

Swivel Ball Joints

Aluminum

SPECIFICATION

Types

- Type **A**: Ball with internal thread
- Type **B**: Ball with external thread

Identification no.

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

Housing

Aluminum

Anodized, black **ELS**

Base plate, ball

Aluminum, plain finish

Adjustable hand lever (Identification no. 1)

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

Set screw (Identification no. 2)

Stainless steel AISI 304



INFORMATION

Swivel ball joints GN 784 allow precise and stepless adjustment of the ball pivot within the swivelling range. This is a particular advantage when adjusting scanners, cameras, lighting, monitors, etc.

Thanks to the efficient clamping mechanism, only small amounts of torque on the clamping screw result in comparatively strong clamping pressure on the ball. This force is easily applied by the clamping lever (Identification no.1).

The ball joint can be mounted from below with the d_5 internal thread or together with the GN 784.1 (see page 1162) flange, available as an accessory, using three through-holes from above.

For a permanent high stop torque, the contact surfaces of the balls must be kept free of grease. Exceeding the recommended tightening torque increases the securing of the ball joint in its end position, but may result in increased wear and potential failure of the clamping mechanism.

ACCESSORY

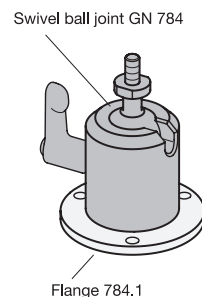
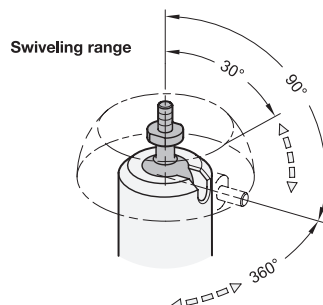
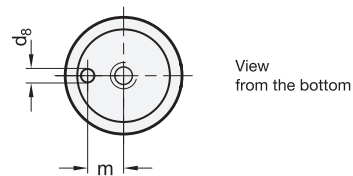
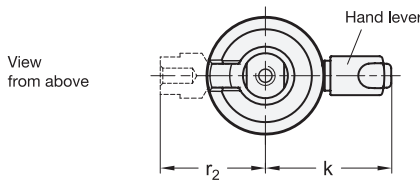
- Flanges GN 784.1 (see page 1162)

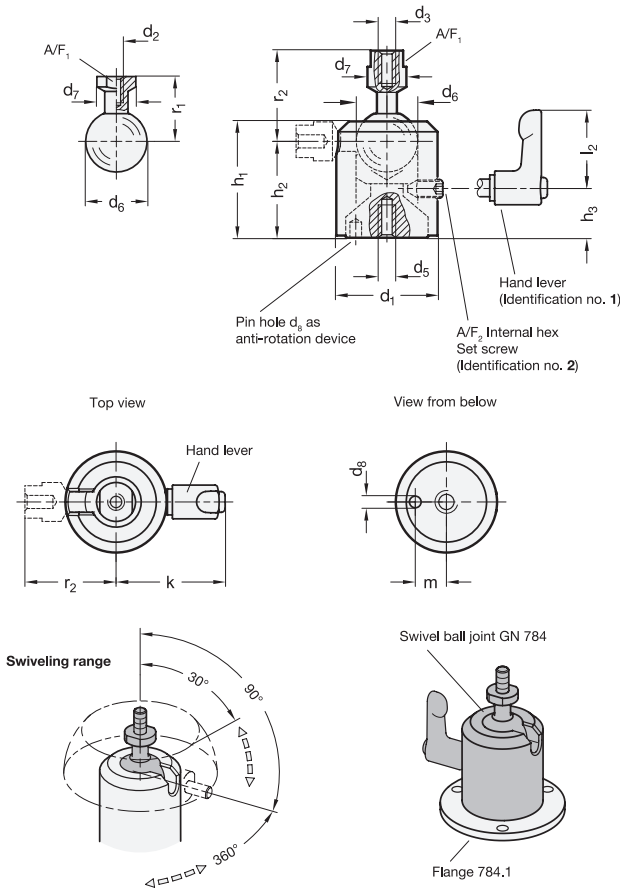
ON REQUEST

- Clamping with star knob DIN 6335 (see page 234)

TECHNICAL INFORMATION

- Stainless Steel Characteristics (see page A26)



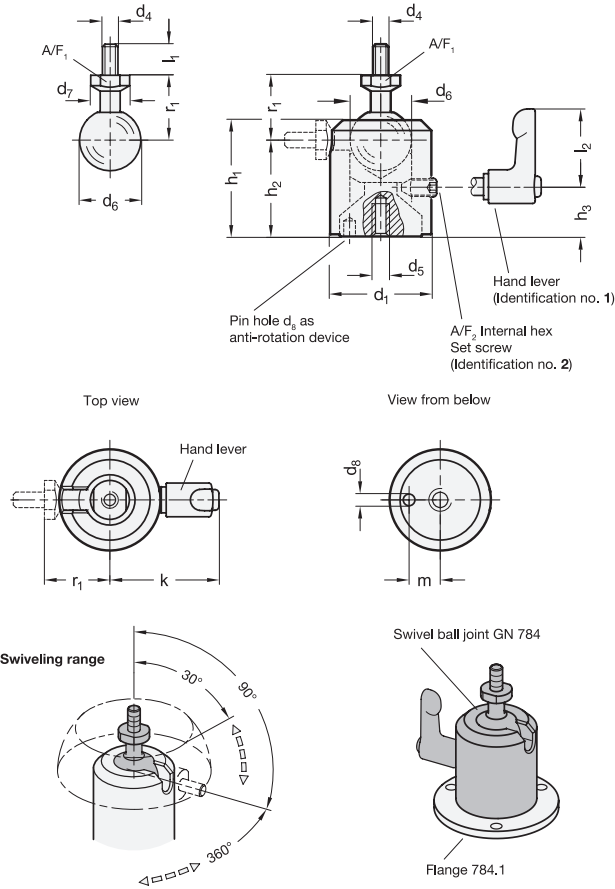


GN 784-A

Description	d1	d2*	d3*	d3* Inch thread	d5*	d6	d7	d8	h1	h2	h3	k	l2	m	r1	r2	AF1	AF2	Recommended tightening torque of the clamping (identification no.) in Nm≈	Resulting stop torque on the ball in Nm≈	
GN 784-23-M4-A-1-ELS	23	M 4	-	-	M 5	14	11	2.5	26.6	21.7	10.6	32	22	7	17.3	-	9	-	1.5	4.5	43
GN 784-23-M4-A-2-ELS	23	M 4	-	-	M 5	14	11	2.5	26.6	21.7	10.6	-	7	17.3	-	9	2.5	-	1.5	4.5	30
GN 784-23-M5-A-1-ELS	23	-	M 5	-	M 5	14	11	2.5	26.6	21.7	10.6	32	22	7	-	24.8	9	-	1.5	4.5	44
GN 784-23-M5-A-2-ELS	23	-	M 5	-	M 5	14	11	2.5	26.6	21.7	10.6	-	7	-	24.8	9	2.5	-	1.5	4.5	35
GN 784-23-1/4-A-1-ELS	23	-	-	1/4 (= 1/4-20)	M 5	14	11	2.5	26.6	21.7	10.6	32	22	7	-	24.8	9	-	1.5	4.5	47
GN 784-23-1/4-A-2-ELS	23	-	-	1/4 (= 1/4-20)	M 5	14	11	2.5	26.6	21.7	10.6	-	7	-	24.8	9	2.5	-	1.5	4.5	30
GN 784-31-M5-A-1-ELS	31	M 5	-	-	M 6	18	14	3.5	35.5	29.6	14.9	36	22	9	21.5	-	12	-	2.5	6.5	87
GN 784-31-M5-A-2-ELS	31	M 5	-	-	M 6	18	14	3.5	35.5	29.6	14.9	-	9	21.5	-	12	3	-	2.5	6.5	70
GN 784-31-M6-A-1-ELS	31	-	M 6	-	M 6	18	14	3.5	35.5	29.6	14.9	36	22	9	-	32.5	12	-	2.5	6.5	87
GN 784-31-M6-A-2-ELS	31	-	M 6	-	M 6	18	14	3.5	35.5	29.6	14.9	-	9	-	32.5	12	3	-	2.5	6.5	70
GN 784-31-1/4-A-1-ELS	31	-	-	1/4 (= 1/4-20)	M 6	18	14	3.5	35.5	29.6	14.9	36	22	9	-	32.5	12	-	2.5	6.5	82
GN 784-31-1/4-A-2-ELS	31	-	-	1/4 (= 1/4-20)	M 6	18	14	3.5	35.5	29.6	14.9	-	9	-	32.5	12	3	-	2.5	6.5	72
GN 784-39-M5-A-1-ELS	39	M 5	-	-	M 8	24	15	4.5	45	37.2	18.9	44	30	12	25.5	-	13	-	4	16	159
GN 784-39-M5-A-2-ELS	39	M 5	-	-	M 8	24	15	4.5	45	37.2	18.9	-	12	25.5	-	13	4	-	4	16	136
GN 784-39-M6-A-1-ELS	39	-	M 6	-	M 8	24	15	4.5	45	37.2	18.9	44	30	12	-	36.2	13	-	4	16	164
GN 784-39-M6-A-2-ELS	39	-	M 6	-	M 8	24	15	4.5	45	37.2	18.9	-	12	-	36.2	13	4	-	4	16	138
GN 784-39-M8-A-1-ELS	39	-	M 8	-	M 8	24	15	4.5	45	37.2	18.9	44	30	12	-	40.5	13	-	4	16	164
GN 784-39-M8-A-2-ELS	39	-	M 8	-	M 8	24	15	4.5	45	37.2	18.9	-	12	-	40.5	13	4	-	4	16	130
GN 784-39-3/8-A-1-ELS	39	-	-	3/8 (= 3/8-16)	M 8	24	15	4.5	45	37.2	18.9	44	30	12	-	40.5	13	-	4	16	161
GN 784-39-3/8-A-2-ELS	39	-	-	3/8 (= 3/8-16)	M 8	24	15	4.5	45	37.2	18.9	-	12	-	40.5	13	4	-	4	16	133
GN 784-49-M8-A-1-ELS	49	M 8	-	-	M 8	28	19.5	4.5	56	46.1	24	49	30	16	30.8	-	17	-	4	20	285
GN 784-49-M8-A-2-ELS	49	M 8	-	-	M 8	28	19.5	4.5	56	46.1	24	-	16	30.8	-	17	4	-	4	20	260
GN 784-49-3/8-A-1-ELS	49	-	-	3/8 (= 3/8-16)	M 8	28	19.5	4.5	56	46.1	24	49	30	16	-	44.8	17	-	4	20	300
GN 784-49-3/8-A-2-ELS	49	-	-	3/8 (= 3/8-16)	M 8	28	19.5	4.5	56	46.1	24	-	16	-	44.8	17	4	-	4	20	274
GN 784-49-M10-A-1-ELS	49	-	M 10	-	M 8	28	19.5	4.5	56	46.1	24	49	30	16	-	51.8	17	-	4	20	300
GN 784-49-M10-A-2-ELS	49	-	M 10	-	M 8	28	19.5	4.5	56	46.1	24	-	16	-	51.8	17	4	-	4	20	280

* The usable thread depth for d2 / d3 / d5 is 1.5x the thread diameter for metric threads and 1.2x the thread diameter for inch-based threads.





GN 784-B

Description	d1	d4	d4 Inch thread	d5*	d6	d7	d8	h1	h2	h3	k	l1	l2	m	r1	AF1	AF2	Recommended tightening torque of the clamping (identification no.) in Nm≈	Resulting stop torque on the ball in Nm≈	
GN 784-23-M5-B-1-ELS	23	M 5	-	M 5	14	11	2.5	26.6	21.7	10.6	32	8	22	7	17.3	9	-	1.5	4.5	70
GN 784-23-M5-B-2-ELS	23	M 5	-	M 5	14	11	2.5	26.6	21.7	10.6	-	8	-	7	17.3	9	2.5	1.5	4.5	65
GN 784-23-M6-B-1-ELS	23	M 6	-	M 5	14	11	2.5	26.6	21.7	10.6	32	10	22	7	17.3	9	-	1.5	4.5	43
GN 784-23-M6-B-2-ELS	23	M 6	-	M 5	14	11	2.5	26.6	21.7	10.6	-	10	-	7	17.3	9	2.5	1.5	4.5	40
GN 784-23-1/4-B-1-ELS	23	-	1/4 (= 1/4-20)	M 5	14	11	2.5	26.6	21.7	10.6	32	10	22	7	17.3	9	-	1.5	4.5	43
GN 784-23-1/4-B-2-ELS	23	-	1/4 (= 1/4-20)	M 5	14	11	2.5	26.6	21.7	10.6	-	10	-	7	17.3	9	2.5	1.5	4.5	29
GN 784-31-M6-B-1-ELS	31	M 6	-	M 6	18	14	3.5	35.5	29.6	14.9	36	10	22	9	21.5	12	-	2.5	6.5	83
GN 784-31-M6-B-2-ELS	31	M 6	-	M 6	18	14	3.5	35.5	29.6	14.9	-	10	-	9	21.5	12	3	2.5	6.5	70
GN 784-31-1/4-B-1-ELS	31	-	1/4 (= 1/4-20)	M 6	18	14	3.5	35.5	29.6	14.9	36	10	22	9	21.5	12	-	2.5	6.5	83
GN 784-31-1/4-B-2-ELS	31	-	1/4 (= 1/4-20)	M 6	18	14	3.5	35.5	29.6	14.9	-	10	-	9	21.5	12	3	2.5	6.5	70
GN 784-31-M8-B-1-ELS	31	M 8	-	M 6	18	14	3.5	35.5	29.6	14.9	36	12	22	9	21.5	12	-	2.5	6.5	84
GN 784-31-M8-B-2-ELS	31	M 8	-	M 6	18	14	3.5	35.5	29.6	14.9	-	12	-	9	21.5	12	3	2.5	6.5	80
GN 784-39-M6-B-1-ELS	39	M 6	-	M 8	24	15	4.5	45	37.2	18.9	44	10	30	12	25.5	13	-	4	16	160
GN 784-39-M6-B-2-ELS	39	M 6	-	M 8	24	15	4.5	45	37.2	18.9	-	10	-	12	25.5	13	4	4	16	130
GN 784-39-M8-B-1-ELS	39	M 8	-	M 8	24	15	4.5	45	37.2	18.9	44	12	30	12	25.5	13	-	4	16	158
GN 784-39-M8-B-2-ELS	39	M 8	-	M 8	24	15	4.5	45	37.2	18.9	-	12	-	12	25.5	13	4	4	16	138
GN 784-39-3/8-B-1-ELS	39	-	3/8 (= 3/8-16)	M 8	24	15	4.5	45	37.2	18.9	44	12	30	12	25.5	13	-	4	16	164
GN 784-39-3/8-B-2-ELS	39	-	3/8 (= 3/8-16)	M 8	24	15	4.5	45	37.2	18.9	-	12	-	12	25.5	13	4	4	16	158
GN 784-49-M8-B-1-ELS	49	M 8	-	M 8	28	19.5	4.5	56	46.1	24	49	12	30	16	30.8	17	-	4	20	289
GN 784-49-M8-B-2-ELS	49	M 8	-	M 8	28	19.5	4.5	56	46.1	24	-	12	-	16	30.8	17	4	4	20	263
GN 784-49-3/8-B-1-ELS	49	-	3/8 (= 3/8-16)	M 8	28	19.5	4.5	56	46.1	24	49	12	30	16	30.8	17	-	4	20	292
GN 784-49-3/8-B-2-ELS	49	-	3/8 (= 3/8-16)	M 8	28	19.5	4.5	56	46.1	24	-	12	-	16	30.8	17	4	4	20	267
GN 784-49-M10-B-1-ELS	49	M 10	-	M 8	28	19.5	4.5	56	46.1	24	49	15	30	16	30.8	17	-	4	20	293
GN 784-49-M10-B-2-ELS	49	M 10	-	M 8	28	19.5	4.5	56	46.1	24	-	15	-	16	30.8	17	4	4	20	264

* The usable thread depth for d2 / d3 / d5 is 1,5x the thread diameter for metric threads and 1,2x the thread diameter for inch-based threads.