

GN 648.1

EXTENDED RANGE

Ball joints with female thread



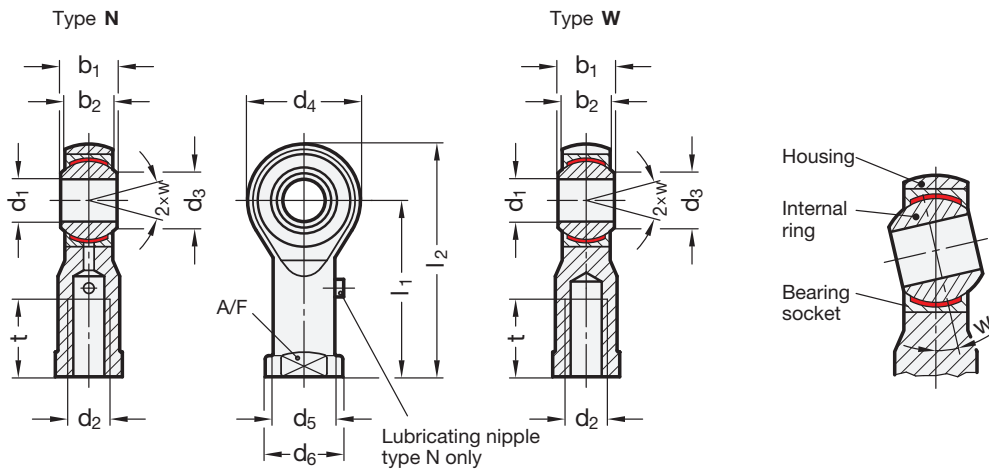
- **Housing**
Zinc-plated steel, blue passivated.
- **Internal ring**
Hardened, ground and polished steel.
- **Bearing socket**
 - Type **N** (lubrication possible): brass.
 - Type **W** (self lubricated): zinc-plated steel with PTFE-insert.

Other standard executions available

Ball joints DIN ISO 12240-4, series E (narrow model) on request.

Features and applications

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



| Standard Elements | Main dimensions | | | | | | | | | | | | | \triangle |
|-------------------|-----------------|-----|----|------|-----|----|----|----|----|----|-----|----|-----|-------------|
| Description | d1 H7 | d2 | b1 | b2 | d3 | d4 | d5 | d6 | l1 | l2 | A/F | t | w | g |
| GN 648.1-5-M4-N | 5 | M4* | 8 | 6 | 7.7 | 18 | 9 | 11 | 27 | 36 | 9 | 10 | 13° | 20 |
| GN 648.1-5-M4-W | 5 | M4* | 8 | 6 | 7.7 | 18 | 9 | 11 | 27 | 36 | 9 | 10 | 13° | 19 |
| GN 648.1-5-M5-N | 5 | M5 | 8 | 6 | 7.7 | 18 | 9 | 11 | 27 | 36 | 9 | 10 | 13° | 19 |
| GN 648.1-5-M5-W | 5 | M5 | 8 | 6 | 7.7 | 18 | 9 | 11 | 27 | 36 | 9 | 10 | 13° | 20 |
| GN 648.1-5-M5L-N | 5 | M5L | 8 | 6 | 7.7 | 18 | 9 | 11 | 27 | 36 | 9 | 10 | 13° | 19 |
| GN 648.1-5-M5L-W | 5 | M5L | 8 | 6 | 7.7 | 18 | 9 | 11 | 27 | 36 | 9 | 10 | 13° | 18 |
| GN 648.1-6-M6-N | 6 | M6 | 9 | 6.75 | 8.9 | 20 | 10 | 13 | 30 | 40 | 11 | 12 | 13° | 27 |
| GN 648.1-6-M6-W | 6 | M6 | 9 | 6.75 | 8.9 | 20 | 10 | 13 | 30 | 40 | 11 | 12 | 13° | 25 |
| GN 648.1-6-M6L-N | 6 | M6L | 9 | 6.75 | 8.9 | 20 | 10 | 13 | 30 | 40 | 11 | 12 | 13° | 26 |
| GN 648.1-6-M6L-W | 6 | M6L | 9 | 6.75 | 8.9 | 20 | 10 | 13 | 30 | 40 | 11 | 12 | 13° | 25 |

| Standard Elements | Main dimensions | | | | | | | | | | | | | Δ |
|------------------------|-----------------|-----------|-------------|------|------|----|------|----|-----|-----|-----|----|-----|----------|
| Description | d1 H7 | d2 | b1 -0.12 | b2 | d3 | d4 | d5 | d6 | l1 | l2 | A/F | t | w | g |
| GN 648.1-8-M8-N | 8 | M8 | 12 | 9 | 10.4 | 24 | 12.5 | 16 | 36 | 48 | 13 | 16 | 14° | 48 |
| GN 648.1-8-M8-W | 8 | M8 | 12 | 9 | 10.4 | 24 | 12.5 | 16 | 36 | 48 | 13 | 16 | 14° | 45 |
| GN 648.1-8-M8L-N | 8 | M8L | 12 | 9 | 10.4 | 24 | 12.5 | 16 | 36 | 48 | 13 | 16 | 14° | 47 |
| GN 648.1-8-M8L-W | 8 | M8L | 12 | 9 | 10.4 | 24 | 12.5 | 16 | 36 | 48 | 13 | 16 | 14° | 45 |
| GN 648.1-10-M10-N | 10 | M10 | 14 | 10.5 | 12.9 | 28 | 15 | 19 | 43 | 57 | 17 | 20 | 13° | 76 |
| GN 648.1-10-M10-W | 10 | M10 | 14 | 10.5 | 12.9 | 28 | 15 | 19 | 43 | 57 | 17 | 20 | 13° | 75 |
| GN 648.1-10-M10L-N | 10 | M10L | 14 | 10.5 | 12.9 | 28 | 15 | 19 | 43 | 57 | 17 | 20 | 13° | 77 |
| GN 648.1-10-M10L-W | 10 | M10L | 14 | 10.5 | 12.9 | 28 | 15 | 19 | 43 | 57 | 17 | 20 | 13° | 74 |
| GN 648.1-10-M10x1.25-N | 10 | M10x1.25* | 14 | 10.5 | 12.9 | 28 | 15 | 19 | 43 | 57 | 17 | 20 | 13° | 75 |
| GN 648.1-10-M10x1.25-W | 10 | M10x1.25* | 14 | 10.5 | 12.9 | 28 | 15 | 19 | 43 | 57 | 17 | 20 | 13° | 75 |
| GN 648.1-12-M12-N | 12 | M12 | 16 | 12 | 15.4 | 32 | 17.5 | 22 | 50 | 66 | 19 | 22 | 13° | 114 |
| GN 648.1-12-M12-W | 12 | M12 | 16 | 12 | 15.4 | 32 | 17.5 | 22 | 50 | 66 | 19 | 22 | 13° | 110 |
| GN 648.1-12-M12L-N | 12 | M12L | 16 | 12 | 15.4 | 32 | 17.5 | 22 | 50 | 66 | 19 | 22 | 13° | 114 |
| GN 648.1-12-M12L-W | 12 | M12L | 16 | 12 | 15.4 | 32 | 17.5 | 22 | 50 | 66 | 19 | 22 | 13° | 111 |
| GN 648.1-12-M12x1.25-N | 12 | M12x1.25* | 16 | 12 | 15.4 | 32 | 17.5 | 22 | 50 | 66 | 19 | 22 | 13° | 110 |
| GN 648.1-12-M12x1.25-W | 12 | M12x1.25* | 16 | 12 | 15.4 | 32 | 17.5 | 22 | 50 | 66 | 19 | 22 | 13° | 110 |
| GN 648.1-14-M14-N | 14 | M14 | 19 | 13.5 | 16.8 | 36 | 20 | 25 | 57 | 75 | 22 | 25 | 16° | 168 |
| GN 648.1-14-M14-W | 14 | M14 | 19 | 13.5 | 16.8 | 36 | 20 | 25 | 57 | 75 | 22 | 25 | 16° | 160 |
| GN 648.1-14-M14L-N | 14 | M14L | 19 | 13.5 | 16.8 | 36 | 20 | 25 | 57 | 75 | 22 | 25 | 16° | 175 |
| GN 648.1-14-M14L-W | 14 | M14L | 19 | 13.5 | 16.8 | 36 | 20 | 25 | 57 | 75 | 22 | 25 | 16° | 167 |
| GN 648.1-16-M16-N | 16 | M16 | 21 | 15 | 19.3 | 42 | 22 | 27 | 64 | 85 | 22 | 28 | 15° | 232 |
| GN 648.1-16-M16-W | 16 | M16 | 21 | 15 | 19.3 | 42 | 22 | 27 | 64 | 85 | 22 | 28 | 15° | 225 |
| GN 648.1-16-M16L-N | 16 | M16L | 21 | 15 | 19.3 | 42 | 22 | 27 | 64 | 85 | 22 | 28 | 15° | 230 |
| GN 648.1-16-M16L-W | 16 | M16L | 21 | 15 | 19.3 | 42 | 22 | 27 | 64 | 85 | 22 | 28 | 15° | 224 |
| GN 648.1-16-M16x1.5-N | 16 | M16x1.5* | 21 | 15 | 19.3 | 42 | 22 | 27 | 64 | 85 | 22 | 28 | 15° | 225 |
| GN 648.1-16-M16x1.5-W | 16 | M16x1.5* | 21 | 15 | 19.3 | 42 | 22 | 27 | 64 | 85 | 22 | 28 | 15° | 221 |
| GN 648.1-18-M18x1.5-N | 18 | M18x1.5 | 23 | 16.5 | 21.8 | 46 | 25 | 31 | 71 | 94 | 27 | 32 | 15° | 318 |
| GN 648.1-18-M18x1.5-W | 18 | M18x1.5 | 23 | 16.5 | 21.8 | 46 | 25 | 31 | 71 | 94 | 27 | 32 | 15° | 300 |
| GN 648.1-18-M18x1.5L-N | 18 | M18x1.5L | 23 | 16.5 | 21.8 | 46 | 25 | 31 | 71 | 94 | 27 | 32 | 15° | 314 |
| GN 648.1-18-M18x1.5L-W | 18 | M18x1.5L | 23 | 16.5 | 21.8 | 46 | 25 | 31 | 71 | 94 | 27 | 32 | 15° | 320 |
| GN 648.1-20-M20x1.5-N | 20 | M20x1.5 | 25 | 18 | 24.3 | 50 | 27.5 | 34 | 77 | 102 | 32 | 33 | 14° | 419 |
| GN 648.1-20-M20x1.5-W | 20 | M20x1.5 | 25 | 18 | 24.3 | 50 | 27.5 | 34 | 77 | 102 | 32 | 33 | 14° | 405 |
| GN 648.1-20-M20x1.5L-N | 20 | M20x1.5L | 25 | 18 | 24.3 | 50 | 27.5 | 34 | 77 | 102 | 32 | 33 | 14° | 417 |
| GN 648.1-20-M20x1.5L-W | 20 | M20x1.5L | 25 | 18 | 24.3 | 50 | 27.5 | 34 | 77 | 102 | 32 | 33 | 14° | 408 |
| GN 648.1-22-M22x1.5-N | 22 | M22x1.5 | 28 | 20 | 25.8 | 54 | 30 | 37 | 84 | 111 | 32 | 37 | 15° | 534 |
| GN 648.1-22-M22x1.5-W | 22 | M22x1.5 | 28 | 20 | 25.8 | 54 | 30 | 37 | 84 | 111 | 32 | 37 | 15° | 505 |
| GN 648.1-22-M22x1.5L-N | 22 | M22x1.5L | 28 | 20 | 25.8 | 54 | 30 | 37 | 84 | 111 | 32 | 37 | 15° | 519 |
| GN 648.1-22-M22x1.5L-W | 22 | M22x1.5L | 28 | 20 | 25.8 | 54 | 30 | 37 | 84 | 111 | 32 | 37 | 15° | 512 |
| GN 648.1-25-M24x2-N | 25 | M24x2 | 31 | 22 | 29.6 | 60 | 33.5 | 42 | 94 | 124 | 36 | 42 | 15° | 735 |
| GN 648.1-25-M24x2-W | 25 | M24x2 | 31 | 22 | 29.6 | 60 | 33.5 | 42 | 94 | 124 | 36 | 42 | 15° | 730 |
| GN 648.1-25-M24x2L-N | 25 | M24x2L | 31 | 22 | 29.6 | 60 | 33.5 | 42 | 94 | 124 | 36 | 42 | 15° | 744 |
| GN 648.1-25-M24x2L-W | 25 | M24x2L | 31 | 22 | 29.6 | 60 | 33.5 | 42 | 94 | 124 | 36 | 42 | 15° | 725 |
| GN 648.1-30-M30x2-W | 30 | M30x2 | 37 | 25 | 34.8 | 70 | 40 | 51 | 110 | 145 | 41 | 51 | 17° | 1130 |
| GN 648.1-30-M30x2L-W | 30 | M30x2L | 37 | 25 | 34.8 | 70 | 40 | 51 | 110 | 145 | 41 | 51 | 17° | 1130 |

* CETOP connector dimension.