

Ball Knobs

Plastic / Steel / Aluminum / Stainless Steel

SPECIFICATION

Version in Plastic

Types

- Type **C**: With tapped hole (no bushing)
- Type **E**: With tapped bushing

Plastic **KU**

Duroplast (Phenolic PF)

- Flash removed and polished finish
- Black (standard color)
- Red **RT**, similar RAL 3003: add RT on order code

Bushing (Type E)

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

Plastic **KT**

Technopolymer (Polyamide PA)

- Shock resistant
- Black, matte finish (standard color)
- Red **RT**, similar RAL 3003: add RT on order code

Bushing (Type E)

Steel, zinc plated

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**

Matte 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, matte finish
- Red version



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.

Ball knobs, type M are a more economic solution.

Ball knobs DIN 319 in sizes 30 and 35, as well as various thread of type C and ball knobs made of technopolymer (KT) are not on the official DIN standard sheet.

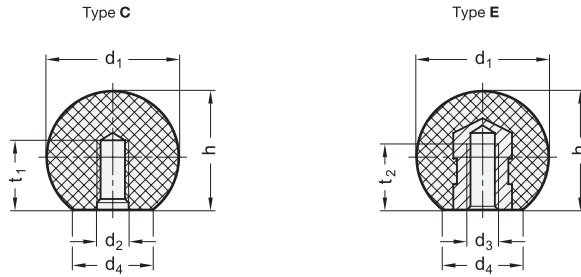
Ball knobs DIN 319 made of steel, aluminum and stainless steel are not on the official DIN standard sheet.

ON REQUEST

- Red version

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)



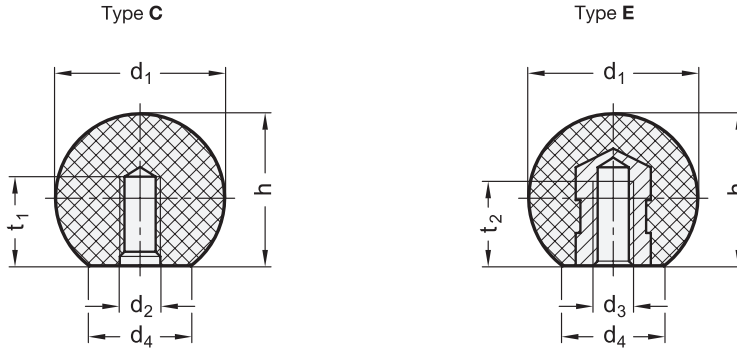
DIN 319-KU

Description	d ₁	d ₂	d ₃	d ₄ ≈	h ≈	t ₁ min.	t ₂ min.	⚖
DIN 319-KU-10-M3-C	10	M3	-	5	9.3	5	-	1
DIN 319-KU-12-M4-C	12	M4	-	6	11.2	6	-	2
DIN 319-KU-16-M4-C	16	M4	-	8	15	6	6	3
DIN 319-KU-16-M5-C	16	M5	-	8	15	6	6	2
DIN 319-KU-20-M5-C	20	M5	-	12	18	7.5	7.5	5
DIN 319-KU-20-M6-C	20	M6	-	12	18	7.5	7.5	4
DIN 319-KU-25-M5-C	25	M5	-	15	22.5	9	9	10
DIN 319-KU-25-M6-C	25	M6	-	15	22.5	9	9	9
DIN 319-KU-25-M8-C	25	M8	-	15	22.5	9	9	8
DIN 319-KU-30-M6-C	30	M6	-	15	28	12	-	19
DIN 319-KU-30-M8-C	30	M8	-	15	28	12	-	16
DIN 319-KU-32-M6-C	32	M6	-	18	29	12	12	21
DIN 319-KU-32-M8-C	32	M8	-	18	29	12	12	20
DIN 319-KU-32-M10-C	32	M10	-	18	29	12	12	19
DIN 319-KU-35-M8-C	35	M8	-	18	32.5	15	-	30
DIN 319-KU-35-M10-C	35	M10	-	18	32.5	15	-	27
DIN 319-KU-40-M8-C	40	M8	-	22	37	15	15	40
DIN 319-KU-40-M10-C	40	M10	-	22	37	15	15	39
DIN 319-KU-40-M12-C	40	M12	-	22	37	15	15	38
DIN 319-KU-50-M10-C	50	M10	-	28	46	18	18	37
DIN 319-KU-50-M12-C	50	M12	-	28	46	18	18	41
DIN 319-KU-20-M5-E	20	-	M5	12	18	7.5	7.5	7
DIN 319-KU-25-M6-E	25	-	M6	15	22.5	9	9	12
DIN 319-KU-25-M8-E	25	-	M8	15	22.5	9	9	11
DIN 319-KU-32-M8-E	32	-	M8	18	29	12	12	25
DIN 319-KU-40-M10-E	40	-	M10	22	37	15	15	50
DIN 319-KU-40-M12-E	40	-	M12	22	37	15	15	49
DIN 319-KU-50-M12-E	50	-	M12	28	46	18	18	60
DIN 319-KU-10-M3-C-RT	10	M3	-	5	9.3	5	-	1
DIN 319-KU-12-M4-C-RT	12	M4	-	6	11.2	6	-	2
DIN 319-KU-16-M4-C-RT	16	M4	-	8	15	6	6	3
DIN 319-KU-16-M5-C-RT	16	M5	-	8	15	6	6	2
DIN 319-KU-20-M5-C-RT	20	M5	-	12	18	7.5	7.5	5
DIN 319-KU-20-M6-C-RT	20	M6	-	12	18	7.5	7.5	4
DIN 319-KU-25-M5-C-RT	25	M5	-	15	22.5	9	9	10
DIN 319-KU-25-M6-C-RT	25	M6	-	15	22.5	9	9	9
DIN 319-KU-25-M8-C-RT	25	M8	-	15	22.5	9	9	8
DIN 319-KU-30-M6-C-RT	30	M6	-	15	28	12	-	19
DIN 319-KU-30-M8-C-RT	30	M8	-	15	28	12	-	18
DIN 319-KU-32-M6-C-RT	32	M6	-	18	29	12	12	23
DIN 319-KU-32-M8-C-RT	32	M8	-	18	29	12	12	22
DIN 319-KU-32-M10-C-RT	32	M10	-	18	29	12	12	21
DIN 319-KU-35-M8-C-RT	35	M8	-	18	32.5	15	-	30
DIN 319-KU-35-M10-C-RT	35	M10	-	18	32.5	15	-	29
DIN 319-KU-40-M8-C-RT	40	M8	-	22	37	15	15	41
DIN 319-KU-40-M10-C-RT	40	M10	-	22	37	15	15	40
DIN 319-KU-40-M12-C-RT	40	M12	-	22	37	15	15	39
DIN 319-KU-50-M10-C-RT	50	M10	-	28	46	18	18	89
DIN 319-KU-50-M12-C-RT	50	M12	-	28	46	18	18	83
DIN 319-KU-20-M5-E-RT	20	-	M5	12	18	7.5	7.5	9
DIN 319-KU-25-M6-E-RT	25	-	M6	15	22.5	9	9	14
DIN 319-KU-32-M8-E-RT	32	-	M8	18	29	12	12	29
DIN 319-KU-40-M10-E-RT	40	-	M10	22	37	15	15	54
DIN 319-KU-50-M12-E-RT	50	-	M12	28	46	18	18	108



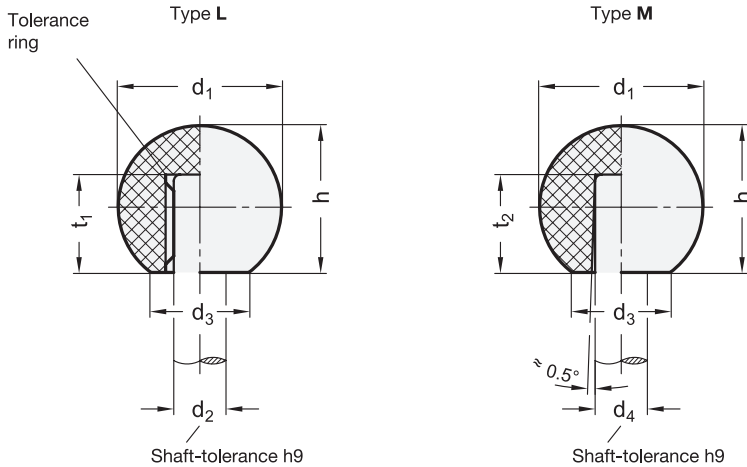
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Fixed and Revolving Handles



DIN 319-KT

Description	d ₁	d ₂	d ₃	d ₄ ≈	h ≈	t ₁ min.	t ₂ min.	⚖
DIN 319-KT-16-M4-C	16	M 4	-	8	15	6	6	3
DIN 319-KT-16-M5-C	16	M 5	-	8	15	6	6	2
DIN 319-KT-20-M5-C	20	M 5	-	12	18	7.5	7.5	5
DIN 319-KT-20-M6-C	20	M 6	-	12	18	7.5	7.5	4
DIN 319-KT-25-M6-C	25	M 6	-	15	22.5	9	9	10
DIN 319-KT-25-M8-C	25	M 8	-	15	22.5	9	9	9
DIN 319-KT-32-M8-C	32	M 8	-	18	29	12	12	20
DIN 319-KT-32-M10-C	32	M 10	-	18	29	12	12	19
DIN 319-KT-40-M10-C	40	M 10	-	22	37	15	15	40
DIN 319-KT-40-M12-C	40	M 12	-	22	37	15	15	39
DIN 319-KT-16-M4-E	16	-	M 4	8	15	6	6	4
DIN 319-KT-16-M5-E	16	-	M 5	8	15	6	6	3
DIN 319-KT-20-M5-E	20	-	M 5	12	18	7.5	7.5	8
DIN 319-KT-20-M6-E	20	-	M 6	12	18	7.5	7.5	7
DIN 319-KT-25-M6-E	25	-	M 6	15	22.5	9	9	14
DIN 319-KT-25-M8-E	25	-	M 8	15	22.5	9	9	13
DIN 319-KT-32-M8-E	32	-	M 8	18	29	12	12	25
DIN 319-KT-32-M10-E	32	-	M 10	18	29	12	12	30
DIN 319-KT-40-M10-E	40	-	M 10	22	37	15	15	54
DIN 319-KT-40-M12-E	40	-	M 12	22	37	15	15	53
DIN 319-KT-16-M4-C-RT	16	M 4	-	8	15	6	6	3
DIN 319-KT-16-M5-C-RT	16	M 5	-	8	15	6	6	2
DIN 319-KT-20-M5-C-RT	20	M 5	-	12	18	7.5	7.5	5
DIN 319-KT-20-M6-C-RT	20	M 6	-	12	18	7.5	7.5	4
DIN 319-KT-25-M6-C-RT	25	M 6	-	15	22.5	9	9	10
DIN 319-KT-25-M8-C-RT	25	M 8	-	15	22.5	9	9	9
DIN 319-KT-32-M8-C-RT	32	M 8	-	18	29	12	12	20
DIN 319-KT-32-M10-C-RT	32	M 10	-	18	29	12	12	19
DIN 319-KT-40-M10-C-RT	40	M 10	-	22	37	15	15	40
DIN 319-KT-40-M12-C-RT	40	M 12	-	22	37	15	15	39
DIN 319-KT-16-M4-E-RT	16	-	M 4	8	15	6	6	4
DIN 319-KT-16-M5-E-RT	16	-	M 5	8	15	6	6	3
DIN 319-KT-20-M5-E-RT	20	-	M 5	12	18	7.5	7.5	8
DIN 319-KT-20-M6-E-RT	20	-	M 6	12	18	7.5	7.5	7
DIN 319-KT-25-M6-E-RT	25	-	M 6	15	22.5	9	9	14
DIN 319-KT-25-M8-E-RT	25	-	M 8	15	22.5	9	9	13
DIN 319-KT-32-M10-E-RT	32	-	M 10	18	29	12	12	30
DIN 319-KT-32-M8-E-RT	32	-	M 8	18	29	12	12	29
DIN 319-KT-40-M10-E-RT	40	-	M 10	22	37	15	15	54
DIN 319-KT-40-M12-E-RT	40	-	M 12	22	37	15	15	53



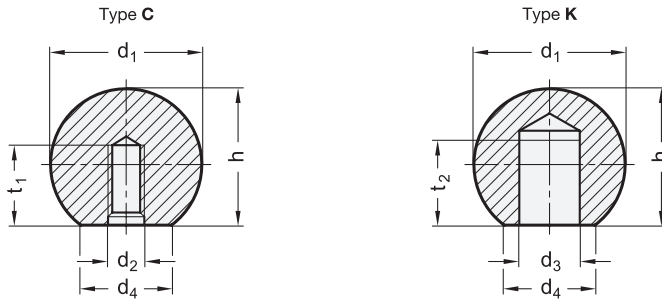
DIN 319-KU Press on type

Description	d ₁	d ₂	t ₁	d ₃ ≈	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	8
DIN 319-KU-25-B10-L	25	B 10	15	15	22.5	7
DIN 319-KU-32-B8-L	32	B 8	15	18	29	21
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	d ₁	d ₄	t ₂	d ₃ ≈	h ≈	⚖
DIN 319-KT-16-B4-M	16	B 4	9	8	15	3
DIN 319-KT-16-B5-M	16	B 5	9	8	15	2
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	9
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	19
DIN 319-KT-40-B10-M	40	B 10	22	22	37	43
DIN 319-KT-40-B12-M	40	B 12	22	22	37	40





DIN 319-ST

Description	d1	d2	d3 H7	d4 ≈	h ≈	t1 min.	t2 min.	⚖
DIN 319-ST-16-M4-C	16	M 4	-	8	15	7	9	16
DIN 319-ST-20-M5-C	20	M 5	-	12	18	9	11	29
DIN 319-ST-25-M6-C	25	M 6	-	15	22.5	11	14	58
DIN 319-ST-32-M8-C	32	M 8	-	18	29	14.5	17	120
DIN 319-ST-40-M10-C	40	M 10	-	22	37	18	22	238
DIN 319-ST-50-M12-C	50	M 12	-	27	46	21	28	460
DIN 319-ST-16-B6-K	16	-	B 6	8	15	7	9	14
DIN 319-ST-20-B8-K	20	-	B 8	12	18	9	11	25
DIN 319-ST-25-B10-K	25	-	B 10	15	22.5	11	14	52
DIN 319-ST-32-B12-K	32	-	B 12	18	29	14.5	17	106
DIN 319-ST-40-B16-K	40	-	B 16	22	37	18	22	206
DIN 319-ST-50-B20-K	50	-	B 20	27	46	21	28	384

DIN 319-AL

Description	d1	d2	d3 H7	d4 ≈	h ≈	t1 min.	t2 min.	⚖
DIN 319-AL-16-M4-C	16	M 4	-	8	15	7	9	7
DIN 319-AL-20-M5-C	20	M 5	-	12	18	9	11	11
DIN 319-AL-25-M6-C	25	M 6	-	15	22.5	11	14	22
DIN 319-AL-32-M8-C	32	M 8	-	18	29	14.5	17	41
DIN 319-AL-40-M10-C	40	M 10	-	22	37	18	22	80
DIN 319-AL-50-M12-C	50	M 12	-	27	46	21	28	173
DIN 319-AL-16-B6-K	16	-	B 6	8	15	7	9	6
DIN 319-AL-20-B8-K	20	-	B 8	12	18	9	11	10
DIN 319-AL-25-B10-K	25	-	B 10	15	22.5	11	14	18
DIN 319-AL-32-B12-K	32	-	B 12	18	29	14.5	17	41
DIN 319-AL-40-B16-K	40	-	B 16	22	37	18	22	75
DIN 319-AL-50-B20-K	50	-	B 20	27	46	21	28	146

DIN 319-NI

STAINLESS STEEL

Description	d1	d2	d3 H7	d4 ≈	h ≈	t1 min.	t2 min.	⚖
DIN 319-NI-16-M4-C	16	M 4	-	8	15	7	9	16
DIN 319-NI-20-M5-C	20	M 5	-	12	18	9	11	29
DIN 319-NI-25-M6-C	25	M 6	-	15	22.5	11	14	60
DIN 319-NI-32-M8-C	32	M 8	-	18	29	14.5	17	120
DIN 319-NI-40-M10-C	40	M 10	-	22	37	18	22	241
DIN 319-NI-16-B6-K	16	-	B 6	8	15	21	9	15
DIN 319-NI-20-B8-K	20	-	B 8	12	18	7	11	25
DIN 319-NI-25-B10-K	25	-	B 10	15	22.5	9	14	52
DIN 319-NI-32-B12-K	32	-	B 12	18	29	11	17	120
DIN 319-NI-40-B16-K	40	-	B 16	22	37	14.5	22	250
DIN 319-NI-50-B20-K	50	-	B 20	27	46	18	28	384

