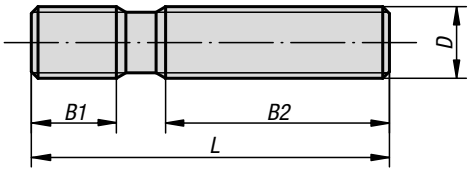
Machine and fixture components

Studs

DIN 6379



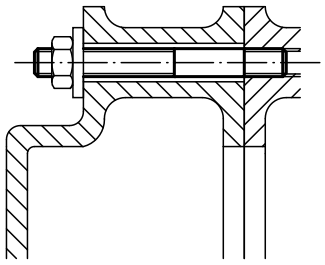
Material:
Carbon steel.

Version:
Thread rolled.
M6-M12 tempered to 10.9, black.
M14-M36 tempered to 8.8, black.

Sample order:
K0697.12125

KIPP Studs DIN 6379

Order No.	D	L	B1	B2
K0697.0632	M6	32	9	16
K0697.0640	M6	40	9	20
K0697.0650	M6	50	9	30
K0697.0663	M6	63	9	40
K0697.0680	M6	80	9	50
K0697.06100	M6	100	9	63
K0697.0840	M8	40	11	20
K0697.0863	M8	63	11	40
K0697.0880	M8	80	11	50
K0697.08100	M8	100	11	63
K0697.08125	M8	125	11	75
K0697.08160	M8	160	11	100
K0697.1050	M10	50	13	25
K0697.1080	M10	80	13	50
K0697.10100	M10	100	13	75
K0697.10125	M10	125	13	75
K0697.10160	M10	160	13	100
K0697.10200	M10	200	13	125
K0697.1250	M12	50	15	25
K0697.1263	M12	63	15	32
K0697.1280	M12	80	15	50
K0697.12100	M12	100	15	63
K0697.12125	M12	125	15	75
K0697.12160	M12	160	15	100
K0697.12200	M12	200	15	125
K0697.1463	M14	63	17	32
K0697.1480	M14	80	17	50
K0697.14100	M14	100	17	63
K0697.14125	M14	125	17	75
K0697.14160	M14	160	17	100
K0697.14200	M14	200	17	125
K0697.14250	M14	250	17	160
K0697.1663	M16	63	19	32
K0697.1680	M16	80	19	50
K0697.16100	M16	100	19	63
K0697.16125	M16	125	19	75
K0697.16160	M16	160	19	100
K0697.16200	M16	200	19	125
K0697.16250	M16	250	19	160
K0697.16315	M16	315	19	180



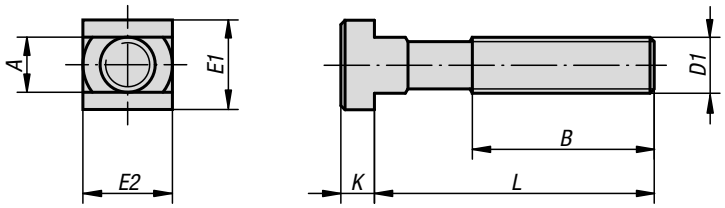
Studs

DIN 6379

Order No.	D	L	B1	B2
K0697.16350	M16	350	19	200
K0697.16500	M16	500	20	315
K0697.1880	M18	80	23	50
K0697.18125	M18	125	23	75
K0697.18160	M18	160	23	100
K0697.18200	M18	200	23	125
K0697.18250	M18	250	23	150
K0697.18315	M18	315	23	180
K0697.2080	M20	80	27	32
K0697.20125	M20	125	27	70
K0697.20160	M20	160	27	100
K0697.20200	M20	200	27	125
K0697.20250	M20	250	27	160
K0697.20315	M20	315	27	200
K0697.20400	M20	400	27	250
K0697.20500	M20	500	27	315
K0697.22100	M22	100	31	45
K0697.22160	M22	160	31	100
K0697.22200	M22	200	31	125
K0697.22250	M22	250	31	160
K0697.22315	M22	315	31	180
K0697.22400	M22	400	31	250
K0697.24100	M24	100	35	45
K0697.24125	M24	125	35	63
K0697.24160	M24	160	35	100
K0697.24200	M24	200	35	125
K0697.24250	M24	250	35	160
K0697.24315	M24	315	35	200
K0697.24400	M24	400	35	250
K0697.24500	M24	500	35	315
K0697.24630	M24	630	35	315
K0697.27125	M27	125	39	56
K0697.27200	M27	200	39	125
K0697.27315	M27	315	39	200
K0697.27400	M27	400	39	250
K0697.27500	M27	500	39	315
K0697.30125	M30	125	43	56
K0697.30200	M30	200	43	125
K0697.30315	M30	315	43	200
K0697.30500	M30	500	43	315
K0697.30700	M30	700	43	400
K0697.301000	M30	1000	44	400
K0697.36160	M36	160	51	80
K0697.36200	M36	200	51	125
K0697.36250	M36	250	51	160
K0697.36315	M36	315	51	200
K0697.36400	M36	400	51	250
K0697.36500	M36	500	51	315
K0697.36700	M36	700	51	400

T-slot bolts

DIN 787



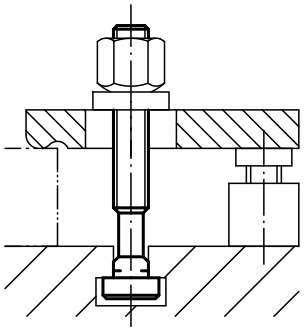
KIPP T-slot bolts DIN 787

Order No.	Slot width	D1	L	A	B	E1/E2	K
K0698.0625	6	M6	25	5,7	15	10	4
K0698.0640	6	M6	40	5,7	28	10	4
K0698.0663	6	M6	63	5,7	40	10	4
K0698.0832	8	M8	32	7,7	22	13	6
K0698.0850	8	M8	50	7,7	35	13	6
K0698.0880	8	M8	80	7,7	50	13	6
K0698.1040	10	M10	40	9,7	30	15	6
K0698.1063	10	M10	63	9,7	45	15	6
K0698.10100	10	M10	100	9,7	60	15	6
K0698.1250	12	M12	50	11,7	35	18	7
K0698.1263	12	M12	63	11,7	40	18	7
K0698.1280	12	M12	80	11,7	55	18	7
K0698.12100	12	M12	100	11,7	65	18	7
K0698.12125	12	M12	125	11,7	75	18	7
K0698.12160	12	M12	160	11,7	100	18	7
K0698.12200	12	M12	200	11,7	120	18	7
K0698.1450	14	M12	50	13,7	35	22	8
K0698.1463	14	M12	63	13,7	45	22	8
K0698.1480	14	M12	80	13,7	55	22	8
K0698.14100	14	M12	100	13,7	65	22	8
K0698.14125	14	M12	125	13,7	75	22	8
K0698.14160	14	M12	160	13,7	100	22	8
K0698.14200	14	M12	200	13,7	120	22	8
K0698.16631	16	M14	63	15,7	45	25	9
K0698.16801	16	M14	80	15,7	55	25	9
K0698.161001	16	M14	100	15,7	65	25	9
K0698.161251	16	M14	125	15,7	75	25	9
K0698.161601	16	M14	160	15,7	100	25	9
K0698.162501	16	M14	250	15,7	150	25	9
K0698.1663	16	M16	63	15,7	45	25	9
K0698.1680	16	M16	80	15,7	55	25	9
K0698.16100	16	M16	100	15,7	65	25	9
K0698.16125	16	M16	125	15,7	85	25	9
K0698.16160	16	M16	160	15,7	100	25	9
K0698.16200	16	M16	200	15,7	125	25	9
K0698.16250	16	M16	250	15,7	150	25	9
K0698.1863	18	M16	63	17,7	45	28	10

Material:
Carbon steel.

Version:
Forged and milled, rolled thread.
M6-M12 tempered to 10.9, black.
M14-M36 tempered to 8.8, black.

Sample order:
K0698.1263



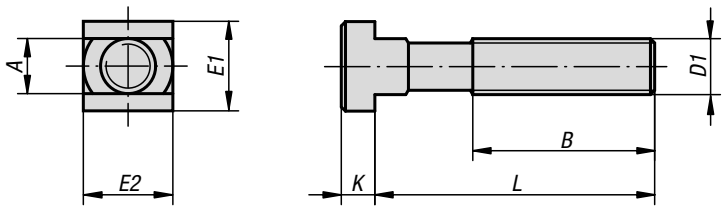
T-slot bolts

DIN 787

Order No.	Slot width	D1	L	A	B	E1/E2	K
K0698.1880	18	M16	80	17,7	55	28	10
K0698.18100	18	M16	100	17,7	65	28	10
K0698.18125	18	M16	125	17,7	85	28	10
K0698.18160	18	M16	160	17,7	100	28	10
K0698.18200	18	M16	200	17,7	125	28	10
K0698.18250	18	M16	250	17,7	150	28	10
K0698.2080	20	M20	80	19,7	55	32	12
K0698.20100	20	M20	100	19,7	65	32	12
K0698.20125	20	M20	125	19,7	85	32	12
K0698.20160	20	M20	160	19,7	110	32	12
K0698.20200	20	M20	200	19,7	125	32	12
K0698.20250	20	M20	250	19,7	150	32	12
K0698.20315	20	M20	315	19,7	190	32	12
K0698.2280	22	M20	80	21,7	55	35	14
K0698.22100	22	M20	100	21,7	65	35	14
K0698.22125	22	M20	125	21,7	85	35	14
K0698.22160	22	M20	160	21,7	110	35	14
K0698.22200	22	M20	200	21,7	125	35	14
K0698.22250	22	M20	250	21,7	150	35	14
K0698.22315	22	M20	315	21,7	190	35	14
K0698.24100	24	M24	100	23,7	70	40	16
K0698.24125	24	M24	125	23,7	85	40	16
K0698.24160	24	M24	160	23,7	110	40	16
K0698.24200	24	M24	200	23,7	125	40	16
K0698.24250	24	M24	250	23,7	150	40	16
K0698.24315	24	M24	315	23,7	190	40	16
K0698.24400	24	M24	400	23,7	240	40	16
K0698.28100	28	M24	100	27,7	70	44	18
K0698.28125	28	M24	125	27,7	85	44	18
K0698.28160	28	M24	160	27,7	110	44	18
K0698.28200	28	M24	200	27,7	125	44	18
K0698.28250	28	M24	250	27,7	150	44	18
K0698.28315	28	M24	315	27,7	190	44	18
K0698.28400	28	M24	400	27,7	240	44	18
K0698.36125	36	M30	125	35,6	80	54	22
K0698.36160	36	M30	160	35,6	110	54	22
K0698.36200	36	M30	200	35,6	135	54	22
K0698.36250	36	M30	250	35,6	150	54	22
K0698.36315	36	M30	315	35,6	200	54	22
K0698.36500	36	M30	500	35,6	300	54	22
K0698.42160	42	M36	160	41,6	100	65	26
K0698.42250	42	M36	250	41,6	175	65	26
K0698.42400	42	M36	400	41,6	250	65	26

T-slot bolts

DIN 787, 12.9



KIPP T-slot bolts DIN 787, 12.9

Order No.	Slot width	D1	L	A	B	E1/E2	K
K0699.11250	12	M12	50	11,7	35	18	7
K0699.11280	12	M12	80	11,7	55	18	7
K0699.112100	12	M12	100	11,7	65	18	7
K0699.112125	12	M12	125	11,7	75	18	7
K0699.112160	12	M12	160	11,7	100	18	7
K0699.112200	12	M12	200	11,7	120	18	7
K0699.11450	14	M12	50	13,7	35	22	8
K0699.11480	14	M12	80	13,7	55	22	8
K0699.114100	14	M12	100	13,7	65	22	8
K0699.114125	14	M12	125	13,7	75	22	8
K0699.114160	14	M12	160	13,7	100	22	8
K0699.114200	14	M12	200	13,7	120	22	8
K0699.11663	16	M16	63	15,7	45	25	9
K0699.116100	16	M16	100	15,7	65	25	9
K0699.116125	16	M16	125	15,7	85	25	9
K0699.116160	16	M16	160	15,7	100	25	9
K0699.116250	16	M16	250	15,7	150	25	9
K0699.11863	18	M16	63	17,7	45	28	10
K0699.118100	18	M16	100	17,7	65	28	10
K0699.118125	18	M16	125	17,7	85	28	10
K0699.118160	18	M16	160	17,7	100	28	10
K0699.118250	18	M16	250	17,7	150	28	10
K0699.12080	20	M20	80	19,7	55	32	12
K0699.120125	20	M20	125	19,7	85	32	12
K0699.120200	20	M20	200	19,7	125	32	12
K0699.120315	20	M20	315	19,7	190	32	12
K0699.12280	22	M20	80	21,7	55	35	14
K0699.122125	22	M20	125	21,7	85	35	14
K0699.122200	22	M20	200	21,7	125	35	14
K0699.122315	22	M20	315	21,7	190	35	14
K0699.124100	24	M24	100	23,7	70	40	16
K0699.124160	24	M24	160	23,7	110	40	16
K0699.124250	24	M24	250	23,7	150	40	16
K0699.124400	24	M24	400	23,7	240	40	16
K0699.128100	28	M24	100	27,7	70	44	18
K0699.128160	28	M24	160	27,7	110	44	18
K0699.128250	28	M24	250	27,7	150	44	18
K0699.128400	28	M24	400	27,7	240	44	18

Material:
Carbon steel.

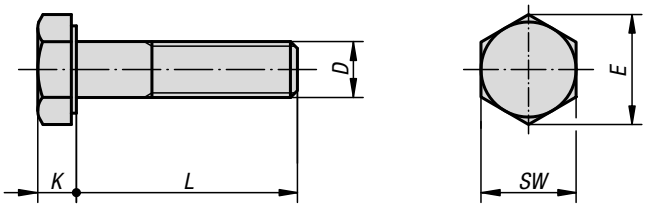
Version:
Forged and milled, rolled thread, tempered to 12.9, black.

Sample order:
K0699.112125

Notes

Hexagon head bolts

DIN 931/ISO 4014

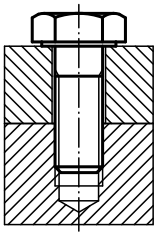


Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8.8, bright (black) or electro zinc-plated.
Steel grade 10.9, bright (black) or electro zinc-plated.
Steel grade 12.9, bright (black)
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K0870.110X50 (include length L)

On request:
DIN ISO 272 spanner sizes.



KIPP Hexagon head bolts with shaft DIN 931/ISO 4014

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Surface finish body	D	E	K	L	SW
K0870.04X	-	bright (black)	M4	7,66	2,8	25/30/35/40/45/50	7
K0870.05X	-	bright (black)	M5	8,79	3,5	25/30/35/40/45/50/60	8
K0870.06X	**K0870.306X**	bright (black)	M6	11,05	4	30/35/40/45/50/60/70	10
K0870.08X	**K0870.308X**	bright (black)	M8	14,38	5,3	35/40/45/50/60/70/80	13
K0870.10X	**K0870.310X**	bright (black)	M10	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.12X	**K0870.312X**	bright (black)	M12	21,1	7,5	45/50/60/70/80/90/100/110/120	19
K0870.16X	**K0870.316X**	bright (black)	M16	26,75	10	60/70/80/90/100/110/120	24
K0870.20X	**K0870.320X**	bright (black)	M20	33,53	12,5	70/80/90/100/110/120	30
K0870.404X	-	galvanised	M4	7,66	2,8	25/30/35/40/45/50	7
K0870.405X	-	galvanised	M5	8,79	3,5	25/30/35/40/45/50/60	8
K0870.406X	**K0870.506X**	galvanised	M6	11,05	4	30/35/40/45/50/60/70	10
K0870.408X	**K0870.508X**	galvanised	M8	14,38	5,3	35/40/45/50/60/70/80	13
K0870.410X	**K0870.510X**	galvanised	M10	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.412X	**K0870.512X**	galvanised	M12	21,1	7,5	45/50/60/70/80/90/100/110/120	19
K0870.416X	**K0870.516X**	galvanised	M16	26,75	10	60/70/80/90/100/110/120	24
K0870.420X	**K0870.520X**	galvanised	M20	33,53	12,5	70/80/90/100/110/120	30

Hexagon head bolts

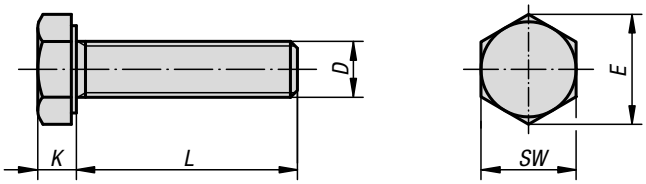
DIN 931/ISO 4014

Order No. steel Grade 12.9	Surface finish body	D	E	K	L	SW
K0870.210X	bright (black)	M10	18,9	6,4	40/45/50/60/70/80/90/100	17
K0870.212X	bright (black)	M12	21,1	7,5	45/50/60/70/80/90/100/120	19
K0870.216X	bright (black)	M16	26,75	10	60/70/80/90/100/120	24
K0870.220X	bright (black)	M20	33,53	12,5	70/80/90/100/120	30

Order No. stainless steel A2	Order No. stainless steel A4	Surface finish body	D	E	K	L	SW
K0870.105X	**K0870.605X**	bright	M5	8,79	3,5	25/30/35/40/45/50/60	8
K0870.106X	**K0870.606X**	bright	M6	11,05	4	30/35/40/45/50/60/70	10
K0870.108X	**K0870.608X**	bright	M8	14,38	5,3	35/40/45/50/60/70/80	13
K0870.110X	**K0870.610X**	bright	M10	18,9	6,4	100/40/45/50/60/70/80/90	17
K0870.112X	**K0870.612X**	bright	M12	21,1	7,5	100/110/120/45/50/60/70/80/90	19
K0870.116X	**K0870.616X**	bright	M16	26,75	10	100/110/120/60/70/80/90	24

Hexagon head bolts

DIN 933/ISO 4017



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8.8, bright (black) or electro zinc-plated.
Steel grade 10.9, bright (black) or electro zinc-plated.
Steel grade 12.9, bright (black)
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K0871.05X40 (include length L)

KIPP Hexagon head bolts DIN 933/ISO 4017

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Surface finish body	D	E	K	L	SW
K0871.04X	-	bright (black)	M4	7,66	2,8	10/12/16/18/20/25	7
K0871.05X	-	bright (black)	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
K0871.06X	**K0871.306X**	bright (black)	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
K0871.08X	**K0871.308X**	bright (black)	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
K0871.10X	**K0871.310X**	bright (black)	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
K0871.12X	**K0871.312X**	bright (black)	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
K0871.14X	-	bright (black)	M14	24,49	8,8	30/35/40/45/50/60/70/80/90/100/110/120	22
K0871.16X	**K0871.316X**	bright (black)	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
K0871.20X	**K0871.320X**	bright (black)	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30
K0871.404X	-	galvanised	M4	7,66	2,8	10/12/16/18/20/25	7
K0871.405X	-	galvanised	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
K0871.406X	**K0871.506X**	galvanised	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
K0871.408X	**K0871.508X**	galvanised	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
K0871.410X	**K0871.510X**	galvanised	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
K0871.412X	**K0871.512X**	galvanised	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
K0871.414X	-	galvanised	M14	24,49	8,8	30/35/40/45/50/60/70/80/90/100/110/120	22
K0871.416X	**K0871.516X**	galvanised	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
K0871.420X	**K0871.520X**	galvanised	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30

Hexagon head bolts

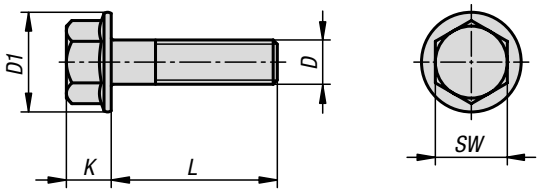
DIN 933/ISO 4017

Order No.	Main material	Grade	Surface finish body	D	E	K	L	SW
K0871.206X	steel	12.9	bright (black)	M6	11,05	4	12/16/20/25/30	10
K0871.208X	steel	12.9	bright (black)	M8	14,38	5,3	16/20/25/30/35/40/45/50/60	13
K0871.210X	steel	12.9	bright (black)	M10	18,9	6,4	20/25/30/35/40/45/50/60	17
K0871.212X	steel	12.9	bright (black)	M12	21,1	7,5	25/30/35/40/45/50/60	19
K0871.216X	steel	12.9	bright (black)	M16	26,75	10	30/35/40/45/50/60/70/80/90/100	24
K0871.220X	steel	12.9	bright (black)	M20	33,53	12,5	40/45/50/60/70/80/90/100	30

Order No. stainless steel A2	Order No. stainless steel A4	Grade	Surface finish body	D	E	K	L	SW
K0871.104X	**K0871.604X**	70	bright	M4	7,66	2,8	10/12/16/18/20/25/8	7
K0871.105X	**K0871.605X**	70	bright	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
K0871.106X	**K0871.606X**	70	bright	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
K0871.108X	**K0871.608X**	70	bright	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
K0871.110X	**K0871.610X**	70	bright	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
K0871.112X	**K0871.612X**	70	bright	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
K0871.116X	**K0871.616X**	70	bright	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
K0871.120X	**K0871.620X**	70	bright	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30
-	**K0871.603X**	70	bright	M3	6,01	2	6/8/10	5,5

Hexagon head bolts with flange

DIN EN 1665



Material:
Steel or stainless steel A2.

Version:
Steel grade 8.8, electro zinc-plated.
Steel grade 10.9, electro zinc-plated.
Bright stainless steel.

Sample order:
K1161.406X12 (include length L)

Note:
Screws where the dimension L is < B are threaded up to the head. The screw length or thread length is specified by the dimension L. Screws where L is > B have a shaft.

KIPP Hexagon head screws with flange DIN EN 1665

Order No.	Main material	Grade	D	L	B	D1	SW	K
K1161.406X	steel	8.8	M6	12/16/20/25/30	18	14,2	10	6,6
K1161.408X	steel	8.8	M8	12/16/20/25/30/35/40/50/60	22	18	13	8,1
K1161.410X	steel	8.8	M10	20/25/30/35/40/50	26	22,3	16	10,4
K1161.412X	steel	8.8	M12	20/25/30/40/50	30	26,6	18	11,8
K1161.416X	steel	8.8	M16	30/35/40/45/50/70	38	35	24	15,4
K1161.506X	steel	10.9	M6	12/16/20/25/30	18	14,2	10	6,6
K1161.508X	steel	10.9	M8	12/16/20/25/30/35/40	22	18	13	8,1
K1161.510X	steel	10.9	M10	25/30/40	26	22,3	16	10,4
K1161.512X	steel	10.9	M12	20/35/40/45/50	30	26,6	18	11,8
K1161.516X	steel	10.9	M16	30/35/40/45/50/60	38	35	24	15,4
K1161.106X	stainless steel A2	70	M6	12/16/20/25/30	18	14,2	10	6,6
K1161.108X	stainless steel A2	70	M8	16/20/25/30/35/40/50	22	18	13	8,1
K1161.110X	stainless steel A2	70	M10	20/25/30/35/40/50/60	26	22,3	16	10,4

Notes

Button head screws

EN ISO 7380

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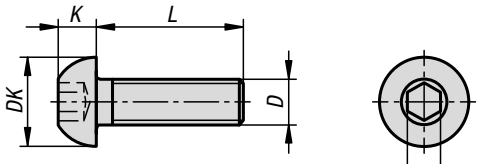

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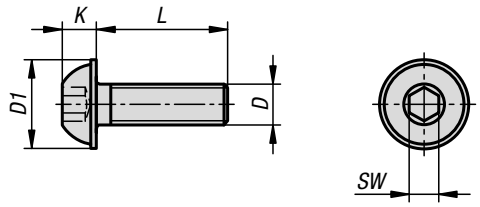


Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 10.9, bright (black) or electro zinc-plated.
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K1796.1603X10 (include length L)

Note:
EN ISO 7380-1 Form A: Hexagon socket button head screws.
EN ISO 7380-2 Form B:Hexagon socket button head screws with collar.

KIPP Button head screws EN ISO 7380

Order No.	Form	Main material	Surface finish body	Grade	D	DK	K	L	SW
K1796.1303X	A	steel	bright (black)	10.9	M3	5,7	1,65	8/10/12/16/20	2
K1796.1304X	A	steel	bright (black)	10.9	M4	7,6	2,2	8/10/12/16/20/25/30	2,5
K1796.1305X	A	steel	bright (black)	10.9	M5	9,5	2,75	8/10/12/16/20/25/30/35/40	3
K1796.1306X	A	steel	bright (black)	10.9	M6	10,5	3,3	8/10/12/16/20/25/30/35/40/45/50/55/60	4
K1796.1308X	A	steel	bright (black)	10.9	M8	14	4,4	8/10/12/16/20/25/30/35/40/45/50/55/60	5
K1796.1310X	A	steel	bright (black)	10.9	M10	17,5	5,5	12/16/20/25/30/35/40/45/50/55/60	6
K1796.1503X	A	steel	galvanised	10.9	M3	5,7	1,65	8/10/12/16/20	2
K1796.1504X	A	steel	galvanised	10.9	M4	7,6	2,2	8/10/12/16/20/25/30	2,5
K1796.1505X	A	steel	galvanised	10.9	M5	9,5	2,75	8/10/12/16/20/25/30/35/40/45	3
K1796.1506X	A	steel	galvanised	10.9	M6	10,5	3,3	8/10/12/16/20/25/30/35/40/45/50/55/60	4
K1796.1508X	A	steel	galvanised	10.9	M8	14	4,4	8/10/12/16/20/25/30/35/40/45/50/55/60	5
K1796.1510X	A	steel	galvanised	10.9	M10	17,5	5,5	12/16/20/25/30/35/40/45/50/55/60	6
K1796.1512X	A	steel	galvanised	10.9	M12	21	6,6	16/20/25/30/35/40/45/50/60	8
K1796.1516X	A	steel	galvanised	10.9	M16	28	8,8	30/40/45/50/60	10

Button head screws

EN ISO 7380

Order No.	Form	Main material	Surface finish body	Grade	D	D1	K	L	SW
K1796.2304X	B	steel	bright (black)	10.9	M4	9,4	2,2	8/10/12/16/20/25/30	2,5
K1796.2305X	B	steel	bright (black)	10.9	M5	11,8	2,75	8/10/12/16/20/25/30/35	3
K1796.2306X	B	steel	bright (black)	10.9	M6	13,6	3,3	8/10/12/16/20/25/30/35/40	4
K1796.2308X	B	steel	bright (black)	10.9	M8	17,8	4,4	12/16/20/25/30/35/40/50/60	5
K1796.2310X	B	steel	bright (black)	10.9	M10	21,9	5,5	25/30/35	6
K1796.2504X	B	steel	galvanised	10.9	M4	9,4	2,2	8/10/12/16/20/25/30	2,5
K1796.2505X	B	steel	galvanised	10.9	M5	11,8	2,75	8/10/12/16/20/25/30/35	3
K1796.2506X	B	steel	galvanised	10.9	M6	13,6	3,3	8/10/12/16/20/25/30/35/40	4
K1796.2508X	B	steel	galvanised	10.9	M8	17,8	4,4	12/16/20/25/30/35/40/50/60	5
K1796.2510X	B	steel	galvanised	10.9	M10	21,9	5,5	20/30/35/40/50	6
K1796.2512X	B	steel	galvanised	10.9	M12	26	6,6	20/25/30/40/50/60	8

Order No.	Form	Main material	Surface finish body	D	DK	D1	K	L	SW
K1796.1103X	A	stainless steel A2	bright	M3	5,7	-	1,65	8/10/12/16/20	2
K1796.1104X	A	stainless steel A2	bright	M4	7,6	-	2,2	8/10/12/16/20/25/30	2,5
K1796.1105X	A	stainless steel A2	bright	M5	9,5	-	2,75	8/10/12/16/20/25/30/40/45	3
K1796.1106X	A	stainless steel A2	bright	M6	10,5	-	3,3	8/10/12/16/20/25/30/35/40/45/50/60	4
K1796.1108X	A	stainless steel A2	bright	M8	14	-	4,4	10/12/16/20/25/30/35/40/45/50/60	5
K1796.1110X	A	stainless steel A2	bright	M10	17,5	-	5,5	16/20/25/30/40/50	6
K1796.1603X	A	stainless steel A4	bright	M3	5,7	-	1,65	10/12/16/20	2
K1796.1604X	A	stainless steel A4	bright	M4	7,6	-	2,2	8/10/12/16/20/25/30	2,5
K1796.1605X	A	stainless steel A4	bright	M5	9,5	-	2,75	8/10/12/16/20/25/30/40/45	3
K1796.1606X	A	stainless steel A4	bright	M6	10,5	-	3,3	8/10/12/16/20/25/30/35/40/45/50/60	4
K1796.1608X	A	stainless steel A4	bright	M8	14	-	4,4	10/12/16/20/25/30/35/40/45/50/60	5
K1796.1610X	A	stainless steel A4	bright	M10	17,5	-	5,5	16/20/25/30/40/50	6
K1796.2103X	B	stainless steel A2	bright	M3	-	6,9	1,65	8/10	2
K1796.2104X	B	stainless steel A2	bright	M4	-	9,4	2,2	8/10/12/16/20/25	2,5
K1796.2105X	B	stainless steel A2	bright	M5	-	11,8	2,75	8/10/12/16/20/25	3
K1796.2106X	B	stainless steel A2	bright	M6	-	13,6	3,3	8/10/12/16/20/25/30/35/40/45	4
K1796.2108X	B	stainless steel A2	bright	M8	-	17,8	4,4	10/12/16/20/25	5

Hygienic USIT®

Technical Information

For hygienic sealing in and at the product area

With its highly reliable sealing and design that is compliant with hygiene requirements, the Hygienic USIT® seal and shim washer is setting new standards for cleanliness in the process industry. Many manufacturers of machinery and systems for the food and pharmaceutical industries often use standard shim washers or O-rings for screw connections in or on the product chamber. These are not EHEDG-compliant, however, as contamination and biofilms in the form of bacteria colonies and corrosion can form under the screw head, preventing the design from achieving maximum hygiene standards.

The metallic shim washer with a fixed sealing ring made from 70 EPDM 291 (black) or 70 EPDM 253815 (white) provides a secure, cavity-free seal. The Hygienic USIT® seal and shim washer, made from the fluorinated premium compound Fluoroprene® XP 45, is suitable for applications involving particularly aggressive CIP/SIP cleaning temperatures, high steam sterilisation temperatures and process media containing grease. This material has an even larger operating temperature range and is resistant to polar and non-polar media as well as flavouring substances.

Approvals such as FDA, EU1935/2004 and USP Class VI (121°C), plus EHEDG certification, confirm that the Hygienic USIT® washer represents the ideal choice for hygienically demanding applications in the food, beverage and pharmaceutical industries.

The EHEDG certificate is only valid when a specifically matched hexagon head bolt K1492 or cap nut K1493 is used.

Material	Colour	Conformity/Approvals	Temperature range	Others
70 EPDM 291	black	- FDA 21 CFR 177.2600 - 3-A® SANITARY STANDARDS CLASS II - EU (VO) 1935/2004 AND 2023/2006 - USP CH. 87 AND CH. 88 – CLASS VI – 121 °C (250 °F) - NSF 51	-40 °C to +150 °C.	- ADI free
70 EPDM 253815	white	- FDA 21 CFR 177.2600 - 3-A® Sanitary Standards Class II - EU (VO) 1935/2004 and 2023/2006 - USP Ch. 87 and Ch. 88 – Class VI – 121 °C (250 °F)	-40 °C to +150 °C.	- ADI free
75 FLUOROPRENE® XP 45	blue	- FDA 21 CFR 177.2600 - EU (VO) 1935/2004 AND 2023/2006	-15 °C to +200 °C.	- ADI free

ANIMAL DERIVED INGREDIENT free

CERTIFIED EHEDG TYPE EL CLASS I AUX OCTOBER 2020

Hygienic USIT®

Technical Information

Screw connection according to Hygienic DESIGN

The Hygienic USIT® is a further development of the conventional standard Usit rings. It ensures reliable hygienic sealing of the screw head. It also allows easy CIP (Cleaning in Place), WIP (Washing in Place) or SIP (Sterilization in Place) without having to take the system apart.

These special screw heads have been developed according to DIN EN 1665 for areas or aseptic isolators in contact with the product. This combination prevents the medium from getting under the screw head. This eliminates the risk of contamination and formation of microfilms.

By a special production process, NOVOnox hygienic obtains a surface roughness of Ra < 0.8 µm. This eliminates any dents or sharp burrs on the collar.

In addition, screws and cap nuts with collar are polished to a high gloss. To fasten them consistently in accordance with Hygienic DESIGN, NovoNox has developed box nuts and associated protective inserts. They do not damage the screw when tightening.

For screw connections outside the product area, standard hexagon bolts with flange according to DIN EN 1665 are suitable. However, they do not meet the Hygienic DESIGN requirements regarding optimum cleanability. They are therefore not suitable for use in product contact areas.

The bond is available in the dimensions M4, M5, M6, M8, M10, M12 and M16.

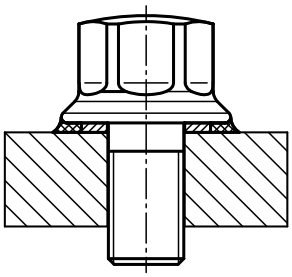
Values to the customer

- Cavity-free solution
- Prevents microbial contamination
- Replaces inflexible welding solution
- Clearances/approvals for food and pharmaceutical industry
- No tooling costs for standard parts
- Cleaning with the CIP, SIP, WIP, COP and WOP processes

Cap nuts with collar
Material: 1.4404
Surface high-gloss polished with up to Ra < 0,8 micron

Freudenberg washer
Material: Elastomer made of 70 EPDM 291, 70 EPDM 253815, or 75 Fluoroprene® XP 45
Washer made of 1.4404

Hexagon bolt with collar
Material: 1.4404
Surface high-gloss polished with up to Ra < 0,8 micron



Tightening torques

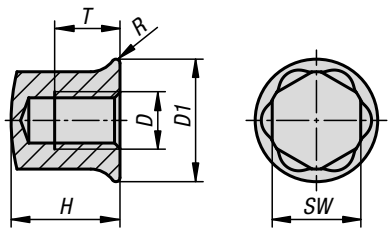
Contact surface/head support made from A2 or A4 stainless steel.
Coefficient of friction for thread and head support μges = 0.23.
Incl. use of K1491 Hygienic USIT® sealing and shim washer (hole diameter of washer = di).
Preload force based on 80% of the 0.2% yield point of Rp0.2 = 200 N/mm².

	Coefficient of friction μ_{ges}	Hole Ø [mm]	Tensile stress cross section [mm²]	Preload force FV [N]	Tightening torque MA [Nm]
M3	0,23	4,2	5,03	805	1,05
M4	0,23	4,2	8,78	1405	2,04
M5	0,23	5,2	14,2	2272	3,89
M6	0,23	6,2	20,1	3216	6,61
M8	0,23	8,2	36,6	5856	15,68
M10	0,23	10,2	58	9280	30,87
M12	0,23	12,2	84,3	13488	53,63
M16	0,23	16,2	157	25120	131,65

Notes

Stainless steel cap nuts with collar

for Hygienic USIT® seal and shim washers



A cavity-free seal can only be assured in combination with the Hygienic USIT® seal and shim washer. The polished cap nuts have a surface finish of Ra < 0.8 µm. Internal transition areas with a minimum radius of 3 mm are also provided, preventing dirt particles from adhering to the components and ensuring easy cleaning.

The cap nut with collar for Hygienic USIT® seal and shim washers is ideal for fastening in sterile areas and also conform to EHEDG regulations, something that is confirmed with the relevant certificate.

Material:
Stainless steel 1.4404.

Version:
Polished.

Sample order:
K1493.05

Note:
The EHEDG certificate is only valid when a specifically matched Hygienic USIT® seal and shim washer K1491 is used.

On request:
Special versions.

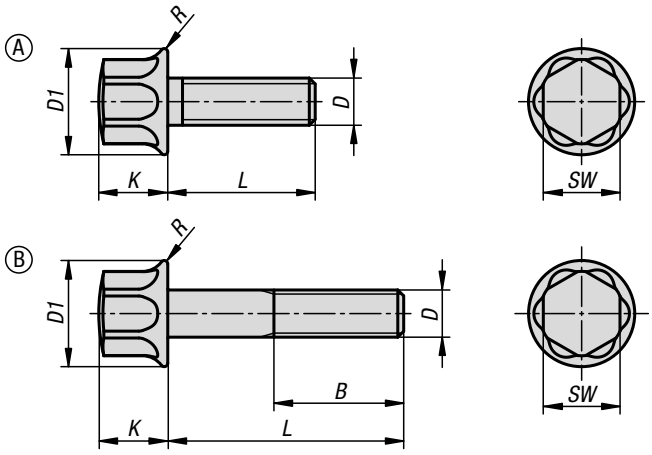
Accessories:
Hygienic USIT® seal and shim washer K1491. Hexagon head bolts with collar K1492. Sockets with plastic inserts K1361. Ring/open-end spanner with protective caps K1362.

KIPP Stainless steel cap nuts with collar for Hygienic USIT® seal and shim washers

Order No.	D	D1	H	R	SW	T
K1493.04	M4	10,8	9	0,45	7	4,8
K1493.05	M5	11,8	11	0,5	8	6
K1493.06	M6	14	13	0,55	10	7,2
K1493.08	M8	18	16	0,6	13	9,6
K1493.10	M10	22	20	0,75	16	12
K1493.12	M12	26,6	23	0,9	18	14,4
K1493.16	M16	35	30	1,2	24	19,2

Stainless steel hexagon head screws with collar

for Hygienic USIT® seal and shim washers



A cavity-free seal can only be assured in combination with the Hygienic USIT® seal and shim washer. The polished screws have a surface finish of Ra < 0.8 µm. Internal transition areas with a minimum radius of 3 mm are also provided, preventing dirt particles from adhering to the components and ensuring easy cleaning.

Hexagon head bolts with collar for Hygienic USIT® seal and shim washers are ideal for fastening in sterile areas and also conform to EHEDG regulations, something that is confirmed with the relevant certificate.

Material:
Stainless steel 1.4404.

Version:
Polished.

Sample order:
K1492.05X12 (include length L)

Note:
The EHEDG certificate is only valid when a specifically matched Hygienic USIT® seal and shim washer K1491 is used.

On request:
Special versions.

Accessories:
Hygienic USIT® seal and shim washer K1491. Hexagon cap nut with collar K1493. Sockets with plastic inserts K1361. Ring/open-end spanner with protective caps K1362.

Stainless steel hexagon head screws with collar

for Hygienic USIT® seal and shim washers

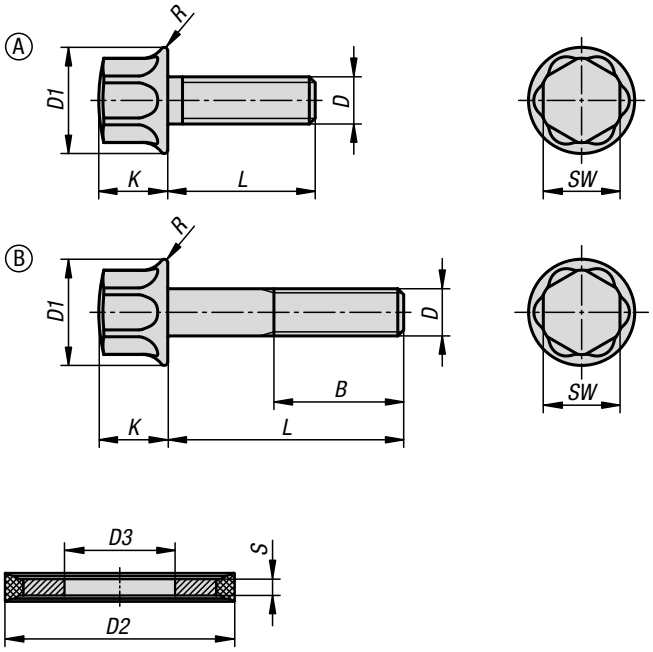
KIPP Stainless steel hexagon head screws with collar for Hygienic USIT® seal and shim washers

Order No.	Form	D	D1	K	L	R	SW
K1492.04X	A	M4	10,8	6,9	8/10/12/16/20	0,45	7
K1492.05X	A	M5	11,8	8,5	10/12/16/20	0,5	8
K1492.06X	A	M6	14	9,2	12/16/20/25	0,55	10
K1492.08X	A	M8	18	11,7	16/20/25/30/35	0,6	13
K1492.10X	A	M10	22	14	20/25/30/35/40	0,75	16
K1492.12X	A	M12	26,6	17	25/30/35/40/45	0,9	18
K1492.16X	A	M16	35	21,8	30/35/40/45/50/60	1,2	24

Order No.	Form	D	D1	B	K	L	R	SW
K1492.04X	B	M4	10,8	14	6,9	25/30/35/40	0,45	7
K1492.05X	B	M5	11,8	16	8,5	25/30/35/40/45/50	0,5	8
K1492.06X	B	M6	14	18	9,2	30/35/40/45/50/60	0,55	10
K1492.08X	B	M8	18	22	11,7	40/45/50/60/70/80	0,6	13
K1492.10X	B	M10	22	26	14	45/50/60/70/80	0,75	16
K1492.12X	B	M12	26,6	30	17	50/60/70/80	0,9	18
K1492.16X	B	M16	35	38	21,8	70/80	1,2	24

Stainless steel hexagon head screws with collar

and seal and shim washer for Hygienic USIT® set



Set: hexagon head screw with collar K1492 + Hygienic USIT® seal and shim washer K1491.

Only the combination of a hexagon head screw with collar and the Hygienic USIT® seal and shim washer assures a cavity-free seal.

The hexagon head screw with collar for Hygienic USIT® seal and shim washers is ideal for fastening in sterile areas and also conforms to EHEDG regulations, which is confirmed with the relevant certificate.

Material:
Hexagon head screw: stainless steel 1.4404.
Washer: stainless steel 1.4404.
Seal ring:
70 EPDM 291 (black).
70 EPDM 253815 (white).
75 Fluoroprene® XP 45 (blue).

Version:
Hexagon head screw: polished

Sample order:
K1595.041X20

Note:
The EHEDG certificate is only valid when a combination of hexagon head screw with collar K1492 and specially matched Hygienic USIT® seal and shim washer K1491 is used.

Attention:
The function of the Hygienic USIT® screw connection system has been tested in combination with stainless steel materials and standard cleaning materials. The user must check that it is suitable for the application in question.

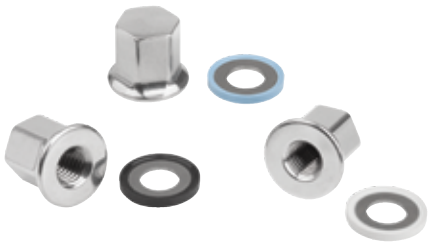
Accessories:
Cap nut with collar K1493.
Sockets with plastic inserts K1361.
Ring/open-end spanner with protective caps K1362.

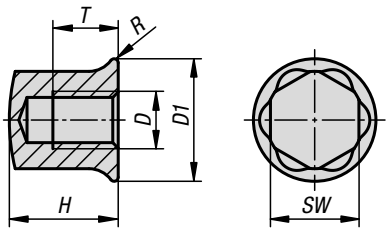
KIPP Stainless steel hexagon head screws with collar and seal and shim washer for Hygienic USIT® set

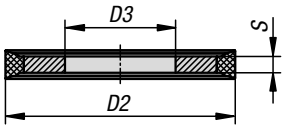
Order No. 70 EPDM 291 black	Order No. 70 EPDM 253815 white	Order No. fluoroprene XP 45 blue	Form	D	L	D1	B	K	R	SW	D2	D3	S	Approval / Certification
K1595.041X	K1595.042X	K1595.044X	A	M4	8/10/12/16/20	10,8	-	6,9	0,45	7	9,7	4,1	1	EHEDG
K1595.041X	K1595.042X	K1595.044X	B	M4	25/30/35/40	10,8	14	6,9	0,45	7	9,7	4,1	1	EHEDG
K1595.051X	K1595.052X	K1595.054X	A	M5	10/12/16/20	11,8	-	8,5	0,5	8	10,7	5,1	1	EHEDG
K1595.051X	K1595.052X	K1595.054X	B	M5	25/30/35/40/45/50	11,8	16	8,5	0,5	8	10,7	5,1	1	EHEDG
K1595.061X	K1595.062X	K1595.064X	A	M6	12/16/20/25	14	-	9,2	0,55	10	13,1	6,1	1	EHEDG
K1595.061X	K1595.062X	K1595.064X	B	M6	30/35/40/45/50/60	14	18	9,2	0,55	10	13,1	6,1	1	EHEDG
K1595.081X	K1595.082X	K1595.084X	A	M8	16/20/25/30/35	18	-	11,7	0,6	13	16,9	8,1	1	EHEDG
K1595.081X	K1595.082X	K1595.084X	B	M8	40/45/50/60/70/80	18	22	11,7	0,6	13	16,9	8,1	1	EHEDG
K1595.101X	K1595.102X	K1595.104X	A	M10	20/25/30/35/40	22	-	14	0,75	16	21,2	10,1	1,5	EHEDG
K1595.101X	K1595.102X	K1595.104X	B	M10	45/50/60/70/80	22	26	14	0,75	16	21,2	10,1	1,5	EHEDG
K1595.121X	K1595.122X	K1595.124X	A	M12	25/30/35/40/45	26,6	-	17	0,9	18	25,5	12,1	1,5	EHEDG
K1595.121X	K1595.122X	K1595.124X	B	M12	50/60/70/80	26,6	30	17	0,9	18	25,5	12,1	1,5	EHEDG
K1595.161X	K1595.162X	K1595.164X	A	M16	30/35/40/45/50/60	35	-	21,8	1,2	24	33,9	16,1	1,5	EHEDG
K1595.161X	K1595.162X	K1595.164X	B	M16	70/80	35	38	21,8	1,2	24	33,9	16,1	1,5	EHEDG

Stainless steel cap nuts with collar

and seal and shim washer for Hygienic USIT® set







Set: cap nut with collar K1493 + Hygienic USIT® seal and shim washer K1491.

Only the combination of a cap nut with collar and the Hygienic USIT® seal and shim washer assures a cavity-free seal.

The cap nut with collar for Hygienic USIT® seal and shim washers is ideal for fastening in sterile areas and also conform to EHEDG regulations, which is confirmed with the relevant certificate.

Material:
Cap nut: stainless steel 1.4404.
Washer: stainless steel 1.4404.
Seal ring:
70 EPDM 291 (black).
70 EPDM 253815 (white).
75 Fluoroprene® XP 45 (blue).

Version:
Cap nut: polished.

Sample order:
K1594.041

Note:
The EHEDG certificate is only valid when a combination of cap nut with collar K1493 and specially matched Hygienic USIT® seal and shim washer K1491 is used.

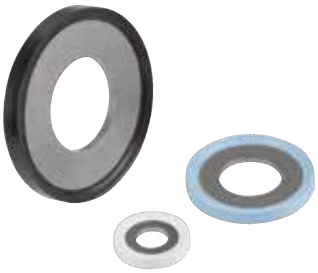
Attention:
The function of the Hygienic USIT® screw connection system has been tested in combination with stainless steel materials and standard cleaning materials. The user must check that it is suitable for the application in question.

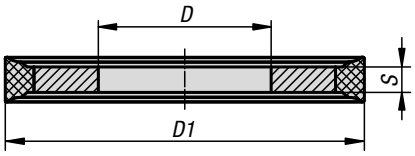
Accessories:
Hexagon head screw with collar K1492.
Sockets with plastic inserts K1361.
Ring/open-end spanner with protective caps K1362.

KIPP Stainless steel cap nuts with collar and seal and shim washer for Hygienic USIT® set

Order No. 70 EPDM 291 black	Order No. 70 EPDM 253815 white	Order No. fluoroprene XP 41 blue	D	D1	D2	D3	H	R	S	SW	T	Approval / Certification
K1594.041	**K1594.042**	**K1594.044**	M4	10,8	9,7	4,1	9	0,45	1	7	4,8	EHEDG
K1594.051	**K1594.052**	**K1594.054**	M5	11,8	10,7	5,1	11	0,5	1	8	6	EHEDG
K1594.061	**K1594.062**	**K1594.064**	M6	14	13,1	6,1	13	0,55	1	10	7,2	EHEDG
K1594.081	**K1594.082**	**K1594.084**	M8	18	16,9	8,1	16	0,6	1	13	9,6	EHEDG
K1594.101	**K1594.102**	**K1594.104**	M10	22	21,2	10,1	20	0,75	1,5	16	12	EHEDG
K1594.121	**K1594.122**	**K1594.124**	M12	26,6	25,5	12,1	23	0,9	1,5	18	14,4	EHEDG
K1594.161	**K1594.162**	**K1594.164**	M16	35	33,9	16,1	30	1,2	1,5	24	19,2	EHEDG

Hygienic USIT® seal and shim washers





With its highly reliable sealing and design that is compliant with hygiene requirements, the Hygienic USIT® seal and shim washer is setting new standards for cleanliness in the process industry. Many manufacturers of machinery and systems for the food and pharmaceutical industries often use standard shim washers or O-rings for screw connections in or on the product chamber. These are not EHEDG-compliant, however, as contamination and biofilms in the form of bacteria colonies and corrosion can form under the screw head, preventing the design from achieving maximum hygiene standards.The metallic shim washer with a fixed sealing ring made from 70 EPDM 291 (black) or 70 EPDM 253815 (white) provides a secure, cavity-free seal. The Hygienic USIT® seal and shim washer, made from the fluorinated premium compound Fluoroprene® XP 45, is suitable for applications involving particularly aggressive CIP/SIP cleaning temperatures, high steam sterilisation temperatures and process media containing grease. This material has an even larger operating temperature range and is resistant to polar and non-polar media as well as flavouring substances.Approvals such as FDA, EU1935/2004 and USP Class VI (121°C), plus EHEDG certification, confirm that the Hygienic USIT® washer represents the ideal choice for hygienically demanding applications in the food, beverage and pharmaceutical industries.

Material:
Washer:
Stainless steel 1.4404.
Sealing ring:
70 EPDM 291 (black)
70 EPDM 253815 (white)
75 Fluoroprene® XP 45 (blue)

Sample order:
K1491.051

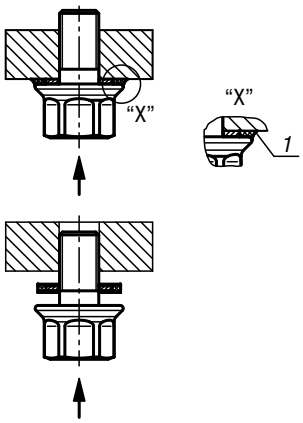
Note:
The EHEDG certificate is only valid when a specifically matched hexagon head bolt K1492 or cap nut K1493 is used.

Attention:
The function of the Hygienic USIT® screw connection system has been tested in combination with stainless steel materials and standard cleaning materials. The user must check that it is suitable for the application in question.

Accessories:
The Hygienic USIT® seal and shim washers can be used with all other products of the Hygienic USIT® range.

Drawing reference:
1) Cavity free sealing

Hygienic USIT® seal and shim washers



KIPP Hygienic USIT® seal and shim washers

Order No. 70 EPDM 291 black	Order No. 70 EPDM 253815 white	Order No. fluoroprene XP 45 blue	D	D1	S	Suitable for hexagon screws	Suitable cap nuts
K1491.041	**K1491.042**	**K1491.044**	4,1	9,7	1	M4	M4
K1491.051	**K1491.052**	**K1491.054**	5,1	10,7	1	M5	M5
K1491.061	**K1491.062**	**K1491.064**	6,1	13,1	1	M6	M6
K1491.081	**K1491.082**	**K1491.084**	8,1	16,9	1	M8	M8
K1491.101	**K1491.102**	**K1491.104**	10,1	21,2	1,5	M10	M10
K1491.121	**K1491.122**	**K1491.124**	12,1	25,5	1,5	M12	M12
K1491.161	**K1491.162**	**K1491.164**	16,1	33,9	1,5	M16	M16

Hex head bolts, stainless steel with seal washer

in Hygienic DESIGN

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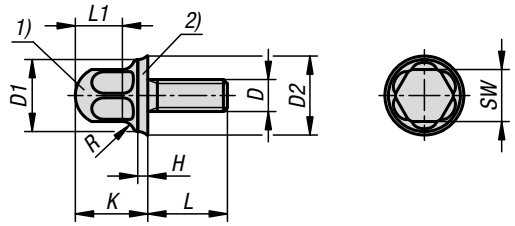

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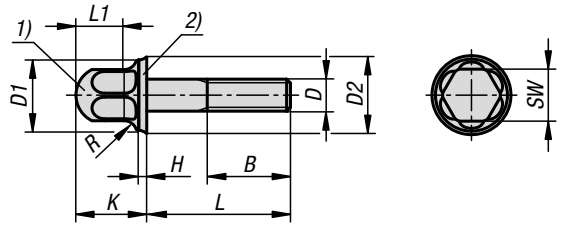


The Hygienic DESIGN fastening system was specially developed for use in food-processing facilities. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of Ra ≤ 0.8 µm. Quick and easy product installation due to a pre-mounted sealing washer rounds off the overall package.

Material:
Hex head bolt: stainless steel 1.4404.
Sealing washer: EU10/2011 and FDA conform thermoplastic (POM).

Version:
Hex head bolt: Polished or unpolished stainless steel.
Sealing washer: RAL5002 - utra marine (POM).

Sample order:
K1647.1104X08
(include length L e.g. 08 for L = 8 mm.)

Note:
The contact face for the sealing ring must ideally be flat and perpendicular to the threaded hole and have a surface finish of Ra ≤ 0.8 µm.
Sealing ring is unsuitable for acidic cleaning (pH < 4) and oxidising agents.

Temperature range:
-20° to +100° C (POM).

Advantages:
Pre-installed, exchangable seal washer.
Foodstuff conform material.
Cleaning optimised geometry.

On request:
Special versions.

Attention:
The suitability of the Hygienic DESIGN fasters for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

Supplied with:
Hex head bolt incl. seal washer.

Accessories:
Sealing washer K1649.
Stainless steel hex nut with sealing washer K1648.
Sockets with plastic inserts K1361.
Ring/open-end spanner with protective caps K1362.

Threaded version:
M4 - M16.

Drawing reference:
1) Hex head bolt
2) Sealing washer

Hex head bolts, stainless steel with seal washer

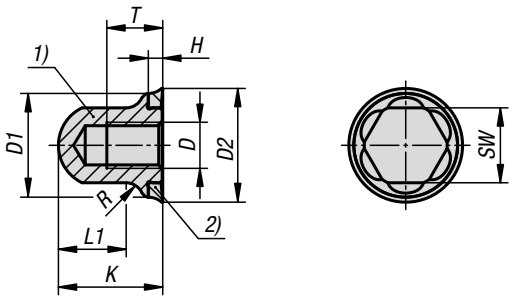
in Hygienic DESIGN

KIPP Hex head bolts, stainless steel with seal washer in Hygienic DESIGN

Order No. polished	Order No. not polished	Form	Form-Type	B	D	D1	D2	H	K	L	L1	R	SW
K1647.1104X	**K1647.2104X**	A	without shaft	-	M4	10	11,25	2	11,1	8/10/12/16/20	5,9	3	7
K1647.1104X	**K1647.2104X**	B	with shaft	14	M4	10	11,25	2	11,1	25/30/35/40	5,9	3	7
K1647.1105X	**K1647.2105X**	A	without shaft	-	M5	12	13,25	2	13,1	10/12/16/20	7,4	3	8
K1647.1105X	**K1647.2105X**	B	with shaft	16	M5	12	13,25	2	13,1	25/30/35/40/45/50	7,4	3	8
K1647.1106X	**K1647.2106X**	A	without shaft	-	M6	14	15,74	2,5	15,1	12/16/20/25	9,1	3	10
K1647.1106X	**K1647.2106X**	B	with shaft	18	M6	14	15,74	2,5	15,1	30/35/40/45/50/60	9,1	3	10
K1647.1108X	**K1647.2108X**	A	without shaft	-	M8	18	19,74	2,5	18,1	16/20/25/30/35	11,7	3	13
K1647.1108X	**K1647.2108X**	B	with shaft	22	M8	18	19,74	2,5	18,1	40/45/50/60/70/80	11,7	3	13
K1647.1110X	**K1647.2110X**	A	without shaft	-	M10	22	23,74	2,5	22,1	20/25/30/35/40	15	4	16
K1647.1110X	**K1647.2110X**	B	with shaft	26	M10	22	23,74	2,5	22,1	45/50/60/70/80	15	4	16
K1647.1112X	**K1647.2112X**	A	without shaft	-	M12	26	28,25	3	25,1	25/30/35/40/45	16,1	5	18
K1647.1112X	**K1647.2112X**	B	with shaft	30	M12	26	28,25	3	25,1	50/60/70/80	16,1	5	18
K1647.1116X	**K1647.2116X**	A	without shaft	-	M16	35	37,25	3	32,1	30/35/40/45/50/60	21,8	6	24
K1647.1116X	**K1647.2116X**	B	with shaft	38	M16	35	37,25	3	32,1	70/80	21,8	6	24

Hex nuts, stainless steel with seal washer

in Hygienic DESIGN



The Hygienic DESIGN fastening system was specially developed for use in food-processing facilities. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of Ra ≤ 0.8 µm. Quick and easy product installation due to a pre-mounted sealing washer rounds off the overall package.

Material:
Hex nut: stainless steel 1.4404.
Sealing washer: EU10/2011 and FDA conform thermoplastic (POM).

Version:
Hex nut: Polished or unpolished stainless steel.
Sealing washer: RAL5002 - utra marine (POM).

Sample order:
K1648.1108

Note:
The contact face for the sealing ring must ideally be flat and perpendicular to the threaded hole and have a surface finish of Ra ≤ 0.8 µm.
Sealing ring is unsuitable for acidic cleaning (pH < 4) and oxidising agents.

Temperature range:
-20° to +100° C (POM).

Advantages:
Pre-installed, exchangable seal washer.
Foodstuff conform material.
Cleaning optimised geometry.

On request:
Special versions.

Attention:
The suitability of the Hygienic DESIGN fasters for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

Supplied with:
Hex nut incl. seal washer.

Accessories:
Sealing washer K1649.
Stainless steel hex head bolt with sealing washer K1647.
Sockets with plastic inserts K1361.
Ring/open-end spanner with protective caps K1362.

Threaded version:
M4 - M16.

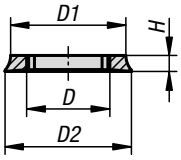
Drawing reference:
1) Hex nut
2) Sealing washer

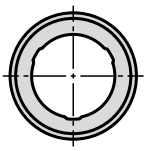
KIPP Hex nuts, stainless steel with seal washer in Hygienic DESIGN

Order No. polished	Order No. not polished	D	D1	D2	H	K	L1	R	SW	T
K1648.1104	**K1648.2104**	M4	10	11,25	2	11,1	5,9	3	7	4,8
K1648.1105	**K1648.2105**	M5	12	13,25	2	13,1	7,4	3	8	6
K1648.1106	**K1648.2106**	M6	14	15,74	2,5	15,1	9,1	3	10	7,2
K1648.1108	**K1648.2108**	M8	18	19,74	2,5	18,1	11,7	3	13	9,6
K1648.1110	**K1648.2110**	M10	22	23,74	2,5	22,1	15	4	16	12
K1648.1112	**K1648.2112**	M12	26	28,25	3	25,1	16,1	5	18	14,4
K1648.1116	**K1648.2116**	M16	35	37,25	3	32,1	21,8	6	24	19,2

Seal washers

in Hygienic DESIGN





The thermoplastic seal washer in Hygienic DESIGN was specially developed for use in combination with the hex head bolt K1647 or hex nut K1648. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of Ra ≤ 0.8 µm.
The seal washers are made from an EU10/2011 and FDA conform plastic granulate.

Material:
EU10/2011 and FDA conform thermoplastic (POM).

Version:
RAL5002 - Ultramarine blue (POM).

Sample order:
K1649.108

Note:
Sealing ring is unsuitable for acidic cleaning (pH < 4) and oxidising agents.

Temperature range:
-20° to +100° C (POM).

Advantages:
Foodstuff conform material.
Cleaning optimised geometry.

On request:
Special versions.

Attention:
The suitability of the Hygienic DESIGN fasters for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

Supplied with:
Seal washer.

Accessories:
Stainless steel hex head bolt with seal washer K1647.
Stainless steel hex nut with seal washer K1648.

Threaded version:
M4 - M16.

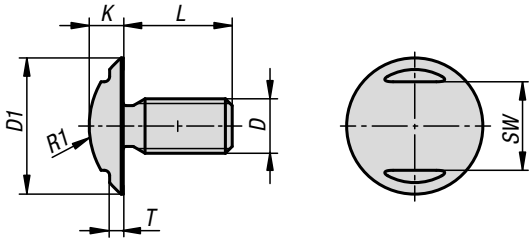
KIPP Seal washers in Hygienic DESIGN

Order No.	D	D1	D2	H	G=thread / for thread
K1649.104	6	10	11,25	2	M4
K1649.105	8	12	13,25	2	M5
K1649.106	9	14	15,74	2,5	M6
K1649.108	13	18	19,74	2,5	M8
K1649.110	17	22	23,74	2,5	M10
K1649.112	20	26	28,25	3	M12
K1649.116	29	35	37,25	3	M16

K1329

Ball head screw

in Hygienic DESIGN



Material:
Stainless steel 1.4404.

Version:
Polished.

Sample order:
K1329.06X20 (include length L)

Note:
Ideal elements for fastening cladding panels, Plexiglas covers etc. The oversized flange and the thread undercut ensure a stress-free, uniform force distribution on the respective surfaces. Projecting edges are kept to a minimum by the head height being kept as low as possible. An open-end spanner is used to screw the fastener in.
The surface of the ball head screw is polished and, with regard to design optimised for the use in hygienic environments. The surface is polished to a surface finish of less than Ra 0.8 µm. Dirt and residue from products or cleaners seldom adheres and easy cleaning is ensured.

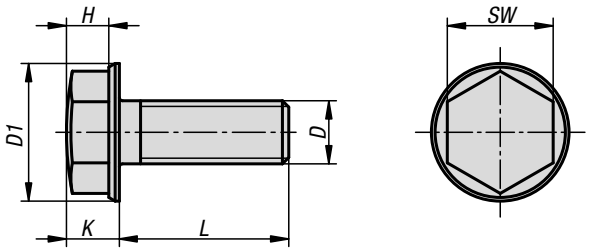
Accessories:
For damage-free tightening and loosening of the screw we recommend the open-end spanners together with the protective caps (K1362).

KIPP Ball head screw in Hygienic DESIGN

Order No.	D	D1	K	T	SW	R1	L
K1329.03X	M3	8	2	0,6	5	5,2	4/5/6/8/10/12/16/20/25/30
K1329.04X	M4	11	3	1	6	6,7	5/6/8/10/12/16/20/25/30
K1329.05X	M5	14	4	1	8	8,6	6/8/10/12/16/20/25/30
K1329.06X	M6	17	5	1,5	10	10	8/10/12/16/20/25/30
K1329.08X	M8	20	5	1,5	13	13	10/12/16/20/25/30/35/40
K1329.10X	M10	22	6	1,5	15	13,5	12/16/20/25/30/35/37/40
K1329.12X	M12	27	7,5	1,5	19	16,3	16/20/25/30/35/40/50
K1329.16X	M16	36	9	1,5	24	23	20/25/30/35/40/50

Hexagon head screws, stainless steel

in Hygienic DESIGN



Material:
Stainless steel 1.4404

Version:
Polished.

Sample order:
K1411.03X06
(include length L e.g. 06 for L = 6 mm.)

Note:
The surface of the hexagon head bolt is polished and, with regard to design optimised for the use in hygienic environments.
The bolt head is convex on the top face and the collar has a conical formed top surface.
Instead of troublesome embossing or indentations, the bolt head is smooth with a surface finish of Ra 0.8 µm. Dirt and residue from products or cleaners seldom adheres and easy cleaning is ensured.

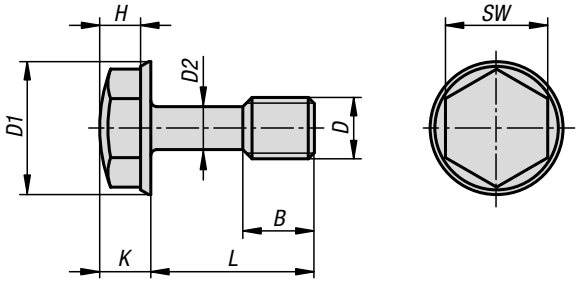
Accessories:
For damage-free tightening and loosening of the screw we recommend the open-end spanners together with the protective caps (K1362).

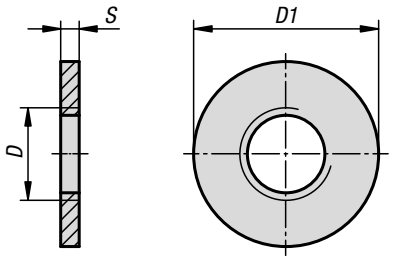
KIPP Hexagon head screws, stainless steel in Hygienic DESIGN

Order No.	Main material	D	D1	H	K	L	SW
K1411.03X	stainless steel A4	M3	7	3	3,8	6/8/10/12/16/20/25/30	5,5
K1411.04X	stainless steel A4	M4	9,2	3	4	8/10/12/16/20/25/30/35/40	7
K1411.05X	stainless steel A4	M5	10,5	3,7	4,7	10/12/16/20/25/30/35/40/45/50	8
K1411.06X	stainless steel A4	M6	13	4	5	12/16/20/25/30/35/40/45/50/55/60	10
K1411.08X	stainless steel A4	M8	16,8	5,5	6,5	16/20/25/30/35/40/45/50/55/60	13
K1411.10X	stainless steel A4	M10	20,6	7,3	8,3	20/25/30/35/40/45/50/55/60	16
K1411.12X	stainless steel A4	M12	23,8	8,6	10	25/30/35/40/45/50/60	18
K1411.16X	stainless steel A4	M16	29,7	11,1	12,5	30/35/40/45/50/60	24
K1411.20X	stainless steel A4	M20	36	15	16,3	40/45/50/60	30

Hexagon bolts with narrow shaft

in Hygienic DESIGN





Material:
Stainless steel 1.4404.

Version:
Polished.

Sample order:
K1330.06X30 (include length L)

Note:
Narrow shaft bolts are preferably secured against unintentional loss with a retaining element. This satisfies the EU standard 2006/42/EG. With the optionally available retaining washer the bolt is permanently combined with the component before screwing in. The washer is screwed over the threaded section and can then move freely on the narrow shaft. The shaft is not damaged by e.g. notching caused by a spring effect. By manual operation it is not possible that the washer screws itself out again. However, by careful manipulation the washer can be removed from the bolt without damaging either.
The surface of the hexagon head bolt is polished and, with regard to design optimised for the use in hygienic environments. The bolt head is convex on the top face and the collar has a conical formed top surface. Instead of troublesome embossing or indentations, the bolt head is smooth with a surface finish of less than Ra 0.8 µm. Dirt and residue from products or cleaners seldom adheres and easy cleaning is ensured.

On request:
Inch threads, thread lengths, shaft lengths

Accessories:
Locking washer K1331.

Hexagon bolts with narrow shaft

in Hygienic DESIGN

KIPP Hexagon bolts with narrow shaft in Hygienic DESIGN

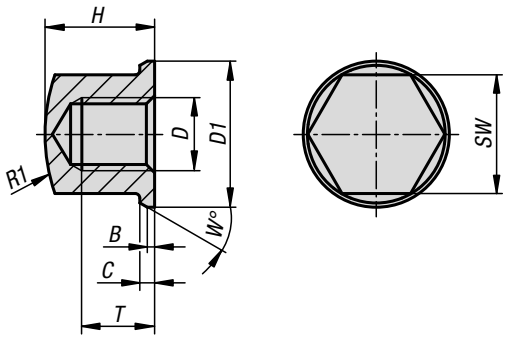
Order No.	Main material	D	D1	D2	B	H	K	L	SW
K1330.04X	stainless steel A4	M4	9,2	3,1	5	3	4	8/10/12/16	7
K1330.04X	stainless steel A4	M4	9,2	3,1	14	3	4	20/25/30/35/40	7
K1330.05X	stainless steel A4	M5	10,5	3,7	6	3,7	4,7	10/12/16/20	8
K1330.05X	stainless steel A4	M5	10,5	3,7	16	3,7	4,7	25/30/35/40/45/50	8
K1330.06X	stainless steel A4	M6	13	4,2	7	4	5	12/16/20	10
K1330.06X	stainless steel A4	M6	13	4,2	18	4	5	25/30/35/40/45/50/60	10
K1330.08X	stainless steel A4	M8	16,8	6	9,5	5,5	6,5	16/20/25	13
K1330.08X	stainless steel A4	M8	16,8	6	22	5,5	6,5	30/35/40/45/50/60/70/80	13
K1330.10X	stainless steel A4	M10	20,6	7,7	12	7,3	8,3	20/25/30/35	16
K1330.10X	stainless steel A4	M10	20,6	7,7	26	7,3	8,3	40/45/50/60/70/80	16
K1330.12X	stainless steel A4	M12	23,8	9,5	14,5	8,6	10	25/30/35/40	18
K1330.12X	stainless steel A4	M12	23,8	9,5	30	8,6	10	45/50/60/70/80	18
K1330.16X	stainless steel A4	M16	29,7	13	19	11,1	12,5	30/35/40/45/50	24
K1330.16X	stainless steel A4	M16	29,7	13	38	11,1	12,5	60/70/80	24

KIPP Retaining washers for narrow shank screws

Order No.	Main material	D	D1	S
K1331.03	stainless steel A4	M3	6	1,5
K1331.04	stainless steel A4	M4	8	1,5
K1331.05	stainless steel A4	M5	10	1,5
K1331.06	stainless steel A4	M6	12	1,5
K1331.08	stainless steel A4	M8	16	2
K1331.10	stainless steel A4	M10	20	2
K1331.12	stainless steel A4	M12	24	2,5
K1331.16	stainless steel A4	M16	32	3

Cap nut compact

in Hygienic DESIGN



Material:
Stainless steel 1.4404.

Version:
Polished.

Sample order:
K1332.08

Note:
The surface of the cap nut is polished and, with regard to design optimised for the use in hygienic environments. The top of the nut is spherical and the collar has a conical formed top face. The nut has been designed as a low version so as to keep troublesome corners as few as possible. Due to the extremely high quality surface finish of much less than Ra 0.8 µm, hardly any dirt particles adhere to the surface.

On request:
Inch threads, high versions.

Accessories:
For damage-free tightening and loosening of the screw we recommend the open-end spanners together with the protective caps (K1362).

KIPP Cap nut compact in Hygienic DESIGN

Order No.	Main material	D	D1	B	C	H	R1	SW	T	W
K1332.03	stainless steel A4	M3	6,8	0,25	0,5	4,95	8,8	5,5	3	20
K1332.04	stainless steel A4	M4	9	0,3	0,8	6,5	10	7	4	30
K1332.05	stainless steel A4	M5	10	0,5	1	7	16	8	4	30
K1332.06	stainless steel A4	M6	12	0,8	1	9	16	10	6	30
K1332.08	stainless steel A4	M8	16	0,8	1,6	12	20	13	8	30
K1332.10	stainless steel A4	M10	20	1	2	14	32	16	10	30
K1332.12	stainless steel A4	M12	24	1	2,5	16	35	19	11	30

Sockets and plastic inserts

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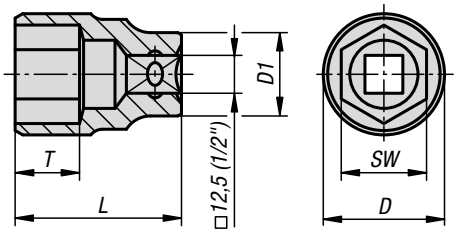

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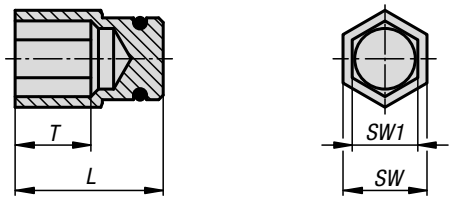


Material:
Socket tool steel.
Insert special PETP.

Version:
Socket chromium-plated.

Sample order:
K1361.1112 (Socket SW11)
K1361.0805 (Plastic insert SW8 for M5 hex head screw)

Note:
Socket:
Socket with 1/2“ drive, made by Hazet. Specially modified, for holding the plastic inserts. The plastic inserts are securely held by the inner form and length of the socket. Optimal drive torque is transmitted to the screw head. By careful use, metallic contact between the socket and the hex head is prevented. Contact corrosion is eliminated.

Plastic insert:
Plastic inserts for tightening and loosening the screws and nuts of the KIPP product range NOVOnox hygienic. Polished and sensitive surfaces are protected and a later contact corrosion is avoided.
The plastic inserts are made from a specially manufactured PETP and have FDA approval. The inserts are pressed into the special socket manually. The form fit and locking device ensures an optimal hold in the socket. No special tools are required to exchange the worn out inserts.
By a tightening torque of μ 0.12 coefficient of friction (DIN for A4-70 for screws and nuts), the plastic inserts have a life expectancy of up to 1000 alternating cycles.

Drawing reference:
A) Socket
B) Plastic insert

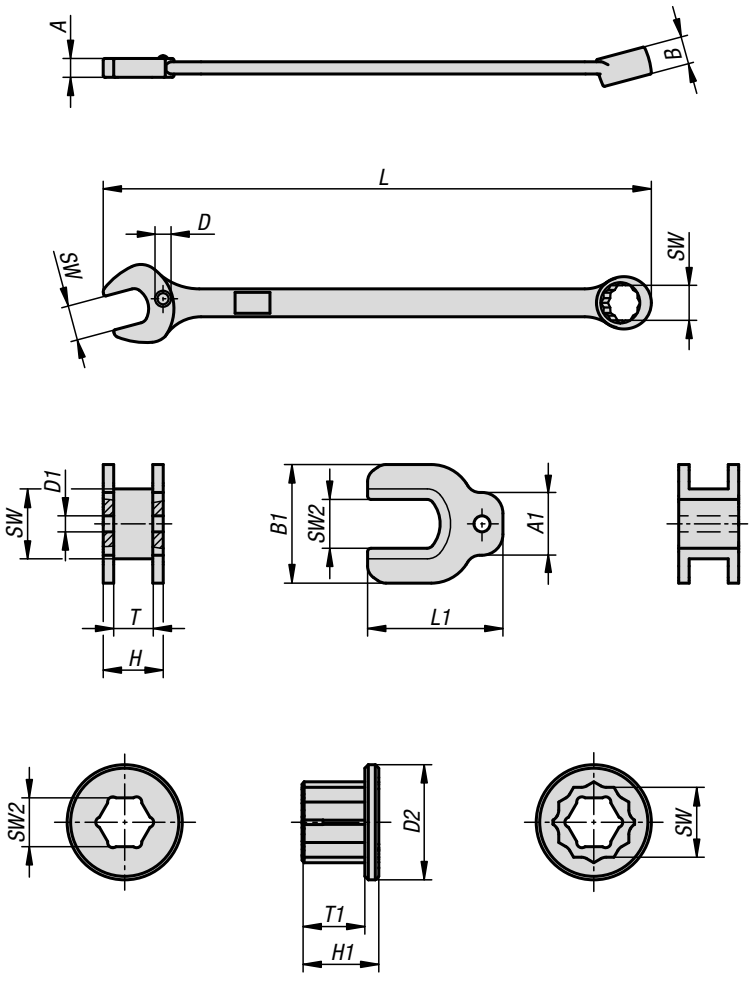
KIPP Sockets

Order No.	D	D1	L	T	SW
K1361.1012	15,3	22	36,6	10,6	10
K1361.1112	16,6	22	37,3	10,1	11
K1361.1312	19,1	22	37,3	10,6	13
K1361.1612	22,9	23,6	37,1	11,3	16
K1361.1912	26,6	23	37	13,2	19
K1361.2112	29	25	36,8	12,9	21
K1361.2712	35,2	25	44,4	18,1	27

KIPP Plastic inserts

Order No.	L	T	SW	SW1	Suitable for hexagon screws
K1361.0704	17,4	5,5	10	7	M4
K1361.0805	18	6	11	8	M5
K1361.1006	19,5	10	13	10	M6
K1361.1308	21,5	11	16	13	M8
K1361.1610	22	13,5	19	16	M10
K1361.1812	21,5	12	21	18	M12
K1361.2416	26,5	18	27	24	M16

Combination spanner with protective caps



Material:
Combination spanner tool steel.
Protective cap AlSi1MgMn.

Sample order:
K1362.10 combination spanner
K1362.1007 caps for open-end spanner
K1362.11007 caps for ring spanner

Note:
The protective cap was specially developed for tightening and loosening screw connections with sensitive surfaces. With normal tools, the surface of polished screws are so damaged from the first tightening, that cavities are created making easy and effective cleaning no longer possible.
The protective caps ensure damage free tightening and loosening of fasteners with outer contours. The soft aluminium leaves no scratches or other damage on sensitive surfaces. By correct and professional use the protective caps have a service life of ca. 1000 operating cycles.
Additionally, with the protective caps the risk of contact corrosion is reliably prevented on stainless steel fasteners. The projecting contour largely prevents unintentional contact points between spanner and stainless steel screw. The protective caps are made of the aluminium alloy EN AW 6082 and so comply with EN 602 - aluminium in contact with food.
The protective cap is held securely in the spanner by a special moulding or spring clip element. The cap cannot fall out on its own. Worn-out protective caps are changed manually.

On request:
Other sizes.

Combination spanner with protective caps

KIPP Combination spanner

Order No.	SW	A	B	L	D
K1362.10	10	5	8	154,5	5
K1362.11	11	5,5	8,4	168,5	5
K1362.13	13	6,3	10	193	6
K1362.16	16	7	11,4	230,5	6
K1362.19	19	8	13,5	268,5	7
K1362.21	21	8,5	13,7	292	7
K1362.27	27	10,5	16	380	9

KIPP Cap for open-end spanner

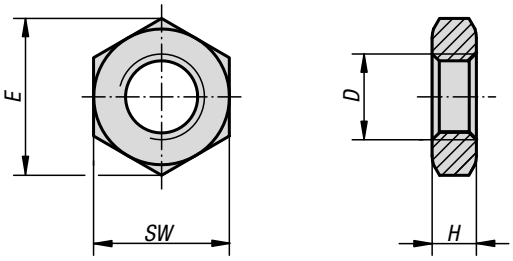
Order No.	SW	SW2	A1	B1	L1	D1	T	H
K1362.1007	10	7	9	17	19,4	2,3	5,6	8,6
K1362.1108	11	8	9	18	20,7	2,3	5,7	8,7
K1362.1310	13	10	10	22	23,2	3	6,7	10,7
K1362.1613	16	13	13	27	28,6	3	7,7	11,7
K1362.1916	19	16	13	30	32,5	4	8,6	12,6
K1362.2118	21	18	13	32	35	4	9	13
K1362.2724	27	24	14	40	43,8	4	10,8	15

KIPP Cap for ring spanner

Order No.	SW	SW2	D2	T1	H1
K1362.11007	10	7	16,5	8	11
K1362.11108	11	8	18	9,4	11,4
K1362.11310	13	10	21	11	13
K1362.11613	16	13	25	12,4	14,4
K1362.11916	19	16	30	14,5	16,5
K1362.12118	21	18	32	14,7	16,7
K1362.12724	27	24	41	17	19

Hexagon nuts thin

DIN 439



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 04, electro zinc-plated or black oxidised.
Stainless steel A2, bright.
Stainless steel A4, bright.

Sample order:
K0700.10

Note:
These hexagon nuts are used in screw connections exposed to limited loads, e.g. as a locknut for clevis joints or rod ends.

KIPP Hexagon nuts thin DIN 439

Order No. steel black oxidised	Order No. steel galvanised	Version 2	D	E	H	SW
K0700.205	**K0700.05**	RH thread	M5	8,79	2,7	8
K0700.206	**K0700.06**	RH thread	M6	11,05	3,2	10
K0700.2063	**K0700.006**	RH thread	M6X0,75	11,05	3,2	10
K0700.208	**K0700.08**	RH thread	M8	14,38	4	13
K0700.2083	**K0700.008**	RH thread	M8X1	14,38	4	13
K0700.210	**K0700.10**	RH thread	M10	18,9	5	17
K0700.2103	**K0700.103**	RH thread	M10X1	18,9	5	17
-	**K0700.104**	RH thread	M10X1,25	18,9	5	17
K0700.212	**K0700.12**	RH thread	M12	21,1	6	19
-	**K0700.123**	RH thread	M12X1,25	21,1	6	19
K0700.2124	**K0700.124**	RH thread	M12X1,5	21,1	6	19
-	**K0700.14**	RH thread	M14	24,49	7	22
K0700.216	**K0700.16**	RH thread	M16	26,76	8	24
K0700.2163	**K0700.163**	RH thread	M16x1,5	26,76	8	24
-	**K0700.183**	RH thread	M18x1,5	29,56	9	27
-	**K0700.20**	RH thread	M20	32,95	10	30
K0700.2203	**K0700.203**	RH thread	M20X1,5	32,95	10	30
-	**K0700.223**	RH thread	M22x1,5	36,9	10	32
-	**K0700.24**	RH thread	M24	39,55	12	36
K0700.2243	**-**	RH thread	M24x2	39,6	12	36
-	**K0700.30**	RH thread	M30	50,85	15	46
-	**K0700.061**	LH thread	M6	11,05	3,2	10
-	**K0700.081**	LH thread	M8	14,38	4	13
-	**K0700.101**	LH thread	M10	18,9	5	17
-	**K0700.1031**	LH thread	M10X1	18,9	5	17
-	**K0700.1041**	LH thread	M10X1,25	18,9	5	17
-	**K0700.121**	LH thread	M12	21,1	6	19
-	**K0700.1231**	LH thread	M12X1,25	21,1	6	19
-	**K0700.1241**	LH thread	M12X1,5	21,1	6	19
-	**K0700.161**	LH thread	M16	26,76	8	24
-	**K0700.2031**	LH thread	M20X1,5	32,95	10	30
-	**K0700.2231**	LH thread	M22x1,5	36,9	10	32

Hexagon nuts thin

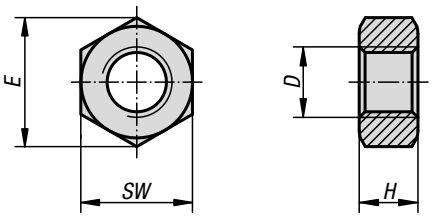
DIN 439

KIPP Hexagon nuts thin DIN 439

Order No. stainless steel A2	Order No. stainless steel A4	Version 2	D	E	H	SW
K0700.105	**K0700.605**	RH thread	M5	8,79	2,7	8
K0700.106	**K0700.606**	RH thread	M6	11,05	3,2	10
K0700.1062	**K0700.6062**	RH thread	M6X0,75	11,05	3,2	10
K0700.108	**K0700.608**	RH thread	M8	14,38	4	13
K0700.1083	**K0700.6083**	RH thread	M8X1	14,38	4	13
K0700.110	**K0700.610**	RH thread	M10	18,9	5	17
K0700.1103	**K0700.6103**	RH thread	M10X1	18,9	5	17
K0700.1104	**K0700.6104**	RH thread	M10X1,25	18,9	5	17
K0700.112	**K0700.612**	RH thread	M12	21,1	6	19
K0700.1123	**K0700.6123**	RH thread	M12X1,25	21,1	6	19
K0700.1124	**K0700.6124**	RH thread	M12X1,5	21,1	6	19
K0700.114	**K0700.614**	RH thread	M14	24,49	7	22
K0700.116	**K0700.616**	RH thread	M16	26,76	8	24
K0700.1163	**K0700.6163**	RH thread	M16x1,5	26,76	8	24
K0700.120	**K0700.620**	RH thread	M20	32,95	10	30
K0700.1203	**K0700.6203**	RH thread	M20X1,5	32,95	10	30
K0700.1223	**K0700.6223**	RH thread	M22x1,5	36,9	10	32
K0700.1244	**K0700.6244**	RH thread	M24	39,55	12	36
K0700.1243	**K0700.6243**	RH thread	M24x2	39,6	12	36
K0700.1061	-	LH thread	M6	11,05	3,2	10
K0700.1081	-	LH thread	M8	14,38	4	13
K0700.1101	-	LH thread	M10	18,9	5	17
K0700.11031	-	LH thread	M10X1	18,9	5	17
K0700.11041	-	LH thread	M10X1,25	18,9	5	17
K0700.1121	-	LH thread	M12	21,1	6	19
K0700.11231	-	LH thread	M12X1,25	21,1	6	19
K0700.11241	-	LH thread	M12X1,5	21,1	6	19
K0700.1161	-	LH thread	M16	26,76	8	24
K0700.12031	-	LH thread	M20X1,5	32,95	10	30
K0700.12231	-	LH thread	M22x1,5	36,9	10	32

Hexagon nuts

DIN 934/DIN EN ISO 4032/DIN EN 24032



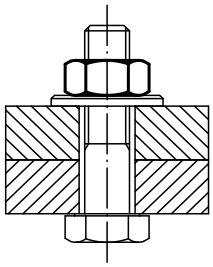
Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8, bright or electro zinc-plated.
Steel grade 10, bright or electro zinc-plated.
Steel grade 12, bright.
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K1145.10

Note:
The nut grade must always be the same or higher than the bolt grade, i.e. bolts with grade 8.8 are always paired with nuts grade 8 or higher, but never less.

On request:
DIN ISO 272 spanner sizes.



KIPP Hexagon nuts DIN 934/DIN EN ISO 4032/DIN EN 24032

Order No. stainless steel A2 Grade 70	Order No. stainless steel A4 Grade 70	D	E	H	SW
K1145.103	**K1145.603**	M3	6,01	2,4	5,5
K1145.104	**K1145.604**	M4	7,66	3,2	7
K1145.105	**K1145.605**	M5	8,79	4	8
K1145.106	**K1145.606**	M6	11,05	5	10
K1145.108	**K1145.608**	M8	14,38	6,5	13
K1145.110	**K1145.610**	M10	18,9	8	17
K1145.112	**K1145.612**	M12	21,1	10	19
K1145.116	**K1145.616**	M16	26,76	13	24
K1145.120	**K1145.620**	M20	32,95	16	30
K1145.130	**K1145.630**	M30	50,9	24	46
K1145.136	**K1145.636**	M36	60,8	29	55
K1145.114	**K1145.614**	M14	23,9	11	22
K1145.122	**K1145.622**	M22	35	18	32
K1145.124	**K1145.624**	M24	39,6	19	36
K1145.127	**K1145.627**	M27	45,2	22	41
K1145.133	**K1145.633**	M33	55,4	26	50

Hexagon nuts

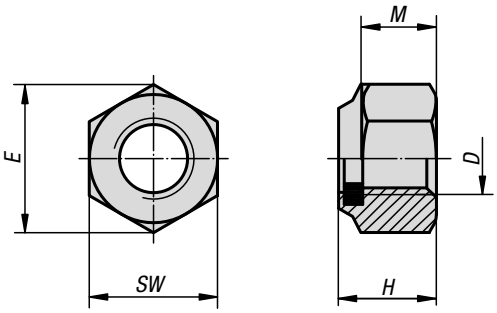
DIN 934/DIN EN ISO 4032/DIN EN 24032

KIPP Hexagon nuts DIN 934/DIN EN ISO 4032/DIN EN 24032

Order No. steel Grade 8	Order No. steel Grade 10	Order No. steel Grade 12	Surface finish body	D	E	H	SW
K1145.03	**K1145.403**	-	bright (black)	M3	6,01	2,4	5,5
K1145.04	**K1145.404**	-	bright (black)	M4	7,66	3,2	7
K1145.05	**K1145.405**	-	bright (black)	M5	8,79	4	8
K1145.06	**K1145.406**	**K1145.506**	bright (black)	M6	11,05	5	10
K1145.08	**K1145.408**	**K1145.508**	bright (black)	M8	14,38	6,5	13
K1145.10	**K1145.410**	**K1145.510**	bright (black)	M10	18,9	8	17
K1145.12	**K1145.412**	**K1145.512**	bright (black)	M12	21,1	10	19
K1145.14	**K1145.414**	-	bright (black)	M14	23,9	11	22
K1145.16	**K1145.416**	**K1145.516**	bright (black)	M16	26,76	13	24
K1145.20	**K1145.420**	**K1145.520**	bright (black)	M20	32,95	16	30
K1145.22	**K1145.422**	-	bright (black)	M22	35	18	32
K1145.24	**K1145.424**	**K1145.524**	bright (black)	M24	39,6	19	36
K1145.27	**K1145.427**	**K1145.527**	bright (black)	M27	45,2	22	41
K1145.30	**K1145.430**	**K1145.530**	bright (black)	M30	50,9	24	46
K1145.33	**K1145.433**	-	bright (black)	M33	55,4	26	50
K1145.36	**K1145.436**	**K1145.536**	bright (black)	M36	60,8	29	55
K1145.203	-	-	galvanised	M3	6,01	2,4	5,5
K1145.204	**K1145.304**	-	galvanised	M4	7,66	3,2	7
K1145.205	**K1145.305**	-	galvanised	M5	8,79	4	8
K1145.206	**K1145.306**	-	galvanised	M6	11,05	5	10
K1145.208	**K1145.308**	-	galvanised	M8	14,38	6,5	13
K1145.210	**K1145.310**	-	galvanised	M10	18,9	8	17
K1145.212	**K1145.312**	-	galvanised	M12	21,1	10	19
K1145.214	**K1145.314**	-	galvanised	M14	23,9	11	22
K1145.216	**K1145.316**	-	galvanised	M16	26,76	13	24
K1145.220	**K1145.320**	-	galvanised	M20	32,95	16	30
K1145.222	**K1145.322**	-	galvanised	M22	35	18	32
K1145.224	**K1145.324**	-	galvanised	M24	39,6	19	36
K1145.227	**K1145.327**	-	galvanised	M27	45,2	22	41
K1145.230	**K1145.330**	-	galvanised	M30	50,9	24	46
K1145.233	**K1145.333**	-	galvanised	M33	55,4	26	50
K1145.236	**K1145.336**	-	galvanised	M36	60,8	29	55

Hexagon nuts with polyamide thread lock

high type, DIN 982 / stainless steel similar to DIN 982



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel electro zinc-plated.
Stainless steel A2, bright.
Stainless steel A4, bright.

Sample order:
K1147.204

Note:
When screwing the nuts onto the thread, the thread lock is plastically and elastically deformed. The elastic deformation causes a radial frictional lock against the nuts being loosened.

The plastic thread lock is only effective when the nuts are fully screwed onto the male thread. The screw length must be selected so that at least two full threads protrude from the nut.

Due to the plastic deformation of the thread lock, these nuts should only be used once.

Temperature range:
-50°C to +120°C.

Hexagon nuts with polyamide thread lock

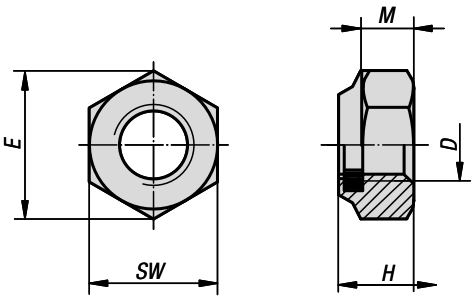
high type, DIN 982 / stainless steel similar to DIN 982

KIPP Hexagon nuts with polyamide thread lock, high type, DIN 982 / stainless steel similar to DIN 982

Order No.	Main material	Grade	DIN	D	E	H	M	SW
K1147.204	steel	6-8	DIN 982	M4	7,66	6	2,9	7
K1147.205	steel	8	DIN 982	M5	8,79	6,3	4,4	8
K1147.206	steel	8	DIN 982	M6	11,05	8	4,9	10
K1147.208	steel	8	DIN 982	M8	14,38	9,5	6,44	13
K1147.210	steel	8	DIN 982	M10	18,9	11,5	8,04	17
K1147.212	steel	8	DIN 982	M12	21,1	14	10,37	19
K1147.214	steel	8	DIN 982	M14	23,9	16	12,1	22
K1147.216	steel	8	DIN 982	M16	26,76	18	14,1	24
K1147.220	steel	8	DIN 982	M20	32,95	22	16,9	30
K1147.224	steel	8	DIN 982	M24	39,55	28	20,2	36
K1147.310	steel	10	DIN 982	M10	18,9	11,5	8,04	17
K1147.312	steel	10	DIN 982	M12	21,1	14	10,37	19
K1147.316	steel	10	DIN 982	M16	26,76	18	14,1	24
K1147.320	steel	10	DIN 982	M20	32,95	22	16,9	30
K1147.324	steel	10	DIN 982	M24	39,55	28	20,2	36
K1147.105	stainless steel A2	-	DIN 982	M5	8,79	6,3	4,4	8
K1147.106	stainless steel A2	-	DIN 982	M6	11,05	8	4,9	10
K1147.108	stainless steel A2	-	DIN 982	M8	14,38	9,5	6,44	13
K1147.110	stainless steel A2	-	DIN 982	M10	18,9	11,5	8,04	17
K1147.112	stainless steel A2	-	DIN 982	M12	21,1	14	10,37	19
K1147.116	stainless steel A2	-	DIN 982	M16	26,76	18	14,1	24
K1147.120	stainless steel A2	-	DIN 982	M20	32,95	22	16,9	30
K1147.605	stainless steel A4	-	DIN 982	M5	8,79	6,3	4,4	8
K1147.606	stainless steel A4	-	DIN 982	M6	11,05	8	4,9	10
K1147.608	stainless steel A4	-	DIN 982	M8	14,38	9,5	6,44	13
K1147.610	stainless steel A4	-	DIN 982	M10	18,9	11,5	8,04	17
K1147.612	stainless steel A4	-	DIN 982	M12	21,1	14	10,37	19
K1147.616	stainless steel A4	-	DIN 982	M16	26,76	18	14,1	24
K1147.620	stainless steel A4	-	DIN 982	M20	32,95	22	16,9	30

Hexagon nuts with polyamide thread lock

thin type, DIN 985



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel electro zinc-plated.
Stainless steel A2, bright.
Stainless steel A4, bright.

Sample order:
K1148.203

Note:
When screwing the nuts onto the thread, the thread lock is plastically and elastically deformed. The elastic deformation causes a radial frictional lock against the nuts being loosened.

The plastic thread lock is only effective when the nuts are fully screwed onto the male thread. The screw length must be selected so that at least two full threads protrude from the nut.

Due to the plastic deformation of the thread lock, these nuts should only be used once.

Temperature range:
-50°C to +120°C.

KIPP Hexagon nuts with polyamide thread lock, thin type DIN 985

Order No. steel Grade 6-8	Order No. steel Grade 8	Order No. steel Grade 10	D	E	H	M	SW
K1148.203	-	-	M3	6,08	4	2,4	5,5
K1148.204	-	-	M4	7,66	5	2,9	7
K1148.205	-	-	M5	8,79	5	3,2	8
-	**K1148.206**	**K1148.306**	M6	11,05	6	4	10
-	**K1148.208**	**K1148.308**	M8	14,38	8	5,5	13
-	**K1148.210**	**K1148.310**	M10	18,9	10	6,5	17
-	**K1148.212**	**K1148.312**	M12	21,1	12	8	19
-	**K1148.214**	**K1148.314**	M14	23,9	14	9,5	22
-	**K1148.216**	**K1148.316**	M16	26,76	16	10,5	24
-	**K1148.220**	**K1148.320**	M20	32,95	20	14	30
-	**K1148.224**	-	M24	39,55	24	15	36
-	**K1148.227**	**K1148.327**	M27	45,2	27	17	41
-	**K1148.230**	**K1148.330**	M30	50,85	30	19	46
-	-	**K1148.324**	M24	35	24	15	36

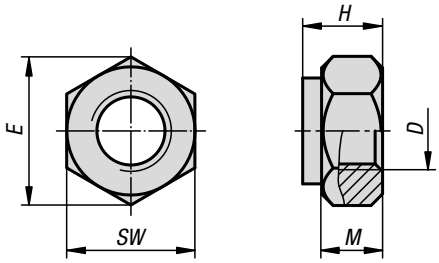
Hexagon nuts with polyamide thread lock

thin type, DIN 985

Order No.	Main material	Grade	D	E	H	M	SW
K1148.103	stainless steel A2	70	M3	6,08	4	2,4	5,5
K1148.104	stainless steel A2	70	M4	7,66	5	2,9	7
K1148.105	stainless steel A2	70	M5	8,79	5	3,2	8
K1148.106	stainless steel A2	70	M6	11,05	6	4	10
K1148.108	stainless steel A2	70	M8	14,38	8	5,5	13
K1148.110	stainless steel A2	70	M10	18,9	10	6,5	17
K1148.112	stainless steel A2	70	M12	21,1	12	8	19
K1148.114	stainless steel A2	70	M14	23,9	14	9,5	22
K1148.116	stainless steel A2	70	M16	26,76	16	10,5	24
K1148.120	stainless steel A2	70	M20	32,95	20	14	30
K1148.124	stainless steel A2	70	M24	39,55	24	15	36
K1148.127	stainless steel A2	70	M27	45,2	27	17	41
K1148.130	stainless steel A2	70	M30	50,85	30	19	46
K1148.603	stainless steel A4	70	M3	6,08	4	2,4	5,5
K1148.604	stainless steel A4	70	M4	7,66	5	2,9	7
K1148.605	stainless steel A4	70	M5	8,79	5	3,2	8
K1148.606	stainless steel A4	70	M6	11,05	6	4	10
K1148.608	stainless steel A4	70	M8	14,38	8	5,5	13
K1148.610	stainless steel A4	70	M10	18,9	10	6,5	17
K1148.612	stainless steel A4	70	M12	21,1	12	8	19
K1148.614	stainless steel A4	70	M14	23,9	14	9,5	22
K1148.616	stainless steel A4	70	M16	26,76	16	10,5	24
K1148.620	stainless steel A4	70	M20	32,95	20	14	30
K1148.624	stainless steel A4	70	M24	39,55	24	15	36
K1148.627	stainless steel A4	70	M27	45,2	27	17	41
K1148.630	stainless steel A4	70	M30	50,85	30	19	46

Hexagon nuts with thread lock

DIN 980



Material:
Steel or stainless steel A2.

Version:
Electro zinc-plated steel.
Bright stainless steel.

Sample order:
K1146.204

Note:
Hexagon nuts with thread lock DIN 980, Form V (all-metal nut, one piece).

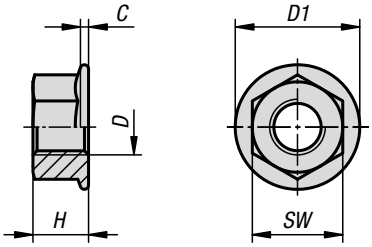
KIPP Hexagon nuts with thread lock DIN 980

Order No. steel Grade 8	Order No. steel Grade 10	D	E	H	M	SW
K1146.204	-	M4	7,66	4,2	2,2	7
K1146.205	-	M5	8,79	5,1	2,75	8
K1146.206	-	M6	11,05	6	3,3	10
K1146.208	**K1146.308**	M8	14,38	8	4,4	13
K1146.210	**K1146.310**	M10	18,9	10	5,5	17
K1146.212	**K1146.312**	M12	21,1	12	6,6	19
K1146.214	**K1146.314**	M14	23,9	14	7,7	22
K1146.216	**K1146.316**	M16	26,76	16	8,8	24
K1146.220	**K1146.320**	M20	32,95	20	11	30
K1146.224	**K1146.324**	M24	39,55/35	24	13,2	36
K1146.227	**K1146.327**	M27	45,2	27	14,8	41
K1146.230	**K1146.330**	M30	50,85	30	16,5	46

Order No.	Main material	Grade	D	E	H	M	SW
K1146.104	stainless steel A2	70	M4	7,66	4,2	2,2	7
K1146.105	stainless steel A2	70	M5	8,79	5,1	2,75	8
K1146.106	stainless steel A2	70	M6	11,05	6	3,3	10
K1146.108	stainless steel A2	70	M8	14,38	8	4,4	13
K1146.110	stainless steel A2	70	M10	18,9	10	5,5	17
K1146.112	stainless steel A2	70	M12	21,1	12	6,6	19
K1146.114	stainless steel A2	70	M14	23,9	14	7,7	22
K1146.116	stainless steel A2	70	M16	26,76	16	8,8	24
K1146.120	stainless steel A2	70	M20	32,95	20	11	30
K1146.124	stainless steel A2	70	M24	39,55	24	13,2	36

Hexagon nuts with flange

EN 1661



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8, electro zinc-plated.
Stainless steel A2, bright.
Stainless steel A4, bright.

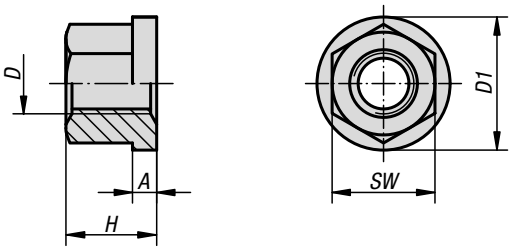
Sample order:
K1797.605

KIPP Hexagon nuts with flange EN 1661

Order No. steel	Order No. stainless steel A2	Order No. stainless steel A4	D	D1	C	H	SW
K1797.204	**K1797.104**	-	M4	10	0,9	4,65	7
K1797.205	**K1797.105**	**K1797.605**	M5	11,8	1	5	8
K1797.206	**K1797.106**	**K1797.606**	M6	14,2	1,1	6	10
K1797.208	**K1797.108**	**K1797.608**	M8	17,9	1,2	8	13
K1797.210	**K1797.110**	**K1797.610**	M10	21,8	1,5	10	15
K1797.212	**K1797.112**	**K1797.612**	M12	26	1,8	12	18
K1797.216	-	-	M16	34,5	2,4	16	24
K1797.220	-	-	M20	42,8	3	20	30

Hexagon nuts with collar

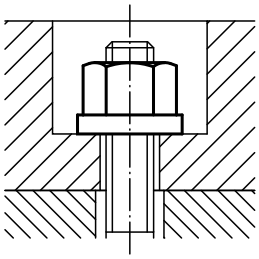
height 1.5xD, DIN 6331 enhanced



Material:
High-carbon steel, stainless steel A2 or A4.

Version:
Steel grade 10, bright (blackened).
Stainless steel bright.

Sample order:
K0701.16

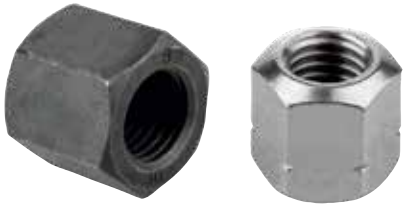


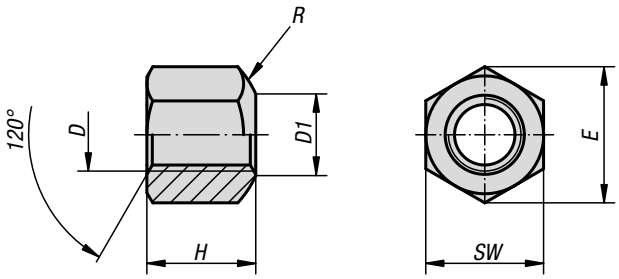
KIPP Hexagon nuts with collar height 1.5xD, DIN 6331 enhanced

Order No. high carbon steel	Order No. stainless steel A2	Order No. stainless steel A4	D	H = 1,5 x D	A	D1	SW
K0701.05	-	-	M5	7,5	2	12	9
K0701.06	**K0701.806**	-	M6	9	3	14	10
K0701.08	**K0701.808**	**K0701.908**	M8	12	3,5	18	13
K0701.10	**K0701.810**	-	M10	15	4	22	16
K0701.101	**K0701.811**	**K0701.910**	M10	15	4	22	17
K0701.12	**K0701.812**	-	M12	18	4	25	18
K0701.121	**K0701.8121**	**K0701.912**	M12	18	4	25	19
K0701.14	-	-	M14	21	4,5	28	22
K0701.16	**K0701.816**	**K0701.916**	M16	24	5	31	24
K0701.18	-	-	M18	27	5	34	27
K0701.20	**K0701.820**	**K0701.920**	M20	30	6	37	30
K0701.22	-	-	M22	33	6	40	34
K0701.24	-	-	M24	36	6	45	36
K0701.30	-	-	M30	45	8	58	46
K0701.36	-	-	M36	54	10	68	55

Hexagon nuts

height 1.5xD, DIN 6330 enhanced



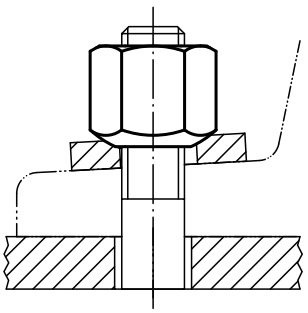


Material:
Carbon steel or stainless steel A2.

Version:
Steel grade 10, bright (blackened).
Stainless steel A2-70, bright

Sample order:
K0702.12

Note:
These hexagon nuts can be used with the conical seats K0729, Form D and G.

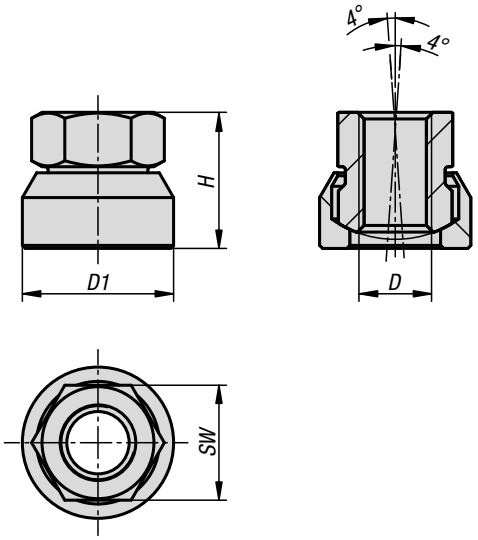


KIPP Hexagon nuts height 1.5xD, DIN 6330 enhanced

Order No.	Main material	D	H = 1,5 x D	D1	SW	E	R
K0702.05	high carbon steel	M5	7,5	6,5	9	10,4	7
K0702.06	high carbon steel	M6	9	7	10	11,5	9
K0702.08	high carbon steel	M8	12	9	13	15	11
K0702.10	high carbon steel	M10	15	11,5	16	18,4	15
K0702.101	high carbon steel	M10	15	11,5	17	19,6	15
K0702.12	high carbon steel	M12	18	14	18	20,7	17
K0702.121	high carbon steel	M12	18	14	19	21,9	17
K0702.14	high carbon steel	M14	21	16	22	25,4	20
K0702.16	high carbon steel	M16	24	18	24	27,7	22
K0702.18	high carbon steel	M18	27	20	27	31,2	24,5
K0702.20	high carbon steel	M20	30	22	30	34,6	27
K0702.22	high carbon steel	M22	33	24	32	36,9	29
K0702.24	high carbon steel	M24	36	26	36	41,6	32
K0702.30	high carbon steel	M30	45	32	46	53,1	41
K0702.36	high carbon steel	M36	54	38	55	63,5	50
K0702.806	stainless steel A2	M6	9	7	10	11,5	9
K0702.808	stainless steel A2	M8	12	9	13	15	11
K0702.810	stainless steel A2	M10	15	11,5	16	18,4	15
K0702.811	stainless steel A2	M10	15	11,5	17	19,6	15
K0702.812	stainless steel A2	M12	18	14	18	20,7	17
K0702.816	stainless steel A2	M16	24	18	24	27,7	22
K0702.820	stainless steel A2	M20	30	22	30	34,6	27

Hexagon nuts

with spherical seat

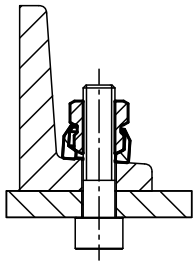


Material:
Carbon steel or stainless steel A2.

Version:
Steel version:
tempered to 900 N/mm², black oxidised.
Stainless steel version:
tempered to 900 N/mm², bright.

Sample order:
K0794.12

Note:
Captive components (one-piece).

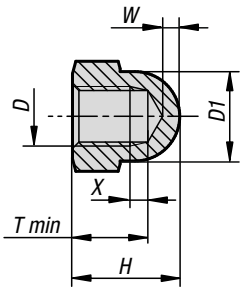


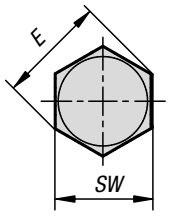
KIPP Hexagon nuts with spherical seat

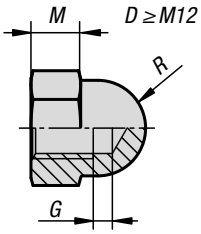
Order No.	Main material	D	D1	H	SW
K0794.08	steel	M8	18	15	13
K0794.10	steel	M10	22	18,5	17
K0794.12	steel	M12	25	22,5	19
K0794.16	steel	M16	31	29	24
K0794.808	stainless steel A2	M8	18	15	13
K0794.810	stainless steel A2	M10	22	18,5	17
K0794.812	stainless steel A2	M12	25	22,5	19
K0794.816	stainless steel A2	M16	31	29	24

Hex cap nut, high style DIN 1587

steel or stainless steel







Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 6, bright or electro zinc-plated
Stainless steel A2-70, bright
Stainless steel A4-70, bright

Sample order:
K1800.112

Note:
Cap nuts are mainly used for decorative screw connections. The cap nut covers and protects the thread end. They are also used to protect against sharp edges on machines, equipment, fitness equipment and wherever people or objects could be injured or damaged by an exposed thread end.

Technical data:
From size D = M12 the cap nuts have a DIN 76-1 Form D thread undercut.

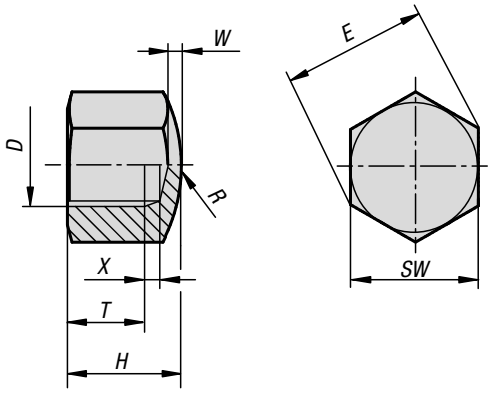
KIPP Hex cap nut, high style DIN 1587 steel or stainless steel

Order No. steel bright	Order No. steel galvanised	D	D1	T min.	H	M	SW	E	R	W	X	G
K1800.104	**K1800.204**	M4	6,5	5,26	8	3,2	7	7,66	3,25	2	1,4	-
K1800.105	**K1800.205**	M5	7,5	7,21	10	4	8	8,79	3,75	2	1,6	-
K1800.106	**K1800.206**	M6	9,5	7,71	12	5	10	11,05	4,75	2	2	-
K1800.108	**K1800.208**	M8	12,5	10,65	15	6,5	13	14,38	6,25	2	2,4	-
K1800.110	**K1800.210**	M10	15	12,65	18	8	17	18,9	7,5	2	3	-
K1800.112	**K1800.212**	M12	17	15,65	22	10	19	21,1	8,5	3	-	6,4
K1800.114	**K1800.214**	M14	20	17,65	25	11	22	23,9	10	4	-	7,3
K1800.116	**K1800.216**	M16	23	20,58	28	13	24	26,76	11,5	4	-	7,3
K1800.120	**K1800.220**	M20	28	25,58	34	16	30	32,95	14	5	-	9,3
K1800.124	**K1800.224**	M24	34	30,5	42	19	36	39,6	17	6	-	10,7
-	**K1800.230**	M30	44	39	50	24	46	50,9	22	7	-	12,7

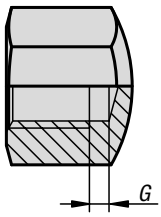
Order No. stainless steel A2	Order No. stainless steel A4	D	D1	T min.	H	M	SW	E	R	W	X	G
K1800.304	**K1800.404**	M4	6,5	5,26	8	3,2	7	7,66	3,25	2	1,4	-
K1800.305	**K1800.405**	M5	7,5	7,21	10	4	8	8,79	3,75	2	1,6	-
K1800.306	**K1800.406**	M6	9,5	7,71	12	5	10	11,05	4,75	2	2	-
K1800.308	**K1800.408**	M8	12,5	10,65	15	6,5	13	14,38	6,25	2	2,4	-
K1800.310	**K1800.410**	M10	15	12,65	18	8	17	18,9	7,5	2	3	-
K1800.312	**K1800.412**	M12	17	15,65	22	10	19	21,1	8,5	3	-	6,4
K1800.314	**K1800.414**	M14	20	17,65	25	11	22	23,9	10	4	-	7,3
K1800.316	**K1800.416**	M16	23	20,58	28	13	24	26,76	11,5	4	-	7,3
K1800.320	**K1800.420**	M20	28	25,58	34	16	30	32,95	14	5	-	9,3
K1800.324	**K1800.424**	M24	34	30,5	42	19	36	39,6	17	6	-	10,7
K1800.330	-	M30	44	39	50	24	46	50,9	22	7	-	12,7

Hex cap nut, low style DIN 917

steel or stainless steel



D ≥ M10



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 6, bright or electro zinc-plated
Stainless steel A2-70, bright
Stainless steel A4-70, bright

Sample order:
K1801.112

Note:
Cap nuts are mainly used for decorative screw connections. The cap nut covers and protects the thread end. They are also used to protect against sharp edges on machines, equipment, fitness equipment and wherever people or objects could be injured or damaged by an exposed thread end.

Technical data:
From size D = M10 the cap nuts have a DIN 76-1 Form D thread undercut.

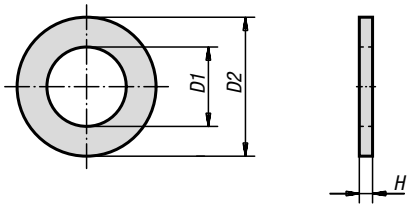
KIPP Hex cap nut, low style DIN 917 steel or stainless steel

Order No. steel bright	Order No. steel galvanised	D	T min.	H	SW	E	R	W	X	G
K1801.104	**K1801.204**	M4	4,16	5,5	7	7,66	8	1	1,05	-
K1801.105	**K1801.205**	M5	4,96	7	8	8,79	10	1	1,2	-
K1801.106	**K1801.206**	M6	6,71	9	10	11,05	12	1,5	1,5	-
K1801.108	**K1801.208**	M8	9,21	12	13	14,38	15	2	1,87	-
K1801.110	**K1801.210**	M10	10,65	14	17	18,9	20	2	-	2,25
K1801.112	**K1801.212**	M12	13,15	16	19	21,1	25	2	-	6,4
K1801.116	**K1801.216**	M16	16,65	20	24	26,76	30	2	-	7,3
K1801.120	**K1801.220**	M20	20,58	25	30	32,95	35	2,5	-	9,3
K1801.124	**K1801.224**	M24	23,58	30	36	39,6	40	3	-	10,7
K1801.130	**K1801.230**	M30	27,58	34	46	50,9	60	3	-	12,7

Order No. stainless steel A2	Order No. stainless steel A4	D	T min.	H	SW	E	R	W	X	G
K1801.304	**K1801.404**	M4	4,16	5,5	7	7,66	8	1	1,05	-
K1801.305	**K1801.405**	M5	4,96	7	8	8,79	10	1	1,2	-
K1801.306	**K1801.406**	M6	6,71	9	10	11,05	12	1,5	1,5	-
K1801.308	**K1801.408**	M8	9,21	12	13	14,38	15	2	1,87	-
K1801.310	**K1801.410**	M10	10,65	14	17	18,9	20	2	-	2,25
K1801.312	**K1801.412**	M12	13,15	16	19	21,1	25	2	-	6,4
K1801.316	**K1801.416**	M16	16,65	20	24	26,76	30	2	-	7,3
K1801.320	**K1801.420**	M20	20,58	25	30	32,95	35	2,5	-	9,3
K1801.324	-	M24	23,58	30	36	39,6	40	3	-	10,7
K1801.330	-	M30	27,58	34	46	50,9	60	3	-	12,7

Washers

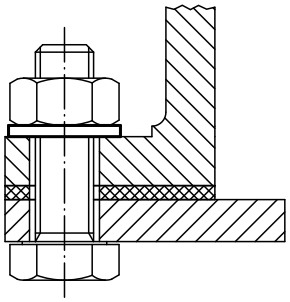
medium, DIN EN ISO 7089 A



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel, bright.
Stainless steel A2, bright.
Stainless steel A4, bright.

Sample order:
K0868.10

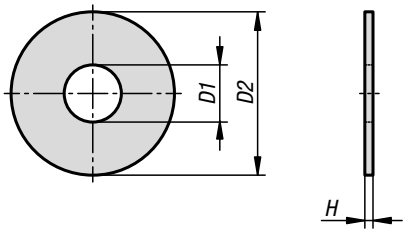


KIPP Medium washers DIN EN ISO 7089 A

Order No. steel	Order No. stainless steel A2	Order No. stainless steel A4	for screws	D1	D2	H
K0868.03	**K0868.103**	**K0868.603**	M3	3,2	7	0,5
K0868.04	**K0868.104**	**K0868.604**	M4	4,3	9	0,8
K0868.05	**K0868.105**	**K0868.605**	M5	5,3	10	1
K0868.06	**K0868.106**	**K0868.606**	M6	6,4	12	1,6
K0868.08	**K0868.108**	**K0868.608**	M8	8,4	16	1,6
K0868.10	**K0868.110**	**K0868.610**	M10	10,5	20	2
K0868.12	**K0868.112**	**K0868.612**	M12	13	24	2,5
K0868.14	**K0868.114**	**K0868.614**	M14	15	28	2,5
K0868.16	**K0868.116**	**K0868.616**	M16	17	30	3
K0868.20	**K0868.120**	**K0868.620**	M20	21	37	3
K0868.24	**K0868.124**	**K0868.624**	M24	25	44	4
K0868.30	**K0868.130**	**K0868.630**	M30	31	56	4
K0868.36	**K0868.136**	**K0868.636**	M36	37	66	5

Washers with large OD

DIN 9021



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel electro zinc-plated, hardness
D1 ≤ 14 = 140 HV.
D1 > 17 = 100 HV.
Stainless steel A2, bright.
Stainless steel A4, bright.

Sample order:
K1150.03

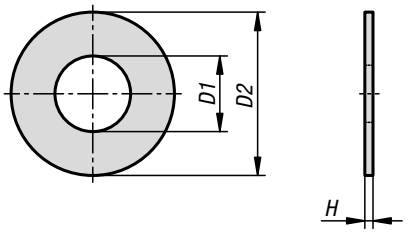
Note:
The pulleys have an OD of D2 = ~3 × D1.

KIPP Washers with large OD DIN 9021

Order No. steel	Order No. stainless steel A2	Order No. stainless steel A4	for screws	D1	D2	H
K1150.03	**K1150.103**	**K1150.603**	M3	3,2	9	0,8
K1150.04	**K1150.104**	**K1150.604**	M4	4,3	12	1
K1150.05	**K1150.105**	**K1150.605**	M5	5,3	15	1,2
K1150.06	**K1150.106**	**K1150.606**	M6	6,4	18	1,6
K1150.08	**K1150.108**	**K1150.608**	M8	8,4	24	2
K1150.10	**K1150.110**	**K1150.610**	M10	10,5	30	2,5
K1150.12	**K1150.112**	**K1150.612**	M12	13	37	3
K1150.14	**K1150.114**	**K1150.614**	M14	15	44	3
K1150.16	**K1150.116**	**K1150.616**	M16	17	50	3
K1150.18	**K1150.118**	**K1150.618**	M18	20	56	4
K1150.20	**K1150.120**	**K1150.620**	M20	22	60	4
K1150.24	**K1150.124**	**K1150.624**	M24	26	72	5
K1150.30	-	-	M30	33	92	6

Shim washers

DIN 988



Material:
Steel.

Version:
Bright.

Sample order:
K1151.0306010
(include dimension H e.g. 010 for H = 0,1 mm)

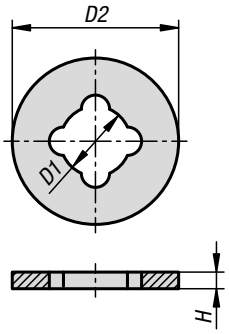
Note:
With shim washers, an existing axial backlash can be significantly reduced. They are available with a thicknesses from 0.1 mm. Any thicknesses can made by combining several shim washers.

KIPP Shim washers DIN 988

Order No.	Main material	D1	D2	H
K1151.0306* **	steel	3	6	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.0408* **	steel	4	8	0,1/0,15/0,2/0,3/0,5/1
K1151.0510* **	steel	5	10	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.0612* **	steel	6	12	0,1/0,2/0,25/0,3/0,5/1
K1151.0713* **	steel	7	13	0,1/0,2/0,3/0,5/1
K1151.0814* **	steel	8	14	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.0915* **	steel	9	15	0,1/0,15/0,2/0,3/0,5/1
K1151.1016* **	steel	10	16	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.1117* **	steel	11	17	0,1/0,2/0,25/0,3/0,5/1
K1151.1218* **	steel	12	18	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.1319* **	steel	13	19	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.1420* **	steel	14	20	0,1/0,15/0,2/0,25/0,3/0,5/1
K1151.1521* **	steel	15	21	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
K1151.1622* **	steel	16	22	0,15/0,2/0,25/0,3/0,5/1/1,2
K1151.1724* **	steel	17	24	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
K1151.1825* **	steel	18	25	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
K1151.1926* **	steel	19	26	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
K1151.2028* **	steel	20	28	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
K1151.2230* **	steel	22	30	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
K1151.2535* **	steel	25	35	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
K1151.2637* **	steel	26	37	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
K1151.2840* **	steel	28	40	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
K1151.3042* **	steel	30	42	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.3245* **	steel	32	45	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.3545* **	steel	35	45	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.3645* **	steel	36	45	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.3747* **	steel	37	47	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.4050* **	steel	40	50	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.4252* **	steel	42	52	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.4555* **	steel	45	55	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.4860* **	steel	48	60	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
K1151.5062* **	steel	50	62	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2

Washers plastic

captive



Material:
Polyamide.

Version:
white.

Sample order:
K1526.05

Note:
The washers are vibration dampers and protect the screw connection during e.g. pre-assembly.
The washers also protect the surface from damage.
Only suitable for threads with undercut i.e. ring bolts

Application:
Press or twist the washers over the thread.

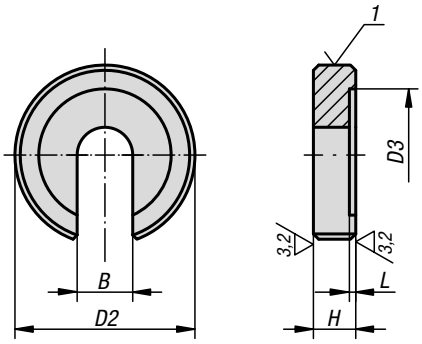
Attention:
When shim washers with rings bolts are used, the forces specified for the ring bolts cannot be guaranteed.

KIPP Captive washers, plastic

Order No.	D1	D2	G	H
K1526.05	4,3	10	M5	0,5
K1526.06	5,1	12	M6	0,5
K1526.08	6,2	14	M8	0,5
K1526.10	8,4	20	M10	1
K1526.12	9,8	20	M12	1
K1526.16	13,5	28	M16	1

C-washers

DIN 6372 enhanced

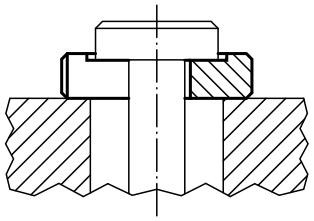


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0730.12

Drawing reference:
1) cross knurl



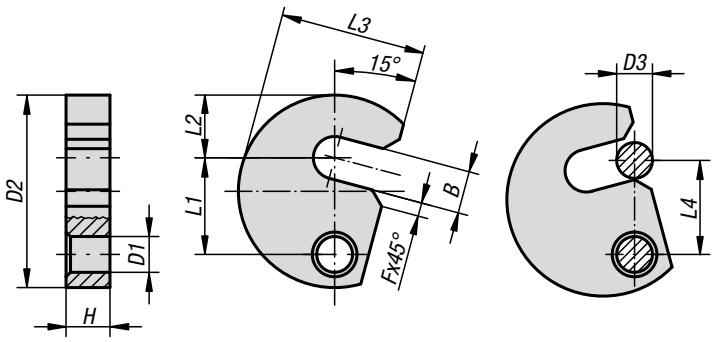
KIPP C-washers for fixtures DIN 6372 enhanced

Order No.	B	D2	D3	H	L
K0730.05	5,25	17	12	5	0,75
K0730.06	6,4	22	16	6	0,8
K0730.08	8,4	28	21	7	1
K0730.10	10,5	34	25	8	1,2
K0730.12	13	40	30	9	1,8
K0730.14	14,5	48	33	12	1,8
K0730.16	17	56	37	12	1,8
K0730.20	21	64	45	14	2
K0730.24	25	75	52	16	2
K0730.30	31	90	65	18	2
K0730.36	37	100	75	20	2,5

K0703

C-washers captive

DIN 6371

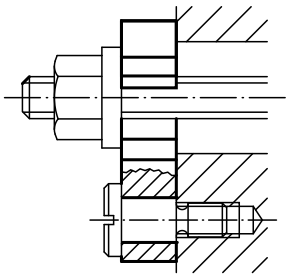


Material:
Carbon steel 1.0760.

Version:
Nitrided and black oxidised.

Sample order:
K0703.12

Note:
K0703.14 is not standard. Suitable shoulder screws see K0704.



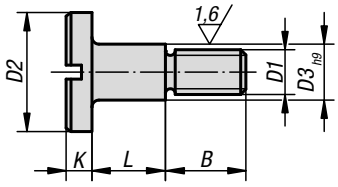
KIPP C-washers captive DIN 6371

Order No.	B	D1	D2	D3	F	H	L1	L2	L3	L4
K0703.06	7,5	9	38	6	3	9,8	19,6	11	29	19
K0703.08	9,5	9	43	8	3	9,8	21,6	14	32,5	21
K0703.10	11,5	9	48	10	3	9,8	23,6	17	36,5	23
K0703.12	13,5	11	61	12	3	11,8	29,6	22	45	29
K0703.14	15,5	11	65	14	3	11,8	31,6	23	49	31
K0703.16	17,5	11	68	16	3	11,8	33,6	25	50	33
K0703.20	21,5	11	74	20	4	11,8	36,6	28	55	36

K0704

Shoulder screws with slotted flat head

DIN 923



Material:
Steel.

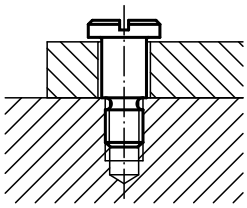
Version:
Black oxidised, grade 5.8.

Sample order:
K0704.08

Note:
For use with captive C-washers K0703.

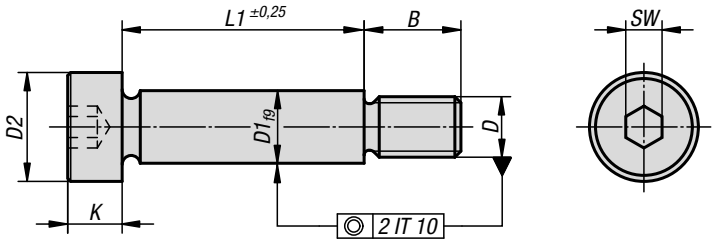
KIPP Shoulder screws with slotted flat head DIN 923

Order No.	D1	D2	D3	L	B	K
K0704.06	M6	13	8	10 +0,15/+0,07	9	3,1
K0704.08	M8	16	10	12 +0,2/+0,1	11	3,8
K0704.10	M10	20	13	16 +0,2/+0,1	13,5	4,6



Shoulder screws

similar to DIN ISO 7379



Material:
Steel or stainless steel A2.

Version:
Grade 12.9. Shaft OD ground and bright.
Bright stainless steel or tempered steel.

Sample order:
K0705.06X20 (include length L1)

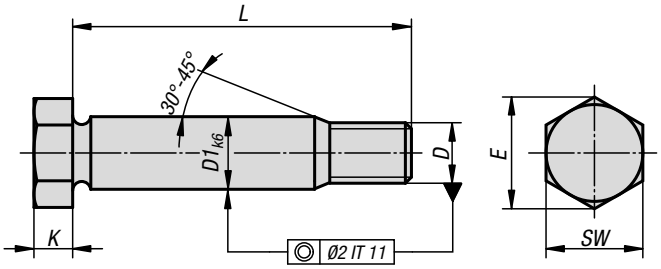
Note:
Hexagon socket head shoulder screws are precision construction elements for many applications. As they can simplify complicated constructions, they are frequently chosen as the most cost-effective solution. Shoulder screws provide the decisive rationalising effect required today.

KIPP Shoulder screws similar to ISO 7379

Order No.	Main material	D1	D	D2	B	K	SW	L1
K0705.04X	steel	4	M3	7	7	3	2	6/8/10/12/16/20
K0705.05X	steel	5	M4	9	8	4	2,5	8/10/16/20/30/40
K0705.06X	steel	6	M5	10	9,5	4,5	3	16/20/25/30/40/50/60
K0705.08X	steel	8	M6	13	11	5,5	4	16/20/25/30/40/50/60
K0705.10X	steel	10	M8	16	13	7	5	16/20/25/30/40/50/60/70/80
K0705.12X	steel	12	M10	18	16	9	6	16/20/25/30/40/50/60/70/80/90/100
K0705.16X	steel	16	M12	24	18	11	8	30/40/50/60/70/80/90/100/120
K0705.20X	steel	20	M16	30	22	14	10	30/40/50/60/70/80/90/100/120
K0705.104X	stainless steel A2	4	M3	7	7	3	2	6/8/10/16/20
K0705.105X	stainless steel A2	5	M4	9	8	4	2,5	8/10/16/20/30/40
K0705.106X	stainless steel A2	6	M5	10	9,5	4,5	3	16/20/25/30/40/50/60
K0705.108X	stainless steel A2	8	M6	13	11	5,5	4	16/20/25/30/40/50/60
K0705.110X	stainless steel A2	10	M8	16	13	7	5	16/20/25/30/40/50/60/70/80
K0705.112X	stainless steel A2	12	M10	18	16	9	6	16/20/25/30/40/50/60/70/80/90/100
K0705.116X	stainless steel A2	16	M12	24	18	11	8	30/40/50/60/70/80/90/100/120
K0705.120X	stainless steel A2	20	M16	30	22	14	10	30/40/50/60/70/80/90/100/120

Shoulder screws

with hexagon head similar to DIN 609



Material:
Steel.

Version:
Grade 8.8, black oxidised.
Shaft OD ground.

Sample order:
K0706.09X40 (include length L)

Note:
Shoulder screws are used if the screw connection is subjected to transverse forces or if workpieces must be positioned relative to each other.

KIPP Shoulder screws with hexagon head, similar to DIN 609

Order No.	D1	D	E	K	L	SW
K0706.09X25	9	M8	14,38	5,3	25	13
K0706.09X30	9	M8	14,38	5,3	30	13
K0706.09X35	9	M8	14,38	5,3	35	13
K0706.09X40	9	M8	14,38	5,3	40	13
K0706.09X45	9	M8	14,38	5,3	45	13
K0706.09X50	9	M8	14,38	5,3	50	13
K0706.09X60	9	M8	14,38	5,3	60	13
K0706.11X30	11	M10	17,77	6,4	30	17
K0706.11X35	11	M10	17,77	6,4	35	17
K0706.11X40	11	M10	17,77	6,4	40	17
K0706.11X45	11	M10	17,77	6,4	45	17
K0706.11X50	11	M10	17,77	6,4	50	17
K0706.11X60	11	M10	17,77	6,4	60	17
K0706.11X70	11	M10	17,77	6,4	70	17
K0706.11X80	11	M10	17,77	6,4	80	17
K0706.11X90	11	M10	17,77	6,4	90	17
K0706.11X100	11	M10	17,77	6,4	100	17

Shoulder screws

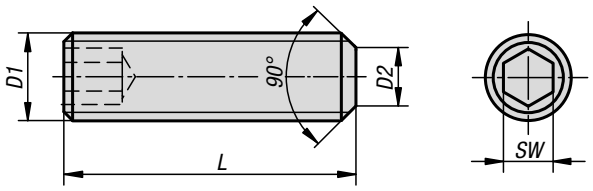
with hexagon head similar to DIN 609

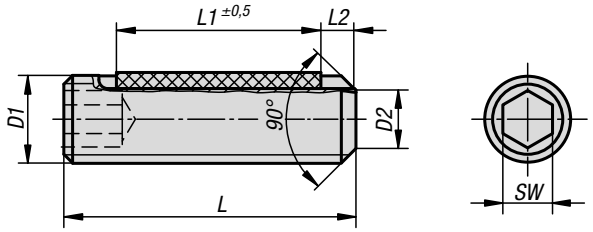
KIPP Shoulder screws with hexagon head, similar to DIN 609

Order No.	D1	D	E	K	L	SW
K0706.13X35	13	M12	19,85	7,5	35	19
K0706.13X40	13	M12	19,85	7,5	40	19
K0706.13X45	13	M12	19,85	7,5	45	19
K0706.13X50	13	M12	19,85	7,5	50	19
K0706.13X60	13	M12	19,85	7,5	60	19
K0706.13X70	13	M12	19,85	7,5	70	19
K0706.13X80	13	M12	19,85	7,5	80	19
K0706.13X90	13	M12	19,85	7,5	90	19
K0706.13X100	13	M12	19,85	7,5	100	19
K0706.17X40	17	M16	26,17	10	40	24
K0706.17X45	17	M16	26,17	10	45	24
K0706.17X50	17	M16	26,17	10	50	24
K0706.17X60	17	M16	26,17	10	60	24
K0706.17X70	17	M16	26,17	10	70	24
K0706.17X80	17	M16	26,17	10	80	24
K0706.17X90	17	M16	26,17	10	90	24
K0706.17X100	17	M16	26,17	10	100	24
K0706.21X50	21	M20	32,95	12,5	50	30
K0706.21X60	21	M20	32,95	12,5	60	30
K0706.21X70	21	M20	32,95	12,5	70	30
K0706.21X80	21	M20	32,95	12,5	80	30
K0706.21X90	21	M20	32,95	12,5	90	30
K0706.21X100	21	M20	32,95	12,5	100	30
K0706.21X120	21	M20	32,95	12,5	120	30
K0706.25X60	25	M24	39,35	15	60	36
K0706.25X70	25	M24	39,35	15	70	36
K0706.25X80	25	M24	39,35	15	80	36
K0706.25X90	25	M24	39,35	15	90	36
K0706.25X100	25	M24	39,35	15	100	36
K0706.25X120	25	M24	39,35	15	120	36

Grub screws with flat point

hexagon socket DIN EN ISO 4026





Material:
Steel or stainless steel (A 2).

Thread lock nylon.

Version:
Steel class 45 H, black.
Stainless steel A2-70, bright.

Sample order:
K0707.110X20 (include length L)

Drawing reference:
L2 = approx. 2x thread pitch

KIPP Grub screws with flat point, hexagon socket DIN EN ISO 4026

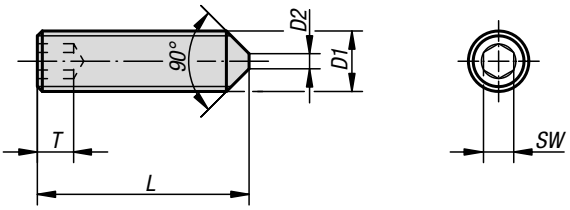
Order No.	Main material	D1	D2	L	SW
K0707.03X	steel	M3	2	5/6/8/10/12/16/20	1,5
K0707.04X	steel	M4	2,5	5/6/8/10/12/16/20/25	2
K0707.05X	steel	M5	3,5	5/6/8/10/12/16/20/25/30	2,5
K0707.06X	steel	M6	4	6/8/10/12/16/20/25/30/35/40/45/50/60	3
K0707.08X	steel	M8	5,5	8/10/12/16/20/25/30/35/40/45/50/60/70/80	4
K0707.10X	steel	M10	7	10/12/16/20/25/30/35/40/45/50/60/70/80/90/100	5
K0707.103X	stainless steel	M3	2	5/6/8/10/12	1,5
K0707.104X	stainless steel	M4	2,5	5/6/8/10/12/16/20	2
K0707.105X	stainless steel	M5	3,5	5/6/8/10/12/16/20/25/30	2,5
K0707.106X	stainless steel	M6	4	6/8/10/12/16/20/25/30/35/40	3
K0707.108X	stainless steel	M8	5,5	8/10/12/16/20/25/30/35/40/45/50	4
K0707.110X	stainless steel	M10	7	10/12/16/20/25/30/35/40/45/50	5

KIPP Grub screws with hex socket and flat point, DIN EN ISO 4026, with thread lock

Order No.	Version 2	Main material	D1	D2	L	L1	SW
K0707.203X	with thread lock	steel	M3	2	5/6/8/10/12	2/3/4/4/4	1,5
K0707.204X	with thread lock	steel	M4	2,5	5/6/8/10/12/16	2/2,5/3,5/5/5/5	2
K0707.205X	with thread lock	steel	M5	3,5	5/6/8/10/12/16	2/3/3,5/3,5/5/6	2,5
K0707.206X	with thread lock	steel	M6	4	6/8/10/12/16/20	2,5/3/3,5/5/7/7	3
K0707.208X	with thread lock	steel	M8	5,5	8/10/12/16/20	3/3,5/5/8/8	4
K0707.210X	with thread lock	steel	M10	7	10/12/16/20	5/5/9/9	5
K0707.303X	with thread lock	stainless steel	M3	2	5/6/8/10/12	2/3/4/4/4	1,5
K0707.304X	with thread lock	stainless steel	M4	2,5	5/6/8/10/12/16	2/2,5/3,5/5/5/5	2
K0707.305X	with thread lock	stainless steel	M5	3,5	5/6/8/10/12/16	2/3/3,5/3,5/5/6	2,5
K0707.306X	with thread lock	stainless steel	M6	4	6/8/10/12/16/20	2,5/3/3,5/5/7/7	3
K0707.308X	with thread lock	stainless steel	M8	5,5	8/10/12/16/20	3/3,5/5/8/8	4
K0707.310X	with thread lock	stainless steel	M10	7	10/12/16/20	5/5/9/9	5

Grub screw with hexagon socket and pointed end

DIN EN ISO 4027

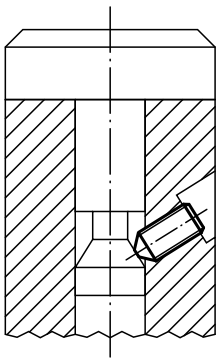


Material:
Steel or stainless steel A2.

Version:
Steel class 45 H, black.
Stainless steel A2-70, bright.

Sample order:
K0797.110X12 (include length L)

Note:
By M4x5, M5x5, M5x6, M6x6, M8x8, M10x10 the point angle is 120°.

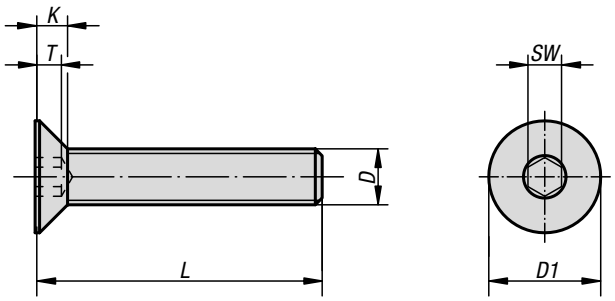


KIPP Grub screw with hexagon socket and pointed end, DIN EN ISO 4027

Order No. steel	Order No. stainless steel	D1	D2	L	T	SW
K0797.03X	**K0797.103X**	M3	-	5/6/8/10/12/16/20	1,2	1,5
K0797.04X	**K0797.104X**	M4	-	5/6/8/10/12/16/20/25	1,5	2
K0797.05X	**K0797.105X**	M5	-	5/6/8/10/12/14/16/20/25/30	2	2,5
K0797.06X	**K0797.106X**	M6	1,5	6/8/10/12/16/20/25/30/35/40/45/50/60	2	3
K0797.08X	**K0797.108X**	M8	2	8/10/12/14/16/20/25/30/35/40/45/50/60	3	4
K0797.10X	**K0797.110X**	M10	2,5	10/12/16/20/25/30/35/40/45/50/60/70/80	4	5

Screws with countersunk head

hexagon socket DIN EN ISO 10642



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8.8, bright (black) or electro zinc-plated.
Steel grade 10.9, bright (black).
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K0708.106X20 (include length L)

Screws with countersunk head

hexagon socket DIN EN ISO 10642

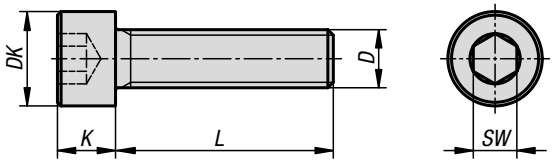
KIPP Screws with countersunk head, hexagon socket DIN 7991

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Surface finish body	D	L	D1	K	T	SW
K0708.04X	**K0708.304X**	bright (black)	M4	10/12/16/20/25	8	2,3	1,8	2,5
K0708.05X	**K0708.305X**	bright (black)	M5	10/12/16/20/25/30	10	2,8	2,3	3
K0708.06X	**K0708.306X**	bright (black)	M6	10/12/16/20/25/30/35/40/45/50/60	12	3,3	2,5	4
K0708.08X	**K0708.308X**	bright (black)	M8	16/20/25/30/35/40/45/50/60	16	4,4	3,5	5
K0708.10X	**K0708.310X**	bright (black)	M10	16/20/25/30/35/40/45/50/60/70	20	5,5	4,4	6
K0708.12X	**K0708.312X**	bright (black)	M12	20/25/30/35/40/45/50/60/70/80	24	6,5	4,6	8
K0708.16X	**K0708.316X**	bright (black)	M16	30/35/40/45/50/60/70/80	30	7,5	5,3	10
K0708.404X	-	galvanised	M4	10/12/16/20/25	8	2,3	1,8	2,5
K0708.405X	-	galvanised	M5	10/12/16/20/25/30	10	2,8	2,3	3
K0708.406X	-	galvanised	M6	10/12/16/20/25/30/35/40/45/50/60	12	3,3	2,5	4
K0708.408X	-	galvanised	M8	16/20/25/30/35/40/45/50/60	16	4,4	3,5	5
K0708.410X	-	galvanised	M10	16/20/25/30/35/40/45/50/60/70	20	5,5	4,4	6
K0708.412X	-	galvanised	M12	20/25/30/35/40/45/50/60/70/80	24	6,5	4,6	8
K0708.416X	-	galvanised	M16	30/35/40/45/50/60/70/80	30	7,5	5,3	10

Order No.	Main material	Surface finish body	D	L	K	T	D1	SW
K0708.104X	stainless steel A2	bright	M4	10/12/16/20/25	2,3	1,8	8	2,5
K0708.105X	stainless steel A2	bright	M5	10/12/16/20/25/30	2,8	2,3	10	3
K0708.106X	stainless steel A2	bright	M6	10/12/16/20/25/30/35/40/45/50/60	3,3	2,5	12	4
K0708.108X	stainless steel A2	bright	M8	16/20/25/30/35/40/45/50/60	4,4	3,5	16	5
K0708.110X	stainless steel A2	bright	M10	16/20/25/30/35/40/45/50/60/70	5,5	4,4	20	6
K0708.112X	stainless steel A2	bright	M12	20/25/30/35/40/45/50/60/70/80	6,5	4,6	24	8
K0708.116X	stainless steel A2	bright	M16	30/35/40/45/50/60/70/80	7,5	5,3	30	10
K0708.604X	stainless steel A4	bright	M4	10/12/16/20/25	2,3	1,8	8	2,5
K0708.605X	stainless steel A4	bright	M5	10/12/16/20/25/30	2,8	2,3	10	3
K0708.606X	stainless steel A4	bright	M6	10/12/16/20/25/30/35/40/45/50/60	3,3	2,5	12	4
K0708.608X	stainless steel A4	bright	M8	16/20/25/30/35/40/45/50/60	4,4	3,5	16	5
K0708.610X	stainless steel A4	bright	M10	16/20/25/30/35/40/45/50/60/70	5,5	4,4	20	6
K0708.612X	stainless steel A4	bright	M12	20/25/30/35/40/45/50/60/70/80	6,5	4,6	24	8
K0708.616X	stainless steel A4	bright	M16	30/35/40/45/50/60/70/80	7,5	5,3	30	10

Socket head screws

full thread, DIN 912



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8.8, bright (blackened) or electro zinc-plated.
Stainless steel A2-70, bright
Stainless steel A4-70, bright

Sample order:
K1159.05X40 (include length L)

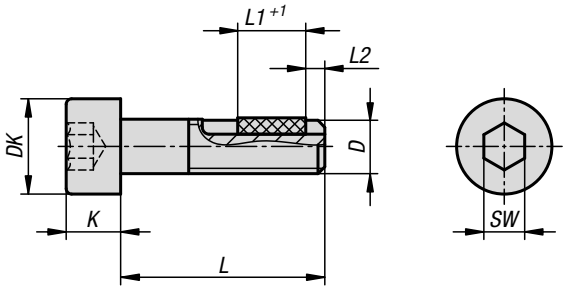
KIPP Socket head screws full thread, DIN 912

Order No.	Main material	Surface finish body	D	DK	K	L	SW
K1159.05X	steel	bright (black)	M5	8,5	5	40/50/60/80	4
K1159.06X	steel	bright (black)	M6	10	6	40/50/60/70/90/100	5
K1159.08X	steel	bright (black)	M8	13	8	50/60/70/80/90	6
K1159.10X	steel	bright (black)	M10	16	10	50/60/70/80/90/100	8
K1159.12X	steel	bright (black)	M12	18	12	80/90/100	10
K1159.405X	steel	galvanised	M5	8,5	5	40/70/80	4
K1159.406X	steel	galvanised	M6	10	6	40/50/60/70/80/90/100	5
K1159.408X	steel	galvanised	M8	13	8	50/60/70/80/90/100	6
K1159.410X	steel	galvanised	M10	16	10	50/60/70/80/90/100	8
K1159.412X	steel	galvanised	M12	18	12	70/80/90/100	10
K1159.105X	stainless steel A2	bright	M5	8,5	5	40/70	4
K1159.106X	stainless steel A2	bright	M6	10	6	40/50/60/70/80/90/100	5
K1159.108X	stainless steel A2	bright	M8	13	8	50/60/70/80/90/100	6
K1159.110X	stainless steel A2	bright	M10	16	10	50/60/70/80/90/100	8
K1159.112X	stainless steel A2	bright	M12	18	12	70/80/90/100	10
K1159.605X	stainless steel A4	bright	M5	8,5	5	40/70/80	4
K1159.606X	stainless steel A4	bright	M6	10	6	40/50/60/70/80/90/100	5
K1159.608X	stainless steel A4	bright	M8	13	8	50/60/70/80/90/100	6
K1159.610X	stainless steel A4	bright	M10	16	10	50/60/70/80/90/100	8
K1159.612X	stainless steel A4	bright	M12	18	12	80/100	10

Socket head screws

DIN EN ISO 4762 with thread lock

KIPPlock



Material:
Steel or stainless steel (A 2).

Thread lock nylon.

Version:
Steel grade 8.8, black.
Stainless steel A2-70, bright.

Sample order:
K0869.806X20 (include length L)

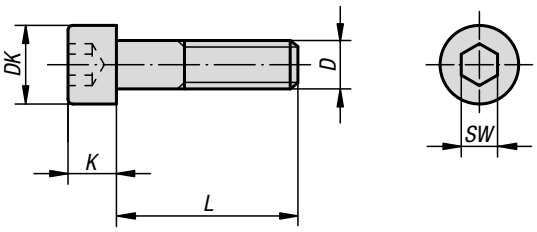
Drawing reference:
L2 = approx. 2x thread pitch

KIPP Socket head screws DIN EN ISO 4762 with thread lock

Order No. steel	Order No. stainless steel A2	D	DK	K	L	L1	SW	Tightening torque approx. Nm	Loosening torque approx. Nm
K0869.804X	**K0869.904X**	M4	7	4	10/12/16/20/25	5/5/6/7/7	3	0,15	0,22
K0869.805X	**K0869.905X**	M5	8,5	5	10/12/16/20/25/30/40	5/6/7/7/8/8/8	4	0,25	0,1
K0869.806X	**K0869.906X**	M6	10	6	10/12/16/20/25/30/35/40/45/50	5/6/7/7/8/8/8/8/8/8	5	0,45	0,25
K0869.808X	**K0869.908X**	M8	13	8	16/20/25/30/35/40/45	7/8/8/8/10/10/10	6	0,8	0,4
K0869.810X	**K0869.910X**	M10	16	10	25/30/40/50	10/10/12/12	8	1,7	0,9
K0869.812X	**K0869.912X**	M12	18	12	30/40/50	10/12/12	10	1,8	0,9

Socket head screws

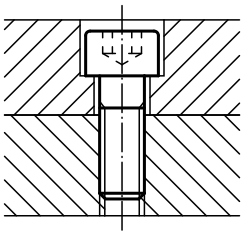
DIN EN ISO 4762 enhanced, steel or stainless steel



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8.8, bright (black) or electro zinc-plated.
Steel grade 10.9, bright (black) or electro zinc-plated.
Steel grade 12.9, bright (black)
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K0869.08X40 (include length L)



KIPP Socket head screws, DIN EN ISO 4762 enhanced, steel or stainless steel

Order No. steel bright (black)	Order No. steel galvanised	Grade	D	L	DK	K	SW
K0869.04X	**K0869.404X**	8.8	M4	10/12/16/18/20/25	7	4	3
K0869.05X	**K0869.405X**	8.8	M5	10/12/16/18/20/25/30/40	8,5	5	4
K0869.06X	**K0869.406X**	8.8	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	10	6	5
K0869.08X	**K0869.408X**	8.8	M8	16/18/20/25/30/35/40/45/50/60/70/80	13	8	6
K0869.10X	**K0869.410X**	8.8	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	16	10	8
K0869.12X	**K0869.412X**	8.8	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	18	12	10
K0869.14X	**K0869.414X**	8.8	M14	50/80/120	21	14	12
K0869.16X	**K0869.416X**	8.8	M16	30/35/40/45/50/60/70/80/90/100/110/120	24	16	14
K0869.20X	**K0869.420X**	8.8	M20	40/45/50/60/70/80/90/100/110/120	30	20	17

Socket head screws

DIN EN ISO 4762 enhanced, steel or stainless steel

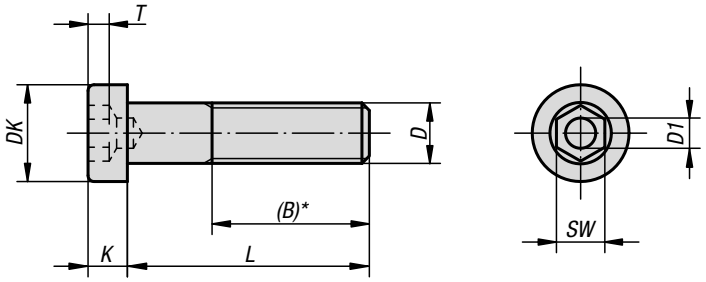
Order No. steel bright (black)	Order No. steel galvanised	Grade	D	L	DK	K	SW
K0869.304X	**K0869.504X**	10.9	M4	10/12/16/18/20/25	7	4	3
K0869.305X	**K0869.505X**	10.9	M5	10/12/16/18/20/25/30/40	8,5	5	4
K0869.306X	**K0869.506X**	10.9	M6	10/12/16/18/20/25/30/35/40/55/45/50/60	10	6	5
K0869.308X	**K0869.508X**	10.9	M8	16/18/20/25/30/35/40/45/50/60/70/80	13	8	6
K0869.310X	**K0869.510X**	10.9	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	16	10	8
K0869.312X	**K0869.512X**	10.9	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	18	12	10
K0869.314X	**K0869.514X**	10.9	M14	50/80/120	21	14	12
K0869.316X	**K0869.516X**	10.9	M16	30/35/40/45/50/60/70/80/90/100/110/120	24	16	14
K0869.320X	**K0869.520X**	10.9	M20	40/45/50/60/70/80/90/100/110/120	30	20	17

Order No. steel bright (black)	Grade	D	DK	K	L	SW
K0869.206X	12.9	M6	10	6	18/20/25/30/35/40/45/50/55/60/65/70/80/90/100	5
K0869.208X	12.9	M8	13	8	20/25/30/35/40/45/50/55/60/65/70/80/90/100/120	6
K0869.210X	12.9	M10	16	10	30/35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140	8
K0869.212X	12.9	M12	18	12	30/35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140	10
K0869.216X	12.9	M16	24	16	35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140/150/160/170/180/200	14
K0869.218X	12.9	M18	27	18	35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140/150/160/170/180/200	14
K0869.220X	12.9	M20	30	20	40/45/50/55/60/65/70/75/80/90/100/110/120/130/140/150/160/170/180/200	17

Order No. stainless steel A2	Order No. stainless steel A4	D	L	DK	K	SW
K0869.104X	**K0869.604X**	M4	10/12/16/18/20/25	7	4	3
K0869.105X	**K0869.605X**	M5	10/12/16/18/20/25/30/40	8,5	5	4
K0869.106X	**K0869.606X**	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	10	6	5
K0869.108X	**K0869.608X**	M8	16/18/20/25/30/35/40/45/50/60/70/80	13	8	6
K0869.110X	**K0869.610X**	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	16	10	8
K0869.112X	**K0869.612X**	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	18	12	10
K0869.114X	**K0869.614X**	M14	50/80/120	21	14	12
K0869.116X	**K0869.616X**	M16	30/35/40/45/50/60/70/80/90/100/110/120	24	16	14
K0869.120X	**K0869.620X**	M20	40/45/50/60/70/80/90/100/110/120	30	20	17

Socket head screws with low head

DIN 6912



Material:
Steel, stainless steel A2 or stainless steel A4.

Version:
Steel grade 8.8, bright (black) or electro zinc-plated.
Steel grade 10.9, bright (black) or electro zinc-plated.
Stainless steel A2-70, bright.
Stainless steel A4-70, bright.

Sample order:
K1160.110X20 (include length L)

Note:
Screws where the dimension L is < B are threaded up to the head. The screw length or thread length is specified by the dimension L. Screws where L is > B have a shaft.

Drawing reference:
* reference dimension

KIPP Socket head screws with low head DIN 6912, stainless steel

Order No. stainless steel A2	Order No. stainless steel A4	D	D1	DK	K	SW	T
K1160.104X	**K1160.604X**	M4	2	7	2,8	3	1,48
K1160.105X	**K1160.605X**	M5	2,5	8,5	3,5	4	1,88
K1160.106X	**K1160.606X**	M6	3	10	4	5	2,38
K1160.108X	**K1160.608X**	M8	4	13	5	6	2,88
K1160.110X	**K1160.610X**	M10	5	16	6,5	8	3,35
K1160.112X	**K1160.612X**	M12	6	18	7,5	10	3,85

Order No.	Main material	D	B	L
K1160.104X	stainless steel A2	M4	6,5/8,5/12.5/14/14	10/12/16/20/25
K1160.105X	stainless steel A2	M5	5,8/7,85/11,8/15,8/16/16	10/12/16/20/25/30
K1160.106X	stainless steel A2	M6	4,5/6,5/10,5/14,5/19,5/18/18/18/18/18/18	10/12/16/20/25/30/35/40/45/50/60
K1160.108X	stainless steel A2	M8	/5/9/22/22/22/22/22/22/22/22/22	10/12/16/20/25/30/35/40/45/50/60/70
K1160.110X	stainless steel A2	M10	8/12/17/22/27/26/26/26/26/26	16/20/25/30/35/40/45/50/60/70
K1160.112X	stainless steel A2	M12	10,5/15,5/30/25,5/30,5/30/30/30/30	20/25/30/35/40/45/50/60/70
K1160.604X	stainless steel A4	M4	6,5/8,5/12.5/14/14	10/12/16/20/25
K1160.605X	stainless steel A4	M5	5,8/7,85/11,8/15,8/16/16	10/12/16/20/25/30
K1160.606X	stainless steel A4	M6	4,5/6,5/10,5/14,5/19,5/18/18/18/18/18/18	10/12/16/20/25/30/35/40/45/50/60
K1160.608X	stainless steel A4	M8	4/5/9/22/22/22/22/22/22/22/22/22	10/12/16/20/25/30/35/40/45/50/60/70
K1160.610X	stainless steel A4	M10	8/12/17/22/27/26/26/26/26/26	16/20/25/30/35/40/45/50/60/70
K1160.612X	stainless steel A4	M12	10,5/15,5/30/25,5/30,5/30/30/30	20/25/30/35/40/45/50/70

Socket head screws with low head

DIN 6912

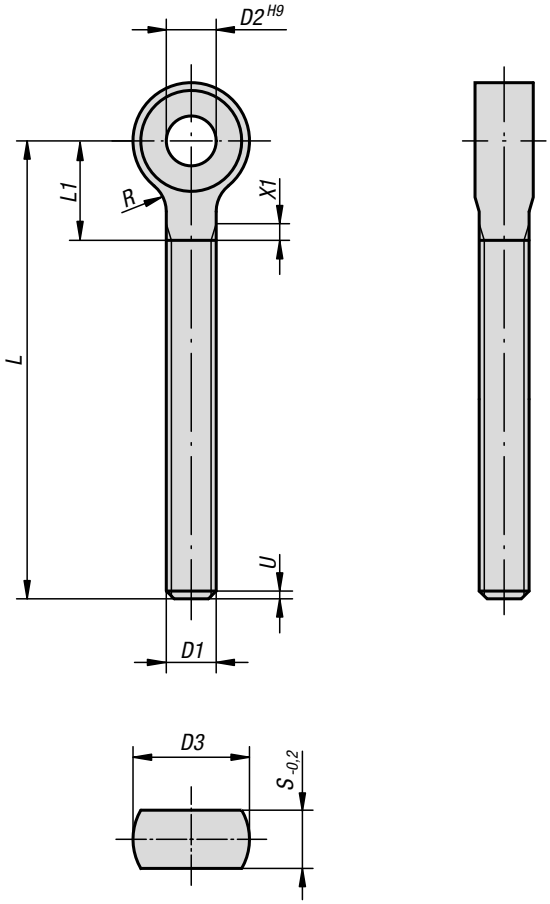
KIPP Socket head screws with low head DIN 6912, steel

Order No. Grade 8.8 steel	Order No. Grade 10.9 steel	D	D1	DK	K	SW	T
K1160.04X	-	M4	2	7	2,8	3	1,48
K1160.05X	-	M5	2,5	8,5	3,5	4	1,88
K1160.06X	**K1160.306X**	M6	3	10	4	5	2,38
K1160.08X	**K1160.308X**	M8	4	13	5	6	2,88
K1160.10X	**K1160.310X**	M10	5	16	6,5	8	3,35
K1160.12X	**K1160.312X**	M12	6	18	7,5	10	3,85
K1160.16X	**K1160.316X**	M16	8	24	10	14	5,35
K1160.20X	**K1160.320X**	M20	10	30	12	17	6,32

Order No. steel bright (black)	Order No. steel galvanised	Grade	D	B	L
K1160.04X	**K1160.404X**	8.8	M4	6,5/8,5/12.5/14	10/12/16/20/25
K1160.05X	**K1160.405X**	8.8	M5	5,8/7,85/11,8/15,8/16	10/12/16/20/25/30
K1160.06X	**K1160.406X**	8.8	M6	4,5/6,5/10,5/14,5/19,5/18	10/12/16/20/25/30/35/40/45/50/60
K1160.08X	**K1160.408X**	8.8	M8	4/5/9/13/22	10/12/16/20/25/30/35/40/45/50/60/70/80
K1160.10X	**K1160.410X**	8.8	M10	12/17/22/27/26	20/25/30/35/40/45/50/60/70/80/90/100
K1160.12X	**K1160.412X**	8.8	M12	10,5/15,5/20,5/25,5/30,5/30	20/25/30/35/40/45/50/60/70/80/90/100/110/120
K1160.16X	**K1160.416X**	8.8	M16	19/24/38	30/35/40/45/50/60/70/80/90/100/110/120
K1160.20X	**K1160.420X**	8.8	M20	26/36/46	40/45/50/60/70/80/90/100/110/120
K1160.306X	-	10.9	M6	4,5/6,5/10,5/14,5/19,5/18	10/12/16/20/25/30/35/40
K1160.308X	-	10.9	M8	9/13/22	16/20/30/35/40/45/50/60
K1160.310X	-	10.9	M10	12/17/27/26	20/25/35/40/45/50/60
K1160.312X	-	10.9	M12	15,5/25,5/30	25/35/45/50/60
K1160.316X	-	10.9	M16	19/24/38	30/35/40/45/60/50/70/80
K1160.320X	-	10.9	M20	26/36/46	40/50/60/70

Eye bolts DIN 444, Form B

with long thread



Material:
Steel or 1.4305 stainless steel

Version:
Steel grade 8.8, black oxidised.
Stainless steel bright.

Sample order:
K1418.0850

Note:
Eye bolts, threaded up to the eye.
See K0007 for suitable hinge pins.

Drawing reference:
U = max. 2 P (incomplete thread)
X1 = to DIN 76 part 1

Eye bolts DIN 444, Form B

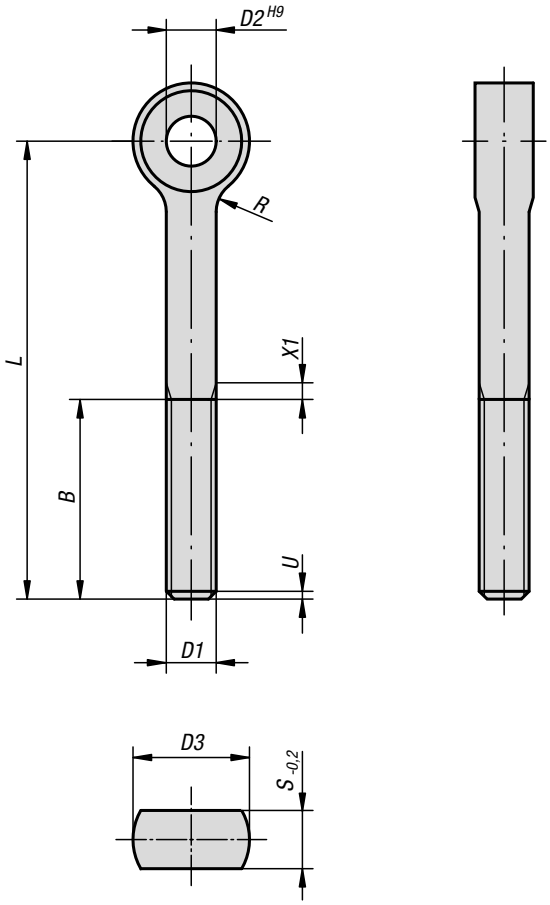
with long thread

KIPP Eye bolts DIN 444, Form B with long thread

Order No. steel	Order No. stainless steel A2	D1	D2	D3	L	L1 max.	R	S
K1418.0650	K1418.10650	M6	6	14	50	14	4	7
K1418.0660	K1418.10660	M6	6	14	60	14	4	7
K1418.0670	K1418.10670	M6	6	14	70	14	4	7
K1418.0680	K1418.10680	M6	6	14	80	14	4	7
K1418.0850	K1418.10850	M8	8	18	50	16	4	9
K1418.0860	K1418.10860	M8	8	18	60	16	4	9
K1418.0870	K1418.10870	M8	8	18	70	16	4	9
K1418.0880	K1418.10880	M8	8	18	80	16	4	9
K1418.08100	K1418.108100	M8	8	18	100	16	4	9
K1418.1050	K1418.11050	M10	10	20	50	18	4	12
K1418.1060	K1418.11060	M10	10	20	60	18	4	12
K1418.1070	K1418.11070	M10	10	20	70	18	4	12
K1418.1080	K1418.11080	M10	10	20	80	18	4	12
K1418.10100	K1418.110100	M10	10	20	100	18	4	12
K1418.10120	K1418.110120	M10	10	20	120	18	4	12
K1418.1250	K1418.11250	M12	12	25	50	23	6	14
K1418.1260	K1418.11260	M12	12	25	60	23	6	14
K1418.1270	K1418.11270	M12	12	25	70	23	6	14
K1418.1280	K1418.11280	M12	12	25	80	23	6	14
K1418.12100	K1418.112100	M12	12	25	100	23	6	14
K1418.12120	K1418.112120	M12	12	25	120	23	6	14
K1418.12130	K1418.112130	M12	12	25	130	23	6	14
K1418.1670	K1418.11670	M16	16	32	70	27	6	17
K1418.1680	K1418.11680	M16	16	32	80	27	6	17
K1418.16100	K1418.116100	M16	16	32	100	27	6	17
K1418.16120	K1418.116120	M16	16	32	120	27	6	17
K1418.16140	K1418.116140	M16	16	32	140	27	6	17
K1418.16160	K1418.116160	M16	16	32	160	27	6	17
K1418.20100	K1418.120100	M20	18	40	100	32	6	22
K1418.20120	K1418.120120	M20	18	40	120	32	6	22
K1418.20140	K1418.120140	M20	18	40	140	32	6	22
K1418.20160	K1418.120160	M20	18	40	160	32	6	22
K1418.24160	-	M24	22	45	160	40	10	25
K1418.24240	-	M24	22	45	240	40	10	25

Eye bolts

DIN 444, Form B



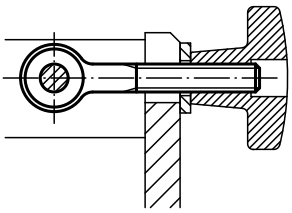
Material:
Steel or stainless steel A2.

Version:
Steel grade 8.8, black oxidised.
Stainless steel A2-70, bright.

Sample order:
K0396.12100

Note:
Suitable hinge pin, see B0430.

Drawing reference:
U = max. 2 P (incomplete thread)
X1 = to DIN 76 part 1



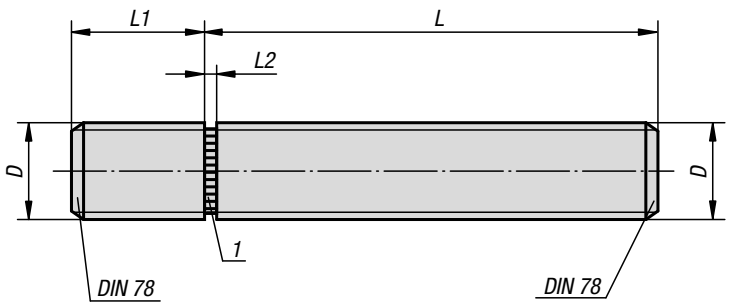
KIPP Eye bolts DIN 444

Order No. steel black oxidised	Order No. stainless steel A2 bright	B	D1	D2	D3	L	R	S
K0396.0550	K0396.10550	16	M5	5	12	50	2,5	6
K0396.0575	-	16	M5	5	12	75	2,5	6
K0396.0650	K0396.10650	18	M6	6	14	50	4	7
K0396.0675	K0396.10675	18	M6	6	14	75	4	7
K0396.0850	K0396.10850	22	M8	8	18	50	4	9
K0396.0875	K0396.10875	22	M8	8	18	75	4	9
K0396.1075	K0396.11075	26	M10	10	20	75	4	12
K0396.10100	K0396.110100	26	M10	10	20	100	4	12
K0396.1275	K0396.11275	30	M12	12	25	75	6	14
K0396.12100	K0396.112100	30	M12	12	25	100	6	14
K0396.12120	K0396.112120	30	M12	12	25	120	6	14
K0396.12130	K0396.112130	36	M12	12	25	130	6	14
K0396.1475	K0396.11475	36	M14	14	28	75	6	16
K0396.14130	K0396.114130	36	M14	14	28	130	6	16
K0396.16130	K0396.116130	44	M16	16	32	130	6	17
K0396.20140	K0396.120140	52	M20	18	40	140	6	22

Notes

Studs

with screw-in stop for gluing in



Material:
Steel or 1.4305 stainless steel

Version:
Steel trivalent blue passivated.
Stainless steel, bright.

Sample order:
K0404.1040201

Note:
Studs with screw-in stop have been designed especially for gluing-in. They allow mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series. The LOCTITE products 638 and 648 (see K0655) have proven themselves in practice as successful bonding agents.

Drawing reference:
1) screw-in stop

KIPP Studs with screw-in stop

Order No. steel	Order No. stainless steel	D	L	L1	L2
K0404.1040201	K0404.1040202	M4	20	6	1
K0404.1040301	K0404.1040302	M4	30	6	1
K0404.1040401	K0404.1040402	M4	40	6	1
K0404.1040501	K0404.1040502	M4	50	6	1
K0404.1050201	K0404.1050202	M5	20	8	1
K0404.1050301	K0404.1050302	M5	30	8	1
K0404.1050401	K0404.1050402	M5	40	8	1
K0404.1050501	K0404.1050502	M5	50	8	1
K0404.1050601	K0404.1050602	M5	60	8	1
K0404.1060201	K0404.1060202	M6	20	9	1,5
K0404.1060301	K0404.1060302	M6	30	9	1,5
K0404.1060401	K0404.1060402	M6	40	9	1,5
K0404.1060501	K0404.1060502	M6	50	9	1,5
K0404.1060601	K0404.1060602	M6	60	9	1,5
K0404.1080201	K0404.1080202	M8	20	12	1,5
K0404.1080301	K0404.1080302	M8	30	12	1,5
K0404.1080401	K0404.1080402	M8	40	12	1,5
K0404.1080501	K0404.1080502	M8	50	12	1,5
K0404.1080601	K0404.1080602	M8	60	12	1,5
K0404.1080801	K0404.1080802	M8	80	12	1,5
K0404.1100201	K0404.1100202	M10	20	14	2
K0404.1100301	K0404.1100302	M10	30	14	2
K0404.1100401	K0404.1100402	M10	40	14	2
K0404.1100501	K0404.1100502	M10	50	14	2
K0404.1100601	K0404.1100602	M10	60	14	2
K0404.1100801	K0404.1100802	M10	80	14	2
K0404.1120301	K0404.1120302	M12	30	17	2
K0404.1120401	K0404.1120402	M12	40	17	2
K0404.1120501	K0404.1120502	M12	50	17	2
K0404.1120601	K0404.1120602	M12	60	17	2
K0404.1120801	K0404.1120802	M12	80	17	2
K0404.1160301	K0404.1160302	M16	30	22	2
K0404.1160401	K0404.1160402	M16	40	22	2
K0404.1160501	K0404.1160502	M16	50	22	2
K0404.1160601	K0404.1160602	M16	60	22	2
K0404.1160801	K0404.1160802	M16	80	22	2

Stud sets

with screw-in stop for gluing in

Material:
Steel or 1.4305 stainless steel

Version:
Steel trivalent blue passivated.
Stainless steel, bright.

Sample order:
K0405.01

Note:
Studs with screw-in stop have been designed especially for gluing-in. They allow mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series. The LOCTITE products 638 and 648 have proven themselves in practice as a successful bonding agent. Technical data see K0404.

Safety:
Safety information is available on our internet site.

KIPP Stud sets with screw-in stop

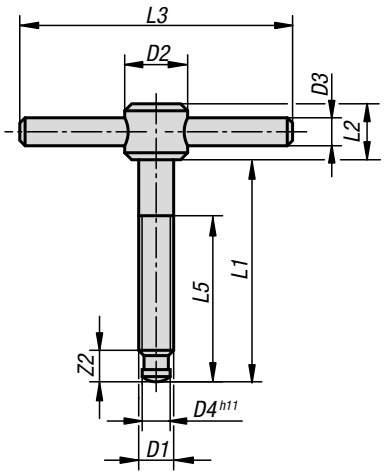
Order No. steel	Order No. stainless steel	Content (pcs.) (LOCTITE adhesives 638 and 648 not included)
K0405.01	**K0405.02**	M5x20 (x20), M5x40 (x20), M5x60 (x10), M6x20 (x20), M6x40 (x20),M6x60(x10), M8x20 (x10), M8x40 (x10), M8x60 (x6), M10x20 (x10), M10x40(x10), M10x60 (x6), M12x40 (x6), M12x60 (x6)

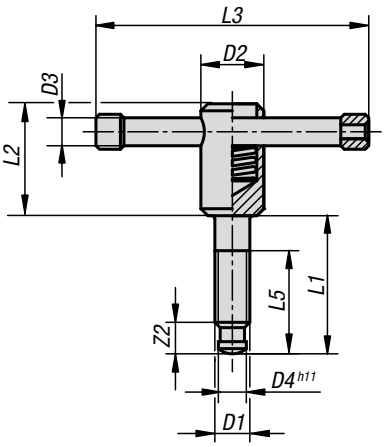
KIPP LOCTITE adhesives (accessories)

Order No.	Version	Container	Shearing strength N/mm²	Break-away torque Nm	Temperature resistance
K0655.6380010	LOCTITE 638	10 ml bottle	20-35	35-60	-55 °C - +150 °C
K0655.6480010	LOCTITE 648	10 ml bottle	16-30	30-55	-55 °C - +175 °C

T-thrust screws

with fixed or sliding T-bar, DIN 6304 or DIN 6306



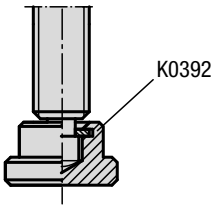


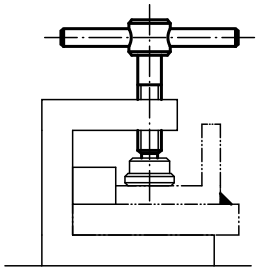
Material:
Steel.

Version:
Black oxidised. Thrust pin hardened.

Sample order:
K0756.106X40

Note:
By the thrust screws with sliding T-bar the bar is held in any desired position by a spring in the body. End stops prevent the bar falling out. By the fixed handles the T-bar is pressed in.



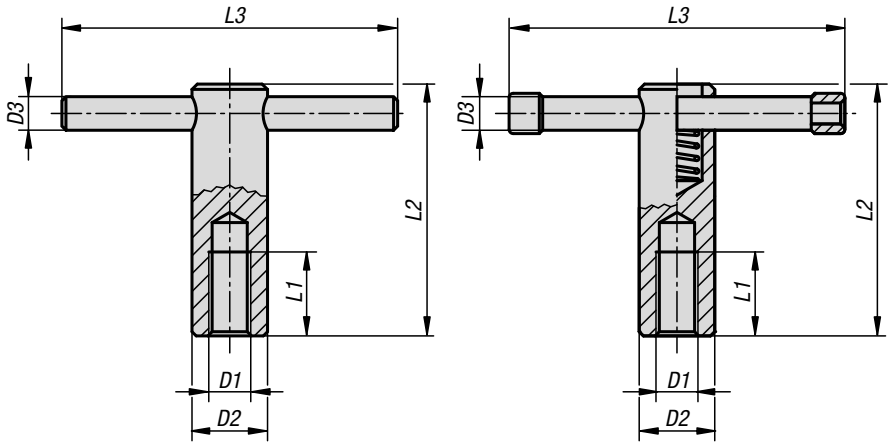


KIPP T-thrust screws with fixed or sliding T-bar, DIN 6304 or DIN 6306

Order No.	Version 1	D1	D2	D3	D4	L1	L2	L3	L5	Z2
K0756.106X40	fixed t-bar	M6	12	5	4,5	40	10	50	30	6
K0756.106X50	fixed t-bar	M6	12	5	4,5	50	10	50	40	6
K0756.108X50	fixed t-bar	M8	14	6	6	50	12	60	35	7,5
K0756.108X60	fixed t-bar	M8	14	6	6	60	12	60	45	7,5
K0756.110X60	fixed t-bar	M10	18	8	8	60	14	80	40	9
K0756.110X70	fixed t-bar	M10	18	8	8	70	14	80	50	9
K0756.112X70	fixed t-bar	M12	20	10	8	70	18	100	50	10
K0756.112X80	fixed t-bar	M12	20	10	8	80	18	100	60	10
K0756.116X75	fixed t-bar	M16	24	12	12	75	20	120	55	12
K0756.116X90	fixed t-bar	M16	24	12	12	90	20	120	70	12
K0756.116X110	fixed t-bar	M16	24	12	12	110	20	120	90	12
K0756.120X75	fixed t-bar	M20	30	16	15,5	75	28	140	55	14
K0756.120X90	fixed t-bar	M20	30	16	15,5	90	28	140	70	14
K0756.120X110	fixed t-bar	M20	30	16	15,5	110	28	140	90	14
K0756.210X40	sliding t-bar	M10	18	8	8	40	32	80	30	9
K0756.210X50	sliding t-bar	M10	18	8	8	50	32	80	40	9
K0756.212X50	sliding t-bar	M12	20	10	8	50	35	100	40	10
K0756.212X60	sliding t-bar	M12	20	10	8	60	35	100	50	10
K0756.216X55	sliding t-bar	M16	24	13	12	55	40	120	45	12
K0756.216X70	sliding t-bar	M16	24	13	12	70	40	120	60	12
K0756.216X90	sliding t-bar	M16	24	13	12	90	40	120	80	12
K0756.220X55	sliding t-bar	M20	30	16	15,5	55	45	140	45	14
K0756.220X70	sliding t-bar	M20	30	16	15,5	70	45	140	60	14
K0756.220X90	sliding t-bar	M20	30	16	15,5	90	45	140	80	14

Tommy bars

with fixed or sliding T-bar, DIN 6305 or DIN 6307

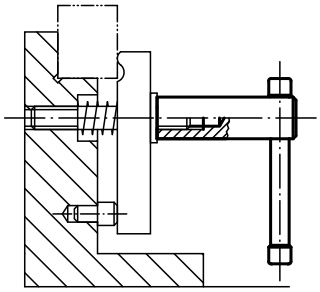


Material:
Steel.

Version:
Black oxidised.

Sample order:
K0755.210

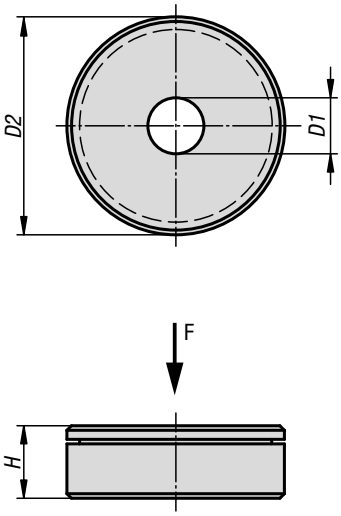
Note:
By the version with sliding T-bar the bar is held in any desired position by a spring in the body. End stops prevent the bar falling out.
By the version with fixed T-bar the bar is pressed in.



KIPP Tommy bars with fixed or sliding T-bar, DIN 6305 or DIN 6307

Order No.	Version 1	D1	D2	D3	L1	L2	L3
K0755.110	fixed t-bar	M10	18	8	20	60	80
K0755.112	fixed t-bar	M12	20	10	25	70	100
K0755.116	fixed t-bar	M16	24	12	35	85	120
K0755.120	fixed t-bar	M20	30	16	40	95	140
K0755.210	sliding t-bar	M10	18	8	20	60	80
K0755.212	sliding t-bar	M12	20	10	25	70	100
K0755.216	sliding t-bar	M16	24	13	35	85	120
K0755.220	sliding t-bar	M20	30	16	40	95	140

Clamping force intensifiers



Material:
Bearing housing steel.

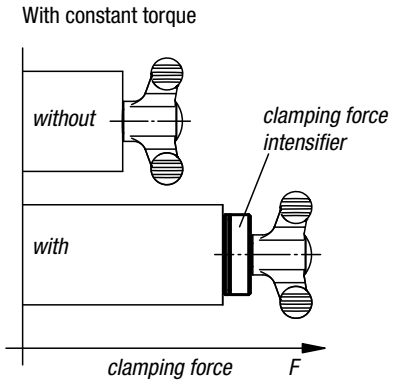
Version:
Black oxidised.

Sample order:
K0584.06

Note:
As a rule, the clamping force intensifier is used together with tightening or clamping elements. The integrated axial needle roller thrust bearing unit can achieve ca. twice the clamping force by the same lever length.

Advantages:
The component surface is protected by the stationary lower ring.
The higher preload force causes a lower tendency for material relaxation in the thread.

Clamping levers, wing and star grips, knurled knobs or hexagonal and socket head screws etc. can be used as tightening or clamping elements.

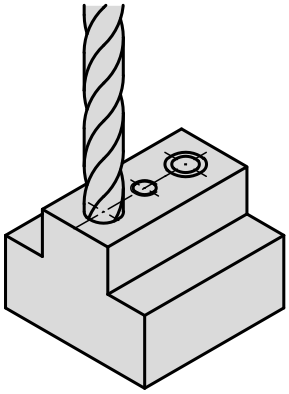


KIPP Clamping force intensifiers

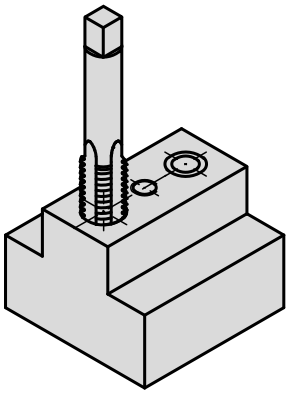
Order No.	D1	D2	H	Dynamic load rating N	Static load rating N
K0584.06	6	24	8	6800	15500
K0584.08	8	25	8	7800	19400
K0584.10	10	30	8	9200	25500
K0584.12	12	35	8	9900	29000

Installing and removing threaded inserts

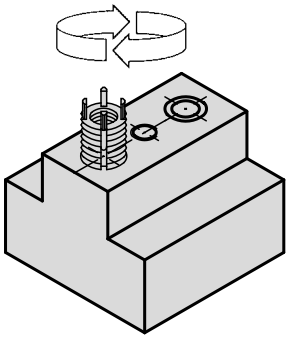
Fitting instructions



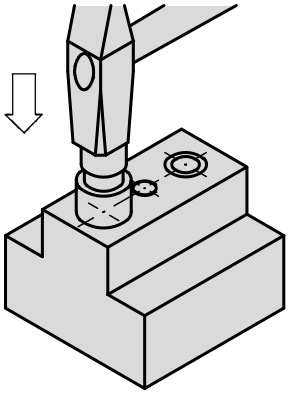
1.*
Rebore the old thread and countersink it (82° – 100°).



2.*
Tap thread with a standard screw tap.



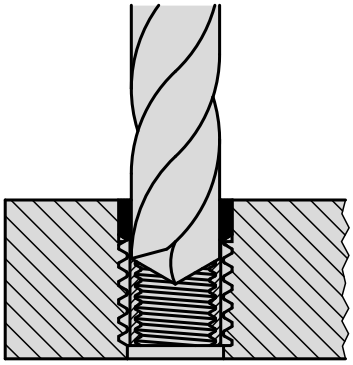
3.
Screw in the insert to just below the surface (0.3 – 0.7 mm).



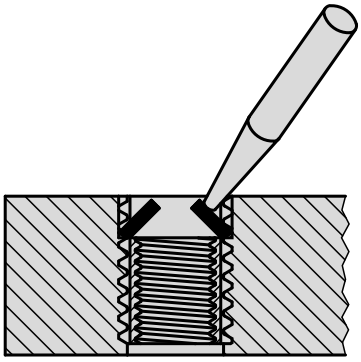
4.
Drive in the locking pins by striking the assembly tool lightly with a hammer.

* For steps 1 and 2 see table under installation of threaded inserts.

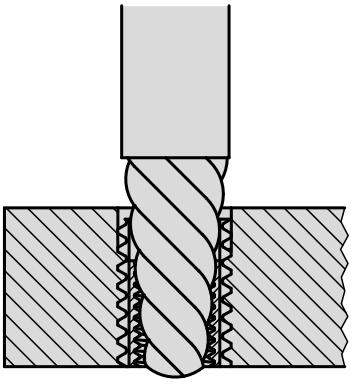
Removal instructions



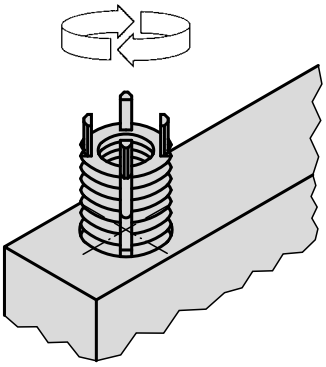
1.*
Rebore the material between the locking pins and the internal thread to the specified depth.



2.
Bend the locking pins inwards and break them off.



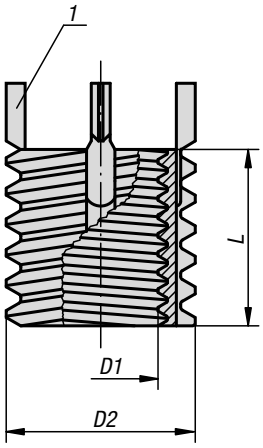
3.
Remove the old insert with a screw extractor.



4.
Install a new threaded insert in the original threaded hole.

* For step 1 see tables under “removal drilling depth”

Threaded inserts



Material:
Threaded insert in steel or stainless steel.

Version:
Passivated.

Sample order:
Threaded Insert K0398.12
Assembly tool K0398.812

Note:
Threaded inserts allow threaded holes which have been damaged, torn out or jammed to be used again or to be repaired, enabling expensive products to be saved from the scrap heap.

Threaded inserts are suitable for use in various materials, including light metals and castings.

Inserts with internal threads larger than M6 are supplied with four locking pins instead of two.

Permissible deviations:
The medium tolerance class applies to the threads listed, i.e. 6H for nut threads and 6g for bolt threads. Other dimensions ±0.25 mm.

Technical information see operating instructions for threaded inserts.

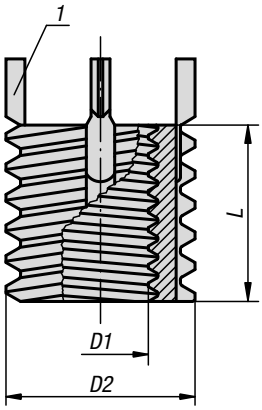
Advantages:
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.

Drawing reference:
1) locking pin

KIPP Threaded inserts and assembly tools

Order No. steel	Order No. stainless steel	D1 internal thread	D2 external thread	L length	Core drill Ø	Counter-sink Ø +0.25	Tap size	Min. thread depth	Removal drill Ø	Removal drilling depth	Order No. assembly tools
K0398.05	**K0398.105**	M5	M8	8	6,9	8,3	M8	9,5	5,5	4	K0398.805
K0398.06	**K0398.106**	M6	M10x1,25	10	8,8	10,3	M10x1,25	11,5	7,5	4,8	K0398.806
K0398.08	**K0398.108**	M8	M12x1,25	12	10,8	12,3	M12x1,25	13,5	9,5	4,8	K0398.808
K0398.08X1	**K0398.108X1**	M8x1	M12x1,25	12	10,8	12,3	M12x1,25	13,5	9,5	4,8	K0398.808
K0398.10	**K0398.110**	M10	M14x1,5	14	12,8	14,3	M14x1,5	15,5	11,5	4,8	K0398.810
K0398.10X125	**K0398.110X125**	M10x1,25	M14x1,5	14	12,8	14,3	M14x1,5	15,5	11,5	4,8	K0398.810
K0398.12	**K0398.112**	M12	M16x1,5	16	14,8	16,3	M16x1,5	17,5	13,5	4,8	K0398.812
K0398.12X125	**K0398.112X125**	M12x1,25	M16x1,5	16	14,8	16,3	M16x1,5	17,5	13,5	4,8	K0398.812

Threaded inserts reinforced



Material:
Threaded insert in steel or stainless steel.

Version:
Passivated.

Sample order:
Reinforced threaded insert K0399.12
Assembly tool K0399.812

Note:
Reinforced threaded inserts allow threaded holes which have been damaged, torn out or jammed to be used again or to be repaired. This makes it possible to recover scrap and rejects of expensive products.
Reinforced threaded inserts are suitable for use in various materials, including light metals and casting.
Inserts with internal threads larger than M6 are supplied with four locking pins instead of two.
Permissible deviations:
The medium tolerance class applies to the threads listed, i.e. 6H for nut threads and 6g for bolt threads. Other dimensions ±0.25 mm.

With reinforced threaded inserts we also offer a version with a stronger cross-section for use in applications with greater stress.

Technical information see operating instructions for threaded inserts.

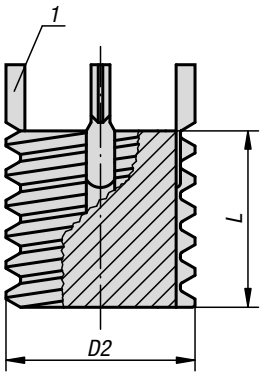
Advantages:
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.

Drawing reference:
1) locking pin

KIPP Threaded inserts reinforced and assembly tools

Order No. steel	Order No. stainless steel	D1 internal thread	D2 external thread	L length	Core drill Ø	Counter-sink Ø +0.25	Tap size	Min. thread depth	Removal drill Ø	Removal drilling depth	Order No. assembly tools
K0399.04	**K0399.104**	M4	M8	8	6,9	8,3	M8	9,5	5,5	4	K0399.804
K0399.05	**K0399.105**	M5	M10x1,25	10	8,8	10,3	M10x1,25	12,5	7,5	4,8	K0399.805
K0399.06	**K0399.106**	M6	M12x1,25	12	10,8	12,3	M12x1,25	14,5	9,5	4,8	K0399.806
K0399.08	**K0399.108**	M8	M14x1,5	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	K0399.808
K0399.08X1	**K0399.108X1**	M8x1	M14x1,5	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	K0399.808
K0399.10	**K0399.110**	M10	M16x1,5	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	K0399.810
K0399.10X125	**K0399.110X125**	M10x1,25	M16x1,5	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	K0399.810
K0399.12	**K0399.112**	M12	M18x1,5	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	K0399.812
K0399.12X125	**K0399.112X125**	M12x1,25	M18x1,5	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	K0399.812
K0399.14	**K0399.114**	M14	M20x1,5	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	K0399.814
K0399.14X15	**K0399.114X15**	M14x1,5	M20x1,5	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	K0399.814
K0399.16	**K0399.116**	M16	M22x1,5	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	K0399.816
K0399.16X15	**K0399.116X15**	M16x1,5	M22x1,5	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	K0399.816
K0399.18X15	**K0399.118X15**	M18x1,5	M24x1,5	24	22,5	24,3	M24x1,5	26,5	19,8	6,4	K0399.818
K0399.20	**K0399.120**	M20	M30x2	30	28	30,3	M30x2	34,5	25,8	6,4	K0399.820
K0399.20X15	**K0399.120X15**	M20x1,5	M30x2	30	28	30,3	M30x2	34,5	25,8	6,4	K0399.820
K0399.22X15	**K0399.122X15**	M22x1,5	M32x2	32	30	32,3	M32x2	36,5	27,8	6,4	K0399.822
K0399.24	**K0399.124**	M24	M33x2	33	31	33,3	M33x2	37,5	28,8	6,4	K0399.824
K0399.24X2	**K0399.124X2**	M24x2	M33x2	33	31	33,3	M33x2	37,5	28,8	6,4	K0399.824

Threaded inserts solid body



Material:
Threaded insert in steel.

Version:
Passivated.

Sample order:
Solid body threaded insert K0400.10X125
Assembly tool K0400.810

Note:
Solid body threaded inserts allow threaded holes which have been damaged, torn out or jammed to be used again or to be repaired. This makes it possible to recover scrap and rejects of expensive products.
Solid body threaded inserts are suitable for use in various materials, including light metals and castings.
Permissible deviations:
The medium tolerance class applies to the threads listed, i.e. 6g for bolt threads.
Other dimensions ±0.25 mm.

Solid body threaded inserts are used where threaded holes that have been drilled too large or drill hole spacings that have not been observed in workpieces need to be redone.

Technical information see operating instructions for threaded inserts.

Advantages:
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.

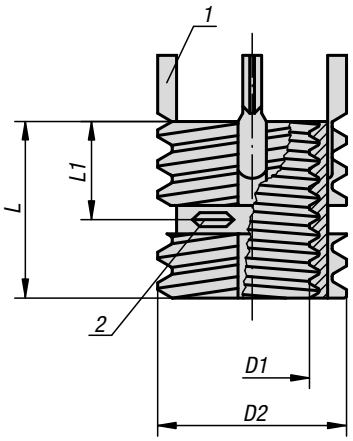
Drawing reference:
1) locking pin

KIPP Threaded inserts solid body and assembly tools

Order No.	D2 external thread	L length	Core drill Ø	Counter-sink Ø +0.25	Tap size	Min. thread depth	Removal drill Ø	Removal drilling depth	Order No. assembly tools
K0400.08	M8	8	6,9	8,3	M8	9,5	5,5	4	K0400.808
K0400.10X125	M10x1,25	10	8,8	10,3	M10x1,25	12,5	7,5	4,8	K0400.810
K0400.12X125	M12x1,25	12	10,8	12,3	M12x1,25	14,5	9,5	4,8	K0400.812
K0400.14X15	M14x1,5	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	K0400.814
K0400.16X15	M16x1,5	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	K0400.816
K0400.18X15	M18x1,5	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	K0400.818
K0400.20X15	M20x1,5	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	K0400.820
K0400.22X15	M22x1,5	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	K0400.822
K0400.24X15	M24x1,5	24	22,5	24,3	M24x1,5	26,5	19,8	6,4	K0400.824
K0400.30X2	M30x2	30	28	30,3	M30x2	34,5	25,8	6,4	K0400.830

Threaded inserts

with internal thread, self-locking



Material:
Threaded insert in stainless steel.

Version:
Passivated.

Sample order:
Threaded Insert K0401.112
Assembly tool K0398.812

Note:
Threaded inserts allow threaded holes which have been damaged, torn out or jammed to be used again or to be repaired. This makes it possible to recover scrap and rejects of expensive products.
Threaded inserts are suitable for use in various materials, including light metals and casting.
Inserts with internal threads larger than M6 are supplied with four locking pins instead of two.
Permissible deviations:
the medium tolerance class applies to the threads listed, i.e. 6H for nut threads and 6g for bolt threads.
Other dimensions ±0.25 mm.

Technical information see operating instructions for threaded inserts.

Advantages:
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.

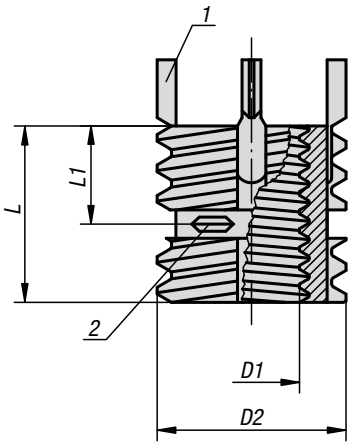
Drawing reference:
1) locking pin
2) self-locking part of internal thread

KIPP Threaded inserts with internal thread, self-locking and assembly tools

Order No.	D1 internal thread	D2 external thread	L1 length	L length	Core drill Ø	Counter-sink Ø +0.25	Tap size	Min. thread depth	Removal drill Ø	Removal drilling depth	Order No. assembly tools
K0401.105	M5	M8	4	8	6,9	8,3	M8	9,5	5,5	4	K0398.805
K0401.106	M6	M10x1,25	5	10	8,8	10,3	M10x1,25	11,5	7,5	4,8	K0398.806
K0401.108	M8	M12x1,25	6	12	10,8	12,3	M12x1,25	13,5	9,5	4,8	K0398.808
K0401.110	M10	M14x1,5	7	14	12,8	14,3	M14x1,5	15,5	11,5	4,8	K0398.810
K0401.112	M12	M16x1,5	8	16	14,8	16,3	M16x1,5	17,5	13,5	4,8	K0398.812

Threaded inserts reinforced

internal thread, self-locking



Material:
Threaded insert in stainless steel.

Version:
Passivated.

Sample order:
Reinforced threaded insert K0402.110
Assembly tool K0399.812

Note:
Reinforced threaded inserts allow threaded holes which have been damaged, torn out or jammed to be used again or to be repaired. This makes it possible to recover scrap and rejects of expensive products. Reinforced threaded inserts are suitable for use in various materials, including light metals and casting. Inserts with internal threads larger than M6 are supplied with four locking pins instead of two.
Permissible deviations:
The medium tolerance class applies to the threads listed, i.e. 6H for nut threads and 6g for bolt threads. Other dimensions ±0.25 mm.

Technical information see operating instructions for threaded inserts.

Advantages:
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.

Drawing reference:
1) locking pin
2) self-locking part of internal thread

KIPP Threaded inserts reinforced with internal thread, self-locking and assembly tools

Order No.	D1 internal thread	D2 external thread	L1 length	L length	Core drill Ø	Counter-sink Ø +0.25	Tap size	Min. thread depth	Removal drill Ø	Removal drilling depth	Order No. assembly tools
K0402.104	M4	M8	4	8	6,9	8,3	M8	9,5	5,5	4	K0399.804
K0402.105	M5	M10x1,25	5	10	8,8	10,3	M10x1,25	12,5	7,5	4,8	K0399.805
K0402.106	M6	M12x1,25	6	12	10,8	12,3	M12x1,25	14,5	9,5	4,8	K0399.806
K0402.108	M8	M14x1,5	7	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	K0399.808
K0402.110	M10	M16x1,5	8	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	K0399.810
K0402.112	M12	M18x1,5	9	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	K0399.812
K0402.114	M14	M20x1,5	10	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	K0399.814
K0402.116	M16	M22x1,5	11	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	K0399.816
K0402.116X15	M16x1,5	M22x1,5	11	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	K0399.816
K0402.118X15	M18x1,5	M24x1,5	12	24	22,5	24,3	M24x1,5	26,5	19,8	6,4	K0399.818
K0402.120	M20	M30x2	15	30	28	30,3	M30x2	34,5	25,8	6,4	K0399.820

Repair kit

Material:
Threaded insert in steel.

Version:
Passivated.

Sample order:
K0653.01

Note:
The repair kit allows threaded holes which have been damaged, torn out or jammed to be used again or to be repaired. This makes it possible to recover scrap and rejects of expensive products.
Threaded inserts are suitable for use in various materials, including light metals and casting.
Inserts with internal threads larger than M6 are supplied with four locking pins instead of two.
Permissible deviations:
the medium tolerance class applies to the threads listed, i.e. 6H for nut threads and 6g for bolt threads.
Other dimensions ±0.25 mm.

Technical information see operating instructions for threaded inserts.

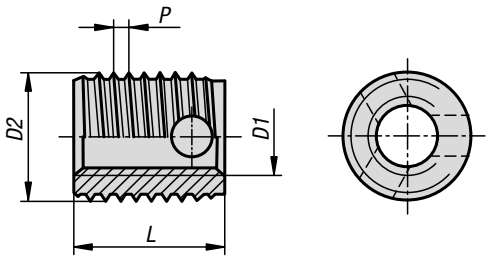
Advantages:
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.

KIPP Repair kit

Order No.	Female threads	Male threads	Insert length	Number of inserts	Number of assembly tools	Order No. of individual insert
K0653.01	M5	M8	8	8	1	K0398.05
	M6	M10X1,25	10	8	1	K0398.06
	M8	M12X1,25	12	6	1	K0398.08
	M8X1	M12X1,25	12	6	-	K0398.08X1
	M10	M14X1,5	14	4	1	K0398.10
	M10X1,25	M14X1,5	14	4	-	K0398.10X125
	M12	M16X1,5	16	3	1	K0398.12
	M12X1,25	M16X1,5	16	3	-	K0398.12X125

Threaded inserts self-tapping

with cutting bores



Material:
Steel or 1.4305 stainless steel

Version:
Steel case hardened, electro zinc-plated.
Stainless steel bright.

Sample order:
K0979.03

Note:
Self-tapping threaded inserts for making high-strength, wear-free, vibration resistant screw connections in materials with low shear strength such as aluminium and aluminium alloys, brass, bronze, cast iron, duro and thermoplastics.

The threaded inserts are tapered at the bottom and have three cutting bores. They cut their own threads inside a receiver hole. This guarantees a completely secure and firm anchoring in the host material.

Internal thread D1 acc. to ISO 6H.

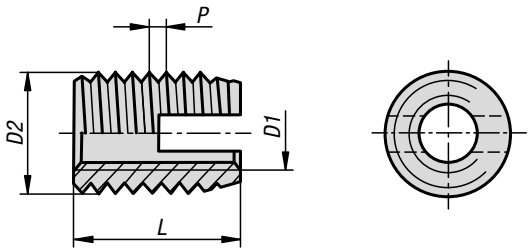
The threaded inserts with cutting bores are designed especially for materials difficult to machine. Due to the thicker wall, it can withstand greater force during cutting, which is also distributed over three cutting bores.

KIPP Threaded inserts self-tapping with cutting bores

Order No.	Main material	D1 internal thread	D2	L length	P	T min.	R min. light metal	R min. cast iron	R min. plastics	Order No. Hand ass. tool	Order No. M/C ass. tool
K0979.03	steel	M3	5	4	0,6	6	1	1,5	1,25	K0978.803	K0978.903
K0979.04	steel	M4	6,5	6	0,8	8	1,3	1,95	1,6	K0978.804	K0978.904
K0979.05	steel	M5	8	7	1	9	1,6	2,4	2	K0978.805	K0978.905
K0979.06	steel	M6	10	8	1,25	10	2	3	2,5	K0978.806	K0978.906
K0979.08	steel	M8	12	9	1,5	11	2,4	3,6	3	K0978.808	K0978.908
K0979.10	steel	M10	14	10	1,5	13	2,8	4,2	3,5	K0978.810	K0978.910
K0979.12	steel	M12	16	12	1,75	15	3,2	4,8	4	K0978.812	K0978.912
K0979.103	stainless steel	M3	5	4	0,6	6	1	1,5	1,25	K0978.803	K0978.903
K0979.104	stainless steel	M4	6,5	6	0,8	8	1,3	1,95	1,6	K0978.804	K0978.904
K0979.105	stainless steel	M5	8	7	1	9	1,6	2,4	2	K0978.805	K0978.905
K0979.106	stainless steel	M6	10	8	1,25	10	2	3	2,5	K0978.806	K0978.906
K0979.108	stainless steel	M8	12	9	1,5	11	2,4	3,6	3	K0978.808	K0978.908
K0979.110	stainless steel	M10	14	10	1,5	13	2,8	4,2	3,5	K0978.810	K0978.910
K0979.112	stainless steel	M12	16	12	1,75	15	3,2	4,8	4	K0978.812	K0978.912

Threaded inserts self-tapping

with cutting slot



Material:
Steel or 1.4305 stainless steel

Version:
Steel case hardened, electro zinc-plated.
Stainless steel bright.

Sample order:
K0978.03

Note:
Self-tapping threaded inserts for making high-strength, wear-free, vibration resistant screw connections in materials with low shear strength such as aluminium and aluminium alloys, brass, bronze, cast iron, duro and thermoplastics.

The threaded inserts are tapered at the bottom and have a cutting slot. By screwing in they cut their own threads inside a receiver hole. This guarantees a completely secure and firm anchoring in the host material.

Internal thread D1 acc. to ISO 6H.

The threaded inserts with cutting slot spring slightly inwards in the slot region in some materials. This results in a screw locking effect. If this is not desired, we recommend the threaded inserts with a cutting bore.

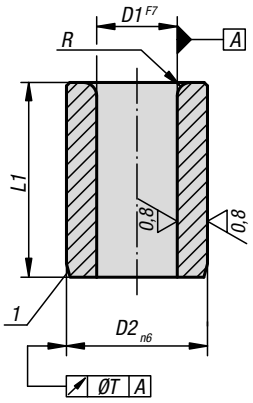
KIPP Threaded inserts self-tapping with cutting slot

Order No.	Main material	D1 internal thread	D2	L length	P	T min.	R min. light metal	R min. cast iron	R min. plastics	Order No. Hand ass. tool	Order No. M/C ass. tool
K0978.03	steel	M3	5	6	0,5	8	1	1,5	1,25	K0978.803	K0978.903
K0978.04	steel	M4	6,5	8	0,75	10	1,3	1,95	1,6	K0978.804	K0978.904
K0978.05	steel	M5	8	10	1	13	1,6	2,4	2	K0978.805	K0978.905
K0978.06	steel	M6	10	14	1,5	17	2	3	2,5	K0978.806	K0978.906
K0978.08	steel	M8	12	15	1,5	18	2,4	3,6	3	K0978.808	K0978.908
K0978.10	steel	M10	14	18	1,5	22	2,8	4,2	3,5	K0978.810	K0978.910
K0978.12	steel	M12	16	22	1,5	26	3,2	4,8	4	K0978.812	K0978.912
K0978.16	steel	M16	20	22	1,5	27	4	6	5	-	K0978.916
K0978.103	stainless steel	M3	5	6	0,5	8	1	1,5	1,25	K0978.803	K0978.903
K0978.104	stainless steel	M4	6,5	8	0,75	10	1,3	1,95	1,6	K0978.804	K0978.904
K0978.105	stainless steel	M5	8	10	1	13	1,6	2,4	2	K0978.805	K0978.905
K0978.106	stainless steel	M6	10	14	1,5	17	2	3	2,5	K0978.806	K0978.906
K0978.108	stainless steel	M8	12	15	1,5	18	2,4	3,6	3	K0978.808	K0978.908
K0978.110	stainless steel	M10	14	18	1,5	22	2,8	4,2	3,5	K0978.810	K0978.910
K0978.112	stainless steel	M12	16	22	1,5	26	3,2	4,8	4	K0978.812	K0978.912
K0978.116	stainless steel	M16	20	22	1,5	27	4	6	5	-	K0978.916

Drill bushes cylindrical

DIN 179

Ⓐ



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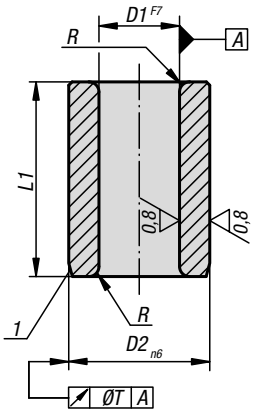


Material:
Special low carbon steel

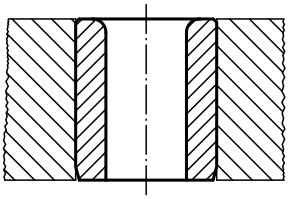
Version:
Hardened to 740 ±80 HV 10 and ground.

Sample order:
K1021.A0120X06
(cylindrical drill bush, Form A with
D1 = 1.2 mm and L1 = 6 mm)

Note:
From diameter D1 over 15 mm size increases are 0.5 mm.

Drawing reference:
Form A: hole rounded one end
Form B: hole rounded both ends

1) Chamfer for insert



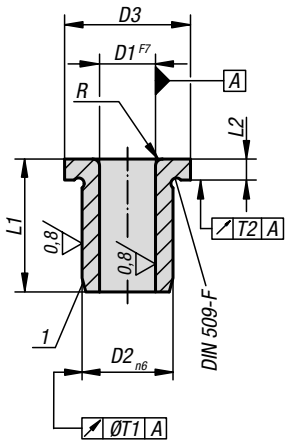
KIPP Drill bushes cylindrical DIN 179

D1	D2	L1	Product type	R	T
from 0.4 to 0.8	3	6	short	1	0,01
from 0.9 to 1.0	3	6/9	short/medium	1	0,01
from 1.1 to 1.8	4	6/9	short/medium	1	0,01
from 1.9 to 2.6	5	6/9	short/medium	1	0,01
from 2.7 to 3.3	6	12/16/8	medium/long/short	1	0,01
from 3.4 to 4.0	7	8/12/16	short/medium/long	1	0,01
from 4.1 to 5.0	8	8/12/16	short/medium/long	1	0,01
from 5.1 to 6.0	10	10/16/20	short/medium/long	1,5	0,02
from 6.1 to 8.0	12	10/16/20	short/medium/long	1,5	0,02
from 8.1 to 10.0	15	12/20/25	short/medium/long	2	0,02
from 10.1 to 12.0	18	12/20/25	short/medium/long	2	0,02
from 12.1 to 15.0	22	16/28/36	short/medium/long	2	0,02
from 15.5 to 18.0	26	16/28/36	short/medium/long	2	0,02
from 18.5 to 22.0	30	20/36/45	short/medium/long	3	0,02
from 22.5 to 26.0	35	20/36/45	short/medium/long	3	0,02
from 26.5 to 30.0	42	25/45/56	short/medium/long	3	0,02
from 30.5 to 35.0	48	25/45/56	short/medium/long	3	0,04
from 35.5 to 42.0	55	30/56/67	short/medium/long	3,5	0,04
from 42.5 to 48.0	62	30/56/67	short/medium/long	3,5	0,04

Drill bushes flanged

DIN 172

Ⓐ



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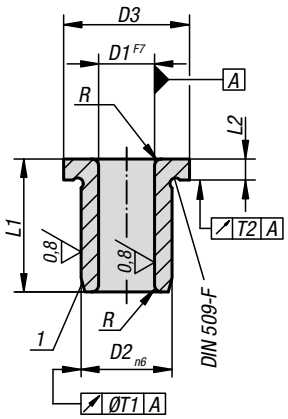


Material:
Special steel.

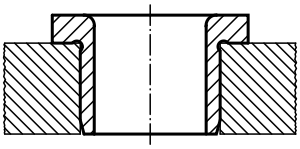
Version:
Hardened and ground.
Hardness 740 ±80 HV 10

Sample order:
K1022.A0120X09
(flanged drill bush, Form A with
D1 = 1.2 mm and L1 = 9 mm)

Note:
From diameter D1 over 15 mm size increases are 0.5 mm.

Drawing reference:
Form A: hole rounded one end
Form B: hole rounded both ends

1) Chamfer for insert

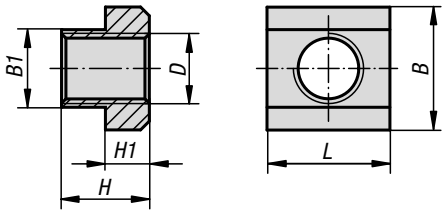


KIPP Drill bushes flanged DIN 172

D1	D2	D3	L1	Product type	L2	R	T1	T2
from 0.4 to 0.8	3	6	6	short	2	1	0,01	0,03
from 0.9 to 1.0	3	6	6/9	short/medium	2	1	0,01	0,03
from 1.1 to 1.8	4	7	6/9	short/medium	2	1	0,01	0,03
from 1.9 to 2.6	5	8	6/9	short/medium	2	1	0,01	0,03
from 2.7 to 3.3	6	9	8/12/16	short/medium/long	2,5	1	0,01	0,03
from 3.4 to 4.0	7	10	8/12/16	short/medium/long	2,5	1	0,01	0,03
from 4.1 to 5.0	8	11	8/12/16	short/medium/long	2,5	1	0,01	0,03
from 5.1 to 6.0	10	13	10/16/20	short/medium/long	3	1,5	0,02	0,03
from 6.1 to 8.0	12	15	10/16/20	short/medium/long	3	1,5	0,02	0,03
from 8.1 to 10.0	15	18	12/20/25	short/medium/long	3	2	0,02	0,03
from 10.1 to 12.0	18	22	12/20/25	short/medium/long	4	2	0,02	0,03
from 12.1 to 15.0	22	26	16/28/36	short/medium/long	4	2	0,02	0,03
from 15.5 to 18.0	26	30	16/28/36	short/medium/long	4	2	0,02	0,03
from 18.5 to 22.0	30	34	20/36/45	short/medium/long	5	3	0,02	0,03
from 22.5 to 26.0	35	39	20/36/45	short/medium/long	5	3	0,02	0,05
from 26.5 to 30.0	42	46	25/45/56	short/medium/long	5	3	0,02	0,05
from 30.5 to 35.0	48	52	25/45/56	short/medium/long	5	3	0,04	0,05
from 35.5 to 42.0	55	59	30/56/67	short/medium/long	5	3,5	0,04	0,05
from 42.5 to 48.0	62	66	30/56/67	short/medium/long	6	3,5	0,04	0,05

Nuts for T-slots

DIN 508 enhanced



KIPP Nuts for T-slots to DIN 508 enhanced

Order No.	Main material	Slot width	B	B1	D	H	H1	L
K0377.05	high carbon steel	6	10	5,6	M5	8	4	10
K0377.06	high carbon steel	8	13	7,6	M6	10	6	13
K0377.061	high carbon steel	10	15	9,6	M6	12	6	15
K0377.08	high carbon steel	10	15	9,6	M8	12	6	15
K0377.081	high carbon steel	12	18	11,6	M8	14	7	18
K0377.082	high carbon steel	14	22	13,6	M8	16	8	22
K0377.10	high carbon steel	12	18	11,6	M10	14	7	18
K0377.101	high carbon steel	14	22	13,6	M10	16	8	22
K0377.12	high carbon steel	14	22	13,6	M12	16	8	22
K0377.121	high carbon steel	16	25	15,6	M12	18	9	25
K0377.122	high carbon steel	18	28	17,6	M12	20	10	28
K0377.123	high carbon steel	20	32	19,6	M12	24	12	32
K0377.124	high carbon steel	22	35	21,6	M12	28	14	35
K0377.14	high carbon steel	16	25	15,6	M14	18	9	25
K0377.141	high carbon steel	18	28	17,6	M14	20	10	28
K0377.16	high carbon steel	18	28	17,6	M16	20	10	28
K0377.161	high carbon steel	20	32	19,6	M16	24	12	32
K0377.163	high carbon steel	24	40	23,6	M16	32	16	40
K0377.164	high carbon steel	28	44	27,6	M16	36	18	44
K0377.18	high carbon steel	20	32	19,6	M18	24	12	32
K0377.181	high carbon steel	22	35	21,6	M18	28	14	35
K0377.20	high carbon steel	22	35	21,6	M20	28	14	35
K0377.201	high carbon steel	24	40	23,6	M20	32	16	40
K0377.202	high carbon steel	28	44	27,6	M20	36	18	44
K0377.22	high carbon steel	24	40	23,6	M22	32	16	40
K0377.24	high carbon steel	28	44	27,6	M24	36	18	44
K0377.241	high carbon steel	36	54	35,5	M24	44	22	54
K0377.27	high carbon steel	32	50	31,5	M27	40	20	50
K0377.30	high carbon steel	36	54	35,5	M30	44	22	54
K0377.36	high carbon steel	42	65	41,5	M36	52	26	65
K0377.204	aluminium	6	10	5,6	M4	8	4	10
K0377.206	aluminium	8	13	7,6	M6	10	6	13
K0377.2061	aluminium	10	15	9,6	M6	12	6	15
K0377.208	aluminium	12	18	11,6	M8	14	7	18
K0377.210	aluminium	14	22	13,6	M10	16	8	22
K0377.216	aluminium	22	35	21,6	M16	28	14	35
K0377.806	stainless steel A4	8	13	7,6	M6	10	6	13
K0377.808	stainless steel A4	10	15	9,6	M8	12	6	15
K0377.810	stainless steel A4	12	18	11,6	M10	14	7	18
K0377.812	stainless steel A4	14	22	13,6	M12	16	8	22
K0377.814	stainless steel A4	16	25	15,6	M14	18	9	25
K0377.816	stainless steel A4	18	28	17,6	M16	20	10	28

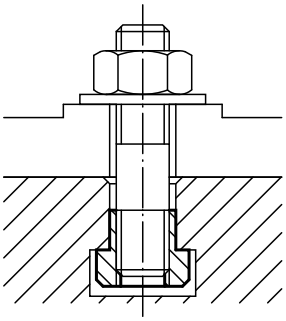
Material:
Carbon steel grade 10, EN AW-7075 or stainless steel 1.4571.

Version:
Steel tempered (black).
Aluminium and stainless steel bright.

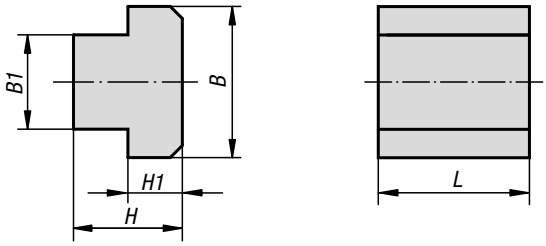
Sample order:
K0377.20

Note:
Aluminium T-slot nuts have steel threaded inserts.

Strength of stainless steel version:
Rm = 700 N/mm², Rp0,2 = 450 N/mm².



T-slot keys steel or stainless steel



Material:
High carbon steel or stainless steel 1.4305.

Sample order:
K0378.16

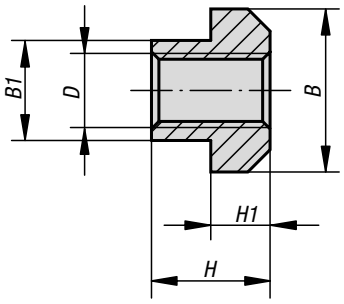
Note:
These blank nuts are used to make nuts for T-slots with all sorts of thread sizes cost-effectively.

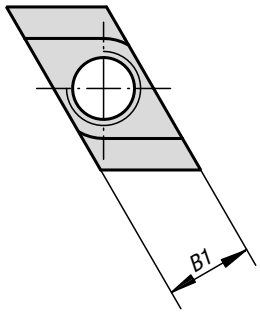
KIPP T-slot keys steel or stainless steel

Order No. high carbon steel	Order No. stainless steel	Slot width	B	B1	H	H1	L
K0378.06	-	6	10	5,6	8	4	10
K0378.08	**K0378.808**	8	13	7,6	10	6	13
K0378.10	**K0378.810**	10	15	9,6	12	6	15
K0378.12	**K0378.812**	12	18	11,5	14	7	18
K0378.14	**K0378.814**	14	22	13,5	16	8	22
K0378.16	-	16	25	15,6	18	9	25
K0378.18	-	18	28	17,5	20	10	28
K0378.20	-	20	32	19,6	24	12	32
K0378.22	-	22	35	21,6	28	14	35
K0378.24	-	24	40	23,6	32	16	40
K0378.28	-	28	44	27,6	36	18	44
K0378.36	-	36	54	35,5	44	22	54
K0378.42	-	42	65	41,6	52	26	65

Nuts for T-slots

rhombic form





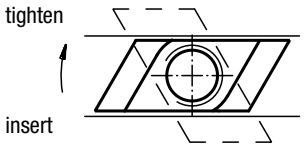
Material:
Carbon steel.

Version:
Tempered to 8 and black oxidised.

Sample order:
K0379.114

Note:
The benefit of rhombic nuts for T-slots is that they can be fitted in the slot from the top. They are particularly useful for long T-slots, or when the configuration on the machine table does not permit clamping screws or nuts for T-slots to be inserted from the side.

Application:
Insert from above then twist in the slot until it stops.

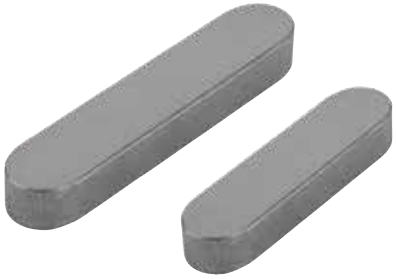


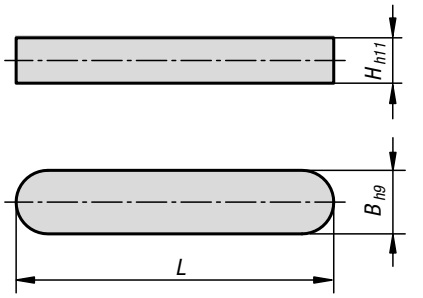
KIPP Nuts for T-slots, rhombic form

Order No.	Slot width	B	B1	D	H	H1
K0379.105	6	10	5,6	M5	8	4
K0379.106	8	13	7,6	M6	10	6
K0379.108	10	15	9,7	M8	12	6
K0379.110	12	18	11,7	M10	14	7
K0379.210	14	22	13,5	M10	16	8
K0379.310	18	28	17,5	M10	20	10
K0379.112	14	22	13,7	M12	16	8
K0379.114	16	25	15,7	M14	18	9
K0379.116	18	28	17,7	M16	20	10
K0379.216	20	32	19,7	M16	24	12
K0379.316	22	35	21,5	M16	28	14
K0379.416	28	44	27,5	M16	36	18
K0379.118	20	32	19,7	M18	24	12
K0379.120	22	35	21,7	M20	28	14
K0379.124	28	44	27,7	M24	36	18
K0379.130	36	54	35,6	M30	44	22
K0379.136	42	65	41,5	M36	52	26

Parallel keys

DIN 6885 A



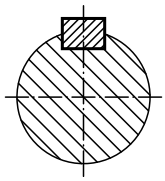


Material:
Steel 1.1192 or stainless steel 1.4571.

Version:
Bright.

Sample order:
K0696.04X12 (include length L)

Application example:

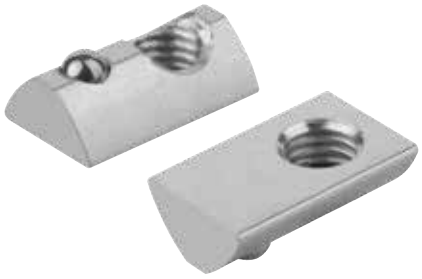


KIPP Parallel keys DIN 6885 A

Order No.	Main material	B	H	L = length
K0696.03X	steel	3	3	8/10/12/14/16/18/20/22/25/28
K0696.04X	steel	4	4	8/10/12/14/16/18/20/22/25/28
K0696.05X	steel	5	5	12/14/16/18/20/22/25/28/32/36/40
K0696.06X	steel	6	6	12/14/16/18/20/22/25/28/32/36/40/45
K0696.08X	steel	8	7	14/16/18/20/22/25/28/32/36/40/45/50/70
K0696.10X	steel	10	8	22/25/28/32/36/40/45/50/56/70/80
K0696.12X	steel	12	8	25/28/32/36/40/45/50/56/70/80
K0696.14X	steel	14	9	25/28/32/36/40/45/50/56/70/80
K0696.16X	steel	16	10	50/56/63/70/80/90/100
K0696.103X	stainless steel	3	3	10/12/16/20
K0696.104X	stainless steel	4	4	10/12/14/16/18/20/22
K0696.105X	stainless steel	5	5	12/14/16/18/20/22/25/28/36/40
K0696.106X	stainless steel	6	6	12/14/16/18/20/22/25/28/32/36/40
K0696.108X	stainless steel	8	7	16/18/20/22/25/28/32/36/40/45/50/70
K0696.110X	stainless steel	10	8	22/25/28/32/36/40/45/50/56/70/80
K0696.112X	stainless steel	12	8	28/32/36/40/45/50/56/70/80
K0696.114X	stainless steel	14	9	32/40/45/50/56/70/80
K0696.116X	stainless steel	16	10	50/63/70/80/90/100

Slot nuts

twist-in Type I



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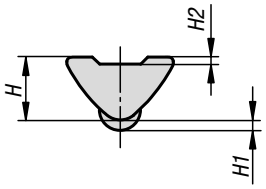

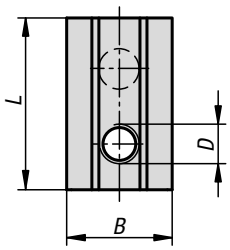

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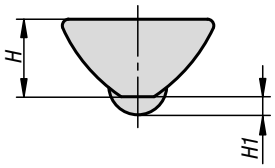
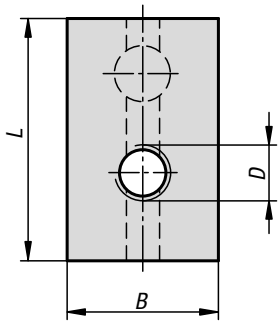




Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1023.0604

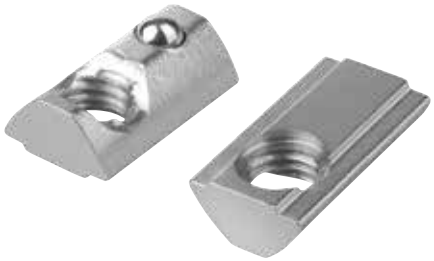
Note:
The slot nut is twisted into the profile slot and so can be subsequently inserted into existing systems. The spring-loaded ball allows the nut to be fixated anywhere in the profile slot.

KIPP Slot nuts twist-in Type I

Order No.	Form	Slot width	D	B	H	H1	H2	L
K1023.0604	A	6	M4	10,5	6,3	1	0,7	17
K1023.0605	A	6	M5	10,5	6,3	1	0,7	17
K1023.0606	A	6	M6	10,5	6,3	1	0,7	17
K1023.0804	B	8	M4	13,7	7	1,7	0,7	22
K1023.0805	B	8	M5	13,7	7	1,7	0,7	22
K1023.0806	B	8	M6	13,7	7	1,7	0,7	22
K1023.0808	B	8	M8	13,7	7	1,7	0,7	22

Slot nuts

twist-in, keyed Type I



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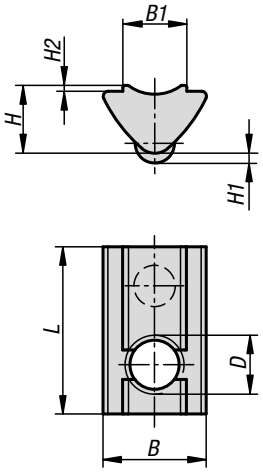

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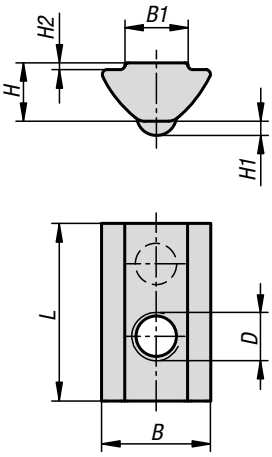


Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1024.0604

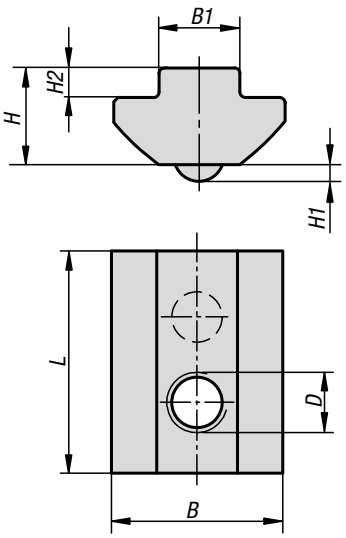
Note:
The slot nut is twisted into the profile slot and so can be subsequently inserted into existing systems. The spring-loaded ball allows the nut to be fixated anywhere in the profile slot. The key centres the nut in the profile slot and keeps it neatly seated.

KIPP Slot nuts twist-in, keyed Type I

Order No.	Form	Slot width	D	B	B1	H	H1	H2	L
K1024.0604	A	6	M4	10,5	6,5	6,9	1	0,6	17
K1024.0605	A	6	M5	10,5	6,5	6,9	1	0,6	17
K1024.0606	A	6	M6	10,5	6,5	6,9	1	0,6	17
K1024.0803	B	8	M3	13,5	7,8	7,2	1,75	0,8	22
K1024.0804	B	8	M4	13,5	7,8	7,2	1,75	0,8	22
K1024.0805	B	8	M5	13,5	7,8	7,2	1,75	0,8	22
K1024.0806	B	8	M6	13,5	7,8	7,2	1,75	0,8	22
K1024.0808	B	8	M8	13,5	7,8	7,2	1,75	0,8	22

Slot keys

heavy duty Type I



Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1025.0804

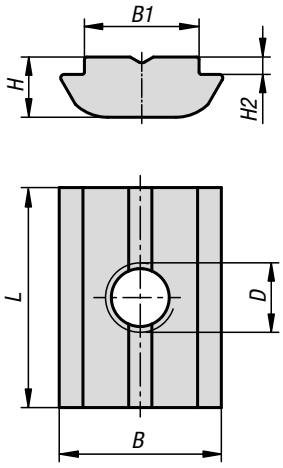
Note:
Suitable for high load connections. Since the key passes to the slot form of the profile, forces are transferred to the profile. The total height allows more threads to be engaged. The slot key can only be inserted into the profile slot from the end. The spring-loaded ball allows the slot key to be fixated anywhere in the profile slot.

KIPP Slot keys heavy duty Type I

Order No.	Slot width	B	B1	D	H	H1	H2	L
K1025.0804	8	17	8	M4	9,6	1,65	2,9	22
K1025.0805	8	17	8	M5	9,6	1,65	2,9	22
K1025.0806	8	17	8	M6	9,6	1,65	2,9	22
K1025.0808	8	17	8	M8	9,6	1,65	2,9	22

Slot nuts

twist-in Type B



Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1026.1004

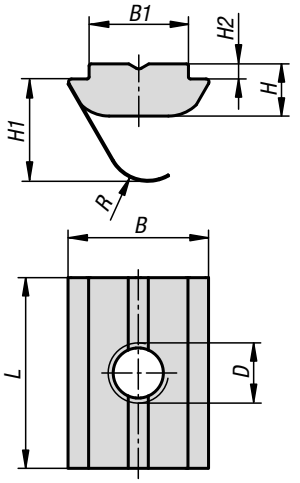
Note:
The slot nut is twisted into the profile slot and so can be subsequently inserted into existing systems.

KIPP Slot nuts twist-in Type B

Order No.	Slot width	B	B1	D	H	H2	L
K1026.0804	8	11,6	7,9	M4	4,6	1	16
K1026.0805	8	11,6	7,9	M5	4,6	1	16
K1026.0806	8	11,6	7,9	M6	4,6	1	16
K1026.0808	8	11,6	7,9	M8	4,6	1	16
K1026.1004	10	14	9,9	M4	5,2	1,5	19
K1026.1005	10	14	9,9	M5	5,2	1,5	19
K1026.1006	10	14	9,9	M6	5,2	1,5	19
K1026.1008	10	14	9,9	M8	5,2	1,5	19

Slot nuts

twist-in with spring Type B



Material:
Steel.

Version:
Electro zinc-plated.

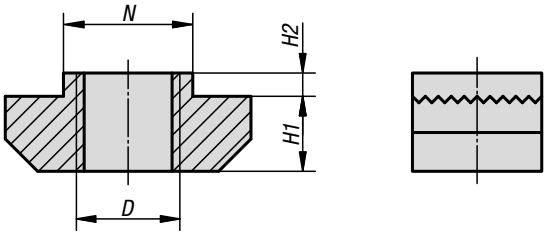
Sample order:
K1027.1004

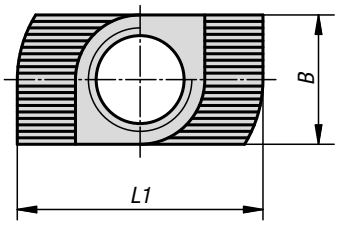
Note:
The slot nut is twisted into the profile slot and so can be subsequently inserted into existing systems. The spring allows the nut to be fixated anywhere in the profile slot.

KIPP Slot nuts twist-in with spring Type B

Order No.	Slot width	B	B1	D	H	H1	H2	L	R
K1027.0804	8	11,6	7,9	M4	4,6	8,8	1	16	3
K1027.0805	8	11,6	7,9	M5	4,6	8,8	1	16	3
K1027.0806	8	11,6	7,9	M6	4,6	8,8	1	16	3
K1027.0808	8	11,6	7,9	M8	4,6	8,8	1	16	3
K1027.1004	10	14	9,9	M4	5,2	10,2	1,5	19	4
K1027.1005	10	14	9,9	M5	5,2	10,2	1,5	19	4
K1027.1006	10	14	9,9	M6	5,2	10,2	1,5	19	4
K1027.1008	10	14	9,9	M8	5,2	10,2	1,5	19	4

T-nuts



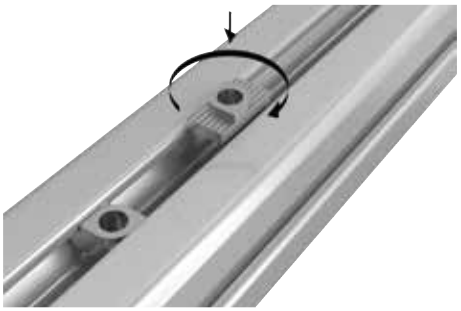


Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1028.0804015

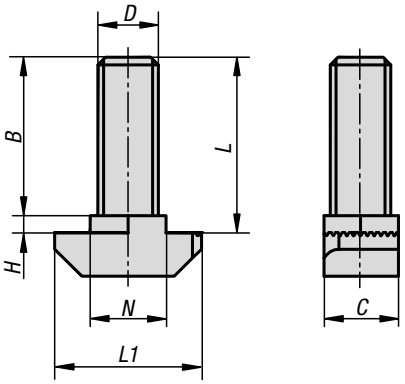
Note:
Universal fastening element. The T-nut is twisted into the profile slot and so can be subsequently inserted into existing systems. The serrations break through the anodised film and creates a secure, electrical conductive connection.



KIPP T-nuts

Order No.	Type	Slot width	B	D	H1	H2	L1	N
K1028.0804015	B	8	7,7	M4	4,5	1,5	16	7,7
K1028.0805015	B	8	7,7	M5	4,5	1,5	16	7,7
K1028.0806015	B	8	7,7	M6	4,5	1,5	16	7,7
K1028.1004030	B	10	9,7	M4	5,8	3	19	9,7
K1028.1005017	-	10	9,7	M5	5,8	1,5	19	9,7
K1028.1005030	B	10	9,7	M5	5,8	3	19	9,7
K1028.1006017	-	10	9,7	M6	5,8	1,5	19	9,7
K1028.1006030	B	10	9,7	M6	5,8	3	19	9,7
K1028.1008017	-	10	9,7	M8	5,8	1,5	19	9,7
K1028.1008030	B	10	9,7	M8	5,8	3	19	9,7

Hammer-head screws



Material:
Steel.

Version:
Grade 8.8, electro zinc-plated.

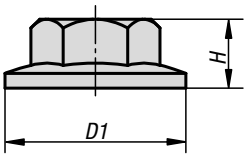
Sample order:
K1029.0806015X16

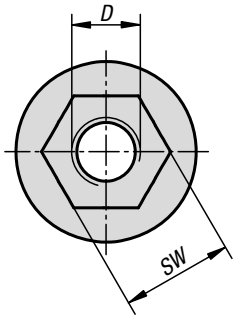
Note:
Universal fastening element. The hammer-headed screw is twisted into the profile slot and so can mounted into an existing systems at a later date. The serrations break through the anodised film and creates a secure, electrical conductive connection.

KIPP Hammer-head screws

Order No.	Type	Slot width	B	C	D	H	L	L1	N
K1029.0806015X16	B	8	14,5	7,7	M6	1,5	16	16	7,7
K1029.0806015X20	B	8	18,5	7,7	M6	1,5	20	16	7,7
K1029.0806015X25	B	8	23,5	7,7	M6	1,5	25	16	7,7
K1029.1008030X20	B	10	17	8,5	M8	3	20	19	9,7
K1029.1008030X25	B	10	22	8,5	M8	3	25	19	9,7
K1029.1008030X30	B	10	27	8,5	M8	3	30	19	9,7
K1029.1008030X40	B	10	37	8,5	M8	3	40	19	9,7
K1029.1008030X60	B	10	57	8,5	M8	3	60	19	9,7

Hexagon nuts with flange





Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1030.08

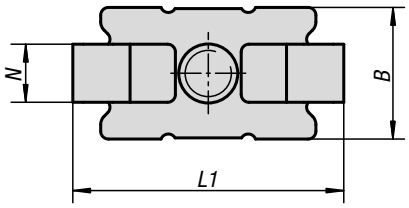
Note:
Nut with a large collar. Ideal together with a hammer-head screw.

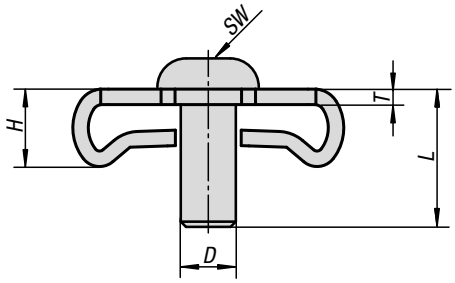
KIPP Hexagon nuts with flange

Order No.	Type	Slot width	D	D1	H	SW
K1030.08	B	10	M8	21	8	13

Connecting sets standard

Type I





1.

2.

3.

Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1031.06

Note:
The connecting sets are used for connecting two aluminium profiles at right angles. The connection is non-rotating. For larger profiles several connecting sets can be mounted on the end for greater strength

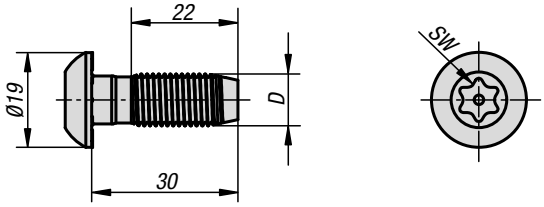
Low workload. Cut a thread in the end face core hole. Drill a through hole for tightening the screw in the opposing profile.

KIPP Connecting sets standard Type I

Order No.	Type	Slot width	D	B	H	L	L1	N	T	SW
K1031.06	I	6	M6	13	7,3	14	27,5	6	2	4
K1031.08	I	8	M8	17	9,5	20	35	8	2	5

Central screw

Type B

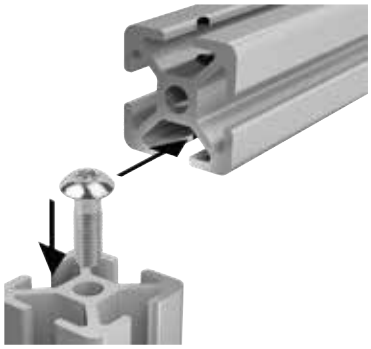


Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1040.1012

Note:
Self-tapping screw for end face core hole. Ideal for fastenings without an angle or additional connectors not exposed to high loads.

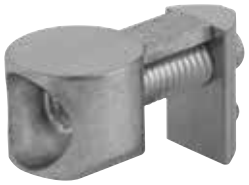


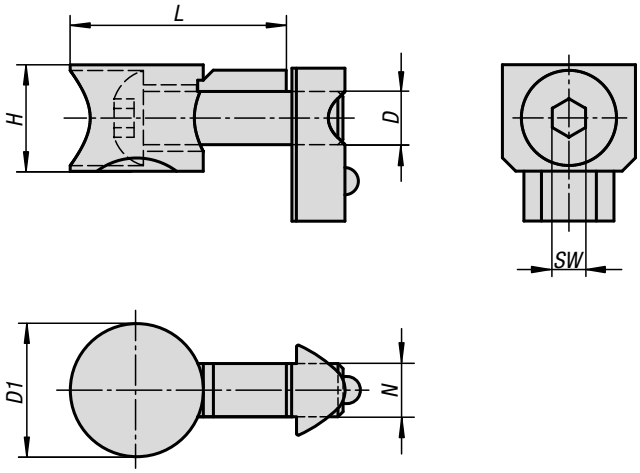
KIPP Central screw Type B

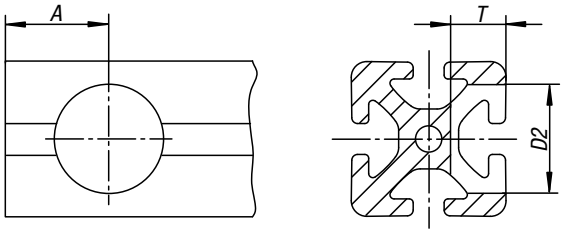
Order No.	Type	Slot width	D	SW
K1040.1012	B	10	S12	T50

Connecting sets universal

Type I







Material:
Connector die-cast zinc.
Screw and slot nuts steel.

Version:
Electro zinc-plated.

Sample order:
K1032.06

Note:
The connecting sets are used for connecting two aluminium profiles at right angles. They allow a free positioning of profiles. The connection is non-rotating (the rotation lock can be broken off). For larger profiles several connecting sets can be mounted on the end for greater strength. Retrofitting into existing constructions is possible.

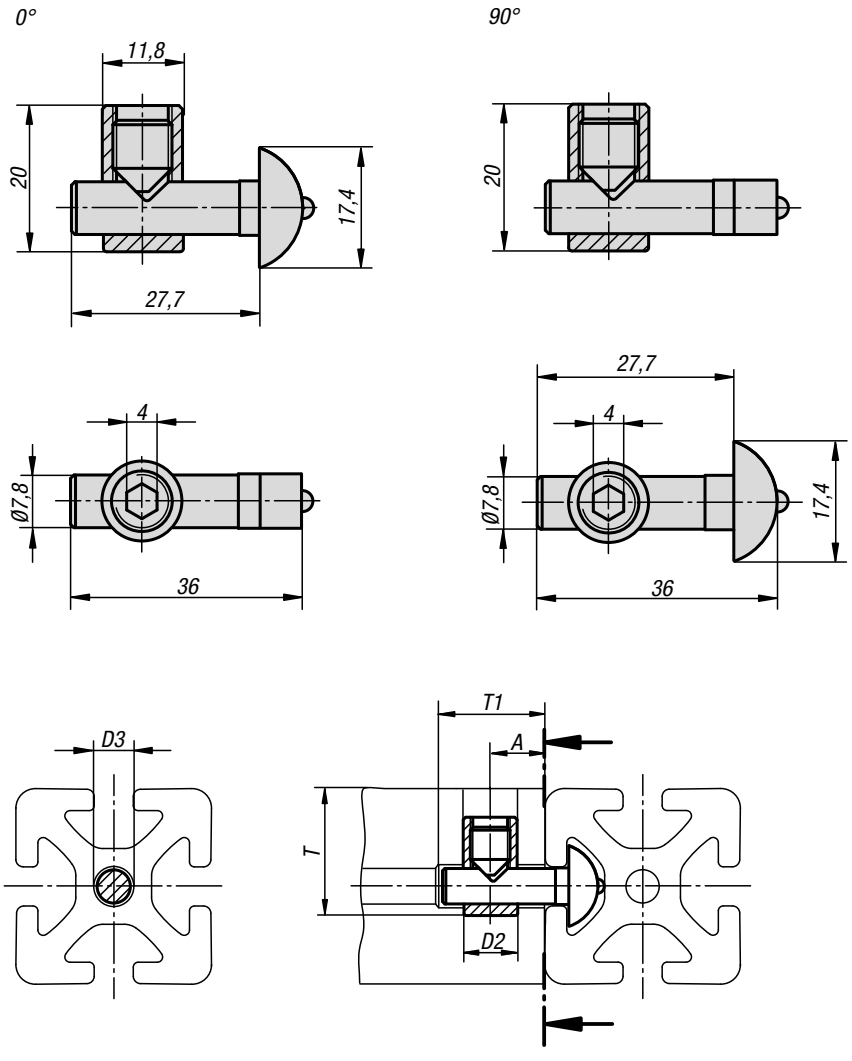
Low workload. The connecting set requires only one hole drilled in one end.

KIPP Connecting sets universal Type I

Order No.	Type	Slot width	D	D1	H	L	N	SW	A	D2	T
K1032.06	I	6	M6	16	12,5	25,2	6,2	4	15	16	12,7
K1032.08	I	8	M8	20	16	33,5	8	5	20	20	16

Connecting sets central

Type I



Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1033.0800

Note:
The connecting sets are used to connect two aluminium profiles at right angles. They allow free position of the profiles. The profile slots positioned at right-angles to each other remain free. Panel elements can be positioned in the profile grooves without additional machining.

Due to the reduced clamping force and ommited rotation locks, these connecting sets should only be used in combination with panel elements and lightly loaded constructions.

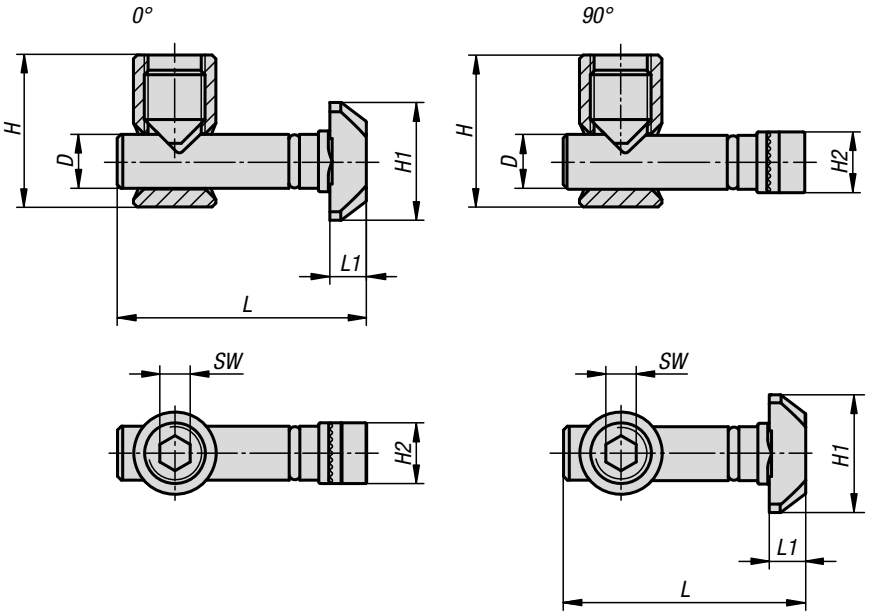
Low workload. To assemble a hole must be drilled into one of the profiles and the core hole must be drilled out.

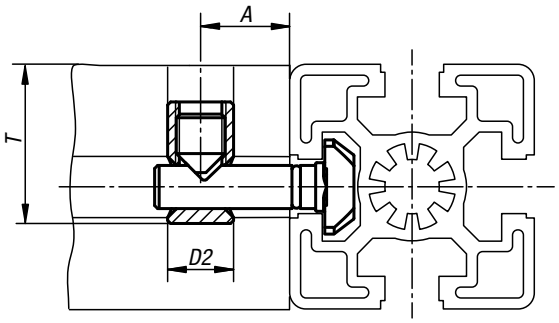
KIPP Connecting sets central Type I

Order No.	Type	Slot width	Version	A	D2	D3	T	T1
K1033.0800	I	8	0°	15	12	8	28	28
K1033.0890	I	8	90°	15	12	8	28	28

Connecting sets central

Type B





Material:
Steel.

Version:
Electro zinc-plated.

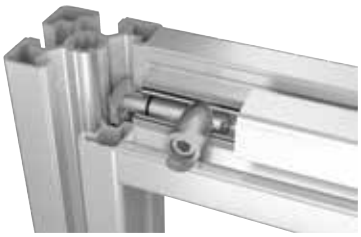
Sample order:
K1034.1000

Note:
The connecting sets are used to connect two aluminium profiles at right angles. They allow free position of the profiles. The profile slots positioned at right-angles to each other remain free. Panel elements can be positioned in the profile slots without additional machining.

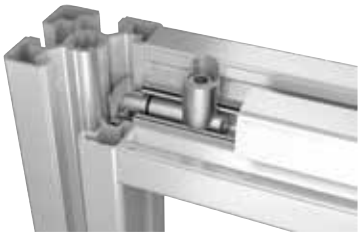
Due to the reduced clamping force and omitted rotation locks, these connecting sets should only be used in combination with panel elements and lightly loaded constructions.

Low workload. To assemble a hole must be drilled into one of the profiles. The D2 hole can also be drilled through.

0°



90°

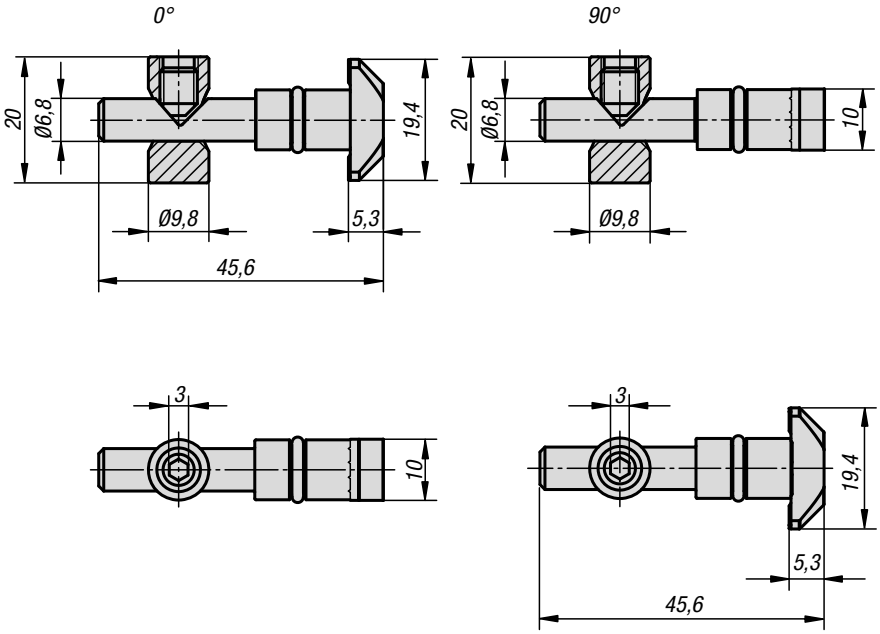


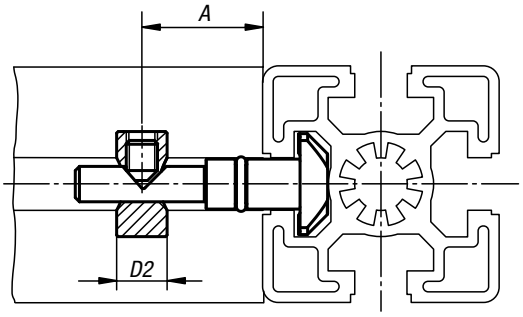
KIPP Connecting sets central Type B

Order No.	Type	Slot width	Version	A	D	D2	H	H1	H2	L	L1	SW	T for profile 30	T for profile 40	T for profile 45	T for profile 50	T for profile 60
K1034.0800	B	8	0°	18	7,1	11	20	15,5	8	33	4,8	4	22	-	-	-	-
K1034.0890	B	8	90°	18	7,1	11	20	15,5	8	33	4,8	4	22	-	-	-	-
K1034.1000	B	10	0°	22,5	9,7	17	28	19,5	10	45,5	5,5	6	-	31	34	36	41
K1034.1090	B	10	90°	22,5	9,7	17	28	19,5	10	45,5	5,5	6	-	31	34	36	41

Connecting sets central

Type B





Material:
Steel.

Version:
Electro zinc-plated.

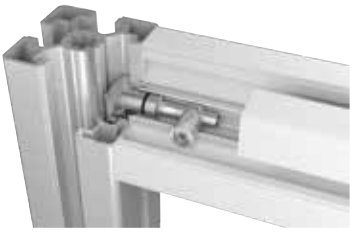
Sample order:
K1035.1000

Note:
The connecting sets are used to connect two aluminium profiles at right angles. They allow free position of the profiles. The profile slots positioned at right-angles to each other remain free. Panel elements can be positioned in the profile slots without additional machining.

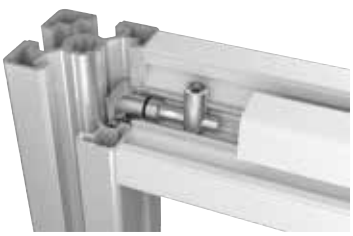
Due to the reduced clamping force and omitted rotation locks, these connecting sets should only be used in combination with panel elements and lightly loaded constructions.

Low workload. To assemble a hole must be drilled into one of the profiles. Due to the reduced pin diameter the slot is not damaged and can be completely covered with a cover profile.

0°



90°

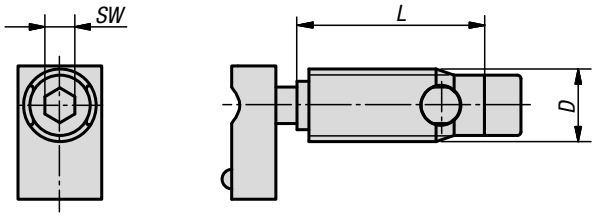


KIPP Connecting sets central Type B

Order No.	Type	Slot width	Version	A	D2
K1035.1000	B	10	0°	22,5	9,8
K1035.1090	B	10	90°	22,5	9,8

Connecting sets automatic

Type I



Material:
Steel.

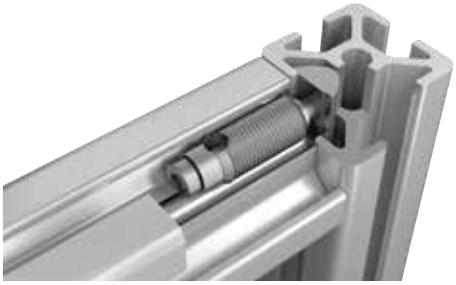
Version:
Electro zinc-plated.

Sample order:
K1036.06

Note:
The connecting sets are used to connect two aluminium profiles at right angles. They allow free position of the profiles.

No profile machining is necessary. The connector is screwed into the profile slot from the front (left-hand thread). The connector has a self-tapping thread. The use of lubricants is recommended.

Connecting sets automatic should always be used opposite each other in pairs.

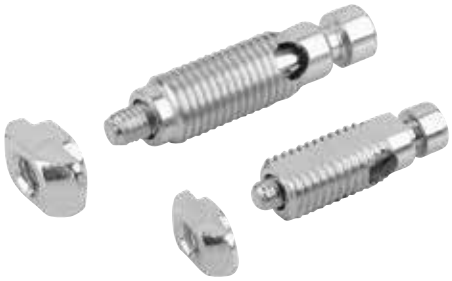


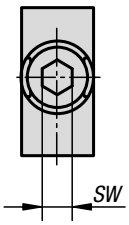
KIPP Connecting sets automatic Type I

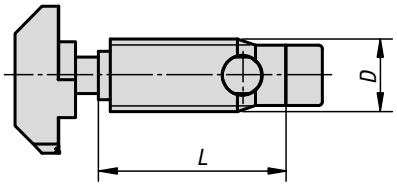
Order No.	Type	Slot width	D	L	SW
K1036.08	I	8	12	31	5
K1036.06	I	6	10	27	4

Connecting sets automatic

Type B







Material:
Steel.

Version:
Electro zinc-plated.

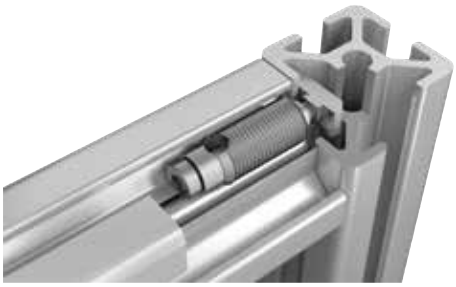
Sample order:
K1037.1012

Note:
The connecting sets are used to connect two aluminium profiles at right angles. They enable free positioning of the profiles.

No machining of the profile is required. The connector is screwed into the profile slot from the front (left-hand thread). The connector has a self-tapping thread. The use of lubricants is recommended.

Automatic connecting sets should always be used opposite each other in pairs.

Connecting set for slot width 8 has a flattened thread to prevent protruding after installation.



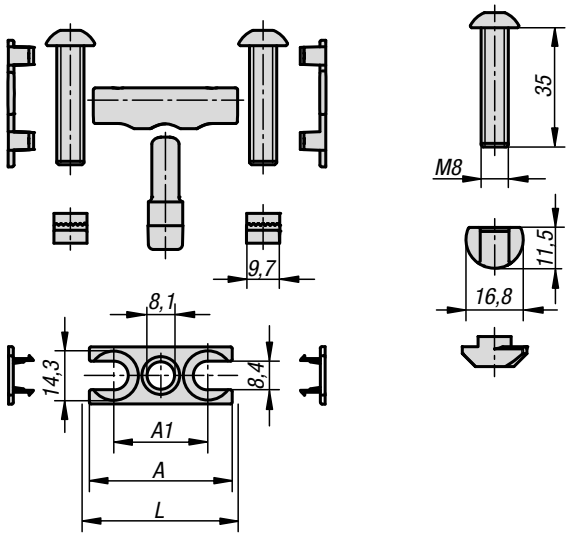
KIPP Connecting sets automatic Type B

Order No.	Type	Slot width	D	L	SW
K1037.0810	B	8	10,7	24	4
K1037.1012	B	10	12	35	5
K1037.1013	B	10 light	13	35	5

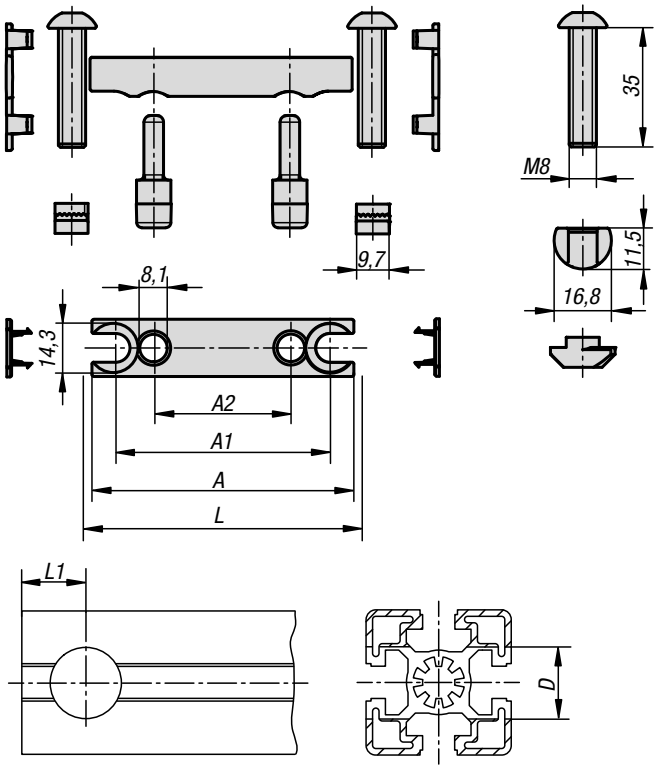
Pin connector sets

Type B

-1040 / -1045 / -1060



-1080 / -1090



Material:
Pins, screws and T-nuts steel.
Locating pin und end caps polyamide, fibreglass reinforced.

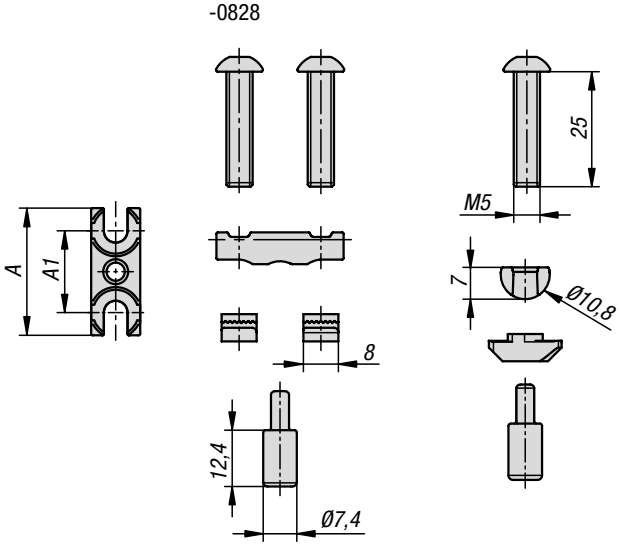
Version:
Pins, screws and T-nuts electro zinc-plated.
Locating pin and end caps black.

Sample order:
K1038.1040

Note:
The connecting sets are used to connect two aluminium profiles at right angles. They allow free position of the profiles. Suitable for high loads and torsional forces.

Low processing workload. The connecting set requires only one Ø17 mm hole drilled in one end for installation.
The connecting set K1038.0828 requires only one Ø11 mm hole drilled in one end for installation.

-0828



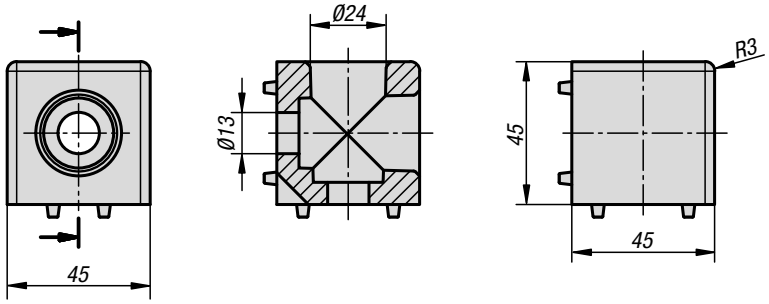
KIPP Pin connector sets Type B

Order No.	Type	Slot width	A	A1	A2	D	L	L1
K1038.0828	B	8	28	18	-	11	-	18
K1038.1040	B	10	37	23	-	17	40	22,5
K1038.1045	B	10	42	28	-	17	45	22,5
K1038.1060	B	10	57	43	-	17	60	22,5
K1038.1080	B	10	77	63	40	17	80	22,5
K1038.1090	B	10	87	73	45	17	90	22,5

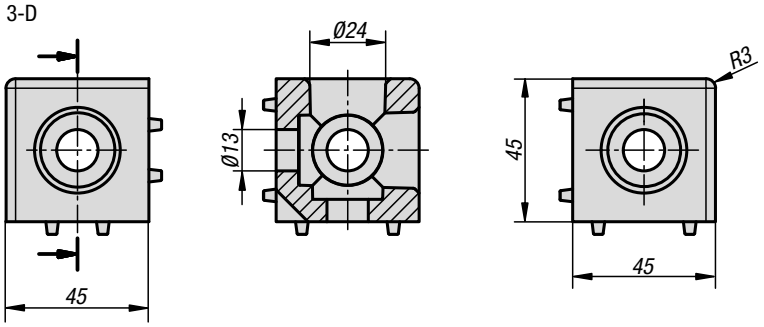
Cube connector sets

Type B

2-D



3-D



Material:
Cube die-cast aluminium.
Screws steel.
End caps polyamide.

Version:
Aluminium bright.
Screws with self-tapping thread.
End cap black.

Sample order:
K1039.102

Note:
The cube connector can be used to connect two or three profiles to each other by the end faces. The cube connectors have guide lugs that ensure a perfect and secure installation. Fastening to the profile is carried out by self-tapping screws. The open holes can be closed off with the end caps.

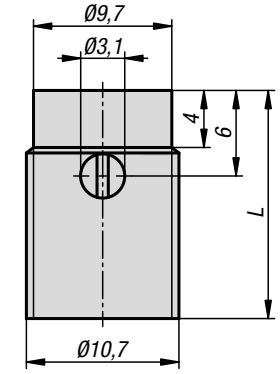
The profile slots positioned at right-angles to each other remain free. Panel elements can be positioned in the profile slots without additional machining.

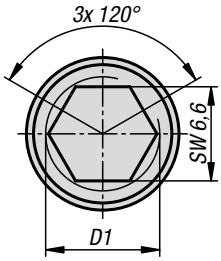
KIPP Cube connector sets Type B

Order No.	Type	Slot width	Version
K1039.102	B	10	2-D
K1039.103	B	10	3-D

Threaded insert, steel, self-tapping

type B





Material:
Steel.

Version:
Steel, case hardened, electro zinc-plated.

Sample order:
K1538.08

Note:
Self-tapping threaded inserts for making high-strength, wear-free, vibration-resistant fastenings in aluminium profiles.
To reduce the thread size from M10 to M8.
Only suitable for aluminium profiles with a core hole diameter of 10 mm.

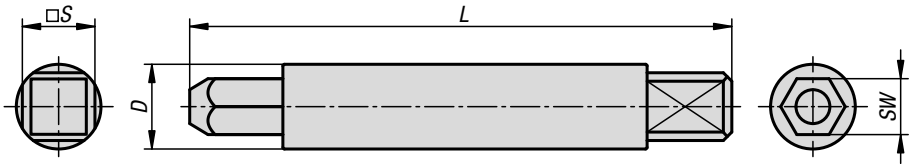
Accessories:
Assembly tool K1538.808.

KIPP Threaded insert, steel, self-tapping, type B

Order No.	D1	L length	for Art. No.
K1538.08	M8	16	K1538.808

Assembly tool, steel

for self-tapping threaded inserts, type B



Material:
Steel.

Version:
Manual assembly tool, electro zinc-plated.

Sample order:
K1538.808

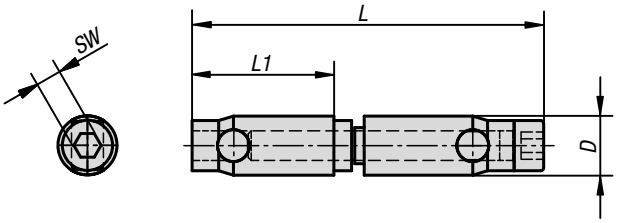
Note:
Inserts are screwed in using this manual assembly tool together with a tap wrench, socket set, cordless screwdriver etc.

KIPP Assembly tool, steel, for self-tapping threaded inserts type B

Order No.	SW	L length	S	D
K1538.808	6,6	64	8	10

Butt connector sets automatic

Type I



Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
K1041.06

Note:
The connecting sets are used to connect two aluminum profiles of the same series from the front.

No machining of the profile is necessary. The connector is screwed into the profile slot from the front (connector with through hole left-hand thread. Connector with internal thread right-hand thread). The connector has a self-tapping thread. The use of lubricants is recommended.

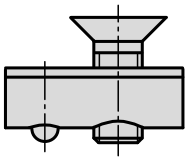
Automatic connecting sets should always be used in pairs. More pairs are required for large profiles and loads.

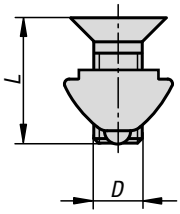
KIPP Butt connector sets, automatic, Type I

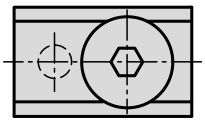
Order No.	Type	Slot width	D	L	L1	SW
K1041.06	I	6	10	60	24	4
K1041.08	I	8	12	69	27	5

Fastening sets

for straps and angles







Material:
Steel.

Version:
Slot key electro zinc-plated.
Screw electro zinc-plated, black.

Sample order:
K1044.06

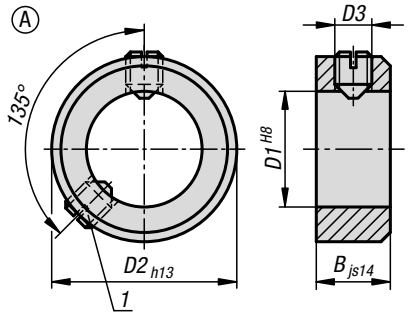
Note:
Consists of two DIN 7991 countersunk screws and two slot nuts.

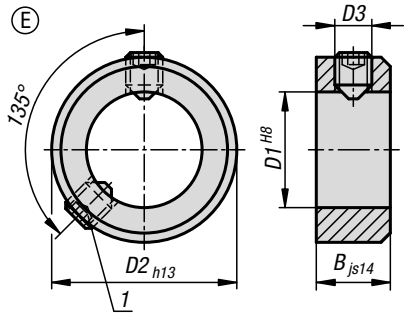
KIPP Fastening sets for straps and angles

Order No.	Version 1	Version 2	Slot width	D	L
K1044.06	type I	slot key with step	6	M6	10
K1044.08	type I	slot key with step	8	M8	14

Shaft collars set screw

DIN 705, steel





Material:
Steel.

Version:
Bright or electro zinc-plated, trivalent blue passivated.

Sample order:
K0406.100301

Note:
Form A: with DIN 553 grub screw (slit)
Form E: with DIN 914 grub screw (hex socket)

According to DIN 705, the stated tolerances apply to blank shaft collars. The tolerances cannot be guaranteed for with electro zinc-plated shaft collars. However, this has no influence on the function.

Drawing reference:
1) Second grub screw from D1 ≥ 75

Shaft collars set screw

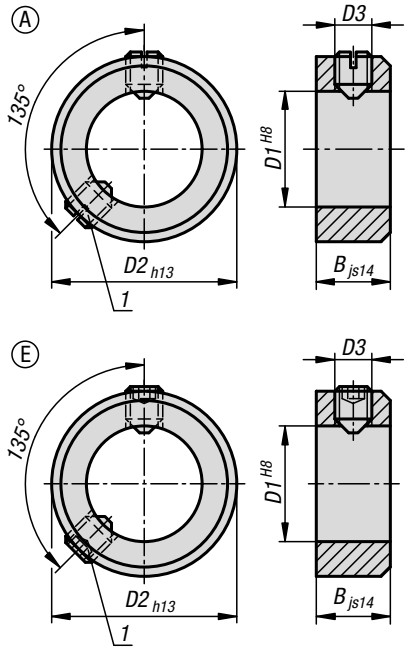
DIN 705, steel

KIPP Shaft collars set screw DIN 705, steel

Order No. Form A bright	Order No. Form E bright	Order No. Form E galvanised, blue-passivated	D1	B	D2	D3 grub screw
K0406.100301	K0406.300301	K0406.300303	3	5	7	M2x3
K0406.100401	K0406.300401	K0406.300403	4	5	8	M2,5x3
K0406.100501	K0406.300501	K0406.300503	5	6	10	M3x4
K0406.100601	K0406.300601	K0406.300603	6	8	12	M4x5
K0406.100701	K0406.300701	K0406.300703	7	8	12	M4x5
K0406.100801	K0406.300801	K0406.300803	8	8	16	M4x6
K0406.100901	K0406.300901	K0406.300903	9	10	18	M5x8
K0406.101001	K0406.301001	K0406.301003	10	10	20	M5x8
K0406.101101	K0406.301101	K0406.301103	11	10	20	M5x8
K0406.101201	K0406.301201	K0406.301203	12	12	22	M6x8
K0406.101401	K0406.301401	K0406.301403	14	12	25	M6x8
K0406.101501	K0406.301501	K0406.301503	15	12	25	M6x8
K0406.101601	K0406.301601	K0406.301603	16	12	28	M6x8
K0406.101801	K0406.301801	K0406.301803	18	14	32	M6x8
K0406.102001	K0406.302001	K0406.302003	20	14	32	M6x8
K0406.102401	K0406.302401	K0406.302403	24	16	40	M8x12
K0406.102501	K0406.302501	K0406.302503	25	16	40	M8x10
K0406.102601	K0406.302601	K0406.302603	26	16	40	M8x10
K0406.102801	K0406.302801	K0406.302803	28	16	45	M8x12
K0406.103001	K0406.303001	K0406.303003	30	16	45	M8x10
K0406.103201	K0406.303201	K0406.303203	32	16	50	M8x12
K0406.103501	K0406.303501	K0406.303503	35	16	56	M8x12
K0406.103601	K0406.303601	K0406.303603	36	16	56	M8x12
K0406.103801	K0406.303801	K0406.303803	38	16	56	M8x12
K0406.104001	K0406.304001	K0406.304003	40	18	63	M10x16
K0406.104201	K0406.304201	K0406.304203	42	18	63	M10x16
K0406.104501	K0406.304501	K0406.304503	45	18	70	M10x16
K0406.104801	K0406.304801	K0406.304803	48	18	70	M10x16
K0406.105001	K0406.305001	K0406.305003	50	18	80	M10x16
K0406.105201	K0406.305201	K0406.305203	52	18	80	M10x16
K0406.105501	K0406.305501	K0406.305503	55	18	80	M10x16
K0406.105601	K0406.305601	K0406.305603	56	18	80	M10x16
K0406.105801	K0406.305801	K0406.305803	58	20	90	M10x16
K0406.106001	K0406.306001	K0406.306003	60	20	90	M10x16
K0406.106301	K0406.306301	K0406.306303	63	20	90	M10x16
K0406.106501	K0406.306501	K0406.306503	65	20	100	M10x20
K0406.106801	K0406.306801	K0406.306803	68	20	100	M10x20
K0406.107001	K0406.307001	K0406.307003	70	20	100	M10x20
K0406.107201	K0406.307201	K0406.307203	72	20	100	M10x20
K0406.107501	K0406.307501	K0406.307503	75	22	110	M12x20
K0406.108001	K0406.308001	K0406.308003	80	22	110	M12x20
K0406.108501	K0406.308501	K0406.308503	85	22	125	M12x25
K0406.109001	K0406.309001	K0406.309003	90	22	125	M12x20
K0406.110001	K0406.310001	K0406.310003	100	25	140	M12x25

Shaft collars set screw

DIN 705, stainless steel



Material:
Stainless steel 1.4305.

Version:
Bright.

Sample order:
K0406.100302

Note:
Form A: with grub screw DIN 553 (recess)
Form E: with grub screw DIN 914 (hexagon socket)

Drawing reference:
1) Second grub screw from D1 ≥ 75

Shaft collars set screw

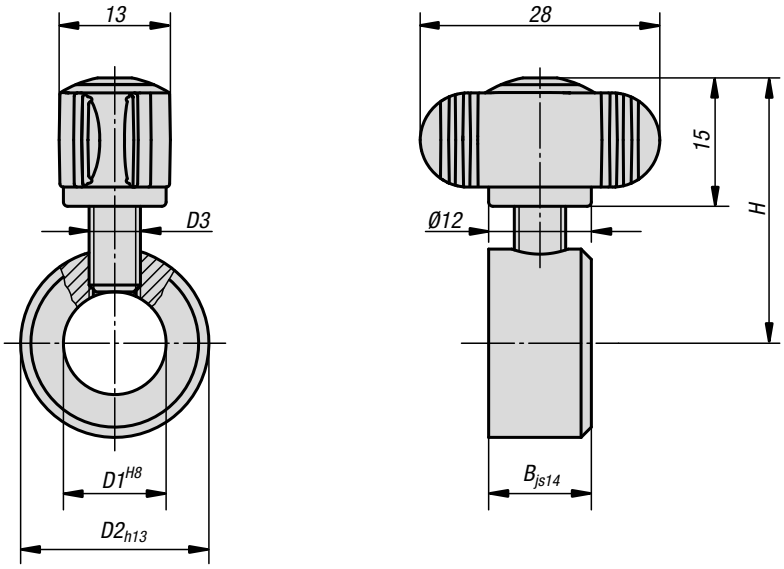
DIN 705, stainless steel

KIPP Shaft collars set screw DIN 705, stainless steel

Order No. Form A	Order No. Form E	D1	B	D2	D3 grub screw
K0406.100302	K0406.300302	3	5	7	M2x3
K0406.100402	K0406.300402	4	5	8	M2,5x3
K0406.100502	K0406.300502	5	6	10	M3x4
K0406.100602	K0406.300602	6	8	12	M4x5
K0406.100702	K0406.300702	7	8	12	M4x5
K0406.100802	K0406.300802	8	8	16	M4x6
K0406.100902	K0406.300902	9	10	18	M5x8
K0406.101002	K0406.301002	10	10	20	M5x8
K0406.101102	K0406.301102	11	10	20	M5x8
K0406.101202	K0406.301202	12	12	22	M6x8
K0406.101402	K0406.301402	14	12	25	M6x8
K0406.101502	K0406.301502	15	12	25	M6x8
K0406.101602	K0406.301602	16	12	28	M6x8
K0406.101802	K0406.301802	18	14	32	M6x8
K0406.102002	K0406.302002	20	14	32	M6x8
K0406.102402	K0406.302402	24	16	40	M8x12
K0406.102502	K0406.302502	25	16	40	M8x10
K0406.102602	K0406.302602	26	16	40	M8x10
K0406.102802	K0406.302802	28	16	45	M8x12
K0406.103002	K0406.303002	30	16	45	M8x10
K0406.103202	K0406.303202	32	16	50	M8x12
K0406.103502	K0406.303502	35	16	56	M8x12
K0406.103602	K0406.303602	36	16	56	M8x12
K0406.103802	K0406.303802	38	16	56	M8x12
K0406.104002	K0406.304002	40	18	63	M10x16
K0406.104202	K0406.304202	42	18	63	M10x16
K0406.104502	K0406.304502	45	18	70	M10x16
K0406.104802	K0406.304802	48	18	70	M10x16
K0406.105002	K0406.305002	50	18	80	M10x16
K0406.105202	K0406.305202	52	18	80	M10x16
K0406.105502	K0406.305502	55	18	80	M10x16
K0406.105602	K0406.305602	56	18	80	M10x16
K0406.105802	K0406.305802	58	20	90	M10x16
K0406.106002	K0406.306002	60	20	90	M10x16
K0406.106302	K0406.306302	63	20	90	M10x16
K0406.106502	K0406.306502	65	20	100	M10x20
K0406.106802	K0406.306802	68	20	100	M10x20
K0406.107002	K0406.307002	70	20	100	M10x20
K0406.107202	K0406.307202	72	20	100	M10x20
K0406.107502	K0406.307502	75	22	110	M12x20
K0406.108002	K0406.308002	80	22	110	M12x20
K0406.108502	K0406.308502	85	22	125	M12x25
K0406.109002	K0406.309002	90	22	125	M12x20
K0406.110002	K0406.310002	100	25	140	M12x25

Shaft collars with wing grip

similar to DIN 705, steel

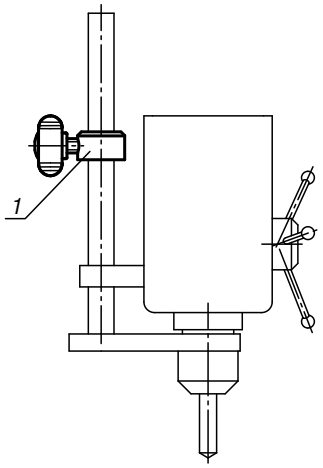


Material:
Shaft collar steel.
Wing grip thermoplastic.
Threaded pin steel grade 5.8.

Version:
Shaft collar bright.
Wing grip black grey.
Screw blue passivated.

Sample order:
K0407.100601

Drawing reference:
1) variable stop



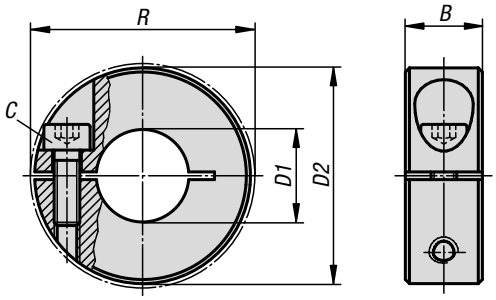
KIPP Shaft collars with wing grip similar to DIN 705, steel

Order No.	B	D1	D2	D3	H
K0407.100601	8	6	12	M4	26
K0407.100801	8	8	16	M4	27
K0407.101001	10	10	20	M5	30
K0407.101201	12	12	22	M6	31
K0407.101601	12	16	28	M6	33
K0407.102001	14	20	32	M6	35
K0407.102501	16	25	40	M8	37,5
K0407.103201	16	32	50	M8	46

Notes

One-piece shaft collars

slitted inside



Material:
Steel.
Stainless steel 1.4305.
Stainless steel 1.4404.
Aluminium.

Version:
Steel black oxidised, screw steel 12.9.
Stainless steel bright, screw stainless steel A2-70.
Stainless steel bright, screw stainless steel A4-70.
Aluminium bright, screw stainless steel A2-70.

Sample order:
K0611.00504

Note:
One-piece shaft collars with an inner slit surround the shaft with an equal distribution of the clamping force. This leads to a very precise fit and high retaining force without damaging the shaft.

The shaft tolerance should lie within h11.

The shaft collars made of A4 stainless steel have a small centre point mark on the OD.

Temperature range:
-40 °C to +175 °C.

On request:
Other dimensions.

One-piece shaft collars

slitted inside

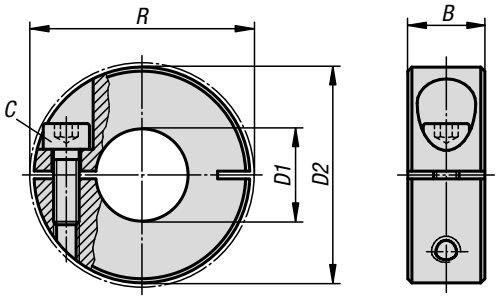
KIPP One-piece shaft collar, slitted inside

Order No. steel	Order No. aluminium	B	C (DIN 912)	D1	D2	R
K0611.00401	K0611.00403	9	M3x8	4	16	20,7
K0611.00501	K0611.00503	9	M3x8	5	16	20,7
K0611.00601	K0611.00603	9	M3x8	6	16	20,7
K0611.00801	K0611.00803	9	M3x8	8	18	22,4
K0611.01001	K0611.01003	9	M3x10	10	24	26
K0611.01201	K0611.01203	11	M4x12	12	28	31,8
K0611.01501	K0611.01503	13	M5x16	15	34	39,4
K0611.01601	K0611.01603	13	M5x16	16	34	39,4
K0611.01801	K0611.01803	13	M5x16	18	36	41,1
K0611.02001	K0611.02003	15	M6x18	20	40	46,4
K0611.02201	K0611.02203	15	M6x18	22	42	48,1
K0611.02501	K0611.02503	15	M6x18	25	45	50,8
K0611.02801	K0611.02803	15	M6x18	28	48	53,7
K0611.03001	K0611.03003	15	M6x18	30	54	58,6
K0611.04001	K0611.04003	15	M6x18	40	60	65
K0611.05001	K0611.05003	19	M8x25	50	78	87

Order No. stainless steel	Order No. stainless steel A4	B	C (DIN 912)	D1	D2	R
K0611.00402	K0611.00404	9	M3x8	4	16	20,7
K0611.00502	K0611.00504	9	M3x8	5	16	20,7
K0611.00602	K0611.00604	9	M3x8	6	16	20,7
K0611.00802	K0611.00804	9	M3x8	8	18	22,4
K0611.01002	K0611.01004	9	M3x10	10	24	26
K0611.01202	K0611.01204	11	M4x12	12	28	31,8
K0611.01502	K0611.01504	13	M5x16	15	34	39,4
K0611.01602	K0611.01604	13	M5x16	16	34	39,4
K0611.01802	K0611.01804	13	M5x16	18	36	41,1
K0611.02002	K0611.02004	15	M6x18	20	40	46,4
K0611.02202	K0611.02204	15	M6x18	22	42	48,1
K0611.02502	K0611.02504	15	M6x18	25	45	50,8
K0611.02802	K0611.02804	15	M6x18	28	48	53,7
K0611.03002	K0611.03004	15	M6x18	30	54	58,6
K0611.04002	K0611.04004	15	M6x18	40	60	65
K0611.05002	K0611.05004	19	M8x25	50	78	87

One-piece shaft collars

slitted outside



Material:
Steel.
Stainless steel 1.4305.
Stainless steel 1.4404.
Aluminium.

Version:
Steel black oxidised, screw steel 12.9.
Stainless steel bright, screw stainless steel A2-70.
Stainless steel bright, screw stainless steel A4-70.
Aluminium bright, screw stainless steel A2-70.

Sample order:
K0611.100504

Note:
One-piece shaft collars with an outer slit surround the shaft with an equal distribution of the clamping force. This leads to a very precise fit and high retaining force without damaging the shaft.

The shaft tolerance should lie within h11.

Due to the slit being on the outside of the shaft collar, up to 15% higher clamping forces can be achieved than with the version with slit on the inside. The bore remains cylindrical, thus precisely enclosing the shaft. Less imbalance.

The shaft collars made of A4 stainless steel have a small centre point mark on the OD.

Temperature range:
-40 °C to +175 °C.

On request:
Other dimensions.

One-piece shaft collars

slitted outside

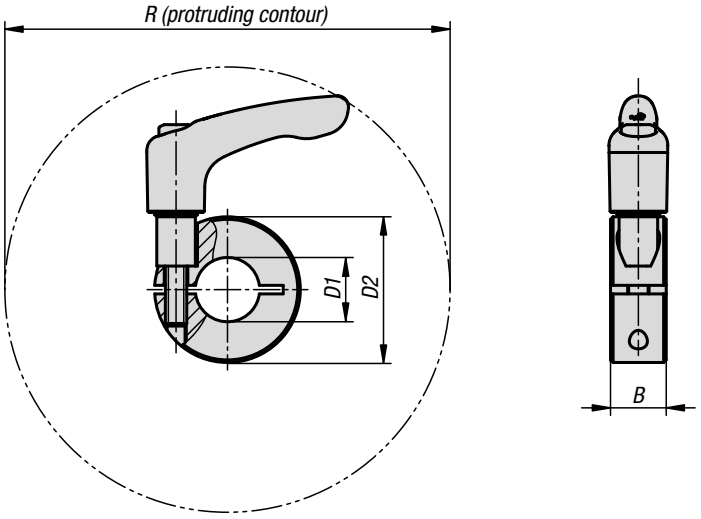
KIPP One-piece shaft collar, slitted outside

Order No. steel	Order No. aluminium	B	C (DIN 912)	D1	D2	R
K0611.100401	K0611.100403	9	M3x8	4	16	20,7
K0611.100501	K0611.100503	9	M3x8	5	16	20,7
K0611.100601	K0611.100603	9	M3x8	6	16	20,7
K0611.100801	K0611.100803	9	M3x8	8	18	22,4
K0611.101001	K0611.101003	9	M3x10	10	24	26
K0611.101201	K0611.101203	11	M4x12	12	28	31,8
K0611.101501	K0611.101503	13	M5x16	15	34	39,4
K0611.101601	K0611.101603	13	M5x16	16	34	39,4
K0611.101801	K0611.101803	13	M5x16	18	36	41,1
K0611.102001	K0611.102003	15	M6x18	20	40	46,4
K0611.102201	K0611.102203	15	M6x18	22	42	48,1
K0611.102501	K0611.102503	15	M6x18	25	45	50,8
K0611.102801	K0611.102803	15	M6x18	28	48	53,7
K0611.103001	K0611.103003	15	M6x18	30	54	58,6
K0611.104001	K0611.104003	15	M6x18	40	60	65
K0611.105001	K0611.105003	19	M8x25	50	78	87

Order No. stainless steel 1.4305	Order No. stainless steel A4	B	C (DIN 912)	D1	D2	R
K0611.100402	K0611.100404	9	M3x8	4	16	20,7
K0611.100502	K0611.100504	9	M3x8	5	16	20,7
K0611.100602	K0611.100604	9	M3x8	6	16	20,7
K0611.100802	K0611.100804	9	M3x8	8	18	22,4
K0611.101002	K0611.101004	9	M3x10	10	24	26
K0611.101202	K0611.101204	11	M4x12	12	28	31,8
K0611.101502	K0611.101504	13	M5x16	15	34	39,4
K0611.101602	K0611.101604	13	M5x16	16	34	39,4
K0611.101802	K0611.101804	13	M5x16	18	36	41,1
K0611.102002	K0611.102004	15	M6x18	20	40	46,4
K0611.102202	K0611.102204	15	M6x18	22	42	48,1
K0611.102502	K0611.102504	15	M6x18	25	45	50,8
K0611.102802	K0611.102804	15	M6x18	28	48	53,7
K0611.103002	K0611.103004	15	M6x18	30	54	58,6
K0611.104002	K0611.104004	15	M6x18	40	60	65
K0611.105002	K0611.105004	19	M8x25	50	78	87

Shaft collars

one-piece, with clamping lever



Material:
Steel 1.0718.
Stainless steel 1.4305.

Version:
Steel black oxidised.
Stainless steel bright.
Insert stainless-steel.

Sample order:
K0611.11001

Note:
One-piece shaft collars surround the shaft with an equal distribution of the clamping force. This leads to a very precise fit and high retaining force without damaging the shaft.

The shaft tolerance should lie within h11.

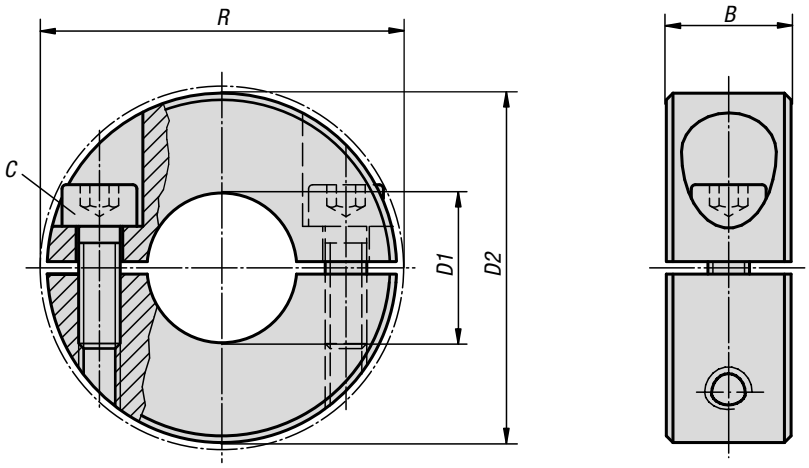
On request:
Other dimensions.

KIPP Shaft collars, one-piece, with clamping lever

Order No. steel	Order No. stainless steel	B	D1	D2	R
K0611.11001	K0611.11002	9	10	24	44,1
K0611.11201	K0611.11202	11	12	28	90,4
K0611.11501	K0611.11502	13	15	34	105
K0611.11601	K0611.11602	13	16	34	105
K0611.11801	K0611.11802	13	18	36	105,7
K0611.12001	K0611.12002	15	20	40	103,8
K0611.12201	K0611.12202	15	22	42	104,2
K0611.12501	K0611.12502	15	25	45	104,8
K0611.12801	K0611.12802	15	28	48	106,8
K0611.13001	K0611.13002	15	30	54	112,6
K0611.14001	K0611.14002	15	40	60	113,2
K0611.15001	K0611.15002	19	50	78	150,2

Notes

Shaft collars two-piece



Material:
Steel.
Stainless steel 1.4305.
Stainless steel 1.4404.
Aluminium.

Version:
Steel black oxidised, screw steel 12.9.
Stainless steel bright, screw stainless steel A2-70.
Stainless steel bright, screw stainless steel A4-70.
Aluminium bright, screw stainless steel A2-70.

Sample order:
K0612.01001

Note:
Two-piece shaft collars surround the shaft with an equal distribution of the clamping force. This leads to a very precise fit and high retaining force without damaging the shaft.

The shaft tolerance should lie within h11.

The two-part design enables simple and quick assembly without having to dismantle adjacent components.

The shaft collars made of A4 stainless steel have a small centre point mark on the OD.

Temperature range:
-40 °C to +175 °C.

On request:
Other dimensions.

Shaft collars two-piece

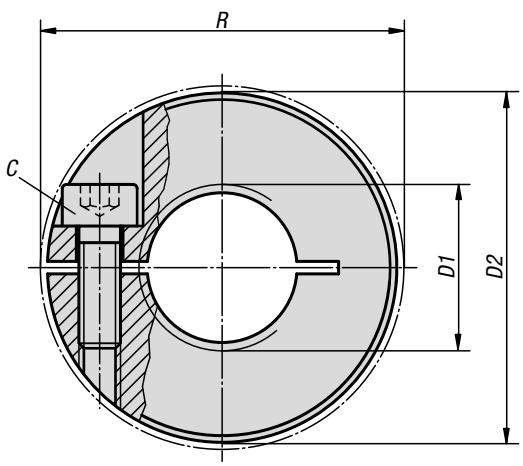
KIPP Shaft collars two-piece

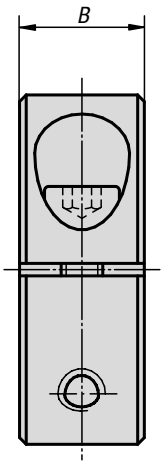
Order No. steel	Order No. aluminium	B	C (DIN 912)	D1	D2	R
K0612.00401	K0612.00403	9	M3x8	4	16	20,7
K0612.00501	K0612.00503	9	M3x8	5	16	20,7
K0612.00601	K0612.00603	9	M3x8	6	16	20,7
K0612.00801	K0612.00803	9	M3x8	8	18	22,4
K0612.01001	K0612.01003	9	M3x10	10	24	26
K0612.01201	K0612.01203	11	M4x12	12	28	31,8
K0612.01501	K0612.01503	13	M5x16	15	34	39,4
K0612.01601	K0612.01603	13	M5x16	16	34	39,4
K0612.01801	K0612.01803	13	M5x16	18	36	41,1
K0612.02001	K0612.02003	15	M6x18	20	40	46,4
K0612.02201	K0612.02203	15	M6x18	22	42	48,1
K0612.02501	K0612.02503	15	M6x18	25	45	50,8
K0612.02801	K0612.02803	15	M6x18	28	48	53,7
K0612.03001	K0612.03003	15	M6x18	30	54	58,6
K0612.04001	K0612.04003	15	M6x18	40	60	65
K0612.05001	K0612.05003	19	M8x25	50	78	87

Order No. stainless steel	Order No. stainless steel A4	B	C (DIN 912)	D1	D2	R
K0612.00402	K0612.00404	9	M3x8	4	16	20,7
K0612.00502	K0612.00504	9	M3x8	5	16	20,7
K0612.00602	K0612.00604	9	M3x8	6	16	20,7
K0612.00802	K0612.00804	9	M3x8	8	18	22,4
K0612.01002	K0612.01004	9	M3x10	10	24	26
K0612.01202	K0612.01204	11	M4x12	12	28	31,8
K0612.01502	K0612.01504	13	M5x16	15	34	39,4
K0612.01602	K0612.01604	13	M5x16	16	34	39,4
K0612.01802	K0612.01804	13	M5x16	18	36	41,1
K0612.02002	K0612.02004	15	M6x18	20	40	46,4
K0612.02202	K0612.02204	15	M6x18	22	42	48,1
K0612.02502	K0612.02504	15	M6x18	25	45	50,8
K0612.02802	K0612.02804	15	M6x18	28	48	53,7
K0612.03002	K0612.03004	15	M6x18	30	54	58,6
K0612.04002	K0612.04004	15	M6x18	40	60	65
K0612.05002	K0612.05004	19	M8x25	50	78	87

Shaft collars

tapped





Material:
Steel.
Stainless steel 1.4305.

Version:
Steel black oxidised.
Screw 12.9 steel.
Stainless steel bright.
Screw A2-70 stainless steel.

Sample order:
K0986.0601

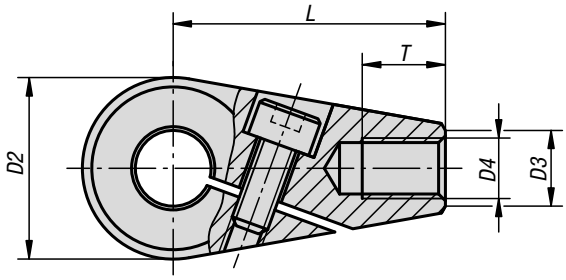
Note:
Shaft collars with thread surround the shaft with an equal distribution of clamping forces.
The shaft collars can be used on threaded rods or shafts with a thread tolerance of 6g.

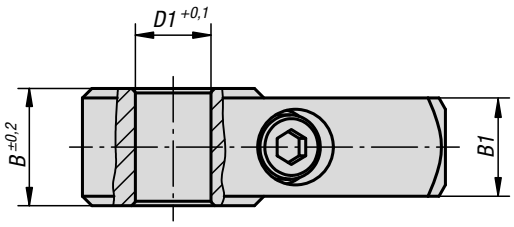
Temperature range:
-40 °C to +175 °C.

KIPP Shaft collars tapped

Order No. steel	Order No. stainless steel	B	C	D1	D2	R
K0986.0401	**K0986.0402**	9	M3x8	M4	16	20,7
K0986.0501	**K0986.0502**	9	M3x8	M5	16	20,7
K0986.0601	**K0986.0602**	9	M3x8	M6	16	20,7
K0986.0801	**K0986.0802**	9	M3x8	M8	18	22,4
K0986.1001	**K0986.1002**	9	M3x10	M10	24	26
K0986.1201	**K0986.1202**	11	M4x12	M12	28	31,8
K0986.1601	**K0986.1602**	13	M5x16	M16	34	39,4
K0986.2001	**K0986.2002**	15	M6x18	M20	40	46,4

Clamp hubs



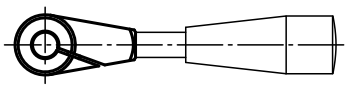


Material:
Carbon steel 1.1206.

Version:
Black oxidised.

Sample order:
K0376.1012

Note:
Clamp hubs can be quickly and easily attached to shafts, adjusted in the proper operating position and then locked. For secure transmission of torque, shaft tolerance should not exceed h11.
At fastening thread (D2), handles can be screwed on.

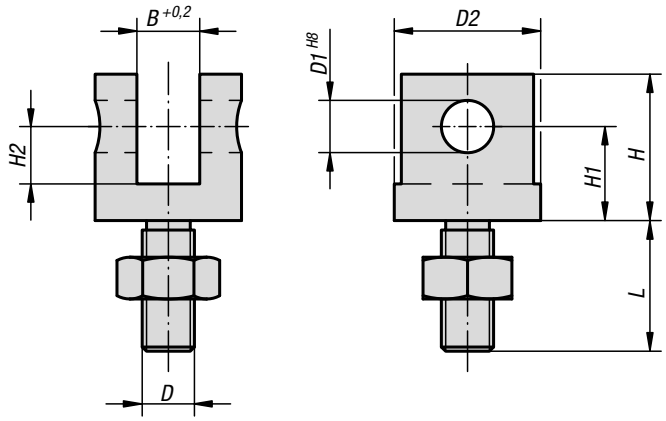


KIPP Clamp hubs

Order No.	D1	D2	D3	D4	B	B1	L	T
K0376.0810	10	24	10	M8	15,5	13	36	11
K0376.0812	12	24	10	M8	15,5	13	36	11
K0376.1012	12	28	12	M10	17,5	15	41	14
K0376.1014	14	28	12	M10	17,5	15	41	14
K0376.1214	14	32	14	M12	19,5	17	45	16
K0376.1216	16	32	14	M12	19,5	17	45	16

Clevises

with screw, steel or stainless steel

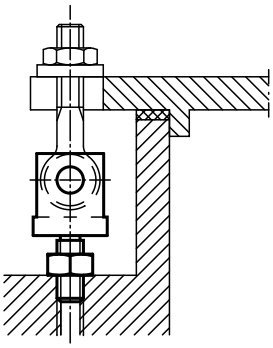


Material:
Carbon steel 1.1191 or stainless steel 1.4305.

Version:
Carbon steel tempered and black oxidised.
Stainless steel bright.

Sample order:
K0397.05

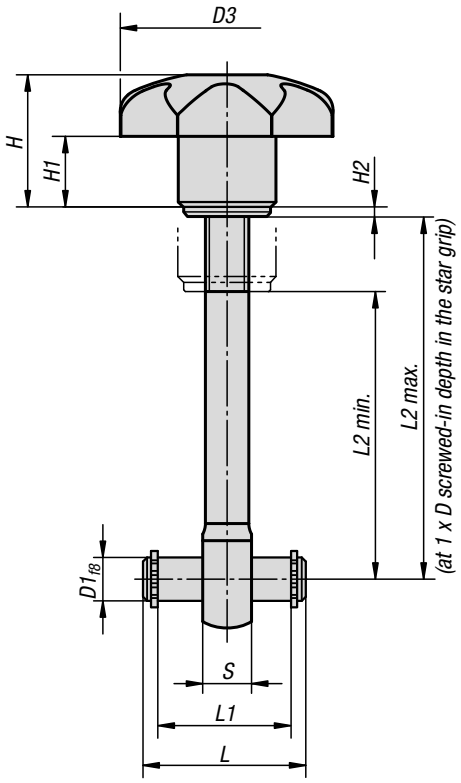
Note:
Suitable clevis pin see K0007.

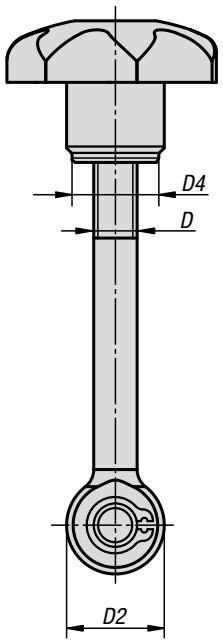


KIPP Clevises with screw, steel or stainless steel

Order No.	Main material	D	D1	D2	B	H	H1	H2	L
K0397.05	high carbon steel	M5	5	12	6	16	10	7	14,5
K0397.06	high carbon steel	M6	6	16	7	19	12	8	15
K0397.08	high carbon steel	M8	8	20	9	23	15	10	20
K0397.10	high carbon steel	M10	10	28	12	28	18	11	25
K0397.12	high carbon steel	M12	12	30	14	34	21	13,5	30
K0397.14	high carbon steel	M14	14	36	16	37	23	15	35
K0397.16	high carbon steel	M16	16	40	17	42	26	17	40
K0397.20	high carbon steel	M20	18	50	22	52	32	21	50
K0397.105	stainless steel	M5	5	12	6	16	10	7	14,5
K0397.106	stainless steel	M6	6	16	7	19	12	8	15
K0397.108	stainless steel	M8	8	20	9	23	15	10	20
K0397.110	stainless steel	M10	10	28	12	28	18	11	25
K0397.112	stainless steel	M12	12	30	14	34	21	13,5	30
K0397.114	stainless steel	M14	14	36	16	37	23	15	35
K0397.116	stainless steel	M16	16	40	17	42	26	17	40
K0397.120	stainless steel	M20	18	50	22	52	32	21	50

Swing screws



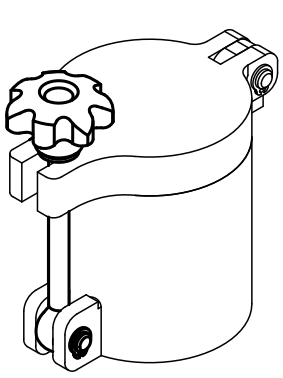


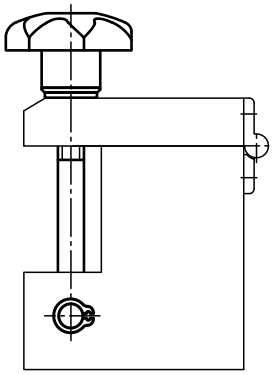
Material:
Star grip thermoplastic.
Bush steel.
Washer steel 140 HV.
Eye bolt steel grade 8.8.
Hinge pin steel 1.1181.

Version:
Star grip black.
Bush trivalent blue passivated
Washer bright.
Eye bolt black oxidised.
Hinge pins tempered, ground and bright.

Sample order:
K0053.06050

Note:
The swing screws are supplied unassembled.
Suitable circlips are enclosed.

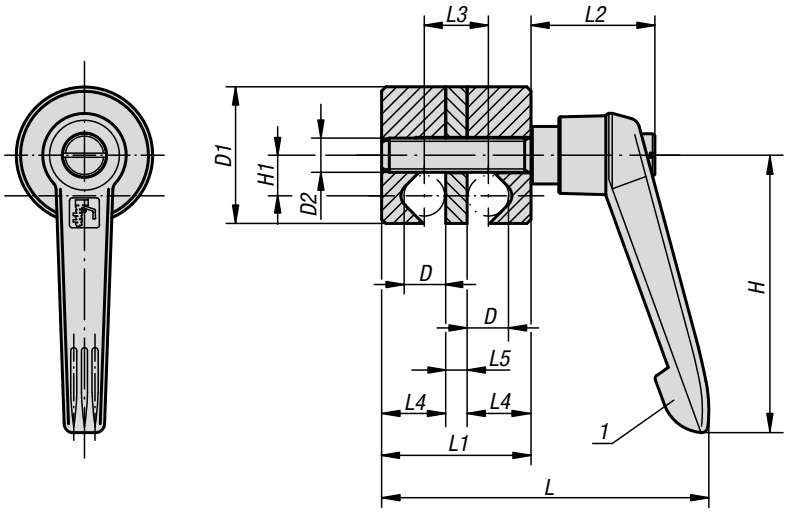




KIPP Swing screws

Order No.	D	D1	D2	D3	D4	H	H1	H2	L	L1	L2 min.	L2 max.	S
K0053.06050	M6	6	14	32	12	20	10	1,6	22	17	32	44	7
K0053.06075	M6	6	14	32	12	20	10	1,6	22	17	57	69	7
K0053.08050	M8	8	18	40	16	24	13	1,6	30	25	28	42	9
K0053.08075	M8	8	18	40	16	24	13	1,6	30	25	53	67	9
K0053.10075	M10	10	20	50	20	31	17	2	37	32	49	65	12
K0053.10100	M10	10	20	50	20	31	17	2	37	32	74	90	12

Clamping joints



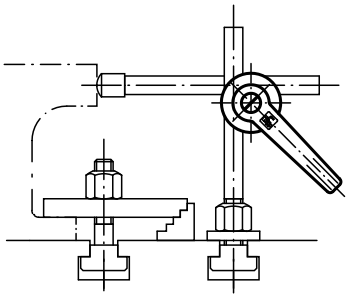
Material:
Clamping lever:
Handle fibreglass reinforced thermoplastic, black grey.
Steel parts:
grade 5.8.
Remaining components:
high-strength aluminium.

Version:
Steel parts black oxidised.
Aluminium nickel silver anodised.

Sample order:
K0133.03

Note:
Clamping joints are used to clamp round cross sections (bars, tubes, etc.) and are infinitely adjustable.
The simple design together with the adjustable clamping lever permits rapid clamping.

Drawing reference:
1) Clamping lever

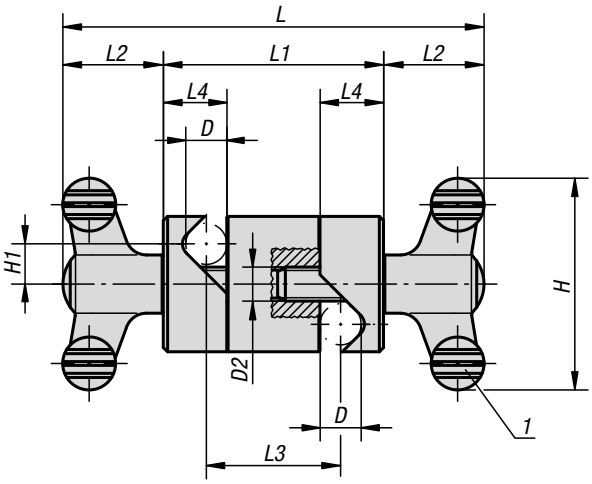


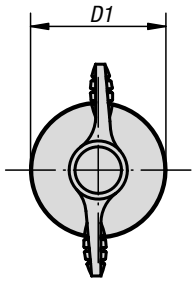
KIPP Clamping joints

Order No.	D	D1	D2	H	H1	L	L1	L2	L3	L4	L5
K0133.01	8	28	M8	65	8,5	72	31	29	13	13	5
K0133.02	10	32	M8	65	9,5	76	35	29	15	15	5
K0133.03	12	36	M8	65	10,5	81	40	29	18	17	6
K0133.04	16	45	M10	80	13,5	103	50	37,5	22	22	6
K0133.05	20	74	M10	95	22	131	70	42,5	30	30	10

Clamping joints

individually adjustable





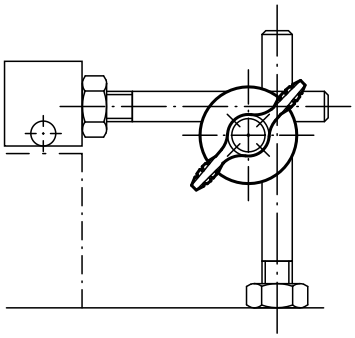
Material:
Wing grip:
grip black grey thermoplastic.
Screw steel 5.8.
Remaining components:
high-strength aluminium.

Version:
Steel parts trivalent blue-passivated.
Aluminium nickel silver anodised.

Sample order:
K0134.02

Note:
Clamping joints are used to clamp round cross sections (bars, tubes, etc.) and are individually and infinitely adjustable.
The simple design together with the wing grip permits rapid clamping.

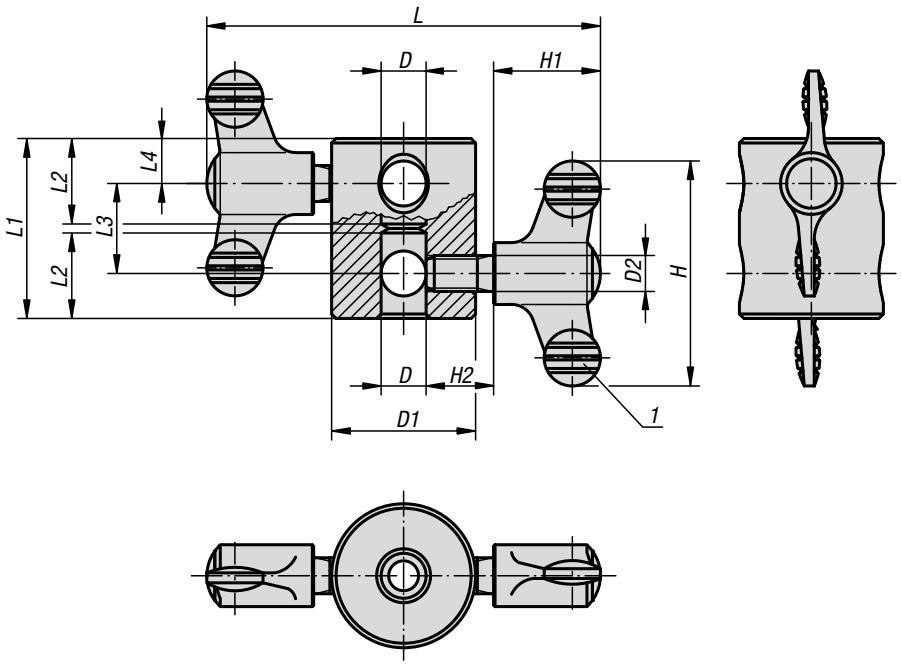
Drawing reference:
1) wing grip



KIPP Clamping joints individually adjustable

Order No.	D	D1	D2	H	H1	L	L1	L2	L3	L4
K0134.01	8	28	M8	50	8,5	90	42	24	24	13
K0134.02	10	32	M8	50	9,5	100	52	24	32	15
K0134.03	12	36	M8	50	10,5	104	56	24	34	17
K0134.04	16	45	M10	75	13,5	143,2	72	35,6	44	22
K0134.05	20	74	M10	75	22	173,2	102	35,6	62	30

Multiple connectors



Material:
Wing grip:
grip black grey thermoplastic.
Screw steel 5.8.
Body:
high-strength aluminium.

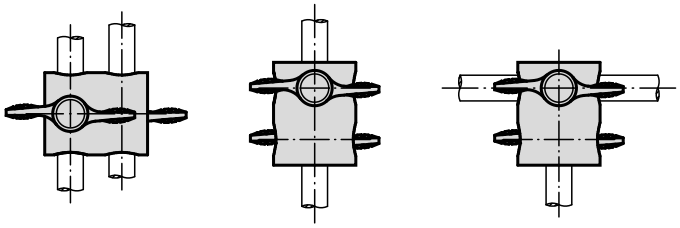
Version:
Steel parts trivalent blue-passivated.
Aluminium nickel silver anodised.

Sample order:
K0135.04

Note:
Multiple connectors are used to extend round cross sections (bars, tubes, etc.) in a coaxial or parallel arrangement.
By a parallel arrangement, a strengthening or stiffening of the construction can be achieved.
The bore system in the body also allows for the production of right-angled connections.

Drawing reference:
1) wing grip

Arrangement:

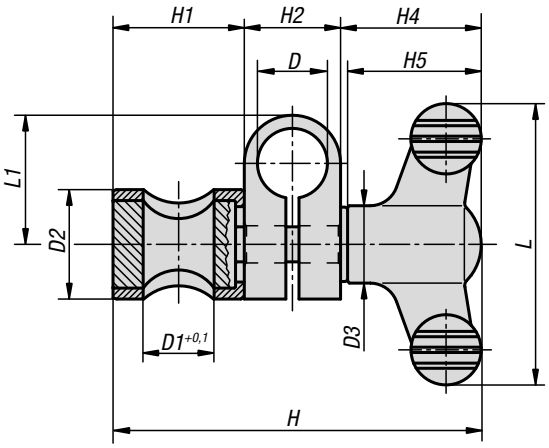


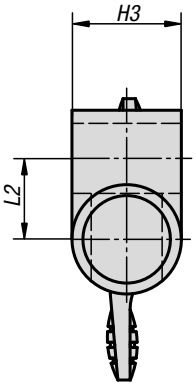
parallel coaxial right-angled

KIPP Multiple connectors

Order No.	D	D1	D2	H	H1	H2	L	L1	L2	L3	L4
K0135.01	8	28	M8	50	24	15	86	36	17	20	8
K0135.02	10	32	M8	50	24	15	88	40	19	20	10
K0135.03	12	36	M8	50	24	15	90	44	21	20	12
K0135.04	16	45	M10	75	35,6	20	127,2	56	27	24	16

Clamping joints





Material:
Sleeve and pin steel.
Clamp block high-strength aluminium.
Wing grip black grey thermoplastic.

Version:
Sleeve and pin high-gloss chromed.
Clamp block black anodised.

Sample order:
K0136.1616

Note:
Infinitely adjustable.
Wing grip for rapid clamping.

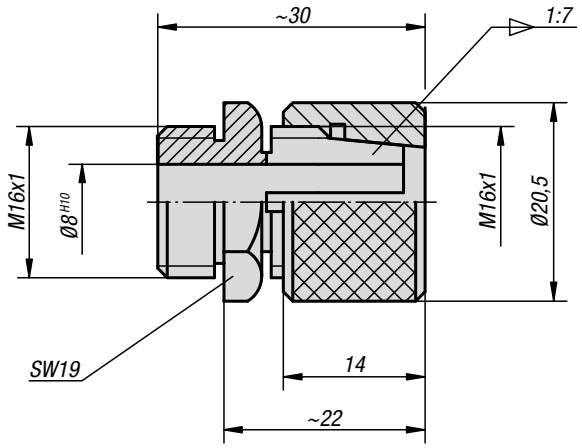
On request:
Different combinations diameters D and D1.

KIPP Clamping joints

Order No.	Size	D	D1	D2	D3	H	H1	H2	H3	H4	H5	L	L1	L2
K0136.0606	1	6	6	14	12	43,6	15	9	14	19,6	18	38	13	8,5
K0136.0808	2	8	8	16	14	54,6	17	12	16	25,6	24	50	18	12
K0136.1010	3	10	10	18	14	60,6	20	15	18	25,6	24	50	22	14,5
K0136.1212	4	12	12	20	21	77,2	23	17	20	37,2	35,6	75	24	15,5
K0136.1616	5	16	16	25	21	90,2	31	22	25	37,2	35,6	75	29,5	18,5
K0136.2020	6	20	20	30	21	98,2	36	25	30	37,2	35,6	75	30	17,5

Dial gauge collets

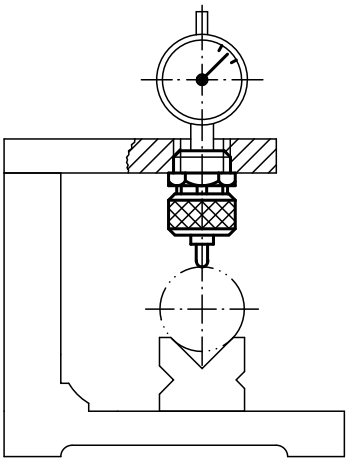
for Ø8 shafts



Material:
Carbon steel.

Version:
Black oxidised.
Collet tempered.

Sample order:
K0629.08



KIPP Dial gauge collets for Ø8 shafts

Order No.	Dimensions
K0629.08	see drawing

Technical information for sliding clamps K1070 and K1072

Note:

The items are used as movable clamping elements on applications such as measuring scales.

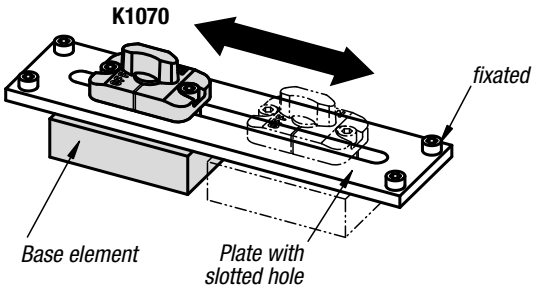
Turning the knob to “ON”, operates the clamping mechanism. In the “OFF” position the element is movable. The switch must be in the “OFF” position during assembly.

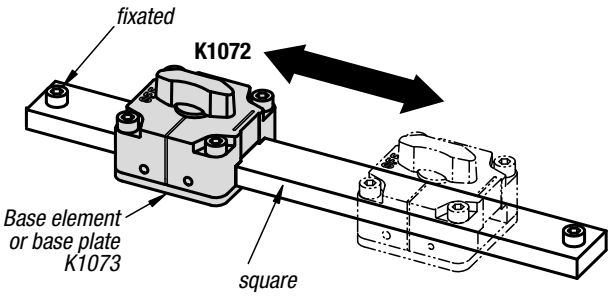
If the sliding clamp is mounted directly on a base plate and the plate with slotted hole or square bar is secured, the sliding clamp and the base plate can be moved.

If the sliding clamp is mounted directly on a base plate and the base plate is secured, the plate with slotted hole or square bar can be moved.

Operating mode 1:

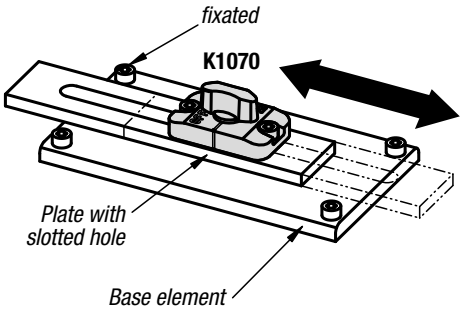
Sliding clamp with base element moveable – plates with slotted hole or square fixed

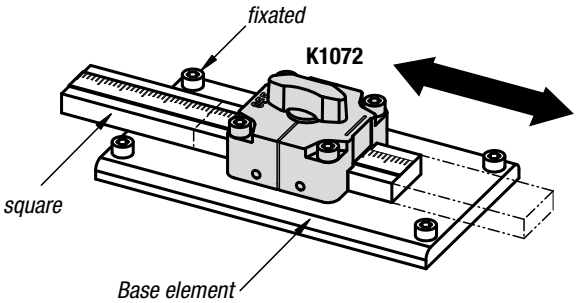




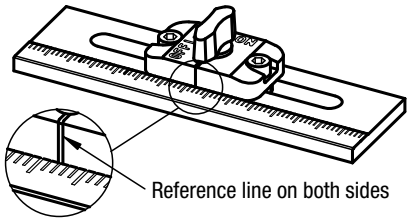
Operating mode 2:

Plates with slotted hole or square bar moveable - Sliding clamp with base element fixated

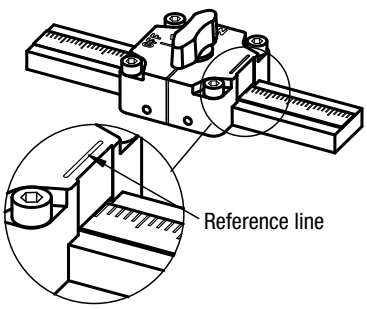




Application example K1070

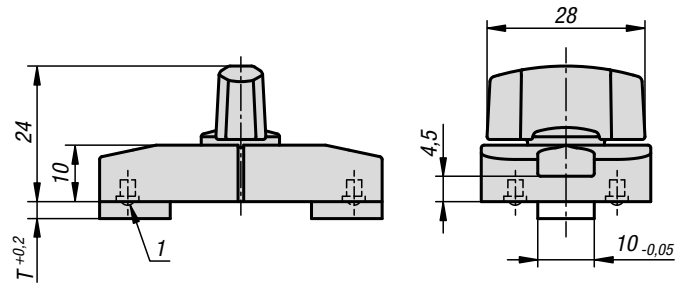


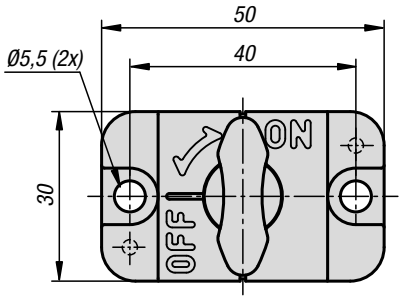
Application example K1072



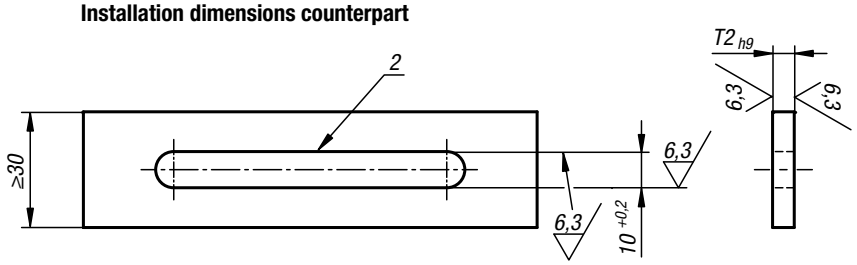
Sliding clamps

for slotted holes

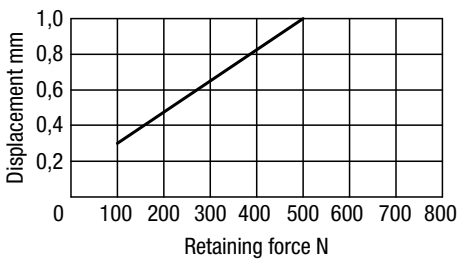


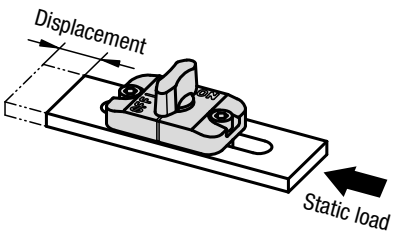


Installation dimensions counterpart



Displacement on static load from one direction





The forces apply to steel or stainless steel plates

Material:
Housing die-cast zinc.
Knob thermoplastic PA (polyamide).

Pins and wedge stainless steel.
Thrust pad POM.

Version:
Housing chromed.
Knob black or orange, glass-bead reinforced.

Sample order:
K1070.32

Note:
Sliding clamps for slotted holes are inserted into an upper plate with an 10-mm-wide slotted hole and then fixed to the base plate. The knob must be turned to the "OFF" position while the component is being installed. The sliding clamps are used for precision plates with a thickness of 3 mm or 6 mm. For other thicknesses shim plates K1071 must be used.
By turning the knob, the pins mounted in the bottom section of sliding clamp are drawn together by the springs and forced downwards. The two pins press against the surface and clamp the sliding clamp.
Two spring plungers lift the sliding clamp in the "ON" position allowing easier movement.

Accessories:
Base plates K1071.

Functional principle:
The sliding clamps have 2 different operating principles.

Operating principle 1:
The sliding clamp is movable.
The sliding clamp is bolted onto a loose plate or block placed under a fixated slotted plate. The sliding clamp together with the plate or block can be slid up and down the fixated slotted plate.

Operating principle 2:
The sliding clamp is fixated.
The sliding clamp is bolted onto a fixated plate or block placed under a loose slotted plate. The sliding clamp cannot move but the slotted plate can be slid up and down over the fixated plate or block.

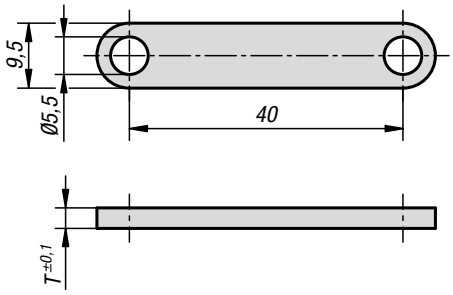
Drawing reference:
1) Spring plungers (2x)
2) Chamfer ~0,3

KIPP Sliding clamps for slotted holes

Order No. black	Order No. orange	T	T2	Holding force N	Temperature resistance
K1070.31	**K1070.32**	3	3	500	≤90 °C
K1070.61	**K1070.62**	6	6	500	≤90 °C

Shim plates

for sliding clamps for slotted hole

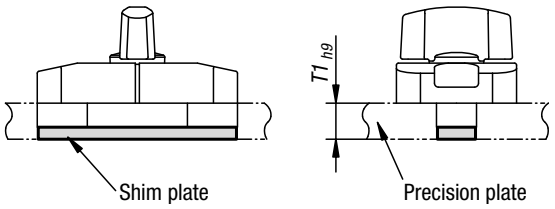


Material:
Stainless steel

Version:
Bright.

Sample order:
K1071.2

Note:
Shim plates are required for sliding clamps for slotted holes with a plate thickness more than 3 mm or 6 mm.



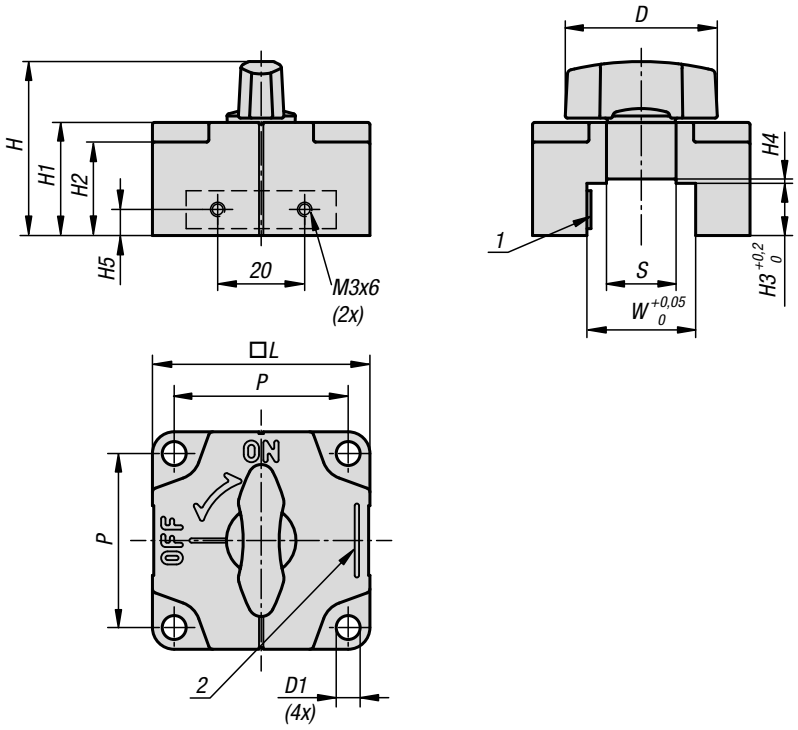
Sliding clamp for slotted holes	Suitable shim plate	Precision plate T1 (mm)
K1070.31 K1070.32	-	3 -0,25
	K1071.2	5 -0,3
K1070.61 K1070.62	-	6 -0,3
	K1071.2	8 -0,36
	K1071.3	9 -0,36

KIPP Shim plates for sliding clamps for slotted hole

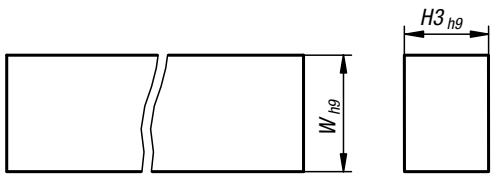
Order No.	T
K1071.2	2
K1071.3	3

Sliding clamps

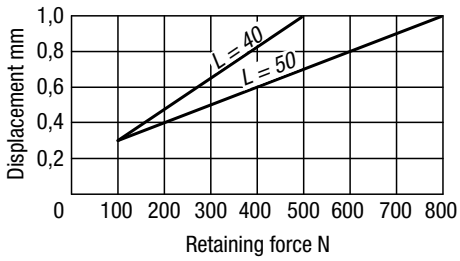
for square bars

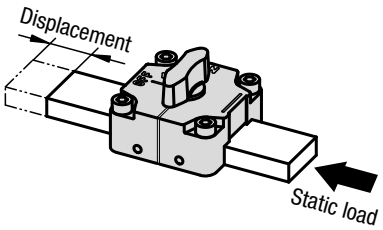


Installation dimensions counterpart square bar



Displacement on static load from one direction





The forces apply to steel or stainless steel square material

Material:
Housing die-cast zinc.
Knob thermoplastic PA (polyamide).
Pins and wedge stainless steel.
Leaf spring phosphated bronze.

Version:
Housing chromed.
Knob black or orange, glass-bead reinforced.
Pins and wedge bright.

Sample order:
K1072.16162

Note:
By turning the knob, the pins mounted in the bottom section of the sliding clamp are drawn together by the springs and forced downwards. The two pins press against the surface and fixate the sliding clamp.

Accessories:
Base plates K1073.
Scales stainless steel K0759.

Functional principle:
The sliding clamps have 2 different operating principles.

Operating principle 1:
The sliding clamp is movable.
The sliding clamp is bolted onto a base plate (K1073), loose plate or block placed under a fixated rectangular bar. The sliding clamp together with the plate or block can be slid up and down the fixated bar.

Operating principle 2:
The sliding clamp is fixated.
The sliding clamp is bolted onto a fixated plate or block placed under a loose rectangular bar. The sliding clamp cannot move but the bar can be slid up and down over the fixated plate or block.

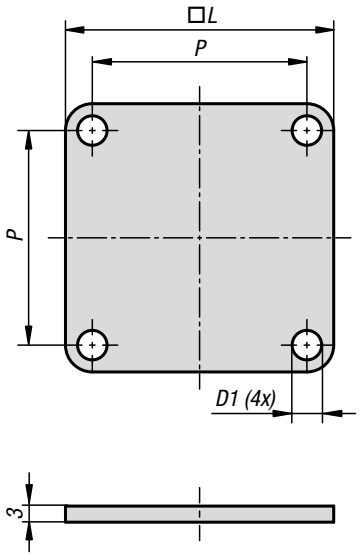
Drawing reference:
1) Leaf spring
2) Reading line for scales

KIPP Sliding clamp for square bars

Order No. black	Order No. orange	L	D	D1	H	H1	H2	H3	H4	H5	P	W	S	Holding force N	Temperature resistance
K1072.12121	**K1072.12122**	40	28	4,5	36	22	18,5	12	-	6	32	12	-	500	≤90 °C
K1072.16161	**K1072.16162**	40	28	4,5	40	26	22,5	16	-	8	32	16	-	500	≤90 °C
K1072.2591	**K1072.2592**	50	35	5,5	37	23	18,5	9	1	4,5	40	25	16	800	≤90 °C
K1072.25121	**K1072.25122**	50	35	5,5	40	26	21,5	12	1	6	40	25	16	800	≤90 °C
K1072.32121	**K1072.32122**	50	35	5,5	40	26	21,5	12	1	6	40	32	16	800	≤90 °C
K1072.32161	**K1072.32162**	50	35	5,5	44	30	25,5	16	1	8	40	32	16	800	≤90 °C

Base plates

for sliding clamp for square bars



Material:
Stainless steel

Version:
Bright.

Sample order:
K1073.40

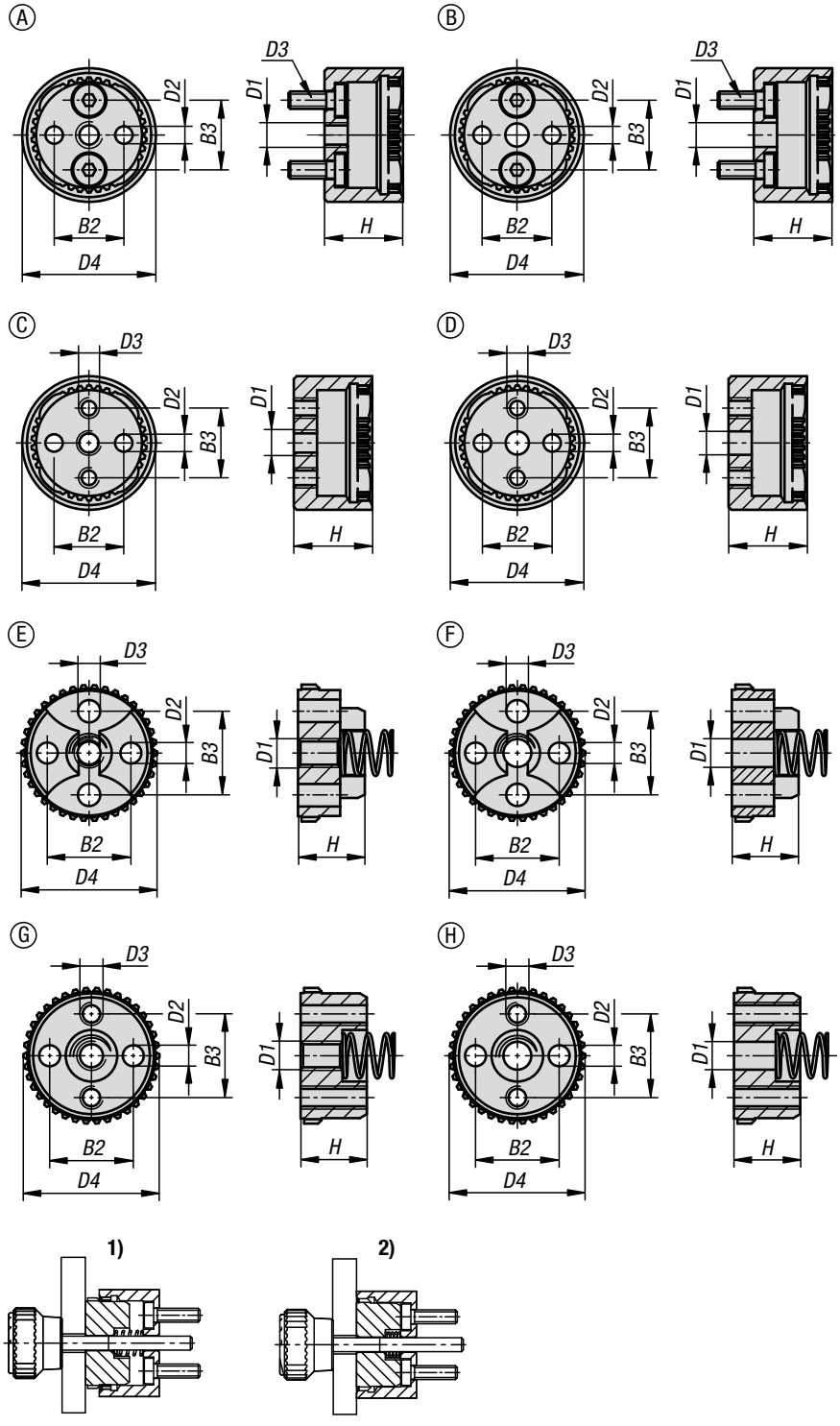
Note:
Base plates raise the sliding clamp by 3 mm.
It is used to mount the sliding clamp to a fixated square bar.

KIPP Base plate for sliding clamps for square bars

Order No.	L	D1	P
K1073.40	40	4,5	32
K1073.50	50	5,5	40

Ratchet elements

steel or stainless steel



Ratchet elements are used to connect two components together in any angular position with a positive fit. The ratchet elements with internal toothing (Forms A–D) can be combined with the ratchet elements with external toothing (Forms E–H) in any way depending on the application and installation possibilities. The springs mean that a new angular position can be quickly implemented.

Material:
Ratchet element steel 1.0718 or stainless steel 1.4305.
Spring stainless steel 1.4310.
Cap screws steel or stainless steel A 2.

Version:
Ratchet element black oxidised steel or bright stainless steel.
Spring bright.
Cap screw blackened steel grade 8.8 or bright A2-70 stainless steel.

Sample order:
K1446.12338

Note for ordering:
2 cap screws M3x8 or M5x10 are supplied with the internal toothed ratchet elements Forms A and B.
A stainless steel spring is supplied with the external toothed ratchet elements Forms E to H.

Note:
Use DIN 7984 low headed cap screws for fastening the Form A and B ratchet elements.

Function:
The ratchet elements are used for rotary adjustment of components. Fastening options can be arranged according to the application.

Accessories:
DIN 912/DIN EN ISO 4762 cap screws
DIN 6912 cap screws

Drawing reference:
Form A: internal toothing, centre tapped hole, 2x counterbores for low headed cap screws, 2x reamed holes
Form B: internal toothing, centre through bore, 2x counterbores for low headed cap screws, 2x reamed holes
Form C: internal toothing, centre tapped hole, 2x tapped holes for fastening, 2x reamed holes
Form D: internal toothing, centre through bore, 2x tapped holes for fastening, 2x reamed holes
Form E: external toothing, centre tapped hole, 2x counterbores for cap screws, 2x reamed holes
Form F: external toothing, centre through bore, 2x counterbores for cap screws, 2x reamed holes
Form G: external toothing, centre tapped hole, 2x tapped holes, 2x reamed holes
Form H: external toothing, centre through bore, 2x tapped holes, 2x reamed holes

1) disengaged
2) engaged

KIPP Ratchet elements steel or stainless steel

Order No.	Form	Main material	B2	B3	D1	D2	D3= Cap screw DIN 7984	D4	H	No. of teeth
K1446.12338	A	steel	12	12	M4	3H8	M3	23	13,5	38
K1446.13346	A	steel	18	18	M6	5H8	M5	33	19,5	46
K1446.112338	A	stainless steel	12	12	M4	3H8	M3	23	13,5	38
K1446.113346	A	stainless steel	18	18	M6	5H8	M5	33	19,5	46

Order No.	Form	Main material	B2	B3	drill Ø D1	D2	D3= Cap screw DIN 7984	D4	H	No. of teeth
K1446.22338	B	steel	12	12	4,2	3H8	M3	23	13,5	38
K1446.23346	B	steel	18	18	6,2	5H8	M5	33	19,5	46
K1446.122338	B	stainless steel	12	12	4,2	3H8	M3	23	13,5	38
K1446.123346	B	stainless steel	18	18	6,2	5H8	M5	33	19,5	46

Order No.	Form	Main material	B2	B3	D1	D2	D3	D4	H	No. of teeth
K1446.32338	C	steel	12	12	M4	3H8	M3	23	13,5	38
K1446.33346	C	steel	18	18	M6	5H8	M5	33	19,5	46
K1446.132338	C	stainless steel	12	12	M4	3H8	M3	23	13,5	38
K1446.133346	C	stainless steel	18	18	M6	5H8	M5	33	19,5	46

Order No.	Form	Main material	B2	B3	drill Ø D1	D2	D3	D4	H	No. of teeth
K1446.42338	D	steel	12	12	4,2	3H8	M3	23	13,5	38
K1446.43346	D	steel	18	18	6,2	5H8	M5	33	19,5	46
K1446.142338	D	stainless steel	12	12	4,2	3H8	M3	23	13,5	38
K1446.143346	D	stainless steel	18	18	6,2	5H8	M5	33	19,5	46

Order No.	Form	Main material	B2	B3	D1	D2	D3	D4	H	No. of teeth
K1446.52338	E	steel	12	12	M4	3H8	3,2	23	9,5	38
K1446.53346	E	steel	18	18	M6	5H8	5,3	33	13	46
K1446.152338	E	stainless steel	12	12	M4	3H8	3,2	23	9,5	38
K1446.153346	E	stainless steel	18	18	M6	5H8	5,3	33	13	46

Order No.	Form	Main material	B2	B3	drill Ø D1	D2	D3	D4	H	No. of teeth
K1446.62338	F	steel	12	12	4,2	3H8	3,2	23	9,5	38
K1446.63346	F	steel	18	18	6,2	5H8	5,3	33	13	46
K1446.162338	F	stainless steel	12	12	4,2	3H8	3,2	23	9,5	38
K1446.163346	F	stainless steel	18	18	6,2	5H8	5,3	33	13	46

Order No.	Form	Main material	B2	B3	D1	D2	D3	D4	H	No. of teeth
K1446.72338	G	steel	12	12	M4	3H8	M3	23	9,5	38
K1446.73346	G	steel	18	18	M6	5H8	M5	33	13	46
K1446.172338	G	stainless steel	12	12	M4	3H8	M3	23	9,5	38
K1446.173346	G	stainless steel	18	18	M6	5H8	M5	33	13	46

Order No.	Form	Main material	B2	B3	drill Ø D1	D2	D3	D4	H	No. of teeth
K1446.82338	H	steel	12	12	4,2	3H8	M3	23	9,5	38
K1446.83346	H	steel	18	18	6,2	5H8	M5	33	13	46
K1446.182338	H	stainless steel	12	12	4,2	3H8	M3	23	9,5	38
K1446.183346	H	stainless steel	18	18	6,2	5H8	M5	33	13	46