



**3 Type (pairings)**

- N** Brass / Steel lubrication possible
- W** Steel-PTFE / Steel self lubricated

1 2

d <sub>1</sub> H7	d <sub>2</sub>	Left hand thread	CETOP-connector dimensions	b <sub>1</sub> -0,12	b <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>	l <sub>1</sub>	l <sub>2</sub>	A/F	t	w Move-ment angle
5	M 5	M 5L	M 4	8	6	7,7	18	9	11	27	36	9	10	13°
6	M 6	M 6L	-	9	6,75	8,9	20	10	13	30	40	11	12	13°
8	M 8	M 8L	-	12	9	10,4	24	12,5	16	36	48	13	16	14°
10	M 10	M 10L	M 10 x 1,25	14	10,5	12,9	28	15	19	43	57	17	20	13°
12	M 12	M 12L	M 12 x 1,25	16	12	15,4	32	17,5	22	50	66	19	22	13°
14	M 14	M 14L	-	19	13,5	16,8	36	20	25	57	75	22	25	16°
16	M 16	M 16L	M 16 x 1,5	21	15	19,3	42	22	27	64	85	22	28	15°
18	M 18 x 1,5	M 18 x 1,5L	-	23	16,5	21,8	46	25	31	71	94	27	32	15°
20	M 20 x 1,5	M 20 x 1,5L	-	25	18	24,3	50	27,5	34	77	102	32	33	14°
22	M 22 x 1,5	M 22 x 1,5L	-	28	20	25,8	54	30	37	84	111	32	37	15°
25	M 24 x 2	M 24 x 2L	-	31	22	29,6	60	33,5	42	94	124	36	42	15°
30*	M 30 x 2	M 30 x 2L	-	37	25	34,8	70	40	51	110	145	41	51	17°

\* only available in type W

**Specification**

- Housing Steel
  - zinc plated, blue passivated
  - d<sub>1</sub> = 5 up to 12: machined
  - d<sub>1</sub> = 14 up to 25: forged
- Pairings
  - Type N (lubrication possible)
    - Bearing socket  
Brass, CuZn40Al1
    - Internal ring  
Steel, 100Cr6  
hardened, ground, polished
  - Type W (self lubricated)
    - Bearing socket  
Steel, zinc plated  
with PTFE-insert
    - Internal ring  
Steel, 100Cr6  
hardened, ground, polished

• ISO-Fundamental Tolerances → Page 1132

• RoHS compliant

**Information**

Ball joint heads GN 648.1 are similar to DIN ISO 12240-4, series K (formerly DIN 648 K).

see also...

- More information to ball joints as well as load capacity → Page 947
- Stainless Steel-Ball joint heads with female thread GN 648.5 → Page 950

**On request**

- narrow model (ISO 12240-1, series E)

How to order

1	d <sub>1</sub>
2	d <sub>2</sub>
3	Type

GN648.1-16-M16x1,5-N