
Precision Products



Rod ends & Spherical plain bearings & Linkage

Ningbo Bosson Industry Co.,Ltd. is located in south of Ningbo city, where is about 260 kilometers away from Shanghai.

With professional knowledge and solid experience of industrial manufacture, we design, develop, manufacture and distribute Rod Ends Bearings & Radial Spherical Plain Bearings & Ball Stud Joints in full dimensions. We can also offer other various precision mechanical components and fabricated products for vehicles. We are also experienced in value-added sourcing for oversea customers who are looking for the outsourcing of manufactured products in China.

We adhere to the cooperation with our customers and suppliers to maintain long-term partnerships in order to focus on continuous development.

With state-of-the-art processing technology, necessary infrastructures and systematic quality management, we have the ability to consistently provide products which meet customers' requirements and / or applicable standards of ISO, ANSI, and DIN, based on cost effectiveness.

Please feel free to contact us via email / fax / phone.

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Precision Products

Spherical plain bearing rod ends

Radial spherical plain bearings

Ball stud joints & Linkage units

Accessories



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Rod ends & Spherical plain bearings & Linkage

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Rod ends & Spherical plain bearings & Linkage

Applications: Radial spherical plain bearings and rod ends and Joints used for transmitting steady static and dynamic loads in conjunction with swiveling tilting and rotating movements under varying angular conditions, with applications in various industries like cigarette machines, bottling machines, cranes, excavators, machine tools, textiles, automobile, mining, packing, printing, farm equipment, industrial robots, ultralight aircraft and compressor industries.

Data: Data (dimensions, tolerance, specification) of all metric series are based on latest ISO standards ISO12240, and data (dimensions, tolerance, specification) of all inch series are based on US relevant standards or reference. All data can be standardized or customized design to meet customer special requirements.

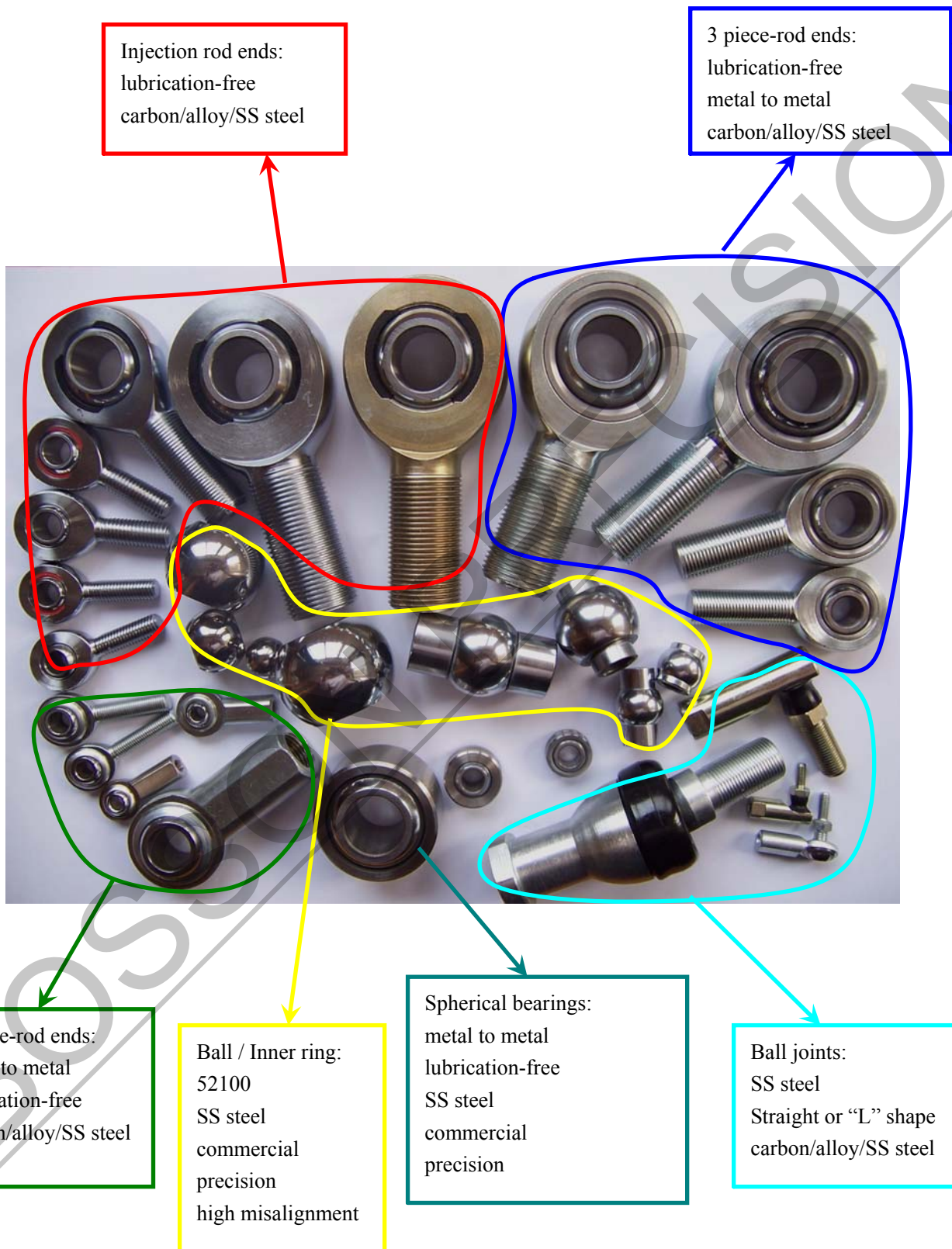
All radial static load value showed in table of this catalog is for reference only, it is approximate value for alloy steel generally or middle carbon steel after heat treatment.

Liner DU: which was sintered by bronze plate attached thin bronze wire net impregnated with PTFE powder. Liner PTFE: PTFE fabric. Injection material: reinforced Nylon mixing PTFE.

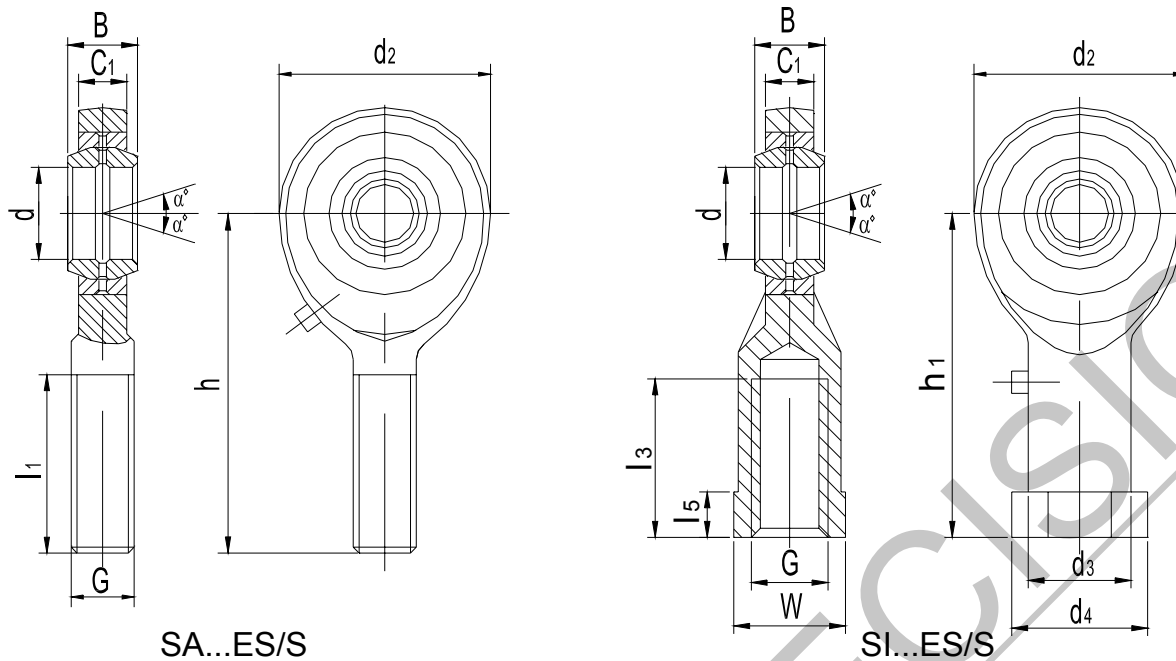
Note: All information in this catalog are carefully compiled and thoroughly checked, however no responsibility for possible errors or omissions, and no responsibility for information updating and change with notice.

Rod ends & Spherical plain bearings & Linkage

ILLUSTRATION



Metric “E” series/Cartridge design

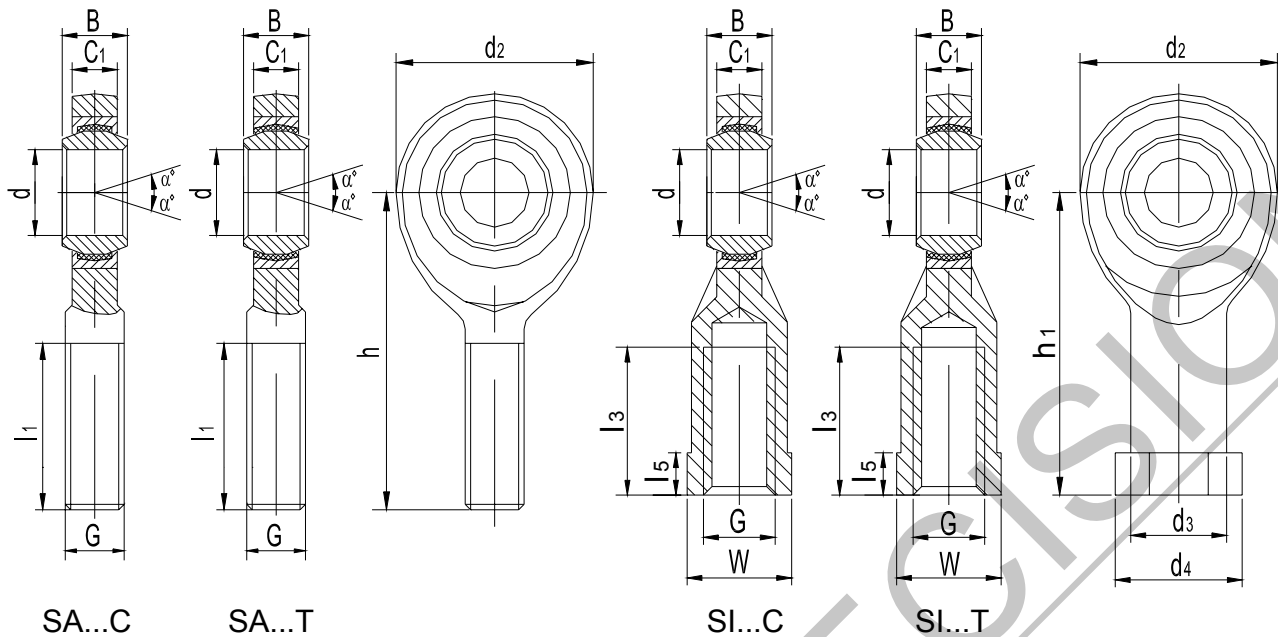


Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ ≈	d ₄ max	W	Radial Static Load (kN)	α ° ≈
SA5E/S	SI5E/S	5	6	M5	4.5	22	36	16	30	11	5	11	14	11	8.1	13
SA6E/S	SI6E/S	6	6	M6	4.5	22	36	16	30	11	5	11	14	11	8.1	13
SA8E/S	SI8E/S	8	8	M8	6.5	25	42	21	36	15	6.5	13	17	13	12.9	15
SA10E/S	SI10E/S	10	9	M10	7.5	30	48	26	43	15	6.5	16	20	16	17.6	12
SA12E/S	SI12E/S	12	10	M12	8.5	35	54	28	50	18	8	19	23	19	24.5	10
SA15ES/S	SI15ES/S	15	12	M14	10.5	41	63	34	61	21	10	22	27	22	36	8
SA17ES/S	SI17ES/S	17	14	M16	11.5	47	69	36	67	24	10	25	31	27	45	10
SA20ES/S	SI20ES/S	20	16	M20x1.5	13.5	54	78	43	77	30	12	28	36	30	60	9
SA25ES/S	SI25ES/S	25	20	M24x2	18	65	94	53	94	36	15	35	44	36	83	7
SA30ES/S	SI30ES/S	30	22	M30x2	20	75	110	65	110	45	15	42	52	46	110	6
SA35ES/S	SI35ES/S	35	25	M36x3	22	84	140	82	125	60	18	47	60	55	146	6
SA40ES/S	SI40ES/S	40	28	M39x3	24	94	150	86	142	65	20	52	67	60	180	7
SA45ES/S	SI45ES/S	45	32	M42x3	28	104	163	92	145	65	20	58	72	65	240	7
SA50ES/S	SI50ES/S	50	35	M45x3	31	114	185	104	160	68	20	62	77	70	290	6
SA60ES/S	SI60ES/S	60	44	M52x3	39	137	210	115	175	70	20	70	90	80	450	6
SA70ES/S	SI70ES/S	70	49	M56x4	43	162	235	125	200	80	20	80	100	85	610	6
SA80ES/S	SI80ES/S	80	55	M64x4	48	182	270	140	230	85	25	95	112	95	750	6

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GE...ES” or “GE...S” series
3. Left hand thread: add “L” to prefix to number, example: SAL15ES or SIL15ES

Metric “E” series/Cartridge design/Maintenance free

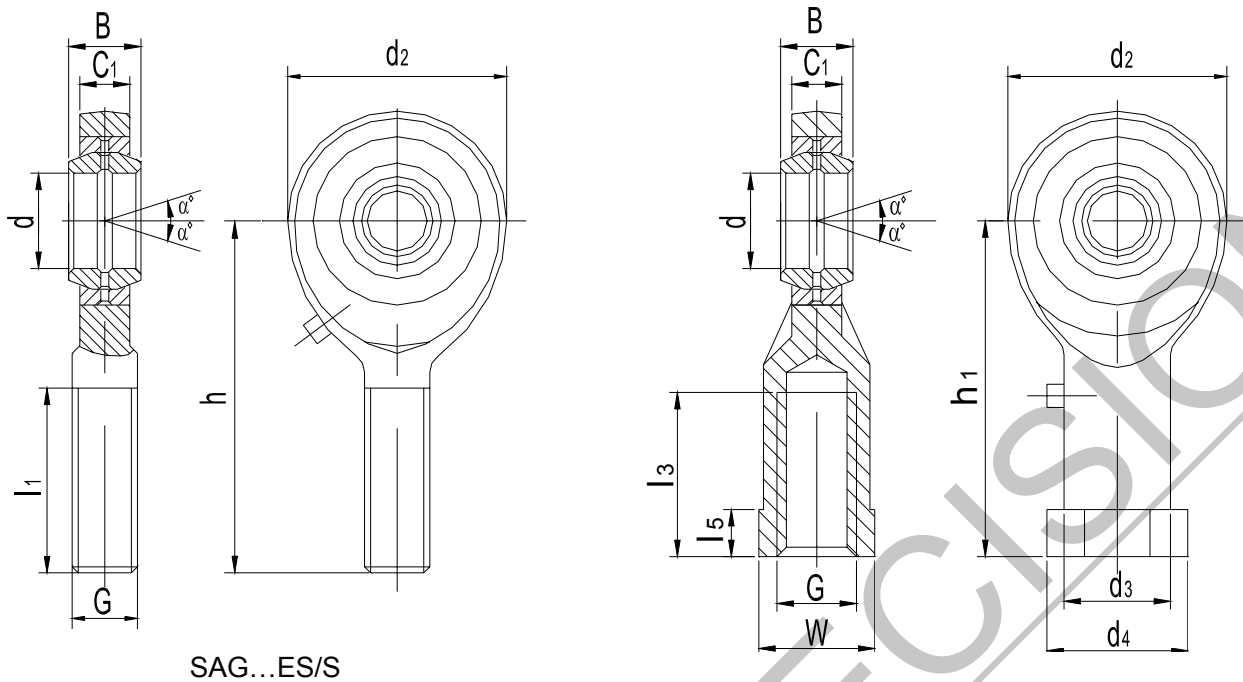


Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ ≈	d ₄ max	W	Radial Static Load (kN)	α° ≈
SA5C/T	SI5C/T	5	6	M5	4.5	22	36	16	30	11	5	11	14	11	4.8	13
SA6C/T	SI6C/T	6	6	M6	4.5	22	36	16	30	11	5	11	14	11	4.8	13
SA8C/T	SI8C/T	8	8	M8	6.5	25	42	21	36	15	6.5	13	17	13	4.8	15
SA10C/T	SI10C/T	10	9	M10	7.5	30	48	26	43	15	6.5	16	20	16	9.4	12
SA12C/T	SI12C/T	12	10	M12	8.5	35	54	28	50	18	8	19	23	19	13	10
SA15C/T	SI15C/T	15	12	M14	10.5	41	63	34	61	21	10	22	27	22	19	8
SA17C/T	SI17C/T	17	14	M16	11.5	47	69	36	67	24	10	25	31	27	24	10
SA20C/T	SI20C/T	20	16	M20x1.5	13.5	54	78	43	77	30	12	28	36	30	31.8	9
SA25C/T	SI25C/T	25	20	M24x2	18	65	94	53	94	36	15	35	44	36	44	7
SA30C/T	SI30C/T	30	22	M30x2	20	75	110	65	110	45	15	42	52	46	58	6
SA35C/T	SI35C/T	35	25	M36x3	22	84	140	82	125	60	18	47	60	55	78	6
SA40C/T	SI40C/T	40	28	M39x3	24	94	150	86	142	65	20	52	67	60	96	7
SA45C/T	SI45C/T	45	32	M42x3	28	104	163	92	145	65	20	58	72	65	128	7
SA50C/T	SI50C/T	50	35	M45x3	31	114	185	104	160	68	20	62	77	70	154	6
SA60C/T	SI60C/T	60	44	M52x3	39	137	210	115	175	70	20	70	90	80	240	6
SA70C/T	SI70C/T	70	49	M56x4	43	162	235	125	200	80	20	80	100	85	330	6
SA80C/T	SI80C/T	80	55	M64x4	48	182	270	140	230	85	25	95	112	95	400	6

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GE...C” or “GE...T” series
3. Left hand thread: add “L” to prefix to number, example: SAL15T or SIL15T

Metric “G” series/Cartridge design

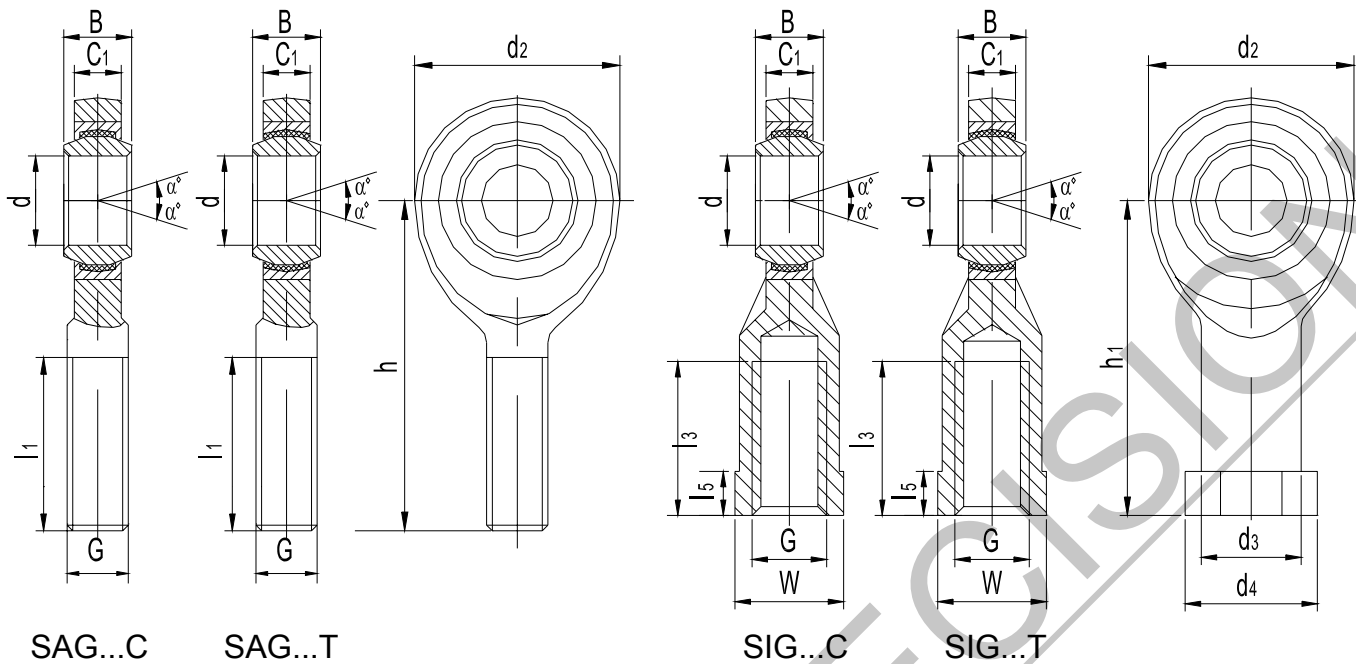


Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ ≈	d ₄ max	W	Radial Static Load (kN)	α ° ≈
SAG4E/S	SIG4E/S	4	7	M5	4.5	22	36	16	30	11	5	11	14	11	8.1	20
SAG5E/S	SIG5E/S	5	7	M6	6.5	22	36	16	30	11	5	11	14	11	8.1	20
SAG6E/S	SIG6E/S	6	9	M8	6.5	25	42	21	36	15	6.5	13	17	13	12.9	21
SAG8E/S	SIG8E/S	8	11	M10	7.5	30	48	26	43	15	6.5	16	20	16	17.6	21
SAG10E/S	SIG10E/S	10	12	M12	8.5	35	54	28	50	18	8	19	23	19	24.5	18
SAG12E/S	SIG12E/S	12	15	M14	10.5	41	63	34	61	21	10	22	27	22	36	18
SAG15ES/S	SIG15ES/S	15	16	M16	11.5	47	69	36	67	24	10	25	31	27	45	16
SAG17ES/S	SIG17ES/S	17	20	M20x1.5	13.5	54	78	43	77	30	12	28	36	30	60	19
SAG20ES/S	SIG20ES/S	20	25	M24x2	18	65	94	53	94	36	15	35	44	36	83	17
SAG25ES/S	SIG25ES/S	25	28	M30x2	20	75	110	65	110	45	15	42	52	46	110	17
SAG30ES/S	SIG30ES/S	30	30	M36x3	22	84	140	82	125	60	18	47	60	55	146	17
SAG35ES/S	SIG35ES/S	35	35	M39x3	24	94	150	86	142	65	20	52	67	60	180	16
SAG40ES/S	SIG40ES/S	40	40	M42x3	28	104	163	92	145	65	20	58	72	65	240	17
SAG45ES/S	SIG45ES/S	45	43	M45x3	31	114	185	104	160	68	20	62	77	70	290	15
SAG50ES/S	SIG50ES/S	50	56	M52x3	39	137	210	115	175	70	20	70	90	80	450	17
SAG60ES/S	SIG60ES/S	60	63	M56x4	43	162	235	125	200	80	20	80	100	85	610	17
SAG70ES/S	SIG70ES/S	70	70	M64x4	48	182	270	140	230	85	25	95	112	95	750	16

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GEG...ES” or “GEG...S” series
3. Left hand thread: add “L” to prefix to number, example: SAGL15ES or SIGL15ES

Metric “G” series/Cartridge design/Maintenance free

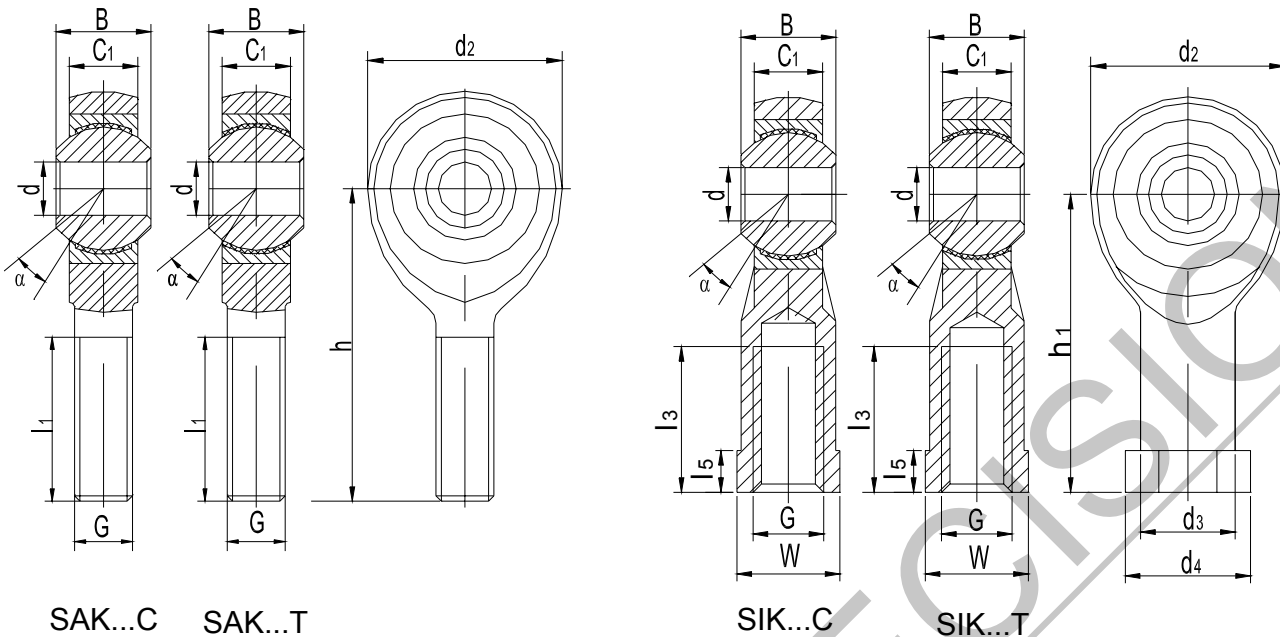


Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ ≈	d ₄ max	W	Radial Static Load (kN)	α ° ≈
SAG4C/T	SIG4C/T	4	7	M5	4.5	22	36	16	30	11	5	11	14	11	4.8	20
SAG5C/T	SIG5C/T	5	7	M6	6.5	22	36	16	30	11	5	11	14	11	4.8	20
SAG6C/T	SIG6CT/	6	9	M8	6.5	25	42	21	36	15	6.5	13	17	13	4.8	21
SAG8C/T	SIG8C/T	8	11	M10	7.5	30	48	26	43	15	6.5	16	20	16	9.4	21
SAG10C/T	SIG10C/T	10	12	M12	8.5	35	54	28	50	18	8	19	23	19	13	18
SAG12C/T	SIG12C/T	12	15	M14	10.5	41	63	34	61	21	10	22	27	22	19	18
SAG15C/T	SIG15C/T	15	16	M16	11.5	47	69	36	67	24	10	25	31	27	24	16
SAG17C/T	SIG17C/T	17	20	M20x1.5	13.5	54	78	43	77	30	12	28	36	30	31.8	19
SAG20C/T	SIG20C/T	20	25	M24x2	18	65	94	53	94	36	15	35	44	36	44	17
SAG25C/T	SIG25C/T	25	28	M30x2	20	75	110	65	110	45	15	42	52	46	58	17
SAG30C/T	SIG30C/T	30	30	M36x3	22	84	140	82	125	60	18	47	60	55	78	17
SAG35C/T	SIG35C/T	35	35	M39x3	24	94	150	86	142	65	20	52	67	60	96	16
SAG40C/T	SIG40C/T	40	40	M42x3	28	104	163	92	145	65	20	58	72	65	128	17
SAG45C/T	SIG45C/T	45	43	M45x3	31	114	185	104	160	68	20	62	77	70	154	15
SAG50C/T	SIG50C/T	50	56	M52x3	39	137	210	115	175	70	20	70	90	80	240	17
SAG60C/T	SIG60C/T	60	63	M56x4	43	162	235	125	200	80	20	80	100	85	330	17
SAG70C/T	SIG70C/T	70	70	M64x4	48	182	270	140	230	85	25	95	112	95	400	16

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GEG...C” or “GEG...T” series
3. Left hand thread: add “L” to prefix to number, example: SAGL15T or SIGL15T

Metric “K” series/Cartridge design/Maintenance free



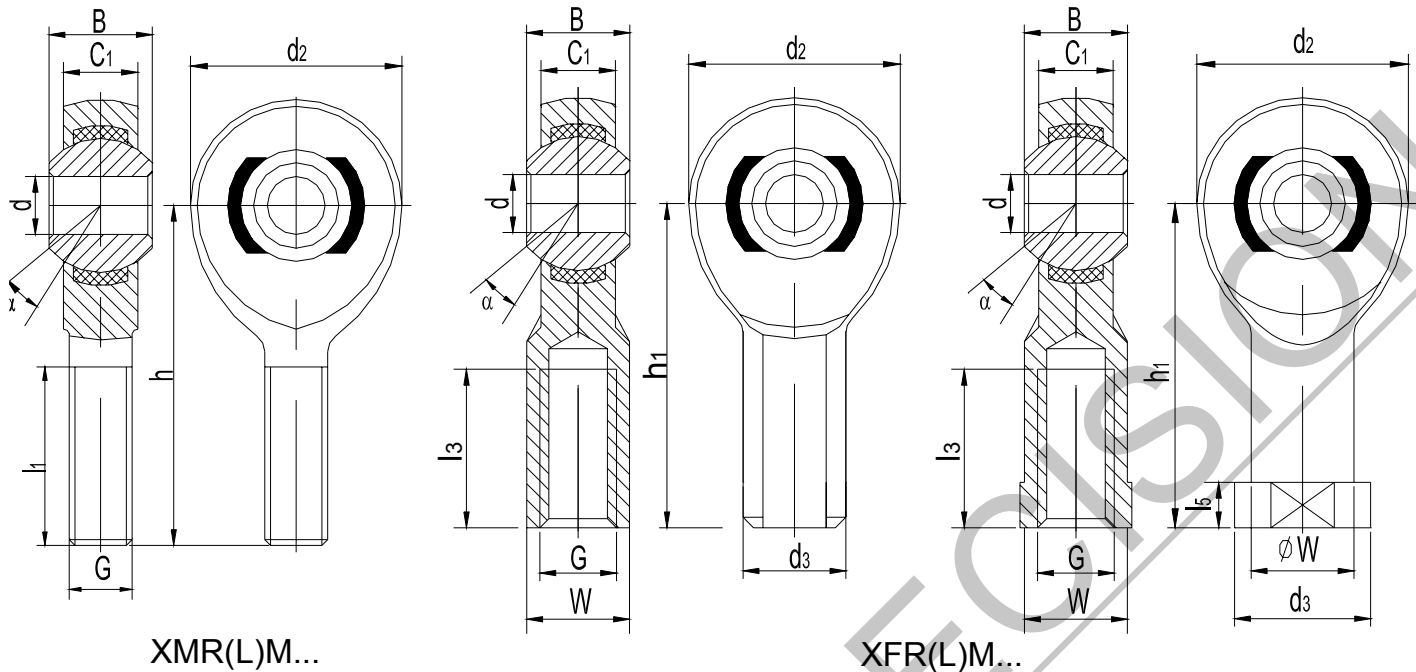
Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ max	d ₄ max	W	Radial Static Load (kN)	α ° ≈
SAK5C/T	SIK5C/T	5	8	M5	7.5	19	33	19	27	8	4	9	12	10	10	13
SAK6C/T	SIK6C/T	6	9	M6	7.5	21	36	21	30	9	5	10	14	11	11	13
SAK8C/T	SIK8C/T	8	12	M8	9.5	25	42	25	36	12	5	12.5	17	13	19	14
SAK10C/T	SIK10C/T	10	14	M10	11.5	29	48	28	43	15	6.5	15	20	16	31	13
SAK12C/T	SIK12C/T	12	16	M12	12.5	33	54	32	50	18	6.5	17.5	23	18	37	13
SAK14C/T	SIK14C/T	14	19	M14	14.5	37	60	36	57	21	8	20	27	21	49	16
SAK16C/T	SIK16C/T	16	21	M16	15.5	43	66	37	64	24	8	22	29	24	63	15
SAK18C/T	SIK18C/T	18	22	M18x1.5	17.5	47	72	41	71	27	10	25	32	27	73	15
SAK20C/T	SIK20C/T	20	23	M20x1.5	18.5	51	78	45	77	30	10	27.5	37	30	83	14
SAK22C/T	SIK22C/T	22	25	M22x1.5	21	55	84	48	84	33	12	30	40	34	102	15
SAK25C/T	SIK25C/T	25	28	M24x2	23	61	94	55	94	36	12	33.5	44	36	112	15
SAK28C/T	SIK28C/T	28	31	M27x2	25	66	103	61	103	41	14	37	46	41	142	15
SAK30C/T	SIK30C/T	30	35	M30x2	27	71	110	66	110	45	15	40	52	46	162	17
SAK35C/T	SIK35C/T	35	43	M36x2	32	81	140	85	125	56	20	49	60	55	182	16
SAK40C/T	SIK40C/T	40	49	M42x2	37	91	150	90	142	60	25	57	69	65	210	16
SAK50C/T	SIK50C/T	50	60	M48x2	47	117	185	105	160	65	25	65	78	70	232	14

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GEK...C” or “GEK...T” series
3. Left hand thread: add “L” to prefix to number, example: SAKL16T or SIKL16T

Rod ends

Metric “K” series /Injection type/Maintenance free

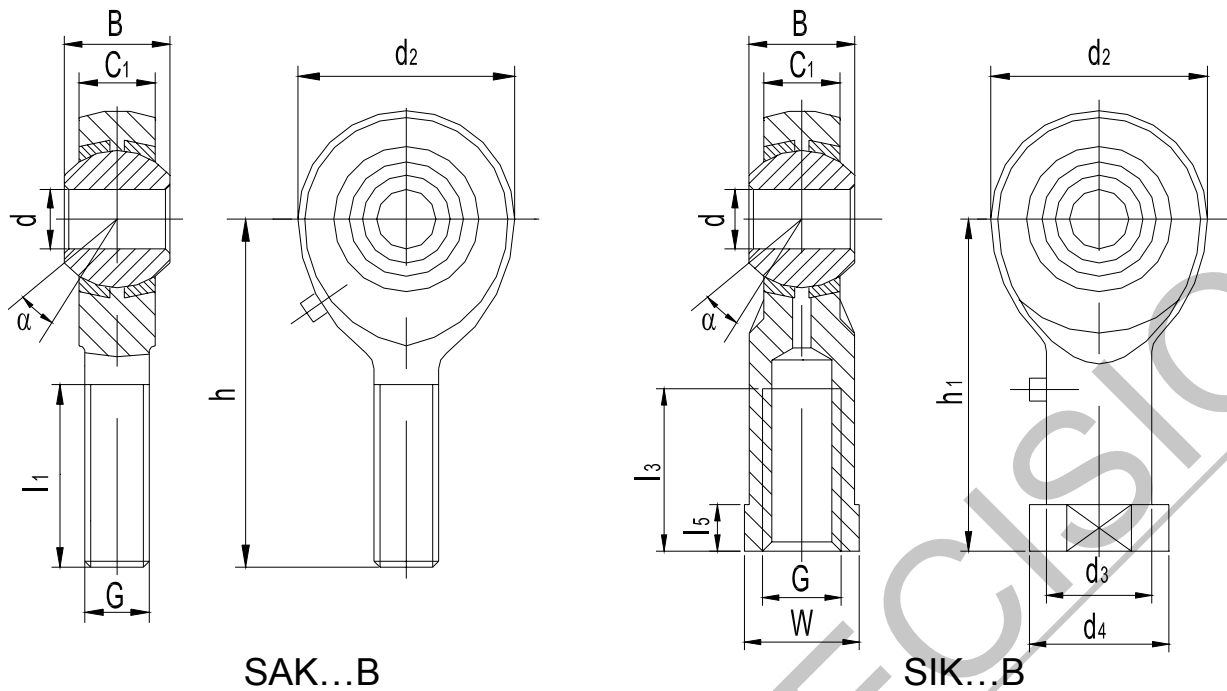


Part No.		Dimensions in Millimeters															
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ max	d ₄ max	W	Radial Static Load (kN)		α° ≈
															XM	XF	
XMM5	XFM5	5	8	M5	7.5	19	33	19	27	8	4	9	12	10	7.8	19.5	13
XMM6	XFM7	6	9	M6	7.5	21	36	21	30	9	5	10	14	11	11.2	21.2	13
XMM8	XFM8	8	12	M8	9.5	25	42	25	36	12	5	12.5	17	13	19.5	29.2	14
XMM10	XFM10	10	14	M10	11.5	29	48	28	43	15	6.5	15	20	16	31.7	48.8	13
XMM12	XFM12	12	16	M12	12.5	33	54	32	50	18	6.5	17.5	23	18	48.8	58.5	13
XMM14	XFM14	14	19	M14	14.5	37	60	36	57	21	8	20	27	21	65.8	68.3	16
XMM16	XFM16	16	21	M16	15.5	43	66	37	64	24	8	22	29	24	80		15
XMM18	XFM18	18	22	M18x1.5	17.5	47	72	41	71	27	10	25	32	27	95		15
XMM20	XFM20	20	23	M20x1.5	18.5	51	78	45	77	30	10	27.5	37	30	107		14
XMM22	XFM22	22	25	M22x1.5	21	55	84	48	84	33	12	30	40	34	143		15
XMM25	XFM25	25	28	M24x2	23	61	94	55	94	36	12	33.5	44	36	153		15
XMM28	XFM28	28	31	M27x2	25	66	103	61	103	41	14	37	46	41	187		15
XMM30	XFM30	30	35	M30x2	27	71	110	66	110	45	15	40	52	46	195		17

Notes:

1. Material of body, alloy steel heat treated, protective coated for corrosion resistance. (option of carbon or stainless steel is available). Ball, bearing steel, hardened, polished, hard chrome plated
2. Prefix “R” to number for right hand thread part no. as “XMRM...” or “XFRM...”, and prefix “L” to number for left hand thread part no. as “XMLM...” or “XFLM...”
3. Injection material reinforced Nylon mixing with PTFE powder for lubricating free.

Metric “K” series/Inlay design

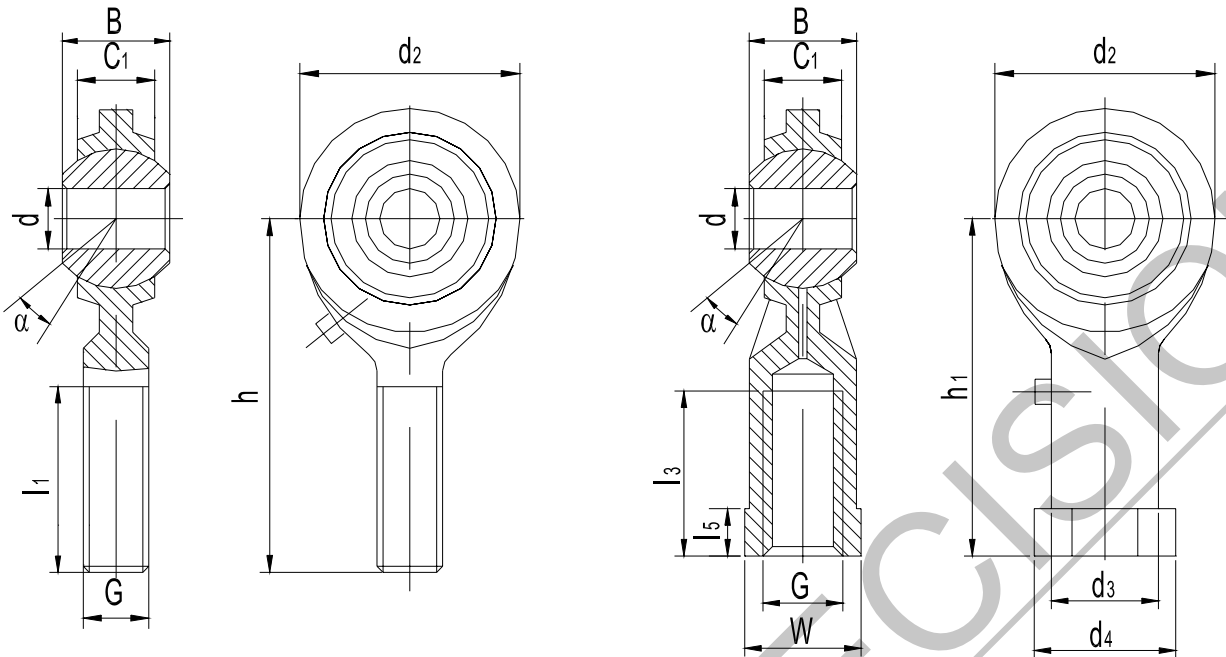


Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ max	d ₄ max	W	Radial Static Load (kN)	α° ≈
SAK3B	SIK3B	3	6	M3	4.5	14	27	15	21	7	3	6.5	8.5	7	2	13
SAK4B	SIK4B	4	7	M4	5.3	16	30	17	24	8	3.5	7.5	10	8	3	13
SAK5B	SIK5B	5	8	M5	6	19	33	19	27	8	4	9	12	9	4.1	13
SAK6B	SIK6B	6	9	M6	6.75	21	36	21	30	9	5	10	14	11	5.3	13
SAK8B	SIK8B	8	12	M8	9	25	42	25	36	12	5	12.5	17	13	9.2	14
SAK10B	SIK10B	10	14	M10	10.5	29	48	28	43	15	6.5	15	20	17	12	13
SAK12B	SIK12B	12	16	M12	12	33	54	32	50	18	6.5	17.5	23	19	17	13
SAK14B	SIK14B	14	19	M14	13.5	37	60	36	57	21	8	20	27	22	22	16
SAK16B	SIK16B	16	21	M16	15	43	66	37	64	24	8	22	29	22	28	15
SAK17B	SIK17B	17	22	M16x1.5	16	45	69	39	67	25	10	24	31	27	30	15
SAK18B	SIK18B	18	23	M18x1.5	16.5	47	72	41	71	27	10	25	32	27	34	15
SAK20B	SIK20B	20	25	M20x1.5	18	51	78	45	77	30	10	27.5	37	30	40	14
SAK22B	SIK22B	22	28	M22x1.5	20	55	84	48	84	33	12	30	40	32	50	15
SAK25B	SIK25B	25	31	M24x2	22	61	94	55	94	36	12	33.5	44	36	63	15
SAK28B	SIK28B	28	35	M27x2	25	66	103	61	103	41	14	37	46	41	74	15
SAK30B	SIK30B	30	37	M30x2	25	71	110	66	110	45	15	40	52	41	86	17

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserts are in two half bronze rings.
3. Inner ball ring, bearing steel, polish, hard-chrome plated
4. Left hand thread: add “L” to prefix to number, example: SAKL16B or SIKL16B

Metric “K” Series/Integral design



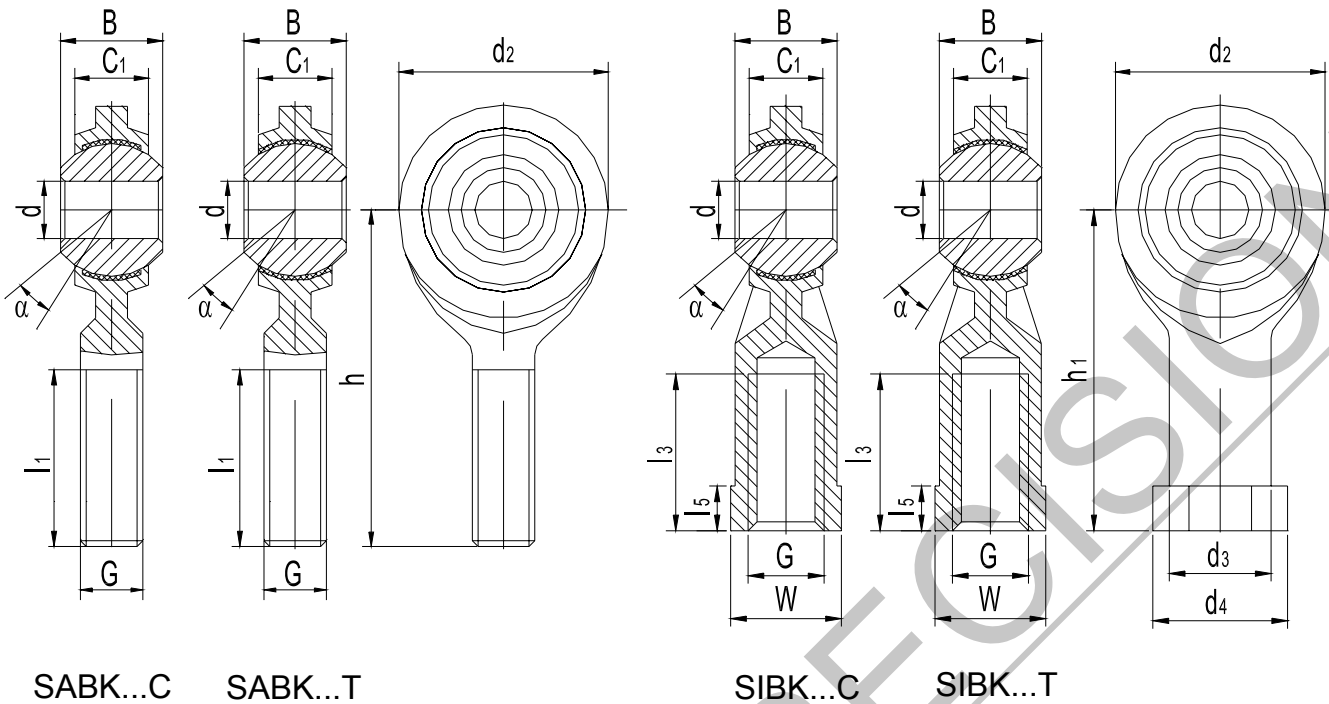
SABK...

Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ max	d ₄ max	W	Radial Static Load (kN)	α° ≈
SABK5	SIBK5	5	8	M5	6	19	33	19	27	8	4	9	12	10	7.6	16
SABK6	SIBK6	6	9	M6	6.75	21	36	21	30	9	5	10	14	11	9.1	18
SABK8	SIBK8	8	12	M8	9	25	42	25	36	12	5	12.5	17	14	12	16
SABK10	SIBK10	10	14	M10	10.5	29	48	28	43	15	6.5	15	20	17	17	15
SABK12	SIBK12	12	16	M12	12	33	54	32	50	18	6.5	17.5	23	19	22	14
SABK14	SIBK14	14	19	M14	13.5	37	60	36	57	21	8	20	27	22	27	17
SABK16	SIBK16	16	21	M16	15	43	66	37	64	24	8	22	29	22	32	16
SABK18	SIBK18	18	23	M18x1.5	16.5	47	72	41	71	27	10	25	32	27	38	16
SABK20	SIBK20	20	25	M20x1.5	18	51	78	45	77	30	10	27.5	37	30	46	15
SABK22	SIBK22	22	28	M22x1.5	20	55	84	48	84	33	12	30	40	32	52	16
SABK25	SIBK25	25	31	M24x2	22	61	94	55	94	36	12	33.5	44	36	96	16
SABK28	SIBK28	28	35	M27x2	25	66	103	61	103	41	14	37	46	41	74	16
SABK30	SIBK30	30	37	M30x2	25	71	110	66	110	45	15	40	52	41	86	18

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inner ball ring, bearing steel, polish, hard-chrome plated
3. Left hand thread: add “L” to prefix to number, example: SABKL16 or SIBKL16

Metric “K” Series/Integral design/Maintenance free

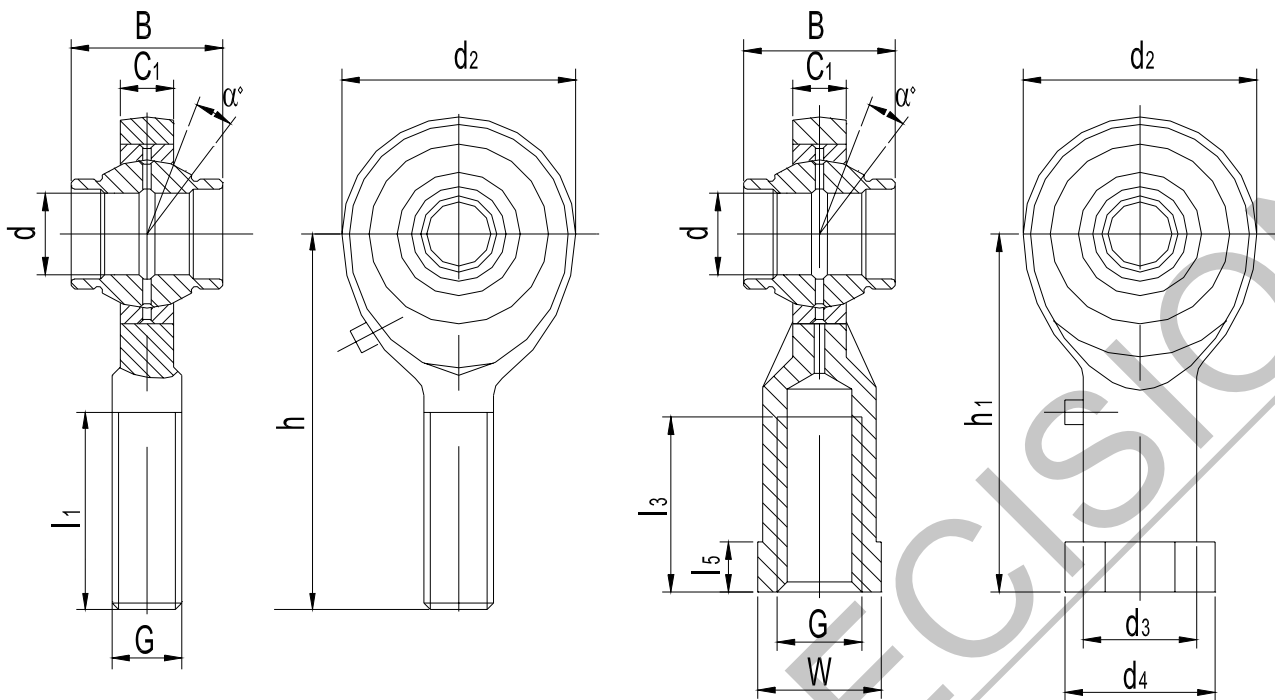


Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ max	d ₄ max	W	Radial Static Load (kN)	α° ≈
SABK5C/T	SIBK5C/T	5	8	M5	6	19	33	19	27	8	4	9	12	10	4.8	16
SABK6C/T	SIBK6C/T	6	9	M6	6.75	21	36	21	30	9	5	10	14	11	4.8	18
SABK8C/T	SIBK8C/T	8	12	M8	9	25	42	25	36	12	5	12.5	17	14	6.4	16
SABK10C/T	SIBK10C/T	10	14	M10	10.5	29	48	28	43	15	6.5	15	20	17	9.4	15
SABK12C/T	SIBK12C/T	12	16	M12	12	33	54	32	50	18	6.5	17.5	23	19	12	14
SABK14C/T	SIBK14C/T	14	19	M14	13.5	37	60	36	57	21	8	20	27	22	14.8	17
SABK16C/T	SIBK16C/T	16	21	M16	15	43	66	37	64	24	8	22	29	22	17	16
SABK18C/T	SIBK18C/T	18	23	M18x1.5	16.5	47	72	41	71	27	10	25	32	27	21	16
SABK20C/T	SIBK20C/T	20	25	M20x1.5	18	51	78	45	77	30	10	27.5	37	30	24.5	15
SABK22C/T	SIBK22C/T	22	28	M22x1.5	20	55	84	48	84	33	12	30	40	32	28	16
SABK25C/T	SIBK25C/T	25	31	M24x2	22	61	94	55	94	36	12	33.5	44	36	52	16
SABK28C/T	SIBK28C/T	28	35	M27x2	25	66	103	61	103	41	14	37	46	41	40	16
SABK30C/T	SIBK30C/T	30	37	M30x2	25	71	110	66	110	45	15	40	52	41	46	18

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inner ball ring, bearing steel, polish, hard-chrome plated
3. "...T" series is liner of PTFE inside, "...C" series is liner of DU inside
4. Left hand thread: add "L" to prefix to number, example: SABKL16T or SIBKL16T

Metric “W” series/Cartridge design



SAW...ES/S

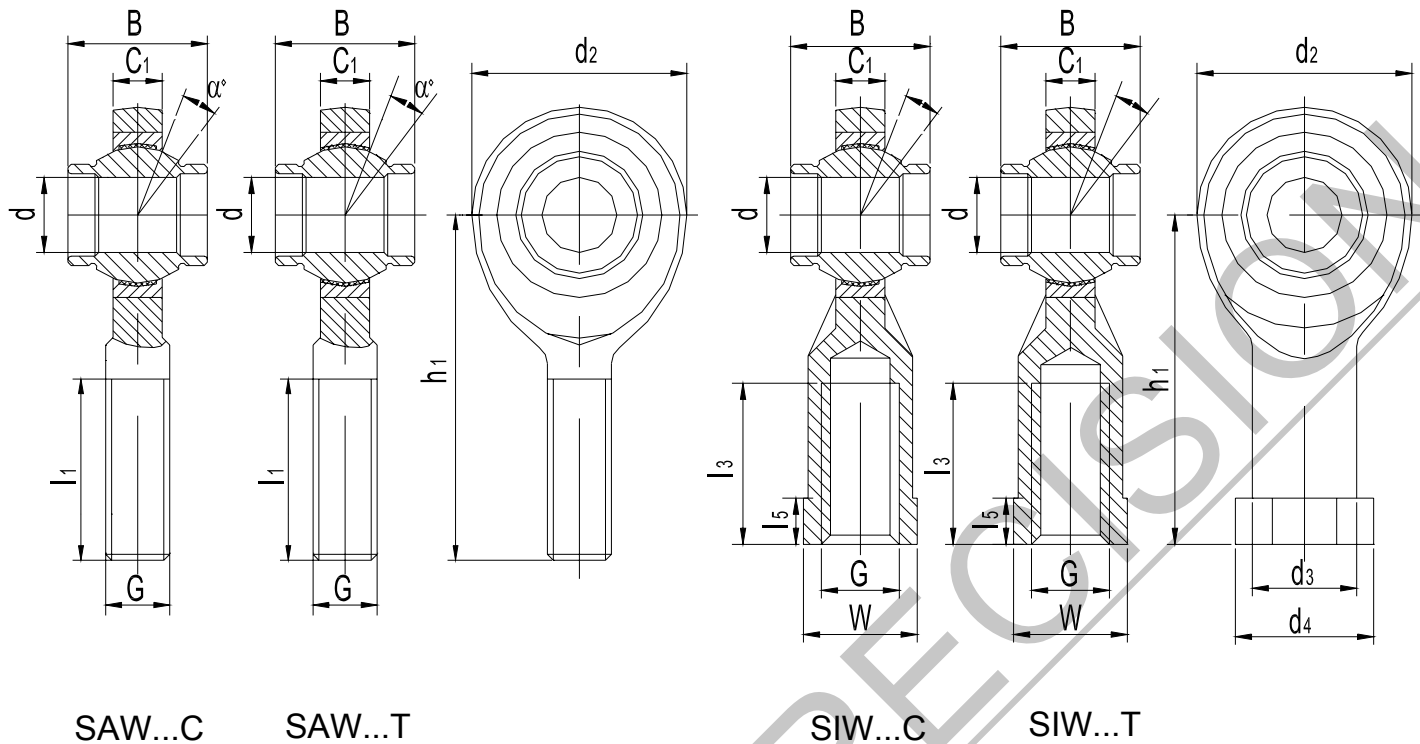
Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ ≈	d ₄ max	W	Radial Static Load (kN)	α° ≈
SAW12ES/S	SIW12ES/S	12	12	M12	8.5	35	54	28	50	18	8	19	23	19	24.5	10
SAW15ES/S	SIW15ES/S	15	15	M14	10.5	41	63	34	61	21	10	22	27	22	36	8
SAW17ES/S	SIW17ES/S	17	17	M16	11.5	47	69	36	67	24	10	25	31	27	45	10
SAW20ES/S	SIW20ES/S	20	20	M20x1.5	13.5	54	78	43	77	30	12	28	36	30	60	9
SAW25ES/S	SIW25ES/S	25	25	M24x2	18	65	94	53	94	36	15	35	44	36	83	7
SAW30ES/S	SIW30ES/S	30	30	M30x2	20	75	110	65	110	45	15	42	52	46	110	6
SAW35ES/S	SIW35ES/S	35	35	M36x3	22	84	140	82	125	60	18	47	60	55	146	6
SAW40ES/S	SIW40ES/S	40	40	M39x3	24	94	150	86	142	65	20	52	67	60	180	7
SAW45ES/S	SIW45ES/S	45	45	M42x3	28	104	163	92	145	65	20	58	72	65	240	7
SAW50ES/S	SIW50ES/S	50	50	M45x3	31	114	185	104	160	68	20	62	77	70	290	6
SAW60ES/S	SIW60ES/S	60	60	M52x3	39	137	210	115	175	70	20	70	90	80	450	6
SAW70ES/S	SIW70ES/S	70	70	M56x4	43	162	235	125	200	80	20	80	100	85	610	6
SAW80ES/S	SIW80ES/S	80	80	M64x4	48	182	270	140	230	85	25	95	112	95	750	6

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GEW...ES” or “GEW...S” series
3. Left hand thread: add “L” to prefix to number, example: SAWL15S or SIWL15S

Rod ends

Metric “W” series/Cartridge design/Maintenance free



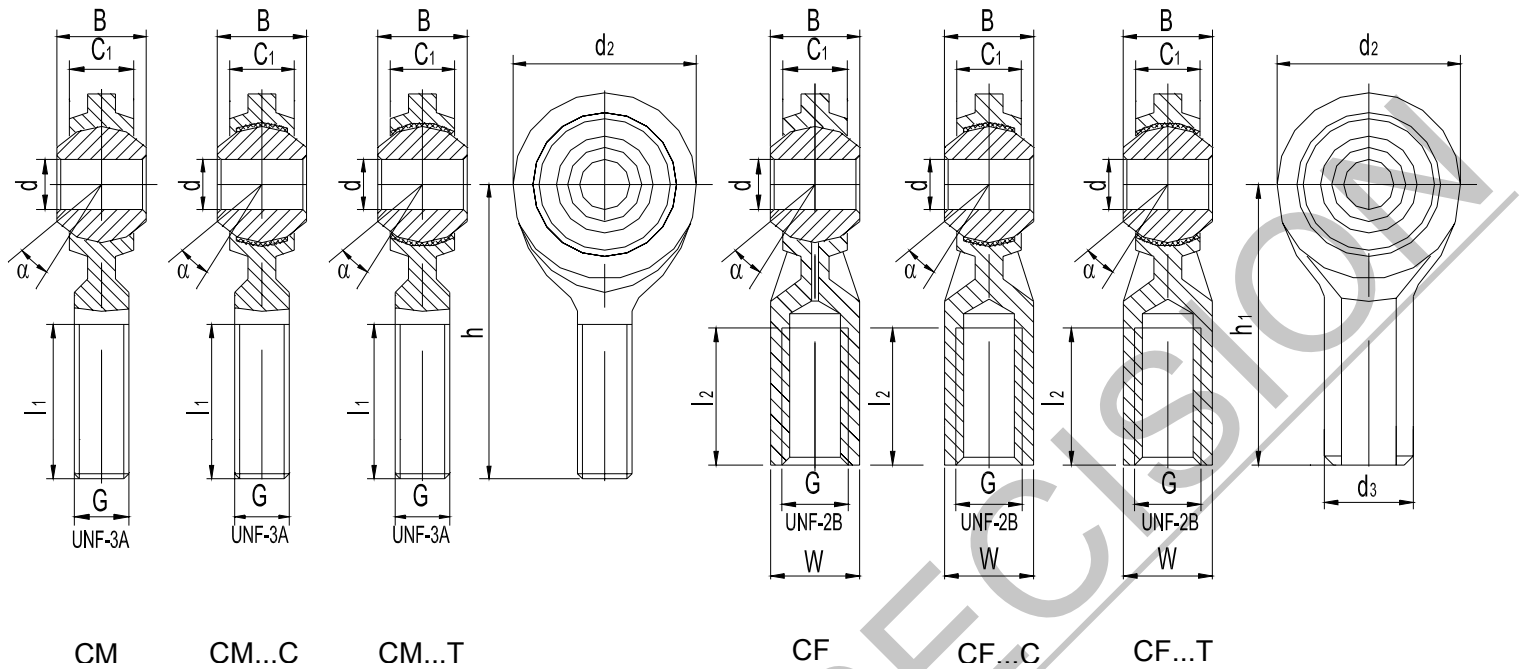
Part No.		Dimensions in Millimeters														
		d	B	G	C ₁ max	d ₂ max	h	l ₁ min	h ₁	l ₃ min	l ₅ max	d ₃ ≈	d ₄ max	W	Radial Static Load (kN)	α° ≈
SAW12C/T	SIW12C/T	12	12	M12	8.5	35	54	28	50	18	8	19	23	19	13	10
SAW15C/T	SIW15C/T	15	15	M14	10.5	41	63	34	61	21	10	22	27	22	19	8
SAW17C/T	SIW17C/T	17	17	M16	11.5	47	69	36	67	24	10	25	31	27	24	10
SAW20C/T	SIW20C/T	20	20	M20x1.5	13.5	54	78	43	77	30	12	28	36	30	31.8	9
SAW25C/T	SIW25C/T	25	25	M24x2	18	65	94	53	94	36	15	35	44	36	44	7
SAW30C/T	SIW30C/T	30	30	M30x2	20	75	110	65	110	45	15	42	52	46	58	6
SAW35C/T	SIW35C/T	35	35	M36x3	22	84	140	82	125	60	18	47	60	55	78	6
SAW40C/T	SIW40C/T	40	40	M39x3	24	94	150	86	142	65	20	52	67	60	96	7
SAW45C/T	SIW45C/T	45	45	M42x3	28	104	163	92	145	65	20	58	72	65	128	7
SAW50C/T	SIW50C/T	50	50	M45x3	31	114	185	104	160	68	20	62	77	70	154	6
SAW60C/T	SIW60C/T	60	60	M52x3	39	137	210	115	175	70	20	70	90	80	240	6
SAW70C/T	SIW70C/T	70	70	M56x4	43	162	235	125	200	80	20	80	100	85	330	6
SAW80C/T	SIW80C/T	80	80	M64x4	48	182	270	140	230	85	25	95	112	95	400	6

Notes:

1. Material of body: carbon or alloy steel or stainless steel, heat treated, and surface zinc plating
2. Inserted spherical bearings: “GEW...C” or “GEW...T” series
3. Left hand thread: add “L” to prefix to number, example: SAWL15T or SIWL15T

Rod ends

Inch General Series/Integral design



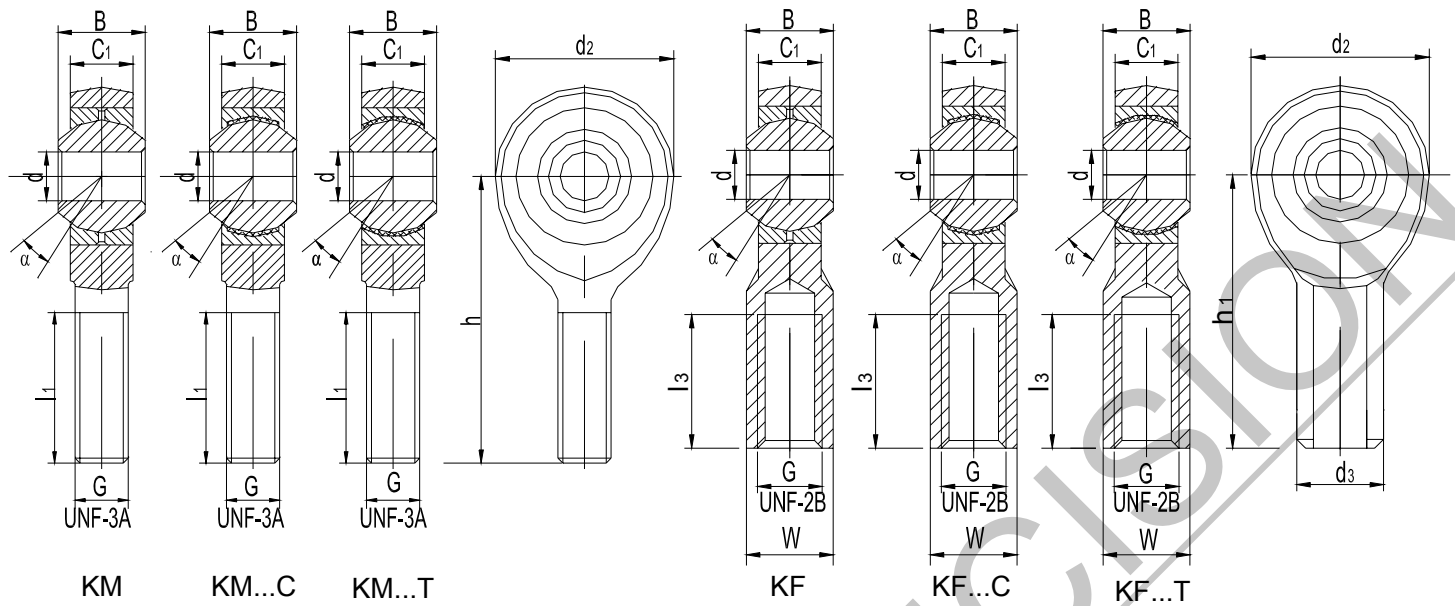
Part No.		Dimensions in Inches												Radial Static Load (lbs)	$\alpha^\circ \approx$
Male type	Female type	d +.0015 -.0005	B +.000 -.005	G Thread	C ₁ Ref.	d ₂ +.01 -.01	h +.015 -.015	l ₁ +.062 -.031	h ₁ +.015 -.015	l ₂ +.062 -.031	d ₃ +.01 -.01	W +.01 -.01	Ball Dia. Ref.		
CM3	CF3	.1900	.312	10-32	.234	.625	1.250	.750	1.062	.500	.406	.312	.437	2080	10
CM4	CF4	.2500	.375	1/4-28	.250	.750	1.562	1.000	1.312	.687	.469	.375	.500	3820	13.5
CM5	CF5	.3125	.437	5/16-24	.312	.875	1.875	1.250	1.375	.687	.500	.437	.625	5110	11
CM6	CF6	.3750	.500	3/8-24	.359	1.000	1.938	1.250	1.625	.812	.687	.562	.719	7600	11
CM7	CF7	.4375	.562	7/16-20	.406	1.125	2.125	1.375	1.812	.937	.750	.625	.812	9150	10.5
CM8	CF8	.5000	.625	1/2-20	.453	1.312	2.438	1.500	2.125	1.062	.875	.750	.937	12250	10
CM10	CF10	.6250	.750	5/8-18	.484	1.500	2.625	1.625	2.500	1.375	1.000	.875	1.125	13550	13
CM12	CF12	.7500	.875	3/4-16	.593	1.750	2.875	1.750	2.875	1.562	1.125	1.000	1.312	18820	12

Notes:

1. Material of body, alloy steel heat treated, protective coated for corrosion resistance. (option of carbon or stainless steel is available). Ball, bearing steel, hardened, polished, hard chrome plated
2. Prefix "R" to number for right hand thread part no. as "CMR..." or "CFR...", and prefix "L" to number for left hand thread part no. as "CML..." or "CFL..."
3. Suffix "T" to part no. with PTFE liner inside and "C" with DU liner inside.
4. Part # to be "GMR/L..." for male "GFR/L..." for female when body material 304 stainless steel.

Rod ends

Inch Series/Cartridge design



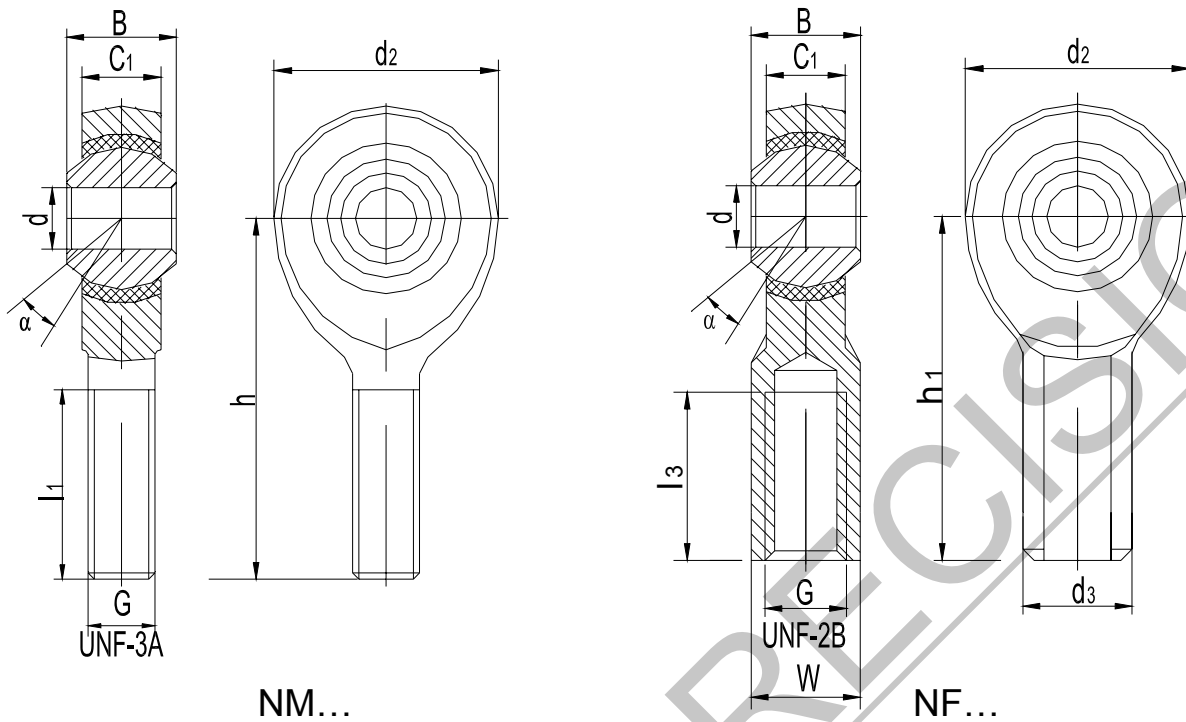
Part No.		Dimensions in Inches												α° $\approx$	Radial Static Load (lbs)
Male type	Female type	d +.0015 -.0005	B +.000 -.005	G Thread	C1 Ref.	d2 +.01 -.01	h +.015 -.015	l1 +.062 -.031	h1 +.015 -.015	l2 +.062 -.031	d3 +.01 -.01	W +.01 -.01	Ball Dia. Ref.		
K(H)M3	K(H)F3	.1900	.312	10-32	.250	.625	1.250	.750	1.062	.500	.406	.312	.437	13	1180
K(H)M4	K(H)F4	.2500	.375	1/4-28	.281	.750	1.562	1.000	1.312	.687	.469	.375	.500	15	2160
K(H)M5	K(H)F5	.3125	.437	5/16-24	.344	.875	1.875	1.250	1.375	.687	.500	.437	.625	14	2780
K(H)M6	K(H)F6	.3750	.500	3/8-24	.406	1.000	1.938	1.250	1.625	.812	.687	.562	.719	13	3920
K(H)M7	K(H)F7	.4375	.562	7/16-20	.437	1.125	2.125	1.375	1.812	.937	.750	.625	.812	14	4220
K(H)M8	K(H)F8	.5000	.625	1/2-20	.500	1.312	2.438	1.500	2.125	1.062	.875	.750	.937	13	6660
K(H)M10	K(H)F10	.6250	.750	5/8-18	.562	1.500	2.625	1.625	2.500	1.375	1.000	.875	1.125	15	7360
K(H)M12	K(H)F12	.7500	.875	3/4-16	.687	1.750	2.875	1.750	2.875	1.562	1.125	1.000	1.312	14	11520
K(H)M14	K(H)F14	.8750	.875	7/8-14	.765	2.000	3.375	2.000	3.375	1.875	1.300	1.125	1.375	8	18480
K(H)M16	K(H)F16	1.0000	1.375	1 1/4-12	1.000	2.750	4.125	2.125	4.125	2.125	1.625	1.500	1.875	17	43550
K(H)M16-1	K(H)F16-1	1.0000	1.375	1-14	1.000	2.750	4.125	2.125	4.125	2.125	1.625	1.500	1.875	17	43550
K(H)M16-2	K(H)F16-2	1.0000	1.375	1-2	1.000	2.750	4.125	2.125	4.125	2.125	1.625	1.500	1.875	17	43550

Notes:

1. Material of body, alloy steel heat treated, protective coated for corrosion resistance. (option of carbon or stainless steel is available). Ball, bearing steel, hardened, polished, hard chrome plated
2. Prefix "R" to number for right hand thread part no. as "KMR..." or "KFR...", and prefix "L" to number for left hand thread part no. as "KML..." or "KFL..."
3. Suffix "T" to part no. with PTFE liner inside and "C" with DU liner inside

Rod ends

Inch Series/Injection type/Maintenance free

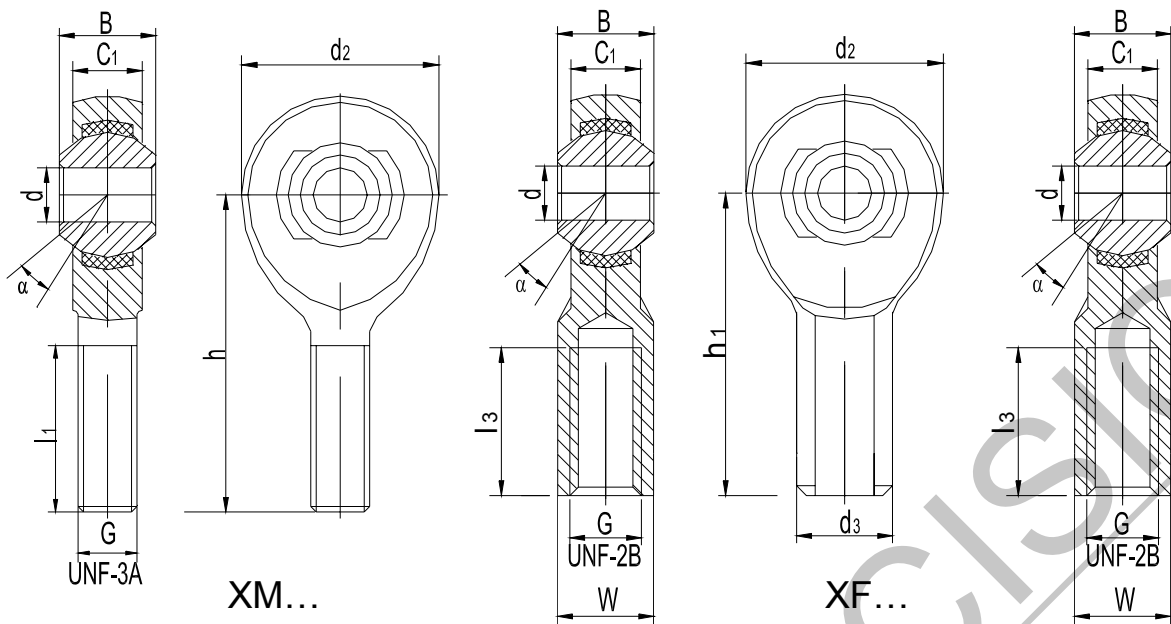


Part No.		Dimensions in Inches													
Male type	Female type	d +.0015 -.0005	B +.000 -.005	G Thread	C1 Ref.	d2 +.01 -.01	h +.015 -.015	l1 +.062 -.031	h1 +.015 -.015	l2 +.062 -.031	d3 +.01 -.01	W +.01 -.01	Radial Static Load (klbs)	Ball Dia. Ref.	$\alpha^\circ \approx$
NM3	NF3	.1900	.312	10-32	.250	.625	1.250	.750	1.062	.500	.406	.312	1210	.437	13
NM4	NF4	.2500	.375	1/4-28	.281	.750	1.562	1.000	1.312	.687	.469	.375	2470	.500	15
NM5	NF5	.3125	.437	5/16-24	.344	.875	1.875	1.250	1.375	.687	.500	.437	2740	.625	14
NM6	NF6	.3750	.500	3/8-24	.406	1.000	1.938	1.250	1.625	.812	.687	.562	4210	.719	12
NM7	NF7	.4375	.562	7/16-20	.437	1.125	2.125	1.375	1.812	.937	.750	.625	5350	.812	14
NM8	NF8	.5000	.625	1/2-20	.500	1.312	2.438	1.500	2.125	1.062	.875	.750	6430	.937	12
NM10	NF10	.6250	.750	5/8-18	.562	1.500	2.625	1.625	2.500	1.375	1.000	.875	8300	1.125	15
NM12	NF12	.7500	.875	3/4-16	.687	1.750	2.875	1.750	2.875	1.562	1.125	1.000	10900	1.312	14

Notes:

1. Material of body, carbon steel, protective coated for corrosion resistance. (material optional alloy steel and stainless steel). Ball, bearing steel, hardened, polished, hard chrome plated.
2. Prefix "R" to number for right hand thread part no. as "NMR..." or "NFR...", and prefix "L" to number for left hand thread part no. as "NML..." or "NFL..."
3. Injection material reinforced Nylon mixing with PTFE powder for lubricating free.

Inch Series/Injection type/Maintenance free



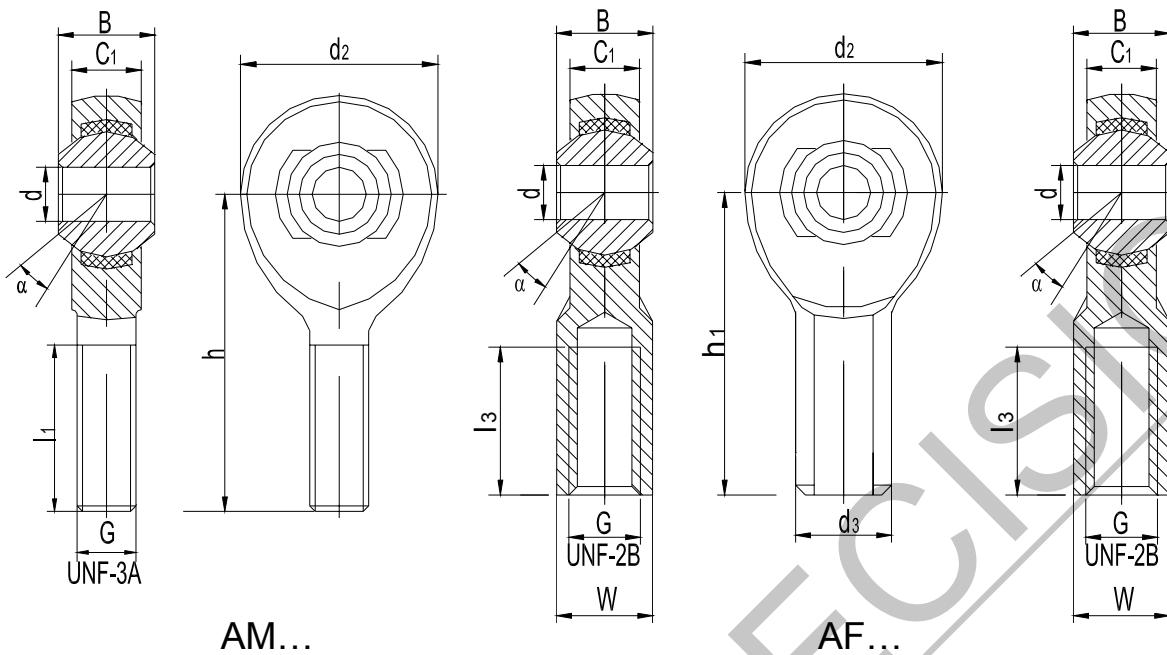
Part No.		Dimensions in Inches														
Male type	Female type	d +.0015 -.0005	B +.000 -.005	G Thread	C1 Ref.	d2 +.01 -.01	h +.015 -.015	l1 +.062 -.031	h1 +.015 -.015	l3 +.062 -.031	d3 +.01 -.01	W +.01 -.01	Radial Static Load (klbs)		Ball Dia. Ref.	α° ≈
													XM	XF		
XM3	XF3	.1900	.312	10-32	.250	.625	1.250	.750	1.062	.500	.406	.312	2.85	3.73	.437	13
XM4	XF4	.2500	.375	1/4-28	.281	.750	1.562	1.000	1.312	.687	.469	.375	5.25	6.20	.500	15
XM5	XF5	.3125	.437	5/16-24	.344	.875	1.875	1.250	1.375	.687	.500	.437	7.65	7.65	.625	14
XM6	XF6	.3750	.500	3/8-24	.406	1.000	1.938	1.250	1.625	.812	.687	.562	9.54	9.54	.719	12
XM7	XF7	.4375	.562	7/16-20	.437	1.125	2.125	1.375	1.812	.937	.750	.625	10.3	10.3	.812	14
XM8	XF8	.5000	.625	1/2-20	.500	1.312	2.438	1.500	2.125	1.062	.875	.750	16.2	16.2	.937	12
XM10	XF10	.6250	.750	5/8-18	.562	1.500	2.625	1.625	2.500	1.375	1.000	.875	17.9	17.9	1.125	15
XM12	XF12	.7500	.875	3/4-16	.687	1.750	2.875	1.750	2.875	1.562	1.125	1.000	28.1	28.1	1.312	14
XM14	XF14	.8750	.875	7/8-14	.765	2.000	3.375	2.000	3.375	1.875	1.300	1.125	45.1	45.1	1.375	8
XM16-1	XF16-1	1.0000	1.375	1-14	1.000	2.750	4.125	2.125	4.125	2.125	1.625	1.500	76.2	76.2	1.875	17
XM16-2	XF16-2	1.0000	1.375	1-12	1.000	2.750	4.125	2.125	4.125	2.125	1.625	1.500	76.2	76.2	1.875	17
XM16	XF16	1.0000	1.375	1 1/4-12	1.000	2.750	4.125	2.125	4.125	2.125	1.625	1.500	76.2	76.2	1.875	17
XM20	XF20	1.2500	0.937	1 1/2-12	0.937	2.750	4.125	2.125	4.125	2.125	2.250	1.500	76.2	76.2	1.795	14
XM24	XF24	1.5000	1.312	1 3/4-12	1.125	3.500	5.375	3.000	5.375	2.625	2.250	2.000	131	131	2.155	13
XM32	XF32	2.0000	1.750	2-12	1.500	5.000	8.000	4.500	8.000	4.000	3.125	2.750	371	371	2.875	12

Notes:

1. Material of body, alloy steel heat treated, protective coated for corrosion resistance. (option of carbon or stainless steel is available). Ball, bearing steel, hardened, polished, hard chrome plated
2. Prefix "R" to number for right hand thread part no. as "XMR..." or "XFR...", and prefix "L" to number for left hand thread part no. as "XML..." or "XFL..."
3. Injection material reinforced Nylon mixing with PTFE powder for lubricating free.

Rod ends

Inch Series/Injection type/Maintenance free



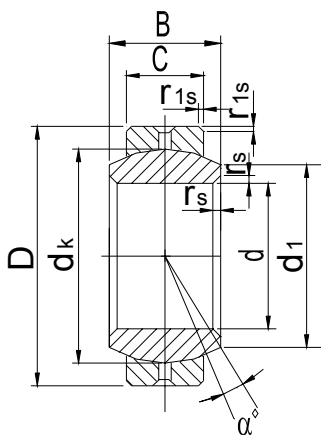
Part No.		Dimensions in Inches														
Male type	Female type	d	B	G	C ₁	d ₂	h	l ₁	h ₁	l ₃	d ₃	W	Radial Static Load (klbs)		Ball Dia. Ref.	α° ≈
		+0.015 -0.005	+0.000 -0.005	Thread	Ref.	+0.01 -0.01	+0.015 -0.015	+0.062 -0.031	+0.015 -0.015	+0.062 -0.031	+0.01 -0.01	+0.01 -0.01	AM	AF		
AM3	AF3	.1900	.312	10-32	.250	.625	1.250	.750	1.062	.500	.406	.312	1.35	1.75	.437	13
AM4	AF4	.2500	.375	1/4-28	.281	.750	1.562	1.000	1.312	.687	.469	.375	2.50	2.90	.500	15
AM5	AF5	.3125	.437	5/16-24	.344	.875	1.875	1.250	1.375	.687	.500	.437	3.20	3.60	.625	14
AM6	AF6	.3750	.500	3/8-24	.406	1.000	1.938	1.250	1.625	.812	.687	.562	4.50	4.50	.719	12
AM7	AF7	.4375	.562	7/16-20	.437	1.125	2.125	1.375	1.812	.937	.750	.625	4.80	4.80	.812	14
AM8	AF8	.5000	.625	1/2-20	.500	1.312	2.438	1.500	2.125	1.062	.875	.750	7.70	7.70	.937	12
AM10	AF10	.6250	.750	5/8-18	.562	1.500	2.625	1.625	2.500	1.375	1.000	.875	8.60	8.60	1.125	15
AM12	AF12	.7500	.875	3/4-16	.687	1.750	2.875	1.750	2.875	1.562	1.125	1.000	13.4	13.4	1.312	14

Notes:

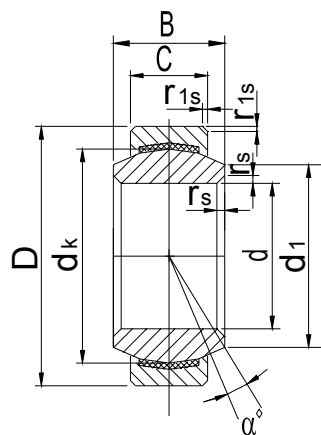
1. High strength Aluminum for male type body material is available, polishing and color anodized for surface treatment.
2. Prefix "R" to number for right hand thread part no. as "AMR..." or "AFR...", and prefix "L" to number for left hand thread part no. as "AML..." or "AFL..."
3. Injection material reinforced Nylon mixing with PTFE powder for lubricating free.

Radial Spherical plain bearings

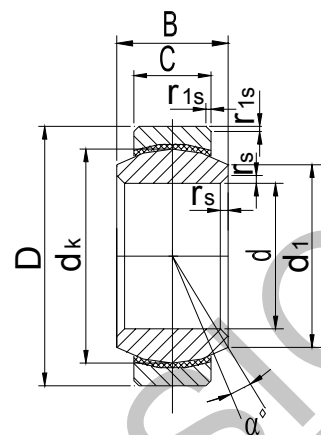
Metric “E” series/Swage pressed (Maintenance free available)



GE...S



GE...C



GE...T

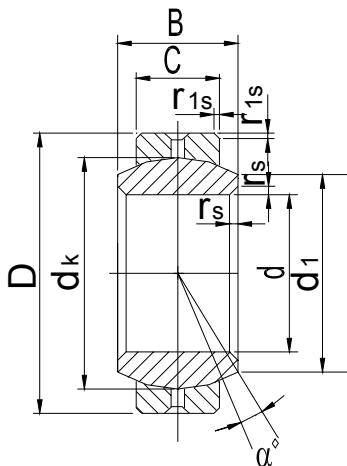
Part No.			Dimensions in Millimeters									
			d	D	B	C	d ₁ ≈	d _k	r _s min	r _{1s} min	Radial Static Load (kN)	α° ≈
	GE4C	GE4T	4	12	5	3	6	8	0.3	0.3	5.4	16
	GE5C	GE5T	5	14	6	4	8	10	0.3	0.3	9.1	13
	GE6C	GE6T	6	14	6	4	8	10	0.3	0.3	9.1	13
	GE8C	GE8T	8	16	8	5	10	13	0.3	0.3	14	15
	GE10C	GE10T	10	19	9	6	13	16	0.3	0.3	21	12
GE12S	GE12C	GE12T	12	22	10	7	15	18	0.3	0.3	28	10
GE15S	GE15C	GE15T	15	26	12	9	18	22	0.3	0.3	45	8
GE17S	GE17C	GE17T	17	30	14	10	20	25	0.3	0.3	56	10
GE20S	GE20C	GE20T	20	35	16	12	24	29	0.3	0.3	78	9
GE25S	GE25C	GE25T	25	42	20	16	29	35	0.6	0.6	127	7
GE30S	GE30C	GE30T	30	47	22	18	34	40	0.6	0.6	166	6
GE35S	GE35C	GE35T	35	55	25	20	39	47	0.6	1	212	6
GE40S	GE40C	GE40T	40	62	28	22	45	53	0.6	1	266	7
GE45S	GE45C	GE45T	45	68	32	25	50	60	0.6	1	342	7
GE50S	GE50C	GE50T	50	75	35	28	55	66	0.6	1	416	6
GE60S	GE60C	GE60T	60	90	44	36	66	80	1	1	654	6
GE70S	GE70C	GE70T	70	105	49	40	77	92	1	1	838	6
GE80S	GE80C	GE80T	80	120	55	45	88	105	1	1	1076	6

Notes:

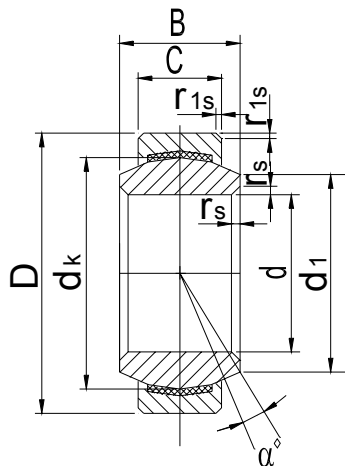
1. Out ring, carbon, alloy and stainless steel is available, heat-treated; inner ring bearing steel, polish, hard chrome plated
2. For “GE...C” series DU liner inside and for “GE...T” series PTFE liner inside

Radial Spherical plain bearings

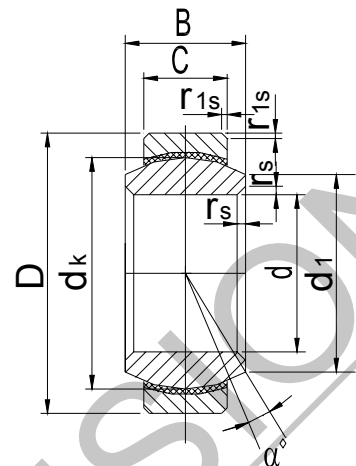
Metric “G” series/Swage pressed (Maintenance free available)



GEG...S



GEG...C



GEG...T

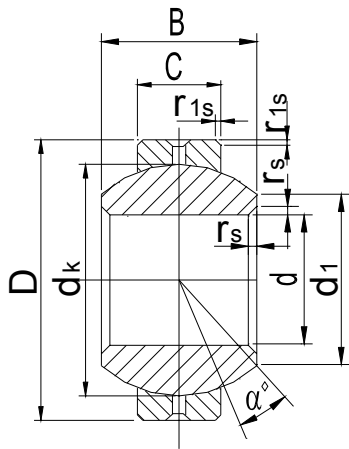
Part No.			Dimensions in Millimeters									
			d	D	B	C	d ₁ ≈	dk ≈	rs min	r _{1s} min	Radial Static Load (kN)	α° ≈
	GEG4C	GEG4T	4	14	7	4	7	10	0.3	0.3	901	20
	GEG5C	GEG5T	5	14	7	4	7	10	0.3	0.3	14	20
	GEG6C	GEG6T	6	16	9	5	9	13	0.3	0.3	14	21
	GEG8C	GEG8T	8	19	11	6	11	16	0.3	0.3	21	21
GEG10S	GEG10C	GEG10T	10	22	12	7	13	18	0.3	0.3	28	18
GEG12S	GEG12C	GEG12T	12	26	15	9	16	22	0.3	0.3	45	18
GEG15S	GEG15C	GEG15T	15	30	16	10	19	25	0.3	0.3	56	16
GEG17S	GEG17C	GEG17T	17	35	20	12	21	29	0.3	0.3	78	19
GEG20S	GEG20C	GEG20T	20	42	25	16	24	35	0.3	0.6	127	17
GEG25S	GEG25C	GEG25T	25	47	28	18	29	40	0.6	0.6	166	17
GEG30S	GEG30C	GEG30T	30	55	30	20	34	47	0.6	1	212	17
GEG35S	GEG35C	GEG35T	35	62	35	22	39	53	0.6	1	266	16
GEG40S	GEG40C	GEG40T	40	68	40	25	44	60	0.6	1	342	17
GEG45S	GEG45C	GEG45T	45	75	43	28	50	66	0.6	1	416	15
GEG50S	GEG50C	GEG50T	50	90	56	36	57	80	0.6	1	654	17
GEG60S	GEG60C	GEG60T	60	105	63	40	67	92	1	1	838	17
GEG70S	GEG70C	GEG70T	70	120	70	45	77	105	1	1	1076	16
GEG80S	GEG80C	GEG80T	80	130	75	50	87	115	1	1	1310	14

Notes:

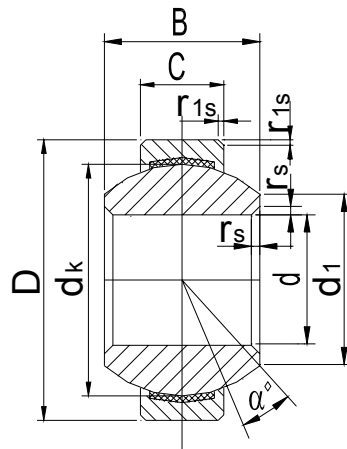
1. Out ring, carbon, alloy and stainless steel is available, heat-treated; inner ring bearing steel, polish, hard chrome plated
2. For “GEG...C” DU liner inside and “GEG...T” PTFE liner inside

Radial Spherical Plain Bearings

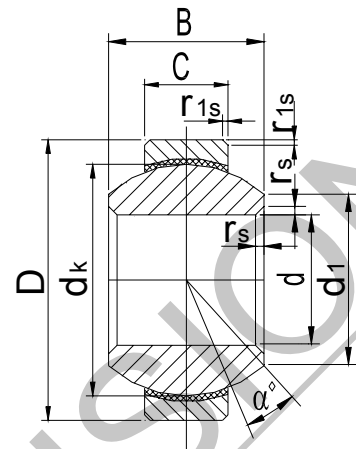
Metric “K” series/Swage pressed (Maintenance free available)



GEK...S



GEK...C



GEK...T

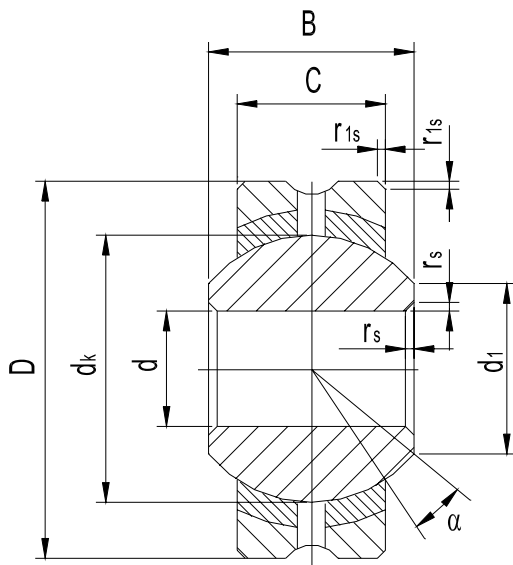
Part No.			Dimensions in Millimeters									
			d	D	B	C	d ₁ ≈	dk ≈	rs min	r _{1s} min	Radial Static Load (kN)	α° ≈
	GEK3C	GEK3T	3	10	6	4.5	5.1	7.9	0.2	0.2	8	14
	GEK4C	GEK4T	4	12	7	5	6.4	9.5	0.2	0.2	11	13
	GEK5C	GEK5T	5	13	8	6	7.7	11.1	0.3	0.3	14	13
GEK6S	GEK6C	GEK6T	6	16	9	6.75	8.9	12.7	0.3	0.3	17.6	13
GEK8S	GEK8C	GEK8T	8	19	12	9	10.3	15.8	0.3	0.3	28.8	14
GEK10S	GEK10C	GEK10T	10	22	14	10.5	12.9	19	0.3	0.3	41.4	13
GEK12S	GEK12C	GEK12T	12	26	16	12	15.4	22.2	0.3	0.3	55.8	13
GEK14S	GEK14C	GEK14T	14	29	19	13.5	16.8	25.4	0.3	0.3	72	16
GEK16S	GEK16C	GEK16T	16	32	21	15	19.3	28.5	0.3	0.3	90	15
GEK18S	GEK18C	GEK18T	18	35	23	16.5	21.8	31.7	0.3	0.3	109	15
GEK20S	GEK20C	GEK20T	20	40	25	18	24.3	34.9	0.3	0.6	132	14
GEK22S	GEK22C	GEK22T	22	42	28	20	25.8	38.1	0.3	0.6	158	15
GEK25S	GEK25C	GEK25T	25	47	31	22	29.5	42.8	0.3	0.6	198	15
GEK30S	GEK30C	GEK30T	30	55	37	25	34.8	50.8	0.3	0.6	276	17
GEK35S	GEK35C	GEK35T	35	65	43	30	40.3	59	0.6	1	380	16
GEK40S	GEK40C	GEK40T	40	72	49	35	44.2	66	0.6	1	508	16
GEK50S	GEK50C	GEK50T	50	90	60	45	55.8	82	0.6	1	810	14

Notes:

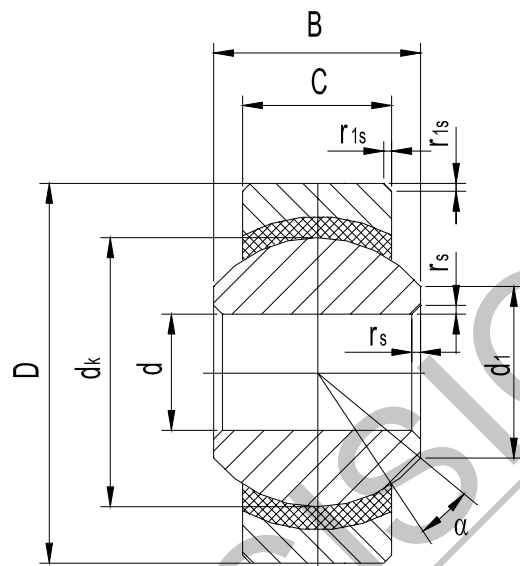
1. Out ring, carbon, alloy, stainless steel or bronze is available, heat-treated; inner ring bearing steel, polish, hard chrome plated
2. For “GEK...C” DU liner inside and for “GEK...T” PTFE liner inside

Radial Spherical Plain Bearings

Metric “K” series/High strength



GEK...B



GEK...P

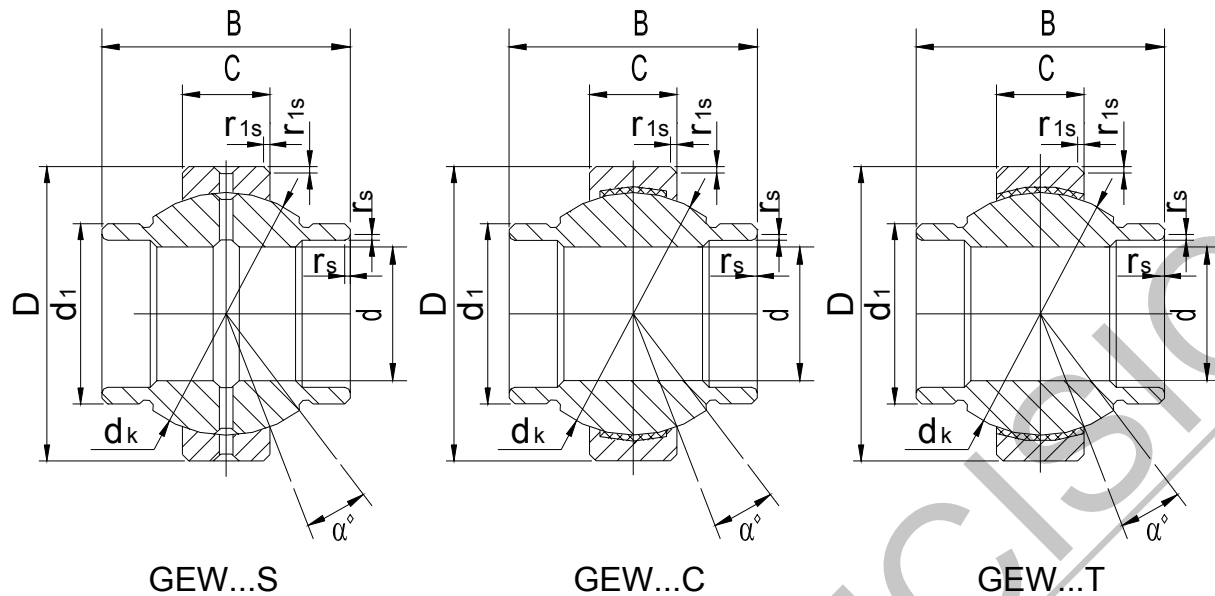
Part No.		Dimensions in Millimeters									
		d	D	B	C	d ₁ ≈	dk	rs min	r _{1s} min	Radial Static Load (kN)	α° ≈
GEK5B	GEK5P	5	16	8	6	7.7	11.1	0.3	0.3	8.8	13
GEK6B	GEK6P	6	18	9	6.75	8.9	12.7	0.3	0.3	9.8	13
GEK8B	GEK8P	8	22	12	9	10.3	15.8	0.3	0.3	16.8	14
GEK10B	GEK10P	10	26	14	10.5	12.9	19	0.3	0.3	23	13
GEK12B	GEK12P	12	30	16	12	15.4	22.2	0.3	0.3	31	13
GEK14B	GEK14P	14	34	19	13.5	16.8	25.4	0.3	0.3	42	16
GEK15B	GEK15P	15	36	20	14	18.1	26.9	0.3	0.3	45	15
GEK16B	GEK16P	16	38	21	15	19.3	28.5	0.3	0.3	50	15
GEK17B	GEK17P	17	40	22	16	20.6	30.1	0.3	0.3	57	15
GEK18B	GEK18P	18	42	23	16.5	21.8	31.7	0.3	0.3	62	15
GEK20B	GEK20P	20	46	25	18	24.3	34.9	0.3	0.6	74	14
GEK22B	GEK22P	22	50	28	20	25.8	38.1	0.3	0.6	90	15
GEK25B	GEK25P	25	56	31	22	29.5	42.8	0.3	0.6	112	15
GEK28B	GEK28P	28	62	35	24	32.2	47.8	0.3	0.6	140	15
GEK30B	GEK30P	30	66	37	25	34.8	50.8	0.3	0.6	156	17

Notes:

1. Out ring, carbon, alloy steel available, heat-treated, protective coated for corrosion resistance; inner ring bearing steel, polish, hard chrome plated
2. "GEK...B", the race to be in two half ring of bronze inserts
3. "GEK...P" series are structure of lubricating free with injection material
4. Or can be same structure as GEK...C and GEK...T in page 20 for this high strength bearings

Radial Spherical Plain Bearings

Metric “W” series/Swage pressed (Maintenance free available)



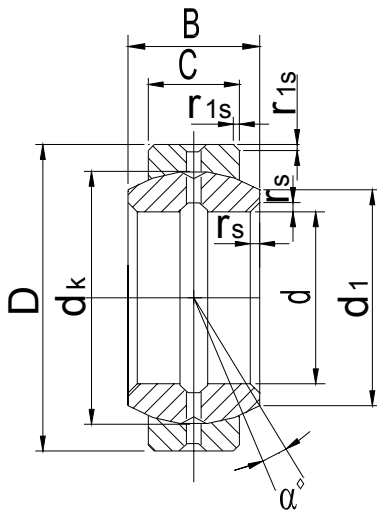
Part No.			Dimensions in Millimeters									
			d	D	B	C	d ₁ ≈	d _k ≈	r _s min	r _{1s} min	Radial Static Load (kN)	α° ≈
GEW12S	GEW12C	GEW12T	12	22	12	7	15.5	18	0.3	0.3	54	4
GEW15S	GEW15C	GEW15T	15	26	15	9	18.5	22	0.3	0.3	85	5
GEW16S	GEW16C	GEW16T	16	28	16	9	20	23	0.3	0.3	85	4
GEW17S	GEW17C	GEW17T	17	30	17	10	21	25	0.3	0.3	106	7
GEW20S	GEW20C	GEW20T	20	35	20	12	25	29	0.3	0.3	146	4
GEW25S	GEW25C	GEW25T	25	42	25	16	30.5	35	0.6	0.6	240	4
GEW30S	GEW30C	GEW30T	30	47	30	18	34	40	0.6	1	310	4
GEW32S	GEW32C	GEW32T	32	52	32	18	38	44	0.6	1	310	4
GEW35S	GEW35C	GEW35T	35	55	35	20	40	47	0.6	1	400	4
GEW40S	GEW40C	GEW40T	40	62	40	22	46	53	0.6	1	500	4
GEW45S	GEW45C	GEW45T	45	68	45	25	52	60	0.6	1	640	4
GEW50S	GEW50C	GEW50T	50	75	50	28	57	66	0.6	1	780	4
GEW60S	GEW60C	GEW60T	60	90	60	36	68	80	1	1	1220	3
GEW63S	GEW63C	GEW63T	63	95	63	36	71.5	83	1	1	1220	4
GEW70S	GEW70C	GEW70T	70	105	70	40	78	92	1	1	1560	4
GEW80S	GEW80C	GEW80T	80	120	80	45	91	105	1	1	2000	4

Notes:

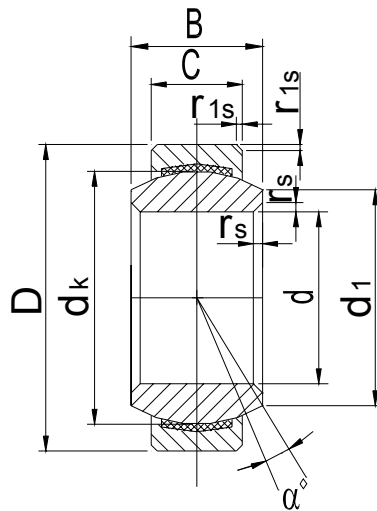
- 1.“GEW...S”, “GEW...C”, “GEW...T”, swage pressed out ring, carbon, alloy and stainless steel available, heat treated; inner ring bearing steel, polish, hard chrome plated
2. For “GEW...C” DU liner inside and for “GEW...T” PTFE liner inside

Radial Spherical Plain Bearings

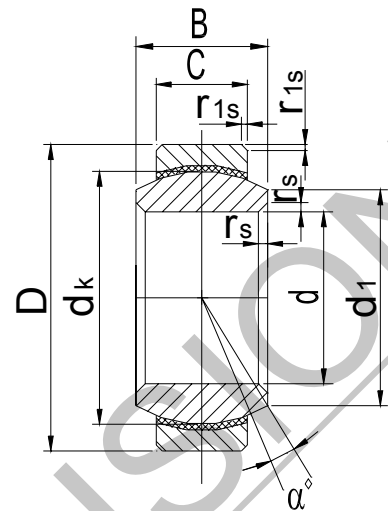
Inch "GEZ" series/Swage pressed (Maintenance free available)



GEZ...S



GEZ...C



GEZ...T

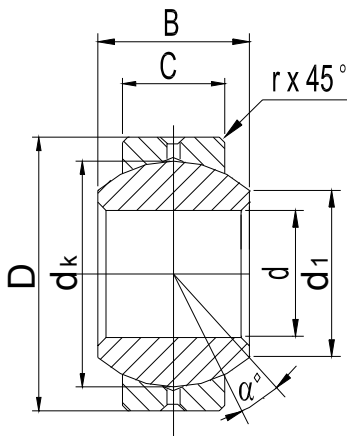
Part No.			Dimensions in Inches								
			d	D	B	C	d ₁ ≈	r _s min	r _{1s} min	Radial Static Load (l b f)	α° ≈
GEZ12S	GEZ12C	GEZ12T	.500	.875	.437	.375	.551	.012	.012	8458	6
GEZ15S	GEZ15C	GEZ15T	.625	1.062	.547	.469	.703	.012	.012	14058	6
GEZ19S	GEZ19C	GEZ19T	.750	1.250	.656	.562	.844	.012	.024	19825	6
GEZ22S	GEZ22C	GEZ22T	.875	1.437	.765	.656	.974	.024	.024	26575	6
GEZ25S	GEZ25C	GEZ25T	1.000	1.625	.875	.750	1.103	.024	.024	36350	6
GEZ31S	GEZ31C	GEZ31T	1.250	2.000	1.093	.937	1.382	.024	.040	56750	6
GEZ34S	GEZ34C	GEZ34T	1.375	2.187	1.187	1.031	1.516	.024	.040	65600	6
GEZ38S	GEZ38C	GEZ38T	1.500	2.437	1.312	1.125	1.703	.024	.040	78500	6
GEZ44S	GEZ44C	GEZ44T	1.750	2.812	1.531	1.312	1.984	.024	.040	110700	6
GEZ50S	GEZ50C	GEZ50T	2.000	3.187	1.750	1.500	2.266	.024	.040	142000	6
GEZ57S	GEZ57C	GEZ57T	2.250	3.562	1.969	1.687	2.554	.040	.040	187200	6
GEZ63S	GEZ63C	GEZ63T	2.500	3.937	2.187	1.875	2.833	.040	.040	217300	6
GEZ69S	GEZ69C	GEZ69T	2.750	4.375	2.406	2.062	3.112	.040	.040	275750	6
GEZ76S	GEZ76C	GEZ76T	3.000	4.750	2.625	2.250	3.408	.040	.040	317500	6
GEZ82S	GEZ82C	GEZ82T	3.250	5.125	2.844	2.437	3.722	.040	.040	375000	6

Notes:

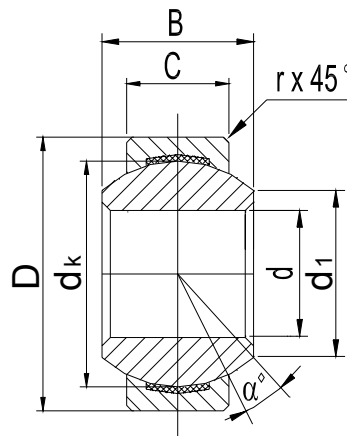
1. "GEZ...S", "GEZ...C", "GEZ...T", swage pressed out ring, carbon, alloy and stainless steel available, heat treated; inner ring bearing steel, polish, hard chrome plated
2. For "GEZ...C", DU liner inside, for "GEZ...T" PTFE liner inside

Radial Spherical Plain Bearings

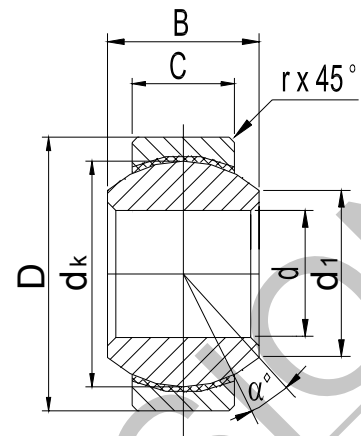
Inch series/Swaged pressed (Maintenance free available)



COM
HCOM



COM...C
HCOM...C



COM...T
HCOM...T

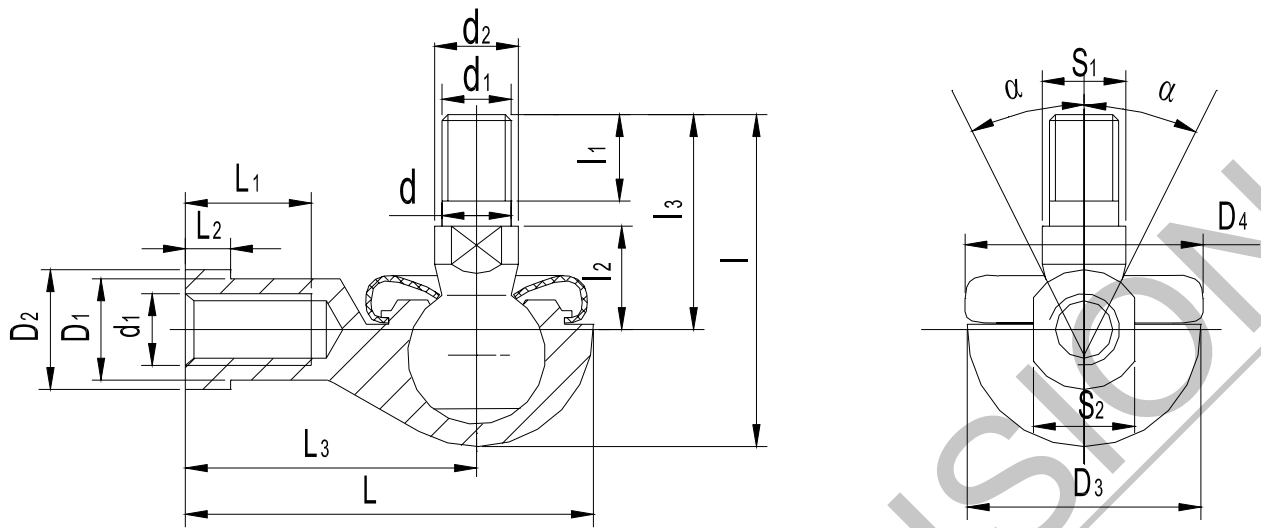
Part No.			Dimensions in Inches						Radial Static Load (klbs)	$\alpha^\circ \approx$
			d +.0015 -.0005	D +.0000 -.0005	B +.000 -.005	C +.005 -.005	dk ≈	r _{min} chamfer		
COM3	COM3C	COM3T	.1900	.5625	.281	.218	.406	.020	7.45	11
COM4	COM4C	COM4T	.2500	.6562	.343	.250	.500	.022	11.30	13
COM5	COM5C	COM5T	.3125	.7500	.375	.281	.562	.032	13.60	12
COM6	COM6C	COM6T	.3750	.8125	.406	.312	.656	.032	18.18	10
COM7	COM7C	COM7T	.4375	.9062	.437	.343	.687	.032	22.85	8
COM8	COM8C	COM8T	.5000	1.0000	.500	.390	.813	.032	30.70	9.5
COM9	COM9C	COM9T	.5625	1.0937	.562	.437	.906	.032	38.10	9.5
COM10	COM10C	COM10T	.6250	1.1875	.625	.500	1.000	.032	49.82	8.5
COM12	COM12C	COM12T	.7500	1.4375	.750	.593	1.187	.044	72.35	9
COM14	COM14C	COM14T	.8750	1.5625	.875	.703	1.312	.044	97.80	9.5
COM16	COM16C	COM16T	1.0000	1.7500	1.000	.797	1.500	.044	129.50	10
HCOM16	HCOM16C	HCOM16T	1.0000	2.0000	1.000	.781	1.688	.044	158.00	9
HCOM19	HCOM19C	HCOM19T	1.1875	2.3750	1.187	.937	2.000	.044	231.60	9
HCOM20	HCOM20C	HCOM20T	1.2500	2.3750	1.187	.937	2.000	.044	231.60	9
HCOM24	HCOM24C	HCOM24T	1.5000	2.7500	1.375	1.094	2.312	.044	312.60	8
HCOM28	HCOM28C	HCOM28T	1.7500	3.1250	1.562	1.250	2.625	.044	393.30	8
HCOM32	HCOM32C	HCOM32T	2.0000	3.5000	1.750	1.375	2.938	.044	477.50	8.5

Notes:

1. For the out ring carbon, alloy and stainless steel is available, heat-treated; For ball, bearing steel, hardened, hard chrome plated
2. "COM...C" DU liner inside and for "COM...T" PTFE liner inside

Ball stud Joint & Linkage

Metric Series/Integral design



SQ...-RS

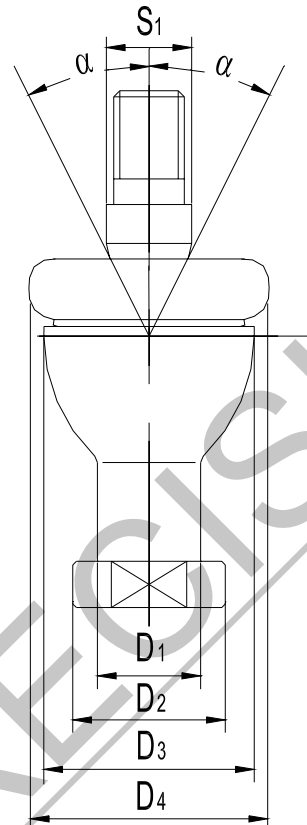
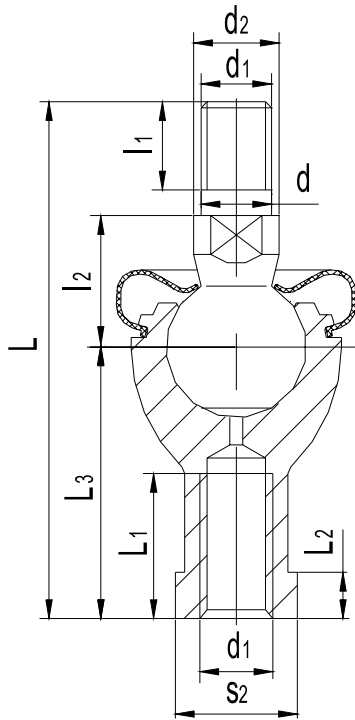
Part No.	Dimensions in Millimeters																		
	d	d ₁	d ₂ min	l ₁ min	l ₂	S ₁	S ₂	L ma x	L ₁ min	L ₂ ma x	L ₃	D ₁ ma x	D ₂ ma x	D ₃ ma x	D ₄ ma x	l ma x	l ₃ ma x	Radial Static Load (kN)	α ° ≈
SQ5-RS	5	M5	9	8	10	7	9	35	14	4	27	9	11	16	19	29	21	9.2	15
SQ6-RS	6	M6	10	11	11	8	11	40	14	5	30	10	13	19	20	35.5	26	12.1	15
SQ8-RS	8	M8	12	12	14	10	14	48	17	5	36	12.5	16	23	24	42.5	31	19.1	15
SQ10-RS	10	M10x1.25	14	15	17	11	17	57	21	6.5	43	15	19	27	30	50.5	37	27.5	15
SQ12-RS	12	M12x1.25	17	17	19	15	19	66	25	6.5	50	17.5	22	31	32	57.5	42	37.5	15
SQ14-RS	14	M14x1.5	19	22	21.5	17	22	75	26	8	57	20	25	35	38	73.5	56	48.9	11
SQ16-RS	16	M16x1.5	22	23	23.5	19	22	84	32	8	64	22	27	39	44	79.5	60	48.9	11
SQ18-RS	18	M18x1.5	23	25	26.5	20	27	93	34	10	71	25	31	44	45	90	68	61.9	11
SQ20-RS	20	M20x1.5	27	25	27	24	30	99	35	10	77	27.5	34	44	50	90	68	61.9	7.5
SQ22-RS	22	M22x1.5	27	26	28	24	32	109	41	12	84	30	37	50	52	95	70	75.4	7.5

Notes:

1. Material of body & stud, carbon or alloy steel is available, heat-treated, protective coated for corrosion resistance
2. The body with male thread is available, part no. is SAQ...-RS

Ball stud Joint & Linkage

Metric Series/Integral design



SQZ...-RS

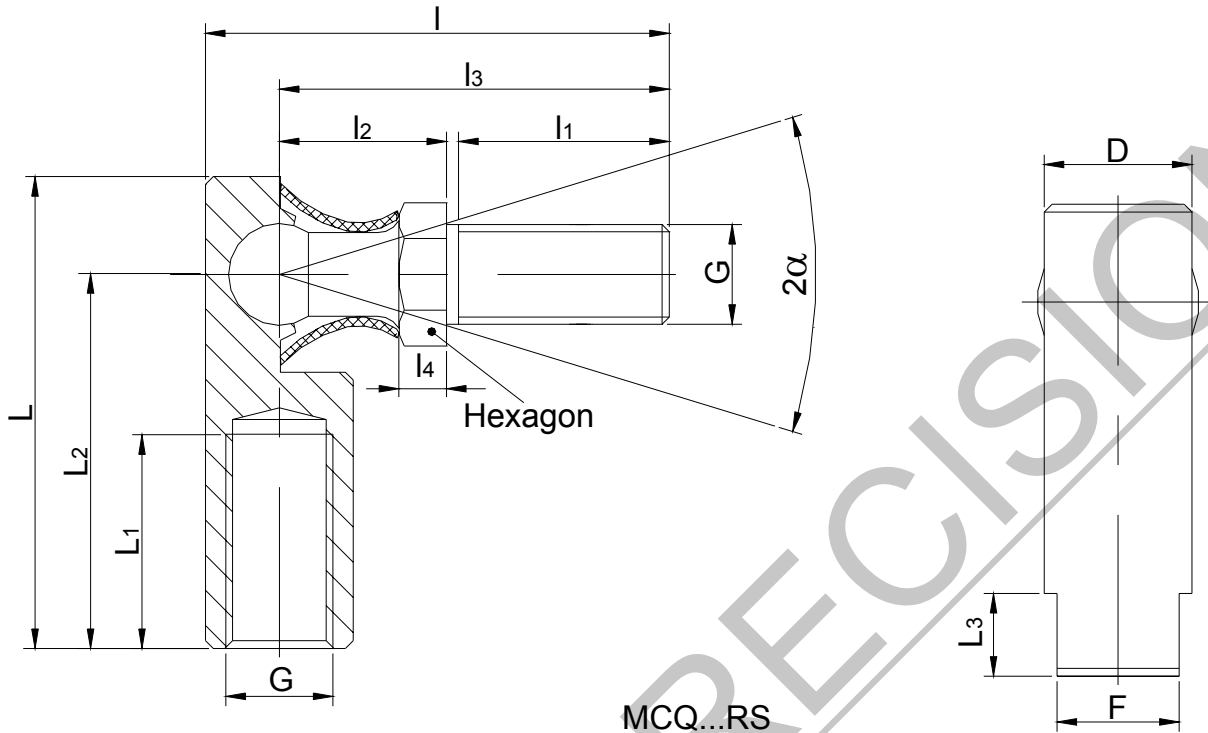
Part No.	Dimensions in Millimeters																
	d	d ₁	d ₂	l ₁ min	l ₂	S ₁	S ₂	L max	L ₁ min	L ₂ max	L ₃	D ₁ max	D ₂ max	D ₃ max	D ₄ max	Radial Static Load (kN)	α° ≈
SQZ5-RS	5	M5	9	8	11	7	9	46	12	4	24	9	11	17	20	5.7	15
SQZ6-RS	6	M6	10	11	12.2	8	11	55.2	15	5	28	10	13	20	20	7.5	15
SQZ8-RS	8	M8	12	12	16	10	14	65	16	5	32	12.5	16	24	24	11	15
SQZ10-RS	10	M10x1.25	14	15	19.5	11	17	74.5	18	6.5	35	15	19	28	30	16	15
SQZ12-RS	12	M12x1.25	17	17	21	15	19	84	20	6.5	40	17.5	22	32	32	22	15
SQZ14-RS	14	M14x1.5	19	22	23.5	17	22	103	25	8	45	20	25	36	38	29	11
SQZ16-RS	16	M16x1.5	22	23	25.5	19	22	112	27	8	50	22	27	40	44	33	11
SQZ18-RS	18	M18x1.5	23	25	31	20	27	130.5	32	10	58	25	31	45	45	37	11
SQZ20-RS	20	M20x1.5	27	25	31	24	30	133	38	10	63	27.5	34	45	50	37	7.5
SQZ22-RS	22	M22x1.5	27	26	33	24	32	145	43	12	70	30	37	50	52	46	7.5

Notes:

1. Material of body & stud, carbon or alloy steel is available, heat-treated, protective coated for corrosion resistance
2. The body with male thread is available, part no. is SAQZ...-RS

Ball stud Joint & Linkage

Metric Series/Integral design



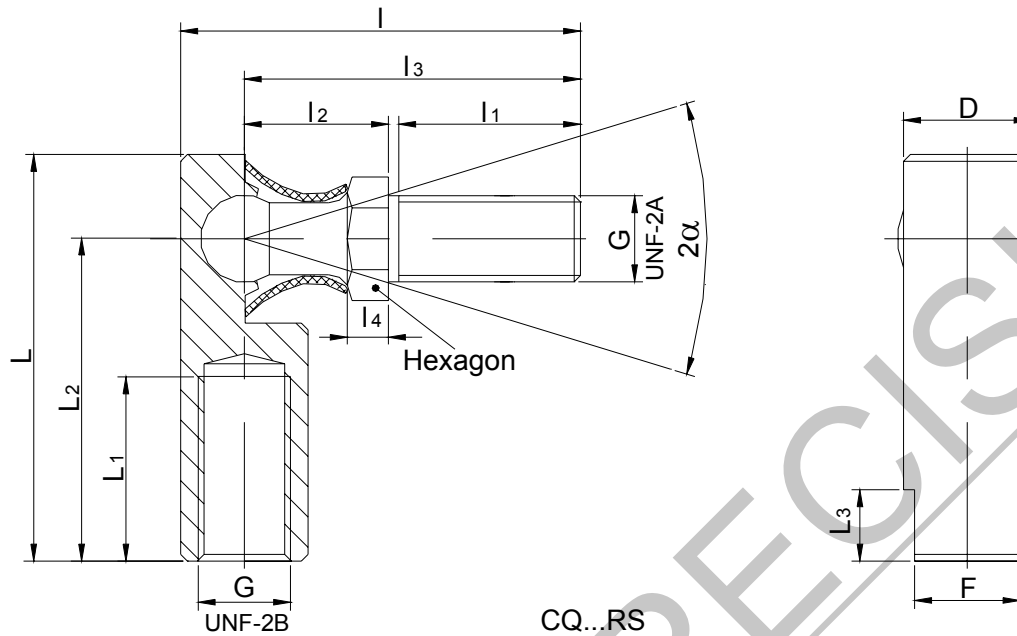
Part No.	Dimensions in Millimeters									Radial Static Load (lbs)	$\alpha^\circ \approx$
	D	L	L ₁	L ₂	l ₁ min	l ₂	l ₃	F/ HEX.	G Thread		
MCQ5RS	10	33	14	27	9	11	22	8	M5	900	17
MCQ6RS	11	36	14	30	12	12	26	9	M6	1350	17
MCQ8RS	13	45	17	36	15	14	32	11	M8	2050	17
MCQ10RS	16.5	54	21	43	17	17	39	13	M10X1.25	2850	17
MCQ12RS	18.5	61	25	50	22	21	50	17	M12X1.25	3080	16
MCQ16RS	22.5	80	32	64	26	25.5	60	19	M16X1.5	3850	16
MCQ20RS	26.5	95	35	77	30	31	70	23	M20X1.5	4900	15

Notes:

1. Material of body and stud: carbon or alloy steel, heat-treated
2. Surface, color zinc plated for corrosion resistance
3. For left thread, add "L" to suffix to part no.

Ball stud Joint & Linkage

Inch Series/Integral design



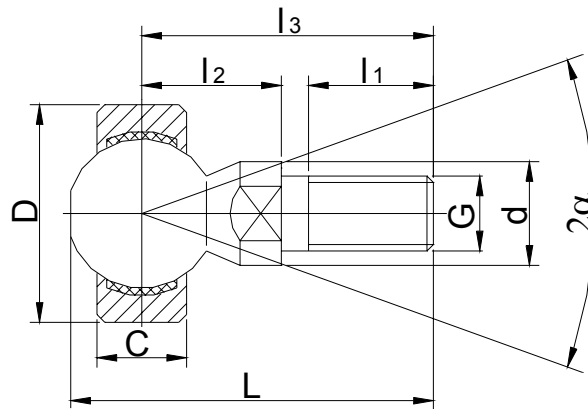
Part No.	Dimensions in Inches									Radial Static Load (lbs)	$\alpha^\circ \approx$
	D	L	L ₁	L ₂	I ₁ min	I ₂	I ₃	F/ HEX.	G Thread		
CQ3RS	.375	1.063	.438	.875	.335	.438	.876	.313	10-32	850	17
CQ4RS	.438	1.219	.500	.969	.460	.469	1.032	.375	1/4-28	1280	17
CQ5RS	.500	1.406	.563	1.125	.585	.531	1.219	.438	5/16-24	1800	17
CQ6RS	.625	1.688	.750	1.375	.775	.688	1.563	.500	3/8-24	2650	17
CQ8RS	.750	2.375	1.000	1.938	1.000	.875	2.000	.625	1/2-20	2880	16
CQ10RS	.875	3.219	1.313	2.531	1.250	1.063	2.438	.750	5/8-18	3680	15
CQ12RS	1.000	3.750	1.438	3.063	1.625	1.375	3.125	.875	3/4-16	4800	15

Notes:

1. For material of body and stud: carbon or alloy steel, heat-treated.
2. For surface, color zinc plated for corrosion resistance.
3. For left thread, add "L" to suffix to part no.

Ball stud Joint & Linkage

Metric “K” series/Integral design/Maintenance free



SQK...C

or

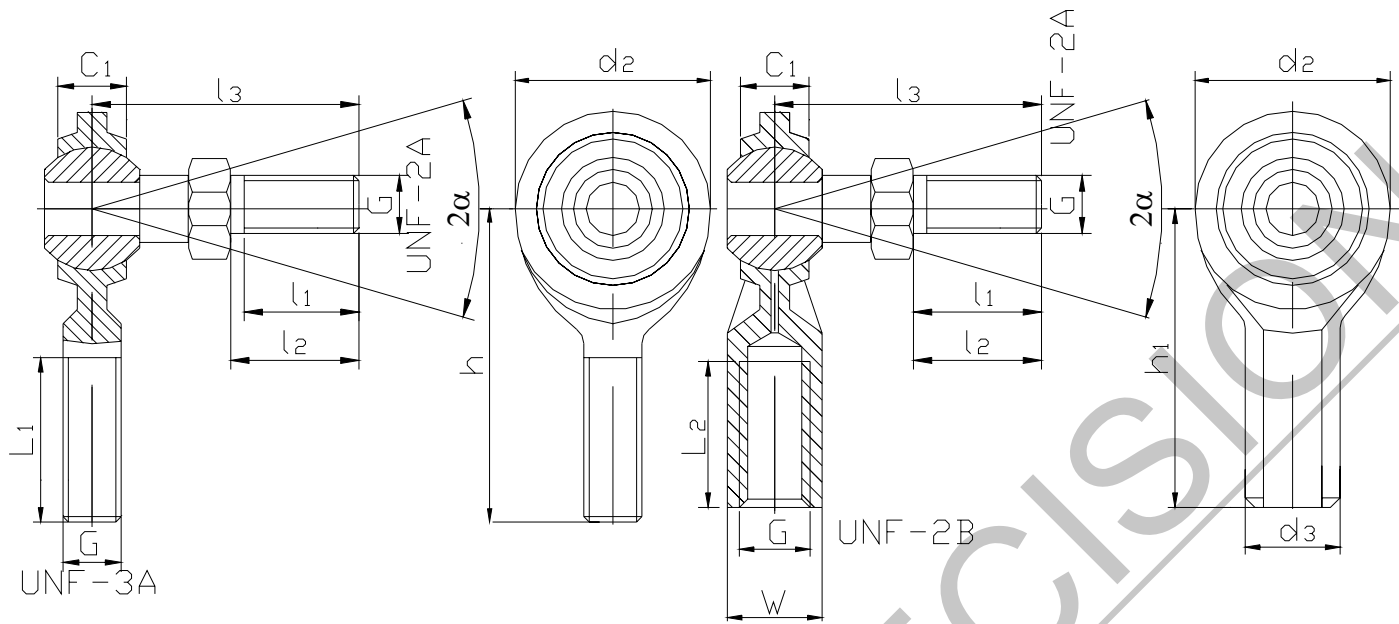
Part No.		Dimensions in Millimeters								Radial Static Load (kN)	α° $\approx$
		G	D	C	d	L max	l1 min	l2	l3 max		
SQK5	SQK5C/T	M5	16	6	9	26	8	11	22	8.8	25
SQK6	SQK6C/T	M6	18	6.75	10	32	11	12.2	27.2	9.8	25
SQK8	SQK8C/T	M8	22	9	12	40	12	16	33	16.8	25
SQK10	SQK10C/T	M10X1.25	26	10.5	14	48	15	19.5	39.5	23	25
SQK12	SQK12C/T	M12X1.25	30	12	17	55	18	21	44	31	25
SQK14	SQK14C/T	M14X1.5	34	13.5	19	70	25	23.5	58	42	20
SQK16	SQK16C/T	M16X1.5	38	15	22	75	26	25.5	62	50	20
SQK18	SQK18C/T	M18X1.5	42	16.5	23	80	28	31	72.5	62	20
SQK20	SQK20C/T	M20X1.5	46	18	27	84	28	29	70	74	20
SQK22	SQK22C/T	M22X1.5	50	20	27	90	30	33	75	90	20

Notes:

1. Material of out ring and shank, carbon, alloy steel is available, heat-treated, protective coated for corrosion resistance.
2. For “SQK...C” the DU liner inside and for “SQK...T” the PTFE liner inside.

Ball stud Joint & Linkage

Inch General Series/Integral design (Maintenance free available)



CM...S

CF...S

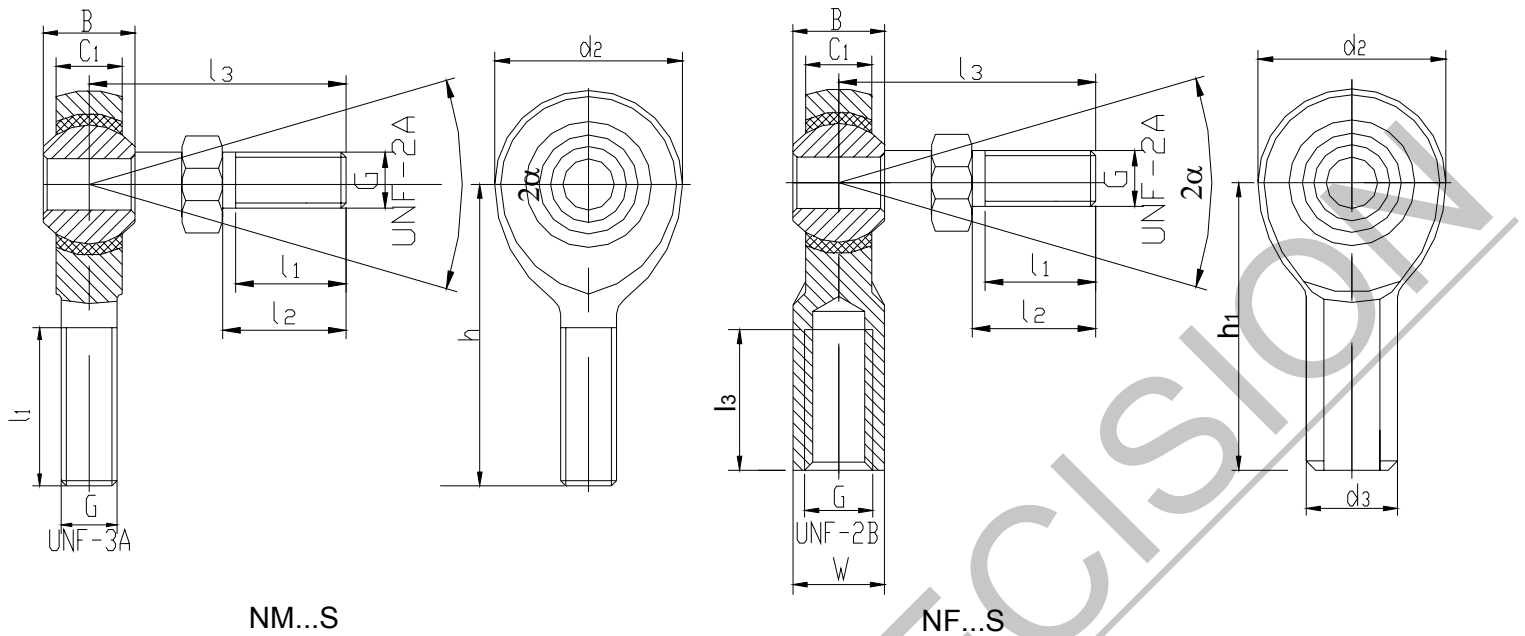
Part No.		Dimensions in Inches												α° $\approx$	Radial Static Load (lbs)
Male type	Female type	G Thread	C_1 Ref.	d_2 +.01 -.01	h +.015 -.015	L_1 +.062 -.031	h_1 +.015 -.015	L_2 +.062 -.031	d_3 +.01 -.01	L_3 +.015 -.015	L_2 Ref.	L_1 Ref.	W +.01 -.01		
CM3S	CF3S	10-32	.234	.625	1.250	.750	1.062	.500	.406	1.000	.500	.437	.312	22	2080
CM4S	CF4S	1/4-28	.250	.750	1.562	1.000	1.312	.687	.469	1.031	.562	.500	.375	20	3820
CM5S	CF5S	5/16-24	.312	.875	1.875	1.250	1.375	.687	.500	1.219	.687	.593	.437	21	5110
CM6S	CF6S	3/8-24	.359	1.000	1.938	1.250	1.625	.812	.687	1.562	.906	.812	.562	23	7600
CM7S	CF7S	7/16-20	.406	1.125	2.125	1.375	1.812	.937	.750	1.750	1.062	.937	.625	22	9150
CM8S	CF8S	1/2-20	.453	1.312	2.438	1.500	2.125	1.062	.875	2.000	1.125	1.000	.750	24	12250
CM10S	CF10S	5/8-18	.484	1.500	2.625	1.625	2.500	1.375	1.000	2.500	1.500	1.375	.875	26	13550
CM12S	CF12S	3/4-16	.593	1.750	2.875	1.750	2.875	1.562	1.125	3.000	1.812	1.625	1.000	23	18820

Notes:

1. Material of body, carbon steel, protective coated for corrosion resistance. (material optional alloy steel and stainless steel). Ball, bearing steel, hardened, polished, hard chrome plated.
2. For right hand thread part no is CMR...S or CFR...S, and for left hand thread part no are CML...S or CFL...S.
3. Maintenance free type, with PTFE/Teflon liner inside, part no is CMR...ST or CFR...ST

Ball stud Joint & Linkage

Inch Series/Injection type (Maintenance free)



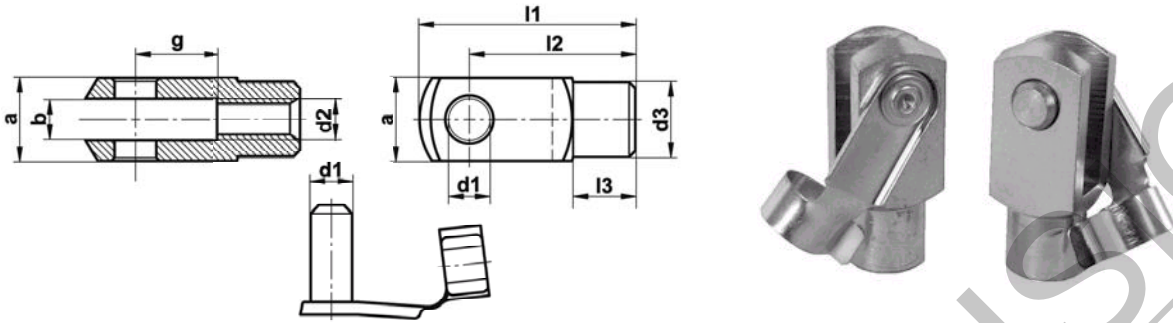
Part No.		Dimensions in Inches												α° ≈	Radial Static Load (lbs)
Male type	Female type	G Thread	C ₁ Ref.	d ₂ +.01 -.01	h +.015 -.015	L ₁ +.062 -.031	h ₁ +.015 -.015	L ₂ +.062 -.031	d ₃ +.01 -.01	l ₃ +.015 -.015	l ₂ Ref.	l ₁ Ref.	W +.01 -.01		
NM3S	NF3S	10-32	.250	.625	1.250	.750	1.062	.500	.406	1.000	.500	.437	.312	22	2080
NM4S	NF4S	1/4-28	.281	.750	1.562	1.000	1.312	.687	.469	1.031	.562	.500	.375	20	3820
NM5S	NF5S	5/16-24	.344	.875	1.875	1.250	1.375	.687	.500	1.219	.687	.593	.437	21	5110
NM6S	NF6S	3/8-24	.406	1.000	1.938	1.250	1.625	.812	.687	1.562	.906	.812	.562	23	7600
NM7S	NF7S	7/16-20	.437	1.125	2.125	1.375	1.812	.937	.750	1.750	1.062	.937	.625	22	9150
NM8S	NF8S	1/2-20	.500	1.312	2.438	1.500	2.125	1.062	.875	2.000	1.125	1.000	.750	24	12250
NM10S	NF10S	5/8-18	.562	1.500	2.625	1.625	2.500	1.375	1.000	2.500	1.500	1.375	.875	26	13550
NM12S	NF12S	3/4-16	.687	1.750	2.875	1.750	2.875	1.562	1.125	3.000	1.812	1.625	1.000	23	18820

Notes:

1. Material of body, carbon steel, protective coated for corrosion resistance. (material optional alloy steel and stainless steel). Ball, bearing steel, hardened, polished, hard chrome plated.
2. For right hand thread part no is NMR...S or NFR...S, and for left hand thread part no are NML...S or NFL...S.

Forks (Clevis) with Lock Pin

Metric Series- Forks With Lock Pin (DIN71752)



Dimension Chart:

Part No.	Dimensions in Millimeters								
	d2-Thread	g	a	l1	l2	l3	b	d1	d3
G4x8	M4 (x0.7)	8	8	21	16	6	4	4	8
G6x12	M6 (x1)	12	12	31	24	9	6	6	10
G8x16	M8x1	16	16	42	32	12	8	8	14
G10x20	M10x1.25	20	20	52	40	15	10	10	18
G12x24	M12x1.25	24	24	62	48	18	12	12	20
G16x32	M16 x 1.5	32	32	83	64	24	16	16	26
G20x40	M20 x 1.5	40	40	105	80	30	20	20	34
G25x50	M24 x 2	50	50	132	100	36	25	25	42
G30x54	M27 x 2	54	55	142	110	40	30	30	48
G30x60	M30 x 2	60	60	160	120	42	30	30	52
G36x72	M36 x 2	72	70	188	144	54	36	36	60

Notes:

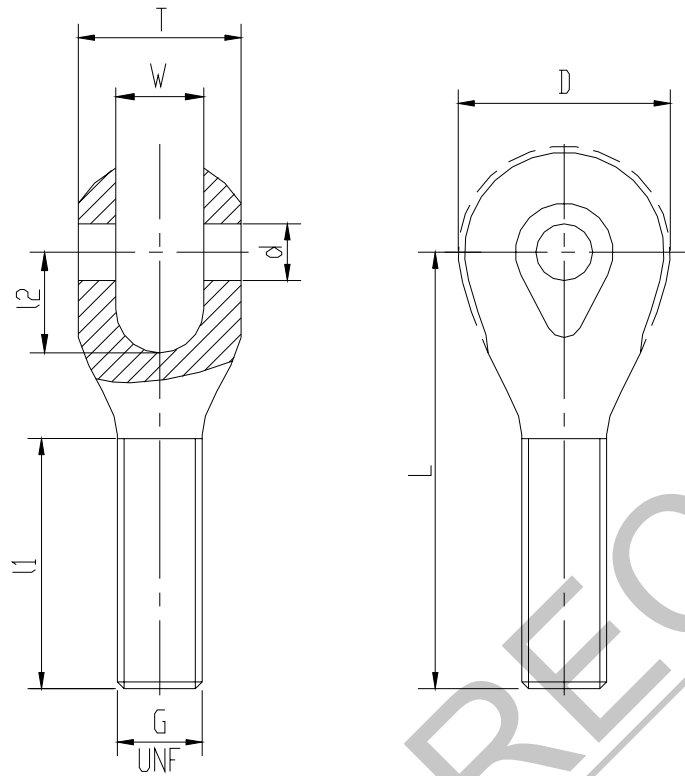
Fork, carbon steel, surface zinc plated.

Spring, C60 to CK75.

Pin, 1045 carbon steel.

Forks / Clevis

Inch size- Forks/Clevis-Male type



Part No.	Dimensions in Inches							
	G-Thread	d	l ₁	l ₂	L	T	W	D
CR5-5	5/16-24	0.3125	1.250	0.625	2.250	0.75	0.437	1.125
CR5-6	3/8-24	0.3125	1.250	0.625	2.250	0.75	0.437	1.125
CR5-8	1/2-20	0.3125	1.500	0.625	2.500	0.75	0.437	1.125
CR6-8	1/2-20	0.375	1.500	0.750	2.500	0.87	0.500	1.250
CR6-10	5/8-18	0.375	2.000	0.750	3.375	0.87	0.500	1.250
CR6-12	3/4-16	0.375	2.000	0.750	3.375	0.87	0.500	1.250
CR8-10	5/8-18	0.500	2.000	0.930	3.375	1.00	0.625	1.375
CR8-12	3/4-16	0.500	2.000	0.930	3.375	1.00	0.625	1.375
CR8-12-1	3/4-16	0.500	2.750	0.930	3.375	1.00	0.625	1.500
CR10-12	3/4-16	0.625	2.000	1.150	3.375	1.20	0.750	1.500

Notes:

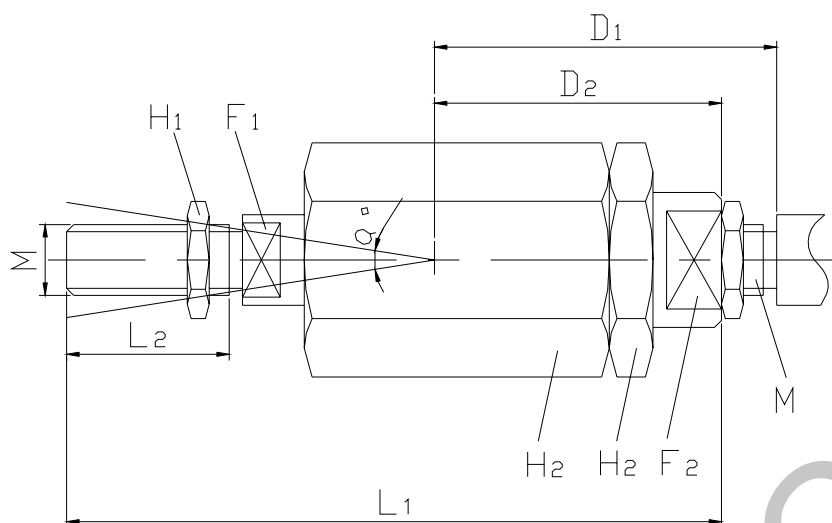
Material to be carbon steel, or alloy steel or stainless steel

For left hand thread, part no. to be CL... series

Dimensions "d" "W" can be customized made

Linears of Straight Joint

Metric Joints Series



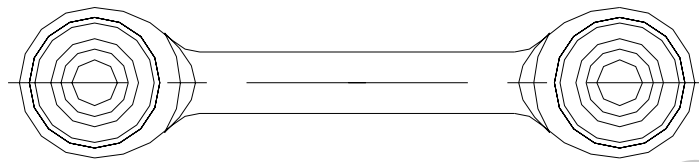
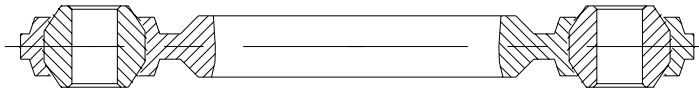
Part No.	Dimensions in Millimeters										α°
	M	L ₁	L ₂	D ₁ min	D ₁ max	D ₂	H ₁	H ₂	F ₁	F ₂	
LINEAR 10	M10x1.25	70	20	36	43	31	17	30	12	19	10
LINEAR 12	M12x1.25	67	23	37	43	31	19	30	12	19	10
LINEAR 16	M16x1.5	112	40	53	61	45	24	41	19	30	10
LINEAR 20	M20x1.5	122	39	57	67	56	30	41	19	30	10
LINEAR 27	M27x2.0	145	48	75.5	89	60	41	55	24	32	10

Notes:

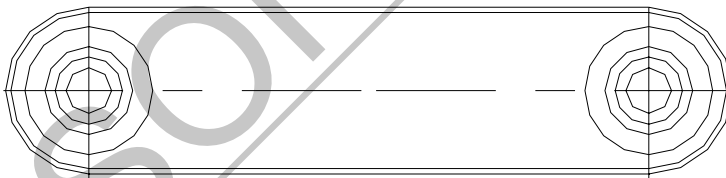
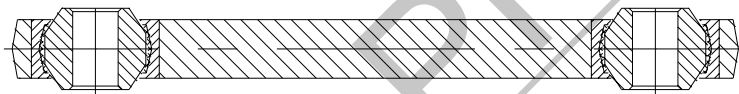
Material of ball stud and hex nut, carbon steel, heat-treatment, surface Zinc plating.

Joins & Linkage units

Metric or Inch Size



TYPE 1



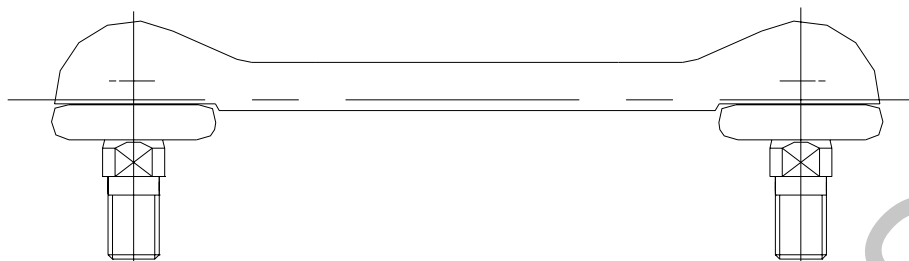
TYPE 2

Notes:

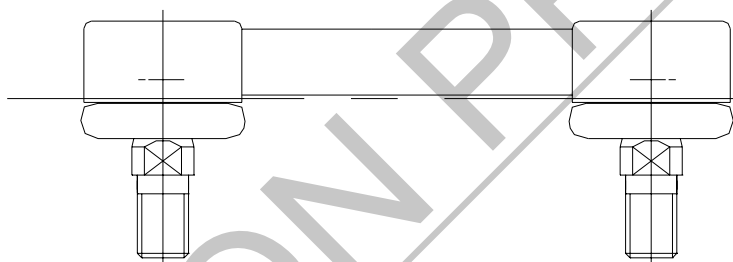
1. For the shaft body, carbon or alloy steel available, heat treated, protective coated for corrosion resistance.
2. For ball, bearing steel, hardened, hard chrome plated optional.
3. Maintenance free available.
4. All the installation dimensions are met to the Notes of customer.

Joins & Linkage units

Metric or Inch Size



TYPE 3



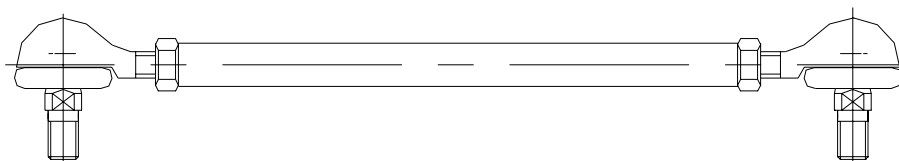
TYPE 4

Notes:

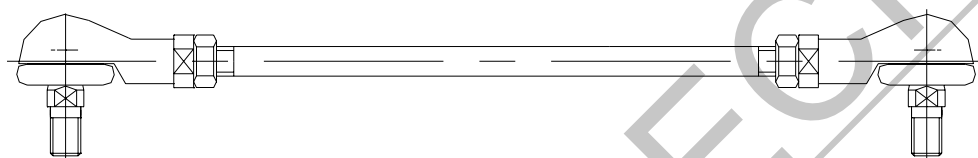
1. For the rod end and shaft, carbon or alloy steel available, heat treated, protective coated for corrosion resistance.
2. For ball, bearing steel, hardened, hard chrome plated optional.
3. All the installation dimensions are met to the Notes of customer.

Joins & Linkage units

Metric or Inch Size



TYPE 5



TYPE 6



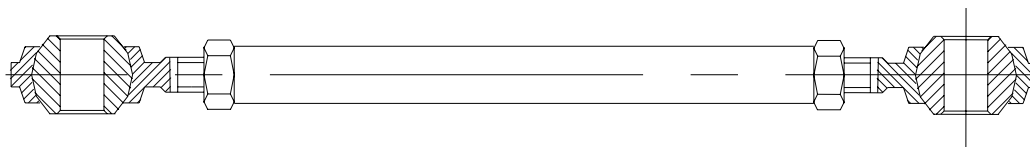
TYPE 8

Notes:

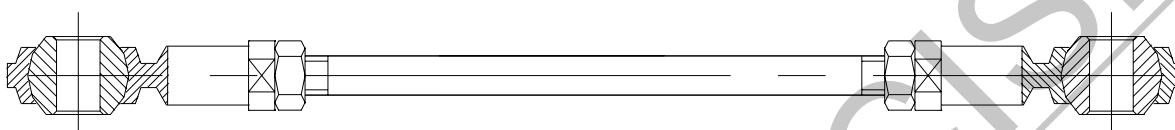
1. For the shaft body, carbon or alloy steel available, heat treated, protective coated for corrosion resistance.
2. For ball, bearing steel, hardened, hard chrome plated optional.
3. All the installation dimensions are met to the Notes of customer.

Joins & Linkage units

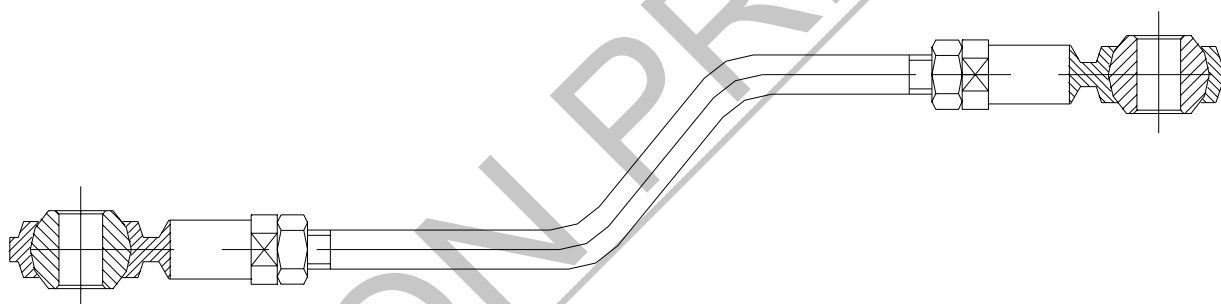
Metric or Inch Size



TYPE 8



TYPE 9



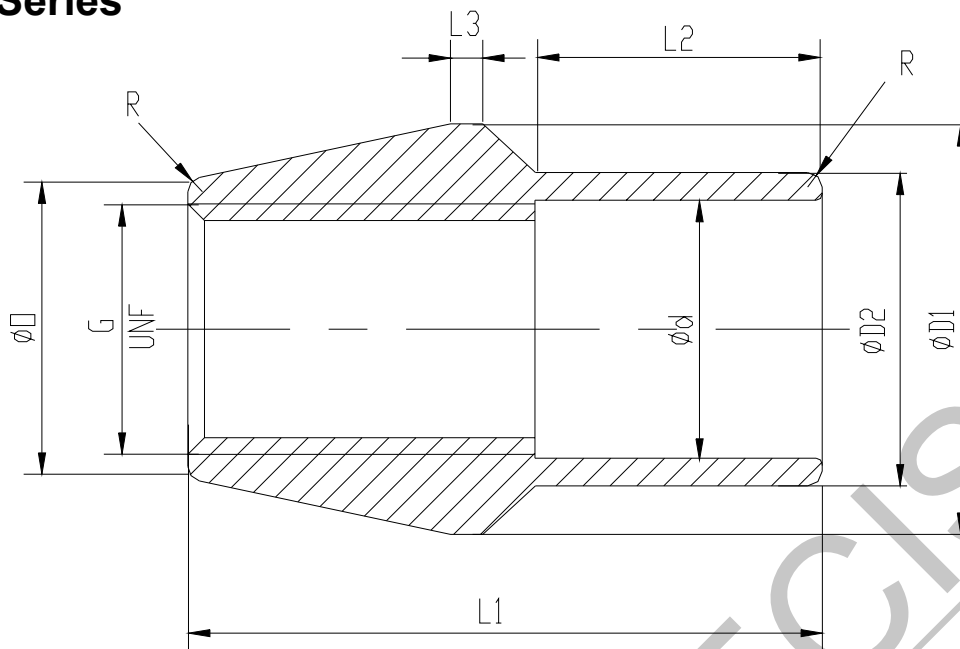
TYPE 10

Notes:

1. For the rod end and shaft, carbon or alloy steel available, heat treated, protective coated for corrosion resistance.
2. For ball, bearing steel, hardened, hard chrome plated optional.
3. All the installation dimensions are met to the Notes of customer.

Rod ends Accessories – weldable Bung

Inch Series



Part No.	Dimensions in Inches								
	G	O	D1	D2	d	L1	L2	L3	Fit tube OD x Wall
BUN8R(L)	1/2-20	0.67	1.000	0.865	0.55	1.75	0.75	0.08	1x0.0625
BUN10R(L)-1	5/8-18	0.77	1.125	0.950	0.65	1.75	0.75	0.08	1.125x0.083
BUN10R(L)-2	5/8-18	0.88	1.250	1.00	0.7	1.75	0.75	0.08	1.25x0.12
BUN12R(L)-1	3/4-16	0.88	1.250	1.05	0.77	1.75	0.75	0.09	1.25x0.095
BUN12R(L)-2	3/4-16	0.88	1.250	1.00	0.77	1.75	0.75	0.09	1.25x0.12
BUN12R(L)-3	3/4-16	0.95	1.500	1.00	NA	1.75	0.75	0.09	1.5x0.25
BUN14R(L)	7/8-14	1.25	1.500	1.182	0.90	1.75	0.75	0.11	1.5x0.15
BUN16R(L)-1	1-14	1.45	1.750	1.235	1.10	2.50	1.00	0.15	1.75x0.25
BUN16R(L)-2	1-12	1.45	1.750	1.495	1.10	2.50	1.00	0.15	1.75x0.12
BUN16R(L)	1 1/4-12	1.45	1.750	1.495	1.35	2.50	1.00	0.15	1.75x0.12

Notes:

Material to be carbon steel, or chrome moly steel.

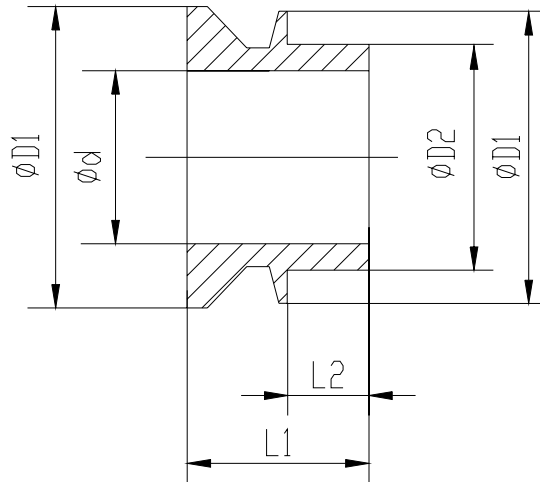
Length and fits tube can be based on different customer's requirements.

OD "D1" can be HEX type as optional.

Suffix "R" or "L" for thread right hand or left hand.

Rod ends Accessories – Misalignment insert Spacer

Metric and inch Series



Part No.	Dimensions in Inches					
	D1	D1	D2	d	L1	L2
HSP0.500-0.375	0.62	0.62	0.500	0.375	0.50	0.28
HSP0.625-0.500	0.75	0.75	0.625	0.500	0.75	0.31
HSP0.750-0.500	0.88	0.88	0.750	0.500	0.85	0.36
HSP0.750-0.625	0.88	0.88	0.750	0.625	0.85	0.36
HSP1.000-0.625	1.23	1.23	1.000	0.625	1.10	0.62
HSP1.000-0.750	1.23	1.23	1.000	0.750	1.10	0.62
Part No.	Dimensions in Millimeters					
	D1	D1	D2	d	L1	L2
HSPM8-M6	10	10	8	6	11	5
HSPM10-M8	13	13	10	8	13	6
HSPM12-M8	15	15	12	8	14	7
HSPM12-M10	15	15	12	10	14	7
HSPM16-M12	20	20	16	12	19	9
HSPM20-M16	24	24	20	16	21	10

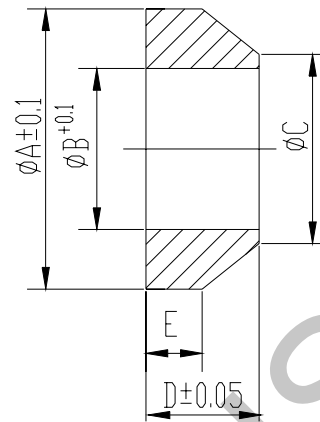
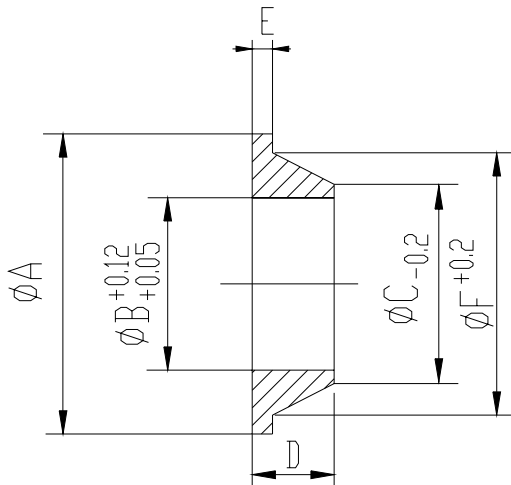
Notes:

Material to be carbon steel, zinc plating clear or yellow, or stainless steel.

Length, OD, ID can be customized made based on any individual requirements.

Rod ends Accessories – Core Spacer

Metric and inch Series



(B $\leq$ 12mm)

Part No.	Dimensions in Millimeters (B $\leq$ 12mm)					
	A	B	C	D	E	F
CSP M6	19.05	6	8.8	4.3	1.5	15.5
CSP M8	20.5	8	10.4	4.3	1.5	16.6
CSP M10	23.67	10	12.8	4.6	1.6	19.5
CSP 3/8	23.67	9.53	13	4.6	1.6	19.5
CSP 7/16	28.45	11.11	14.7	5.6	2	22.5
CSP M12	28.45	12	15.3	5.6	2	22.5
Part No.	Dimensions in Millimeters (B > 12mm)					
	A	B	C	D	E	
CSP 1/2	22.2	12.76	17.5	11.1	5	
CSP M14	24	14.06	16.8	11.1	5	
CSP 5/8	25.4	16.06	21	11.1	5	
CSP M16	25.4	16.06	21	11.1	5	
CSP M18	28	18.06	21.8	11.1	5	
CSP 3/4	29.4	19.11	24.5	11.1	5	
CSP M20	30	20.06	24.2	11.1	5	

Notes:

Material to be carbon steel, zinc plating clear or yellow, or stainless steel.

Length, OD, ID can be customized made based on any individual requirements.

Rod ends & Spherical plain bearings & Linkage

Expert in Precision Products

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