	100	172	50
M305-05-50150	196	127	51	80	100	150	258	50
M305-05-50200	196	127	51	80	100	200	344	50
M305-05-80050	256	157	81	110	130	50	86	80
M305-05-80100	256	157	81	110	130	100	172	80
M305-05-80150	256	157	81	110	130	150	258	80
M305-05-80200	256	157	81	110	130	200	344	80

PODNOŚNIKI KOŁNIERZOWE
FLANGE LIFTER

M305-06

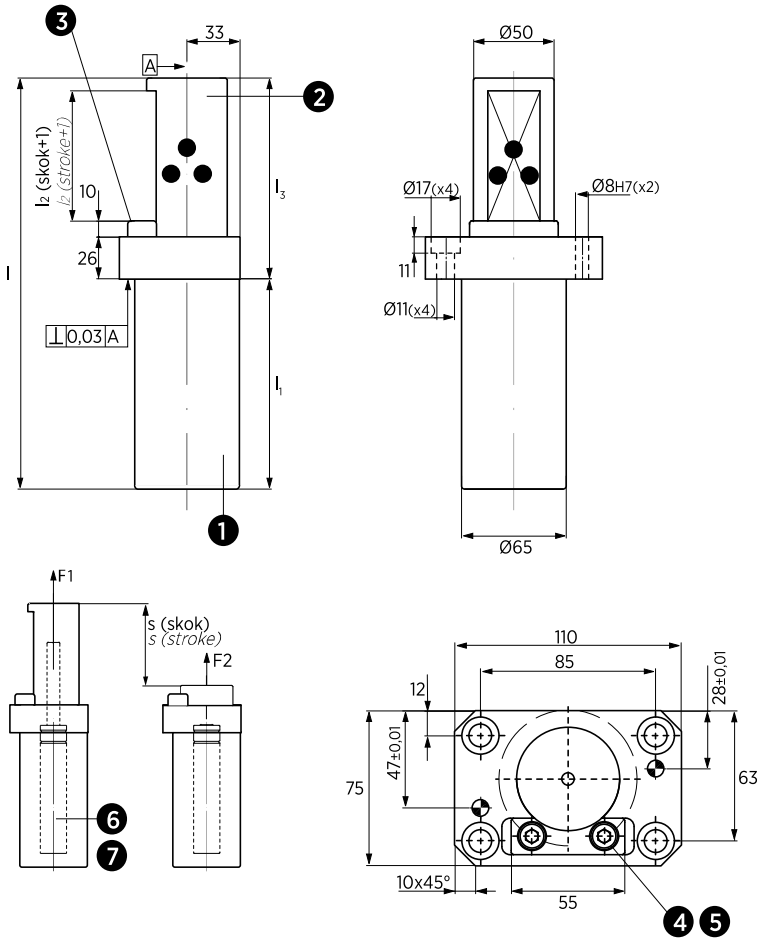
Materiał / *Material*

1. **CK45**
2. **Brąz + grafit**
   Bronze + Graphite
   HB > 190
3. **36NiCrMo4**
4. **M8x30 DIN912**
5. **Schnorr Ø8**
6. **Sprężyna gazowa** / *Gas spring*
7. **M6x12 DIN 7991**

Jak zamówić / *How to order*

Symbol: **M305-06-80200**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1	l2	l3	F1 daN	F2 daN	s
M305-06-50050	196	101	51	95	50	86	50
M305-06-50100	196	101	51	95	100	172	50
M305-06-50150	196	101	51	95	150	258	50
M305-06-50200	196	101	51	95	200	344	50
M305-06-80050	256	131	81	125	50	86	80
M305-06-80100	256	131	81	125	100	172	80
M305-06-80150	256	131	81	125	150	258	80
M305-06-80200	256	131	81	125	200	344	80

PODNOŚNIKI KOŁNIERZOWE
FLANGE LIFTER

M305-07

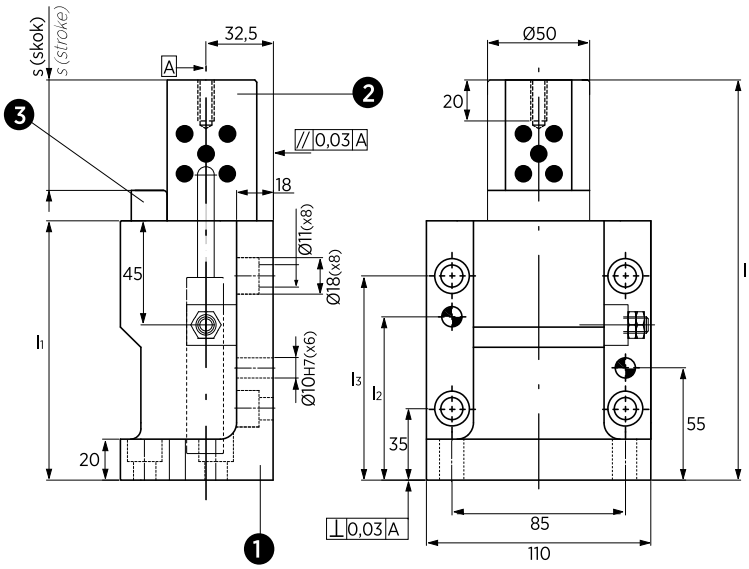
Materiał / *Material*

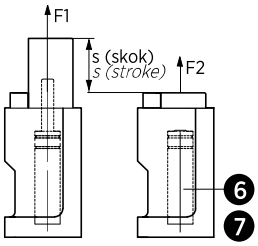
1. **CK45**
2. **Brąz + grafit**
   Bronze + Graphite
   HB > 190
3. **36NiCrMo4**
4. **M8x30 DIN912**
5. **Schnorr Ø8**
6. **Sprężyna gazowa** / *Gas spring*
7. **M6x12 DIN 7991**

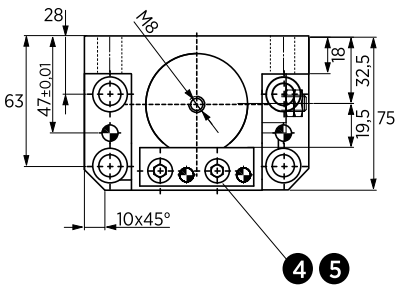
Jak zamówić / *How to order*

Symbol: **M305-07-80200**

Inne wymiary na żądanie
Other dimensions on demand







Symbol	l	l1	l2	l3	F1 daN	F2 daN	s
M305-07-50050	196	125	80	100	50	65	50
M305-07-50100	196	125	80	100	100	135	50
M305-07-50150	196	125	80	100	150	200	50
M305-07-50200	196	125	80	100	200	260	50
M305-07-80050	256	155	110	130	50	65	80
M305-07-80100	256	155	110	130	100	135	80
M305-07-80150	256	155	110	130	150	200	80
M305-07-80200	256	155	110	130	200	260	80
M305-07-100050	296	175	130	150	50	65	100
M305-07-100100	296	175	130	150	100	135	100
M305-07-100150	296	175	130	150	150	200	100
M305-07-100200	296	175	130	150	200	260	100

PODNOŚNIKI KOŁNIERZOWE
FLANGE LIFTER

M305-08

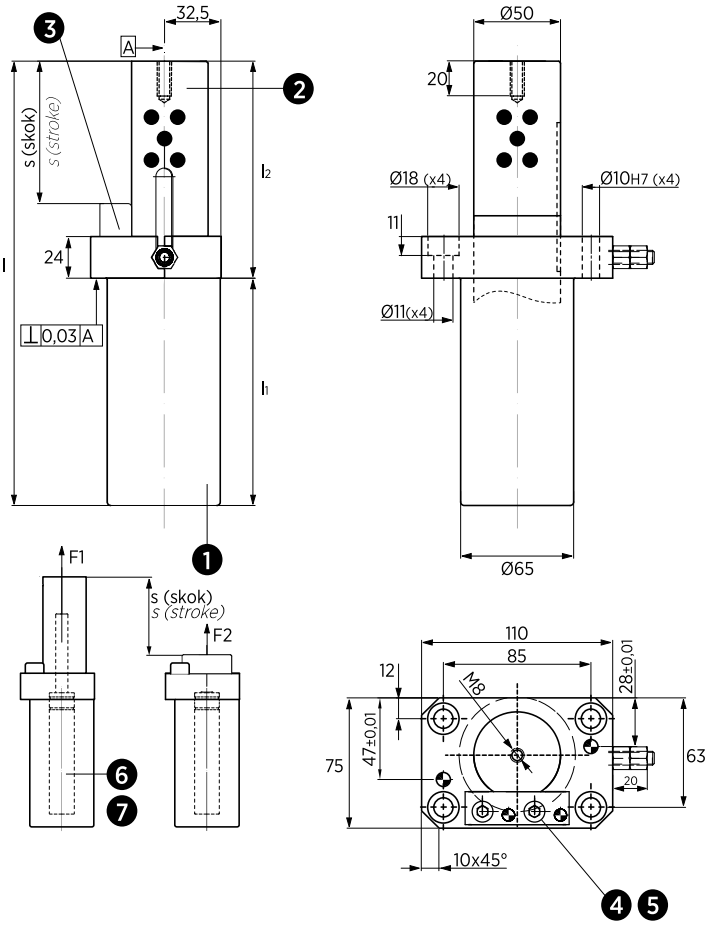
Materiał / *Material*

1. **CK45**
2. **Brąz + grafit**
   Bronze + Graphite
   HB > 190
3. **36NiCrMo4**
4. **M8x30 DIN912**
5. **Schnorr Ø8**
6. **Sprężyna gazowa** / *Gas spring*
7. **M6x12 DIN 7991**

Jak zamówić / *How to order*

Symbol: **M305-08-80100**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1	l2	F1 daN	F2 daN	s
M305-08-50050	196	101	95	50	65	50
M305-08-50100	196	101	95	100	135	50
M305-08-50150	196	101	95	150	200	50
M305-08-50200	196	101	95	200	260	50
M305-08-80050	256	131	125	50	65	80
M305-08-80100	256	131	125	100	135	80
M305-08-80150	256	131	125	150	200	80
M305-08-80200	256	131	125	200	260	80
M305-08-100050	296	151	145	50	65	100
M305-08-100100	296	151	145	100	135	100
M305-08-100150	296	151	145	150	200	100
M305-08-100200	296	151	145	200	260	100

UNIWERSALNE PODNOŚNIKI
UNIVERSAL LIFTER UNIT

M305-09

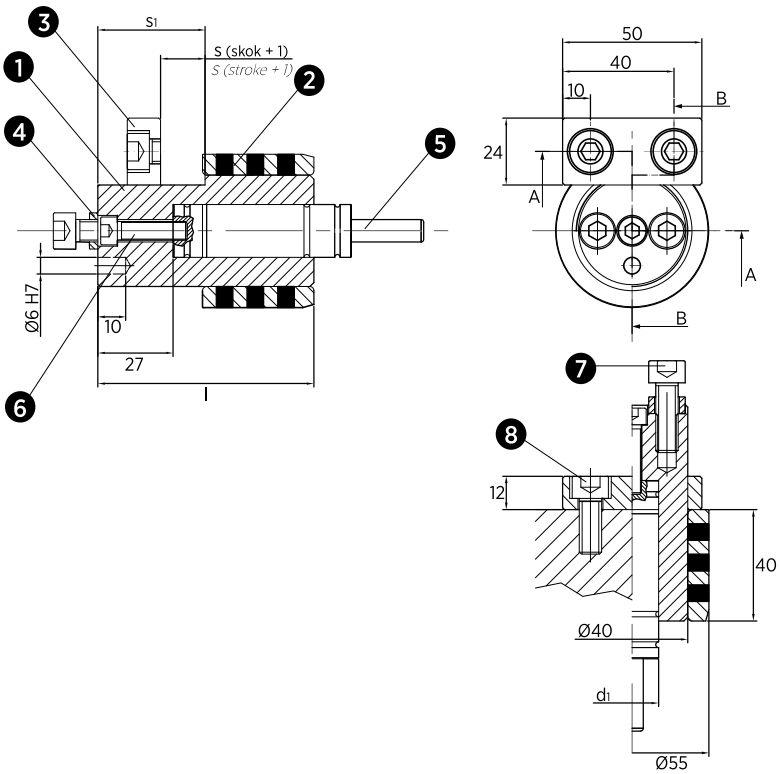
Materiał / *Material*

1. **16MnCr5**
   HRC 54÷56
2. **Brąz + grafit (tuleja)**
   Bronze + Graphite (bush)
   HB > 190
3. **Oprawka** / *Retainer* **(2 172 472)**
4. **Pierścień ustalający** / *Locating Ring*
   115CrV3
5. **Sprężyna gazowa** / *Gas spring*
6. **M6x25 DIN 912**
7. **M8x25 DIN 912**
8. **M8x20 DIN 912**

Jak zamówić / *How to order*

Symbol: **M305-09-050090**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d1 +1/+1,5	l ±0,1	s	s1
M305-09-010090	19	64	9	25
M305-09-010200	25	64	9	25
M305-09-015090	19	68,5	13,5	29,5
M305-09-015200	25	68,5	13,5	29,5
M305-09-025090	19	77,5	22,5	38,5
M305-09-025200	25	77,5	22,5	38,5
M305-09-038090	19	89	34	50
M305-09-038200	25	89	34	50
M305-09-050090	19	100	45	63
M305-09-050200	25	100	45	63
M305-09-063090	19	113,5	58,5	74,5
M305-09-063200	25	113,5	58,5	74,5
M305-09-080090	19	130	75	91
M305-09-080200	25	130	75	91
M305-09-100090	19	150	95	111
M305-09-100200	25	150	95	111
M305-09-125090	19	175	120	136
M305-09-125200	25	175	120	136

BOLCE BLOKUJĄCE
PAD RETAINER PINS

M306-02

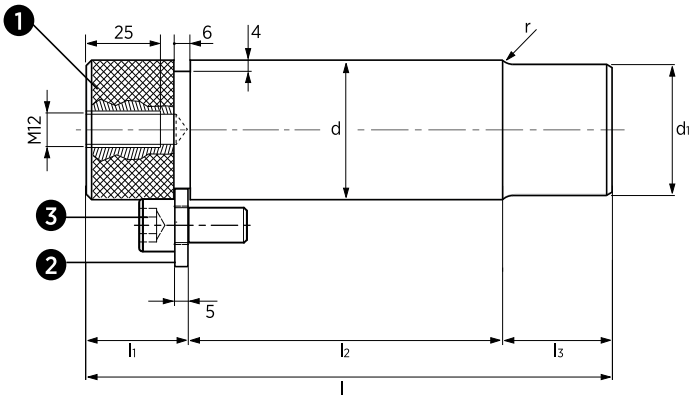
Materiał / *Material*

1. **42CrMo4**
   800÷1000 N/mm²
2. **CK45**
   Podkładka / *Washer* **5xØ13,2xØ30**
3. **Śruba** / *Screw* **M12x20 DIN912**

Jak zamówić / *How to order*

Symbol: **M306-02-040139**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d e8	l	l1	l2	l3	d1 +0,05	r	Obciążenie dynamiczne *Dynamic load* (kN)
M306-02-032105	32	105	22	58	25	29	4	3
M306-02-032122	32	122	22	75	25	29	4	3
M306-02-040139	40	139	32	75	32	37	5	5
M306-02-040159	40	159	32	95	32	37	5	5
M306-02-050167	50	167	32	95	40	47	6	7,5
M306-02-050192	50	192	32	120	40	47	6	7,5
M306-02-063202	63	202	32	120	50	60	6	12,5
M306-02-063237	63	237	32	155	50	60	6	12,5

BOLCE BLOKUJĄCE
PAD RETAINER PINS

M306-03

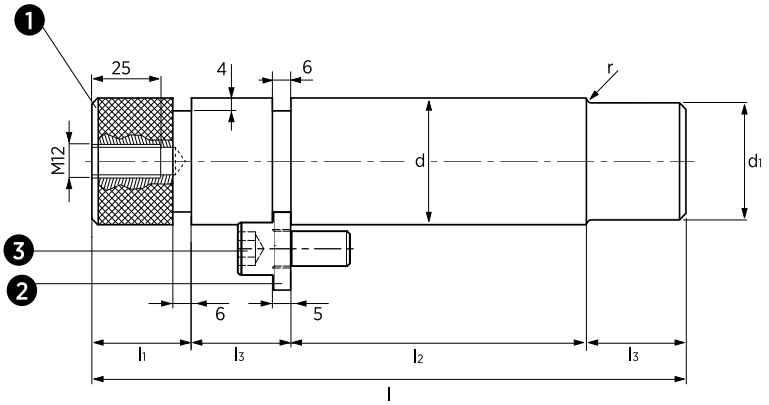
Materiał / *Material*

1. **42CrMo4**
   800÷1000 N/mm²
2. **CK45**
   Podkładka / *Washer* **5xØ13,2xØ30**
3. **Śruba** / *Screw* **M12x20 DIN912**

Jak zamówić / *How to order*

Symbol: **M306-03-040191**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d e8	l	l1	l2	l3	d1 +0,05	r	Obciążenie dynamiczne *Dynamic load* (kN)
M306-03-032130	32	130	22	58	25	29	4	3
M306-03-032147	32	147	22	75	25	29	4	3
M306-03-040171	40	171	32	75	32	37	5	5
M306-03-040191	40	191	32	95	32	37	5	5
M306-03-050207	50	207	32	95	40	47	6	7,5
M306-03-050232	50	232	32	120	40	47	6	7,5
M306-03-063252	63	252	32	120	50	60	6	12,5
M306-03-063287	63	287	32	155	50	60	6	12,5

ŚRUBY USTALAJĄCE
RETAINER BOLTS

M307-01

Materiał / *Material*

1. **36NiCrMo4**
2. **St37**
3. **St37**
4. **CK45**
5. **Elastomer 92Sh**
6. **DIN 935 8.8**
7. **DIN 94**

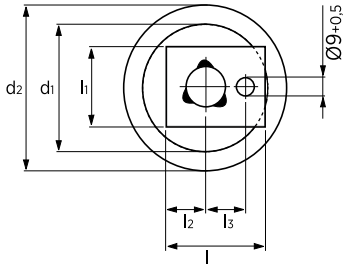
Jak zamówić / *How to order*

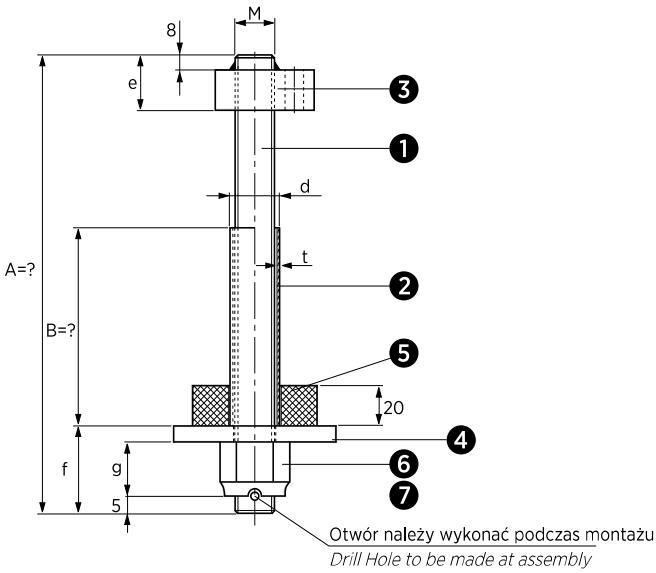
Symbol: **M307-01-20AAABBB**

Rozmiary A i B są określone przez klienta
A and B are given by the customer
np / *for example:*
M = 20 A = 247 B = 110

M307-01-20247110

Inne wymiary na żądanie
Other dimensions on demand





Symbol	dxt	l	l1	l2	l3 ±0,5	d1	d2	e	f	g	M	Max Obciążenie *Max. load* (kg)
M307-01-16AAABBB	22x2	50	35	20	20	50	65	28	30	19	M16	250
M307-01-20AAABBB	25x2	50	40	20	20	63	82	28	35	22	M20	450
M307-01-24AAABBB	30x2,5	50	45	20	20	80	105	28	42	27	M24	750
M307-01-30AAABBB	38x3,5	63	50	28	26	100	130	33	50	33	M30	1250

KONTROLERY PRZEPŁYWU
FLUX CONTROL

M308-01

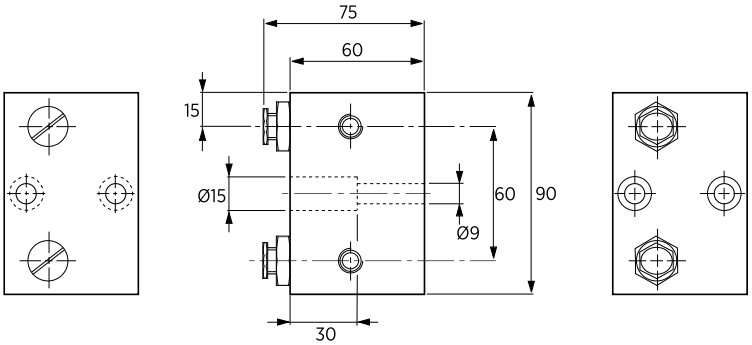
Materiał / *Material*

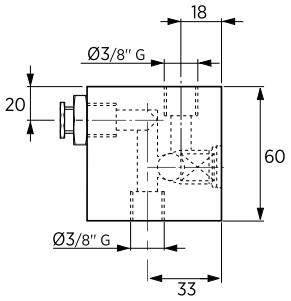
CK45

Jak zamówić / *How to order*

Symbol: **M308-01-090-060**

Inne wymiary na żądanie
Other dimensions on demand





Symbol
M308-01-090-060

Elementy transportowe, mocujące i złączne

WSPORNIKI PRZYŁĄCZA POWIETRZA
AIR COUPLING BRACKETS

M308-07

Materiał / *Material*

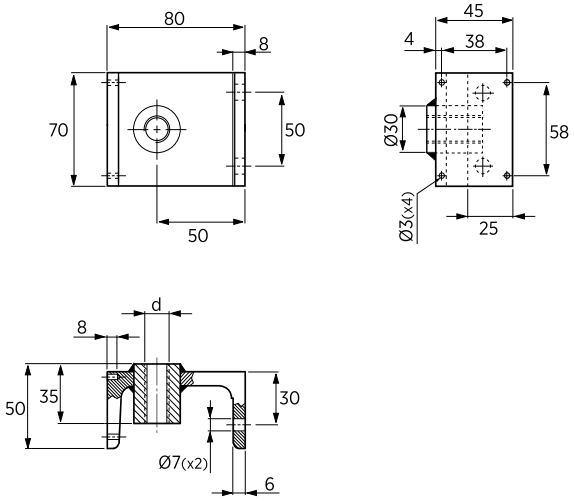
St37

Jak zamówić / *How to order*

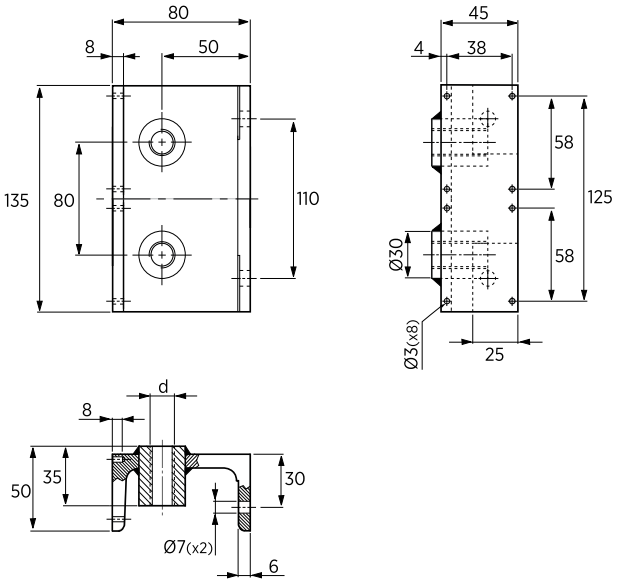
Symbol: **M308-07-080070**

Inne wymiary na żądanie
Other dimensions on demand

Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*	d
M308-07-080070	A	G 3/8"
M308-07-080135	B	G 1/4"

ZDERZAKI TŁUMIĄCE
SLIDE STOP BLOCK

M309-02

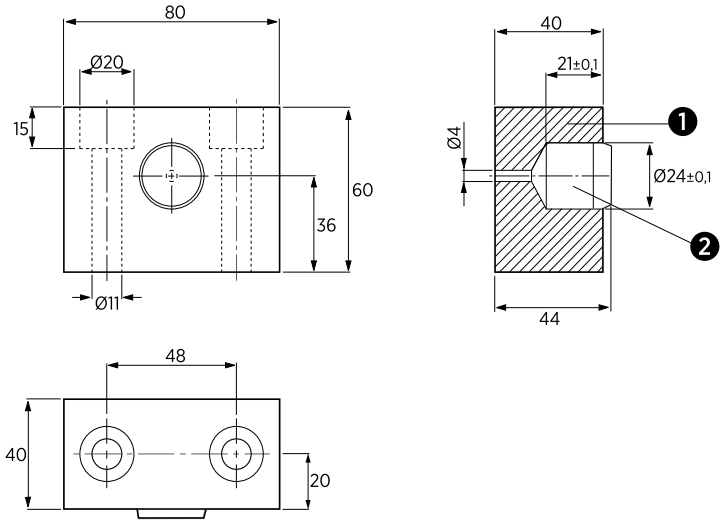
Materiał / *Material*

1. **CK45**
2. **Elastomer 92Sh**

Jak zamówić / *How to order*

Symbol: **M309-02-040080**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Fmax (kN)	Max absorbowana energia *Max. Energy Absorbed* (J)
M309-02-040080	3	4,8

ZDERZAKI TŁUMIĄCE
SLIDE STOP BLOCK

M309-04

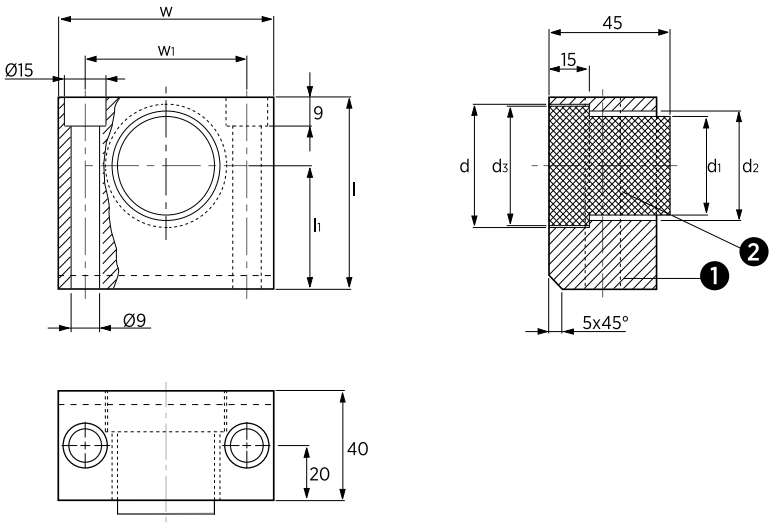
Materiał / *Material*

1. **CK45**
2. **Elastomer 90Sh**

Jak zamówić / *How to order*

Symbol: **M309-04-040065**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	w	d	l	l1	w1	d1	d2	d3	Fmax (kN)	Max absorbowana energia *Max. Energy Absorbed* (J)
M309-04-040065	65	35	60	40	45	27	30	34	5,2	13
M309-04-040075	75	45	70	45	55	36	40	44	9,8	24,5

ZDERZAKI TŁUMIĄCE
SLIDE STOP BLOCK

M309-05

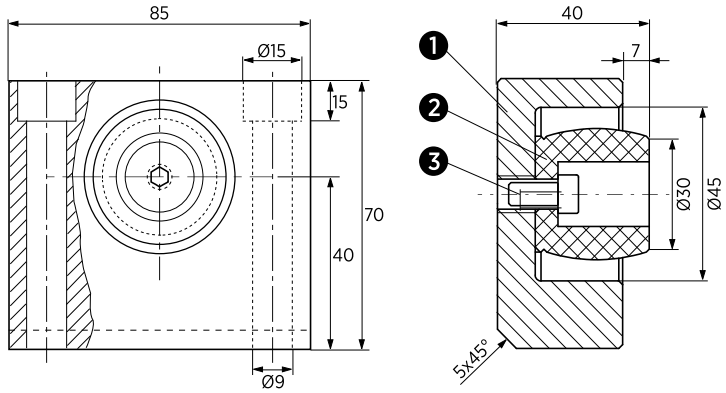
Materiał / *Material*

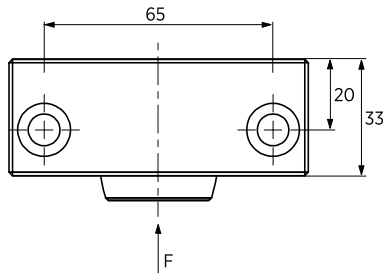
1. **CK45**
2. **Odbojnik** *Shock Absorber*
3. **M6x12 DIN 912**

Jak zamówić / *How to order*

Symbol: **M309-05-033085**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	Fmax (kN)	Max Absorbowana Energia *Max. Energy Absorbed* (J)	Max Skok *Max. Stroke* (mm)
M309-05-033085	3,75	8	7

ZDERZAKI TŁUMIĄCE
SLIDE STOP BLOCK

M309-06

Materiał / *Material*

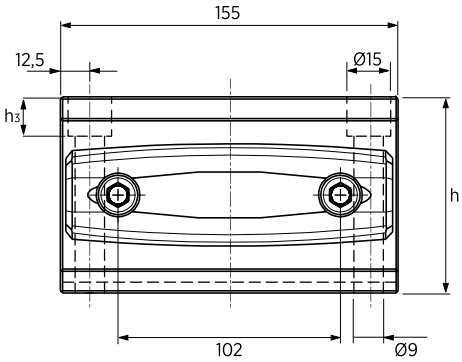
1. **CK45**
2. **Odbojnik** *Shock Absorber*
3. **M10x30 DIN 912**

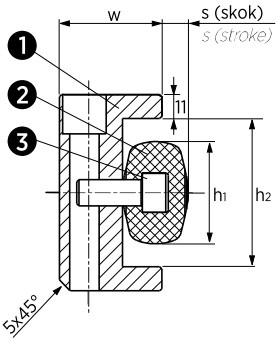
Jak zamówić / *How to order*

Symbol: **M309-06-047155**

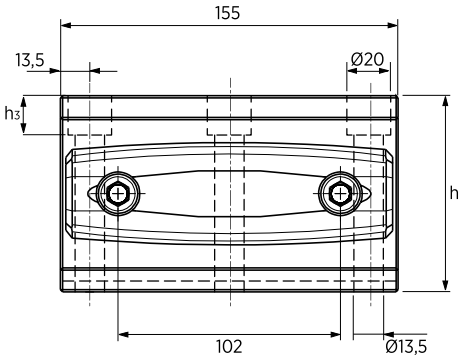
Inne wymiary na żądanie
Other dimensions on demand

Forma - A
Form - A





Forma - B
Form - B



Symbol	Forma *Form*	w	h	h1	h2	h3	Max Absorbowana Energia (J/Centralnie) *Max. Energy Absorbed (J/Hub)*	Max Skok *Max. Stroke* (mm)
M309-06-0467155	A	46,7	80	47	58	9	210	10,3
M309-06-047155	A	47	90	52	68	19	230	7
M309-06-0471551	B	47	90	47	68	18	210	14

ZDERZAKI TŁUMIĄCE
SLIDE STOP DAMPING SYSTEM

M309-07

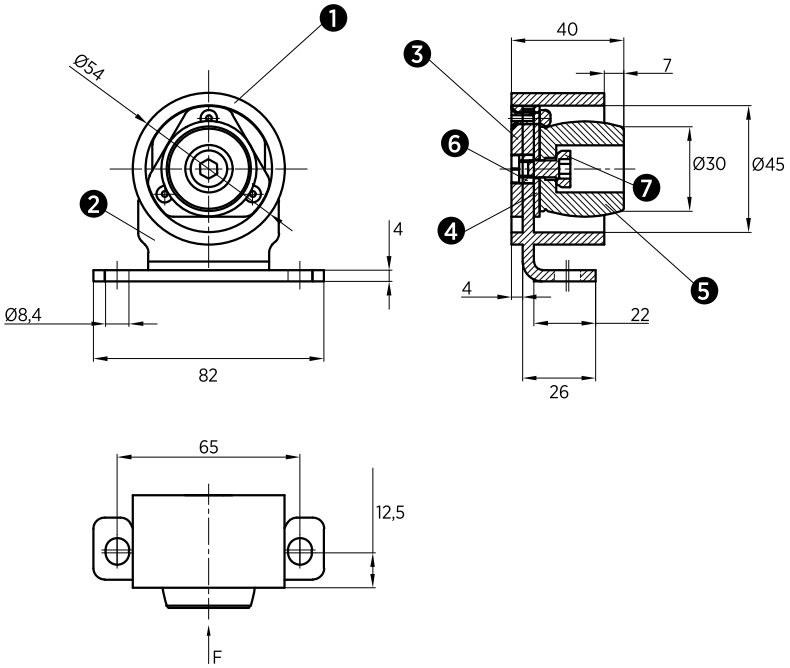
Materiał / *Material*

1. **S355**
2. **S355**
3. **S355**
4. **S235/DC01**
5. **Odbojnik** *Shock Absorber*
6. **M6 DIN 934**
7. **Śruba M6x10** / *Screw*

Jak zamówić / *How to order*

Symbol: **M309-07-054033**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Fmax (kN)	Max Absorbowana Energia *Max. Energy Absorbed* (J)	Max Skok *Max. Stroke* (mm)
M309-07-054033	3,75	8	7

PODNOŚNIKI ROLKOWE
ROLLER STOCK LIFTER

M310-01

Materiał / *Material*

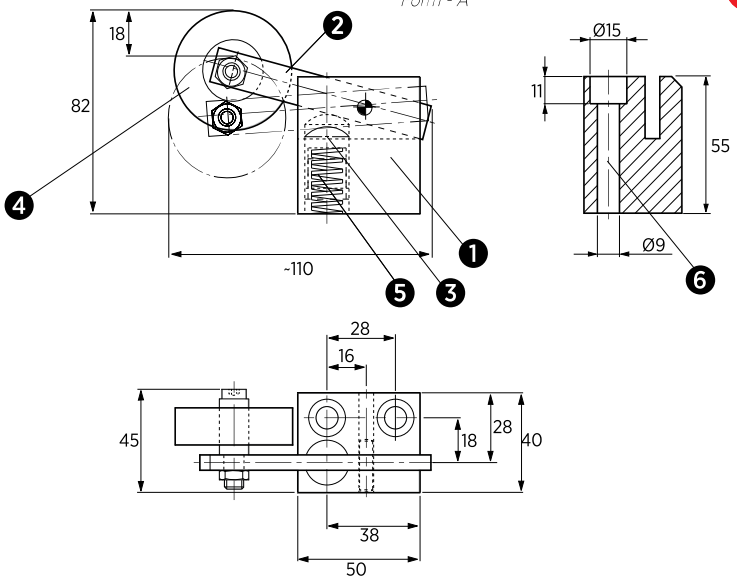
1. **C15**
2. **S235JRG2K**
3. **42CrMo4**
4. **Rolka** *Roller*
5. **Sprężyna** *Spring*
6. **Śruba** / *Screw* **M8x60 DIN 912**

Jak zamówić / *How to order*

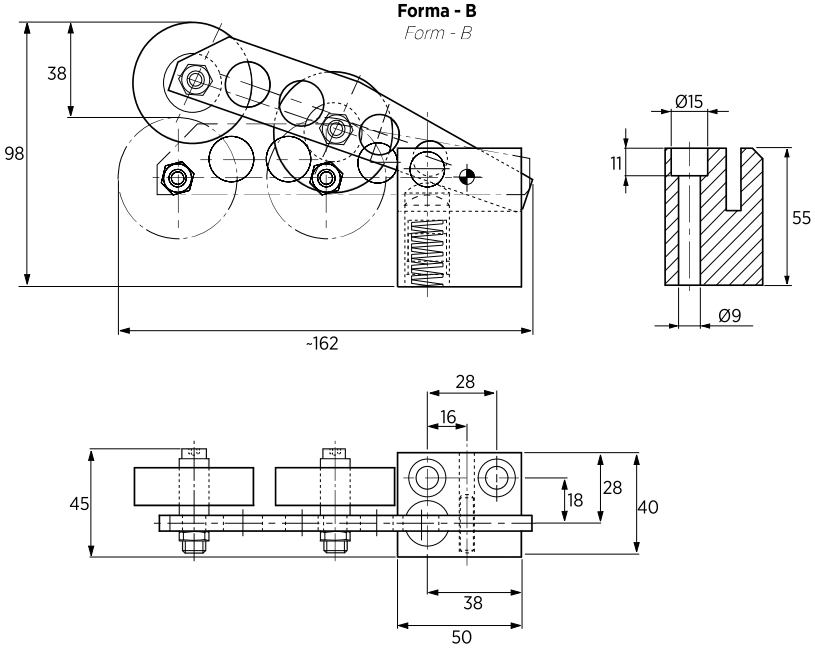
Symbol: **M310-01-002**

Inne wymiary na żądanie
Other dimensions on demand

Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*
M310-01-001	A
M310-01-002	B

PODNOŚNIKI ROLKOWE
ROLLER STOCK LIFTER

M310-01

Materiał / *Material*

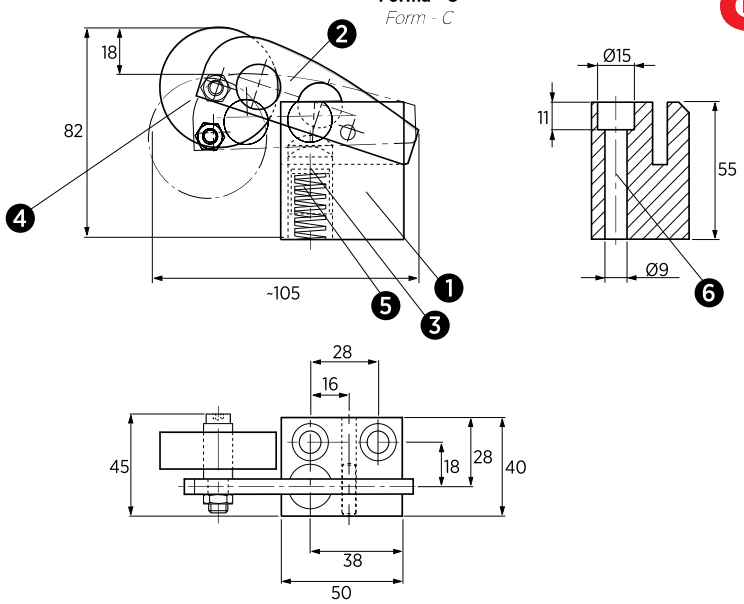
1. **C15**
2. **S235JRG2K**
3. **42CrMo4**
4. **Rolka** *Roller*
5. **Sprężyna** *Spring*
6. **Śruba** / *Screw* **M8x60 DIN 912**

Jak zamówić / *How to order*

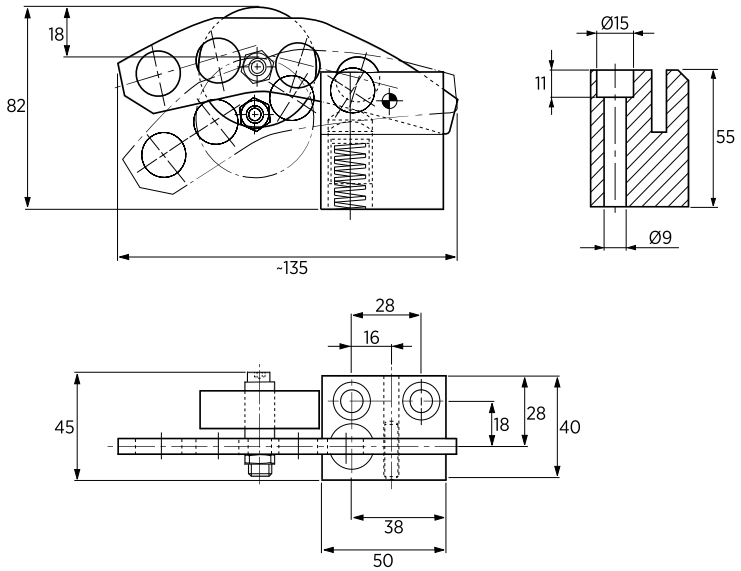
Symbol: **M310-01-004**

Inne wymiary na żądanie
Other dimensions on demand

Forma - C
Form - C



Forma - D
Form - D



Symbol	Forma *Form*
M310-01-003	C
M310-01-004	D

PODNOŚNIKI ROLKOWE
ROLLER STOCK LIFTER

M310-01

Materiał / *Material*

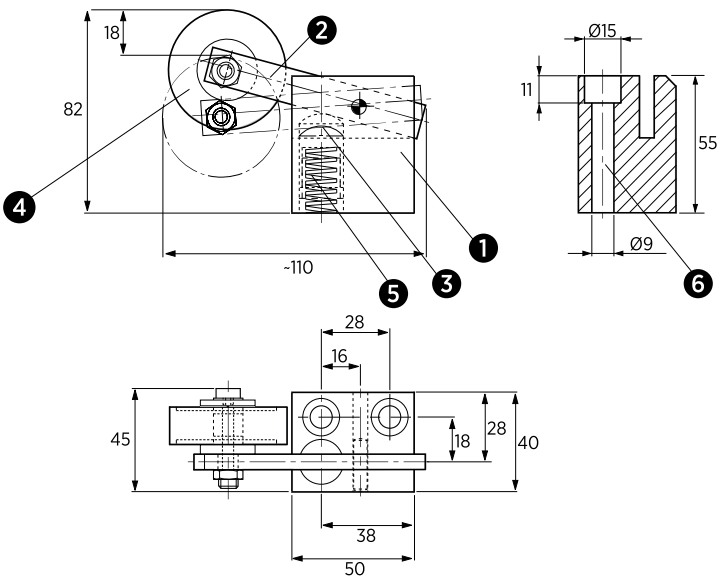
1. **C15**
2. **S235JRG2K**
3. **42CrMo4**
4. **Rolka** *Roller*
5. **Sprężyna** *Spring*
6. **Śruba** / *Screw* **M8x60 DIN 912**

Jak zamówić / *How to order*

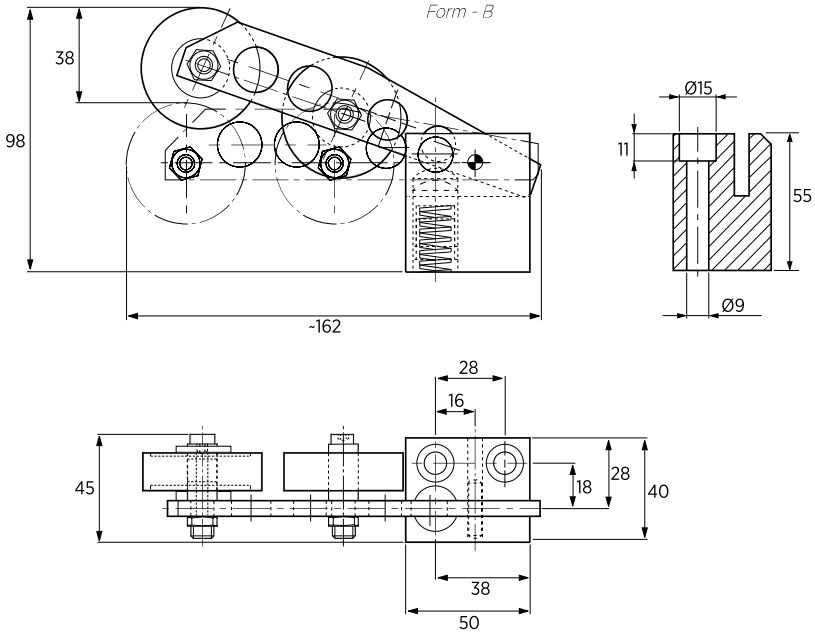
Symbol: **M310-01-011**

Inne wymiary na żądanie
Other dimensions on demand

Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*
M310-01-010	A
M310-01-011	B

PODNOŚNIKI ROLKOWE
ROLLER STOCK LIFTER

M310-01

Materiał / *Material*

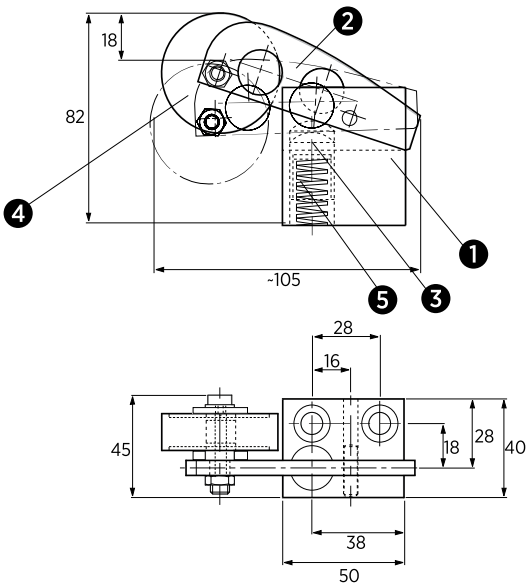
1. **C15**
2. **S235JRG2K**
3. **42CrMo4**
4. **Rolka** *Roller*
5. **Sprężyna** *Spring*
6. **Śruba** / *Screw* **M8x60 DIN 912**

Jak zamówić / *How to order*

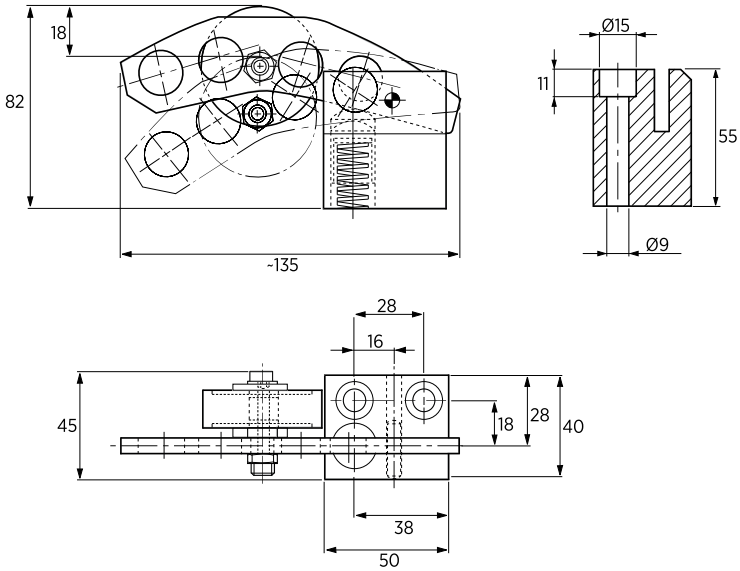
Symbol: **M310-01-012**

Inne wymiary na żądanie
Other dimensions on demand

Forma - C
Form - C



Forma - D
Form - D



Symbol	Forma *Form*
M310-01-012	C
M310-01-013	D

PODNOŚNIKI ROLKOWE
ROLLER STOCK LIFTER

M310-01

Materiał / *Material*

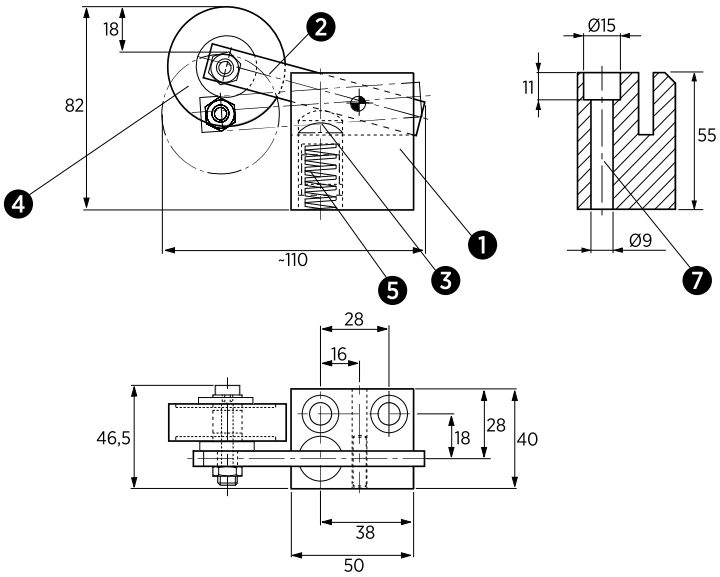
1. **C15**
2. **S235JRG2K**
3. **42CrMo4**
4. **Rolka** *Roller*
5. **Sprężyna** *Spring*
6. **Stal** / *Steel*
7. **Śruba** / *Screw* **M8x60 DIN 912**

Jak zamówić / *How to order*

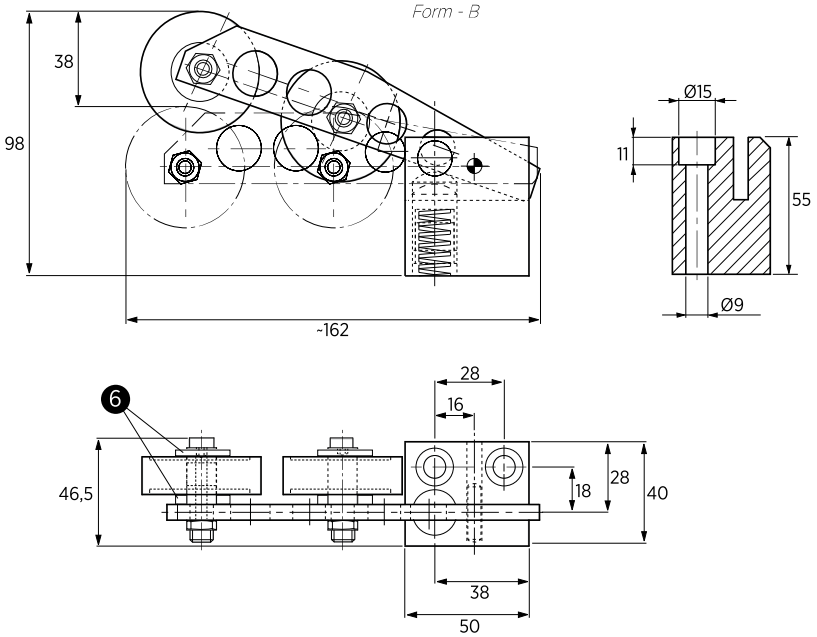
Symbol: **M310-01-020**

Inne wymiary na żądanie
Other dimensions on demand

Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*
M310-01-020	A
M310-01-021	B

PODNOŚNIKI ROLKOWE
ROLLER STOCK LIFTER

M310-01

Materiał / *Material*

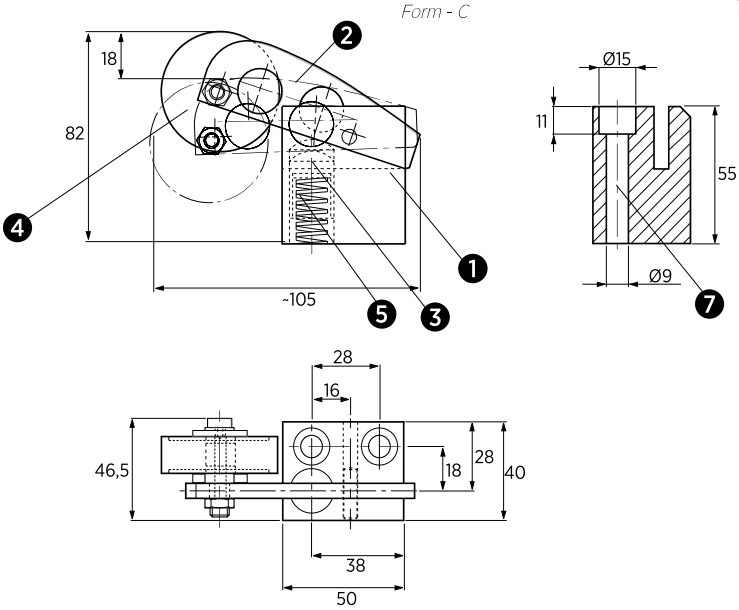
1. **C15**
2. **S235JRG2K**
3. **42CrMo4**
4. **Rolka** *Roller*
5. **Sprężyna** *Spring*
6. **Stal** / *Steel*
7. **Śruba** / *Screw* **M8x60 DIN 912**

Jak zamówić / *How to order*

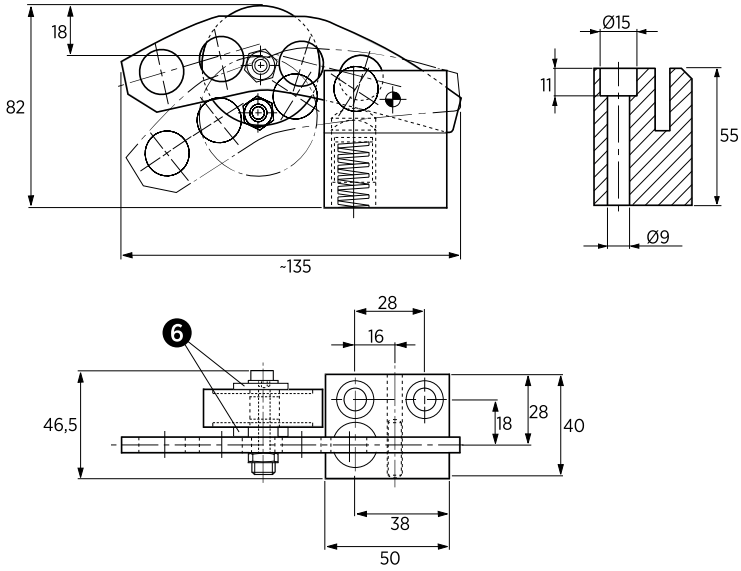
Symbol: **M310-01-022**

Inne wymiary na żądanie
Other dimensions on demand

Forma - C
Form - C



Forma - D
Form - D



Symbol	Forma *Form*
M310-01-022	C
M310-01-023	D

LISTWY WAŁECZKOWE
ROLLER GROUP

M310-03

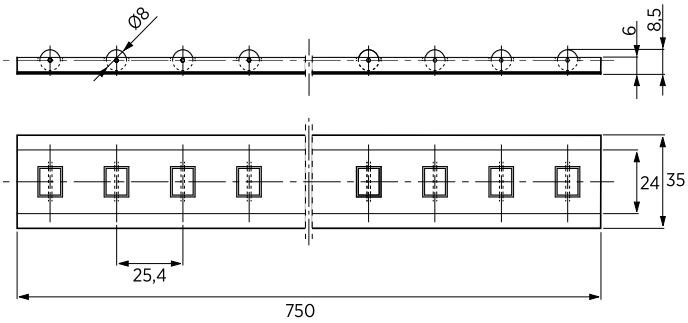
Materiał / *Material*

Stal / *Steel*

Jak zamówić / *How to order*

Symbol: **M310-03-35750**

Inne wymiary na żądanie
Other dimensions on demand



Symbol
M310-03-35750

PRZENOŚNIKI KULKOWE
BALL CARRIERS

M310-04

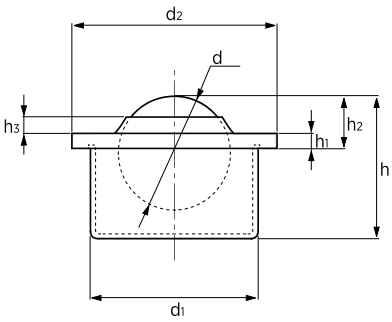
Materiał / *Material*

Stal / *Steel*

Jak zamówić / *How to order*

Symbol: **M310-04-0030**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	h	d1	d2	h1	h2	h3	Max Obciążenie *Max. load* (daN)
M310-04-0015	15	21,5	24±0,065	31	2,8	9,5±0,2	3,5	50
M310-04-0030	30	37,5	45±0,080	55	4	13,8±0,3	4,3	250

STALOWE ROLKI
STEEL ROLLER

M310-05

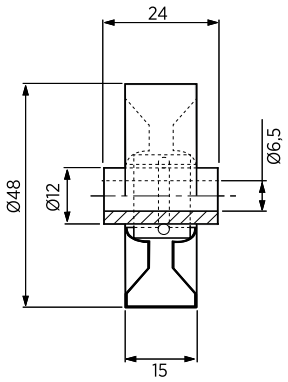
Materiał / *Material*

Stal / *Steel*

Jak zamówić / *How to order*

Symbol: **M310-05-001**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Max Obciążenie *Max. load* (daN)
M310-05-001	25

PLASTIKOWE ROLKI
PLASTIC ROLLER

M310-06

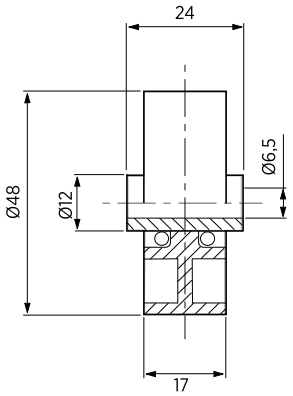
Materiał / *Material*

Polipropylen / *Polypropylene*

Jak zamówić / *How to order*

Symbol: **M310-06-001**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Max Obciążenie *Max. load* (daN)
M310-06-001	20

ROLKI
ROLLER

M310-08

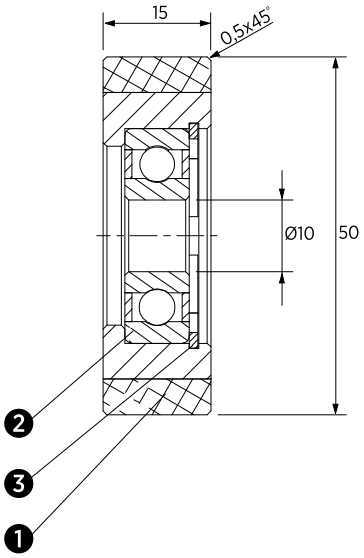
Materiał / *Material*

1. **Stal + Vulkollan** / *Steel+ Vulkollan*
2. **Łożysko Rolki** / *Roller Bearing*
   6200 2RS
3. **I30 DIN 472**

Jak zamówić / *How to order*

Symbol: **M310-08-001**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Max Obciążenie *Max. load* (daN)
M310-08-001	70

PRZENOŚNIKI ROLKOWE
ROLLER GROUP

M310-08

Materiał / *Material*

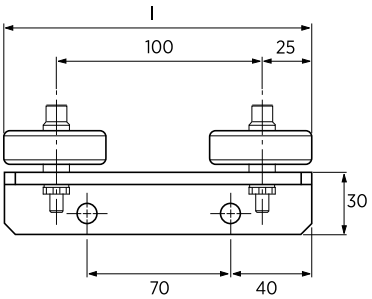
1. **St37**
2. **Pokładka** / *Washer* **M6**
3. **Pokładka** / *Washer* **M6**
4. **Nakrętka** / *Nut* **M6**
5. **Śruba** / *Screw* **M6x40 DIN 912**
6. **Stal** / *Steel* **M310-05-001**

Jak zamówić / *How to order*

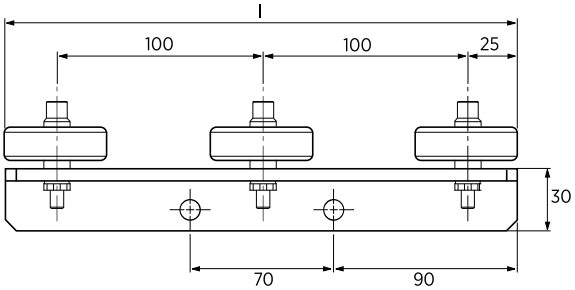
Symbol: **M310-08-064-250**

Inne wymiary na żądanie
Other dimensions on demand

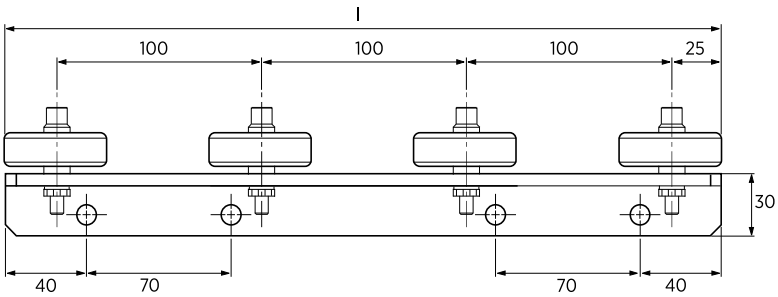
Forma - A
Form - A

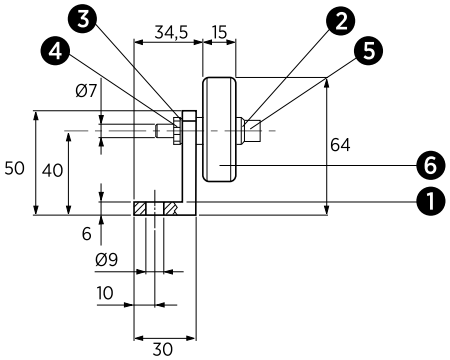


Forma - B
Form - B



Forma - C
Form - C





Symbol	Forma *Form*	l	Max Obciążenie *Max. load* (daN)
M310-08-064-150	A	150	50
M310-08-064-250	B	250	75
M310-08-064-350	C	350	100

WSPOMAGANIE TAŚMY
COIL SUPPORT

M310-09

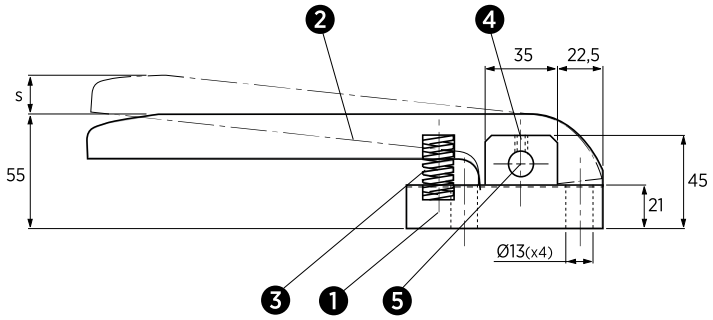
Materiał / *Material*

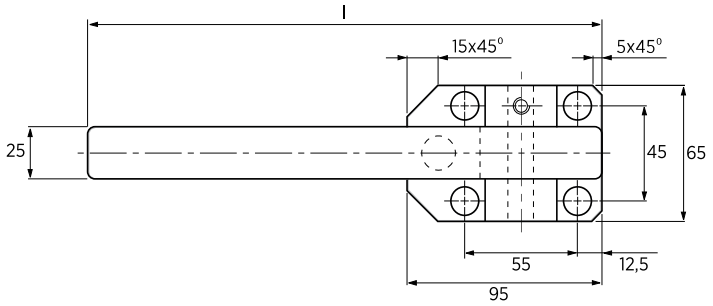
1. **CK45**
2. **Brąz** / *Bronze* **HB>190**
3. **Sprężyna** *Spring*
4. **M6x8 DIN 913**
6. **Ø12x60 DIN 6325**

Jak zamówić / *How to order*

Symbol: **M310-09-01-002**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l	s	Sprężyna *Spring*	Siła Początkowa Sprężyny *Spring Initial Force* (N)	Siła Końcowa Sprężyny *Spring Final Force* (N)
M310-09-01-001	250	18	RG16045	79	123
M310-09-01-002	250	18	2S16045	270	420
M310-09-01-003	300	30	2S16045	240	420

ZESPOŁY NAPĘDOWE ROLKI
ROLLER DRIVE UNIT

M310-10

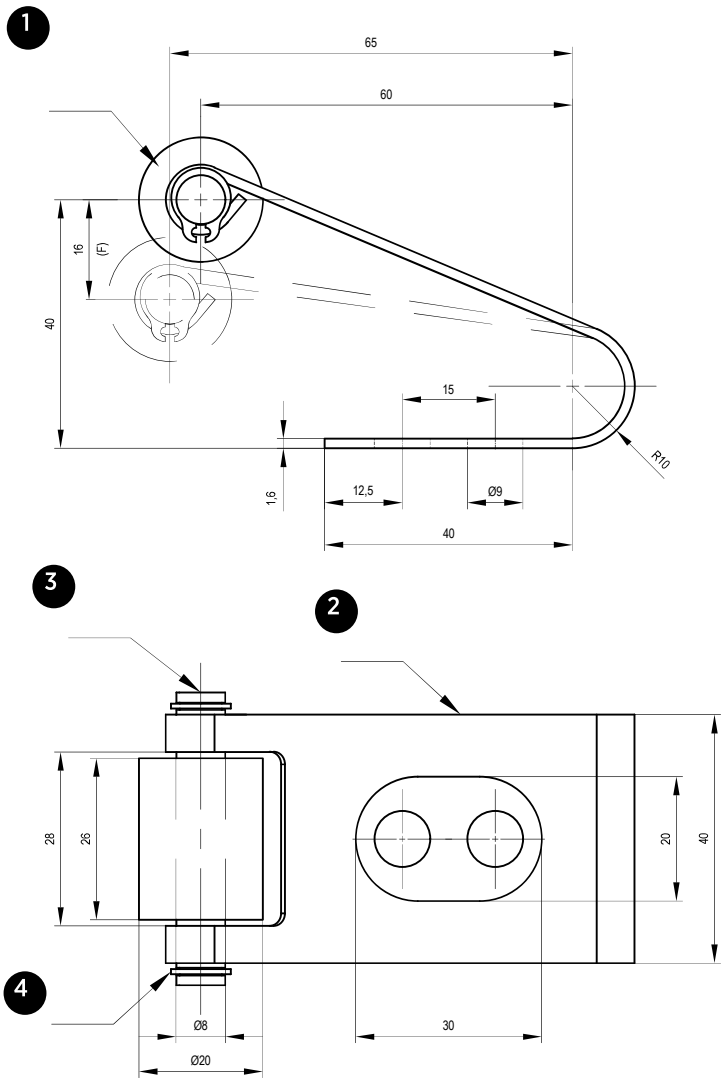
Materiał / *Material*

1. **Stal lub Poliacetal (POM)**
   Steel or Resin
2. **Stal** *Steel*
3. **Stal** *Steel*
4. **Pierścień Osadczy Typu G (G-8)**
   G Type Retaining Ring (G-8)

Jak zamówić / *How to order*

Symbol: **M310-10-016002**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	F max	Typ *Type*
M310-10-016001	16	Stal / *Steel*
M310-10-016002	16	Poliacetal / *Resin*

PŁYTKI ŁĄCZĄCE
COUPLING PLATES

M316-01

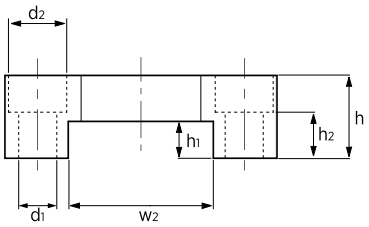
Materiał / *Material*

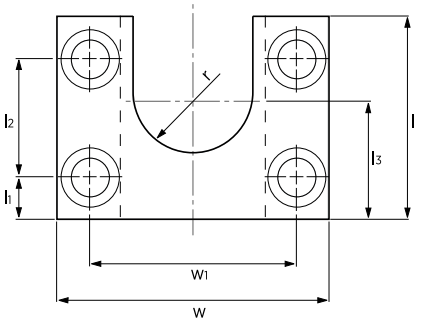
CK45

Jak zamówić / *How to order*

Symbol: **M316-01-002**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	w	h	l	l1	l2	l3	w1	w2	h1	h2	d1	d2	r	Śruba *Screw*
M316-01-001	80	25	50	11,5	27	30	57	38	11	15	11	17	14	M10
M316-01-002	100	32	55	12,5	30	35	75	50	15	20	13	20	20	M12
M316-01-003	120	40	65	16	33	45	88	60	20	24	17	26	25	M16
M316-01-004	150	45	100	18	64	64	114	80	20	19	21	33	33	M20

NAKRĘTKI ŁĄCZĄCE
COUPLING NUTS

M316-02

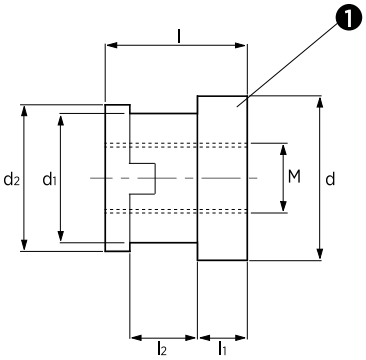
Materiał / *Material*

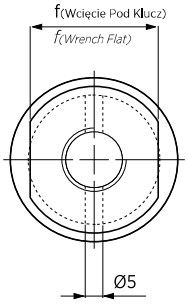
1. CK45
2. DIN EN ISO 8752

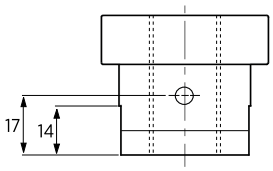
Jak zamówić / *How to order*

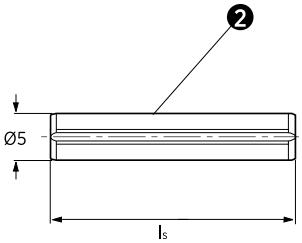
Symbol: **M316-02-005**

Inne wymiary na żądanie
Other dimensions on demand









Symbol	d	l	l1	l2	ls	d1	d2	f	M	Średnica Przewodu Powietrza *Air Cyl. Bore Size* Ø
M316-02-001	35	30	10	16	-	25	30	24	M10x1,25	32
M316-02-002	35	30	10	16	24	25	30	24	M12x1,25	40
M316-02-003	47	40	14	19	36	37	42	36	M16x1,5	50, 63
M316-02-004	47	40	14	19	36	37	42	36	M20x1,5	80, 100
M316-02-005	47	40	14	19	36	37	42	36	M27x2,0	125
M316-02-006	57	50	19	24	45	47	52	46	M36x2,0	160, 200
M316-02-007	76	76	19	50	55	59	64	60	M42x2,0	250

WPUSTY PASOWANE
KEYS

M317-04

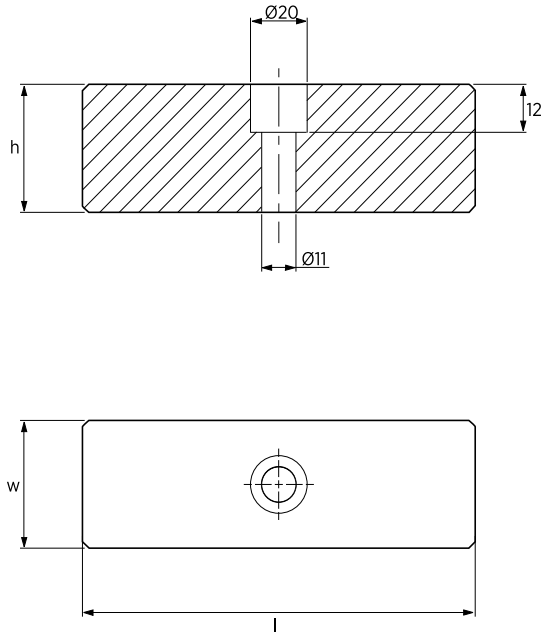
Materiał / *Material*

CK45

Jak zamówić / *How to order*

Symbol: **M317-04-2525125**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	w h11	h	l
M317-04-2525080	25	25	80
M317-04-2525125	25	25	125
M317-04-3030080	30	30	80
M317-04-3030125	30	30	125

WPUSTY PASOWANE
KEYS

M317-05

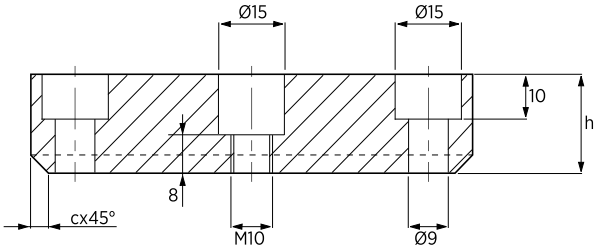
Materiał / *Material*

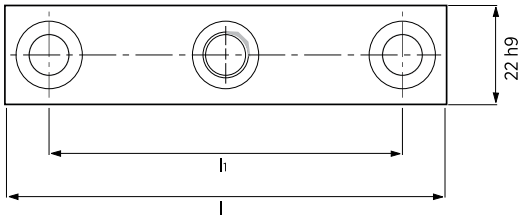
CK45

Jak zamówić / *How to order*

Symbol: **M317-05-022050**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	h	l	l1	c
M317-05-014050	14	50	32	-
M317-05-014080	14	80	50	-
M317-05-014100	14	100	80	-
M317-05-014125	14	125	100	-
M317-05-022050	22	50	32	4
M317-05-022080	22	80	50	4
M317-05-022100	22	100	80	4
M317-05-022125	22	125	100	4
M317-05-040050	40	50	32	4
M317-05-040080	40	80	50	4
M317-05-040100	40	100	80	4
M317-05-040125	40	125	100	4

WPUSTY PASOWANE
KEYS

M317-07

Materiał / *Material*

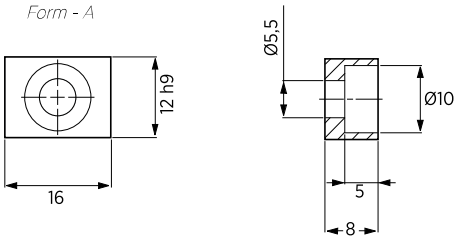
CK45

Jak zamówić / *How to order*

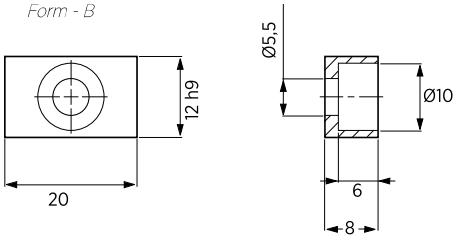
Symbol: **M317-07-012020**

Inne wymiary na żądanie
Other dimensions on demand

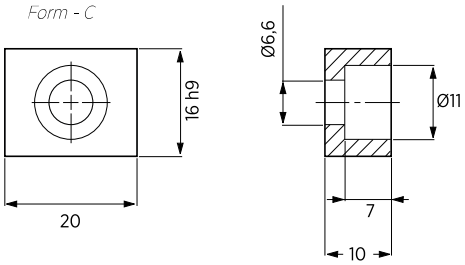
Forma - A
Form - A



Forma - B
Form - B



Forma - C
Form - C



Symbol	Forma *Form*
M317-07-012016	A
M317-07-012020	B
M317-07-016020	C

WPUSTY PASOWANE
KEYS

M317-08

Materiał / *Material*

90MnCrV8

Twardość / *Hardness*

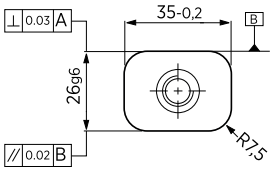
58 ÷ 60 HRC

Jak zamówić / *How to order*

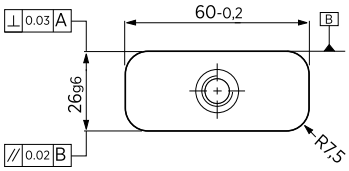
Symbol: **M317-08-2660**

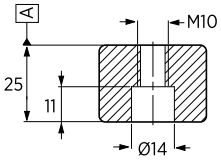
Inne wymiary na żądanie
Other dimensions on demand

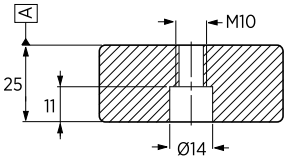
Forma - A
Form - A



Forma - B
Form - B







Symbol	Forma *Form*
M317-08-2635	A
M317-08-2660	B

WPUSTY PASOWANE
KEYS

M317-10

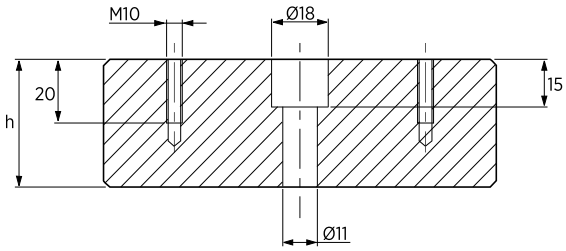
Materiał / *Material*

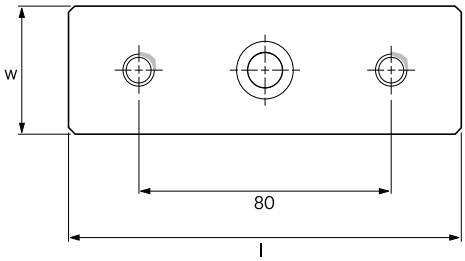
CK45

Jak zamówić / *How to order*

Symbol: **M317-10-50135**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	w h9	h	l
M317-10-42125	42	40	125
M317-10-50135	50	48	135
M317-10-50220	50	48	220

WPUSTY PASOWANE
KEYS

M317-11

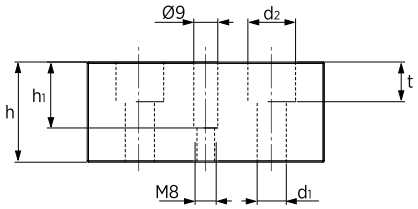
Materiał / *Material*

CK45

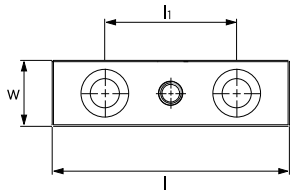
Jak zamówić / *How to order*

Symbol: **M317-11-3248210**

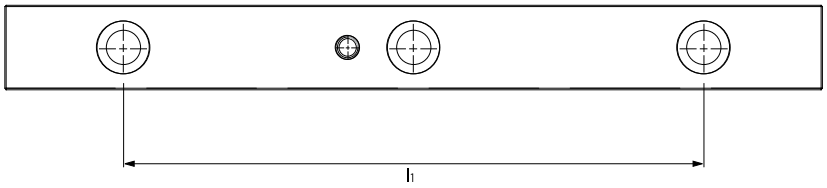
Inne wymiary na żądanie
Other dimensions on demand



Forma - A
Form - A



Forma - B
Form - B



Symbol	Forma *Form*	w h7	h	l	l1	h1	d1	d2	t
M317-11-2538090	A	25	38	90	50	25	11	18	15
M317-11-2538120	A	25	38	120	80	25	11	18	15
M317-11-3248150	A	32	48	150	90	35	13	20	25
M317-11-3248210	A	32	48	210	130	35	13	20	25
M317-11-3258260	A	32	58	260	150	42	13	20	25
M317-11-3258310	B	32	58	310	220	42	13	20	25
M317-11-3258350	B	32	58	350	250	42	13	20	25

BLOKI POZYCJONUJĄCE
LOCATING BLOCKS

M317-12

Materiał / *Material*

16MnCr5

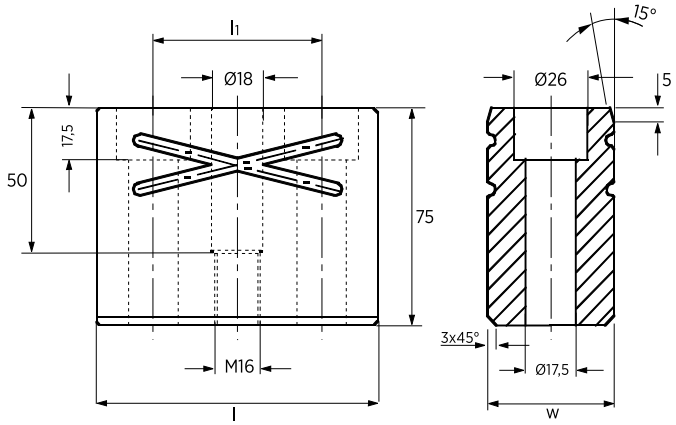
Twardość / *Hardness*

60 ÷ 62 HRC

Jak zamówić / *How to order*

Symbol: **M317-12-045160**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	w h6	l	l1
M317-12-045100	45	100	60
M317-12-045125	45	125	85
M317-12-045160	45	160	120
M317-12-045200	45	200	160

WPUSTY PASOWANE
KEYS

M317-16

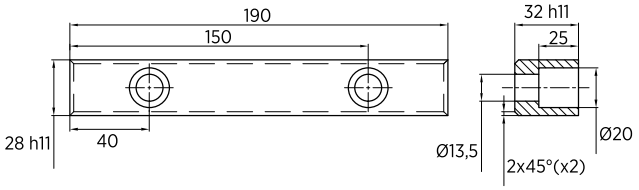
Materiał / *Material*

1.0503 (C45+C)

Jak zamówić / *How to order*

Symbol: **M317-16-028032**

Inne wymiary na żądanie
Other dimensions on demand



Symbol
M317-16-028032

WPUSTY PASOWANE
KEYS

M317-17

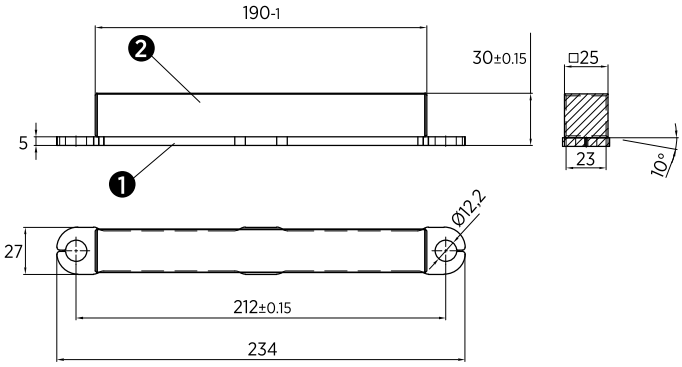
Materiał / *Material*

1. S355MC (t=5mm)
2. S235 JRC+C

Jak zamówić / *How to order*

Symbol: **M317-17-025030**

Inne wymiary na żądanie
Other dimensions on demand



Symbol
M317-17-025030

BLOKADY MECHANICZNE
BALANCE BLOCKS

M318-03

Materiał / *Material*

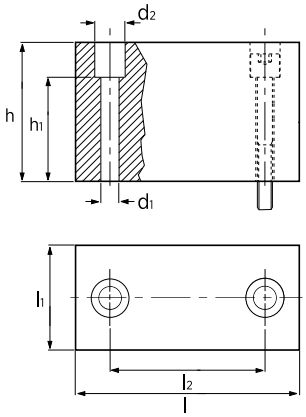
CK45

Jak zamówić / *How to order*

Symbol: **M318-03-15008004000**

l=150 l1=80 h=40

Inne wymiary na żądanie
Other dimensions on demand



l x l1	60 x 40			80 x 40			100 x 40			100 x 50			120 x 60			150 x 80		160 x 100	
d1	9			11			14			14			14			18		18	
d2	15			18			20			20			20			26		26	
Max Obciążenie (t) *Max. Load (t)*	50			65			85			110			160			270		380	
l2	40			56			71			76			93			120		130	
h1	10	28	48	8	25	45	6	22	42	6	22	42	6	22	42	18	38	18	38
h±0,05																			
20	•			•															
20,3	•			•															
20,5	•			•															
23	•			•															
25	•			•			•												
28	•			•			•												
30	•			•			•			•									
30,3	•			•			•			•									
30,5	•			•			•			•									
33	•			•			•			•									
35	•			•			•			•									
38	•			•			•			•									
40	•			•			•			•			•			•		•	
40,3		•			•			•			•			•		•		•	
40,5		•			•			•			•			•		•		•	
41		•			•			•			•			•		•		•	
43		•			•			•			•			•		•		•	
45		•			•			•			•			•		•		•	
48		•			•			•			•			•		•		•	
50		•			•			•			•			•		•		•	
50,3		•			•			•			•			•		•		•	
50,5		•			•			•			•			•		•		•	
51		•			•			•			•			•		•		•	
55		•			•			•			•			•		•		•	
60		•			•			•			•			•		•		•	
60,5			•			•			•			•			•		•		•
61									•			•			•		•		•

BLOKADY MECHANICZNE
BALANCE BLOCKS

M318-03

Materiał / *Material*

CK45

Jak zamówić / *How to order*

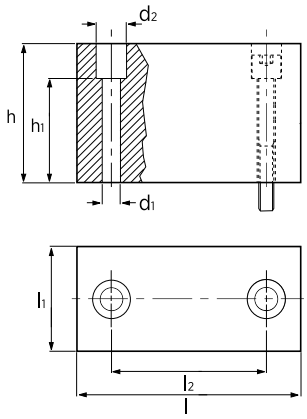
Symbol: **M318-03-15008008500**

Wymiary l, l1, h są podawane przez klienta
Dimensions of l, l1, h are given by customer

np / *for example:*

l=150 l1=80 h=85

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1	l2	d1	d2	Śruba *Screw*	Max Obciążenie *Max. load* (t)
M318-03-???????????	60	40	40	9	15	M8	50
M318-03-???????????	80	40	56	11	18	M10	65
M318-03-???????????	100	40	71	14	20	M12	85
M318-03-???????????	100	50	76	14	20	M12	110
M318-03-???????????	120	60	93	14	20	M12	160
M318-03-???????????	150	80	120	18	26	M16	270
M318-03-???????????	160	100	130	18	26	M16	380

h	M8	M10	M12	M16
±0,05	h1	h1	h1	h1
≥ 20 - 40	10	8	6	-
> 40 - 60	28	25	22	18
> 60 - 80	48	45	42	38
> 80 - 100	68	65	62	58
> 100 - 120	68	85	82	78
> 120 - 140	68	105	102	98
> 140 - 160	68	105	122	118

BLOKADY MECHANICZNE
BALANCE BLOCKS

M318-05

Materiał / *Material*

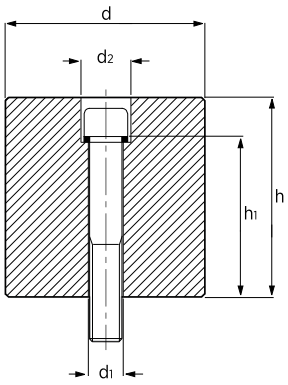
CK45

Jak zamówić / *How to order*

Symbol: **M318-05-08004500**

d=80 h=45

Inne wymiary na żądanie
Other dimensions on demand



d	60			80		100		120		150	
d1	14			18		18		22		22	
d2	20			26		26		33		33	
Max Obciążenie (t) *Max. Load (t)*	55			100		170		250		400	
h1	12	22	42	20	36	20	36	15	30	15	30
h±0,05											
25	•			•							
28	•			•							
30	•			•							
30,3	•			•							
30,5	•			•							
33	•			•							
35	•			•							
38	•			•							
40		•		•		•					
40,3		•		•		•					
40,5		•		•		•					
41		•		•		•					
43		•		•		•					
45		•		•		•					
48		•		•		•					
50		•		•		•		•		•	
50,3		•		•		•		•		•	
50,5		•		•		•		•		•	
51		•		•		•		•		•	
55		•		•		•		•		•	
60		•		•		•		•		•	
60,3			•		•		•		•		•
60,5			•		•		•		•		•
61			•		•		•		•		•

BLOKADY MECHANICZNE
BALANCE BLOCKS

M318-05

Materiał / *Material*

CK45

Jak zamówić / *How to order*

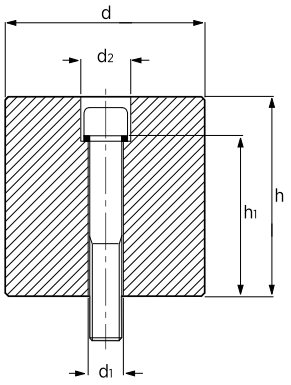
Symbol: **M318-05-08010500**

Wymiary d oraz h są podawane przez klienta
Dimensions of d & h are given by customer

np / *for example:*

d=80 h=105

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	d1	d2	Śruba *Screw*	Max Obciążenie *Max. load* (t)
M318-05-????????	60	14	20	M12	50
M318-05-????????	80	18	26	M16	65
M318-05-????????	100	18	26	M16	85
M318-05-????????	120	22	33	M20	110
M318-05-????????	150	22	33	M20	160

	M12	M16		M20	
d	60	80	100	120	150
h **±0,05**	h1	h1		h1	
≥ 25 < 40	12	-	-	-	
≥ 40 - 60	22	20	20	15	
> 60 - 80	42	36	36	30	
> 80 - 100	62	56	56	50	
> 100 - 120	82	76	76	70	
> 120 - 140	102	96	96	90	
> 140 - 160	122	116	116	110	

BLOKADY MECHANICZNE
BALANCE BLOCKS

M318-06

Materiał / *Material*

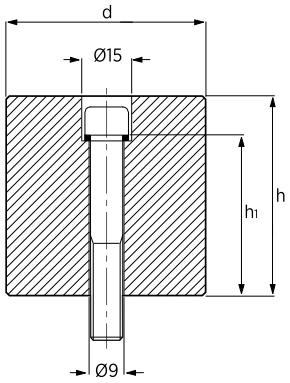
CK45

Jak zamówić / *How to order*

Symbol: **M318-06-05004500**

d=50 h=45

Inne wymiary na żądanie
Other dimensions on demand



d	25		30		40		50	
Max Obciążenie (t) *Max. Load (t)*	3,5		8		20		35	
h1	10	28	10	28	10	28	10	28
h±0,05								
20	•		•		•		•	
20,3	•		•		•		•	
20,5	•		•		•		•	
23	•		•		•		•	
25	•		•		•		•	
28	•		•		•		•	
30	•		•		•		•	
30,3	•		•		•		•	
30,5	•		•		•		•	
33	•		•		•		•	
35	•		•		•		•	
38	•		•		•		•	
40	•		•		•		•	
40,3		•		•		•		•
40,5		•		•		•		•
41				•		•		•
43				•		•		•
45				•		•		•
48				•		•		•
50				•		•		•
50,3				•		•		•
50,5				•		•		•
51						•		•
55						•		•
60						•		•
60,3						•		•
60,5						•		•

BLOKADY MECHANICZNE
BALANCE BLOCKS

M318-06

Materiał / *Material*

CK45

Jak zamówić / *How to order*

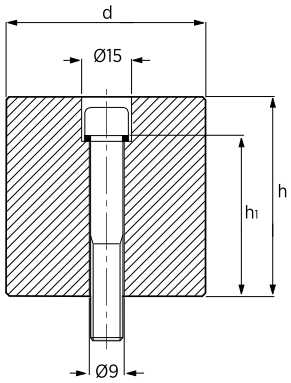
Symbol: **M318-06-05004500**

Wymiary d oraz h są podawane przez klienta
Dimensions of d & h are given by customer

np / *for example:*

d=50 h=45

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	Śruba *Screw*	Max Obciążenie *Max. load* (t)
M318-06-????????	25	M8	3,5
M318-06-????????	30	M8	8
M318-06-????????	40	M8	20
M318-06-????????	50	M8	35

h ±0,05	h1
≥ 20 - 40	10
> 40 - 60	28

CYLINDRYCZNE BLOKADY MECHANICZNE
CYLINDRICAL STOP BLOCKS

M318-07

Materiał / *Material*

42CrMo4

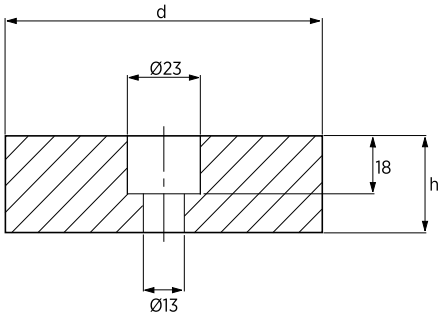
Twardość / *Hardness*

46 ÷ 48 HRC

Jak zamówić / *How to order*

Symbol: **M318-07-080025**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	h
M318-07-080025	80	25
M318-07-080030	80	30
M318-07-100025	100	25
M318-07-100030	100	30
M318-07-120025	120	25
M318-07-120030	120	30

PODKŁADKI
SHIM

M318-08

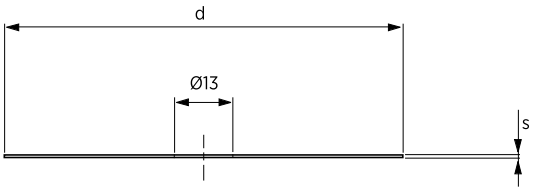
Materiał / *Material*

Stal / *Steel*
lub / *or*
Mosiądz / *Brass*

Jak zamówić / *How to order*

Symbol: **M318-08-080005**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	l1	Materiał *Material*
M318-08-080001	80	0,1	Mosiądz / *Brass*
M318-08-080005	80	0,5	Stal / *Steel*
M318-08-100001	100	0,1	Mosiądz / *Brass*
M318-08-100005	100	0,5	Stal / *Steel*
M318-08-120001	120	0,1	Mosiądz / *Brass*
M318-08-120005	120	0,5	Stal / *Steel*

PŁYTKI OPOROWE
PRESSURE PLATE

M318-09

Materiał / *Material*

16MnCr5

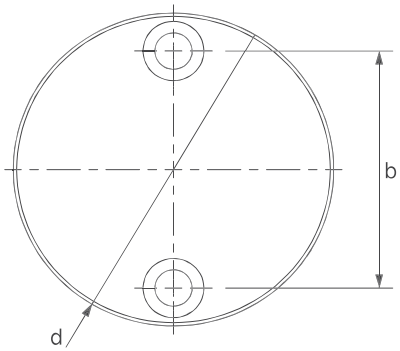
Twardość / *Hardness*

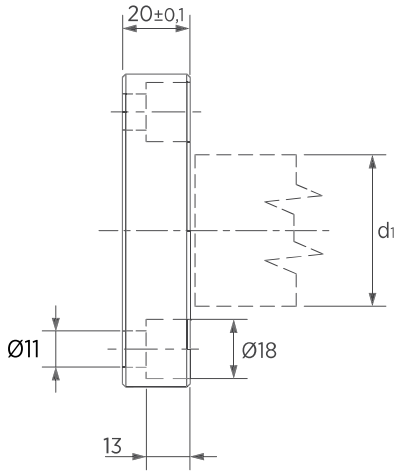
58 ÷ 60 HRC

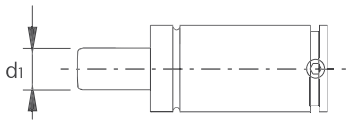
Jak zamówić / *How to order*

Symbol: **M318-09-065020**

Inne wymiary na żądanie
Other dimensions on demand







Symbol	d	d1	b
M318-09-065020	65	≤25	42
M318-09-095020	95	≤50	72

UCHWYTY MOCUJĄCE
COUPLING CLAMPS

M319-01

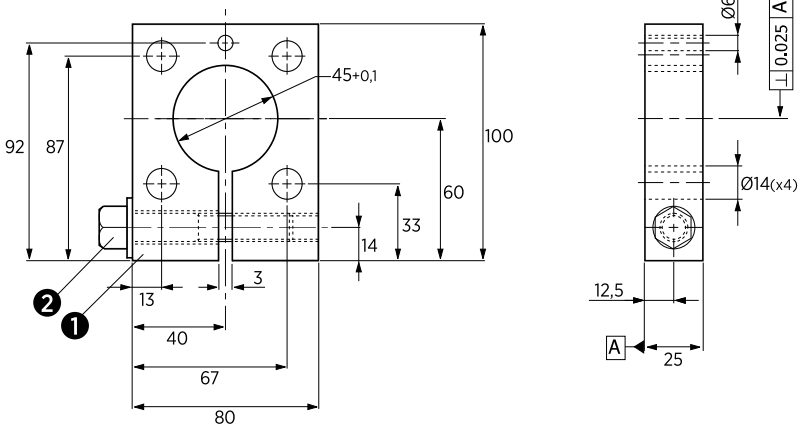
Materiał / *Material*

1. CK45
2. M12x70 DIN 931 (8.8)

Jak zamówić / *How to order*

Symbol: **M319-01-100080**

Inne wymiary na żądanie
Other dimensions on demand



Symbol
M319-01-100080

TULEJE
SLEEVE

M319-01

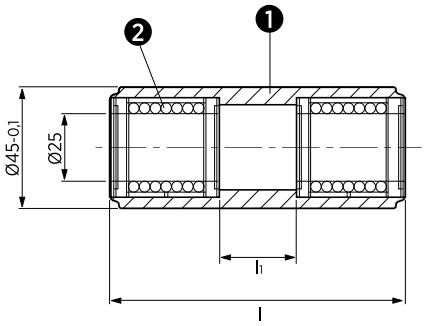
Materiał / *Material*

1. CK45
2. STAR 0658-225-40

Jak zamówić / *How to order*

Symbol: **M319-01-045200**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1
M319-01-045112	112	40
M319-01-045200	200	120

PŁYTKI DYSTANSOWE, ZĄBKOWANE Z PŁYTAMI REGULUJĄCYMI

SPACER PLATES, TOOTHED WITH ADJUSTING PLATE

M319-02

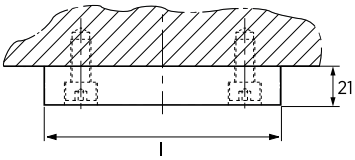
Materiał / *Material*

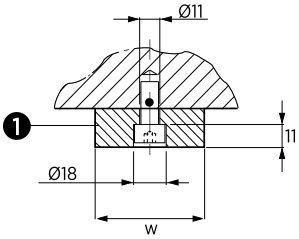
1. **90MnCrV8**
2. **90MnCrV8**
3. **Twardość** / *Hardened* **58 ÷ 60 HRC**
4. **X155CrVMo12**
5. **M10x20 DIN912**

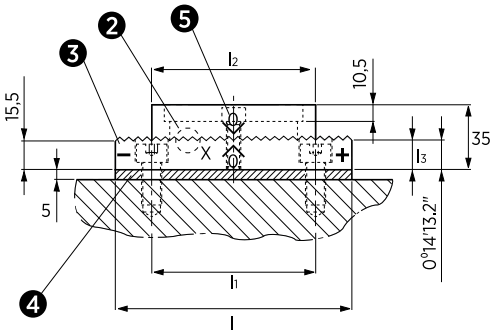
Jak zamówić / *How to order*

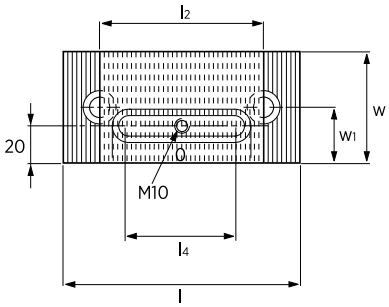
Symbol: **M319-02-080160**

Inne wymiary na żądanie
Other dimensions on demand

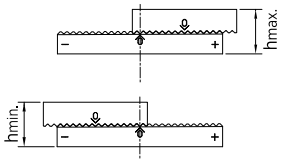








Podstawa : 0,02 mm na ząb
Basis: 0,02 per tooth



Podstawowe ustawienie w środku (szlifowanie)
Basic setting in the middle (grinding-in)

\+ *Regulacja w prawo - plus*
Adjustment to the right - plus

– *Regulacja w lewo - minus*
Adjustment to the left - minus

Zakres regulacji
- 12 przyrostów co 0,02 mm oznacza zakres regulacji 0,24 mm przy minimalnej powierzchni podparcia 60 x 80 mm
Adjustment Range
- 12 increments each of 0,02 mm means an adjusting range of 0,24 mm with a minimum support area of 60 x 80 mm

- 14 przyrostów co 0,02 mm oznacza zakres regulacji 0,28 mm przy minimalnym obszarze podparcia 100 x 80 mm
- 14 increments each of 0,02 mm means an adjusting range of 0,28 mm with a minimum support area of 100 x 80 mm

Symbol	w	l	l1	l2	l3	l4	w1	hmin.	hmax.
M319-02-060130	60	130	90	90	16,04	61	30	34,88	35,12
M319-02-080160	80	160	120	110	16,16	71	40	34,86	35,14

UCHWYTY MOCUJĄCE
CAM PAD GUIDE WEAR PLATES

M320-03

Materiał / *Material*

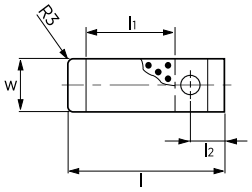
BRĄZ + GRAFIT
BRONZE + GRAPHITE
HB > 190

Jak zamówić / *How to order*

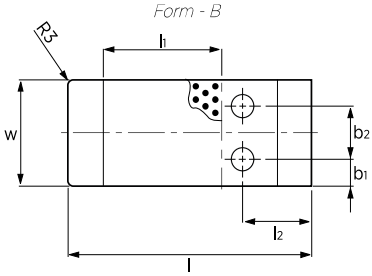
Symbol: **M320-03-100140**

Inne wymiary na żądanie
Other dimensions on demand

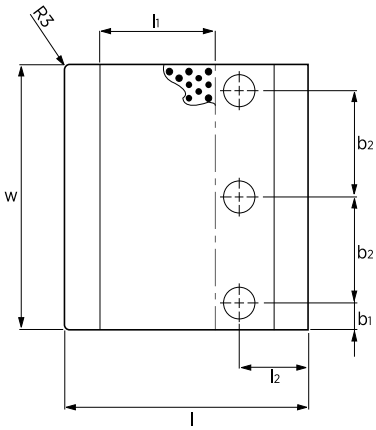
Forma - A
Form - A

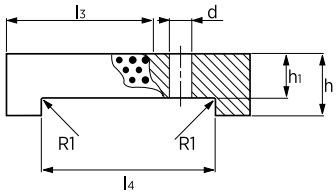


Forma - B
Form - B



Forma - C
Form - C





Symbol	Forma *Form*	w h7	h	l	l1	l2	l3	l4	d	h1	b1	b2 ±0,2
M320-03-030070	A	30	17	70	30	20	40	50	11	12	-	-
M320-03-030090	A	30	17	90	50	20	60	70	11	12	-	-
M320-03-045070	B	45	25	70	30	20	40	50	11	15	11,5	22
M320-03-045090	B	45	25	90	50	20	60	70	11	15	11,5	22
M320-03-060120	B	60	35	120	40	40	60	80	13	25	15	30
M320-03-060140	B	60	35	140	60	40	80	100	13	25	15	30
M320-03-060160	B	60	35	160	80	40	100	120	13	25	15	30
M320-03-100120	B	100	35	120	40	40	60	80	18	25	15	70
M320-03-100140	B	100	35	140	60	40	80	100	18	25	15	70
M320-03-100160	B	100	35	160	80	40	100	120	18	25	15	70
M320-03-150120	C	150	35	120	40	40	60	80	18	25	15	60
M320-03-150140	C	150	35	140	60	40	80	100	18	25	15	60
M320-03-150160	C	150	35	160	80	40	100	120	18	25	15	60
M320-03-150180	C	150	35	180	100	40	120	140	18	25	15	60

STALOWE ZABEZPIECZENIA POWROTU
POSITIVE RETURN PLATES, STEEL

M320-07

Materiał / *Material*

CK45

Twardość / *Hardness*

52 ÷ 54 HRC

Jak zamówić / *How to order*

Symbol: **M320-07-035-l**

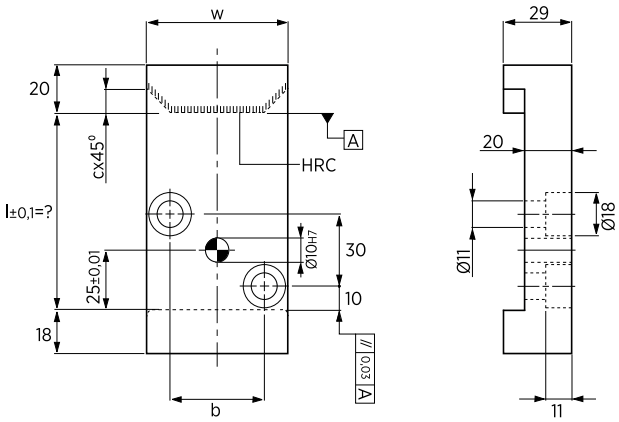
Długość l jest podawana przez klienta
Length l is given by the customer

np / *for example:*

l=165

Symbol: **M320-07-035-165**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	w -1	b	c
M320-07-035-l	35	15	7
M320-07-060-l	60	40	10

Elementy transportowe, mocujące i złączne

PROFILE BLOKUJĄCE SKŁADANE
SPACING BAR

M321-01

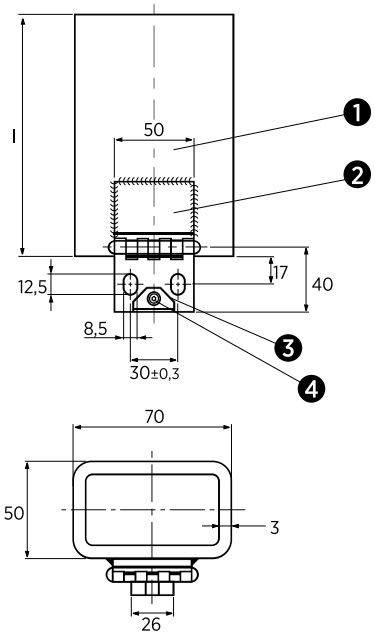
Materiał / *Material*

1. **ST 37**
2. **Zawias** / *Hinge*
3. **Elastomer 68Sh**
4. **Śruba** / *Screw* **M4x8 DIN 912**

Jak zamówić / *How to order*

Symbol: **M321-01-070120**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	Max Obciążenie *Max. load* (kN)
M321-01-070065	65	125
M321-01-070070	70	125
M321-01-070075	75	125
M321-01-070080	80	125
M321-01-070085	85	125
M321-01-070090	90	125
M321-01-070095	95	125
M321-01-070100	100	125
M321-01-070105	105	125
M321-01-070110	110	125
M321-01-070115	115	125
M321-01-070120	120	125
M321-01-070125	125	125
M321-01-070130	130	125
M321-01-070135	135	125
M321-01-070140	140	125
M321-01-070145	145	125
M321-01-070150	150	125
M321-01-070155	155	125
M321-01-070160	160	125
M321-01-070165	165	125
M321-01-070170	170	125
M321-01-070175	175	125
M321-01-070180	180	125

Symbol	l	Max Obciążenie *Max. load* (kN)
M321-01-070185	185	125
M321-01-070190	190	125
M321-01-070195	195	125
M321-01-070200	200	125
M321-01-070205	205	125
M321-01-070210	210	125
M321-01-070215	215	125
M321-01-070220	220	125
M321-01-070225	225	125
M321-01-070230	230	125
M321-01-070235	235	125
M321-01-070240	240	125
M321-01-070245	245	125
M321-01-070250	250	125
M321-01-070260	260	125
M321-01-070270	270	125
M321-01-070280	280	125
M321-01-070290	290	125
M321-01-070300	300	125
M321-01-070310	310	125
M321-01-070320	320	125
M321-01-070330	330	125
M321-01-070340	340	125
M321-01-070350	350	125

PROFILE BLOKUJĄCE SKŁADANE
SPACING BAR

M321-01

Materiał / *Material*

1. **ST 37**
2. **Zawias** / *Hinge*
3. **Elastomer 68Sh**
4. **Śruba** / *Screw* **M4x8 DIN 912**

Jak zamówić / *How to order*

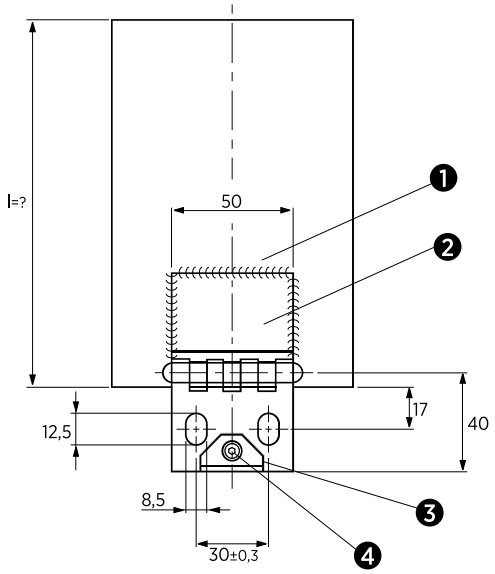
Symbol: **M321-01-100200**

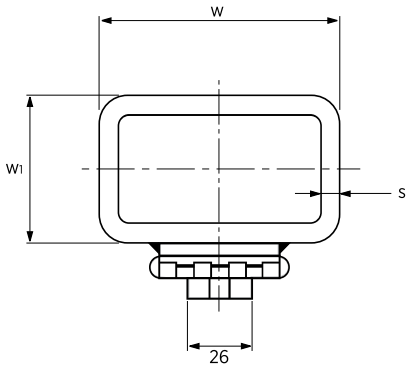
w=100 l=200

Długość l jest podawana przez klienta
Length l is given by the customer

Max długość: 365mm
Max. Length: 365mm

Inne wymiary na żądanie
Other dimensions on demand





Symbol	w	w1	s	Max Obciążenie *Max. load* (kN)
M321-01-070-l	70	50	3	125
M321-01-100-l	100	60	8	250

PROFILE BLOKUJĄCE SKŁADANE Z ZESTAWEM MONTAŻOWYM

PIPE WITH ASSEMBLY

M321-02

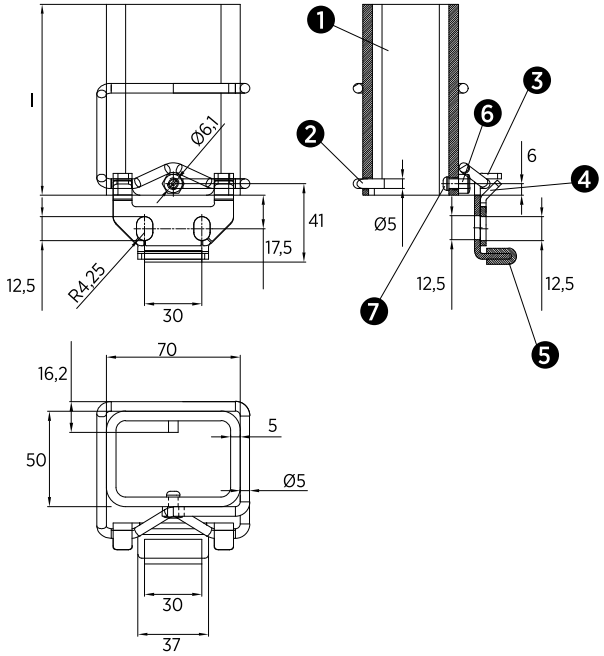
Materiał / *Material*

1. **S235JR**
2. **1.4310**
3. **S235/DC01**
4. **S235/DC01**
5. **Miękkie PVC** / *Soft PVC*
6. **M6 DIN 934**
7. **Nit** / *Rivet* **Ø5x14 DIN 7337**

Jak zamówić / *How to order*

Symbol: **M321-02-070120**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l ±0,05	Max Obciążenie *Max. load* (kN)
M321-02-070065	65	235
M321-02-070070	70	235
M321-02-070075	75	235
M321-02-070080	80	235
M321-02-070085	85	235
M321-02-070090	90	235
M321-02-070095	95	235
M321-02-070100	100	235
M321-02-070105	105	235
M321-02-070110	110	235
M321-02-070115	115	235
M321-02-070120	120	235
M321-02-070125	125	235
M321-02-070130	130	235
M321-02-070135	135	235
M321-02-070140	140	235
M321-02-070145	145	235
M321-02-070150	150	235
M321-02-070155	155	235
M321-02-070160	160	235
M321-02-070165	165	235
M321-02-070170	170	235
M321-02-070175	175	235
M321-02-070180	180	235

Symbol	l ±0,05	Max Obciążenie *Max. load* (kN)
M321-02-070185	185	235
M321-02-070190	190	235
M321-02-070195	195	235
M321-02-070200	200	235
M321-02-070205	205	235
M321-02-070210	210	235
M321-02-070215	215	235
M321-02-070220	220	235
M321-02-070225	225	235
M321-02-070230	230	235
M321-02-070235	235	235
M321-02-070240	240	235
M321-02-070245	245	235
M321-02-070250	250	235
M321-02-070260	260	235
M321-02-070270	270	235
M321-02-070280	280	235
M321-02-070290	290	235
M321-02-070300	300	235
M321-02-070310	310	235
M321-02-070320	320	235
M321-02-070330	330	235
M321-02-070340	340	235
M321-02-070350	350	235

PROFILE BLOKUJĄCE SKŁADANE Z ZESTAWEM MONTAŻOWYM

PIPE WITH ASSEMBLY

M321-03

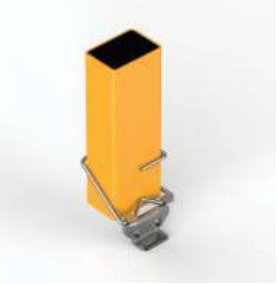
Materiał / *Material*

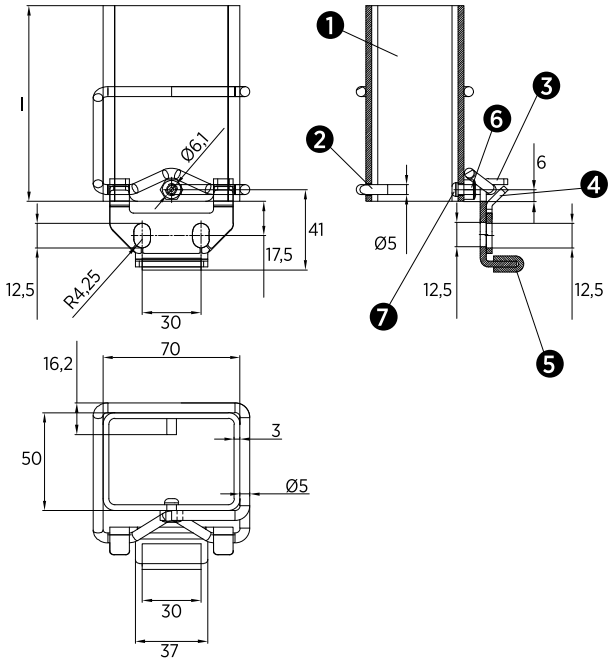
1. **S235JR**
2. **1.4310**
3. **S235/DC01**
4. **S235/DC01**
5. **Miękkie PVC** / *Soft PVC*
6. **M6 DIN 934**
7. **Nit** / *Rivet* **Ø5x12 DIN 7337**

Jak zamówić / *How to order*

Symbol: **M321-03-080155**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	l ±0,05	Max Obciążenie *Max. load* (kN)
M321-03-080065	65	125
M321-03-080070	70	125
M321-03-080075	75	125
M321-03-080080	80	125
M321-03-080085	85	125
M321-03-080090	90	125
M321-03-080095	95	125
M321-03-080100	100	125
M321-03-080105	105	125
M321-03-080110	110	125
M321-03-080115	115	125
M321-03-080120	120	125
M321-03-080125	125	125
M321-03-080130	130	125
M321-03-080135	135	125
M321-03-080140	140	125
M321-03-080145	145	125
M321-03-080150	150	125
M321-03-080155	155	125
M321-03-080160	160	125
M321-03-080165	165	125
M321-03-080170	170	125
M321-03-080175	175	125
M321-03-080180	180	125

Symbol	l ±0,05	Max Obciążenie *Max. load* (kN)
M321-03-080185	185	125
M321-03-080190	190	125
M321-03-080195	195	125
M321-03-080200	200	125
M321-03-080205	205	125
M321-03-080210	210	125
M321-03-080215	215	125
M321-03-080220	220	125
M321-03-080225	225	125
M321-03-080230	230	125
M321-03-080235	235	125
M321-03-080240	240	125
M321-03-080245	245	125
M321-03-080250	250	125
M321-03-080260	260	125
M321-03-080270	270	125
M321-03-080280	280	125
M321-03-080290	290	125
M321-03-080300	300	125
M321-03-080310	310	125
M321-03-080320	320	125
M321-03-080330	330	125
M321-03-080340	340	125
M321-03-080350	350	125

PROFILE 5X50X70-L480 CIĘTE LASEREM
PROFIL 5X50X70-L480 LASER CUTTING PART

M321-04

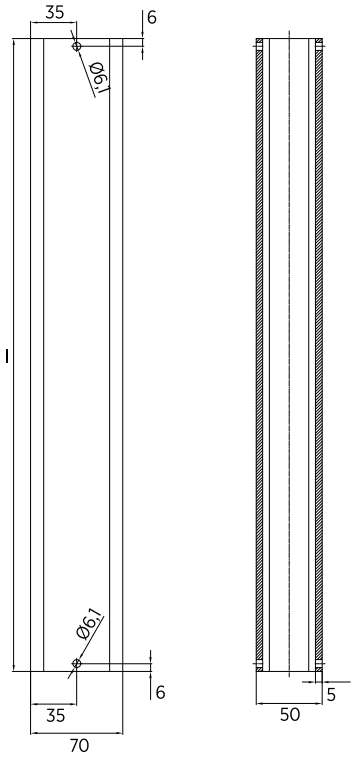
Materiał / *Material*

S235JR

Jak zamówić / *How to order*

Symbol: **M321-04-071**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l ±0,05
M321-04-071	480

Elementy transportowe, mocujące i złączne

PROFILE 3X50X70-L480 CIĘTE LASEREM

PROFIL 3X50X70-L480 LASER CUTTING PART

M321-04

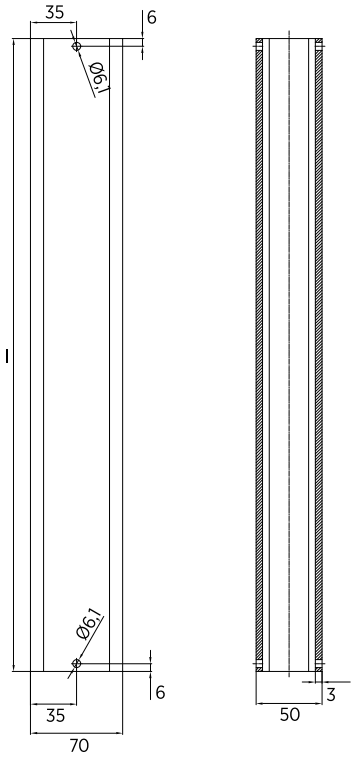
Materiał / *Material*

S235JR

Jak zamówić / *How to order*

Symbol: **M321-04-081**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l ±0,05
M321-04-081	480

Elementy transportowe, mocujące i złączne

ZESTAWY PROFILI 5MM
PIPE BOX SET 5MM

M321-05

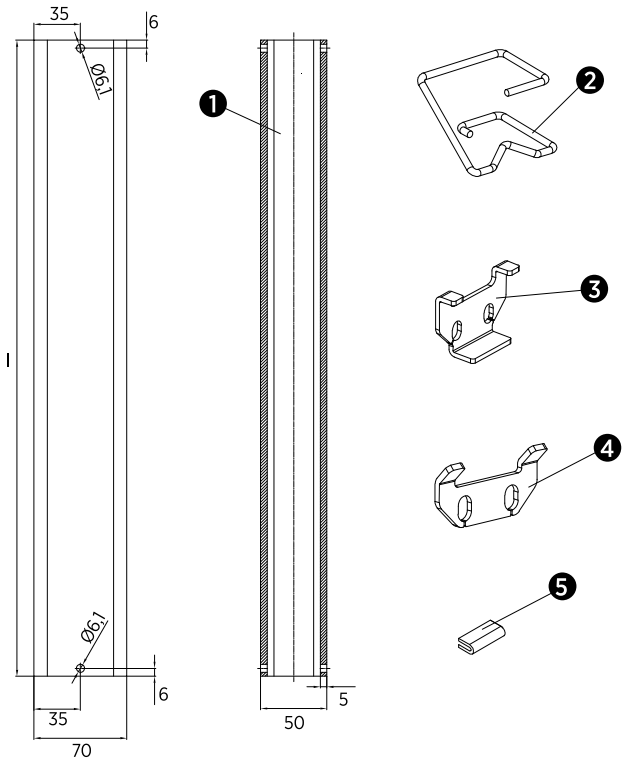
Materiał / *Material*

1. **S235JR**
2. **1.4310**
3. **S235/DC01**
4. **S235/DC01**
5. **Miękkie PVC** / *Soft PVC*

Jak zamówić / *How to order*

Symbol: **M321-05-75 SET**

Inne wymiary na żądanie
Other dimensions on demand



	Symbol	
	M321-05-075 SET	
1.	**M321-04-071**	50 szt / *pcs*
2.	**M321-02/15**	100 szt / *pcs*
3.	**M321-02/16**	100 szt / *pcs*
4.	**M321-02/17**	100 szt / *pcs*
5.	**M321-02/18**	4 metry / *meter*

ZESTAWY PROFILI 3MM
PIPE BOX SET 3MM

M321-05

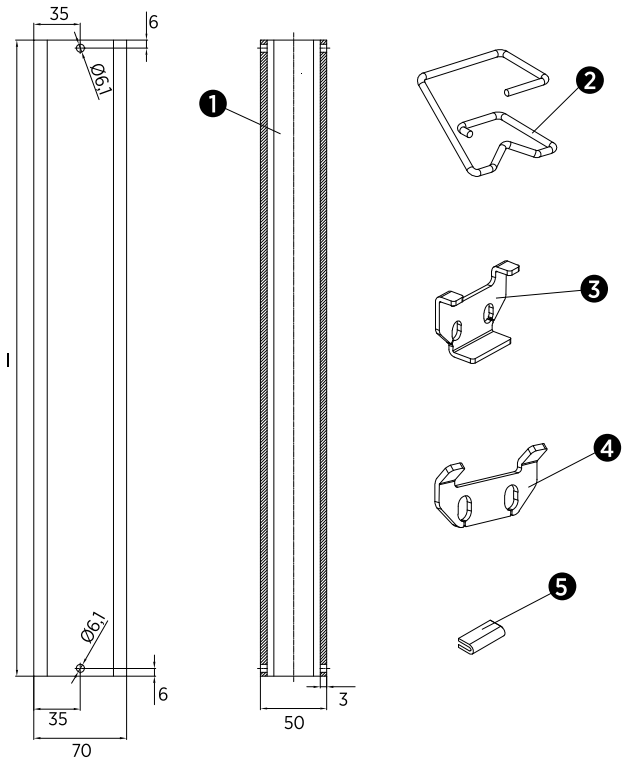
Materiał / *Material*

1. **S235JR**
2. **1.4310**
3. **S235/DC01**
4. **S235/DC01**
5. **Miękkie PVC** / *Soft PVC*

Jak zamówić / *How to order*

Symbol: **M321-05-85 SET**

Inne wymiary na żądanie
Other dimensions on demand



	Symbol	
	M321-05-085 SET	
1.	**M321-04-081**	50 szt / *pcs*
2.	**M321-02/15**	100 szt / *pcs*
3.	**M321-02/16**	100 szt / *pcs*
4.	**M321-02/17**	100 szt / *pcs*
5.	**M321-02/18**	4 metry / *meter*

PILOTY USTALAJĄCE
PILOT UNIT

M323-01

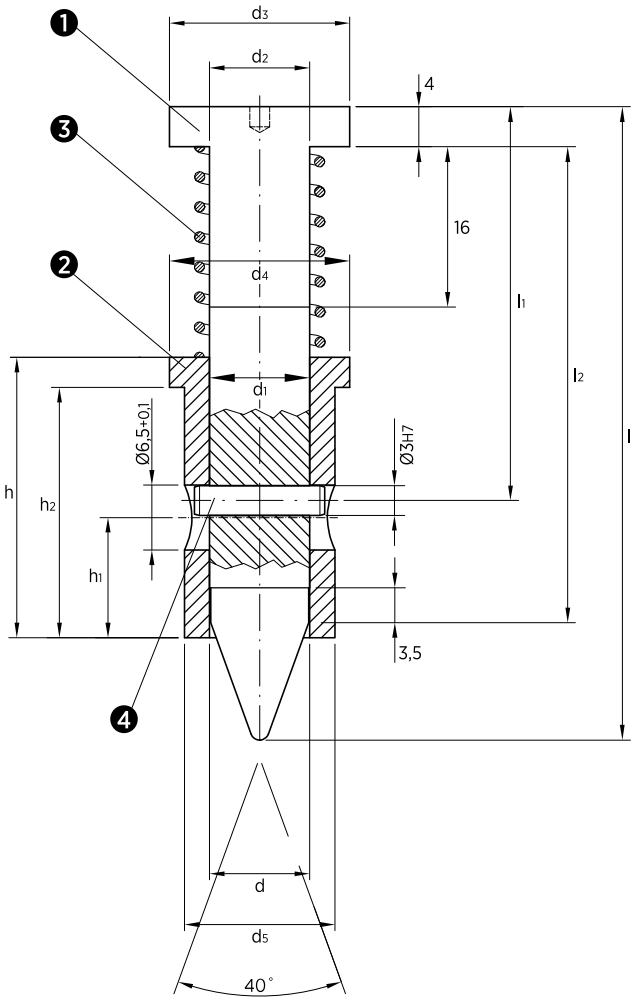
Materiał / *Material*

1. **Stempel** / *Punch* **1.2550**
   50 ± 2HRC
2. **Tuleja** / *Bush* **1.3505**
   58 ± 2HRC
3. **Sprężyna zwojna** / *Coil Spring*
4. **Ø3x14 DIN 6325**

Jak zamówić / *How to order*

Symbol: **M323-01-0980632**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d +0,05	l	l1	l2	d1 H7, f7	d2	d3	d4	d5 f7	h	h1	h2 +0,1	Siła sprężyny wstępnie napiętej *Spring force preloaded* (daN)	Siła sprężyny ściśniętej *Spring force pressed* (daN)
M323-01-0980632	9,8	63,2	39,3	47,5	10	10	18	18	15	28	12	25	4,9	6,2
M323-01-1580725	15,8	72,5	46,3	54,5	16	16	24	30	26	28	12	25	4,8	5,6

STEMPLE KOŃCOWEJ KONTROLI
VISUAL LOCATOR PUNCH

Z402-03

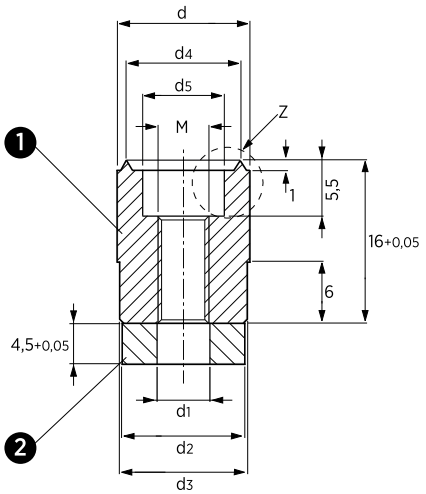
Materiał / *Material*

1. **X205Cr12KU**
   60 ÷ 62 HRC
2. **X205Cr12KU**

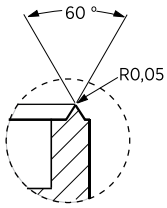
Jak zamówić / *How to order*

Symbol: **M402-03-013**

Inne wymiary na żądanie
Other dimensions on demand



Z Detal / *Detail Z*



Symbol	d d9	d1	d2	d3	d4 ±0,1	d5	M
Z402-03-010	10	4,2	9,9	9,5	8	6	M4
Z402-03-013	13	5,2	12	12,5	11,2	8	M5

NUMERATORY DO TŁOCZNIKÓW
STAMP RETAINER

Z401-01

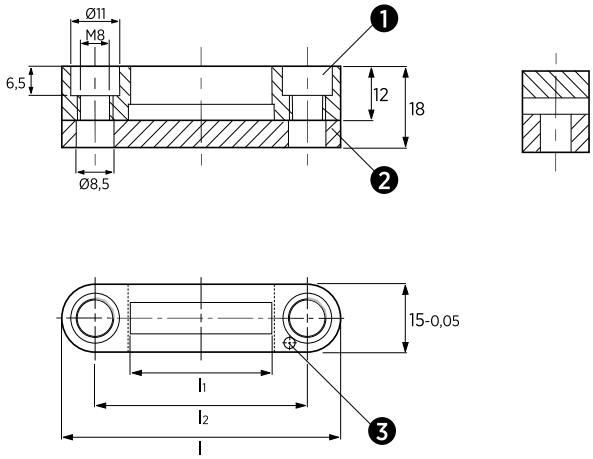
Materiał / *Material*

1. **CK45**
2. **CK45**
3. **Kołek wzmacniany** / *Elastic Pin* **Ø2,5x14 DIN 1481**

Jak zamówić / *How to order*

Symbol: **Z401-01-055**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l -0,05	l1 +0,1	l2	Ilość znaków *Number of Stamps*
Z401-01-045	45	12	30	6
Z401-01-047	47	16	32	8
Z401-01-055	55	24	40	12
Z401-01-063	63	32	48	16
Z401-01-071	71	40	56	20

PŁYTKI DOCISKOWE
BACKING PLATE

Z401-02

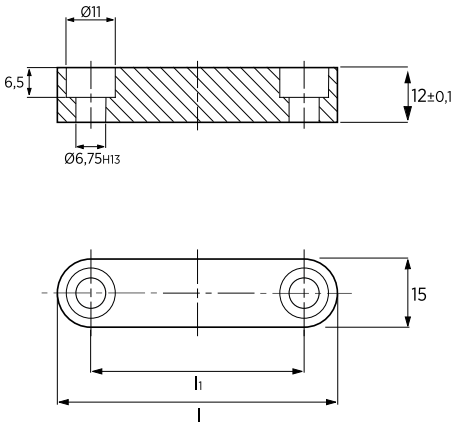
Materiał / *Material*

CK45

Jak zamówić / *How to order*

Symbol: **Z401-02-056**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1
Z401-02-045	45	30
Z401-02-047	47	32
Z401-02-056	55	40
Z401-02-063	63	48
Z401-02-071	71	56

WKŁADKI ZNAKUJĄCE
STAMP

Z401-06

Materiał / *Material*

X153CrMoV12

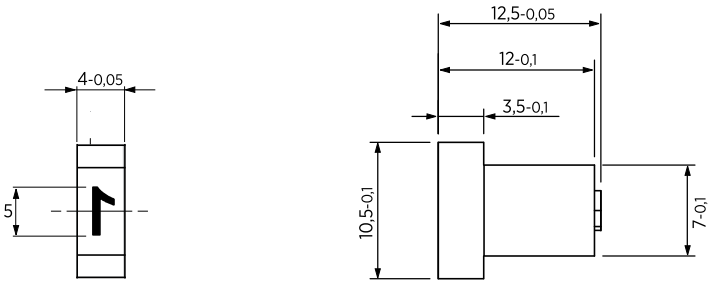
Twardość / *Hardness*

54 ÷ 56 HRC

Jak zamówić / *How to order*

Symbol: **Z401-06-014**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Czcionka *Stamp*
Z401-06-000	0
Z401-06-001	1
Z401-06-002	2
Z401-06-003	3
Z401-06-004	4
Z401-06-005	5
Z401-06-006	6 lub / *or* 9
Z401-06-007	7
Z401-06-008	8
Z401-06-009	A
Z401-06-010	B
Z401-06-011	C
Z401-06-012	D

Symbol	Czcionka *Stamp*
Z401-06-013	E
Z401-06-014	F
Z401-06-015	G
Z401-06-016	H
Z401-06-017	I
Z401-06-018	J
Z401-06-019	K
Z401-06-020	L
Z401-06-021	M
Z401-06-022	N
Z401-06-023	O
Z401-06-024	P
Z401-06-025	Q

Symbol	Czcionka *Stamp*
Z401-06-026	R
Z401-06-027	S
Z401-06-028	T
Z401-06-029	U
Z401-06-030	V
Z401-06-031	W
Z401-06-032	X
Z401-06-033	Y
Z401-06-034	Z
Z401-06-035	Spacja / *Space*
Z401-06-036	-
Z401-06-037	_

WKŁADKI ZNAKUJĄCE
STAMP

Z401-07

Materiał / *Material*

X153CrMoV12

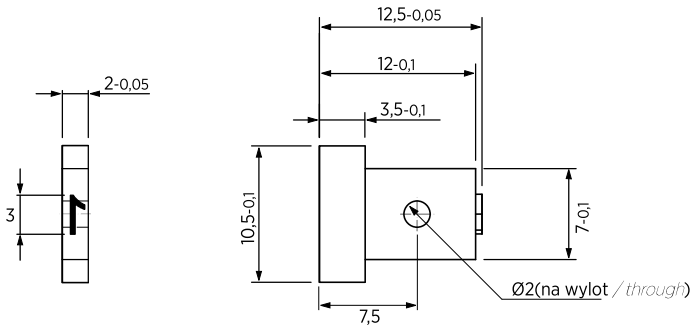
Twardość / *Hardness*

54 ÷ 56 HRC

Jak zamówić / *How to order*

Symbol: **Z401-07-014**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	Czcionka *Stamp*
Z401-07-000	0
Z401-07-001	1
Z401-07-002	2
Z401-07-003	3
Z401-07-004	4
Z401-07-005	5
Z401-07-006	6 lub / *or* 9
Z401-07-007	7
Z401-07-008	8
Z401-07-009	A
Z401-07-010	B
Z401-07-011	C
Z401-07-012	D

Symbol	Czcionka *Stamp*
Z401-07-013	E
Z401-07-014	F
Z401-07-015	G
Z401-07-016	H
Z401-07-017	I
Z401-07-018	J
Z401-07-019	K
Z401-07-020	L
Z401-07-021	M
Z401-07-022	N
Z401-07-023	O
Z401-07-024	P
Z401-07-025	Q

Symbol	Czcionka *Stamp*
Z401-07-026	R
Z401-07-027	S
Z401-07-028	T
Z401-07-029	U
Z401-07-030	V
Z401-07-031	W
Z401-07-032	X
Z401-07-033	Y
Z401-07-034	Z
Z401-07-035	Spacja / *Space*
Z401-07-036	-
Z401-07-037	_

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

M314-02

Materiał / *Material*

C80W2 36 ÷ 40 HRC

Obudowa / *Body* **34CrMo4**

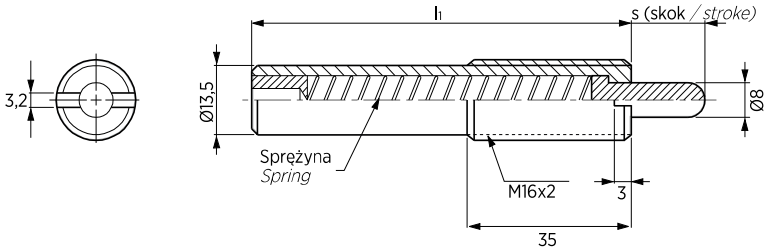
Sprężyna / *Spring* **C80W2 36 ÷ 40 HRC**

Wykończenie: oksydowanie na czarno
Black oxide finishing

Jak zamówić / *How to order*

Symbol: **M314-02-060**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l1	s	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
M314-02-060	150	60	11	45
M314-02-080	200	80	2	38

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

M314-04

Materiał / *Material*

Trzpień / *Pin* **90Mn4 36 ÷ 40 HRC**

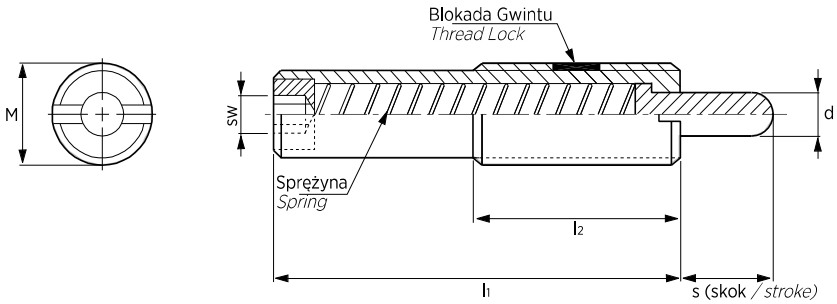
Obudowa / *Body* **34CrMo4**

Wykończenie: oksydowanie na czarno
Black oxide finishing

Jak zamówić / *How to order*

Symbol: **M314-04-008**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	l1	l2	s	sw	M	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
M314-04-001	5,5	43	35	10	4	M12x1,75	3,9	19,6
M314-04-002	5,5	43	35	10	4	M12x1,75	6,8	39,2
M314-04-003	8	50	35	10	5	M16x2,0	9,8	49,0
M314-04-004	8	50	35	10	5	M16x2,0	19,6	98,0
M314-04-005	8	60	35	10	5	M16x2,0	12,7	39,2
M314-04-006	8	60	35	10	5	M16x2,0	26,4	78,4
M314-04-007	8	60	35	15	5	M16x2,0	9,8	39,2
M314-04-008	8	60	35	15	5	M16x2,0	14,7	78,4
M314-04-009	8	85	35	20	5	M16x2,0	12,7	39,2
M314-04-010	8	85	35	20	5	M16x2,0	16,6	78,4
M314-04-011	8	125	35	30	5	M16x2,0	19,6	78,4
M314-04-012	8	125	35	30	5	M16x2,0	19,6	78,4
M314-04-013	8	155	35	50	8	M16x2,0	19,6	49,0
M314-04-014	8	155	35	50	8	M16x2,0	29,4	98,0
M314-04-015	10	60	45	15	8	M24x3,0	19,6	98,0
M314-04-016	10	60	45	15	8	M24x3,0	39,2	196,1
M314-04-017	15	70	45	20	12	M30x3,5	29,4	147,0
M314-04-018	15	70	45	20	12	M30x3,5	49,0	294,1

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

S504-03

Materiał / *Material*

Trzpień / *Pin* **90Mn4 36 ÷ 40 HRC**

Obudowa / *Body* **34CrMo4**

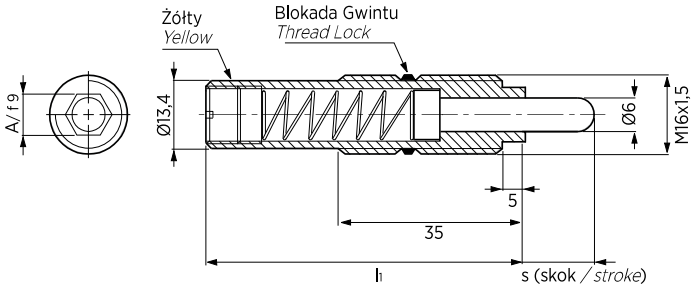
Wykończenie: oksydowanie na czarno
Black oxide finishing

Oznaczenie na kolor żółty
Colour marking yellow

Jak zamówić / *How to order*

Symbol: **S504-03-030080**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l1	s	Sztywność sprężyny *Spring Rate* N / mm	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
S504-03-010060	60	10	0,95	3,8	13,3
S504-03-015060	60	15	2,00	10	40
S504-03-020080	80	20	1,38	6,9	34,5
S504-03-030080	80	30	1,30	6,5	45,5
S504-03-030120	120	30	0,73	18	40
S504-03-040150	150	40	0,60	13,2	37,2
S504-03-050150	150	50	0,60	13,2	43,2
S504-03-060150	150	60	0,60	13,2	49,2
S504-03-070200	200	70	0,44	9,68	40,5
S504-03-080200	200	80	0,44	9,68	44,8

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

S504-04

Materiał / *Material*

Trzpień / *Pin* **90Mn4 36 ÷ 40 HRC**

Obudowa / *Body* **34CrMo4**

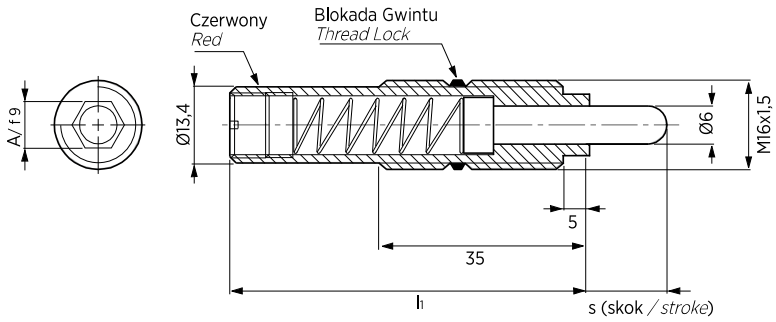
Wykończenie: oksydowanie na czarno
Black oxide finishing

Oznaczenie na kolor czerwony
Colour marking red

Jak zamówić / *How to order*

Symbol: **S504-04-030120**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l1	s	Sztywność sprężyny *Spring Rate* N / mm	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
S504-04-010060	60	10	3,25	13	45,5
S504-04-015060	60	15	2,60	15	56
S504-04-020080	80	20	6,90	34,5	172,5
S504-04-030120	120	30	2,00	20	80
S504-04-030150	150	30	2,55	56,1	132,6
S504-04-040150	150	40	2,55	56,1	158,1
S504-04-050200	200	50	1,61	19,3	99,9
S504-04-060200	200	60	1,61	19,3	116,1
S504-04-070200	200	70	1,61	19,3	132,1
S504-04-080200	200	80	0,94	25	100,1

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

S504-05

Materiał / *Material*

Trzpień / *Pin* **90Mn4 36 ÷ 40 HRC**

Obudowa / *Body* **34CrMo4**

Wykończenie: oksydowanie na czarno
Black oxide finishing

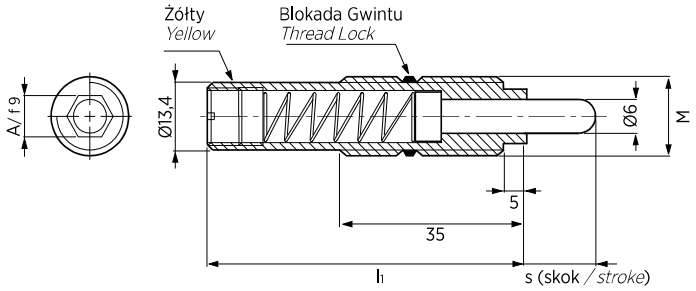
Oznaczenie na kolor żółty
Colour marking yellow

***Trzpień sprężynowy wykonany z wysokowydajnego tworzywa sztucznego z dodatkami pozwala na obciążenie boczne maks. 15º w zależności od długości skoku.**
**The Spring pin made from high performance plastic with additives permits lateral loading of max. 15º depending on the stroke length.*

Jak zamówić / *How to order*

Symbol: **S504-05-020080**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	M	l1	s	Sztywność sprężyny *Spring Rate* N/mm	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
S504-05-010060	16x1,5	60	10	0,95	3,8	13,3
S504-05-010060-002	16x2	60	10	0,95	3,8	13,3
S504-05-015060	16x1,5	60	15	2	10	40
S504-05-015060-002	16x2	60	15	2	10	40
S504-05-020080	16x1,5	80	20	1,38	6,9	34,5
S504-05-020080-002	16x2	80	20	1,38	6,9	34,5
S504-05-030080	16x1,5	80	30	1,3	6,5	45,5
S504-05-030080-002	16x2	80	30	1,3	6,5	45,5
S504-05-030120	16x1,5	120	30	0,73	18	40
S504-05-030120-002	16x2	120	30	0,73	18	40
S504-05-040150	16x1,5	150	40	0,6	13,2	37,2
S504-05-040150-002	16x2	150	40	0,6	13,2	37,2
S504-05-050150	16x1,5	150	50	0,6	13,2	43,2
S504-05-050150-002	16x2	150	50	0,6	13,2	43,2

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

S504-06

Materiał / *Material*

Trzpień / *Pin* **90Mn4 36 ÷ 40 HRC**

Obudowa / *Body* **34CrMo4**

Wykończenie: oksydowanie na czarno
Black oxide finishing

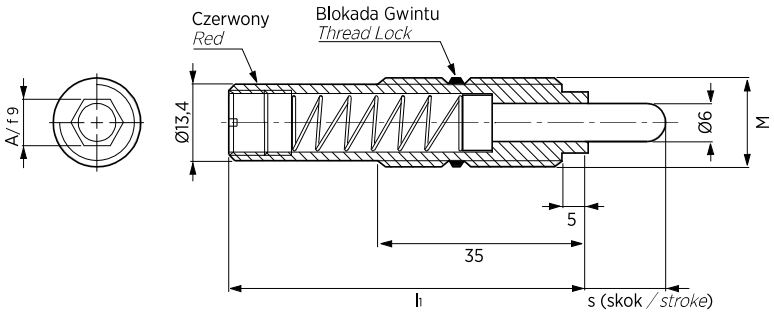
Oznaczenie na kolor czerwony
Colour marking red

***Trzpień sprężynowy wykonany z wysokowydajnego tworzywa sztucznego z dodatkami pozwala na obciążenie boczne maks. 15º w zależności od długości skoku.**
**The Spring pin made from high performance plastic with additives permits lateral loading of max. 15º depending on the stroke length.*

Jak zamówić / *How to order*

Symbol: **S504-06-020080-002**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	M	l1	s	Sztywność sprężyny *Spring Rate* N / mm	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
S504-06-010060	16x1,5	60	10	3,25	13	45,5
S504-06-010060-002	16x2	60	10	3,25	13	45,5
S504-06-015060	16x1,5	60	15	2,6	15	56
S504-06-015060-002	16x2	60	15	2,6	15	56
S504-06-020080	16x1,5	80	20	6,9	34,5	172,5
S504-06-020080-002	16x2	80	20	6,9	34,5	172,5
S504-06-030120	16x1,5	120	30	2	20	80
S504-06-030120-002	16x2	120	30	2	20	80
S504-06-030150	16x1,5	150	30	2,55	56,1	132,6
S504-06-030150-002	16x2	150	30	2,55	56,1	132,6
S504-06-040150	16x1,5	150	40	2,55	56,1	158,1
S504-06-040150-002	16x2	150	40	2,55	56,1	158,1
S504-06-050200	16x1,5	200	50	1,61	19,3	99,9
S504-06-050200-002	16x2	200	50	1,61	19,3	99,9

ODKLEJACZE SPRĘŻYNOWE
SPRING PLUNGERS

S504-07

Materiał / *Material*

Trzpień / *Pin* **90Mn4 36 ÷ 40 HRC**

Obudowa / *Body* **34CrMo4**

Wykończenie: oksydowanie na czarno
Black oxide finishing

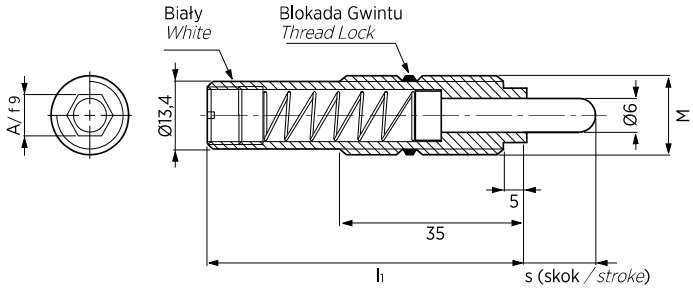
Oznaczenie: na kolor biały
Colour marking white

***Trzpień sprężynowy wykonany z wysokowydajnego tworzywa sztucznego z dodatkami pozwala na obciążenie boczne maks. 15º w zależności od długości skoku.**
**The Spring pin made from high performance plastic with additives permits lateral loading of max. 15º depending on the stroke length.*

Jak zamówić / *How to order*

Symbol: **S504-07-020080**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	M	l1	s	Sztywność sprężyny *Spring Rate* N/mm	Siła początkowa *Initial Force* N	Siła końcowa *Final Force* N
S504-07-020080	16x1,5	80	20	3,02	15,1	75,6
S504-07-020080-002	16x2	80	20	3,02	15,1	75,6

KLUCZE DO ODKLEJACZY SPRĘŻYNOWYCH
INSERTION TOOL FOR SPRING PLUNGERS

M314-05

Materiał / *Material*

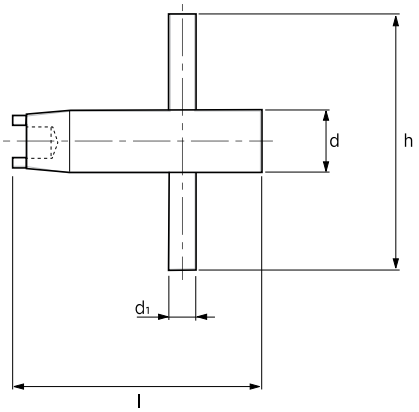
Stal / *Steel* **36 ÷ 40 HRC**

Wykończenie: oksydowanie na czarno
Black oxide finishing

Jak zamówić / *How to order*

Symbol: **M314-05-010**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	d	h	l	d1	Odklejacz sprężynowy *Spring Plunger*
M314-05-006	6	40	40	3	M5, M6
M314-05-008	8	45	45	4	M8
M314-05-010	10	45	45	4	M10
M314-05-012	12	50	50	5	M12
M314-05-016	16	70	52	8	M16
M314-05-024	24	80	62	12	M24
M314-05-030	30	100	73	15	M30

KLUCZE DO ODKLEJACZY SPRĘŻYNOWYCH
INSERTION TOOL FOR SPRING PLUNGERS

S504-08

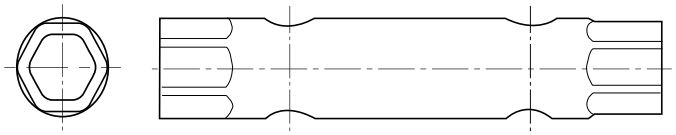
Materiał / *Material*

Stal / *Steel*

Jak zamówić / *How to order*

Symbol: **S504-08-016**

Inne wymiary na żądanie
Other dimensions on demand



Symbol
S504-08-016

ZATRZASKI KULKOWE Z NACIĘCIEM POD WKRĘTAK

SPRING PLUNGERS WITH SLOT

ZKW

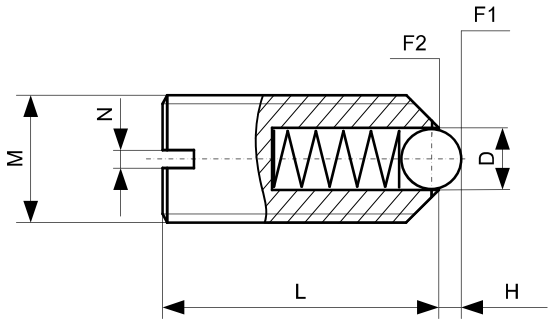
Materiał / *Material*

Korpus stalowy w klasie 5.8
Steel body class 5.8
Kulka stalowa hartowana
Hardened steel ball
Sprężyna stal sprężynowa klasy D
Music wire steel spring class D

Jak zamówić / *How to order*

ZKW	**standard /** *standard*
ZKW ... H	**większa siła /** *higher force*
ZKW ... L	**przedłużony /** *longer*
Symbol:	**ZKW.080**
	lub / *or*
Symbol:	**ZKW.080.H**
	lub / *or*
Symbol:	**ZKW.080.L**

Inne wymiary na żądanie
Other dimensions on demand



					SIŁA POCZĄTKOWA *INITIAL FORCE*	SIŁA KOŃCOWA *FINAL FORCE*	
Symbol	M	D	H	L	F1 N	F2 N	N
ZKW.030	M3	1,5	0,4	7	1,5	3	0,4
ZKW.030.H					5	7	
ZKW.040	M4	2,5	0,8	9	4	10	0,6
ZKW.040.H					12	22	
ZKW.040.L				16	4	10	
ZKW.050	M5	3	0,9	12	6	11	0,8
ZKW.050.H					19	30	
ZKW.050.L				20	6	11	
ZKW.060	M6	3,5	1	14	9	13	1
ZKW.060.H					28	40	
ZKW.060.L				25	9	13	
ZKW.080	M8	5	1,5	16	15	30	1,2
ZKW.080.H					47	73	
ZKW.080.L				30	15	30	
ZKW.100	M10	6	2	19	20	40	1,6
ZKW.100.H					66	100	
ZKW.100.L				35	20	40	
ZKW.120	M12	8	2,5	22	30	55	2
ZKW.120.H					66	120	
ZKW.120.L				40	30	55	
ZKW.160	M16	10	3,5	24	65	125	2,5
ZKW.160.H					90	180	
ZKW.160.L				45	65	125	
ZKW.200	M20	12	4,5	30	80	160	2,5
ZKW.200.H					115	240	

ZATRZASKI KULKOWE Z GNIAZDEM SZEŚCIOKĄTNYM
SPRING PLUNGERS WITH HEXAGON SOCKET AND BALL

ZKS

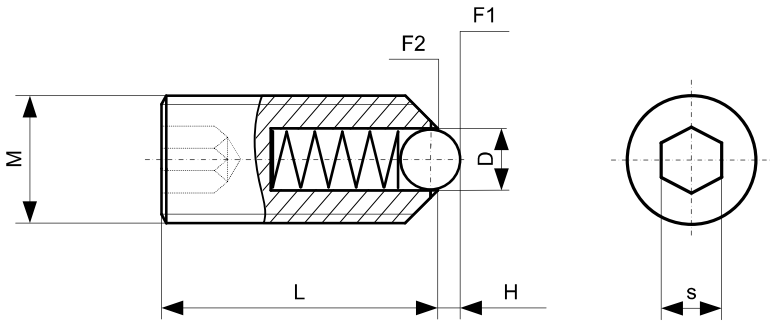
Materiał / *Material*

Korpus stalowy w klasie 5.8
Steel body class 5.8
Kulka stalowa hartowana
Hardened steel ball
Sprężyna stal sprężynowa klasy D
Music wire steel spring class D

Jak zamówić / *How to order*

ZKS **standard /** *standard*
ZKS ... H **większa siła /** *higher force*
ZKS ... L **przedłużony /** *longer*
Symbol: **ZKS.080**
lub / *or*
Symbol: **ZKS.080H**
lub / *or*
Symbol: **ZKS.080L**

Inne wymiary na żądanie
Other dimensions on demand



					SIŁA POCZĄTKOWA *INITIAL FORCE*	SIŁA KOŃCOWA *FINAL FORCE*	
Symbol	M	D	H	L	F1 N	F2 N	s
ZKS.030	M3	1,5	0,4	9	1,5	3	1,5
ZKS.030.H					5	7	
ZKS.040	M4	2,5	0,8	10	4	10	2
ZKS.040.H					12	22	
ZKS.040.L				16	4	10	
ZKS.050	M5	3	0,9	14	6	11	2,5
ZKS.050.H					19	30	
ZKS.050.L				20	6	11	
ZKS.060	M6	3,5	1	15	9	13	3
ZKS.060.H					28	40	
ZKS.060.L				25	9	13	
ZKS.080	M8	5	1,5	18	15	30	4
ZKS.080.H					47	73	
ZKS.080.L				30	15	30	
ZKS.100	M10	6	2	23	20	40	5
ZKS.100.H					66	100	
ZKS.100.L				35	20	40	
ZKS.120	M12	8	2,5	26	30	55	6
ZKS.120.H					66	120	
ZKS.120.L				40	30	55	
ZKS.160	M16	10	3,5	33	65	125	8
ZKS.160.H					90	180	
ZKS.160.L				45	65	125	
ZKS.200	M20	12	4,5	43	80	160	10
ZKS.200.H					115	240	
ZKS.240	M24	15	5,5	48	90	180	12
ZKS.240.H					130	270	

ZATRZASKI TRZPIENIOWE Z NACIĘCIEM POD WKRĘTAK

SPRING PLUNGERS WITH SLOT AND THRUST PIN

ZTW

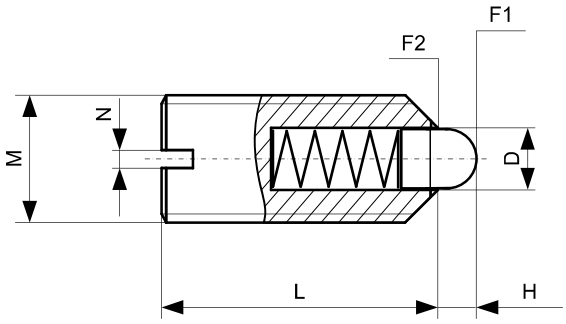
Materiał / *Material*

Korpus stalowy w klasie 5.8
Steel body class 5.8
Kulka stalowa hartowana
Hardened steel ball
Sprężyna stal sprężynowa klasy D
Music wire steel spring class D

Jak zamówić / *How to order*

ZTW **standard /** *standard*
ZTW ... S **mniejsza siła /** *lower force*
ZTW ... H **większa siła /** *higher force*
Symbol: **ZTW.080**
lub / *or*
Symbol: **ZTW.080.S**
lub / *or*
Symbol: **ZTW.080.H**

Inne wymiary na żądanie
Other dimensions on demand



					SIŁA POCZĄTKOWA *INITIAL FORCE*	SIŁA KOŃCOWA *FINAL FORCE*	
Symbol	M	D	H	L	F1 N	F2 N	N
ZTW.040	M4	1,8	1,5	9	6	20	0,6
ZTW.040.S					3	10	
ZTW.050	M5	2,4	2	12	6	20	0,8
ZTW.050.S					3	10	
ZTW.050.H					9	25	
ZTW.060	M6	2,7	2	14	7	20	1
ZTW.060.S					4	10	
ZTW.060.H					11	25	
ZTW.080	M8	4	2	16	15	30	1,2
ZTW.080.S					7	15	
ZTW.080.H					22	43	
ZTW.100	M10	4,5	2,5	19	20	35	1,6
ZTW.100.S					9	16	
ZTW.100.H					20	54	
ZTW.120	M12	6	3,5	22	30	55	2
ZTW.120.S					14	26	
ZTW.120.H					36	94	
ZTW.160	M16	8,5	4,5	24	45	100	2,5
ZTW.160.S					22	50	
ZTW.160.H					60	110	
ZTW.200	M20	10	6,5	30	60	120	2,5
ZTW.200.S					30	60	

ZATRZASKI TRZPIENIOWE Z GNIAZDEM SZEŚCIOKĄTNYM Z CZOŁOWYM NACIĘCIEM

SPRING PLUNGERS WITH HEXAGON SOCKET AND THRUST PIN

ZTS

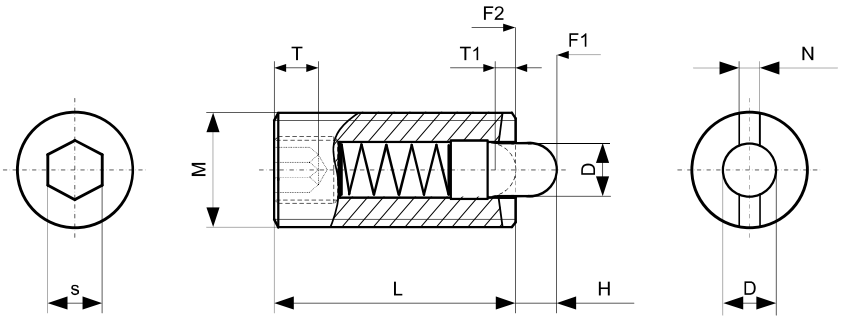
Materiał / *Material*

Korpus stalowy w klasie 5.8
Steel body class 5.8
Kulka stalowa hartowana
Hardened steel ball
Sprężyna stal sprężynowa klasy D
Music wire steel spring class D

Jak zamówić / *How to order*

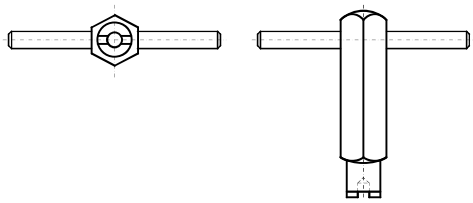
ZTS — **standard /** *standard*
ZTS ... S — **mniejsza siła /** *lower force*
ZTS ... H — **większa siła /** *higher force*
Symbol: **ZTS.080**
lub / *or*
Symbol: **ZTS.080.S**
lub / *or*
Symbol: **ZTS.080.H**

Inne wymiary na żądanie
Other dimensions on demand



							SIŁA POCZĄTKOWA *INITIAL FORCE*	SIŁA KOŃCOWA *FINAL FORCE*			
Symbol	M	D	H	L	T	T1	F1 N	F2 N	N	S	KLUCZ *KEY*
ZTS.030	M3	1,0	1,5	10	1,5	1	0,5	3	0,4	0,7	ZTK 3
ZTS.040	M4	1,5	1,5	15	2	0,6	5	16	0,6	1,3	ZTK 4
ZTS.040.S							2	7			
ZTS.050	M5	2,4	2,3	18	2	0,8	6	20	0,8	1,5	ZTK 5
ZTS.050.S							3	10			
ZTS.050.H							11	29			
ZTS.060	M6	2,7	2,5	20	2,5	1	7	20	1	2	ZTK 6
ZTS.060.S							3	9			
ZTS.060.H							14	37			
ZTS.080	M8	3,5	3	22	3	1,4	9	35	1,2	2,5	ZTK 8
ZTS.080.S							4	16			
ZTS.080.H							22	65			
ZTS.100	M10	4	3	22	3,5	1,4	9	35	1,6	3	ZTK 10
ZTS.100.S							4	16			
ZTS.100.H							19	70			
ZTS.120	M12	6	4	28	5	2	12	55	2	4	ZTK 12
ZTS.120.S							5	27			
ZTS.120.H							25	85			
ZTS.160	M16	7,5	5	32	6	2,5	45	100	2,5	5	ZTK 16
ZTS.160.S							20	45			
ZTS.160.H							60	150			
ZTS.200	M20	10	7	40	8	3	60	120	2,5	6	-
ZTS.200.H							75	190			
ZTS.240	M24	12	10	52	10	3	80	160	2,5	8	-
ZTS.240.H							95	240			

KLUCZ MONTAŻOWY
ASSEMBLY KEY
ZTK



TULEJE OSADCZE / WIERTARSKIE
DRILL BUSHES
DIN 179

10179

Materiał / *Material*

16 Cr Ni 4

Twardość / *Hardness*

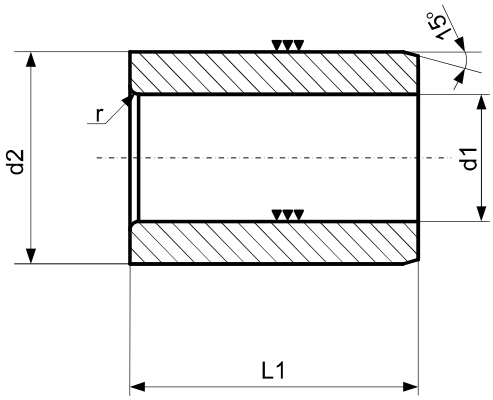
60 +/- 2 HRC

Jak zamówić / *How to order*

Symbol:	**10179**
	+
d1:	**4,0**
	+
L1:	**12**

10179.0400.12

Inne wymiary na żądanie
Other dimensions on demand



d1 F7	PROGRESJA *PROGRESSION*	d2 n6	KRÓTKA *SHORT*	ŚREDNIA *LONG*	DŁUGA *EXTRA LONG*		
			L1	L1	d1 F7	PROGRESJA *PROGRESSION*	L1
0,9 - 1,0	0,1	3	6	9			
1,1 - 1,8	0,1	4	6	9			
1,9 - 2,6	0,1 - 0,25	5	6	9			
2,7 - 3,3	0,1 - 0,25	6	8	12	2,7 - 3,3	0,1 - 0,25	16
3,4 - 4,0	0,1 - 0,25	7	8	12	3,4 - 4,0	0,1 - 0,25	16
4,1 - 5,0	0,1 - 0,25	8	8	12	4,1 - 5,0	0,1 - 0,25	16
5,1 - 6,0	0,1 - 0,25	10	10	16	5,1 - 6,0	0,1 - 0,25	20
6,1 - 8,0	0,1 - 0,25	12	10	16	6,1 - 8,0	0,1 - 0,25	20
8,1 - 10,0	0,1 - 0,25	15	12	20	8,1 - 10,0	0,1 - 0,25	25
10,1 - 12,0	0,1 - 0,25	18	12	20	10,1 - 12,0	0,1 - 0,25	25
12,1 - 15,0	0,1 - 0,25	22	16	28	12,1 - 15,0	0,1 - 0,25	36
15,25 - 18,0	0,25	26	16	28	15,25 - 18,0	0,25	36
18,25 - 22,0	0,25	30	20	36	19,0 - 22,0	1,0	45
22,25 - 26,0	0,25	35	20	36	23,0 - 26,0	1,0	45
26,25 - 30,0	0,25	42	20 25	36 45	27,0 - 30,0	1,0	56
30,25 - 35,0	0,25	48	25	45	35	-	56
35,5 - 42,0	0,5	55	25 30	45 56	40	-	67
42,5 - 48,0	0,5	62	30	56	45	-	67
48,5 - 55,0	0,5	70	30	56	50 - 55	-	67
56,0 - 63,0	1,0	78	35	67 72	60	-	78

TULEJE OSADCZE/WIERTARSKIE Z KOŁNIERZEM

DRILL BUSHES WITH HEAD

DIN 172

10172

Materiał / *Material*

16 Cr Ni 4

Twardość / *Hardness*

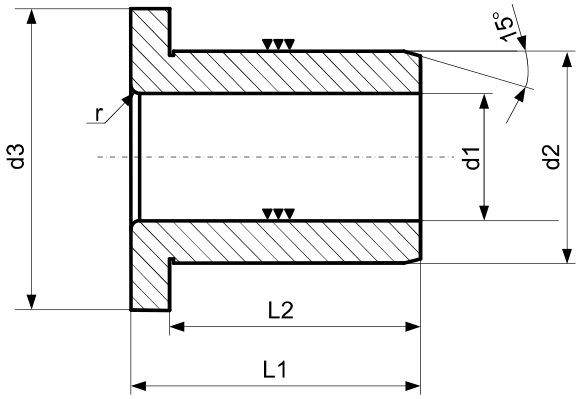
60 +/- 2 HRC

Jak zamówić / *How to order*

Symbol:	**10172**
	+
d1:	**6,0**
	+
L1:	**16**

10172.0600.16

Inne wymiary na żądanie
Other dimensions on demand



d1 F7	PROGRESJA *PROGRESSION*	d2 n6	d3	KRÓTKA *SHORT*		ŚREDNIA *LONG*		DŁUGA *EXTRA LONG*			
				L1	L2	L1	L2	d1 F7	PROGRESJA *PROGRESSION*	L1	L2
0,9 - 1,0	0,1	3	6	6	4	9	7				
1,1 - 1,8	0,1	4	7	6	4	9	7				
1,9 - 2,6	0,1 - 0,25	5	8	6	4	9	7				
2,7 - 3,3	0,1 - 0,25	6	9	8	5,5	12	9,5	2,7 - 3,3	0,1 - 0,25	16	13,5
3,4 - 4,0	0,1 - 0,25	7	10	8	5,5	12	9,5	3,4 - 4,0	0,1 - 0,25	16	13,5
4,1 - 5,0	0,1 - 0,25	8	11	8	5,5	12	9,5	4,1 - 5,0	0,1 - 0,25	16	13,5
5,1 - 6,0	0,1 - 0,25	10	13	10	7	16	13	5,1 - 6,0	0,1 - 0,25	20	17
6,1 - 8,0	0,1 - 0,25	12	15	10	7	16	13	6,1 - 8,0	0,1 - 0,25	20	17
8,1 - 10,0	0,1 - 0,25	15	18	12	9	20	17	8,1 - 10,0	0,1 - 0,25	25	22
10,1 - 12,0	0,1 - 0,25	18	22	12	8	20	16	10,1 - 12,0	0,1 - 0,25	25	21
12,1 - 15,0	0,1 - 0,25	22	26	16	12	28	24	12,1 - 15,0	0,1 - 0,25	36	32
15,25 - 18,0	0,25	26	30	16	12	28	24	15,25 - 18,0	0,25	36	32
18,25 - 22,0	0,25	30	34	20	15	36	31	19,0 - 22,0	1,0	45	40
22,25 - 26,0	0,25	35	39	20	15	36	31	23,0 - 26,0	1,0	45	40
26,25 - 30,0	0,25	42	46	20 25	15 20	36 45	31 40	27,0 - 30,0	1,0	56	51
30,25 - 35,0	0,25	48	52	25	20	45	40	35	-	56	51
35,5 - 42,0	0,5	55	59	25 30	20 25	45 56	40 51	40	-	67	62
42,5 - 48,0	0,5	62	66	30	24	56	50	45	-	67	61
48,5 - 55,0	0,5	70	74	30	24	56	50	50 - 55	-	67	61
56,0 - 63,0	1,0	78	82	35	29	67 72	61 66	60	-	78	72

KOŁKI USTALAJĄCE
DOWEL PINS
DIN 6325

106325

Materiał / *Material*

1.3505

Twardość / *Hardness*

60 +/- 2 HRC

Jak zamówić / *How to order*

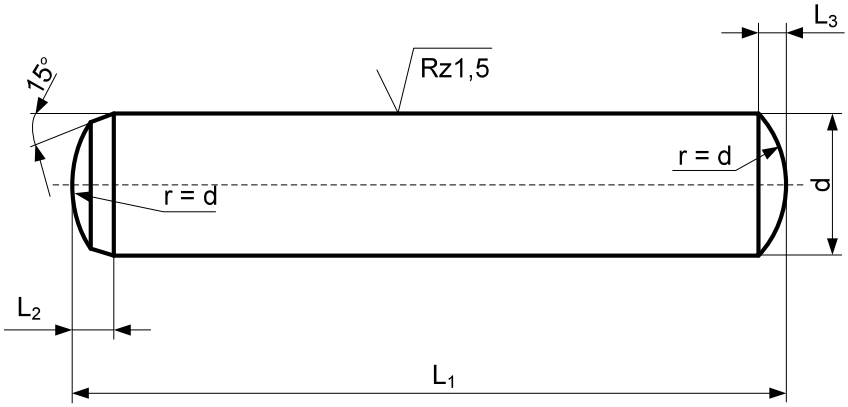
Symbol:	**106325**
	+
d:	**10**
	+
L1:	**80**

106325.100.080

kołki w tolerancji h6 dodaj H
dowel pins h6 tolerance add H

106325.100.080.H

Inne wymiary na żądanie
Other dimensions on demand



L2	0,78	0,95	1,1	1,4	1,7	2,1	2,1	2,6	3,0	3,0	3,8	3,8	3,8	4,7	5,5	6,0	6,0	6,0	7,0	8,0	10,0
L3	0,3	0,4	0,45	0,6	0,75	0,9	1,0	1,2	1,2	1,5	1,8	2,0	2,0	2,5	3,0	3,0	3,0	3,0	4,0	5,0	6,3
L1 \ d m6 / h6	**2**	**2,5***	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**13**	**14**	**16**	**18**	**20**	**22***	**25***	**30***	**40***	**50***
5	X																				
6	X	X	X																		
8	X	X	X		X																
10	X	X	X	X	X	X		X													
12	X	X	X	X	X	X		X													
14	X	X	X	X	X	X		X													
16	X	X	X	X	X	X	X	X		X											
18	X	X	X	X	X	X	X	X		X	X										
20	X	X	X	X	X	X	X	X	X	X	X		X								
22	X	X	X	X	X	X		X		X	X										
24	X	X	X	X	X	X	X	X	X	X	X		X								
26	X	X	X	X	X	X		X		X	X										
28	X	X	X	X	X	X	X	X	X	X	X		X								
30	X	X	X	X	X	X	X	X	X	X	X		X	X		X					
32	X		X	X	X	X	X	X	X	X	X		X	X		X					
36			X	X	X	X	X	X	X	X	X		X	X		X					
40	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
45			X	X	X	X	X	X	X	X	X		X	X	X	X		X			
50			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
55				X	X	X	X	X	X	X	X		X	X	X	X					
60				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
70				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
80				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
90						X		X	X	X	X		X	X	X	X	X	X	X	X	X
100						X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
110								X		X	X		X	X	X	X	X	X			
120								X		X	X	X	X	X	X	X	X	X	X	X	X
130								X		X	X		X	X	X	X		X			
140										X	X		X	X	X	X		X	X	X	X
150										X	X		X	X	X	X		X	X	X	
160										X	X		X	X	X	X		X	X	X	X
180											X		X	X	X	X		X	X	X	X
200										X	X		X	X	X	X		X	X	X	X

***dostępny tylko w m6 /** *m6 only*

KOŁKI USTALAJĄCE Z GWINTEM WEWNĘTRZNYM

DOWEL PINS WITH TAPPED HOLE

DIN 7979

107979

Materiał / *Material*

1.3505

Twardość / *Hardness*

60 +/- 2 HRC

Jak zamówić / *How to order*

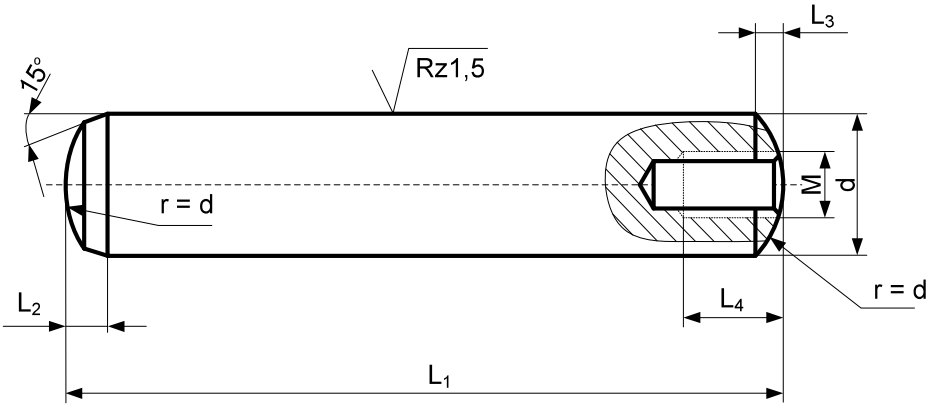
Symbol:	**107979**
	+
d:	**10**
	+
L1:	**80**

107979.100.080

kołki w tolerancji h6 dodaj H
dowel pins h6 tolerance add H

107979.100.080.H

Inne wymiary na żądanie
Other dimensions on demand



L2	1,3	1,3	1,6	2,1	2,1	2,6	3,0	3,0	3,8	4,0	3,8	4,7	5,5	6,0	6,0	6,0	7,0	8,0	10,0
L3	0,3	0,4	0,8	0,9	1,0	1,2	1,2	1,5	1,8	1,8	2,0	2,5	3,0	3,0	3,0	3,0	4,0	5,0	6,3
L4	4,5	5	5	6	6	8	8	12	12	13	16	16	18	18	18	24	30	30	36
M	M2	M3	M3	M4	M4	M5	M5	M6	M6	M8	M8	M8	M10	M10	M10	M16	M20	M20	M24
L1 \ d m6 / h6	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**13**	**14**	**16**	**18**	**20**	**22***	**25***	**30***	**40***	**50***
8	X	X	X																
10	X	X	X	X		X													
12	X	X	X	X		X													
14	X	X	X	X		X													
16	X	X	X	X	X	X		X											
18	X	X	X	X	X	X		X											
20	X	X	X	X	X	X	X	X	X										
22		X	X	X				X	X										
24	X	X	X	X	X	X	X	X	X										
26		X	X	X				X											
28		X	X	X	X	X	X	X	X		X	X							
30		X	X	X	X	X	X	X	X		X	X							
32		X	X	X	X	X	X	X	X	X	X	X		X					
36		X	X	X	X	X	X	X	X		X	X		X					
40		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
45		X	X	X	X	X	X	X	X		X	X	X	X		X			
50		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
55		X	X	X	X	X	X	X	X		X	X	X	X	X	X			
60		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
70		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
80		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
90				X		X	X	X	X		X	X	X	X	X	X	X	X	X
100				X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
110						X		X	X		X	X	X	X		X			
120						X		X	X	X	X	X	X	X	X	X	X	X	X
130						X		X	X		X	X	X	X		X			
140								X	X		X	X	X	X		X	X	X	X
150								X	X		X	X	X	X		X	X	X	
160									X		X	X	X	X		X	X	X	X
180									X		X	X	X	X		X	X	X	X
200									X		X	X	X	X		X	X	X	X

***dostępny tylko w m6 /** *m6 only*

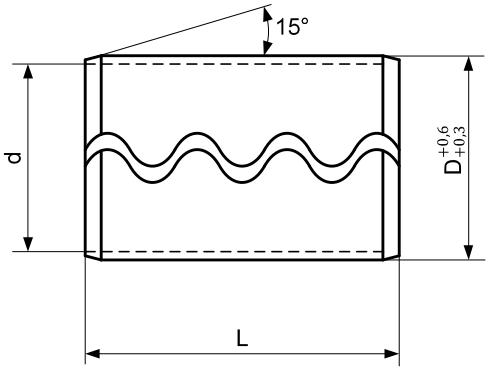
TULEJKI ZABEZPIECZAJĄCE KOŁEK USTALAJĄCY
SPRING PLUNGER FOR DOWEL PINS

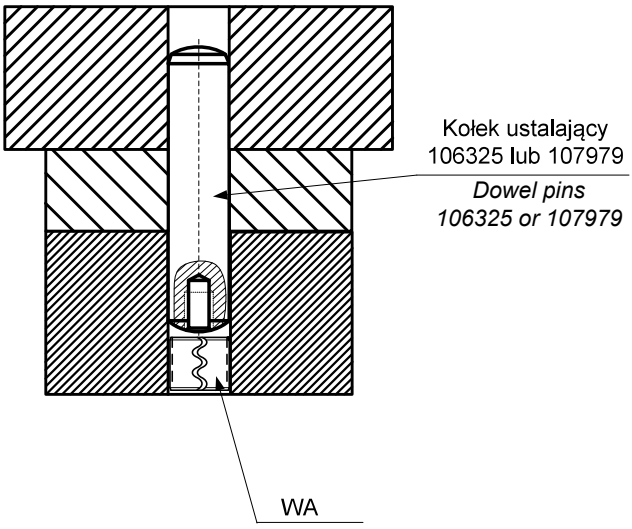
WA

Jak zamówić / *How to order*

Symbol: **WA.10**

Inne wymiary na żądanie
Other dimensions on demand





Symbol	d	D	L
WA.06	4,4	6	6
WA.08	5,6	8	8
WA.10	6,4	10	12
WA.12	8,0	12	12
WA.16	11,0	16	12

ŚRUBY PASOWANE
SHOULDER SCREWS
ISO 7379

SPB

Klasa / *Class*

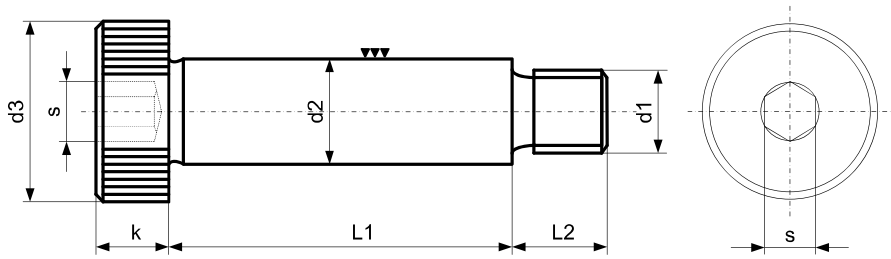
12.9

Jak zamówić / *How to order*

Symbol:	**SPB**
	+
d1:	**M8**
	+
L1:	**25**

SPB.M080.025

Inne wymiary na żądanie
Other dimensions on demand



d3	8	10	13	16	18	24	30	36
k	4	4,5	5,5	7	9	11	14	16
L2	8	9,5	11	13	16	18	22	27
s	2,5	3	4	5	6	8	10	12
d2 h8 / f9	5	6	8	10	12	16	20	24
d1	M4	M5	M6	M8	M10	M12	M16	M20
L1								
6		X						
8		X	X					
10	X	X	X	X				
12	X	X	X	X				
16	X	X	X	X	X			
20	X	X	X	X	X	X	X	
25	X	X	X	X	X	X	X	
30	X	X	X	X	X	X	X	
35	X	X	X	X	X	X	X	
40	X	X	X	X	X	X	X	X
45	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X
55		X	X	X	X	X	X	X
60		X	X	X	X	X	X	X
65		X	X	X	X	X	X	X
70		X	X	X	X	X	X	X
80		X	X	X	X	X	X	X
90			X	X	X	X	X	X
100			X	X	X	X	X	X
110				X	X	X	X	X
120				X	X	X	X	X
130				X	X			
140				X	X	X	X	X
160						X	X	X
180						X	X	X
200						X	X	X

ŚRUBY PASOWANE Z TULEJKĄ
SHOULDER SCREWS WITH GROUND SPACER

SPC

Klasa / *Class*

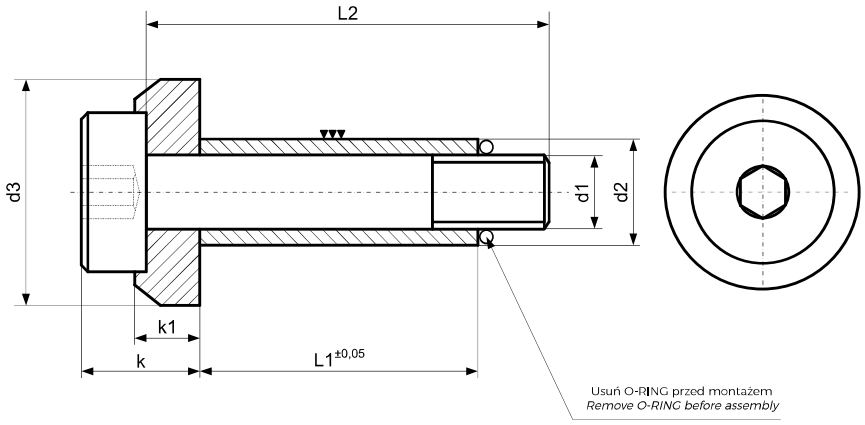
12.9

Jak zamówić / *How to order*

Symbol:	**SPC**
	+
d1:	**M8**
	+
L1:	**25**

SPC.M080.025

Inne wymiary na żądanie
Other dimensions on demand



d3	15	19	23	27	34
k	10	13	15	17,5	23
k1	6	6,5	7,5	9	11
d2 h7	10	12,5	15	17,5	23
d1	M6	M8	M10	M12	M16
L1	L2				
15	30				
20	35	35	40		
25	40	40	45		
30	45	45	50	50	
35	50	50	55	60	
40	55	55	60	60	70
45	60	60	65	65	75
50	65	65	70	70	80
55	70	70	75	80	90
60	80	80	80	90	90
65	80	80	85	90	100
70	90	90	90	100	100
80	100	100	100	110	110
90	110	110	110	120	120
100	120	120	120	130	130
110	130	130	130	140	140
120		140	140	150	150
140		160	160	180	180
150			170	180	180
160			180	200	200
180			200	220	210
200			220	240	240
220				260	250
230					260

ŚRUBY PASOWANE Z TULEJKĄ
SHOULDER SCREWS WITH GROUND SPACER

SPS

Klasa / *Class*

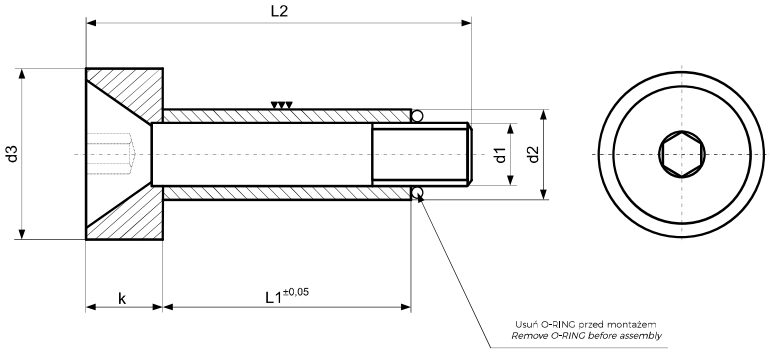
10.9

Jak zamówić / *How to order*

Symbol:	**SPS**
	+
d1:	**M8**
	+
L1:	**25**

SPS.M080.025

Inne wymiary na żądanie
Other dimensions on demand



d3	15	19	23	27	34
k	6	8	10	12	16
d2 h7	10	12,5	15	17,5	23
d1	M6	M8	M10	M12	M16
L1	L2				
20	35				
25	40	45			
30	45	50	55	60	
35	50	55	60	70	
40	55	60	65	70	
45	60	70	70	80	
50	65	70	80	80	90
55		80	80	90	90
60		80	90	90	100
70		90	100	100	110
80		100	110	110	120
90			120	120	140
100					140
110					150
120					150

KORKI GWINTOWANE STOŻKOWE

HEXAGON SOCKET CONICAL PIPE PLUG

DIN 906

HC

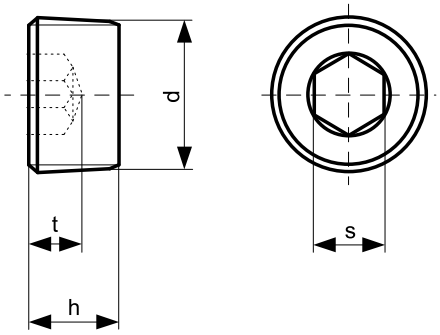
Materiał / *Material*

HCS – STAL / *STEEL*
HCM - MOSIĄDZ / *BRASS*

Jak zamówić / How to order

Symbol: **HCS.010**

Inne wymiary na żądanie
Other dimensions on demand



Symbol		d	h	t	s
STAL *STEEL*	**MOSIĄDZ** *BRASS*				
HCS.008	**HCM.008**	M8x1	8	4	4
HCS.010	**HCM.010**	M10x1	8	4	5
HCS.012	**HCM.012**	M 12x1,5	10	5	6
HCS.014	**HCM.014**	M 14x1,5	10	5	7
HCS.016	**HCM.016**	M 16x1,5	10	5	8
HCS.018	**HCM.018**	M 18x1,5	10	5	8
HCS.020	**HCM.020**	M 20x1,5	10	5	10
HCS.022	**HCM.022**	M 22x1,5	10	5	10

Symbol		d	h	t	s
STAL *STEEL*	**MOSIĄDZ** *BRASS*				
HCS.108	**HCM.108**	R1/8"	8	4	5
HCS.104	**HCM.104**	R1/4"	10	5	7
HCS.308	**HCM.308**	R3/8"	10	5	8
HCS.102	**HCM.102**	R1/2"	10	5	10
HCS.304	**HCM.304**	R3/4"	12	6	12

ŚRUBY USTALAJĄCE
RETAINER BOLTS

M307-04

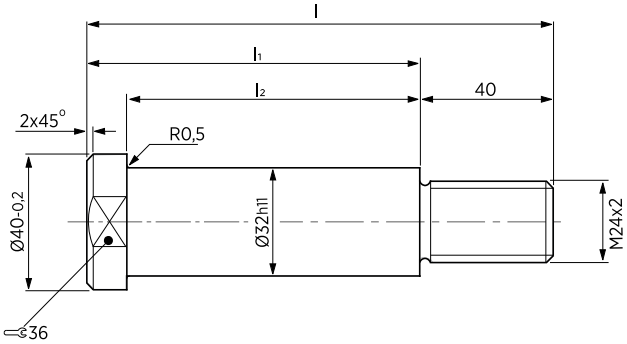
Materiał / *Material*

42CrMo4
1000÷1200 N/mm²

Jak zamówić / *How to order*

Symbol: **M307-04-128**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	l	l1	l2
M307-04-048	100	60	48
M307-04-068	120	80	68
M307-04-088	140	100	88
M307-04-108	160	120	108
M307-04-128	180	140	128
M307-04-148	200	160	148
M307-04-168	220	180	168
M307-04-188	240	200	188
M307-04-208	260	220	208
M307-04-228	280	240	228
M307-04-248	300	260	248
M307-04-268	320	280	268
M307-04-288	340	300	288

ZESTAWY ŚRUB USTALAJĄCYCH
RETAINER BOLT SETS

M312-03

Materiał / *Material*

1. **St37**
2. **DIN 912 12.9**
3. **CK45**
4. **DIN 127**

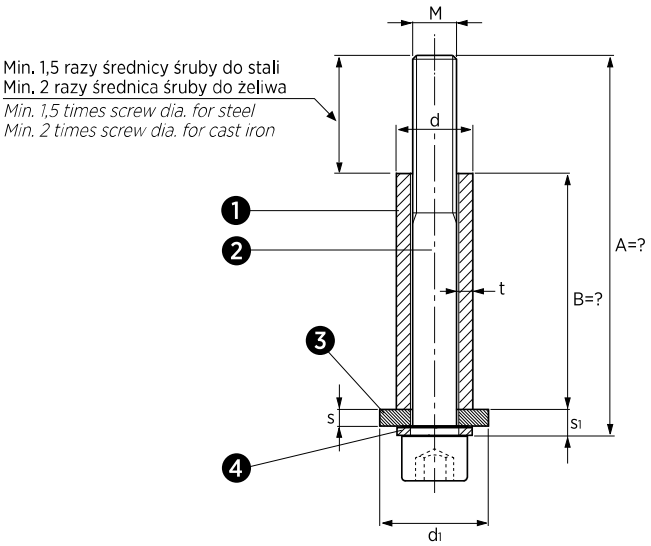
Jak zamówić / *How to order*

Symbol: **M312-03-12110076**

M=12 A=110 B=76

Rozmiar A i B jest podawany przez klienta.
A and B are given by the customer.

Inne wymiary na żądanie
Other dimensions on demand



Symbol	dxt	d1	M	s	s1	Max Obciążenie *Max. load* (kg)
M312-03-10AAABBB	16x2,5	25	M10	4	5,6	100
M312-03-12AAABBB	20x3,5	30	M12	6	7,7	150
M312-03-16AAABBB	28x5,5	40	M16	6	8,1	250

ZESTAWY ŚRUB USTALAJĄCYCH
RETAINER BOLT SETS

M312-08

Materiał / *Material*

1. **St37**
2. **DIN 912 12.9**
3. **Elastomer 92Sh**
4. **CK45**
5. **DIN 127**

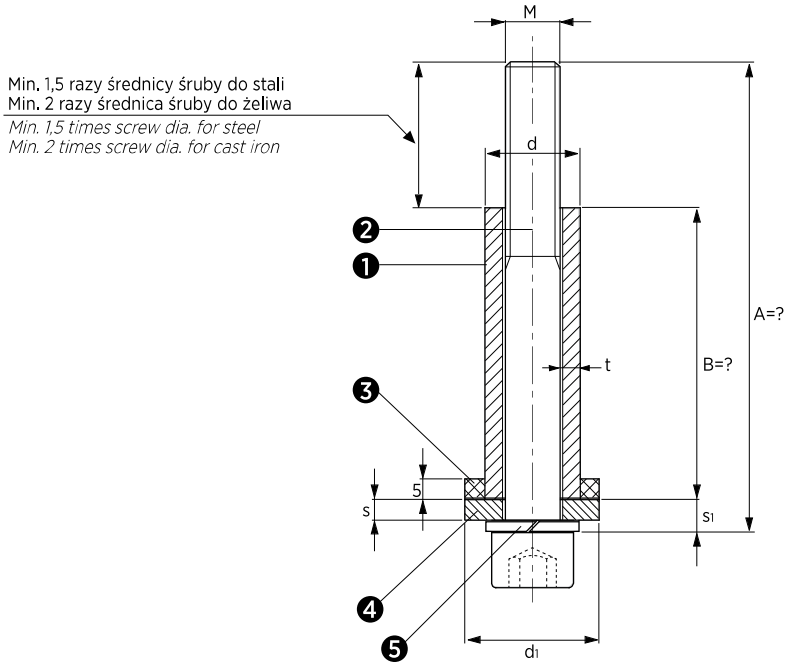
Jak zamówić / *How to order*

Symbol: **M312-08-12110076**

M=12 A=110 B=76

Rozmiar A i B jest podawany przez klienta.
A and B are given by the customer.

Inne wymiary na żądanie
Other dimensions on demand



Symbol	dxt	d1	M	s	s1	Max Obciążenie *Max. load* (kg)
M312-08-10AAABBB	16x2,5	32	M10	4	6,5	100
M312-08-12AAABBB	20x3,5	36	M12	6	8,5	150
M312-08-16AAABBB	28x5,5	45	M16	6	9,5	250

ŚRUBY Z ŁBEM WALCOWYM Z GNIAZDEM SZEŚCIOKĄTNYM

HEXAGON SOCKET HEAD CAP SCREWS

ISO 4762 / DIN 912

V8 / V12

Klasa / *Class*

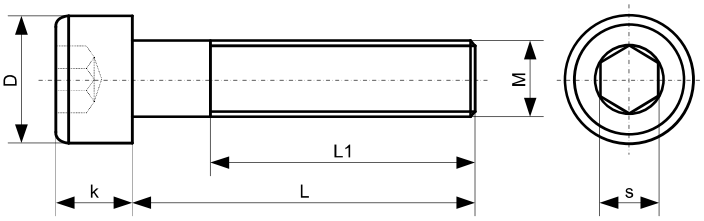
V8 - 8.8
V12 - 12.9

Jak zamówić / *How to order*

Klasa / *Class*:	**12.9**
	+
M:	**M8**
	+
L:	**70**

V12.080.070

Inne wymiary na żądanie
Other dimensions on demand



D	3,8	4,5	5,5	7	8,5	10	13	16	18	21	24	27	30	36	45	54	D
k	2	2,5	3	4	5	6	8	10	12	14	16	18	20	24	30	36	k
L1	16	17	18	20	22	24	28	32	36	40	44	48	52	60	72	84	L1
s	1,5	2	2,5	3	4	5	6	8	10	12	14	14	17	19	22	27	s
M	M2*	M2,5*	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M24	M30	M36	M
L																	L
3	X																
4	X	X	X														
5	X	X	X														5
6	X	X	X	X	X												6
8	X	X	X	X	X	X											8
10	X	X	X	X	X	X	X										10
12	X	X	X	X	X	X	X	X									12
14	X	X	X	X	X	X	X										14
16	X	X	X	X	X	X	X	X	X								16
18		X	X	X	X	X	X										18
20		X	X	X	X	X	X	X	X								20
25		X	X	X	X	X	X	X	X	X	X						25
30			X	X	X	X	X	X	X	X	X		X				30
35			X	X	X	X	X	X	X	X	X	X	X				35
40			X	X		X	X	X	X	X	X	X	X	X			40
45			X	X	X	X	X	X	X	X	X		X				45
50			X	X	X	X	X	X	X	X	X	X	X	X			50
55				X	X		X	X	X	X	X		X				55
60			X	X	X	X	X	X	X	X	X	X	X	X	X		60
65					X	X	X	X	X	X	X		X				65
70			X	X	X	X	X	X	X	X	X	X	X	X	X		70
75					X	X	X	X	X		X		X				75
80				X	X	X	X	X	X	X	X	X	X	X	X		80
85							X	X	X		X		X	X			85
90				X	X	X	X	X	X	X	X	X	X	X	X		90
100				X	X	X	X	X	X	X	X	X	X	X	X	X	100
110					X	X	X	X	X	X	X	X	X	X	X		110
120					X	X	X	X	X	X	X	X	X	X	X	X	120
130					X	X	X	X	X		X		X	X	X		130
140					X	X	X	X	X	X	X	X	X	X	X	X	140
150							X	X	X	X	X		X	X	X		150
160					X	X	X	X	X	X	X	X	X	X	X	X	160
170					X	X		X	X		X		X				170
180						X	X	X	X	X	X	X	X	X	X	X	180
190											X		X				190
200						X	X	X	X	X	X	X	X	X	X	X	200
220							X	X	X		X		X	X	X	X	220
240							X	X	X		X	X	X	X	X	X	240
260								X	X		X		X	X	X	X	260
280								X	X		X		X	X	X		280
300									X		X		X	X	X		300
320									X		X		X	X			320
340									X		X		X	X			340
360											X		X				360
380											X		X				380
400											X		X	X			400

*** tylko klasa 12.9 (V12) /** *only class 12.9 (V12)*

ŚRUBY Z ŁBEM OBNIŻONYM Z GNIAZDEM SZEŚCIOKĄTNYM

VH8 / VH10

HEXAGON SOCKET HEAD CAP SCREWS WITH LOW HEAD

ISO 7984 / DIN 7984

Klasa / Class

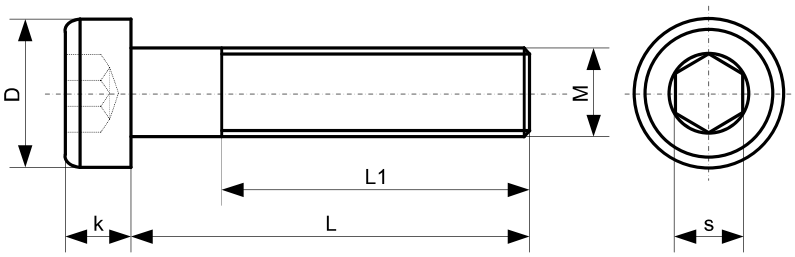
VH8 - 8.8
VH10 - 10.9

Jak zamówić / How to order

Klasa / ***Class*****:**	**8,8**
	+
M:	**M8**
	+
L:	**70**

VH8.080.070

Inne wymiary na żądanie
Other dimensions on demand



D	5,5	7	8,5	10	13	16	18	24	30	D
k	2	2,8	3,5	4	5	6	7	9	11	k
L1	12	14	16	18	22	26	30	38	46	L1
s	2	2,5	3	4	5	7	8	12	14	s
M	M3*	M4*	M5	M6	M8	M10	M12	M16	M20*	M
L										L
6	x	x								6
8	x	x	x	x						8
10	x	x	x	x						10
12	x	x	x	x	x					12
16	x	x	x	x	x	x				16
18					x					18
20		x	x	x	x	x	x			20
25		x	x	x	x	x	x			25
30			x	x	x	x	x	x		30
35				x	x	x	x			35
40			x	x	x	x	x	x		40
45				x	x	x	x			45
50				x	x	x	x	x		50
55										55
60					x	x	x	x	x	60
65										65
70					x	x	x	x	x	70
75										75
80					x	x	x	x	x	80
85										85
90										90
100									x	100

*** tylko klasa 8.8 (VH8) /** *only class 8.8 (VH8)*

ŚRUBY Z ŁBEM STOŻKOWYM Z GNIAZDEM SZEŚCIOKĄTNYM

HEXAGON SOCKET COUNTERSUNK HEAD SCREWS

DIN 7991

VS10

Klasa / Class

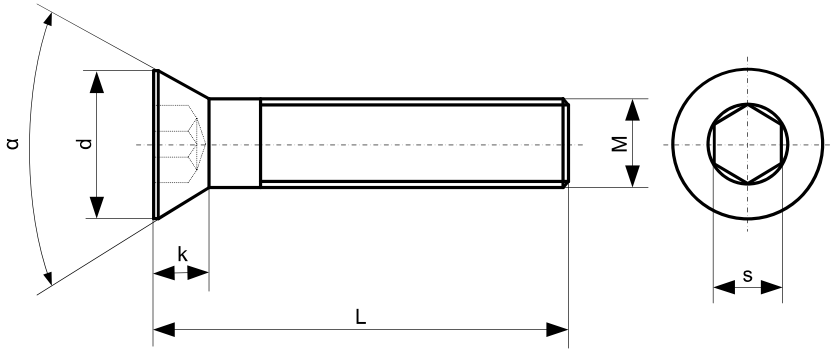
VS10 - 10.9

Jak zamówić / How to order

Klasa / *Class*:	**10.9**
	+
M:	**M8**
	+
L:	**70**

VS10.080.070

Inne wymiary na żądanie
Other dimensions on demand



d	6	8	10	12	16	20	24	27	30	36	39	d
k	1,86	2,48	3,1	3,72	4,96	6,2	7,44	8,4	8,8	10,16	14	k
α	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	60°	α
s	2	2,5	3	4	5	6	8	10	10	12	14	s
M	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24	M
L												L
6	X	X										6
8	X	X	X	X								8
10	X	X	X	X	X							10
12	X	X	X	X	X	X						12
14		X	X	X		X						14
16	X	X	X	X	X	X						16
18			X	X								18
20	X	X	X	X	X	X	X					20
25	X	X	X	X	X	X	X		X			25
30	X	X	X	X	X	X	X	X	X			30
35	X	X	X	X	X	X	X	X	X			35
40		X	X	X	X	X	X	X	X	X		40
45			X	X	X	X	X	X	X	X		45
50		X	X	X	X	X	X	X	X	X		50
55				X	X	X	X		X	X		55
60			X	X	X	X	X	X	X	X	X	60
65				X	X	X	X					65
70			X	X	X	X	X	X	X	X	X	70
75										X		75
80				X	X	X	X	X	X	X	X	80
90				X	X	X	X	X	X	X	X	90
100				X	X	X	X	X	X	X	X	100
110						X	X		X	X		110
120					X	X	X		X	X	X	120
130							X		X	X		130
140							X		X	X	X	140
150									X	X	X	150
160									X	X	X	160
180									X	X	X	180
190									X	X	X	190
200									X	X	X	200

ŚRUBY Z ŁBEM WYPUKŁYM Z GNIAZDEM SZEŚCIOKĄTNYM

HEXAGON BUTTON HEAD SCREWS

ISO 7380-1

VB01

Klasa / Class

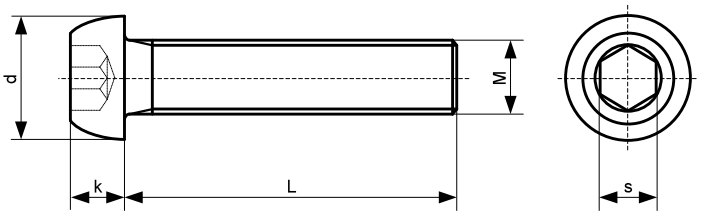
10.9

Jak zamówić / How to order

Klasa / *Class*:	**10.9**
	+
M:	**M8**
	+
L:	**25**

VB01.080.025

Inne wymiary na żądanie
Other dimensions on demand



d	5,7	7,6	9,5	10,5	14	17,5	21	28	d
k	1,65	2,2	2,75	3,3	4,4	5,5	6,6	8,8	k
s	2	2,5	3	4	5	6	8	10	s
M	M3	M4	M5	M6	M8	M10	M12	M16	M
L									L
6	X	X	X						6
8	X	X	X	X					8
10	X	X	X	X	X				10
12	X	X	X	X	X				12
16	X	X	X	X	X	X			16
20	X	X	X	X	X	X	X	X	20
25	X	X	X	X	X	X	X	X	25
30	X	X	X	X	X	X	X	X	30
35			X	X	X	X	X		35
40		X	X	X	X	X	X	X	40
45			X	X	X		X		45
50		X	X	X	X	X	X		50
60					X	X	X	X	60
70							X		70

ŚRUBY Z ŁBEM WYPUKŁYM Z KOŁNIERZEM I GNIAZDEM SZEŚCIOKĄTNYM

HEXAGON BUTTON HEAD SCREWS WITH COLLAR

ISO 7380-2

VB02

Klasa / Class

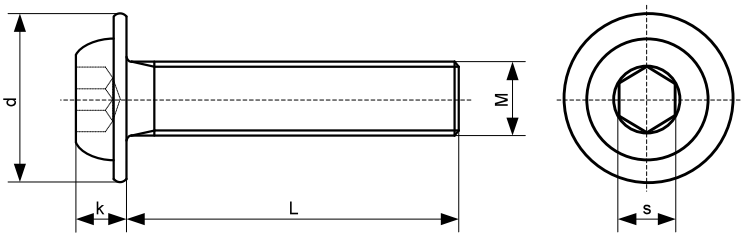
10.9

Jak zamówić / How to order

Klasa / *Class*:	**10.9**
	+
M:	**M8**
	+
L:	**25**

VB02.080.025

Inne wymiary na żądanie
Other dimensions on demand



d	9,4	11,8	13,6	17,8	21,9	d
k	2,2	2,75	3,3	4,4	5,5	k
s	2,5	3	4	5	6	s
M	M4	M5	M6	M8	M10	M
L						L
8	X	X	X			8
10	X	X	X			10
12	X	X	X			12
16	X	X	X	X		16
20		X	X	X		20
25		X	X	X	X	25
30			X	X		30
35				X		35

ŚRUBY DOCISKOWE BEZ ŁBA Z GNIAZDEM SZEŚCIOKĄTNYM

HEXAGON SOCKET SET SCREWS WITH FLAT POINT

ISO 4026 / DIN 913

SD913

Klasa / *Class*

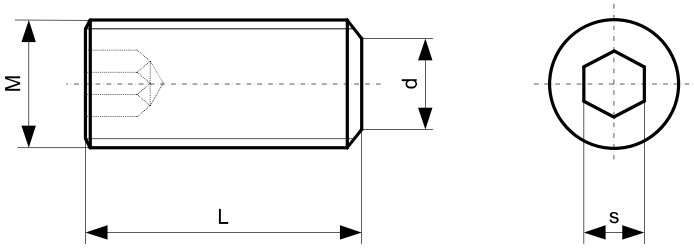
45H

Jak zamówić / *How to order*

Klasa / *Class*:	**SD913**
	+
M:	**M8**
	+
L:	**70**

SD913.080.070

Inne wymiary na żądanie
Other dimensions on demand



d max	1,0	1,5	2,0	2,5	3,5	4,0	5,5	7,0	8,5	12,0	15,0	18,0	d max
s	0,9	1,3	1.5	2	2,5	3	4	5	6	8	10	12	s
M	M2	M2,5	M3	M4	M5	M6	M8	M10	M12	M16	M20	M24	M
L													L
3	X	X	X	X									3
4	X	X	X	X	X								4
5	X	X	X	X	X	X							5
6	X	X	X	X	X	X	X						6
8	X	X	X	X	X	X	X	X					8
10	X	X	X	X	X	X	X	X	X				10
12		X	X	X	X	X	X	X	X				12
14			X	X	X	X	X	X	X				14
16			X	X	X	X	X	X	X	X			16
18					X	X	X	X					18
20			X	X	X	X	X	X	X	X	X		20
25				X	X	X	X	X	X	X	X		25
30				X	X	X	X	X	X	X	X	X	30
35				X	X	X	X	X	X	X			35
40					X	X	X	X	X	X	X	X	40
45						X	X	X	X	X			45
50					X	X	X	X	X	X	X	X	50
60						X	X	X	X	X	X	X	60
70							X	X	X	X	X	X	70
80							X	X	X	X	X	X	80
100									X	X	X	X	100

ŚRUBY DOCISKOWE BEZ ŁBA Z GNIAZDEM SZEŚCIOKĄTNYM I ZAKOŃCZENIEM STOŻKOWYM

SD914

HEXAGON SOCKET SET SCREWS WITH CONE POINT

ISO 4027 / DIN 914

Klasa / *Class*

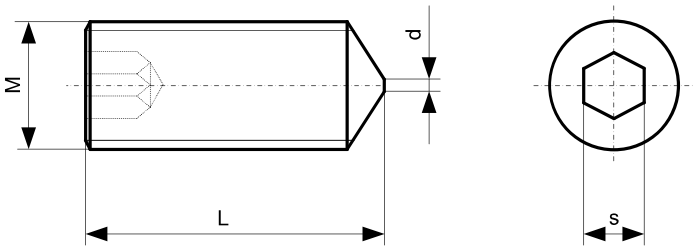
45H

Jak zamówić / *How to order*

Klasa / *Class*:	**SD914**
	+
M:	**M8**
	+
L:	**60**

SD914.080.060

Inne wymiary na żądanie
Other dimensions on demand



d max	0,75	1	1,25	1,5	2	2,5	3	4	5	d max
s	1,5	2	2,5	3	4	5	6	8	10	s
M	M3	M4	M5	M6	M8	M10	M12	M16	M20	M
L										L
3	x									3
4	x	x								4
5	x	x	x							5
6	x	x	x	x	x					6
8	x	x	x	x	x					8
10	x	x	x	x	x	x	x			10
12	x	x	x	x	x	x	x			12
14	x	x	x	x	x	x	x			14
16	x	x	x	x	x	x	x	x		16
18	x		x	x	x	x	x			18
20	x	x	x	x	x	x	x	x		20
25		x	x	x	x	x	x	x	x	25
30		x	x	x	x	x	x	x	x	30
35		x	x	x	x	x	x	x		35
40		x	x	x	x	x	x	x	x	40
45						x	x	x		45
50			x	x	x	x	x	x	x	50
60				x	x	x	x	x	x	60
70						x	x	x	x	70
80							x	x		80

PODKŁADKI OKRĄGŁE
FLAT WASHERS
ISO 7089 / DIN 125

FW

Klasa / *Class*

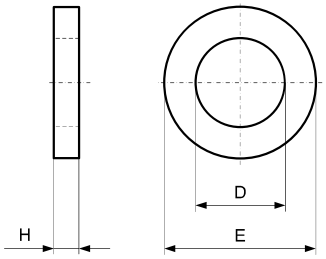
140HV/200HV

Jak zamówić / *How to order*

Symbol: **FW**
+
M: **M4**

FW.040

Inne wymiary na żądanie
Other dimensions on demand



D	2,2	3,2	4,3	5,3	6,4	7,4	8,4	10,5	13	15	17	19	21	23	25	28	31	34	37	40	43	46	50	54	58	62	66	74
E	5	7	9	10	12	14	16	20	24	28	30	34	37	39	44	50	56	60	66	72	78	85	92	98	105	110	115	125
H	0,3	0,5	0,8	1	1,6	1,6	1,6	2	2,5	2,5	3	3	3	3	4	4	4	5	5	6	7	7	8	8	9	9	9	10
M	M2	M3	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60	M64	M72
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PODKŁADKI OKRĄGŁE POWIĘKSZONE
FLAT WASHERS LARGE DIAMETER
ISO 7093 / DIN 9021

FWP

Klasa / *Class*

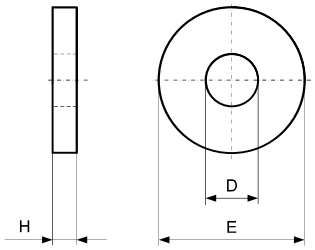
140HV/200HV

Jak zamówić / *How to order*

Symbol: **FWP**
+
M: **M6**

FWP.060

Inne wymiary na żądanie
Other dimensions on demand



D	3,2	4,3	5,3	6,4	7,4	8,4	10,5	13	15	17	20	22	26	33	39
E	9	12	15	18	22	24	30	37	44	50	56	60	72	92	110
H	0,8	1	1,2	1,6	2	2	2,5	3	3	3	4	4	5	6	8
M	M3	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M24	M30	M36
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PODKŁADKI SPRĘŻYSTE
SPRING WASHERS
DIN 127B

SW

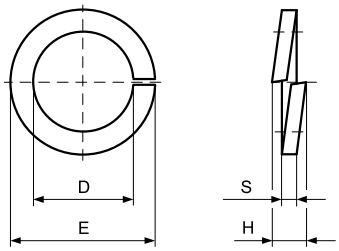
Klasa / *Class*

5.8

Jak zamówić / *How to order*

Symbol: **SW.0100**

Inne wymiary na żądanie
Other dimensions on demand



Symbol	M	D	E	S	H
SW.020	M2	2,1	4,4	0,5	1,2
SW.025	M2,5	2,6	5,1	0,6	1,4
SW.030	M3	3,1	6,2	0,8	1,9
SW.035	M3,5	3,6	6,7	0,8	1,9
SW.040	M4	4,1	7,6	0,9	2,1
SW.050	M5	5,1	9,2	1,2	2,8
SW.060	M6	6,1	11,8	1,6	3,8
SW.070	M7	7,1	12,8	1,6	3,8
SW.080	M8	8,1	14,8	2	4,7

Symbol	M	D	E	S	H
SW.100	M10	10,2	18,1	2,2	5,2
SW.120	M12	12,2	21,1	2,5	5,9
SW.140	M14	14,2	24,1	3	7,1
SW.160	M16	16,2	27,4	3,5	8,3
SW.180	M18	18,2	29,4	3,5	8,3
SW.200	M20	20,2	33,6	4	9,4
SW.220	M22	22,5	35,9	4	9,4
SW.240	M24	24,5	40	5	11,8
SW.270	M27	27,5	43	5	11,8

Symbol	M	D	E	S	H
SW.300	M30	30,5	48,2	6	14,2
SW.330	M33	33,5	55,2	6	14,2
SW.360	M36	36,5	58,2	6	14,2
SW.390	M39	39,5	61,2	6	14,2
SW.420	M42	42,5	68,2	7	16,5
SW.450	M45	45,5	71,2	7	16,5
SW.480	M48	49	75	7	16,5
SW.520	M52	53	83	8	18,9
SW.560	M56	57	87	8	18,9

PODKŁADKI SAMOKLINUJĄCE
WEDGES-LOCKING WASHERS

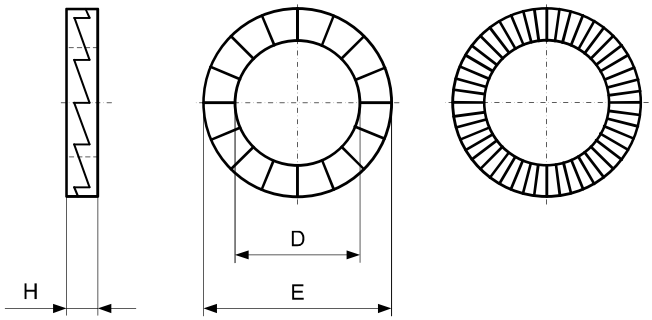
FNL

Jak zamówić / *How to order*

Symbol:	**FNL**
	+
M:	**M10**

FNL.010

Inne wymiary na żądanie
Other dimensions on demand



D	3,4	4,4	5,4	6,5	8,7	10,7	13	15,2	17	19,5	21,4	23,4	25,3	28,4	31,4	37,4	43,2
E	7	7,6	9	10,8	13,5	16,6	19,5	23	25,4	29	30,7	34,5	39	42	47	55	63
H	1,8	1,8	1,8	1,8	2,5	2,5	2,5	3,4	3,4	3,4	3,4	3,4	3,4	5,8	5,8	5,8	5,8
M	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M36	M42
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PODKŁADKI DYSTANSOWE
SHIM RINGS
DIN 988

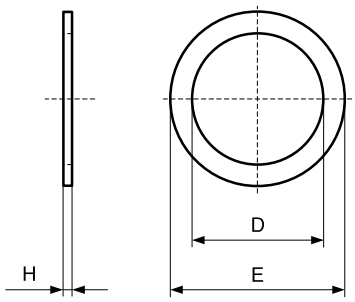
SR

Jak zamówić / *How to order*

Symbol:	**SR**
	+
E:	**10**
	+
D:	**5**
	+
H:	**0,5**

SR.010.050.050

Inne wymiary na żądanie
Other dimensions on demand



D	3	4	5	6	8	9	10	12	13	14	15	16	17	18	19	20	22	22	25	26	28
E	6	8	10	12	14	15	16	18	19	20	21	22	24	25	26	28	30	32	35	37	40
H																					
0,1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0,2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0,3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0,5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1,0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PIERŚCIENIE OSADCZE ZEWNĘTRZNE

RETAINING RINGS FOR SHAFTS

DIN 471

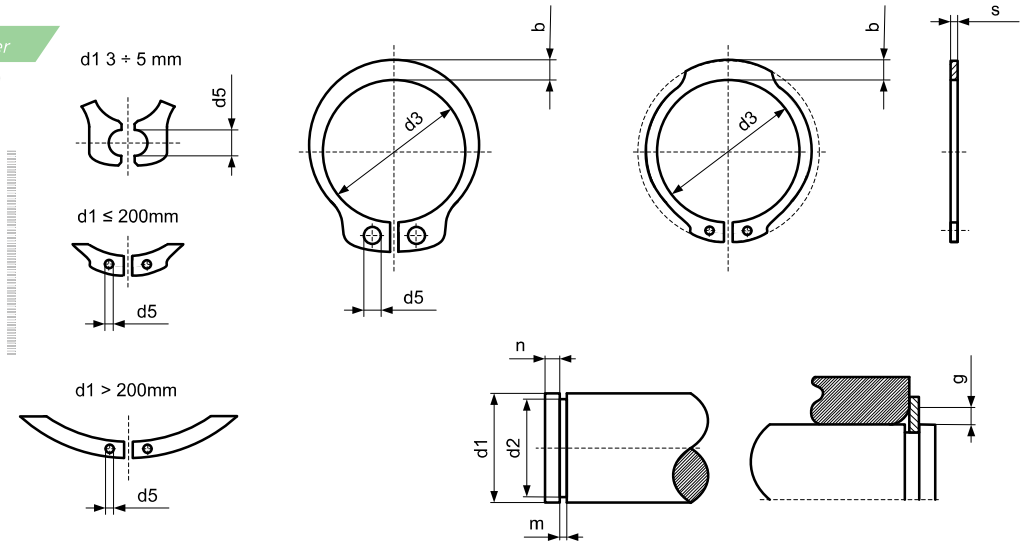
10471

Materiał / *Material*

C67, C75, Ck75 WG 17222

Jak zamówić / *How to order*

Symbol: **10471.010**



Symbol	d1	s	d3	d5	d2	m	b
10471.003	3	0,4	2,7	1	2,8	0,5	0,8
10471.004	4	0,4	3,7	1	3,8	0,5	0,9
10471.005	5	0,6	4,7	1	4,8	0,7	1,1
10471.006	6	0,7	5,6	1,2	5,7	0,8	1,3
10471.007	7	0,8	6,5	1,2	6,7	0,9	1,4
10471.008	8	0,8	7,4	1,2	7,6	0,9	1,5
10471.009	9	1	8,4	1,2	8,6	1,1	1,7
10471.010	10	1	9,3	1,5	9,6	1,1	1,8
10471.011	11	1	10,2	1,5	10,5	1,1	1,8
10471.012	12	1	11	1,7	11,5	1,1	1,8
10471.013	13	1	11,9	1,7	12,4	1,1	2,0
10471.014	14	1	12,9	1,7	13,4	1,1	2,1
10471.015	15	1	13,8	1,7	14,3	1,1	2,2
10471.016	16	1	14,7	1,7	15,2	1,1	2,2
10471.017	17	1	15,7	1,7	16,2	1,1	2,3
10471.018	18	1,2	16,5	2	17	1,3	2,4
10471.019	19	1,2	17,5	2	18	1,3	2,5
10471.020	20	1,2	18,5	2	19	1,3	2,6
10471.021	21	1,2	19,5	2	20	1,3	2,7
10471.022	22	1,2	20,5	2	21	1,3	2,8
10471.024	24	1,2	22,2	2	22,9	1,3	3,0
10471.025	25	1,2	23,2	2	23,9	1,3	3,0
10471.026	26	1,2	24,2	2	24,9	1,3	3,1
10471.028	28	1,5	25,9	2	26,6	1,6	3,2
10471.029	29	1,5	26,9	2	27,6	1,6	3,4
10471.030	30	1,5	27,9	2	28,6	1,6	3,5
10471.032	32	1,5	29,6	2,5	30,3	1,6	3,6
10471.034	34	1,5	31,5	2,5	32,3	1,6	3,8
10471.035	35	1,5	32,2	2,5	33	1,6	3,9
10471.036	36	1,75	33,2	2,5	34	1,85	4,0
10471.038	38	1,75	35,2	2,5	36	1,85	4,2
10471.040	40	1,75	36,5	2,5	37,5	1,85	4,4
10471.042	42	1,75	38,5	2,5	39,5	1,85	4,5
10471.045	45	1,75	41,5	2,5	42,5	1,85	4,7
10471.047	47	1,75	43,5	2,5	44,5	1,85	4,9
10471.048	48	1,75	44,5	2,5	45,5	1,85	5,0
10471.050	50	2	45,8	2,5	47	2,15	5,1
10471.052	52	2	47,8	2,5	49	2,15	5,2
10471.055	55	2	50,8	2,5	52	2,15	5,4

Symbol	d1	s	d3	d5	d2	m	b
10471.056	56	2	51,8	2,5	53	2,15	5,5
10471.058	58	2	53,8	2,5	55	2,15	5,6
10471.060	60	2	55,8	2,5	57	2,15	5,8
10471.062	62	2	57,8	2,5	59	2,15	6,0
10471.063	63	2	58,8	2,5	60	2,15	6,2
10471.065	65	2,5	60,8	3	62	2,65	6,3
10471.068	68	2,5	63,5	3	65	2,65	6,5
10471.070	70	2,5	65,5	3	67	2,65	6,6
10471.072	72	2,5	67,5	3	69	2,65	6,8
10471.075	75	2,5	70,5	3	72	2,65	7,0
10471.078	78	2,5	73,5	3	75	2,65	7,3
10471.080	80	2,5	74,5	3	76,5	2,65	7,4
10471.082	82	2,5	76,5	3	78,5	2,65	7,6
10471.085	85	3	79,5	3,5	81,5	3,15	7,8
10471.088	88	3	82,5	3,5	84,5	3,15	8,0
10471.090	90	3	84,5	3,5	86,5	3,15	8,2
10471.095	95	3	89,5	3,5	91,5	3,15	8,6
10471.100	100	3	94,5	3,5	96,5	3,15	9,0
10471.105	105	4	98	3,5	101	4,15	9,3
10471.110	110	4	103	3,5	106	4,15	9,6
10471.115	115	4	108	3,5	111	4,15	9,8
10471.120	120	4	113	3,5	116	4,15	10,2
10471.125	125	4	118	4	121	4,15	10,4
10471.130	130	4	123	4	126	4,15	10,7
10471.135	135	4	128	4	131	4,15	11,0
10471.140	140	4	133	4	136	4,15	11,2
10471.145	145	4	138	4	141	4,15	11,5
10471.150	150	4	142	4	145	4,15	11,8
10471.155	155	4	146	4	150	4,15	12,0
10471.160	160	4	151	4	155	4,15	12,2
10471.165	165	4	155,5	4	160	4,15	12,5
10471.170	170	4	160,5	4	165	4,15	12,9
10471.175	175	4	165,5	4	170	4,15	12,9
10471.180	180	4	170,5	4	175	4,15	13,5
10471.185	185	4	175,5	4	180	4,15	13,5
10471.190	190	4	180,5	4	185	4,15	14,0
10471.195	195	4	185,5	4	190	4,15	14,0
10471.200	200	4	190,5	4	195	4,15	14,0
10471.220	220	5	208	4	214	5,15	14,0

PIERŚCIENIE OSADCZE WEWNĘTRZNE

RETAINING RINGS FOR BORES

DIN 472

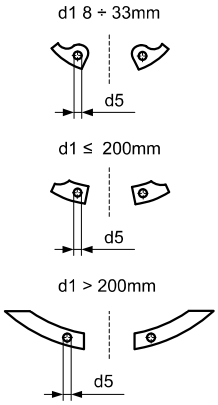
10472

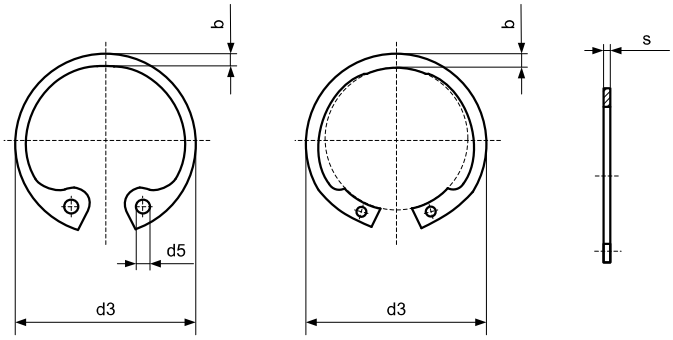
Materiał / *Material*

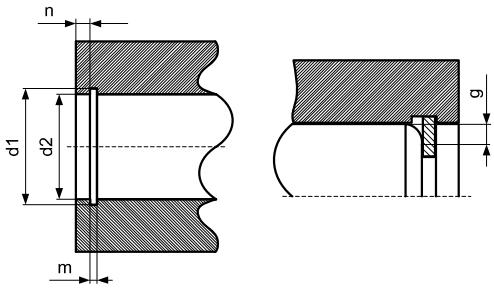
C67, C75, Ck75 WG 17222

Jak zamówić / *How to order*

Symbol: **10472.010**







Symbol	d1	s	d3	d5	d2	m	b
10472.008	8	0,8	8,7	1	8,4	0,9	1,1
10472.009	9	0,8	9,8	1	9,4	0,9	1,3
10472.010	10	1	10,8	1,2	10,4	1,1	1,4
10472.011	11	1	11,8	1,2	11,4	1,1	1,5
10472.012	12	1	13	1,5	12,5	1,1	1,7
10472.013	13	1	14,1	1,5	13,6	1,1	1,8
10472.014	14	1	15,1	1,7	14,6	1,1	1,9
10472.015	15	1	16,2	1,7	15,7	1,1	2,0
10472.016	16	1	17,3	1,7	16,8	1,1	2,0
10472.017	17	1	18,3	1,7	17,8	1,1	2,1
10472.018	18	1	19,5	2	19	1,1	2,2
10472.019	19	1	20,5	2	20	1,1	2,2
10472.020	20	1	21,5	2	21	1,1	2,3
10472.021	21	1	22,5	2	22	1,1	2,0
10472.022	22	1	23,5	2	23	1,1	2,5
10472.024	24	1,2	25,9	2	25,2	1,3	2,6
10472.025	25	1,2	26,9	2	26,2	1,3	2,7
10472.026	26	1,2	27,9	2	27,2	1,3	2,8
10472.027	27	1,2	29,1	2	28,4	1,3	2,9
10472.028	28	1,2	30,1	2	29,4	1,3	2,9
10472.030	30	1,2	32,1	2	31,4	1,3	3,0
10472.031	31	1,2	33,4	2,5	32,7	1,3	3,2
10472.032	32	12	34,4	2,5	33,7	1,3	3,2
10472.034	34	1,5	36,5	2,5	35,7	1,6	3,3
10472.035	35	1,5	37,8	2,5	37	1,6	3,4
10472.036	36	1,5	38,8	2,5	38	1,6	3,5
10472.037	37	1,5	39,8	2,5	39	1,6	3,6
10472.038	38	1,5	40,8	2,5	40	1,6	3,7
10472.040	40	1,75	43,5	2,5	42,5	1,85	3,9
10472.042	42	1,75	45,5	2,5	44,5	1,85	4,1
10472.045	45	1,75	48,5	2,5	47,5	1,85	4,3
10472.047	47	1,75	50,5	2,5	49,5	1,85	4,4
10472.048	48	1,75	51,5	2,5	50,5	1,85	4,5
10472.050	50	2	54,2	2,5	53	2,15	4,6
10472.052	52	2	56,2	2,5	55	2,15	4,7
10472.055	55	2	59,2	2,5	58	2,15	5,0
10472.056	56	2	60,2	2,5	59	2,15	5,1
10472.058	58	2	62,2	2,5	61	2,15	5,2
10472.060	60	2	64,2	2,5	63	2,15	5,4

Symbol	d1	s	d3	d5	d2	m	b
10472.062	62	2	66,2	2,5	65	2,15	5,5
10472.063	63	2	67,2	2,5	66	2,15	5,6
10472.065	65	2,5	69,2	3	68	2,65	5,8
10472.068	68	2,5	72,5	3	71	2,65	6,1
10472.070	70	2,5	74,5	3	73	2,65	6,2
10472.072	72	2,5	76,5	3	75	2,65	6,4
10472.075	75	2,5	79,5	3	78	2,65	6,6
10472.078	78	2,5	82,5	3	81	2,65	6,8
10472.080	80	2,5	85,5	3	83,5	2,65	7,0
10472.082	82	2,5	87,5	3	85,5	2,65	7,0
10472.085	85	3	90,5	3,5	88,5	3,15	7,2
10472.088	88	3	93,5	3,5	91,5	3,15	7,4
10472.090	90	3	95,5	3,5	93,5	3,15	7,6
10472.092	92	3	97,5	3,5	95,5	3,15	7,8
10472.095	95	3	100,5	3,5	98,5	3,15	8,1
10472.098	98	3	103,5	3,5	101,5	3,15	8,3
10472.100	100	3	105,5	3,5	103,5	3,15	8,4
10472.102	102	4	108	3,5	106	4,15	8,5
10472.105	105	4	112	3,5	109	4,15	8,7
10472.110	110	4	117	3,5	114	4,15	9,0
10472.115	115	4	122	3,5	119	4,15	9,3
10472.120	120	4	127	3,5	124	4,15	9,7
10472.125	125	4	132	4	129	4,15	10,0
10472.130	130	4	137	4	134	4,15	10,2
10472.135	135	4	142	4	139	4,15	10,5
10472.140	140	4	147	4	144	4,15	10,7
10472.145	145	4	152	4	149	4,15	10,9
10472.150	150	4	158	4	155	4,15	11,2
10472.155	155	4	164	4	160	4,15	11,4
10472.160	160	4	169	4	165	4,15	11,6
10472.165	165	4	174,5	4	170	4,15	11,8
10472.170	170	4	179,5	4	175	4,15	12,2
10472.175	175	4	184,5	4	180	4,15	12,7
10472.180	180	4	189,5	4	185	4,15	13,2
10472.185	185	4	194,5	4	190	4,15	13,7
10472.190	190	4	199,5	4	195	4,15	13,8
10472.195	195	4	204,5	4	200	4,15	13,8
10472.200	200	4	209,5	4	205	4,15	14,0
10472.220	220	5	232	4	226	5,15	14,0

NAKRĘTKI SZEŚCIOKĄTNE
HEXAGON NUTS
DIN 934

HN8/HN10

Klasa / *Class*

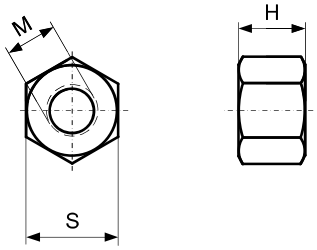
HN8 – kl. 8
HN10 – kl. 10

Jak zamówić / *How to order*

Klasa / *Class*: **8**
+
M: **M8**

HN8.080

Inne wymiary na żądanie
Other dimensions on demand



Podziałka gwintu *Thread pitch*	0,4	0,5	0,7	0,8	1,0	1,0	1,25	1,5	1,75	2,0	2,0	2,5	2,5	2,5
H max	1,6	2,4	3,2	4	5	5,5	6,5	8	10	11	13	15	16	18
s	4	5,5	7	8	10	11	13	17	19	22	24	27	30	32
M	M2	M3	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22
	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Podziałka gwintu *Thread pitch*	3,0	3,0	3,5	3,5	4,0	4,0	4,5	4,5	5,0	5,0	5,5	5,5	6,0	6,0
H max	19	22	24	26	29	31	34	36	38	42	45	48	51	58
s	36	41	46	50	55	60	65	70	75	80	85	90	95	105
M	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60	M64	M72
	X	X	X	X	X	X	X	X	X	X	X	X	X	X

PODPORY ZĄBKOWANE
TOOTHED SUPPORTS
NR 6500E

S110

Materiał / *Material*

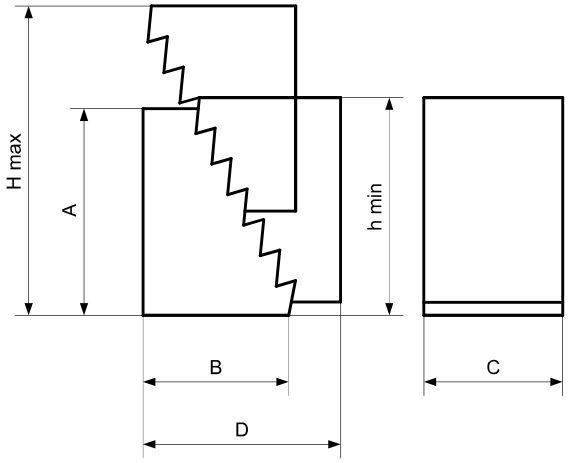
Stal hartowana malowana
Hardened painted steel

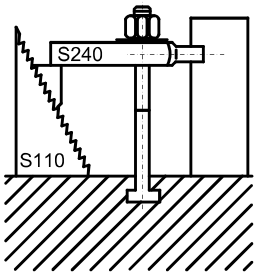
Jak zamówić / *How to order*

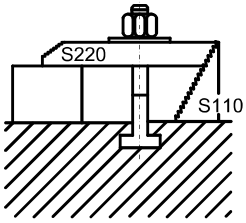
Symbol: **S110.00002**

Wymiary zębów / *Teeth dimension*

Pionowo / *Vertical* **4,65mm**
Poziomo / *Horizontal* **2,30mm**







Symbol	A	B	C	D	h min	H max	Waga *Weight* (g)
S110.00001	31,5	22	30	38	31,5	53	90
S110.00002	64,5	36,5	30	70	64,5	105	300
S110.00003	128	68	30	132	128	208	1050

PODPORY ŚRUBOWE
SCREW SUPPORTS
NR 6400

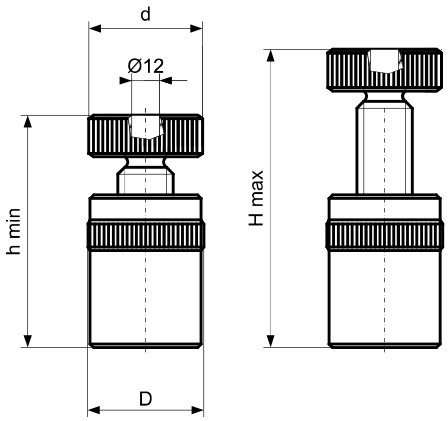
S120

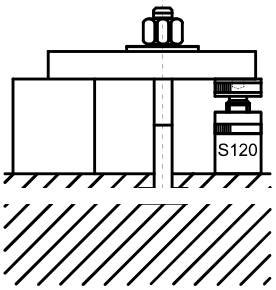
Materiał / *Material*

Stal hartowana malowana
Hardened painted steel

Jak zamówić / *How to order*

Symbol: **S120.00140**





Symbol	h min	H max	d	D	F max (kN)	Waga *Weight* (g)	Gwint *Thread*
S120.00050	40	50	34	34	20	190	M20
S120.00070	54	70	50	50	60	620	M30
S120.00100	73	100	50	50	60	900	M30
S120.00140	100	140	65	70	105	2600	Q40X6
S120.00210	140	210	70	80	180	4900	Q50X6
S120.00300	190	300	80	100	360	10500	Q65X6

PODPORY ŚRUBOWE Z PODSTAWĄ ALUMINIOWĄ

SCREW SUPPORTS WITH ALUMINIUM BASE

NR 6401

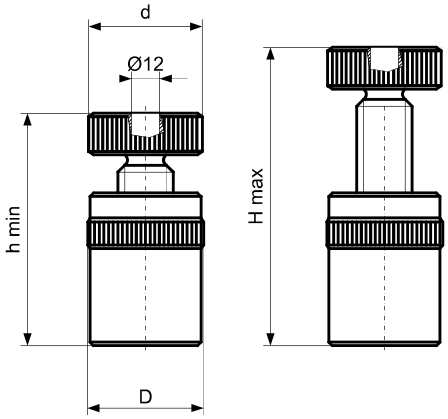
S121

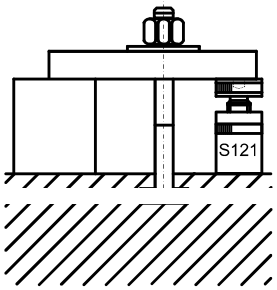
Materiał / *Material*

Podstawa - „ERGAL"
Stop aluminiowy EN 7075
Base - „ERGAL"
Aluminium alloy EN 7075

Jak zamówić / *How to order*

Symbol: **S121.00100**





Symbol	h min	H max	d	D	F max (kN)	Waga *Weight* (g)
S121.00050	45	55	50	50	30	370
S121.00070	55	70	50	50	30	430
S121.00100	73	103	50	50	30	600

PODPORY ŚRUBOWE Z PODSTAWĄ MAGNETYCZNĄ

SCREW SUPPORTS WITH MAGNETIC BASE

NR 6405

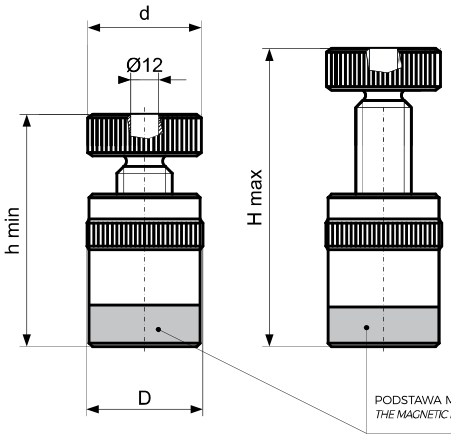
S122

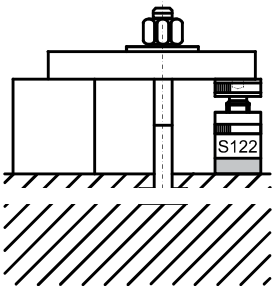
Materiał / *Material*

Podstawa - „ERGAL"
Stop aluminiowy EN 7075
Base - „ERGAL"
Aluminium alloy EN 7075

Jak zamówić / *How to order*

Symbol: **S122.00100**





PODSTAWA MAGNETYCZNA POZWALA NA ZASTOSOWANIE W PIONIE JAK I W POZIOMIE
THE MAGNETIC BASE ALLOWS THIS ITEM TO BE USED AS AN ADJUSTABLE VERTICAL OR HORIZONTAL SUPPORT

Symbol	h min	H max	d	D	F max (kN)	Waga *Weight* (g)
S122.00050	57	67	50	50	30	380
S122.00070	67	82	50	50	30	550
S122.00100	85	115	50	50	30	710

ELEMENTY PRZEDŁUŻAJĄCE DO PODPÓR ŚRUBOWYCH

EXTENSION PIECES FOR SCREW SUPPORTS

S125

Materiał / *Material*

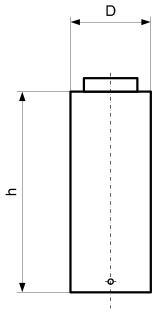
Stal hartowana malowana
Hardened painted steel

Zastosowanie / *Application*

Zastosowanie razem z podporą S120 pozwala na przedłużenie wysokości podpory. Powinny być umiejscowione jedna na drugiej.
Used with S120 give possibility to extend the length of the support. They should be placed one upon another.

Jak zamówić / *How to order*

Symbol: **S125.35025**



Symbol	D	h	Do podpory *To the support*	Waga *Weight* (g)
S125.35025	35	25	S120.00050	120
S125.35050		50		230
S125.35075		75		360
S125.35100		100		480
S125.50050	50	50	S120.00070/100	480
S125.50075		75		730
S125.50100		100		960
S125.50150		150		1450
S125.70050	70	50	S120.00140	1210
S125.70100		100		2400
S125.70150		150		3600
S125.70200		200		4800

NAKŁADKI WYPUKŁE

CONVEX CAPS

NR 6440

S151

Materiał / *Material*

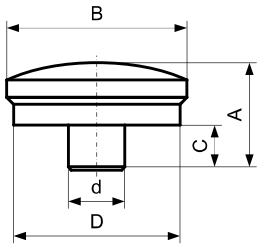
Stal hartowana czerniona
Hardened blacked steel

Zastosowanie / *Application*

S120, S121, S122, S130, S131

Jak zamówić / *How to order*

Symbol: **S151.00035**



Symbol	A	B	C	D	d	Waga *Weight* (g)
S151.00035	18	37	8	35	12	70

NAKŁADKI ROWKOWE TYP „V"

„V" GROOVE CAPS

NR 6441

S152

Materiał / *Material*

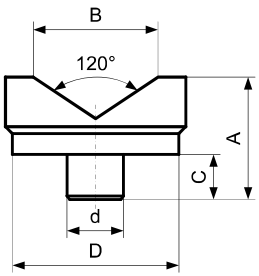
Stal hartowana czerniona
Hardened blacked steel

Zastosowanie / *Application*

S120, S121, S122, S130, S131

Jak zamówić / *How to order*

Symbol: **S152.00065**



Symbol	A	B	C	D	d	Waga *Weight* (g)
S152.00045	23	32	8	45	12	145
S152.00065	38	56	8	65	12	580

PODPORY ŚRUBOWE TYP „ATLAS”

SCREW SUPPORTS „ATLAS” TYPE

NR 6430

S130

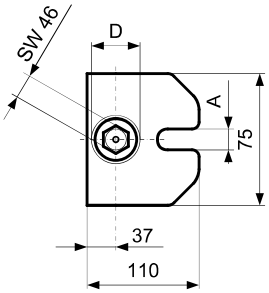
Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
Śruby trapezowe 30x6
Trapezoidal thread 30x6

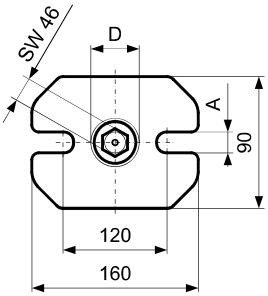
Jak zamówić / *How to order*

Symbol: **S130.18140**

S130.18140
S130.18200



S130.22320
S130.22550



Symbol	h min	Hmax	A	D	F max (kN)	Waga *Weight* (g)
S130.18140	100	140	18	50	60	1800
S130.18200	140	200	18	50	60	2300
S130.22320	200	320	22	50	40	3600
S130.22550	320	550	22	50	25	5500

PODPORY ŚRUBOWE TYP CIĘŻKI

SCREW SUPPORTS HEAVY TYPE

NR 6435

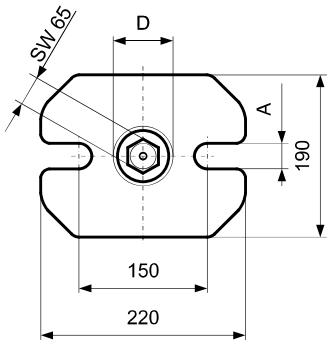
S131

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
Śruby trapezowe 40x6
Trapezoidal thread 40x6

Jak zamówić / *How to order*

Symbol: **S131.00750**



Symbol	h min	H max	A	D	F max (kN)	Waga *Weight* (g)
S131.00300	200	300	26	70	80	9500
S131.00460	280	460	26	70	60	11000
S131.00750	430	750	26	70	50	13500
S131.01250	710	1250	26	70	45	19000

ŁAPY DOCISKOWE PROSTE
STANDARD CLAMPS
DIN 6314

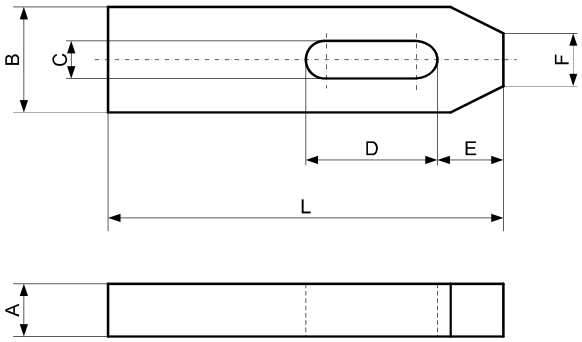
S210

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 700N/mm²

Jak zamówić / *How to order*

Symbol: **S210.26250**



Symbol	A	B	L	C	D	E	F	Śruba *Screw*	Waga *Weight* (g)
S210.07050	10	20	50	7	20	10	8	6	65
S210.09060	12	25	60	9	22	13	10	8	115
S210.11080	15	30	80	11	30	15	12	10	225
S210.14100	20	40	100	14	40	21	14	12-14	500
S210.14125	20	40	125	14	50	21	14	12-14	620
S210.14160	20	40	160	14	65	21	14	12-14	815
S210.18125	25	50	125	18	45	26	18	16-18	980
S210.18160	25	50	160	18	65	26	18	16-18	1260
S210.18200	25	50	200	18	80	26	18	16-18	1600
S210.22160	30	60	160	22	60	30	22	20-22	1850
S210.22200	30	60	200	22	80	30	22	20-22	2300
S210.26200	30	70	200	26	80	35	26	24	2650
S210.26250	30	70	250	26	105	35	26	24	3300
S210.34250	40	80	250	34	100	45	34	27-30	5000
S210.34315	40	80	315	34	130	45	34	27-30	6200

ŁAPY DOCISKOWE STOPNIOWANE
SHAPED STANDARD CLAMPS

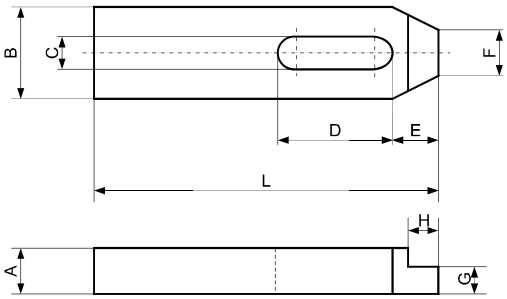
S211

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 700N/mm²

Jak zamówić / *How to order*

Symbol: **S211.14100**



Symbol	G	A	B	L	C	D	E	F	H	Śruba *Screw*	Waga *Weight* (g)
S211.07050	6	10	20	50	7	20	10	8	7	6	60
S211.09060	7	12	25	60	9	22	13	10	10	8	140
S211.11080	9	15	30	80	11	30	15	12	9	10	220
S211.14100	12	20	40	100	14	40	21	14	12	12-14	480
S211.14125	12	20	40	125	14	50	21	14	12	12-14	615
S211.14160	12	20	40	160	14	65	26	14	12	12-14	800
S211.18125	15	25	50	125	18	45	26	18	15	16-18	960
S211.18160	15	25	50	160	18	65	26	18	15	16-18	1230
S211.18200	15	25	50	200	18	80	26	18	15	16-18	1550
S211.22160	20	30	60	160	22	60	30	22	20	20-22	1800
S211.22200	20	30	60	200	22	80	30	22	20	20-22	2200
S211.26200	20	30	70	200	26	80	35	26	25	24	2450
S211.26250	20	30	70	250	26	105	35	26	25	24	3200
S211.34250	25	40	80	250	34	100	45	34	25	27-30	4800
S211.34315	25	40	80	315	34	130	45	34	25	27-30	6000

ŁAPY DOCISKOWE ZĄBKOWANE
TOOTHED CLAMPS

NR 6314Z

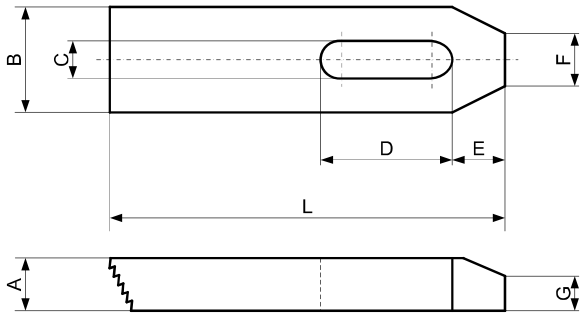
S220

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 700N/mm²

Jak zamówić / *How to order*

Symbol: **S220.18125**



Symbol	A	B	L	C	D	E	F	G	Śruba *Screw*	Waga *Weight* (g)
S220.07050	10	20	50	7	20	10	8	6	6	55
S220.09060	12	25	60	9	22	13	10	8	8	125
S220.11080	15	30	80	11	30	15	12	10	10	205
S220.14100	20	40	100	14	40	21	14	12	12-14	445
S220.18125	25	50	125	18	45	26	18	15	16-18	930
S220.22160	30	60	160	22	60	30	22	18	20-22	1700
S220.26200	30	70	200	26	80	35	26	18	24	2500

ŁAPY DOCISKOWE Z REGULOWANĄ ŚRUBĄ PODPOROWĄ
ADJUSTABLE CLAMPS WITH METRIC STANDARD PITCH SCREW

NR 6314V

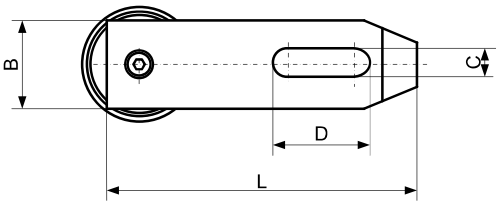
S230

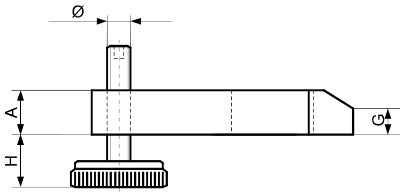
Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 700N/mm²

Jak zamówić / *How to order*

Symbol: **S230.18125**

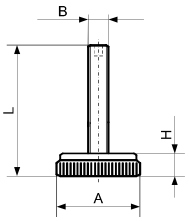




Symbol	A	B	L	H	C	D	Ø	G	Śruba *Screw*	Waga *Weight* (g)
S230.11080	15	30	80	15-45	11	30	M10	10	10	345
S230.14100	20	40	100	15-40	14	40	M12	12	12-14	680
S230.18125	25	50	125	15-45	18	45	M16	15	16-18	1185
S230.22160	30	60	160	15-50	22	60	M20	18	20-22	2030

ŚRUBY DO ŁAP S230 (CZĘŚĆ ZAMIENNA)
SCREWS FOR CLAMPS S230 (SPARE PART)

S231



Symbol	A	B	L	H	Waga *Weight* (g)
S231.00010	40	M10	60	15	150
S231.00012	45	M12	60	15	210
S231.00016	45	M16	70	15	245
S231.00020	45	M20	80	15	300

ŁAPY DOCISKOWE WIDLASTE Z CZOPEM

FORKED CLAMPS WITH CYLINDRICAL SHANK

DIN 6315C

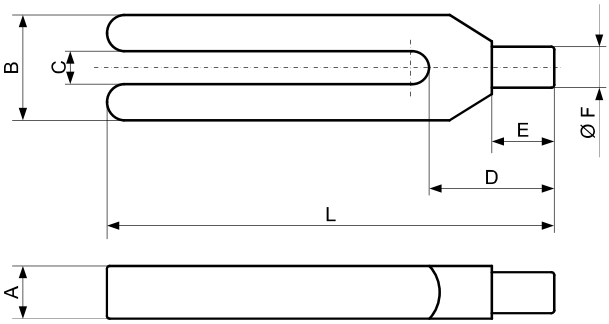
S240

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 600N/mm²

Jak zamówić / *How to order*

Symbol: **S240.26315**



Symbol	A	B	L	C	D	E	F	Śruba *Screw*	Waga *Weight* (g)
S240.09100	15	30	100	9	30	18	12	8	205
S240.11125	20	30	125	11	36	24	16	10	335
S240.14160	25	40	160	14	45	30	20	12-14	720
S240.14200	25	40	200	14	45	30	20	12-14	920
S240.18200	30	50	200	18	55	36	24	16-18	1310
S240.18250	30	50	250	18	55	36	24	16-18	1640
S240.22250	40	60	250	22	65	45	30	20-22	2610
S240.22315	40	60	315	22	65	45	30	20-22	3300
S240.26250	40	70	250	26	80	56	38	24	3100
S240.26315	40	70	315	26	80	56	38	24	3900
S240.34315	50	80	315	34	85	56	45	27-30	5500
S240.34400	50	80	400	34	85	56	45	27-30	6900

ŁAPY DOCISKOWE WIDLASTE Z NOSEM

FORKED CLAMPS WITH NIB

NR 6315GN

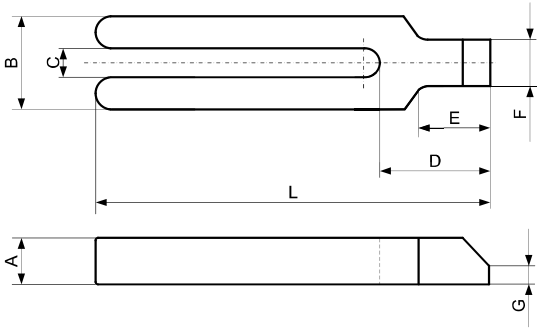
S250

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 600N/mm²

Jak zamówić / *How to order*

Symbol: **S250.26315**



Symbol	A	B	L	C	D	E	F	G	Śruba *Screw*	Waga *Weight* (g)
S250.09100	15	30	100	9	32	18	16	5	8	225
S250.11125	20	30	125	11	38	24	20	6	10	360
S250.14160	25	40	160	14	47	30	25	7	12-14	770
S250.14200	25	40	200	14	47	30	25	7	12-14	950
S250.18200	30	50	200	18	57	36	28	8	16-18	1420
S250.18250	30	50	250	18	57	36	28	8	16-18	1700
S250.22250	40	60	250	22	68	45	35	10	20-22	2790
S250.22315	40	60	315	22	68	45	35	10	20-22	3480
S250.26250	40	70	250	26	83	56	43	10	24	3320
S250.26315	40	70	315	26	83	56	43	10	24	4270
S250.34315	50	80	315	34	88	56	50	12	27-30	5700
S250.34400	50	80	400	34	88	56	50	12	27-30	7250

ŁAPY DOCISKOWE ODSADZONE

CRANKED CLAMPS

DIN 6316

S260

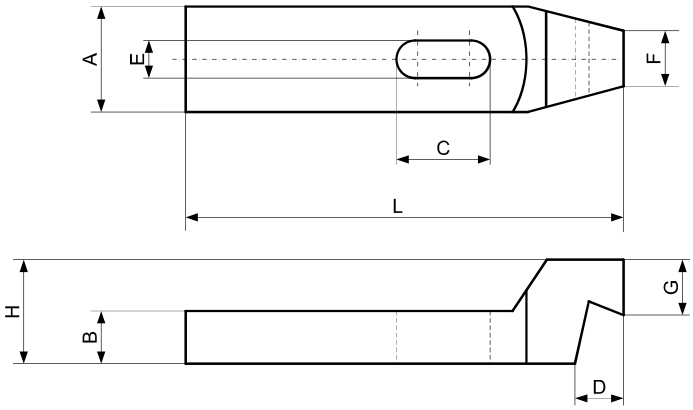
Materiał / *Material*

Łapa S260 jest produkowana poprzez frezowanie bloku stali (nie przez zaginanie). Stal hartowana malowana R>700N/mm²

The S260 clamp is produced by milling a steel block (it is not produced by bending). Hardened painted steel R>700N/mm²

Jak zamówić / *How to order*

Symbol: **S260.26200**



Symbol	A	B	L	C	E	D	F	G	H	Śruba *Screw*	Waga *Weight* (g)
S260.14125	40	20	125	30	14	20	20	23	40	12-14	750
S260.18160	50	25	160	40	18	25	25	28	50	16-18	1510
S260.18200	50	25	200	60	18	25	25	28	50	16-18	1790
S260.22160	60	30	160	40	22	30	30	35	60	20-22	2190
S260.22200	60	30	200	60	22	30	30	35	60	20-22	2700
S260.26200	70	35	200	50	26	35	35	38	70	24	3660
S260.26250	70	35	250	75	26	35	35	38	70	24	4560

ŁAPY DOCISKOWE WIDLASTE

FORKED CLAMPS WITH BEVEL

DIN 6315B

S270

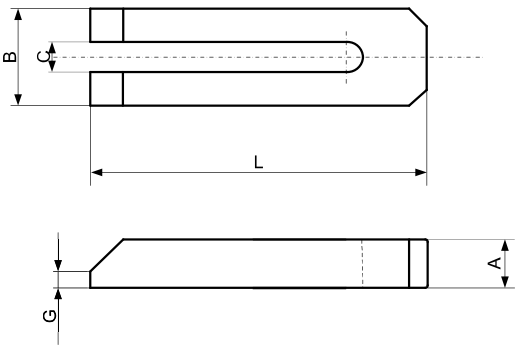
Materiał / *Material*

Łapa S270 jest produkowana poprzez frezowanie bloku stali (nie przez zaginanie). Stal hartowana malowana R>600N/mm²

The S270 clamp is produced by milling a steel block (it is not produced by bending). Hardened painted steel R>600N/mm²

Jak zamówić / *How to order*

Symbol: **S270.26200**



Symbol	A	B	L	C	G	Śruba *Screw*	Waga *Weight* (g)
S270.07060	12	20	60	7	3	6	70
S270.09080	15	25	80	9	4	8	150
S270.11100	20	30	100	11	5	10	270
S270.14125	25	40	125	14	6	12-14	590
S270.14160	25	40	160	14	6	12-14	760
S270.14200	25	40	200	14	6	12-14	970
S270.18160	30	50	160	18	8	16-18	1160
S270.18200	30	50	200	18	8	16-18	1400
S270.18250	40	50	250	18	10	16-18	2330
S270.22200	40	50	200	22	10	20-22	1700
S270.22250	40	60	250	22	10	20-22	2880
S270.22315	40	60	315	22	10	20-22	3530
S270.26200	40	70	200	26	10	24	2680
S270.26250	40	70	250	26	10	24	3370
S270.26315	40	70	315	26	10	24	4220
S270.34250	50	80	250	34	12	27-30	4480
S270.34315	50	80	315	34	12	27-30	5600
S270.34400	50	80	400	34	12	27-30	7150
S270.40400	60	100	400	40	12	36	11700
S270.40600	60	100	600	40	12	36	17300

ŁAPY DOCISKOWE Z REGULOWANĄ ŚRUBĄ PODPOROWĄ

S280

ADJUSTABLE CLAMPS WITH SQUARE THREAD SCREW

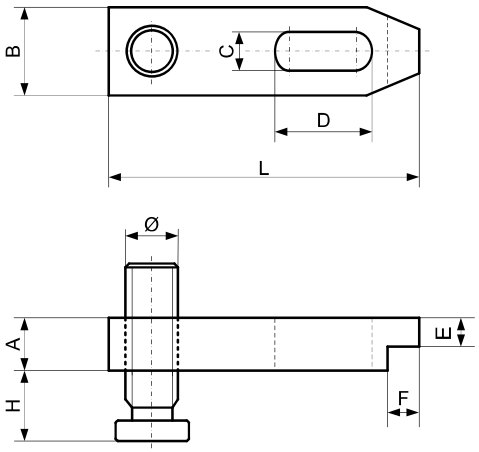
NR 6314AV

Materiał / *Material*

Stal hartowana malowana
Hardened painted steel
R > 700N/mm²

Jak zamówić / *How to order*

Symbol: **S280.22160**



Symbol	A	B	L	H	C	D	Ø	E	F	Śruba *Screw*	Waga *Weight* (g)
S280.14100	20	40	100	15-50	15	40	20X4	12	12	12-14	620
S280.14125	20	40	125	15-50	15	45	20X4	12	12	12-14	770
S280.14160	20	40	160	15-50	15	60	20X4	12	12	12-14	950
S280.18125	25	50	125	15-45	19	45	20X4	15	15	16-18	1090
S280.18160	25	50	160	15-75	19	60	30X6	15	15	16-18	1650
S280.18200	25	50	200	15-75	19	80	30X6	15	15	16-18	1970
S280.22160	30	60	160	15-70	23	60	30X6	15	20	20-22	2120
S280.22200	30	60	200	15-70	23	80	30X6	15	20	20-22	2570
S280.26200	40	70	200	15-85	27	80	30X6	25	23	24	4080
S280.26250	40	70	250	15-85	27	100	30X6	25	23	24	5000
S280.26300	40	70	300	15-85	27	100	30X6	25	23	24	6080

ŚRUBY DO ŁAP S280 (CZĘŚĆ ZAMIENNA)

S281

SCREWS FOR S280 CLAMPS (SPARE PARTS)

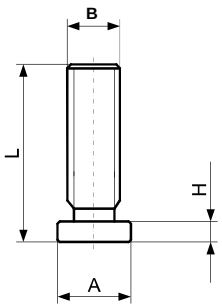
NR 6315GN

Materiał / *Material*

Śruby z gwintem
kwadratowym klasa 8.8
Automatowy stop stalowy
Screw with square thread class 8.8
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S281.30006**



Symbol	A	B	L	H	Waga *Weight* (g)
S281.20004	35	20X4	70	10	185
S281.30006	45	30X6	100	15	540
S281.30006.A	70	30X6	125	15	905

DOCISKI BOCZNE
SIDE BUCKLES
NR 6490

ML10

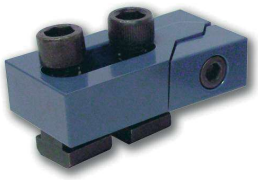
Materiał / *Material*

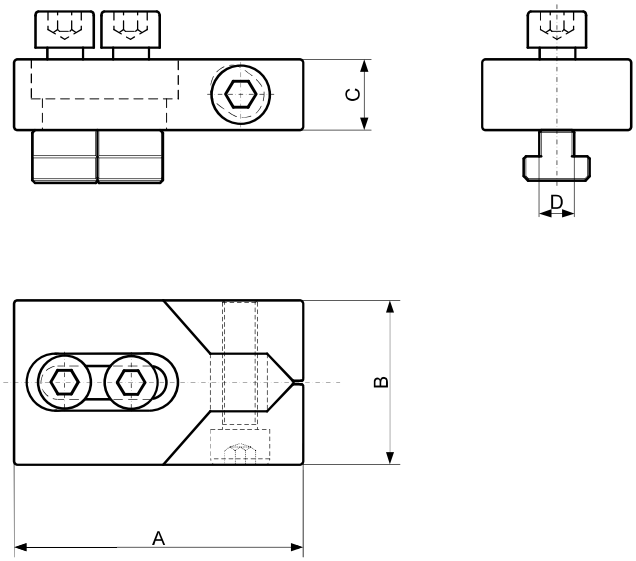
Stal hartowana malowana. Konstrukcja typu klin, która umożliwia jednocześnie mocowanie obrabianego przedmiotu pionowo i poziomo. Dostarczany w parach.

Hardened painted steel. Wedges type construction which enable to simultaneously clamp vertically and horizontally. Supplied in pairs.

Jak zamówić / *How to order*

Symbol: **ML10.00022**





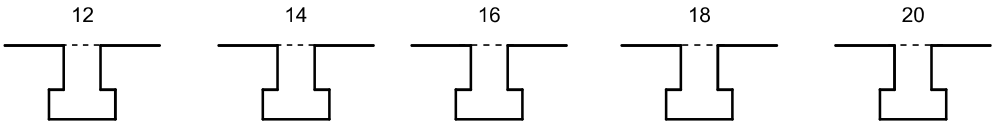
Symbol	A	B	C	D		kN F1	kN F2	Waga *Weight* (g)
ML10.00012	80	40	20	11,7	12	16	0,6	1040
ML10.00014	80	40	20	13,7	14	22	0,9	1070
ML10.00016	100	50	25	15,7	16	32	1,2	2040
ML10.00018	100	50	25	17,7	18	36	1,4	2080
ML10.00020	100	50	25	19,7	20	36	1,4	2290
ML10.00022	140	78	30	21,7	22	36	1,4	5530
ML10.00024	140	78	30	23,7	24	36	1,4	5800
ML10.00028	140	78	30	27,7	28	40	1,6	6200
ML10.00030	140	78	30	29,7	30	40	1,6	6800

ZESTAWY MOCOWAŃ
ASSORTED CLAMPING TOOLS

S410

Jak zamówić / *How to order*

Symbol: **S410.00016**



Symbol →	S410.00012		S410.00014		S410.00016		S410.00018		S410.00020	
Opis ***Description***	Zestaw zawiera: *Set contains:*	Ilość (szt.) *Quantity*	Zestaw zawiera: *Set contains:*	Ilość (szt.) *Quantity*	Zestaw zawiera: *Set contains:*	Ilość (szt.) *Quantity*	Zestaw zawiera: *Set contains:*	Ilość (szt.) *Quantity*	Zestaw zawiera: *Set contains:*	Ilość (szt.) *Quantity*
PODPORY ZĄBKOWANE *Toothed supports*	S110.00001	2	S110.00001	2	S110.00001	2	S110.00001	2	S110.00001	2
PODPORY ZĄBKOWANE *Toothed supports*	S110.00002	4	S110.00002	4	S110.00002	4	S110.00002	4	S110.00002	4
PODPORY ZĄBKOWANE *Toothed supports*	S110.00003	2	S110.00003	2	S110.00003	2	S110.00003	2	S110.00003	2
ŁAPY DOCISKOWE PROSTE *Standard clamps*	S210.14100	4	S210.14125	4	S210.18125	4	S210.18125	4	S210.22200	4
ŁAPY DOCISKOWE ZĄBKOWANE *Toothed clamps*	S220.14100	4	S220.14100	4	S220.18125	4	S220.18125	4	S220.22160	4
ŚRUBA DO ROWKÓW TEOWYCH *T-slot bolts*	S310.12080	2	S310.14100	2	S310.16100	4	S310.18150	4	S310.20150	4
ŚRUBA DO ROWKÓW TEOWYCH *T-slot bolts*	S310.12125	4	S310.14150	4	S310.16150	2	S310.18200	2	S310.20200	2
ŚRUBY DWUSTRONNE *Studs*	S320.10080	2	S320.12080	2	S320.14100	2	S320.16125	2	S320.18125	2
ŚRUBY DWUSTRONNE *Studs*	S320.10100	2	S320.12160	2	S320.14160	2	S320.16160	2	S320.18160	2
NAKRĘTKI PRZEDŁUŻANE *Extension nuts*	S350.10030	4	S350.12036	4	S350.14042	4	S350.16048	4	S350.18054	4
NAKRĘTKI WYSOKIE *Turned tall nuts*	S340.12018	6	S340.14021	6	S340.16024	6	S340.18027	6	S340.20030	6
NAKRĘTKI TEOWE *T-slots nuts*	S360.10012	4	S360.12014	4	S360.14016	4	S360.16018	4	S360.18020	4
PODKŁADKI PŁASKIE *Flat washers*	S370.00012	6	S370.00014	6	S370.00016	6	S370.00018	6	S370.00020	6
Waga zestawu (kg) *Set weight (kg)*	10,5		12		17		18		27	
Drewniane pudełko *Wooden box*	S410.BOX01				S410.BOX02				S410.BOX03	
Wymiary pudełka *Box dimensions*	37 x 32 CM				47 x 33 CM				50 x 41 CM	

ZESTAWY PODPÓR ZĄBKOWANYCH
ASSORTED TOOTHED SUPPORT BLOCKS

S440

Jak zamówić / *How to order*

Symbol: **S440.00001**

Symbol →	**S440.00001**	
Opis *Description*	Zestaw zawiera *Set contains*	Ilość *Quantity*
PODPORY ZĄBKOWANE *Toothed supports*	S110.00001	8
PODPORY ZĄBKOWANE *Toothed supports*	S110.00002	8
PODPORY ZĄBKOWANE *Toothed supports*	S110.00003	4
Waga zestawu (kg) *Set weight (kg)*	8,5	
Wymiary pudełka *Box dimensions*	30,5 x 17 cm	

PRĘTY GWINTOWANE
THREADED BARS

PF10

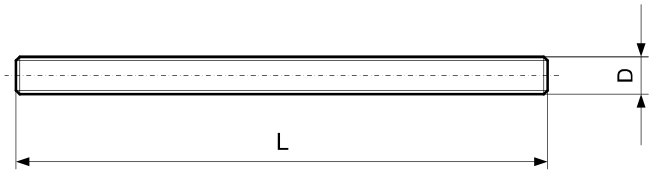
Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **PF10.00024**

Gwint lewy na żądanie
Left thread on demand



Symbol	D	L	Waga *Weight* (kg)
PF10.00006	M6	1000	0,20
PF10.00008	M8	1000	0,35
PF10.00010	M10	1000	0,55
PF10.00012	M12	1000	0,80
PF10.00014	M14	1000	1,00
PF10.00016	M16	1000	1,30
PF10.00018	M18	1000	1,60
PF10.00020	M20	1000	2,10
PF10.00022	M22	1000	2,60
PF10.00024	M24	1000	3,00
PF10.00027	M27	1000	3,90
PF10.00030	M30	1000	5,00
PF10.00033	M33	1000	6,00
PF10.00036	M36	1000	6,90
PF10.00042	M42	1000	9,30
PF10.00048	M48	1000	12,20

PRĘTY GWINTOWANE ZE STALI NIERDZEWNEJ
STAINLESS STEEL THREADED BARS

PF20

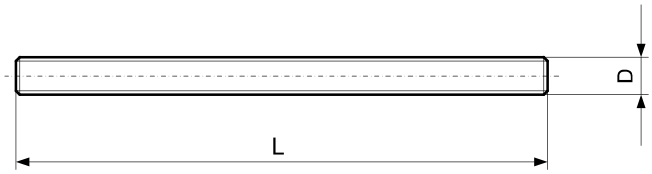
Materiał / *Material*

Stal nierdzewna AISI 304 klasa A2
Gwint walcowany
Stainless steel AISI 304 class A2
Rolled thread

Jak zamówić / *How to order*

Symbol: **PF20.00024**

Gwint lewy na żądanie
Left thread on demand



Symbol	D	L	Waga *Weight* (kg)
PF20.00006	M6	1000	0,20
PF20.00008	M8	1000	0,35
PF20.00010	M10	1000	0,55
PF20.00012	M12	1000	0,80
PF20.00014	M14	1000	1,00
PF20.00016	M16	1000	1,30
PF20.00018	M18	1000	1,60
PF20.00020	M20	1000	2,10
PF20.00022	M22	1000	2,60
PF20.00024	M24	1000	3,00
PF20.00027	M27	1000	3,90
PF20.00030	M30	1000	5,00
PF20.00036	M36	1000	6,90

ŚRUBY TEOWE KOMPLET Z NAKRĘTKĄ S340 ORAZ PODKŁADKĄ S370

S310

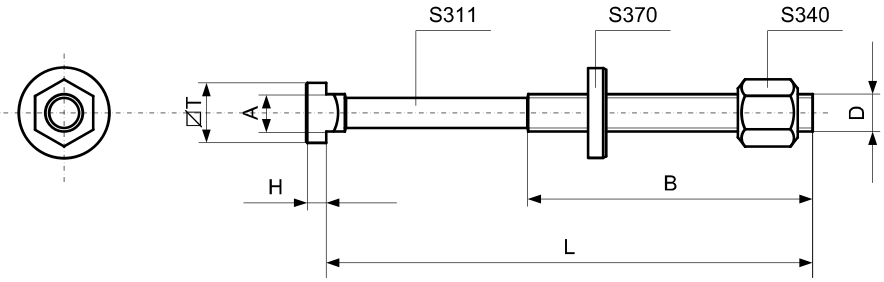
HAMMERHEAD BOLTS COMPLETE WITH NUT S340 AND FLAT WASHER S370

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S310.24100**



Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S310.10040		40	30					60
S310.10060		63	45					80
S310.10080		80	55					85
S310.10100	M10	100	60	9,7	15	6	10	100
S310.10125		125	75					105
S310.10150		150	100					120
S310.10170		170	100					130
S310.12050		50	35					110
S310.12060		63	45					115
S310.12080		80	55					125
S310.12100		100	60					140
S310.12125	M12	125	75	11,7	18	7	12	150
S310.12150		150	100					180
S310.12170		170	100					195
S310.12200		200	120					210
S310.14060		63	40					160
S310.14080		80	55					180
S310.14100		100	65					215
S310.14125		125	75					240
S310.14150	M14	150	100	13,7	22	8	14	270
S310.14170		170	100					290
S310.14200		200	125					315
S310.14230		230	150					345
S310.16060		63	45					230
S310.16080		80	55					250
S310.16100		100	63					270
S310.16125		125	75					315
S310.16150	M16	150	100	15,7	25	9	16	345
S310.16160		160	100					360
S310.16170		170	100					370
S310.16200		200	125					405
S310.16230		230	150					450
S310.16250		250	150					470

Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S310.18080		80	55					315
S310.18100		100	65					335
S310.18125		125	85					410
S310.18150	M18	150	100	17,7	28	10	18	450
S310.18170		170	100					480
S310.18200		200	125					530
S310.18230		230	150					560
S310.20080		80	55					440
S310.20100		100	63					490
S310.20125		125	85					540
S310.20150		150	100					600
S310.20160	M20	160	110	19,7	32	12	20	620
S310.20170		170	100					625
S310.20200		200	125					700
S310.20230		230	150					820
S310.20315		315	190					950
S310.22080		80	55					540
S310.22100		100	63					580
S310.22125		125	85					630
S310.22150	M22	150	100	21,7	35	14	22	710
S310.22170		170	100					790
S310.22200		200	125					870
S310.22230		230	150					890
S310.24080		80	55					720
S310.24100		100	70					810
S310.24125		125	85					870
S310.24150		150	100					980
S310.24160	M24	160	110	23,7	40	16	24	1010
S310.24170		170	100					1040
S310.24200		200	125					1170
S310.24230		230	150					1220
S310.24250		250	150					1230
S310.27160		160	110					1170
S310.27200	M27	200	125	27,7	44	18	28	1320
S310.27250		250	150					1490
S310.27315		315	240					1860

ŚRUBY TEOWE
SINGLE HAMMERHEAD BOLTS

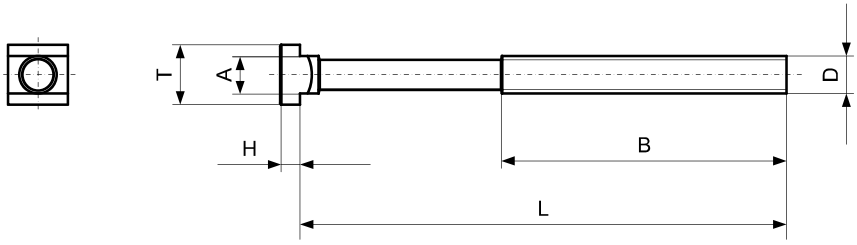
S311

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S311.24100**



Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S311.10040	M10	40	30	9,7	15	6	10	30
S311.10060		63	45					50
S311.10080		80	55					55
S311.10100		100	60					70
S311.10125		125	75					75
S311.10150		150	100					90
S311.10170		170	100					100
S311.12050	M12	50	35	11,7	18	7	12	60
S311.12060		63	45					65
S311.12080		80	55					75
S311.12100		100	60					90
S311.12125		125	75					110
S311.12150		150	100					130
S311.12170		170	100					145
S311.12200		200	120					160
S311.14060	M14	63	40	13,7	22	8	14	80
S311.14080		80	55					100
S311.14100		100	65					135
S311.14125		125	75					160
S311.14150		150	100					190
S311.14170		170	100					210
S311.14200		200	125					235
S311.14230		230	150					265
S311.16060	M16	63	45	15,7	25	9	16	140
S311.16080		80	55					160
S311.16100		100	63					180
S311.16125		125	75					225
S311.16150		150	100					255
S311.16160		160	100					270
S311.16170		170	100					280
S311.16200		200	125					315
S311.16230		230	150					360
S311.16250		250	150					380

Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S311.18080	M18	80	55	17,7	28	10	18	185
S311.18100		100	65					203
S311.18125		125	85					280
S311.18150		150	100					320
S311.18170		170	100					350
S311.18200		200	125					400
S311.18230		230	150					430
S311.20080	M20	80	55	19,7	32	12	20	290
S311.20100		100	63					340
S311.20125		125	85					390
S311.20150		150	100					450
S311.20160		160	110					470
S311.20170		170	100					475
S311.20200		200	125					550
S311.20230		230	150					670
S311.20315		315	190					800
S311.22080	M22	80	55	21,7	35	14	22	330
S311.22100		100	63					370
S311.22125		125	85					430
S311.22150		150	100					500
S311.22170		170	100					590
S311.22200		200	125					660
S311.22230		230	150					680
S311.24080	M24	80	55	23,7	40	16	24	450
S311.24100		100	70					550
S311.24125		125	85					600
S311.24150		150	100					710
S311.24160		160	110					740
S311.24170		170	100					770
S311.24200		200	125					900
S311.24230		230	150					935
S311.24250		250	150					995
S311.27160	M27	160	110	27,7	44	18	28	800
S311.27200		200	125					950
S311.27250		250	150					1120
S311.27315		315	240					1490

ŚRUBY TEOWE ZWIĘKSZONY ŁEB
SINGLE HAMMERHEAD BOLTS INCREASED HEAD

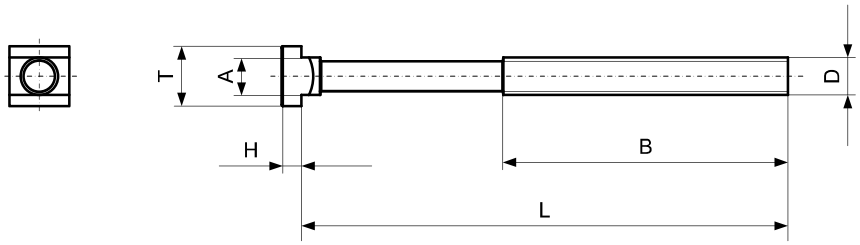
S312

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S312.24200**



Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S312.16090	M16	93	55	15,7	28	12	16	170
S312.16120		120	75					220
S312.16150		150	100					255
S312.16200		200	125					315
S312.16225		225	160					355
S312.16250		250	160					380
S312.16300		300	180					460
S312.18120	M18	120	75	17,7	35	14	18	270
S312.18150		150	100					320
S312.18200		200	125					400
S312.18225		225	150					420
S312.18250		250	150					470
S312.18300		300	190					565
S312.20120	M20	120	75	19,7	40	16	20	375
S312.20150		150	100					450
S312.20200		200	125					550
S312.20225		225	150					655
S312.20250		250	150					730
S312.20300		300	190					765
S312.24120	M24	120	75	23,7	44	20	24	580
S312.24150		150	100					710
S312.24200		200	125					900
S312.24225		225	150					915
S312.24250		250	150					995
S312.24300		300	190					1200

ŚRUBY TEOWE KOMPLET POD SZERSZY ROWEK Z NAKRĘTKĄ S340 ORAZ PODKŁADKĄ S390

HAMMERHEAD BOLTS COMPLETE WITH NUT S340 AND WASHER S390

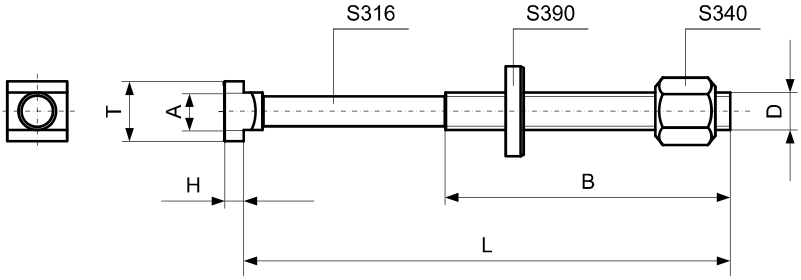
S315

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S315.24200**



Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S315.12050	M12	50	35	13,7	22	8	14	145
S315.12063		63	45					150
S315.12080		80	55					165
S315.12100		100	65					175
S315.12125		125	75					185
S315.12160		160	100					225
S315.12200		200	120					245
S315.14063	M14	63	45	15,7	25	9	16	210
S315.14100		100	63					245
S315.14160		160	100					305
S315.14230		230	150					370
S315.16063	M16	63	45	17,7	28	10	18	290
S315.16080		80	55					315
S315.16100		100	63					335
S315.16125		125	85					380
S315.16160		160	100					410
S315.16200		200	125					475
S315.16230		230	150					520
S315.16250		250	150					560
S315.20080	M20	80	55	21,7	35	14	22	515
S315.20100		100	63					565
S315.20125		125	85					615
S315.20160		160	110					675
S315.20200		200	125					755
S315.20230		230	150					830
S315.20315		315	190					1010
S315.24100	M24	100	70	27,7	44	18	28	1020
S315.24125		125	85					1110
S315.24160		160	110					1170
S315.24200		200	125					1320
S315.24230		230	150					1430
S315.24250		250	150					1490
S315.24315		315	190					1860
S315.30125	M30	125	80	35,7	53	22	36	1860
S315.30160		160	110					1940
S315.30200		200	134					2120
S315.30250		250	149					2360
S315.30315		315	190					2670

ŚRUBY TEOWE POD SZERSZY ROWEK

SINGLE HAMMERHEAD BOLTS

DIN 787

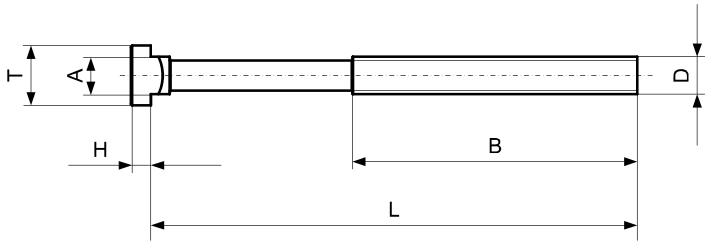
S316

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S316.24200**



Symbol	D	L	B	A	T	H		Waga *Weight* (g)
S316.12050	M12	50	35	13,7	22	8	14	80
S316.12063		63	45					85
S316.12080		80	55					100
S316.12100		100	65					110
S316.12125		125	75					120
S316.12160		160	100					160
S316.12200		200	120					180
S316.14063	M14	63	45	15,7	25	9	16	125
S316.14100		100	63					160
S316.14160		160	100					220
S316.14230		230	150					285
S316.16063	M16	63	45	17,7	28	10	18	160
S316.16080		80	55					185
S316.16100		100	63					205
S316.16125		125	85					250
S316.16160		160	100					280
S316.16200		200	125					345
S316.16230		230	150					390
S316.16250		250	150					430
S316.20080	M20	80	55	21,7	35	14	22	330
S316.20100		100	63					380
S316.20125		125	85					430
S316.20160		160	110					490
S316.20200		200	125					570
S316.20230		230	150					645
S316.20315		315	190					820
S316.24100	M24	100	70	27,7	44	18	28	650
S316.24125		125	85					740
S316.24160		160	110					800
S316.24200		200	125					950
S316.24230		230	150					1060
S316.24250		250	150					1120
S316.24315		315	190					1490
S316.30125	M30	125	80	35,7	53	22	36	1250
S316.30160		160	110					1300
S316.30200		200	134					1480
S316.30250		250	149					1720
S316.30315		315	190					2030

ŚRUBY DWUSTRONNE KOMPLET Z NAKRĘTKĄ S330 ORAZ PODKŁADKĄ S370

STUDS COMPLETE WITH SHORT NUT S330 AND WASHER S370

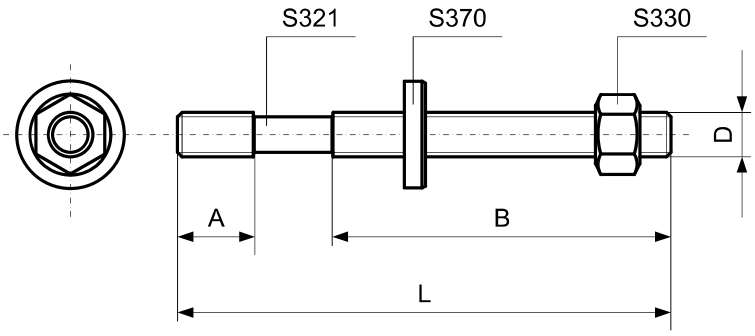
S320

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S320.24200**



Symbol	D	L	A	B	Waga *Weight* (g)
S320.08040	M8	40	11	20	25
S320.08060		63		40	35
S320.08080		80		50	40
S320.08100		100		63	45
S320.08125		125		75	50
S320.08160		160		100	60
S320.08200		200		100	80
S320.10050	M10	50	13	25	50
S320.10060		63		35	55
S320.10080		80		50	65
S320.10100		100		75	75
S320.10125		125		75	85
S320.10160		160		100	105
S320.10200		200		125	125
S320.12050	M12	50	15	25	80
S320.12060		63		32	85
S320.12080		80		50	95
S320.12100		100		63	110
S320.12125		125		75	130
S320.12160		160		100	155
S320.12200		200		125	180
S320.12225		225		160	205
S320.12250		250		160	220
S320.14060	M14	63	17	32	145
S320.14080		80		50	150
S320.14100		100		63	160
S320.14125		125		75	190
S320.14160		160		100	215
S320.14200		200		125	260
S320.14225		225		160	290
S320.14250		250		160	305
S320.16065	M16	63	19	35	160
S320.16080		80		50	180
S320.16100		100		63	205
S320.16125		125		75	235
S320.16160		160		100	295
S320.16200		200		125	355
S320.16225		225		160	370

Symbol	D	L	A	B	Waga *Weight* (g)
S320.16250	M16	250	19	160	400
S320.16315		315		180	500
S320.16350		350		180	525
S320.16400		400		250	575
S320.16450		450		250	625
S320.16500		500		315	675
S320.18080	M18	80	23	50	230
S320.18100		100		50	265
S320.18125		125		75	300
S320.18160		160		100	355
S320.18200		200		125	420
S320.18225		225		150	465
S320.18250		250		150	500
S320.18315		315		180	600
S320.18400		400		250	745
S320.20080	M20	80	27	30	305
S320.20100		100		50	325
S320.20125		125		70	375
S320.20160		160		100	450
S320.20200		200		125	530
S320.20225		225		160	585
S320.20250		250		160	630
S320.20315		315		195	760
S320.20350		350		195	842
S320.20400		400		250	942
S320.20450		450		250	1052
S320.20500		500		315	1142
S320.20600		600		315	1342
S320.20650		650		315	1472
S320.20700		700		400	1542
S320.20800		800		400	1752
S320.20900		900		400	1972
S320.22100	M22	100	31	45	440
S320.22120		120		63	470
S320.22160		160		100	600
S320.22200		200		125	670
S320.22225		225		160	740
S320.22250		250		160	840

Symbol	D	L	A	B	Waga *Weight* (g)
S320.22315	M22	315	31	180	920
S320.22350		350		195	1010
S320.22400		400		250	1120
S320.22500		500		315	1430
S320.24100	M24	100	35	45	490
S320.24125		125		70	580
S320.24160		160		100	670
S320.24200		200		125	780
S320.24225		225		125	870
S320.24250		250		160	930
S320.24315		315		180	1120
S320.24350		350		195	1225
S320.24400		400		250	1355
S320.24450		450		250	1505
S320.24500		500		315	1665
S320.24600		600		315	1955
S320.27125	M27	125	39	56	785
S320.27150		150		80	870
S320.27200		200		125	1070
S320.27225		225		160	1160
S320.27250		250		160	1260
S320.27315		315		195	1410
S320.27400		400		250	1835
S320.27500		500		315	2230
S320.30125	M30	125	43	56	960
S320.30150		150		80	1080
S320.30200		200		125	1320
S320.30250		250		160	1550
S320.30315		315		195	1860
S320.30400		400		250	2250
S320.30500		500		315	2730
S320.30700		700		400	3670
S320.36160	M36	160	51	80	1725
S320.36200		200		125	1965
S320.36250		250		160	2335
S320.36315		315		195	2775
S320.36400		400		250	3365
S320.36500		500		315	4165
S320.36700		700		400	5405

ŚRUBY DWUSTRONNE
SINGLE STUDS
DIN 6379

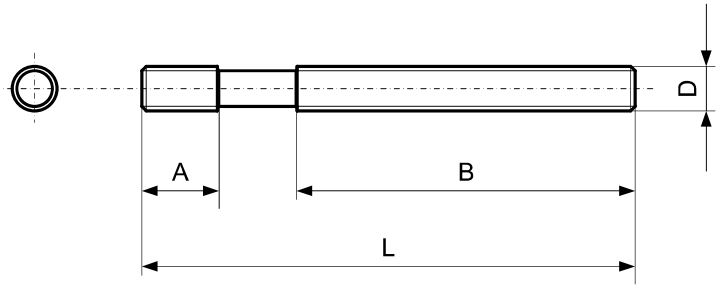
S321

Materiał / *Material*

42CrMoS4 klasa 10.9
Gwint walcowany
42CrMoS4 class 10.9
Rolled thread

Jak zamówić / *How to order*

Symbol: **S321.24200**



Symbol	D	L	A	B	Waga *Weight* (g)
S321.08040	M8	40	11	20	13
S321.08060		63		40	20
S321.08080		80		50	25
S321.08100		100		63	30
S321.08125		125		75	36
S321.08160		160		100	45
S321.08200		200		100	65
S321.10050	M10	50	13	25	25
S321.10060		63		35	30
S321.10080		80		50	40
S321.10100		100		75	50
S321.10125		125		75	65
S321.10160		160		100	80
S321.10200		200		125	100
S321.12050	M12	50	15	25	37
S321.12060		63		32	45
S321.12080		80		50	55
S321.12100		100		63	70
S321.12125		125		75	90
S321.12160		160		100	115
S321.12200		200		125	140
S321.12225		225		160	165
S321.12250		250		160	180
S321.14060	M14	63	17	32	65
S321.14080		80		50	80
S321.14100		100		63	95
S321.14125		125		75	123
S321.14160		160		100	150
S321.14200		200		125	195
S321.14225		225		160	225
S321.14250		250		160	240
S321.16065	M16	63	19	35	85
S321.16080		80		50	105
S321.16100		100		63	130
S321.16125		125		75	160
S321.16160		160		100	220
S321.16200		200		125	280
S321.16225		225		160	295
S321.16250		250		160	325
S321.16315		315		180	425
S321.16350		350		180	450
S321.16400		400		250	500
S321.16450		450		250	550
S321.16500		500		315	600
S321.18080	M18	80	23	50	130
S321.18100		100		50	165
S321.18125		125		75	200
S321.18160		160		100	255
S321.18200		200		125	320
S321.18225		225		150	365
S321.18250		250		150	400
S321.18315		315		180	500
S321.18400		400		250	640
S321.20080	M20	80	27	30	165
S321.20100		100		50	205
S321.20125		125		70	255
S321.20160		160		100	325
S321.20200		200		125	410

Symbol	D	L	A	B	Waga *Weight* (g)
S321.20225	M20	225	27	160	465
S321.20250		250		160	510
S321.20315		315		195	640
S321.20350		350		195	720
S321.20400		400		250	820
S321.20450		450		250	930
S321.20500		500		315	1020
S321.20600		600		315	1220
S321.20650		650		315	1350
S321.20700		700		400	1420
S321.20800		800		400	1630
S321.20900		900		400	1850
S321.22100	M22	100	31	45	270
S321.22125		120		63	300
S321.22160		160		100	430
S321.22200		200		125	500
S321.22225		225		160	570
S321.22250		250		160	670
S321.22315		315		180	750
S321.22350		350		195	840
S321.22400		400		250	950
S321.22500		500		315	1260
S321.24100	M24	100	35	45	290
S321.24125		125		70	380
S321.24160		160		100	470
S321.24200		200		125	580
S321.24225		225		125	670
S321.24250		250		160	730
S321.24315		315		180	920
S321.24350		350		195	1020
S321.24400		400		250	1150
S321.24450		450		250	1300
S321.24500		500		315	1460
S321.24600		600		315	1750
S321.27125	M27	125	39	56	485
S321.27150		150		80	570
S321.27200		200		125	770
S321.27225		225		160	860
S321.27250		250		160	960
S321.27315		315		195	1110
S321.27400		400		250	1535
S321.27500		500		315	1930
S321.30125	M30	125	43	56	590
S321.30150		150		80	710
S321.30200		200		125	950
S321.30250		250		160	1180
S321.30315		315		195	1490
S321.30400		400		250	1880
S321.30500		500		315	2360
S321.30700		700		400	3300
S321.36160	M36	160	51	80	1100
S321.36200		200		125	1340
S321.36250		250		160	1710
S321.36315		315		195	2150
S321.36400		400		250	2740
S321.36500		500		315	3540
S321.36700		700		400	4780

NAKRĘTKI KRÓTKIE
TURNED SHORT NUTS

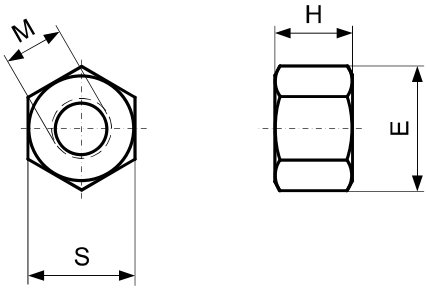
S330

Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S330.30030**



Symbol	M	S	E	H	Waga *Weight* (g)
S330.08008	8	13	14,8	8	6
S330.10010	10	17	19,6	10	15
S330.12012	12	19	21,5	12	20
S330.14014	14	22	25	14	30
S330.16016	16	24	27,5	16	40
S330.18018	18	27	31	18	60
S330.20020	20	30	34,6	20	80
S330.22022	22	32	36,9	22	95
S330.24024	24	36	41,6	24	135
S330.27027	27	41	47,3	27	195
S330.30030	30	46	53,1	30	275
S330.36036	36	55	63,5	36	465
S330.42042	42	65	75	42	790
S330.48048	48	75	86,5	48	1200

NAKRĘTKI WYSOKIE
TURNED TALL NUTS
DIN 6330B

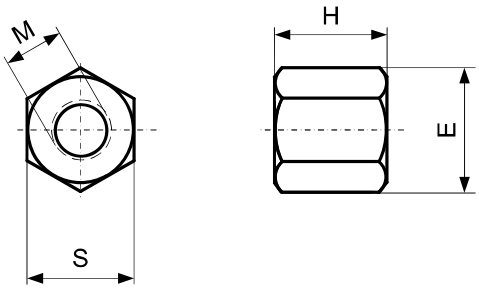
S340

Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S340.30045**



Symbol	M	S	E	H	Waga *Weight* (g)
S340.06009	6	10	11,5	9	5
S340.08012	8	13	14,8	12	9
S340.10015	10	17	19,6	15	20
S340.12018	12	19	21,5	18	28
S340.14021	14	22	25	21	45
S340.16024	16	24	27,5	24	58
S340.18027	18	27	31	27	83
S340.20030	20	30	34,6	30	110
S340.22033	22	32	36,9	33	130
S340.24036	24	36	41,6	36	195
S340.27041	27	41	47,3	40	280
S340.30045	30	46	53,1	45	405
S340.36054	36	55	63,5	54	715
S340.42063	42	65	75	63	1170
S340.48072	48	75	86,5	72	1800

NAKRĘTKI PRZEDŁUŻANE
EXTENSION NUTS

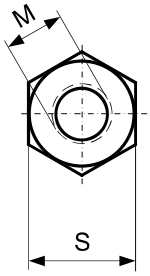
S350

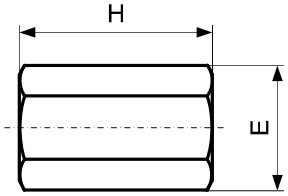
Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S350.30090**





Symbol	M	S	E	H	Waga *Weight* (g)
S350.06018	6	10	11,5	18	8
S350.08024	8	13	14,8	24	19
S350.10030	10	17	19,6	30	42
S350.12036	12	19	21,5	36	64
S350.14042	14	22	25	42	95
S350.16048	16	24	27,5	48	120
S350.18054	18	27	31	54	170
S350.20060	20	30	34,6	60	240
S350.22066	22	32	36,9	66	280
S350.24072	24	36	41,6	72	400
S350.27081	27	41	47,3	81	600
S350.30090	30	46	53,1	90	850
S350.36108	36	55	63,5	108	1470
S350.42126	42	65	75	126	2340
S350.48144	48	75	86,5	144	3600

NAKRĘTKI Z KOŁNIERZEM
NUTS WITH WASHER
DIN 6331

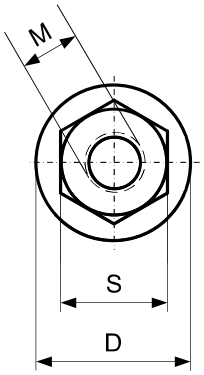
S351

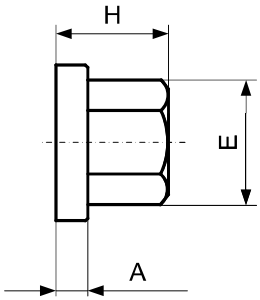
Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S351.00030**





Symbol	M	S	E	H	A	D	Waga *Weight* (g)
S351.00008	8	13	14,8	12	3,5	18	12
S351.00010	10	16	19,6	15	4	22	21
S351.00010.1	10	17	19,6	15	4	22	21
S351.00012	12	18	21,5	18	4	25	36
S351.00012.1	12	19	21,5	18	4	25	36
S351.00014	14	22	25	21	4,5	28	51
S351.00016	16	24	27,5	24	5	31	70
S351.00018	18	27	31	27	5	34	95
S351.00020	20	30	34,6	30	6	37	130
S351.00022	22	32	36,9	33	6	40	160
S351.00024	24	36	41,6	36	6	45	230
S351.00027	27	41	47,3	40	8	51	320
S351.00030	30	46	53,1	45	8	58	470
S351.00036	36	55	63,5	54	10	68	800
S351.00042	42	65	75	63	12	80	1340
S351.00048	48	75	86,5	72	14	92	2040

NAKRĘTKI TEOWE
NUTS FOR T-SLOTS
DIN 508 - UNI 5531

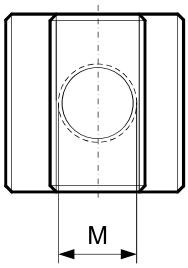
S360

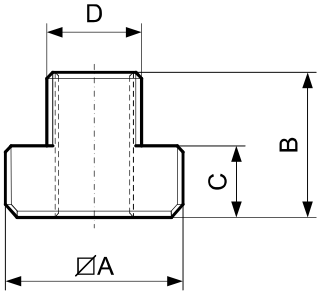
Materiał / *Material*

Stal hartowana
Tempering steel

Jak zamówić / *How to order*

Symbol: **S360.22028**





Symbol	M	D	A	B	C		Waga *Weight* (g)
S360.06008	6	7,7	13x13	10	6	8	9
S360.08010	8	9,7	15x15	12	6	10	12
S360.08012		11,7	18x18	14	7	12	22
S360.08014		13,7	22x22	16	8	14	41
S360.08016		15,7	25x25	18	9	16	61
S360.08018		17,7	28x28	20	10	18	91
S360.10012	10	11,7	18x18	14	7	12	20
S360.10014		13,7	22x22	16	8	14	37
S360.10016		15,7	25x25	18	9	16	59
S360.10018		17,7	28x28	20	10	18	87
S360.12014	12	13,7	22x22	16	8	14	35
S360.12016		15,7	25x25	18	9	16	56
S360.12018		17,7	28x28	20	10	18	82
S360.14016	14	15,7	25x25	18	9	16	52
S360.14018		17,7	28x28	20	10	18	70
S360.16018	16	17,7	28x28	20	10	18	60

Symbol	M	D	A	B	C		Waga *Weight* (g)
S360.16020	16	19,7	32x32	24	12	20	110
S360.16022		21,7	35x35	28	14	22	176
S360.16024		23,7	40x40	32	16	24	260
S360.16028		27,7	44x44	36	18	28	383
S360.18020	18	19,7	32x32	24	12	20	100
S360.18022		21,7	35x35	28	14	22	163
S360.20022	20	21,7	35x35	28	14	22	155
S360.20024		23,7	40x40	32	16	24	235
S360.20028		27,7	44x44	36	18	28	355
S360.22024	22	23,7	40x40	32	16	24	220
S360.22028		27,7	44x44	36	18	28	340
S360.24028	24	27,7	44x44	36	18	28	322
S360.24030		29,7	48x48	38	19	30	440
S360.27032	27	31,6	50x50	40	20	32	460
S360.30036	30	35,6	54x54	44	22	36	590
S360.36042	36	41,6	65x65	52	26	42	1010

NAKRĘTKI TEOWE PÓŁPRODUKT
BLANKS T-NUTS
NR 508R

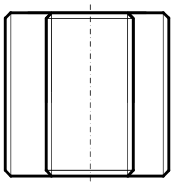
S361

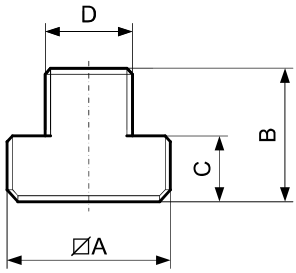
Materiał / *Material*

Stal hartowana
Tempering steel

Jak zamówić / *How to order*

Symbol: **S361.00020**





Symbol	D	A	B	C		Waga *Weight* (g)
S361.00008	7,7	13X13	10	6	8	10
S361.00010	9,7	15x15	12	6	10	16
S361.00012	11,7	18x18	14	7	12	27
S361.00014	13,7	22x22	16	8	14	50
S361.00016	15,7	25x25	18	9	16	70
S361.00018	17,7	28x28	20	10	18	95
S361.00020	19,7	32x32	24	12	20	150
S361.00022	21,7	35x35	28	14	22	210
S361.00024	23,7	40x40	32	16	24	300
S361.00028	27,7	44x44	36	18	28	430
S361.00032	31,6	50x50	40	20	32	630
S361.00036	35,6	54x54	44	22	36	800
S361.00042	41,6	65x65	52	26	42	1410

NAKRĘTKI TEOWE PRZEDŁUŻANE

EXTENDED NUTS FOR T-SLOTS

NR 508L

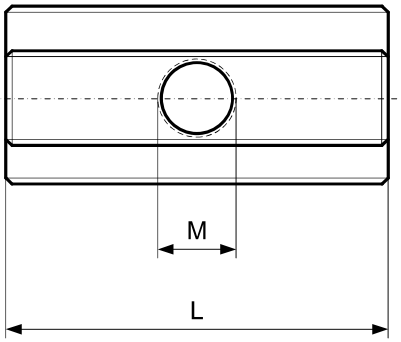
S362

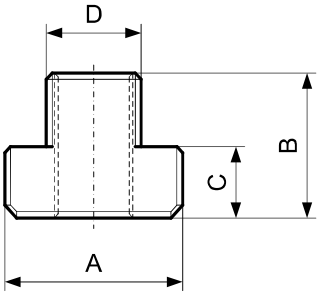
Materiał / *Material*

Stal hartowana
Tempering steel

Jak zamówić / *How to order*

Symbol: **S362.22024**





Symbol	M	D	L	A	B	C		Waga *Weight* (g)
S362.06008	6	7,7	26	13	10	6	8	14
S362.08010	8	9,7	30	15	12	6	10	30
S362.10012	10	11,7	36	18	14	7	12	49
S362.12014	12	13,7	44	22	16	8	14	82
S362.14016	14	15,7	50	25	18	9	16	120
S362.16018	16	17,7	56	28	20	10	18	170
S362.18020	18	19,7	64	32	24	12	20	260
S362.20022	20	21,7	70	35	28	14	22	360
S362.22024	22	23,7	80	40	32	16	24	535
S362.24028	24	27,7	88	44	36	18	28	730
S362.27032	27	31,6	100	50	40	20	32	1090
S362.30036	30	35,6	108	54	44	22	36	1390

NAKRĘTKI TEOWE ROMBOWE

NUTS FOR T-SLOTS „RHOMBUS"

NR 510

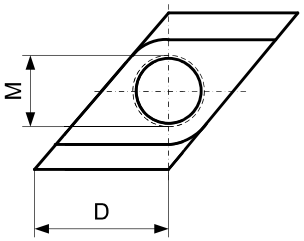
S363

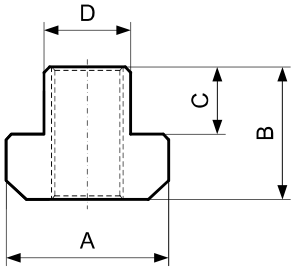
Materiał / *Material*

Stal hartowana
Tempering steel

Jak zamówić / *How to order*

Symbol: **S363.20022**





Symbol	M	D	A	B	C		Waga *Weight* (g)
S363.10012	10	11,7	18	14	7	12	14
S363.10014	10	13,7	22	16	8	14	27
S363.12014	12	13,7	22	16	8	14	22
S363.14016	14	15,7	25	18	9	16	33
S363.10018	10	17,7	28	20	10	18	64
S363.16018	16	17,7	28	20	10	18	46
S363.16020	16	19,7	32	24	12	20	79
S363.18020	18	19,7	32	24	12	20	70
S363.16022	16	21,7	35	28	14	22	119
S363.20022	20	21,7	35	28	14	22	98
S363.16028	16	27,7	44	36	18	28	278
S363.20028	20	27,7	44	36	18	28	240
S363.24028	24	27,7	44	36	18	28	215
S363.30036	30	35,6	54	44	22	36	430

PODKŁADKI PŁASKIE
FLAT WASHERS

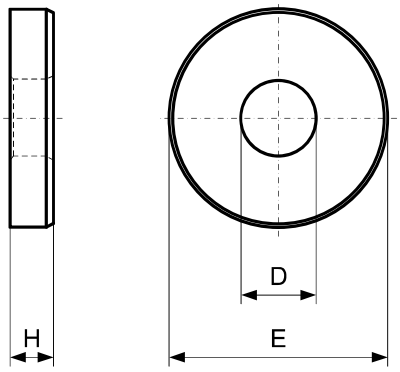
S370

Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S370.00024**



Symbol	D	E	H	Waga *Weight* (g)
S370.00006	6,6	13	3,5	3
S370.00008	8,4	18	4	6
S370.00010	10,5	22	4	9
S370.00012	13	28	5	20
S370.00014	15	35	6	35
S370.00016	17	35	6	35
S370.00018	19	40	6	45
S370.00020	21	40	6	45
S370.00022	23	45	8	75
S370.00024	25	45	8	70
S370.00027	28	60	10	170
S370.00030	31	60	10	161
S370.00036	37	70	12	190
S370.00042	43	80	12	260
S370.00048	49	90	12	415

PODKŁADKI WZMACNIANE
THICK WASHERS

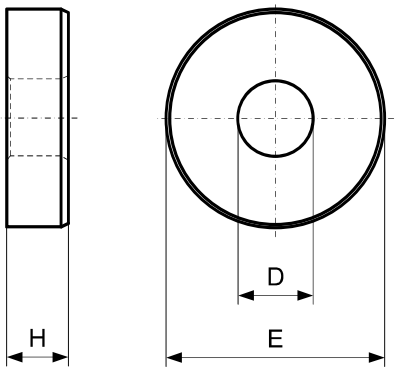
S380

Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S380.00024**



Symbol	D	E	H	Waga *Weight* (g)
S380.00006	6,6	20	8	17
S380.00008	8,4	35	8	55
S380.00010	10,5	35	8	55
S380.00012	13	40	8	70
S380.00014	15	40	10	85
S380.00016	17	45	10	105
S380.00018	19	45	10	100
S380.00020	21	50	12	150
S380.00022	23	50	12	140
S380.00024	25	50	12	140
S380.00027	28	60	14	175
S380.00030	31	60	14	165

PODKŁADKI SZEROKIE
BROAD WASHERS

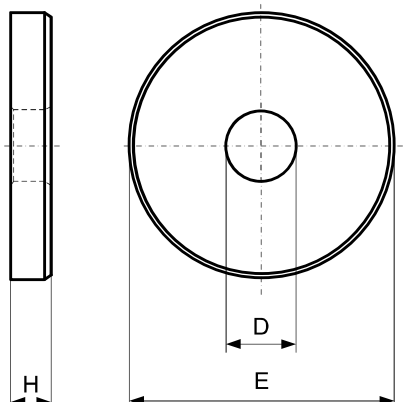
S390

Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S390.00024**



Symbol	D	E	H	Waga *Weight* (g)
S390.00006	6,6	17	3,5	5
S390.00008	8,4	23	4	10
S390.00010	10,5	28	4	16
S390.00012	13	35	5	35
S390.00014	15	40	5	40
S390.00016	17	45	6	70
S390.00018	19	45	6	60
S390.00020	21	50	6	73
S390.00022	23	50	8	92
S390.00024	25	60	8	170
S390.00027	28	68	10	240
S390.00030	31	68	10	230
S390.00036	38	80	12	350
S390.00042	44	100	15	735
S390.00048	50	100	17	775

PODKŁADKI KULISTE
SPHERICAL SEAT WASHERS

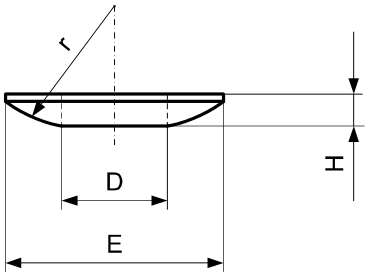
S375.C

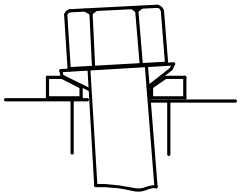
Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S375.C0024**





Symbol	D	E	r	H	Waga *Weight* (g)
S375.C0006	6,4	12	9	2,3	1
S375.C0008	8,4	17	12	3,2	2,5
S375.C0010	10,5	21	15	4	5
S375.C0012	13	24	17	4,6	7
S375.C0014	15	28	22	5	10
S375.C0016	17	30	22	5,3	12
S375.C0020	21	36	27	6,3	23
S375.C0024	25	44	32	8,2	42
S375.C0027	28	50	37	9,5	80
S375.C0030	31	56	41	11,2	87
S375.C0036	37	68	50	14	184
S375.C0042	43	78	58	17	297
S375.C0048	50	92	67	21	525

PODKŁADKI WKLĘSŁE
DISHED WASHERS

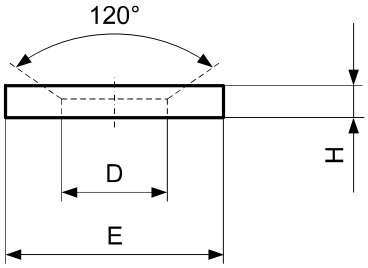
S375.D

Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S375.D0024**



Symbol	D	E	H	Waga *Weight* (g)
S375.D0006	7,1	12	2,8	1,5
S375.D0008	9,6	17	3,5	4
S375.D0010	12	21	4,2	6,5
S375.D0012	14,2	24	5	10
S375.D0014	16,5	28	5,6	18
S375.D0016	19	30	6,2	19
S375.D0020	23,2	36	7,5	32
S375.D0024	28	44	9,5	63
S375.D0027	31,5	50	10,8	85
S375.D0030	35	56	12	133
S375.D0036	42	68	15	236
S375.D0042	49	78	18	365
S375.D0048	56	92	22	641

PODKŁADKI WKLĘSŁE WZMACNIANE
ENHANCED DISHED WASHERS

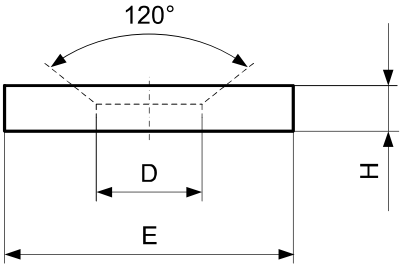
S375.G

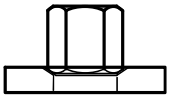
Materiał / *Material*

Automatowy stop stalowy
Automatic alloy steel

Jak zamówić / *How to order*

Symbol: **S375.G0024**





Symbol	D	E	H	Waga *Weight* (g)
S375.G0006	7,1	17	4	5,5
S375.G0008	9,6	23	4	13
S375.G0010	12	28	5	19
S375.G0012	14,2	35	5	32
S375.G0014	16,5	40	5	48
S375.G0016	19	45	6	56
S375.G0020	23,2	50	8	94
S375.G0024	28	60	10	169
S375.G0030	35	68	10	218
S375.G0036	42	80	12	350
S375.G0042	49	100	15	640
S375.G0048	56	110	17	830

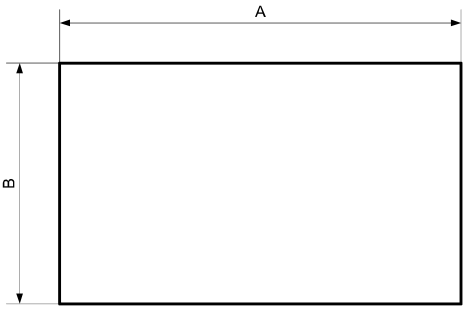
ZESTAWY ŚRUB TEOWYCH KOMPLETNYCH S310 Z PODKŁADKAMI S370

SET OF HAMMERHEAD BOLTS COMPLETE TYPE S310 WITH WASHERS S370

S420

Jak zamówić / *How to order*

Symbol: **S420.00020**



Symbol	Zestaw zawiera *Set contains*	Ilość sztuk *Quantity*	D		AxB (cm)	Waga *Weight* (kg)
S420.00010	S310.10040	2	M10	10	35x21	3,2
	S310.10060	2				
	S310.10080	2				
	S310.10100	2				
	S310.10125	2				
	S310.10150	2				
	S310.10170	2				
	S370.00010	10				
S420.00012	S310.12050	2	M12	12	46x23	5,2
	S310.12060	2				
	S310.12080	2				
	S310.12100	2				
	S310.12125	2				
	S310.12150	2				
	S310.12170	2				
	S310.12200	2				
	S310.12230	2				
	S370.00012	10				
S420.00014	S310.14050	2	M14	14	50x25	6,5
	S310.14060	2				
	S310.14080	2				
	S310.14100	2				
	S310.14125	2				
	S310.14150	2				
	S310.14170	2				
	S310.14200	2				
	S310.14230	2				
	S370.00014	10				
S420.00016	S310.16060	2	M16	16	50x25	8,5
	S310.16080	2				
	S310.16100	2				
	S310.16125	2				
	S310.16150	2				
	S310.16170	2				
	S310.16200	2				
	S310.16230	2				
	S370.00016	10				

Symbol	Zestaw zawiera *Set contains*	Ilość sztuk *Quantity*	D		AxB (cm)	Waga *Weight* (kg)
S420.00018	S310.18080	2	M18	18	50x25	8,8
	S310.18100	2				
	S310.18125	2				
	S310.18150	2				
	S310.18170	2				
	S310.18200	2				
	S310.18230	2				
	S370.00018	10				
S420.00020	S310.20080	2	M20	20	60x25	11,5
	S310.20100	2				
	S310.20125	2				
	S310.20150	2				
	S310.20170	2				
	S310.20200	2				
	S310.20230	2				
	S370.00020	10				
S420.00022	S310.22080	2	M22	22	60x25	13
	S310.22100	2				
	S310.22125	2				
	S310.22150	2				
	S310.22170	2				
	S310.22200	2				
	S310.22230	2				
	S370.00022	10				
S420.00024	S310.24080	2	M24	24	60x25	17
	S310.24100	2				
	S310.24125	2				
	S310.24150	2				
	S310.24170	2				
	S310.24200	2				
	S310.24230	2				
	S370.00024	10				

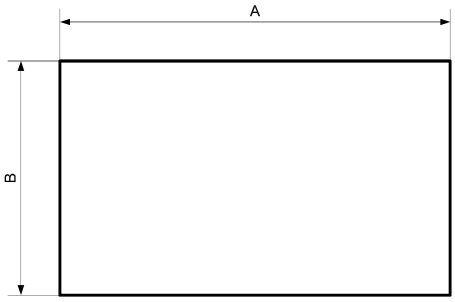
ZESTAWY ŚRUB TEOWYCH KOMPLETNYCH S315 Z PODKŁADKAMI S390

SET OF HAMMERHEAD BOLTS COMPLETE TYPE S315 WITH WASHERS S390

S425

Jak zamówić / *How to order*

Symbol: **S425.00020**



Symbol	Zestaw zawiera *Set contains*	Ilość sztuk *Quantity*	D		AxB (cm)	Waga *Weight* (kg)
S425.00012	S315.12050	4	M12	14	50x25	5,8
	S315.12063	4				
	S315.12080	2				
	S315.12100	2				
	S315.12125	2				
	S315.12150	2				
	S315.12200	2				
	S390.00012	10				
S425.00014	S315.14063	4	M14	16	50x25	7,5
	S315.14100	4				
	S315.14160	4				
	S315.14230	4				
	S390.00014	10				
S425.00016	S315.16063	2	M16	18	50X25	10
	S315.16080	2				
	S315.16100	2				
	S315.16125	2				
	S315.16160	2				
	S315.16200	2				
	S315.16230	2				
	S315.16250	2				
	S390.00016	10				
S425.00020	S315.20080	2	M20	22	60x25	14
	S315.20100	2				
	S315.20125	2				
	S315.20160	2				
	S315.20200	2				
	S315.20230	2				
	S315.20315	2				
	S390.00020	10				
S425.00024	S315.24100	2	M24	28	60x25	23
	S315.24125	2				
	S315.24160	2				
	S315.24200	2				
	S315.24230	2				
	S315.24250	2				
	S315.24315	2				
	S390.00024	10				

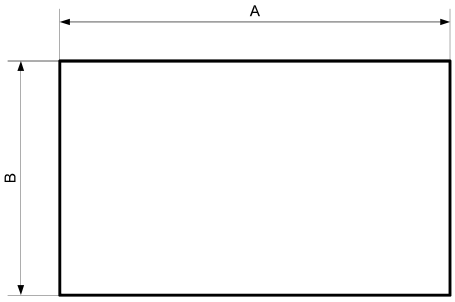
ZESTAWY ŚRUB DWUSTRONNYCH KOMPLETNYCH S320 Z NAKRĘTKAMI TEOWYMI S360 ORAZ PODKŁADKAMI S370

S430

SET OF STUDS S320 COMPLETE WITH „T" SLOT NUTS S360 + WASHERS S370

Jak zamówić / *How to order*

Symbol: **S430.00020**



Symbol	Zestaw zawiera *Set contains*	Ilość sztuk *Quantity*	D		AxB (cm)	Waga *Weight* (kg)
S430.00008	S320.08040	2	M8	10	35x21	2
	S320.08060	2				
	S320.08080	2				
	S320.08100	2				
	S320.08125	2				
	S320.08160	2				
	S320.08200	2				
	S360.08010	14				
	S370.00008	10				
S430.00010	S320.10060	2	M10	12	35x21	3
	S320.10080	2				
	S320.10100	4				
	S320.10120	2				
	S320.10160	2				
	S320.10200	2				
	S360.10012	14				
	S370.00010	10				
S430.00012	S320.12060	2	M12	14	50x25	5,5
	S320.12080	2				
	S320.12100	4				
	S320.12125	2				
	S320.12160	2				
	S320.12200	2				
	S320.12225	2				
	S320.12250	2				
	S360.12014	18				
	S370.00012	10				
S430.00014	S320.14060	2	M14	16	50x25	6
	S320.14080	2				
	S320.14100	4				
	S320.14120	2				
	S320.14160	2				
	S320.14200	2				
	S320.14225	2				
	S320.14250	2				
	S360.14016	18				
	S370.00014	10				

Symbol	Zestaw zawiera *Set contains*	Ilość sztuk *Quantity*	D		AxB (cm)	Waga *Weight* (kg)
S430.00016	S320.16065	2	M16	18	50x25	6,5
	S320.16080	2				
	S320.16100	2				
	S320.16125	2				
	S320.16160	2				
	S320.16200	2				
	S320.16250	2				
	S320.16315	2				
	S360.16018	16				
	S370.00016	10				
S430.00018	S320.18080	2	M18	20	50x25	8,5
	S320.18100	2				
	S320.18125	2				
	S320.18160	2				
	S320.18200	2				
	S320.18250	2				
	S320.18315	2				
	S360.18020	14				
	S370.00018	10				
S430.00020	S320.20080	2	M20	22	60x25	11
	S320.20100	2				
	S320.20125	2				
	S320.20160	2				
	S320.20200	2				
	S320.20250	2				
	S320.20315	2				
	S360.20022	14				
	S370.00020	10				
S430.00022	S320.22100	2	M22	24	60x25	13,5
	S320.22120	2				
	S320.22160	2				
	S320.22200	2				
	S320.22225	2				
	S320.22250	2				
	S320.22315	2				
	S360.22024	14				
	S370.00022	10				
S430.00024	S320.24100	2	M24	28	60x25	16
	S320.24125	2				
	S320.24160	2				
	S320.24200	2				
	S320.24225	2				
	S320.24250	2				
	S320.24315	2				
	S360.24028	14				
	S370.00024	10				