



# BALL LOCK PINS



# **Table of Contents**

# **Ball Lock Pins**

Pin Retaining Cables

Pin Retaining Rings

stainless steel K0367

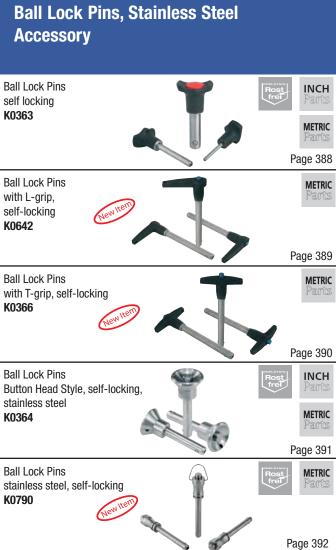
Safety Lanyard

K0743

with eye K0367



# **Ball Lock Pins, Modern Style**



METRIC

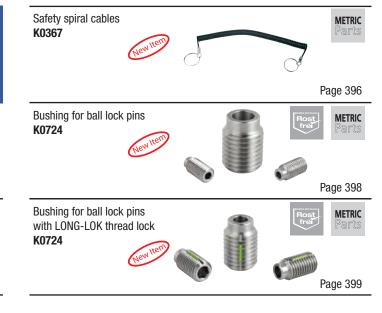
Page 393

Page 394

Page 395

METRIC

METRIC



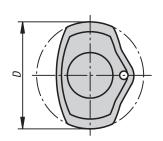


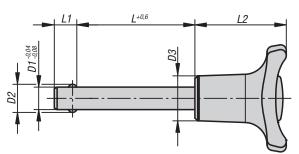
### self locking

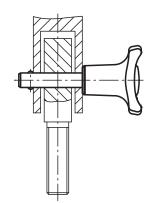












#### Part Number Example (inch):

Ball Lock Pin K0363.38CLL08 (include length L, e.g. L08 for L = 0.5) 0.5 = L080.75 = L121.0 = L161,25 = L201,5 = L241,75 = L282,0 = L322,5 = L36

3.0 = L40



#### Material:

Grip and push button thermoplastic. Steel parts stainless steel.

#### Type:

Grip, black. Push button, red Steel parts, natural finish.

### Part Number Example:

K0363.3806050 (include length L e.g. 050 for L = 50 mm)

Ball Lock Pins allow instant bolting of two workpieces. Two spring pressure balls automatically lock the pin in place. Pressing the push button will release the ball

and efficently unlock the pin.

Shearing force double-edged (F) =  $S \cdot \tau$  aB max.

#### Accessories:

Safety Spiral Cable K0367.10200 Retaining Cable with eye K0367. .... Pin Retaining Ring K0367.15/19/23 Bushing for ball lock pins K0724....

### KIPP Ball Lock Pins, self-locking, inch

Item No.	D	D1	D2	D3	L	L1	L2	Receiving hole H11	Shear force kN
K0363.38CL***	38	3/16	5,25	16	0,5/0,75/1,0/1,25	6	32,5	3/16	13
K0363.38CM***	38	1/4	7,2	16	0,5/0,75/1,0/1,25/1,5/1,75/2,0	6,9	32,5	1/4	24
K0363.38CN***	38	5/16	9,5	16	1,0/1,25/1,5/1,75/2,0	7,9	32,5	5/16	38
K0363.47C0***	47	3/8	11,5	23	1,0/1,25/1,5/1,75/2,0	8,8	40	3/8	54
K0363.47CU***	47	7/16	13	23	1,0/1,25/1,5/1,75/2,0/2,5/3,0	9,7	40	7/16	74
K0363.47CP***	47	1/2	15	23	1,0/1,25/1,5/1,75/2,0/2,5/3,0	10	40	1/2	96
K0363.47CQ***	47	5/8	19	23	1,0/1,25/1,5/1,75/2,0/2,5/3,0	13,3	40	5/8	150

### KIPP Ball Lock Pins, self-locking, metric

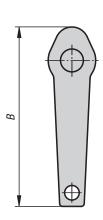
Item No.	D	D1	D2	D3	L	L1	L2	Receiving hole H11	Shearing force double shear max. kN
K0363.3805***	38	5	5,5	16	10/15/20/25/30	6	32,5	5	15
K0363.3806***	38	6	6,85	16	10/15/20/25/30/35/40/45/50	7	32,5	6	22
K0363.3808***	38	8	9,5	16	20/25/30/35/40/45/50	8	32,5	8	38
K0363.4710***	47	10	12	23	20/25/30/35/40/45/50/60	9	40	10	60
K0363.4712***	47	12	14,5	23	25/30/35/40/45/50/60/70/80	10	40	12	86
K0363.4716***	47	16	19	23	30/35/40/45/50/60/70/80	13	40	16	153

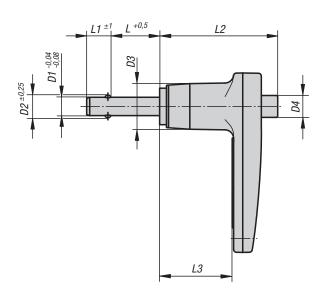


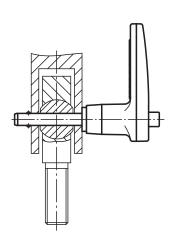
with L-grip, self-locking













#### Material:

Pin stainless steel 1.4542. Grip die-cast aluminum EN-AC 46000. Push button aluminum EN-AW 2024 T4. Balls stainless steel 1.4125. Compression spring stainless steel.

#### Type

All stainless steel parts passivated. Pin hardened to min. 40 HRC. Grip black anodized. Push button blue anodized. Balls hardened to 58 +4 HRC.

#### **Part Number Example:**

K0642.14405030 (include length L e.g. 030 for L = 30 mm)

#### Note:

Ball Lock Pins are used for quick and easy fastening and joining of parts and workpieces. The two balls are disengaged by pressing the push button and the pin can be slipped into holes in the workpieces. Release the button to lock the balls and secure the connection. The ball lock pins can be provided with a retaining cable if required.

The hardened, high-tensile stainless steel pin permits extreme loads with low wear.

Shearing force double shear (F) =  $S \cdot \tau$  aB max.

### Accessories:

Safety Spiral Cable K0367.10200 Retaining Cable with eye K0367..... Pin Retaining Ring K0367.15/19/23 Bushing for ball lock pins K0724....

### KIPP Ball lock pins with L-grip, self-locking, metric

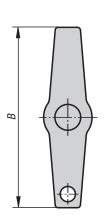
Item No.	В	D1	D2	D3	D4	L	L1	L2	L3	Receiving hole H11	Shearing force double shear max. kN
K0642.14405***	46,7	5	5,54	11,9	5,8	10/15/20/25/30/35/40/50/60/70	6	30,7	19,3	5	24,4
K0642.14406***	46,7	6	6,99	11,9	5,8	10/15/20/25/30/35/40/50/60/70/80	7	30,7	19,3	6	35,64
K0642.14408***	46,7	8	9,42	11,9	5,8	10/15/20/25/30/35/40/50/60/70/80	8	30,7	19,3	8	63,8
K0642.15110***	54,1	10	11,86	14,2	7,4	15/20/25/30/35/40/50/60/70/80/90/100	9	34,8	22,1	10	100,1
K0642.15712***	60,2	12	14,45	18,3	10,7	20/25/30/35/40/50/60/70/80/90/100	10	40,6	25,4	12	144,06
K0642.16816***	68,3	16	19	23,9	13,7	25/30/35/40/50/60/70/80/90/100	14	45	28,2	16	257,18

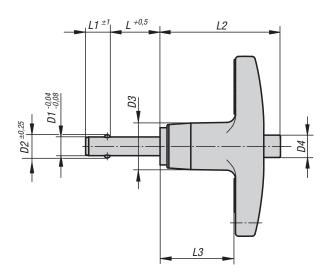


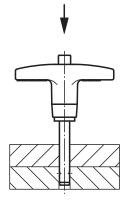
with T-grip, self-locking

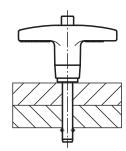














#### Material:

Pin stainless steel 1.4542. Grip die-cast aluminum EN-AC 46000. Push button aluminum EN-AW 2024 T4. Balls stainless steel 1.4125. Compression spring stainless steel.

#### Type:

All stainless steel parts passivated. Pin hardened to min. 40 HRC. Grip black anodized. Push button blue anodized. Balls hardened to 58 +4 HRC.

#### **Part Number Example:**

K0366.24605030 (include length L e.g. 030 for L = 30 mm.)

#### Note:

Ball Lock Pins are used for quick and easy fastening and joining of parts and workpieces. The two balls are disengaged by pressing the push button and the pin can be slipped into holes in the workpieces. Release the button to lock the balls and secure the connection. The ball lock pins can be provided with a retaining cable if required.

The hardened, high-tensile stainless steel pin permits extreme loads with low wear.

Shearing force double shear (F) =  $S \cdot \tau$  aB max.

#### Accessories:

Safety Spiral Cable K0367.10200 Retaining Cable with eye K0367..... Pin Retaining Ring K0367.15/19/23 Bushing for ball lock pins K0724....

### KIPP Ball Lock Pins with T-grip, self-locking

Item No.	В	D1	D2	D3	D4	L	L1	L2	L3	Receiving hole H11	Shearing force double shear max. kN
K0366.24605***	46	5	5,54	11,9	5,8	10/15/20/25/30/35/40/50/60/70	6	30,7	19,3	5	24,4
K0366.24606***	46	6	6,99	11,9	5,8	10/15/20/25/30/35/40/50/60/70/80	7	30,7	19,3	6	35,64
K0366.24608***	46	8	9,42	11,9	5,8	10/15/20/25/30/35/40/50/60/70/80	8	30,7	19,3	8	63,8
K0366.25110***	50,8	10	11,86	14,2	7,4	15/20/25/30/35/40/50/60/70/80/90/100	9	34,8	22,1	10	100,1
K0366.25812***	57,2	12	14,45	18,3	10,7	20/25/30/35/40/50/60/70/80/90/100	10	40,6	25,4	12	144,06
K0366.27816***	78	16	19	23,9	13,7	25/30/35/40/50/60/70/80/90/100	14	45	28,2	16	257,18

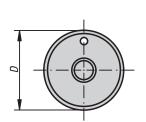


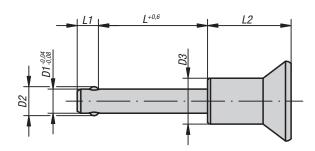
Button Head Style, self-locking, stainless steel











Part Number Example (inch):

Ball Lock Pin K0364.23CLL08 (include length L,

e.g. L08 for L = 0.5) 0.5 = L08

0,75 = L12

1.0 = L16

1,25 = L20

1,5 = L24

1,75 = L282,0 = L32

2,5 = L36

3,0 = L40



Steel parts stainless steel.

Type:

Natural finish.

Part Number Example:

K0364.3110030

(include length L e.g. 030 for L = 30 mm.)

Ball Lock Pins allow instant bolting of two workpieces. Two spring pressure balls automatically lock the pin in place. Pressing the push button will release the ball and efficently unlock the pin. Corrosion

Heat resistance up to: +250 °C/+483 °F.

Shearing force double shear (F) =  $S \cdot \tau$  aB max.

**Accessories:** 

Safety Spiral Cable K0367.10200 Retaining Cable with eye K0367. .... Pin Retaining Ring K0367.15/19/23 Bushing for ball lock pins K0724....

### KIPP Ball Lock Pins, button head style, self-locking, stainless steel, inch

Item No.	D	D1	D2	D3	L	L1	L2	Receiving hole H11	Shearing force double shear max. kN
K0364.23CL***	25	3/16	5,25	14	0,5/0,75/1,0/1,25	6	26,5	3/16	13
K0364.23CM***	25	1/4	7,2	14	0,5/0,75/1,0/1,25/1,5/1,75/2,0	6,9	26,5	1/4	24
K0364.23CN***	25	5/16	9,5	14	1,0/1,25/1,5/1,75/2,0	7,9	26,5	5/16	38
K0364.31C0***	33	3/8	11,5	19	1,0/1,25/1,5/1,75/2,0	8,8	34,6	3/8	54
K0364.31CU***	33	7/16	13	19	1,0/1,25/1,5/1,75/2,0/2,5/3,0	9,7	34,6	7/16	74
K0364.31CP***	33	1/2	15	19	1,0/1,25/1,5/1,75/2,0/2,5/3,0	10	34,6	1/2	96
K0364.31CQ***	33	5/8	19	20	1,0/1,25/1,5/1,75/2,0/2,5/3,0	13,3	34,6	5/8	150

### KIPP Ball Lock Pins, button head style, self-locking, stainless steel, metric

Item No.	D	D1	D2	D3	L	L1	L2	Receiving hole H11	Shearing force double shear max. kN
K0364.2305***	25	5	5,5	14	10/15/20/25/30	6	26,5	5	15
K0364.2306***	25	6	6,85	14	10/15/20/25/30/35/40/45/50	7	26,5	6	22
K0364.2308***	25	8	9,5	14	20/25/30/35/40/45/50	8	26,5	8	38
K0364.3110***	33	10	12	19	20/25/30/35/40/45/50/60	9	34,6	10	60
K0364.3112***	33	12	14,5	19	25/30/35/40/45/50/60/70/80	10	34,6	12	86
K0364.3116***	33	16	19	20	30/35/40/45/50/60/70/80	13,3	34,6	16	153

stainless steel, self-locking

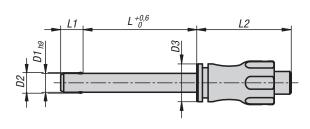


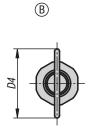


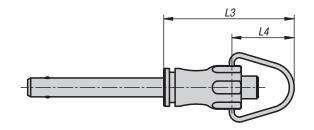


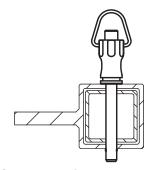














#### Material:

Grip and push button stainless steel 1.4305. Pin stainless steel 1.4305.

Balls stainless steel 1.4125.

Compression spring and handle stainless steel 1.4310.

#### Type:

Natural finish.

#### **Part Number Example:**

K0790.001508050

(include length L e.g. 050 for L = 50 mm)

#### Note:

Ball Lock Pins allow instant bolting of two workpieces. Two spring pressure balls automatically lock the pin in place.

Pressing the push button will release the ball and efficently unlock the pin.

Shearing force double-edged (F) =  $S \cdot \tau$  aB max.

#### **Accessories:**

Safety Spiral Cable K0367.10200 Retaining Cable with eye K0367..... Pin Retaining Ring K0367.15/19/23 Bushing for ball lock pins K0724....

### KIPP Ball Lock Pins stainless steel self-locking, Style A, metric

Item No.	Style	D	D1	D2	D3	L	L1	L2	SW	Receiving hole H11	Shearing force double shear max. kN
K0790.001205***	Α	11,5	5	5,5	10	10/15/20/25/30	5,9	25	11	5	15
K0790.001206***	Α	11,5	6	6,85	10	10/15/20/25/30/35/40/45/50	6,8	25	11	6	22
K0790.001508***	Α	15,5	8	9,5	13,5	20/25/30/35/40/45/50	7,8	33	15	8	38
K0790.001510***	Α	15,5	10	12	13,5	20/25/30/35/40/45/50/60	8,9	33	15	10	60
K0790.002112***	Α	22	12	14,5	20	25/30/35/40/45/50/60/70/80	9,9	39,5	21	12	86
K0790.002116***	Α	22	16	19	20	30/35/40/45/50/60/70/80	13,1	39,5	21	16	153

### KIPP Ball Lock Pins stainless steel self-locking, Style B, metric

Item No.	Style	D	D1	D2	D3	D4	L	L1	L2	L3	L4	SW	Receiving hole H11	Shearing force double shear max. kN
K0790.101205***	В	11,5	5	5,5	10	18,3	10/15/20/25/30	5,9	25	34,6	16,6	11	5	15
K0790.101206***	В	11,5	6	6,85	10	18,3	10/15/20/25/30/35/40/45/50	6,8	25	34,6	16,6	11	6	22
K0790.101508***	В	15,5	8	9,5	13,5	24	20/25/30/35/40/45/50	7,8	33	46,7	22,7	15	8	38
K0790.101510***	В	15,5	10	12	13,5	24	20/25/30/35/40/45/50/60	8,9	33	46,7	22,7	15	10	60
K0790.102112***	В	22	12	14,5	20	33	25/30/35/40/45/50/60/70/80	9,9	39,5	59,3	30,3	21	12	86
K0790.102116***	В	22	16	19	20	33	30/35/40/45/50/60/70/80	13,1	39,5	59,3	30,3	21	16	153

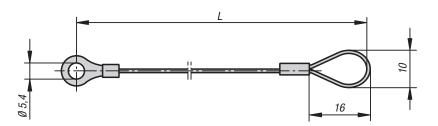


# **Pin Retaining Cables**

with eye







#### Material:

Retaining cable in stainless steel. Clip and eye in aluminum.

#### Type:

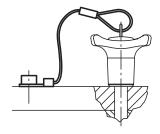
Cable plastic coated.

### **Part Number Example:**

K0367.0150

#### Note:

With the Retaining Cable and Pin Ring (K0367) the Ball Lock Pins (K0363, K0364, K0366, K0642 and K0790) can be secured so that they cannot be lost. A screw M5 is used to secure the retaining cable. Application temperature: +80 °C.



### KIPP Pin Retaining Cables with eye, metric

Item No.	L
K0367.0150	150
K0367.0200	200
K0367.0300	300

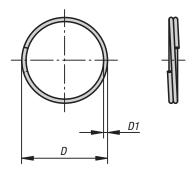


# **Pin Retaining Rings**

stainless steel











### Material:

Stainless steel 1.4310.

### Type:

Natural finish.

### **Part Number Example:**

K0367.15

#### Note:

Suitable for Pin Retaining Cables (K0367), Ball Lock Pins (K0363, K0364, K0366, K0642, K0790) Indexing Plungers (K0342).

## **KIPP Pin Retaining Rings, metric**

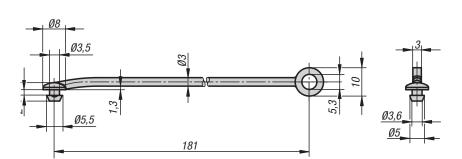
Item No.	D	D1
K0367.15	15	1
K0367.19	19	1
K0367.23	23	1,2
K0367.28	28	1,7



# **Safety Lanyard**









#### Material:

Thermoplastic urethane TPU.

#### **Part Number Example:**

K0743.04190

#### Note:

The safety lanyard is distinguished by its high elasticity and good rebound resilience. Depending on the wall thickness, it can be used to secure almost every operating part, fastening element or other objects.

It was especially conceived for the star grips K0154 and K0155.

Refitting of existing star grips K0154, K0155 as well as knurled knobs K0260/K0261 and knurled knobs K0247 from our assortment is possible with this safety lanyard.

#### Assembly:

Recommended hole  $\emptyset$  3.8  $_{-0.1}$ . The hole edge should be deburred. A Teflon based lubrication is recommended to aid assembly.

### **KIPP Safety lanyard**

Item No.	Dimensions	
K0743.04190	see drawing	



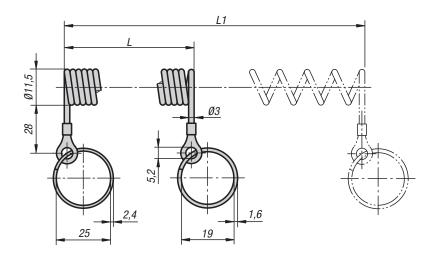
# Safety spiral cables











#### Material:

Spiral cable PUR. Eye copper or stainless steel. Key ring steel or stainless steel.

#### Type:

Spiral cable black. Eye, brass galvanized - stainless steel bright. Key ring, steel chromate - stainless steel bright.

#### **Part Number Example:**

K0367.10200

#### Note:

Elastic spiral cable to secure equipment parts. Very good reset force, robust and wear-resistant.

### **KIPP Safety spiral cables**

Item No.	Component material	L	L1
K0367.10100	Steel	100	500
K0367.10200	Steel	200	1000
K0367.20100	Stainless steel	100	500
K0367.20200	Stainless steel	200	1000

# Notes:






# **Bushing for ball lock pins**



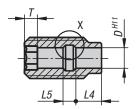




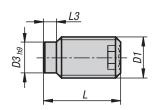














#### Material:

Stainless steel 1.4305.

#### Type:

Steel parts natural finish.

#### **Part Number Example:**

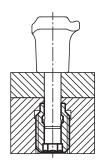
K0724.11224

#### Note:

Ball lock pin bushings are ideal for the easy and quick positioning of ball lock pins.

#### Benefits:

- The bushing is centered by the centering collar.
- easy and reliable positioning.
- can be screwed into various materials.
- usable from both ends.



### KIPP Bushings for ball lock pins, metric

Item No.	D	D1	D2	D3	L	L3	L4	L5	SW	Т
K0724.10512	5	M12	6	9	25	4	7	3	5	4
K0724.10616	6	M16	7,5	12	30	5	10	5	6	5
K0724.10816	8	M16	10	12	30	5	10	5	8	5
K0724.11024	10	M24	13	18	35	6	8	7	10	6
K0724.11224	12	M24	15	18	35	6	8	7	12	6
K0724.11630	16	M30	20	24	40	8	11	9	16	7



# **Bushing for ball lock pins**

with LONG-LOK thread lock





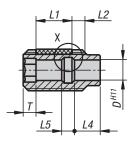




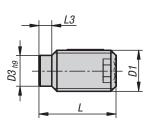














#### Material:

Stainless steel 1.4305

LONG-LOK thread system in nylon

#### Type:

Steel parts natural finish.

#### **Part Number Example:**

K0724.112241

#### Note:

Ball lock pin bushings are ideal for the easy and quick positioning of ball lock pins.

#### Benefits:

- the bushing is centered by the centering collar.
- easy and reliable positioning.
- can be screwed into various materials.
- usable from both ends
- the LONG-LOK thread lock allows the depth to be matched exactly to existing components, no locknut is required.

### Drawing reference:

L2 = approx. 2x thread pitch



### KIPP Bushings for ball locking pins, with LONG-LOK thread lock, metric

Item No.	D	D1	D2	D3	L	L1	L3	L4	L5	SW	Т
K0724.105121	5	M12	6	9	25	10	4	7	3	5	4
K0724.106161	6	M16	7,5	12	30	14	5	10	5	6	5
K0724.108161	8	M16	10	12	30	14	5	10	5	8	5
K0724.110241	10	M24	13	18	35	14	6	8	7	10	6
K0724.112241	12	M24	15	18	35	14	6	8	7	12	6
K0724.116301	16	M30	20	24	40	14	8	11	9	16	7

# Notes:



			 		 	H H H H H H		

# **Reference Table - Conversion of Measurements**



Pressure		
From	То	Conversion
psi	Kilopond/cm² (kp/cm²)	psi x 0.07031 = kp/cm <sup>2</sup>
Kilopond/cm <sup>2</sup> (kp/cm <sup>2</sup> )	psi	kp/cm² x 14.22 = psi
psi	Bar	psi x 0.07 = Bar
Bar	psi	Bar x 14.29 = psi

Linear Measure		
From	То	Conversion
Inch (in)	Millimeter (mm)	in x 25.4 = mm
Millimeter (mm)	Inch (in)	mm x 0.03937 = in
Inch	Millimeter (mm)	Inch x 25.4 = mm
Millimeter (mm)	Inch	mm x 0.03937 = Inch
Foot	Meter (m)	Foot x 0.3048 = m
Meter (m)	Foot	m x 3.281 = Foot
Yard	Meter (m)	Yard x 0.9144 = m
Meter (m)	Yard	m x 1.0936 = Yard
Miles (mls)	Kilometer (km)	mls x 1.609 = km
Kilometer (km)	Miles (mls)	km x 0.622 = mls

Forces		
From	То	Conversion
Pounds (lbs)	Newton (N)	lbs x $4.45 = N$
Newton (N)	Pounds (lbs)	N x 0.225 = lbs
PS (horsepower)	Kilowatt (kW)	PS x 0.735 = kW
Kilowatt (kW)	PS (horsepower)	kW x 1.36 = PS

Weights		
From	То	Conversion
Pounds (lbs)	Kilopond/cm² (kp/cm²)	lbs x 0.45 = kp/cm <sup>2</sup>
Kilopond/cm² (kp/cm²)	Pounds (lbs)	kp/cm² x 2.2 = lbs
Ounces (oz)	Gramm (g)	oz x 28 = g
Gramm (g)	Ounces (oz)	$g \times 0.035 = oz$
Pounds (lbs)	Kilogramm (kg)	lbs x 0.4536 = kg
Kilogramm (kg)	Pounds (lbs)	kg x 2.205 = lbs

Torque		
From	То	Conversion
Foot-pounds (ft-lbs)	Newton-Meter (Nm)	ft/lbs x 1.35 = Nm
Newton-Meter (Nm)	Foot-pounds (ft-lbs)	Nm x 0.74 = ft/lbs
Newton-Meter (Nm)	Kilopond/cm (kp/cm)	Nm x 0.102 = kp/cm

# **General Information about:**

**KIPP Clamping Tools** 

**KIPP Operating Parts** 

Novo-Grip

Sympa Touch

KIPP Machine and Jig Devices



#### **Materials:**

POM = Polyoxymethylene - Delrin®
Deviating from the standard design, other materials and quality classes are available on request.

#### Surface finishes:

Other surface finishes are available at additional cost, e.g. matte-finished or high-polish chromium-plated steel parts.

Other colors are also available on request for plastic coatings or molded plastic parts.

#### Threads:

Threads are manufactured to ISO DIN 13 medium tolerance class, i.e. 6H for nut threads and 6g for bolt threads. External threads up to 60 mm are generally supplied fully threaded. Screw lengths of 70 mm and more are supplied with 60 mm long threads.

#### Threads of aluminum grips:

Especially threads of aluminum grips cannot be true to gauge size due to final surface finish refinement and the removal of material during related pretreatment.

The majority of these threads are moulded in order to strengthen the material. As a result, the tearing resistance of aluminum for a thread with M5x10 is higher than 2000 N.

#### **Special versions:**

KIPP Clamp and Tension Levers can also be supplied on request with predrilled inserts, locating holes, locating bolts for pinning and other thread ends to DIN 78 (except for flat point) and to DIN 6332.

As a basic rule, you can rely on us as a competent partner for your daily clamping needs. We are always happy to advise you.

#### **Thread Pitch Chart:**

Metric Coarse Thread:	Metric Fine Thread:
M3 X 0.5	M3 X 0.35
M4 X 0.7	M4 X 0.50
M5 X 0.8	M5 X 0.50
M6 X 1.0	M6 X 0.75
M8 X 1.25	M8 X 1.00
M10 X 1.5	M10 X 1.25
M12 X 1.75	M12 X 1.50
M14 X 2.00	M14 X 1.50
M16 X 2.00	M16 X 1.50
M18 X 2.50	M18 X 1.5
M20 X 2.50	M20 X 1.5
M22 X 2.50	M24 X 1.5
M24 X 3.00	M24 X 2.0

#### **Conversion Chart:**

10mm = .39"
12mm = .47"
15mm = .59"
20mm = .79"
25mm = .98"
30mm = 1.18"
25mm = 1.38"
40mm = 1.57"
45mm = 1.77"
50mm = 1.97"
55mm = 2.17"
60mm = 2.36"
70mm = 2.76"
80mm = 3.15"
90mm = 3.54"



# General Terms and Conditions

Kipp Inc. ("Kipp") is pleased to present its products to industry. All Kipp products are generally sold through distributors and Kipp products are sold under our standard terms and conditions of sale, disclaims all warranties to indirect purchasers of Kipp product. which include an express warranty, warranty disclaimers, and Purchasers should contact their sellers with any claims related to delete products and to make improvements, changes or for any inaccuracies or for any direct, incidental or consequential modifications to all products manufactured or sold by Kipp, without damages resulting therefrom or from the purchase, use, storage or component - past, present or future. Any specifications, quidelines, analyzed and/or tested by the customer before selecting any Kipp technical data and other information provided herein supersede alleproduct or taking any action based thereon. Kipp products are often previous similar information published by Kipp unless specifically used in specialized complex applications. Post delivery field provided in writing by Kipp pursuant to a specific inquiry. All engineering and changes may be required by users to obtain the best information provided by Kipp, regardless of nature or form, is results possible in any particular application. Please call our prepared in good faith based upon our experience, mathematical Engineering Department or Sales Department at (866) 547-7166 if suggestion or projections offered in writing, by phone, in person, or foregoing disclaimers and limitations. in any other form are provided in good faith, but since the functionality and reliability of Kipp products can vary with the application and with the equipment and other components with which it is used, and user skill all warranties (other than the Kipp non-assignable standard express written warranty given to direct purchasers from Kipp), such as any implied warranty or merchantability or fitness for a particular purpose, are disclaimed.

limitations of remedies and responsibilities. Kipp reserves the right to Kipp products. Kipp is not responsible in contract, tort, or otherwise incurring any liability to incorporate these changes in any part or sale of Kipp products. Any suggestion or projection should be fully models, and/or scientific models as general information only. Any you have further questions. All information furnished is subject to the





The publication of this catalog renders all earlier publications invalid. Dimensions and other information is correct at the time of printing.

We reserve the right to make technical changes. We also cannot be held liable for printing errors that may occur in this publication.

Reprint and reproduction, even excerpts, are only allowed with KIPP Inc. permission.

KIPP Inc.

Copyright KIPP Inc.

WE01USCAT1707