

norelem positions

Flexible standard component system

07000

06945
Page 994



Pull handles angled

06946
Page 995



Pull handles

06947
Page 996



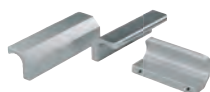
Pull handles tubular adjustable

06948-01
Page 999



Tubular handles "Bighand"

06951
Page 1000



Ledge handles stainless steel

06952
Page 1001



Ledge handles

06956
Page 1002



Tubular handles angled

06959
Page 1003



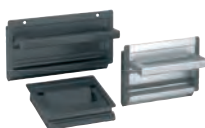
Pull handles open-ended screw on

06960
Page 1004



Recessed handles

06961
Page 1005



Recessed handles fold-down

06961-01
Page 1006



Recessed handles fold-down, stainless steel

06962
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Recessed handles fold-down

06965
Page 1008



Recessed handles

06966-01
Page 1009



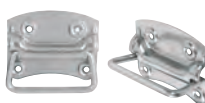
Recessed grips clip-in

06970
Page 1010



Recessed handles fold-down stainless steel

06970-01
Page 1011



Recessed handles, fold down DIN 3136

06975
Page 1012



Pull handles angled

Fasteners

Ball-end thrust screws

Thrust screws and thrust pads

Grippers

Torque bolts

Threaded inserts

Lifting bolts

Swivel bales

Ring bolts



07020
Page 1015



Studs

07030
Page 1016



Studs DIN 6379

07040
Page 1018



T-slot bolts DIN 787

07040
Page 1020



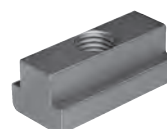
T-slot bolts DIN 787, 12.9

07060
Page 1021



Nuts for T-slots DIN 508 enhanced

07061
Page 1022



Nuts for T-slots long

07070
Page 1022



Nuts for T-slots blanks

07071
Page 1023



Slot nuts twist-in Type I

07073
Page 1024



Slot nuts twist-in, keyed Type I

07075
Page 1025



Slot nuts strong Type I

07076
Page 1025



Slot key profile type I

07077
Page 1026



Slot nuts twist-in Type B

07078
Page 1026



Slot nuts twist-in with spring Type B

07080
Page 1027



Nuts for T-slots rhombic form

+ New/Expanded Items

norelem

norelem positions

Flexible standard component system

07000

07090

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T-nuts

07094

Page 1029



Hammer-head screws

07100

Page 1030



Ball-end thrust screws with head

07101

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Ball-end thrust screws with head stainless steel

07105

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Ball-end thrust screws without head with full ball, LONG-LOK secured

07105

Page 1034



Ball-end thrust screws without head with flattened ball LONG-LOK secured

07109

Page 1035



Ball-end thrust screws without head short version

07110

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Ball-end thrust screws without head with full ball

07110

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Ball-end thrust screws without head with flattened ball

07110

Page 1040



Ball-end thrust screws without head with flattened ball and rotation lock

07111

Page 1041



Ball-end thrust screws without head stainless steel with full ball

07111

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Ball-end thrust screws without head stainless steel with flattened ball

07111

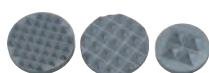
Page 1043



Ball-end thrust screws without head stainless steel with flattened ball and rotation lock

07112

Page 1044



Gripper pads round carbide

07113

Page 100, 107, 112, 1047



Grippers and inserts round

07113

Page 1048



Grippers and inserts round with counterbore

07114

Page 1049



Grippers hexagonal

07115

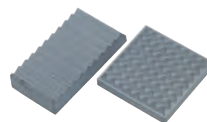
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Grippers square

07116

Page 1051



Gripper pads square carbide

07117

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Grippers adjustable

07119

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Thrust screws

07119

Page 1054



Thrust screws stainless steel

07119

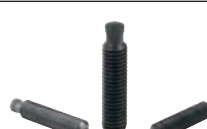
Page 1055



Thrust screws LONG-LOK secured

07120

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Grub screws with thrust point DIN 6332

07121

Page 1056



Grub screws with ball thrust point

07122

Page 1057



Thrust screws with point

07123

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Thrust screws with radiused half-dog point

07124

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Torque grips precision version

07125

Page 1060



Knurled torque knobs

07126

Page 1061



Triangular torque grips

07130

Page 1062



Torque screws with thrust point

07131

Page 1062



Torque screws with slot coupling

07132

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Torque screws with support pin

07133

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Torque grips

07134

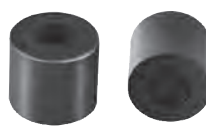
Page 1064



Torque screws with ball thrust points

07138

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Thrust pads

+ New/Expanded Items

norelem positions

Flexible standard component system

07000

07140
Page 1065



Thrust pads
DIN 6311 enhanced

07141
Page 1065



Thrust pads
with retaining pin

07142
Page 1066



Thrust pads

07143
Page 1067



Thrust spindles

07144
Page 1068



Swivel feet

07159
Page 1069



Socket head screws
full thread, DIN 912 / DIN EN ISO 4762

07160
Page 1070



Socket head screws
DIN 912 / DIN EN ISO 4762, steel or
stainless steel

07160
Page 1072



Socket head screws
DIN 912/DIN EN ISO 4762

07160
Page 1073



Socket head screws
DIN 912 / EN ISO 4762, LONG-LOK
secured

07161
Page 1075



Socket head screws
low head DIN 6912

07165
Page 1076



Grub screws with flat point
hexagon socket DIN 913

07166
Page 1077



Grub screw with hexagon socket and
pointed end
DIN 914 / DIN EN ISO 4027

07170
Page 1078



Hexagon head bolts
DIN 931/DIN EN ISO 4014/DIN EN 24014

07170-02
Page 1080



Hexagon bolts with narrow shaft
in Hygienic DESIGN

07170-15
Page 1082



Hexagon head screws,
stainless steel
in Hygienic DESIGN

07171
Page 1084



Hexagon head bolts
DIN 933

07172
Page 1086



Hexagon head bolts with flange
EN 1665

07173
Page 1087



Hexagon head bolts
with serrated flange

07174
Page 1088



Button head screws
EN ISO 7380

07175
Page 1090



Screws with countersunk head
hexagon socket DIN EN ISO 10642

07175-02
Page 1091



Ball head screw
in Hygienic DESIGN

07180
Page 1093



Eye bolts
DIN 444, Form B

07181
Page 1095



Eye bolts DIN 444, Form B
with long thread

07199
Page 1096



Wing screws

07200
Page 1097



Wing nuts

07210
Page 1098



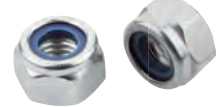
Hexagon nuts
DIN 934/DIN EN ISO 4032/DIN EN 24032

07212
Page 1099



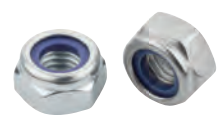
Hexagon nuts
thin type DIN 439

07213
Page 1100



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

07214
Page 1101



Hexagon nuts with polyamide thread lock
thin type, DIN 985

07215
Page 1102



Hexagon nuts with thread lock
DIN 980

07216
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Hexagon nut
with serrated flange

07217
Page 1104



Hexagon nuts with flange
EN 1661

07218
Page 1105



Hexagon nuts with flange

07220
Page 1105



Extension nuts
height 3xD

07221
Page 1106



Turnbuckle nuts
steel tube, closed form DIN 1478

07222
Page 1107



Turnbuckle nuts
hexagonal DIN 1479

+ New/Expanded Items

norelem positions

Flexible standard component system

07000



Hexagon nuts with collar height 1.5xD, DIN 6331 enhanced



Hexagon nuts with no-loss washer



Hexagon nuts height 1.5xD, DIN 6330 enhanced



Hexagon nuts with spherical seat



Hexagon domed cap nuts similar to DIN 1587



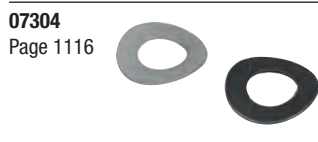
Cap nut compact in Hygienic DESIGN



Washers medium DIN EN ISO 7089 A



Conical spring washers DIN 6796



Spring washers DIN 137 B



Washers large OD DIN 9021



Washers plastic captive



Wedge lock washers DIN 25201



Washers for clamps steel or aluminium DIN 6340



Circlips for shafts DIN 471



Circlips for bores DIN 472



Circlips E-type DIN 6799



Split pins EN ISO 1234



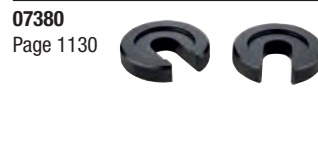
R-clips similar to DIN 11024



Disc springs DIN EN 16983



Handwheel washers



C-washers DIN 6372 enhanced



Clamping force intensifiers



Spherical washers DIN 6319, edition 10/01



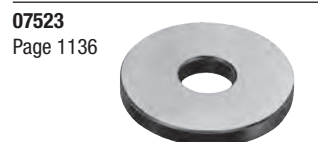
Spherical levelling washers



C-washers captive DIN 6371



Shim washers DIN 988



Spacer washers ground



Shoulder screws with slotted flat head DIN 923



Shoulder screws Form B



Shoulder screws similar to DIN ISO 7379



Shoulder screws with hexagon head similar to DIN 609



Shoulder screws with slotted domed head



Snapper catch with spring DIN 6310



Quarter-turn screws



Slotted round nuts DIN 1804



Slotted round nuts, steel or stainless steel, DIN 981

+ New/Expanded Items

norelem positions

Flexible standard component system

07000

07590-02
Page 1146



Locking plate steel or stainless steel
DIN 5406

07590-05
Page 1148



Slotted round nuts, steel,
DIN 70852

07595
Page 1149



Slotted nuts
with elastic lock

07598
Page 1150-1151



Adjustment nuts

07620
Page 1152



Clevis
with external thread

07630
Page 1152



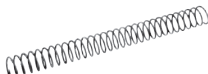
Grub screws
DIN 551

07640
Page 1154



Threaded rods
steel and stainless steel DIN 976-1

07650
Page 1156



Springs
for clamp straps

07645
Page 1157



HeliCoil®plus threaded inserts

07652
Page 1159



Threaded inserts self-tapping
with cutting slot

07652
Page 1159-1161



Assembly tools
for self-tapping threaded inserts

07653
Page 1161



Threaded inserts self-tapping
with cutting bores

07660
Page 1162



Threaded inserts

07661
Page 1163



Threaded inserts reinforced

07662
Page 1164



Threaded inserts solid body

07663
Page 1165



Threaded inserts
with internal thread, self-locking

07664
Page 1166



Threaded inserts reinforced
internal thread, self-locking

07666
Page 1167



Repair kit

07670
Page 1169



Studs
with screw-in stop for gluing in

07680
Page 1171



Ring bolts
DIN 580

07680-01
Page 1172



Ring bolts
similar to DIN 580

07690
Page 1173



Ring nuts
DIN 582

07690-01
Page 1174



Ring nuts
similar to DIN 582

07695
Page 1175



Ring bolts rotatable
high-strength grade 10

07710
Page 1176



Ring bolts
swivel and 360° rotatable, grade 8

07715
Page 1177



Bow shackles

07716
Page 1178



D-shackles

07720
Page 1179



Weld-on D-rings

07725
Page 1180



Hoist rings 360° rotation
grade 10

07730
Page 1181



Hoist rings

07735
Page 1182



Hoist rings with Envirolux® coating

07750
Page 1182



Lifting rings

07752
Page 1183



Swivel bales
with axial ring

07770
Page 1184



Hoist rings

07772
Page 1185



Flip-Flop hoist rings

07774
Page 1186



Hoist rings

+ New/Expanded Items

norelem positions

Flexible standard component system

07000

07775

Page 1187



Swivel bales

07780

Page 1188



Lifting pins
self-locking

07780

Page 1189



Lifting pins
self-locking, stainless steel

07781

Page 1190



Receiver bushes
for ball lifting pins, stainless steel

07781

Page 1191



Locating bushes
for ball lifting pins stainless steel, flat

07782

Page 1192



Lifting pins
self-locking, stainless steel

07784

Page 1193



Receiver bush
stainless steel, for lifting pins

07791

Page 1195



Slip hooks
grade 10

07792

Page 1196



Self-locking hooks
grade 10

07793

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Shortening hooks
grade 10

07794

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Swivel hooks
grade 10

07795

Page 1199



Connecting links
grade 10

07796

Page 1200



Round sling hooks
grade 8

07797

Page 1201



Round sling links
grade 8

07798

Page 1202



Round slings



07798-02

Page 1203



Lifting slings



07800

Page 1204



Shaft collars set screw
DIN 705, steel

07800

Page 1206



Shaft collars set screw
DIN 705, stainless steel

07810

Page 1207



Shaft collars one-piece

07810

Page 1208



Shaft collars
one-piece, with clamping lever

07811

Page 1209



Shaft collars one-piece
wide

07812

Page 1210



Shaft collars two-piece

07813

Page 1211



Shaft collars two-piece
wide

07814

Page 1212



Shaft collars
with thread

07820

Page 1215



Ratchet elements
steel or stainless steel



+ New/Expanded Items

07000

Fasteners

Ball-end thrust screws

Thrust screws and thrust pads

Grippers

Torque bolts

Threaded inserts

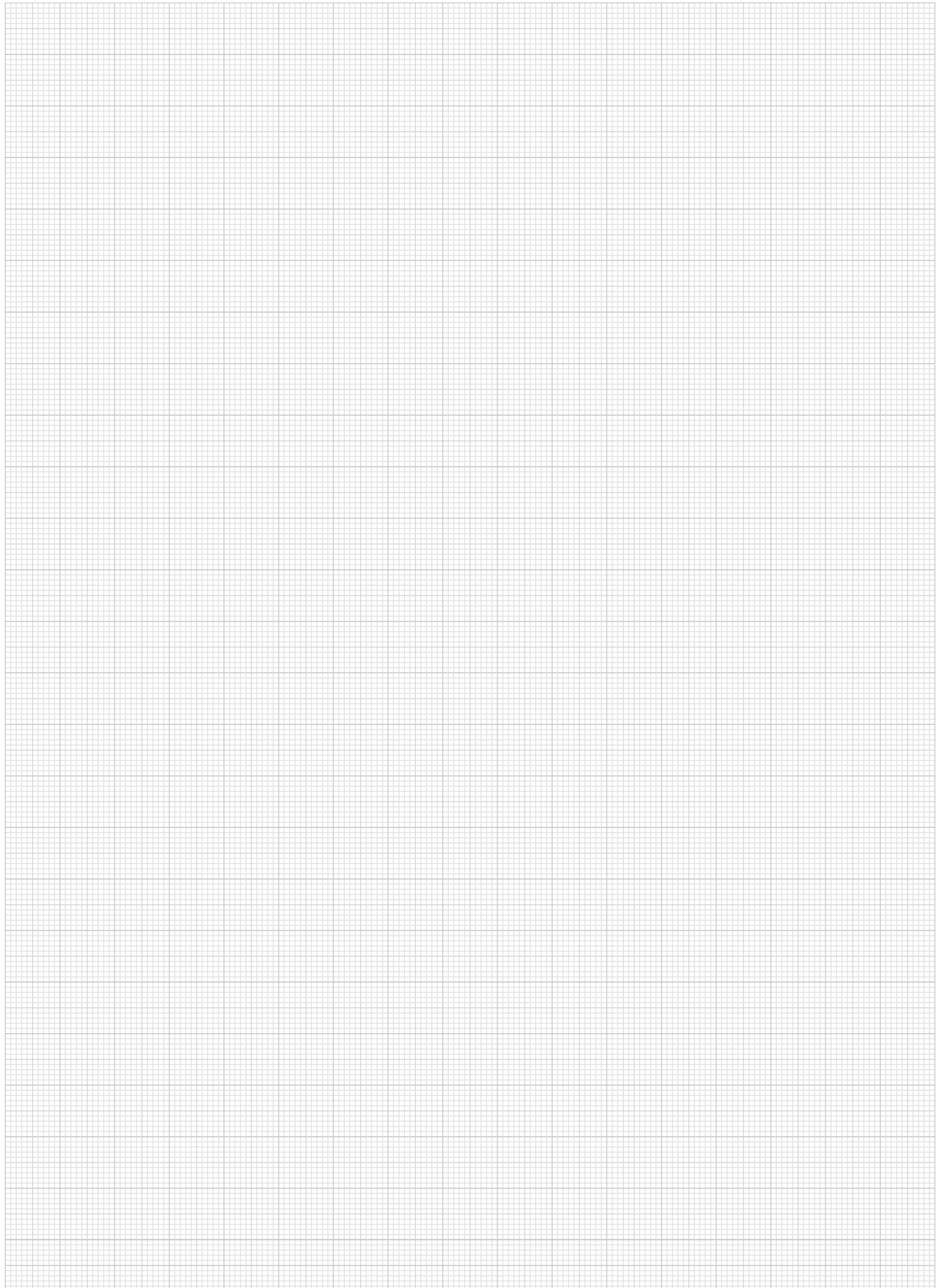
Lifting bolts

Swivel bales

Ring bolts



Notes



Studs


Material:

Carbon steel 1.1181.

Version:

Tempered to 8.8 and black oxidised.

Sample order:

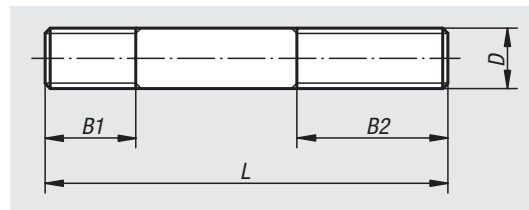
nIm 07020-308


Note:

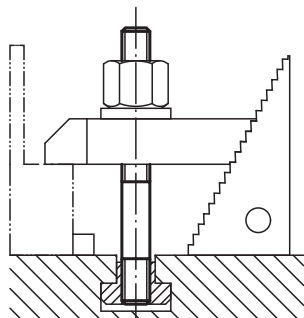
Permissible loading see
Technical Information.
Thread end with oval point is
permissible.

On request:

Stainless steel.



Order No.	D	L	B1	B2
07020-105	M5	20	7	10
07020-205	M5	30	7	10
07020-106	M6	25	10	12
07020-206	M6	35	10	12
07020-306	M6	45	10	12
07020-406	M6	60	10	12
07020-108	M8	40	12	25
07020-208	M8	50	12	25
07020-308	M8	70	12	25
07020-408	M8	80	12	25
07020-110	M10	50	15	30
07020-210	M10	67	15	30
07020-310	M10	80	15	30
07020-410	M10	100	15	30
07020-112	M12	56	18	30
07020-212	M12	67	18	30
07020-312	M12	80	18	30
07020-412	M12	100	18	30
07020-512	M12	125	18	30
07020-114	M14	60	20	30
07020-214	M14	80	20	30
07020-314	M14	100	20	30
07020-414	M14	125	20	30
07020-514	M14	150	20	30
07020-116	M16	75	25	30
07020-216	M16	100	25	30
07020-316	M16	125	25	30
07020-416	M16	150	25	30
07020-120	M20	100	30	40
07020-220	M20	125	30	40
07020-320	M20	150	30	40
07020-420	M20	180	30	40



Studs

DIN 6379


Material:

Carbon steel.

Version:

Thread rolled.

M6-M12 tempered to 10.9, black.

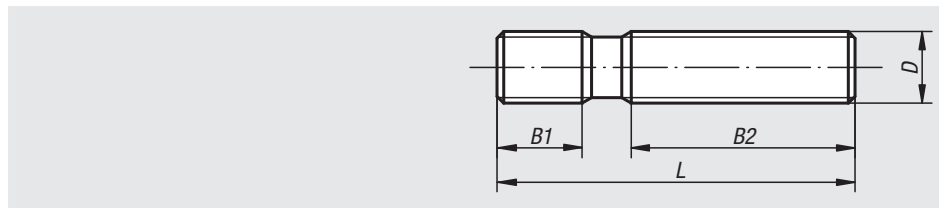
M14-M36 tempered to 8.8, black.

Sample order:

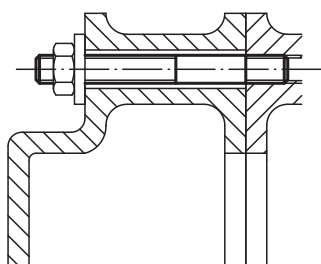
nIm 07030-12125


Note:

Permissible load: see Technical Information.



Order No.	D	L	B1	B2
07030-0632	M6	32	9	16
07030-0640	M6	40	9	20
07030-0650	M6	50	9	30
07030-0663	M6	63	9	40
07030-0680	M6	80	9	50
07030-06100	M6	100	9	63
07030-0840	M8	40	11	20
07030-0863	M8	63	11	40
07030-0880	M8	80	11	50
07030-08100	M8	100	11	63
07030-08125	M8	125	11	75
07030-08160	M8	160	11	100
07030-1050	M10	50	13	25
07030-1080	M10	80	13	50
07030-10100	M10	100	13	75
07030-10125	M10	125	13	75
07030-10160	M10	160	13	100
07030-10200	M10	200	13	125
07030-1250	M12	50	15	25
07030-1263	M12	63	15	32
07030-1280	M12	80	15	50
07030-12100	M12	100	15	63
07030-12125	M12	125	15	75
07030-12160	M12	160	15	100
07030-12200	M12	200	15	125
07030-1463	M14	63	17	32
07030-1480	M14	80	17	50
07030-14100	M14	100	17	63
07030-14125	M14	125	17	75
07030-14160	M14	160	17	100
07030-14200	M14	200	17	125
07030-14250	M14	250	17	160
07030-1663	M16	63	19	32
07030-1680	M16	80	19	50
07030-16100	M16	100	19	63
07030-16125	M16	125	19	75
07030-16160	M16	160	19	100
07030-16200	M16	200	19	125
07030-16250	M16	250	19	160
07030-16315	M16	315	19	180
07030-16350	M16	350	19	200
07030-16500	M16	500	20	315



Studs

DIN 6379

Order No.	D	L	B1	B2
07030-1880	M18	80	23	50
07030-18125	M18	125	23	75
07030-18160	M18	160	23	100
07030-18200	M18	200	23	125
07030-18250	M18	250	23	150
07030-18315	M18	315	23	180
07030-2080	M20	80	27	32
07030-20125	M20	125	27	70
07030-20160	M20	160	27	100
07030-20200	M20	200	27	125
07030-20250	M20	250	27	160
07030-20315	M20	315	27	200
07030-20400	M20	400	27	250
07030-20500	M20	500	27	315
07030-22100	M22	100	31	45
07030-22160	M22	160	31	100
07030-22200	M22	200	31	125
07030-22250	M22	250	31	160
07030-22315	M22	315	31	180
07030-22400	M22	400	31	250
07030-24100	M24	100	35	45
07030-24125	M24	125	35	63
07030-24160	M24	160	35	100
07030-24200	M24	200	35	125
07030-24250	M24	250	35	160
07030-24315	M24	315	35	200
07030-24400	M24	400	35	250
07030-24500	M24	500	35	315
07030-24630	M24	630	35	315
07030-27125	M27	125	39	56
07030-27200	M27	200	39	125
07030-27315	M27	315	39	200
07030-27400	M27	400	39	250
07030-27500	M27	500	39	315
07030-30125	M30	125	43	56
07030-30200	M30	200	43	125
07030-30315	M30	315	43	200
07030-30500	M30	500	43	315
07030-30700	M30	700	43	400
07030-301000	M30	1000	44	400
07030-36160	M36	160	51	80
07030-36200	M36	200	51	125
07030-36250	M36	250	51	160
07030-36315	M36	315	51	200
07030-36400	M36	400	51	250
07030-36500	M36	500	51	315
07030-36700	M36	700	51	400

T-slot bolts

DIN 787



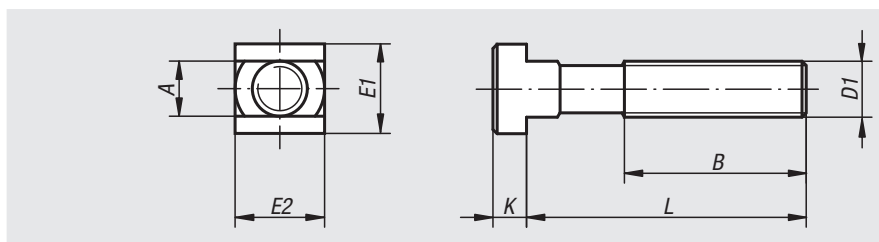
Material:
Carbon steel.

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

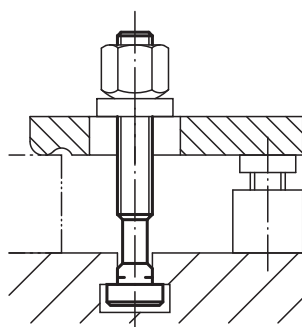
Sample order:
nlm 07040-1263



Note:
Permissible load: see Technical Information.



Order No.	Slot width	D1	L	A	B	E1/E2	K
07040-0625	6	M6	25	5,7	15	10	4
07040-0640	6	M6	40	5,7	28	10	4
07040-0663	6	M6	63	5,7	40	10	4
07040-0832	8	M8	32	7,7	22	13	6
07040-0850	8	M8	50	7,7	35	13	6
07040-0880	8	M8	80	7,7	50	13	6
07040-1040	10	M10	40	9,7	30	15	6
07040-1063	10	M10	63	9,7	45	15	6
07040-10100	10	M10	100	9,7	60	15	6
07040-1250	12	M12	50	11,7	35	18	7
07040-1263	12	M12	63	11,7	40	18	7
07040-1280	12	M12	80	11,7	55	18	7
07040-12100	12	M12	100	11,7	65	18	7
07040-12125	12	M12	125	11,7	75	18	7
07040-12160	12	M12	160	11,7	100	18	7
07040-12200	12	M12	200	11,7	120	18	7
07040-1450	14	M12	50	13,7	35	22	8
07040-1463	14	M12	63	13,7	45	22	8
07040-1480	14	M12	80	13,7	55	22	8
07040-14100	14	M12	100	13,7	65	22	8
07040-14125	14	M12	125	13,7	75	22	8
07040-14160	14	M12	160	13,7	100	22	8
07040-14200	14	M12	200	13,7	120	22	8
07040-16631	16	M14	63	15,7	45	25	9
07040-16801	16	M14	80	15,7	55	25	9
07040-161001	16	M14	100	15,7	65	25	9
07040-161251	16	M14	125	15,7	75	25	9
07040-161601	16	M14	160	15,7	100	25	9
07040-162501	16	M14	250	15,7	150	25	9
07040-1663	16	M16	63	15,7	45	25	9
07040-1680	16	M16	80	15,7	55	25	9
07040-16100	16	M16	100	15,7	65	25	9
07040-16125	16	M16	125	15,7	85	25	9
07040-16160	16	M16	160	15,7	100	25	9
07040-16200	16	M16	200	15,7	125	25	9
07040-16250	16	M16	250	15,7	150	25	9
07040-1863	18	M16	63	17,7	45	28	10
07040-1880	18	M16	80	17,7	55	28	10
07040-18100	18	M16	100	17,7	65	28	10
07040-18125	18	M16	125	17,7	85	28	10
07040-18160	18	M16	160	17,7	100	28	10



T-slot bolts

DIN 787

Order No.	Slot width	D1	L	A	B	E1/E2	K
07040-18200	18	M16	200	17,7	125	28	10
07040-18250	18	M16	250	17,7	150	28	10
07040-2080	20	M20	80	19,7	55	32	12
07040-20100	20	M20	100	19,7	65	32	12
07040-20125	20	M20	125	19,7	85	32	12
07040-20160	20	M20	160	19,7	110	32	12
07040-20200	20	M20	200	19,7	125	32	12
07040-20250	20	M20	250	19,7	150	32	12
07040-20315	20	M20	315	19,7	190	32	12
07040-2280	22	M20	80	21,7	55	35	14
07040-22100	22	M20	100	21,7	65	35	14
07040-22125	22	M20	125	21,7	85	35	14
07040-22160	22	M20	160	21,7	110	35	14
07040-22200	22	M20	200	21,7	125	35	14
07040-22250	22	M20	250	21,7	150	35	14
07040-22315	22	M20	315	21,7	190	35	14
07040-24100	24	M24	100	23,7	70	40	16
07040-24125	24	M24	125	23,7	85	40	16
07040-24160	24	M24	160	23,7	110	40	16
07040-24200	24	M24	200	23,7	125	40	16
07040-24250	24	M24	250	23,7	150	40	16
07040-24315	24	M24	315	23,7	190	40	16
07040-24400	24	M24	400	23,7	240	40	16
07040-28100	28	M24	100	27,7	70	44	18
07040-28125	28	M24	125	27,7	85	44	18
07040-28160	28	M24	160	27,7	110	44	18
07040-28200	28	M24	200	27,7	125	44	18
07040-28250	28	M24	250	27,7	150	44	18
07040-28315	28	M24	315	27,7	190	44	18
07040-28400	28	M24	400	27,7	240	44	18
07040-36125	36	M30	125	35,6	80	54	22
07040-36160	36	M30	160	35,6	110	54	22
07040-36200	36	M30	200	35,6	135	54	22
07040-36250	36	M30	250	35,6	150	54	22
07040-36315	36	M30	315	35,6	200	54	22
07040-36500	36	M30	500	35,6	300	54	22
07040-42160	42	M36	160	41,6	100	65	26
07040-42250	42	M36	250	41,6	175	65	26
07040-42400	42	M36	400	41,6	250	65	26

T-slot bolts

DIN 787, 12.9


Material:

Carbon steel.

Version:

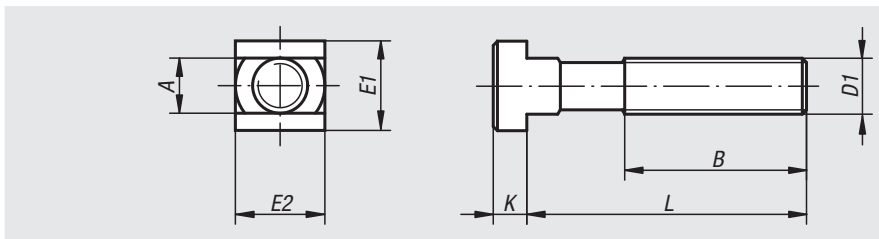
Forged and milled, rolled thread, tempered to 12.9, black.

Sample order:

nlm 07040-112125

Note:

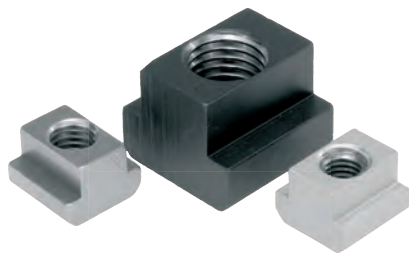
Permissible load: see Technical Information.



Order No.	Slot width	D1	L	A	B	E1/E2	K
07040-11250	12	M12	50	11,7	35	18	7
07040-11280	12	M12	80	11,7	55	18	7
07040-112100	12	M12	100	11,7	65	18	7
07040-112125	12	M12	125	11,7	75	18	7
07040-112160	12	M12	160	11,7	100	18	7
07040-112200	12	M12	200	11,7	120	18	7
07040-11450	14	M12	50	13,7	35	22	8
07040-11480	14	M12	80	13,7	55	22	8
07040-114100	14	M12	100	13,7	65	22	8
07040-114125	14	M12	125	13,7	75	22	8
07040-114160	14	M12	160	13,7	100	22	8
07040-114200	14	M12	200	13,7	120	22	8
07040-11663	16	M16	63	15,7	45	25	9
07040-116100	16	M16	100	15,7	65	25	9
07040-116125	16	M16	125	15,7	85	25	9
07040-116160	16	M16	160	15,7	100	25	9
07040-116250	16	M16	250	15,7	150	25	9
07040-11863	18	M16	63	17,7	45	28	10
07040-118100	18	M16	100	17,7	65	28	10
07040-118125	18	M16	125	17,7	85	28	10
07040-118160	18	M16	160	17,7	100	28	10
07040-118250	18	M16	250	17,7	150	28	10
07040-12080	20	M20	80	19,7	55	32	12
07040-120125	20	M20	125	19,7	85	32	12
07040-120200	20	M20	200	19,7	125	32	12
07040-120315	20	M20	315	19,7	190	32	12
07040-12280	22	M20	80	21,7	55	35	14
07040-122125	22	M20	125	21,7	85	35	14
07040-122200	22	M20	200	21,7	125	35	14
07040-122315	22	M20	315	21,7	190	35	14
07040-124100	24	M24	100	23,7	70	40	16
07040-124160	24	M24	160	23,7	110	40	16
07040-124250	24	M24	250	23,7	150	40	16
07040-124400	24	M24	400	23,7	240	40	16
07040-128100	28	M24	100	27,7	70	44	18
07040-128160	28	M24	160	27,7	110	44	18
07040-128250	28	M24	250	27,7	150	44	18
07040-128400	28	M24	400	27,7	240	44	18

Nuts for T-slots

DIN 508 enhanced



Material:

Carbon steel grade 10, EN AW-7075 or stainless steel 1.4305.

Version:

Steel black.

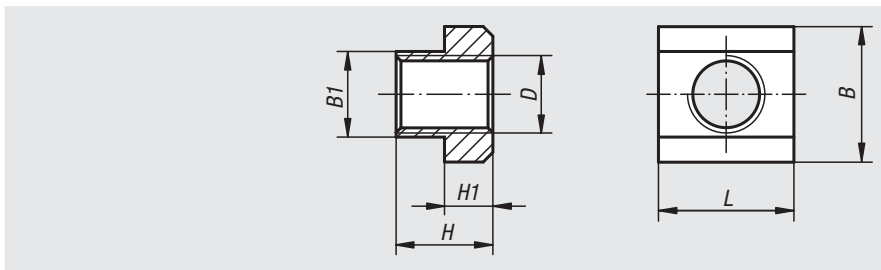
Aluminium and stainless steel bright.

Sample order:

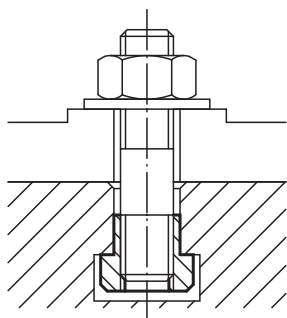
nln 07060-20

Note:

Nuts for T-slots in aluminium have threaded steel inserts.



Order No. steel	Order No. aluminium	Order No. stainless steel	Slot width	B	B1	D	H	H1	L
07060-05	07060-204	-	6	10	5,6	M5/M4	8	4	10
07060-06	07060-206	07060-806	8	13	7,6	M6	10	6	13
07060-061	07060-2061	-	10	15	9,6	M6	12	6	15
07060-08	-	07060-808	10	15	9,6	M8	12	6	15
07060-081	07060-208	-	12	18	11,6	M8	14	7	18
07060-10	-	07060-810	12	18	11,6	M10	14	7	18
07060-082	-	-	14	22	13,6	M8	16	8	22
07060-101	07060-210	-	14	22	13,6	M10	16	8	22
07060-12	-	07060-812	14	22	13,6	M12	16	8	22
07060-121	-	-	16	25	15,6	M12	18	9	25
07060-14	-	07060-814	16	25	15,6	M14	18	9	25
07060-122	-	-	18	28	17,6	M12	20	10	28
07060-141	-	-	18	28	17,6	M14	20	10	28
07060-16	-	07060-816	18	28	17,6	M16	20	10	28
07060-123	-	-	20	32	19,6	M12	24	12	32
07060-161	-	-	20	32	19,6	M16	24	12	32
07060-18	-	-	20	32	19,6	M18	24	12	32
07060-124	07060-216	-	22	35	21,6	M12/M16	28	14	35
07060-181	-	-	22	35	21,6	M18	28	14	35
07060-20	-	-	22	35	21,6	M20	28	14	35
07060-163	-	-	24	40	23,6	M16	32	16	40
07060-201	-	-	24	40	23,6	M20	32	16	40
07060-22	-	-	24	40	23,6	M22	32	16	40
07060-164	-	-	28	44	27,6	M16	36	18	44
07060-202	-	-	28	44	27,6	M20	36	18	44
07060-24	-	-	28	44	27,6	M24	36	18	44
07060-27	-	-	32	50	31,5	M27	40	20	50
07060-241	-	-	36	54	35,5	M24	44	22	54
07060-30	-	-	36	54	35,5	M30	44	22	54
07060-36	-	-	42	65	41,5	M36	52	26	65



Nuts for T-slots

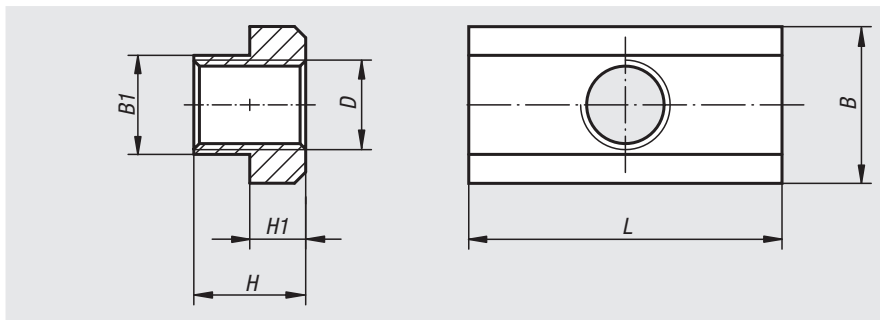
long



Material:
Carbon steel.

Version:
Tempered to 10.

Sample order:
nlm 07061-12



Order No.	Slot width	B	B1	D	H	H1	L
07061-08	10	15	9,7	M8	12	6	30
07061-10	12	18	11,7	M10	14	7	36
07061-12	14	22	13,7	M12	16	8	44
07061-14	16	25	15,7	M14	18	9	50
07061-16	18	28	17,7	M16	20	10	56
07061-18	20	32	19,7	M18	24	12	64
07061-20	22	35	21,7	M20	28	14	70
07061-24	28	44	27,7	M24	36	18	88
07061-30	36	54	35,6	M30	44	22	108

Nuts for T-slots

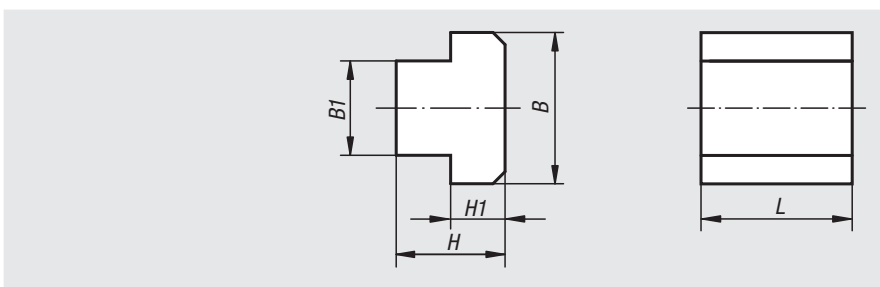
blanks



Material:
High carbon steel or stainless steel 1.4305.

Sample order:
nlm 07070-16

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



Order No. high carbon steel	Order No. stainless steel	Slot width	B	B1	H	H1	L
07070-06	-	6	10	5,6	8	4	10
07070-08	07070-808	8	13	7,6	10	6	13
07070-10	07070-810	10	15	9,6	12	6	15
07070-12	07070-812	12	18	11,5	14	7	18
07070-14	07070-814	14	22	13,5	16	8	22
07070-16	-	16	25	15,6	18	9	25
07070-18	-	18	28	17,5	20	10	28
07070-20	-	20	32	19,6	24	12	32
07070-22	-	22	35	21,6	28	14	35
07070-24	-	24	40	23,6	32	16	40
07070-28	-	28	44	27,6	36	18	44
07070-36	-	36	54	35,5	44	22	54
07070-42	-	42	65	41,6	52	26	65

Slot nuts

twist-in Type I


Material:

Steel.

Version:

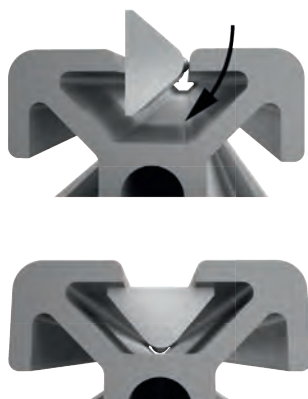
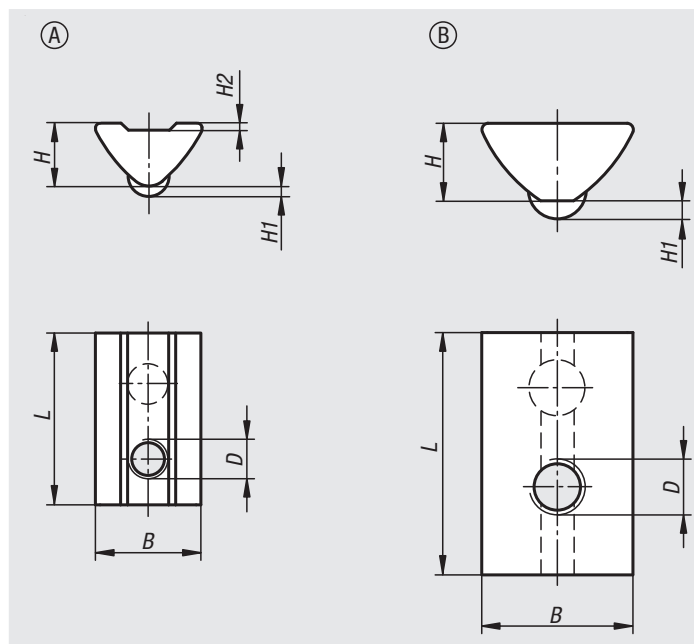
Electro zinc-plated.

Sample order:

nIm 07071-0604

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.



Order No.	Form	Slot width	D	B	H	H1	H2	L
07071-0604	A	6	M4	10,5	6,3	1	0,7	17
07071-0605	A	6	M5	10,5	6,3	1	0,7	17
07071-0606	A	6	M6	10,5	6,3	1	0,7	17
07071-0804	B	8	M4	13,7	7	1,7	0,7	22
07071-0805	B	8	M5	13,7	7	1,7	0,7	22
07071-0806	B	8	M6	13,7	7	1,7	0,7	22
07071-0808	B	8	M8	13,7	7	1,7	0,7	22

Slot nuts

twist-in, keyed Type I


Material:

Steel.

Version:

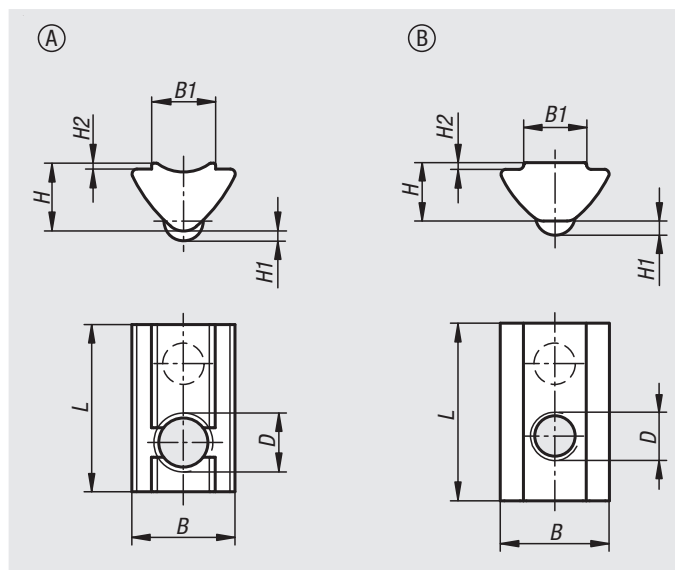
Electro zinc-plated.

Sample order:

nlm 07073-0604

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.



Order No.	Form	Slot width	D	B	B1	H	H1	H2	L
07073-0604	A	6	M4	10,5	6,5	6,9	1	0,6	17
07073-0605	A	6	M5	10,5	6,5	6,9	1	0,6	17
07073-0606	A	6	M6	10,5	6,5	6,9	1	0,6	17
07073-0803	B	8	M3	13,5	7,8	7,2	1,75	0,8	22
07073-0804	B	8	M4	13,5	7,8	7,2	1,75	0,8	22
07073-0805	B	8	M5	13,5	7,8	7,2	1,75	0,8	22
07073-0806	B	8	M6	13,5	7,8	7,2	1,75	0,8	22
07073-0808	B	8	M8	13,5	7,8	7,2	1,75	0,8	22

Slot nuts

strong Type I


Material:

Steel.

Version:

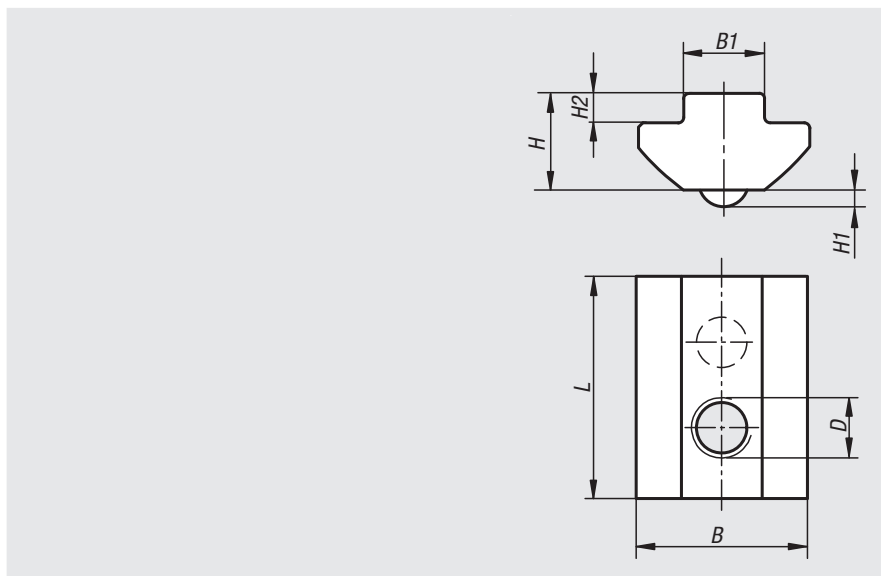
Electro zinc-plated.

Sample order:

nIm 07075-0804

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.



Order No.	Slot width	B	B1	D	H	H1	H2	L
07075-0804	8	17	8	M4	9,6	1,65	2,9	22
07075-0805	8	17	8	M5	9,6	1,65	2,9	22
07075-0806	8	17	8	M6	9,6	1,65	2,9	22
07075-0808	8	17	8	M8	9,6	1,65	2,9	22

Slot key profile

type I


Material:

Steel.

Version:

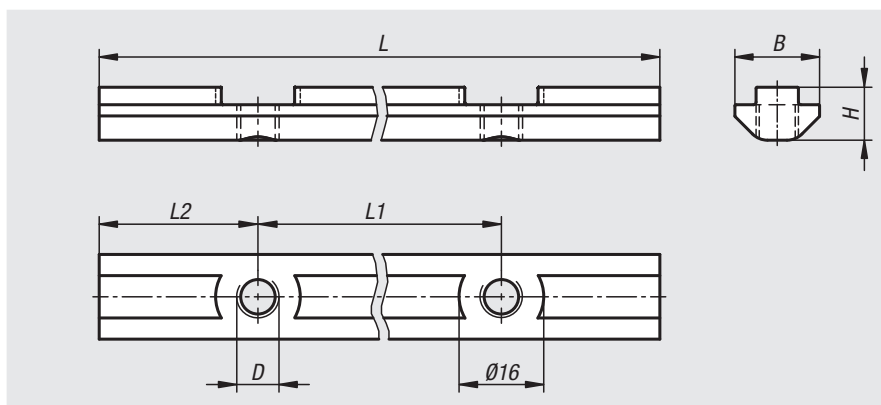
Coated.

Sample order:

nIm 07076-084008X1000

Note:

The slot profiles has a tapped hole pitch of 40 mm or 60 mm.
The profiles are particularly suitable for maintaining a constant centre distance by the bearing flanges 10400 for transport rollers.



Order No.	Slot width	B	D	H	L	L1	L2	No. of holes
07076-084008X1000	8	16	M8	9,5	1000	40	20	25
07076-086008X1000	8	16	M8	9,5	1000	60	30	17

Slot nuts

twist-in Type B

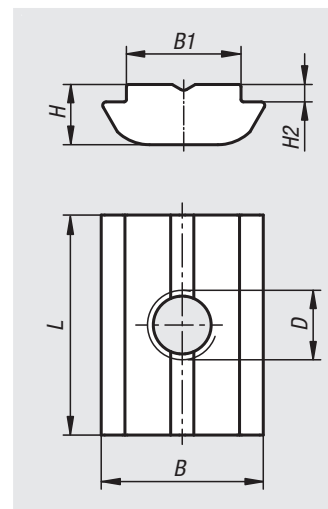


Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
nlm 07077-1004

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



Order No.	Slot width	B	B1	D	H	H2	L
07077-0804	8	11,6	7,9	M4	4,6	1	16
07077-0805	8	11,6	7,9	M5	4,6	1	16
07077-0806	8	11,6	7,9	M6	4,6	1	16
07077-0808	8	11,6	7,9	M8	4,6	1	16
07077-1004	10	14	9,9	M4	5,2	1,5	19
07077-1005	10	14	9,9	M5	5,2	1,5	19
07077-1006	10	14	9,9	M6	5,2	1,5	19
07077-1008	10	14	9,9	M8	5,2	1,5	19

Slot nuts

twist-in with spring Type B

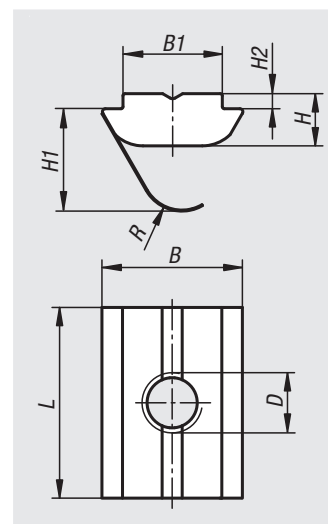


Material:
Steel.

Version:
Electro zinc-plated.

Sample order:
nlm 07078-1004

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.



Order No.	Slot width	B	B1	D	H	H1	H2	L	R
07078-0804	8	11,6	7,9	M4	4,6	8,8	1	16	3
07078-0805	8	11,6	7,9	M5	4,6	8,8	1	16	3
07078-0806	8	11,6	7,9	M6	4,6	8,8	1	16	3
07078-0808	8	11,6	7,9	M8	4,6	8,8	1	16	3
07078-1004	10	14	9,9	M4	5,2	10,2	1,5	19	4
07078-1005	10	14	9,9	M5	5,2	10,2	1,5	19	4
07078-1006	10	14	9,9	M6	5,2	10,2	1,5	19	4
07078-1008	10	14	9,9	M8	5,2	10,2	1,5	19	4

Nuts for T-slots

rhombic form


Material:

Carbon steel.

Version:

Tempered to 8 and black oxidised.

Sample order:

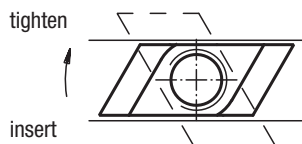
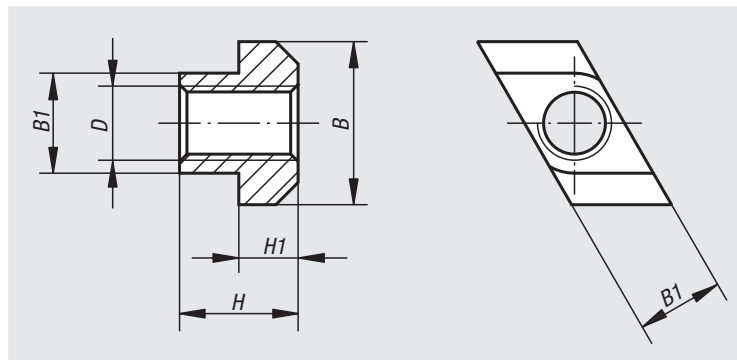
nln 07080-114

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.



Order No.	Slot width	B	B1	D	H	H1
07080-105	6	10	5,6	M5	8	4
07080-106	8	13	7,6	M6	10	6
07080-108	10	15	9,7	M8	12	6
07080-110	12	18	11,7	M10	14	7
07080-210	14	22	13,5	M10	16	8
07080-310	18	28	17,5	M10	20	10
07080-112	14	22	13,7	M12	16	8
07080-114	16	25	15,7	M14	18	9
07080-116	18	28	17,7	M16	20	10
07080-216	20	32	19,7	M16	24	12
07080-316	22	35	21,5	M16	28	14
07080-416	28	44	27,5	M16	36	18
07080-118	20	32	19,7	M18	24	12
07080-120	22	35	21,7	M20	28	14
07080-124	28	44	27,7	M24	36	18
07080-130	36	54	35,6	M30	44	22
07080-136	42	65	41,5	M36	52	26

T-nuts


Material:

Steel.

Version:

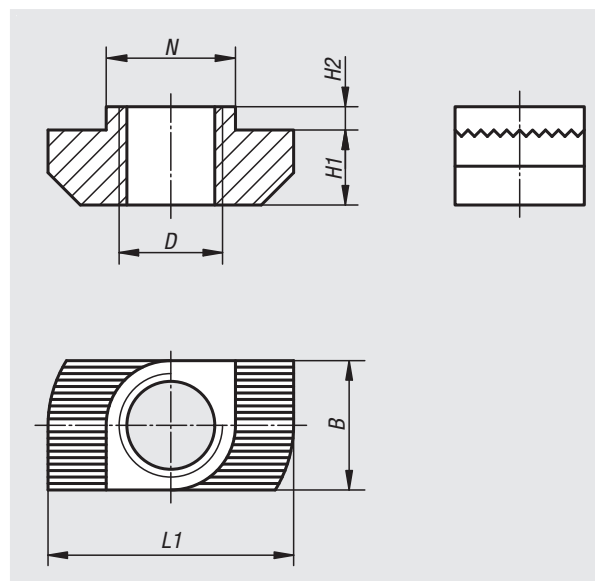
Electro zinc-plated.

Sample order:

nln 07090-0804015

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.



Order No.	Type	Slot width	B	D	H1	H2	L1	N
07090-0804015	B	8	7,7	M4	4,5	1,5	16	7,7
07090-0805015	B	8	7,7	M5	4,5	1,5	16	7,7
07090-0806015	B	8	7,7	M6	4,5	1,5	16	7,7
07090-1004030	B	10	9,7	M4	5,8	3	19	9,7
07090-1005017	-	10	9,7	M5	5,8	1,5	19	9,7
07090-1005030	B	10	9,7	M5	5,8	3	19	9,7
07090-1006017	-	10	9,7	M6	5,8	1,5	19	9,7
07090-1006030	B	10	9,7	M6	5,8	3	19	9,7
07090-1008017	-	10	9,7	M8	5,8	1,5	19	9,7
07090-1008030	B	10	9,7	M8	5,8	3	19	9,7

Hammer-head screws


Material:

Steel.

Version:

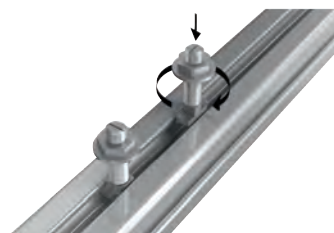
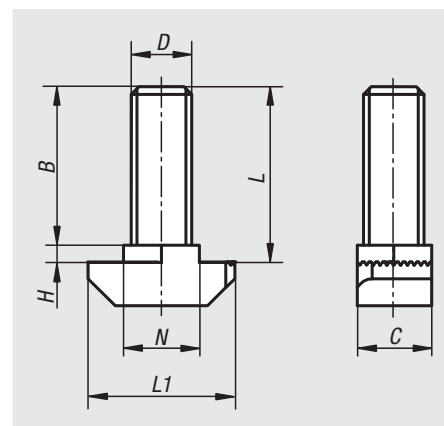
Electro zinc-plated.

Sample order:

nIm 07094-0806015X16

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.



Order No.	Type	Slot width	B	C	D	H	L	L1	N
07094-0806015X16	B	8	14,5	7,7	M6	1,5	16	16	7,7
07094-0806015X20	B	8	18,5	7,7	M6	1,5	20	16	7,7
07094-0806015X25	B	8	23,5	7,7	M6	1,5	25	16	7,7
07094-1008030X20	B	10	17	8,5	M8	3	20	19	9,7
07094-1008030X25	B	10	22	8,5	M8	3	25	19	9,7
07094-1008030X30	B	10	27	8,5	M8	3	30	19	9,7
07094-1008030X40	B	10	37	8,5	M8	3	40	19	9,7
07094-1008030X60	B	10	57	8,5	M8	3	60	19	9,7

Ball-end thrust screws with head



Material:

Screw carbon steel.
Ball ball-bearing steel.

Version:

Screw grade min. 10.9, black.
Ball hardened, bright.

Sample order:

nIm 07100-10820

Note:

Form A with full ball is used when a clean, polished contact surface is required. Surfaces which are not flat and parallel can be firmly clamped or supported with Form B with flattened ball, the movable ball can adapt itself up to 9°.

Drawing reference:

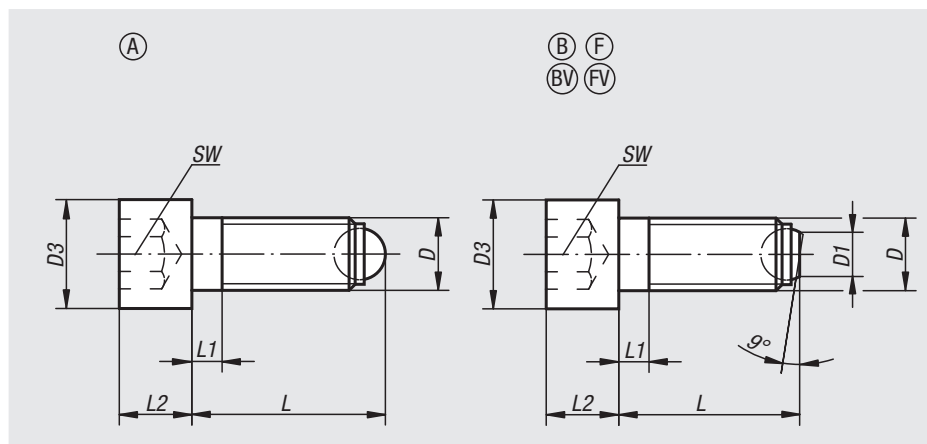
Form A: full ball

Form B: flattened ball

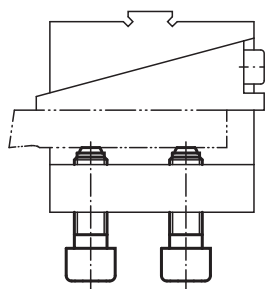
Form BV: flattened ball, rotation lock

Form F: serrated flattened ball

Form FV: serrated flattened ball, rotation lock



Order No.	Form	D	D3	L	L1	L2	Ball-Ø	SW	Load rating max. kN (static load only)
07100-10410	Form A	M4	7	9,9	2,1	4	2,5	3	3,5
07100-10416	Form A	M4	7	15,9	2,1	4	2,5	3	3,5
07100-10420	Form A	M4	7	19,9	2,1	4	2,5	3	3,5
07100-10512	Form A	M5	8,5	12,1	2,4	5	3	4	4,5
07100-10516	Form A	M5	8,5	16,1	2,4	5	3	4	4,5
07100-10520	Form A	M5	8,5	20,1	2,4	5	3	4	4,5
07100-10620	Form A	M6	10	20,8	3	6	4	5	9
07100-10630	Form A	M6	10	30,8	3	6	4	5	9
07100-10640	Form A	M6	10	40,8	16	6	4	5	9
07100-10820	Form A	M8	13	21,2	3,5	8	5,5	6	15
07100-10835	Form A	M8	13	36,2	3,5	8	5,5	6	15
07100-10850	Form A	M8	13	51,2	22	8	5,5	6	15
07100-11025	Form A	M10	16	26,7	4,5	10	7	8	20
07100-11040	Form A	M10	16	41,7	4,5	10	7	8	20
07100-11060	Form A	M10	16	61,7	28	10	7	8	20
07100-11230	Form A	M12	18	32	5	12	8,5	10	30
07100-11250	Form A	M12	18	52	5	12	8,5	10	30
07100-11280	Form A	M12	18	82	44	12	8,5	10	30
07100-11640	Form A	M16	24	43,3	6	16	12	14	60
07100-11660	Form A	M16	24	63,3	6	16	12	14	60
07100-11680	Form A	M16	24	83,3	36	16	12	14	60
07100-12050	Form A	M20	30	54,2	7,5	20	15	17	90
07100-12080	Form A	M20	30	84,2	28	20	15	17	90
07100-120100	Form A	M20	30	104,2	48	20	15	17	90
07100-12460	Form A	M24	36	64,7	9	24	18	19	120
07100-12490	Form A	M24	36	94,7	30	24	18	19	120
07100-124120	Form A	M24	36	124,7	60	24	18	19	120



Ball-end thrust screws with head

Order No. Form B	Order No. Form F	D	D1	D3	L	L1	L2	Ball-Ø	SW	Load rating max. kN (static load only)
07100-20410	-	M4	1,4	7	11,7	2,1	4	2,5	3	3,5
07100-20416	-	M4	1,4	7	15,7	2,1	4	2,5	3	3,5
07100-20420	-	M4	1,4	7	19,7	2,1	4	2,5	3	3,5
07100-20512	-	M5	2	8,5	11,7	2,4	5	3	4	4,5
07100-20516	-	M5	2	8,5	15,7	2,4	5	3	4	4,5
07100-20520	-	M5	2	8,5	19,7	2,4	5	3	4	4,5
07100-20620	-	M6	3,2	10	20	3	6	4	5	9
07100-20630	-	M6	3,2	10	30	3	6	4	5	9
07100-20640	-	M6	3,2	10	40	16	6	4	5	9
07100-20820	-	M8	4,5	13	20	3,5	8	5,5	6	15
07100-20835	-	M8	4,5	13	35	3,5	8	5,5	6	15
07100-20850	-	M8	4,5	13	50	22	8	5,5	6	15
07100-21025	07100-31025	M10	6	16	25	4,5	10	7	8	20
07100-21040	07100-31040	M10	6	16	40	4,5	10	7	8	20
07100-21060	07100-31060	M10	6	16	60	28	10	7	8	20
07100-21230	07100-31230	M12	7,2	18	30	5	12	8,5	10	30
07100-21250	07100-31250	M12	7,2	18	50	5	12	8,5	10	30
07100-21280	07100-31280	M12	7,2	18	80	44	12	8,5	10	30
07100-21640	07100-31640	M16	10,7	24	40	6	16	12	14	60
07100-21660	07100-31660	M16	10,7	24	60	6	16	12	14	60
07100-21680	07100-31680	M16	10,7	24	80	36	16	12	14	60
07100-22050	-	M20	13,5	30	50	7,5	20	15	17	90
07100-22080	-	M20	13,5	30	80	28	20	15	17	90
07100-220100	-	M20	13,5	30	100	48	20	15	17	90
07100-22460	-	M24	15,8	36	60	9	24	18	19	120
07100-22490	-	M24	15,8	36	90	30	24	18	19	120
07100-224120	-	M24	15,8	36	120	60	24	18	19	120

Order No. Form BV	Order No. Form FV	D	D1	D3	L	L1	L2	Ball-Ø	SW	Load rating max. kN (static load only)
07100-40820	-	M8	4,5	13	20	3,5	8	5,5	6	9
07100-40835	-	M8	4,5	13	35	3,5	8	5,5	6	9
07100-40850	-	M8	4,5	13	50	22	8	5,5	6	9
07100-41025	07100-51025	M10	6	16	25	4,5	10	7	8	12
07100-41040	07100-51040	M10	6	16	40	4,5	10	7	8	12
07100-41060	07100-51060	M10	6	16	60	28	10	7	8	12
07100-41230	07100-51230	M12	7,2	18	30	5	12	8,5	10	18
07100-41250	07100-51250	M12	7,2	18	50	5	12	8,5	10	18
07100-41280	07100-51280	M12	7,2	18	80	44	12	8,5	10	18
07100-41640	07100-51640	M16	10,7	24	40	6	16	12	14	36
07100-41660	07100-51660	M16	10,7	24	60	6	16	12	14	36
07100-41680	07100-51680	M16	10,7	24	80	36	16	12	14	36

Ball-end thrust screws with head

stainless steel



Material:

Stainless steel

Version:

Bright.

Sample order:

nlm 07101-11230

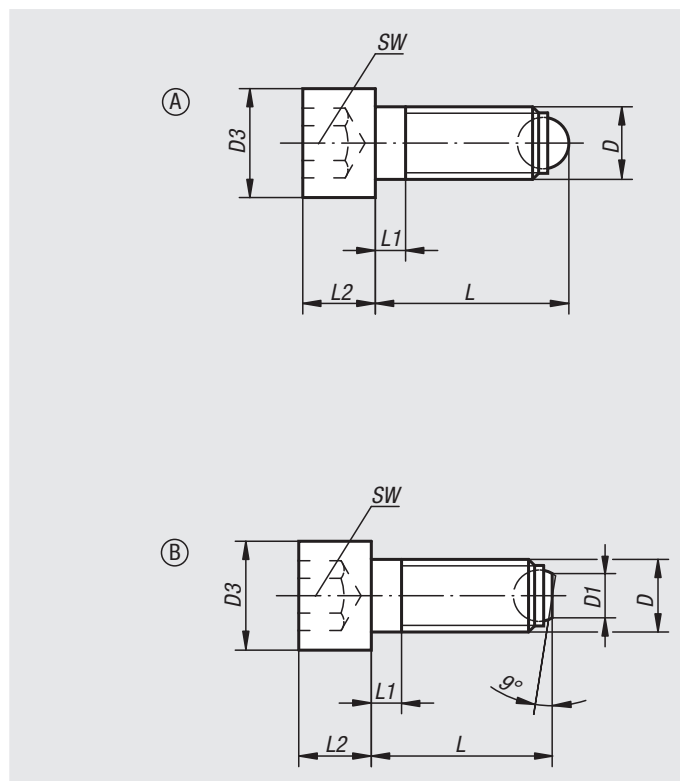
Note:

Form A with full ball is used when a clean, polished contact surface is required. Surfaces which are not flat and parallel can be firmly clamped or supported with Form B with flattened ball, the movable ball can adapt itself up to 9°.

Drawing reference:

Form A: with full ball

Form B: with flattened ball



Order No. Form A	D	D3	L	L1	L2	Ball-Ø	SW
07101-10410	M4	7	9,9	2,1	4	2,5	3
07101-10416	M4	7	15,9	2,1	4	2,5	3
07101-10420	M4	7	19,9	2,1	4	2,5	3
07101-10512	M5	8,5	12,1	2,4	5	3	4
07101-10516	M5	8,5	16,1	2,4	5	3	4
07101-10520	M5	8,5	20,1	2,4	5	3	4
07101-10620	M6	10	20,8	3	6	4	5
07101-10630	M6	10	30,8	3	6	4	5
07101-10640	M6	10	40,8	16	6	4	5
07101-10820	M8	13	21,2	3,5	8	5,5	6
07101-10835	M8	13	36,2	3,5	8	5,5	6
07101-10850	M8	13	51,2	22	8	5,5	6
07101-11025	M10	16	26,7	4,5	10	7	8
07101-11040	M10	16	41,7	4,5	10	7	8
07101-11060	M10	16	61,7	28	10	7	8
07101-11230	M12	18	32	5	12	8,5	10
07101-11250	M12	18	52	5	12	8,5	10
07101-11280	M12	18	82	44	12	8,5	10
07101-11640	M16	24	43,3	6	16	12	14
07101-11660	M16	24	63,3	6	16	12	14
07101-11680	M16	24	83,3	36	16	12	14

Order No. Form B	D	D1	D3	L	L1	L2	Ball-Ø	SW
07101-20410	M4	1,4	7	9,7	2,1	4	2,5	3
07101-20416	M4	1,4	7	15,7	2,1	4	2,5	3
07101-20420	M4	1,4	7	19,7	2,1	4	2,5	3
07101-20512	M5	2	8,5	11,7	2,4	5	3	4
07101-20516	M5	2	8,5	15,7	2,4	5	3	4
07101-20520	M5	2	8,5	19,7	2,4	5	3	4
07101-20620	M6	3,2	10	20	3	6	4	5
07101-20630	M6	3,2	10	30	3	6	4	5
07101-20640	M6	3,2	10	40	16	6	4	5
07101-20820	M8	4,5	13	20	3,5	8	5,5	6
07101-20835	M8	4,5	13	35	3,5	8	5,5	6
07101-20850	M8	4,5	13	50	22	8	5,5	6
07101-21025	M10	6	16	25	4,5	10	7	8
07101-21040	M10	6	16	40	4,5	10	7	8
07101-21060	M10	6	16	60	28	10	7	8
07101-21230	M12	7,2	18	30	5	12	8,5	10
07101-21250	M12	7,2	18	50	5	12	8,5	10
07101-21280	M12	7,2	18	80	44	12	8,5	10
07101-21640	M16	10,7	24	40	6	16	12	14
07101-21660	M16	10,7	24	60	6	16	12	14
07101-21680	M16	10,7	24	80	36	16	12	14

Ball-end thrust screws without head

with full ball, LONG-LOK secured



Material:

Screw carbon steel, grade 10.9

Ball, ball-bearing steel or POM.

LONG-LOK thread lock nylon.

Version:

Screw black.

Ball hardened, bright.

Sample order:

nln 07105-1046

Note:

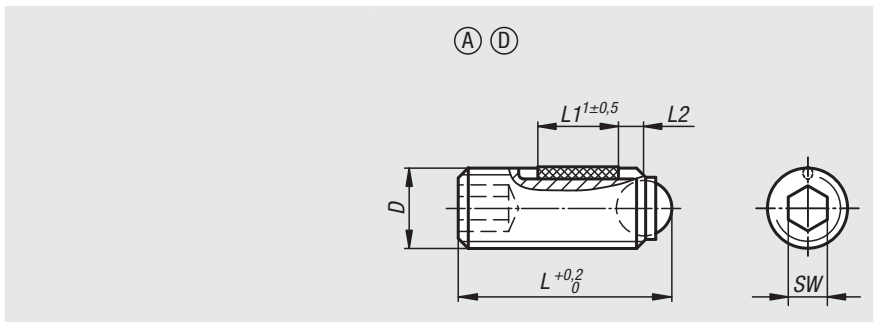
Ball-end thrust screws with full ball are used when a clean, polished contact surface is required.

Drawing reference:

Form A: steel ball

Form D: POM ball

L2 = approx. 2x pitch



Order No. Form A	Order No. Form D	D	L	L1	Ball-Ø	SW	Load rating max. kN (static load only)
07105-1046	07105-3046	M4	6	2,5	2,5	2	3,5/0,3
07105-10410	07105-30410	M4	10	3,5	2,5	2	3,5/0,3
07105-10416	07105-30416	M4	16	5	2,5	2	3,5/0,3
07105-1058	07105-3058	M5	8	3,5	3	2,5	4,5/0,5
07105-10512	07105-30512	M5	12	5	3	2,5	4,5/0,5
07105-10520	07105-30520	M5	20	6	3	2,5	4,5/0,5
07105-10610	07105-30610	M6	10,8	3,5	4	3	9/0,9
07105-10616	07105-30616	M6	16,8	7	4	3	9/0,9
07105-10620	07105-30620	M6	20,8	7	4	3	9/0,9
07105-10625	07105-30625	M6	25,8	7	4	3	9/0,9
07105-10650	-	M6	50,8	7	4	3	9
07105-10660	-	M6	60,8	7	4	3	9
07105-10810	07105-30810	M8	11,2	3,5	5,5	4	10/1,5
07105-10812	07105-30812	M8	13,2	5	5,5	4	10/1,5
07105-10820	07105-30820	M8	21,2	8	5,5	4	15/1,5
07105-10825	07105-30825	M8	26,2	8	5,5	4	15/1,5
07105-10830	07105-30830	M8	31,2	8	5,5	4	15/1,5
07105-10850	-	M8	51,2	8	5,5	4	15
07105-10860	-	M8	61,2	8	5,5	4	15
07105-10880	-	M8	81,2	8	5,5	4	15
07105-11012	07105-31012	M10	13,7	5	7	5	20/2
07105-11016	07105-31016	M10	17,7	9	7	5	20/2
07105-11020	07105-31020	M10	21,7	9	7	5	20/2
07105-11025	07105-31025	M10	26,7	9	7	5	20/2
07105-11035	07105-31035	M10	36,7	9	7	5	20/2
07105-11216	07105-31216	M12	18	8	8,5	6	30/3
07105-11220	07105-31220	M12	22	10	8,5	6	30/3
07105-11230	07105-31230	M12	32	10	8,5	6	30/3
07105-11240	07105-31240	M12	42	10	8,5	6	30/3
07105-11620	-	M16	23,3	10	12	8	60
07105-11625	-	M16	28,3	14	12	8	60
07105-11635	-	M16	38,3	14	12	8	60
07105-11650	-	M16	53,3	14	12	8	60

Ball-end thrust screws without head

with flattened ball LONG-LOK secured



Material:

Screw carbon steel, grade 10.9
Ball, ball-bearing steel.
LONG-LOK thread lock nylon.

Version:

Screw black.
Ball hardened, bright.

Sample order:

nIm 07105-20610

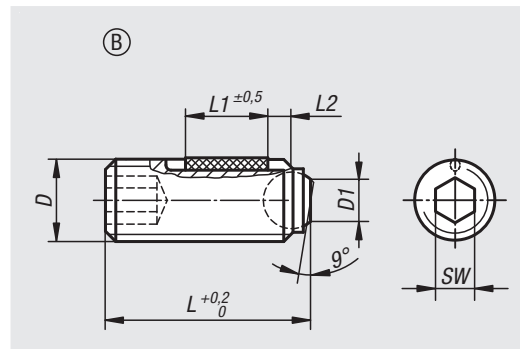
Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with a flattened ball, the movable ball can adapt itself up to 9°.

Drawing reference:

Form B: with flattened ball

L2 = approx. 2x pitch



Order No. Form B	D	D1	L	L1	Ball-Ø	SW	Load rating max. kN (static load only)
07105-20610	M6	3	10,1	3,5	4	3	9
07105-20616	M6	3	16,1	7	4	3	9
07105-20620	M6	3	20,1	7	4	3	9
07105-20625	M6	3	25,1	7	4	3	9
07105-20650	M6	3	50,1	7	4	3	9
07105-20660	M6	3	60,1	7	4	3	9
07105-20810	M8	4,1	10,3	3,5	5,5	4	10
07105-20812	M8	4,1	12,3	5	5,5	4	10
07105-20820	M8	4,1	20,3	8	5,5	4	15
07105-20825	M8	4,1	25,3	8	5,5	4	15
07105-20830	M8	4,1	30,3	8	5,5	4	15
07105-20850	M8	4,1	50,3	8	5,5	4	15
07105-20860	M8	4,1	60,3	8	5,5	4	15
07105-20880	M8	4,1	80,3	8	5,5	4	15
07105-21012	M10	5,6	12,3	5	7	5	20
07105-21016	M10	5,6	16,3	9	7	5	20
07105-21020	M10	5,6	20,3	9	7	5	20
07105-21025	M10	5,6	25,3	9	7	5	20
07105-21035	M10	5,6	35,3	9	7	5	20
07105-21216	M12	7	16,2	8	8,5	6	30
07105-21220	M12	7	20,2	10	8,5	6	30
07105-21230	M12	7	30,2	10	8,5	6	30
07105-21240	M12	7	40,2	10	8,5	6	30
07105-21620	M16	10,7	20	10	12	8	60
07105-21625	M16	10,7	25	14	12	8	60
07105-21635	M16	10,7	35	14	12	8	60
07105-21650	M16	10,7	50	14	12	8	60

Ball-end thrust screws without head

short version


Material:

Screw carbon steel, ball ball-bearing steel.

Version:

Screw grade 12.9, black oxidised.

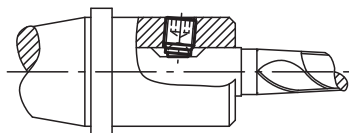
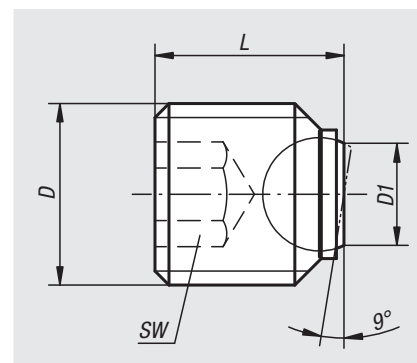
Ball hardened, bright.

Sample order:

nlm 07109-1416

Note:

Short ball-end thrust screws are particularly suited to DIN 1835 E straight milling cutter shanks together with e.g. Whistle Notch or Weldon tool holders.



Order No.	D	D1	L	Ball-Ø	SW	Load rating max. kN (static load only)
07109-1416	M14	7,2	16	8,5	6	30
07109-1616	M16	7,2	16	8,5	8	30
07109-1820	M18X2	10,7	20	12	10	60
07109-2020	M20X2	10,7	20	12	10	60
07109-2025	M20X2	10,7	25	12	10	60
07109-2425	M24x2	13,5	25	15	12	90

Ball-end thrust screws without head

with full ball



Material:

Screw, high-carbon steel, grade 10.9
Ball, ball-bearing steel or POM.

Version:

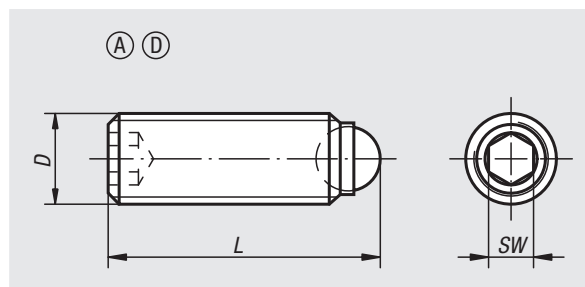
Screw black.
Ball hardened, bright.

Sample order:

nlm 07110-10810

Note:

Ball-end thrust screws with full ball are used when a clean, polished contact surface is required.
Longer versions have been specially designed to be glued in, allowing mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.



Drawing reference:

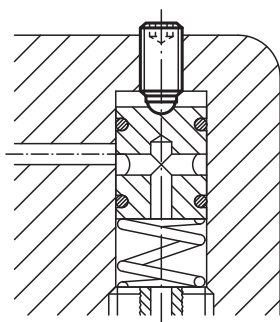
Form A: steel ball

Form D: POM ball

Order No. Form A	Order No. Form D	D	L	Ball-Ø	SW	Load rating max. kN (static load only)
07110-1046	07110-3046	M4	6	2,5	2	3,5/0,3
07110-1048	07110-3048	M4	8	2,5	2	3,5/0,3
07110-10410	07110-30410	M4	10	2,5	2	3,5/0,3
07110-10412	07110-30412	M4	12	2,5	2	3,5/0,3
07110-10416	07110-30416	M4	16	2,5	2	3,5/0,3
07110-1058	07110-3058	M5	8	3	2,5	4,5/0,5
07110-10510	07110-30510	M5	10	3	2,5	4,5/0,5
07110-10512	07110-30512	M5	12	3	2,5	4,5/0,5
07110-10516	07110-30516	M5	16	3	2,5	4,5/0,5
07110-10520	07110-30520	M5	20	3	2,5	4,5/0,5
07110-10525	07110-30525	M5	25	3	2,5	4,5/0,5
07110-10610	07110-30610	M6	10,8	4	3	9/0,9
07110-10612	07110-30612	M6	12,8	4	3	9/0,9
07110-10616	07110-30616	M6	16,8	4	3	9/0,9
07110-10620	07110-30620	M6	20,8	4	3	9/0,9
07110-10625	07110-30625	M6	25,8	4	3	9/0,9
07110-10650	-	M6	50,8	4	3	9/0,9
07110-10660	-	M6	60,8	4	3	9/0,9
07110-10680	-	M6	80,8	4	3	9/0,9
07110-10810	07110-30810	M8	11,2	5,5	4	10/15/1,5
07110-10812	07110-30812	M8	13,2	5,5	4	10/15/1,5
07110-10816	07110-30816	M8	17,2	5,5	4	10/15/1,5
07110-10820	07110-30820	M8	21,2	5,5	4	10/15/1,5
07110-10825	07110-30825	M8	26,2	5,5	4	10/15/1,5
07110-10830	07110-30830	M8	31,2	5,5	4	10/15/1,5
07110-10850	-	M8	51,2	5,5	4	10/15/1,5
07110-10860	-	M8	61,2	5,5	4	10/15/1,5
07110-10880	-	M8	81,2	5,5	4	10/15/1,5

Ball-end thrust screws without head

with full ball



Order No. Form A	Order No. Form D	D	L	Ball-Ø	SW	Load rating max. kN (static load only)
07110-11012	07110-31012	M10	13,7	7	5	20/2
07110-11016	07110-31016	M10	17,7	7	5	20/2
07110-11020	07110-31020	M10	21,7	7	5	20/2
07110-11025	07110-31025	M10	26,7	7	5	20/2
07110-11035	07110-31035	M10	36,7	7	5	20/2
07110-11216	07110-31216	M12	18	8,5	6	30/3
07110-11220	07110-31220	M12	22	8,5	6	30/3
07110-11225	-	M12	27	8,5	6	30/3
07110-11230	07110-31230	M12	32	8,5	6	30/3
07110-11232	-	M12	34	8,5	6	30/3
07110-11240	07110-31240	M12	42	8,5	6	30/3
07110-11620	-	M16	23,3	12	8	60
07110-11625	-	M16	28,3	12	8	60
07110-11635	-	M16	38,3	12	8	60
07110-11650	-	M16	53,3	12	8	60
07110-12030	-	M20	34,2	15	10	90
07110-12040	-	M20	44,2	15	10	90
07110-12060	-	M20	64,2	15	10	90
07110-12435	-	M24	39,7	18	12	120
07110-12450	-	M24	54,7	18	12	120
07110-12480	-	M24	84,7	18	12	120

Ball-end thrust screws without head

with flattened ball



Material:

Screw carbon steel, grade 10.9
Ball, ball-bearing steel or POM.

Version:

Screw black.
Ball hardened, bright.

Sample order:

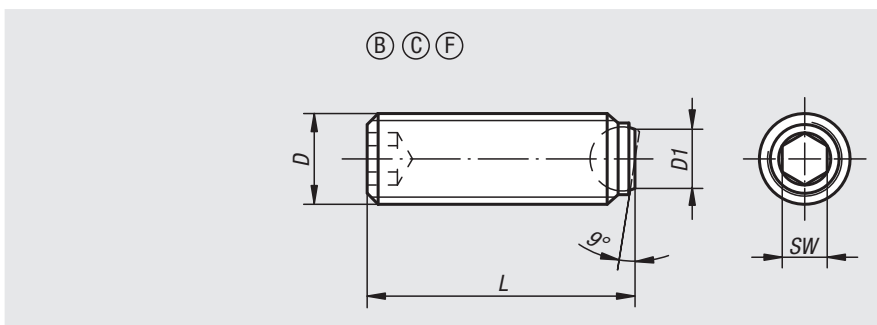
nIm 07110-41012

Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with Form B, C or F with flattened ball, the movable ball can adapt itself up to 9°. Longer versions have been specially designed to glue in, allowing mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

Drawing reference:

Form B: steel ball
Form C: POM ball
Form F: steel ball diamond grip



Order No.	Form	D	D1	L	Ball-Ø	SW	Load rating max. kN (static load only)
07110-70410	C	M4	1,8	9,9	2,5	2	0,3
07110-70412	C	M4	1,8	11,9	2,5	2	0,3
07110-70416	C	M4	1,8	15,9	2,5	2	0,3
07110-7046	C	M4	1,8	5,9	2,5	2	0,3
07110-7048	C	M4	1,8	7,9	2,5	2	0,3
07110-70512	C	M5	2,1	11,8	3	2,5	0,5
07110-70516	C	M5	2,1	15,8	3	2,5	0,5
07110-70520	C	M5	2,1	19,8	3	2,5	0,5
07110-70525	C	M5	2,1	24,8	3	2,5	0,5
07110-70510	C	M5	2,1	9,8	3	2,5	0,5
07110-7058	C	M5	2,1	7,8	3	2,5	0,5
07110-70610	C	M6	3	10,3	4	3	0,9
07110-70612	C	M6	3	12,3	4	3	0,9
07110-70616	C	M6	3	16,3	4	3	0,9
07110-70620	C	M6	3	20,3	4	3	0,9
07110-70625	C	M6	3	25,3	4	3	0,9
07110-70810	C	M8	4,2	10,4	5,5	4	1,5
07110-70830	C	M8	4,2	30,4	5,5	4	1,5
07110-70812	C	M8	4,2	12,4	5,5	4	1,5
07110-70816	C	M8	4,2	16,4	5,5	4	1,5
07110-70820	C	M8	4,2	20,4	5,5	4	1,5
07110-70825	C	M8	4,2	25,4	5,5	4	1,5

Order No.	Form	D	D1	L	Ball-Ø	SW	Load rating max. kN (static load only)
07110-41012	F	M10	6	12	7	5	20
07110-41016	F	M10	6	16	7	5	20
07110-41025	F	M10	6	25	7	5	20
07110-41035	F	M10	6	35	7	5	20
07110-41216	F	M12	7,2	16	8,5	6	30
07110-41220	F	M12	7,2	20	8,5	6	30
07110-41240	F	M12	7,2	40	8,5	6	30
07110-41230	F	M12	7,2	30	8,5	6	30
07110-41620	F	M16	10,7	20	12	8	60
07110-41625	F	M16	10,7	25	12	8	60
07110-41635	F	M16	10,7	35	12	8	60
07110-41650	F	M16	10,7	50	12	8	60

Ball-end thrust screws without head

with flattened ball

Order No.	Form	D	D1	L	Ball-Ø	SW	Load rating max. kN (static load only)
07110-2046	B	M4	1,4	5,8	2,5	2	3,5
07110-2048	B	M4	1,4	7,8	2,5	2	3,5
07110-20410	B	M4	1,4	9,8	2,5	2	3,5
07110-20412	B	M4	1,4	11,8	2,5	2	3,5
07110-20416	B	M4	1,4	15,8	2,5	2	3,5
07110-20510	B	M5	2	9,6	3	2,5	4,5
07110-20512	B	M5	2	11,6	3	2,5	4,5
07110-20516	B	M5	2	15,6	3	2,5	4,5
07110-2058	B	M5	2	7,6	3	2,5	4,5
07110-20520	B	M5	2	19,6	3	2,5	4,5
07110-20525	B	M5	2	24,6	3	2,5	4,5
07110-20612	B	M6	3	12,1	4	3	9
07110-20616	B	M6	3	16,1	4	3	9
07110-20610	B	M6	3	10,1	4	3	9
07110-20620	B	M6	3	20,1	4	3	9
07110-20680	B	M6	3	80,1	4	3	9
07110-20625	B	M6	3	25,1	4	3	9
07110-20650	B	M6	3	50,1	4	3	9
07110-20660	B	M6	3	60,1	4	3	9
07110-20812	B	M8	4,1	12,3	5,5	4	10
07110-20816	B	M8	4,1	16,3	5,5	4	15
07110-20820	B	M8	4,1	20,3	5,5	4	15
07110-20810	B	M8	4,1	10,3	5,5	4	10
07110-20825	B	M8	4,1	25,3	5,5	4	15
07110-20880	B	M8	4,1	80,3	5,5	4	15
07110-20830	B	M8	4,1	30,3	5,5	4	15
07110-20850	B	M8	4,1	50,3	5,5	4	15
07110-20860	B	M8	4,1	60,3	5,5	4	15
07110-21016	B	M10	5,6	16,3	7	5	20
07110-21020	B	M10	5,6	20,3	7	5	20
07110-21025	B	M10	5,6	25,3	7	5	20
07110-21012	B	M10	5,6	12,3	7	5	20
07110-21035	B	M10	5,6	35,3	7	5	20
07110-21216	B	M12	7	16,2	8,5	6	30
07110-21220	B	M12	7	20,2	8,5	6	30
07110-21230	B	M12	7	30,2	8,5	6	30
07110-21240	B	M12	7	40,2	8,5	6	30
07110-21620	B	M16	10,7	20	12	8	60
07110-21650	B	M16	10,7	50	12	8	60
07110-21625	B	M16	10,7	25	12	8	60
07110-21635	B	M16	10,7	35	12	8	60
07110-22040	B	M20	13,5	40	15	10	90
07110-22030	B	M20	13,5	30	15	10	90
07110-22060	B	M20	13,5	60	15	10	90
07110-22435	B	M24	15,8	35	18	12	120
07110-22450	B	M24	15,8	50	18	12	120
07110-22480	B	M24	15,8	80	18	12	120

Ball-end thrust screws without head

with flattened ball and rotation lock



Material:

Screw, high-carbon steel, grade 10.9
Ball, ball-bearing steel.

Version:

Screw black.
Ball hardened, bright.

Sample order:

nIm 07110-50820

Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with with a flattened ball, the movable ball can adapt itself up to 9°.

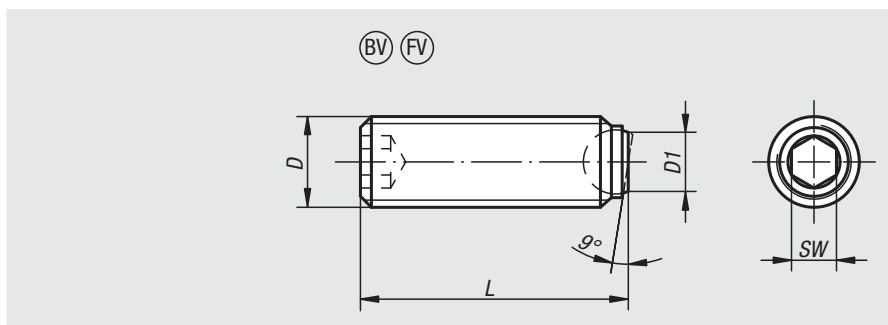
Longer versions have been designed especially to be glued in. This allows mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

The ball has a rotation lock.

Drawing reference:

Form BV: flattened ball non-rotating

Form FV: flattened ball diamond grip non-rotating



Order No. Form BV	Order No. Form FV	D	D1	L	Ball-Ø	SW	Load rating max. kN (static load only)
07110-50616	-	M6	3	16,1	4	3	6
07110-50620	-	M6	3	20,1	4	3	6
07110-50612	-	M6	3	12,1	4	3	6
07110-50625	-	M6	3	25,1	4	3	6
07110-50816	07110-60816	M8	4,1	16,3	5,5	4	9
07110-50820	07110-60820	M8	4,1	20,3	5,5	4	9
07110-50825	07110-60825	M8	4,1	25,3	5,5	4	9
07110-50830	07110-60830	M8	4,1	30,3	5,5	4	9
07110-51025	07110-61025	M10	5,6	25,3	7	5	12
07110-51020	07110-61020	M10	5,6	20,3	7	5	12
07110-51035	07110-61035	M10	5,6	35,3	7	5	12
07110-51040	07110-61040	M10	5,6	40,2	7	5	12
07110-51220	07110-61220	M12	7	20,2	8,5	6	18
07110-51230	07110-61230	M12	7	30,2	8,5	6	18
07110-51240	07110-61240	M12	7	40,2	8,5	6	18
07110-51250	07110-61250	M12	7	50	8,5	6	18
07110-51635	07110-61635	M16	10,7	35	12	8	36
07110-51650	07110-61650	M16	10,7	50	12	8	36
07110-52030	07110-62030	M20	13,5	30	15	10	60
07110-52040	07110-62040	M20	13,5	40	15	10	60
07110-52050	07110-62050	M20	13,5	50	15	10	60
07110-52060	07110-62060	M20	13,5	60	15	10	60
07110-52435	07110-62435	M24	15,8	35	18	12	80
07110-52480	07110-62480	M24	15,8	80	18	12	80
07110-52450	07110-62450	M24	15,8	50	18	12	80

Ball-end thrust screws without head

stainless steel with full ball



Material:

Screw stainless steel.

Ball stainless steel, POM or ceramic Si_3N_4 .

Version:

Stainless steel bright.

Sample order:

nln 07111-1046

Note:

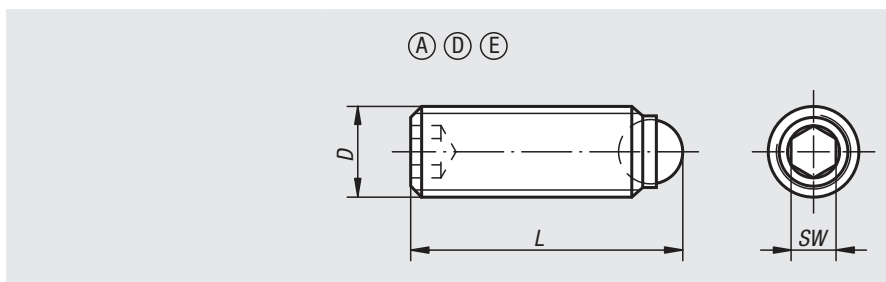
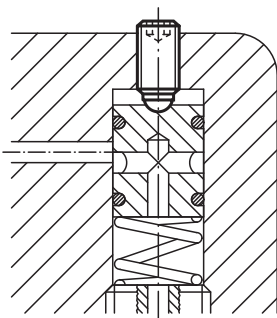
Ball-end thrust screws with full ball are used when a clean, polished contact surface is required. Longer versions have been designed especially to be glued in, allowing mechanical connecting elements with external threads to be made cost-effectively for small and medium-sized runs. Silicon nitride (Si_3N_4) is characterised by a combination of excellent properties, these include high resilience and strength, excellent wear resistance and good chemical resistance.

Drawing reference:

Form A: stainless steel ball

Form D: POM ball

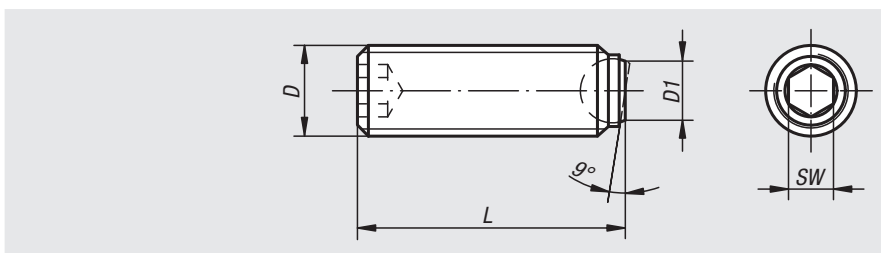
Form E: ceramic ball



Order No. Form A	Order No. Form D	Order No. Form E	D	L	Ball-Ø	SW	Load rating max. kN (static load only)
07111-10412	07111-30412	-	M4	12	2,5	2	-/0,3
07111-10416	07111-30416	-	M4	16	2,5	2	-/0,3
07111-1046	07111-3046	-	M4	6	2,5	2	-/0,3
07111-1048	07111-3048	-	M4	8	2,5	2	-/0,3
07111-10510	07111-30510	-	M5	10	3	2,5	-/0,5/4,5
07111-10512	07111-30512	07111-80512	M5	12	3	2,5	-/0,5/4,5
07111-10516	07111-30516	-	M5	16	3	2,5	-/0,5/4,5
07111-10520	07111-30520	07111-80520	M5	20	3	2,5	-/0,5/4,5
07111-10525	07111-30525	-	M5	25	3	2,5	-/0,5/4,5
07111-1058	07111-3058	07111-8058	M5	8	3	2,5	-/0,5/4,5
07111-10610	07111-30610	07111-80610	M6	10,8	4	3	-/0,9/9
07111-10612	07111-30612	-	M6	12,8	4	3	-/0,9/9
07111-10616	07111-30616	07111-80616	M6	16,8	4	3	-/0,9/9
07111-10620	07111-30620	07111-80620	M6	20,8	4	3	-/0,9/9
07111-10625	07111-30625	07111-80625	M6	25,8	4	3	-/0,9/9
07111-10650	-	-	M6	50,8	4	3	-/0,9/9
07111-10660	-	-	M6	60,8	4	3	-/0,9/9
07111-10680	-	-	M6	80,8	4	3	-/0,9/9
07111-10810	07111-30810	07111-80810	M8	11,2	5,5	4	-/1,5/10/15
07111-10812	07111-30812	07111-80812	M8	13,2	5,5	4	-/1,5/10/15
07111-10816	07111-30816	-	M8	17,2	5,5	4	-/1,5/10/15
07111-10820	07111-30820	07111-80820	M8	21,2	5,5	4	-/1,5/10/15
07111-10825	07111-30825	07111-80825	M8	26,2	5,5	4	-/1,5/10/15
07111-10830	07111-30830	07111-80830	M8	31,2	5,5	4	-/1,5/10/15
07111-10850	-	-	M8	51,2	5,5	4	-/1,5/10/15
07111-10860	-	-	M8	61,2	5,5	4	-/1,5/10/15
07111-10880	-	-	M8	81,2	5,5	4	-/1,5/10/15
07111-11012	-	07111-81012	M10	13,7	7	5	-/20
07111-11016	-	07111-81016	M10	17,7	7	5	-/20
07111-11020	-	07111-81020	M10	21,7	7	5	-/20
07111-11025	-	07111-81025	M10	26,7	7	5	-/20
07111-11035	-	07111-81035	M10	36,7	7	5	-/20
07111-11216	-	07111-81216	M12	18	8,5	6	-/30
07111-11220	-	07111-81220	M12	22	8,5	6	-/30
07111-11225	-	-	M12	27	8,5	6	-/30
07111-11230	-	07111-81230	M12	32	8,5	6	-/30
07111-11232	-	-	M12	34	8,5	6	-/30
07111-11240	-	07111-81240	M12	42	8,5	6	-/30
07111-11620	-	-	M16	23,3	12	8	-
07111-11625	-	-	M16	28,3	12	8	-
07111-11635	-	-	M16	38,3	12	8	-
07111-10410	07111-30410	-	M4	10	2,5	2	-/0,3
07111-11650	-	-	M16	53,3	12	8	-

Ball-end thrust screws without head

stainless steel with flattened ball



Material:

Screw and ball stainless steel.

Version:

Stainless steel bright.

Sample order:

nlm 07111-2046

Note:

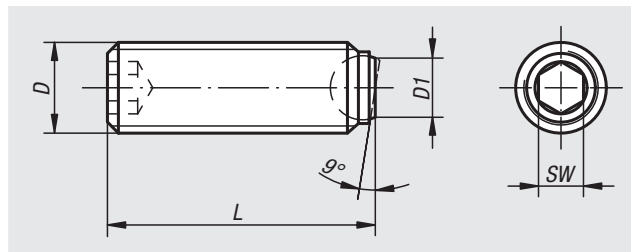
Surfaces which are not flat and parallel can be firmly clamped or supported with a flattened ball, the movable ball can adapt itself up to 9°.

Longer versions have been designed especially to be glued in. This enables mechanical connecting elements with male thread to be made cost-effectively for small and medium-sized series.

Order No.	Form	D	D1	L	Ball-Ø	SW
07111-2046	B	M4	1,4	5,8	2,5	2
07111-2048	B	M4	1,4	7,8	2,5	2
07111-20410	B	M4	1,4	9,8	2,5	2
07111-20412	B	M4	1,4	11,8	2,5	2
07111-20416	B	M4	1,4	15,8	2,5	2
07111-2058	B	M5	2	7,6	3	2,5
07111-20510	B	M5	2	9,6	3	2,5
07111-20512	B	M5	2	11,6	3	2,5
07111-20516	B	M5	2	15,6	3	2,5
07111-20520	B	M5	2	19,6	3	2,5
07111-20525	B	M5	2	24,6	3	2,5
07111-20610	B	M6	3	10,1	4	3
07111-20612	B	M6	3	12,1	4	3
07111-20616	B	M6	3	16,1	4	3
07111-20620	B	M6	3	20,1	4	3
07111-20625	B	M6	3	25,1	4	3
07111-20650	B	M6	3	50,1	4	3
07111-20660	B	M6	3	60,1	4	3
07111-20680	B	M6	3	80,1	4	3
07111-20810	B	M8	4,1	10,3	5,5	4
07111-20812	B	M8	4,1	12,3	5,5	4
07111-20816	B	M8	4,1	16,3	5,5	4
07111-20820	B	M8	4,1	20,3	5,5	4
07111-20825	B	M8	4,1	25,3	5,5	4
07111-20830	B	M8	4,1	30,3	5,5	4
07111-20850	B	M8	4,1	50,3	5,5	4
07111-20860	B	M8	4,1	60,3	5,5	4
07111-20880	B	M8	4,1	80,3	5,5	4
07111-21012	B	M10	5,6	12,3	7	5
07111-21016	B	M10	5,6	16,3	7	5
07111-21020	B	M10	5,6	20,3	7	5
07111-21025	B	M10	5,6	25,3	7	5
07111-21035	B	M10	5,6	35,3	7	5
07111-21216	B	M12	7	16,2	8,5	6
07111-21220	B	M12	7	20,2	8,5	6
07111-21230	B	M12	7	30,2	8,5	6
07111-21240	B	M12	7	40,2	8,5	6
07111-21620	B	M16	10,7	20	12	8
07111-21625	B	M16	10,7	25	12	8
07111-21635	B	M16	10,7	35	12	8
07111-21650	B	M16	10,7	50	12	8

Ball-end thrust screws without head

stainless steel with flattened ball and rotation lock



Material:

Screw and ball stainless steel.

Version:

Stainless steel bright.

Sample order:

nln 07111-50612

Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with a flattened ball, the movable ball can adapt itself up to 9°.

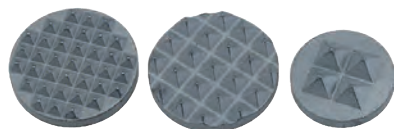
Longer versions have been designed especially to be glued in. This allows mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

The ball has a rotation lock.

Order No.	Form	D	D1	L	Ball-Ø	SW
07111-50612	BV	M6	3	12,1	4	3
07111-50616	BV	M6	3	16,1	4	3
07111-50620	BV	M6	3	20,1	4	3
07111-50625	BV	M6	3	25,1	4	3
07111-50816	BV	M8	4,1	16,3	5,5	4
07111-50820	BV	M8	4,1	20,3	5,5	4
07111-50825	BV	M8	4,1	25,3	5,5	4
07111-50830	BV	M8	4,1	30,3	5,5	4
07111-51020	BV	M10	5,6	20,3	7	5
07111-51025	BV	M10	5,6	25,3	7	5
07111-51035	BV	M10	5,6	35,3	7	5
07111-51040	BV	M10	5,6	40,2	7	5
07111-51220	BV	M12	7	20,2	8,5	6
07111-51230	BV	M12	7	30,2	8,5	6
07111-51240	BV	M12	7	40,2	8,5	6
07111-51250	BV	M12	7	50	8,5	6
07111-51635	BV	M16	10,7	35	12	8
07111-51650	BV	M16	10,7	50	12	8

Gripper pads round

carbide


Material:

Carbide.

Version:

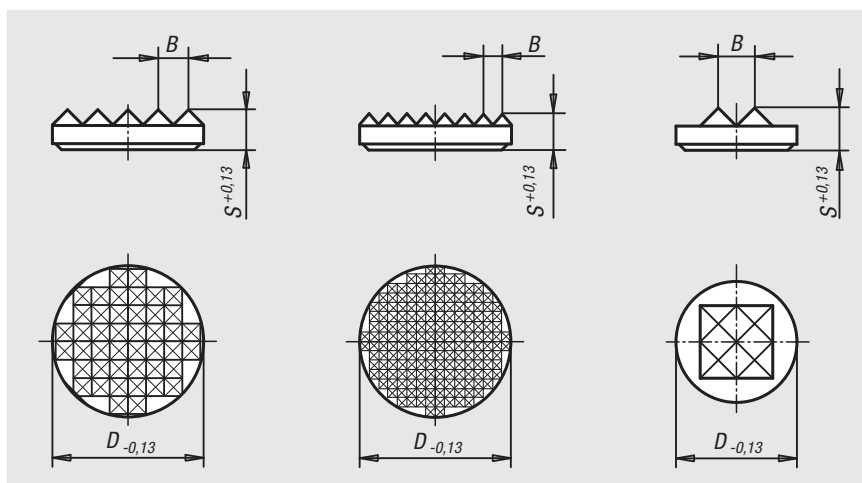
sintered.

Sample order:

nlm 07112-211

Note:

These carbide gripper pads are available as 4-point or serrated. They have many uses i.e. they can be glued onto cast iron base plates.



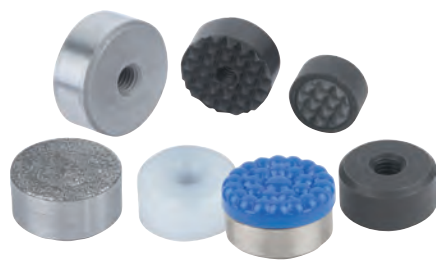
Order No.	Version 2	D	S	B
07112-110	serrated	6,35	3,2	2,3
07112-111	serrated	7,9	3,2	2,3
07112-112	serrated	9,5	3,2	3
07112-113	serrated	12,7	3,2	3
07112-114	serrated	19,05	3,2	3
07112-211	fine serrated	7,9	3,2	1,5
07112-212	fine serrated	9,5	3,2	2,3
07112-213	fine serrated	12,7	3,2	2,3
07112-214	fine serrated	19,05	3,2	2,3
07112-215	fine serrated	25,4	4	2,3
07112-411	4-point contact	7,9	3,2	3
07112-412	4-point contact	9,5	3,2	3
07112-413	4-point contact	12,7	4	3,5

Notes

A large grid of graph paper for taking notes. The grid is composed of small squares, with larger squares forming a 10x10 pattern. The grid is intended for technical drawing or note-taking.

01000
02000
03000
04000
05000
06000
07000
08000
09000
10000
12000

Grippers and inserts round



Material:

Form C, F, M tool steel
Form E, O, P stainless steel
Form K POM

Version:

Form C hardened and black oxidised.
Form E hardened, bright.
Form K white.
Form O with diamond impregnated surface comparable to 100 grade abrasive grit.
Form P with polyurethane surface, hardness Shore 60.
Form F, hardened and black oxidised.
Form M with carbide serrations, black oxidised.

Sample order:

nlm 07113-2510

Note:

Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads. The use of grippers allows the transfer of very high torque values and above average grip, even with hard materials and surface irregularities.

Form O: The abrasive diamond surface is bonded firmly to the base. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface.

The diamond surface offers excellent wear resistance.

Form P: The polyurethane surface is vulcanised firmly to the ball. It is abrasion-resistant and does not discolour. It offers optimum protection against damage to delicate surfaces. The pearl-like surface gives a firm grip and allows air to escape so as to prevent any suction effect between the contact surface and the self-aligning pads.

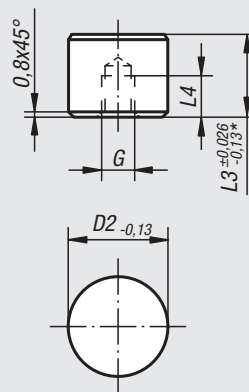
Grippers and inserts can be fitted in the following self-aligning pads:

Order No. 02003-117X022 up to 02003-936X036

Order No. 02007-110X015 up to 02007-924X100

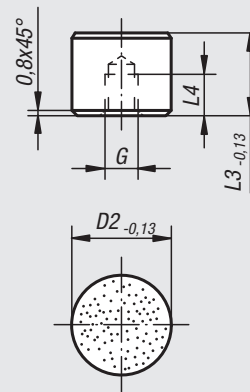
Order No. 02007-120X030 up to 02007-924X080

Form C, E, K

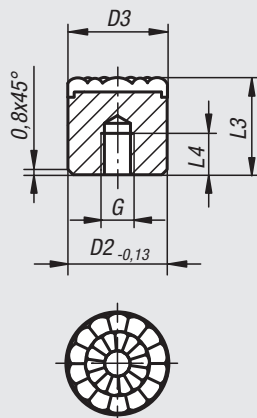


* Applies to Form K

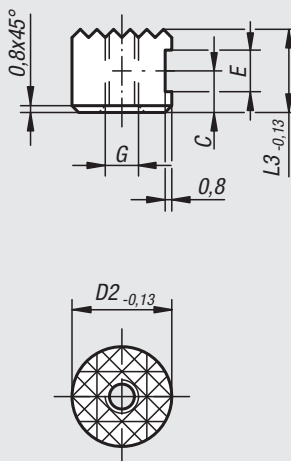
Form O
stainless steel insert
diamond impregnated



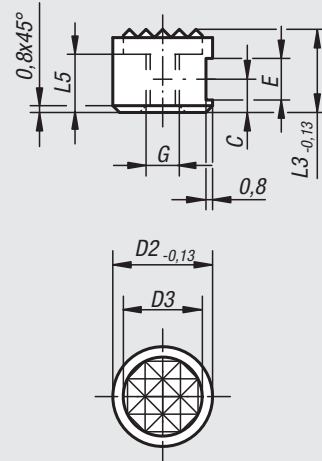
Form P
stainless steel insert,
PUR surface



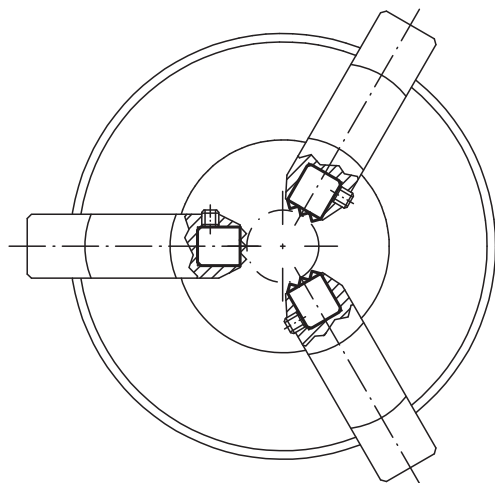
Form F
diamond grip insert



Form M
carbide steel
diamond grip insert



Grippers and inserts round



Order No. Form C	Order No. Form E	Order No. Form K	Order No. Form O	D2	L3	L4	G
07113-10108	07113-10102	07113-10109	07113-10105	10	10	5	M5
07113-10128	07113-10122	07113-10129	07113-10125	10	12	6,4	M5
07113-12108	07113-12102	07113-12109	07113-12105	12	10	5	M5
07113-12128	07113-12122	07113-12129	07113-12125	12	12	6,4	M5
07113-16108	07113-16102	07113-16109	07113-16105	16	10	5	M6
07113-16128	07113-16122	07113-16129	07113-16125	16	12	6,4	M6
07113-20108	07113-20102	07113-20109	07113-20105	20	10	5	M6
07113-20128	07113-20122	07113-20129	07113-20125	20	12	6,4	M6
07113-25108	07113-25102	07113-25109	07113-25105	25	10	5	M6
07113-25128	07113-25122	07113-25129	07113-25125	25	12	6,4	M6

Order No.	Form	D2	D3	L3	L4	G
07113-08126	P	8	8	12	6	M4
07113-10126	P	10	10	12	6	M5
07113-12126	P	12	13	12	6	M5
07113-16126	P	16	16	12	6	M6
07113-20126	P	20	21	12	6	M6
07113-25126	P	25	27	12	6	M6

Order No. Form F	Order No. Form M	D2	D3	L3	L5	C	E	G
07113-1010	07113-10107	10	-/7,9	10	-/6	4,5	4,75	M5
07113-1210	07113-12107	12	-/9,5	10	-/6	4,5	4,75	M5
07113-1212	07113-12127	12	-/9,5	12	-/7	6	4,75	M5
07113-1610	07113-16107	16	-/12,7	10	-/6	4,5	4,75	M6
07113-2010	07113-20107	20	-/15,9	10	-/6	4,5	4,75	M6
07113-2510	07113-25107	25	-/19	10	-/6	4,5	4,75	M6

Grippers and inserts round

with counterbore



Material:

Form C, F tool steel

Form E, O stainless steel

Form K POM

Version:

Form C, F hardened and black oxidised.

Form E, hardened, bright.

Form K white.

Form O with diamond impregnated surface comparable to 100 grade abrasive grit.

Sample order:

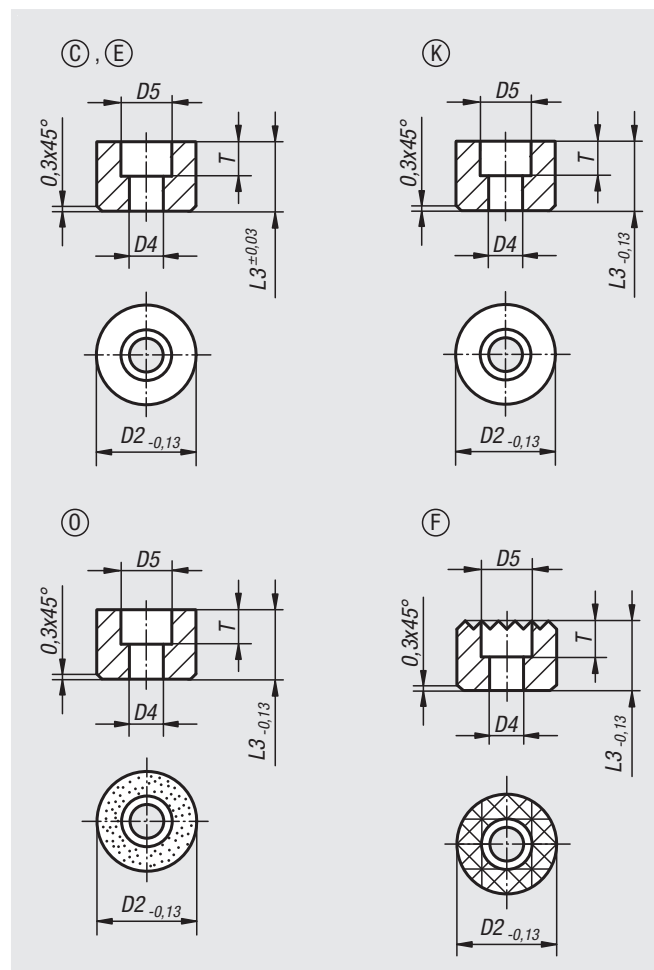
nlm 07113-110108

Note:

Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads. The use of grippers allows the transfer of very high torque values and above average grip, even with hard materials and surface irregularities.

Form O: The abrasive diamond surface is bonded firmly to the base. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface.

The diamond surface offers excellent wear resistance.



Order No. Form C	Order No. Form E	Order No. Form K	Order No. Form O	D2	D4	D5	L3	T
07113-110108	07113-110102	07113-110109	07113-110105	10	3,4	6	10	5
07113-110128	07113-110122	07113-110129	07113-110125	10	3,4	6	12	5
07113-112108	07113-112102	07113-112109	07113-112105	12	4,5	9	10	5,6
07113-112128	07113-112122	07113-112129	07113-112125	12	4,5	9	12	5,6
07113-116108	07113-116102	07113-116109	07113-116105	16	5,5	11	10	6,6
07113-116128	07113-116122	07113-116129	07113-116125	16	5,5	11	12	6,6
07113-120108	07113-120102	07113-120109	07113-120105	20	6,6	11	10	7,6
07113-120128	07113-120122	07113-120129	07113-120125	20	6,6	11	12	7,6
07113-125108	07113-125102	07113-125109	07113-125105	25	6,6	11	10	7,6
07113-125128	07113-125122	07113-125129	07113-125125	25	6,6	11	12	7,6

Round grippers

Order No.	Form	D2	D4	D5	L3	T
07113-11210	F	12	4,5	8	10	5,6
07113-11212	F	12	4,5	8	12	5,6
07113-11610	F	16	4,5	8	10	5,6
07113-11612	F	16	4,5	8	12	5,6
07113-12010	F	20	5,5	10	10	6,6
07113-12012	F	20	5,5	10	12	6,6
07113-12510	F	25	6,6	11	10	7,6
07113-12512	F	25	6,6	11	12	7,6

Grippers hexagonal


Material:

Hex head screw, grade 10.9.
Serrations carbide, hardness 72-74 HRC.

Version:

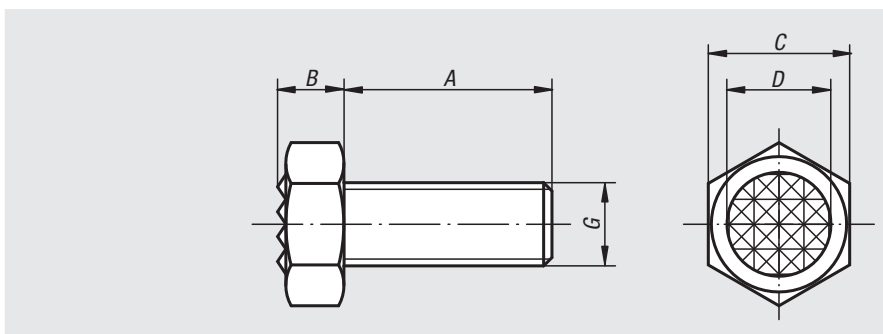
Black oxidised.

Sample order:

nln 07114-1710

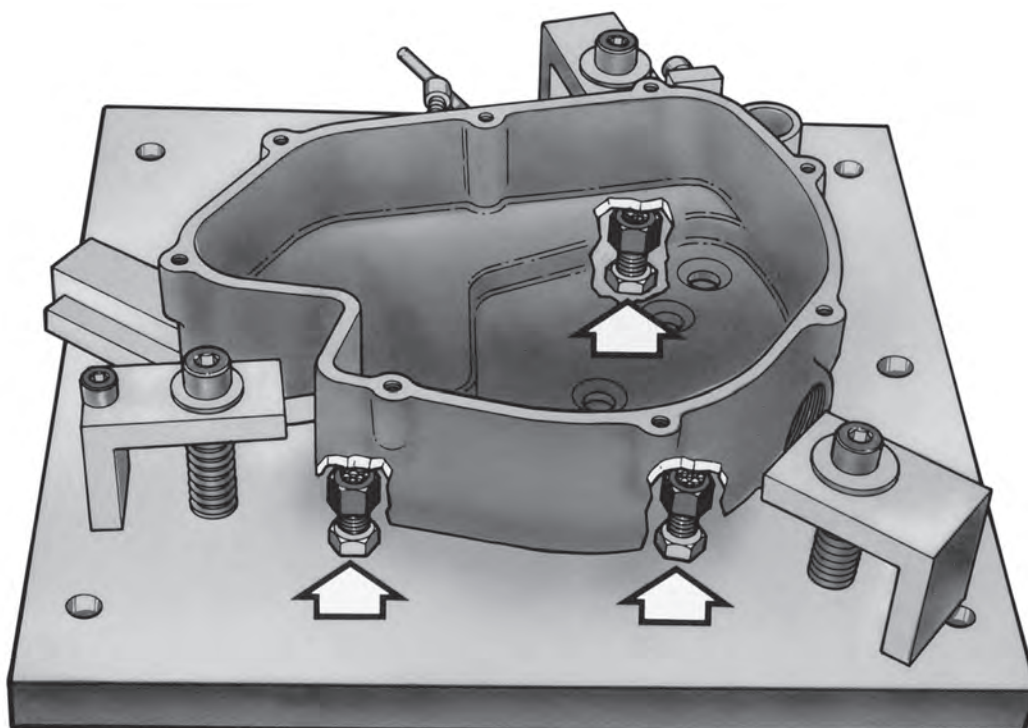
Note:

The serrated carbide tips are soldered in.



Order No.	A	B	C	D	G	Serration
07114-1006	25	5	10	7,9	M6	extra fine
07114-1308	25	6,4	13	9,5	M8	fine
07114-1710	25	8,3	17	12,7	M10	fine
07114-17102	40	8,3	17	12,7	M10	fine
07114-1912	25	8,7	19	15,9	M12	fine
07114-19122	40	8,7	19	15,9	M12	fine
07114-2416	35	11	24	19	M16	fine
07114-24162	50	11	24	19	M16	fine
07114-3020	40	13,7	30	25,4	M20	extra fine
07114-30202	60	13,7	30	25,4	M20	extra fine

Application: norelem grippers



Grippers square


Material:

Hardened tool steel or carbide.

Version:

Black oxidised.

Sample order:

nlm 07115-2506

Note:

Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads.

Grippers transfer very high torque values, even with hard materials and surface irregularities. Grippers guarantee above average holding forces at high cutting forces.

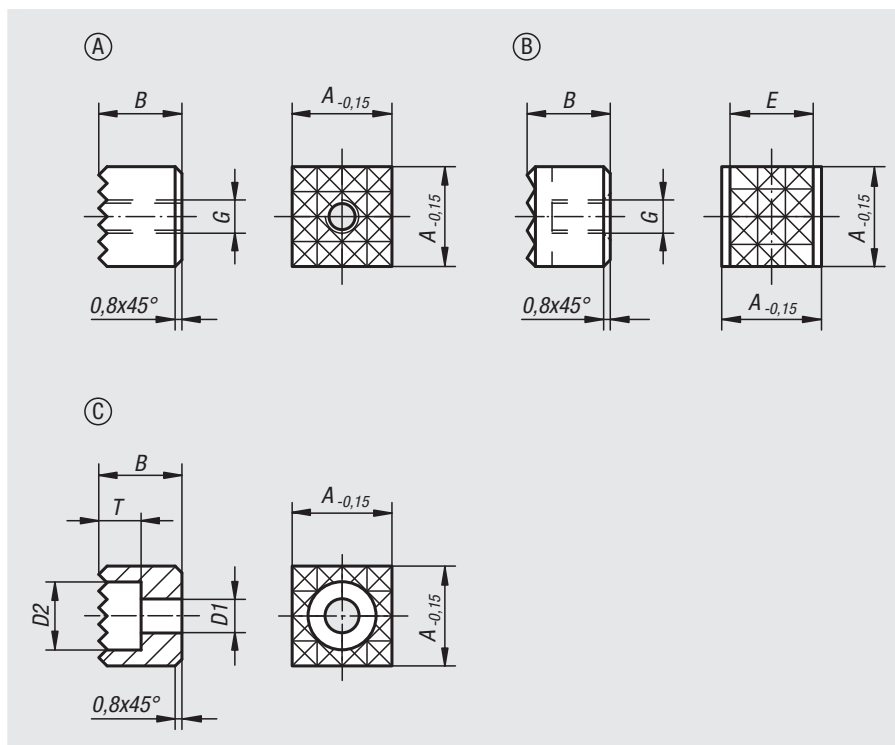
The serrated carbide tips are soldered in.

Drawing reference:

Form A: tool steel

Form B: tool steel, carbide diamond grip

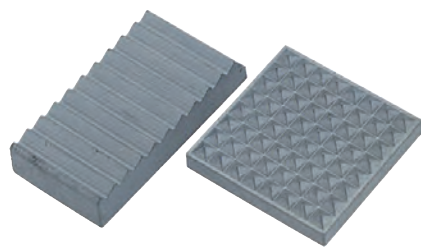
Form C: tool steel



Order No.	Form	A	B	D1	D2	E	G	T	Serration
07115-1005	A	10	10	-	-	-	M5	-	extra fine
07115-101205	A	10	12	-	-	-	M5	-	extra fine
07115-1205	A	12	10	-	-	-	M5	-	fine
07115-121205	A	12	12	-	-	-	M5	-	fine
07115-1606	A	16	10	-	-	-	M6	-	fine
07115-161206	A	16	12	-	-	-	M6	-	fine
07115-2005	A	20	10	-	-	-	M5	-	fine
07115-201205	A	20	12	-	-	-	M5	-	fine
07115-2506	A	25	10	-	-	-	M6	-	fine
07115-251206	A	25	12	-	-	-	M6	-	fine
07115-12057	B	12	10	-	-	10,3	M5	-	fine
07115-1210048	C	12	10	4,5	8	-	-	5,6	fine
07115-1212048	C	12	12	4,5	8	-	-	5,6	fine
07115-1610048	C	16	10	4,5	8	-	-	5,6	fine
07115-1612048	C	16	12	4,5	8	-	-	5,6	fine
07115-2010058	C	20	10	5,5	10	-	-	6,6	fine
07115-2012058	C	20	12	5,5	10	-	-	6,6	fine
07115-2510068	C	25	10	6,6	11	-	-	7,6	fine
07115-2512068	C	25	12	6,6	11	-	-	7,6	fine

Gripper pads square

carbide


Material:

Carbide.

Version:

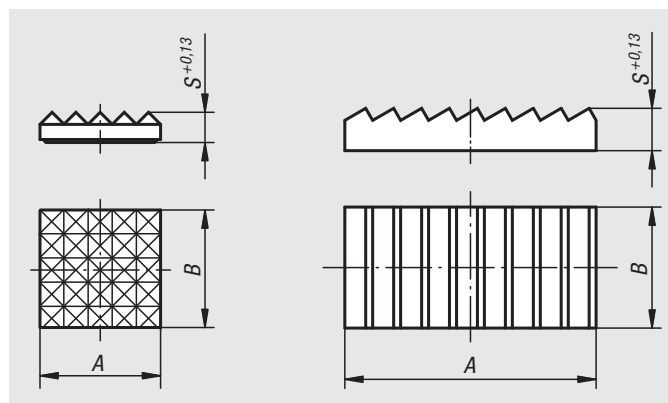
sintered.

Sample order:

nIm 07116-201

Note:

These carbide gripper pads are available as serrated or wedge grips. They have many uses i.e. they can be glued onto cast iron base plates.



Order No.	Version 2	A	B	S
07116-101	serrated	9,5 -0,13	9,5 -0,13	3,2
07116-102	serrated	12,7 -0,13	12,7 -0,13	3,2
07116-201	fine serrated	9,5 -0,13	9,5 -0,13	3,2
07116-202	fine serrated	12,7 -0,13	12,7 -0,13	3,2
07116-203	fine serrated	15,9 -0,13	15,9 -0,13	3,2
07116-206	fine serrated	19,05 -0,13	19,05 -0,13	4
07116-207	fine serrated	25,4 -0,13	25,4 -0,13	4
07116-308	wedge-shaped	25,7 +0,5	13,05 -0,13	4,8
07116-309	wedge-shaped	38,4 +0,5	19,5	6,35

Grippers adjustable


Material:

Hardened tool steel or carbide.

Version:

Black oxidised.

Sample order:

nlm 07117-5012

Note:

The full thread on the grippers allows exact adjustment to the clamping application.

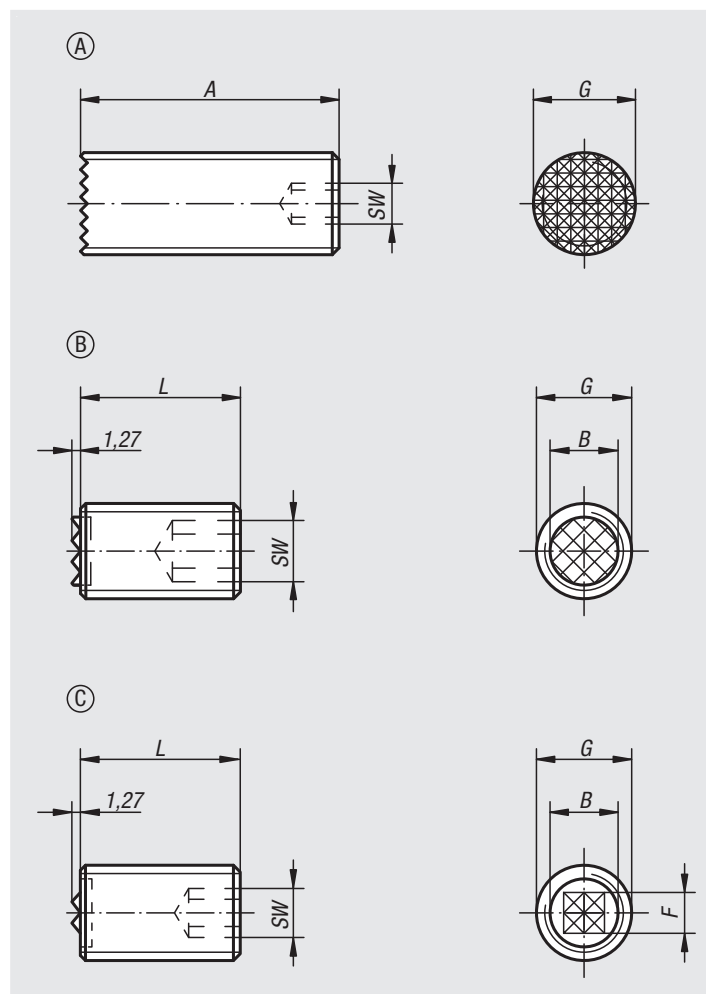
The carbide tips are soldered in.

Drawing reference:

Form A: tool steel

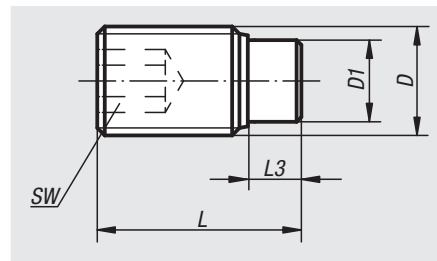
Form B: tool steel, carbide diamond grip

Form C: 4-point carbide insert



Order No.	Form	A	L	B	G	F	SW
07117-4010	A	40	-	-	M10	-	3
07117-4012	A	40	-	-	M12	-	5
07117-4016	A	40	-	-	M16	-	6
07117-4020	A	40	-	-	M20	-	8
07117-2510	B	-	25	6,4	M10	-	5
07117-5010	B	-	50	6,4	M10	-	5
07117-2512	B	-	25	7,9	M12	-	6
07117-5012	B	-	50	7,9	M12	-	6
07117-2516	B	-	25	11,2	M16	-	8
07117-5016	B	-	50	11,2	M16	-	8
07117-2520	B	-	25	12,7	M20	-	10
07117-5020	B	-	50	12,7	M20	-	10
07117-25124	C	-	25	7,9	M12	6,5	6
07117-50124	C	-	50	7,9	M12	6,5	6
07117-25164	C	-	25	11,2	M16	8	8
07117-50164	C	-	50	11,2	M16	8	8
07117-25204	C	-	25	12,7	M20	8	10
07117-50204	C	-	50	12,7	M20	8	10

Thrust screws


Material:

Screw grade 10.9.

Thrust pin brass or polyacetal.

Version:

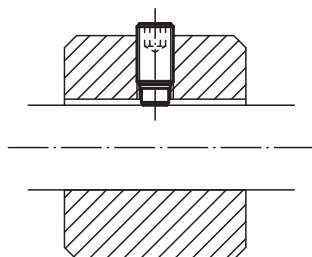
Screw black oxidised.

Sample order:

nIm 07119-04X105 (include length L)

Note:

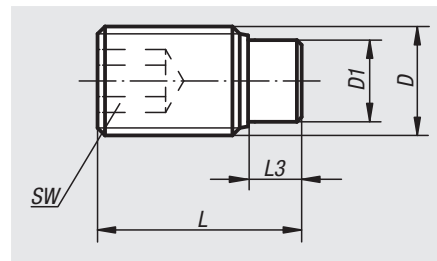
Thrust screws are ideal for clamping or exerting pressure on threaded spindles, axles, shafts and treated surfaces without marring.



Order No.	Component material	D	D1	L	L3	SW
07119-04X	brass	M4	2,5	6,5/10,5/16,5/30,5/40,5	1,2	2
07119-05X	brass	M5	3	12,5/20,5/30,5/40,5/8,5	1,3	2,5
07119-06X	brass	M6	4	11,5/17,5/26,5/41,5/51,5/61,5	1,9	3
07119-08X	brass	M8	5,5	12/22/32/52/62/82	2,4	4
07119-10X	brass	M10	7	14/18/27/37/52/62/82	2,6	5
07119-12X	brass	M12	8,5	18,3/18,5/22,5/32,5/42,5/52,5/62,5/82,5	3,3	6

Order No.	Component material	D	D1	L	L3	SW
07119-104X	POM	M4	2	11/13/17/31/41/7/9	1,7	2
07119-105X	POM	M5	3	11/13/17/21/31/41/9	1,8	2,5
07119-106X	POM	M6	3,5	11,3/13,3/17,3/21,3/26,3/41,3/51,3/61,3	1,7	3
07119-108X	POM	M8	5	13,6/17,6/21,6/26,6/33,6/51,6/61,6/81,6	2	4
07119-110X	POM	M10	6,5	17,9/21,9/26,9/33,9/41,9/51,9/61,9/81,9	2,5	5
07119-112X	POM	M12	8	22,1/27,1/34,1/42,1/52,1/62,1/82,1	2,9	6

Thrust screws stainless steel


Material:

Screw stainless steel.
Pin brass or polyacetal.

Version:

Screw bright.

Sample order:

nIm 07119-041X105 (include length L)

Note:

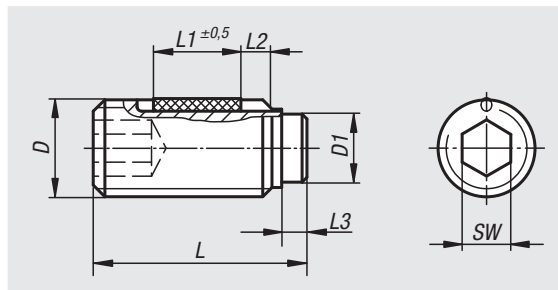
Thrust screws are ideal for clamping or exerting pressure on threaded spindles, axles, shafts and treated surfaces without marring.

Order No.	Component material	D	D1	L	L3	SW
07119-041X	brass	M4	2,5	6,5/10,5/16,5/30,5/40,5	1,2	2
07119-051X	brass	M5	3	8,5/12,5/20,5/30,5/40,5	1,3	2,5
07119-061X	brass	M6	4	11,5/13,5/17,5/21,5/26,5/41,5/51,5/61,5	1,9	3
07119-081X	brass	M8	5,5	12/22/32/52/62/82	2,4	4
07119-101X	brass	M10	7	14/18/27/37	2,6	5
07119-121X	brass	M12	8,5	22,5/32,5/42,5	3,3	6

Order No.	Component material	D	D1	L	L3	SW
07119-1041X	POM	M4	2	7/9/11/13/17/31/41	1,7	2
07119-1051X	POM	M5	3	9/11/13/17/21/31/41	1,8	2,5
07119-1061X	POM	M6	3,5	11,3/13,3/17,3/21,3/26,3/41,3/51,3/61,3	1,7	3
07119-1081X	POM	M8	5	13,6/17,6/21,6/26,6/33,6/51,6/61,6/81,6	2	4
07119-1101X	POM	M10	6,5	17,9/21,9/26,9/36,9	2,5	5
07119-1121X	POM	M12	8	22,1/32,1/42,1	2,9	6

Thrust screws

LONG-LOK secured



Material:

Screw grade 10.9.

Pin brass or POM.

LONG-LOK thread lock nylon.

Version:

Screw black oxidised.

Sample order:

nlm 07119-204X65 (include length L)

Note:

Thrust screws are ideal for clamping or exerting pressure on threaded spindles, axles, shafts and treated surfaces without marring.

Drawing reference:

L2 = approx. 2x thread pitch

Order No.	Component material	D	D1	L	L1	L3	SW
07119-204X	brass	M4	2,5	6,5/10,5/16,5/30,5/40,5	2,5/3,5/5/5/5	1,2	2
07119-205X	brass	M5	3	8,5/12,5/20,5/30,5/40,5	3,5/5/6/6/6	1,3	2,5
07119-206X	brass	M6	4	11,5/17,5/26,5/41,5/51,5/61,5	3,5/7/7/7/7/7	1,9	3
07119-208X	brass	M8	5,5	12/22/32/52/62/82	3,5/8/8/8/8/8	2,4	4
07119-210X	brass	M10	7	14/18/27/37/52/62/82	5/9/9/9/9/9/9	2,6	5
07119-212X	brass	M12	8,5	18,3/18,5/22,5/32,5/42,5/52,5/62,5/82,5	8/10/10/10/10/10/10	3,3	6

Order No.	Component material	D	D1	L	L1	L3	SW
07119-304X	POM	M4	2	7/9/11/13/17/31/41	2,5/3,5/3,5/5/5/5/5	1,7	2
07119-305X	POM	M5	3	9/11/13/17/21/31/41	3,5/3,5/5/6/6/6/6	1,8	2,5
07119-306X	POM	M6	3,5	11,3/13,3/17,3/21,3/26,3/41,3/51,3/61,3	3,5/5/7/7/7/7/7/7	1,7	3
07119-308X	POM	M8	5	13,6/17,6/21,6/26,6/33,6/51,6/61,6/81,6	5/8/8/8/8/8/8/8	2	4
07119-310X	POM	M10	6,5	17,9/21,9/26,9/33,9/41,9/51,9/61,9/81,9	9/9/9/9/9/9/9/9/9	2,5	5
07119-312X	POM	M12	8	22,1/27,1/34,1/42,1/52,1/62,1/82,1	10/10/10/10/10/10/10	2,9	6

Grub screws

with thrust point DIN 6332


Material:

Steel or stainless steel.

Version:

Steel: thrust point case-hardened, black.

Stainless steel: bright.

Sample order:

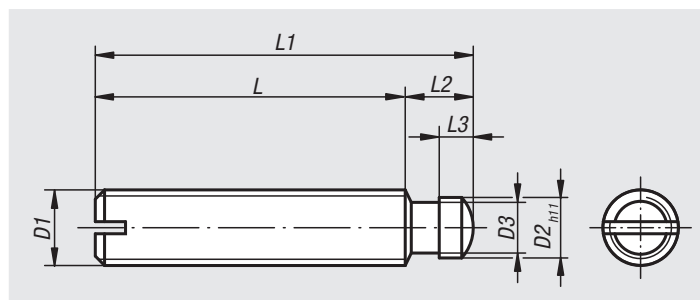
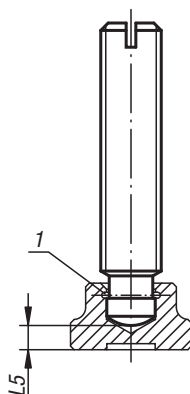
nIm 07120-12X60 (include length L1)

Note:

The thrust pin of the DIN 6332 grub screws is designed for direct clamping and for use together with thrust pads 07140.

Drawing reference:

1) snap ring



Order No. steel	Order No. stainless steel	D1	L1	D2	D3	L	L2	L3	L5
07120-06X	07120-061X	M6	30/35/40/50	4,5	4	24	6	2,5	2,2
07120-08X	07120-081X	M8	35/40/45/50/60	6	5,4	27,5	7,5	3	3
07120-10X	07120-101X	M10	50/55/60/65/80	8	7,2	41	9	4,5	3,6
07120-12X	07120-121X	M12	60/65/70/80/100	8	7,2	50	10	4,5	4,5
07120-14X	07120-141X	M14	60/80/100	10	9	48	12	5	5
07120-16X	07120-161X	M16	65/70/80/100/125	12	11	53	12	5	5,3
07120-20X	07120-201X	M20	80/90/100/125/150	15,5	14,4	66	14	5,5	5,6

Grub screws

with ball thrust point


Material:

Steel grade 5.8.

Version:

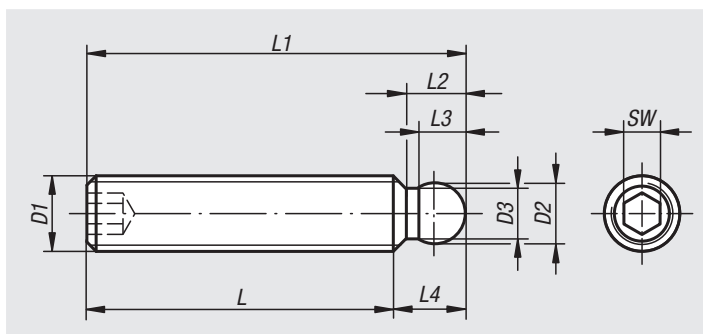
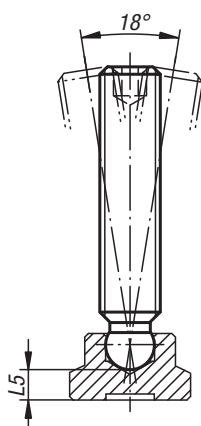
Black oxidised.

Sample order:

nIm 07121-06X50 (include length L1)

Note:

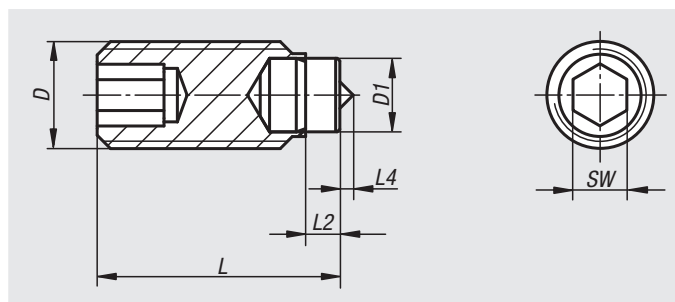
These grub screws are used together with the thrust pads 07142 for clamping.



Order No.	D1	L1	D2	D3	L	L2	L3	L4	L5	SW
07121-06X	M6	30/35/40/50	4,5	3,5	24,5	4,3	3,7	5,5	3,8	3
07121-08X	M8	35/40/45/50/60	6	4,8	27,6	5,8	4,8	7,4	4,4	4
07121-10X	M10	50/55/60/65/80	8	6,5	41	7,2	6,3	9	5	5
07121-12X	M12	60/65/70/80	8	6,5	50,2	7,2	6,3	9,8	6,9	6

Thrust screws

with point



Material:

Screw steel grade 10.9.
Pin tool steel.

Version:

Pin, hardened.
Screw and pin black oxidised.

Sample order:

nIm 07122-05X09

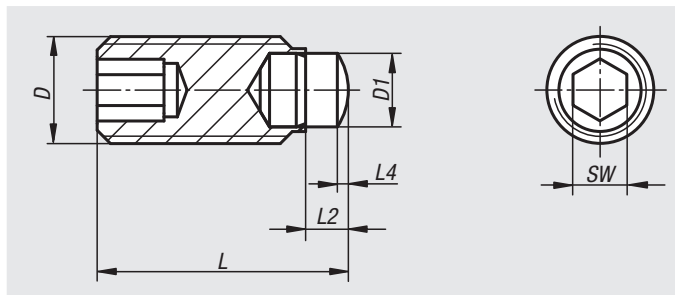
Note:

These thrust screws with point are used when additional positive fixation is required.

Order No.	D	D1	L	L2	L4	SW	Load rating max. kN (static load only)
07122-05X09	M5	3	8,5	1,3	0,5	2,5	4,5
07122-05X13	M5	3	12,5	1,3	0,5	2,5	4,5
07122-05X17	M5	3	16,5	1,3	0,5	2,5	4,5
07122-05X21	M5	3	20,5	1,3	0,5	2,5	4,5
07122-06X14	M6	4	13,5	1,9	0,8	3	9
07122-06X18	M6	4	17,5	1,9	0,8	3	9
07122-06X22	M6	4	21,5	1,9	0,8	3	9
07122-06X27	M6	4	26,5	1,9	0,8	3	9
07122-08X14	M8	5,5	14	2,4	1	4	15
07122-08X18	M8	5,5	18	2,4	1	4	15
07122-08X22	M8	5,5	22	2,4	1	4	15
07122-08X27	M8	5,5	27	2,4	1	4	15
07122-08X34	M8	5,5	34	2,4	1	4	15
07122-10X18	M10	7	18	2,6	1,5	5	20
07122-10X22	M10	7	22	2,6	1,5	5	20
07122-10X27	M10	7	27	2,6	1,5	5	20
07122-10X34	M10	7	34	2,6	1,5	5	20
07122-10X42	M10	7	42	2,6	1,5	5	20

Thrust screws

with radiused half-dog point


Material:

Screw steel grade 10.9.
Pin tool steel.

Version:

Pin, hardened.
Screw and pin black oxidised.

Sample order:

n1m 07123-05X09

Note:

These rounded half-dog point thrust screws are used when a punctiform thrust or support point are required.

Order No.	D	D1	L	L2	L4	SW	Load rating max. kN (static load only)
07123-05X09	M5	3	9	1,8	0,5	2,5	4,5
07123-05X13	M5	3	13	1,8	0,5	2,5	4,5
07123-05X17	M5	3	17	1,8	0,5	2,5	4,5
07123-05X21	M5	3	21	1,8	0,5	2,5	4,5
07123-06X14	M6	4	14,3	2,7	0,8	3	9
07123-06X18	M6	4	18,3	2,7	0,8	3	9
07123-06X22	M6	4	22,3	2,7	0,8	3	9
07123-06X27	M6	4	27,3	2,7	0,8	3	9
07123-08X15	M8	5,5	14,8	3,2	0,8	4	15
07123-08X19	M8	5,5	18,8	3,2	0,8	4	15
07123-08X23	M8	5,5	22,8	3,2	0,8	4	15
07123-08X28	M8	5,5	27,8	3,2	0,8	4	15
07123-08X35	M8	5,5	34,8	3,2	0,8	4	15
07123-10X19	M10	7	18,9	3,5	1,1	5	20
07123-10X23	M10	7	22,9	3,5	1,1	5	20
07123-10X28	M10	7	27,9	3,5	1,1	5	20
07123-10X35	M10	7	34,9	3,5	1,1	5	20
07123-10X43	M10	7	42,9	3,5	1,1	5	20

Torque grips

precision version



Material:

Grip and set screw aluminium.
Bush and pin steel 5.8.

Version:

Grip and set screw anodised.
Bushes black oxidised, pins electro zinc-plated.

Sample order:

nIm 07124-106X30

Note:

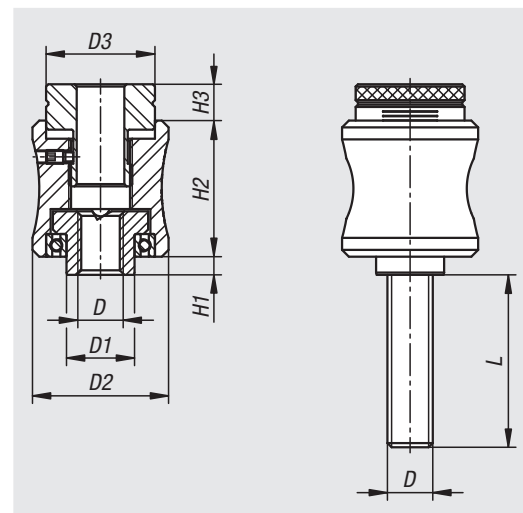
The required torque is set by a set screw and a graduated scale.
The set value can be secured using the lateral clamping screw.
When the set torque is reached the grip audibly and palpably releases.
The loosening torque is higher than the tightening torque so that the torque handle can be released without any problems.

The internal thread version has a hole in the set screw so that the torque handle can also be used on threaded rods.

Set torque accuracy $\pm 5\%$.

On request:

Other thread lengths.



Internal thread

Order No.	D	D1	D2	D3	H1	H2	H3	Torque Nm
07124-105	M5	10	26	20	2	26	8	0,05 - 0,1
07124-106	M6	10	26	20	2	26	8	0,1 - 0,25
07124-208	M8	15	30	24	4	30	8	0,25 - 0,5
07124-210	M10	15	30	24	4	30	8	0,5 - 1

External thread

Order No.	D	D1	D2	D3	H1	H2	H3	L	Torque Nm
07124-105X30	M5	10	26	20	2	26	8	30	0,05 - 0,15
07124-105X40	M5	10	26	20	2	26	8	40	0,05 - 0,15
07124-106X30	M6	10	26	20	2	26	8	30	0,1 - 0,25
07124-106X40	M6	10	26	20	2	26	8	40	0,1 - 0,25
07124-208X40	M8	15	30	24	4	30	8	40	0,25 - 0,5
07124-208X50	M8	15	30	24	4	30	8	50	0,25 - 0,5
07124-210X40	M10	15	30	24	4	30	8	40	0,5 - 1
07124-210X50	M10	15	30	24	4	30	8	50	0,5 - 1

Knurled torque knobs


Material:

Thermoplastic, black grey.
Bush and screw steel 5.8.

Version:

Bush black oxidised.
Screw trivalent blue passivated.

Sample order:

nlm 07125-2056X30 (cap colour traffic red; include length L)

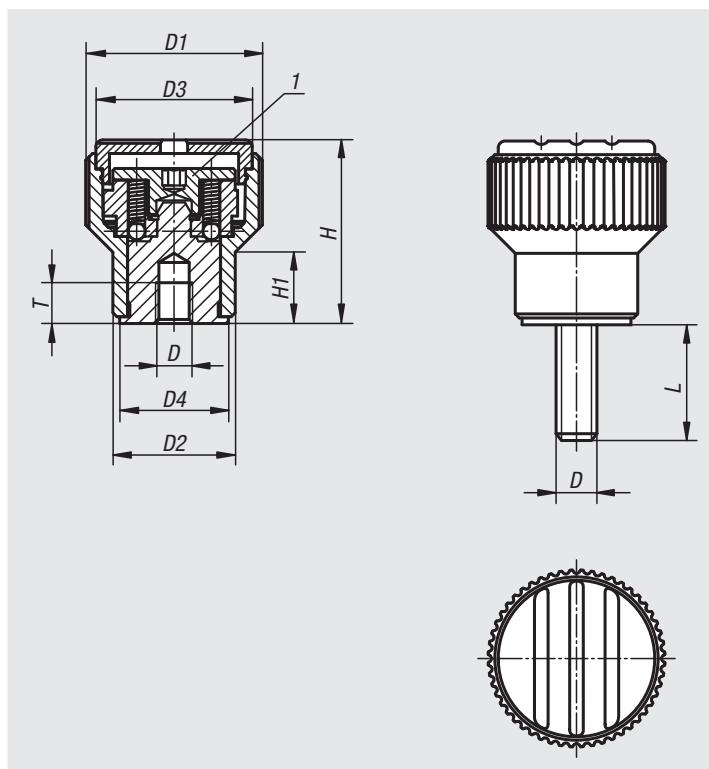
Note:

The set screw sets the required torque. The knob de-clutches and turns freely when the desired torque is reached.

Δ Add the desired cap colour here. No colour code is required for black grey caps.

Drawing reference:

1) adjusting screw for setting the torque



black grey  RAL 7021	pure orange Δ = 1  RAL 2004	signal green Δ = 2  RAL 6032	traffic blue Δ = 3  RAL 5017
light grey Δ = 5  RAL 7035	traffic red Δ = 6  RAL 3020	colza yellow Δ = 7  RAL 1021	

Internal thread

Order No.	Component material	D	D1	D2	D3	D4	H	H1	T	Torque Nm
07125-205Δ	steel	M5	26	18	23	16	27	10,5	5	0,1 - 0,3
07125-206Δ	steel	M6	26	18	23	16	27	10,5	6	0,1 - 0,3
07125-306Δ	steel	M6	34	22	31	20	37,5	14,5	10	0,1 - 0,3
07125-308Δ	steel	M8	34	22	31	20	37,5	14,5	14	0,1 - 0,3

External thread

Order No.	Component material	D	D1	D2	D3	D4	H	H1	L	Torque Nm
07125-205ΔX	steel	M5	26	18	23	16	27	10,5	30/50	0,1 - 0,3
07125-206ΔX	steel	M6	26	18	23	16	27	10,5	30/50	0,1 - 0,3
07125-306ΔX	steel	M6	34	22	31	20	37,5	14,5	40/60	0,1 - 0,3
07125-308ΔX	steel	M8	34	22	31	20	37,5	14,5	40/60	0,1 - 0,3

Triangular torque grips


Material:

Grip glass-bead reinforced thermoplastic.

Cap thermoplastic.

Metal parts hardened stainless steel.

Version:

Grip and cap, black grey (RAL 7021).

Stainless steel parts, electropolished.

Sample order:

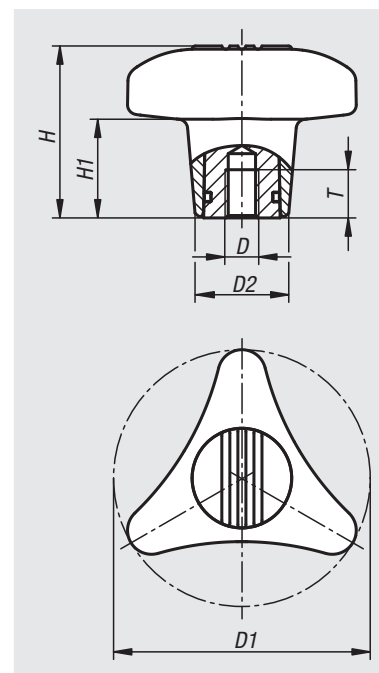
nlm 07126-180085

Note:

An audible click signals when the maximum torque has been reached. The grip can only be tightened with the maximum torque specified in the table.

On request:

Other internal threads, maximum torques and colours.



Order No.	D	D1	D2	H	H1	T	Torque Nm
07126-180085	M8	80	29,2	53,5	31	13	5
07126-180105	M10	80	29,2	53,5	31	13	5
07126-180125	M12	80	29,2	53,5	31	13	5

Torque screws

with thrust point



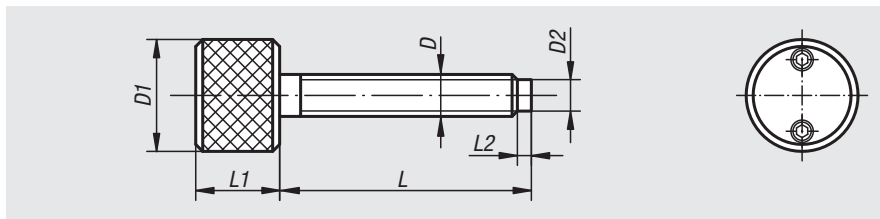
Material:
Steel.

Version:
Black oxidised.

Sample order:
nlm 07130-08X60 (include length L)

Note:
The torque required for the knurled screw is generated by two spring-mounted thrust balls. As soon as the adjustable final pressure is reached, the grip runs free. The final pressure is set using the set screws located in the head.

Forces:
F1 = Minimum final pressure
F2 = Maximum final pressure



Order No.	D	D1	D2	L	L1	L2	F1 N	F2 N
07130-06X	M6	25	4,7	40/60	20	3	40	800
07130-08X	M8	25	6,5	40/60/80	20	3	40	650
07130-10X	M10	25	8,2	40/60/80	20	3	40	550
07130-12X	M12	25	10	40/60/80/100	20	3	40	450

Torque screws

with slot coupling



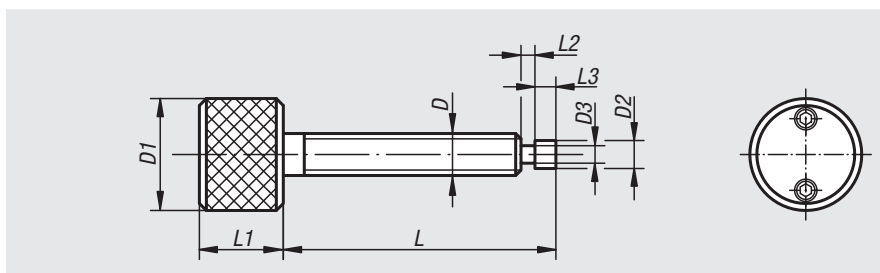
Material:
Steel.

Version:
Black oxidised.

Sample order:
nlm 07131-06

Note:
The torque required for the knurled screw is generated by two spring-mounted thrust balls. As soon as the adjustable final pressure is reached, the grip runs free. The final pressure is set using the set screws located in the head.

Forces:
F1 = Minimum final pressure
F2 = Maximum final pressure



Order No.	D	D1	D2	D3	L	L1	L2	L3	F1 N	F2 N
07131-06	M6	25	4,7	2,5	45	20	8	5	40	800
07131-10	M10	25	7,7	4,5	45	20	8	5	40	550

Torque screws

with support pin


Material:

Steel.

Version:

Black oxidised.

Sample order:

nlm 07132-06

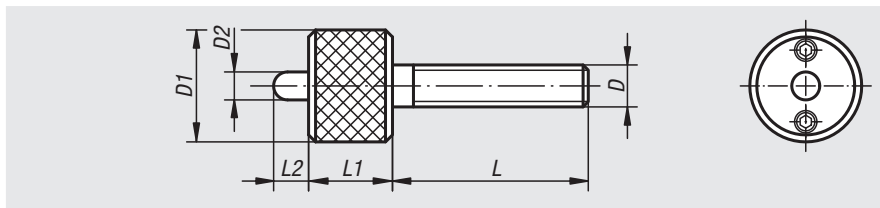
Note:

The torque required for the knurled screw is generated by two spring-mounted thrust balls. As soon as the adjustable final pressure is reached, the grip runs free. The final pressure is set using the set screws located in the head.

Forces:

F1 = Minimum final pressure

F2 = Maximum final pressure



Order No.	D	D1	D2	L	L1	L2	F1 N	F2 N
07132-06	M6	25	6	45	20	8	40	800
07132-10	M10	25	6	45	20	8	40	550
07132-12	M12	25	6	45	20	8	40	450

Torque grips


Material:

Nut: free cutting steel.

Handle: grey cast GJL 250.

Version:

Nut black oxidised.

Grip bright.

Sample order:

nlm 07133-08

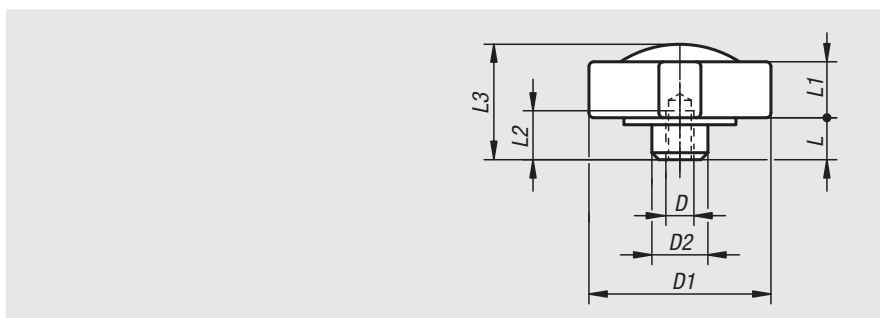
Note:

The torque required for the grip is generated by two spring-mounted thrust balls. As soon as the adjustable final pressure is reached, the grip runs free. The final pressure is set using the set screws located in the head.

Forces:

F1 = Minimum final pressure

F2 = Maximum final pressure



Order No.	D	D1	D2	L	L1	L2	L3	F1 N	F2 N
07133-08	M8	60	20	12	22	13	40	40	900
07133-10	M10	60	20	12	22	13	40	40	700
07133-12	M12	60	20	12	22	13	40	40	500

Torque screws

with ball thrust points

Material:

Steel.

Version:

Black oxidised.

Sample order:

nIm 07134-08X60 (include length L)

Note:

The torque required for the knurled screw is generated by two spring-mounted thrust balls.

As soon as the adjustable final pressure is reached, the grip runs free.

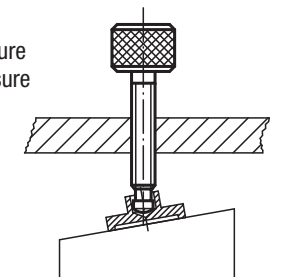
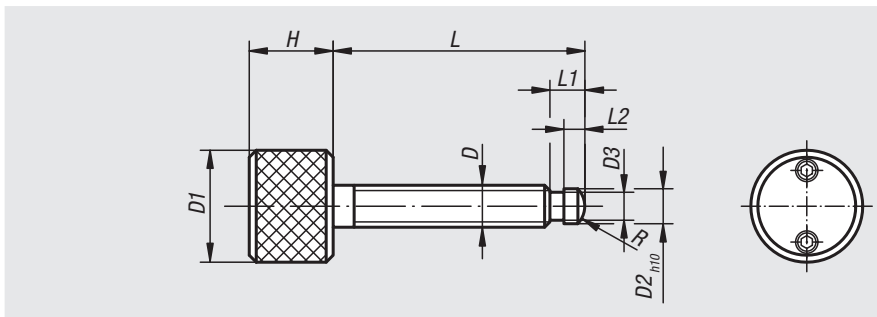
The final pressure is set using the set screws located in the head.

These torque screws are particularly useful when used together with thrust pads (07138, 07140 or 07141) for clamping sloping surfaces.

Forces:

F1 = Minimum final pressure

F2 = Maximum final pressure



Order No.	D	D1	D2	D3	H	L	L1	L2	F1 N	F2 N	R
07134-06X	M6	25	4,5	4,1	20	40/60	6	2,5	40	800	3
07134-08X	M8	25	6	5,3	20	60/80	7,5	3	40	650	5
07134-10X	M10	25	8	7,2	20	60/80	9	4,5	40	550	6
07134-12X	M12	25	8	7,2	20	80/100	10	4,5	40	450	6

07138

Thrust pads


Material:

Thrust pad steel.

Snap ring spring steel.

Version:

Surface hardened and black oxidised.

Sample order:

nIm 07138-10

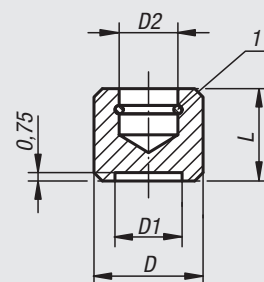
Note:

These thrust pads press lightly onto torque screws with ball thrust pins (07134) or grub screws with thrust pins (07120).

The ball end allows the thrust pad to adapt to the clamping surface.

Drawing reference:

1) snap ring



Order No.	D	D1	D2	L	Suitable for
07138-10	10	5	4,5	8	07120-06, 07134-06
07138-12	12	6	6	9	07120-08, 07134-08
07138-14	14	8	8	11	07120-10, 07120-12, 07134-1

Thrust pads

DIN 6311 enhanced



Material:

Steel: case-hardened. Snap ring spring steel.
Stainless steel: bright. Snap ring stainless steel.

Version:

Steel black oxidised.
Stainless steel bright.

Sample order:

nln 07140-12

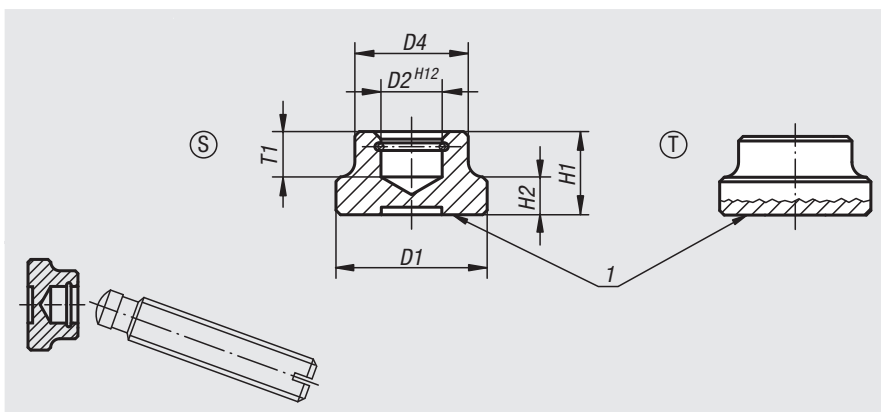
Note:

To press onto a thrust point, incline the point as far as possible over the snap ring opening and twist in. The snap ring is supplied assembled.

Drawing reference:

Form S: standard thrust pad
Form T: low version, large thrust face

1) thrust face



Order No. steel	Order No. stainless steel	Form	D1	D2	D4	H1	H2	T1	For grub screws with thrust point DIN 6332
07140-06	07140-061	S	12	4,6	10	7	2,5	4	M6
07140-08	07140-081	S	16	6,1	12	9	4	5	M8
07140-10	07140-101	S	20	8,1	15	11	5	6	M10
07140-12	07140-121	S	25	8,1	18	13	7	7	M12
07140-16	07140-161	S	32	12,1	22	15	7	7,5	M16
07140-20	07140-201	S	40	15,6	28	16	9	8	M20
07140-108	-	T	25	6,1	12	8	4	4,5	M8
07140-110	-	T	32	8,1	18	10	6	6	M10 / M12
07140-116	-	T	40	12,1	22	12	7	7	M16

Thrust pads

with retaining pin



Material:

Steel.

Version:

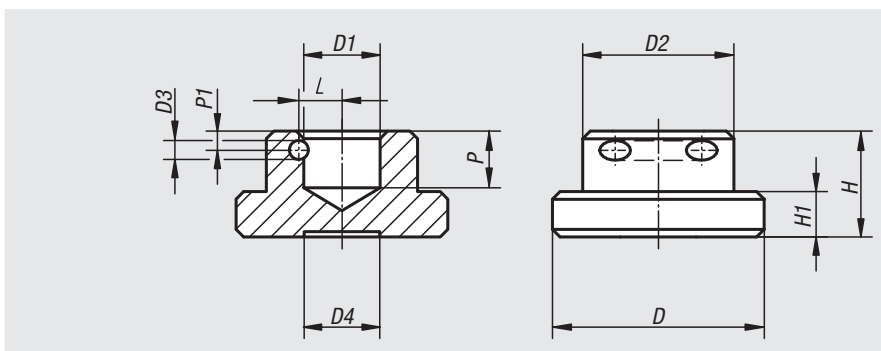
Case-hardened and black oxidised.

Sample order:

nln 07141-10

Note:

The pin is used to hold the pad on screw 07120.



Order No.	D	D1	D2	D3	D4	H	H1	L	P	P1
07141-06	12	4,6	10	2	5	7	2,5	3	4	1,6
07141-08	16	6,1	12	2	7	9	4	3,5	5	2
07141-10	20	8,1	15	2	8	11	5	4,6	7	2,7
07141-12	25	8,1	18	2	10	13	6	4,6	7	2,7
07141-14	28	-	20	2,5	10	14	6	5,7	7,5	2,5
07141-16	32	12,1	22	2,5	14	15	7	6,7	7,5	2,5
07141-20	40	15,6	28	2,5	18	16	9	8,3	8	3

Thrust pads


Material:

Steel.

PA 6 plastic.

Version:

Black oxidised.

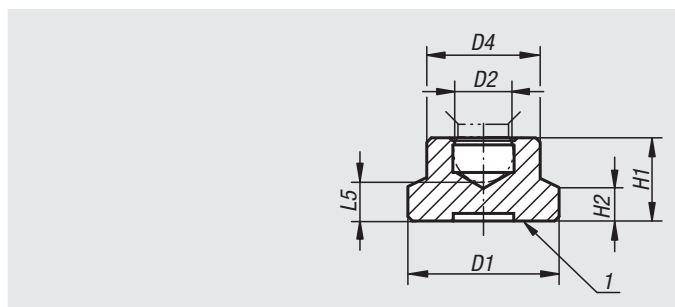
Black plastic.

Sample order:

nlm 07142-08

Drawing reference:

1) thrust face



Order No.	Form	Main material	D1	D2	D4	H1	H2	L5	Suitable for grub screws
07142-06	A	steel	15	4,4	8,6	7,6	2,5	3,8	M6
07142-08	A	steel	18	5,9	12	9	3,5	4,4	M8
07142-10	A	steel	21	7,9	15	11	4	5	M10
07142-12	A	steel	25	7,9	18	13	5	6,9	M12
07142-206	A	polyamide	15	4,4	8,6	7,6	2,5	3,8	M6
07142-208	B	polyamide	18	5,9	12	9	3,5	4,4	M8
07142-210	C	polyamide	21	7,9	15	11	4	5	M10
07142-212	C	polyamide	25	7,9	18	13	5	6,9	M12

Thrust spindles



Material:

Star grip: thermoplastic.

Bush: steel.

Grub screw: steel, grade 5.8.

Thrust pad: plastic PA 6.

Version:

Star grip, thrust pad black.

Bush trivalent blue passivated.

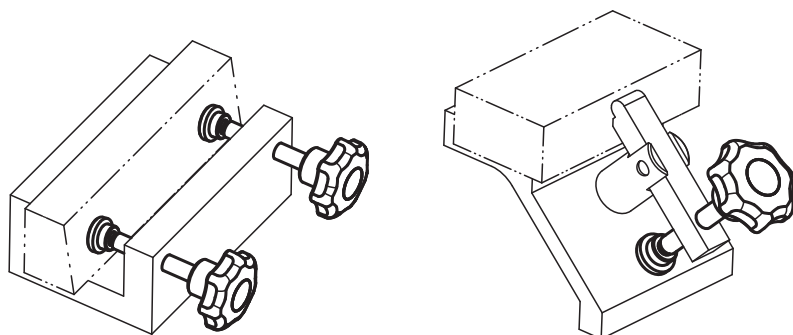
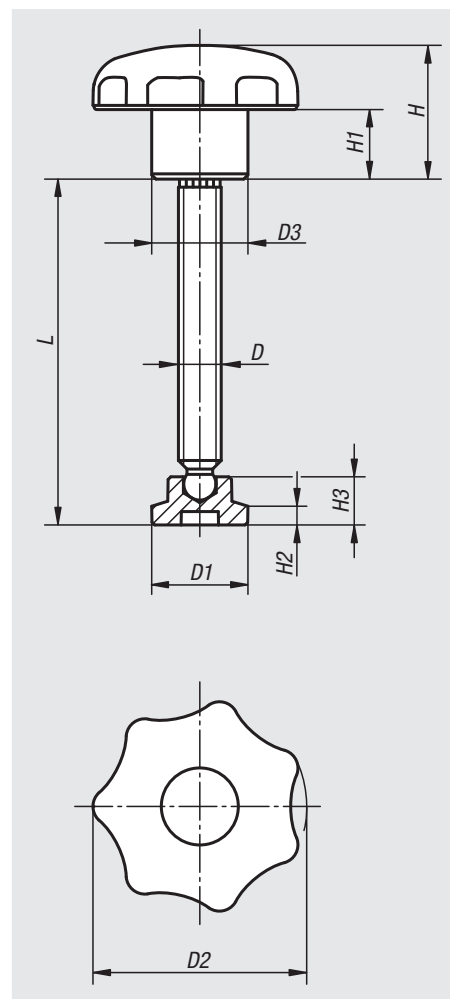
Grub screw black oxidised.

Sample order:

nlm 07143-06053

Note:

The thrust pad is supplied loose. It can be lightly pressed onto the end of the spindle.



Order No.	D	D1	D2	D3	L	H	H1	H2	H3
07143-06053	M6	15	32	14	53,8	20	10	2,5	7,6
07143-08064	M8	18	40	18	64,6	25	13	3,5	9
07143-10070	M10	21	50	22	70,1	32	17	4	11
07143-12086	M12	25	63	26	86	40	21	5	13

Swivel feet



Material:

Form A,G: Foot high carbon steel, ball element free-cutting steel.

Form B: All stainless steel

Form C: Foot POM, ball element free-cutting steel.

Form D: Foot POM, ball element stainless steel.

Anti-slip plate thermoplastic elastomer.

Version:

Form A: Ball element case-hardened and black oxidised.

Form B: Bright.

Form C: Ball element case-hardened and black oxidised.

Form D: Ball element bright.

Form G: Ball element case hardened and black oxidised, foot with anti-slip plate.

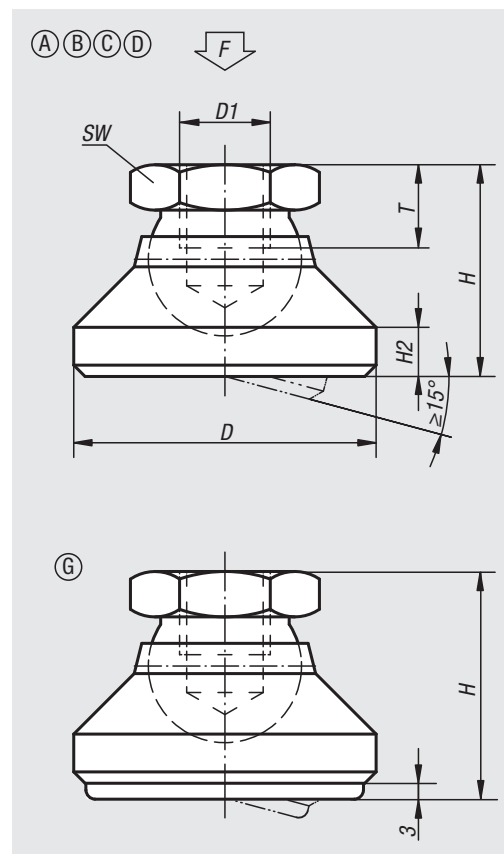
Sample order:

nlm 07144-112

Note:

The anti-slip plate absorbs vibrations and prevents the swivel foot slipping

The loading indicated in the table is a recommendation up to which permanent static load the swivel foot can be used.



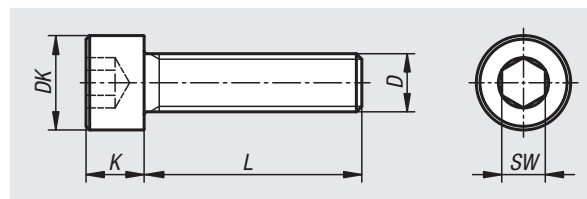
Order No. Form A	Order No. Form B	D	D1	H	H2	T	SW	Load rating max. kN
07144-106	07144-306	20	M6	15	2,5	8,5	10	10
07144-108	07144-308	25	M8	18	4	9	13	18
07144-110	07144-310	32	M10	22	5	10	17	20
07144-112	07144-312	40	M12	26	6	12	19	35
07144-116	07144-316	50	M16	32	7	14	24	45
07144-120	07144-320	60	M20	42	8	18	30	55

Order No. Form C	Order No. Form D	D	D1	H	H2	T	SW	Load rating max. kN
07144-506	07144-206	20	M6	15	2,5	8,5	10	4
07144-508	07144-208	25	M8	18	4	9	13	7
07144-510	07144-210	32	M10	22	5	10	17	10
07144-512	07144-212	40	M12	26	6	12	19	18
07144-516	07144-216	50	M16	32	7	14	24	20
07144-520	07144-220	60	M20	42	8	18	30	22

Order No. Form G	D	D1	H	H2	T	SW	Load rating max. kN (static load only)
07144-410	32	M10	25	5	10	17	12
07144-412	40	M12	29	6	12	19	17
07144-416	50	M16	35	7	14	24	20
07144-420	60	M20	45	8	18	30	24

Socket head screws

full thread, DIN 912 / DIN EN ISO 4762


Material:

Steel.

Version:

Grade 8.8, black or electro zinc-plated.

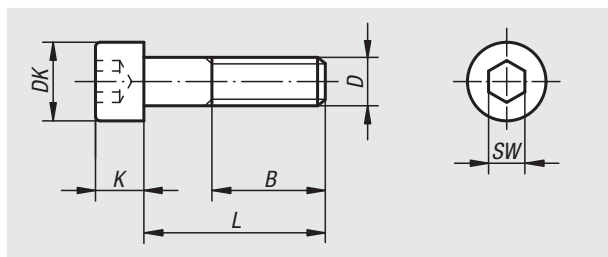
Sample order:

nIm 07159-05X40 (include length L)

Order No.	Main colour	D	DK	K	L	SW
07159-05X	black	M5	8,5	5	40/50/60/80	4
07159-06X	black	M6	10	6	40/50/60/70/90/100	5
07159-08X	black	M8	13	8	50/60/70/80/90	6
07159-10X	black	M10	16	10	50/60/70/80/90/100	8
07159-12X	black	M12	18	12	80/90/100	10
07159-405X	-	M5	8,5	5	40/70/80	4
07159-406X	-	M6	10	6	40/50/60/70/80/90/100	5
07159-408X	-	M8	13	8	50/60/70/80/90/100	6
07159-410X	-	M10	16	10	50/60/70/80/90/100	8
07159-412X	-	M12	18	12	70/80/90/100	10

Socket head screws

DIN 912 / DIN EN ISO 4762, steel or stainless steel



Material:

Steel or stainless steel (A 2)

Version:

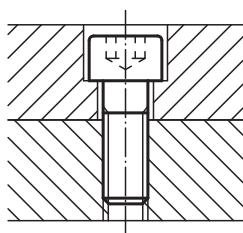
Steel grade 8.8, black or electro zinc-plated.
Steel grade 10.9, black or electro zinc-plated.
Stainless steel A 2-70, bright.

Sample order:

nIm 07160-08X40 (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.



Order No. 8.8	Main material	Main colour	Surface finish body	D	L	B	DK	K	SW
07160-404X	steel	-	galvanised	M4	10/12/16/18/20/25	20	7	4	3
07160-405X	steel	-	galvanised	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
07160-406X	steel	-	galvanised	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
07160-408X	steel	-	galvanised	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
07160-410X	steel	-	galvanised	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
07160-412X	steel	-	galvanised	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
07160-414X	steel	-	galvanised	M14	50/80/120	40	21	14	12
07160-416X	steel	-	galvanised	M16	30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
07160-420X	steel	-	galvanised	M20	40/45/50/60/70/80/90/100/110/120	52	30	20	17
07160-04X	steel	black	-	M4	10/12/16/18/20/25	20	7	4	3
07160-05X	steel	black	-	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
07160-06X	steel	black	-	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
07160-08X	steel	black	-	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
07160-10X	steel	black	-	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
07160-12X	steel	black	-	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
07160-14X	steel	black	-	M14	50/80/120	40	21	14	12
07160-16X	steel	black	-	M16	30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
07160-20X	steel	black	-	M20	40/45/50/60/70/80/90/100/110/120	52	30	20	17

Socket head screws

DIN 912 / DIN EN ISO 4762, steel or stainless steel

Order No. 10.9	Main material	Main colour	Surface finish body	D	L	B	DK	K	SW
07160-504X	steel	-	galvanised	M4	10/12/16/18/20/25	20	7	4	3
07160-505X	steel	-	galvanised	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
07160-506X	steel	-	galvanised	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
07160-508X	steel	-	galvanised	M8	16/20/25/30/35/40/45/50/60/70/80	28	13	8	6
07160-510X	steel	-	galvanised	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
07160-512X	steel	-	galvanised	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
07160-514X	steel	-	galvanised	M14	50/80/120	40	21	14	12
07160-516X	steel	-	galvanised	M16	30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
07160-520X	steel	-	galvanised	M20	40/45/50/60/70/80/90/100/110/120	52	30	20	17
07160-304X	steel	black	-	M4	10/12/16/18/20/25	20	7	4	3
07160-305X	steel	black	-	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
07160-306X	steel	black	-	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
07160-308X	steel	black	-	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
07160-310X	steel	black	-	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
07160-312X	steel	black	-	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
07160-314X	steel	black	-	M14	50/80/120	40	21	14	12
07160-316X	steel	black	-	M16	30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
07160-320X	steel	black	-	M20	40/45/50/60/70/80/90/100/110/120	52	30	20	17

Order No.	Main material	D	L	B	DK	K	SW
07160-104X	stainless steel	M4	10/12/16/18/20/25	20	7	4	3
07160-105X	stainless steel	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
07160-106X	stainless steel	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
07160-108X	stainless steel	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
07160-110X	stainless steel	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
07160-112X	stainless steel	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10

Socket head screws

DIN 912/DIN EN ISO 4762


Material:

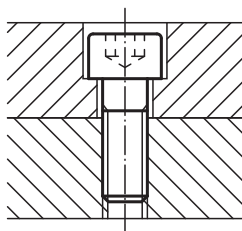
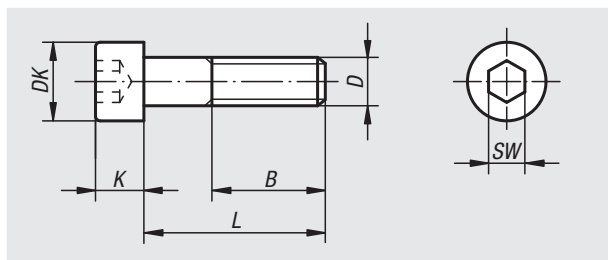
Steel.

Version:

Steel grade 12.9, black.

Sample order:

nIm 07160-206X40 (include length L)



Order No.	D	B	DK	K	L	SW
07160-206X	M6	24	10	6	18/20/25/30/35/40/45/50/55/60/65/70/80/90/100	5
07160-208X	M8	28	13	8	20/25/30/35/40/45/50/55/60/65/70/80/90/100/120	6
07160-210X	M10	32	16	10	30/35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140	8
07160-212X	M12	36	18	12	30/35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140	10
07160-216X	M16	44	24	16	35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140/150/160/170/180/200	14
07160-218X	M18	48	27	18	35/40/45/50/55/60/65/70/75/80/90/100/110/120/130/140/150/160/170/180/200	14
07160-220X	M20	52	30	20	40/45/50/55/60/65/70/75/80/90/100/110/120/130/140/150/160/170/180/200	17

Socket head screws

DIN 912 / EN ISO 4762, LONG-LOK secured



Material:

Steel or stainless steel (A 2).

LONG-LOK thread lock nylon.

Version:

Steel grade 8.8, black.

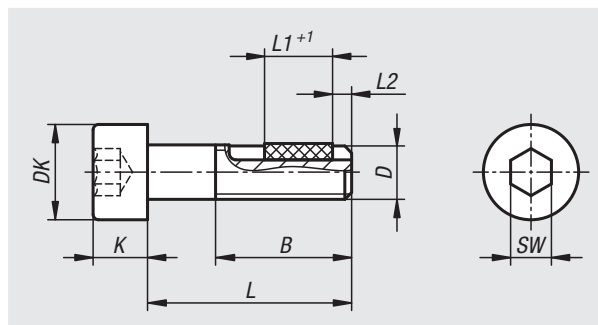
Stainless steel A 2-70, bright.

Sample order:

nIm 07160-306X20 (include length L)

Drawing reference:

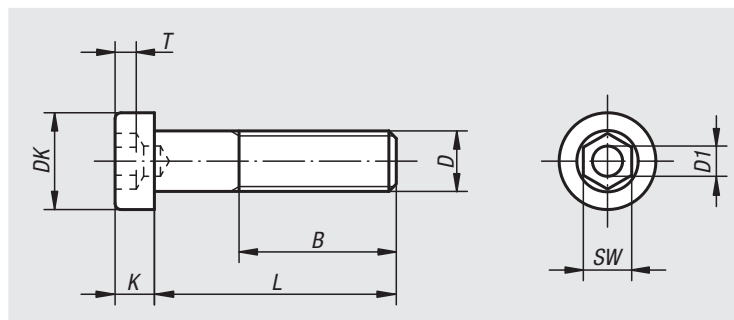
L2 = approx. 2x thread pitch



Order No. steel	Order No. stainless steel	D	B	DK	K	L	L1	SW	Tightening torque approx. Nm	Loosening torque approx. Nm
07160-804X	07160-904X	M4	-	7	4	10/12/16/20/25	5/5/6/7/7	3	0,15	0,22
07160-805X	07160-905X	M5	-/22	8,5	5	10/12/16/20/25/30/40	5/6/7/7/8/8/8	4	0,25	0,1
07160-806X	07160-906X	M6	-/24	10	6	10/12/16/20/25/30/35/40/45/50	5/6/7/7/8/8/8/8/8	5	0,45	0,25
07160-808X	07160-908X	M8	-/28	13	8	16/20/25/30/35/40/45	7/8/8/8/10/10/10	6	0,8	0,4
07160-810X	07160-910X	M10	-/32	16	10	25/30/40/50	10/10/12/12	8	1,7	0,9
07160-812X	07160-912X	M12	-	18	12	30/40/50	10/12/12	10	1,8	0,9

Socket head screws

low head DIN 6912


Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.

Steel grade 10.9, black.

Stainless steel A 2-70, bright.

Sample order:

nIm 07161-110X20 (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.

Socket head screws with low head DIN 6912, stainless steel

Order No.	Main material	D	D1	DK	K	SW	T
07161-104X	stainless steel	M4	2	7	2,8	3	1,48
07161-105X	stainless steel	M5	2,5	8,5	3,5	4	1,88
07161-106X	stainless steel	M6	3	10	4	5	2,38
07161-108X	stainless steel	M8	4	13	5	6	2,88
07161-110X	stainless steel	M10	5	16	6,5	8	3,35
07161-112X	stainless steel	M12	6	18	7,5	10	3,85

Order No.	Main material	D	B	L
07161-104X	stainless steel	M4	6,5/8,5/12.5/14/14	10/12/16/20/25
07161-105X	stainless steel	M5	5,8/7,85/11,8/15,8/16/16	10/12/16/20/25/30
07161-106X	stainless steel	M6	4,5/6,5/10,5/14,5/19,5/18/18/18/18/18	10/12/16/20/25/30/35/40/45/50/60
07161-108X	stainless steel	M8	/5/9/22/22/22/22/22/22/22/22	10/12/16/20/25/30/35/40/45/50/60/70
07161-110X	stainless steel	M10	8/12/17/22/27/26/26/26/26/26	16/20/25/30/35/40/45/50/60/70
07161-112X	stainless steel	M12	10,5/15,5/30/25,5/30,5/30/30/30/30	20/25/30/35/40/45/50/60/70

Socket head screws

low head DIN 6912

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
07161-04X	-	M4	2	7	2,8	3	1,48
07161-05X	-	M5	2,5	8,5	3,5	4	1,88
07161-06X	07161-306X	M6	3	10	4	5	2,38
07161-08X	07161-308X	M8	4	13	5	6	2,88
07161-10X	07161-310X	M10	5	16	6,5	8	3,35
07161-12X	07161-312X	M12	6	18	7,5	10	3,85
07161-16X	07161-316X	M16	8	24	10	14	5,35
07161-20X	07161-320X	M20	10	30	12	17	6,32

Order No. steel bright	Order No. steel galvanised	Grade	D	B	L
07161-04X	07161-404X	8.8	M4	6,5/8,5/12,5/14	10/12/16/20/25
07161-05X	07161-405X	8.8	M5	5,8/7,85/11,8/15,8/16	10/12/16/20/25/30
07161-06X	07161-406X	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
07161-08X	07161-408X	8.8	M8	4/5/9/13/22	10/12/16/20/25/30/35/40/45/50/60/70/80
07161-10X	07161-410X	8.8	M10	12/17/22/27/26	20/25/30/35/40/45/50/60/70/80/90/100
07161-12X	07161-412X	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
07161-16X	07161-416X	8.8	M16	19/24/38	30/35/40/45/50/60/70/80/90/100/110/120
07161-20X	07161-420X	8.8	M20	26/36/46	40/45/50/60/70/80/90/100/110/120
07161-306X	-	10.9	M6	4,5/6,5/10,5/14,5/19,5/18	10/12/16/20/25/30/35/40
07161-308X	-	10.9	M8	9/13/22	16/20/25/30/35/40/45/50/60
07161-310X	-	10.9	M10	12/17/22/27/26	20/25/30/35/40/45/50/60
07161-312X	-	10.9	M12	15,5/20,5/25,5/30,5/30	25/30/35/40/45/50/60
07161-316X	-	10.9	M16	19/24/38	30/35/40/45/50/60/70/80
07161-320X	-	10.9	M20	26/36/46	40/50/60/70

Grub screws with flat point

hexagon socket DIN 913



Material:

Steel or stainless steel (A 2).

LONG-LOK thread lock nylon.

Version:

Steel class 45 H, black.

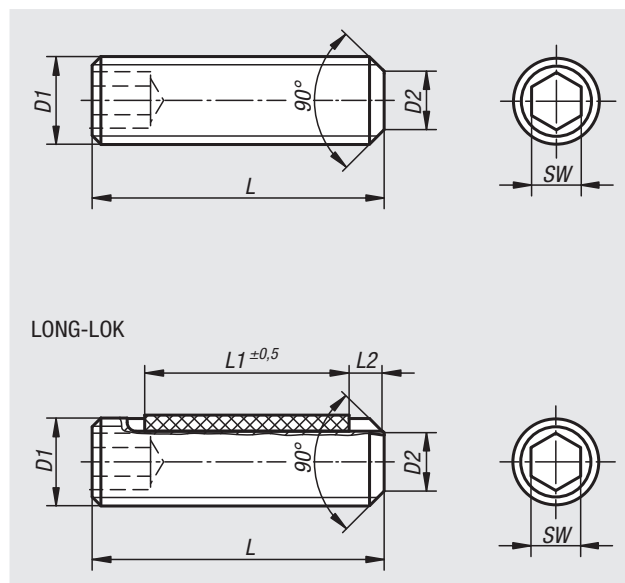
Stainless steel A 2-70, bright.

Sample order:

nIm 07165-110X20 (include length L)

Drawing reference:

L2 = approx. 2x thread pitch

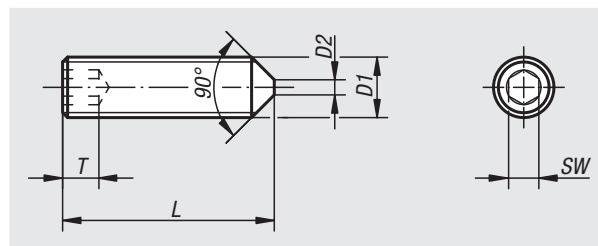


Order No.	Main material	D1	D2	L	SW
07165-03X	steel	M3	2	5/6/8/10/12/16/20	1,5
07165-04X	steel	M4	2,5	5/6/8/10/12/16/20/25	2
07165-05X	steel	M5	3,5	5/6/8/10/12/16/20/25/30	2,5
07165-06X	steel	M6	4	6/8/10/12/16/20/25/30/35/40/45/50/60	3
07165-08X	steel	M8	5,5	8/10/12/16/20/25/30/35/40/45/50/60/70/80	4
07165-10X	steel	M10	7	10/12/16/20/25/30/35/40/45/50/60/70/80/90/100	5
07165-103X	stainless steel	M3	2	5/6/8/10/12	1,5
07165-104X	stainless steel	M4	2,5	5/6/8/10/12/16/20	2
07165-105X	stainless steel	M5	3,5	5/6/8/10/12/16/20/25/30	2,5
07165-106X	stainless steel	M6	4	6/8/10/12/16/20/25/30/35/40	3
07165-108X	stainless steel	M8	5,5	8/10/12/16/20/25/30/35/40/45/50	4
07165-110X	stainless steel	M10	7	10/12/16/20/25/30/35/40/45/50	5

Order No.	Version 2	Main material	D1	D2	L	L1	SW
07165-203X	long-lok	steel	M3	2	5/6/8/10/12	2/3/4/4/4	1,5
07165-204X	long-lok	steel	M4	2,5	5/6/8/10/12/16	2/2,5/3,5/5/5/5	2
07165-205X	long-lok	steel	M5	3,5	5/6/8/10/12/16	2/3/3,5/3,5/5/6	2,5
07165-206X	long-lok	steel	M6	4	6/8/10/12/16/20	2,5/3/3,5/5/7/7	3
07165-208X	long-lok	steel	M8	5,5	8/10/12/16/20	3/3,5/5/8/8	4
07165-210X	long-lok	steel	M10	7	10/12/16/20	5/5/9/9	5
07165-303X	long-lok	stainless steel	M3	2	5/6/8/10/12	2/3/4/4/4	1,5
07165-304X	long-lok	stainless steel	M4	2,5	5/6/8/10/12/16	2/2,5/3,5/5/5/5	2
07165-305X	long-lok	stainless steel	M5	3,5	5/6/8/10/12/16	2/3/3,5/3,5/5/6	2,5
07165-306X	long-lok	stainless steel	M6	4	6/8/10/12/16/20	2,5/3/3,5/5/7/7	3
07165-308X	long-lok	stainless steel	M8	5,5	8/10/12/16/20	3/3,5/5/8/8	4
07165-310X	long-lok	stainless steel	M10	7	10/12/16/20	5/5/9/9	5

Grub screw with hexagon socket and pointed end

DIN 914 / DIN EN ISO 4027

**Material:**

Steel or stainless steel (A 2)

Version:

Steel class 45 H, black.

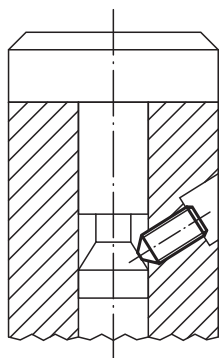
Stainless steel A 2-70, bright.

Sample order:

nlm 07166-110X12 (include length L)

Note:

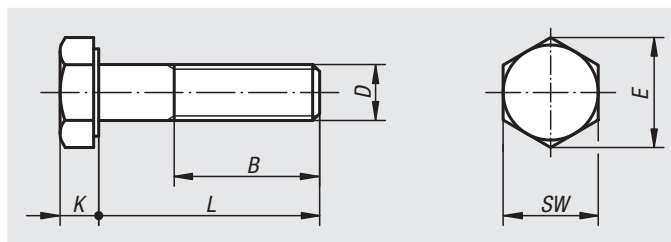
By M4x5, M5x5, M5x6, M6x6, M8x8, M10x10 the point angle is 120°.



Order No. steel	Order No. stainless steel	D1	D2	L	T	SW
07166-03X	07166-103X	M3	-	5/6/8/10/12/16/20	1,2	1,5
07166-04X	07166-104X	M4	-	5/6/8/10/12/16/20/25	1,5	2
07166-05X	07166-105X	M5	-	5/6/8/10/12/14/16/20/25/30	2	2,5
07166-06X	07166-106X	M6	1,5	6/8/10/12/16/20/25/30/35/40/45/50/60	2	3
07166-08X	07166-108X	M8	2	8/10/12/14/16/20/25/30/35/40/45/50/60	3	4
07166-10X	07166-110X	M10	2,5	10/12/16/20/25/30/35/40/45/50/60/70/80	4	5

Hexagon head bolts

DIN 931/DIN EN ISO 4014/DIN EN 24014



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.
Steel grade 10.9, black or electro zinc-plated.
Steel grade 12.9, black.
Stainless steel A 2-70, bright.

Sample order:

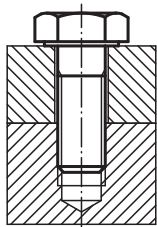
nIm 07170-110X50 (include length L)

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.

On request:

DIN ISO 272 spanner sizes.



Order No. steel Grade 8.8	Order No. steel Grade 10.9	Surface finish body	D	B	E	K	L	SW
07170-04X	-	bright	M4	14	7,66	2,8	25/30/35/40/45/50	7
07170-05X	-	bright	M5	16	8,79	3,5	25/30/35/40/45/50/60	8
07170-06X	07170-306X	bright	M6	18	11,05	4	30/35/40/45/50/60/70	10
07170-08X	07170-308X	bright	M8	22	14,38	5,3	35/40/45/50/60/70/80	13
07170-10X	07170-310X	bright	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
07170-12X	07170-312X	bright	M12	30	21,1	7,5	45/50/60/70/80/90/100/110/120	19
07170-16X	07170-316X	bright	M16	38	26,75	10	60/70/80/90/100/110/120	24
07170-20X	07170-320X	bright	M20	46	33,53	12,5	70/80/90/100/110/120	30
07170-404X	-	galvanised	M4	14	7,66	2,8	25/30/35/40/45/50	7
07170-405X	-	galvanised	M5	16	8,79	3,5	25/30/35/40/45/50/60	8
07170-406X	07170-506X	galvanised	M6	18	11,05	4	30/35/40/45/50/60/70	10
07170-408X	07170-508X	galvanised	M8	22	14,38	5,3	35/40/45/50/60/70/80	13
07170-410X	07170-510X	galvanised	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
07170-412X	07170-512X	galvanised	M12	30	21,1	7,5	45/50/60/70/80/90/100/110/120	19
07170-416X	07170-516X	galvanised	M16	38	26,75	10	60/70/80/90/100/110/120	24
07170-420X	07170-520X	galvanised	M20	46	33,53	12,5	70/80/90/100/110/120	30

Hexagon head bolts

DIN 931/DIN EN ISO 4014/DIN EN 24014

Order No. steel Grade 12.9	Surface finish body	D	B	E	K	L	SW
07170-210X	bright	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
07170-212X	bright	M12	30	21,1	7,5	45/50/60/70/80/90/100/120	19
07170-216X	bright	M16	38	26,75	10	60/70/80/90/100/120	24
07170-220X	bright	M20	46	33,53	12,5	70/80/90/100/120	30

Order No. stainless steel	D	B	E	K	L	SW
07170-105X	M5	16	8,79	3,5	25/30/35/40/45/50/60	8
07170-106X	M6	18	11,05	4	30/35/40/45/50/60/70	10
07170-108X	M8	22	14,38	5,3	35/40/45/50/60/70/80	13
07170-110X	M10	26	18,9	6,4	40/45/50/60/70/80/90/100	17
07170-112X	M12	30	21,1	7,5	45/50/60/70/80/90/100/110/120	19
07170-116X	M16	38	26,75	10	60/70/80/90/100/110/120	24

Hexagon bolts with narrow shaft

in Hygienic DESIGN


Material:

Stainless steel 1.4404.

Version:

Polished.

Sample order:

nIm 07170-02-06X30 (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:

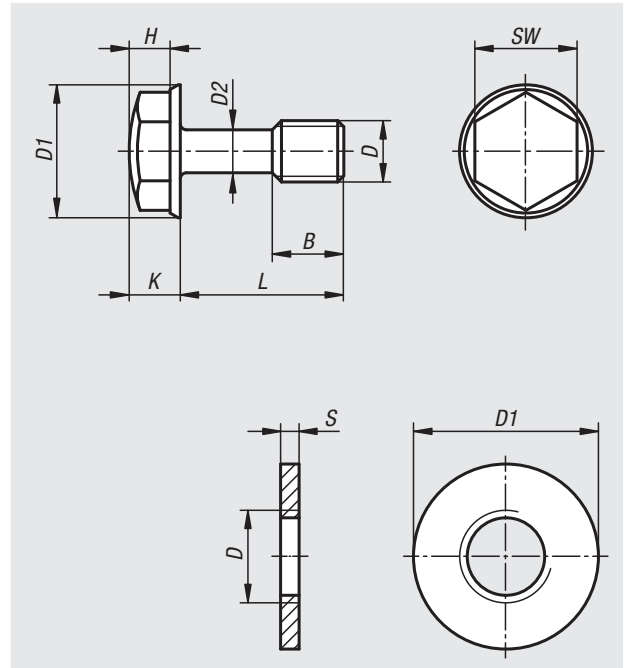
Inch threads, thread lengths, shaft lengths

Accessories:

Locking washer 07170-03.

Attention:

From M12 with centre bore.



Hexagon bolts with narrow shaft

in Hygienic DESIGN



Hexagon bolts with narrow shaft in Hygienic DESIGN

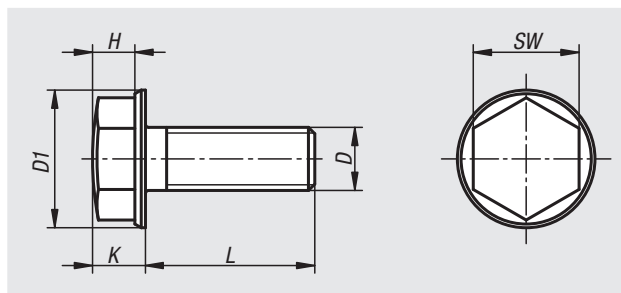
Order No.	D	D1	D2	B	H	K	L	SW
07170-02-04X	M4	9,2	3,1	5	3	4	8/10/12/16	7
07170-02-04X	M4	9,2	3,1	14	3	4	20	7
07170-02-05X	M5	10,5	3,7	6	3,7	4,7	10/12/16/20	8
07170-02-05X	M5	10,5	3,7	16	3,7	4,7	25	8
07170-02-06X	M6	13	4,2	7	4	5	12/16/20	10
07170-02-06X	M6	13	4,2	18	4	5	25/30/35/40/45/50/60	10
07170-02-08X	M8	16,8	6	9,5	5,5	6,5	16/20/25	13
07170-02-08X	M8	16,8	6	22	5,5	6,5	30/35/40/45/50/60/70	13
07170-02-10X	M10	20,6	7,7	12	7,3	8,3	20/25/30/35	16
07170-02-10X	M10	20,6	7,7	26	7,3	8,3	40/45/50/60/70/80	16

Retaining washers for narrow shank screws

Order No.	D	D1	S
07170-03-03	M3	6	1,5
07170-03-04	M4	8	1,5
07170-03-05	M5	10	1,5
07170-03-06	M6	12	1,5
07170-03-08	M8	16	2
07170-03-10	M10	20	2

Hexagon head screws, stainless steel

in Hygienic DESIGN


Material:

Stainless steel 1.4404

Version:

Polished.

Sample order:

nIm 07170-15-03X06

(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.

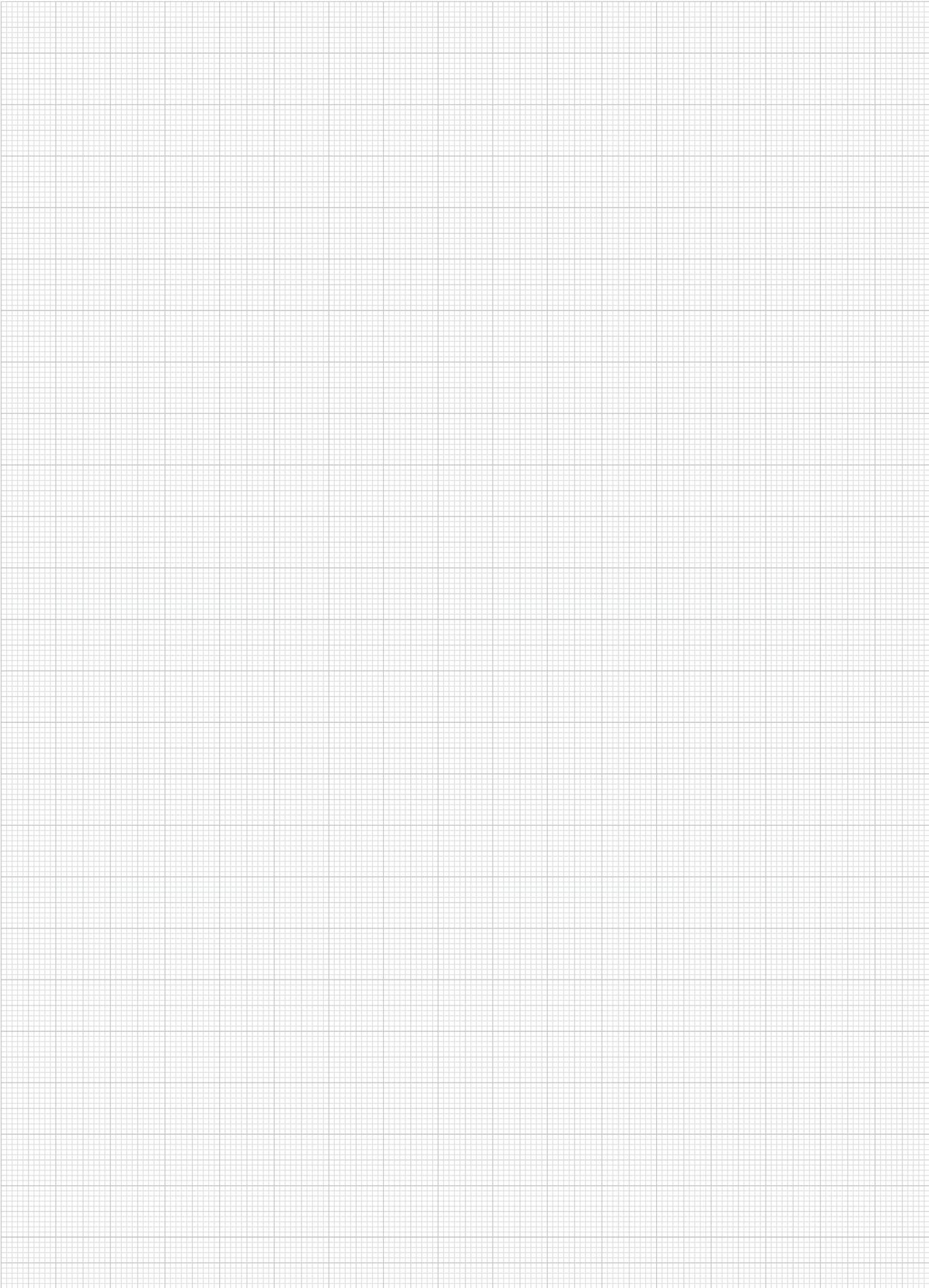
Attention:

From M12 with centre bore.

Hexagon head screws, stainless steel in Hygienic DESIGN

Order No.	D	D1	H	K	L	SW
07170-15-03X	M3	7	3	3,8	6/8/12/16/20/25/30	5,5
07170-15-04X	M4	9,2	3	4	8/12/16/20/25/30/35/40	7
07170-15-05X	M5	10,5	3,7	4,7	12/16/20/25/30/35/40/45/50	8
07170-15-06X	M6	13	4	5	12/16/20/25/30/35/40/45/50/60	10
07170-15-08X	M8	16,8	5,5	6,5	16/20/25/30/35/40/45/50/60	13
07170-15-10X	M10	20,6	7,3	8,3	20/25/30/35/40/45/50/60	16

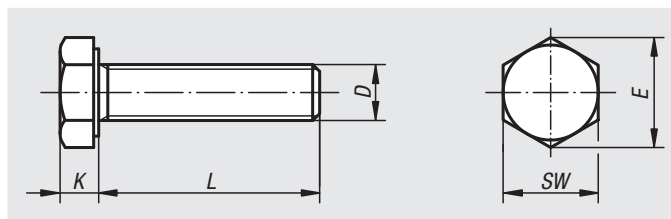
Notes



01000
02000
03000
04000
05000
06000
07000
08000
09000
10000
12000

Hexagon head bolts

DIN 933


Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.

Steel grade 10.9, black or electro zinc-plated.

Steel grade 12.9, black.

Stainless steel A 2-70, bright.

Sample order:

nlm 07171-04X10 (include length L)

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Main colour	D	E	K	L	SW
07171-04X	-	black	M4	7,66	2,8	10/12/16/18/20/25	7
07171-05X	-	black	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
07171-06X	07171-306X	black	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
07171-08X	07171-308X	black	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
07171-10X	07171-310X	black	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
07171-12X	07171-312X	black	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
07171-14X	-	black	M14	24,49	8,8	30/35/40/45/50/60/70/80/90/100/110/120	22
07171-16X	07171-316X	black	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
07171-20X	07171-320X	black	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30
07171-404X	-	-	M4	7,66	2,8	10/12/16/18/20/25	7
07171-405X	-	-	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
07171-406X	07171-506X	-	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
07171-408X	07171-508X	-	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
07171-410X	07171-510X	-	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
07171-412X	07171-512X	-	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
07171-414X	-	-	M14	24,49	8,8	30/35/40/45/50/60/70/80/90/100/110/120	22
07171-416X	07171-516X	-	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
07171-420X	07171-520X	-	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30

Hexagon head bolts

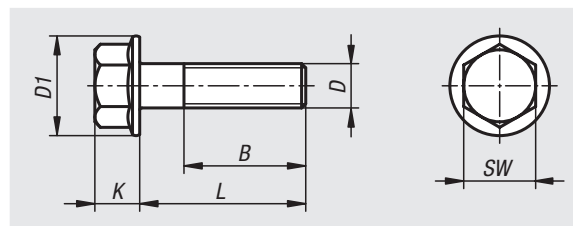
DIN 933

Order No.	Main material	Grade	D	E	K	L	SW
07171-206X	steel	12.9	M6	11,05	4	12/16/20/25/30	10
07171-208X	steel	12.9	M8	14,38	5,3	16/20/25/30/35/40/45/50/60	13
07171-210X	steel	12.9	M10	18,9	6,4	20/25/30/35/40/45/50/60	17
07171-212X	steel	12.9	M12	21,1	7,5	25/30/35/40/45/50/60	19
07171-216X	steel	12.9	M16	26,75	10	30/35/40/45/50/60/70/80/90/100	24
07171-220X	steel	12.9	M20	33,53	12,5	40/45/50/60/70/80/90/100	30

Order No.	Main material	D	E	K	L	SW
07171-104X	stainless steel	M4	7,66	2,8	10/12/16/18/20/25	7
07171-105X	stainless steel	M5	8,79	3,5	10/12/16/18/20/25/30/35/40	8
07171-106X	stainless steel	M6	11,05	4	10/12/16/18/20/25/30/35/40/45/50/55/60	10
07171-108X	stainless steel	M8	14,38	5,3	16/18/20/25/30/35/40/45/50/60/70/80/90/100	13
07171-110X	stainless steel	M10	18,9	6,4	16/18/20/25/30/35/40/45/50/60/70/80/90/100	17
07171-112X	stainless steel	M12	21,1	7,5	20/25/30/35/40/45/50/60/70/80/90/100/110/120	19
07171-116X	stainless steel	M16	26,75	10	30/35/40/45/50/60/70/80/90/100/110/120	24
07171-120X	stainless steel	M20	33,53	12,5	40/45/50/60/70/80/90/100/110/120	30

Hexagon head bolts with flange

EN 1665

**Material:**

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, electro zinc-plated.

Steel grade 10.9, electro zinc-plated.

Bright stainless steel.

Sample order:

nlm 07172-06X12 (include length L)

Note:

Screws where the dimension L is < B are threaded up to the head.

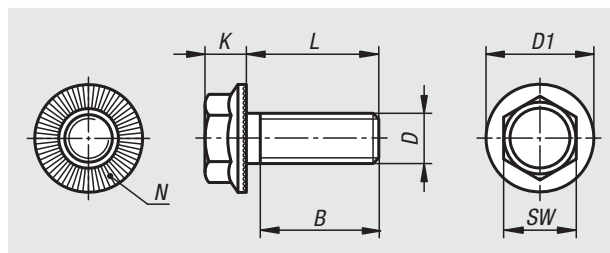
The screw length or thread length is specified by the dimension L.

Screws where L is > B have a shaft.

Order No.	Main material	Grade	B	D	D1	K	SW	L
07172-406X	steel	8.8	18	M6	14,2	6,6	10	12/16/20/25/30
07172-408X	steel	8.8	22	M8	18	8,1	13	12/16/20/25/30/35/40/50/60
07172-410X	steel	8.8	26	M10	22,3	10,4	16	20/25/30/35/40/50
07172-412X	steel	8.8	30	M12	26,6	11,8	18	20/25/30/40/50
07172-416X	steel	8.8	38	M16	35	15,4	24	30/35/40/45/50/70
07172-506X	steel	10.9	18	M6	14,2	6,6	10	12/16/20/25/30
07172-508X	steel	10.9	22	M8	18	8,1	13	12/16/20/25/30/35/40
07172-510X	steel	10.9	26	M10	22,3	10,4	16	25/30/40
07172-512X	steel	10.9	30	M12	26,6	11,8	18	20/35/40/45/50
07172-516X	steel	10.9	38	M16	35	15,4	24	30/35/40/45/50/60
07172-106X	stainless steel	-	18	M6	14,2	6,6	10	12/16/20/25/30
07172-108X	stainless steel	-	22	M8	18	8,1	13	16/20/25/30/35/40/50
07172-110X	stainless steel	-	26	M10	22,3	10,4	16	20/25/30/35/40/50/60

Hexagon head bolts

with serrated flange


Material:

Steel.

Version:

Bright or electro zinc-plated.

Surface hardened min. 550 HV.

Sample order:

nIm 07173-305X10 (include length L)

Note:

The serrations bite into the contact face resulting in a positive locking connection that prevents self-loosening. Can be re-used several times.

Grade 100 corresponds to ca. grade 10.9.

Order No.	Main colour	B	D	D1	K	L	N (number)	SW
07173-305X	-	8,4	M5	11,2	4,3	10/12/16/20	28	8
07173-306X	-	8	M6	14,2	5,5	10/12/16/20/25	36	10
07173-308X	-	9,5	M8	18,2	7	12/16/20/25/30/35/40	48	13
07173-310X	-	13	M10	21	8,5	16/20/25/30/35/40/45/50	48	15
07173-312X	-	16,5	M12	24	10	20/25/30/35/40/45/50/55/60/75	60	17
07173-316X	-	21	M16	31	14	25/30/35/40/45/50/55/60/65/70	72	22
07173-505X	galvanised	8,4	M5	11,2	4,3	10/12/16/20	28	8
07173-506X	galvanised	8	M6	14,2	5,5	10/12/16/20/25	36	10
07173-508X	galvanised	9,5	M8	18,2	7	12/16/20/25/30/40	48	13
07173-510X	galvanised	13	M10	21	8,5	16/20/25/30/35/40/50	48	15
07173-512X	galvanised	16,5	M12	24	10	20/25/30/35/40/45/50/60/75	60	17
07173-516X	galvanised	21	M16	31	14	25/35/40/45/50/55/60/70	72	22

Button head screws

EN ISO 7380



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 10.9, bright or electro zinc-plated.

Stainless steel A 2-70, bright.

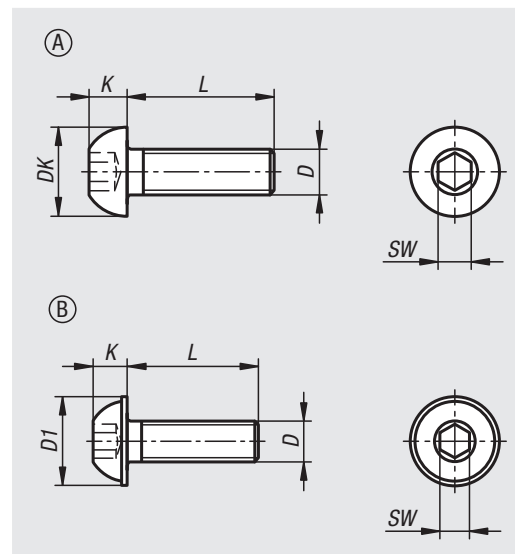
Sample order:

nIm 07174-1303X8 (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.



Order No.	Form	Main material	Finish	Grade	D	DK	K	L	SW
07174-1303X	A	steel	-	10.9	M3	5,7	1,65	8/10/12/16/20	2
07174-1304X	A	steel	-	10.9	M4	7,6	2,2	8/10/12/16/20/25/30	2,5
07174-1305X	A	steel	-	10.9	M5	9,5	2,75	8/10/12/16/20/25/30/35/40	3
07174-1306X	A	steel	-	10.9	M6	10,5	3,3	8/10/12/16/20/25/30/35/40/45/50/55/60	4
07174-1308X	A	steel	-	10.9	M8	14	4,4	8/10/12/16/20/25/30/35/40/45/50/55/60	5
07174-1310X	A	steel	-	10.9	M10	17,5	5,5	12/16/20/25/30/35/40/45/50/55/60	6
07174-1503X	A	steel	galvanised	10.9	M3	5,7	1,65	8/10/12/16/20	2
07174-1504X	A	steel	galvanised	10.9	M4	7,6	2,2	8/10/12/16/20/25/30	2,5
07174-1505X	A	steel	galvanised	10.9	M5	9,5	2,75	8/10/12/16/20/25/30/35/40/45	3
07174-1506X	A	steel	galvanised	10.9	M6	10,5	3,3	8/10/12/16/20/25/30/35/40/45/50/55/60	4
07174-1508X	A	steel	galvanised	10.9	M8	14	4,4	8/10/12/16/20/25/30/35/40/45/50/55/60	5
07174-1510X	A	steel	galvanised	10.9	M10	17,5	5,5	12/16/20/25/30/35/40/45/50/55/60	6
07174-1512X	A	steel	galvanised	10.9	M12	21	6,6	16/20/25/30/35/40/45/50/60	8
07174-1516X	A	steel	galvanised	10.9	M16	28	8,8	30/40/45/50/60	10

Button head screws

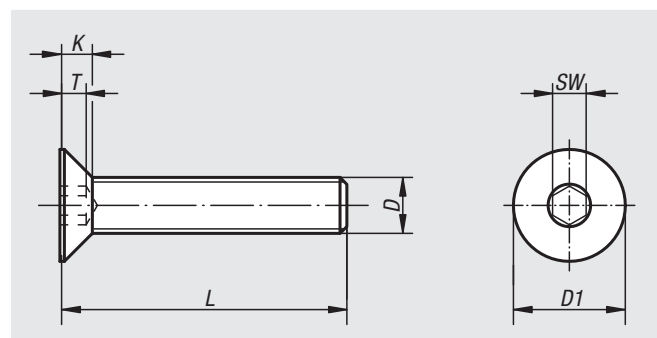
EN ISO 7380

Order No.	Form	Main material	Finish	Grade	D	D1	K	L	SW
07174-2304X	B	steel	-	10.9	M4	9,4	2,2	8/10/12/16/20/25/30	2,5
07174-2305X	B	steel	-	10.9	M5	11,8	2,75	8/10/12/16/20/25/30/35	3
07174-2306X	B	steel	-	10.9	M6	13,6	3,3	8/10/12/16/20/25/30/35/40	4
07174-2308X	B	steel	-	10.9	M8	17,8	4,4	12/16/20/25/30/35/40/50/60	5
07174-2310X	B	steel	-	10.9	M10	21,9	5,5	25/30/35	6
07174-2504X	B	steel	galvanised	10.9	M4	9,4	2,2	8/10/12/16/20/25/30	2,5
07174-2505X	B	steel	galvanised	10.9	M5	11,8	2,75	8/10/12/16/20/25/30/35	3
07174-2506X	B	steel	galvanised	10.9	M6	13,6	3,3	8/10/12/16/20/25/30/35/40	4
07174-2508X	B	steel	galvanised	10.9	M8	17,8	4,4	12/16/20/25/30/35/40/50/60	5
07174-2510X	B	steel	galvanised	10.9	M10	21,9	5,5	20/30/35/40/50	6
07174-2512X	B	steel	galvanised	10.9	M12	26	6,6	20/25/30/40/50/60	8

Order No.	Form	Main material	Grade	D	DK	D1	K	L	SW
07174-1103X	A	stainless steel	70	M3	5,7	-	1,65	8/10/12/16/20	2
07174-1104X	A	stainless steel	70	M4	7,6	-	2,2	8/10/12/16/20/25/30	2,5
07174-1105X	A	stainless steel	70	M5	9,5	-	2,75	8/10/12/16/20/25/30/40/45	3
07174-1106X	A	stainless steel	70	M6	10,5	-	3,3	8/10/12/16/20/25/30/35/40/45/50/60	4
07174-1108X	A	stainless steel	70	M8	14	-	4,4	10/12/16/20/25/30/35/40/45/50/60	5
07174-1110X	A	stainless steel	70	M10	17,5	-	5,5	16/20/25/30/40/50	6
07174-2103X	B	stainless steel	70	M3	-	6,9	1,65	8/10	2
07174-2104X	B	stainless steel	70	M4	-	9,4	2,2	8/10/12/16/20/25	2,5
07174-2105X	B	stainless steel	70	M5	-	11,8	2,75	8/10/12/16/20/25	3
07174-2106X	B	stainless steel	70	M6	-	13,6	3,3	8/10/12/16/20/25/30/35/40/45	4
07174-2108X	B	stainless steel	70	M8	-	17,8	4,4	10/12/16/20/25	5

Screws with countersunk head

hexagon socket DIN EN ISO 10642



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black or electro zinc-plated.

Steel grade 10.9, black.

Stainless steel A 2-70, bright.

Sample order:

nIm 07175-106X20 (include length L)

Note:

Contrary to DIN EN ISO 10642, the following screw lengths are thread up to the head:

By M4 from L = 25

By M5 from L = 30

By M6 from L = 30

By M8 from L = 35

By M10 from L = 40

By M12 from L = 45

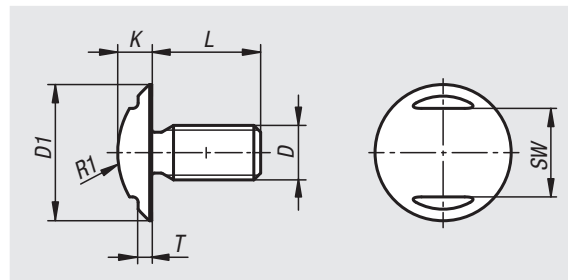
By M16 from L = 60

Order No. steel Grade 8.8	Order No. steel Grade 10.9	Main colour	D	L	D1	K	T	SW
07175-04X	07175-304X	black	M4	10/12/16/20/25	8	2,3	1,8	2,5
07175-05X	07175-305X	black	M5	10/12/16/20/25/30	10	2,8	2,3	3
07175-06X	07175-306X	black	M6	10/12/16/20/25/30/35/40/45/50/60	12	3,3	2,5	4
07175-08X	07175-308X	black	M8	16/20/25/30/35/40/45/50/60	16	4,4	3,5	5
07175-10X	07175-310X	black	M10	16/20/25/30/35/40/45/50/60/70	20	5,5	4,4	6
07175-12X	07175-312X	black	M12	20/25/30/35/40/45/50/60/70/80	24	6,5	4,6	8
07175-16X	07175-316X	black	M16	30/35/40/45/50/60/70/80	30	7,5	5,3	10
07175-404X	-	-	M4	10/12/16/20/25	8	2,3	1,8	2,5
07175-405X	-	-	M5	10/12/16/20/25/30	10	2,8	2,3	3
07175-406X	-	-	M6	10/12/16/20/25/30/35/40/45/50/60	12	3,3	2,5	4
07175-408X	-	-	M8	16/20/25/30/35/40/45/50/60	16	4,4	3,5	5
07175-410X	-	-	M10	16/20/25/30/35/40/45/50/60/70	20	5,5	4,4	6
07175-412X	-	-	M12	20/25/30/35/40/45/50/60/70/80	24	6,5	4,6	8
07175-416X	-	-	M16	30/35/40/45/50/60/70/80	30	7,5	5,3	10

Order No.	Main material	D	L	K	T	D1	SW
07175-104X	stainless steel	M4	10/12/16/20/25	2,3	1,8	8	2,5
07175-105X	stainless steel	M5	10/12/16/20/25/30	2,8	2,3	10	3
07175-106X	stainless steel	M6	10/12/16/20/25/30/35/40/45/50/60	3,3	2,5	12	4
07175-108X	stainless steel	M8	16/20/25/30/35/40/45/50/60	4,4	3,5	16	5
07175-110X	stainless steel	M10	16/20/25/30/35/40/45/50/60/70	5,5	4,4	20	6
07175-112X	stainless steel	M12	20/25/30/35/40/45/50/60/70/80	6,5	4,6	24	8
07175-116X	stainless steel	M16	30/35/40/45/50/60/70/80	7,5	5,3	30	10

Ball head screw

in Hygienic DESIGN



Material:

Stainless steel 1.4404.

Version:

Polished.

Sample order:

nIm 07175-02-06X20 (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.

Ball head screw in Hygienic DESIGN

Order No.	D	D1	K	T	SW	R1	L
07175-02-03X	M3	8	2	0,6	5	5,2	6/8/10
07175-02-04X	M4	11	3	1	6	6,7	8/10/12
07175-02-05X	M5	14	4	1	8	8,6	10/12/16
07175-02-06X	M6	17	5	1,5	10	10	12/16/20
07175-02-08X	M8	20	5	1,5	13	13	16/20/25
07175-02-10X	M10	22	6	1,5	15	13,5	20/25/30
07175-02-12X	M12	27	7,5	1,5	19	16,3	25/30/35
07175-02-16X	M16	36	9	1,5	24	23	30/35/40

Notes

A large rectangular area filled with a fine grid of light gray lines, resembling graph paper, intended for taking notes.

Eye bolts

DIN 444, Form B



Material:

Steel, grade 8.8 or stainless steel.

Version:

Steel black oxidised.

Stainless steel bright.

Sample order:

nIm 07180-12100

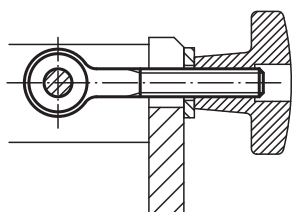
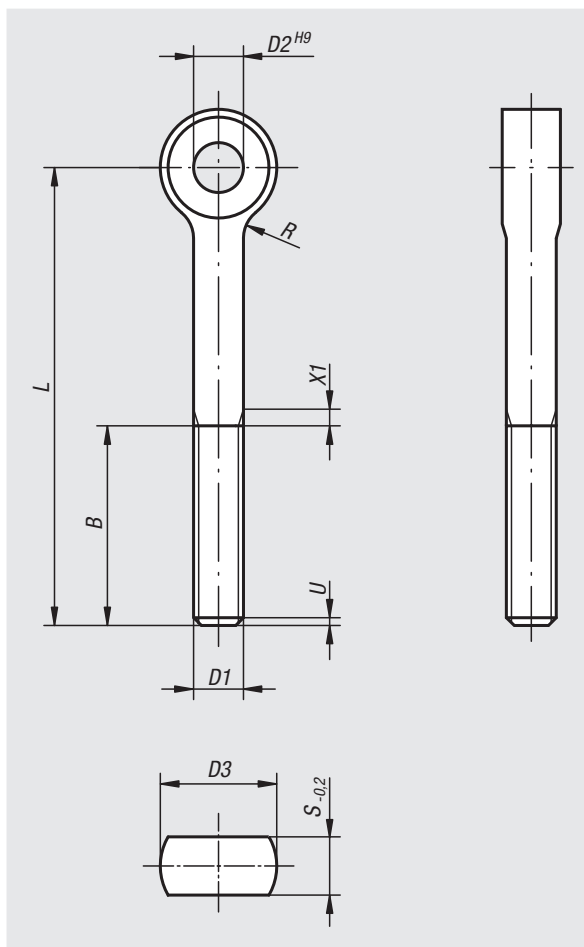
Note:

Suitable hinge pin, see 04250.

Drawing reference:

U = max. 2 P (incomplete thread)

X1 = to DIN 76 part 1



Order No. steel 8.8	Order No. stainless steel	B	D1	D2	D3	L	R	S
07180-0550	07180-10550	16	M5	5	12	50	2,5	6
07180-0575	-	16	M5	5	12	75	2,5	6
07180-0650	07180-10650	18	M6	6	14	50	4	7
07180-0675	07180-10675	18	M6	6	14	75	4	7
07180-0850	07180-10850	22	M8	8	18	50	4	9
07180-0875	07180-10875	22	M8	8	18	75	4	9
07180-1075	07180-11075	26	M10	10	20	75	4	12
07180-10100	07180-110100	26	M10	10	20	100	4	12
07180-1275	07180-11275	30	M12	12	25	75	6	14
07180-12100	07180-112100	30	M12	12	25	100	6	14
07180-12120	07180-112120	30	M12	12	25	120	6	14
07180-12130	07180-112130	36	M12	12	25	130	6	14
07180-1475	07180-11475	36	M14	14	28	75	6	16
07180-14130	07180-114130	36	M14	14	28	130	6	16
07180-16130	07180-116130	44	M16	16	32	130	6	17
07180-20140	07180-120140	52	M20	18	40	140	6	22

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:

nIm 07181-0650

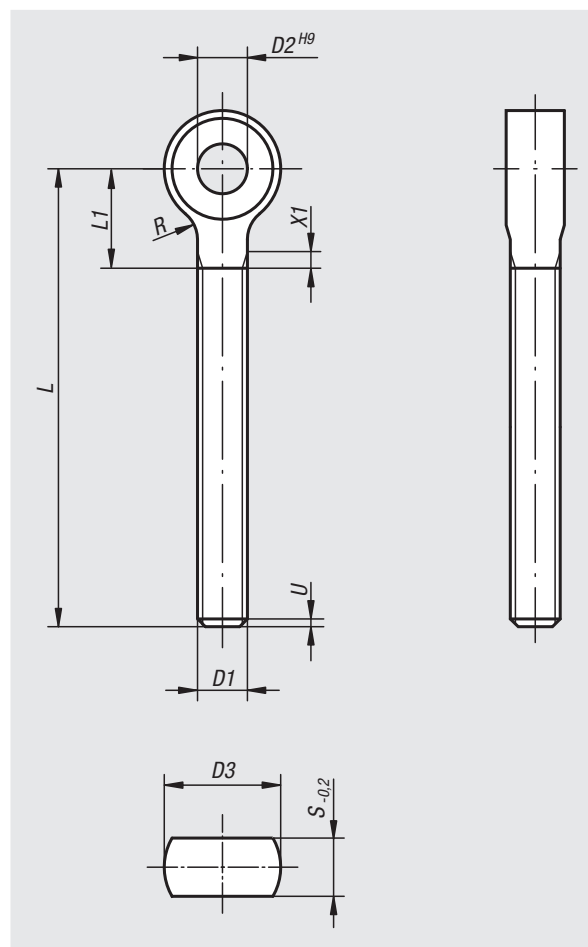
Note:

Eye bolts with thread up to the eye.
Suitable hinge pin, see 04250.

Drawing reference:

U = max. 2 P (incomplete thread)

X1 = to DIN 76 part 1



Eye bolts DIN 444, Form B

with long thread

Order No. steel	Order No. stainless steel	D1	D2	D3	L	L1 max.	R	S
07181-0650	07181-10650	M6	6	14	50	14	4	7
07181-0660	07181-10660	M6	6	14	60	14	4	7
07181-0670	07181-10670	M6	6	14	70	14	4	7
07181-0680	07181-10680	M6	6	14	80	14	4	7
07181-0850	07181-10850	M8	8	18	50	16	4	9
07181-0860	07181-10860	M8	8	18	60	16	4	9
07181-0870	07181-10870	M8	8	18	70	16	4	9
07181-0880	07181-10880	M8	8	18	80	16	4	9
07181-08100	07181-108100	M8	8	18	100	16	4	9
07181-1050	07181-11050	M10	10	20	50	18	4	12
07181-1060	07181-11060	M10	10	20	60	18	4	12
07181-1070	07181-11070	M10	10	20	70	18	4	12
07181-1080	07181-11080	M10	10	20	80	18	4	12
07181-10100	07181-110100	M10	10	20	100	18	4	12
07181-10120	07181-110120	M10	10	20	120	18	4	12
07181-1250	07181-11250	M12	12	25	50	23	6	14
07181-1260	07181-11260	M12	12	25	60	23	6	14
07181-1270	07181-11270	M12	12	25	70	23	6	14
07181-1280	07181-11280	M12	12	25	80	23	6	14
07181-12100	07181-112100	M12	12	25	100	23	6	14
07181-12120	07181-112120	M12	12	25	120	23	6	14
07181-12130	07181-112130	M12	12	25	130	23	6	14
07181-1670	07181-11670	M16	16	32	70	27	6	17
07181-1680	07181-11680	M16	16	32	80	27	6	17
07181-16100	07181-116100	M16	16	32	100	27	6	17
07181-16120	07181-116120	M16	16	32	120	27	6	17
07181-16140	07181-116140	M16	16	32	140	27	6	17
07181-16160	07181-116160	M16	16	32	160	27	6	17
07181-20100	07181-120100	M20	18	40	100	32	6	22
07181-20120	07181-120120	M20	18	40	120	32	6	22
07181-20140	07181-120140	M20	18	40	140	32	6	22
07181-20160	07181-120160	M20	18	40	160	32	6	22
07181-24160	-	M24	22	45	160	40	10	25
07181-24240	-	M24	22	45	240	40	10	25

Wing screws


Material:

Steel (German type: malleable iron head, steel shaft)
min. grade 4.6 or stainless steel (A 2).

Version:

Electro zinc-plated steel.
Bright stainless steel.

Sample order:

n1m 07199-104X8 (include length L)

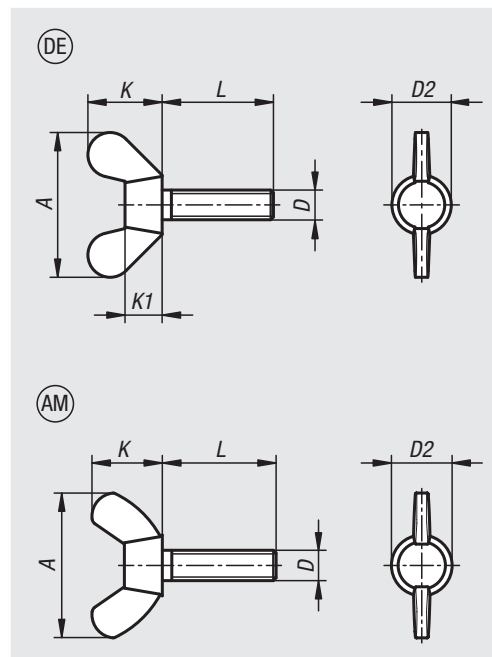
Note:

The wing screws can be tightened and (generally)
loosened by hand.

Drawing reference:

DE = German style similar to DIN 316

AM = US style



Order No.	Form	Main material	D	L	A max.	D2 max.	K	K1
07199-104X	DE	steel	M4	8/10/12/16/20/25/30	20	7	9,5	3,9
07199-105X	DE	steel	M5	10/12/16/20/25/30/35/40/50	25	9,5	12	5,3
07199-106X	DE	steel	M6	10/12/16/20/25/30/35/40/50	31,5	11,5	16	6,5
07199-108X	DE	steel	M8	10/12/16/20/25/30/35/40/50/60	37	14,5	19	8,3
07199-110X	DE	steel	M10	16/20/25/30/35/40/50/60/70	49,5	18,5	24	10
07199-112X	DE	steel	M12	16/20/25/30/40/50/60/70/80	63,5	21,5	32,3	12

Order No.	Form	Main material	D	L	A max.	D2 max.	K
07199-204X	AM	steel	M4	10/12/15/20/25/30	22	9,5	10,5
07199-205X	AM	steel	M5	10/12/15/20/25/30/35/40	22	9,5	10,5
07199-206X	AM	steel	M6	10/12/15/20/25/30/35/40/50	26,8	11,9	12,9
07199-208X	AM	steel	M8	10/12/15/20/25/30/35/40/45/50/60	30,3	13,5	14,8
07199-210X	AM	steel	M10	15/20/25/30/35/40/50/60	35,3	15,3	17,3
07199-212X	AM	steel	M12	20/25/30/35/40/50/60	47,5	20,5	22,5
07199-1204X	AM	stainless steel	M4	10/12/16/20/25/30	22	9,5	10,5
07199-1205X	AM	stainless steel	M5	10/12/16/20/25/30/35/40	22	9,5	10,5
07199-1206X	AM	stainless steel	M6	10/12/16/20/25/30/35/40/45/50	26,8	11,9	12,9
07199-1208X	AM	stainless steel	M8	10/12/16/20/25/30/35/40/45/50/60	30,3	13,5	14,8
07199-1210X	AM	stainless steel	M10	16/20/25/30/35/40/45/50/60	35,3	15,3	17,3

Wing nuts


Material:

Steel (German type from M12 malleable iron) or stainless steel (A 2).

Version:

Steel and malleable iron electro zinc-plated.
Stainless steel bright.

Sample order:

nIm 07200-104

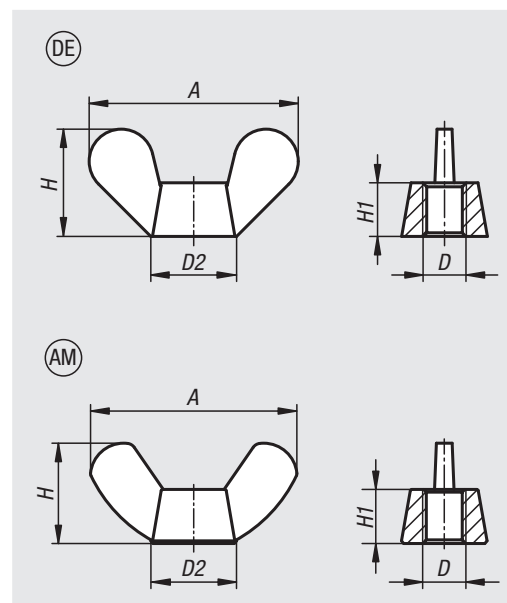
Note:

The wing nuts can be tightened and (generally) loosened tool-free.

Drawing reference:

DE = German style similar to DIN 315

AM = US style



Order No. steel	Order No. malleable iron	Order No. stainless steel	Form	D	A max.	D2 max.	H	H1
07200-104	-	07200-1104	DE	M4	20	8	10,5	4,6
07200-105	-	07200-1105	DE	M5	26	11	13	6,5
07200-106	-	07200-1106	DE	M6	33	13	17	8
07200-108	-	07200-1108	DE	M8	39	16	20	10
07200-110	-	07200-1110	DE	M10	51	20	25	12
-	07200-112	07200-1112	DE	M12	65	23	33,5	14
-	07200-116	07200-1116	DE	M16	73	29	37,5	17
-	07200-120	07200-1120	DE	M20	90	35	46,5	21

Order No. steel	Order No. stainless steel	Form	A max.	D	D2 max.	H	H1
07200-204	07200-1204	AM	18,5	M4	8	8,8	3
07200-205	07200-1205	AM	22	M5	11	10,5	4
07200-206	07200-1206	AM	26,8	M6	13	12,9	4,9
07200-208	07200-1208	AM	30,3	M8	14	14,8	5,4
07200-210	07200-1210	AM	35,3	M10	16,5	17,3	6,3
07200-212	07200-1212	AM	47,5	M12	22,5	22,5	7,9

Hexagon nuts

DIN 934/DIN EN ISO 4032/DIN EN 24032

Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8, bright or electro zinc-plated.

Steel grade 10, bright or electro zinc-plated.

Steel grade 12, bright.

Stainless steel A 2-70, bright.

Sample order:

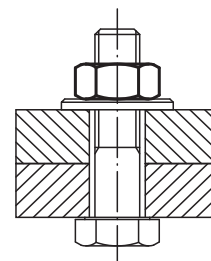
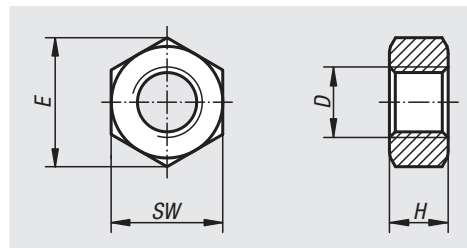
nlm 07210-10

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.



Order No. steel Grade 8	Order No. steel Grade 10	Order No. steel Grade 12	Order No. stainless steel Grade 70	Surface finish body	D	E	H	SW
07210-03	07210-403	-	07210-103	bright	M3	6,01	2,4	5,5
07210-04	07210-404	-	07210-104	bright	M4	7,66	3,2	7
07210-05	07210-405	-	07210-105	bright	M5	8,79	4	8
07210-06	07210-406	07210-506	07210-106	bright	M6	11,05	5	10
07210-08	07210-408	07210-508	07210-108	bright	M8	14,38	6,5	13
07210-10	07210-410	07210-510	07210-110	bright	M10	18,9	8	17
07210-12	07210-412	07210-512	07210-112	bright	M12	21,1	10	19
07210-14	07210-414	-	07210-114	bright	M14	23,9	11	22
07210-16	07210-416	07210-516	07210-116	bright	M16	26,76	13	24
07210-20	07210-420	07210-520	07210-120	bright	M20	32,95	16	30
07210-22	07210-422	-	07210-122	bright	M22	35	18	32
07210-24	07210-424	07210-524	07210-124	bright	M24	39,6	19	36
07210-27	07210-427	07210-527	07210-127	bright	M27	45,2	22	41
07210-30	07210-430	07210-530	07210-130	bright	M30	50,9	24	46
07210-33	07210-433	-	07210-133	bright	M33	55,4	26	50
07210-36	07210-436	07210-536	07210-136	bright	M36	60,8	29	55
07210-203	-	-	-	galvanized	M3	6,01	2,4	5,5
07210-204	07210-304	-	-	galvanized	M4	7,66	3,2	7
07210-205	07210-305	-	-	galvanized	M5	8,79	4	8
07210-206	07210-306	-	-	galvanized	M6	11,05	5	10
07210-208	07210-308	-	-	galvanized	M8	14,38	6,5	13
07210-210	07210-310	-	-	galvanized	M10	18,9	8	17
07210-212	07210-312	-	-	galvanized	M12	21,1	10	19
07210-214	07210-314	-	-	galvanized	M14	23,9	11	22
07210-216	07210-316	-	-	galvanized	M16	26,76	13	24
07210-220	07210-320	-	-	galvanized	M20	32,95	16	30
07210-222	07210-322	-	-	galvanized	M22	35	18	32
07210-224	07210-324	-	-	galvanized	M24	39,6	19	36
07210-227	07210-327	-	-	galvanized	M27	45,2	22	41
07210-230	07210-330	-	-	galvanized	M30	50,9	24	46
07210-233	07210-333	-	-	galvanized	M33	55,4	26	50
07210-236	07210-336	-	-	galvanized	M36	60,8	29	55

Hexagon nuts

thin type DIN 439



Material:

Steel or stainless steel (A 2)

Version:

Steel grade 04, electro zinc-plated or black oxidised.

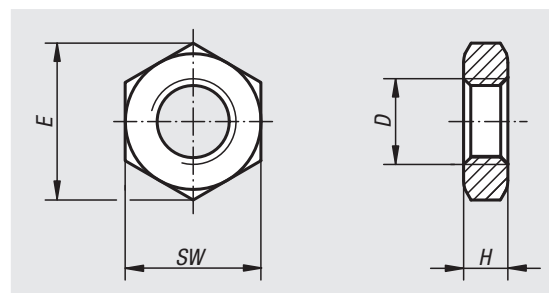
Stainless steel A2, bright.

Sample order:

nlm 07212-10

Note:

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



Order No. steel galvanised	Order No. stainless steel bright	Order No. steel black oxidised	Version 2	D	E	H	SW
07212-05	07212-105	07212-205	RH thread	M5	8,79	2,7	8
07212-06	07212-106	07212-206	RH thread	M6	11,05	3,2	10
07212-006	07212-1062	07212-2063	RH thread	M6x0,75	11,05	3,2	10
07212-08	07212-108	07212-208	RH thread	M8	14,38	4	13
07212-008	07212-1083	07212-2083	RH thread	M8x1	14,38	4	13
07212-10	07212-110	07212-210	RH thread	M10	18,9	5	17
07212-103	07212-1103	07212-2103	RH thread	M10x1	18,9	5	17
07212-104	07212-1104	-	RH thread	M10x1,25	18,9	5	17
07212-12	07212-112	07212-212	RH thread	M12	21,1	6	19
07212-123	07212-1123	-	RH thread	M12x1,25	21,1	6	19
07212-124	07212-1124	07212-2124	RH thread	M12x1,5	21,1	6	19
07212-14	07212-114	-	RH thread	M14	24,49	7	22
07212-16	07212-116	07212-216	RH thread	M16	26,76	8	24
07212-163	07212-1163	07212-2163	RH thread	M16x1,5	26,76	8	24
07212-183	-	-	RH thread	M18x1,5	29,56	9	27
07212-20	07212-120	-	RH thread	M20	32,95	10	30
07212-203	07212-1203	07212-2203	RH thread	M20x1,5	32,95	10	30
07212-223	07212-1223	-	RH thread	M22x1,5	36,9	10	32
07212-24	07212-1244	-	RH thread	M24	39,55	12	36
-	07212-1243	07212-2243	RH thread	M24x2	39,6	12	36
07212-30	-	-	RH thread	M30	50,85	15	46
07212-061	07212-1061	-	LH thread	M6	11,05	3,2	10
07212-081	07212-1081	-	LH thread	M8	14,38	4	13
07212-101	07212-1101	-	LH thread	M10	18,9	5	17
07212-1031	07212-11031	-	LH thread	M10x1	18,9	5	17
07212-1041	07212-11041	-	LH thread	M10x1,25	18,9	5	17
07212-121	07212-1121	-	LH thread	M12	21,1	6	19
07212-1231	07212-11231	-	LH thread	M12x1,25	21,1	6	19
07212-1241	07212-11241	-	LH thread	M12x1,5	21,1	6	19
07212-161	07212-1161	-	LH thread	M16	26,76	8	24
07212-2031	07212-12031	-	LH thread	M20x1,5	32,95	10	30
07212-2231	07212-12231	-	LH thread	M22x1,5	36,9	10	32

Hexagon nuts with polyamide thread lock

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


Material:

Steel or stainless steel (A 2)

Version:

Electro zinc-plated steel.
Bright stainless steel.

Sample order:

nlm 07213-204

Note:

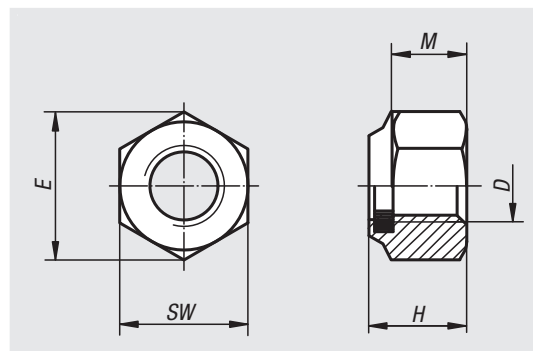
When screwing the nuts onto the thread, the thread lock is plastically and elastically deformed. The elastic deformation causes a radial frictional lock against the nuts being loosened.

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.



Order No.	Main material	DIN	Grade	D	E	H	M	SW
07213-204	steel	DIN 982	6-8	M4	7,66	6	2,9	7
07213-205	steel	DIN 982	8	M5	8,79	6,3	4,4	8
07213-206	steel	DIN 982	8	M6	11,05	8	4,9	10
07213-208	steel	DIN 982	8	M8	14,38	9,5	6,44	13
07213-210	steel	DIN 982	8	M10	18,9	11,5	8,04	17
07213-212	steel	DIN 982	8	M12	21,1	14	10,37	19
07213-214	steel	DIN 982	8	M14	23,9	16	12,1	22
07213-216	steel	DIN 982	8	M16	26,76	18	14,1	24
07213-220	steel	DIN 982	8	M20	32,95	22	16,9	30
07213-224	steel	DIN 982	8	M24	39,55	28	20,2	36
07213-310	steel	DIN 982	10	M10	18,9	11,5	8,04	17
07213-312	steel	DIN 982	10	M12	21,1	14	10,37	19
07213-316	steel	DIN 982	10	M16	26,76	18	14,1	24
07213-320	steel	DIN 982	10	M20	32,95	22	16,9	30
07213-324	steel	DIN 982	10	M24	39,55	28	20,2	36
07213-105	stainless steel	similar to DIN 982	-	M5	8,79	6,3	4,4	8
07213-106	stainless steel	similar to DIN 982	-	M6	11,05	8	4,9	10
07213-108	stainless steel	similar to DIN 982	-	M8	14,38	9,5	6,44	13
07213-110	stainless steel	similar to DIN 982	-	M10	18,9	11,5	8,04	17
07213-112	stainless steel	similar to DIN 982	-	M12	21,1	14	10,37	19
07213-116	stainless steel	similar to DIN 982	-	M16	26,76	18	14,1	24
07213-120	stainless steel	similar to DIN 982	-	M20	32,95	22	16,9	30

Hexagon nuts with polyamide thread lock

thin type, DIN 985



Material:
Steel or stainless steel (A 2)

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

Sample order:
nlm 07214-203

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:

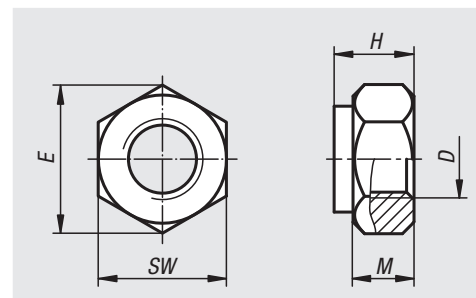
-50°C to +120°C.

Order No. steel Grade 6-8	Order No. steel Grade 8	Order No. steel Grade 10	D	E	H	M	SW
07214-203	-	-	M3	6,08	4	2,4	5,5
07214-204	-	-	M4	7,66	5	2,9	7
07214-205	-	-	M5	8,79	5	3,2	8
-	07214-206	07214-306	M6	11,05	6	4	10
-	07214-208	07214-308	M8	14,38	8	5,5	13
-	07214-210	07214-310	M10	18,9	10	6,5	17
-	07214-212	07214-312	M12	21,1	12	8	19
-	07214-214	07214-314	M14	23,9	14	9,5	22
-	07214-216	07214-316	M16	26,76	16	10,5	24
-	07214-220	07214-320	M20	32,95	20	14	30
-	07214-224	-	M24	39,55	24	15	36
-	07214-227	07214-327	M27	45,2	27	17	41
-	07214-230	07214-330	M30	50,85	30	19	46
-	-	07214-324	M24	35	24	15	36

Order No.	Main material	D	E	H	M	SW
07214-103	stainless steel	M3	6,08	4	2,4	5,5
07214-104	stainless steel	M4	7,66	5	2,9	7
07214-105	stainless steel	M5	8,79	5	3,2	8
07214-106	stainless steel	M6	11,05	6	4	10
07214-108	stainless steel	M8	14,38	8	5,5	13
07214-110	stainless steel	M10	18,9	10	6,5	17
07214-112	stainless steel	M12	21,1	12	8	19
07214-114	stainless steel	M14	23,9	14	9,5	22
07214-116	stainless steel	M16	26,76	16	10,5	24
07214-120	stainless steel	M20	32,95	20	14	30
07214-124	stainless steel	M24	39,55	24	15	36
07214-127	stainless steel	M27	45,2	27	17	41
07214-130	stainless steel	M30	50,85	30	19	46

Hexagon nuts with thread lock

DIN 980

**Material:**

Steel or stainless steel (A 2)

Version:

Electro zinc-plated steel.

Bright stainless steel.

Sample order:

nlm 07215-204

Note:

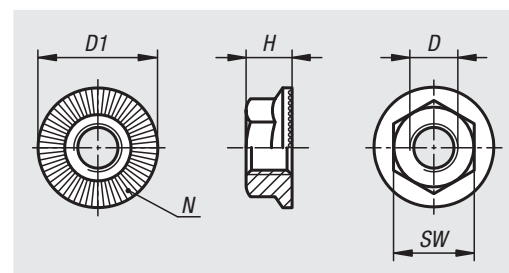
Hexagon nuts with thread lock DIN 980, Form V (all-metal nut, one piece).

Order No. steel Grade 8	Order No. steel Grade 10	D	E	H	M	SW
07215-204	-	M4	7,66	4,2	2,2	7
07215-205	-	M5	8,79	5,1	2,75	8
07215-206	-	M6	11,05	6	3,3	10
07215-208	07215-308	M8	14,38	8	4,4	13
07215-210	07215-310	M10	18,9	10	5,5	17
07215-212	07215-312	M12	21,1	12	6,6	19
07215-214	07215-314	M14	23,9	14	7,7	22
07215-216	07215-316	M16	26,76	16	8,8	24
07215-220	07215-320	M20	32,95	20	11	30
07215-224	07215-324	M24	39,55/35	24	13,2	36
07215-227	07215-327	M27	45,2	27	14,8	41
07215-230	07215-330	M30	50,85	30	16,5	46

Order No.	Main material	D	E	H	M	SW
07215-104	stainless steel	M4	7,66	4,2	2,2	7
07215-105	stainless steel	M5	8,79	5,1	2,75	8
07215-106	stainless steel	M6	11,05	6	3,3	10
07215-108	stainless steel	M8	14,38	8	4,4	13
07215-110	stainless steel	M10	18,9	10	5,5	17
07215-112	stainless steel	M12	21,1	12	6,6	19
07215-114	stainless steel	M14	23,9	14	7,7	22
07215-116	stainless steel	M16	26,76	16	8,8	24
07215-120	stainless steel	M20	32,95	20	11	30
07215-124	stainless steel	M24	39,55	24	13,2	36

Hexagon nut

with serrated flange


Material:

Steel.

Version:

Bright or electro zinc-plated.

Surface hardened min. 550 HV.

Sample order:

nln 07216-405

Note:

The serrations bite into the contact face resulting in a positive locking connection that prevents self-loosening. Can be re-used several times.

Order No.	Grade	Surface finish body	D	D1	H	SW	N (number)
07216-405	10	bright	M5	11,2	4,3	8	28
07216-406	10	bright	M6	14,2	5,5	10	36
07216-408	10	bright	M8	18,2	7	13	48
07216-410	10	bright	M10	21	8,5	15	48
07216-412	10	bright	M12	24	10	17	60
07216-416	10	bright	M16	31	14	22	72
07216-305	10	galvanised	M5	11,2	4,3	8	28
07216-306	10	galvanised	M6	14,2	5,5	10	36
07216-308	10	galvanised	M8	18,2	7	13	48
07216-310	10	galvanised	M10	21	8,5	15	48
07216-312	10	galvanised	M12	24	10	17	60
07216-316	10	galvanised	M16	31	14	22	72

Hexagon nuts with flange

EN 1661


Material:

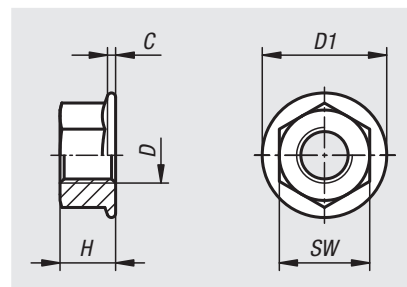
Steel or stainless steel (A 2)

Version:

Steel grade 8, electro zinc-plated.
Bright stainless steel.

Sample order:

nln 07217-204



Order No. steel	Order No. stainless steel	D	D1	C	H	SW
07217-204	07217-104	M4	10	0,9	4,65	7
07217-205	07217-105	M5	11,8	1	5	8
07217-206	07217-106	M6	14,2	1,1	6	10
07217-208	07217-108	M8	17,9	1,2	8	13
07217-210	07217-110	M10	21,8	1,5	10	15
07217-212	07217-112	M12	26	1,8	12	18
07217-216	-	M16	34,5	2,4	16	24
07217-220	-	M20	42,8	3	20	30

Hexagon nuts with flange

**Material:**

Steel.

Version:

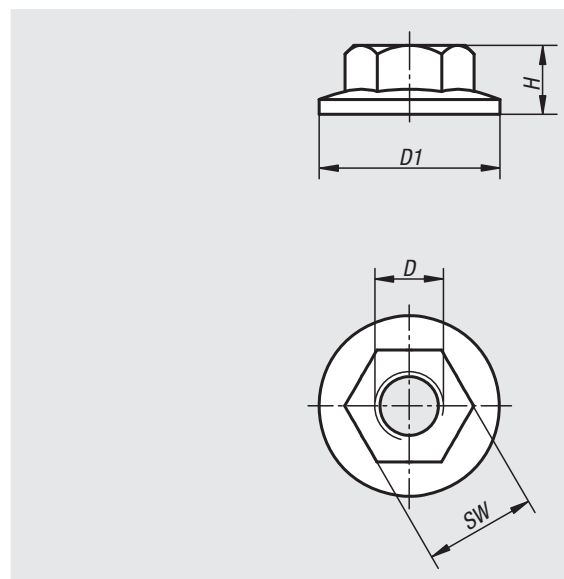
Electro zinc-plated.

Sample order:

nlm 07218-08

Note:

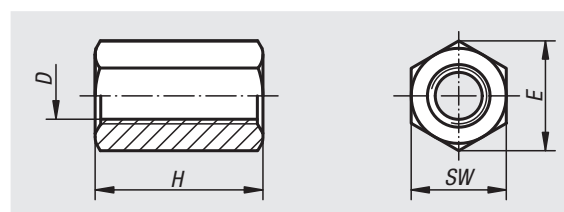
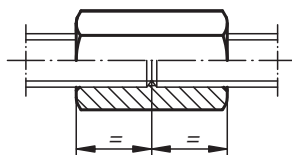
Nut with a large collar. Ideal together with a hammer-head screw.



Order No.	Type	Slot width	D	D1	H	SW
07218-08	B	10	M8	21	8	13

Extension nuts

height 3xD

**Material:**

Carbon steel.

Version:

Steel grade 10, black oxidised.

Sample order:

nlm 07220-16

Note:

For functional and safety reasons screws should be screwed into a maximum of half the nut height from both sides. Minimum thread depth 1x diameter.

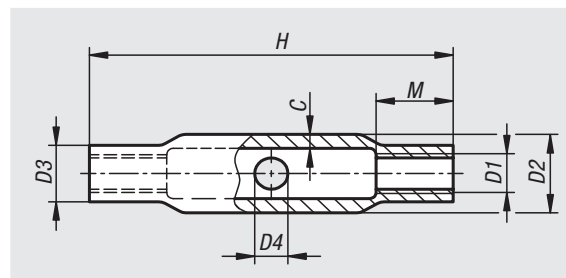
On request:

DIN ISO 272 spanner sizes.

Order No.	D	H = 3 x D	SW	E
07220-06	M6	18	10	11,5
07220-08	M8	24	13	15
07220-10	M10	30	17	19,6
07220-12	M12	36	19	21,9
07220-14	M14	42	22	25,4
07220-16	M16	48	24	27,7
07220-18	M18	54	27	31,2
07220-20	M20	60	30	34,6
07220-22	M22	66	32	36,9
07220-24	M24	72	36	41,6
07220-27	M27	81	41	47,3
07220-30	M30	90	46	53,1
07220-36	M36	108	55	63,5

Turnbuckle nuts

steel tube, closed form DIN 1478


Material:

Steel.

Version:

Electro zinc-plated.

Sample order:

nIm 07221-06

Note:

These steel tube turnbuckle nuts are closed form and have a RH thread one end and LH thread other end.

The turnbuckle nuts conform with the German BRL (A) and bear the Ü symbol (ÜZ – Certificate of conformity from a recognised certification authority).

The core Ø of the female thread may be slightly larger than standard, this does not effect the function.

Order No.	C	D1	D2	D3	D4	H	M	Load capacity N
07221-08	3,6	M8	17,2	12	8	110	10	10000
07221-10	4	M10	21,3	15	8	125	12	16000
07221-12	4	M12	25	18	10	125	15	24000
07221-16	4,5	M16	30	22,5	10	170	20	44000
07221-20	5	M20	33,7	27	12	200	24	69000
07221-24	5,6	M24	42,4	32	12	255	29	100000
07221-30	6,3	M30	51	38	16	255	36	158000

Turnbuckle nuts

hexagonal DIN 1479


Material:

Steel.

Version:

Electro zinc-plated.

Sample order:

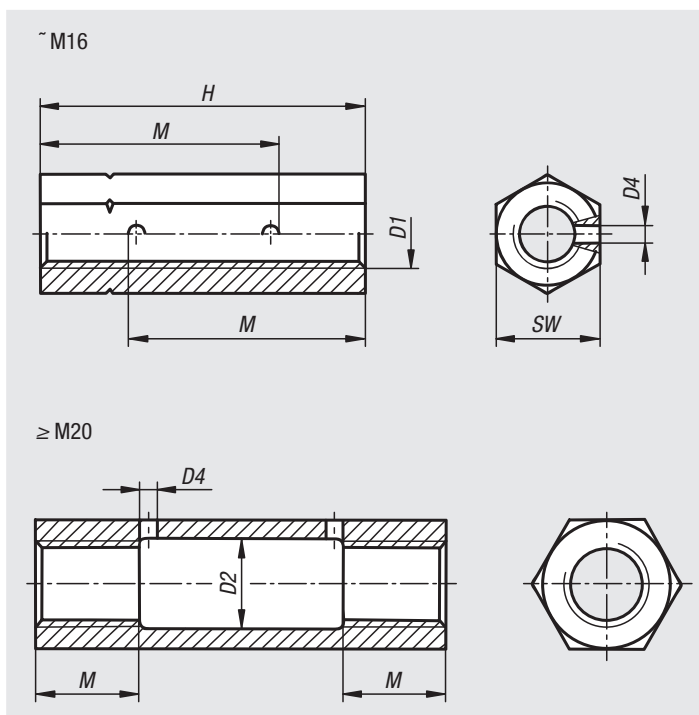
nIm 07222-06

Note:

Turnbuckle nuts with hexagon. RH thread one end LH thread other end.

The turnbuckle nuts correspond to the specifications of the German Construction Products List (BRL) A and bear the Ü symbol (ÜZ – Certificate of compliance awarded by a recognised certification provider).

The core Ø of the female thread may be slightly larger, this does not affect the function.



Order No.	D1	D2	D4	H	M	SW	Load capacity N
07222-06	M6	-	4	30	22,5	10	3900
07222-08	M8	-	4	35	25	13	7200
07222-10	M10	-	4	45	33	17	11400
07222-12	M12	-	4	55	40	19	16500
07222-16	M16	-	4	75	55	24	30700
07222-20	M20	21	4	95	24	30	48000
07222-24	M24	26	4	115	29	36	69000
07222-30	M30	32	4	125	36	46	110000

Hexagon nuts with collar

height 1.5xD, DIN 6331 enhanced



Material:

High-carbon steel, stainless steel 1.4301 or 1.4401.

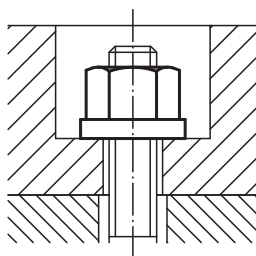
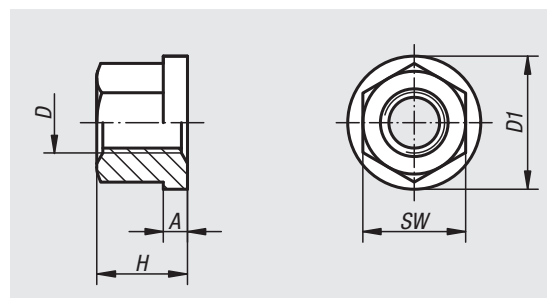
Version:

Steel grade 10, black.

Stainless steel bright.

Sample order:

nlm 07240-16



Order No. high carbon steel -	Order No. stainless steel 1.4301	Order No. stainless steel 1.4401	D	H = 1,5 x D	A	D1	SW
07240-05	-	-	M5	7,5	2	12	9
07240-06	07240-806	-	M6	9	3	14	10
07240-08	07240-808	07240-908	M8	12	3,5	18	13
07240-10	07240-810	-	M10	15	4	22	16
07240-101	07240-811	07240-910	M10	15	4	22	17
07240-12	07240-812	-	M12	18	4	25	18
07240-121	07240-8121	07240-912	M12	18	4	25	19
07240-14	-	-	M14	21	4,5	28	22
07240-16	07240-816	07240-916	M16	24	5	31	24
07240-18	-	-	M18	27	5	34	27
07240-20	07240-820	07240-920	M20	30	6	37	30
07240-22	-	-	M22	33	6	40	34
07240-24	-	-	M24	36	6	45	36
07240-30	-	-	M30	45	8	58	46
07240-36	-	-	M36	54	10	68	55

Hexagon nuts

with no-loss washer



Material:

Hex nut and washer carbon steel.
Retaining ring PA 6 black.

Version:

Hexagonal nut and washer tempered, black oxidised.
Hexagonal nut grade 10.

Sample order:

nlm 07242-12

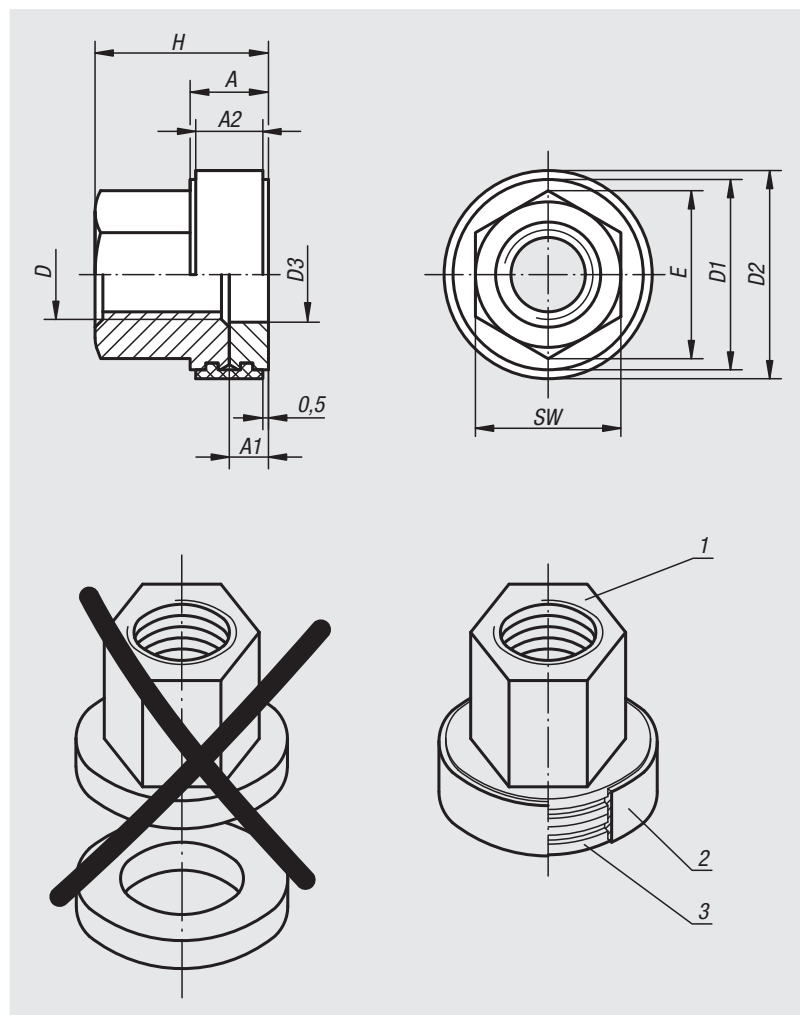
Advantages:

We bring together what belongs together. A nut and washer in a single unit.

- A compact unit.
- The washer is permanently attached to the hexagonal nut by a retaining ring.
- Components such as expensive special claw clamps, clamping disks, flanges etc. are protected by the hex nut with washer. The reduced wear leads to cost advantages.
- Other cost advantages in procurement - a single ordering process where previously two were required.

Drawing reference:

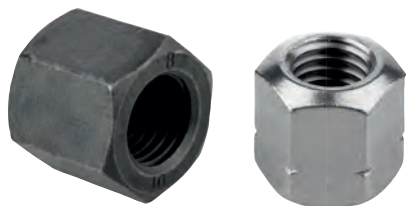
- 1) hexagonal nut
- 2) retaining ring
- 3) washer



Order No.	D	A	A1	A2	D1	D2	D3	E	H	SW
07242-08	M8	7	3,5	6	17	18,6	8,5	15	15,5	13
07242-10	M10	8	4	7	21	22,7	10,5	18,5	19	16
07242-12	M12	8	4	7	24	25,7	12,5	20,8	22	18
07242-16	M16	10	5	9	30	32	16,5	27,7	29	24
07242-20	M20	12	6	11	36	38	20,5	34,6	36	30
07242-24	M24	12	6	11	44	46	24,5	41,6	42	36

Hexagon nuts

height 1.5xD, DIN 6330 enhanced



Material:

Carbon steel or stainless steel (A2).

Version:

Steel grade 10, black.

Stainless steel A 2-70, bright.

Sample order:

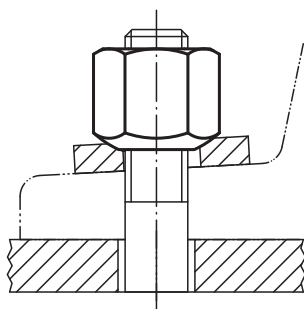
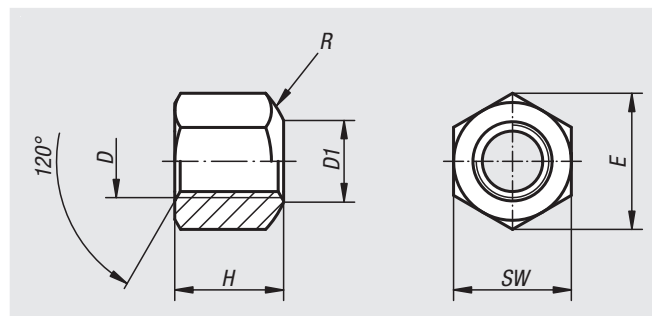
nlm 07260-12

Note:

These nuts can be used with spherical washers 07420 Form D and G.

Features:

Form B: with spherical face one end



Order No.	Main material	D	H = 1,5 x D	D1	SW	E	R
07260-05	high carbon steel	M5	7,5	6,5	9	10,4	7
07260-06	high carbon steel	M6	9	7	10	11,5	9
07260-08	high carbon steel	M8	12	9	13	15	11
07260-10	high carbon steel	M10	15	11,5	16	18,4	15
07260-101	high carbon steel	M10	15	11,5	17	19,6	15
07260-12	high carbon steel	M12	18	14	18	20,7	17
07260-121	high carbon steel	M12	18	14	19	21,9	17
07260-14	high carbon steel	M14	21	16	22	25,4	20
07260-16	high carbon steel	M16	24	18	24	27,7	22
07260-18	high carbon steel	M18	27	20	27	31,2	24,5
07260-20	high carbon steel	M20	30	22	30	34,6	27
07260-22	high carbon steel	M22	33	24	32	36,9	29
07260-24	high carbon steel	M24	36	26	36	41,6	32
07260-30	high carbon steel	M30	45	32	46	53,1	41
07260-36	high carbon steel	M36	54	38	55	63,5	50
07260-806	stainless steel	M6	9	7	10	11,5	9
07260-808	stainless steel	M8	12	9	13	15	11
07260-810	stainless steel	M10	15	11,5	16	18,4	15
07260-811	stainless steel	M10	15	11,5	17	19,6	15
07260-812	stainless steel	M12	18	14	18	20,7	17
07260-816	stainless steel	M16	24	18	24	27,7	22
07260-820	stainless steel	M20	30	22	30	34,6	27

Hexagon nuts

with spherical seat


Material:

Carbon steel or stainless steel.

Version:

Steel version:

tempered to 900 N/mm², black oxidised.

Stainless steel version:

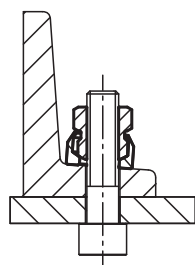
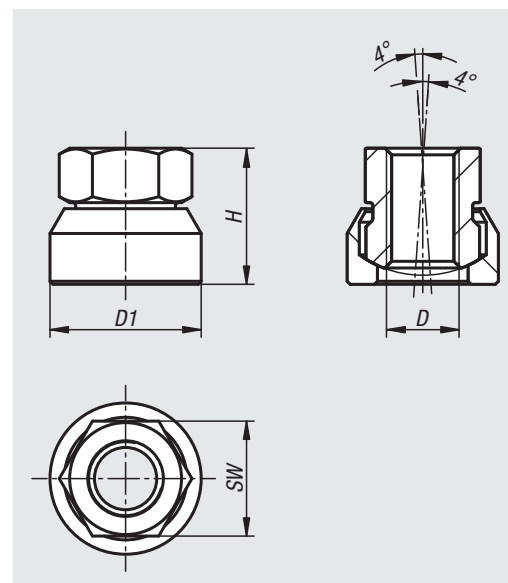
tempered to 900 N/mm², bright.

Sample order:

nln 07265-12

Note:

Captive components (one-piece).



Order No.	Main material	D	D1	H	SW
07265-08	steel	M8	18	15	13
07265-10	steel	M10	22	18,5	17
07265-12	steel	M12	25	22,5	19
07265-16	steel	M16	31	29	24
07265-808	stainless steel	M8	18	15	13
07265-810	stainless steel	M10	22	18,5	17
07265-812	stainless steel	M12	25	22,5	19
07265-816	stainless steel	M16	31	29	24

Hexagon domed cap nuts

similar to DIN 1587


Material:

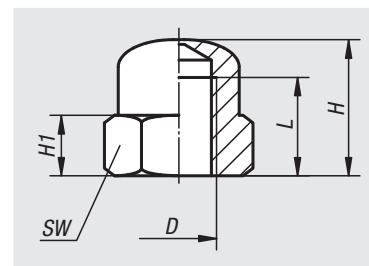
Steel.

Version:

Steel grade 8, black oxidised.

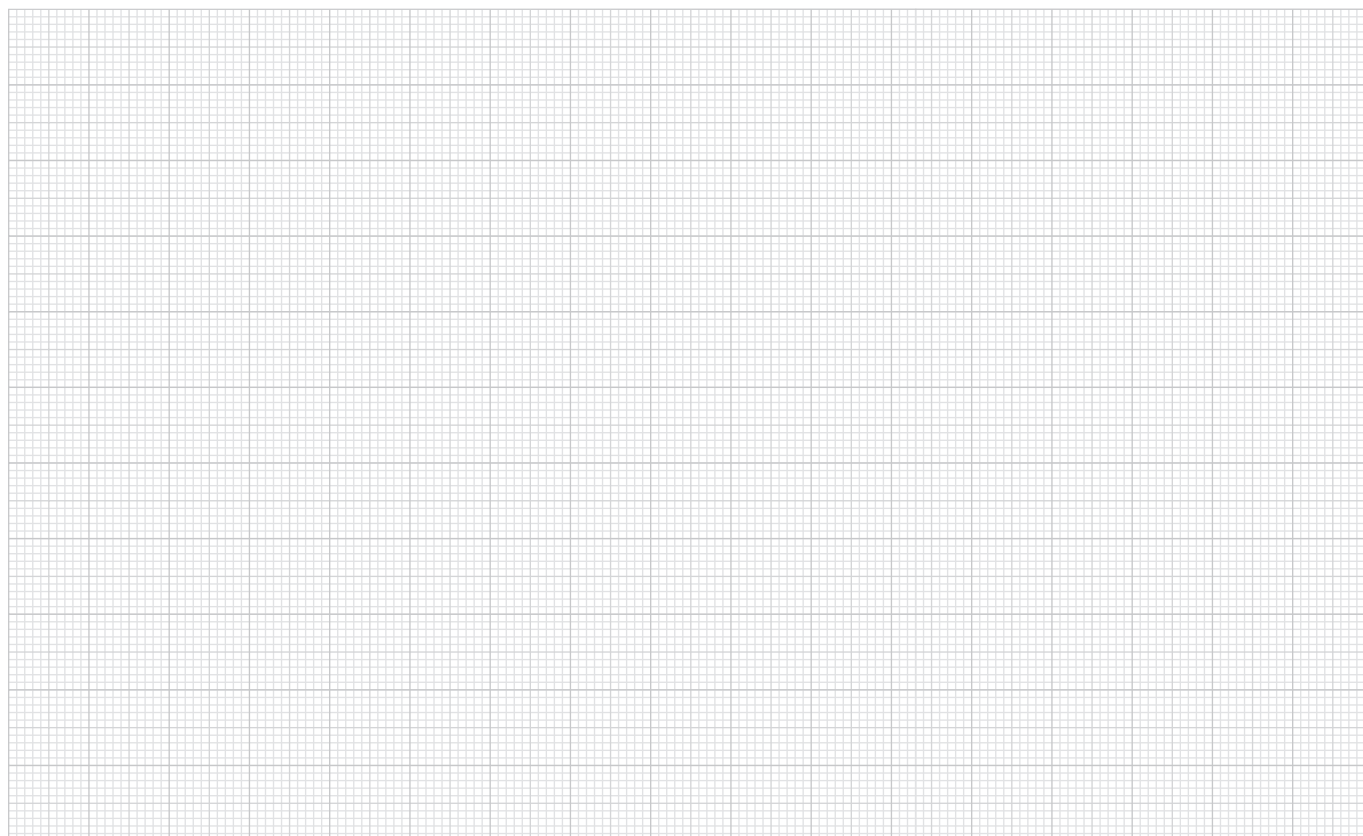
Sample order:

nlm 07280-10



Order No.	D	H	H1	L	SW
07280-05	M5	10	4	6,5	9
07280-06	M6	12	5	8	10
07280-08	M8	15	6,5	11	13
07280-10	M10	18	8	13	17
07280-12	M12	22	10	16	19
07280-14	M14	25	11	18	22
07280-16	M16	28	13	21	24
07280-20	M20	34	16	26	30

Notes



Cap nut compact

in Hygienic DESIGN


Material:

Stainless steel 1.4404.

Version:

Polished.

Sample order:

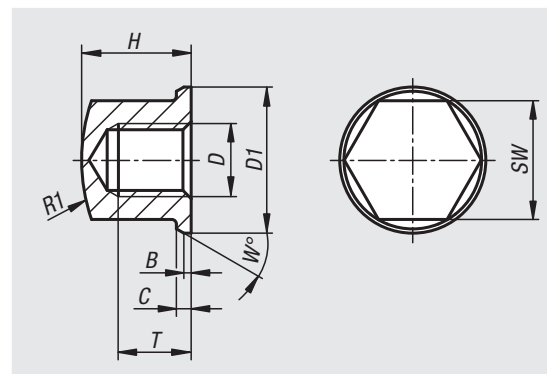
nIm 07280-04-08

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:

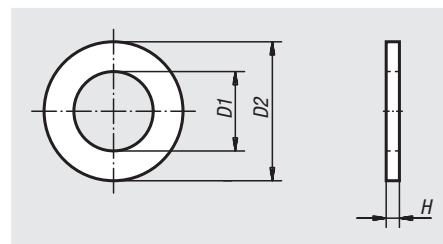
Inch threads, high versions.



Order No.	D	D1	B	C	H	R1	SW	T	W
07280-04-03	M3	6,8	0,25	0,5	4,95	8,8	5,5	3	20
07280-04-04	M4	9	0,3	0,8	6,5	10	7	4	30
07280-04-05	M5	10	0,5	1	7	16	8	4	30
07280-04-06	M6	12	0,8	1	9	16	10	6	30
07280-04-08	M8	16	0,8	1,6	12	20	13	8	30
07280-04-10	M10	20	1	2	14	32	16	10	30
07280-04-12	M12	24	1	2,5	16	35	19	11	30

Washers

medium DIN EN ISO 7089 A


Material:

Steel 140 HV or stainless steel (A 2-70)

Version:

Bright.

Sample order:

nlm 07300-10

Order No. steel	Order No. stainless steel	for screws	D1	D2	H
07300-03	07300-103	M3	3,2	7	0,5
07300-04	07300-104	M4	4,3	9	0,8
07300-05	07300-105	M5	5,3	10	1
07300-06	07300-106	M6	6,4	12	1,6
07300-08	07300-108	M8	8,4	16	1,6
07300-10	07300-110	M10	10,5	20	2
07300-12	07300-112	M12	13	24	2,5
07300-14	07300-114	M14	15	28	2,5
07300-16	07300-116	M16	17	30	3
07300-20	07300-120	M20	21	37	3
07300-24	07300-124	M24	25	44	4
07300-30	07300-130	M30	31	56	4
07300-36	07300-136	M36	37	66	5

Conical spring washers

DIN 6796

**Material:**

Spring steel

Version:

Hardened, bright, oiled or mechanically galvanised.

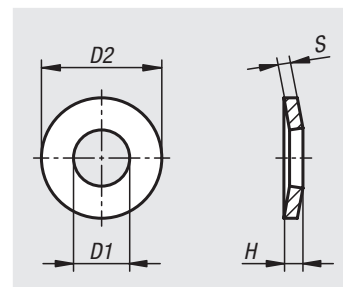
Sample order:

nlm 07303-03

Note:

The special shape (formed like a disc spring) enables the conical spring washer to achieve a high spring effect. The spring force resulting from the flattening load washer amounts to 70–90% of the corresponding contact pressure of a screw of grade 8.8–10.9.

Conical spring washers are used to compensate for subsidence formation in screw connections and to prevent a loosening or unfastening of the connection. The locking effect is purely frictional.



Order No. hardened, bright and oiled	Order No. passivated	for screws	D1	D2	H	S
07303-04	07303-104	M4	4,3	9	1,3	1
07303-05	07303-105	M5	5,3	11	1,55	1,2
07303-06	07303-106	M6	6,4	14	2	1,5
07303-08	07303-108	M8	8,4	18	2,6	2
07303-10	07303-110	M10	10,5	23	3,2	2,5
07303-12	07303-112	M12	13	29	3,95	3
07303-14	07303-114	M14	15	35	4,65	3,5
07303-16	07303-116	M16	17	39	5,25	4
07303-18	07303-118	M18	19	42	5,8	4,5
07303-20	07303-120	M20	21	45	6,4	5
07303-22	07303-122	M22	23	49	7,05	5,5
07303-24	07303-124	M24	25	56	7,75	6
07303-30	07303-130	M30	31	70	9,2	7

Spring washers

DIN 137 B

**Material:**

Spring steel

Version:

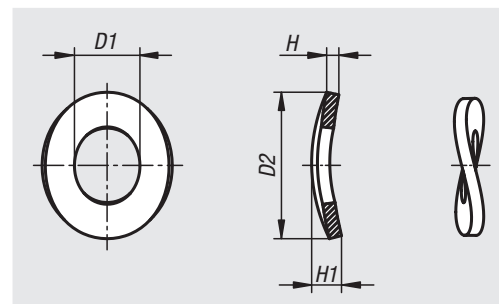
Bright or mechanically galvanised.

Sample order:

nlm 07304-03

Note:

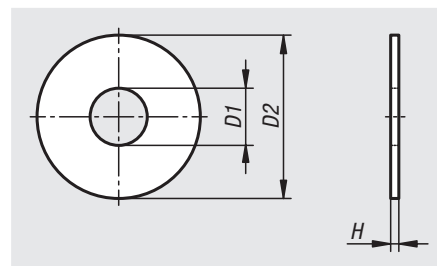
Spring washers Form B = corrugated.



Order No. bright	Order No. galvanised	for screws	D1	D2	H	H1
07304-03	07304-103	M3	3,2	8	0,5	1,6
07304-04	07304-104	M4	4,3	9	0,5	2
07304-05	07304-105	M5	5,3	11	0,5	2,2
07304-06	07304-106	M6	6,4	12	0,5	2,6
07304-08	07304-108	M8	8,4	15	0,8	3
07304-10	07304-110	M10	10,5	18	1	4,2
07304-12	07304-112	M12	13	24	1,2	5
07304-14	07304-114	M14	15	28	1,6	6
07304-16	07304-116	M16	17	30	1,6	6,4
07304-18	07304-118	M18	19	34	1,6	6,6
07304-20	07304-120	M20	21	36	1,6	7,4
07304-22	07304-122	M22	23	40	1,8	7,8
07304-24	07304-124	M24	25	44	1,8	8,2
07304-27	07304-127	M27	28	50	2	9,4
07304-30	07304-130	M30	31	56	2,2	10

Washers large OD

DIN 9021

**Material:**

Steel or stainless steel (A 2)

Version:

Electro zinc-plated steel.

Hardness

D1 ≤ 14 = 140 HV.

D1 > 17 = 100 HV.

Stainless steel, bright.

Sample order:

nlm 07305-03

Note:The pulleys have an OD of $D2 = \sim 3 \times D1$.

Order No. steel	Order No. stainless steel	for screws	D1	D2	H
07305-03	07305-103	M3	3,2	9	0,8
07305-04	07305-104	M4	4,3	12	1
07305-05	07305-105	M5	5,3	15	1,2
07305-06	07305-106	M6	6,4	18	1,6
07305-08	07305-108	M8	8,4	24	2
07305-10	07305-110	M10	10,5	30	2,5
07305-12	07305-112	M12	13	37	3
07305-14	07305-114	M14	15	44	3
07305-16	07305-116	M16	17	50	3
07305-18	07305-118	M18	20	56	4
07305-20	07305-120	M20	22	60	4
07305-24	07305-124	M24	26	72	5
07305-30	-	M30	33	92	6

Washers plastic

captive


Material:

Polyamide.

Version:

white

Sample order:

nlm 07306-05

Note:

The washers are vibration dampers and protect the screw connection during e.g. pre-assembly.

The washers also protect the surface from damage.

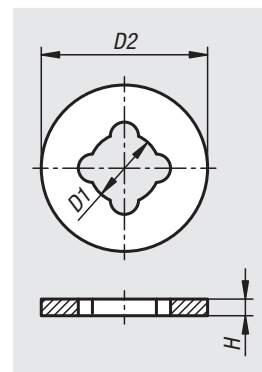
Only suitable for threads with undercut i.e. ring bolts

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.



Order No.	D1	D2	G	H
07306-05	4,3	10	M5	0,5
07306-06	5,1	12	M6	0,5
07306-08	6,2	14	M8	0,5
07306-10	8,4	20	M10	1
07306-12	9,8	20	M12	1
07306-16	13,5	28	M16	1

Wedge lock washers

DIN 25201


Material:

Steel or stainless steel.

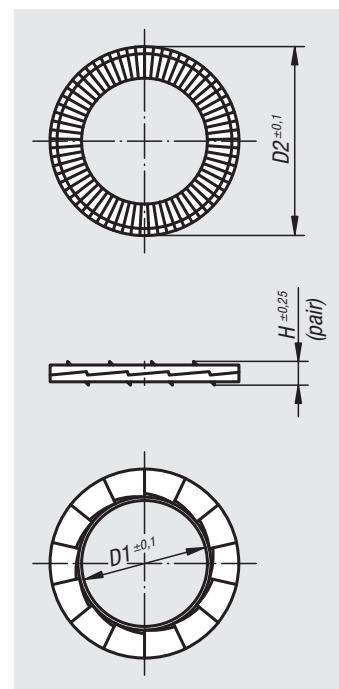
Version:
Steel electro zinc-plated, hardness ≥ 465 HV 1.Stainless steel hardness ≥ 520 HV 0.05.
Sample order:

nlm 07310-0817261

Note:

These lock washers ensure that bolts and screws subjected to transverse loads, chattering or vibrations do not work loose. A joint is also secure at low levels of tension. If the bolt (nut) tends to loosen independently in bolted joints under dynamic stress, the bolt (nut) carries its positive-locking washer with it, the sloped surfaces of which run directly up against the angled surfaces of the counter-washer. In other words, the more a bolted joint tries to loosen itself, the more securely the wedge action of the washer blocks the attempt.

Supplied glued together in pairs.



Order No.	Main material	for screws	for screws inch	D1	D2	H
07310-030718	steel	M3	1/8	3,4	7	1,8
07310-050918	steel	M5	3/16	5,4	9	1,8
07310-061118	steel	M6	1/4	6,5	10,8	1,8
07310-081426	steel	M8	5/16	8,7	13,5	2,5
07310-101726	steel	M10	3/8	10,7	16,6	2,5
07310-122026	steel	M12	1/2	13	19,5	2,5
07310-162537	steel	M16	5/8	17	25,4	3,4
07310-182937	steel	M18	11/16	19,5	29	3,4
07310-203137	steel	M20	3/4	21,4	30,7	3,4
07310-030722	stainless steel	M3	1/8	3,4	7	2,2
07310-050922	stainless steel	M5	3/16	5,4	9	2,2
07310-061122	stainless steel	M6	1/4	6,5	10,8	2,2
07310-081422	stainless steel	M8	5/16	8,7	13,5	2,2
07310-101722	stainless steel	M10	3/8	10,7	16,6	2,2
07310-122022	stainless steel	M12	1/2	13	19,5	2,2
07310-162532	stainless steel	M16	5/8	17	25,4	3,2
07310-182932	stainless steel	M18	11/16	19,5	29	3,2
07310-203132	stainless steel	M20	3/4	21,4	30,7	3,2
07310-040918	steel	M4	5/32	4,4	9	1,8
07310-061426	steel	M6	1/4	6,5	13,5	2,5
07310-0817261	steel	M8	5/16	8,7	16,6	2,5
07310-1021261	steel	M10	3/8	10,7	21	2,5
07310-1225371	steel	M12	1/2	13	25,4	3,4
07310-1631371	steel	M16	5/8	17	30,7	3,4
07310-040922	stainless steel	M4	5/32	4,4	9	2,2
07310-061422	stainless steel	M6	1/4	6,5	13,5	2,2
07310-081722	stainless steel	M8	5/16	8,7	16,6	2,2
07310-122532	stainless steel	M12	1/2	13	25,4	3,2
07310-163132	stainless steel	M16	5/8	17	30,7	3,2

Mounting examples for DIN 25201 wedge lock washers



Tapped holes

Wedge lock washers secure the screw against the seating face.



Counterbores

The OD of the standard wedge lock washers is designed to fit into DIN 974 type counterbores. The washers fit under the head of standard screws.



Through holes

Two pairs of wedge lock washers are needed for drilled through holes – one pair secures the screw head and the other pair secures the nut.

To prevent additional settling, the nuts and bolts should be mounted so that the wedge faces of the lock washer pairs interlock completely.



Studs

The nut is secured without the need to glue the stud.



Elongated holes



Soft surfaces

Applications with elongated holes/soft surfaces

To optimise the surface pressure on elongated holes or soft materials e.g. aluminium, the use of wedge lock washers with a larger seating face in combination with a flange nut/screw is recommended.



Applications where the wedge lock washer principle does not work

- Non-fixed surfaces (see image on left)
- Surface hardness greater than washer hardness
- Very soft surfaces such as wood or plastic
- Applications with extremely high settling behaviour

Washers for clamps

steel or aluminium DIN 6340



Material:

Steel or EN AW-7022

Version:

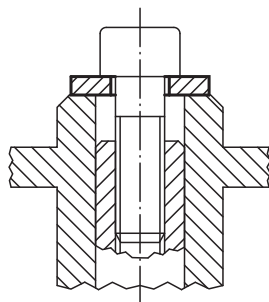
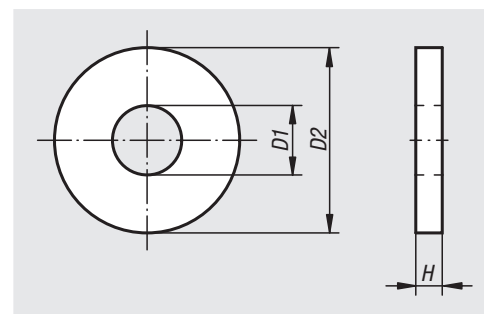
Stamped steel: pressed flat and tempered to 1200-1400 N/mm², black.

Turned steel: black oxidised.

Turned aluminium: anodised.

Sample order:

nln 07320-16



Order No. steel	Order No. Aluminium	Order No. steel turned	D1	D2	H	for screw
07320-06	07320-206	07320-306	6,4	17	3	M6
07320-08	07320-208	07320-308	8,4	23	4	M8
07320-10	07320-210	07320-310	10,5	28	4	M10
07320-12	07320-212	07320-312	13	35	5	M12
07320-14	07320-214	07320-314	15	40	5	M14
07320-16	07320-216	07320-316	17	45	6	M16
07320-18	07320-218	07320-318	19	45	6	M18
07320-20	07320-220	07320-320	21	50	6	M20
07320-22	07320-222	-	23	50	8	M22
07320-24	07320-224	-	25	60	8	M24
07320-30	07320-230	-	31	68	10	M30
07320-36	07320-236	-	38	80	10	M36

Circlips for shafts

DIN 471


Material:

Spring steel or 1.4122 stainless steel.

Version:

Phosphated spring steel.

Bright stainless steel.

Sample order:

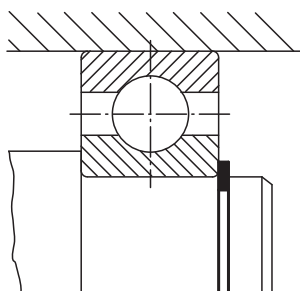
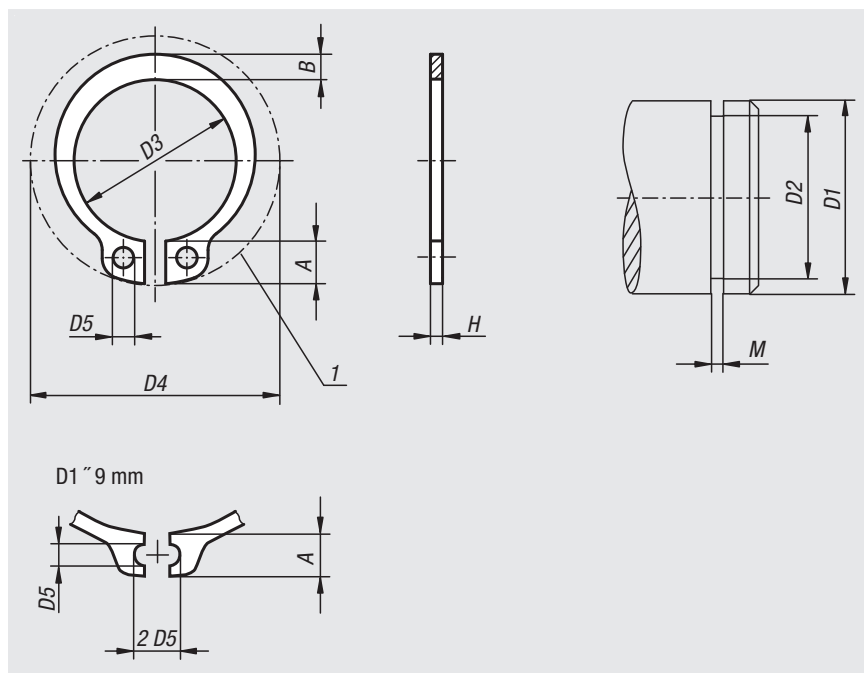
nlm 07330-050600

Note:

DIN 471 circlips are retaining rings mounted in a groove on a shaft OD. They withstand high axial forces between machine elements (e.g. bearings) and the groove in which the ring is mounted.

Drawing reference:

1) installation space



Circlips for shafts

DIN 471

Order No. steel	Order No. stainless steel	A	B	D1	D2	D3	D4	D5	H	M
07330-030400	-	1,9	0,8	3	2,8	2,7	7	1	0,4	0,5
07330-040400	07330-040401	2,2	0,9	4	3,8	3,7	8,6	1	0,4	0,5
07330-050600	07330-050601	2,5	1,1	5	4,8	4,7	10,3	1	0,6	0,7
07330-060700	07330-060701	2,7	1,3	6	5,7	5,6	11,7	1,2	0,7	0,8
07330-070800	07330-070801	3,1	1,4	7	6,7	6,5	13,5	1,2	0,8	0,9
07330-080800	07330-080801	3,2	1,5	8	7,6	7,4	14,7	1,2	0,8	0,9
07330-091000	07330-091001	3,3	1,7	9	8,6	8,4	16	1,2	1	1,1
07330-101000	07330-101001	3,3	1,8	10	9,6	9,3	17	1,5	1	1,1
07330-121000	07330-121001	3,3	1,8	12	11,5	11	19	1,7	1	1,1
07330-141000	07330-141001	3,5	2,1	14	13,4	12,9	21,4	1,7	1	1,1
07330-151000	07330-151001	3,6	2,2	15	14,3	13,8	22,6	1,7	1	1,1
07330-161000	07330-161001	3,7	2,2	16	15,2	14,7	23,8	1,7	1	1,1
07330-171000	07330-171001	3,8	2,3	17	16,2	15,7	25	1,7	1	1,1
07330-181200	07330-181201	3,9	2,4	18	17	16,5	26,2	2	1,2	1,3
07330-191200	07330-191201	3,9	2,5	19	18	17,5	27,2	2	1,2	1,3
07330-201200	07330-201201	4	2,6	20	19	18,5	28,4	2	1,2	1,3
07330-221200	07330-221201	4,2	2,8	22	21	20,5	30,8	2	1,2	1,3
07330-241200	07330-241201	4,4	3	24	22,9	22,2	33,2	2	1,2	1,3
07330-251200	07330-251201	4,4	3	25	23,9	23,2	34,2	2	1,2	1,3
07330-261200	07330-261201	4,5	3,1	26	24,9	24,2	35,5	2	1,2	1,3
07330-281500	07330-281501	4,7	3,2	28	26,6	25,9	37,9	2	1,5	1,6
07330-301500	07330-301501	5	3,5	30	28,6	27,9	40,5	2	1,5	1,6
07330-321500	07330-321501	5,2	3,6	32	30,3	29,6	43	2,5	1,5	1,6
07330-351500	07330-351501	5,6	3,9	35	33	32,2	46,8	2,5	1,5	1,6
07330-381750	07330-381751	5,8	4,2	38	36	35,2	50,2	2,5	1,75	1,85
07330-401750	07330-401751	6	4,4	40	37,5	36,5	52,6	2,5	1,75	1,85
07330-451750	07330-451751	6,7	4,7	45	42,5	41,5	59,1	2,5	1,75	1,85
07330-471750	-	6,8	4,9	47	44,5	43,5	-	2,5	1,75	1,85
07330-502000	07330-502001	6,9	5,1	50	47	45,8	64,5	2,5	2	2,15
07330-552000	07330-552001	7,2	5,4	55	52	50,8	70,2	2,5	2	2,15
07330-602000	07330-602001	7,4	5,8	60	57	55,8	75,6	2,5	2	2,15
07330-752500	07330-752501	8,4	7	75	72	70,5	92,7	3	2,5	2,65

Circlips for bores

DIN 472

**Material:**

Spring steel or 1.4122 stainless steel.

Version:Phosphated spring steel.
Bright stainless steel.**Sample order:**

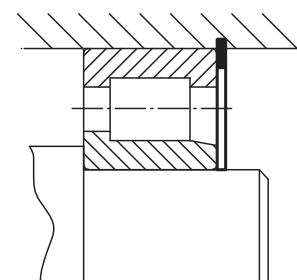
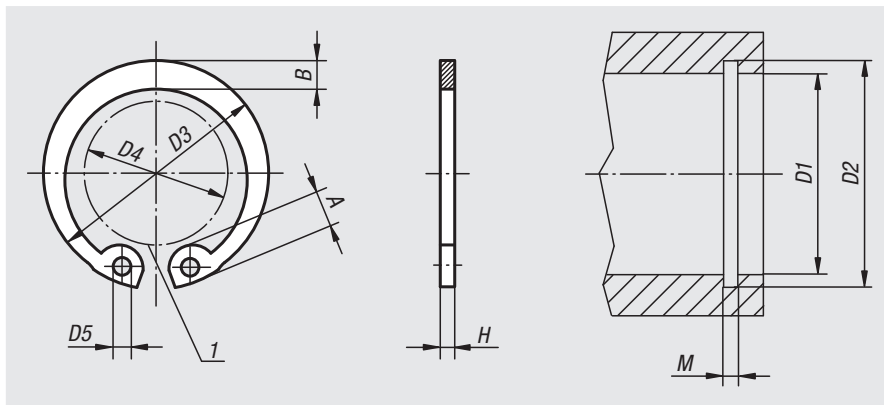
nlm 07331-080800

Note:

DIN 472 circlips are retaining rings which are mounted in a groove in a bore. They can withstand high axial forces between machine elements (e.g. bearings) and the groove in the ID in which the ring is mounted.

Drawing reference:

1) installation space



Order No. steel	Order No. stainless steel	A	B	D1	D2	D3	D4	D5	H	M
07331-080800	07331-080801	2,4	1,1	8	8,4	8,7	3	1	0,8	0,9
07331-091000	07331-091001	2,5	1,3	9	9,4	9,8	3,7	1	0,8	0,9
07331-101000	07331-101001	3,2	1,4	10	10,4	10,8	3,3	1,2	1	1,1
07331-121000	07331-121001	3,4	1,7	12	12,5	13	4,9	1,5	1	1,1
07331-141000	07331-141001	3,7	1,9	14	14,6	15,1	6,2	1,7	1	1,1
07331-151000	07331-151001	3,7	2	15	15,7	16,2	7,2	1,7	1	1,1
07331-161000	07331-161001	3,8	2	16	16,8	17,3	8	1,7	1	1,1
07331-171000	07331-171001	3,9	2,1	17	17,8	18,3	8,8	1,7	1	1,1
07331-181000	-	4,1	2,2	18	19	19,5	9,4	2	1	1,1
07331-191000	07331-191001	4,1	2,2	19	20	20,5	10,4	2	1	1,1
07331-201000	07331-201001	4,2	2,3	20	21	21,5	11,2	2	1	1,1
07331-221000	07331-221001	4,2	2,5	22	23	23,5	13,2	2	1	1,1
07331-241200	07331-241201	4,4	2,6	24	25,2	25,9	14,8	2	1,2	1,3
07331-251200	07331-251201	4,5	2,7	25	26,2	26,9	15,5	2	1,2	1,3
07331-261200	07331-261201	4,7	2,8	26	27,2	27,9	16,1	2	1,2	1,3
07331-281200	07331-281201	4,8	2,9	28	29,4	30,1	17,9	2	1,2	1,3
07331-301200	07331-301201	4,8	3	30	31,4	32,1	19,9	2	1,2	1,3
07331-321200	07331-321201	5,4	3,2	32	33,7	34,4	20,6	2,5	1,2	1,3
07331-351500	07331-351501	5,4	3,4	35	37	37,8	23,6	2,5	1,5	1,6
07331-381500	07331-381501	5,5	3,7	38	40	40,8	26,4	2,5	1,5	1,6
07331-401750	07331-401751	5,8	3,9	40	42,5	43,5	27,8	2,5	1,75	1,85
07331-451750	07331-451751	6,2	4,3	45	47,5	48,5	32	2,5	1,75	1,85
07331-471750	-	6,4	4,4	47	49,5	50,5	33,5	2,5	1,75	1,85
07331-502000	07331-502001	6,5	4,6	50	53	54,2	36,3	2,5	2	2,15
07331-552000	07331-552001	6,8	5	55	58	59,2	40,7	2,5	2	2,15
07331-602000	07331-602001	7,3	5,4	60	63	64,2	44,7	2,5	2	2,15
07331-752500	07331-752501	7,8	6,6	75	78	79,5	58,6	3	2,5	2,65

Circlips E-type

DIN 6799

**Material:**

Spring steel or 1.4122 stainless steel.

Version:

Spring steel electro zinc-plated.

Stainless steel bright.

Sample order:

nlm 07332-0230

Note:

E-type circlips are pushed into a groove on a shaft.

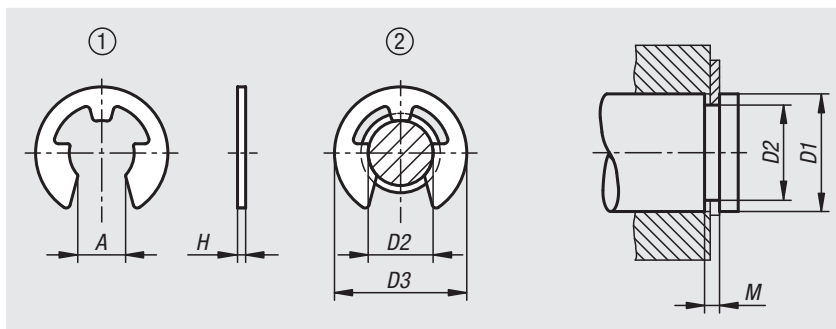
They are DIN 6799 standard elements and are designed for use on small shafts.

Nominal size = groove ID D2

Drawing reference:

1) loose

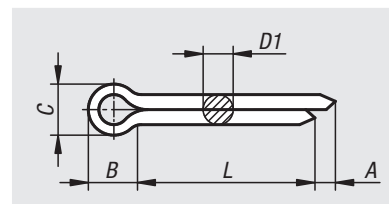
2) on shaft



Order No. stainless steel	Order No. steel	A	D1	D2	D3	H	M
07332-0151	-	1,28	2-2,5	1,5	4,25	0,4	0,44
07332-0191	-	1,61	2,5-3	1,9	4,8	0,5	0,54
07332-0231	07332-0230	1,94	3-4	2,3	6,3	0,6	0,64
07332-0321	07332-0320	2,7	4-5	3,2	7,3	0,6	0,64
07332-0401	07332-0400	3,34	5-7	4	9,3	0,7	0,74
07332-0501	07332-0500	4,11	6-8	5	11,3	0,7	0,74
07332-0601	07332-0600	5,26	7-9	6	12,3	0,7	0,74
07332-0701	07332-0700	5,84	8-11	7	14,3	0,9	0,94
07332-0801	07332-0800	6,52	9-12	8	16,3	1	1,05
07332-0901	07332-0900	7,63	10-14	9	18,8	1,1	1,15
07332-1001	07332-1000	8,32	11-15	10	20,4	1,2	1,25
07332-1201	07332-1200	10,45	13-18	12	23,4	1,3	1,35

Split pins

EN ISO 1234



Material:

Steel or stainless steel 1.4310.

Version:

Steel electro zinc-plated.

Stainless steel bright.

Sample order:

nIm 07336-1010X10 (include length L)

Note:

Split pins are used in machine construction and automotive engineering as retaining elements. They are often used for securing castle nuts. After the split pin is pushed through a hole, the ends are bent over to ensure a secure lock.

The split pin can be shortened. As a rule, the split pin should be roughly double the length of the hole.

As the material structure can weaken through bending and straightening, the split pins should not be reused after they have been removed from the hole.

Order No.	Main material	Hole diameters	D1 max.	L	A min.	B	C max.	for screws	for screw Ø
07336-1010X	steel	1	0,9	10/12/16/20/25	0,8	3	1,8	3,5-4,5	3-4
07336-1016X	steel	1,6	1,4	12/16/20/25/32	1,25	3,2	2,8	5,5-7	5-6
07336-1020X	steel	2	1,8	10/16/20/25/32/36/40/50	1,25	4	3,6	7-9	6-8
07336-1025X	steel	2,5	2,3	20/25/32/36/40/50	1,25	5	4,6	9-11	8-9
07336-1032X	steel	3,2	2,9	16/20/25/32/36/40/50/63	1,6	6,4	5,8	11-14	9-12
07336-1040X	steel	4	3,7	20/25/32/36/40/50/63/80	2	8	7,4	14-20	12-17
07336-1050X	steel	5	4,6	25/32/36/40/50/63/80	2	10	9,2	20-27	17-23
07336-1063X	steel	6,3	5,9	32/36/40/50/63/80/100	2	12,6	11,8	27-39	23-29
07336-1080X	steel	8	7,5	50/63/80/100	2	16	15	39-56	29-44
07336-2010X	stainless steel	1	0,9	16/20	0,8	3	1,8	3,5-4,5	3-4
07336-2016X	stainless steel	1,6	1,4	12/16/20/25/32	1,25	3,2	2,8	5,5-7	5-6
07336-2020X	stainless steel	2	1,8	10/16/20/25/32/40	1,25	4	3,6	7-9	6-8
07336-2025X	stainless steel	2,5	2,3	20/25/32	1,25	5	4,6	9-11	8-9
07336-2032X	stainless steel	3,2	2,9	16/20/25/32/36/40/50/63	1,6	6,4	5,8	11-14	9-12
07336-2040X	stainless steel	4	3,7	20/25/32/40/50/63	2	8	7,4	14-20	12-17
07336-2050X	stainless steel	5	4,6	32/36/40/50/63	2	10	9,2	20-27	17-23
07336-2063X	stainless steel	6,3	5,9	36/40/50/63/80	2	12,6	11,8	27-39	23-29
07336-2080X	stainless steel	8	7,5	50/80/100	2	16	15	39-56	29-44

R-clips

similar to DIN 11024



Material:

Steel or stainless steel 1.4310.

Version:

Steel electro zinc-plated.

Stainless steel bright.

Sample order:

nlm 07337-11200

Note:

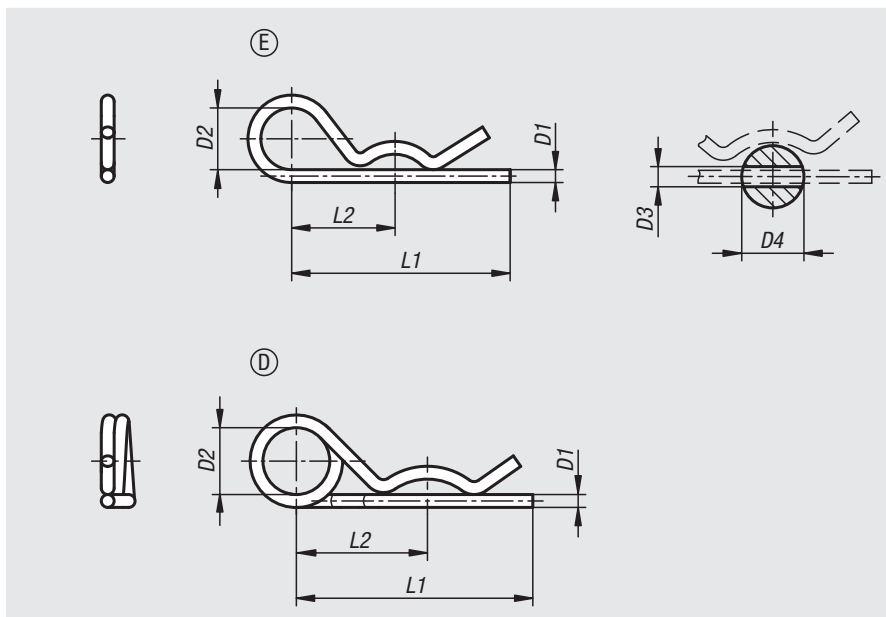
R-clips are used for securing bolts and axles. They are easy to install and can be reused. The ends have no sharp edges.

Double coil R-clips have a flatter spring characteristics and are easier to install. The double coil allows a tether cable to be attached to prevent loss.

Drawing reference:

Form E: with single coil.

Form D: with double coil (coil direction can differ from the drawing).



Order No.	Form	Main material	D1	D2	D3	D4=for screw Ø	L1	L2
07337-11200	E	steel	2	10	2,5	9-14	50	25
07337-11300	E	steel	3	18	3,5	10-16	60	28
07337-11400	E	steel	4	20	4,5	16-20	60	30
07337-11500	E	steel	5	24	6	20-28	85	40
07337-11600	E	steel	6	30	7	28-40	105	50
07337-11700	E	steel	7	30	8	28-45	105	50
07337-21200	E	stainless steel	2	10	2,5	7-8	40	25
07337-21250	E	stainless steel	2,5	11	3	10-16	46	24
07337-21300	E	stainless steel	3	16	3,5	16-18	60	34
07337-21400	E	stainless steel	4	19	4,5	18-20	64	36
07337-21500	E	stainless steel	5	26	6	20-28	82	45
07337-21600	E	stainless steel	6	30	7	28-40	110	60

Order No.	Form	Main material	D1	D2	D3	D4=for screw Ø	L1	L2
07337-12225	D	steel	2,25	20	2,5	9-11,2	42	24
07337-12280	D	steel	2,8	20	3,2	11,2-14	48	26
07337-12360	D	steel	3,6	20	4	14-20	64	32
07337-12450	D	steel	4,5	25	5	20-26	80	39
07337-12560	D	steel	5,6	25	6,3	26-34	97	45
07337-12630	D	steel	6,3	30	7	34-45	125	56
07337-12700	D	steel	7	30	8	45-56	150	63
07337-22225	D	stainless steel	2,25	20	2,5	7-9	42	24
07337-22280	D	stainless steel	2,8	20	3,2	11-14	48	26
07337-22360	D	stainless steel	3,6	20	4	14-20	64	32
07337-22450	D	stainless steel	4,5	25	5	20-26	80	39
07337-22560	D	stainless steel	5,6	25	6,3	26-34	97	45

Disc springs

DIN EN 16983

**Material:**

Spring steel

Version:

Phosphated and oiled.

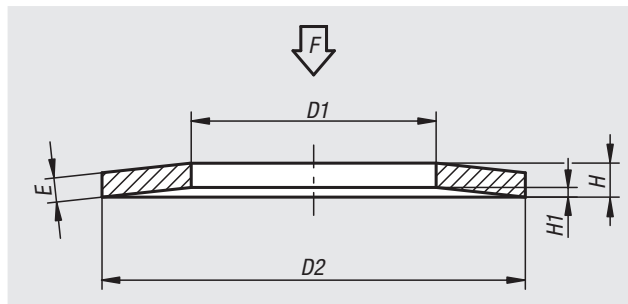
Sample order:

nlm 07360-080

Note:

If several disc springs are assembled to form a spring packet i.e. concave face to convex face, the spring force of a single disc can be multiplied by the number of discs giving high spring force with short spring travel.

If several disc springs are assembled to form a spring column i.e. concave face to concave face and convex face to convex face, the spring force of the entire column is the same as that of a single disc giving low spring force with long spring travel.



$$F = 0.25 \times H$$

Order No.	D1	D2	E	H	H1	F N
07360-030	3,2	8	0,4	0,6	0,2	69,2
07360-050	5,2	10	0,4	0,7	0,3	87,8
07360-051	5,2	15	0,7	1,25	0,55	340,2
07360-060	6,2	12,5	0,5	0,85	0,35	120
07360-061	6,2	12	0,5	0,85	0,35	133,5
07360-070	7,2	14	0,8	1,1	0,3	283,8
07360-080	8,2	16	0,9	1,25	0,35	362,5
07360-081	8,2	16	0,6	1,05	0,45	172
07360-090	9,2	18	1	1,4	0,4	450,6
07360-100	10,2	20	1,1	1,55	0,45	548,2
07360-101	10,2	20	0,9	1,45	0,55	411,7
07360-102	10,2	20	0,8	1,35	0,55	304,3
07360-120	12,2	25	1,5	2,05	0,55	1040
07360-121	12,2	23	1,25	1,85	0,6	863,4
07360-123	12,2	23	1	1,6	0,6	474,7
07360-140	14,2	28	1,5	2,15	0,65	1033
07360-141	14,2	28	1	1,8	0,8	490
07360-160	16,3	31,5	1,75	2,45	0,7	1391
07360-161	16,3	31,5	1,25	2,15	0,9	790,5
07360-180	18,3	35,5	2	2,8	0,8	1864
07360-182	18,3	35,5	1,25	2,25	1	730,9
07360-200	20,4	40	2,25	3,15	0,9	2336
07360-220	22,4	45	2,5	3,5	1	2773
07360-250	25,4	50	3	4,1	1,1	4255
07360-251	25,4	50	2,5	3,9	1,4	3473
07360-280	28,5	56	2	3,6	1,6	1910
07360-310	31	63	2,5	4,25	1,75	2942
07360-360	40,5	70	4	5,7	1,7	9025

Handwheel washers


Material:

Steel 1.0718.

Stainless steel 1.4305.

Version:

Steel black oxidised.

Stainless steel bright.

Sample order:

nlm 07375-00416

Note:

These washers are used together with DIN EN ISO 2009 or DIN EN ISO 10642 countersunk screws on the end of shafts with keyways to secure handwheels and crank handles.

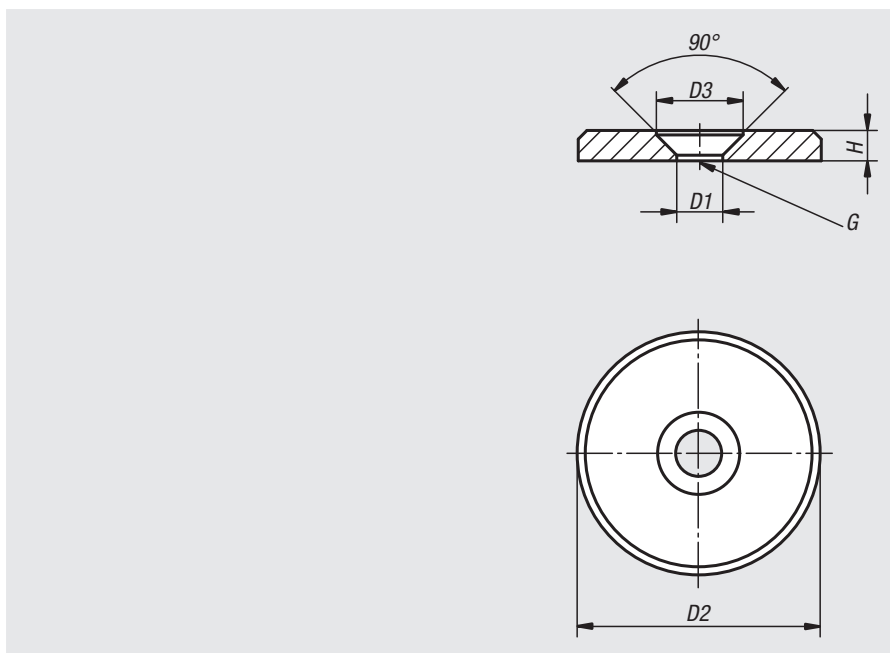
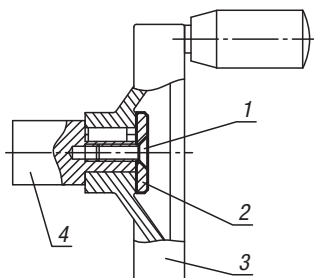
The washers can be used with the handwheels 06262, 06263, 06264, 06265, 06271, 06273, 06275, 06277, 06279, 06287, 06288 and crank handles 06500, 06502.

The steel washers can be used as counterparts to magnets.

Drawing reference:

D3 = for countersunk screw ISO 2009 and ISO 10642

- 1) countersunk screw ISO 2009 and ISO 10642
- 2) washer
- 3) handwheel
- 4) shaft



Order No.	Main material	D1	D2	D3	H	G
07375-00310	steel	3,2	10	6	2	M3
07375-00313	steel	3,2	13	6	2	M3
07375-00416	steel	4,3	16	8,4	3	M4
07375-00420	steel	4,3	20	8,4	3	M4
07375-00522	steel	5,3	22	10	3,5	M5
07375-00525	steel	5,3	25	10	3,5	M5
07375-00528	steel	5,3	28	10	3,5	M5
07375-00632	steel	6,4	32	12	4	M6
07375-00636	steel	6,4	36	12	4	M6
07375-00640	steel	6,4	40	12	5	M6
07375-00645	steel	6,4	45	12	6	M6
07375-00652	steel	6,4	52	12	6	M6
07375-10310	stainless steel	3,2	10	6	2	M3
07375-10313	stainless steel	3,2	13	6	2	M3
07375-10416	stainless steel	4,3	16	8,4	3	M4
07375-10420	stainless steel	4,3	20	8,4	3	M4
07375-10522	stainless steel	5,3	22	10	3,5	M5
07375-10525	stainless steel	5,3	25	10	3,5	M5
07375-10528	stainless steel	5,3	28	10	3,5	M5
07375-10632	stainless steel	6,4	32	12	4	M6
07375-10636	stainless steel	6,4	36	12	4	M6
07375-10640	stainless steel	6,4	40	12	5	M6
07375-10645	stainless steel	6,4	45	12	6	M6
07375-10652	stainless steel	6,4	52	12	6	M6

C-washers

DIN 6372 enhanced



Material:

Carbon steel.

Version:

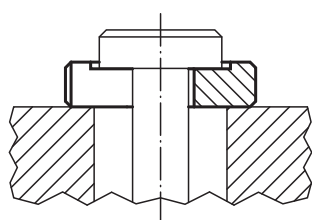
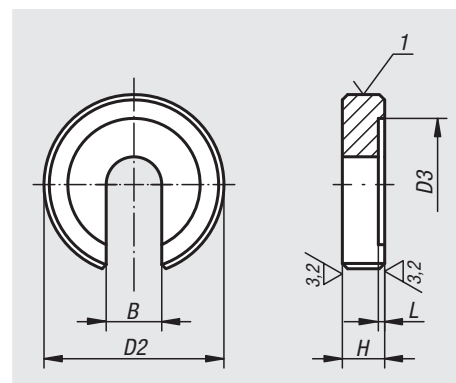
Tempered and black oxidised.

Sample order:

nIm 07380-12

Drawing reference:

1) cross knurl



Order No.	B	D2	D3	H	L
07380-05	5,25	17	12	5	0,75
07380-06	6,4	22	16	6	0,8
07380-08	8,4	28	21	7	1
07380-10	10,5	34	25	8	1,2
07380-12	13	40	30	9	1,8
07380-14	14,5	48	33	12	1,8
07380-16	17	56	37	12	1,8
07380-20	21	64	45	14	2
07380-24	25	75	52	16	2
07380-30	31	90	65	18	2
07380-36	37	100	75	20	2,5

Clamping force intensifiers


Material:

Bearing housing steel.

Version:

Black oxidised.

Sample order:

nIm 07415-06

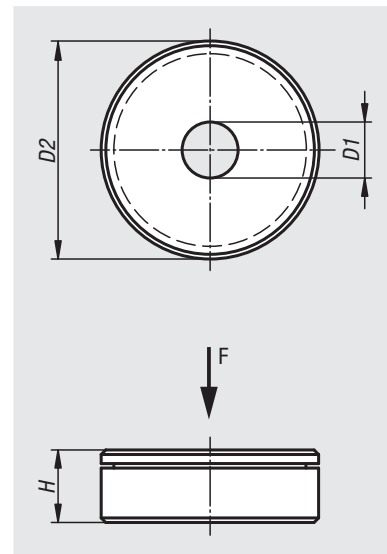
Note:

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.

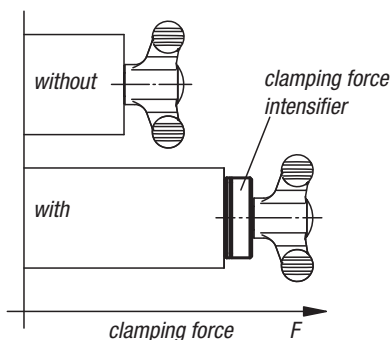
Advantages:

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.



With constant torque



Order No.	D1	D2	H	Dynamic load rating N	Static load rating N
07415-06	6	24	8	6800	15500
07415-08	8	25	8	7800	19400
07415-10	10	30	8	9200	25500
07415-12	12	35	8	9900	29000

Spherical washers

DIN 6319, edition 10/01



Material:

Mild steel, Q&T steel or stainless steel.

Version:

Mild steel, case hardened, manganese-phosphated.
Tempered steel (HV 390 ±40), manganese-phosphated.

Stainless steel, bright.

Sample order:

nIm 07420-216

Note:

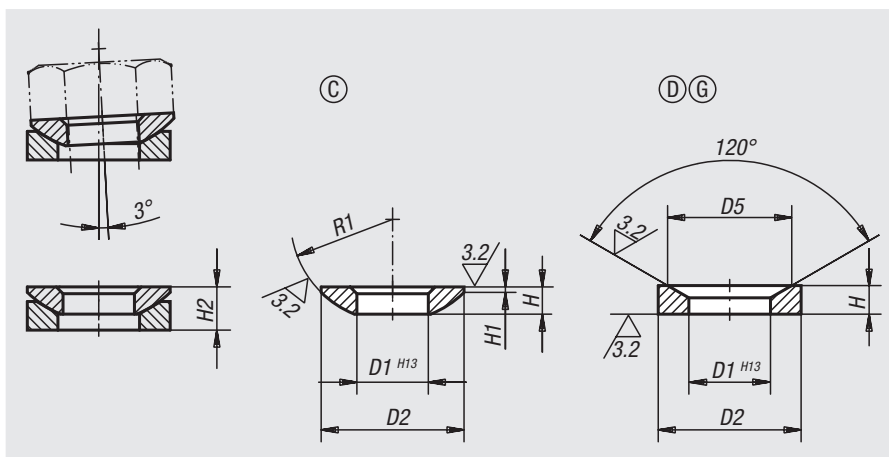
Conical seat Form G should be used over slots.

Drawing reference:

Form C: spherical washer

Form D: conical seat

Form G: conical seat for slots



Order No. mild steel	Order No. stainless steel	Form	D1	D2	H	H1	R1	Load rating max. kN (static load only)
07420-105	-	C	5,25	10,5	2	0,4	7,5	6,5
07420-106	07420-0106	C	6,4	12	2,3	0,7	9	9/6
07420-108	07420-0108	C	8,4	17	3,2	0,6	12	17/12
07420-110	07420-0110	C	10,5	21	4	0,8	15	26/16
07420-112	07420-0112	C	13	24	4,6	1,1	17	38/24
07420-114	-	C	15	28	5	1,2	22	53
07420-116	07420-0116	C	17	30	5,3	1,3	22	73/45
07420-120	07420-0120	C	21	36	6,3	2	27	117/71
07420-124	07420-0124	C	25	44	8,2	2,4	32	168/105
07420-130	07420-0130	C	31	56	11,2	3,6	41	269/191
07420-136	07420-0136	C	37	68	14	4,6	50	394/-
07420-142	07420-0142	C	43	78	17	6,5	58	542/-
07420-148	07420-0148	C	50	92	21	8	67	714/-
07420-156	-	C	58	103	23	9,5	79	960
07420-164	-	C	66	120	27	12	93	1269

Spherical washers

DIN 6319, edition 10/01

Order No. mild steel	Order No. stainless steel	Form	D1	D2	D5	H	H2	Load rating max. kN (static load only)
07420-205	-	D	6	10,5	9,25	2,1	3,1	6,5
07420-206	07420-0206	D	7,1	12	11	2,8	4	9/6
07420-208	07420-0208	D	9,6	17	14,5	3,5	5,6	17/12
07420-210	07420-0210	D	12	21	18,5	4,2	6,3	26/16
07420-212	07420-0212	D	14,2	24	20	5	8	38/24
07420-214	-	D	16,5	28	24,8	5,6	8,2	53
07420-216	07420-0216	D	19	30	26	6,2	9,3	73/45
07420-220	07420-0220	D	23,2	36	31	7,5	11,6	117/71
07420-224	07420-0224	D	28	44	37	9,5	15	168/105
07420-230	07420-0230	D	35	56	49	12	18,9	269/191
07420-236	07420-0236	D	42	68	60	15	23,3	394/-
07420-242	07420-0242	D	49	78	70	18	28,3	542/-
07420-248	07420-0248	D	56	92	82	22	35,2	714/-
07420-256	-	D	65	103	92	25	39,7	960
07420-264	-	D	75	120	110	30	46,5	1269

Order No. high carbon steel	Order No. stainless steel	Form	D1	D2	D5	H	H2	Load rating max. kN (static load only)
07420-305	-	G	6	15	9,25	2,5	3,5	6,5
07420-306	07420-0306	G	7,1	17	11	4	5,2	9/6
07420-308	07420-0308	G	9,6	24	14,5	5	6,8	17/12
07420-310	07420-0310	G	12	30	18,5	5	7,1	26/16
07420-312	07420-0312	G	14,2	36	20	6	9	38/24
07420-314	-	G	16,5	40	24,8	6	8,6	53
07420-316	07420-0316	G	19	44	26	7	10,1	73/45
07420-320	07420-0320	G	23,2	50	31	8	12	117/71
07420-324	07420-0324	G	28	60	37	10	15,5	168/105
07420-330	07420-0330	G	35	68	49	12	18,7	269/191
07420-336	-	G	42	80	60	12	20,3	394

Spherical levelling washers


Material:

Steel 1.7225.

Stainless steel 1.4305.

Version:

Steel trivalent blue passivated.

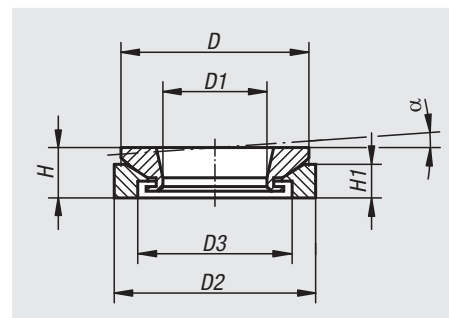
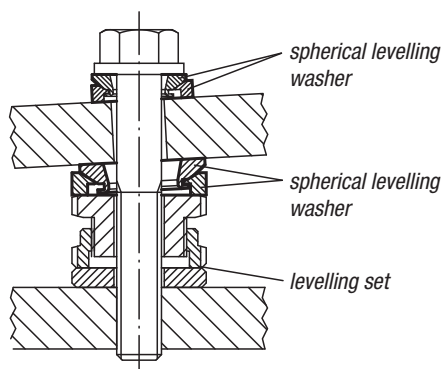
Stainless steel, bright.

Sample order:

nln 07460-401

Note:

Spherical levelling washers are for exact positioning when mounting up to 4° inclined surfaces. A second spherical levelling washer is recommended as support to correct the bolt angle if the angle of D3 is > 1°. The two washers cannot be detached from each other.



Order No. steel	Order No. stainless steel	H	H1	D	D1	D2	D3	α
07460-151	07460-152	8	5,5	23	8,5	25	15	4°
07460-201	07460-202	10	6,2	30	13	32	20	4°
07460-301	07460-302	12,5	9	40	20	45	30	4°
07460-401	07460-402	16	13	52	29	58	38	4°
07460-501	07460-502	20	14	65	36	70	48	4°

07520

C-washers captive

DIN 6371


Material:

Carbon steel 1.0760.

Version:

Nitrided and black oxidised.

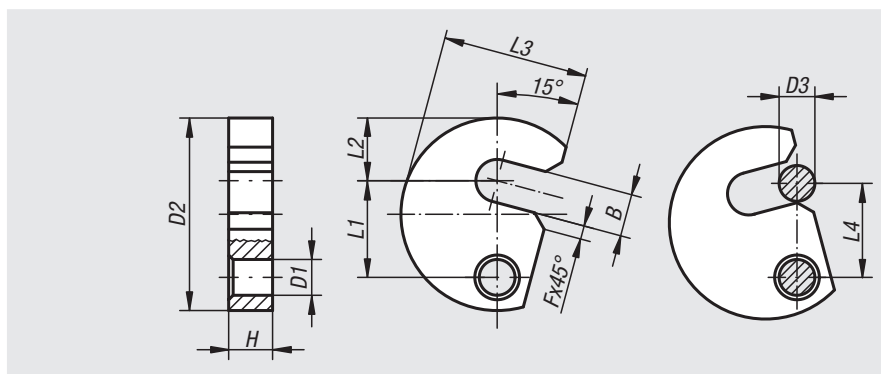
Sample order:

nln 07520-12

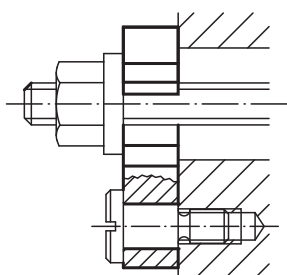
Note:

07520-14 is not a DIN standard.

For suitable shoulder screws see 07530.



Order No.	B	D1	D2	D3	F	H	L1	L2	L3	L4
07520-06	7,5	9	38	6	3	9,8	19,6	11	29	19
07520-08	9,5	9	43	8	3	9,8	21,6	14	32,5	21
07520-10	11,5	9	48	10	3	9,8	23,6	17	36,5	23
07520-12	13,5	11	61	12	3	11,8	29,6	22	45	29
07520-14	15,5	11	65	14	3	11,8	31,6	23	49	31
07520-16	17,5	11	68	16	3	11,8	33,6	25	50	33
07520-20	21,5	11	74	20	4	11,8	36,6	28	55	36



Shim washers

DIN 988

**Material:**

Steel.

Version:

Bright.

Sample order:

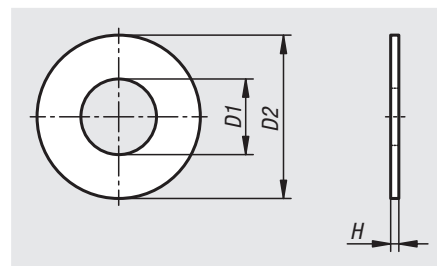
nlm 07305-0306010

(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 be made by combining several shim washers.



Order No.	Main material	D1	D2	H
07522-0306***	steel	3	6	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-0408***	steel	4	8	0,1/0,15/0,2/0,3/0,5/1
07522-0510***	steel	5	10	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-0612***	steel	6	12	0,1/0,2/0,25/0,3/0,5/1
07522-0713***	steel	7	13	0,1/0,2/0,3/0,5/1
07522-0814***	steel	8	14	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-0915***	steel	9	15	0,1/0,15/0,2/0,3/0,5/1
07522-1016***	steel	10	16	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-1117***	steel	11	17	0,1/0,2/0,25/0,3/0,5/1
07522-1218***	steel	12	18	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-1319***	steel	13	19	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-1420***	steel	14	20	0,1/0,15/0,2/0,25/0,3/0,5/1
07522-1521***	steel	15	21	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
07522-1622***	steel	16	22	0,15/0,2/0,25/0,3/0,5/1/1,2
07522-1724***	steel	17	24	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
07522-1825***	steel	18	25	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
07522-1926***	steel	19	26	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2
07522-2028***	steel	20	28	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
07522-2230***	steel	22	30	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
07522-2535***	steel	25	35	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
07522-2637***	steel	26	37	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
07522-2840***	steel	28	40	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5
07522-3042***	steel	30	42	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-3245***	steel	32	45	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-3545***	steel	35	45	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-3645***	steel	36	45	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-3747***	steel	37	47	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-4050***	steel	40	50	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-4252***	steel	42	52	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-4555***	steel	45	55	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-4860***	steel	48	60	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2
07522-5062***	steel	50	62	0,1/0,15/0,2/0,25/0,3/0,5/1/1,2/1,5/2

Spacer washers ground


Material:

Carbon steel.

Version:

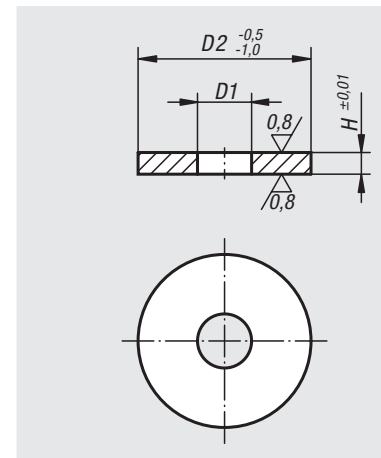
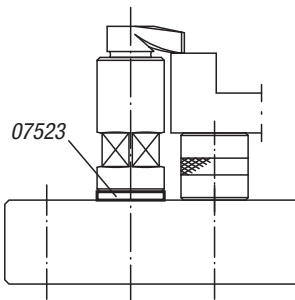
Tempered, black oxidised.
Contact faces ground.

Sample order:

nIm 07523-16005

Note:

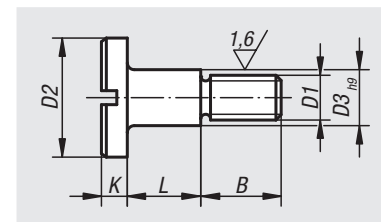
The spacing washer is used to alter the clamping range of hook clamps and hook holders. When a spacing washer is inserted between the base and the hook holder or riser cylinder it prevents damage to the support face.



Order No.	D1	D2	H
07523-12001	12,5	40	1
07523-12003	12,5	40	3
07523-12005	12,5	40	5
07523-16001	16,5	50	1
07523-16003	16,5	50	3
07523-16005	16,5	50	5
07523-16105	16,5	60	5

Shoulder screws with slotted flat head

DIN 923


Material:

Steel.

Version:

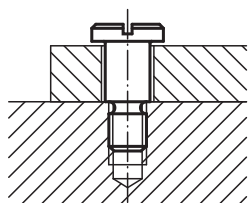
Black oxidised, grade 5.8.

Sample order:

nIm 07530-08

Note:

For use with captive C-washers 07520.



Order No.	D1	D2	D3	L	B	K
07530-06	M6	13	8	10 +0,15/+0,07	9	3,1
07530-08	M8	16	10	12 +0,2/+0,1	11	3,8
07530-10	M10	20	13	16 +0,2/+0,1	13,5	4,6

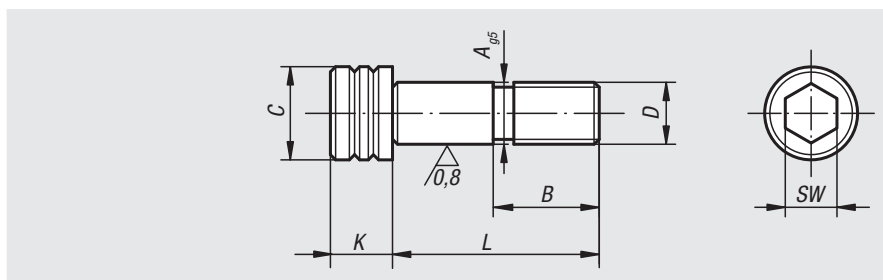
Shoulder screws Form B



Material:
Carbon steel.

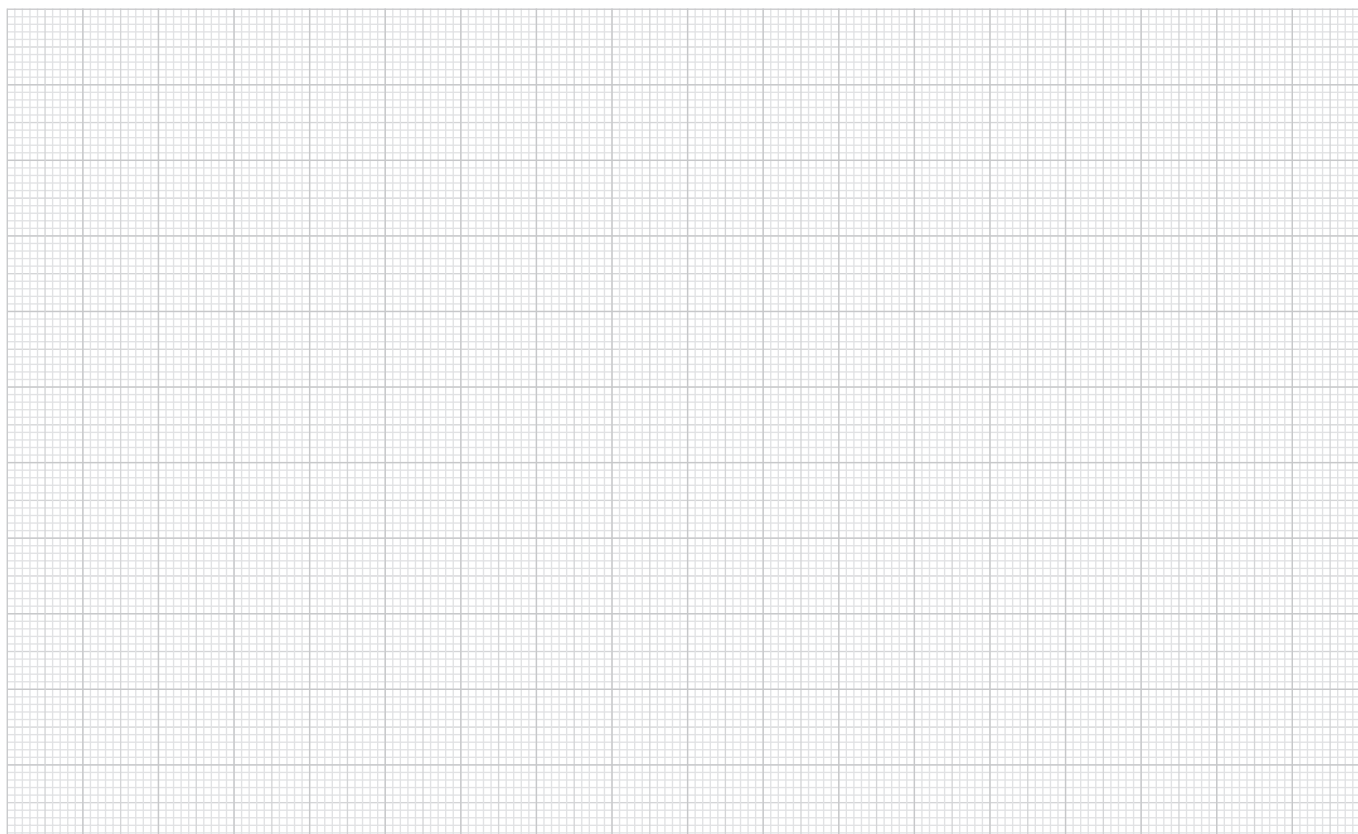
Version:
Tempered, black oxidised.
Precision diameters ground.

Sample order:
nlm 07533-12065



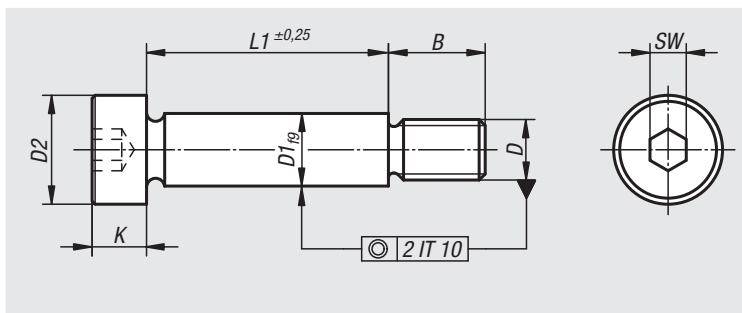
Order No.	Form	A	B	C	D	K	L	SW	Tightening torque max. Nm
07533-12045	B	12	22	18	M12	12	45	10	88
07533-12055	B	12	22	18	M12	12	55	10	88
07533-12065	B	12	22	18	M12	12	65	10	88
07533-12075	B	12	22	18	M12	12	75	10	88
07533-16055	B	16	25	24	M16	16	55	14	216
07533-16065	B	16	25	24	M16	16	65	14	216
07533-16075	B	16	25	24	M16	16	75	14	216

Notes



Shoulder screws

similar to DIN ISO 7379


Material:

Steel or stainless steel (A 2)

Version:

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

Sample order:

nln 07534-06X20 (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.

Order No.	Main material	D1	D	D2	B	K	SW	L1
07534-04X	steel	4	M3	7	7	3	2	6/8/10/12/16/20
07534-05X	steel	5	M4	9	8 6	4	2,5	8/10/16/20/30/40
07534-06X	steel	6	M5	10	9,5	4,5	3	16/20/25/30/40/50/60
07534-08X	steel	8	M6	13	11	5,5	4	16/20/25/30/40/50/60
07534-10X	steel	10	M8	16	13	7	5	16/20/25/30/40/50/60/70/80
07534-12X	steel	12	M10	18	16	9	6	16/20/25/30/40/50/60/70/80/90/100
07534-16X	steel	16	M12	24	18	11	8	30/40/50/60/70/80/90/100/120
07534-20X	steel	20	M16	30	22	14	10	30/40/50/60/70/80/90/100/120
07534-104X	stainless steel	4	M3	7	7	3	2	6/8/10/16/20
07534-105X	stainless steel	5	M4	9	8 6	4	2,5	8/10/16/20/30/40
07534-106X	stainless steel	6	M5	10	9,5	4,5	3	16/20/25/30/40/50/60
07534-108X	stainless steel	8	M6	13	11	5,5	4	16/20/25/30/40/50/60
07534-110X	stainless steel	10	M8	16	13	7	5	16/20/25/30/40/50/60/70/80
07534-112X	stainless steel	12	M10	18	16	9	6	16/20/25/30/40/50/60/70/80/90/100
07534-116X	stainless steel	16	M12	24	18	11	8	30/40/50/60/70/80/90/100/120
07534-120X	stainless steel	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.

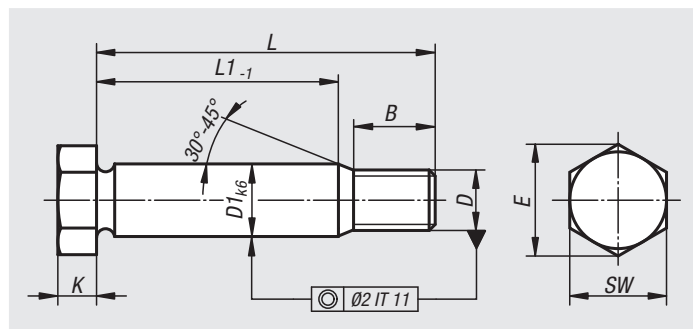
Shaft OD ground.

Sample order:

nIm 07535-09X40 (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.



Order No.	B	D1	D	E	K	L	L1	SW
07535-09X25	14,5	9	M8	14,38	5,3	25	8	13
07535-09X30	14,5	9	M8	14,38	5,3	30	13	13
07535-09X35	14,5	9	M8	14,38	5,3	35	18	13
07535-09X40	14,5	9	M8	14,38	5,3	40	23	13
07535-09X45	14,5	9	M8	14,38	5,3	45	28	13
07535-09X50	14,5	9	M8	14,38	5,3	50	33	13
07535-09X60	16,5	9	M8	14,38	5,3	60	41	13
07535-11X30	17,5	11	M10	17,77	6,4	30	10	17
07535-11X35	17,5	11	M10	17,77	6,4	35	15	17
07535-11X40	17,5	11	M10	17,77	6,4	40	20	17
07535-11X45	17,5	11	M10	17,77	6,4	45	25	17
07535-11X50	17,5	11	M10	17,77	6,4	50	30	17
07535-11X60	19,5	11	M10	17,77	6,4	60	38	17
07535-11X70	19,5	11	M10	17,77	6,4	70	48	17
07535-11X80	19,5	11	M10	17,77	6,4	80	58	17
07535-11X90	19,5	11	M10	17,77	6,4	90	68	17
07535-11X100	19,5	11	M10	17,77	6,4	100	78	17
07535-13X35	20,5	13	M12	19,85	7,5	35	11,5	19
07535-13X40	20,5	13	M12	19,85	7,5	40	16,5	19
07535-13X45	20,5	13	M12	19,85	7,5	45	21,5	19
07535-13X50	20,5	13	M12	19,85	7,5	50	26,5	19
07535-13X60	22,5	13	M12	19,85	7,5	60	34,5	19
07535-13X70	22,5	13	M12	19,85	7,5	70	44,5	19
07535-13X80	22,5	13	M12	19,85	7,5	80	54,5	19
07535-13X90	22,5	13	M12	19,85	7,5	90	64,5	19
07535-13X100	22,5	13	M12	19,85	7,5	100	74,5	19
07535-17X40	25	17	M16	26,17	10	40	11,5	24
07535-17X45	25	17	M16	26,17	10	45	16,5	24
07535-17X50	25	17	M16	26,17	10	50	21,5	24
07535-17X60	27	17	M16	26,17	10	60	29,5	24
07535-17X70	27	17	M16	26,17	10	70	39,5	24
07535-17X80	27	17	M16	26,17	10	80	49,5	24
07535-17X90	27	17	M16	26,17	10	90	59,5	24
07535-17X100	27	17	M16	26,17	10	100	69,5	24
07535-21X50	28,5	21	M20	32,95	12,5	50	17,5	30
07535-21X60	30,5	21	M20	32,95	12,5	60	25,5	30
07535-21X70	30,5	21	M20	32,95	12,5	70	35,5	30
07535-21X80	30,5	21	M20	32,95	12,5	80	45,5	30
07535-21X90	30,5	21	M20	32,95	12,5	90	55,5	30
07535-21X100	30,5	21	M20	32,95	12,5	100	65,5	30
07535-21X120	30,5	21	M20	32,95	12,5	120	85,5	30
07535-25X60	36,5	25	M24	39,35	15	60	19	36
07535-25X70	36,5	25	M24	39,35	15	70	29	36
07535-25X80	36,5	25	M24	39,35	15	80	39	36
07535-25X90	36,5	25	M24	39,35	15	90	49	36
07535-25X100	36,5	25	M24	39,35	15	100	59	36
07535-25X120	36,5	25	M24	39,35	15	120	79	36

Shoulder screws

with slotted domed head


Material:

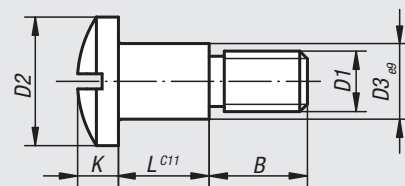
Carbon steel.

Version:

Black oxidised.

Sample order:

nlm 07540-10



Order No.	D1	D2	D3	L	B	K
07540-06	M6	14	8	10,2	9,89	6
07540-08	M8	18	10	12,2	11,8	7
07540-10	M10	22	12	14,2	14,8	9
07540-12	M12	22	14	16,2	15,8	9

07560

Snapper catch with spring

DIN 6310


Material:

Carbon steel 1.2067

Version:

Black oxidised, snapper nose hardened (see grey region).

Sample order:

nlm 07560-02

Note:

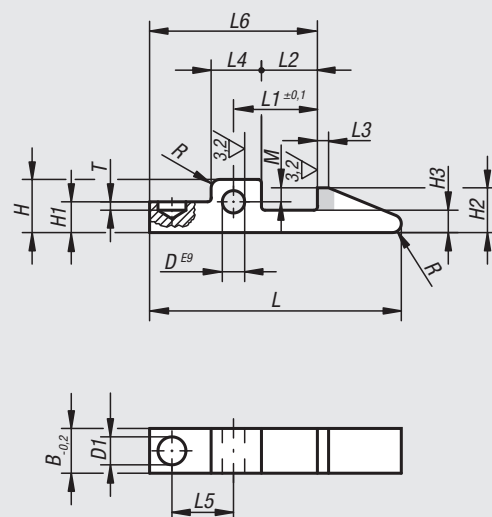
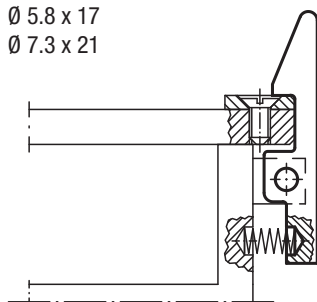
The spring is supplied.

Spring dimensions:

Ø 4.8 x 14

Ø 5.8 x 17

Ø 7.3 x 21



Order No.	B	D	D1	H	H1	H2	H3	L	L1	L2	L3	L4	L5	L6	T	R	M
07560-01	8	4	5	9,5	5,5	8	4	45	15	10	2	9	11	30	1,5	1,6	2,5
07560-02	10	5	6,3	12	7	10	5	60	20	14	3	11	15	40	3	2,5	3
07560-03	14	6	8	15	9	14	7	80	30	22	5	14	23	60	5	4	5

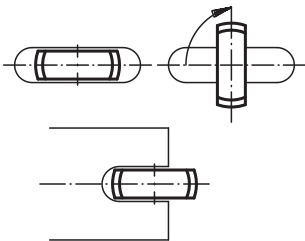
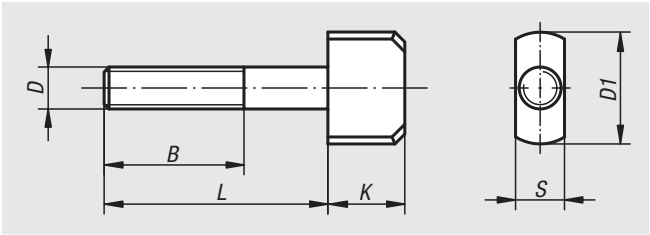
Quarter-turn screws



Material:
Carbon steel 1.1191

Version:
Tempered to 8.8 and black oxidised.

Sample order:
nlm 07570-10



Order No.	B	D	D1	K	L	S
07570-06	25	M6	20	14	30	6,5
07570-08	30	M8	25	16	40	8,5
07570-10	40	M10	28	16	50	10,5
07570-12	50	M12	32	20	60	12,5

Slotted round nuts

DIN 1804

**Material:**

Steel.

Version:

Form W = black oxidised.

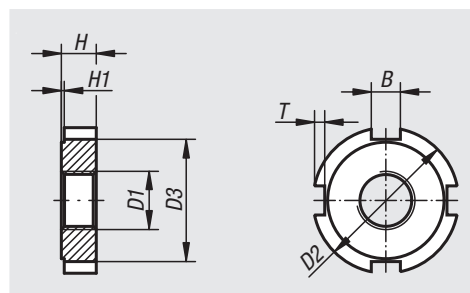
Form H = hardened and ground both sides.

Sample order:

nlm 07590-120

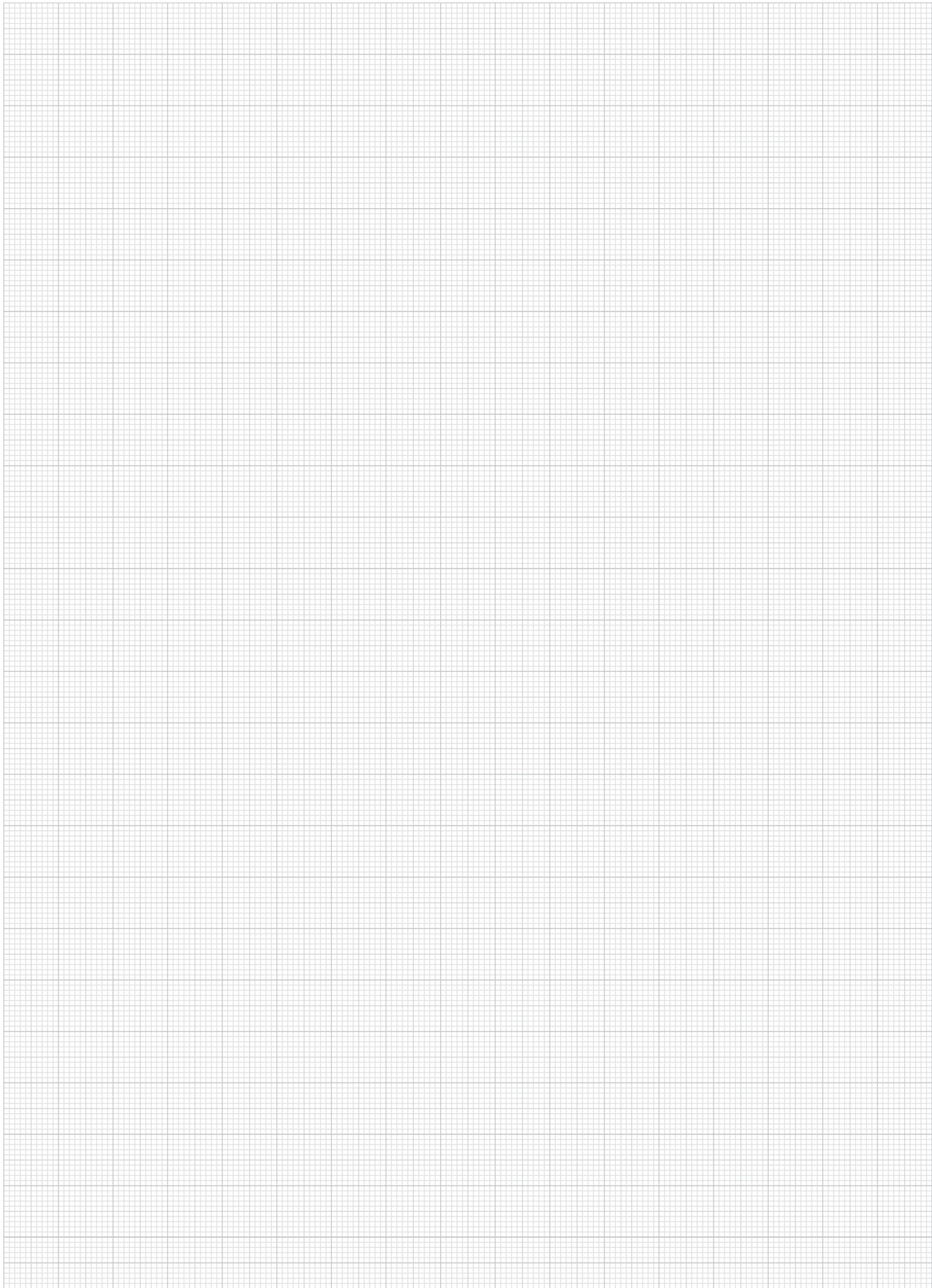
Note:

Form H is case hardened, apart from the thread.



Order No. Form W	Order No. Form H	Slot width B DIN 650	D1	D2	D3	H	H1	T
07590-110	07590-210	5	M10x1	25	20	6	0,5	2
07590-112	07590-212	5	M12x1,5	28	23	6	0,5	2
07590-114	07590-214	5	M14x1,5	30	25	7	0,5	2
07590-116	07590-216	5	M16x1,5	32	27	7	0,5	2
07590-118	07590-218	6	M18x1,5	34	28	8	0,5	2,5
07590-120	07590-220	6	M20x1,5	36	30	8	0,5	2,5
07590-122	07590-222	6	M22x1,5	40	34	9	0,5	2,5
07590-124	07590-224	6	M24x1,5	42	36	9	0,5	2,5
07590-126	07590-226	7	M26x1,5	45	38	10	0,5	3
07590-128	07590-228	7	M28x1,5	50	43	10	0,5	3
07590-130	07590-230	7	M30x1,5	50	43	10	0,5	3
07590-132	07590-232	7	M32x1,5	52	45	11	0,5	3
07590-135	07590-235	7	M35x1,5	55	48	11	0,5	3
07590-138	07590-238	8	M38x1,5	58	50	11	0,5	3,5
07590-140	07590-240	8	M40x1,5	62	54	12	0,5	3,5
07590-142	07590-242	8	M42x1,5	62	54	12	0,5	3,5

Notes



01000

02000

03000

04000

05000

06000

07000

08000

09000

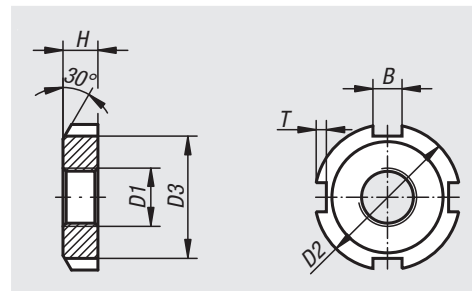
10000

12000

14000

Slotted round nuts, steel or stainless steel,

DIN 981

**Material:**

Steel 1.0503.

Stainless steel 1.4301.

Version:

Stainless steel, bright.

Steel, bright.

Steel electro zinc-plated.

Sample order:

nlm 07590-01-0012

Note:

The slotted round nuts are mainly used to fasten bearings to a shaft.

The slotted round nuts can also be used to secure gear wheels, pulleys and other machine components.

Order No. steel bright	Order No. steel galvanised	D1	D2	D3	H	B=slot width	T
07590-01-0010	07590-01-010	M10x0,75	18	13,5	4	3	2
07590-01-0012	07590-01-012	M12x1	22	17	4	3	2
07590-01-0015	07590-01-015	M15X1	25	21	5	4	2
07590-01-0017	07590-01-017	M17x1	28	24	5	4	2
07590-01-0020	07590-01-020	M20X1	32	26	6	4	2
07590-01-0025	07590-01-025	M25X1,5	38	32	7	5	2
07590-01-0030	07590-01-030	M30x1,5	45	38	7	5	2
07590-01-0035	07590-01-035	M35x1,5	52	44	8	5	2
07590-01-0040	07590-01-040	M40x1,5	58	50	9	6	2,5
07590-01-0045	07590-01-045	M45x1,5	65	56	10	6	2,5
07590-01-0050	07590-01-050	M50x1,5	70	61	11	6	2,5
07590-01-0055	07590-01-055	M55x2	75	67	11	7	3
07590-01-0060	07590-01-060	M60x2	80	73	11	7	3
07590-01-0065	07590-01-065	M65x2	85	79	12	7	3
07590-01-0070	07590-01-070	M70x2	92	85	12	8	3,5
07590-01-0075	07590-01-075	M75x2	98	90	13	8	3,5
07590-01-0080	07590-01-080	M80x2	105	95	15	8	3,5
07590-01-0085	07590-01-085	M85x2	110	102	15	8	3,5
07590-01-0090	07590-01-090	M90x2	120	108	16	10	4
07590-01-0095	07590-01-095	M95x2	125	110	17	10	4
07590-01-0100	07590-01-100	M100x2	130	120	18	10	4

Slotted round nuts, steel or stainless steel,

DIN 981



Order No.	Main material	D1	D2	D3	H	B=slot width	T
07590-01-1010	stainless steel	M10x0,75	18	13,5	4	3	2
07590-01-1012	stainless steel	M12x1	22	17	4	3	2
07590-01-1015	stainless steel	M15X1	25	21	5	4	2
07590-01-1017	stainless steel	M17x1	28	24	5	4	2
07590-01-1020	stainless steel	M20X1	32	26	6	4	2
07590-01-1025	stainless steel	M25X1,5	38	32	7	5	2
07590-01-1030	stainless steel	M30x1,5	45	38	7	5	2
07590-01-1035	stainless steel	M35x1,5	52	44	8	5	2
07590-01-1040	stainless steel	M40x1,5	58	50	9	6	2,5
07590-01-1045	stainless steel	M45x1,5	65	56	10	6	2,5
07590-01-1050	stainless steel	M50x1,5	70	61	11	6	2,5
07590-01-1055	stainless steel	M55x2	75	67	11	7	3
07590-01-1060	stainless steel	M60x2	80	73	11	7	3
07590-01-1065	stainless steel	M65x2	85	79	12	7	3
07590-01-1070	stainless steel	M70x2	92	85	12	8	3,5
07590-01-1075	stainless steel	M75x2	98	90	13	8	3,5
07590-01-1080	stainless steel	M80x2	105	95	15	8	3,5
07590-01-1085	stainless steel	M85x2	110	102	15	8	3,5
07590-01-1090	stainless steel	M90x2	120	108	16	10	4
07590-01-1095	stainless steel	M95x2	125	110	17	10	4
07590-01-1100	stainless steel	M100x2	130	120	18	10	4

Locking plate steel or stainless steel

DIN 5406

**Material:**

Steel 1.0503.

Stainless steel 1.4301.

Version:

Stainless steel, bright.

Steel, bright.

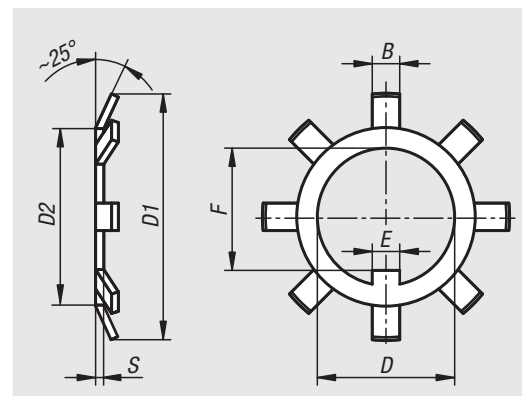
Steel electro zinc-plated.

Sample order:

nlm 07590-02-0010

Note:

DIN 5406 locking plates are used to secure the DIN 981 slotted round nuts. To use the locking plates, a keyway must be cut into the screw thread.



Order No. steel bright	Order No. steel galvanised	B	D	D1	D2	E	F	S	Suitable for
07590-02-0010	07590-02-1010	3	10	21	13,5	3	8,5	1	07590-01-0010/07590-01-010
07590-02-0012	07590-02-1012	3	12	25	17	3	10,5	1	07590-01-0012/07590-01-012
07590-02-0015	07590-02-1015	4	15	28	21	4	13,5	1	07590-01-0015/07590-01-015
07590-02-0017	07590-02-1017	4	17	32	24	4	15,5	1	07590-01-0017/07590-01-017
07590-02-0020	07590-02-1020	4	20	36	26	4	18,5	1	07590-01-0020/07590-01-020
07590-02-0025	07590-02-1025	5	25	42	32	5	23	1,25	07590-01-0025/07590-01-025
07590-02-0030	07590-02-1030	5	30	49	38	5	27,5	1,25	07590-01-0030/07590-01-030
07590-02-0035	07590-02-1035	6	35	57	44	5	32,5	1,25	07590-01-0035/07590-01-035
07590-02-0040	07590-02-1040	6	40	62	50	6	37,5	1,25	07590-01-0040/07590-01-040
07590-02-0045	07590-02-1045	6	45	69	56	6	42,5	1,25	07590-01-0045/07590-01-045
07590-02-0050	07590-02-1050	6	50	74	61	6	47,5	1,25	07590-01-0050/07590-01-050
07590-02-0055	07590-02-1055	7	55	81	67	8	52,5	1,5	07590-01-0055/07590-01-055
07590-02-0060	07590-02-1060	7	60	86	73	8	57,5	1,5	07590-01-0060/07590-01-060
07590-02-0065	07590-02-1065	7	65	92	79	8	62,5	1,5	07590-01-0065/07590-01-065
07590-02-0070	07590-02-1070	8	70	98	85	8	66,5	1,5	07590-01-0070/07590-01-070
07590-02-0075	07590-02-1075	8	75	104	90	8	71,5	1,5	07590-01-0075/07590-01-075
07590-02-0080	07590-02-1080	8	80	112	95	10	76,5	1,75/1,8	07590-01-0080/07590-01-080
07590-02-0085	07590-02-1085	8	85	119	102	10	81,8	1,75/1,8	07590-01-0085/07590-01-085
07590-02-0090	07590-02-1090	10	90	126	108	10	86,5	1,75/1,8	07590-01-0090/07590-01-090
07590-02-0095	07590-02-1095	10	95	133	113	10	91,5	1,75/1,8	07590-01-0095/07590-01-095
07590-02-0100	07590-02-1100	10	100	142	120	12	96,5	1,75/1,8	07590-01-0100/07590-01-100

Locking plate steel or stainless steel

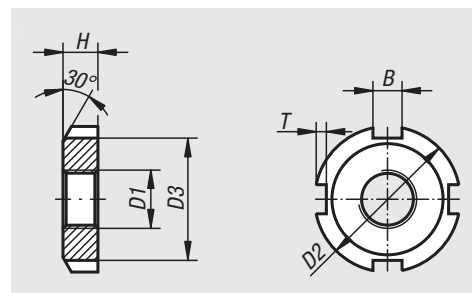
DIN 5406



Order No.	Main material	B	D	D1	D2	E	F	S	Suitable for
07590-02-2010	stainless steel	3	10	21	13,5	3	8,5	1	07590-01-1010
07590-02-2012	stainless steel	3	12	25	17	3	10,5	1	07590-01-1012
07590-02-2015	stainless steel	4	15	28	21	4	13,5	1	07590-01-1015
07590-02-2017	stainless steel	4	17	32	24	4	15,5	1	07590-01-1017
07590-02-2020	stainless steel	4	20	36	26	4	18,5	1	07590-01-1020
07590-02-2025	stainless steel	5	25	42	32	5	23	1,25	07590-01-1025
07590-02-2030	stainless steel	5	30	49	38	5	27,5	1,25	07590-01-1030
07590-02-2035	stainless steel	6	35	57	44	5	32,5	1,25	07590-01-1035
07590-02-2040	stainless steel	6	40	62	50	6	37,5	1,25	07590-01-1040
07590-02-2045	stainless steel	6	45	69	56	6	42,5	1,25	07590-01-1045
07590-02-2050	stainless steel	6	50	74	61	6	47,5	1,25	07590-01-1050
07590-02-2055	stainless steel	7	55	81	67	8	52,5	1,5	07590-01-1055
07590-02-2060	stainless steel	7	60	86	73	8	57,5	1,5	07590-01-1060
07590-02-2065	stainless steel	7	65	92	79	8	62,5	1,5	07590-01-1065
07590-02-2070	stainless steel	8	70	98	85	8	66,5	1,5	07590-01-1070
07590-02-2075	stainless steel	8	75	104	90	8	71,5	1,5	07590-01-1075
07590-02-2080	stainless steel	8	80	112	95	10	76,5	1,8	07590-01-1080
07590-02-2085	stainless steel	8	85	119	102	10	81,8	1,8	07590-01-1085
07590-02-2090	stainless steel	10	90	126	108	10	86,5	1,8	07590-01-1090
07590-02-2095	stainless steel	10	95	133	113	10	91,5	1,8	07590-01-1095
07590-02-2100	stainless steel	10	100	142	120	12	96,5	1,8	07590-01-1100

Slotted round nuts, steel,

DIN 70852

**Material:**

Steel 1.0503

Version:

Steel, bright.

Steel electro zinc-plated.

Sample order:

nlm 07590-05-010

Note:

The slotted round nuts are mainly used to fasten bearings to a shaft.

The slotted round nuts can also be used to secure gear wheels, pulleys and other machine components.

Order No. steel bright	Order No. steel galvanised	D1	D2	D3	H	B=slot width	T
07590-05-010	07590-05-10	M10x1	20	16	5	4,5	1,8
07590-05-012	07590-05-12	M12x1,5	22	18	6	4,5	1,8
07590-05-014	07590-05-14	M14x1,5	24	20	6	4,5	1,8
07590-05-016	07590-05-16	M16x1,5	28	23	6	5,5	2,3
07590-05-018	07590-05-18	M18x1,5	30	25	6	5,5	2,3
07590-05-020	07590-05-20	M20x1,5	32	27	6	5,5	2,3
07590-05-022	07590-05-22	M22x1,5	36	30	7	6,5	2,8
07590-05-024	07590-05-24	M24x1,5	38	32	7	6,5	2,8
07590-05-026	07590-05-26	M26x1,5	40	34	7	6,5	2,8
07590-05-028	07590-05-28	M28x1,5	42	36	7	6,5	2,8
07590-05-030	07590-05-30	M30x1,5	44	38	7	6,5	2,8
07590-05-032	07590-05-32	M32x1,5	48	41	8	7	3,3
07590-05-035	07590-05-35	M35x1,5	50	43	8	7	3,3
07590-05-038	07590-05-38	M38x1,5	54	47	8	7	3,3
07590-05-040	07590-05-40	M40x1,5	56	49	8	7	3,3
07590-05-042	07590-05-42	M42x1,5	60	52	8	8	3,3
07590-05-045	07590-05-45	M45x1,5	62	54	8	8	3,3
07590-05-048	07590-05-48	M48x1,5	65	57	8	8	3,3
07590-05-050	07590-05-50	M50x1,5	68	60	8	8	3,3
07590-05-052	07590-05-52	M52x1,5	70	62	8	8	3,3
07590-05-055	07590-05-55	M55x1,5	75	67	8	8	3,3
07590-05-060	07590-05-60	M60x1,5	80	71	9	11	4,3
07590-05-065	07590-05-65	M65x1,5	85	76	9	11	4,3
07590-05-070	07590-05-70	M70x1,5	90	81	9	11	4,3
07590-05-075	07590-05-75	M75x1,5	95	86	10	11	4,3
07590-05-080	07590-05-80	M80x1,5	100	91	10	11	4,3

Slotted nuts

with elastic lock



Material:

Free-cutting steel.

Elastic ring polyamide (max. 100 °C).

Version:

Electro zinc-plated.

Sample order:

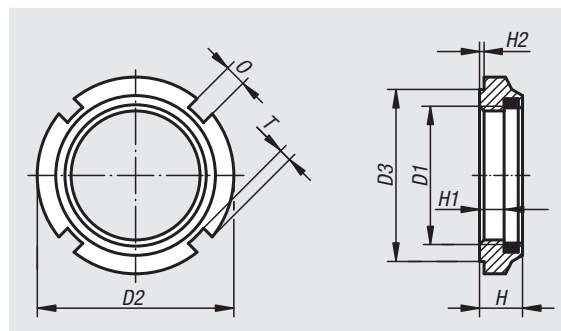
nIm 07595-24

Note:

Elastic lock slotted nuts have enormous cost advantages. They do not need lock washers with folding tabs and so the expensive milling of a slot is not required.

The polyamide ring is resistant to petrol and oil.

Elastic lock slotted nuts can be used several times. They withstand the strongest vibrations and oscillations irrespective of the tightening torque and are therefore useful as adjustment nuts.



Order No.	D1	D2	D3	H	H2	H1	T	O
07595-10	M10x1	18	15	7,6	0,5	4,4	1,5	3
07595-12	M12x1,5	21	18	9,2	0,5	5,7	1,5	3
07595-14	M14x1,5	24	21	10,7	0,5	6	1,5	4
07595-16	M16x1,5	28	24	10,7	0,5	6	2	4
07595-18	M18x1,5	28	24	10,7	0,5	7,3	2	4
07595-20	M20x1,5	32	27	9,6	0,5	6	2,5	4
07595-22	M22x1,5	38	33	12,7	0,5	7	2,5	5
07595-24	M24x1,5	38	33	10,7	0,5	6,2	2,5	5
07595-28	M28x1,5	44	38	11,2	0,5	6,9	3	5
07595-30	M30x1,5	44	38	11	0,5	6,5	3	5
07595-32	M32x1,5	50	44	11,2	0,5	6,6	3	5
07595-35	M35x1,5	50	44	11	0,5	7	3	5
07595-38	M38x1,5	53	47	12,2	0,5	6,6	3	5
07595-40	M40x1,5	56	50	12	0,5	7	3	6
07595-42	M42x1,5	62	55	15,2	0,5	10,6	3,5	6

Technical information for adjustment nuts

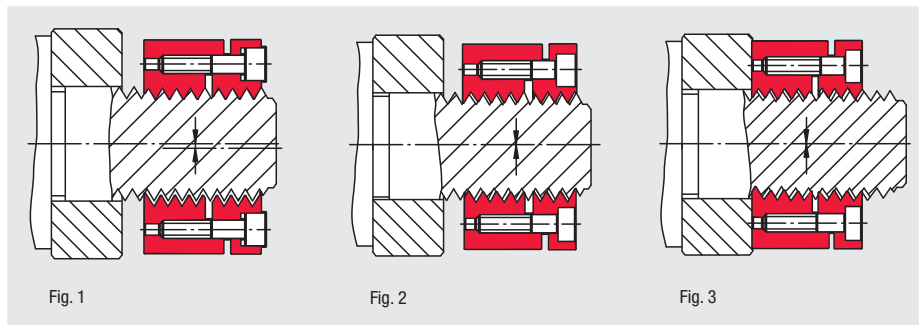
Assembly:

1. Carefully clean the adjustment nut and connection points and lightly oil with a film of standard machine oil without anti-friction additives.
2. Screw the adjustment nut onto the spindle thread but not quite up to the contact face (Fig. 1).
3. Tighten the screws uniformly and crosswise while turning the adjustment nut back and forth until it turns with almost no backlash on the thread (Fig. 2).
4. Now tighten the adjustment nut with a higher than specified torque (ca. +30%) against the contact face, then loosen again and finally tighten with specified torque (Fig. 3). This prevents the need to re-adjust later.
5. Now secure the adjustment nut by uniformly tightening the screws. Highest demands of spindle concentricity can be positively influenced by testing and individually tightening the screws. Possible stresses caused by small lateral run-out errors can be corrected.

Disassembly:

Slightly loosen all the screws crosswise. Now fully loosen all the screws. This prevents the last screw being subjected to the full stress of the membrane and being blocked.

If an adjustment nut has been secured on a spindle thread, after dismantling it can only be used again on the same spindle. The adaption procedure between spindle and adjustment nut can lead to problems when attempting to fit the nut to another.



Setting an axial pre-tension load:

The axial pre-tension of a screw connection is often function critical and therefore must be set accurately. Measuring this value directly during assembly is mostly not possible making an indirect setting necessary. The tightening load for the adjustment screw pre-tension torque must be calculated.

This can be determined by the following formula:

$$M_v = \frac{(F_v + V) \cdot (U + \mu A \cdot rA)}{1000} \text{ [Nm]}$$

M_v = Pre-tension torque of the adjustment nut (Nm)

F_v = Required axial pre-tension force of the screw connection (N)

V = Adjustment nut specific supplement (N), compensates the face load alleviation by the securing process

U = Constant (mm), includes the calculation factor for the respective thread (see table)

μA = Coefficient of friction for the locating face of the adjustment nut. Approximate value $\mu A = 0.1$ (steel/steel)

rA = Operative frictional radius for the locating face of the adjustment nut (mm)

The securing procedure subjects the spindle thread to stress and produces an intensive flank pressure (= high axial rigidity). This effect simultaneously relieves the contact face of the adjustment nut, which can be easily counterbalanced by correspondingly higher pre-tension torque during assembly. This higher pre-tension torque is calculated by allowance V to the required pre-tension force F_v .

Order No.	Calculation factor U (mm)	Adjustment nut specific supplement V (N)
07598-024101015	0,703	2,457
07598-026121515	0,881	2,438
07598-032141516	0,997	2,995
07598-034161518	1,112	3,962
07598-036181518	1,228	3,931
07598-040201518	1,344	3,900
07598-040221518	1,459	3,869
07598-042241518	1,575	3,838
07598-045261520	1,690	3,806
07598-046281520	1,805	3,775
07598-048301520	1,921	3,744
07598-050321522	2,037	3,713
07598-053351522	2,210	3,666

Adjustment nuts



Material:

Steel.

Clamping screws carbon steel.

Version:

Black oxidised.

Clamping screws ISO 4762, grade 12.9.

Sample order:

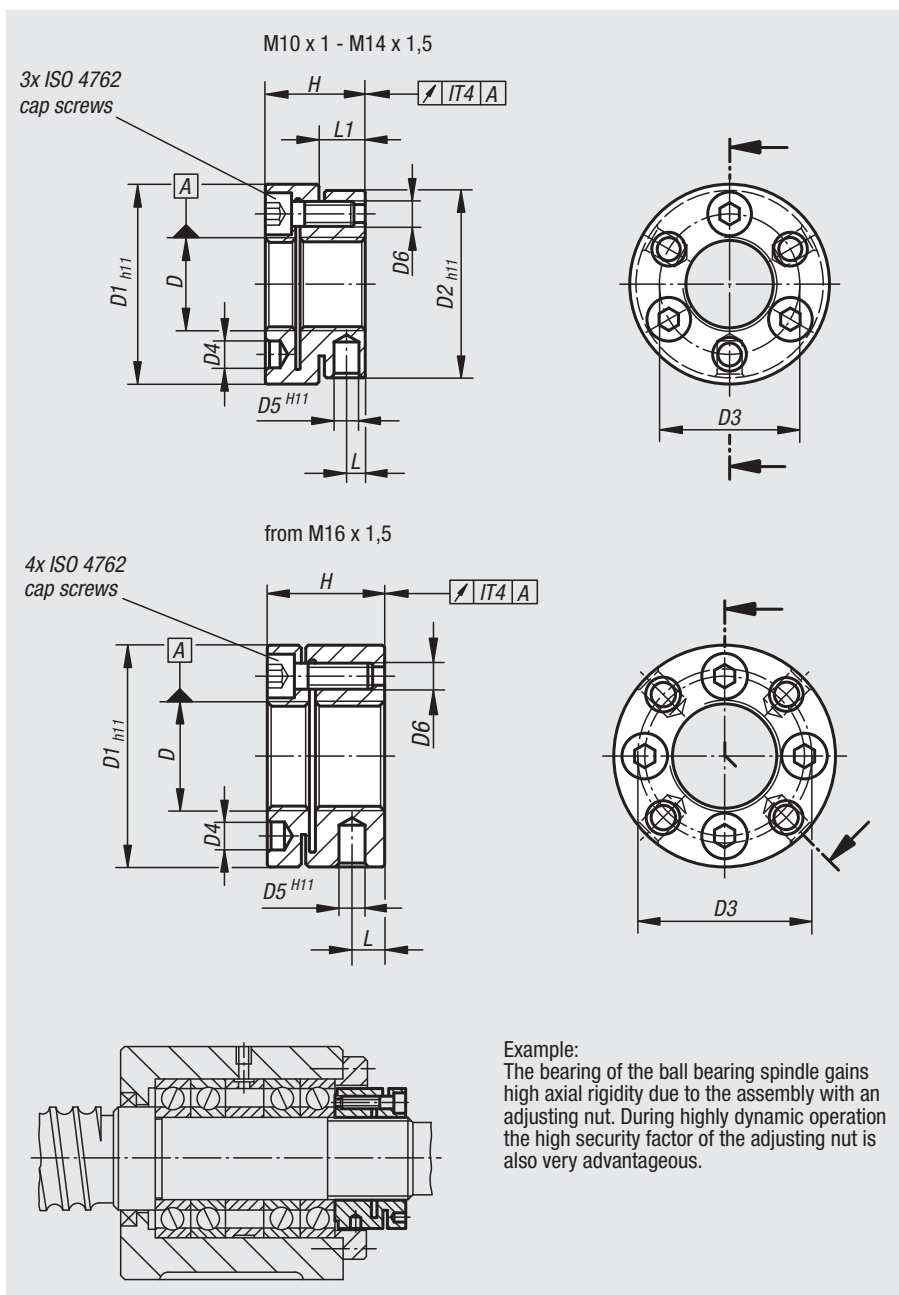
n1m 07598-024101015

Note:

Two screw parts that are elastically connected are tightened against each other with screws. The adjustment nut is constructed rotationally symmetric. There are no unbalancing keyways or slots.

Attention:

The adjustment nut can be axially deformed and must be handled with care. The clamping screws may only be tightened when the adjustment nut is completely screwed onto the spindle thread, otherwise the adjustment nut could become defective through unacceptable plastic deformation.



Example:

The bearing of the ball bearing spindle gains high axial rigidity due to the assembly with an adjusting nut. During highly dynamic operation the high security factor of the adjusting nut is also very advantageous.

Order No.	D	D1	D2	D3	D4	D5	D6	H	L	L1	Tightening torque of screws Nm	Max. static axial pressure stress N	Max. dynamic axial pressure stress N	Inertia (gcm ²)
07598-024101015	M10x1	24	22	17	3,2	2,5	M3	15	3	6,5	2	15000	12000	27
07598-026121515	M12x1,5	26	25	19	3,2	3	M3	15	3	6,5	2	18000	13000	40
07598-032141516	M14x1,5	32	30	22,5	4,3	4	M4	16	3	7	2,9	22000	17000	96
07598-034161518	M16x1,5	34	-	24,5	4,3	4	M4	18	5	-	2,9	22000	17000	147
07598-036181518	M18x1,5	36	-	26,5	4,3	4	M4	18	5	-	2,9	25000	19000	183
07598-040201518	M20x1,5	40	-	30,5	4,3	4	M4	18	5	-	2,9	28000	18000	283
07598-040221518	M22x1,5	40	-	30,5	4,3	4	M4	18	5	-	2,9	32000	23000	270
07598-042241518	M24x1,5	42	-	32,5	4,3	4	M4	18	5	-	2,9	35000	25000	323
07598-045261520	M26x1,5	45	-	36,5	4,3	5	M4	20	6,5	-	2,9	49000	34000	479
07598-046281520	M28x1,5	46	-	38,5	4,3	5	M4	20	6,5	-	2,9	53000	36000	504
07598-048301520	M30x1,5	48	-	40,5	4,3	5	M4	20	6,5	-	2,9	57000	38000	588
07598-050321522	M32x1,5	50	-	42,5	4,3	5	M4	22	7	-	2,9	64000	44000	743
07598-053351522	M35x1,5	53	-	45,5	4,3	5	M4	22	7	-	2,9	66000	47000	914

Clevis

with external thread


Material:

Carbon steel 1.1191

Version:

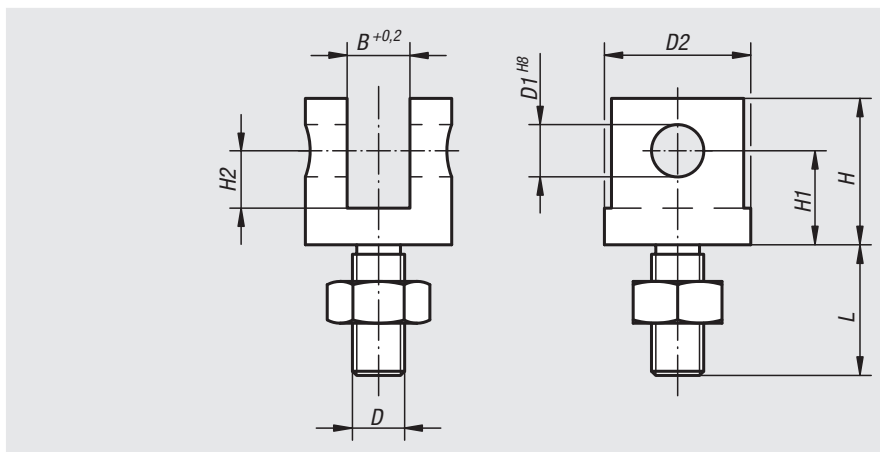
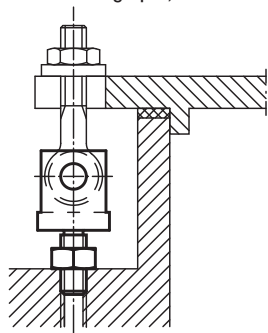
Tempered and black oxidised.

Sample order:

nln 07620-05

Note:

Suitable hinge pin, see 04250.



Order No.	D	D1	D2	B	H	H1	H2	L
07620-05	M5	5	12	6	16	10	7	14,5
07620-06	M6	6	16	7	19	12	8	15
07620-08	M8	8	20	9	23	15	10	20
07620-10	M10	10	28	12	28	18	11	25
07620-12	M12	12	30	14	34	21	13,5	30
07620-14	M14	14	36	16	37	23	15	35
07620-16	M16	16	40	17	42	26	17	40
07620-20	M20	18	50	22	52	32	21	50

07630

Grub screws

DIN 551


Material:

Steel.

Version:

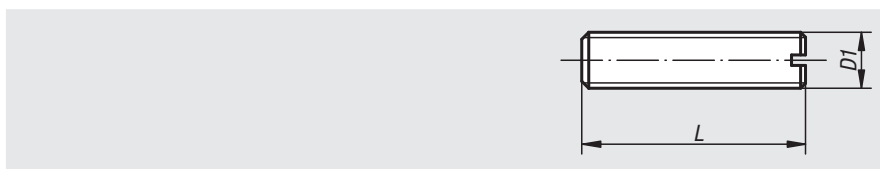
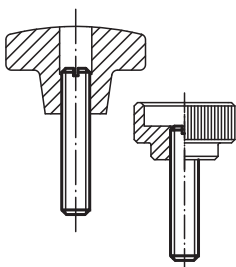
Bright, grade 5.8.

Sample order:

nln 07630-10X40 (include length L)

Note:

A solid joint between grub screw and counter-piece can often be made more cost-effectively by gluing it. The LOCTITE products are especially suitable for this. See 97990.



Order No.	D1	L
07630-06X	M6	20/25/30/35/40/45/50/60/70
07630-08X	M8	25/30/35/40/45/50/60/70/80
07630-10X	M10	25/30/35/40/45/50/60/70/80
07630-12X	M12	30/35/40/45/50/60/70/80/100
07630-16X	M16	30/35/40/45/50/60/70/80/100
07630-20X	M20	40/50/60/70/80/90/100

Notes

A large grid of graph paper for taking notes. The grid is composed of small squares, with larger squares forming a 10x10 pattern. The grid is intended for technical drawing or note-taking.

01000

02000

03000

04000

05000

06000

07000

08000

09000

10000

12000

14000

Threaded rods

steel and stainless steel DIN 976-1



Material:

Steel or stainless steel (A 2)

Version:

Grade 4.6, electro zinc-plated.

Grade 8.8 bright or electro zinc-plated.

Bright stainless steel.

Sample order:

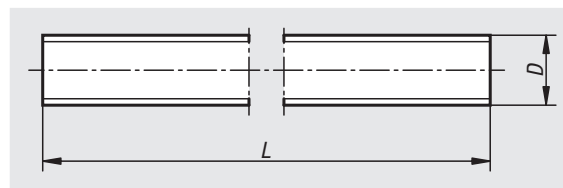
nlm 07640-16

Note:

Threaded rods are only available in 1000 mm lengths.

Threaded rods size M3 and M4 may be slightly bent when delivered.

The blank version may, for technical reasons have a grey to black surface.



Order No. 4.6 galvanised	Order No. 8.8 galvanised	Order No. 8.8 bright	Main material	Version 1	D	L
07640-031	-	-	steel	rh thread	M3	1000
07640-041	07640-043	-	steel	rh thread	M4	1000
07640-051	07640-053	07640-05	steel	rh thread	M5	1000
07640-061	07640-063	07640-06	steel	rh thread	M6	1000
07640-081	07640-083	07640-08	steel	rh thread	M8	1000
07640-101	07640-103	07640-10	steel	rh thread	M10	1000
07640-121	07640-123	07640-12	steel	rh thread	M12	1000
-	07640-143	07640-14	steel	rh thread	M14	1000
07640-161	07640-163	07640-16	steel	rh thread	M16	1000
-	07640-183	07640-18	steel	rh thread	M18	1000
07640-201	07640-203	07640-20	steel	rh thread	M20	1000
-	07640-223	07640-22	steel	rh thread	M22	1000
07640-241	07640-243	07640-24	steel	rh thread	M24	1000
07640-301	07640-303	-	steel	rh thread	M30	1000
07640-361	07640-363	-	steel	rh thread	M36	1000
07640-1041	-	-	steel	lh thread	M4	1000
07640-1051	-	-	steel	lh thread	M5	1000
07640-1061	07640-1063	-	steel	lh thread	M6	1000
07640-1081	07640-1083	-	steel	lh thread	M8	1000
07640-1101	07640-1103	-	steel	lh thread	M10	1000
07640-1121	07640-1123	-	steel	lh thread	M12	1000
07640-1161	07640-1163	-	steel	lh thread	M16	1000
07640-1201	07640-1203	-	steel	lh thread	M20	1000
07640-1241	07640-1243	-	steel	lh thread	M24	1000
07640-1301	07640-1303	-	steel	lh thread	M30	1000
-	07640-1363	-	steel	lh thread	M36	1000

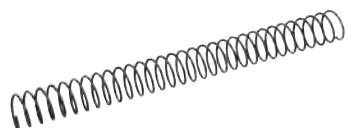
Threaded rods

steel and stainless steel DIN 976-1

Order No.	Material	Version 1	D	L
07640-052	stainless steel	rh thread	M5	1000
07640-062	stainless steel	rh thread	M6	1000
07640-082	stainless steel	rh thread	M8	1000
07640-102	stainless steel	rh thread	M10	1000
07640-122	stainless steel	rh thread	M12	1000
07640-162	stainless steel	rh thread	M16	1000
07640-182	stainless steel	rh thread	M18	1000
07640-202	stainless steel	rh thread	M20	1000
07640-222	stainless steel	rh thread	M22	1000
07640-242	stainless steel	rh thread	M24	1000
07640-1042	stainless steel	lh thread	M4	1000
07640-1052	stainless steel	lh thread	M5	1000
07640-1062	stainless steel	lh thread	M6	1000
07640-1082	stainless steel	lh thread	M8	1000
07640-1102	stainless steel	lh thread	M10	1000
07640-1122	stainless steel	lh thread	M12	1000
07640-1162	stainless steel	lh thread	M16	1000
07640-1202	stainless steel	lh thread	M20	1000
07640-1242	stainless steel	lh thread	M24	1000

Springs

for clamp straps


Material:

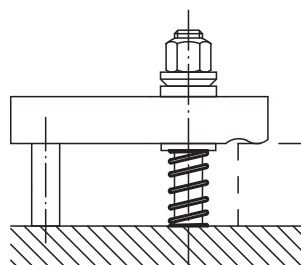
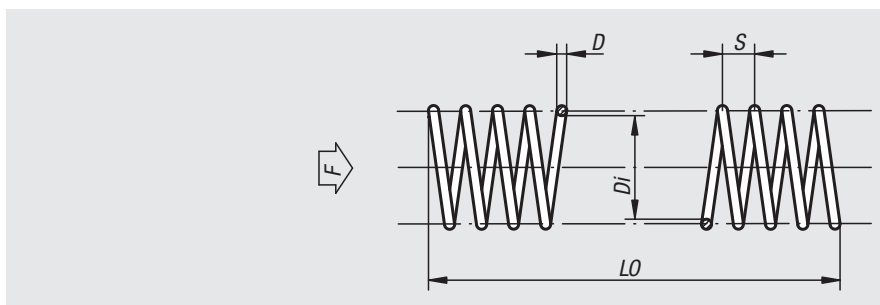
Spring steel wire EN 10270-1-DH.

Sample order:

nIm 07650-12

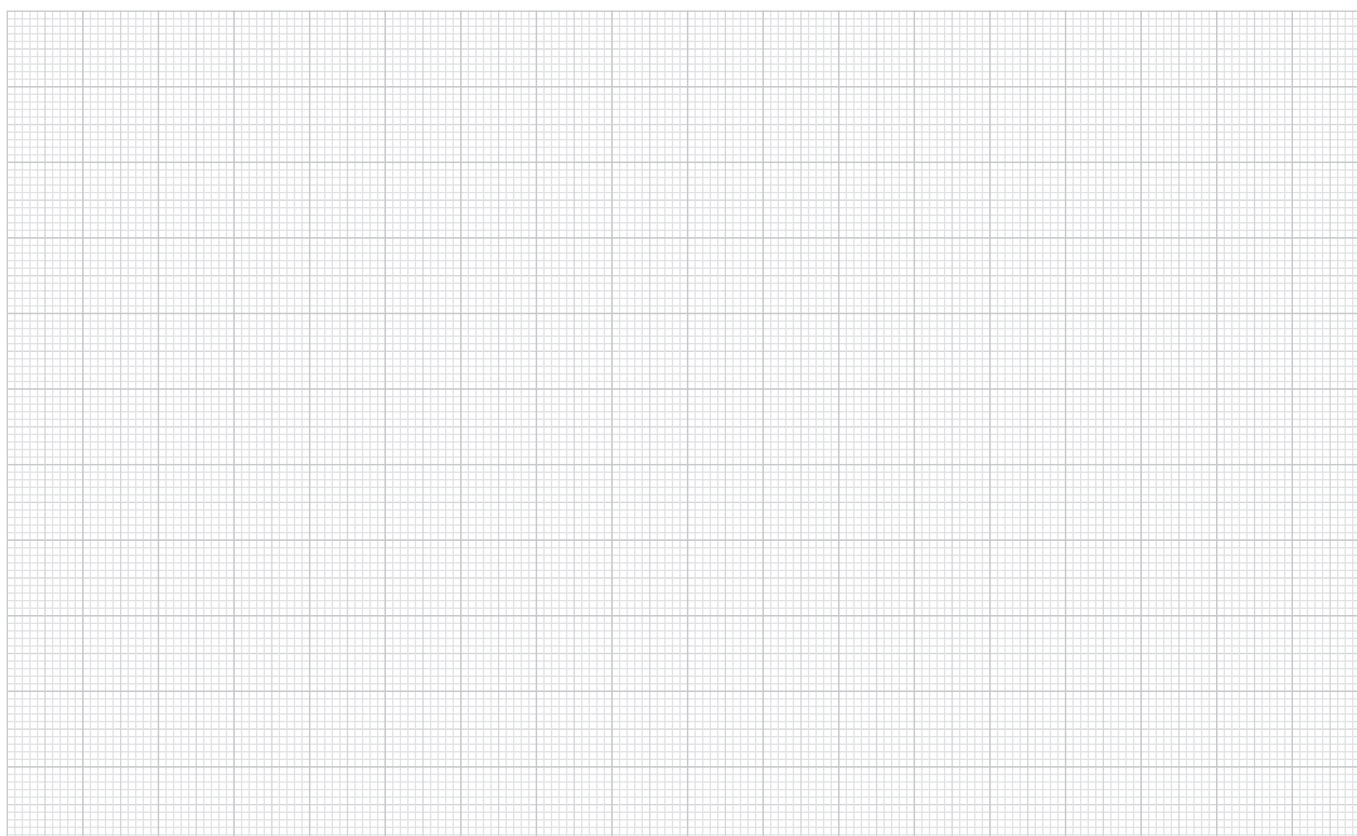
Note:

Springs are only available in 400 mm lengths.



Order No.	D	Di	LO	S	Spring force F approx. N	Compression factor under f
07650-06	1	6,5	400	3	32	1,3
07650-08	1	8,5	400	4	25	2,1
07650-10	1,2	10,5	400	4	35	2,7
07650-12	1,4	12,5	400	5	47	3,3
07650-14	1,5	14,5	400	6	50	4
07650-16	1,6	16,5	400	7	53	4,8
07650-18	1,8	18,5	400	7	68	5,4
07650-20	1,8	20,5	400	8	62	6,5
07650-24	2	25	400	9	70	8,6

Notes



HeliCoil® plus threaded inserts

Material:

Stainless steel 1.4301.

Version:

Bright.

Sample order:

nIm 07645-01 (assortment box)

Note:

HeliCoil® plus threaded inserts are an indispensable aid to any metalworking business and restoration shop.

Threaded holes that are torn out, rusted solid or have been drilled too big, can have their original internal thread diameter restored in minutes.

Technically perfect and lasting for an unlimited time, they are also corrosion and heat-resistant. Expensive products can be repaired and saved from the scrap bin.

The high surface quality guarantees optimal yield strength and high pre-stress of high tensile bolts. HeliCoil® plus threaded inserts are also ideally for transmission threads in all light alloys and cast parts. Instructions for installation and thread are enclosed. Additional dimensions and installation tools available on request.

Assortment Box

Assortment box consisting of M5 to M12 threaded inserts, each in three different thread lengths, spiral drills (only for M5 - M10 inserts), special hand taps, spindle inserts and pin breakers.

Repair Kits

Consisting of one size of threaded inserts, each in three different thread lengths, spiral drills, special hand taps, spindle inserts and pin breakers.



assortment box

repair kits



spare threaded inserts, loose

Order No.	Version	Thread sizes in set	No. off inserts	Insert length assembled mm
07645-01	Assortment Box	M5	10	5 / 7,5 / 10
		M6		6 / 9 / 12
		M8		8 / 12 / 16
		M10		10 / 15 / 20
		M12		12 / 18 / 24

Order No.	Version	Threaded Inserts	No. off inserts	Insert length assembled mm
07645-0523	Repair Set	M5	each length 20	5 / 7,5 / 10
07645-0623	Repair Set	M6	each length 20	6 / 9 / 12
07645-0823	Repair Set	M8	each length 10	8 / 12 / 16
07645-1023	Repair Set	M10	each length 10	10 / 15 / 20
07645-1223	Repair Set	M12	each length 10	12 / 18 / 24

Order No.	Version	Threaded Inserts	Insert length assembled mm
07645-0521	Spare Inserts	M5	5
07645-0531	Spare Inserts	M5	7,5
07645-0541	Spare Inserts	M5	10
07645-0621	Spare Inserts	M6	6
07645-0631	Spare Inserts	M6	9
07645-0641	Spare Inserts	M6	12
07645-0821	Spare Inserts	M8	8
07645-0831	Spare Inserts	M8	12
07645-0841	Spare Inserts	M8	16
07645-1021	Spare Inserts	M10	10
07645-1031	Spare Inserts	M10	15
07645-1041	Spare Inserts	M10	20
07645-1221	Spare Inserts	M12	12
07645-1231	Spare Inserts	M12	18
07645-1241	Spare Inserts	M12	24

before



after



Self-tapping thread inserts

installation information

Installing by hand

1. Drilling

Drill out the old hole with a core drill. If necessary, countersink the hole. By hard and tough materials the thread must be pre-tapped (max. intermediate tap).



2. Screw threaded insert onto the installation tool

Screw the thread insert onto the installation tool with the slot or hole downwards and lock in place with the locknut using a spanner.



3. Screw in the thread insert

Screw in thread insert into the hole. The thread insert cuts its own thread. The installation tool has a 1/4" hexagon spigot and can be driven by a cordless driver, ratchet and socket etc.



4. Screw out the installation tool

Loosen the lock nuts with a spanner and screw the installation tool out. With the thread insert the thread is now more wear resistant, more durable and vibration resistant than the original thread.



Installation on a machine

1. Drilling

Drill out the old hole with a core drill. If necessary countersink the borehole. By hard and tough materials the thread must be pre-tapped (max. intermediate tap).



2. Machine settings and positioning

Position the workpiece under the machine. Set the machine to the screw in depth. Turn the outer sleeve so that the stop pin makes contact and carries the sleeve when screwing in begins. Screw the threaded insert 2 to 4 turns onto the threaded pin.



3. Screw in the thread insert

Allow the machine to run until the threaded insert is screwed into the workpiece. Introduce the tool gently to the workpiece down to prevent damaging or breaking the thread insert or the installation tool.



4. Screw the tool out

Set the machine into reverse. The outer sleeve is carried by the stop pin and counters the thread insert.



Recommended drilling diameter

		Threaded inserts with cutting slot case-hardened steel, galvanized, yellow-chromated				Threaded inserts with cutting holes case-hardened steel, galvanized, yellow-chromated			
Materials	Light metal alloys tensile strength [N/mm ²]	< 250 N/mm² < 300 N/mm² < 350 N/mm² > 350 N/mm²				< 300 N/mm² < 350 N/mm² > 350 N/mm²			
	Brass, non-ferrous metals, bronze	> 350 N/mm²				> 350 N/mm²			
	Cast iron Brinell hardness [HB]	< 150 HB < 200 HB > 200 HB				< 150 HB < 200 HB > 200 HB			
	Internal thread D								
	M3 x 0,5	-	4,6 mm	4,7 mm	4,8 mm	4,6 mm	4,7 mm	4,8 mm	
	M4 x 0,7	5,9 mm	6,0 mm	6,1 mm	6,2 mm	6,0 mm	6,1 mm	6,2 mm	
	M5 x 0,8	7,2 mm	7,3 mm	7,5 mm	7,6 mm	7,4 mm	7,5 mm	7,6 mm	7,7 mm
	M6 x 1,0	8,8 mm	9,0 mm	9,2 mm	9,4 mm	9,3 mm	9,4 mm	9,5 mm	9,6 mm
	M8 x 1,25	10,8 mm	11,0 mm	11,2 mm	11,4 mm	11,1 mm	11,2 mm	11,3 mm	11,5 mm
	M10 x 1,5	12,8 mm	13,0 mm	13,2 mm	13,4 mm	13,1 mm	13,2 mm	13,3 mm	13,5 mm
	M12 x 1,75	14,8 mm	15,0 mm	15,2 mm	15,4 mm	15,0 mm	15,1 mm	15,2 mm	15,4 mm
	M16 x 2,0	18,8 mm	19,0 mm	19,2 mm	19,4 mm	19,0 mm	19,1 mm	19,2 mm	19,4 mm
	Flank coverage	ca. 60%	ca. 50%	ca. 40%	ca. 30%	ca. 80%	ca. 70%	ca. 60%	ca. 50%

Lubrication may be required

Lubrication may be required

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:

nlm 07652-03

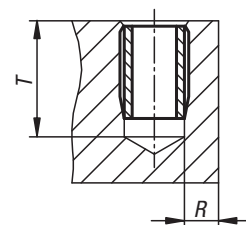
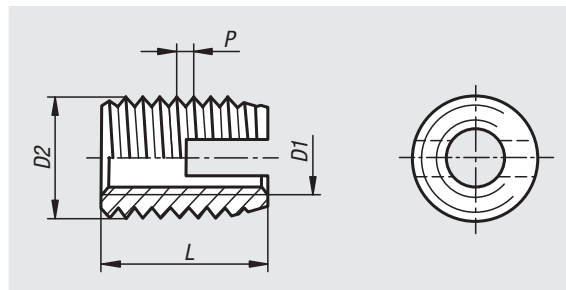
Note:

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.



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
07652-03	steel	M3	5	6	0,5	8	1	1,5	1,25	07652-803	07652-903
07652-04	steel	M4	6,5	8	0,75	10	1,3	1,95	1,6	07652-804	07652-904
07652-05	steel	M5	8	10	1	13	1,6	2,4	2	07652-805	07652-905
07652-06	steel	M6	10	14	1,5	17	2	3	2,5	07652-806	07652-906
07652-08	steel	M8	12	15	1,5	18	2,4	3,6	3	07652-808	07652-908
07652-10	steel	M10	14	18	1,5	22	2,8	4,2	3,5	07652-810	07652-910
07652-12	steel	M12	16	22	1,5	26	3,2	4,8	4	07652-812	07652-912
07652-16	steel	M16	20	22	1,5	27	4	6	5	-	07652-916
07652-103	stainless steel	M3	5	6	0,5	8	1	1,5	1,25	07652-803	07652-903
07652-104	stainless steel	M4	6,5	8	0,75	10	1,3	1,95	1,6	07652-804	07652-904
07652-105	stainless steel	M5	8	10	1	13	1,6	2,4	2	07652-805	07652-905
07652-106	stainless steel	M6	10	14	1,5	17	2	3	2,5	07652-806	07652-906
07652-108	stainless steel	M8	12	15	1,5	18	2,4	3,6	3	07652-808	07652-908
07652-110	stainless steel	M10	14	18	1,5	22	2,8	4,2	3,5	07652-810	07652-910
07652-112	stainless steel	M12	16	22	1,5	26	3,2	4,8	4	07652-812	07652-912
07652-116	stainless steel	M16	20	22	1,5	27	4	6	5	-	07652-916

Assembly tools

for self-tapping threaded inserts


Material:

Steel.

Version:

Hand assembly tool, electro zinc-plated.

Machine assembly tool, black oxidised.

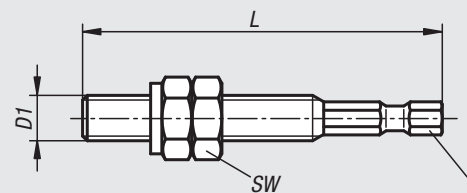
Sample order:

nIm 07652-803

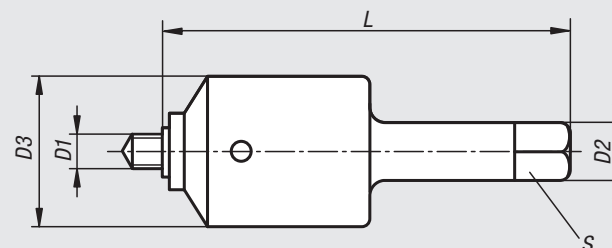
Note:

The turning in by hand is carried out with the manual assembly tool and a cordless screwdriver, ratchet, socket etc. Machine assembly is carried out with the machine assembly tool preferably on a thread-cutting machine.

Hand assembly tool



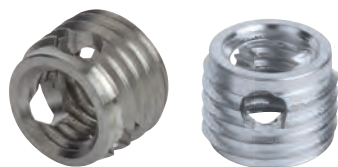
Machine assembly tool



Order No.	Version 1	D1 internal thread	D2	D3	L length	S	SW	Insertion torque ref. values Nm	RPM ref. values for light metal
07652-803	manual operation	M3	-	-	46	1/4	5,5	2,5	-
07652-804	manual operation	M4	-	-	48	1/4	7	5,5	-
07652-805	manual operation	M5	-	-	57	1/4	8	10	-
07652-806	manual operation	M6	-	-	62	1/4	10	15	-
07652-808	manual operation	M8	-	-	72	1/4	13	28	-
07652-810	manual operation	M10	-	-	82	1/4	17	40	-
07652-812	manual operation	M12	-	-	92	1/4	19	60	-
07652-903	machine type	M3	8	18	80	6	-	2,5	650 - 900
07652-904	machine type	M4	8	18	80	6	-	5,5	400 - 600
07652-905	machine type	M5	12,5	30	96,5	10	-	10	400 - 600
07652-906	machine type	M6	12,5	30	96,5	10	-	15	280 - 400
07652-908	machine type	M8	12,5	30	96,5	10	-	28	280 - 400
07652-910	machine type	M10	13	40	110	10	-	40	200 - 300
07652-912	machine type	M12	13	40	110	10	-	60	200 - 300
07652-916	machine type	M16	13	40	110	10	-	160	150 - 200

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:

nlm 07653-03

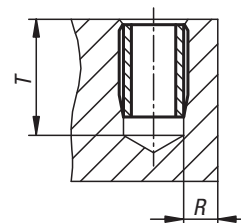
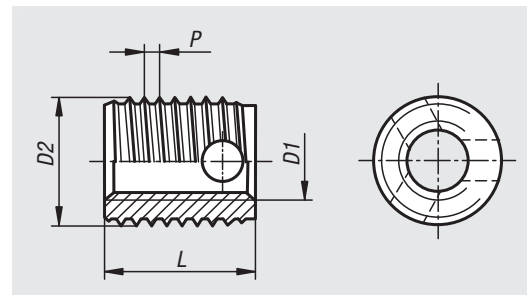
Note:

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.



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
07653-03	steel	M3	5	4	0,6	6	1	1,5	1,25	07652-803	07652-903
07653-04	steel	M4	6,5	6	0,8	8	1,3	1,95	1,6	07652-804	07652-904
07653-05	steel	M5	8	7	1	9	1,6	2,4	2	07652-805	07652-905
07653-06	steel	M6	10	8	1,25	10	2	3	2,5	07652-806	07652-906
07653-08	steel	M8	12	9	1,5	11	2,4	3,6	3	07652-808	07652-908
07653-10	steel	M10	14	10	1,5	13	2,8	4,2	3,5	07652-810	07652-910
07653-12	steel	M12	16	12	1,75	15	3,2	4,8	4	07652-812	07652-912
07653-103	stainless steel	M3	5	4	0,6	6	1	1,5	1,25	07652-803	07652-903
07653-104	stainless steel	M4	6,5	6	0,8	8	1,3	1,95	1,6	07652-804	07652-904
07653-105	stainless steel	M5	8	7	1	9	1,6	2,4	2	07652-805	07652-905
07653-106	stainless steel	M6	10	8	1,25	10	2	3	2,5	07652-806	07652-906
07653-108	stainless steel	M8	12	9	1,5	11	2,4	3,6	3	07652-808	07652-908
07653-110	stainless steel	M10	14	10	1,5	13	2,8	4,2	3,5	07652-810	07652-910
07653-112	stainless steel	M12	16	12	1,75	15	3,2	4,8	4	07652-812	07652-912

Threaded inserts


Material:

Steel or stainless steel.

Version:

Passivated.

Sample order:

nln 07660-12 threaded insert

nln 07660-812 assembly tool

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.

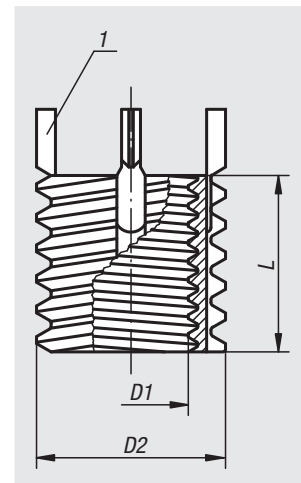
Technical information see operating instructions for threaded inserts.

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



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
07660-05	07660-105	M5	M8	8	6,9	8,3	M8	9,5	5,5	4	07660-805
07660-06	07660-106	M6	M10x1,25	10	8,8	10,3	M10x1,25	11,5	7,5	4,8	07660-806
07660-08	07660-108	M8	M12x1,25	12	10,8	12,3	M12x1,25	13,5	9,5	4,8	07660-808
07660-08X1	07660-108X1	M8x1	M12x1,25	12	10,8	12,3	M12x1,25	13,5	9,5	4,8	07660-808
07660-10	07660-110	M10	M14x1,5	14	12,8	14,3	M14x1,5	15,5	11,5	4,8	07660-810
07660-10X125	07660-110X125	M10x1,25	M14x1,5	14	12,8	14,3	M14x1,5	15,5	11,5	4,8	07660-810
07660-12	07660-112	M12	M16x1,5	16	14,8	16,3	M16x1,5	17,5	13,5	4,8	07660-812
07660-12X125	07660-112X125	M12x1,25	M16x1,5	16	14,8	16,3	M16x1,5	17,5	13,5	4,8	07660-812

Threaded inserts reinforced


Material:

Steel or stainless steel.

Version:

Passivated.

Sample order:

nIm 07661-12 reinforced threaded insert

nIm 07661-812 assembly tool

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.

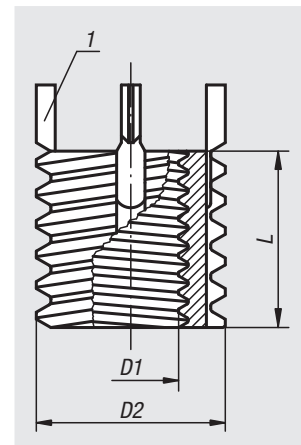
Technical information see operating instructions for threaded inserts.

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



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
07661-04	07661-104	M4	M8	8	6,9	8,3	M8	9,5	5,5	4	07661-804
07661-05	07661-105	M5	M10x1,25	10	8,8	10,3	M10x1,25	12,5	7,5	4,8	07661-805
07661-06	07661-106	M6	M12x1,25	12	10,8	12,3	M12x1,25	14,5	9,5	4,8	07661-806
07661-08	07661-108	M8	M14x1,5	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	07661-808
07661-08X1	07661-108X1	M8x1	M14x1,5	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	07661-808
07661-10	07661-110	M10	M16x1,5	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	07661-810
07661-10X125	07661-110X125	M10x1,25	M16x1,5	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	07661-810
07661-12	07661-112	M12	M18x1,5	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	07661-812
07661-12X125	07661-112X125	M12x1,25	M18x1,5	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	07661-812
07661-14	07661-114	M14	M20x1,5	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	07661-814
07661-14X15	07661-114X15	M14x1,5	M20x1,5	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	07661-814
07661-16	07661-116	M16	M22x1,5	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	07661-816
07661-16X15	07661-116X15	M16x1,5	M22x1,5	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	07661-816
07661-18X15	07661-118X15	M18x1,5	M24x1,5	24	22,5	24,3	M24x1,5	26,5	19,8	6,4	07661-818
07661-20	07661-120	M20	M30x2	30	28	30,3	M30x2	34,5	25,8	6,4	07661-820
07661-20X15	07661-120X15	M20x1,5	M30x2	30	28	30,3	M30x2	34,5	25,8	6,4	07661-820
07661-22X15	07661-122X15	M22x1,5	M32x2	32	30	32,3	M32x2	36,5	27,8	6,4	07661-822
07661-24	07661-124	M24	M33x2	33	31	33,3	M33x2	37,5	28,8	6,4	07661-824
07661-24X2	07661-124X2	M24x2	M33x2	33	31	33,3	M33x2	37,5	28,8	6,4	07661-824

Threaded inserts solid body


Material:

Steel.

Version:

Passivated.

Sample order:

n1m 07662-10X125 solid body threaded insert

n1m 07662-810 assembly tool

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.

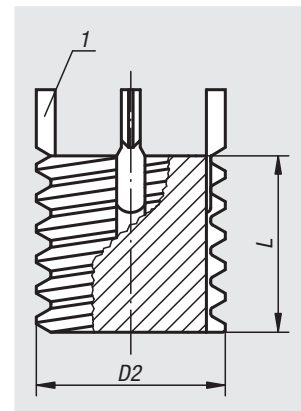
Technical information see operating instructions for threaded inserts.

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



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
07662-08	M8	8	6,9	8,3	M8	9,5	5,5	4	07662-808
07662-10X125	M10x1,25	10	8,8	10,3	M10x1,25	12,5	7,5	4,8	07662-810
07662-12X125	M12x1,25	12	10,8	12,3	M12x1,25	14,5	9,5	4,8	07662-812
07662-14X15	M14x1,5	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	07662-814
07662-16X15	M16x1,5	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	07662-816
07662-18X15	M18x1,5	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	07662-818
07662-20X15	M20x1,5	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	07662-820
07662-22X15	M22x1,5	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	07662-822
07662-24X15	M24x1,5	24	22,5	24,3	M24x1,5	26,5	19,8	6,4	07662-824
07662-30X2	M30x2	30	28	30,3	M30x2	34,5	25,8	6,4	07662-830

Threaded inserts

with internal thread, self-locking



Material:

Stainless steel

Version:

Passivated.

Sample order:

nIm 07663-112 threaded insert

nIm 07660-812 assembly tool

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.

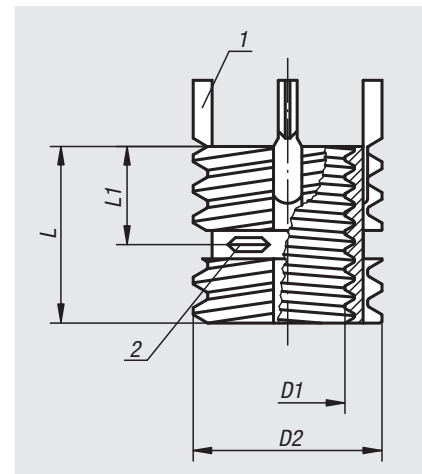
Advantages:

- 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



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
07663-105	M5	M8	4	8	6,9	8,3	M8	9,5	5,5	4	07660-805
07663-106	M6	M10x1,25	5	10	8,8	10,3	M10x1,25	11,5	7,5	4,8	07660-806
07663-108	M8	M12x1,25	6	12	10,8	12,3	M12x1,25	13,5	9,5	4,8	07660-808
07663-110	M10	M14x1,5	7	14	12,8	14,3	M14x1,5	15,5	11,5	4,8	07660-810
07663-112	M12	M16x1,5	8	16	14,8	16,3	M16x1,5	17,5	13,5	4,8	07660-812

Threaded inserts reinforced

internal thread, self-locking


Material:

Stainless steel

Version:

Passivated.

Sample order:

nlm 07664-110 reinforced threaded insert

nlm 07661-810 assembly tool

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.

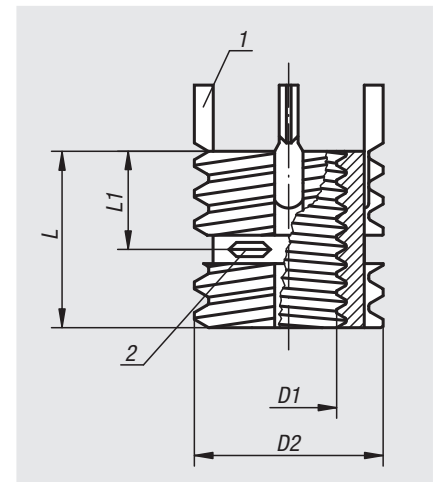
Technical information see operating instructions for threaded inserts.

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



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
07664-104	M4	M8	4	8	6,9	8,3	M8	9,5	5,5	4	07661-804
07664-105	M5	M10x1,25	5	10	8,8	10,3	M10x1,25	12,5	7,5	4,8	07661-805
07664-106	M6	M12x1,25	6	12	10,8	12,3	M12x1,25	14,5	9,5	4,8	07661-806
07664-108	M8	M14x1,5	7	14	12,8	14,3	M14x1,5	16,5	11,5	4,8	07661-808
07664-110	M10	M16x1,5	8	16	14,8	16,3	M16x1,5	18,5	13,5	4,8	07661-810
07664-112	M12	M18x1,5	9	18	16,8	18,3	M18x1,5	20,5	15,5	4,8	07661-812
07664-114	M14	M20x1,5	10	20	18,8	20,3	M20x1,5	22,5	17,5	4,8	07661-814
07664-116	M16	M22x1,5	11	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	07661-816
07664-116X15	M16x1,5	M22x1,5	11	22	20,7	22,3	M22x1,5	24,5	17,8	6,4	07661-816
07664-118X15	M18x1,5	M24x1,5	12	24	22,5	24,3	M24x1,5	26,5	19,8	6,4	07661-818
07664-120	M20	M30x2	15	30	28	30,3	M30x2	34,5	25,8	6,4	07661-820

Repair kit

Material:

Steel.

Version:

Passivated.

Sample order:

nln 07666-01

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:

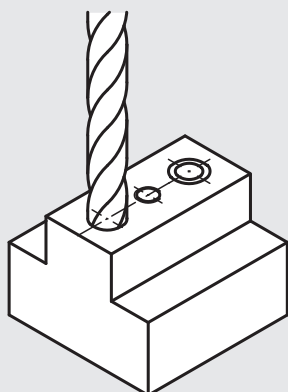
- Quick and easy installation.
- The insert is fixed with pins in order to prevent torsion due to twisting or vibrations.
- No other special tools are required besides the assembly tool.



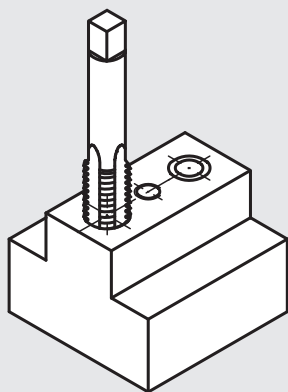
Order No.	Female threads	Male threads	Insert length	Number of inserts	Number of assembly tools	Order No. of individual insert
07666-01	M5	M8	8	8	1	07660-05
	M6	M10X1,25	10	8	1	07660-06
	M8	M12X1,25	12	6	1	07660-08
	M8X1	M12X1,25	12	6	-	07660-08X1
	M10	M14X1,5	14	4	1	07660-10
	M10X1,25	M14X1,5	14	4	-	07660-10X125
	M12	M16X1,5	16	3	1	07660-12
	M12X1,25	M16X1,5	16	3	-	07660-12X125

Operating instructions for threaded inserts

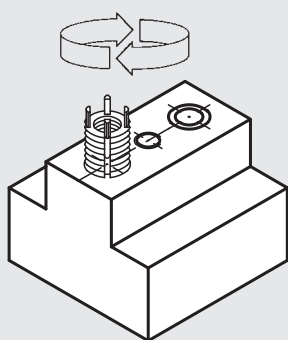
Fitting instructions



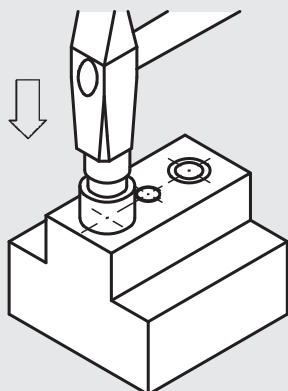
- 1.*
Rebore the old thread and
countersink it ($82^{\circ} - 100^{\circ}$).



- 2.*
Tap thread with a
standard screw tap.



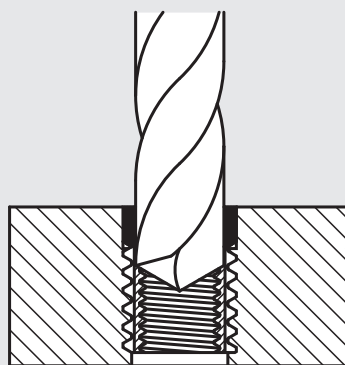
3.
Screw in the insert to just
below the surface
(0.3 – 0.7 mm).



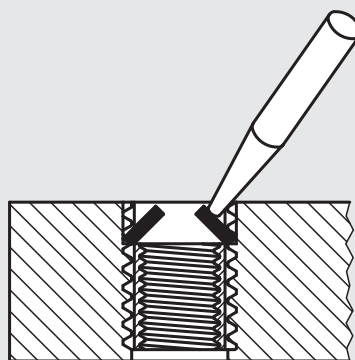
4.
Drive in the locking pins by
striking the assembly tool
lightly with a hammer.

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

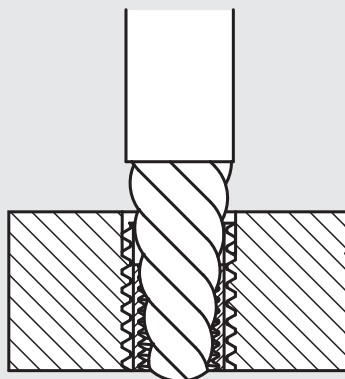
Removal instructions



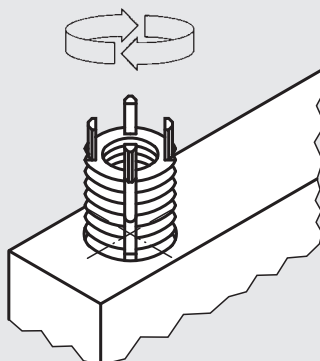
- 1.*
Rebore the material
between the locking pins
and the internal thread to
the specified depth.



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"

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:

nlm 07670-1040201

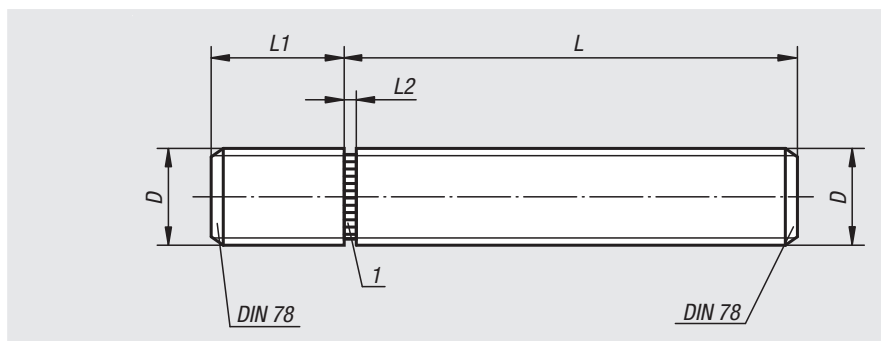
Note:

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 97990) have proven themselves in practice as successful bonding agents.

Drawing reference:

1) screw-in stop



Order No. steel	Order No. stainless steel	D	L	L1	L2
07670-1040201	07670-1040202	M4	20	6	1
07670-1040301	07670-1040302	M4	30	6	1
07670-1040401	07670-1040402	M4	40	6	1
07670-1040501	07670-1040502	M4	50	6	1
07670-1050201	07670-1050202	M5	20	8	1
07670-1050301	07670-1050302	M5	30	8	1
07670-1050401	07670-1050402	M5	40	8	1
07670-1050501	07670-1050502	M5	50	8	1
07670-1050601	07670-1050602	M5	60	8	1
07670-1060201	07670-1060202	M6	20	9	1,5
07670-1060301	07670-1060302	M6	30	9	1,5
07670-1060401	07670-1060402	M6	40	9	1,5
07670-1060501	07670-1060502	M6	50	9	1,5
07670-1060601	07670-1060602	M6	60	9	1,5
07670-1080201	07670-1080202	M8	20	12	1,5
07670-1080301	07670-1080302	M8	30	12	1,5
07670-1080401	07670-1080402	M8	40	12	1,5
07670-1080501	07670-1080502	M8	50	12	1,5
07670-1080601	07670-1080602	M8	60	12	1,5
07670-1080801	07670-1080802	M8	80	12	1,5
07670-1100201	07670-1100202	M10	20	14	2
07670-1100301	07670-1100302	M10	30	14	2
07670-1100401	07670-1100402	M10	40	14	2
07670-1100501	07670-1100502	M10	50	14	2
07670-1100601	07670-1100602	M10	60	14	2
07670-1100801	07670-1100802	M10	80	14	2
07670-1120301	07670-1120302	M12	30	17	2
07670-1120401	07670-1120402	M12	40	17	2
07670-1120501	07670-1120502	M12	50	17	2
07670-1120601	07670-1120602	M12	60	17	2
07670-1120801	07670-1120802	M12	80	17	2
07670-1160301	07670-1160302	M16	30	22	2
07670-1160401	07670-1160402	M16	40	22	2
07670-1160501	07670-1160502	M16	50	22	2
07670-1160601	07670-1160602	M16	60	22	2
07670-1160801	07670-1160802	M16	80	22	2

Technical information for studs with screw-in stop



Studs with screw-in stop are designed especially as glue-in studs. They allow mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

Advantages:

- Defined screw-in length due to the screw-in stop.
- Screwing in against the screw-in stop achieves an optimal bonding gap and hence a permanently safe bond that has been proven a thousandfold.
- Easy and low-cost connection.
- The operating part product line can be quickly and easily supplemented by other external thread variations.

The LOCTITE products 638 and 648 have proven themselves in practice as a successful bonding agent.

Ring bolts

DIN 580



Material:

1.1141 steel, 1.4301 stainless steel or
1.4401 stainless steel.

Version:

Drop forged.
Steel, bright.
Steel electro zinc-plated.

Sample order:

nlm 07680-20

Note:

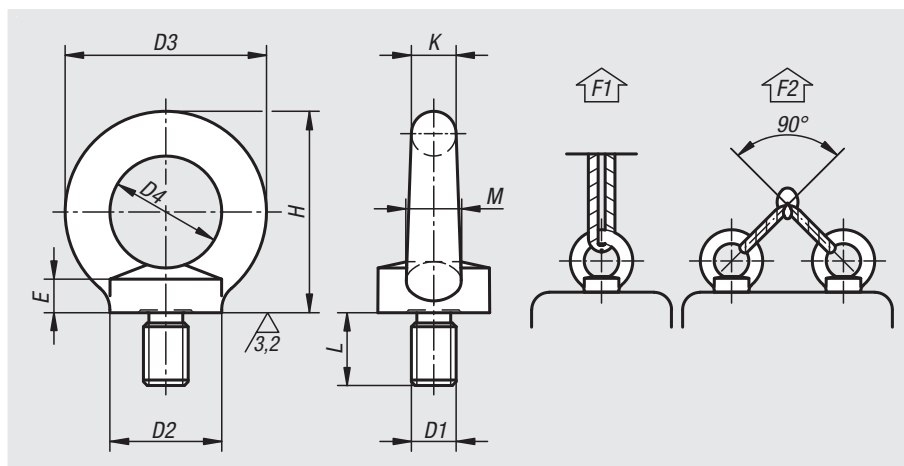
For high demand hoisting and carrying tasks in safety-relevant areas (machine construction, load handling equipment, lifting tackle).

The CE mark is impressed into the ring bolt.

F2 permissible load under max. 45° per ring bolt.

On request:

Certificate of conformity.



Order No. steel bright	Order No. steel galvanised	D1	L	D2	D3	D4	E	H	K	M	F1 max. kN	F2 max. kN
07680-08	07680-008	M8	13	20	36	20	6	36	8	10	1,4	0,95
07680-10	07680-010	M10	17	25	45	25	8	45	10	12	2,3	1,7
07680-12	07680-012	M12	20,5	30	54	30	10	53	12	14	3,4	2,4
07680-16	07680-016	M16	27	35	63	35	12	62	14	16	7	5
07680-20	07680-020	M20	30	40	72	40	14	71	16	19	12	8,3
07680-24	07680-024	M24	36	50	90	50	18	90	20	24	18	12,7

Order No. stainless steel 1.4301	Order No. stainless steel 1.4401	D1	L	D2	D3	D4	E	H	K	M	F1 max. kN	F2 max. kN
07680-108	07680-208	M8	13	20	36	20	6	36	8	10	1,4	0,95
07680-110	07680-210	M10	17	25	45	25	8	45	10	12	2,3	1,7
07680-112	07680-212	M12	20,5	30	54	30	10	53	12	14	3,4	2,4
07680-116	07680-216	M16	27	35	63	35	12	62	14	16	7	5
07680-124	07680-224	M24	36	50	90	50	18	90	20	24	18	12,7
07680-120	07680-220	M20	30	40	72	40	14	71	16	19	12	8,3

Ring bolts

similar to DIN 580


Material:

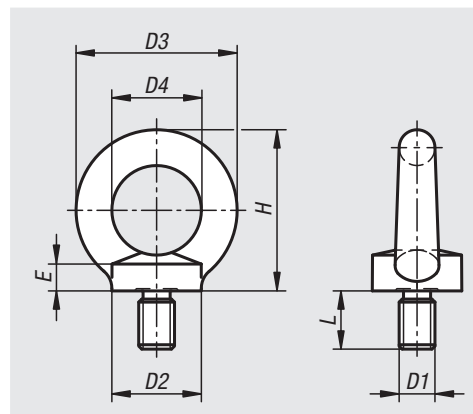
Stainless steel 1.4401.

Version:

Bright.

Sample order:

nIm 07680-01-08



Order No.	D1	D2	D3	D4	E	H	L
07680-01-08	M8	20	36	20	6	36	13
07680-01-10	M10	25	45	25	8	45	17
07680-01-12	M12	30	54	30	10	53	20,5
07680-01-16	M16	35	63	35	12	62	27
07680-01-20	M20	40	72	40	14	71	30

Ring nuts

DIN 582


Material:

1.1141 steel, 1.4301 stainless steel or
1.4401 stainless steel.

Version:

Drop forged.
Steel, bright.
Steel electro zinc-plated.

Sample order:

nlm 07690-10

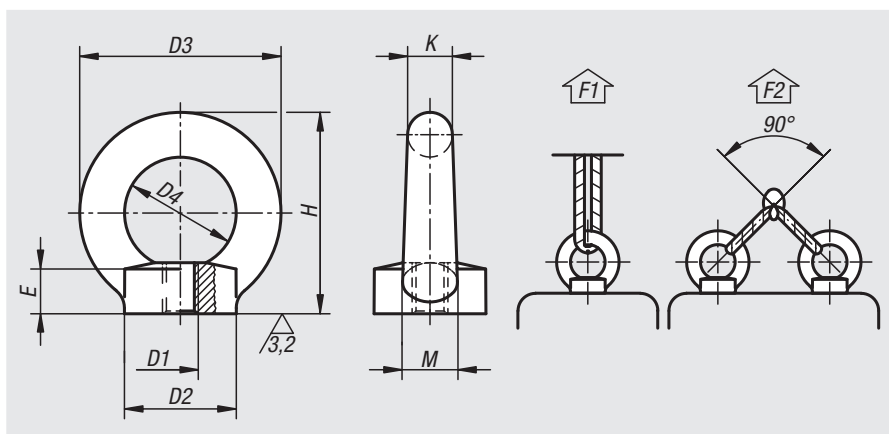
Note:

For high demand hoisting and carrying tasks in
safety-relevant areas (machine construction, load
handling equipment, lifting tackle).

The CE mark is impressed into the ring bolt.
F2 permissible load under max. 45° per ring bolt.

On request:

Certificate of conformity.



Order No. steel bright	Order No. steel galvanised	D1	D2	D3	D4	E	H	K	M	F1 max. kN	F2 max. kN
07690-08	07690-008	M8	20	36	20	8,5	36	8	10	1,4	0,95
07690-10	07690-010	M10	25	45	25	10	45	10	12	2,3	1,7
07690-12	07690-012	M12	30	54	30	11	53	12	14	3,4	2,4
07690-16	07690-016	M16	35	63	35	13	62	14	16	7	5
07690-20	07690-020	M20	40	72	40	16	71	16	19	12	8,3
07690-24	07690-024	M24	50	90	50	20	90	20	24	18	12,7

Order No. stainless steel 1.4301	Order No. stainless steel 1.4401	D1	D2	D3	D4	E	H	K	M	F1 max. kN	F2 max. kN
07690-108	07690-208	M8	20	36	20	8,5	36	8	10	1,4	0,95
07690-110	07690-210	M10	25	45	25	10	45	10	12	2,3	1,7
07690-112	07690-212	M12	30	54	30	11	53	12	14	3,4	2,4
07690-116	07690-216	M16	35	63	35	13	62	14	16	7	5
07690-120	07690-220	M20	40	72	40	16	71	16	19	12	8,3
07690-124	07690-224	M24	50	90	50	20	90	20	24	18	12,7

Ring nuts

similar to DIN 582


Material:

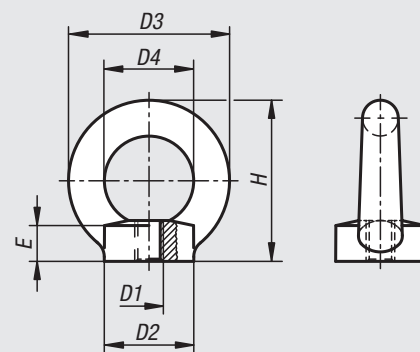
Stainless steel 1.4401.

Version:

Bright.

Sample order:

nIm 07690-01-08



Order No.	D1	D2	D3	D4	E	H
07690-01-08	M8	20	36	20	6	36
07690-01-10	M10	25	45	25	8	45
07690-01-12	M12	30	54	30	10	53
07690-01-16	M16	35	63	35	12	62
07690-01-20	M20	40	72	40	14	71

Ring bolts rotatable

high-strength grade 10



Material:

Ring 1.6541 steel.
Screw steel.

Version:

Ring forged and high tensile tempered.
100% electromagnetic crack tested per EN 1677-1, 4x safety factor.
Plastic-coated.
Thread grade 10.9.

Sample order:

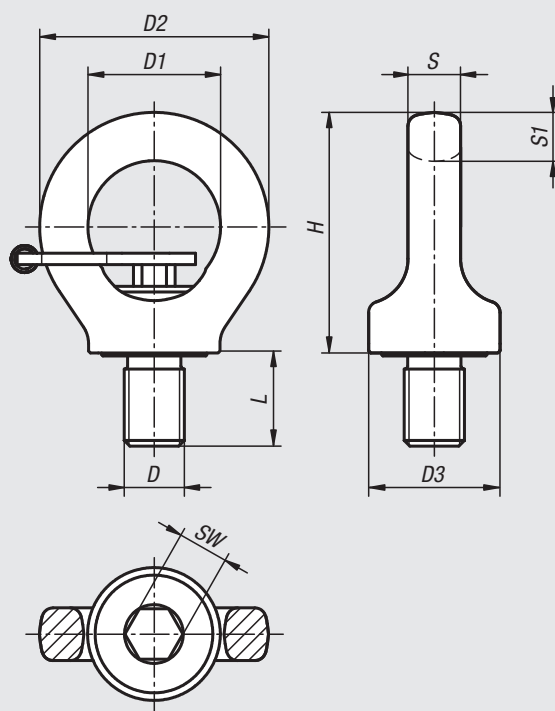
n1m 07695-08151

Note:

In contrast to DIN 580 ring bolts this ring bolt is rotatable, therefore the load direction is adjustable and unintended tightening or loosening is negated.

- 4x safety factor
- lateral loading up to 90° is possible
- ring can rotate 360° with tightened screw

The listed load values apply for a minimum screw length of 1x nominal thread diameter in steel with a minimum tensile strength of 363 N/mm², at an application temperature of -20 °C to +100 °C.



Maximum lifting weight "G" in kg for different sling types

Sling configuration								
No. of slings	1	2	1	2	2	2	3 - 4	3 - 4
Sling angle α	0°	0°	90°	90°	0°-45°	45°-60°	0°-45°	45°-60°
M8	1000	2000	300	600	420	300	630	450
M10	1000	2000	400	800	560	400	840	600
M12	2000	4000	750	1500	1000	750	1600	1120
M16	4000	8000	1500	3000	2000	1500	3150	2250
M20	6000	12000	2300	4600	3220	2300	4830	3450
M24	8000	16000	3200	6400	4480	3200	6700	4800
M30	12000	24000	4500	9000	6300	4500	9400	6700

Order No.	Version 2	D	D1	D2	D3	H	L	S	S1	SW	Permissible load kg
07695-08151	with hex key	M8	25	44	25	47	12	9	9,5	6	300
07695-10151	with hex key	M10	25	44	26	47	15	9	9,5	6	400
07695-12181	with hex key	M12	30	52	34	55	18	11	11	8	750
07695-16241	with hex key	M16	35	61	35	64	24	14	13	10	1500
07695-20301	with hex key	M20	40	70	44	74	30	16	15	12	2300
07695-24361	with hex key	M24	48	84	52	91	36	19	18	14	3200
07695-30451	with hex key	M30	60	105	61	112	45	25	22,5	17	4500
07695-08150	without hex key	M8	25	44	25	47	12	8	11	6	300
07695-10150	without hex key	M10	25	44	25	47	15	8	11	6	400
07695-12180	without hex key	M12	30	52	33	55	18	10	13	8	750
07695-16240	without hex key	M16	35	61	35	64	24	14	13	10	1500
07695-20300	without hex key	M20	40	70	44	74	30	16	17	12	2300
07695-24360	without hex key	M24	48	84	52	91	36	19	21	14	3200
07695-30450	without hex key	M30	60	108	62	112	45	27	26	17	4500

Ring bolts

swivel and 360° rotatable, grade 8



Material:
Steel.

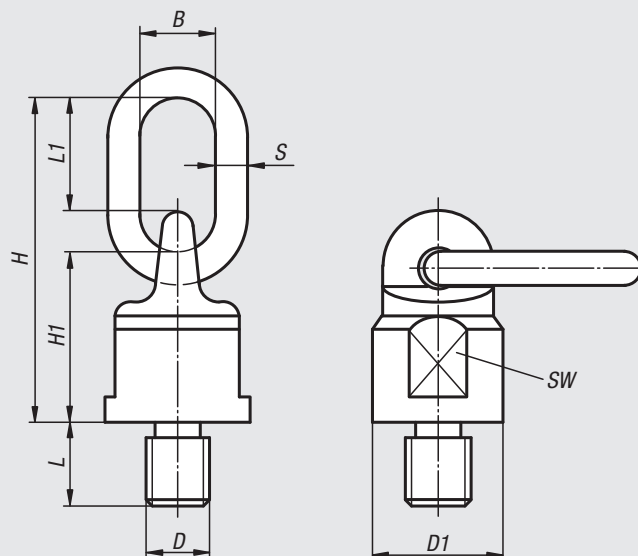
Version:
Quality class 8, ball bearing;
red plastic-coated

Sample order:
nlm 07710-1018

Note:
Compact and light design, full loading on all sides. 4x safety factor against breakage in all loading axis. Rotatable 360°. Link swivel range max. 180°. The ball bearing allows the ring to rotate even under load.

Lifting or securing loads, swivel rings have many uses.

For the loading capacity to be valid it must be ensured that the ring is in line with the load. The swivel face must lie flat on the support beam and the screw must always be screwed in fully.



Maximum lifting weight "G" in kg for different sling types

Sling configuration								
No. of slings	1	2	1	2	2	2	3 - 4	3 - 4
sling angle α	0°	0°	90°	90°	0°-45°	45°-60°	0°-45°	45°-60°
M10	600	1200	300	600	420	300	630	450
M12	1000	2000	500	1000	750	500	1100	750
M16	2000	4000	1120	2000	1500	1120	2360	1600
M20	4000	8000	2000	4000	2800	2000	4000	3000
M24	6300	12500	3150	6300	4250	3150	6300	4750
M30	10600	21200	5300	10600	7100	5800	11200	8000
M36	12500	25000	8000	16000	11200	8000	16800	12000

Order No.	B	D	D1	H	H1	L	L1	S	SW	Permissible load kg
07710-1018	30	M10	38	105	50	18	46	13	30	300
07710-1218	30	M12	38	105	50	18	46	13	30	500
07710-1620	30	M16	38	105	50	20	46	13	30	1120
07710-2030	34	M20	50	131	61	30	57	16	40	2000
07710-2430	40	M24	58	153	68	30	70	19	48	3150
07710-3035	40	M30	75	165	80	35	65	20	65	5300
07710-3654	50	M36	85	205	95	54	90	22	75	8000

Bow shackles

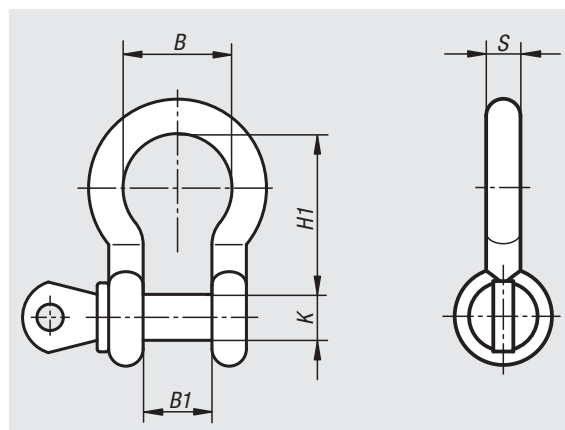


Material:
Steel.

Version:
Bow form.

Sample order:
nlm 07715-0100011

Note:
Shackles and bolts may vary in colour.
Paint may cause the thread to be stiff.



Order No.	B	B1	S	K	H1	Inches	Permissible load kg
07715-0050008	19,8	12	6,4	8	28,7	1/4	500
07715-0075010	21,3	13,5	7,9	9,5	31	5/16	750
07715-0100011	26,2	16,8	9,6	11	36,5	3/8	1000
07715-0150012	29,5	19	11,2	12,7	43	7/16	1500
07715-0200016	33	20,6	12,7	16	48	1/2	2000
07715-0325019	42	27	16	19	60	5/8	3250
07715-0475022	51	31,8	19	22,2	71	3/4	4750
07715-0650025	58	36,6	22	25,4	84	7/8	6500
07715-0850028	68	43	25	28,5	95	1	8500

D-shackles

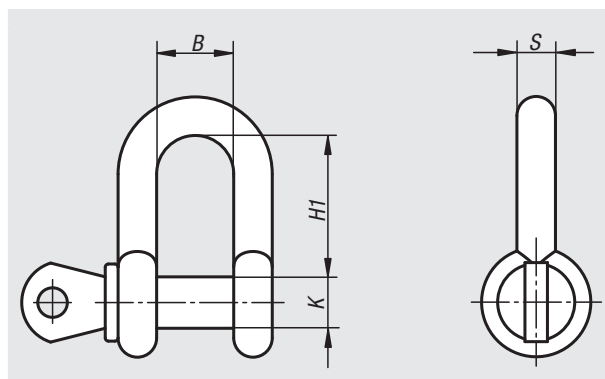


Material:
Steel.

Version:
D form

Sample order:
nlm 07716-0050008

Note:
Shackles and bolts may vary in colour.
Paint may cause the thread to be stiff.



Order No.	B	S	K	H1	Inches	Permissible load kg
07716-0050008	12	6,7	8	24,6	1/4	500
07716-0075010	13,5	7,9	9,5	27,2	5/16	750
07716-0100011	16,8	9,6	11	32,5	3/8	1000
07716-0150012	19	11,2	12,7	37,6	7/16	1500
07716-0200016	20,6	12,7	16	40,7	1/2	2000
07716-0325019	27	16	19	50	5/8	3250
07716-0475022	31,8	19	22,2	59,5	3/4	4750
07716-0650025	36,6	22	25,4	71	7/8	6500
07716-0850028	43	25	28,5	80,5	1	8500

Weld-on D-rings


Material:

Eye 1.6541 steel.

Welding block, S355JR steel.

Version:

D-ring forged, high tensile tempered, red plastic coated.

Welding block forged, high tensile tempered, bright.

Sample order:

n1m 07720-1000

Note:

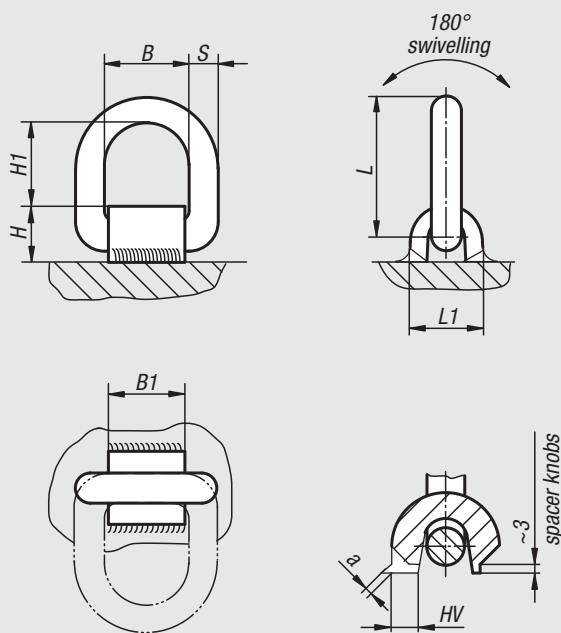
Weld-on D-rings enable quick installation.

They offer a compact design and can be loaded from all sides, with 4x safety factor against breakage.

The welding block is forged from easy to weld S355JR (St 52-3). The small knobs serve as spacers for the air gap required for fillet welding (ca. 3 mm).

The load data given in the table is clearly marked on the welding block, they apply to worst scenario cases for the lifting type shown.

Welding must be carried out by a proficient welder certified to EN 287-1.



Maximum lifting weight "G" in kg for different sling types

Sling configuration								
No. of slings	1	2	1	2	2	2	3 - 4	3 - 4
Sling angle $\angle$	0°	0°	90°	90°	0°-45°	45°-60°	0°-45°	45°-60°
07720-1***	1600	3200	1120	2240	1500	1120	2360	1600
07720-2***	3000	6000	2000	4000	2800	2000	4000	3000
07720-3***	4750	9500	3150	6300	4250	3150	6300	4750
07720-5***	8000	16000	5300	10600	7100	5300	11200	8000

Order No. without spring strip	Order No. with spring strip	B	B1	H	H1	L	L1	S	Weld seam	Permissible load kg
07720-1000	07720-1001	40	38	32	40	73	38	13	HV 5 + a3	1120
07720-2000	07720-2001	41	38	32	45	81	40	13	HV 5 + a3	2000
07720-3000	07720-3001	45	43	38	45	87	42	17	HV 8 + a3	3150
07720-5000	07720-5001	55	50	48	57	108	60	22	HV 12 + a4	5300

Hoist rings 360° rotation

grade 10



Material:

Ring and attachment shackle steel.
Bolt and bushing steel.

Version:

Ring and shackle forged, hardened and tempered. 100% electromagnetic crack detection, plastic-coating yellow.
Bolt grade 10.9 or higher. 100% electromagnetic crack detection.
Bush electro zinc-plated.

Sample order:

n1m 07725-08016

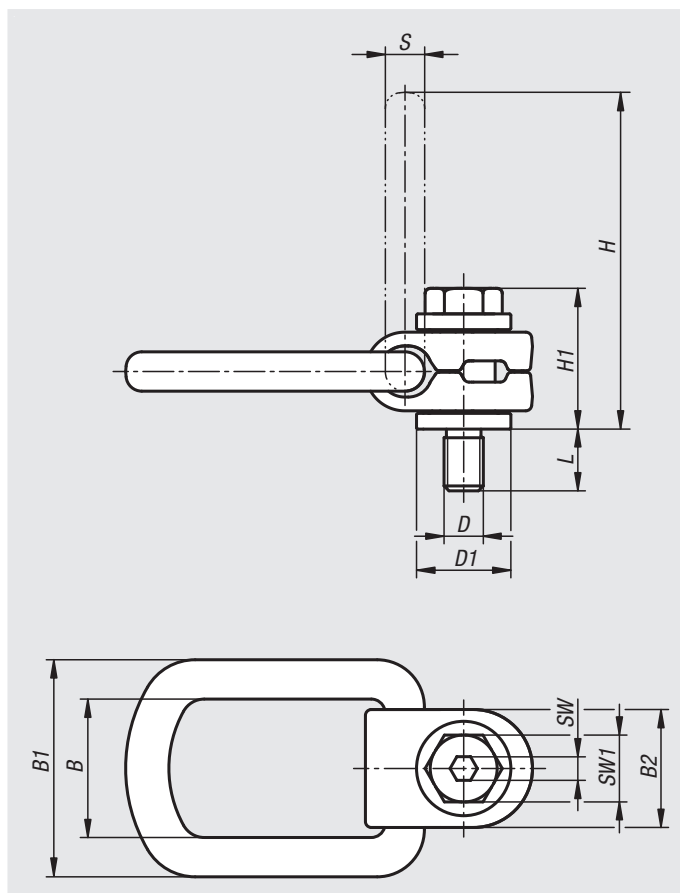
Note:

These hoist rings have full swivel and pivot action and can take the full load from any direction. An integrated spring holds the ring in any position. The working load limit is specified on the hoist ring. This applies to the most unfavourable load rating (see table). The test load is 2.5 times the maximum permissible load. With captive but removable hexagon screw. The hoist rings corresponding to the Machinery Directive and are BG certified.

Temperature range:

from -40 °C to 100 °C = 100% permissible load
up to 200°C = 85% permissible load
up to 250°C = 80% permissible load
up to 350°C = 75% permissible load

The specified load values are valid for a minimum thread depth of 1.5x nominal thread diameter in steel with a minimum tensile strength of 363 N/mm².



Maximum lifting weight "G" in kg for different sling types

Sling configuration										
No. of slings	1	2	1	2	2	2	2	3 - 4	3 - 4	3 - 4
sling angle	0°	90°	0°	90°	0°-45°	45°-60°	asymmetric	0°-45°	45°-60°	asymmetric
M8	300	600	300	600	420	300	300	630	450	300
M10	630	1260	630	1260	880	630	630	1320	950	630
M12	1000	2000	1000	2000	1400	1000	1000	2100	1500	1000
M16	1500	3000	1500	3000	2100	1500	1500	3150	2250	1500
M20	2500	5000	2500	5000	3500	2500	2500	5250	3750	2500
M24	4000	8000	4000	8000	5600	4000	4000	8400	6000	4000
M30	5000	10000	5000	10000	7000	5000	5000	10500	7500	5000
M36	7000	14000	7000	14000	9800	7000	7000	14700	10500	7000

Order No.	D	D1	B	B1	B2	H	H1	L	S	SW	SW1	max. permissible load kg	Tightening torque Nm
07725-08016	M8	24	35	55	30	85	35	11	10	6	13	300	30
07725-10021	M10	24	35	55	30	85	36	16	10	6	17	630	60
07725-12024	M12	31	37	57	33	98	44	18	13,5	8	19	1000	100
07725-16029	M16	31	37	57	33	98	46	24	13,5	10	24	1500	150
07725-20036	M20	45	54	82	50	140	57	34	16,5	12	30	2500	250
07725-24041	M24	45	54	82	50	140	59	36	16,5	14	36	4000	400
07725-30053	M30	59	65	99	60	170	81	48	22,5	17	46	5000	500
07725-36060	M36	59	65	99	60	172	76	55	22,5	22	55	7000	700

Hoist rings


Material:

Carbon steel.

Version:

Black oxidised.

Sample order:

nIm 07730-10

Note:

Every hoist ring undergoes an additional visual inspection after load testing (5x safety factor).

A safety data sheet for installation is included with every hoist ring.

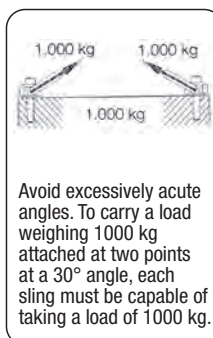
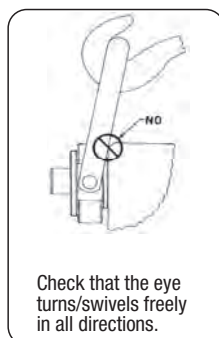
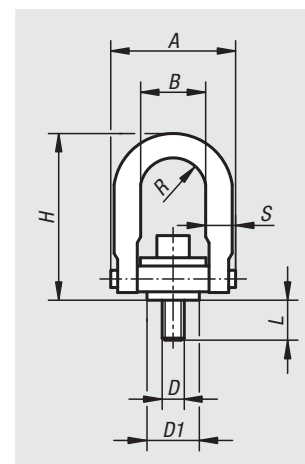
Do not use spacer washers between the bush flange and support beam.

Tighten the screws to the stated torque and check and re-tighten regularly.

After installation check if the ring swivels and turns freely in all directions.

Lift with care! Avoid impacts!

In no event must the permissible load stamped on the hoist ring be exceeded.



Order No.	Version	D	D1	A	B	H	L	R	S	max. permissible load kg	Tightening torque Nm
07730-08	standard	M8	19	46,7	22	67,8	12,5	10,9	9,7	400	9,81
07730-10	standard	M10	19	46,7	22	67,8	17,5	10,9	9,7	450	16,7
07730-12	standard	M12	38,1	89,4	46	123	19	22,4	19	1050	37,3
07730-16	standard	M16	38,1	89,4	46	123	29	22,4	19	1900	80,4
07730-201	standard	M20	38,1	89,4	46	123	34	22,4	19	2150	133
07730-20	standard	M20	58,7	130,6	70	163	32	35,6	25,4	3000	133
07730-24	standard	M24	58,7	130,6	70	163	37	35,6	25,4	4200	304
07730-30	standard	M30	81	165,1	90	221,7	46	44,5	31,7	7000	588
07730-36	standard	M36	106,4	217,2	115	316,7	68	57,2	44,4	11000	981
07730-42	standard	M42	106,4	217,2	115	316,7	68	57,2	44,4	12500	981
07730-48	standard	M48	106,4	217,2	115	316,7	88	57,2	44,4	13500	981
07730-112	long	M12	38,1	89,4	46	170,7	19	22,4	19	1050	37,3
07730-116	long	M16	38,1	89,4	46	170,7	29	22,4	19	1900	80,4
07730-1201	long	M20	38,1	89,4	46	170,7	34	22,4	19	2150	133
07730-120	long	M20	58,7	130,6	70	206	32	35,6	25,4	3000	133
07730-124	long	M24	58,7	130,6	70	206	37	35,6	25,4	4200	304

Hoist rings with Envirolox® coating



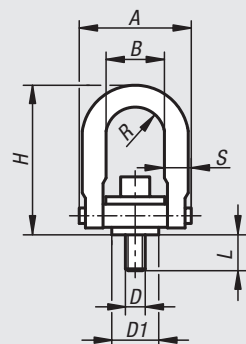
Material:
Carbon steel.

Version:
Hoist ring with Envirolox® protective coating.
Washer chrome plated.

Sample order:
nlm 07735-10

Note:
Every hoist ring undergoes an additional visual inspection after load testing (5x safety factor).
The new Envirolox® protective coating is environmentally friendly and is proven to be effective in extreme conditions. Possible application areas: in corrosive atmospheres such as maritime freight, chemical industry etc.

Safety:
Safety instructions see 07730.



Order No.	A	B	D	D1	H	L	R	S	max. permissible load kg	Tightening torque Nm
07735-08	46,7	22	M8	19	67,8	12,5	10,9	9,7	400	9,81
07735-10	46,7	22	M10	19	67,8	17,5	10,9	9,7	450	16,7
07735-12	89,4	46	M12	38,1	121,4	19	22,4	19	1050	37,3
07735-16	89,4	46	M16	38,1	121,4	29	22,4	19	1900	80,4
07735-20	89,4	46	M20	38,1	121,4	34	22,4	19	2150	133
07735-120	130,6	70	M20	58,7	165,6	32	35,6	25,4	3000	133
07735-24	130,6	70	M24	58,7	165,6	37	35,6	25,4	4200	304
07735-30	165,1	90	M30	81	221,7	46	44,5	31,7	7000	588

07750

Lifting rings

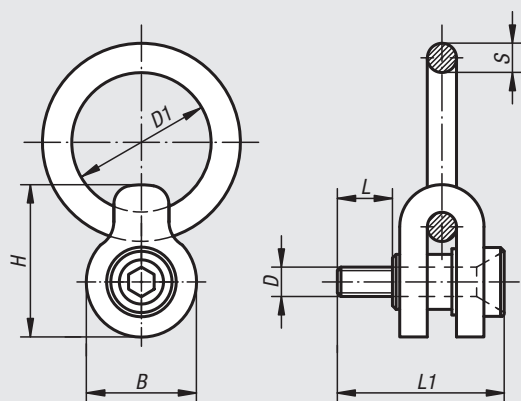


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
nlm 07750-10

Note:
Every lifting ring undergoes an additional visual inspection after load testing (5x safety factor).
A safety data sheet for installation is included with every lifting ring.
Do not use spacer washers between the bush flange and support surface.
Tighten the screws to the stated torque and check and re-tighten regularly. After installation check if the ring swivels and turns freely in all directions.
Lift with care! Avoid impacts!
In no event must the permissible load stamped on the lifting ring be exceeded.



Order No.	D	D1	B	H	L	L1	S	max. permissible load kg	Tightening torque Nm
07750-08	M8	50,5	38	51	16	61	9,5	325	4,21
07750-10	M10	50,5	38	51	20	63	9,5	500	5,88
07750-12	M12	76	60	81	24	85	16	725	19,61
07750-16	M16	76	60	81	31	94	16	1400	34,32
07750-20	M20	101,5	95	125,5	40	133	25,5	2290	68,65
07750-24	M24	101,5	95	125,5	47	147	25,5	3050	122,6

Swivel bales

with axial ring



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
nlm 07752-12

Note:
Every swivel bale undergoes an additional visual inspection after load testing (5x safety factor).

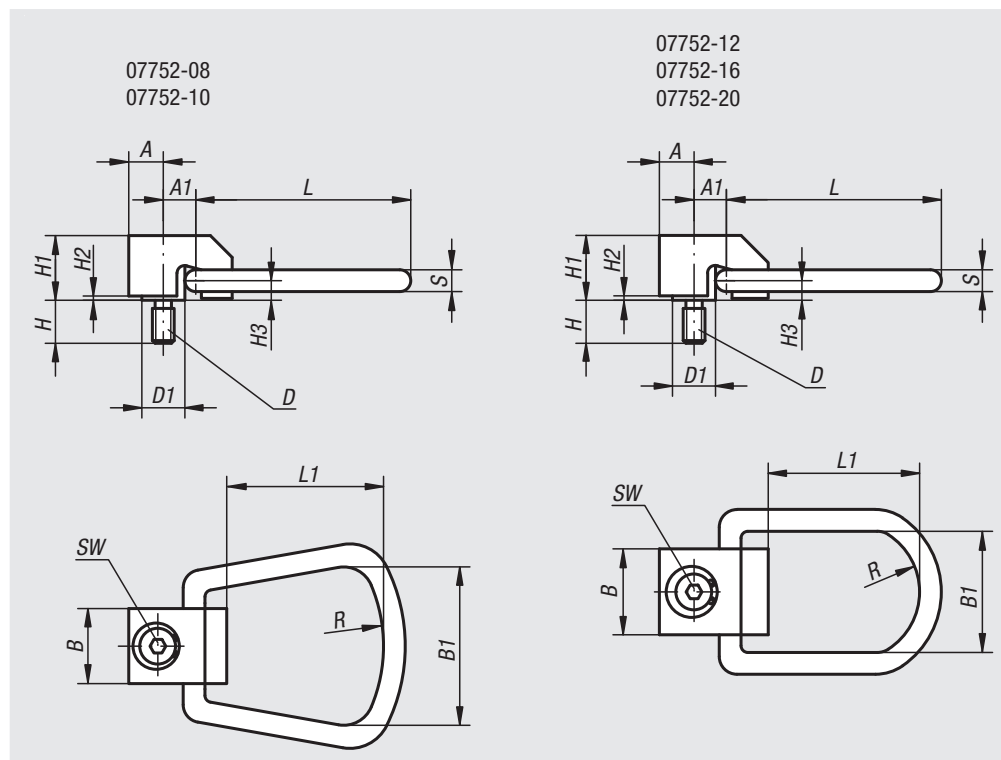
A safety data sheet for installation is included with every swivel bale.

Do not use spacer washers between the bush flange and support beam.

Tighten the screws to the stated torque and check and re-tighten regularly. After installation check if the bale swivels and turns freely in all directions.

Lift with care! Avoid impacts!

In no event must the permissible load stamped on the swivel bale be exceeded.



Order No.	A	A1	B	B1	D	D1	H	H1	H2	H3	L	L1	R	S	SW	Tightening torque Nm	max. permissible load kg
07752-08	12,7	12,7	25,4	44,5	M8	15,8	15,8	23,8	1,6	7,2	75,4	52,4	25,4	7,9	6	4,2	325
07752-10	12,7	12,7	25,4	44,5	M10	15,8	19,8	23,8	1,6	7,2	75,4	52,4	25,4	7,9	6	6	500
07752-12	19,8	23,8	41,3	50,8	M12	25,4	23,8	40,1	2	11,1	120,7	82,6	38,1	12,7	10	20	725
07752-16	19,8	23,8	41,3	50,8	M16	25,4	31,8	40,1	2	11,1	120,7	82,6	38,1	12,7	10	40	1400
07752-20	19,8	23,8	41,3	50,8	M20	25,4	39,7	40,1	2	11,1	120,7	82,6	38,1	12,7	10	70	2290

Hoist rings



Material:

Carbon steel or stainless steel.

Version:

Steel black oxidised.

Stainless steel bright.

Sample order:

nIm 07770-10 Hoist ring.

nIm 07770-101 Assembly key.

Note hoist ring:

Do not use spacer washers between the bush flange and support surface.

The permissible countersink diameter (D2) for the thread should be retained.

Tighten the screws to the stated torque and check and re-tighten regularly. After installation check if the ring turns and swivels freely in all directions.

Lift with care! Avoid impacts!

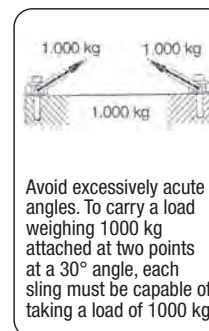
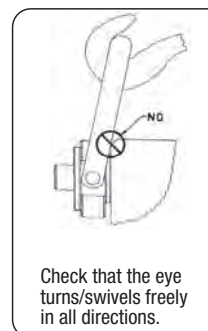
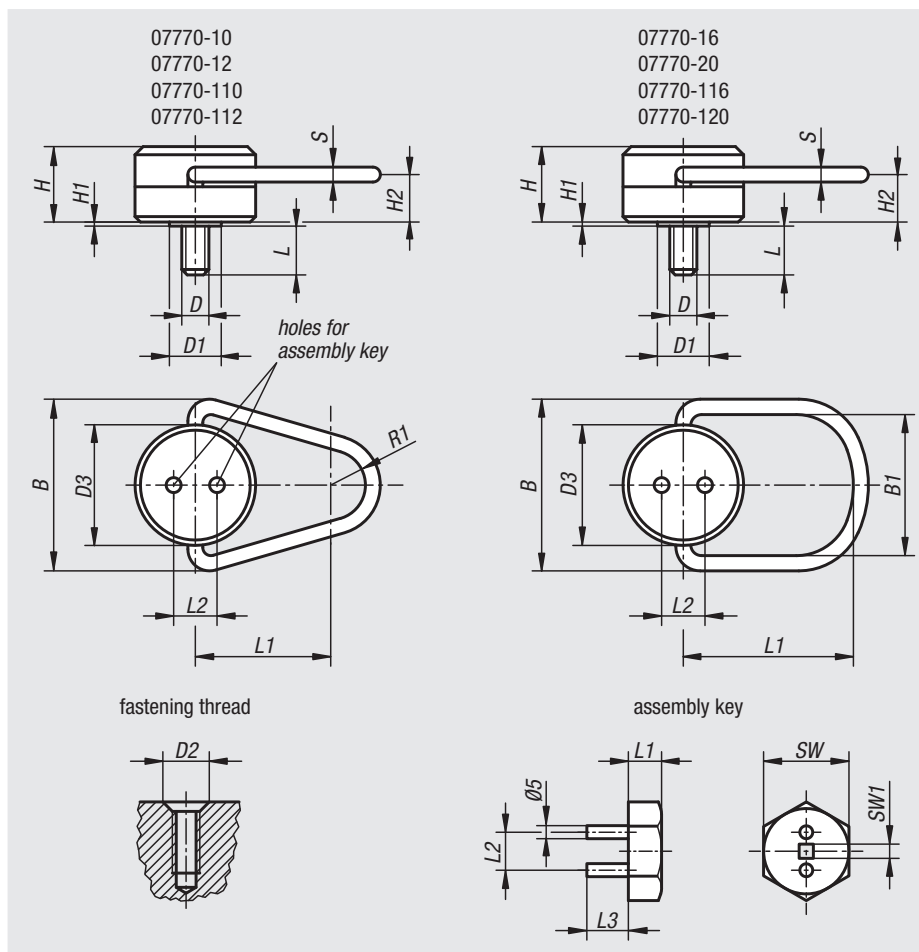
In no event must the permissible load stamped on the hoist ring be exceeded.

Note assembly key:

- Insert the assembly key in the holes in the hoist ring.

- Tighten the hoist ring to the recommended torque using a torque wrench.

- The permissible diameter of the countersink must be adhered to.



Hoist ring

Order No.	Material	B	B1	D	D1	D2	D3	H	H1	H2	L	L1	L2	R1	S	max. permissible load kg	Recommended tightening torque Nm	matching assembly key
07770-10	steel	66,7	-	M10	19,1	13	44,5	27,8	1,2	17,9	14,6	50,8	16,3	12,7	7,9	500	10	07770-101
07770-12	steel	66,7	-	M12	19,1	16	44,5	27,8	1,2	17,9	19,1	50,8	16,3	12,7	7,9	700	25	07770-101
07770-16	steel	96,8	70	M16	22,2	19	63,5	38,5	0,8	22,6	23,8	88,9	23,1	-	12,7	1500	50	07770-201
07770-20	steel	96,8	70	M20	25,4	22	63,5	38,5	0,8	22,6	30,2	88,9	23,1	-	12,7	2000	80	07770-201
07770-110	stainless steel	66,7	-	M10	19,1	13	44,5	27,8	1,2	17,9	14,6	50,8	16,3	12,7	7,9	250	10	07770-101
07770-112	stainless steel	66,7	-	M12	19,1	16	44,5	27,8	1,2	17,9	19,1	50,8	16,3	12,7	7,9	350	25	07770-101
07770-116	stainless steel	96,8	70	M16	22,2	19	63,5	38,5	0,8	22,6	23,8	88,9	23,1	-	12,7	750	50	07770-201
07770-120	stainless steel	96,8	70	M20	25,4	22	63,5	38,5	0,8	22,6	30,2	88,9	23,1	-	12,7	1000	80	07770-201

Assembly key

Order No.	L1	L2	L3	SW	SW1
07770-101	14	16,3	17,5	24	1/4
07770-201	16,5	23,1	28,6	32	3/8

Flip-Flop hoist rings



Material:

Body carbon steel. Bracket steel.

Version:

Black oxidised. Bracket hardened.

Sample order:

nIm 07772-08035

Note:

Every hoist ring undergoes an additional visual inspection after load testing (6x safety factor).

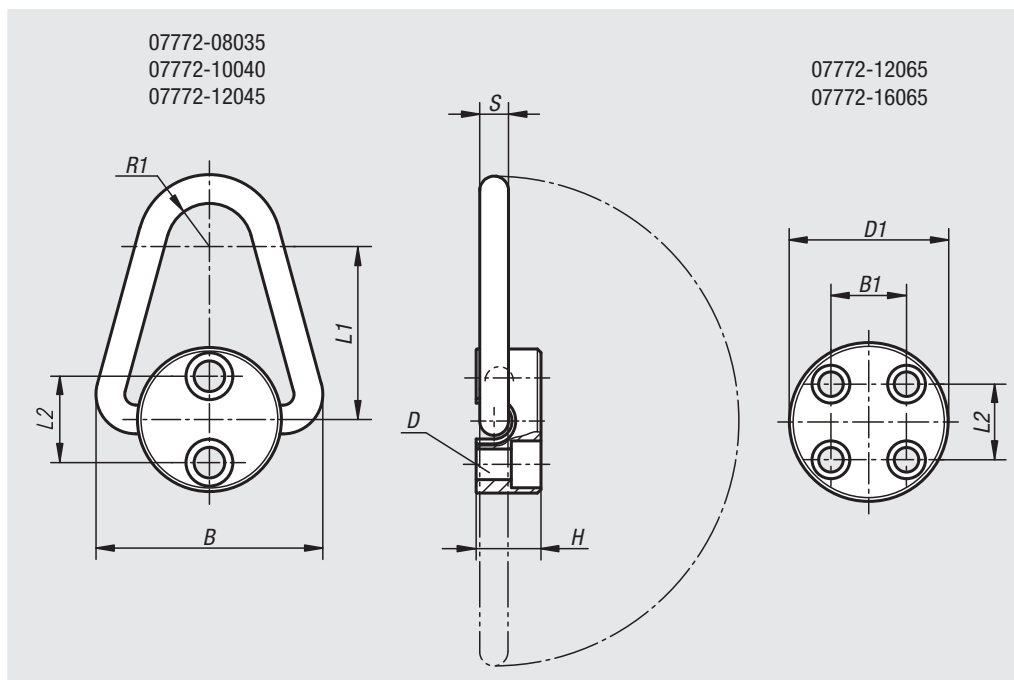
A safety data sheet for installation is included with every hoist ring.

Do not use spacer washers between the bush flange and support beam.

Tighten the screws to the stated torque and check and re-tighten regularly. After installation check if the ring swivels freely in both directions.

Lift with care! Avoid impacts!

In no event must the permissible load stamped on the hoist ring be exceeded.



Order No.	D for screw DIN 912	D1	B	B1	H	L1	L2	R1	S	Tightening torque Nm	max. permissible load kg
07772-08035	M8X35 (2x)	45	65	-	19	51	25,4	13	8	10	900
07772-10040	M10X40 (2x)	57	81	-	22	64	28,6	16	10	15	1100
07772-12045	M12X45 (2x)	64	100	-	29	76	38,1	19	13	35	2250
07772-12065	M12X65 (4x)	80	130	31,8	35	102	41,3	22	19	45	5400
07772-16065	M16X65 (4x)	92	160	31,8	48	127	52,4	25,4	25,4	100	9000

Hoist rings



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
nlm 07774-10

Note:

Every hoist ring undergoes an additional visual inspection after load testing (5x safety factor).

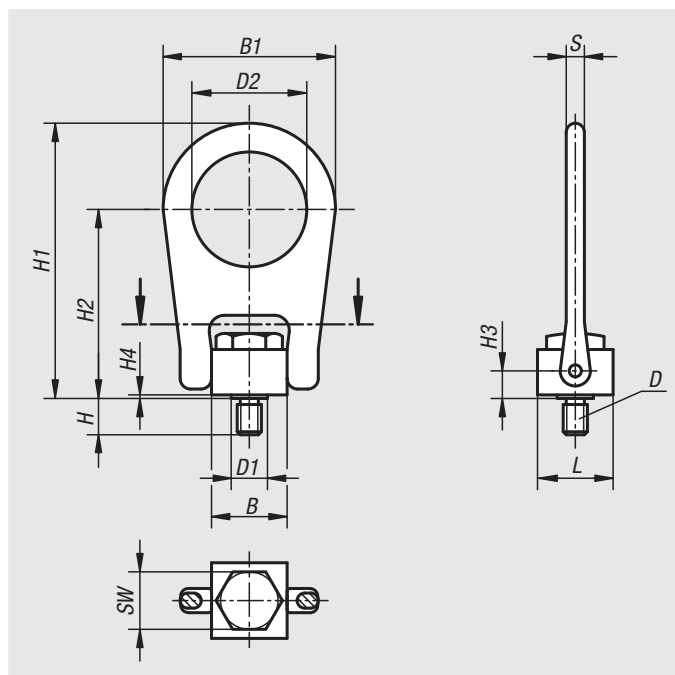
A safety data sheet for installation is included with every hoist ring.

Do not use spacer washers between the bush flange and support surface.

Tighten the screws to the stated torque and check and re-tighten regularly. After installation check if the ring swivels freely in both directions.

Lift with care! Avoid impacts!

In no event must the permissible load stamped on the hoist ring be exceeded.



Order No.	B	B1	D	D1	D2	H	H1	H2	H3	H4	L	S	SW	max. permissible load kg	Tightening torque Nm
07774-08	25,4	57,2	M8	12,7	38,1	12	91,3	62,7	8,7	1,2	25,4	6,3	19	400	10
07774-10	25,4	57,2	M10	12,7	38,1	15	91,3	62,7	8,7	1,2	25,4	6,3	19	450	17
07774-12	50,8	112,7	M12	25,4	76,2	18	161,9	101,6	14,3	1,6	38,1	19	32	1050	37
07774-16	50,8	112,7	M16	25,4	76,2	24	161,9	101,6	14,3	1,6	38,1	19	32	1900	80
07774-20	50,8	112,7	M20	25,4	76,2	30	161,9	101,6	14,3	1,6	38,1	19	32	2150	134

Swivel bales

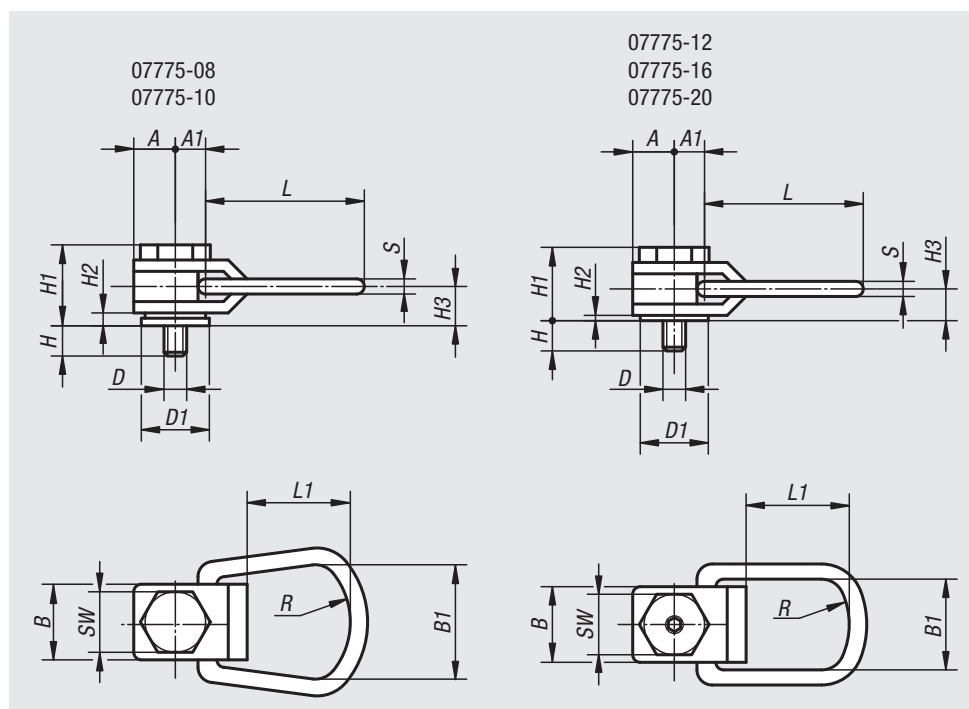


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
nlm 07775-10

Note:
Every swivel bale is load tested to 5x safety factor. The flat and light design make this swivel bale easier to use than similar swivel bales. The swivel bale is installed using a spanner or hexagon key depending on type.



Order No.	A	A1	B	B1	D	D1	H	H1	H2	H3	L	L1	R	S	SW	hexagon socket	max. permissible load kg
07775-08	13	13	25	44	M8	21	16	33	3	14	76	52	25	8	19	-	325
07775-10	13	13	25	44	M10	21	20	33	3	14	76	52	25	8	19	-	500
07775-12	22	19	44	51	M12	35	24	48	4	21	110	75	38	13	32	6	725
07775-16	22	19	44	51	M16	35	32	48	4	21	110	75	38	13	32	8	1400
07775-20	29	25	57	67	M20	48	40	59	6	26	145	102	51	16	44	10	2290

Lifting pins

self-locking



Material:

Steel.

Push button in aluminium.

Version:

Steel, manganese phosphate treated.

Sample order:

nIm 07780-2110X50

Note:

Self-locking lifting pins are quick and easy lifting devices with swing shackles.

The ball are unlocked by pressing the push button. After releasing the push button the ball is securely locked.

Corrosion protected.

TÜV tested.

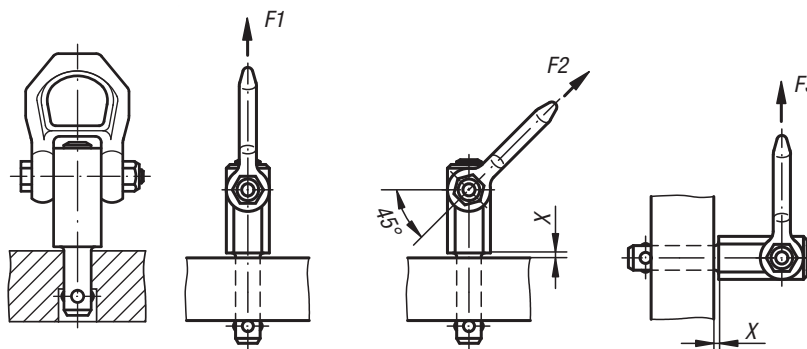
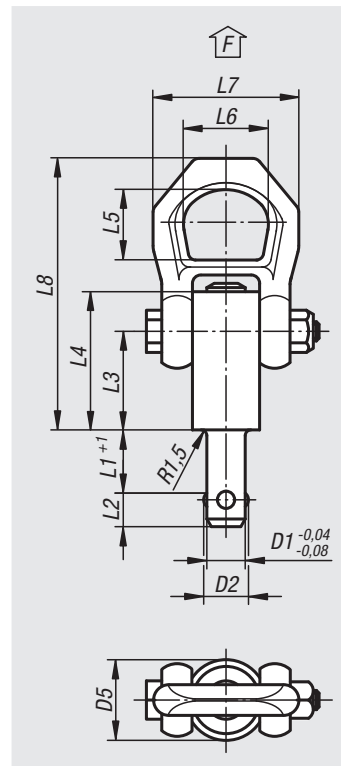
Values X min, F1, F2 and F3 with 5x safety factor.

Temperature range:

max. +250 °C.

Accessories:

Receiver bushes 07781.



Order No.	D1	D2	D5	L1	L2	L3	L4	L5	L6	L7	L8	X min.	X max.	Receiving hole H11	F1 kN	F2 kN	F3 kN
07780-2108X10	8	9,35	21,5	10	8,75	25,7	36	27	30	49	87,5	1,5	5	8	1,5	1,2	0,5
07780-2108X15	8	9,35	21,5	15	8,75	25,7	36	27	30	49	87,5	1,5	10	8	1,5	1,2	0,5
07780-2108X25	8	9,35	21,5	25	8,75	25,7	36	27	30	49	87,5	1,5	15	8	1,5	1,2	0,5
07780-2108X35	8	9,35	21,5	35	8,75	25,7	36	27	30	49	87,5	1,5	15	8	1,5	1,2	0,5
07780-2110X15	10	11,7	21,5	15	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-2110X25	10	11,7	21,5	25	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-2110X35	10	11,7	21,5	35	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-2110X50	10	11,7	21,5	50	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-2112X15	12	14,2	21,5	15	11	25,7	36	27	30	49	87,5	1,5	10	12	3,5	3,2	2,8
07780-2112X25	12	14,2	21,5	25	11	25,7	36	27	30	49	87,5	1,5	15	12	3,5	3,2	2,8
07780-2112X35	12	14,2	21,5	35	11	25,7	36	27	30	49	87,5	1,5	15	12	3,5	3,2	2,8
07780-2112X50	12	14,2	21,5	50	11	25,7	36	27	30	49	87,5	1,5	15	12	3,5	3,2	2,8
07780-2516X25	16	18,6	25	25	15,1	31	44,5	27	30	49	92,8	1,5	15	16	4,8	4,5	4,1
07780-2516X50	16	18,6	25	50	15,1	31	44,5	27	30	49	92,8	1,5	35	16	4,8	4,5	4,1
07780-2516X75	16	18,6	25	75	15,1	31	44,5	27	30	49	92,8	1,5	40	16	4,8	4,5	4,1
07780-2520X50	20	24,5	30	50	19,7	36,5	52	32,6	36	56	114	1,5	25	20	10	8,5	6,5
07780-2520X75	20	24,5	30	75	19,7	36,5	52	32,6	36	56	114	1,5	30	20	10	8,5	6,5

Lifting pins

self-locking, stainless steel



Material:

Pin stainless steel 1.4542.

Shackle stainless steel 1.4571.

Push button aluminium.

Version:

Pin hardened.

Sample order:

nln 07780-12110X50

Note:

Ball lifting pins are quick and simple lifting devices with swing shackles.

The balls are unlocked by pressing the push button.

After releasing the push button, the ball is securely locked.

– Protected against corrosion and weather-resistant

– High-strength, hardened, extremely durable pin.

– TÜV-tested.

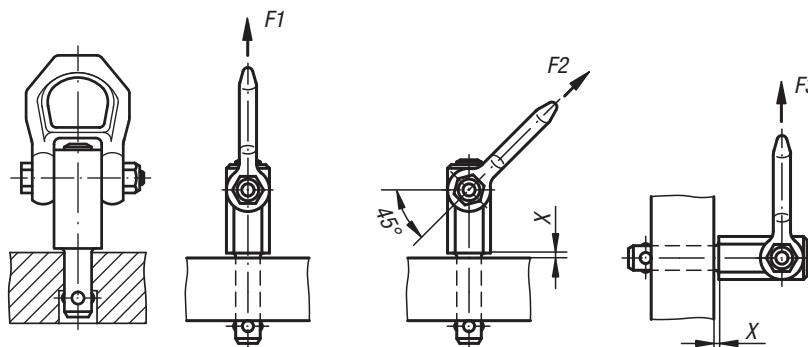
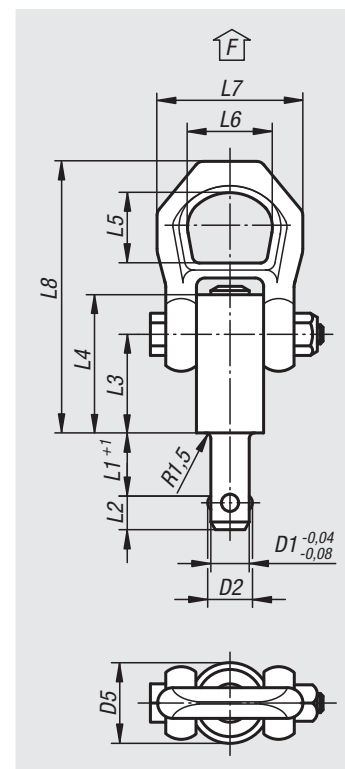
Values X min., F1, F2 and F3 with 5x safety factor.

Temperature range:

max. +250 °C.

Accessories:

Receiver bushes 07781.



Order No.	D1	D2	D5	L1	L2	L3	L4	L5	L6	L7	L8	X min.	X max.	Receiving hole H11	F1 kN	F2 kN	F3 kN
07780-12108X10	8	9,35	21,5	10	8,75	25,7	36	27	30	49	87,5	1,5	5	8	1,5	1,2	0,5
07780-12108X15	8	9,35	21,5	15	8,75	25,7	36	27	30	49	87,5	1,5	10	8	1,5	1,2	0,5
07780-12108X25	8	9,35	21,5	25	8,75	25,7	36	27	30	49	87,5	1,5	15	8	1,5	1,2	0,5
07780-12108X35	8	9,35	21,5	35	8,75	25,7	36	27	30	49	87,5	1,5	15	8	1,5	1,2	0,5
07780-12110X15	10	11,7	21,5	15	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-12110X25	10	11,7	21,5	25	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-12110X35	10	11,7	21,5	35	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-12110X50	10	11,7	21,5	50	10,2	25,7	36	27	30	49	87,5	1,5	10	10	2,7	2,4	2,1
07780-12112X15	12	14,2	21,5	15	11	25,7	36	27	30	49	87,5	1,5	10	12	3,5	3,2	2,8
07780-12112X25	12	14,2	21,5	25	11	25,7	36	27	30	49	87,5	1,5	15	12	3,5	3,2	2,8
07780-12112X35	12	14,2	21,5	35	11	25,7	36	27	30	49	87,5	1,5	15	12	3,5	3,2	2,8
07780-12112X50	12	14,2	21,5	50	11	25,7	36	27	30	49	87,5	1,5	15	12	3,5	3,2	2,8
07780-12516X25	16	18,6	25	25	15,1	31	44,5	27	30	49	92,8	1,5	15	16	4,8	4,5	4,1
07780-12516X50	16	18,6	25	50	15,1	31	44,5	27	30	49	92,8	1,5	35	16	4,8	4,5	4,1
07780-12516X75	16	18,6	25	75	15,1	31	44,5	27	30	49	92,8	1,5	40	16	4,8	4,5	4,1
07780-13020X50	20	24,5	30	50	19,7	36,5	52	32,6	36	56	114	1,5	25	20	10	8,5	6,5
07780-13020X75	20	24,5	30	75	19,7	36,5	52	32,6	36	56	114	1,5	30	20	10	8,5	6,5

Receiver bushes

for ball lifting pins, stainless steel


Material:

Stainless steel 1.4542.

Version:

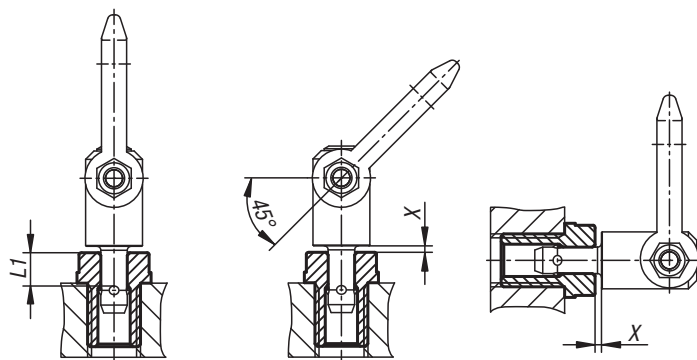
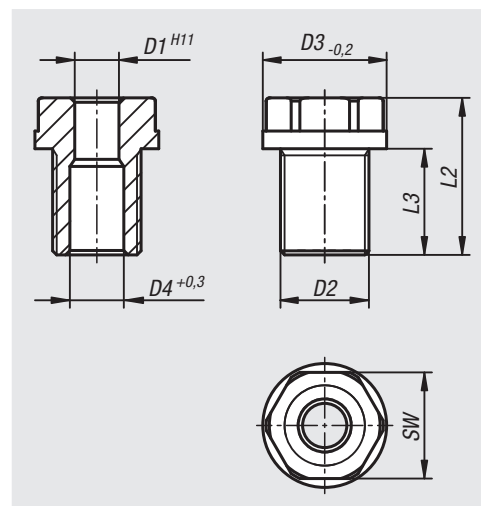
Hardened.

Sample order:

nln 07781-0810

Note:

The receiver bush is for quick and safe insertion of ball operated lifting pins. They offer an easy and reliable installation in a variety of lifting materials. Also for use with thin walled materials and blind holes. They are corrosion resistant with low wearing.



Order No.	D1	D2	D3	D4	L1	L2	L3	X	SW	Tightening torque Nm
07781-0810	8	M16x1,5	24	9,8	10	27,5	20	1,5	19	90
07781-0815	8	M16x1,5	24	9,8	15	27,5	20	1,5	19	90
07781-0825	8	M16	24	9,8	25	37,5	25	1,5	19	75
07781-0835	8	M16	24	9,8	35	47,5	35	1,5	19	75
07781-1015	10	M20x1,5	28	12,2	15	35,5	24	1,5	24	145
07781-1025	10	M20x1,5	28	12,2	25	35,5	24	1,5	24	145
07781-1035	10	M20	28	12,2	35	46	29	1,5	24	130
07781-1050	10	M20	28	12,2	50	65	49	1,5	24	130
07781-1215	12	M24x1,5	32	14,7	15	35,5	24	1,5	27	220
07781-1225	12	M24x1,5	32	14,7	25	36,5	24	1,5	27	220
07781-1235	12	M24	32	14,7	35	48,5	36	1,5	27	200
07781-1250	12	M24	32	14,7	50	72,5	60	1,5	27	200
07781-1625	16	M30x2	39	19,2	25	44	29	1,5	30	440
07781-1650	16	M30	39	19,2	50	66	44	1,5	30	400
07781-1675	16	M30	39	19,2	75	96	74	1,5	30	400
07781-2050	20	M36x2	43	26	50	70	55	1,5	36	440
07781-2075	20	M36x2	43	26	75	95	80	1,5	36	440

Locating bushes

for ball lifting pins stainless steel, flat



Material:
Stainless steel 1.4542.

Version:
Hardened.

Sample order:
nlm 07781-10810

Note:

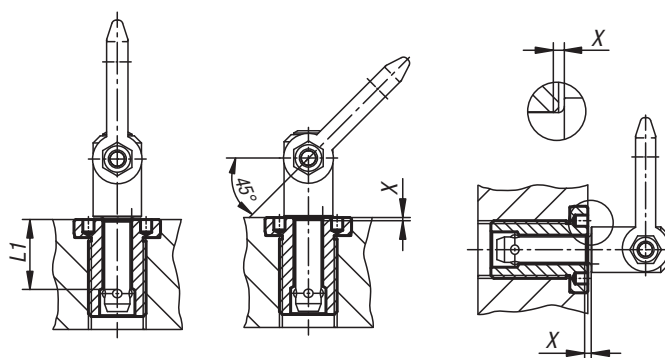
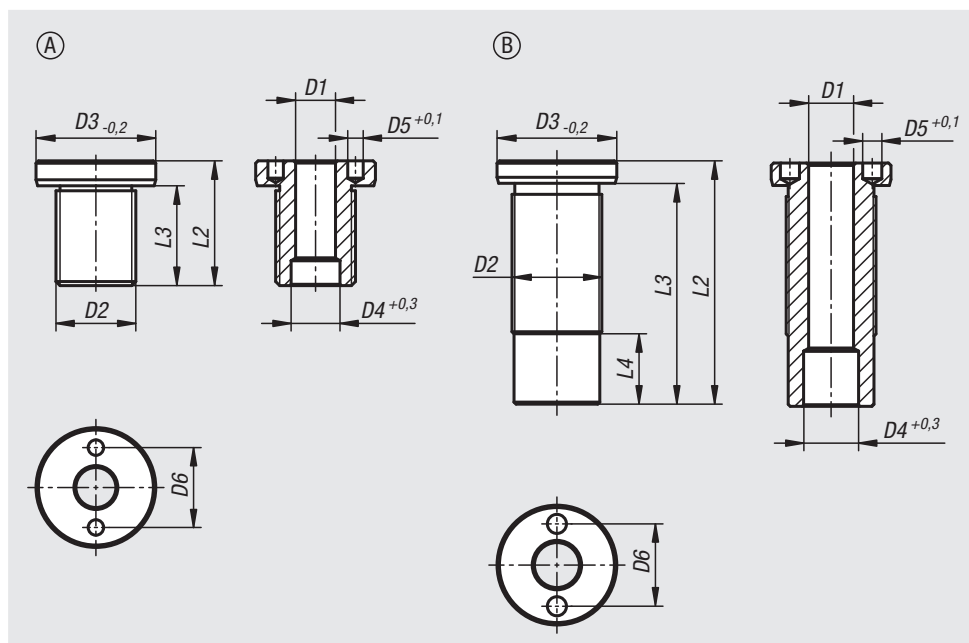
The locating bushes offer a safe and quick option for holding the ball lifting pins. They ensure that installation in a range of supporting materials can be carried out easily and reliably. Can also be used with thin-walled parts and blind holes.

This version is suitable for applications which require a flat surface after having been screwed in.

They are corrosion-resistant and do not wear easily.

Accessories:

Adjustable face pin spanner 96651.



Order No.	Form	D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	X	Tightening torque Nm	Order No. assembly key
07781-10810	A	8	M16x1,5	24	9,8	3,1	16	10	25	20	-	1,5	75	96651-08
07781-10815	A	8	M16x1,5	24	9,8	3,1	16	15	25	20	-	1,5	75	96651-08
07781-10825	A	8	M16	24	9,8	3,1	16	25	35	30	-	1,5	75	96651-08
07781-10835	A	8	M16	24	9,8	3,1	16	35	45	40	-	1,5	75	96651-08
07781-11015	A	10	M20x1,5	28	12,2	5,1	20	15	30	24	-	1,5	100	96651-08
07781-11025	A	10	M20x1,5	28	12,2	5,1	20	25	35	29	-	1,5	100	96651-08
07781-11035	A	10	M20	28	12,2	5,1	20	35	45	39	-	1,5	100	96651-08
07781-11050	A	10	M20	28	12,2	5,1	20	50	60	54	-	1,5	100	96651-08
07781-11215	A	12	M24x1,5	32	14,7	5,1	22	15	32	26	-	1,5	150	96651-08
07781-11225	A	12	M24x1,5	32	14,7	5,1	22	25	40	34	-	1,5	150	96651-08
07781-11625	A	16	M30x2	39	19,2	5,1	30	25	45	39	-	1,5	200	96651-16
07781-11235	B	12	M24	32	14,7	5,1	22	35	50	44	3,8	1,5	150	96651-08
07781-11250	B	12	M24	32	14,7	5,1	22	50	65	59	18,8	1,5	150	96651-08
07781-11650	B	16	M30	39	19,2	5,1	30	50	65	59	6	1,5	200	96651-16
07781-11675	B	16	M30	39	19,2	5,1	30	75	90	84	31	1,5	200	96651-16
07781-12050	B	20	M36x2	43	26	5,1	30	50	70	63	3,5	1,5	200	96651-16
07781-12075	B	20	M36x2	43	26	5,1	30	75	95	88	28,5	1,5	200	96651-16

Lifting pins

self-locking, stainless steel



Material:

Pin and shackle stainless steel 1.4542.

Push button stainless steel 1.4305.

Ball stainless steel 1.4125.

Spring stainless steel 1.4310.

Version:

Pin and balls hardened and passivated

Sample order:

nIm 07782-2812X15

(include length L1)

Note:

Quick and easy lifting device with swing shackle and safety bar against unintended release. The balls are unlocked by pressing the push button. When the push button is released the balls are securely locked.

Corrosion and weather resistant.

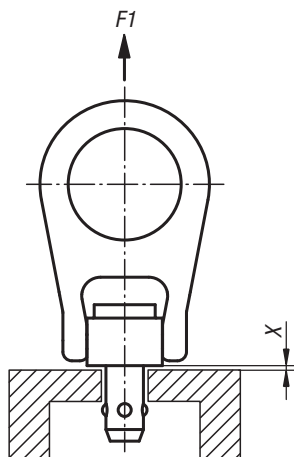
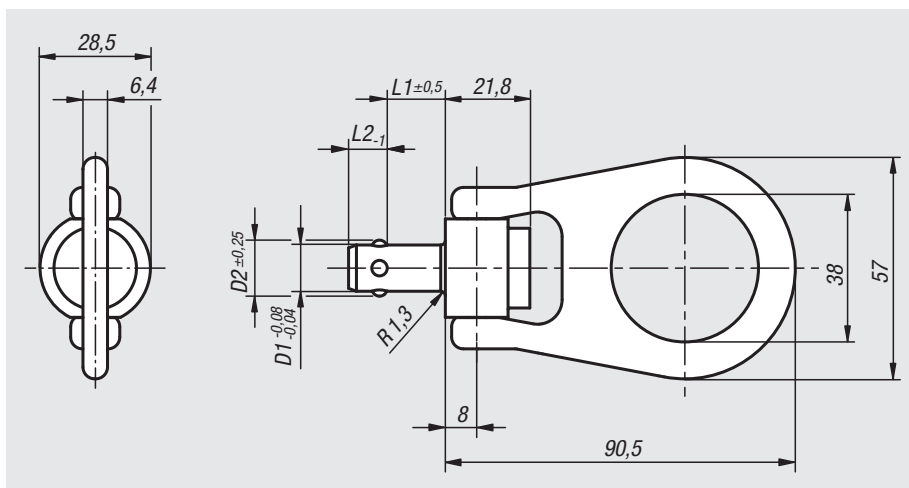
High tensile, hardened pin for extreme loads with the high wear resistance. Temperature range max. 250 °C.

CE certified.

Values X max, and F1 with 5x safety factor.

Accessories:

Receiver bushes 07784.



Order No.	D1	D2	L1	L2	X max.	F1 kN	Receiving hole
07782-2810X	10	12	15/20/25/30/35/40/75	9	1,5	4,4	10 +0,1
07782-2812X	12	14,27	15/20/25/30/35/40/50/75/100	10	1,5	5,5	12 +0,1
07782-2816X	16	19	15/20/25/30/35/40/50/75/100	14	1,5	6,2	16 +0,1

Receiver bush

stainless steel, for lifting pins


Material:

Stainless steel 1.4542.

Version:

Hardened and passivated.

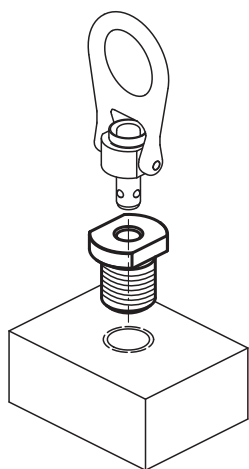
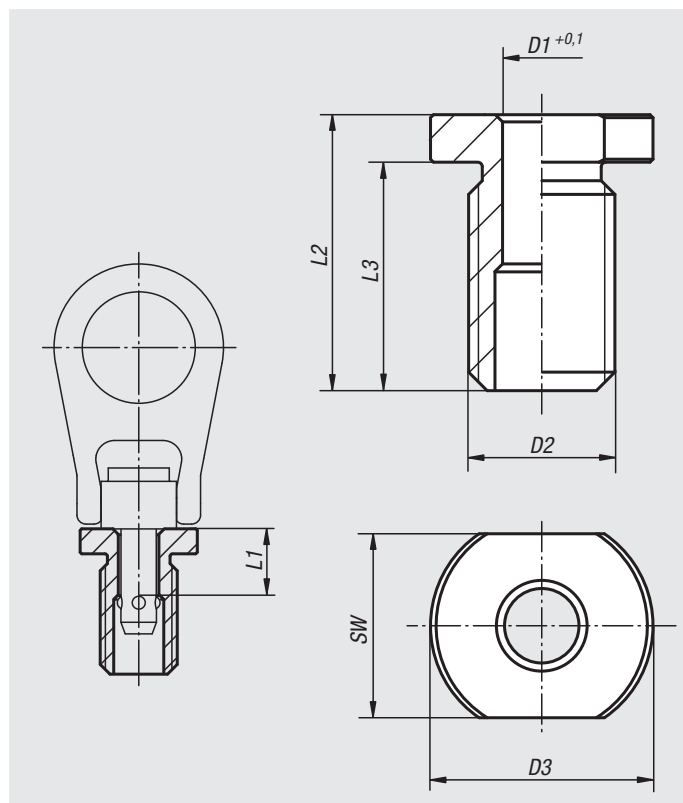
Sample order:

nln 07784-1015

Note:

The receiver bush is for quick and safe insertion of ball operated lifting pins. They offer an easy and reliable installation in a variety of lifting materials. Also for use with thin walled materials and blind holes.

They are corrosion resistant with low wearing.



Order No.	D1	D2	D3	L1	L2	L3	SW	Tightening torque Nm	Suitable for
07784-1015	10	M20x2,5	34,8	15	29	22	26	36	07782-2810X15
07784-1215	12	M22x2,5	34,8	15	37	28	30	50	07782-2812X15
07784-1615	16	M27x3	41,2	15	41	31	32	69	07782-2816X15

Notes

A large rectangular area filled with a fine grid of light gray lines, intended for writing notes or technical drawings.

Slip hooks

grade 10



Material:

Steel.

Version:

Grade 10.

Plastic-coated, red.

Latch forged and electro zinc-plated.

Sample order:

nIm 07791-11001400

Note:

Slip hooks with forged latch.

The hooks correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:

From -40°C to 200°C = 100% permissible load

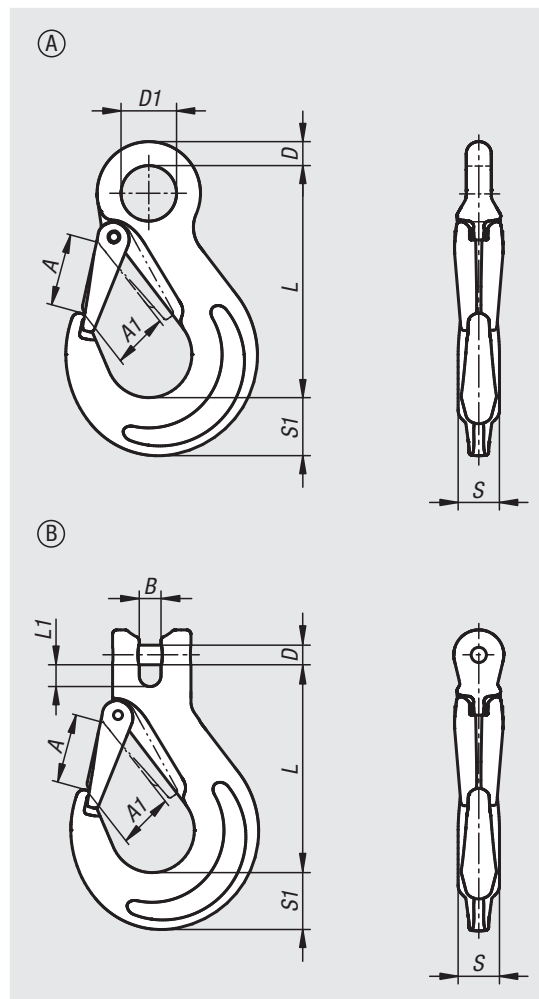
Up to 300°C = 90% permissible load

Up to 400°C = 75% permissible load

Drawing reference:

Form A: eye hook.

Form B: clevis hook.



Order No.	Version 1	Form	for chain mm	A	A1	B	D	D1	L	L1	S	S1	Permissible load kg
07791-11001400	eye hook	A	6	26	19	-	10	20,5	85	-	16	20	1400
07791-11002500	eye hook	A	7-8	33	26	-	11	25	105	-	19	29	2500
07791-11004000	eye hook	A	10	40	31	-	16	34	131	-	26	33	4000
07791-11006700	eye hook	A	13	51	40	-	19	43	163	-	33	45	6700
07791-11010000	eye hook	A	16	66	45	-	24,5	50	183	-	40	50	10000
07791-21001400	clevis hook	B	6	26	19	7,2	7,5	-	69	8	15	20	1400
07791-21001900	clevis hook	B	7	34	26	9,5	9	-	95	10	19	28	1900
07791-21002500	clevis hook	B	8	34	26	9,5	10	-	95	10	19	28	2500
07791-21004000	clevis hook	B	10	40	31	12	13	-	110	13,5	25	33	4000
07791-21006700	clevis hook	B	13	51	40	15	16	-	136	17	30	40	6700
07791-21010000	clevis hook	B	16	56	45	18	20	-	155	22	37	48	10000

Self-locking hooks

grade 10



Material:

Steel.

Version:

Grade 10.

Plastic-coated, red.

Sample order:

nln 07792-11001400

Note:

When lifting the load, the safety latch closes automatically and is securely locked by a locking mechanism at the rear of the hook. To open the latch, the locking mechanism must be unlocked manually.

The hooks correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:

From -40°C to 200°C = 100% permissible load

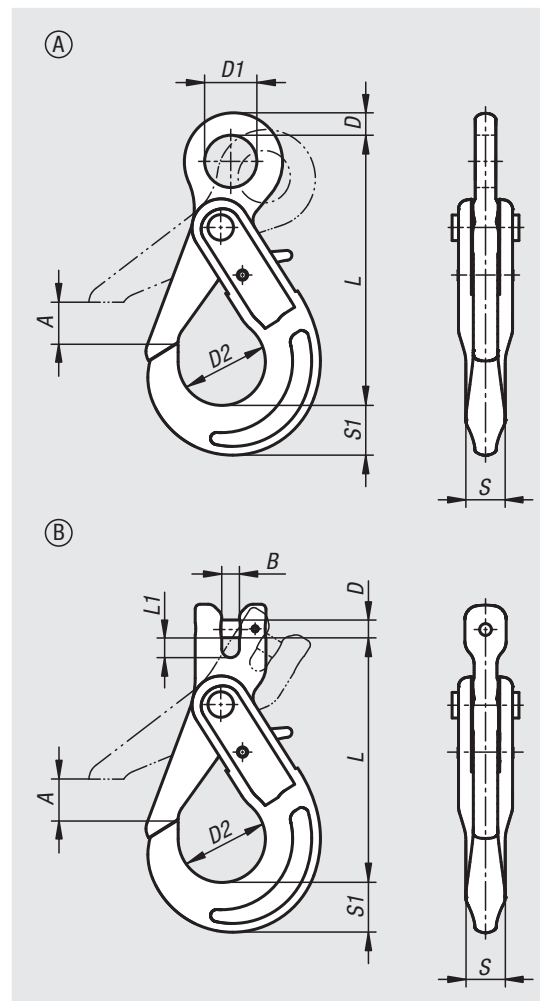
Up to 300°C = 90% permissible load

Up to 400°C = 75% permissible load

Drawing reference:

Form A: eye hook.

Form B: clevis hook.



Order No.	Version 1	Form	for chain mm	A	B	D	D1	D2	L	L1	S	S1	Permissible load kg
07792-11001400	eye hook	A	6	28	-	11	21	35	109	-	16	21	1400
07792-11002500	eye hook	A	7-8	34	-	12	25	43	135	-	20	26	2500
07792-11004000	eye hook	A	10	45	-	16	33	56	168	-	25	30	4000
07792-11006700	eye hook	A	13	51	-	20	40	69	205	-	35	40	6700
07792-11010000	eye hook	A	16	60	-	27	50	80	251	-	36	50	10000
07792-21001400	clevis hook	B	6	28	7	7,5	-	35	94	8	16	21	1400
07792-21001900	clevis hook	B	7	34	9	9	-	43	123	10	20	26	1900
07792-21002500	clevis hook	B	8	34	9	10	-	43	123	10	20	26	2500
07792-21004000	clevis hook	B	10	45	12	13	-	56	143	14	25	30	4000
07792-21006700	clevis hook	B	13	51	15	16	-	69	180	17	35	40	6700
07792-21010000	clevis hook	B	16	60	19	21	-	80	215	19	36	50	10000

Shortening hooks

grade 10



Material:
Steel.

Version:
Grade 10.
Plastic-coated, red.

Sample order:
nlm 07793-11001400

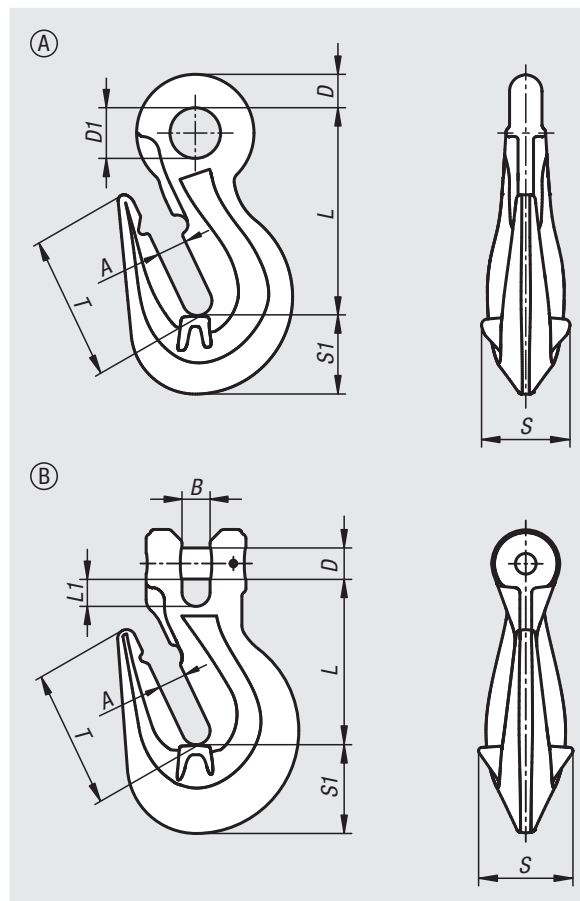
Note:
The shortening hook is for incorporating into single or multiple strand chains and is used to shorten the chain.

Shortening hooks are permissible for lifting, but not for lashing since they do not have a latch to prevent unintentional unhooking.

The shortening hooks correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:
From -40°C to 200°C = 100% permissible load
Up to 300°C = 90% permissible load
Up to 400°C = 75% permissible load

Drawing reference:
Form A: eye hook.
Form B: clevis hook.



Order No.	Version 1	Form	for chain mm	A	B	D	D1	L	L1	S	S1	T	Permissible load kg
07793-11001400	eye hook	A	6	8	-	8,5	12	51,5	-	22	22	35,5	1400
07793-11002500	eye hook	A	7-8	10	-	11	17	69	-	30	28	47	2500
07793-11004000	eye hook	A	10	13	-	15	22	86,5	-	44	34	55	4000
07793-11006700	eye hook	A	13	17	-	18	26	110,5	-	53	47	81	6700
07793-11010000	eye hook	A	16	19	-	21	32	129	-	64	60	92	10000
07793-21001400	clevis hook	B	6	8	8	7,5	-	51	8,8	22	22	36	1400
07793-21001900	clevis hook	B	7	10	10	9	-	66	11	30	28	47	1900
07793-21002500	clevis hook	B	8	10	10	10	-	65	11	30	28	47	2500
07793-21004000	clevis hook	B	10	13	13	13	-	80	15	44	34	55	4000
07793-21006700	clevis hook	B	13	17	17	16	-	105	18	53	47	81	6700
07793-21010000	clevis hook	B	16	19	19	21	-	112	18	64	60	92	10000

Swivel hooks

grade 10



Material:
Steel.

Version:
Grade 10.
Plastic-coated, red.

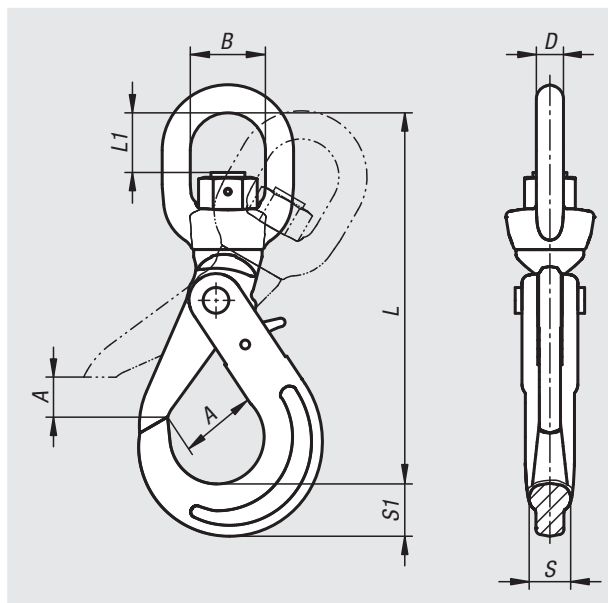
Sample order:
nlm 07794-11001400

Note:
Fitted with smooth-running plain bearings. Not suitable for swivelling while under load.

When lifting the load, the safety latch closes automatically and is securely locked by a locking mechanism at the rear of the hook. To open the latch, the locking mechanism must be unlocked manually.

The swivel hooks correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:
From -40°C to 200°C = 100% permissible load
Up to 300°C = 90% permissible load
Up to 400°C = 75% permissible load



Order No.	for chain mm	A	B	D	L	L1	S	S1	Permissible load kg
07794-11001400	6	28	36	13	158	27	16	21	1400
07794-11002500	7-8	34	36	13	182	27	20	26	2500
07794-11004000	10	45	42	16	217	35	25	30	4000
07794-11006700	13	54	50	21	271	43	35	40	6700
07794-11010000	16	62	62	24	320	58	38	50	10000

Connecting links

grade 10



Material:

Steel.

Version:

Grade 10.

Plastic-coated, red.

Sample order:

nIm 07795-1001400

Note:

The connecting links are inserted as a coupling link in a chain sling between suspension link/chain, chain/chain or load hook/chain.

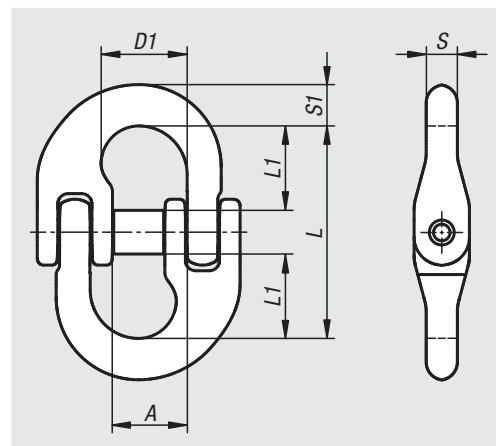
The connecting links correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:

From -40°C to 200°C = 100% permissible load

Up to 300°C = 90% permissible load

Up to 400°C = 75% permissible load



Order No.	for chain mm	A	D1	L	L1	S	S1	Permissible load kg
07795-1001400	6	14	18	45	18	7,5	8	1400
07795-1001900	7	17,8	20,5	50,5	20	9	10,2	1900
07795-1002500	8	19	23,5	62	25,5	10	11,5	2500
07795-1004000	10	23,8	27,5	72	30	12,6	12,6	4000
07795-1006700	13	28	33,3	87,3	36	16,7	19	6700
07795-1010000	16	34,3	39,5	102	40,5	20,6	20,6	10000

Round sling hooks

grade 8


Material:

Steel.

Version:

Grade 8.

Plastic-coated.

Sample order:

n1m 07796-801000

Note:

Round sling hooks for quick suspension of textile lifting equipment such as hoist belts or round slings. The round sling hook is fitted with a robust, forged safety latch. All edges are rounded to protect the textile slings.

The colour of the round sling hook corresponds to the colour code assigned to textile lifting equipment that signifies the permissible loads.

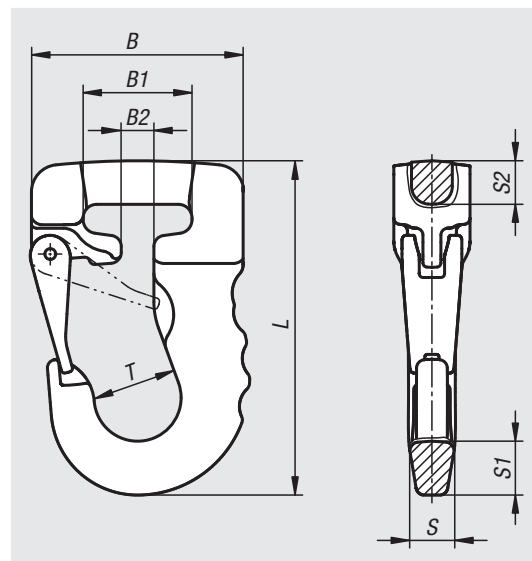
The round sling hooks correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:

From -40°C to 200°C = 100% permissible load

Up to 300°C = 90% permissible load

Up to 400°C = 75% permissible load



Order No.	Main colour	B	B1	B2	L	S	S1	S2	T	Permissible load kg
07796-801000	violet	78	41	12	123	17	20	16	31	1000
07796-802000	green	91	44	19	148	21	26	17	40	2000
07796-803000	yellow	113	55	21	175	25	32	25	50	3000
07796-804000	grey	133	76	40	223	36	40	36	59,5	4000
07796-805000	red	133	76	40	223	36	40	36	59,5	5000
07796-806000	brown	133	76	40	223	36	40	36	59,5	6000
07796-808000	blue	185	100	50	317	45	63	55	80	8000
07796-810000	orange	185	100	50	317	45	63	55	80	10000

Round sling links

grade 8



Material:

Steel.

Version:

Grade 8.

Plastic-coated, red.

Sample order:

nln 07797-802000

Note:

For joining hoist belts or round slings to chain components such as chain links or suspension rings.

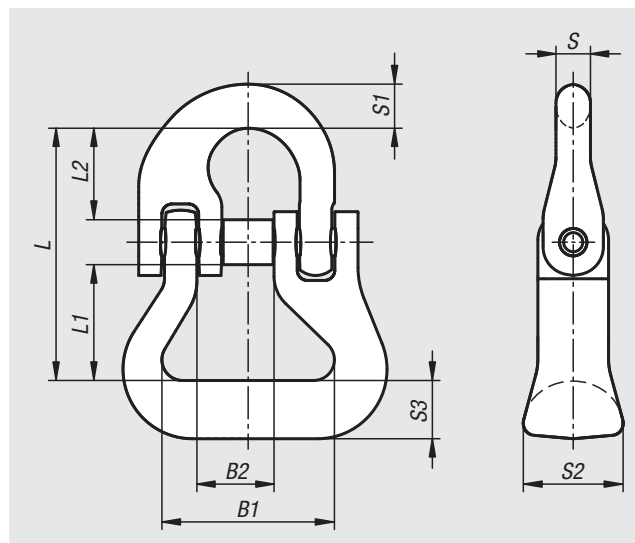
The round sling links correspond to the Machinery Directive and are BG certified (H stamp).

Temperature range:

From -40°C to 200°C = 100% permissible load

Up to 300°C = 90% permissible load

Up to 400°C = 75% permissible load



Order No.	for chain mm	B1	B2	L	L1	L2	S	S1	S2	S3	Permissible load kg
07797-802000	7-8	40	19	58	27	20	9	10	24	14	2000
07797-803150	10	40	25	77	34	30	11	13	30	12	3150
07797-805300	13	55	28	96	44	36	16	16	36	16	5300
07797-808000	16	67	36	115	53	40	21	21	44	24	8000

Round slings


Material:

Polyester.

Version:

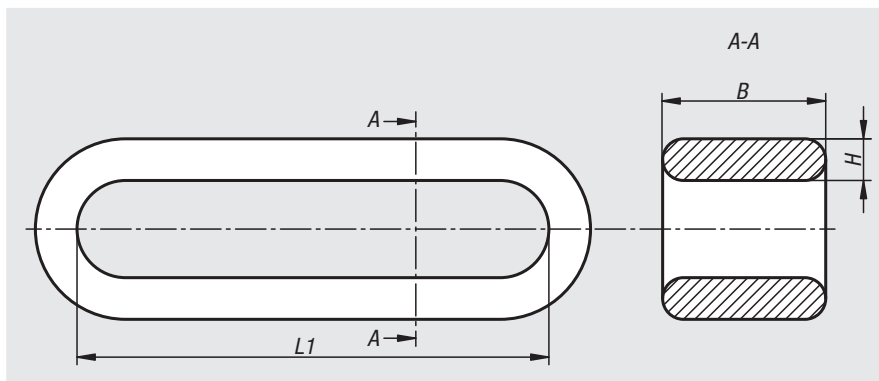
Single sleeve.

Sample order:

nlm 07798-0100005

Note:

The round slings comply with DIN EN 1492-2. They are made of high-strength endless polyester fibre cords. These polyester fibre cords are protected by a sturdy and seamlessly woven polyester sleeve. This sleeve surface is also impregnated with polyurethane to make it abrasion-proof. The working load limit (WLL) and the cord tonnage (tonne capacity per cord) are either woven into or printed on the protective sleeve of the sling. The safety label with the CE mark and technical data is firmly sewn onto the sling.



The colour of the round sling corresponds to the colour code scheme for load capacities of textile type slings.

These round slings have high UV resistance and low moisture absorption.

Safety factor 7:1

Example: WLL 1000kg = break load 7000kg.

These round slings carry the CE mark according to the European machinery directive.

Temperature range:

-40 °C to +100 °C.

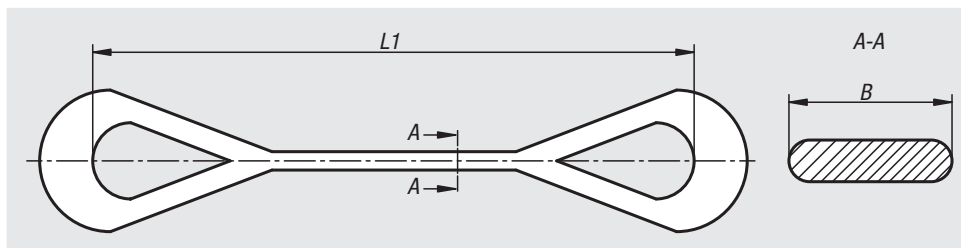
		Working load limit (WLL) (t) with round slings								Working load limit (WLL) (t) with 2 round slings			
Sling configuration													
Type		simple direct	simple laced	parallel	*Sling angle ' over 7-45° over 45-60°		*Sling angle ' over 7-45° over 45-60°			direct *Sling angle ' over 7-45° over 45-60°		laced *Sling angle ' over 7-45° over 45-60°	
**load hoisting factor	Colour	1,0	0,8	2,0	1,4	1,0	0,7	0,5		1,4	1,0	1,12	0,8
1 t	violet	1 t	0,8 t	2 t	1,4 t	1 t	0,7 t	0,5 t		1,4 t	1 t	1,12 t	0,8 t
2 t	green	2 t	1,6 t	4 t	2,8 t	2 t	1,4 t	1,0 t		2,8 t	2 t	2,24 t	1,6 t
3 t	yellow	3 t	2,4 t	6 t	4,2 t	3 t	2,1 t	1,5 t		4,2 t	3 t	3,36 t	2,4 t
4 t	grey	4 t	3,2 t	8 t	5,6 t	4 t	2,8 t	2,0 t		5,6 t	4 t	4,48 t	3,2 t
5 t	red	5 t	4,0 t	10 t	7,0 t	5 t	3,5 t	2,5 t		7,0 t	5 t	5,60 t	4,0 t

*inclination angle ~ reduces the WLL. Inclination angles over 60° are not permitted.

** The load hoisting factor takes into account the change in WLL due to the sling type.

Order No. violet	Order No. green	Order No. yellow	Order No. grey	Order No. red	B	H	L1	Permissible load kg
07798-0100005	07798-0200005	07798-0300005	07798-0400005	07798-0500005	47/48/54/70/72	12/18/20/22/28	0,5 m	1000/2000/3000/4000/5000
07798-0100010	07798-0200010	07798-0300010	07798-0400010	07798-0500010	47/48/54/70/72	12/18/20/22/28	1 m	1000/2000/3000/4000/5000
07798-0100015	07798-0200015	07798-0300015	07798-0400015	07798-0500015	47/48/54/70/72	12/18/20/22/28	1,5 m	1000/2000/3000/4000/5000
07798-0100020	07798-0200020	07798-0300020	07798-0400020	07798-0500020	47/48/54/70/72	12/18/20/22/28	2 m	1000/2000/3000/4000/5000
07798-0100025	07798-0200025	07798-0300025	07798-0400025	07798-0500025	47/48/54/70/72	12/18/20/22/28	2,5 m	1000/2000/3000/4000/5000
07798-0100030	07798-0200030	07798-0300030	07798-0400030	07798-0500030	47/48/54/70/72	12/18/20/22/28	3 m	1000/2000/3000/4000/5000
07798-0100040	07798-0200040	07798-0300040	07798-0400040	07798-0500040	47/48/54/70/72	12/18/20/22/28	4 m	1000/2000/3000/4000/5000
07798-0100050	07798-0200050	07798-0300050	07798-0400050	07798-0500050	47/48/54/70/72	12/18/20/22/28	5 m	1000/2000/3000/4000/5000

Lifting slings


Material:

Polyester.

Version:

Two layer. Fully reinforced end loops both sides, tapered to half the band width.

Sample order:

n1m 07798-02-0100010

Note:

The lifting slings correspond to DIN EN 1492-1. They are made of high-strength polyester straps. The sling surface is also impregnated with polyurethane to make it abrasion-proof. The working load limit (WLL) and the cord tonnage (tonne capacity per cord) are either woven into or printed on the sling. The safety label with the CE mark and technical data is firmly sewn to the sling.

The colour of the sling corresponds to the colour code scheme for load capacities of textile type slings.

The lifting slings have high UV resistance and low moisture absorption.

Safety factor 7:1

Example: WLL 1000kg = break load 7000kg.

These lifting slings carry the CE mark according to the European machinery directive.

The stated WLL applies to a vertical lift. By a basket lift the WLL is doubled.

Temperature range:

-40 °C to +100 °C.

Order No.	Main colour	B	L1	Permissible load kg
07798-02-0100010	violet	50	1 m	1000
07798-02-0100020	violet	50	2 m	1000
07798-02-0100030	violet	50	3 m	1000
07798-02-0100040	violet	50	4 m	1000
07798-02-0100050	violet	50	5 m	1000
07798-02-0200010	green	60	1 m	2000
07798-02-0200020	green	60	2 m	2000
07798-02-0200030	green	60	3 m	2000
07798-02-0200040	green	60	4 m	2000
07798-02-0200050	green	60	5 m	2000
07798-02-0300010	yellow	90	1 m	3000
07798-02-0300020	yellow	90	2 m	3000
07798-02-0300030	yellow	90	3 m	3000
07798-02-0300040	yellow	90	4 m	3000
07798-02-0300050	yellow	90	5 m	3000
07798-02-0400010	yellow	120	1 m	4000
07798-02-0400020	grey	120	2 m	4000
07798-02-0400030	grey	120	3 m	4000
07798-02-0400040	grey	120	4 m	4000
07798-02-0400050	grey	120	5 m	4000
07798-02-0500010	red	150	1 m	5000
07798-02-0500020	red	150	2 m	5000
07798-02-0500030	red	150	3 m	5000
07798-02-0500040	red	150	4 m	5000
07798-02-0500050	red	150	5 m	5000

Shaft collars set screw

DIN 705, steel



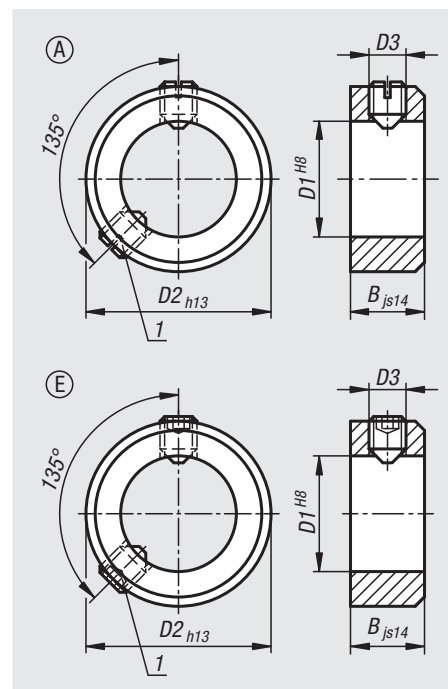
Material:
Steel.

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

Sample order:
nlm 07800-100301

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 $D1 \geq 75$



Order No. Form A bright	Order No. Form E bright	Order No. Form E galvanized, blue-passivated	D1	B	D2	D3 grub screw
07800-100301	07800-300301	07800-300303	3	5	7	M2x3
07800-100401	07800-300401	07800-300403	4	5	8	M2,5x3
07800-100501	07800-300501	07800-300503	5	6	10	M3x4
07800-100601	07800-300601	07800-300603	6	8	12	M4x5
07800-100701	07800-300701	07800-300703	7	8	12	M4x5
07800-100801	07800-300801	07800-300803	8	8	16	M4x6
07800-100901	07800-300901	07800-300903	9	10	18	M5x8
07800-101001	07800-301001	07800-301003	10	10	20	M5x8
07800-101101	07800-301101	07800-301103	11	10	20	M5x8
07800-101201	07800-301201	07800-301203	12	12	22	M6x8
07800-101401	07800-301401	07800-301403	14	12	25	M6x8
07800-101501	07800-301501	07800-301503	15	12	25	M6x8
07800-101601	07800-301601	07800-301603	16	12	28	M6x8
07800-101801	07800-301801	07800-301803	18	14	32	M6x8
07800-102001	07800-302001	07800-302003	20	14	32	M6x8

Shaft collars set screw

DIN 705, steel

Order No. Form A bright	Order No. Form E bright	Order No. Form E galvanized, blue-passivated	D1	B	D2	D3 grub screw
07800-102401	07800-302401	07800-302403	24	16	40	M8x12
07800-102501	07800-302501	07800-302503	25	16	40	M8x10
07800-102601	07800-302601	07800-302603	26	16	40	M8x10
07800-102801	07800-302801	07800-302803	28	16	45	M8x12
07800-103001	07800-303001	07800-303003	30	16	45	M8x10
07800-103201	07800-303201	07800-303203	32	16	50	M8x12
07800-103501	07800-303501	07800-303503	35	16	56	M8x12
07800-103601	07800-303601	07800-303603	36	16	56	M8x12
07800-103801	07800-303801	07800-303803	38	16	56	M8x12
07800-104001	07800-304001	07800-304003	40	18	63	M10x16
07800-104201	07800-304201	07800-304203	42	18	63	M10x16
07800-104501	07800-304501	07800-304503	45	18	70	M10x16
07800-104801	07800-304801	07800-304803	48	18	70	M10x16
07800-105001	07800-305001	07800-305003	50	18	80	M10x16
07800-105201	07800-305201	07800-305203	52	18	80	M10x16
07800-105501	07800-305501	07800-305503	55	18	80	M10x16
07800-105601	07800-305601	07800-305603	56	18	80	M10x16
07800-105801	07800-305801	07800-305803	58	20	90	M10x16
07800-106001	07800-306001	07800-306003	60	20	90	M10x16
07800-106301	07800-306301	07800-306303	63	20	90	M10x16
07800-106501	07800-306501	07800-306503	65	20	100	M10x20
07800-106801	07800-306801	07800-306803	68	20	100	M10x20
07800-107001	07800-307001	07800-307003	70	20	100	M10x20
07800-107201	07800-307201	07800-307203	72	20	100	M10x20
07800-107501	07800-307501	07800-307503	75	22	110	M12x20
07800-108001	07800-308001	07800-308003	80	22	110	M12x20
07800-108501	07800-308501	07800-308503	85	22	125	M12x25
07800-109001	07800-309001	07800-309003	90	22	125	M12x20
07800-110001	07800-310001	07800-310003	100	25	140	M12x25

Shaft collars set screw

DIN 705, stainless steel



Material:

Stainless steel 1.4305.

Version:

Bright.

Sample order:

nln 07800-100302

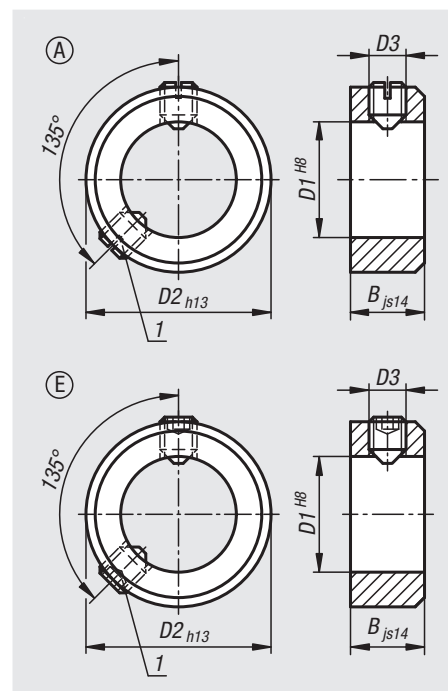
Note:

Form A: with grub screw DIN 553 (recess)

Form E: with grub screw DIN 914 (hexagon socket)

Drawing reference:

1) Second grub screw from $D1 \geq 75$



Order No. Form A	Order No. Form E	D1	B	D2	D3 grub screw
07800-100302	07800-300302	3	5	7	M2x3
07800-100402	07800-300402	4	5	8	M2,5x3
07800-100502	07800-300502	5	6	10	M3x4
07800-100602	07800-300602	6	8	12	M4x5
07800-100702	07800-300702	7	8	12	M4x5
07800-100802	07800-300802	8	8	16	M4x6
07800-100902	07800-300902	9	10	18	M5x8
07800-101002	07800-301002	10	10	20	M5x8
07800-101102	07800-301102	11	10	20	M5x8
07800-101202	07800-301202	12	12	22	M6x8
07800-101402	07800-301402	14	12	25	M6x8
07800-101502	07800-301502	15	12	25	M6x8
07800-101602	07800-301602	16	12	28	M6x8
07800-101802	07800-301802	18	14	32	M6x8
07800-102002	07800-302002	20	14	32	M6x8
07800-102402	07800-302402	24	16	40	M8x12
07800-102502	07800-302502	25	16	40	M8x10
07800-102602	07800-302602	26	16	40	M8x10
07800-102802	07800-302802	28	16	45	M8x12
07800-103002	07800-303002	30	16	45	M8x10
07800-103202	07800-303202	32	16	50	M8x12
07800-103502	07800-303502	35	16	56	M8x12

Order No. Form A	Order No. Form E	D1	B	D2	D3 grub screw
07800-103602	07800-303602	36	16	56	M8x12
07800-103802	07800-303802	38	16	56	M8x12
07800-104002	07800-304002	40	18	63	M10x16
07800-104202	07800-304202	42	18	63	M10x16
07800-104502	07800-304502	45	18	70	M10x16
07800-104802	07800-304802	48	18	70	M10x16
07800-105002	07800-305002	50	18	80	M10x16
07800-105202	07800-305202	52	18	80	M10x16
07800-105502	07800-305502	55	18	80	M10x16
07800-105602	07800-305602	56	18	80	M10x16
07800-105802	07800-305802	58	20	90	M10x16
07800-106002	07800-306002	60	20	90	M10x16
07800-106302	07800-306302	63	20	90	M10x16
07800-106502	07800-306502	65	20	100	M10x20
07800-106802	07800-306802	68	20	100	M10x20
07800-107002	07800-307002	70	20	100	M10x20
07800-107202	07800-307202	72	20	100	M10x20
07800-107502	07800-307502	75	22	110	M12x20
07800-108002	07800-308002	80	22	110	M12x20
07800-108502	07800-308502	85	22	125	M12x25
07800-109002	07800-309002	90	22	125	M12x20
07800-110002	07800-310002	100	25	140	M12x25

Shaft collars one-piece



Material:

Steel 1.0718
Stainless steel 1.4305.
Aluminium.

Version:

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

Sample order:

nlm 07810-01001

Note:

One-piece shaft collars surround the shaft with a uniformly distributed clamping force. This leads to a dimensionally precise fit and very high retaining forces without damaging the shaft.

The shaft tolerance should lie within h11.

Form A: Standard shaft collar.

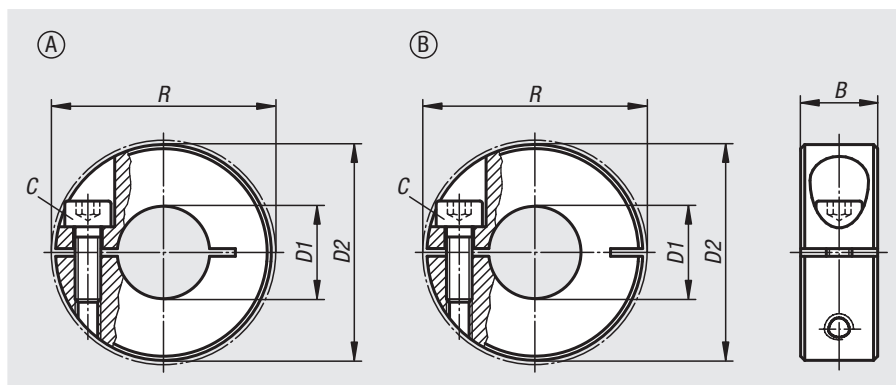
Form B: Shaft collar with a ca. 15% higher clamping force than the standard version by the same tightening torque on the locking screw. The bore remains cylindrical which means that the shaft is precisely enclosed. Less imbalance.

Temperature range:

-40 °C to +175 °C.

On request:

Other dimensions.



Order No. steel	Order No. stainless steel	Order No. aluminium	Form	B	C (DIN 912)	D1	D2	R
07810-00401	07810-00402	07810-00403	A	9	M3x8	4	16	20,7
07810-00501	07810-00502	07810-00503	A	9	M3x8	5	16	20,7
07810-00601	07810-00602	07810-00603	A	9	M3x8	6	16	20,7
07810-00801	07810-00802	07810-00803	A	9	M3x8	8	18	22,4
07810-01001	07810-01002	07810-01003	A	9	M3x10	10	24	26
07810-01201	07810-01202	07810-01203	A	11	M4x12	12	28	31,8
07810-01501	07810-01502	07810-01503	A	13	M5x16	15	34	39,4
07810-01601	07810-01602	07810-01603	A	13	M5x16	16	34	39,4
07810-01801	07810-01802	07810-01803	A	13	M5x16	18	36	41,1
07810-02001	07810-02002	07810-02003	A	15	M6x18	20	40	46,4
07810-02201	07810-02202	07810-02203	A	15	M6x18	22	42	48,1
07810-02501	07810-02502	07810-02503	A	15	M6x18	25	45	50,8
07810-02801	07810-02802	07810-02803	A	15	M6x18	28	48	53,7
07810-03001	07810-03002	07810-03003	A	15	M6x18	30	54	58,6
07810-04001	07810-04002	07810-04003	A	15	M6x18	40	60	65
07810-05001	07810-05002	07810-05003	A	19	M8x25	50	78	87
07810-100401	07810-100402	07810-100403	B	9	M3x8	4	16	20,7
07810-100501	07810-100502	07810-100503	B	9	M3x8	5	16	20,7
07810-100601	07810-100602	07810-100603	B	9	M3x8	6	16	20,7
07810-100801	07810-100802	07810-100803	B	9	M3x8	8	18	22,4
07810-101001	07810-101002	07810-101003	B	9	M3x10	10	24	26
07810-101201	07810-101202	07810-101203	B	11	M4x12	12	28	31,8
07810-101501	07810-101502	07810-101503	B	13	M5x16	15	34	39,4
07810-101601	07810-101602	07810-101603	B	13	M5x16	16	34	39,4
07810-101801	07810-101802	07810-101803	B	13	M5x16	18	36	41,1
07810-102001	07810-102002	07810-102003	B	15	M6x18	20	40	46,4
07810-102201	07810-102202	07810-102203	B	15	M6x18	22	42	48,1
07810-102501	07810-102502	07810-102503	B	15	M6x18	25	45	50,8
07810-102801	07810-102802	07810-102803	B	15	M6x18	28	48	53,7
07810-103001	07810-103002	07810-103003	B	15	M6x18	30	54	58,6
07810-104001	07810-104002	07810-104003	B	15	M6x18	40	60	65
07810-105001	07810-105002	07810-105003	B	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:

nln 07810-11001

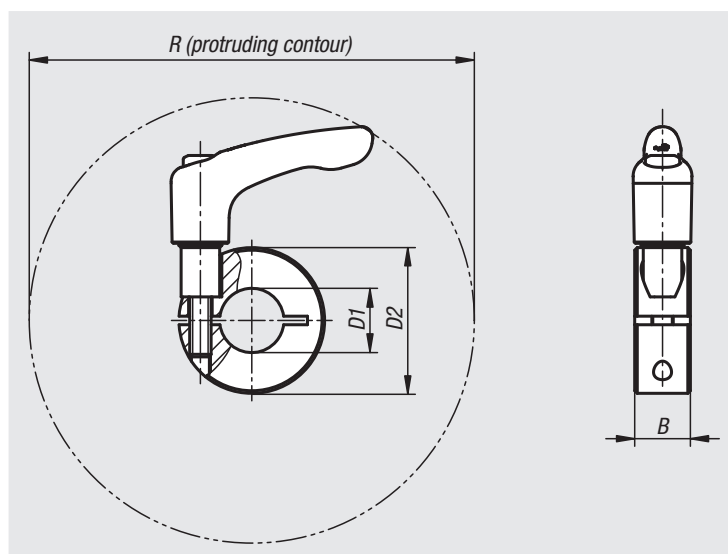
Note:

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.



Order No. steel	Order No. stainless steel	B	D1	D2	R
07810-11001	07810-11002	9	10	24	44,1
07810-11201	07810-11202	11	12	28	90,4
07810-11501	07810-11502	13	15	34	105
07810-11601	07810-11602	13	16	34	105
07810-11801	07810-11802	13	18	36	105,7
07810-12001	07810-12002	15	20	40	103,8
07810-12201	07810-12202	15	22	42	104,2
07810-12501	07810-12502	15	25	45	104,8
07810-12801	07810-12802	15	28	48	106,8
07810-13001	07810-13002	15	30	54	112,6
07810-14001	07810-14002	15	40	60	113,2
07810-15001	07810-15002	19	50	78	150,2

Shaft collars one-piece

wide



Material:

Steel 1.0718.

Stainless steel 1.4305.

Version:

Steel black oxidised.

Screw 12.9 steel.

Stainless steel bright.

Screw A2-70 stainless steel.

Sample order:

nlm 07811-01201

Note:

One-piece shaft collars surround the shaft with a uniformly distributed clamping force. This leads to a dimensionally precise fit and very high retaining forces without damaging the shaft.

The shaft tolerance should lie within h11.

Form A: Standard shaft collar.

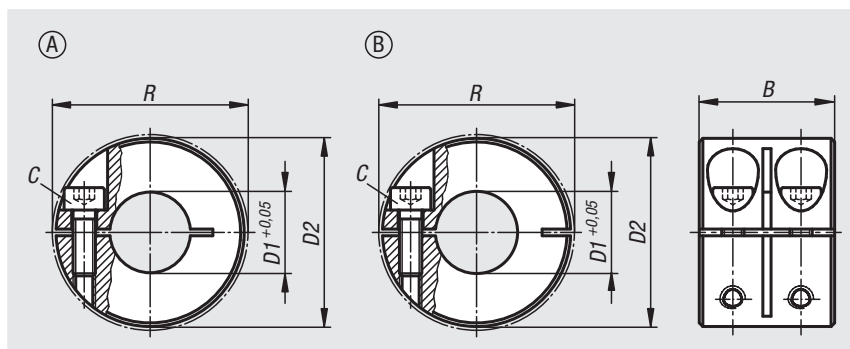
Form B: Shaft collar with a ca. 15% higher clamping force than the standard version by the same tightening torque on the locking screw. The bore remains cylindrical which means that the shaft is precisely enclosed. Less imbalance.

Temperature range:

-40 °C to +175 °C.

On request:

Other dimensions.



Order No. steel	Order No. stainless steel	Form	B	C (DIN 912)	D1	D2	R
07811-00801	07811-00802	A	20	M3x8	8	18	22,4
07811-01001	07811-01002	A	20	M3x10	10	24	26
07811-01201	07811-01202	A	24	M4x12	12	28	31,8
07811-01601	07811-01602	A	29	M5x16	16	34	39,4
07811-02001	07811-02002	A	33	M6x18	20	40	46,4
07811-02501	07811-02502	A	33	M6x18	25	45	50,8
07811-03001	07811-03002	A	33	M6x18	30	54	58,6
07811-04001	07811-04002	A	33	M6x18	40	60	65
07811-05001	07811-05002	A	41	M8x25	50	78	87
07811-100801	07811-100802	B	20	M3x8	8	18	22,4
07811-101001	07811-101002	B	20	M3x10	10	24	26
07811-101201	07811-101202	B	24	M4x12	12	28	31,8
07811-101601	07811-101602	B	29	M5x16	16	34	39,4
07811-102001	07811-102002	B	33	M6x18	20	40	46,4
07811-102501	07811-102502	B	33	M6x18	25	45	50,8
07811-103001	07811-103002	B	33	M6x18	30	54	58,6
07811-104001	07811-104002	B	33	M6x18	40	60	65
07811-105001	07811-105002	B	41	M8x25	50	78	87

Shaft collars two-piece


Material:

Steel 1.0718
Stainless steel 1.4305.
Aluminium.

Version:

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

Sample order:

nlm 07812-01001

Note:

Two-piece shaft collars surround the shaft with a uniformly distributed clamping force. This leads to a dimensionally precise fit and very high retaining forces without damaging the shaft.

The shaft tolerance should lie within h11.

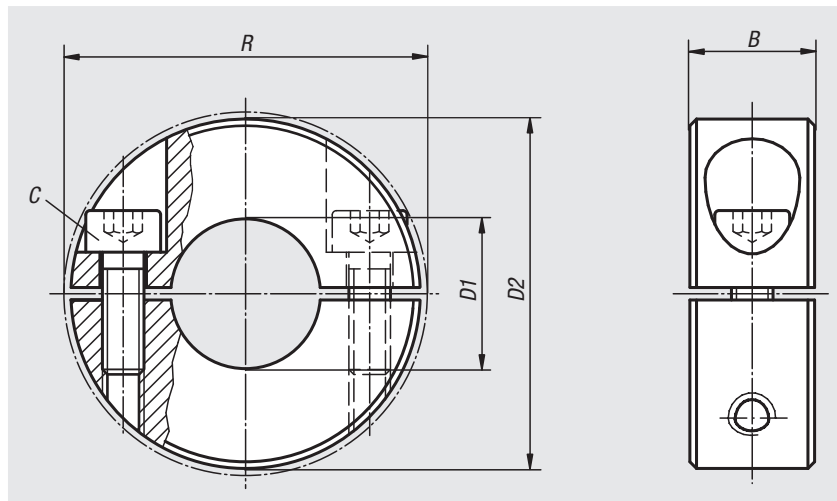
Two-piece shaft collars can be quickly and easily mounted or removed without dismantling other components.

Temperature range:

-40 °C to +175 °C.

On request:

Other dimensions.



Order No. steel	Order No. stainless steel	Order No. aluminium	B	C (DIN 912)	D1	D2	R
07812-00401	07812-00402	07812-00403	9	M3x8	4	16	20,7
07812-00501	07812-00502	07812-00503	9	M3x8	5	16	20,7
07812-00601	07812-00602	07812-00603	9	M3x8	6	16	20,7
07812-00801	07812-00802	07812-00803	9	M3x8	8	18	22,4
07812-01001	07812-01002	07812-01003	9	M3x10	10	24	26
07812-01201	07812-01202	07812-01203	11	M4x12	12	28	31,8
07812-01501	07812-01502	07812-01503	13	M5x16	15	34	39,4
07812-01601	07812-01602	07812-01603	13	M5x16	16	34	39,4
07812-01801	07812-01802	07812-01803	13	M5x16	18	36	41,1
07812-02001	07812-02002	07812-02003	15	M6x18	20	40	46,4
07812-02201	07812-02202	07812-02203	15	M6x18	22	42	48,1
07812-02501	07812-02502	07812-02503	15	M6x18	25	45	50,8
07812-02801	07812-02802	07812-02803	15	M6x18	28	48	53,7
07812-03001	07812-03002	07812-03003	15	M6x18	30	54	58,6
07812-04001	07812-04002	07812-04003	15	M6x18	40	60	65
07812-05001	07812-05002	07812-05003	19	M8x25	50	78	87

Shaft collars two-piece

wide



Material:

Steel 1.0718.

Stainless steel 1.4305.

Version:

Steel black oxidised.

Screw 12.9 steel.

Stainless steel bright.

Screw A2-70 stainless steel.

Sample order:

nIm 07813-00801

Note:

One-piece shaft collars surround the shaft with a uniformly distributed clamping force. This leads to a dimensionally precise fit and very high retaining forces without damaging the shaft.

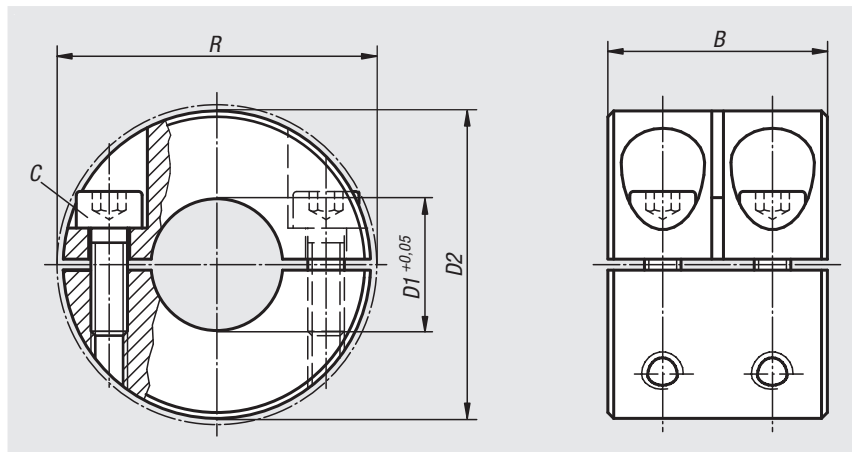
The shaft tolerance should lie within h11.

Temperature range:

-40 °C to +175 °C.

On request:

Other dimensions.



Order No. steel	Order No. stainless steel	B	C (DIN 912)	D1	D2	R
07813-00801	07813-00802	20	M3x8	8	18	22,4
07813-01001	07813-01002	20	M3x10	10	24	26
07813-01201	07813-01202	24	M4x12	12	28	31,8
07813-01601	07813-01602	29	M5x16	16	34	39,4
07813-02001	07813-02002	33	M6x18	20	40	46,4
07813-02501	07813-02502	33	M6x18	25	45	50,8
07813-03001	07813-03002	33	M6x18	30	54	58,6
07813-04001	07813-04002	33	M6x18	40	60	65
07813-05001	07813-05002	41	M8x25	50	78	87

Shaft collars

with thread


Material:

Steel 1.0718.

Stainless steel 1.4305.

Version:

Steel black oxidised.

Screw 12.9 steel.

Stainless steel bright.

Screw A2-70 stainless steel.

Sample order:

nIm 07814-0601

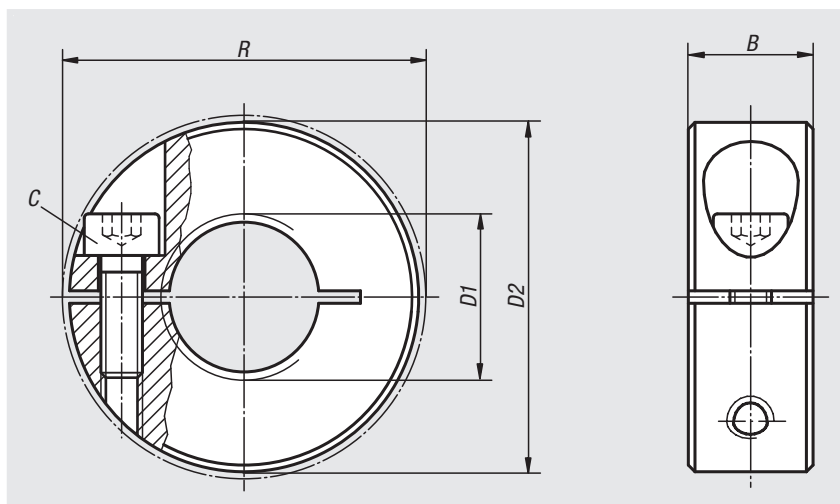
Note:

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.

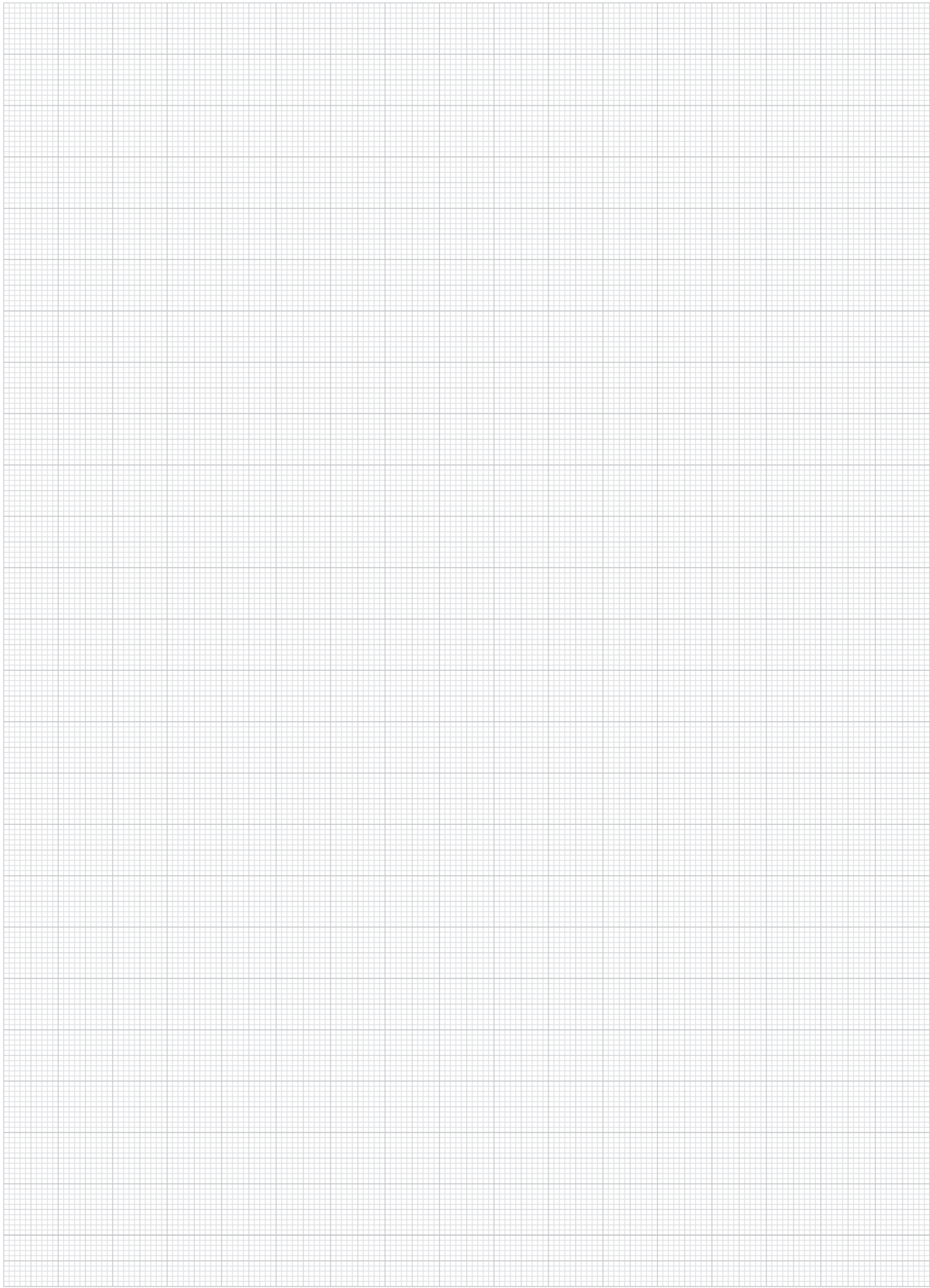
Temperature range:

-40 °C to +175 °C.



Order No. steel	Order No. stainless steel	B	C	D1	D2	R
07814-0401	07814-0402	9	M3x8	M4	16	20,7
07814-0501	07814-0502	9	M3x8	M5	16	20,7
07814-0601	07814-0602	9	M3x8	M6	16	20,7
07814-0801	07814-0802	9	M3x8	M8	18	22,4
07814-1001	07814-1002	9	M3x10	M10	24	26
07814-1201	07814-1202	11	M4x12	M12	28	31,8
07814-1601	07814-1602	13	M5x16	M16	34	39,4
07814-2001	07814-2002	15	M6x18	M20	40	46,4

Notes



01000

02000

03000

04000

05000

06000

07000

08000

09000

10000

12000

14000

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 A 2-70 stainless steel.

Sample order:

nIm 07820-12338

Note for ordering:

2 cap screws M3x8 or M5x10 are supplied with the internal toothing ratchet elements Forms A and B.

A stainless steel spring is supplied with the external toothing ratchet elements Forms E to H.

Note:

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

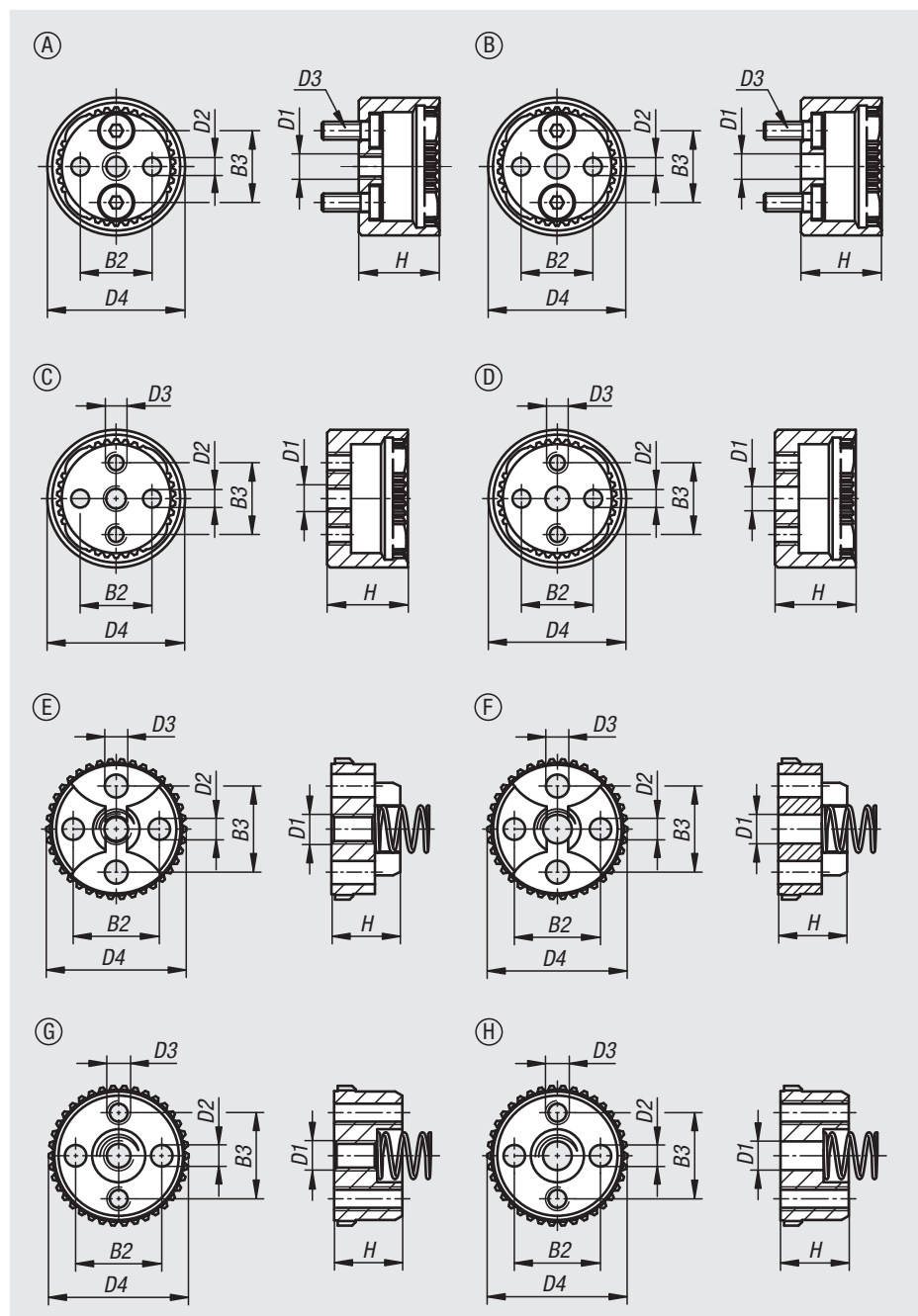
Function:

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

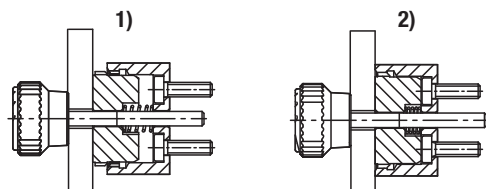
Form G: external toothing, centre tapped hole, 2x tapped holes, 2x reamed holes

Form H: external toothing, centre through bore, 2x tapped holes, 2x reamed holes

1) disengaged

2) engaged

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
07820-12338	A	steel	12	12	M4	3H8	M3	23	13,5	38
07820-13346	A	steel	18	18	M6	5H8	M5	33	19,5	46
07820-112338	A	stainless steel	12	12	M4	3H8	M3	23	13,5	38
07820-113346	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
07820-22338	B	steel	12	12	4,2	3H8	M3	23	13,5	38
07820-23346	B	steel	18	18	6,2	5H8	M5	33	19,5	46
07820-122338	B	stainless steel	12	12	4,2	3H8	M3	23	13,5	38
07820-123346	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
07820-32338	C	steel	12	12	M4	3H8	M3	23	13,5	38
07820-33346	C	steel	18	18	M6	5H8	M5	33	19,5	46
07820-132338	C	stainless steel	12	12	M4	3H8	M3	23	13,5	38
07820-133346	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
07820-42338	D	steel	12	12	4,2	3H8	M3	23	13,5	38
07820-43346	D	steel	18	18	6,2	5H8	M5	33	19,5	46
07820-142338	D	stainless steel	12	12	4,2	3H8	M3	23	13,5	38
07820-143346	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
07820-52338	E	steel	12	12	M4	3H8	3,2	23	9,5	38
07820-53346	E	steel	18	18	M6	5H8	5,3	33	13	46
07820-152338	E	stainless steel	12	12	M4	3H8	3,2	23	9,5	38
07820-153346	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
07820-62338	F	steel	12	12	4,2	3H8	3,2	23	9,5	38
07820-63346	F	steel	18	18	6,2	5H8	5,3	33	13	46
07820-162338	F	stainless steel	12	12	4,2	3H8	3,2	23	9,5	38
07820-163346	F	stainless steel	18	18	6,2	5H8	5,3	33	13	46

Notes

A large rectangular area filled with a fine grid of light gray lines, resembling graph paper, intended for writing notes.