

**KALİTE®**  
**OTOMAT**

Just In Time, Quality Production  
since 1994



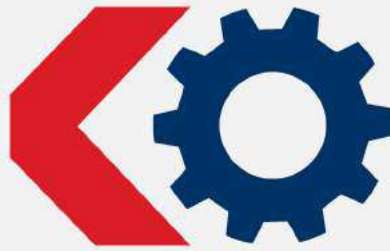
# PRODUCT CATALOGUE

Kalite Otomat Mak. San. ve Tic. Ltd. Şti.



SCAN ME

# SPECIAL MADE PRODUCTS



**KALITE®**  
**OTOMAT**

Just In Time, Quality Production  
since 1994



WORLDWIDE SHIPPING  
FREE SAMPLES

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## ABOUT US



Kalite Otomat was established in 1994 to manufacture spare parts for the automotive sector. From 1994 to 2001 mainly to automotive industry, we manufacture different type of turning parts according to our customers drawings.



Since 2001, we mostly aimed for producing to the gas springs sector. We produce parts for gas spring industry according to our customers drawings. We produce parts such as; ball socket, ball stud, ball joint, clevis, eye, as well as the connection parts.



Today we are continuously producing gas spring fittings and increasing our production capacity day by day.



### Our Motto

Just in Time,  
Quality Production

### Our Mission

Our mission is to give our customers the best service they can get and help them out in the line of their needs.

### Our Vision

To have reputable  
name in the  
Gas Spring firms.



# PROFILE



OUR COMPANY  
WAS ESTABLISHED  
IN 1994



650 M2 FACTORY  
AREA IN ISTANBUL



25 EMPLOYEES  
WITH AN AVERAGE  
EXPERIENCE OF 7  
YEARS



SEVERAL LOCAL,  
EUROPEAN AND  
AMERICAN  
CUSTOMERS



GROWING EXPORT  
FIGURES IN TOTAL  
REVENUE



MANUFACTURING  
PARTS OUT OF  
STEEL, STAINLESS  
STEEL, BRASS AND  
ALUMINUM

Since 1994 we continue our way with an affordable price and quality production.

Inline with the expectations of our customers and the market, we are constantly renewing our business understanding and our machines.

We do not only buy machines and use as it is, we make our modifications as needed, depending on the part.

We produce more than 5 million pieces of part every year.



Reasonable  
price



Quality  
production



Fast service



24/7 availability



Full compliance  
with customer  
requests



Delivery on time



26 years  
experience in  
the sector

NAME OF MACHINE	MODEL	QUANTITY
GOODWAY	Lathe CNC / 2019	3
SCHUTTE	SE-25	3
INDEX	B-60	5
INDEX	B-42	4
INDEX	B-25	8
INDEX	B-18	5
INDEX	C-29	3
CNC TRANSFER	2007 / 6 Units	1
CNC TRANSFER	2016 / 6 Units	1
CNC TRANSFER	2018 / 12 Units	1
CNC TRANSFER	2019 / 12 Units	1
ASSEMBLY MACHINE	Special Machine / 2018	1
REVOLVER	42l	2
TABLE DRILL		3
ASSEMBLY APPARAT		2

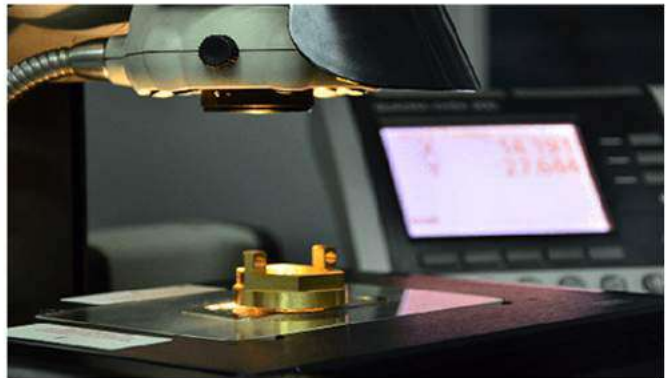






In order to keep our quality processes under the ISO 9001:2015 standard, we regularly receive service for an inspection every month.

Under supervision of our specialist quality control staff we manufacture and we guarantee that our part sare 100% conformable to DIN norms and that the parts surfaces are smooth and clean.





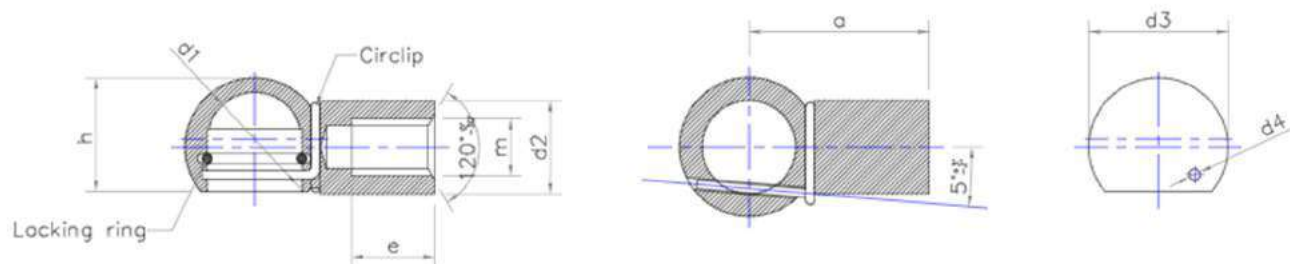
# BALL SOCKET & BALL CUP

DIN 71805 FORM B



CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	DIN 71805 Form A
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Left-hand threaded
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		





CODE	d1	m	d2	d3	$\alpha$	e	d4	h
	+0,05		$\pm 0,5$	$\pm 0,3$	$\pm 0,5$	min.	$\pm 0,15$	$\pm 0,4$
KBS 818	8,1	M4	8	12,8	18	9	1,3	10,8
KBS 820	8,1	M4	8	12,8	20	10	1,3	10,8
KBS 8	8,1	M5	8	12,8	22	11	1,3	10,8
KBS 8226	8,1	M6	8	12,8	22	11	1,3	10,8
KBS 1018	10,1	M6	10	14,8	18	9,5	1,3	12,3
KBS 10188	10,1	M8	10	14,8	18	9,5	1,3	12,3
KBS 1019	10,1	M6	10	14,8	19	10	1,3	12,3
KBS 10198	10,1	M8	10	14,8	19	10	1,3	12,3
KBS 1020	10,1	M6	10	14,8	20	10	1,3	12,3
KBS 10208	10,1	M8	10	14,8	20	10	1,3	12,3
KBS 1021	10,1	M6	10	14,8	21	11	1,3	12,3
KBS 1022	10,1	M6	10	14,8	22	11	1,3	12,3
KBS 10228	10,1	M8	10	14,8	22	11	1,3	12,3
KBS 10	10,1	M6	10	14,8	25	12	1,3	12,3
KBS 10258	10,1	M8	10	14,8	25	12	1,3	12,3
KBS 1318	13,1	M8	13	19,3	18	12	1,6	15,8
KBS 1319	13,1	M8	13	19,3	19	12	1,6	15,8
KBS 1320	13,1	M8	13	19,3	20	12	1,6	15,8
KBS 1322	13,1	M8	13	19,3	22	12	1,6	15,8
KBS 13256	13,1	M6	13	19,3	25	12	1,6	15,8
KBS 1325	13,1	M8	13	19,3	25	12	1,6	15,8
KBS 132510	13,1	M10	13	19,3	25	12	1,6	15,8
KBS 13306	13,1	M6	13	19,3	30	14	1,6	15,8
KBS 13	13,1	M8	13	19,3	30	14	1,6	15,8
KBS 133010	13,1	M10	13	19,3	30	14	1,6	15,8
KBS 1625	16,1	M10	16	24	25	12	1,8	20
KBS 1630	16,1	M10	16	24	30	14	1,8	20
KBS 16308	16,1	M8	16	24	30	14	1,8	20
KBS 16358	16,1	M8	16	24	35	16	1,8	20
KBS 16	16,1	M10	16	24	35	16	1,8	20
KBS 19	19,1	M14	22	30	45	21,5	1,9	25
KBS 194516	19,1	M16	22	30	45	21,5	1,9	25

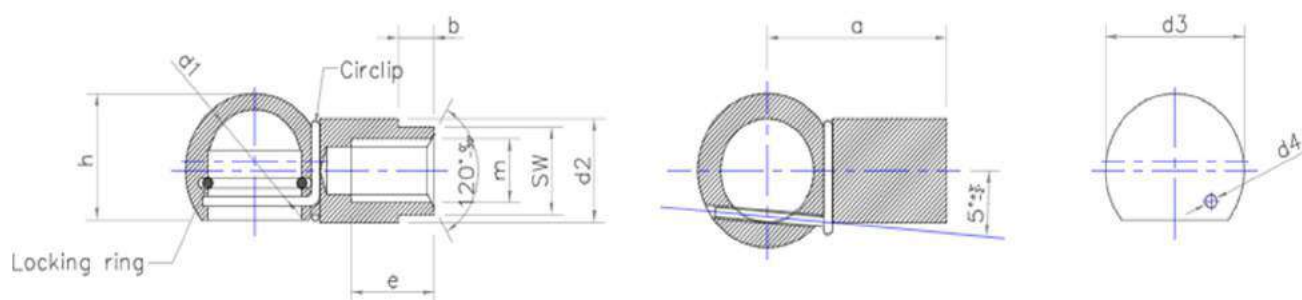


# BALL SOCKET & BALL CUP WITH SPANNER FLAT

DIN 71805 FORM B



CODE	MATERIAL	CODE	COATING	CODE	OTHER
<b>A</b>	Steel DIN 1.0718 (11SMnPb30+C)	<b>F</b>	Zn/White	<b>L</b>	DIN 71805 Form A
<b>B</b>	Steel C1020, C1035, C1040 etc.	<b>G</b>	Zn/Black	<b>M</b>	Left-hand threaded
<b>C</b>	Stainless Steel DIN 1.4305 (AISI 303)	<b>H</b>	Zn/Yellow		
<b>D</b>	Stainless Steel DIN 1.4301 (AISI 304)	<b>I</b>	Zn/Ni Black		
<b>E</b>	Stainless Steel DIN 1.4401 (AISI 316)	<b>J</b>	Zn/Ni Transparently		
		<b>K</b>	Uncoated		



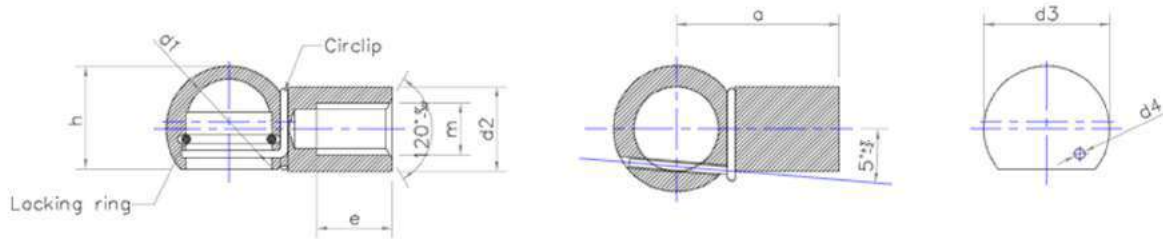
CODE	d1	m	d2	d3	a	e	b	SW
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KBS-SF 818	8,1	M4	8	12,8	18	9	5	6
KBS-SF 820	8,1	M4	8	12,8	20	10	5	6
KBS-SF 8	8,1	M5	8	12,8	22	11	5	6
KBS-SF 8226	8,1	M6	8	12,8	22	11	5	6
KBS-SF 1018	10,1	M6	10	14,8	18	9,5	5	8
KBS-SF 10188	10,1	M8	10	14,8	18	9,5	5	9
KBS-SF 1019	10,1	M6	10	14,8	19	10	5	8
KBS-SF 10198	10,1	M8	10	14,8	19	10	5	9
KBS-SF 1020	10,1	M6	10	14,8	20	10	5	8
KBS-SF 10208	10,1	M8	10	14,8	20	10	5	9
KBS-SF 1021	10,1	M6	10	14,8	21	11	5	8
KBS-SF 1022	10,1	M6	10	14,8	22	11	5	8
KBS-SF 10228	10,1	M8	10	14,8	22	11	5	9
KBS-SF 10	10,1	M6	10	14,8	25	12	5	8
KBS-SF 10258	10,1	M8	10	14,8	25	12	5	9
KBS-SF 13256	13,1	M6	13	19,3	25	12	5	11
KBS-SF 1325	13,1	M8	13	19,3	25	12	5	11
KBS-SF 132510	13,1	M10	13	19,3	25	12	5	11
KBS-SF 13306	13,1	M6	13	19,3	30	14	5	11
KBS-SF 13	13,1	M8	13	19,3	30	14	5	11
KBS-SF 133010	13,1	M10	13	19,3	30	14	5	11
KBS-SF 1625	16,1	M10	16	24	25	12	6	14
KBS-SF 1630	16,1	M10	16	24	30	14	6	14
KBS-SF 16308	16,1	M8	16	24	30	14	6	14
KBS-SF 16358	16,1	M8	16	24	35	16	6	14
KBS-SF 16	16,1	M10	16	24	35	16	6	14
KBS-SF 19	19,1	M14	22	30	45	21,5	8	19
KBS-SF 194516	19,1	M16	22	30	45	21,5	8	19





# 9° ANGLE BALL SOCKET & BALL CUP

## DIN 71805 FORM B



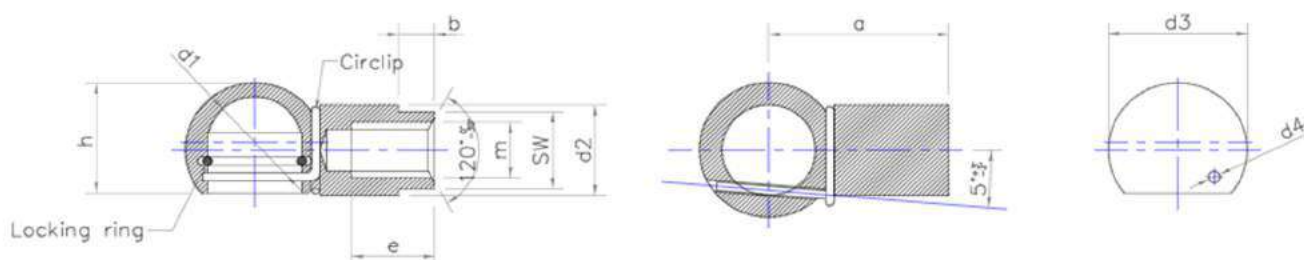
CODE	d1	m	d2	d3	a	e	d4	h
	+0,05		±0,5	±0,3	±0,5	min.	±0,15	±0,4
KBS-A 818	8,1	M4	8	12,8	18	9	1,3	10,8
KBS-A 820	8,1	M4	8	12,8	20	10	1,3	10,8
KBS-A 8	8,1	M5	8	12,8	22	11	1,3	10,8
KBS-A 8226	8,1	M6	8	12,8	22	11	1,3	10,8
KBS-A 1018	10,1	M6	10	14,8	18	9,5	1,3	12,3
KBS-A 10188	10,1	M8	10	14,8	18	9,5	1,3	12,3
KBS-A, 1019	10,1	M6	10	14,8	19	10	1,3	12,3
KBS-A 10198	10,1	M8	10	14,8	19	10	1,3	12,3
KBS-A 1020	10,1	M6	10	14,8	20	10	1,3	12,3
KBS-A 10208	10,1	M8	10	14,8	20	10	1,3	12,3
KBS-A 1021	10,1	M6	10	14,8	21	11	1,3	12,3
KBS-A 1022	10,1	M6	10	14,8	22	11	1,3	12,3
KBS-A 10228	10,1	M8	10	14,8	22	11	1,3	12,3
KBS-A 10	10,1	M6	10	14,8	25	12	1,3	12,3
KBS-A 10258	10,1	M8	10	14,8	25	12	1,3	12,3
KBS-A 13256	13,1	M6	13	19,3	25	12	1,6	15,8
KBS-A 1325	13,1	M8	13	19,3	25	12	1,6	15,8
KBS-A 132510	13,1	M10	13	19,3	25	12	1,6	15,8
KBS-A 13306	13,1	M6	13	19,3	30	14	1,6	15,8
KBS-A 13	13,1	M8	13	19,3	30	14	1,6	15,8
KBS-A 133010	13,1	M10	13	19,3	30	14	1,6	15,8
KBS-A 1625	16,1	M10	16	24	25	12	1,8	20
KBS-A 1630	16,1	M10	16	24	30	14	1,8	20
KBS-A 16308	16,1	M8	16	24	30	14	1,8	20
KBS-A 16358	16,1	M8	16	24	35	16	1,8	20
KBS-A 16	16,1	M10	16	24	35	16	1,8	20
KBS-A 19	19,1	M14	22	30	45	21,5	1,9	25
KBS-A 194516	19,1	M16	22	30	45	21,5	1,9	25

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	DIN 71805 Form A
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Left-hand threaded
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow	N	16° Angle
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		



# AXIAL BALL SOCKET & BALL CUP

## DIN 71805

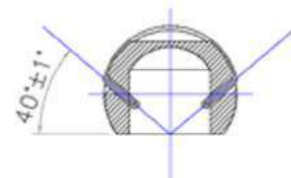
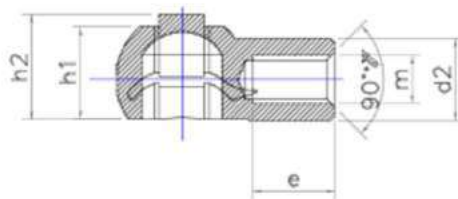
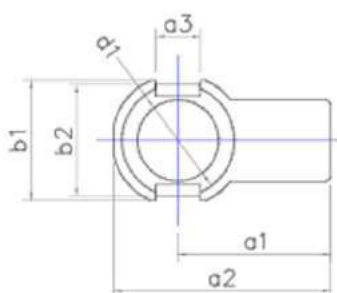


CODE	d1	m	d2	d3	a	e	pull-out force F
	+0,05		±0,5	±0,3	±0,5	min.	in N
KBS-AX 8	8,1	M5	8	12,8	22	11	30
KBS-AX 10	10,1	M6	10	14,8	25	12	40
KBS-AX 13	13,1	M8	13	19,3	30	14	60
KBS-AX 16	16,1	M10	16	24	35	16	80
KBS-AX 163512	16,1	M12	16	24	35	16	80
KBS-AX 19	19,1	M14	22	30	45	21,5	100
KBS-AX 194516	19,1	M16	22	30	45	21,5	100

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		



# BALL SOCKET & BALL CUP WITH SLIT AND CLIP



CODE	d1	m	d2	b1	a	e	h22	h1
	+0,05		±0,5	±0,1	±0,5	min.	±0,3	±0,3
KBS-S 1019	10,1	M6	10	14	19	10	13	11,7
KBS-S 10198	10,1	M8	10	14	19	10	13	11,7
KBS-S 1025	10,1	M6	10	14	25	11,5	13	11,7

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		





“QUALITY IS NEVER A COINCIDENCE,  
BUT ALWAYS A SMART ENDEAVOR.”





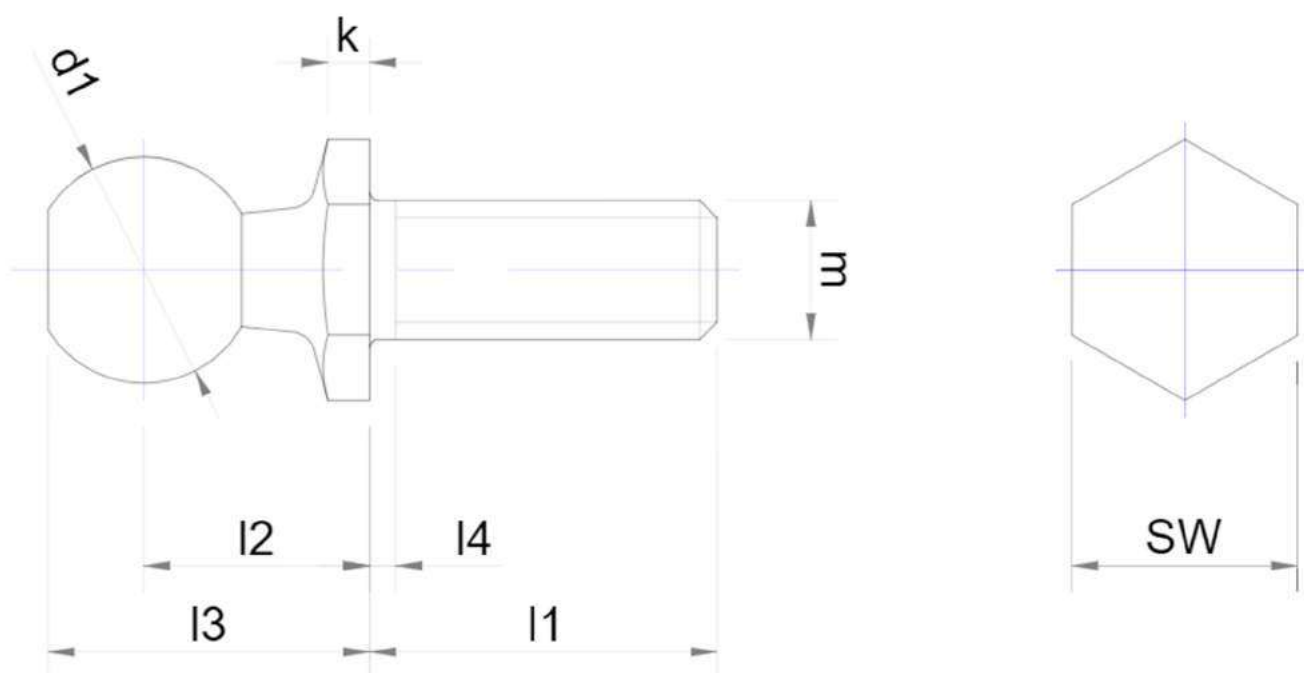
# BALL STUD

## DIN 71803 HEX



CODE	MATERIAL	CODE	COATING	CODE	OTHER
<b>A</b>	Steel DIN 1.0718 (11SMnPb30+C)	<b>F</b>	Zn/White	<b>L</b>	Left-hand threaded
<b>B</b>	Steel C1020, C1035, C1040 etc.	<b>G</b>	Zn/Black	<b>M</b>	Induction hardened on spherical surface, HRC>52, depth min 1 mm
<b>C</b>	Stainless Steel DIN 1.4305 (AISI 303)	<b>H</b>	Zn/Yellow		
<b>D</b>	Stainless Steel DIN 1.4301 (AISI 304)	<b>I</b>	Zn/Ni Black		
<b>E</b>	Stainless Steel DIN 1.4401 (AISI 316)	<b>J</b>	Zn/Ni Transparently		
		<b>K</b>	Uncoated		





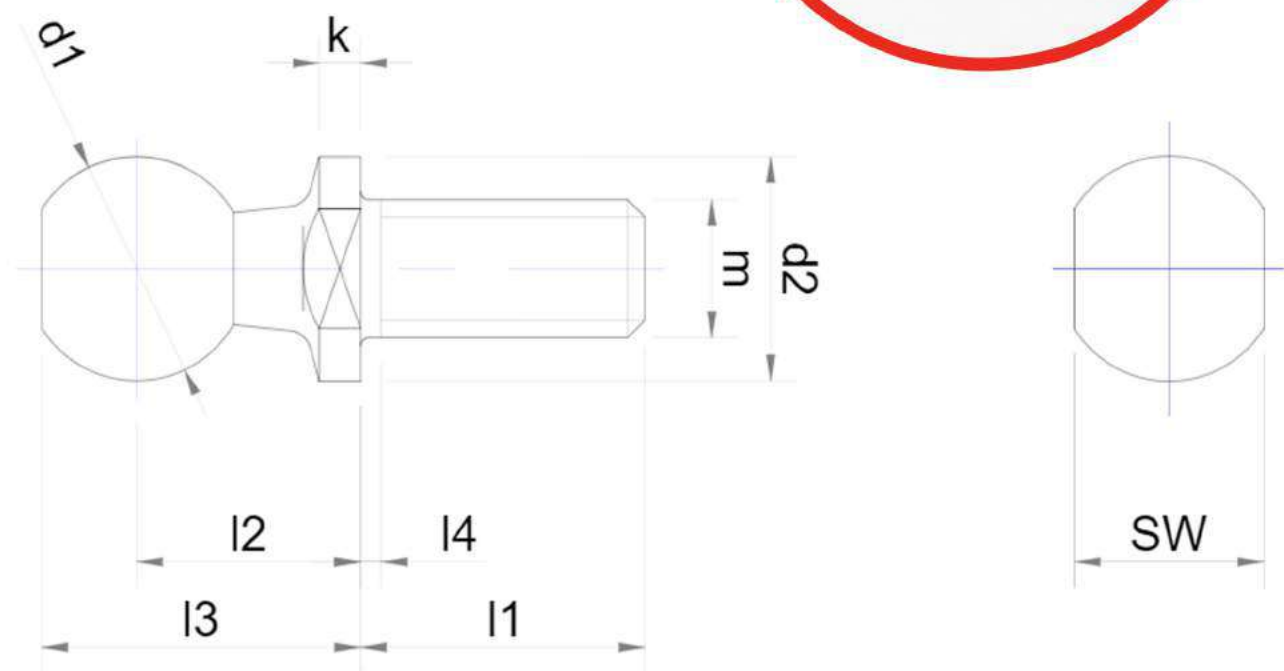
CODE	$d_1$	m	$l_1$	$l_2$	$l_3$	SW	$k$	$l_4$
	h9		$\pm 0,3$	$\pm 0,3$	$\pm 0,3$		$\pm 0,4$	min.
KBSD 8	8	M5	10,2	9	12,5	8	2	1,2
KBSD 86	8	M6	10,2	9	12,5	8	2	1,2
KBSD 10	10	M6	12,5	11	15,5	10	2,2	1,2
KBSD 101016	10	M6	16,5	11	15,5	10	2,2	1,2
KBSD 10108	10	M8	12,5	11	15,5	10	2,2	1,2
KBSD 10138	10	M8	13	12,5	17	13	2,2	1,2
KBSD 1017	10	M8	16,5	12,5	17	13	2,2	1,2
KBSD 1018	10	M8	18	12,5	17	13	2,2	1,2
KBSD 1020	10	M8	20	12,5	17	13	2,2	1,2
KBSD 1025	10	M8	25	12,5	17	13	2,2	1,2
KBSD 13	13	M8	16,5	13	18,5	13	2,4	1,5
KBSD 131710	13	M10	16,5	13	18,5	13	2,4	1,5
KBSD 1320	13	M8	20	13	18,5	13	2,4	1,5
KBSD 132010	13	M10	20	13	18,5	13	2,4	1,5
KBSD 1325	13	M8	25	13	18,5	13	2,4	1,5
KBSD 132510	13	M10	25	13	18,5	13	2,4	1,5
KBSD 1330	13	M8	30	13	18,5	13	2,4	1,5
KBSD 16	16	M10	20	16	23	17	2,7	2,5
KBSD 162012	16	M12	20	16	23	17	2,7	2,5
KBSD 19	19	M14X1,5	28	20	28,5	19	3	5
KBSD 192814	19	M14	28	20	28,5	19	3	5
KBSD 192816	19	M16	28	20	28,5	19	3	5





# BALL STUD

## DIN 71803 FORM C



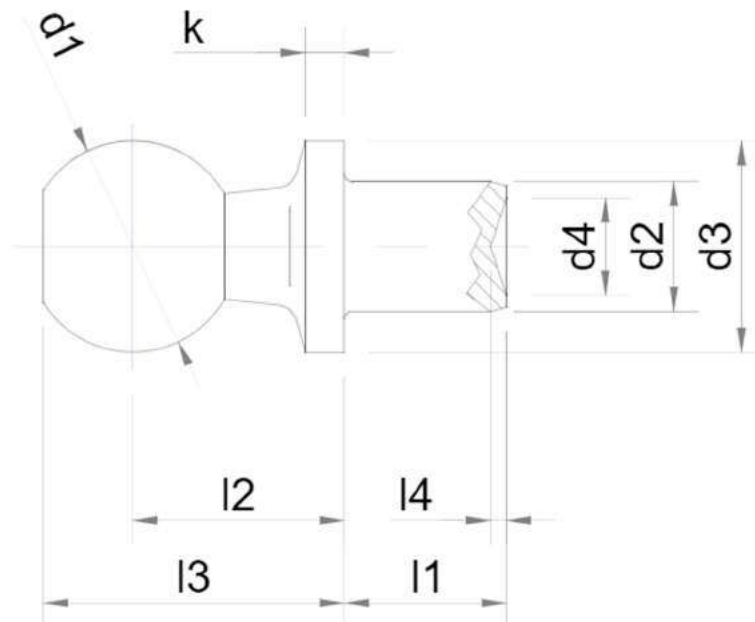
CODE	d1	m	l1	l2	l3	d2	SW	k	l4
	h9		±0,3	±0,3	±0,3	h14		+0,4	min.
<b>KBSD-C 8</b>	8	M5	10,2	9	12,5	8	7	2	1,2
<b>KBSD-C 10</b>	10	M6	12,5	11	15,5	10	8	2,2	1,2
<b>KBSD-C 108</b>	10	M8	15	12,5	17	13	11	2,4	1,2
<b>KBSD-C 13</b>	13	M8	16,5	13	18,5	13	11	2,4	1,5
<b>KBSD-C 16</b>	16	M10	20	16	23	16	13	2,7	2,5
<b>KBSD-C 1612</b>	16	M12	20	16	23	16	13	2,7	2,5
<b>KBSD-C 19</b>	19	M14	28	20	28,5	19	16	3	5
<b>KBSD-C 1916</b>	19	M16	28	20	28,5	19	16	3	5

CODE	MATERIAL	CODE	COATING	CODE	OTHER
<b>A</b>	Steel DIN 1.0718 (11SMnPb30+C)	<b>F</b>	Zn/White	<b>L</b>	Left-hand threaded
<b>B</b>	Steel C1020, C1035, C1040 etc.	<b>G</b>	Zn/Black	<b>M</b>	Induction hardened on spherical surface, HRC>52, depth min 1 mm
<b>C</b>	Stainless Steel DIN 1.4305 (AISI 303)	<b>H</b>	Zn/Yellow		
<b>D</b>	Stainless Steel DIN 1.4301 (AISI 304)	<b>I</b>	Zn/Ni Black		
<b>E</b>	Stainless Steel DIN 1.4401 (AISI 316)	<b>J</b>	Zn/Ni Transparently		
		<b>K</b>	Uncoated		



# BALL STUD

## DIN 71803 FORM B



CODE	d1	d2	l1	l2	l3	d3	d4	k	l4
	h9	h11	±0,3	±0,3	±0,3	h14	-0,4	+0,4	±0,1
KBSD-B 1	8	5	4	9	12,5	8	4	2	1
KBSD-B 2	8	5	7,5	9	12,5	8	4	2	1
KBSD-B 3	8	6	3,5	11	14,5	8	5	2	1
KBSD-B 4	8	6	4,5	11	14,5	8	5	2	1
KBSD-B 5	10	6	3,5	11	15,5	10	5	2,2	1
KBSD-B 6	10	6	3,5	12,5	17	10	5	2,2	1
KBSD-B 7	10	6	4,5	11	15,5	10	5	2,2	1
KBSD-B 8	10	6	4,5	12,5	17	10	5	2,2	1
KBSD-B 9	10	6	8	11	15,5	10	5	2,2	1
KBSD-B 10	13	8	4,5	13	18,5	13	6	2,4	1
KBSD-B 11	13	8	5	13	18,5	13	6	2,4	1
KBSD-B 12	13	8	10	13	18,5	13	6	2,4	1
KBSD-B 13	16	10	6	16	23	16	8	2,7	1
KBSD-B 14	16	10	13	16	23	16	8	2,7	1
KBSD-B 15	19	14	12	20	28,5	19	10	3	1
KBSD-B 16	19	14	18	20	28,5	19	10	3	1

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Induction hardened on spherical surface, HRC>52, depth min 1 mm
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		



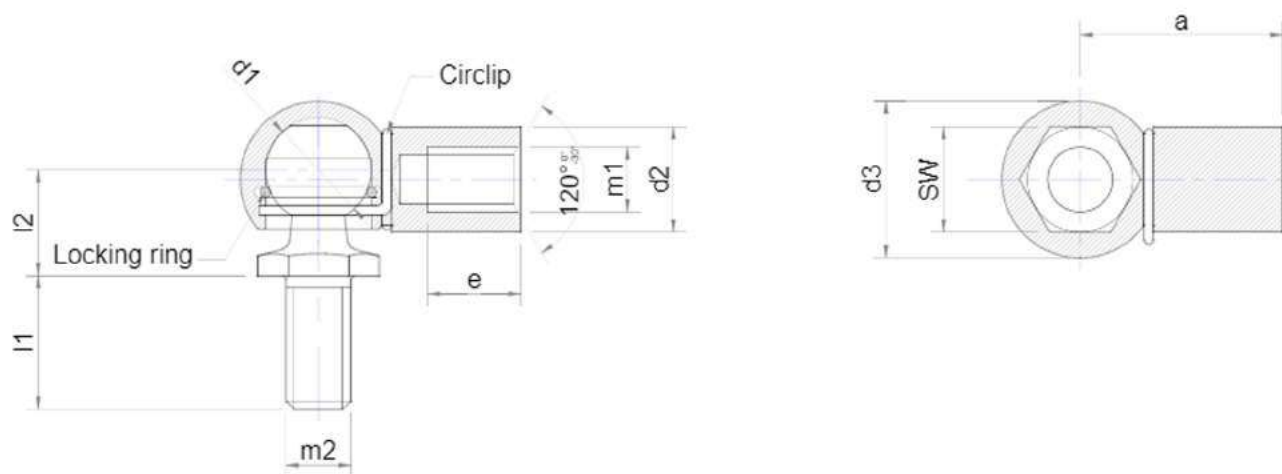
# BALL JOINTS & ANGLE JOINTS

FORM CS DIN 71802 WITH HEX BALL STUD



CODE	MATERIAL	CODE	COATING	CODE	OTHER
<b>A</b>	Steel DIN 1.0718 (11SMnPb30+C)	<b>F</b>	Zn/White	<b>L</b>	Left-hand threaded form Ball Socket
<b>B</b>	Steel C1020, C1035, C1040 etc.	<b>G</b>	Zn/Black	<b>M</b>	Ball Stud: Induction hardened on spherical surface, HRC>52, depth min 1 mm
<b>C</b>	Stainless Steel DIN 1.4305 (AISI 303)	<b>H</b>	Zn/Yellow		
<b>D</b>	Stainless Steel DIN 1.4301 (AISI 304)	<b>I</b>	Zn/Ni Black		
<b>E</b>	Stainless Steel DIN 1.4401 (AISI 316)	<b>J</b>	Zn/Ni Transparently		
		<b>K</b>	Uncoated		





CODE	d1	m1	m2	a	l1	l2	SW	d2	d3	e
	+0,05			±0,3	±0,3	±0,3	h14	±0,5	±0,5	min.
KBJ 818	8,1	M5	M5	18	10,2	9	8	8	12,8	9
KBJ 8186	8,1	M5	M6	18	10,2	9	8	8	12,8	9
KBJ 8	8,1	M5	M5	22	10,2	9	8	8	12,8	10
KBJ 8226	8,1	M5	M6	22	10,2	9	8	8	12,8	10
KBJ 82265	8,1	M6	M5	22	10,2	9	8	8	12,8	10
KBJ 10186	10,1	M6	M6	18	12,5	11	10	10	14,8	9,5
KBJ 1018	10,1	M6	M8	18	13	12,5	13	10	14,8	9,5
KBJ 10188	10,1	M8	M8	18	13	12,5	13	10	14,8	9,5
KBJ 10196	10,1	M6	M6	19	12,5	11	10	10	14,8	10
KBJ 1019	10,1	M6	M8	19	13	12,5	13	10	14,8	10
KBJ 10198	10,1	M8	M8	19	13	12,5	13	10	14,8	10
KBJ 10206	10,1	M6	M6	20	12,5	11	10	10	14,8	10
KBJ 1020	10,1	M6	M8	20	13	12,5	13	10	14,8	10
KBJ 10208	10,1	M8	M8	20	13	12,5	13	10	14,8	10
KBJ 10216	10,1	M6	M6	21	12,5	11	10	10	14,8	11
KBJ 1021	10,1	M6	M8	21	13	12,5	13	10	14,8	11
KBJ 10226	10,1	M6	M6	22	12,5	11	10	10	14,8	11
KBJ 1022	10,1	M6	M8	22	13	12,5	13	10	14,8	11
KBJ 10228	10,1	M8	M8	22	13	12,5	13	10	14,8	11
KBJ 10	10,1	M6	M6	25	12,5	11	10	10	14,8	12
KBJ 1025	10,1	M6	M8	25	13	12,5	13	10	14,8	12
KBJ 10258	10,1	M8	M8	25	13	12,5	13	10	14,8	12
KBJ 1320	13,1	M8	M8	20	16,5	13	13	13	19,3	10
KBJ 1322	13,1	M8	M8	22	16,5	13	13	13	19,3	11
KBJ 1325	13,1	M8	M8	25	16,5	13	13	13	19,3	12
KBJ 132510	13,1	M8	M10	25	16,5	13	13	13	19,3	12
KBJ 13	13,1	M8	M8	30	16,5	13	13	13	19,3	14
KBJ 133010	13,1	M8	M10	30	16,5	13	13	13	19,3	14
KBJ 16	16,1	M10	M10	35	20	16	17	16	24	15,5
KBJ 163512	16,1	M10	M12	35	20	16	17	16	24	15,5
KBJ 16351212	16,1	M12	M12	35	20	16	17	16	24	15,5
KBJ 19	19,1	M14	M14	45	28	20	19	22	30	21,5
KBJ 194516	19,1	M14	M16	45	28	20	19	22	30	21,5
KBJ 19451616	19,1	M16	M16	45	28	20	19	22	30	21,5

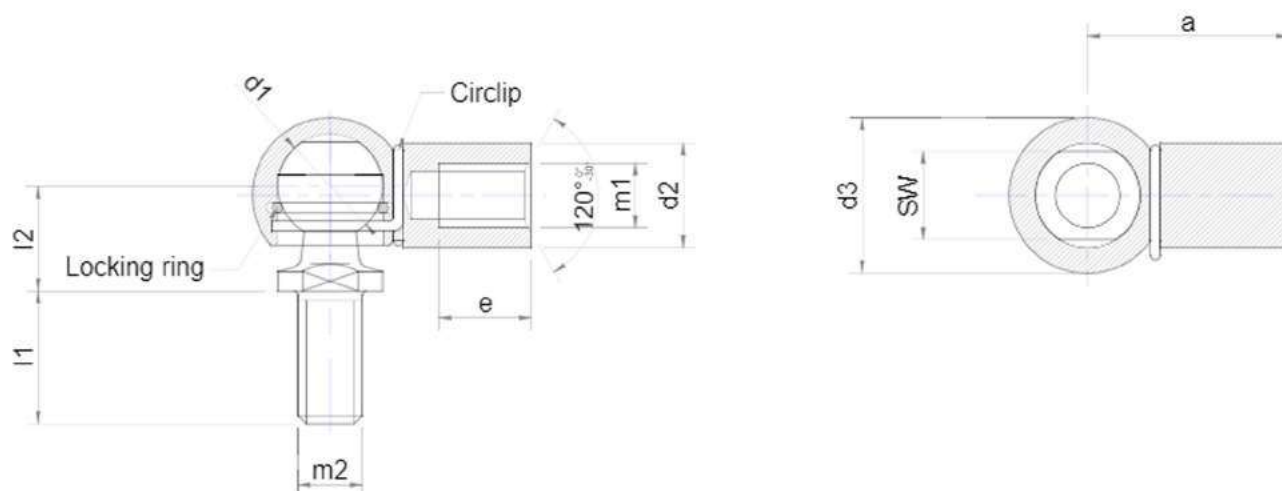


# BALL JOINTS & ANGLE JOINTS

## FORM CS DIN 71802 WITH FORM C BALL STUD



CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Left-hand threaded form Ball Socket
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Ball Stud: Induction hardened on spherical surface, HRC>52, depth min 1 mm
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		



CODE	d1	m1	m2	a	l1	l2	SW	d2	d3	e
	+0,05			±0,3	±0,3	±0,3	h14	±0,5	±0,5	min.
KBJ-C 8	8,1	M5	M5	22	10,2	9	7	8	12,8	10
KBJ-C 1018	10,1	M6	M6	18	13	12,5	8	10	14,8	9,5
KBJ-C 1019	10,1	M6	M6	19	13	12,5	8	10	14,8	10
KBJ-C 1020	10,1	M6	M6	20	13	12,5	8	10	14,8	10
KBJ-C 1021	10,1	M6	M6	21	13	12,5	8	10	14,8	11
KBJ-C 1022	10,1	M6	M6	22	13	12,5	8	10	14,8	11
KBJ-C 10	10,1	M6	M6	25	12,5	11	8	10	14,8	12
KBJ-C 1320	13,1	M8	M8	20	16,5	13	11	13	19,3	10
KBJ-C 1322	13,1	M8	M8	22	16,5	13	11	13	19,3	11
KBJ-C 1325	13,1	M8	M8	25	16,5	13	11	13	19,3	12
KBJ-C 13	13,1	M8	M8	30	16,5	13	11	13	19,3	14
KBJ-C 16	16,1	M10	M10	35	20	16	13	16	24	15,5
KBJ-C 163512	16,1	M12	M12	35	20	16	13	16	24	15,5
KBJ-C 19	19,1	M14	M14	45	28	20	16	22	30	21,5
KBJ-C 194516	19,1	M16	M16	45	28	20	16	22	30	21,5

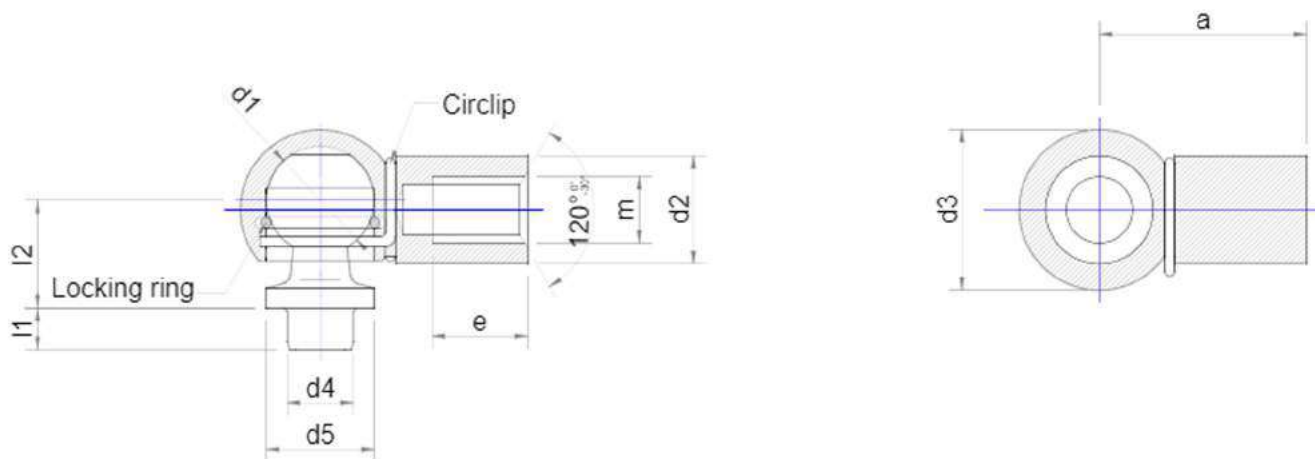






# BALL JOINTS & ANGLE JOINTS

## FORM CS DIN 71802 WITH FORM B BALL STUD



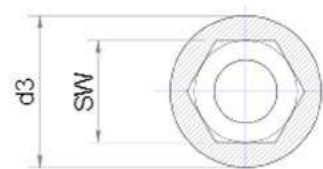
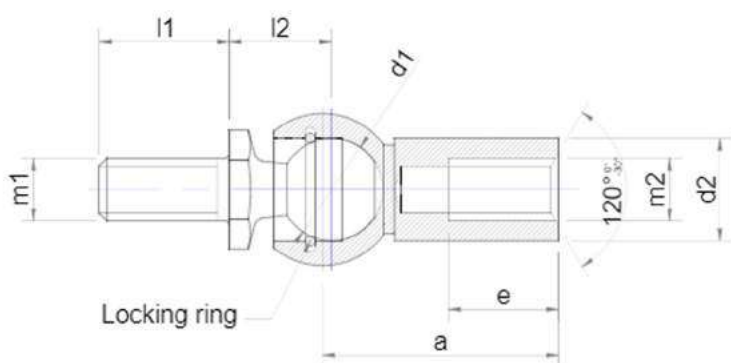
CODE	d1	m1	d4	a	l1	l2	d5	d2	d3	e
	+0,05		h11	±0,3	±0,3	±0,3	h14	±0,5	±0,5	min.
KBJ-B 8	8,1	M5	5	22	4	9	8	8	12,8	10
KBJ-B 8.1	8,1	M5	5	22	7,5	9	8	8	12,8	10
KBJ-B 10.1	10,1	M6	6	25	4,5	11	10	10	14,8	11,5
KBJ-B 10.2	10,1	M6	6	25	8	11	10	10	14,8	11,5
KBJ-B 10.3	10,1	M8	6	25	8	11	10	10	14,8	11,5
KBJ-B 1325	13,1	M8	8	25	5	13	13	13	19,3	12
KBJ-B 1325.2	13,1	M8	8	25	10	13	13	13	19,3	12
KBJ-B 13	13,1	M8	8	30	5	13	13	13	19,3	14
KBJ-B 13.2	13,1	M8	8	30	10	13	13	13	19,3	14
KBJ-B 16	16,1	M10	10	35	6	16	16	16	24	15,5
KBJ-B 16.2	16,1	M10	10	35	13	16	16	16	24	15,5
KBJ-B 16.3	16,1	M12	10	35	6	16	16	16	24	15,5
KBJ-B 16.4	16,1	M12	10	35	13	16	16	16	24	15,5
KBJ-B 19	19,1	M14	14	45	12	20	19	22	30	21,5
KBJ-B 19.2	19,1	M14	14	45	20	20	19	22	30	21,5
KBJ-B 19.3	19,1	M16	14	45	12	20	19	22	30	21,5
KBJ-B 19.4	19,1	M16	14	45	20	20	19	22	30	21,5

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	DIN 71802 Form C
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Left-hand threaded form Ball Socket
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow	N	Ball Stud: Induction hardened on spherical surface, HRC>52, depth min 1 mm
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
		K	Uncoated		



# AXIAL JOINTS

## DIN 71802 WITH HEX BALL STUD



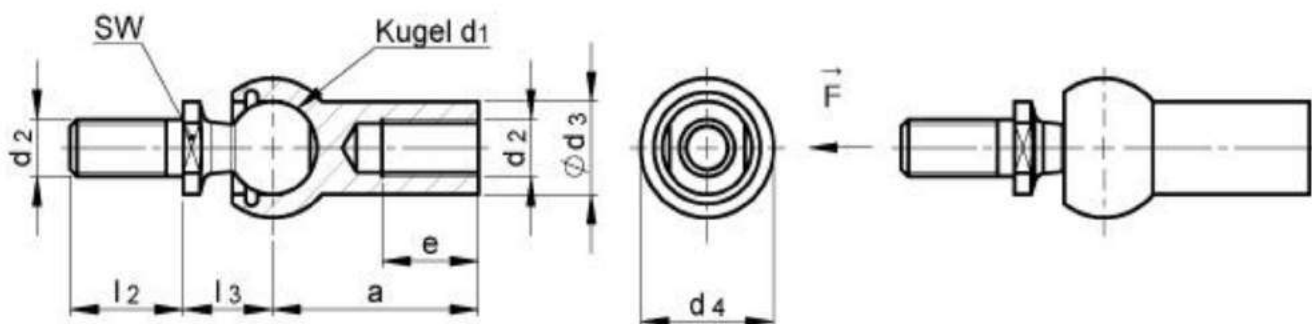
CODE	d1	m1	m2	a	l1	l2	SW	d2	d3	e	pull-out force F
	+0,05			±0,3				±0,5			
KBJ-AX 8	8,1	M5	M6	22	10	9	8	8,3	12,8	10	30
KBJ-AX 10	10,1	M6	M6	25	12,5	11	10	10,3	14,8	11,5	40
KBJ-AX 10.2	10,1	M6	M8	25	12,5	11	10	10,3	14,8	11,5	40
KBJ-AX 10.3	10,1	M6	M8	25	13	12,5	13	10,3	14,8	11,5	40
KBJ-AX 10.4	10,1	M6	M8	25	16,5	12,5	13	10,3	14,8	11,5	40
KBJ-AX 10.5	10,1	M6	M8	25	20	12,5	13	10,3	14,8	11,5	40
KBJ-AX 13	13,1	M8	M8	30	16,5	13	13	13,3	19,8	14	60
KBJ-AX 13.2	13,1	M8	M8	30	20	13	13	13,3	19,8	14	60
KBJ-AX 13.3	13,1	M8	M8	30	25	13	13	13,3	19,8	14	60
KBJ-AX 16	16,1	M10	M10	35	20	16	17	16,3	23,8	15,5	80
KBJ-AX 16.2	16,1	M10	M12	35	20	16	17	16,3	23,8	15,5	80
KBJ-AX 16.3	16,1	M12	M12	35	20	16	17	16,3	23,8	15,5	80
KBS-AX 19	19,1	M14	M14	45	28	20	19	22,3	29,8	21,5	100
KBS-AX 19.2	19,1	M14	M16	45	28	20	19	22,3	29,8	21,5	100
KBS-AX 19.3	19,1	M16	M16	45	28	20	19	22,3	29,8	21,5	100

CODE	MATERIAL	CODE	COATING
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently
		K	Uncoated



# AXIAL JOINTS

## DIN 71802 WITH FORM C BALL STUD



CODE	d1	d2	a	d3	d4	e	l2	l3	SW	pull-out force F
	h9		±0,3	±0,5	±0,5	min	±0,3	±0,3	h14	in N
KBJ-AX   C 8	8	M 5	22	8	12,8	10,2	10,2	9	7	30
KBJ-AX   C 10	10	M 6	25	10	14,8	11,5	12,5	11	8	40
KBJ-AX   C 13	13	M 8	30	13	19,3	14	16,5	13	11	60
KBJ-AX   C 16	16	M10	35	16	24	15,5	20	16	13	80
KBJ-AX   C 16.2	16	M12	35	16	24	15,5	20	16	13	80
KBS-AX   C 19	19,1	M14	45	22	30	21,5	28	20	16	100
KBS-AX   C 19.2	19,1	M16	45	22	30	21,5	28	20	16	100

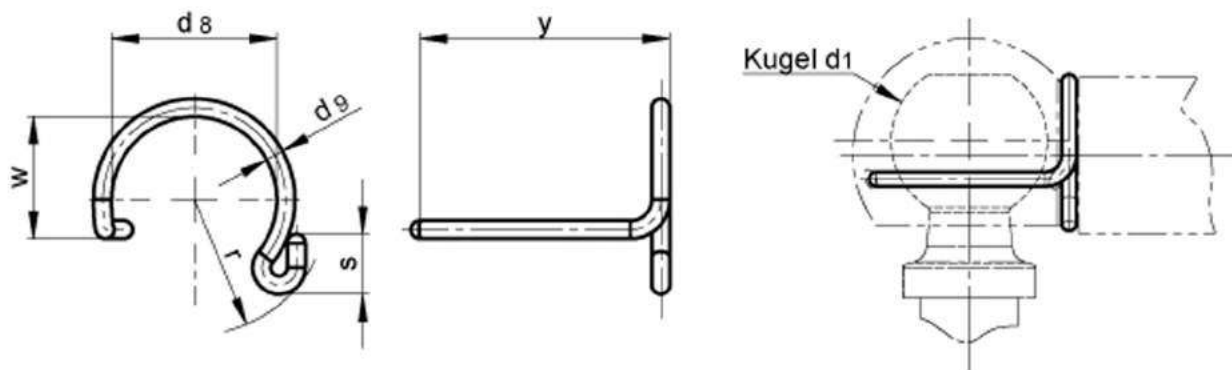
CODE	MATERIAL	CODE	COATING
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently
		K	Uncoated



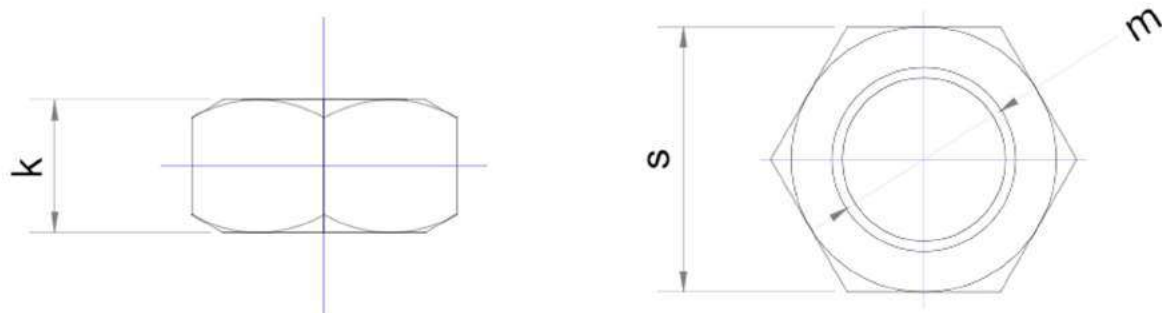


# ACCESSORIES FOR BALL JOINTS GROUP

## CIRCLIP DIN 71805 / HEXAGONAL NUT DIN 934



CODE	d1	d8	d8 tolerances	d9	r	w	y	y tolerances	s
	ball	+0,2		mm	max.	±0,1	±0,3		+0,3
KSC 8	8	7	-0,25	1	6	6,5	12	+0,4	2,5
KSC 10	10	8,7	-0,25	1	7	7,7	12,5	+0,4	3
KSC 13	13	11	-0,35	1,2	9	9,5	15,7	+0,6	4
KSC 16	16	13	-0,4	1,4	10,5	11	19	+0,6	4
KSC 19	19	20	-0,5	1,5	14	16,5	24	+0,8	5

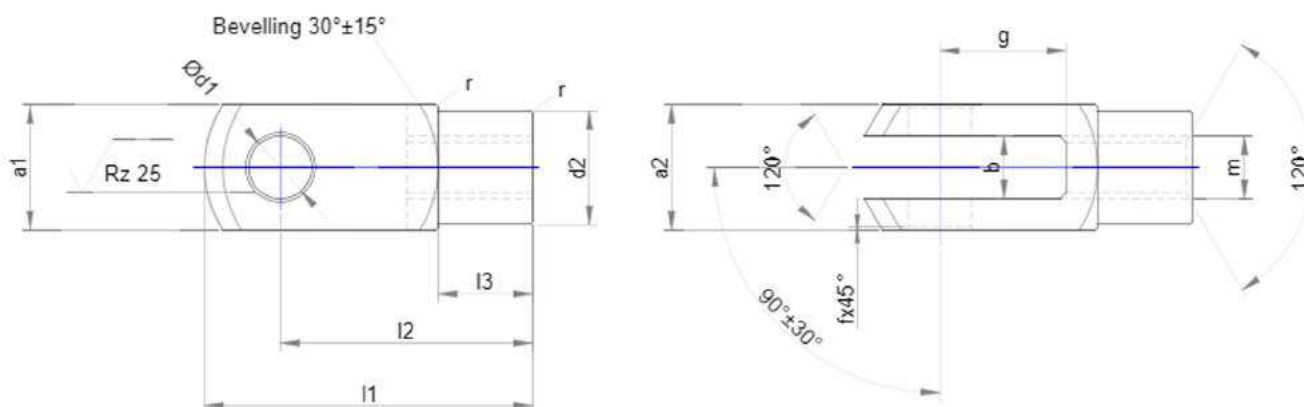


CODE	m	s	s	k	k
		min.	max.	min.	max.
KN 1	M4	6,7	7	2,9	3,2
KN 2	M5	7,7	8	3,7	4
KN 3	M6	9,7	10	4,7	5
KN 4	M8	12,7	13	6,1	6,5
KN 5	M10	16,7	17	7,6	8
KN 6	M12	18,7	19	9,6	10
KN 7	M14	21,7	22	10,3	11
KN 8	M16	23,7	24	12,3	13

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	E	Zn/White	K	Left-hand threaded
B	Stainless Steel DIN 1.4305 (AISI 303)	F	Zn/Black		
C	Stainless Steel DIN 1.4301 (AISI 304)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4401 (AISI 316)	H	Zn/Ni Black		



CODE	MATERIAL	CODE	COATING	CODE	OTHER
<b>A</b>	Steel DIN 1.0718 (11SMnPb30+C)	<b>G</b>	Zn/White	<b>M</b>	Left-hand threaded
<b>B</b>	Steel C1020, C1035, C1040 etc.	<b>H</b>	Zn/Black		
<b>C</b>	Stainless Steel DIN 1.4305 (AISI 303)	<b>I</b>	Zn/Yellow		
<b>D</b>	Stainless Steel DIN 1.4301 (AISI 304)	<b>J</b>	Zn/Ni Black		
<b>E</b>	Stainless Steel DIN 1.4401 (AISI 316)	<b>K</b>	Zn/Ni Transparently		
<b>F</b>	Aluminum 6000 Series	<b>L</b>	Uncoated		



CODE	$d1$	$g$	$a1$	$a2$	$b$	$m$	$d2$	$l1$	$l2$	$l3$	$f$	$r$
	H9	$\pm 0,5$	h11	$+0,3$ $-0,16$	B13		$\pm 0,3$	$\pm 0,5$		$\pm 0,2$	$\pm 0,2$	
KC 48	4	8	8	8	4	M4X0,7	8	21	$16 \pm 0,3$	6	0,5	0,5
KC 416	4	16	8	8	4	M4X0,7	8	29	$24 \pm 0,3$	6	0,5	0,5
KC 510	5	10	10	10	5	M5X0,8	9	26	$20 \pm 0,3$	7,5	0,5	0,5
KC 520	5	20	10	10	5	M5X0,8	9	36	$30 \pm 0,3$	7,5	0,5	0,5
KC 612	6	12	12	12	6	M6X1	10	31	$24 \pm 0,3$	9	0,5	0,5
KC 624	6	24	12	12	6	M6X1	10	43	$36 \pm 0,4$	9	0,5	0,5
KC 816	8	16	16	16	8	M8X1,25	14	42	$32 \pm 0,4$	12	0,5	0,5
KC 832	8	32	16	16	8	M8X1,25	14	58	$48 \pm 0,4$	12	0,5	0,5
KC 1020	10	20	20	20	10	M10X1,5	18	52	$40 \pm 0,4$	15	0,5	0,5
KC 1040	10	40	20	20	10	M10X1,5	18	72	$60 \pm 0,4$	15	0,5	0,5
KC 1224	12	24	24	24	12	M12X1,75	20	62	$48 \pm 0,4$	18	0,5	0,5
KC 1248	12	48	24	24	12	M12X1,75	20	86	$72 \pm 0,4$	18	0,5	0,5
KC 1428	14	28	27	27	14	M14X2	24	72	$56 \pm 0,4$	22,5	1	1
KC 1456	14	56	27	27	14	M14X2	24	101	$85 \pm 0,4$	22,5	1	1

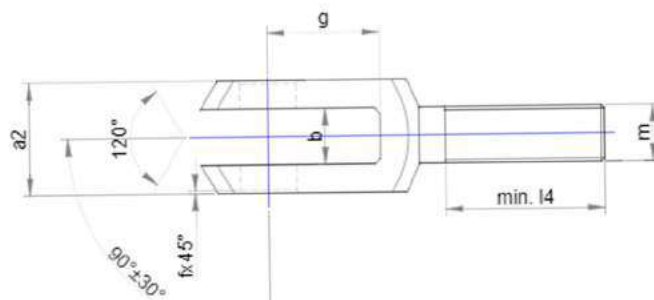
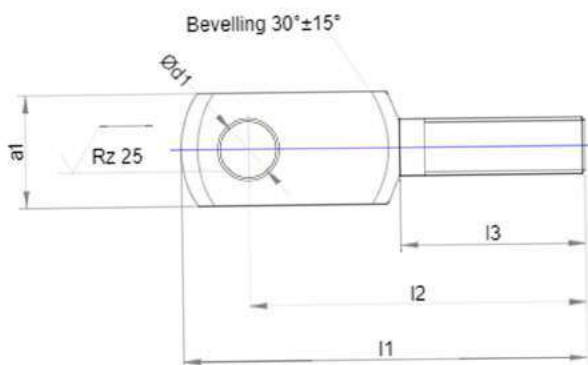






# CLEVIS WITH MALE THREAD

## DIN 71752



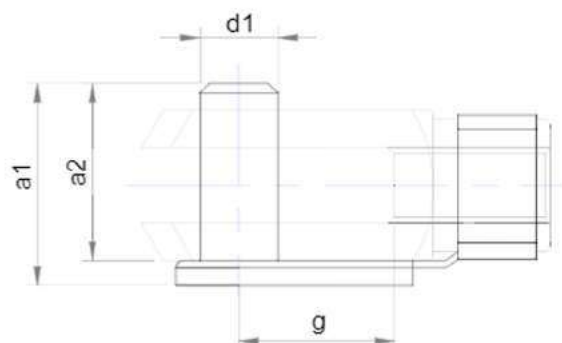
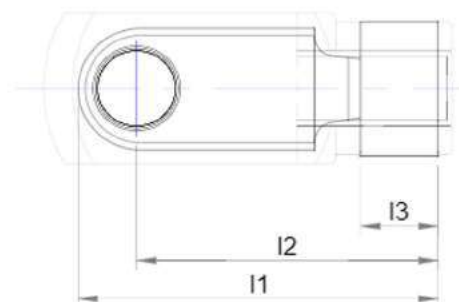
CODE	d1	g	a1	a2	b	m	f	l1	l2	l3	l4
				+0,3 -0,16							
KC-M 612	6	±0,5	h11	12	6	M6X1	±0,2	±0,5	±0,3	±0,2	min.
KC-M 816	8	16	16	16	8	M8X1,25	0,5	57	47	25	20
KC-M 1020	10	20	20	20	10	M10X1,5	0,5	69	57	30	25
KC-M 1224	12	24	24	24	12	M12X1,75	0,5	82	68	35	30
KC-M 1428	14	28	27	27	14	M14X2	1	94	78	40	35
KC-M 1632	16	32	32	32	16	M16X2	1	108	89	45	40
KC-M 2040	20	40	40	40	20	M20X2,5	1	134	109	55	50

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	G	Zn/White	M	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	H	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	I	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	J	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	K	Zn/Ni Transparently		
F	Aluminum 6000 Series	L	Uncoated		



# FOLDING SPRING BOLT

## SUITABLE FOR CLEVISES



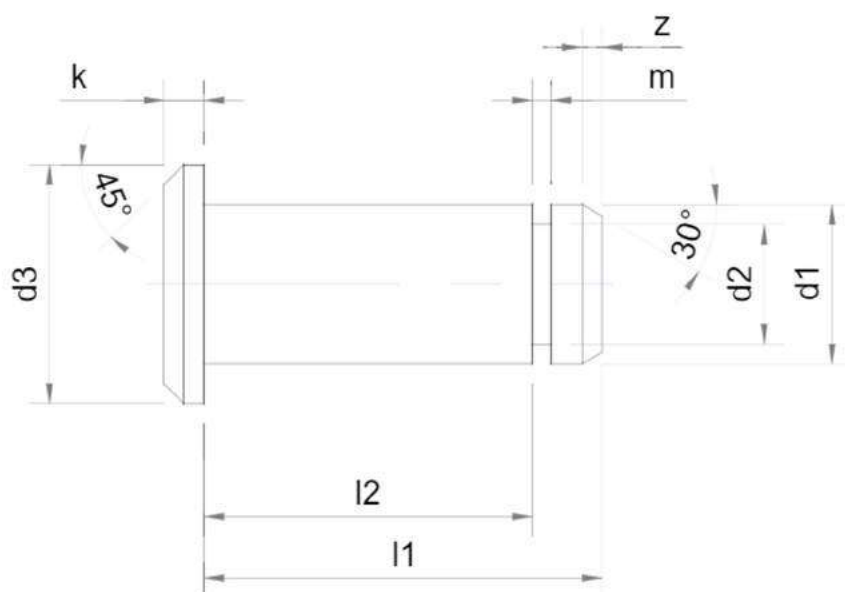
CODE	d1	g	a2	a1	l1	l2	l3
	h11	±0,5	±0,5	±0,5	±0,5	±0,5	±0,5
KFSB 48	4	8	8	8	21	16±0,3	6
KFSB 416	4	16	8	8	29	24±0,3	6
KFSB 510	5	10	10	10	26	20±0,3	7,5
KFSB 520	5	20	10	10	36	30±0,3	7,5
KFSB 612	6	12	12	12	31	24±0,3	9
KFSB 624	6	24	12	12	43	36±0,4	9
KFSB 816	8	16	16	16	42	32±0,4	12
KFSB 832	8	32	16	16	58	48±0,4	12
KFSB 1020	10	20	20	20	52	40±0,4	15
KFSB 1040	10	40	20	20	72	60±0,4	15
KFSB 1224	12	24	24	24	62	48±0,4	18
KFSB 1248	12	48	24	24	86	72±0,4	18
KFSB 1428	14	28	27	27	72	56±0,4	22,5
KFSB 1456	14	56	27	27	101	85±0,4	22,5

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Inward
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Outward
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
F	Aluminum 6000 Series	K	Uncoated		



# BOLT

## WITH GROOVE (SUITABLE FOR CLEVISES)



CODE	Clevis	d1	d2	d3	l1	l2	k	m	z
		h11	h10	h14	±0,3	±0,3	js14	±0,1	
KB 4	KC 48	4	3,2	6	10,5	8,5	1	0,64	0,5
	KC 416								
KB 5	KC 510	5	4	8	13	10,5	1,5	0,74	0,5
	KC 520								
KB 6	KC 612	6	5	9	15,5	12,5	1,5	0,74	1
	KC 624								
	KC-M 612								
KB 8	KC 816	8	6	12	20	16,5	2	0,94	1
	KC 832								
	KC-M 816								
KB 10	KC 1020	10	8	14	25	20,5	2	1,05	1
	KC 1040								
	KC-M 1020								
KB 12	KC 1224	12	9	17	30	24,5	3	1,15	1,5
	KC 1248								
	KC-M 1224								
KB 14	KC 1428	14	10	20	33	27,5	3	1,25	1,5
	KC 1456								
	KC-M 1428								

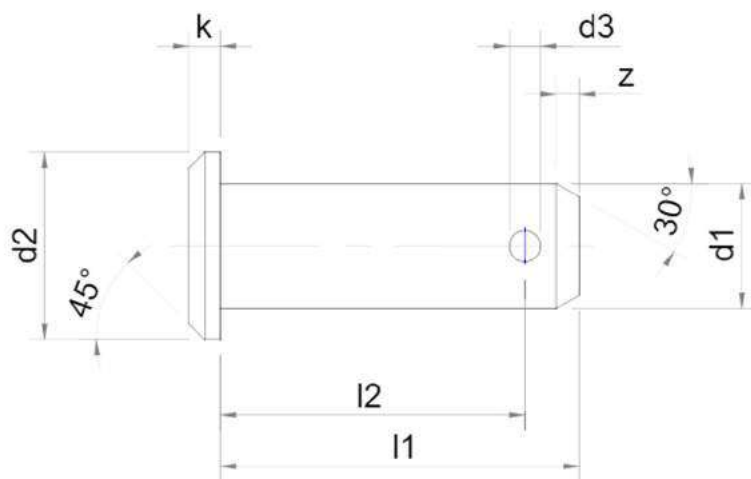
CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Inward
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Outward
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
F	Aluminum 6000 Series	K	Uncoated		





# BOLT

## WITH PIN HOLE (SUITABLE FOR CLEVISES)



CODE	Clevis	d1	d2	d3	l1	l2	k	z
		h11	h14	H14	js15	±0,5	js14	
KBH 4	KC 48	4	6	1	12	10	1	0,5
	KC 416							
KBH 5	KC 510	5	8	1,2	15	12,3	1,5	1
	KC 520							
KBH 6	KC 612	6	9	1,6	18	15,3	1,5	1
	KC 624							
	KC-M 612							
KBH 8	KC 816	8	12	2	23	19,5	2	1,5
	KC 832							
	KC-M 816							
KBH 10	KC 1020	10	14	3,2	29	24,5	2	1,5
	KC 1040							
	KC-M 1020							
KBH 12	KC 1224	12	17	4	35	29,5	3	2
	KC 1248							
	KC-M 1224							
KBH 14	KC 1428	14	19	4	40	32,5	3	2,5
	KC 1456							
	KC-M 1428							

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	L	Inward
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black	M	Outward
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
F	Aluminum 6000 Series	K	Uncoated		

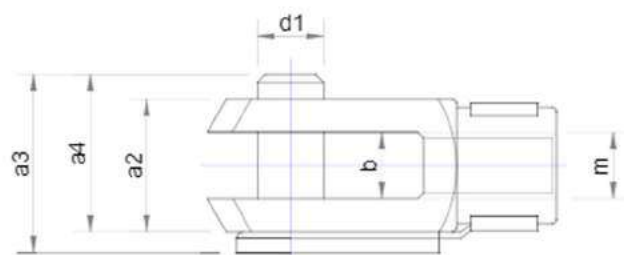
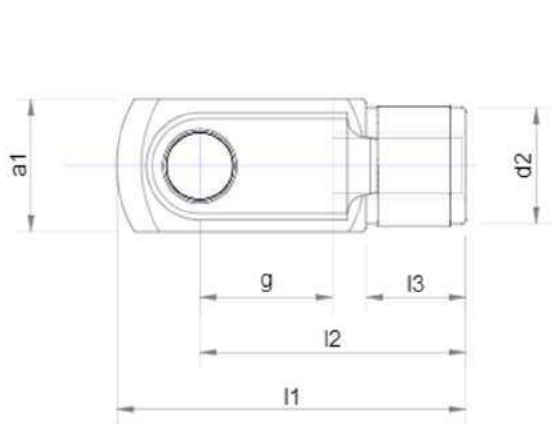


# CLEVIS JOINTS

DIN 71752 WITH FOLDING SPRING BOLT



CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	M	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
F	Aluminum 6000 Series	K	Uncoated		



CODE	d1	g	a4	a1	a2	a3	b	m	l1	d2	l2	l3
	h11	±0,5	±0,5	h11	+0,3 -0,16		B13			±0,5	±0,3	±0,2
KCJ 48	4	8	9,5	8	8	11,25	4	M4X0,7	21	8	16±0,3	6
KCJ 416	4	16	9,5	8	8	11,25	4	M4X0,7	29	8	24±0,3	6
KCJ 510	5	10	12	10	10	13,5	5	M5X0,8	26	9	20±0,3	7,5
KCJ 520	5	20	12	10	10	13,5	5	M5X0,8	36	9	30±0,3	7,5
KCJ 612	6	12	14	12	12	16	6	M6X1	31	10	24±0,3	9
KCJ 624	6	24	14	12	12	16	6	M6X1	43	10	36±0,4	9
KCJ 816	8	16	19	16	16	21,5	8	M8X1,25	42	14	32±0,4	12
KCJ 832	8	32	19	16	16	21,5	8	M8X1,25	58	14	48±0,4	12
KCJ 1020	10	20	23	20	20	26	10	M10X1,5	52	18	40±0,4	15
KCJ 1040	10	40	23	20	20	26	10	M10X1,5	72	18	60±0,4	15
KCJ 1224	12	24	28	24	24	31	12	M12X1,75	62	20	48±0,4	18
KCJ 1248	12	48	28	24	24	31	12	M12X1,75	86	20	72±0,4	18
KCJ 1428	14	28	31	27	27	34	14	M14X2	72	24	56±0,4	22,5
KCJ 1456	14	56	31	27	27	34	14	M14X2	101	24	85±0,4	22,5

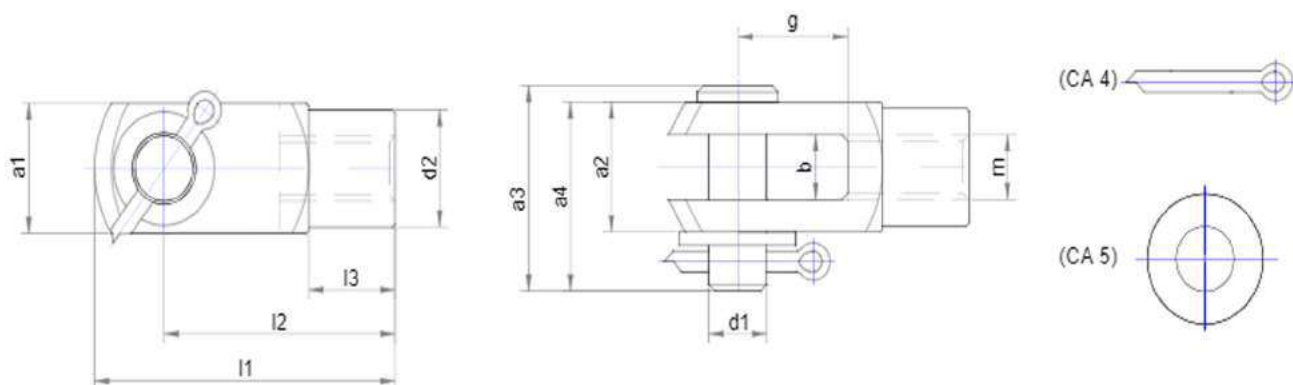






# CLEVIS JOINTS

## DIN 71752 FORM A



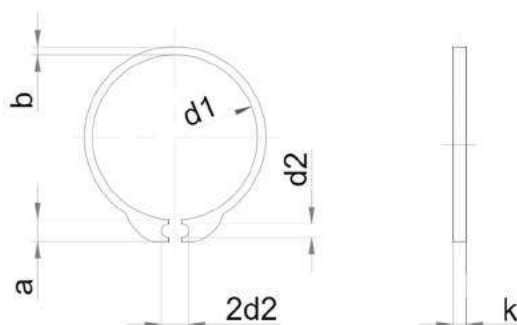
CODE	d1	g	a4	a1	a2	a3	b	m	d2	l1	l2	l3
					+0,3							
KCJ-B 48	4	±0,5	+0,3	h11	-0,16	js15	B13	M4X0,7	±0,3	±0,5	16±0,3	±0,2
KCJ-B 416	4	16	12	8	8	13	4	M4X0,7	8	21	24±0,3	6
KCJ-B 510	5	10	15	10	10	16,5	5	M5X0,8	9	26	20±0,3	7,5
KCJ-B 520	5	20	15	10	10	16,5	5	M5X0,8	9	36	30±0,3	7,5
KCJ-B 612	6	12	18	12	12	19,5	6	M6X1	10	31	24±0,3	9
KCJ-B 624	6	24	18	12	12	19,5	6	M6X1	10	43	36±0,4	9
KCJ-B 816	8	16	23	16	16	25	8	M8X1,25	14	42	32±0,4	12
KCJ-B 832	8	32	23	16	16	25	8	M8X1,25	14	58	48±0,4	12
KCJ-B 1020	10	20	29	20	20	31	10	M10X1,5	18	52	40±0,4	15
KCJ-B 1040	10	40	29	20	20	31	10	M10X1,5	18	72	60±0,4	15
KCJ-B 1224	12	24	35	24	24	38	12	M12X1,75	20	62	48±0,4	18
KCJ-B 1248	12	48	35	24	24	38	12	M12X1,75	20	86	72±0,4	18
KCJ-B 1428	14	28	40	27	27	43	14	M14X2	24	72	56±0,4	22,5
KCJ-B 1456	14	56	40	27	27	43	14	M14X2	24	101	85±0,4	22,5

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	F	Zn/White	M	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	G	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	I	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	J	Zn/Ni Transparently		
F	Aluminum 6000 Series	K	Uncoated		

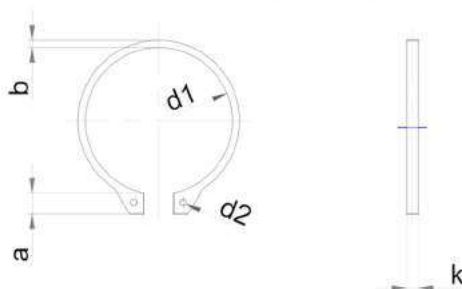


# ACCESSORIES FOR CLEVIS GROUP

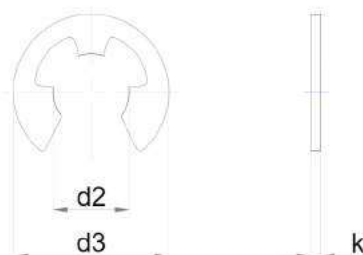
## RETAINING RING DIN 471 / DIN 6799



CODE	d1	d2	max. a	b	min. d3	k
	mm	mm	mm	mm	mm	mm
KCA1	4	3,7 +0,04/-0,15	2,2	0,9	1	0,4 +0/-0,05
KCA2	5	4,7 +0,04/-0,15	2,5	1,1	1	0,6 +0/-0,05
KCA3	6	5,6 +0,04/-0,15	2,7	1,3	1,2	0,7 +0/-0,05
KCA4	8	7,4 +0,06/-0,18	3,2	1,5	1,2	0,8 +0/-0,06



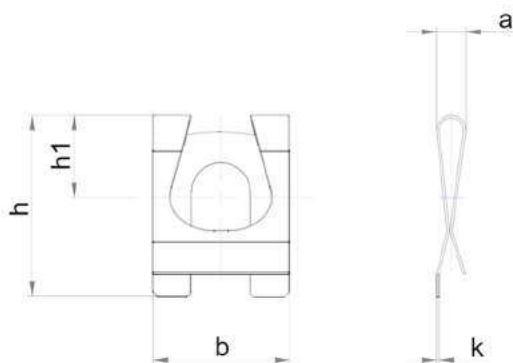
CODE	d1	d2	max. a	b	min. d2	k
	mm	mm	mm	mm	mm	mm
KCA5	10	9,3 +0,10/-0,36	3,3	1,8	1,5	1 +0/-0,06
KCA6	12	11 +0,10/-0,36	3,3	1,8	1,7	1 +0/-0,06
KCA7	14	12,9 +0,10/-0,36	3,5	2,1	1,7	1 +0/-0,06
KCA8	16	14,7 +0,10/-0,36	3,7	2,2	1,6	1 +0/-0,06
KCA9	20	18,5 +0,13/-0,42	4	2,6	2	1,2 +0/-0,06



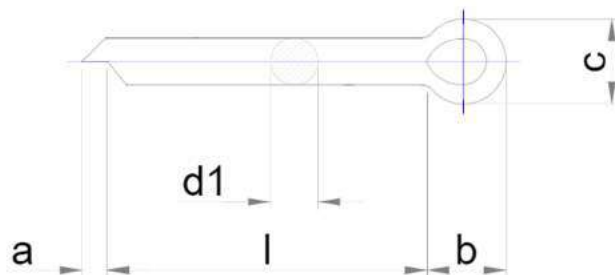
CODE	d1	d2	d3	k
	mm	mm	mm	mm
KCA10	4	3,2	7,3	0,6
KCA11	5	4	9,3	0,7
KCA12	6	5	11,5	0,7
KCA13	8	6	12,3	0,7
KCA14	10	8	16,3	1
KCA15	12	9	18,8	1,1
KCA16	14	10	20,4	1,2
KCA17	16	12	23,4	1,3
KCA18	20	19	37,6	1,75



## SL-RETAINER / COTTER PIN DIN 94



CODE	d1	b	h	h1	a	k
	mm	mm	mm	mm	±0,2	mm
KCA19	4	7	8,6	4,1	1,9	0,3
KCA20	5	9	10,9	5	2,2	0,4
KCA21	6	11	13,9	6,2	3,1	0,4
KCA22	8	14	18	8,6	3,5	0,45
KCA23	10	18	22	10	3,6	0,5
KCA24	12	22	25,9	11,8	4,8	0,5
KCA25	14	25,1	30,2	13,5	4,8	0,6
KCA26	16	18	34	16,2	4,8	0,6



CODE	dXl	d1	d1	l	a	a	b	c	c
	max	max.	min.	mm	max.	min.	mm	max.	min.
KCA27	1X12	0,9	0,8	12	1,6	0,8	3	1,8	1,6
KCA28	1,2X14	1	0,9	14	2,5	1,25	3	2	1,7
KCA29	1,6X16	1,4	1,3	16	2,5	1,25	3,2	2,8	2,4
KCA30	2X18	1,8	1,7	18	2,5	1,25	4	3,6	3,2
KCA31	3,2X22	2,9	2,7	22	3,2	1,6	6,4	5,8	5,1
KCA32	4X28	3,7	3,5	28	4	2	8	7,4	6,5
KCA33	4X32	3,7	3,5	32	4	2	8	7,4	6,5
KCA34	4X36	3,7	3,5	36	4	2	8	7,4	6,5
KCA35	5X40	4,6	4,4	40	4	2	10	9,2	8
KCA36	6,3X56	5,9	5,7	56	4	2	12,6	11,8	10,3
KCA37	6,3X63	5,9	5,7	63	4	2	12,6	11,8	10,3
KCA38	8X71	7,3	7,3	71	4	2	16	15	13,1

CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	E	Zn/White	K	Left-hand threaded
B	Stainless Steel DIN 1.4305 (AISI 303)	F	Zn/Black		
C	Stainless Steel DIN 1.4301 (AISI 304)	H	Zn/Yellow		
D	Stainless Steel DIN 1.4401 (AISI 316)	H	Zn/Ni Black		

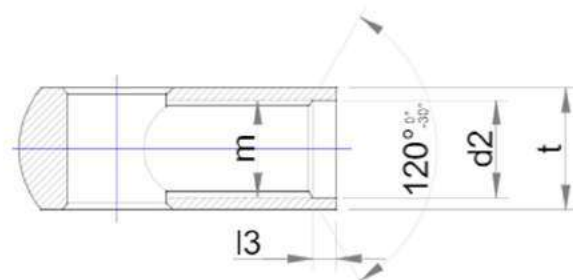
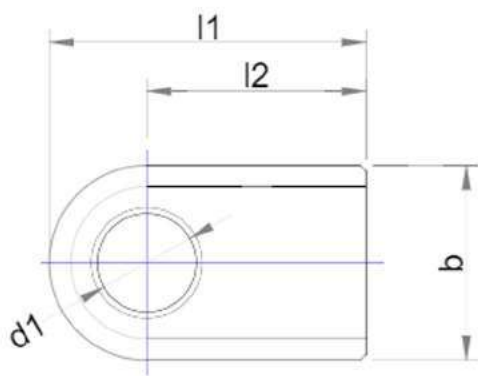




**EYE**  
**VERSION C**



CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	H	Zn/White	N	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	I	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	J	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	K	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	L	Zn/Ni Transparently		
F	Aluminum	M	Uncoated		
G	Zamak				

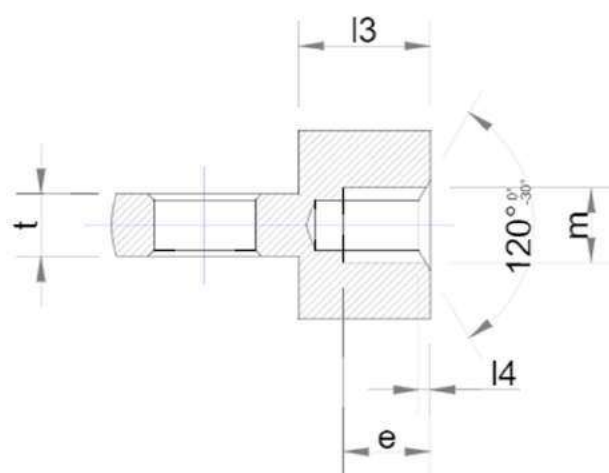
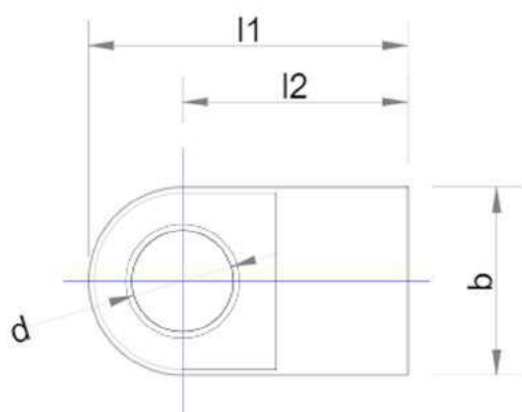


CODE	b	l2	d1	t	l1	m	d2	l3
	$\pm 0,5$	$\pm 0,3$	$+0,2$	$-0,1$	$\pm 0,3$		$+0,2$	$\pm 0,1$
KE-C 16166	16	16	6,1	10	24	M8	8	2
KE-C 16186	16	18	6,1	10	26	M8	8	2
KE-C 16208	16	20	8,1	12	28	M8	8	2
KE-C 16168	16	16	8,1	12	24	M8	8	2
KE-C 1616108	16	16	8,1	10	24	M8	8	2
KE-C 16178	16	17	8,1	10	25	M8	8	2
KE-C 16198	16	19	8,1	10	27	M6	6	2
KE-C 16208	16	20	8,1	12	28	M10	10	2
KE-C 1620108	16	20	8,1	10	28	M8	8	2
KE-C 16228	16	22	8,1	12	30	M10	10	2
KE-C 181810	18	18	10,1	10	27	M8	8	2
KE-C 182010	18	20	10,1	12	29	M8	8	2
KE-C 18208	18	20	8,1	12	29	M8	8	2
KE-C 18201010	18	20	10,1	10	29	M8	8	2
KE-C 1820108	18	20	8,1	10	29	M8	8	2
KE-C 201810	20	18	10,1	12	28	M8	8	2
KE-C 20228	20	22	8,1	12	32	M10	10	2
KE-C 2022108	20	22	8,1	10	32	M8	8	2
KE-C 201610	20	16	10,1	12	26	M8	8	2
KE-C 2622	26	22	14,5	12	35	M8	8	2
KE-C 2824	28	24	16,5	12	38	M8	8	2



CODE	MATERIAL	CODE	COATING	CODE	OTHER
<b>A</b>	Steel DIN 1.0718 (11SMnPb30+C)	<b>H</b>	Zn/White	<b>N</b>	Left-hand threaded
<b>B</b>	Steel C1020, C1035, C1040 etc.	<b>I</b>	Zn/Black		
<b>C</b>	Stainless Steel DIN 1.4305 (AISI 303)	<b>J</b>	Zn/Yellow		
<b>D</b>	Stainless Steel DIN 1.4301 (AISI 304)	<b>K</b>	Zn/Ni Black		
<b>E</b>	Stainless Steel DIN 1.4401 (AISI 316)	<b>L</b>	Zn/Ni Transparently		
<b>F</b>	Aluminum	<b>M</b>	Uncoated		
<b>G</b>	Zamak				

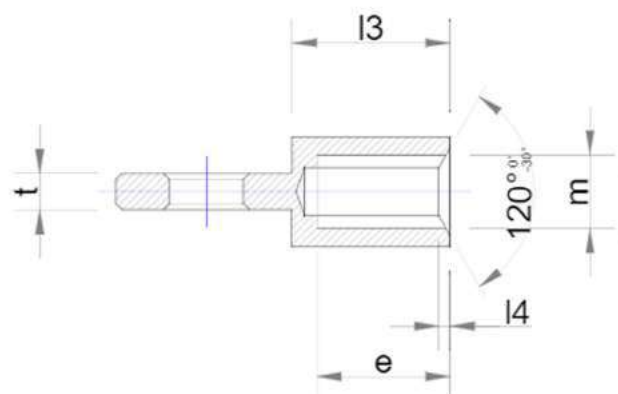
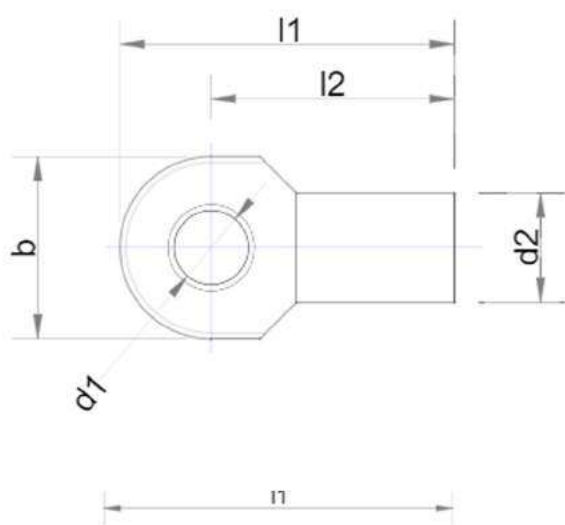




CODE	b	$l_2$	d	t	$l_1$	m	$l_3$	e	$l_4$
	h11	$\pm 0,3$	$+0,2$	$-0,1$	$\pm 0,3$		$\pm 0,1$	min.	$\pm 0,1$
KE-H 1016	10	16	6,1	6	21	M5	9	7	1
KE-H 1020	10	20	6,1	3	21	M6	8	6	1
KE-H 1426	14	26	6,1	5	33	M6	16	14	1
KE-H 14268	14	26	8,1	5	33	M6	16	14	1
KE-H 1522	15	22	8,1	5	29,5	M8	12,5	9	1
KE-H 152210	15	22	8,1	10	29,5	M8	14,5	9	1
KE-H 152258	15	22	8,1	5	29,5	M6	12,5	9	1
KE-H 1518	15	18	8,1	5	25,5	M6	10,5	7	1
KE-H 1520	15	20	8,1	5	27,5	M6	11,5	8	1
KE-H 1525	15	25	8,1	3	32,5	M8	12,5	11	1
KE-H 15255	15	25	8,1	5	32,5	M8	12,5	11	1
KE-H 15258	15	25	8,1	8	32,5	M8	12,5	11	1
KE-H 15253	15	25	8,1	3	32,5	M8	12,5	11	1
KE-H 152556	15	25	8,1	5	32,5	M6	12,5	11	1
KE-H 1530	15	30	8,1	5	37,5	M6	12,5	11	1
KE-H 1818	18	18	8,1	10	27	M8	10,5	9	1
KE-H 1820	18	20	8,1	10	29	M8	10,5	9	1
KE-H 1822	18	22	8,1	10	31	M8	12,5	9	1
KE-H 1825	18	25	8,1	10	34	M8	12,5	11	1
KE-H 182510	18	25	10,1	10	34	M8	12,5	11	1
KE-H 1830	18	30	8,1	10	39	M8	12,5	11	1
KE-H 183010	18	30	8,1	10	39	M10	15	13	1
KE-H 1830108	18	30	10,1	10	39	M8	12,5	11	1
KE-H 18308	18	30	8,1	10	39	M10	19	15	1
KE-H 1835	18	35	8,1	10	44	M10	22	20	1
KE-H 2022	20	22	10,1	12	32	M10	10	7	1
KE-H 2025	20	25	8,1	10	35	M10	13	11	1
KE-H 2030	20	30	10,1	12	40	M10	15	13	1
KE-H 2035	20	35	8,1	10	45	M8	20	14	1
KE-H 203512	20	35	10,1	12	45	M10	20	14	1
KE-H 203510	20	35	10,1	10	45	M8	20	14	1
KE-H 2542	25	42	14,1	14	54,5	M10	22,5	18	1
KE-H 254214	25	42	14,1	14	54,5	M14	22,5	18	1



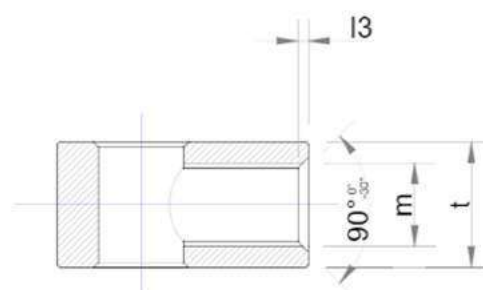
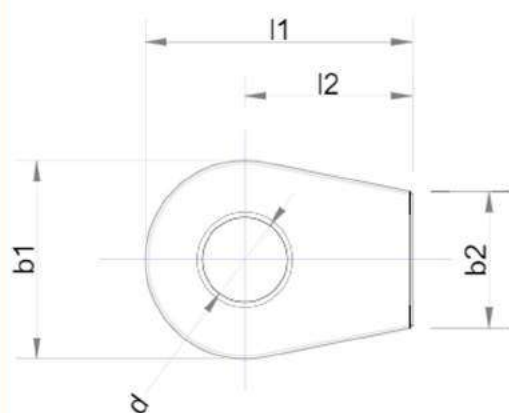
CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	H	Zn/White	N	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	I	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	J	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	K	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	L	Zn/Ni Transparently		
F	Aluminum	M	Uncoated		
G	Zamak				



CODE	b	l2	d1	t	l1	d2	l3	m	e	l4
	±0,1	±0,3	+0,2	-0,1	±0,3	h11	±0,1		min.	±0,1
KE-Q 116	11	16	6,1	3	21,5	9	8	M5	6	1
KE-Q 1320	13	20	6,1	3	26,5	9	10	M6	7	1
KE-Q 1317	13	17	6,1	3	23,5	9	10	M6	7	1
KE-Q 1318	13	18	6,1	3	24,5	9	11	M6	8	1
KE-Q 1522	15	22	6,1	5	29,5	9	12	M8	9	1
KE-Q 15228	15	22	8,1	5	29,5	9	12	M8	9	1
KE-Q 152288	15	22	8,1	5	29,5	11	12	M6	9	1
KE-Q 1520	15	20	8,1	10	27,5	10	9	M6	9	1
KE-Q 1518	15	18	8,1	5	25,5	10	11	M6	8	1
KE-Q 1525	15	25	8,5	5	32,5	11	12	M8	9	1
KE-Q 15258	15	25	8,1	5	32,5	11	12	M8	9	1
KE-Q 15256	15	25	8,5	5	32,5	10	12	M8	9	1
KE-Q 1528	15	28	8,1	5	35,5	11	17	M8	13	1
KE-Q 152810	15	28	10,1	5	35,5	11	17	M6	13	1
KE-Q 1530	15	30	8,1	5	37,5	11	16	M6	12	1







CODE	b	l2	d	t	l1	b2	m	l3
	±0,1	±0,2	+0,2	±0,2	±0,2	±0,2		±0,1
KE-Z 1	19	16	6,1	12	25,5	13	M6	1
KE-Z 2	19	16	6,1	12	25,5	13	M8	1
KE-Z 3	19	16	6,1	12	25,5	13	M10	1
KE-Z 4	19	16	8,1	12	25,5	13	M6	1
KE-Z 5	19	16	8,1	12	25,5	13	M8	1
KE-Z 6	19	16	8,1	12	25,5	13	M10	1
KE-Z 7	19	16	10,1	12	25,5	13	M6	1
KE-Z 8	19	16	10,1	12	25,5	13	M8	1
KE-Z 9	19	16	10,1	12	25,5	13	M10	1
KE-Z 10	19	16	12,1	12	25,5	13	M6	1
KE-Z 11	19	16	12,1	12	25,5	13	M8	1
KE-Z 12	19	16	12,1	12	25,5	13	M10	1

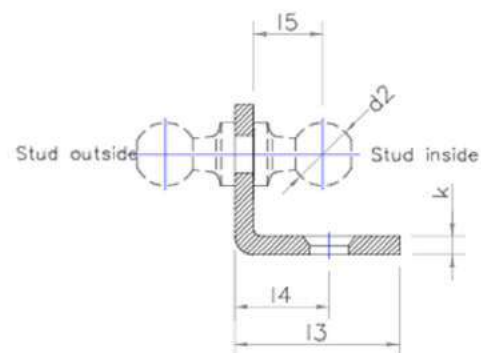
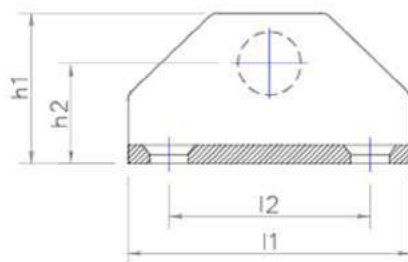
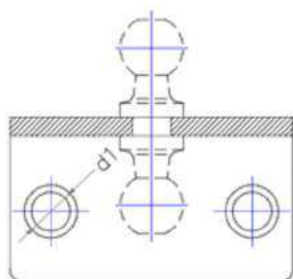
CODE	MATERIAL	CODE	COATING	CODE	OTHER
A	Steel DIN 1.0718 (11SMnPb30+C)	H	Zn/White	N	Left-hand threaded
B	Steel C1020, C1035, C1040 etc.	I	Zn/Black		
C	Stainless Steel DIN 1.4305 (AISI 303)	J	Zn/Yellow		
D	Stainless Steel DIN 1.4301 (AISI 304)	K	Zn/Ni Black		
E	Stainless Steel DIN 1.4401 (AISI 316)	L	Zn/Ni Transparently		
F	Aluminum	M	Uncoated		
G	Zamak				



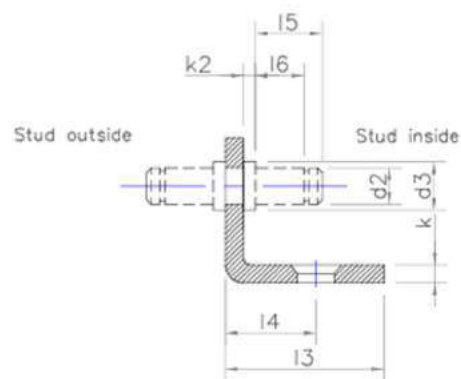
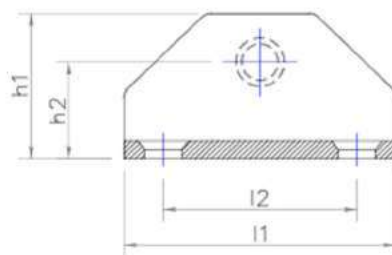
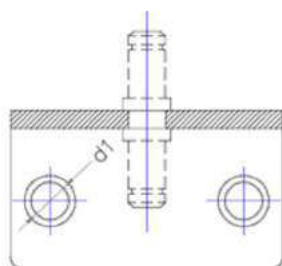
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ALL VERSIONS

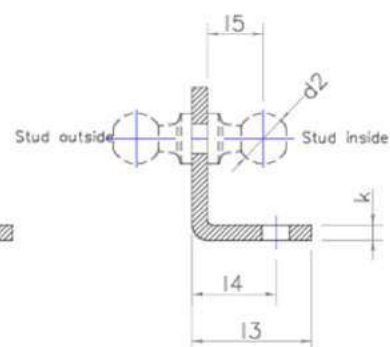
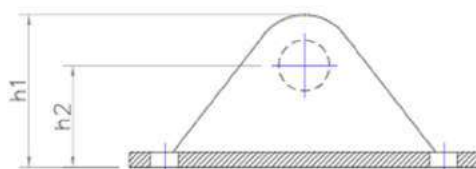
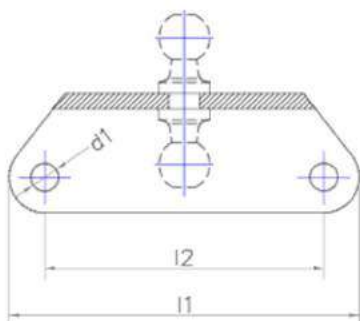




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KBR 101	45	32	26,2	15	6,2	24	16	3	8	11
KBR 102	45	32	26,2	15	6,2	24	16	3	10	11
KBR 103	45	32	26,2	15	6,2	24	16	3	13	13

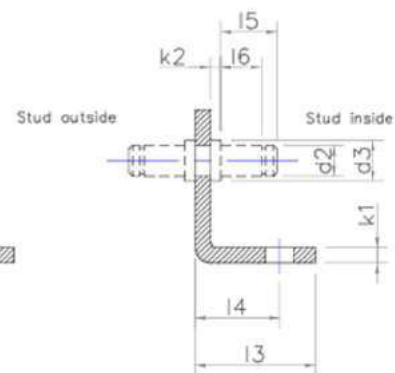
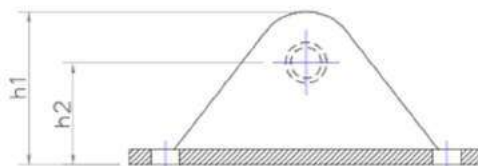
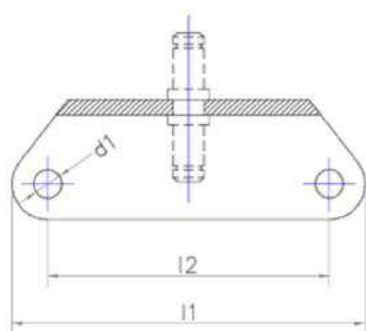


CODE	l1	l2	l3	l4	d1	h1	h2	k1	d2	d3	k2	l5	l6
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KBR 104	45	32	26,2	15	6,2	24	16	3	6	8	2	11	8
KBR 105	45	32	26,2	15	6,2	24	16	3	8	10	2	15,5	12

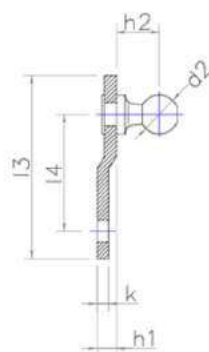
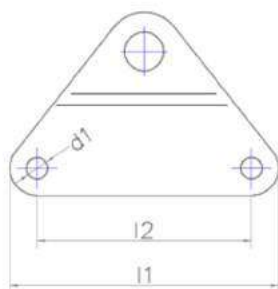


CODE	l1	l2	l3	l4	d1	h1	k	d2	h2
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KBR 201	69	55	47	30	5,5	5	3	8	11
KBR 202	69	55	47	30	5,5	5	3	10	11
KBR 203	69	55	47	30	5,5	5	3	13	13

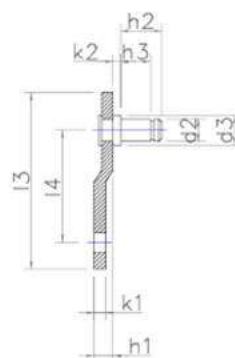
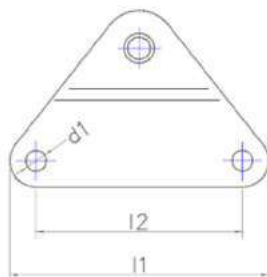




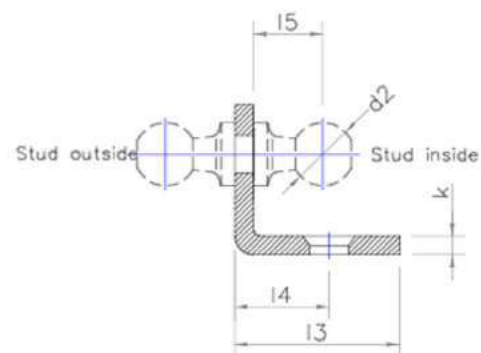
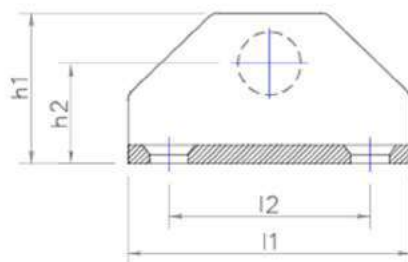
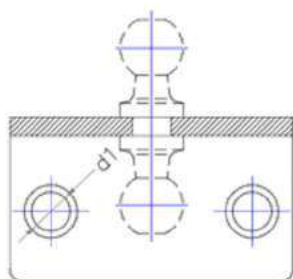
CODE	l1	l2	l3	l4	d1	h1	k1	d2	d3	k2	h2	h3
	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	±0,1	h11	h14	+0,4	±0,3	±0,3
KBR 204	69	55	47	30	5,5	5	3	6	8	2	11	8
KBR 205	69	55	47	30	5,5	5	3	8	10	2	15,5	12



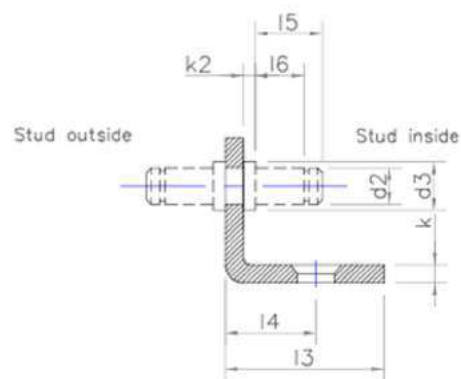
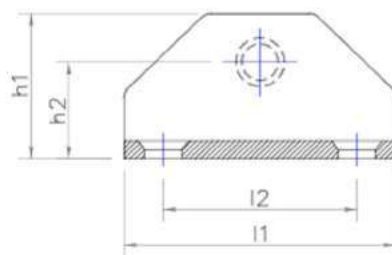
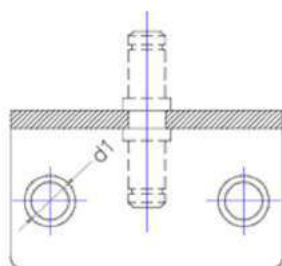
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KBR 206	69	55	16,5	23,5	5,5	30	20	3	8	11
KBR 207	69	55	16,5	23,5	5,5	30	20	3	10	11
KBR 208	69	55	16,5	23,5	5,5	30	20	3	13	13



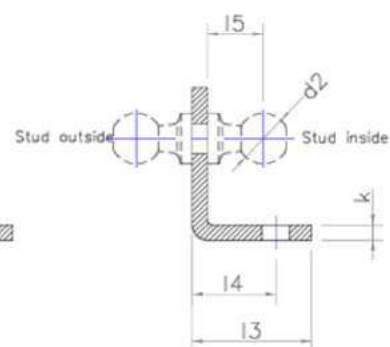
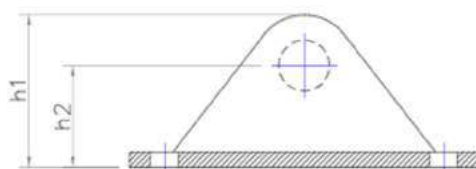
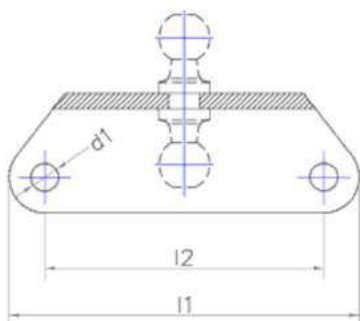
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	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	±0,3	±0,1	h11	h14	+0,4	±0,3	±0,3
KBR 209	69	55	16,5	23,5	5,5	30	20	3	6	8	2	11	8
KBR 210	69	55	16,5	23,5	5,5	30	20	3	8	10	2	15,5	12



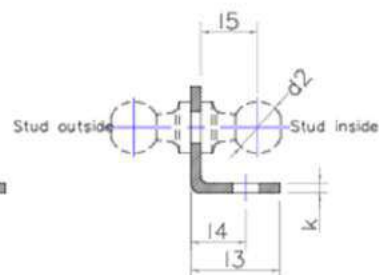
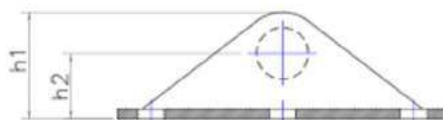
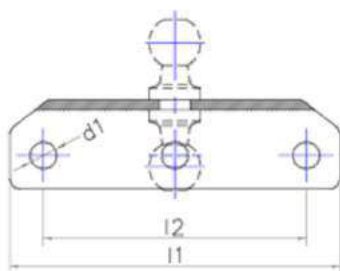
CODE	l1	l2	l3	l4	d1	h1	h2	k	d2	l5
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KBR 101	45	32	26,2	15	6,2	24	16	3	8	11
KBR 102	45	32	26,2	15	6,2	24	16	3	10	11
KBR 103	45	32	26,2	15	6,2	24	16	3	13	13



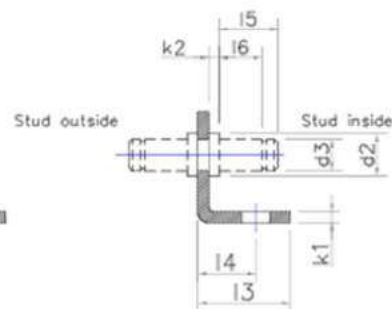
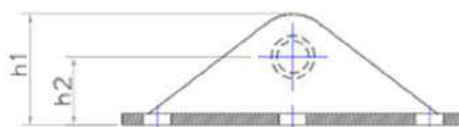
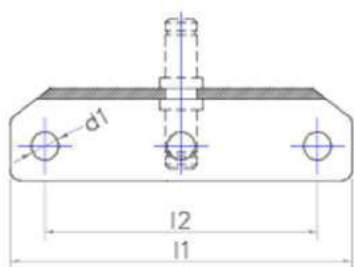
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	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	h11	h14	$+0,4$	$\pm 0,3$	$\pm 0,3$
KBR 104	45	32	26,2	15	6,2	24	16	3	6	8	2	11	8
KBR 105	45	32	26,2	15	6,2	24	16	3	8	10	2	15,5	12



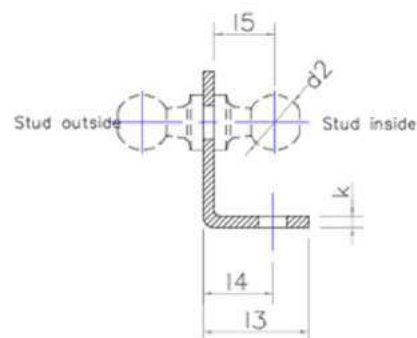
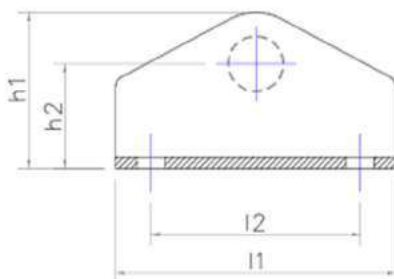
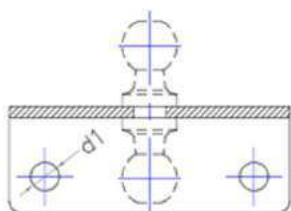
CODE	l1	l2	l3	l4	d1	h1	k	d2	h2
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KBR 201	69	55	47	30	5,5	5	3	8	11
KBR 202	69	55	47	30	5,5	5	3	10	11
KBR 203	69	55	47	30	5,5	5	3	13	13



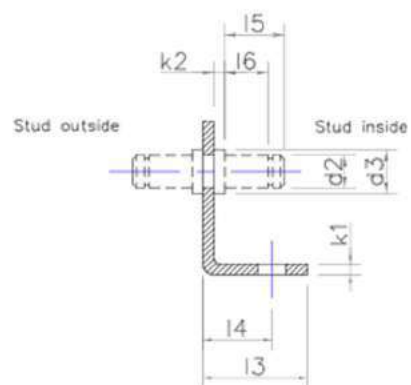
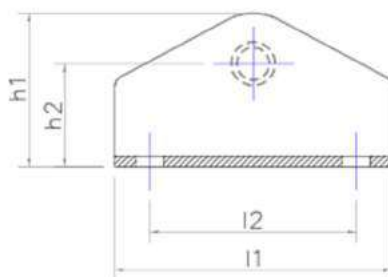
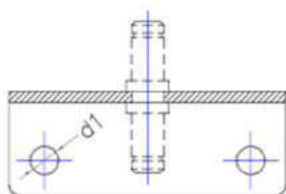
CODE	l1	l2	l3	l4	d1	h1	h2	k	d2	l5
	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	±0,3	±0,1	h9	±0,3
KBR 301	64	51	17,3	10,8	5,2	20,7	12,7	2	8	11
KBR 302	64	51	17,3	10,8	5,2	20,7	12,7	2	10	11
KBR 303	64	51	17,3	10,8	5,2	20,7	12,7	2	10	12,5



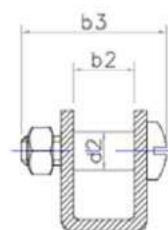
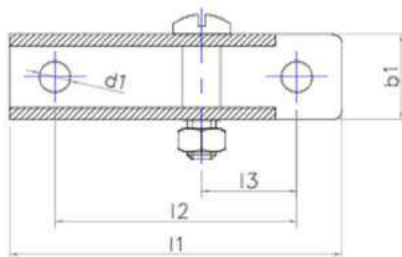
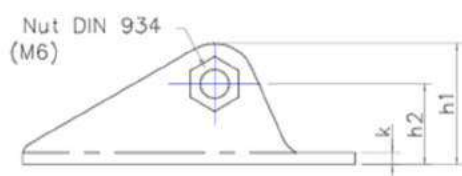
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	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	±0,3	±0,1	h11	h14	+0,4	±0,3	±0,3
KBR 304	64	51	17,3	10,8	5,2	20,7	12,7	2	6	8	2	11	8
KBR 305	64	51	17,3	10,8	5,2	20,7	12,7	2	8	10	2	15,5	12



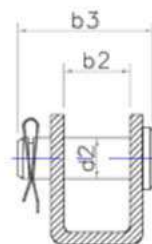
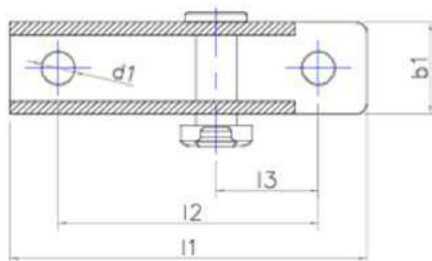
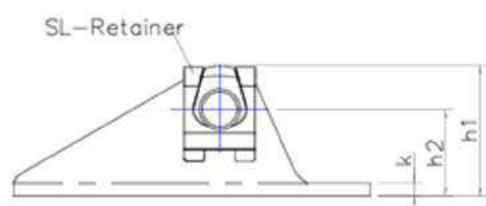
CODE	l1	l2	l3	l4	d1	h1	h2	k	d2	l5
	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	±0,3	±0,1	h9	±0,3
KBR 401	51	38	19,2	12,7	5,2	28,3	19	2	8	11
KBR 402	51	38	19,2	12,7	5,2	28,3	19	2	10	11
KBR 403	51	38	19,2	12,7	5,2	28,3	19	2	10	12,5



CODE	l1	l2	l3	l4	d1	h1	h2	k1	d2	d3	k2	l5	l6
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	h11	h14	$+0,4$	$\pm 0,3$	$\pm 0,3$
KBR 404	51	38	19,2	12,7	5,2	28,3	19	2	6	8	2	11	8
KBR 405	51	38	19,2	12,7	5,2	28,3	19	2	8	10	2	15,5	12

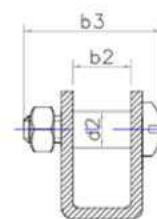
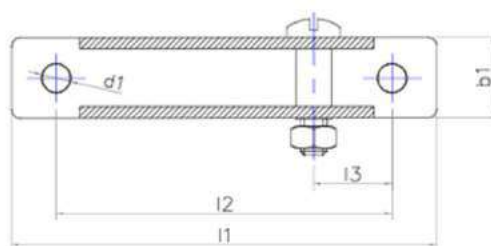
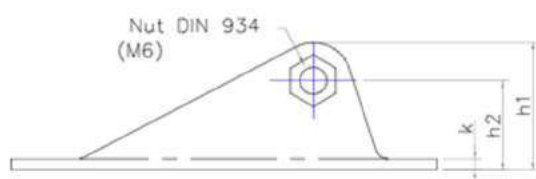


CODE	l1	l2	k	l3	d1	d2	h1	h2	b1	b2	b3
	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	$\pm 0,3$	$\pm 0,1$	h11	$\pm 0,5$	$\pm 0,5$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$
KBR 501 001	70	51	2,5	30	6,5	8	25,5	17	18	13	30,5

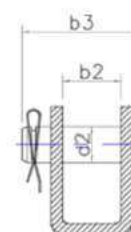
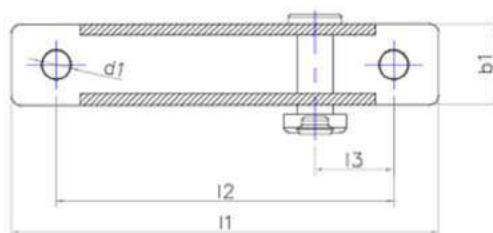
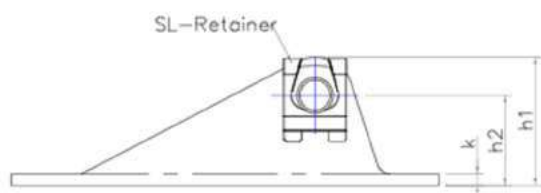


CODE	l1	l2	k	l3	d1	d2	h1	h2	b1	b2	b3
	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	$\pm 0,3$	$\pm 0,1$	h11	$\pm 0,5$	$\pm 0,5$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$
KBR 501 002	70	51	2,5	30	6,5	8	25,5	17	18	13	26,5

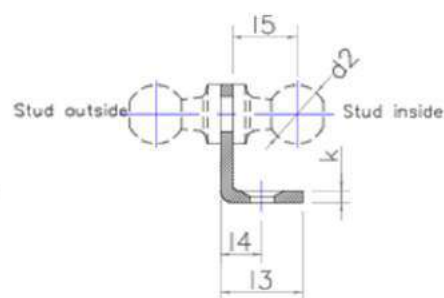
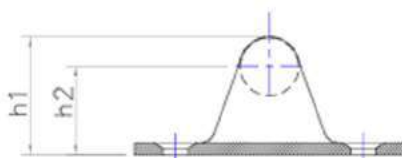
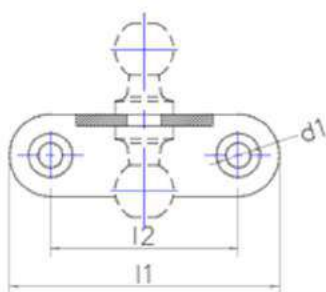




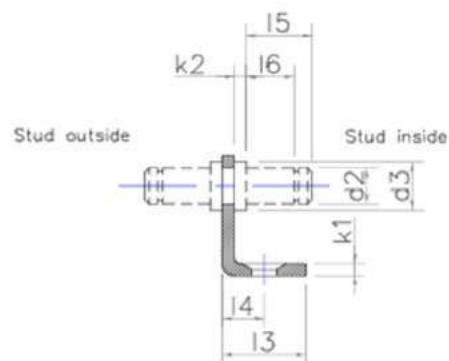
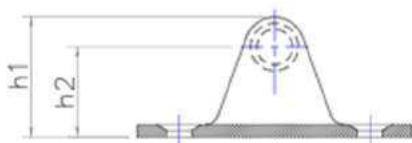
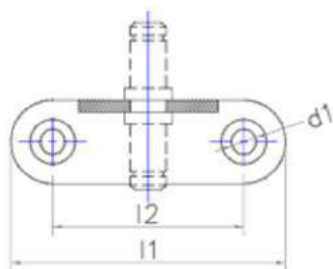
CODE	l1	l2	k	l3	d1	d2	h1	h2	b1	b2	b3
	±0,3	±0,3	±0,1	±0,3	±0,1	h11	±0,5	±0,5	±0,05	±0,5	±0,3
KBR 502 001	95	75	2,5	18	6,5	8	28,5	20	18	13	30,5
KBR 503 001	105	85	2,5	22,5	6,5	8	31,5	23	18	13	30,5



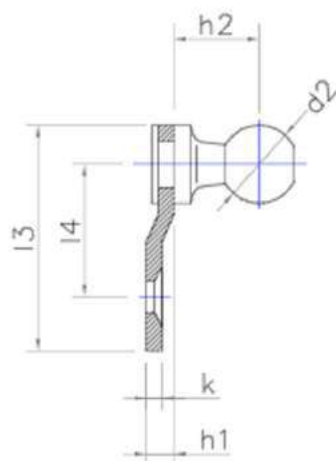
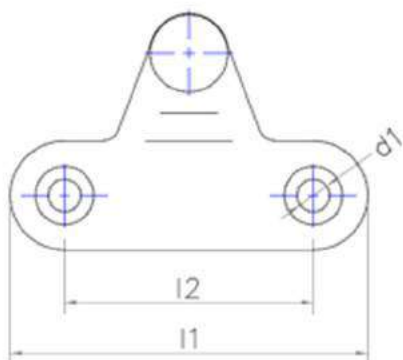
CODE	l1	l2	k	l3	d1	d2	h1	h2	b1	b2	b3
	±0,3	±0,3	±0,1	±0,3	±0,1	h11	±0,5	±0,5	±0,05	±0,5	±0,3
KBR 502 002	95	75	2,5	18	6,5	8	28,5	20	18	13	26,5
KBR 503 002	105	85	2,5	22,5	6,5	8	31,5	23	18	13	26,5



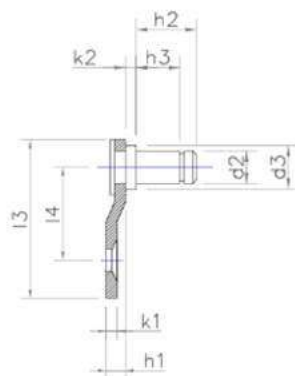
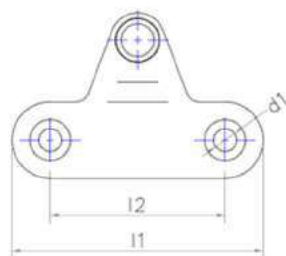
CODE	l1	l2	l3	l4	d1	h1	k	d2	h2
	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	±0,1	h9	±0,5
KBR 601	46	32	30,3	18,3	4,2	3,5	2	8	11
KBR 602	46	32	30,3	18,3	4,2	3,5	2	10	11
KBR 603	46	32	30,3	18,3	4,2	3,5	2	10	12,5



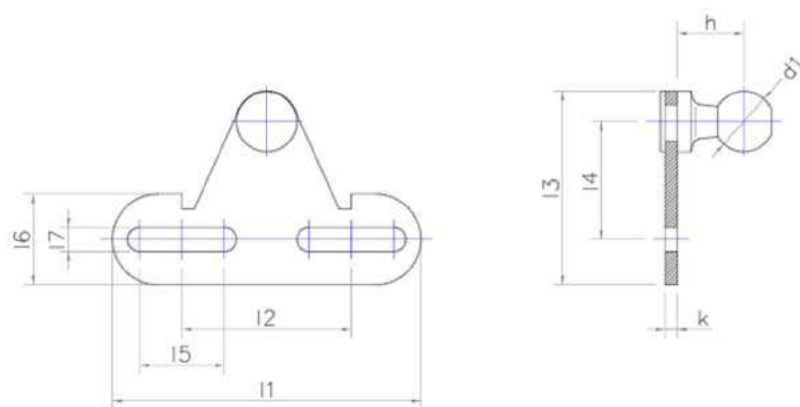
CODE	l1	l2	l3	l4	d1	h1	k1	d2	d3	k2	h2	h3
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,3$	$\pm 0,1$	h11	h14	$+0,4$	$\pm 0,3$	$\pm 0,3$
KBR 604	46	32	30,3	18,3	4,2	3,5	2	6	8	2	11	8
KBR 605	46	32	30,3	18,3	4,2	3,5	2	8	10	2	15,5	12



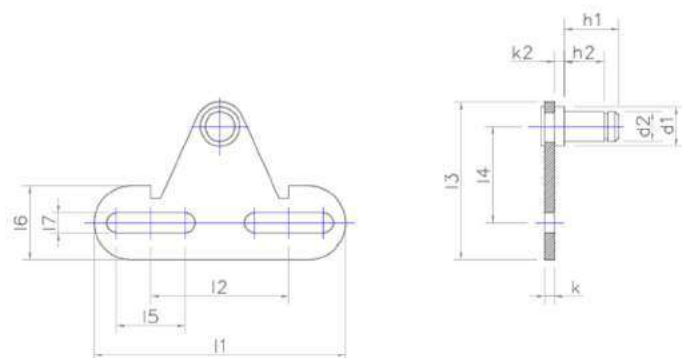
CODE	l1	l2	l3	l4	d1	h1	h2	k	d2	l5
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	h9	$\pm 0,3$
KBR 606	46	32	14	7	4,2	20	15	2	8	11
KBR 607	46	32	14	7	4,2	20	15	2	10	11
KBR 608	46	32	14	7	4,2	20	15	2	10	12,5



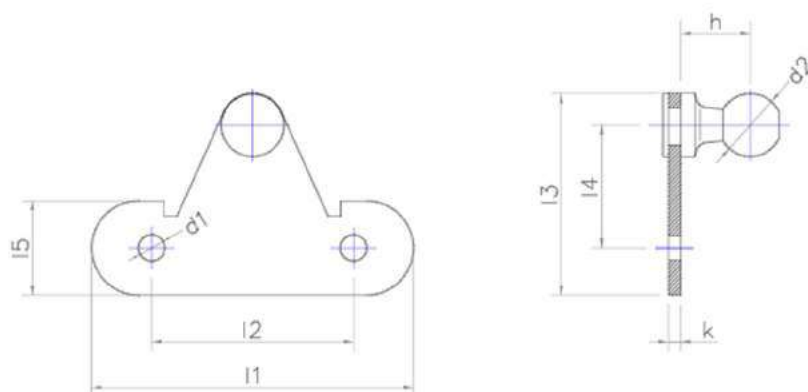
CODE	l1	l2	l3	l4	d1	h1	h2	k1	d2	d3	k2	l5	l6
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	h11	h14	$+0,4$	$\pm 0,3$	$\pm 0,3$
KBR 609	46	32	14	7	4,2	20	15	2	6	8	2	11	8
KBR 610	46	32	14	7	4,2	20	15	2	8	10	2	15,5	12



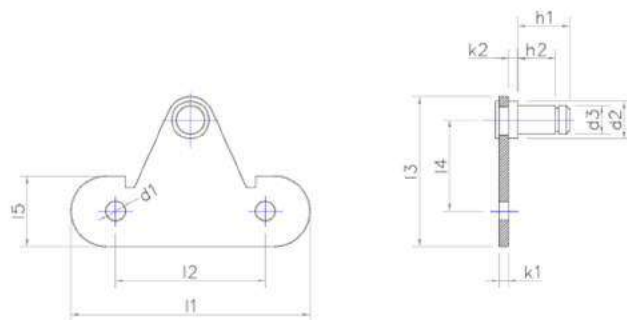
CODE	l1	l2	l3	l4	l5	l6	l7	k	d1	h
	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	+0,2	±0,1	h9	±0,3
KBR 701	51	28	32	19,5	14	15	4	2	8	11
KBR 702	51	28	32	19,5	14	15	4	2	10	11
KBR 703	51	28	32	19,5	14	15	4	2	10	12,5



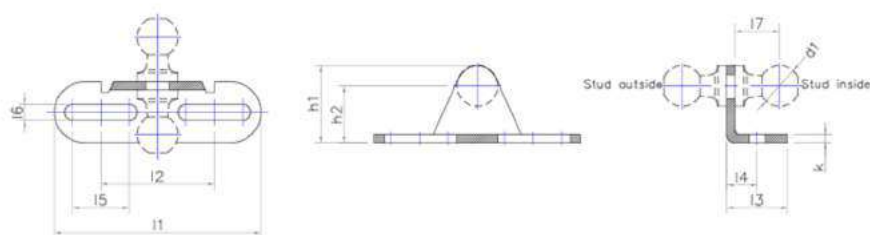
CODE	l1	l2	l3	l4	l5	l6	l7	k1	d1	d2	k2	h1	h2
	±0,3	±0,3	±0,3	±0,3	+0,2	±0,3	+0,2	±0,1	h11	h14	+0,4	±0,3	±0,3
KBR 704	51	28	32	19,5	14	15	14	2	6	8	2	11	8
KBR 705	51	28	32	19,5	14	15	14	2	8	10	2	15,5	12



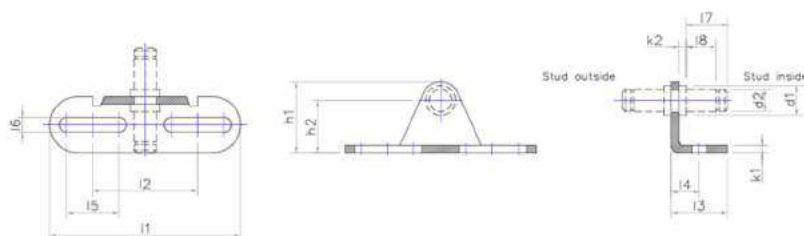
CODE	l1	l2	l3	l4	l5	l6	h1	h2	k	d1	l7
	±0,3	±0,3	±0,3	±0,3	+0,2	+0,2	±0,3	±0,3	±0,01	h9	±0,3
KBR 706	51	28	15	7,5	14	4	19	14	2	8	11
KBR 707	51	28	15	7,5	14	4	19	14	2	10	11
KBR 708	51	28	15	7,5	14	4	19	14	2	10	12,5



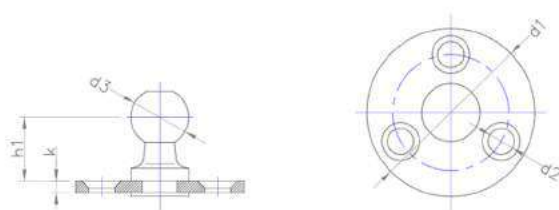
CODE	l1	l2	l3	l4	l5	l6	h1	h2	k1	d1	d2	k2	l7-l8
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$+0,2$	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	h11	h14	$+0,4$	$\pm 0,3$
KBR 709	51	28	32	19,5	14	15	14	2	6	8	2	11	11-8
KBR 710	51	28	32	19,5	14	15	14	2	8	10	2	15,5	15,5-12



CODE	l1	l2	l3	l4	l5	d1	k	d1	h
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,1$	h9	$\pm 0,3$
KBR 711	51	32	32	19,5	15	4,2	2	8	11
KBR 712	51	32	32	19,5	15	4,2	2	10	11
KBR 713	51	32	32	19,5	15	4,2	2	10	12,5

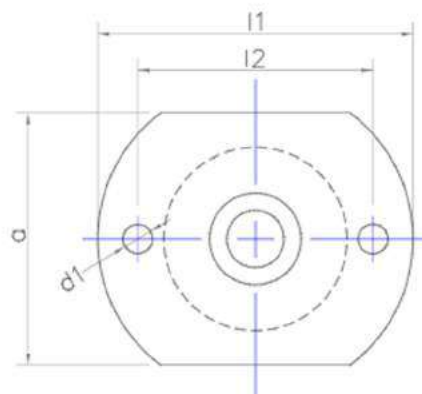
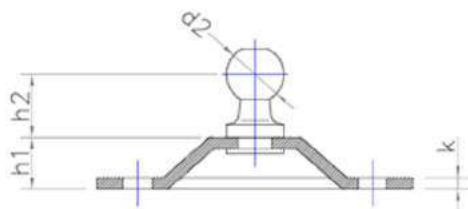


CODE	l1	l2	l3	l4	l5	d1	k1	d2	d3	k2	h1	h2
	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$+0,2$	$\pm 0,1$	h11	h14	$+0,4$	$\pm 0,3$	$\pm 0,3$
KBR 714	51	32	32	19,5	15	4,2	2	6	8	2	11	8
KBR 715	51	32	32	19,5	15	4,2	2	8	10	2	15,5	12

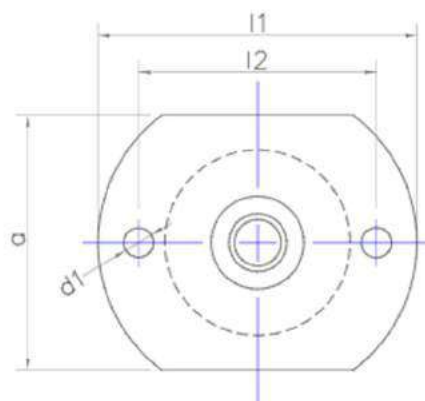
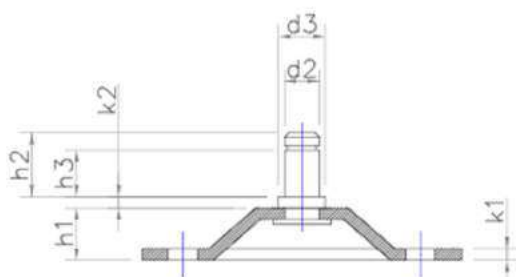


CODE	d1	k	d2	d3	h1
	$\pm 0,1$	$\pm 0,1$	$+0,2$	h9	$\pm 0,3$
KBR 801	29	2	4,2	8	11
KBR 802	29	2	4,2	10	11
KBR 803	29	2	4,2	10	12,5





CODE	l1	l2	a	d1	h1	k	d2	h2
	±0,3	±0,3	±0,3	+0,2	±0,3	±0,1	h9	±0,3
KBR 901	55	41	44	5,2	9	2	8	11
KBR 902	55	41	44	5,2	9	2	10	11
KBR 903	55	41	44	5,2	9	2	10	12,5



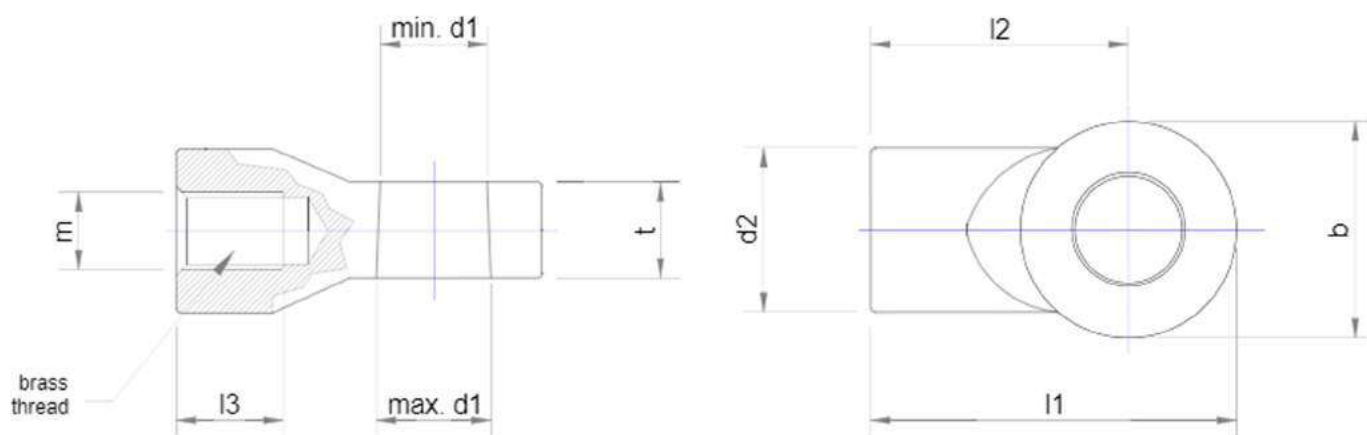
CODE	l1	l2	a	d1	h1	h2	k1	d2	d3	k2	h2	h3
	±0,3	±0,3	±0,3	+0,2	±0,3	±0,3	±0,1	h11	h14	+0,4	±0,3	±0,3
KBR 904	55	41	44	5,2	9	2	2	6	8	2	11	8
KBR 905	55	41	44	5,2	9	2	2	8	10	2	15,5	12

CODE	MATERIAL	CODE	COATING
A	Bracket: Carbon steel sheet	F	Zn/White
	Stud: Free cutting steel DIN 1.0718 (11SMnPb30+C)	G	Zn/Black
B	Bracket: Carbon steel sheet	H	Zn/Yellow
	Stud: Carbon steel (C1020, C1035, C1040 etc.)	I	Zn/Ni Black
C	Bracket and Stud: Stainless steel 1.4305 (X8CrNiS18-9) / AISI 303	J	Zn/Ni Transparently
		K	No plating, raw material
D	Bracket and Stud: Stainless steel 1.4301 (X8CrNiS18-9) / AISI 304	L	Polished
		M	Electropolished
E	Bracket and Stud: Stainless steel 1.4401 (X8CrNiS18-9) / AISI 316		

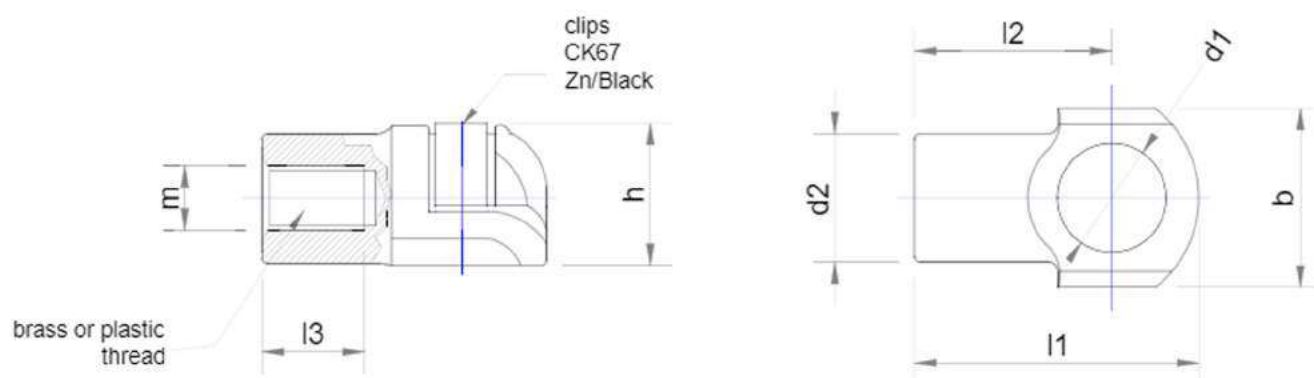


# PLASTIC END FITTINGS

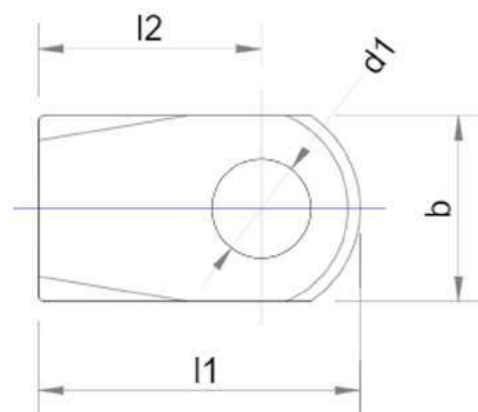
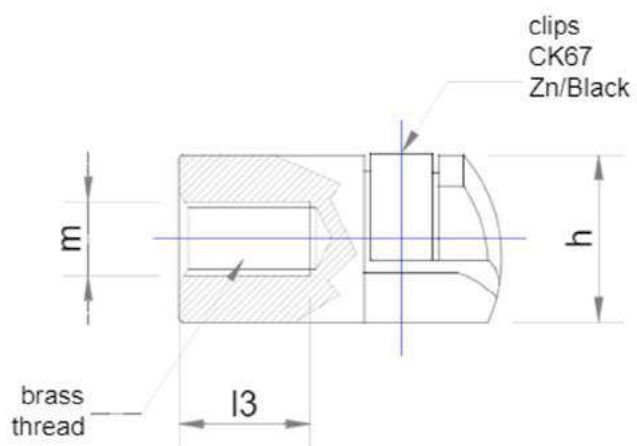




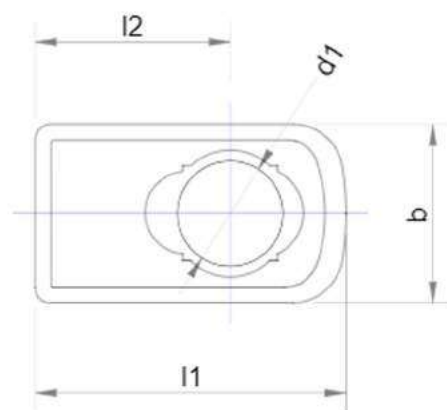
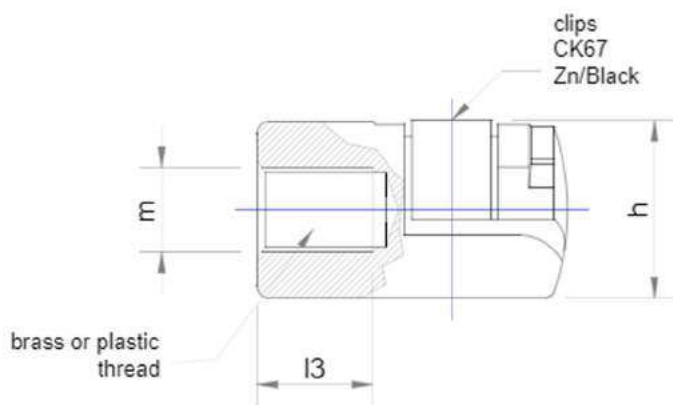
CODE	d1	d1	m	l2	l1	d2	b	t	l3
	min.	max.		$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	min.
KP 1	11,1	12	M6	27	38	17	22,5	10	11
KP 2	11,1	12	M8	27	38	17	22,5	10	11



CODE	d1	m	l2	l1	d2	b	h	l3
	$+0,2$		$\pm 0,3$	$\pm 0,3$	$\pm 0,1$	$\pm 0,3$	$\pm 0,3$	min.
KP 3	10	M6	18	27	12	16	13	9,5
KP 4 (Plastic Thread)	10	M8	18	27	12	16	13	9,5

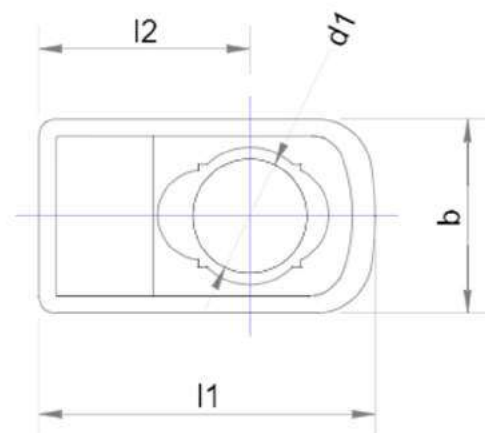
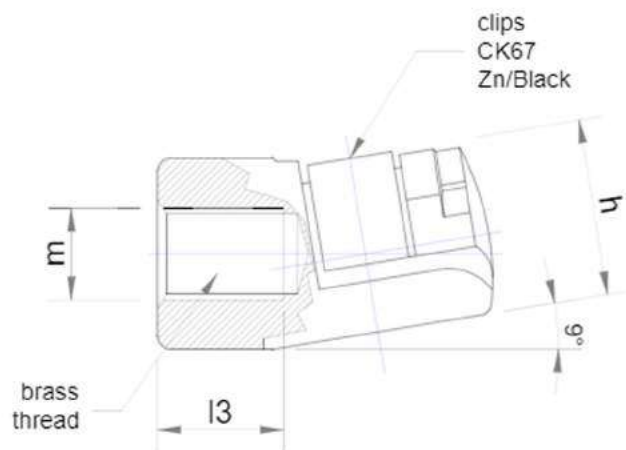


CODE	d1	m	l2	l1	b	h	l3
	+0,2		±0,3	±0,3	±0,3	±0,1	min.
KP 5	8	M6	18	26	15	13,5	11

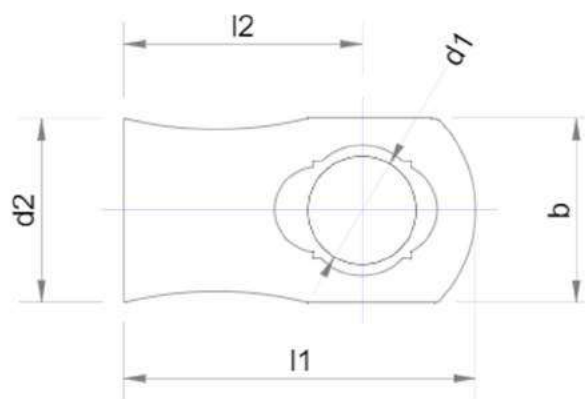
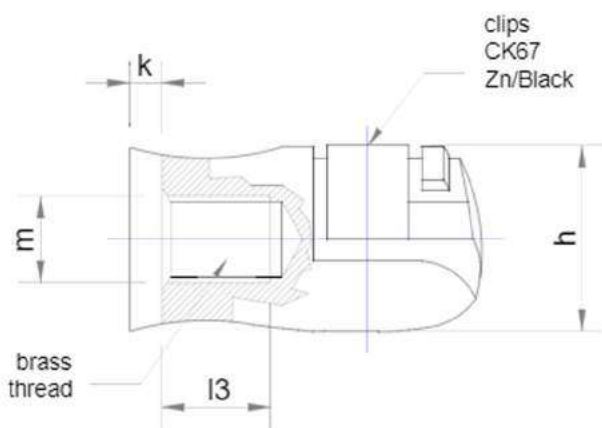


CODE	d1	m	l2	l1	b	h	l3
	+0,2		±0,3	±0,3	±0,3	±0,1	min.
KP 6	10	M6	18	29,5	17	16	11
KP 7	10	M8	18	29,5	17	16	11
KP 8 (Plastic Thread)	10	M6	18	29,5	17	16	11





CODE	d1	m	l2	l1	b	h	l3
	+0,2						
KP 9	10	M6	±0,3	±0,3	±0,3	±0,1	min.
KP 10	10	M8	19	29,5	17	16	11

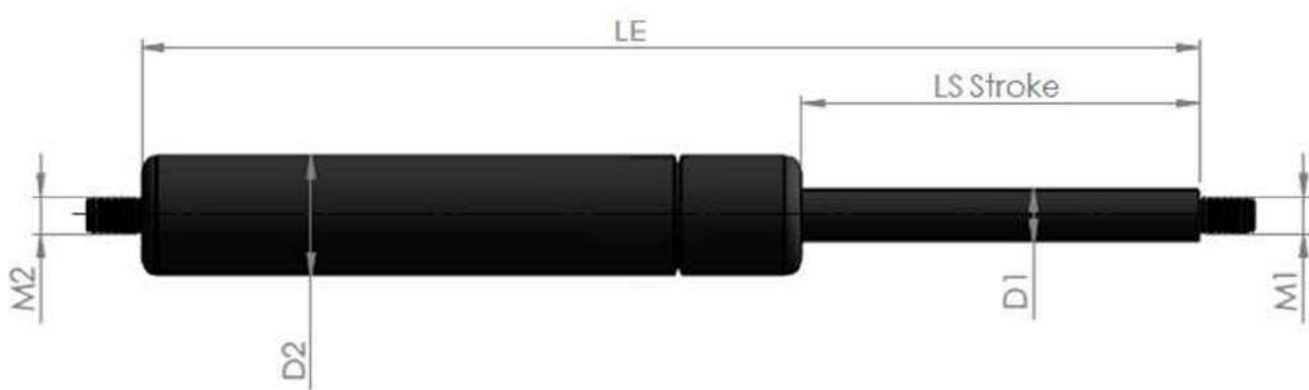


CODE	d1	m	l2	l1	k	d2	b	h	l3
	+0,2								
KP 11	11,1	M6	±0,3	±0,3	±0,1	±0,3	±0,3	±0,3	min.
KP 12	11,1	M8	22	32,5	3,6	17	17,5	16	10

NO.	MATERIAL	NO.	COATING
1	CK 67 (Clips)	1	Clips: Zn/Black
2	Plastic PA66 GF30		
3	Brass Thread		



# STANDART GAS SPRINGS

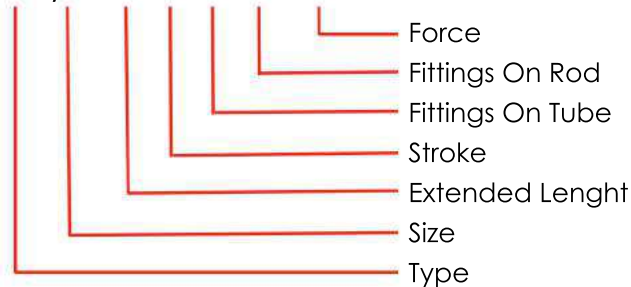


CODE	SIZE	D1	D2	LS (Stroke)	LE	M1	M2	FORCE (N)
KGS 1	3/8	3	8	10-120	2xLS+27	M3X0,6	M3X0,6	0-110
KGS 2	4/12	4	12	10-100	2xLS+28	M4X0,7	M4X0,7	0-200
KGS 3	6/15	6	15	10-150	2xLS+33	M6X1	M6X1	0-400
KGS 4	8/18	8	18	10-300	2xLS+41	M6X1	M6X1	0-750
KGS 5	10/22	10	22	10-350	2xLS+45	M8X1,25	M8X1,25	0-1200
KGS 6	10/27	10	27	10-350	2xLS+50	M8X1,25	M8X1,25	0-1300
KGS 7	10/40	10	40	10-350	2xLS+50	M8X1,25	M8X1,25	0-1500
KGS 8	14/27	14	27	10-350	2xLS+51	M10X1,5	M10X1,5	0-2500
KGS 9	20/40	20	40	10-700	2xLS+77	M14X1,5	M14X1,5	0-5000
KGS 10	25/55	25	55	10-1000	2xLS+100	M20X1,5	M20X1,5	0-7500
KGS 11	30/65	30	65	10-1000	2xLS+120	M24X2	M24X2	0-10000

Standart Product Properties
> Black painted tube (High corrosion resistance)
> Rod Black Nitratred
> Cylinder: Threaded
> Rod: Threaded
> Working temprature range -30°C min +80°C
> The techical specifications and design of the gas springs should be matched respective application and the should be installed properly.
> Gas Springs should be stored and installed rod downward
> Rods should scratched.

## Ordering Example

GS 8/18 150 50 M1 M2 250N





# CNC TURNING PARTS



**OTOMOTIVE GROUP**

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