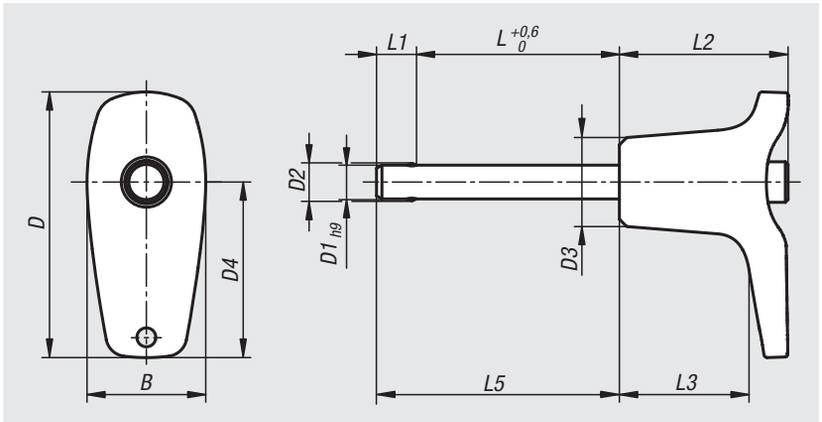
Ball lock pins

with zinc L-grip



Material:
Grip die-cast zinc.
Steel parts 1.4305 stainless steel.

Version:
Grip black.
Stainless steel bright.

Sample order:
nlm 03422-102606050
(include length L e.g. 050 for L = 50 mm.)

Note:
Ball lock pins are used for easy fastening or joining of components or workpieces.
The two balls are disengaged by pressing the push button and the pin can be slipped into holes in the workpieces. When the push button is released, the balls lock the connection securely. If required, the ball lock pins can be fitted with a retaining cable.

Shear force double shear (F) = S · τ aB max.

The values given for the shear force are the theoretical breaking load.
These are non-binding reference values without consideration of safety factors and exclude any liability. The values given are for information purposes only and do not constitute a legally binding assurance of properties.

The load values have been calculated in accordance with DIN 50141. Each user must determine individually whether the ball lock pin is suitable for the respective application.

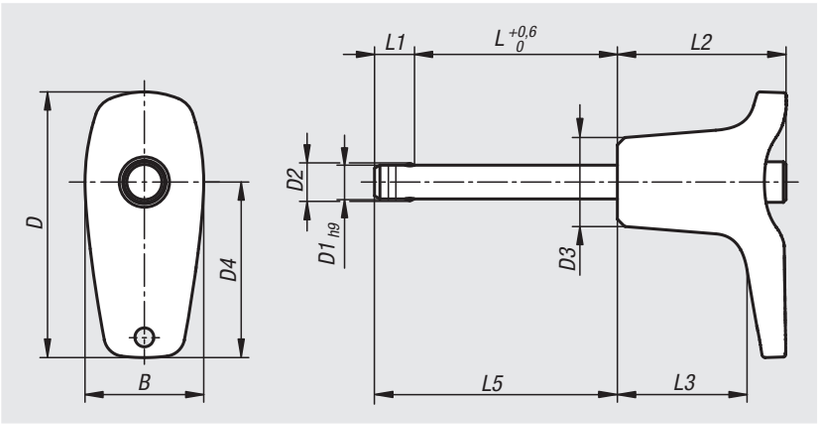
Different materials in which the ball lock pins are used, weather conditions and wear can influence the determined values.

Accessories:
Bushing for ball lock pins 03197
Safety spiral cable 03199
Retaining cable with loop 03199
Key ring 03199

Order No.	B	D	D1	D2	D3	D4	L	L1	L2	L3	L5	Receiving hole H11	Shearing force double shear max.kN
03422-102605* **	17,6	39,3	5	5,5	13,2	26	10/15/20/25/30	5,9	25	19,2	15,9/20,9/25,9/30,9/35,9	5	15
03422-102606* **	17,6	39,3	6	6,85	13,2	26	10/15/20/25/30/35/40/45/50	6,8	25	19,2	16,8/21,8/26,8/31,8/36,8/41,8/46,8/51,8/56,8	6	22
03422-103508* **	23	52,2	8	9,5	17,3	35,4	20/25/30/35/40/45/50	7,8	33	24,2	27,8/32,8/37,8/42,8/47,8/52,8/57,8	8	38
03422-103510* **	23	52,2	10	12	17,3	35,4	20/25/30/35/40/45/50/60	8,9	33	24,2	28,9/33,9/38,9/43,9/48,9/53,9/58,9/68,9	10	60
03422-104712* **	33	70,2	12	14,5	26,3	47	25/30/35/40/45/50/60/70/80	9,9	39,5	28,4	34,9/39,9/44,9/49,9/54,9/59,9/69,9/79,9/89,9	12	86
03422-104716* **	33	70,2	16	19	26,3	47	30/35/40/45/50/60/70/80	13,1	39,5	28,4	43,1/48,1/53,1/58,1/63,1/73,1/83,1/93,1	16	153

Ball lock pins with L-grip

with high shear strength



Material:
Grip die-cast zinc.
Push button 1.4305 stainless steel.
Pin stainless steel 1.4542.
Balls 1.4125 stainless steel.
Spring 1.4310 stainless steel.

Version:
Grip black.
Stainless steel bright.

Sample order:
nlm 03422-112606050
(include length L e.g. 050 for L = 50 mm.)

Note:
Ball lock pins are used for easy fastening or joining of components.
The two balls are disengaged by pressing the push button and the pin can be slipped into holes in the workpieces. When the push button is released, the balls lock the connection securely.

Shear force double shear (F) = S · τ aB max.

The values given for the shear force are the theoretical breaking load.
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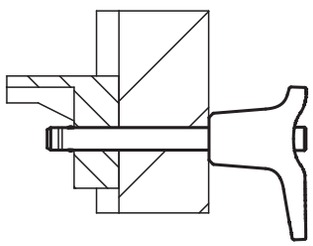
The load values have been calculated in accordance with DIN 50141. Each user must determine individually whether the ball lock pin is suitable for the respective application.

Different materials in which the ball lock pins are used, weather conditions and wear can influence the determined values.

Ball lock pins with high shear strength are identified by a groove marking on the pin.

Advantages:
Higher loading in comparison to standard ball lock pins.
The pins made from 1.4542 stainless steel is hardened, has a higher shear resistance and is extremely durable.

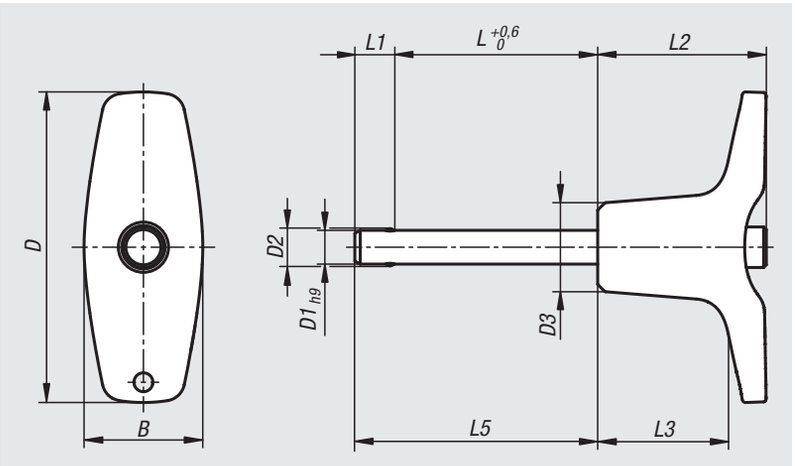
Accessories:
Bushing for ball lock pins 03197
Safety spiral cable 03199
Retaining cable with loop 03199
Key ring 03199



Order No.	B	D	D1	D2	D3	D4	L	L1	L2	L3	L5	Receiving hole H11	Shearing force double shear max.kN
03422-112605* **	17,6	39,3	5	5,5	13,2	26	10/15/20/25/30	5,9	25	19,2	15,9/20,9/25,9/30,9/35,9	5	24
03422-112606* **	17,6	39,3	6	6,85	13,2	26	10/15/20/25/30/35/40/45/50	6,8	25	19,2	16,8/21,8/26,8/31,8/36,8/41,8/46,8/51,8/56,8	6	35
03422-113508* **	23	52,2	8	9,5	17,3	35,4	20/25/30/35/40/45/50	7,8	33	24,2	27,8/32,8/37,8/42,8/47,8/52,8/57,8	8	63
03422-113510* **	23	52,2	10	12	17,3	35,4	20/25/30/35/40/45/50/60	8,9	33	24,2	28,9/33,9/38,9/43,9/48,9/53,9/58,9/68,9	10	100
03422-114712* **	33	70,2	12	14,5	26,3	47	25/30/35/40/45/50/60/70/80	9,9	39,5	28,4	34,9/39,9/44,9/49,9/54,9/59,9/69,9/79,9/89,9	12	144
03422-114716* **	33	70,2	16	19	26,3	47	30/35/40/45/50/60/70/80	13,1	39,5	28,4	43,1/48,1/53,1/58,1/63,1/73,1/83,1/93,1	16	257

Ball lock pins

with zinc T-grip



Material:
Grip die-cast zinc.
Steel parts 1.4305 stainless steel.

Version:
Grip black.
Stainless steel bright.

Sample order:
nlm 03422-204606050
(include length L e.g. 050 for L = 50 mm.)

Note:
Ball lock pins are used for easy fastening or joining of components or workpieces.
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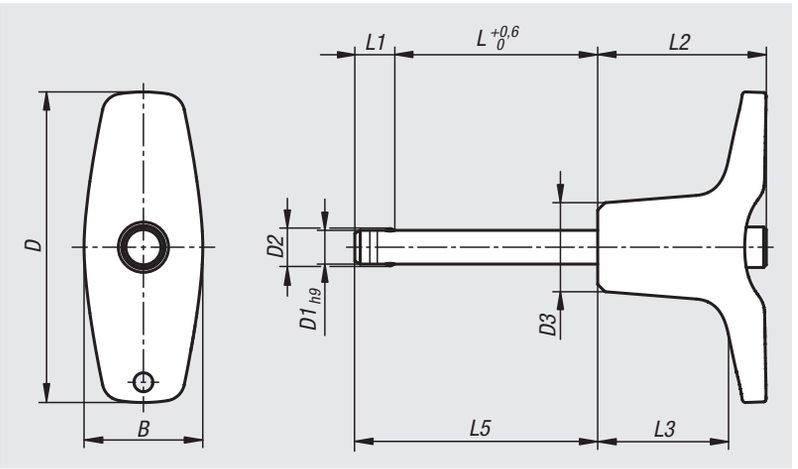
Different materials in which the ball lock pins are used, weather conditions and wear can influence the determined values.

Accessories:
Bushing for ball lock pins 03197
Safety spiral cable 03199
Retaining cable with loop 03199
Key ring 03199

Order No.	B	D	D1	D2	D3	L	L1	L2	L3	L5	Receiving hole H11	Shearing force double shear max.kN
03422-204605* **	17,6	46	5	5,5	13,2	10/15/20/25/30	5,9	25	19,4	15,9/20,9/25,9/30,9/35,9	5	15
03422-204606* **	17,6	46	6	6,85	13,2	10/15/20/25/30/35/40/45/50	6,8	25	19,4	16,8/21,8/26,8/31,8/36,8/41,8/46,8/51,8/56,8	6	22
03422-206308* **	23	62,9	8	9,5	17,3	20/25/30/35/40/45/50	7,8	33	24,4	27,8/32,8/37,8/42,8/47,8/52,8/57,8	8	38
03422-206310* **	23	62,9	10	12	17,3	20/25/30/35/40/45/50/60	8,9	33	24,4	28,9/33,9/38,9/43,9/48,9/53,9/58,9/68,9	10	60
03422-208212* **	33	81,8	12	14,5	26,3	25/30/35/40/45/50/60/70/80	9,9	39,5	28,8	34,9/39,9/44,9/49,9/54,9/59,9/69,9/79,9/89,9	12	86
03422-208216* **	33	81,8	16	19	26,3	30/35/40/45/50/60/70/80	13,1	39,5	28,8	43,1/48,1/53,1/58,1/63,1/73,1/83,1/93,1	16	153

Ball lock pins with T-grip

with high shear strength



Material:
Grip die-cast zinc.
Push button 1.4305 stainless steel.
Pin stainless steel 1.4542.
Balls 1.4125 stainless steel.
Spring 1.4310 stainless steel.

Version:
Grip black.
Stainless steel bright.

Sample order:
nlm 03422-214606050
(include length L e.g. 050 for L = 50 mm.)

Note:
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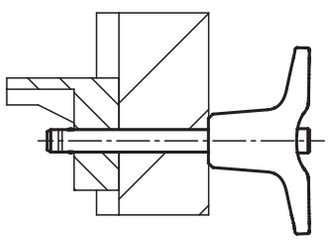
Retaining cable with loop 03199
Key ring 03199



Order No.	B	D	D1	D2	D3	L	L1	L2	L3	L5	Receiving hole H11	Shearing force double shear max.kN
03422-214605* **	17,6	46	5	5,5	13,2	10/15/20/25/30	5,9	25	19,4	15,9/20,9/25,9/30,9/35,9	5	24
03422-214606* **	17,6	46	6	6,85	13,2	10/15/20/25/30/35/40/45/50	6,8	25	19,4	16,8/21,8/26,8/31,8/36,8/41,8/46,8/51,8/56,8	6	35
03422-216308* **	23	62,9	8	9,5	17,3	20/25/30/35/40/45/50	7,8	33	24,4	27,8/32,8/37,8/42,8/47,8/52,8/57,8	8	63
03422-216310* **	23	62,9	10	12	17,3	20/25/30/35/40/45/50/60	8,9	33	24,4	28,9/33,9/38,9/43,9/48,9/53,9/58,9/68,9	10	100
03422-218212* **	33	81,8	12	14,5	26,3	25/30/35/40/45/50/60/70/80	9,9	39,5	28,8	34,9/39,9/44,9/49,9/54,9/59,9/69,9/79,9/89,9	12	144
03422-218216* **	33	81,8	16	19	26,3	30/35/40/45/50/60/70/80	13,1	39,5	28,8	43,1/48,1/53,1/58,1/63,1/73,1/83,1/93,1	16	257