



Elementy ustalające i złączne

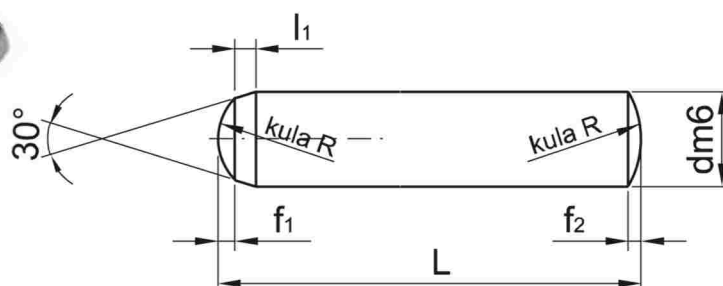
Locating and fastening components

		str./page		str./page		str./page
	KW Kołek walcowy Dowel pin	Z.64-65				
	KWG Kołek walcowy Dowel pin	Z.66				
	ZK Zatrząsk Ball lock	Z.67				
	ZR Zatrząsk Ball lock	Z.67				
	WK Wkręt mocujący Set screw	Z.68				
	WKA Wkręt Hexagon socket set screw	Z.68				
	SM Śruba z łbem walcowym Socket head cap screws	Z.69				
	PSM Śruba pasowana Stripper bolts	Z.70				
	PST Śruba pasowana z tulejką Stripper bolt with bushing	Z.71				

KOŁEK WALCOWY

DOWEL PIN

KW



Hartowany 60±2 HRC
Hardened

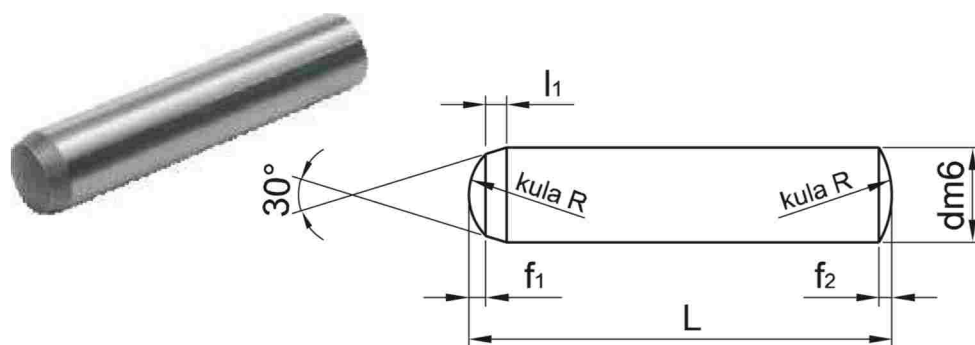
d	f1	f2	l1	R	L	NR KAT.	d	f1	f2	l1	R	L	NR KAT.	d	f1	f2	l1	R	L	NR KAT.
1	0,08	0,15	0,4	1	8	KW-010008	2,5	0,25	0,4	0,7	2,5	32	KW-025032	4	0,4	0,6	1	4	50	KW-040050
					10	KW-010010						36	KW-025036						55	KW-040055
					12	KW-010012	3	0,3	0,45	0,8	3	6	KW-030006						60	KW-040060
1,5	0,12	0,23	0,5	1,6	8	KW-015008						8	KW-030008	5	0,5	0,75	1,2	5	8	KW-050008
					10	KW-015010						10	KW-030010						10	KW-050010
					12	KW-015012						12	KW-030012						12	KW-050012
					14	KW-015014						14	KW-030014						14	KW-050014
					16	KW-015016						16	KW-030016						16	KW-050016
2	0,18	0,3	0,6	2	6	KW-020006						18	KW-030018						18	KW-050018
					8	KW-020008						20	KW-030020						20	KW-050020
					10	KW-020010						24	KW-030024						24	KW-050024
					12	KW-020012						28	KW-030028						28	KW-050028
					14	KW-020014						32	KW-030032						32	KW-050032
					16	KW-020016						36	KW-030036						36	KW-050036
					18	KW-020018						40	KW-030040						40	KW-050040
					20	KW-020020						45	KW-030045						45	KW-050045
					24	KW-020024	4	0,4	0,6	1	4	6	KW-040006						50	KW-050050
					28	KW-020028						8	KW-040008						55	KW-050055
					32	KW-020032						10	KW-040010						60	KW-050060
					36	KW-020036						12	KW-040012						70	KW-050070
2,5	0,25	0,4	0,7	2,5	6	KW-025006						14	KW-040014						80	KW-050080
					8	KW-025008						16	KW-040016	6	0,6	0,9	1,5	6	8	KW-060008
					10	KW-025010						18	KW-040018						10	KW-060010
					12	KW-025012						20	KW-040020						12	KW-060012
					14	KW-025014						24	KW-040024						14	KW-060014
					16	KW-025016						28	KW-040028						16	KW-060016
					18	KW-025018						32	KW-040032						18	KW-060018
					20	KW-025020						36	KW-040036						20	KW-060020
					24	KW-025024						40	KW-040040						24	KW-060024
					28	KW-025028						45	KW-040045						28	KW-060028

Uwaga: Inne wymiary i tolerancje na specjalne zamówienie.
Note: Other dimensions and tolerances on request only.

KOŁEK WALCOWY

DOWEL PIN

KW



Hartowany 60±2 HRC
Hardened

d	f1	f2	l1	R	L	NR KAT.	d	f1	f2	l1	R	L	NR KAT.	d	f1	f2	l1	R	L	NR KAT.
6	0,6	0,9	1,5	6	32	KW-060032	10	1	1,5	2	10	28	KW-100028	14	1,3	2	2,5	16	36	KW-140036
					36	KW-060036						32	KW-100032						40	KW-140040
					40	KW-060040						36	KW-100036						45	KW-140045
					45	KW-060045						40	KW-100040						50	KW-140050
					50	KW-060050						45	KW-100045						55	KW-140055
					55	KW-060055						50	KW-100050						60	KW-140060
					60	KW-060060						55	KW-100055						70	KW-140070
8	0,8	1,2	1,8	8	10	KW-080010	12	1,3	1,8	2,5	12	60	KW-100060	16	1,7	2,5	3	16	80	KW-140080
					12	KW-080012						70	KW-100070						90	KW-140090
					14	KW-080014						80	KW-100080						100	KW-140100
					16	KW-080016						90	KW-100090						120	KW-140120
					18	KW-080018						100	KW-100100						40	KW-160040
					20	KW-080020						120	KW-100120						45	KW-160045
					24	KW-080024						20	KW-120020						50	KW-160050
					28	KW-080028		24	KW-120024	55	KW-160055									
					32	KW-080032		28	KW-120028	60	KW-160060									
					36	KW-080036		32	KW-120032	70	KW-160070									
					40	KW-080040		36	KW-120036	80	KW-160080									
					45	KW-080045		40	KW-120040	90	KW-160090									
					50	KW-080050		45	KW-120045	100	KW-160100									
					55	KW-080055		50	KW-120050	120	KW-160120									
					60	KW-080060		55	KW-120055	140	KW-160140									
					70	KW-080070		60	KW-120060	20	2	3	4,0	20	55	KW-200055				
					80	KW-080080		70	KW-120070						60	KW-200060				
					90	KW-080090		80	KW-120080						70	KW-200070				
					100	KW-080100		90	KW-120090						80	KW-200080				
								100	KW-120100						90	KW-200090				
		120	KW-120120	100	KW-200100															
10	1	1,5	2	10	16	KW-100016					120	KW-120120							120	KW-200120
					18	KW-100018					130	KW-120130							140	KW-200140
					20	KW-100020					---	---								
					24	KW-100024					---	---								

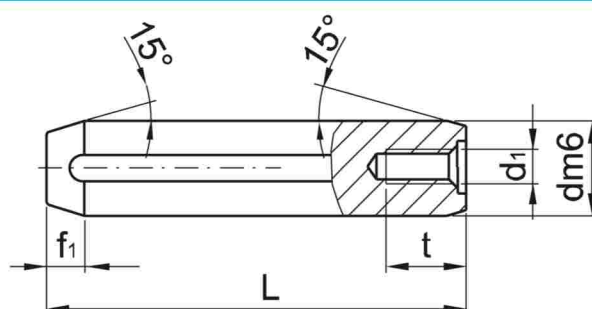
Uwaga: Inne wymiary i tolerancje na specjalne zamówienie.

Note: Other dimensions and tolerances on request only.

KOŁEK WALCOWY

DOWEL PIN

KWG



Hartowany 60±2 HRC
Hardened

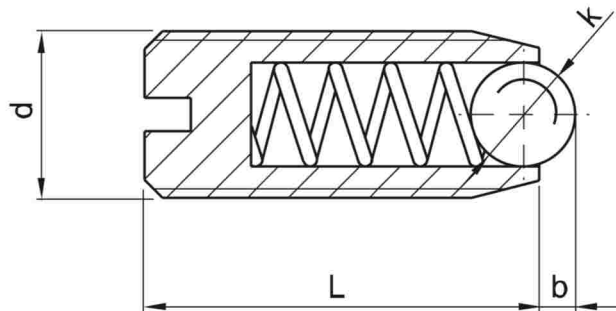
d	f1	R	d1	t	L	NR KAT.
6	2,1	6	M4	6	16	KWG-06016
					18	KWG-06018
					20	KWG-06020
					24	KWG-06024
					28	KWG-06028
					32	KWG-06032
					36	KWG-06036
					40	KWG-06040
					45	KWG-06045
					50	KWG-06050
					55	KWG-06055
					60	KWG-06060
					20	KWG-08020
					24	KWG-08024
8	2,6	8	M5	8	28	KWG-08028
					32	KWG-08032
					36	KWG-08036
					40	KWG-08040
					45	KWG-08045
					50	KWG-08050
					55	KWG-08055
					60	KWG-08060
					70	KWG-08070
					80	KWG-08080
					90	KWG-08090
					100	KWG-08100
					24	KWG-10024
					28	KWG-10028
10	3	10	M6	10	32	KWG-10032
					36	KWG-10036
					40	KWG-10040
					45	KWG-10045
					50	KWG-10050
					55	KWG-10055
					60	KWG-10060
					70	KWG-10070
					80	KWG-10080
					90	KWG-10090
					100	KWG-10100
					28	KWG-12028
					32	KWG-12032
					40	KWG-12040
12	3,8	12	M6	10	45	KWG-12045
					50	KWG-12050
					55	KWG-12055
					60	KWG-12060
					70	KWG-12070
					80	KWG-12080
					90	KWG-12090
					100	KWG-12100
					120	KWG-12120

d	f1	R	d1	t	L	NR KAT.
13	3,8	13	M6	12	40	KWG-13040
					50	KWG-13050
					60	KWG-13060
					70	KWG-13070
					80	KWG-13080
					100	KWG-13100
					32	KWG-14032
14	4	14	M8	12	36	KWG-14036
					40	KWG-14040
					45	KWG-14045
					50	KWG-14050
					55	KWG-14055
					60	KWG-14060
					70	KWG-14070
					80	KWG-14080
					90	KWG-14090
					100	KWG-14100
16	4,7	16	M8	12	120	KWG-14120
					32	KWG-16032
					36	KWG-16036
					40	KWG-16040
					45	KWG-16045
					50	KWG-16050
					55	KWG-16055
					60	KWG-16060
					70	KWG-16070
					80	KWG-16080
20	6	20	M10	16	90	KWG-16090
					100	KWG-16100
					120	KWG-16120
					36	KWG-20036
					40	KWG-20040
					45	KWG-20045
					50	KWG-20050
					55	KWG-20055
					60	KWG-20060
					70	KWG-20070
25	6	25	M16	24	80	KWG-20080
					90	KWG-20090
					100	KWG-20100
					120	KWG-20120
					50	KWG-25050
					60	KWG-25060
					70	KWG-25070
					80	KWG-25080
					90	KWG-25090
					100	KWG-25100
					120	KWG-25120

ZATRZASKI

BALL LOCKS

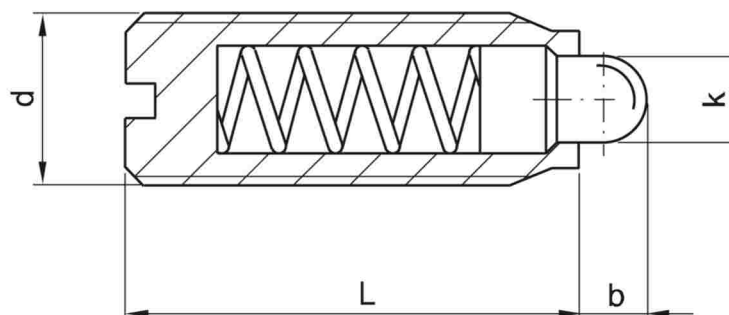
ZK



Mat. 1.0503

d	k	L	b	F[N]	NR KAT.
M4	2,5	9	0,8	6 - 12	ZK-040
M5	3	12	0,9	7 - 13	ZK-050
M6	3,5	14	1,0	9 - 15	ZK-060
M8	5	16	1,5	20 - 35	ZK-080
M10	6	19	2,0	25 - 45	ZK-100
M12	8	22	2,5	35 - 60	ZK-120
M16	10	24	3,5	65 - 110	ZK-160

ZR



Mat. 1.0503

d	k	L	b	F[N]	NR KAT.
M4	1,8	9	1,5	6 - 20	ZR-040
M5	2,4	12	2,0	6 - 20	ZR-050
M6	2,7	14	2,0	7 - 20	ZR-060
M8	4	16	2,0	15 - 30	ZR-080
M10	4,5	19	2,5	20 - 35	ZR-100
M12	6	22	3,5	30 - 55	ZR-120
M16	8,5	24	4,5	45 - 100	ZR-160

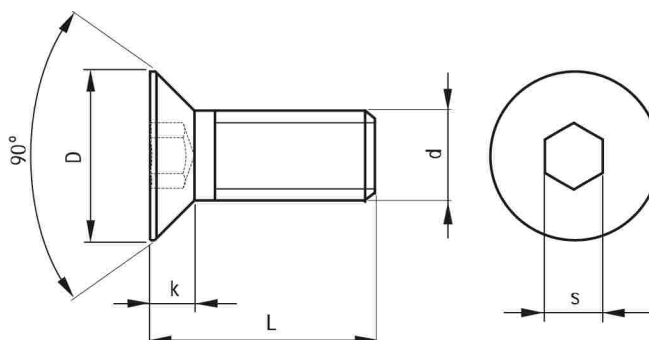
WKREĆ MOCUJĄCY

SET SCREW

WKREĆ MOCUJĄCY

SET SCREW

WK



DIN 7991
8.8 (800N/mm²)

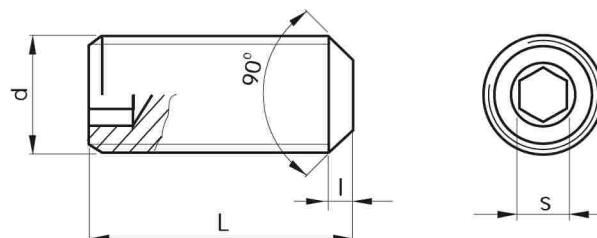
d	L	D	k	s	NR KAT.
M4	8	8	2,3	2,5	WK -0408
	10				WK -0410
	12				WK -0412
	16				WK -0416
	20				WK -0420
M5	8	10	2,8	3	WK -0508
	10				WK -0510
	12				WK -0512
	14				WK -0514
	16				WK -0516
M6	12	12	3,3	4	WK -0612
	16				WK -0616
	20				WK -0620

d	L	D	k	s	NR KAT.
M6	25	12	3,3	4	WK -0625
	30				WK -0630
M8	12	16	4,4	5	WK -0812
	16				WK -0816
	20				WK -0820
	25				WK -0825
M10	30	20	5,5	6	WK -0830
	20				WK -1020
	30				WK -1030
M12	20	24	6,5	8	WK -1220
	30				WK -1230
	35				WK -1235

WKREĆ

HEXAGON SOCKET SET SCREW

DIN 913-45H



WKA

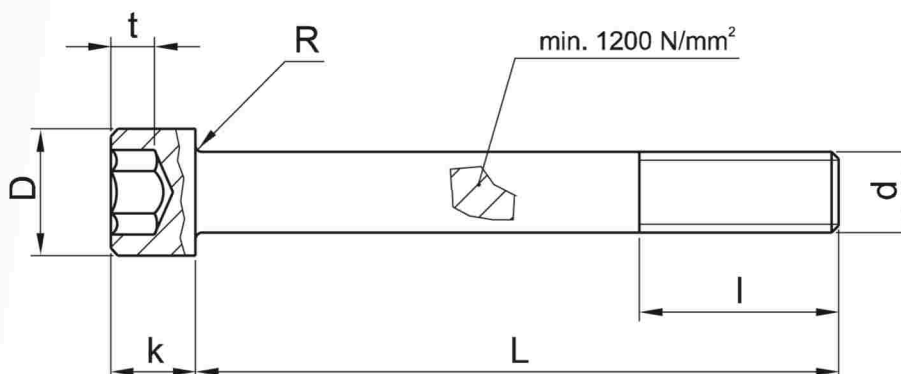
d	s	I	L	NR KAT.
M3	1,5	0,5	6	WKA-0306
			8	WKA-0308
M4	2	0,75	6	WKA-0406
			8	WKA-0408
			10	WKA-0410
			12	WKA-0412
M5	2,5	0,75	6	WKA-0506
			8	WKA-0508
			10	WKA-0510
			12	WKA-0512
			16	WKA-0516
			20	WKA-0520
M6	3	1	6	WKA-0606
			8	WKA-0608
			10	WKA-0610
			12	WKA-0612
			16	WKA-0616
			20	WKA-0620
			25	WKA-0625
M8	4	1,25	8	WKA-0808
			10	WKA-0810

d	s	I	L	NR KAT.
M8	4	1,25	12	WKA-0812
			16	WKA-0816
			20	WKA-0820
			30	WKA-0830
M10	5	1,5	10	WKA-1010
			12	WKA-1012
			16	WKA-1016
			20	WKA-1020
			30	WKA-1030
			40	WKA-1040
M12	6	1,75	12	WKA-1212
			16	WKA-1216
			20	WKA-1220
			30	WKA-1230
			40	WKA-1240
M16	8	2	20	WKA-1620
			30	WKA-1630
			40	WKA-1640

ŚRUBA Z ŁBEM WALCOWYM

SOCKET HEAD CAP SCREWS

SM



d	D	s	k	t	I	R
M6	10	5	6	3	24	0,25
M8	13	6	8	4	28	0,4
M10	16	8	10	5	32	
M12	18	10	12	6	38	0,6
M16	24	14	16	8	44	
M20	30	17	20	10	52	0,8
M24	36	19	24	12	60	

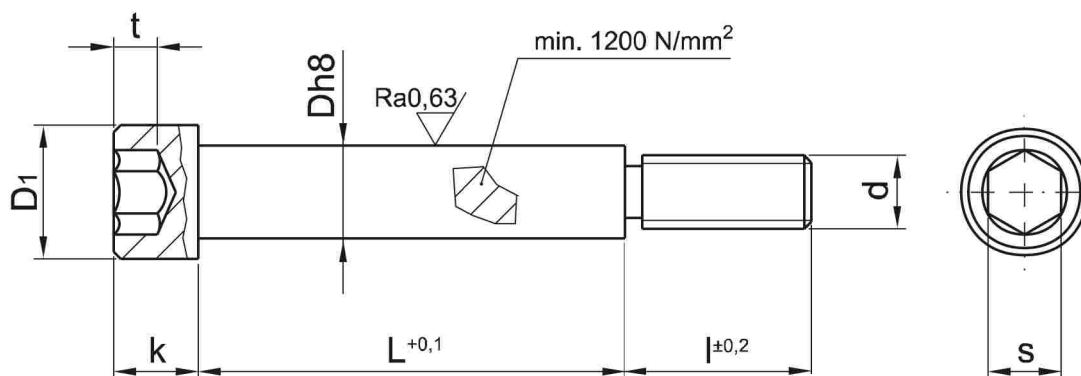
kl. 12.9

L	NR KAT.							L
	d							
	M6	M8	M10	M12	M16	M20	M24	
16	SM-06016	SM-08016	SM-10016					16
20	SM-06020	SM-08020	SM-10020	SM-12020				20
25	SM-06025	SM-08025	SM-10025	SM-12025	SM-16025			25
30	SM-06030	SM-08030	SM-10030	SM-12030	SM-16030	SM-20030		30
35	SM-06035	SM-08035	SM-10035	SM-12035	SM-16035			35
40	SM-06040	SM-08040	SM-10040	SM-12040	SM-16040	SM-20040	SM-24040	40
45	SM-06045	SM-08045	SM-10045	SM-12045	SM-16045	SM-20045		45
50	SM-06050	SM-08050	SM-10050	SM-12050	SM-16050	SM-20050	SM-24050	50
55	SM-06055	SM-08055	SM-10055	SM-12055	SM-16055	SM-20055		55
60	SM-06060	SM-08060	SM-10060	SM-12060	SM-16060	SM-20060	SM-24060	60
65	SM-06065	SM-08065	SM-10065	SM-12065	SM-16065	SM-20065		65
70	SM-06070	SM-08070	SM-10070	SM-12070	SM-16070	SM-20070	SM-24070	70
75	SM-06075	SM-08075	SM-10075	SM-12075	SM-16075			75
80	SM-06080	SM-08080	SM-10080	SM-12080	SM-16080	SM-20080	SM-24080	80
90	SM-06090	SM-08090	SM-10090	SM-12090	SM-16090	SM-20090	SM-24090	90
100	SM-06100	SM-08100	SM-10100	SM-12100	SM-16100	SM-20100	SM-24100	100
110	SM-06110	SM-08110	SM-10110	SM-12110	SM-16110	SM-20110	SM-24110	110
120	SM-06120	SM-08120	SM-10120	SM-12120	SM-16120	SM-20120	SM-24120	120
130	SM-06130	SM-08130	SM-10130	SM-12130	SM-16130	SM-20130	SM-24130	130
140	SM-06140	SM-08140	SM-10140	SM-12140	SM-16140	SM-20140	SM-24140	140
150		SM-08150	SM-10150	SM-12150	SM-16150	SM-20150	SM-24150	150
160	SM-06160	SM-08160	SM-10160	SM-12160	SM-16160	SM-20160	SM-24160	160
170				SM-12170	SM-16170	SM-20170		170
180	SM-06180	SM-08180	SM-10180	SM-12180	SM-16180	SM-20180	SM-24180	180
190					SM-16190	SM-20190		190
200	SM-06200	SM-08200	SM-10200	SM-12200	SM-16200	SM-20200	SM-24200	200
220		SM-08220	SM-10220	SM-12220	SM-16220	SM-20220	SM-24220	220
240			SM-10240	SM-12240	SM-16240	SM-20240	SM-24240	240
260			SM-10260	SM-12260	SM-16260	SM-20260	SM-24260	260
280			SM-10280	SM-12280	SM-16280	SM-20280	SM-24280	280
300					SM-16300	SM-20300	SM-24300	300
320						SM-20320		320
340					SM-16340	SM-20340	SM-24340	340
360								360
380					SM-16380			380
400								400
420					SM-16420			420

ŚRUBA PASOWANA

STRIPPER BOLTS

PSM



kl. 12.9

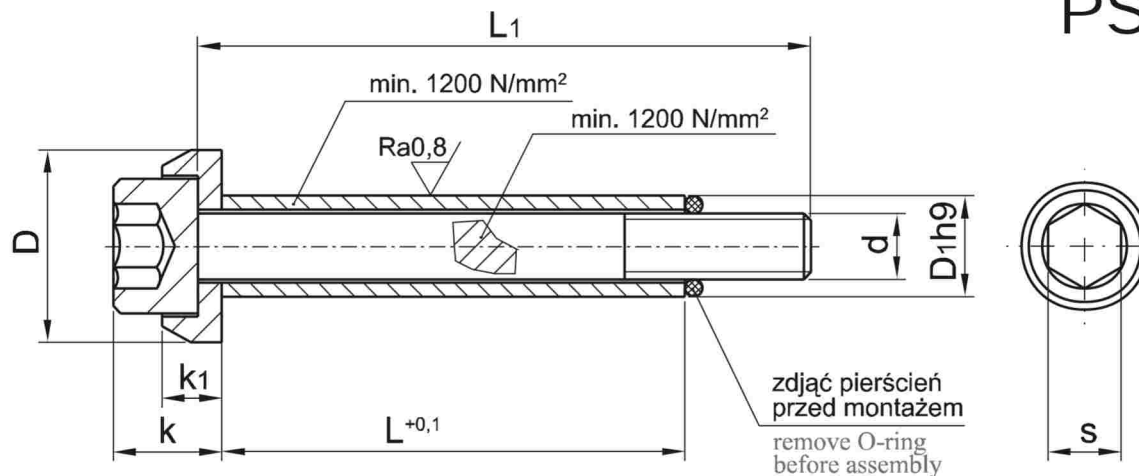


d	D	D1	l	k	s	t
M5	6	10	9,5	4,5	3	2
M6	8	13	11	5,5	4	3
M8	10	16	13	7	5	4
M10	12	18	16	9	6	5
M12	16	24	18	11	8	6
M16	20	30	22	14	10	8
M20	24	36	27	16	12	10

L	NR KAT.							L
	d							
	M5	M6	M8	M10	M12	M16	M20	
10	PSM-05010							10
12	PSM-05012	PSM-06012						12
16	PSM-05016	PSM-06016	PSM-08016	PSM-10016				16
20	PSM-05020	PSM-06020	PSM-08020	PSM-10020				20
25	PSM-05025	PSM-06025	PSM-08025	PSM-10025				25
30	PSM-05030	PSM-06030	PSM-08030	PSM-10030	PSM-12030			30
40	PSM-05040	PSM-06040	PSM-08040	PSM-10040	PSM-12040	PSM-16040		40
50		PSM-06050	PSM-08050	PSM-10050	PSM-12050	PSM-16050	PSM-20050	50
60			PSM-08060	PSM-10060	PSM-12060	PSM-16060	PSM-20060	60
70			PSM-08070	PSM-10070	PSM-12070	PSM-16070	PSM-20070	70
80			PSM-08080	PSM-10080	PSM-12080	PSM-16080	PSM-20080	80
90				PSM-10090	PSM-12090	PSM-16090	PSM-20090	90
100				PSM-10100	PSM-12100	PSM-16100	PSM-20100	100
120					PSM-12120	PSM-16120	PSM-20120	120

ŚRUBA PASOWANA Z TULEJKĄ STRIPPER BOLT WITH BUSHING

PST



d	D1	s	k	k1	D
M6	10	5	10	5,5	15
M8	12,5	6	13	6,5	19
M10	15	8	15	7,5	23
M12	17,5	10	18	9,0	27
M16	23	14	24	11,0	34

L	NR KAT.										L
	d M6	L1	d M8	L1	d M10	L1	d M12	L1	d M16	L1	
20	PST-06020	35									20
25	PST-06025	40									25
30	PST-06030	45	PST-08030	45	PST-10030	50					30
35	PST-06035	50	PST-08035	50	PST-10035	55					35
40	PST-06040	55	PST-08040	55	PST-10040	60	PST-12040	60			40
45	PST-06045	60	PST-08045	60	PST-10045	65	PST-12045	65			45
50	PST-06050	65	PST-08050	65	PST-10050	70	PST-12050	70	PST-16050	80	50
55	PST-06055	70	PST-08055	70	PST-10055	75	PST-12055	80			55
60	PST-06060	80	PST-08060	80	PST-10060	80	PST-12060	90	PST-16060	90	60
70	PST-06070	90	PST-08070	90	PST-10070	90	PST-12070	100	PST-16070	100	70
80	PST-06080	100	PST-08080	100	PST-10080	100	PST-12080	110	PST-16080	110	80
90	PST-06090	110	PST-08090	110	PST-10090	110	PST-12090	120	PST-16090	120	90
100			PST-08100	120	PST-10100	120	PST-12100	130	PST-16100	130	100
110							PST-12110	140	PST-16110	140	110
120					PST-10120	140	PST-12120	150	PST-16120	150	120
140							PST-12140	180	PST-16140	180	140
150									PST-16150	180	150
160									PST-16160	200	160