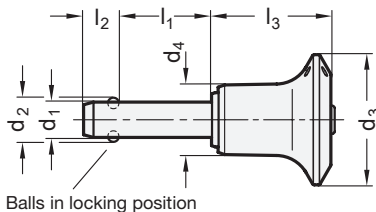
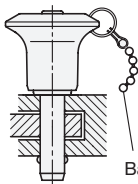


Bore for key ring
(ball chain)

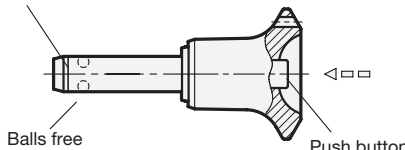


Application example



Ball chain GN 111

Marking for material
AISI 630 (GN 113.10)



d_1 -0,04 -0,08	$l_1 + 0,6$														d_2	d_3	d_4	$l_2 \pm 1$	l_3 -0,2	Location bore H11	
5	10	15	20	25	30	35	40	45	50	60	70	80	-	-	-	5,5	23	10,2	6,2	20,2	5
6	10	15	20	25	30	35	40	45	50	60	70	80	-	-	-	7	23	10,2	7,2	20,2	6
8	10	15	20	25	30	35	40	45	50	60	70	80	90	100	-	9,5	27	13,2	8,4	26,8	8
10	15	20	25	30	35	40	45	50	60	70	80	90	100	110	120	12	27	13,2	9,9	26,8	10
12	20	25	30	35	40	45	50	60	70	80	90	100	110	120	-	14,5	31	16,4	10,9	32,7	12
16	30	35	40	45	50	60	70	80	90	100	110	120	130	140	150	19	38	23,4	14,5	42,6	16
20	50	60	70	80	90	100	110	120	130	140	150	-	-	-	-	24,8	38	23,4	17,4	42,6	20
25	50	60	70	80	90	100	110	120	130	140	150	-	-	-	-	30,8	50	30,4	22,3	54,3	25

Specification

- **GN 113.9**
Plunger Stainless Steel AISI 303
- **GN 113.10**
Plunger Stainless Steel AISI 630
precipitation-hardened
- Knob, push button
Stainless Steel AISI 316L
- Balls
Stainless Steel AISI 420C
- Spring
Stainless Steel German material no. 1.4565
- Load capacity → Page XYZ
- ISO-Fundamental tolerances → Page 1479
- Stainless Steel characteristics → Page 1489
- RoHS

Accessory

- Ball chains GN 111 / GN 111.5 → Page 876
- Retaining cables GN 111.2 → Page 877
- Spiral retaining cables GN 111.4 → Page 878

Information

Stainless Steel-Ball lock pins GN 113.9 / GN 113.10 are used for quick fixing, connecting and locking of various parts and workpieces. A typical application is location pins which have to be often removed and replaced again.

By pressing the spring loaded push button both balls are unlocked and by releasing it, the balls are locked again.

Ball lock pins GN 113.10 have an extreme load capacity, the pin is made of heavy duty, hardened and highly abrasion-resistant Stainless Steel.

The technical appendix contains the load capacities for the double-sided shearing resistance (breaking strength).

see also...

- List of lock pin types → Page 746 ff.
- Guide bushings DIN 172 (cylindrical, with collar) → Page 830
- Guide bushings DIN 179 (cylindrical, without collar) → Page 830

How to order (Stainless Steel AISI 303)	1	d_1
GN 113.9-6-60	2	l_1

How to order (Stainless Steel AISI 630)	1	d_1
GN 113.10-20-100	2	l_1