

Ball knobs

Plastic / Steel / Aluminium / Stainless Steel

SPECIFICATION

Version in Plastic

Types

- Type **C**: with tapped hole, no bush
- Type **E**: with tapped bush

Plastic **KU**

Duroplast (Phenolic PF)

- Flash removed and polished
- black
- red **RT**, similar RAL 3003: add RT on order code

Bush (Type E)

- Steel, zinc plated
- Brass **MS** add MS on order code (only in black version)

Plastic **KT**

Technopolymer (Polyamide PA)

- shock resistant
- black, matt finish
- red **RT**, similar RAL 3000: add RT on order code

Version in Steel

Types

- Type **C**: with tapped hole
- Type **K**: with plain hole H7

Steel **ST**

polished

Version in Aluminium

Types

- Type **C**: with tapped hole
- Type **K**: with plain hole H7

Aluminium **AL**

polished

Version in Stainless Steel

Types

- Type **C**: with tapped hole
- Type **K**: with plain hole H7

Stainless Steel AISI 303 **NI**

matt shot-blasted

Version in Plastic (Press on type)

Types

- Type **L**: with tolerance ring
- Type **M**: with tapered bore

Type L

Plastic **KU**

Duroplast (Phenolic PF)

black, shiny finish

Tolerance ring

spring steel

Type M

Plastic **KT**

Technopolymer (Polyamide PA)

- shock resistant
- black, matt finish
- Ball knobs press on type in red



INFORMATION

When ball knobs DIN 319 (Press on type) type L and M are used the shaft does not require a thread.

During mounting, easy blows with a soft hammer are sufficient to drive the knob into place, the shaft end should be slightly rounded or chamfered (30°).

Before the assembly of the knobs, type L the tolerance ring is to be inserted into the drilling. Further it is to be noted that the button is put on perpendicular and / or axially parallel. Otherwise the knob may break.

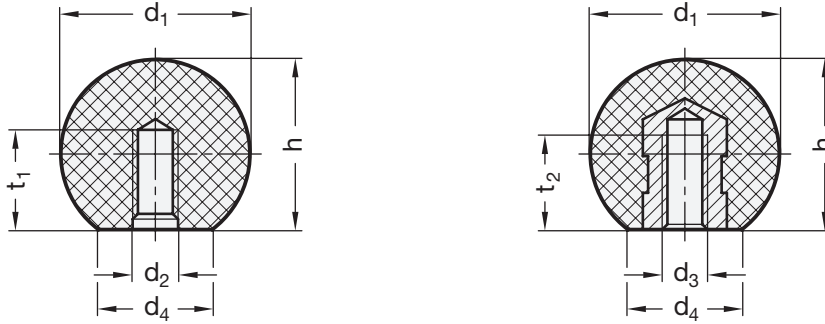
Type M ball knobs are a cheaper solution, however, the pulling off force is less predictable.

ON REQUEST

- Ball knobs press on type in red

TECHNICAL INFORMATION

- ISO-Fundamental Tolerances (see page A21)
- Stainless Steel characteristics (see page A26)
- Plastic characteristics - Duroplast (see page A2)
- Plastic characteristics - Technopolymer (see page A32)



DIN 319-KU

Description	d1	d2	d3	d4 ≈	h	t1 min.	t2 min.	⚖
DIN 319-KU-10-M3-C	10	M 3	-	5	9.3	6	-	1
DIN 319-KU-12-M4-C	12	M 4	-	6	11.2	6	-	1
DIN 319-KU-16-M4-C	16	M 4	-	8	15	6	-	2
DIN 319-KU-16-M5-C	16	M 5	-	8	15	6	-	2
DIN 319-KU-20-M5-C	20	M 5	-	12	18	7.5	-	5
DIN 319-KU-20-M6-C	20	M 6	-	12	18	7.5	-	5
DIN 319-KU-25-M5-C	25	M 5	-	15	22.5	9	-	10
DIN 319-KU-25-M6-C	25	M 6	-	15	22.5	9	-	10
DIN 319-KU-25-M8-C	25	M 8	-	15	22.5	9	-	10
DIN 319-KU-30-M8-C	30	M 8	-	15	28	12	-	19
DIN 319-KU-32-M6-C	32	M 6	-	18	29	12	-	23
DIN 319-KU-32-M8-C	32	M 8	-	18	29	12	-	22
DIN 319-KU-32-M10-C	32	M 10	-	18	29	12	-	22
DIN 319-KU-35-M10-C	35	M 10	-	18	32.5	15	-	27
DIN 319-KU-40-M8-C	40	M 8	-	22	37	15	-	40
DIN 319-KU-40-M10-C	40	M 10	-	22	37	15	-	39
DIN 319-KU-40-M12-C	40	M 12	-	22	37	15	-	39
DIN 319-KU-50-M12-C	50	M 12	-	28	46	18	-	89
DIN 319-KU-20-M5-E	20	-	M 5	12	18	-	7.5	10
DIN 319-KU-25-M6-E	25	-	M 6	15	22.5	-	9	14
DIN 319-KU-32-M8-E	32	-	M 8	18	29	-	12	30
DIN 319-KU-40-M10-E	40	-	M 10	22	37	-	15	53
DIN 319-KU-50-M12-E	50	-	M 12	28	46	-	18	105

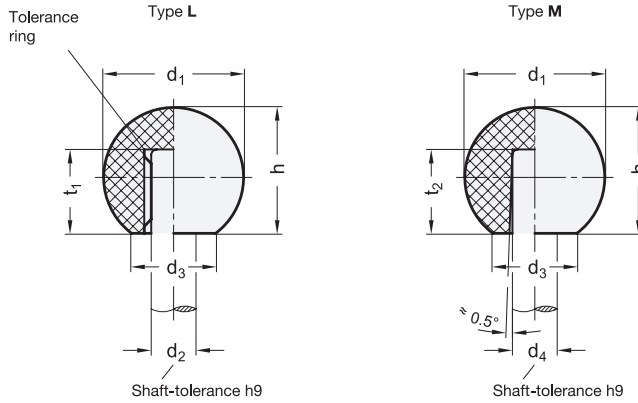
DIN 319-KT

Description	d1	d2	d3	d4 ≈	h	t1 min.	t2 min.	⚖
DIN 319-KT-16-M4-C	16	M 4	-	8	15	6	-	3
DIN 319-KT-16-M5-C	16	M 5	-	8	15	6	-	2
DIN 319-KT-20-M5-C	20	M 5	-	12	18	7.5	-	5
DIN 319-KT-20-M6-C	20	M 6	-	12	18	7.5	-	5
DIN 319-KT-25-M8-C	25	M 8	-	15	22.5	9	-	10
DIN 319-KT-32-M8-C	32	M 8	-	18	29	12	-	25
DIN 319-KT-32-M10-C	32	M 10	-	18	29	12	-	22
DIN 319-KT-40-M10-C	40	M 10	-	22	37	15	-	41
DIN 319-KT-40-M12-C	40	M 12	-	22	37	15	-	40
DIN 319-KT-20-M5-E	20	-	M 5	12	18	-	7.5	8
DIN 319-KT-32-M8-E	32	-	M 8	18	29	-	12	28



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Fixed and Revolving Handles

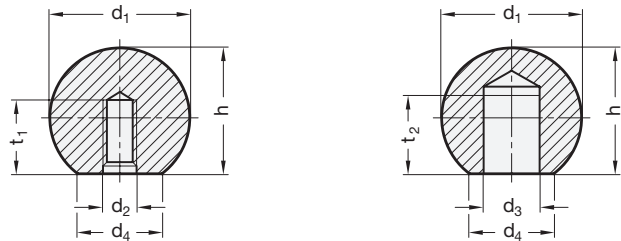


DIN 319-KU Press on type

Description	d1	d2	t1	d3 ≈	h	△
DIN 319-KU-16-B4-L	16	B 4	11	8	15	2
DIN 319-KU-20-B5-L	20	B 5	13	12	18	5
DIN 319-KU-25-B6-L	25	B 6	16	15	22.5	9
DIN 319-KU-25-B8-L	25	B 8	15	15	22.5	9
DIN 319-KU-25-B10-L	25	B 10	15	15	22.5	9
DIN 319-KU-32-B8-L	32	B 8	15	18	29	20
DIN 319-KU-32-B10-L	32	B 10	20	18	29	20
DIN 319-KU-32-B12-L	32	B 12	20	18	29	19
DIN 319-KU-40-B10-L	40	B 10	25	22	37	39
DIN 319-KU-40-B12-L	40	B 12	23	22	37	38
DIN 319-KU-50-B12-L	50	B 12	20	28	46	86
DIN 319-KU-50-B16-L	50	B 16	23	28	46	83

DIN 319-KT Press on type

Description	d1	d4	t2	d3 ≈	h	△
DIN 319-KT-16-B4-M	16	B 4	9	8	15	3
DIN 319-KT-20-B5-M	20	B 5	12	12	18	5
DIN 319-KT-20-B6-M	20	B 6	12	12	18	5
DIN 319-KT-25-B6-M	25	B 6	16	15	22.5	10
DIN 319-KT-25-B8-M	25	B 8	16	15	22.5	10
DIN 319-KT-32-B8-M	32	B 8	17	18	29	20
DIN 319-KT-32-B10-M	32	B 10	17	18	29	20
DIN 319-KT-40-B10-M	40	B 10	22	22	37	41
DIN 319-KT-40-B12-M	40	B 12	22	22	37	41



* Complete with material of the Ball knobs (ST, AL or NI)

ST	AL	NI
Steel	Aluminium	Stainless Steel

DIN 319

STAINLESS STEEL

Description	d1	d2	d3 H7	d4	h	t1 min.	t2 min.	△
DIN 319-*-16-B6-K	16	-	B 6	8	15	7	9	6
DIN 319-*-20-B8-K	20	-	B 8	12	18	9	11	10
DIN 319-*-25-B10-K	25	-	B 10	15	22.5	11	14	18
DIN 319-*-32-B12-K	32	-	B 12	18	29	14.5	17	41
DIN 319-*-40-B16-K	40	-	B 16	22	37	18	22	75
DIN 319-*-50-B20-K	50	-	B 20	27	46	21	28	80
DIN 319-*-16-M4-C	16	M 4	-	8	15	7	9	7
DIN 319-*-20-M5-C	20	M 5	-	12	18	9	11	11
DIN 319-*-25-M6-C	25	M 6	-	15	22.5	11	14	22
DIN 319-*-32-M8-C	32	M 8	-	18	29	14.5	17	45
DIN 319-*-40-M10-C	40	M 10	-	22	37	18	22	87
DIN 319-*-50-M12-C	50**	M 12	-	27	46	21	28	95

** This size is only available in Steel and Aluminium.

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Fixed and Revolving Handles