

## Swivel Ball Joint Mounting Clamps

### Aluminum

#### SPECIFICATION

##### Types

- Type **Q**: With cross hole
- Type **A**: With axial bore
- Type **W**: With bolt

##### Coding

- **I**: Ball element with internal thread
- **S**: Ball element with external thread

##### Identification no.

- No. **1**: Clamping with adjustable hand lever
- No. **2**: Clamping with grub screw

Body, clamping element  
Aluminum

- Anodized, natural color **EL**
- Anodized, black **ES**

Ball element  
Aluminum, plain finish

Adjustable hand lever (identification no. 1)

- Zinc die casting
- Powder coated
- Silver RAL 9006, textured finish
- Threaded insert and retaining screw
- Stainless steel AISI 303

Grub screw (identification no. 2)  
Stainless steel AISI 304

Socket cap screw DIN 912 (type Q)  
Stainless steel AISI 304

Grub screw DIN 913 (type A)  
Stainless steel AISI 304



#### INFORMATION

Swivel ball joint mounting clamps GN 487 allow precise and stepless adjustment of the ball pivot within the swivel range. This makes it easy to position and adjust components such as scanners, cameras and lighting.

Thanks to the efficient clamping mechanism, even small amounts of tightening torque result in comparatively strong clamping forces on the ball. To readjust the joint, the clamping must be completely released. The hand lever (identification no. 1) can be used to easily operate the clamping mechanism without tools.

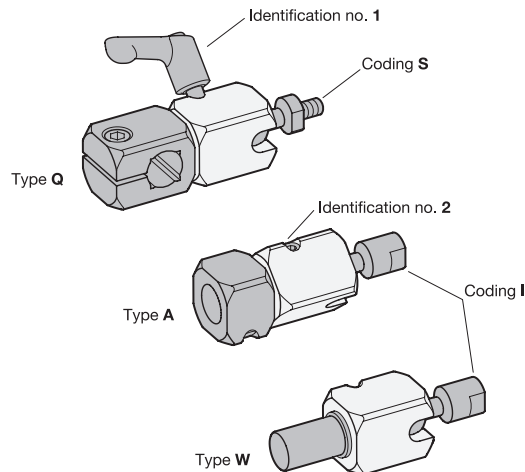
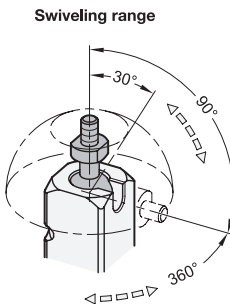
For a permanent high stop torque, the contact surfaces of the balls must be kept free of grease. Exceeding the recommended tightening torques increases the stop torque but may result in increased wear of the clamping mechanism.

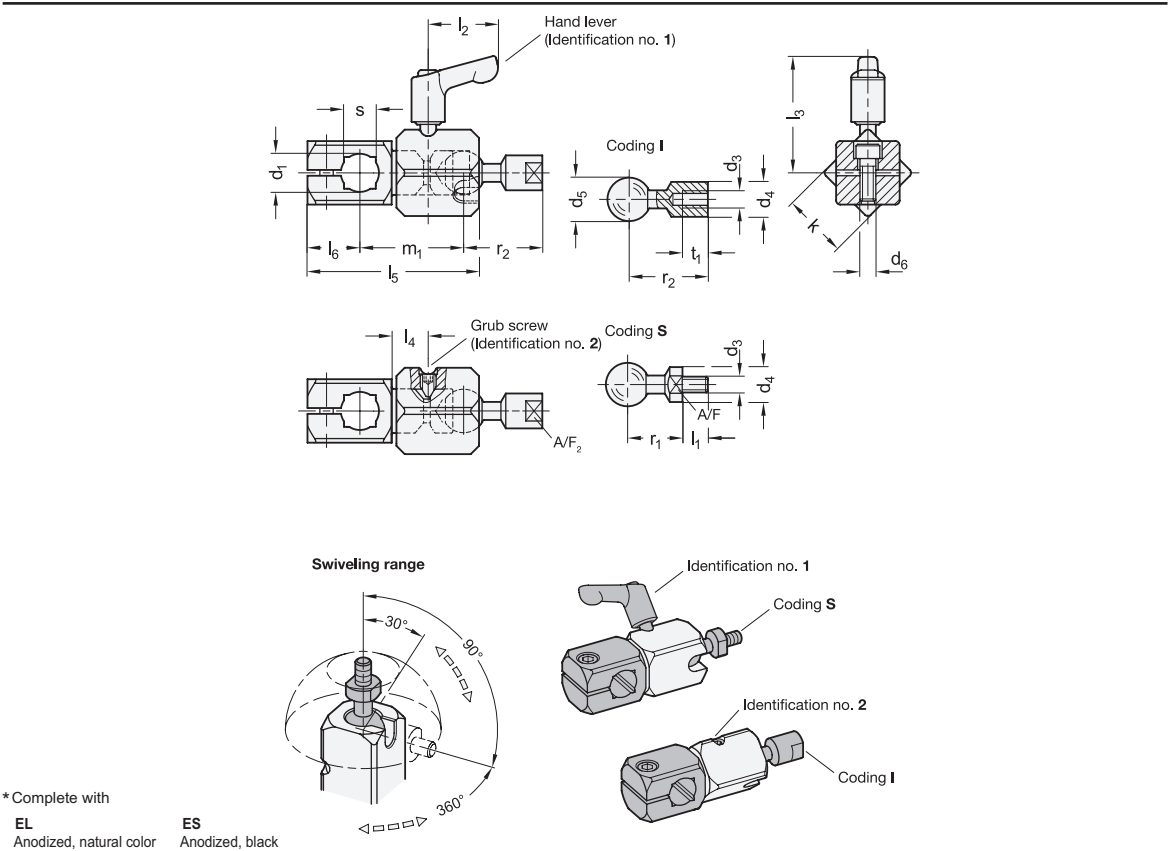
#### ON REQUEST

- Ball elements with other thread sizes and inch thread (as for swivel ball joints GN 784 (see page 1160))

#### TECHNICAL INFORMATION

- Stainless Steel Characteristics (see page A26)





GN 487-Q-I

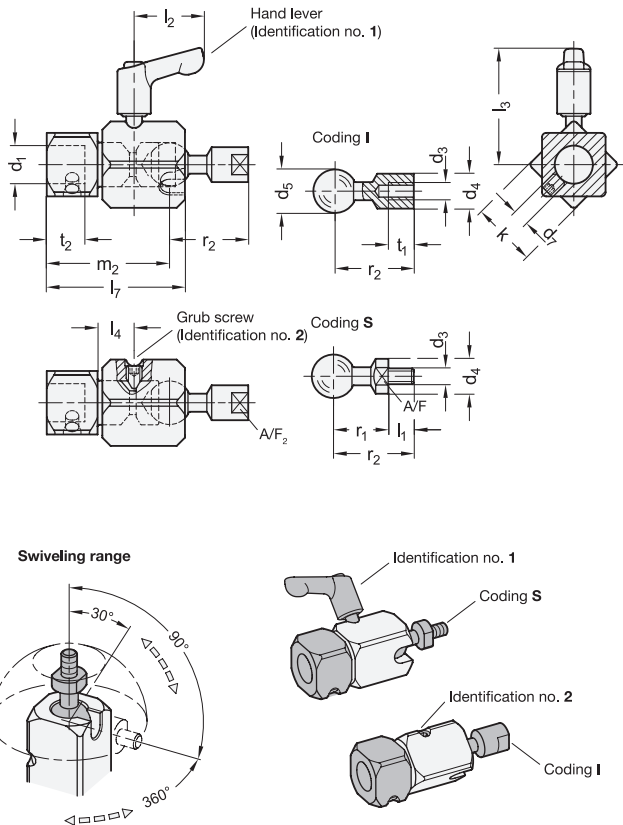
| Description           | d1   | d3  | d4 | d5 | d6  | k  | l2 | l3 | l4   | l5   | l6   | m1   | m2   | r2   | s  | A/F | t1 min. | Recommended tightening torque of the clamping (identification no.) in Nm≈ | Resulting stop torque on the ball in Nm≈ | ⚖   |
|-----------------------|------|-----|----|----|-----|----|----|----|------|------|------|------|------|------|----|-----|---------|---------------------------------------------------------------------------|------------------------------------------|-----|
| GN 487-B10-Q-M5-I-1-* | B 10 | M 5 | 11 | 14 | M 5 | 20 | 22 | 37 | 11.5 | 53   | 15.5 | 32.7 | 37.7 | 24.8 | 8  | 9   | 8       | 1.5                                                                       | 4.5                                      | 67  |
| GN 487-B10-Q-M5-I-2-* | B 10 | M 5 | 11 | 14 | M 5 | 20 | -  | -  | 11.5 | 53   | 15.5 | 32.7 | 37.7 | 24.8 | 8  | 9   | 8       | 1.5                                                                       | 4.5                                      | 53  |
| GN 487-B12-Q-M5-I-1-* | B 12 | M 5 | 11 | 14 | M 5 | 20 | 22 | 37 | 11.5 | 54   | 16.5 | 32.7 | 38.7 | 24.8 | 10 | 9   | 8       | 1.5                                                                       | 4.5                                      | 66  |
| GN 487-B12-Q-M5-I-2-* | B 12 | M 5 | 11 | 14 | M 5 | 20 | -  | -  | 11.5 | 54   | 16.5 | 32.7 | 38.7 | 24.8 | 10 | 9   | 8       | 1.5                                                                       | 4.5                                      | 52  |
| GN 487-B15-Q-M6-I-1-* | B 15 | M 6 | 14 | 18 | M 6 | 25 | 22 | 41 | 14.5 | 67.6 | 20   | 41.8 | 49.3 | 32.5 | 12 | 12  | 10      | 2.5                                                                       | 6.5                                      | 118 |
| GN 487-B15-Q-M6-I-2-* | B 15 | M 6 | 14 | 18 | M 6 | 25 | -  | -  | 14.5 | 67.6 | 20   | 41.8 | 49.3 | 32.5 | 12 | 12  | 10      | 2.5                                                                       | 6.5                                      | 111 |
| GN 487-B16-Q-M6-I-1-* | B 16 | M 6 | 14 | 18 | M 6 | 25 | 22 | 41 | 14.5 | 67.6 | 20   | 41.8 | 49.8 | 32.5 | -  | 12  | 10      | 2.5                                                                       | 6.5                                      | 117 |
| GN 487-B16-Q-M6-I-2-* | B 16 | M 6 | 14 | 18 | M 6 | 25 | -  | -  | 14.5 | 67.6 | 20   | 41.8 | 49.8 | 32.5 | -  | 12  | 10      | 2.5                                                                       | 6.5                                      | 110 |
| GN 487-B20-Q-M8-I-1-* | B 20 | M 8 | 15 | 24 | M 6 | 30 | 30 | 50 | 18.6 | 81   | 22   | 51.3 | 59.3 | 36.5 | 16 | 13  | 12      | 2.5                                                                       | 10                                       | 215 |
| GN 487-B20-Q-M8-I-2-* | B 20 | M 8 | 15 | 24 | M 6 | 30 | -  | -  | 18.6 | 81   | 22   | 51.3 | 59.3 | 36.5 | 16 | 13  | 12      | 2.5                                                                       | 10                                       | 196 |

Weight EL

GN 487-Q-S

| Description           | d1   | d3  | d4 | d5 | d6  | k  | l1 | l2 | l3 | l4   | l5   | l6   | m1   | m2   | r1   | r2   | s  | A/F | Recommended tightening torque of the clamping (identification no.) in Nm≈ | Resulting stop torque on the ball in Nm≈ | ⚖   |
|-----------------------|------|-----|----|----|-----|----|----|----|----|------|------|------|------|------|------|------|----|-----|---------------------------------------------------------------------------|------------------------------------------|-----|
| GN 487-B10-Q-M5-S-1-* | B 10 | M 5 | 11 | 14 | M 5 | 20 | 8  | 22 | 37 | 11.5 | 53   | 15.5 | 32.7 | 37.7 | 17.3 | 24.8 | 8  | 9   | 1.5                                                                       | 4.5                                      | 65  |
| GN 487-B10-Q-M5-S-2-* | B 10 | M 5 | 11 | 14 | M 5 | 20 | 8  | -  | -  | 11.5 | 53   | 15.5 | 32.7 | 37.7 | 17.3 | 24.8 | 8  | 9   | 1.5                                                                       | 4.5                                      | 52  |
| GN 487-B12-Q-M5-S-1-* | B 12 | M 5 | 11 | 14 | M 5 | 20 | 8  | 22 | 37 | 11.5 | 54   | 16.5 | 32.7 | 38.7 | 17.3 | 24.8 | 10 | 9   | 1.5                                                                       | 4.5                                      | 64  |
| GN 487-B12-Q-M5-S-2-* | B 12 | M 5 | 11 | 14 | M 5 | 20 | 8  | -  | -  | 11.5 | 54   | 16.5 | 32.7 | 38.7 | 17.3 | 24.8 | 10 | 9   | 1.5                                                                       | 4.5                                      | 51  |
| GN 487-B15-Q-M6-S-1-* | B 15 | M 6 | 14 | 18 | M 6 | 25 | 10 | 22 | 41 | 14.5 | 67.6 | 20   | 41.8 | 49.3 | 21.5 | 32.5 | 12 | 12  | 2.5                                                                       | 6.5                                      | 115 |
| GN 487-B15-Q-M6-S-2-* | B 15 | M 6 | 14 | 18 | M 6 | 25 | 10 | -  | -  | 14.5 | 67.6 | 20   | 41.8 | 49.3 | 21.5 | 32.5 | 12 | 12  | 2.5                                                                       | 6.5                                      | 108 |
| GN 487-B16-Q-M6-S-1-* | B 16 | M 6 | 14 | 18 | M 6 | 25 | 10 | 22 | 41 | 14.5 | 67.6 | 20   | 41.8 | 49.8 | 21.5 | 32.5 | -  | 12  | 2.5                                                                       | 6.5                                      | 114 |
| GN 487-B16-Q-M6-S-2-* | B 16 | M 6 | 14 | 18 | M 6 | 25 | 10 | -  | -  | 14.5 | 67.6 | 20   | 41.8 | 49.8 | 21.5 | 32.5 | -  | 12  | 2.5                                                                       | 6.5                                      | 107 |
| GN 487-B20-Q-M8-S-1-* | B 20 | M 8 | 15 | 24 | M 6 | 30 | 12 | 30 | 50 | 18.6 | 81   | 22   | 51.3 | 59.3 | 30.8 | 36.5 | 16 | 13  | 2.5                                                                       | 10                                       | 211 |
| GN 487-B20-Q-M8-S-2-* | B 20 | M 8 | 15 | 24 | M 6 | 30 | 12 | -  | -  | 18.6 | 81   | 22   | 51.3 | 59.3 | 30.8 | 36.5 | 16 | 13  | 2.5                                                                       | 10                                       | 192 |

Weight EL



\* Complete with  
EL Anodized, natural color  
ES Anodized, black

GN 487-A-I

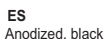
| Description           | d1  | d3 | d4 | d5 | d7 | k  | l2 | l3 | l4   | l7   | r2   | A/F | t1<br>min. | t2 | Recommended<br>tightening torque<br>of the clamping<br>of the ball<br>(identification no.) | Resulting<br>stop torque on<br>the ball<br>in Nm≈ |  |
|-----------------------|-----|----|----|----|----|----|----|----|------|------|------|-----|------------|----|--------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------|
|                       |     |    |    |    |    |    |    |    |      |      |      |     |            |    | in Nm≈                                                                                     |                                                   |                                                                                       |
| GN 487-B10-A-M5-I-1-* | B10 | M5 | 11 | 14 | M5 | 20 | 22 | 37 | 11.5 | 42.5 | 24.8 | 9   | 8          | 10 | 1.5                                                                                        | 4.5                                               | 57                                                                                    |
| GN 487-B10-A-M5-I-2-* | B10 | M5 | 11 | 14 | M5 | 20 | -  | -  | 11.5 | 42.5 | 24.8 | 9   | 8          | 10 | 1.5                                                                                        | 4.5                                               | 44                                                                                    |
| GN 487-B12-A-M5-I-1-* | B12 | M5 | 11 | 14 | M5 | 20 | 22 | 37 | 11.5 | 43.5 | 24.8 | 9   | 8          | 12 | 1.5                                                                                        | 4.5                                               | 56                                                                                    |
| GN 487-B12-A-M5-I-2-* | B12 | M5 | 11 | 14 | M5 | 20 | -  | -  | 11.5 | 43.5 | 24.8 | 9   | 8          | 12 | 1.5                                                                                        | 4.5                                               | 43                                                                                    |
| GN 487-B15-A-M6-I-1-* | B15 | M6 | 14 | 18 | M6 | 25 | 22 | 41 | 14.5 | 55.1 | 32.5 | 12  | 10         | 15 | 2.5                                                                                        | 6.5                                               | 100                                                                                   |
| GN 487-B15-A-M6-I-2-* | B15 | M6 | 14 | 18 | M6 | 25 | -  | -  | 14.5 | 55.1 | 32.5 | 12  | 10         | 15 | 2.5                                                                                        | 6.5                                               | 93                                                                                    |
| GN 487-B16-A-M6-I-1-* | B16 | M6 | 14 | 18 | M6 | 25 | 22 | 41 | 14.5 | 55.6 | 32.5 | 12  | 10         | 16 | 2.5                                                                                        | 6.5                                               | 99                                                                                    |
| GN 487-B16-A-M6-I-2-* | B16 | M6 | 14 | 18 | M6 | 25 | -  | -  | 14.5 | 55.6 | 32.5 | 12  | 10         | 16 | 2.5                                                                                        | 6.5                                               | 92                                                                                    |
| GN 487-B20-A-M8-I-1-* | B20 | M8 | 15 | 24 | M6 | 30 | 30 | 50 | 18.6 | 67   | 36.5 | 13  | 12         | 16 | 2.5                                                                                        | 10                                                | 172                                                                                   |
| GN 487-B20-A-M8-I-2-* | B20 | M8 | 15 | 24 | M6 | 30 | -  | -  | 18.6 | 67   | 36.5 | 13  | 12         | 16 | 2.5                                                                                        | 10                                                | 153                                                                                   |

Weight EL

GN 487-A-S

| Description           | d1   | d3  | d4 | d5 | d7  | k  | l1 | l2 | l3 | l4   | l7   | r1   | r2   | A/F | t2 | Recommended tightening torque of the clamping (identification no.) in Nm≈ | Resulting stop torque on the ball in Nm≈ |     |
|-----------------------|------|-----|----|----|-----|----|----|----|----|------|------|------|------|-----|----|---------------------------------------------------------------------------|------------------------------------------|-----|
| GN 487-B10-A-M5-S-1-* | B 10 | M 5 | 11 | 14 | M 5 | 20 | 8  | 22 | 37 | 11.5 | 42.5 | 17.3 | 24.8 | 9   | 10 | 1.5                                                                       | 4.5                                      | 56  |
| GN 487-B10-A-M5-S-2-* | B 10 | M 5 | 11 | 14 | M 5 | 20 | 8  | -  | -  | 11.5 | 42.5 | 17.3 | 24.8 | 9   | 10 | 1.5                                                                       | 4.5                                      | 43  |
| GN 487-B12-A-M5-S-1-* | B 12 | M 5 | 11 | 14 | M 5 | 20 | 8  | 22 | 37 | 11.5 | 43.5 | 17.3 | 24.8 | 9   | 12 | 1.5                                                                       | 4.5                                      | 55  |
| GN 487-B12-A-M5-S-2-* | B 12 | M 5 | 11 | 14 | M 5 | 20 | 8  | -  | -  | 11.5 | 43.5 | 17.3 | 24.8 | 9   | 12 | 1.5                                                                       | 4.5                                      | 42  |
| GN 487-B15-A-M6-S-1-* | B 15 | M 6 | 14 | 18 | M 6 | 25 | 10 | 22 | 41 | 14.5 | 55.1 | 21.5 | 32.5 | 12  | 15 | 2.5                                                                       | 6.5                                      | 97  |
| GN 487-B15-A-M6-S-2-* | B 15 | M 6 | 14 | 18 | M 6 | 25 | 10 | -  | -  | 14.5 | 55.1 | 21.5 | 32.5 | 12  | 15 | 2.5                                                                       | 6.5                                      | 90  |
| GN 487-B16-A-M6-S-1-* | B 16 | M 6 | 14 | 18 | M 6 | 25 | 10 | 22 | 41 | 14.5 | 55.6 | 21.5 | 32.5 | 12  | 16 | 2.5                                                                       | 6.5                                      | 96  |
| GN 487-B16-A-M6-S-2-* | B 16 | M 6 | 14 | 18 | M 6 | 25 | 10 | -  | -  | 14.5 | 55.6 | 21.5 | 32.5 | 12  | 16 | 2.5                                                                       | 6.5                                      | 89  |
| GN 487-B20-A-M8-S-1-* | B 20 | M 8 | 15 | 24 | M 6 | 30 | 12 | 30 | 50 | 18.6 | 67   | 30.8 | 36.5 | 13  | 16 | 2.5                                                                       | 10                                       | 168 |
| GN 487-B20-A-M8-S-2-* | B 20 | M 8 | 15 | 24 | M 6 | 30 | 12 | -  | -  | 18.6 | 67   | 30.8 | 36.5 | 13  | 16 | 2.5                                                                       | 10                                       | 149 |

Weight EL



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