

Precision Hinges

Hinge Leaf Aluminum, Bearing Bushings Bronze, Used as Joint

SPECIFICATION

Inner leaf type

- Type **A**: Tangential fastening with cylindrical recess
- Type **B**: Tangential fastening with tapped bushings
- Type **C**: Radial fastening with cylindrical recess
- Type **D**: Radial fastening with tapped bushings

Outer leaf type

- Type **A**: Tangential fastening with cylindrical recess
- Type **B**: Tangential fastening with tapped bushings
- Type **C**: Radial fastening with cylindrical recess
- Type **D**: Radial fastening with tapped bushings

Hinge leafs

Aluminum

Anodized, black **ALS**

Bearing bushings

Bronze

Hinge pin

Stainless steel AISI 420

Thrust washers

Stainless steel AISI 302

Adjusting screws

Stainless steel AISI 303

With thread locking

Complete nylon coating

Tapped bushings

Stainless steel AISI 303

INFORMATION

Precision hinges GN 7580 supply a pivoting movement to elements such as swing arms, spacers and clamping plates. The wear-resistant precision hinges feature low radial play and adjustable axial play.

A variety of installation situations can be covered by combining the various inner and outer leaves. Precise positioning can be achieved with dowel pins in the fit bores of the screw-on surfaces.

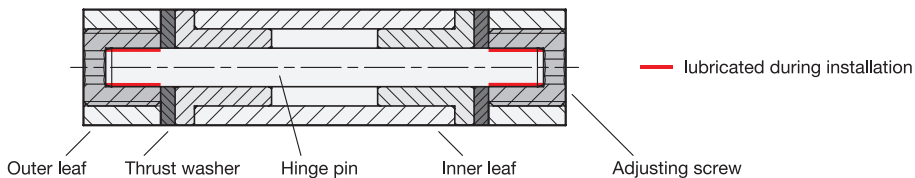
The bearing bushings and the tapped bushings of types B and D are supplied preassembled in the hinge leaves. The hinge pin, thrust washers and adjusting screws are packaged separately.

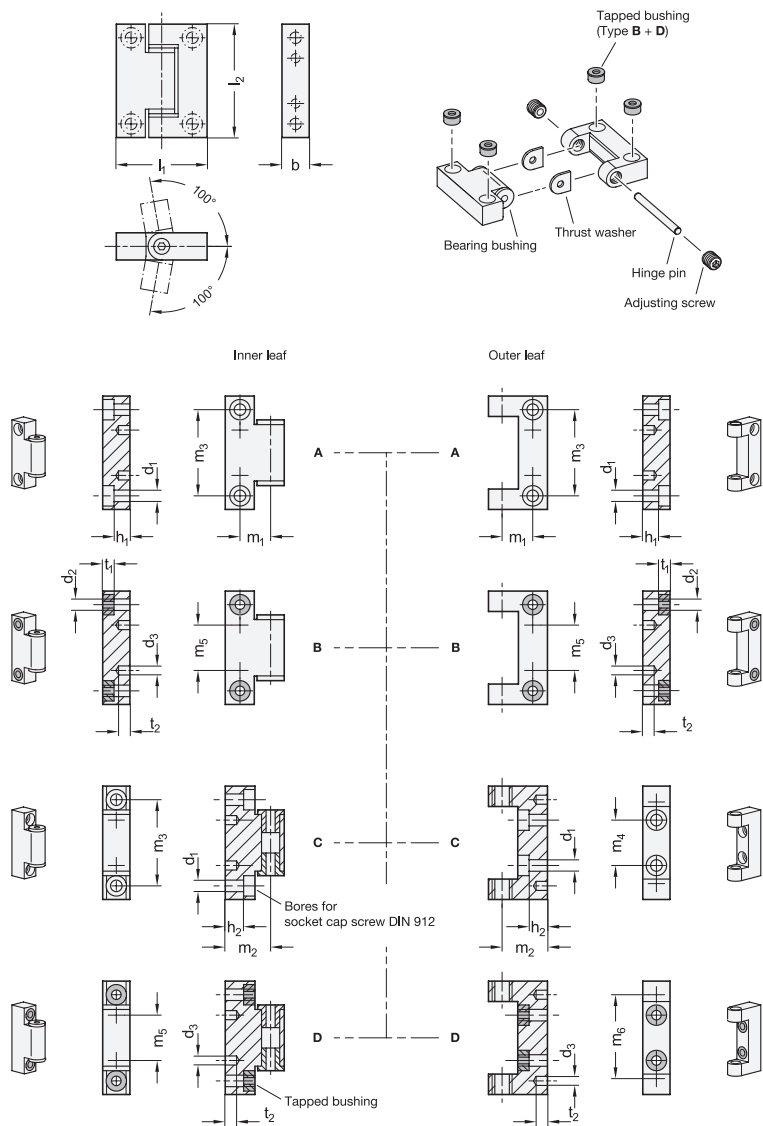
TECHNICAL INFORMATION

- Load Capacity (see page)
- ISO-Fundamental Tolerances (see page A21)
- Stainless Steel Characteristics (see page A26)



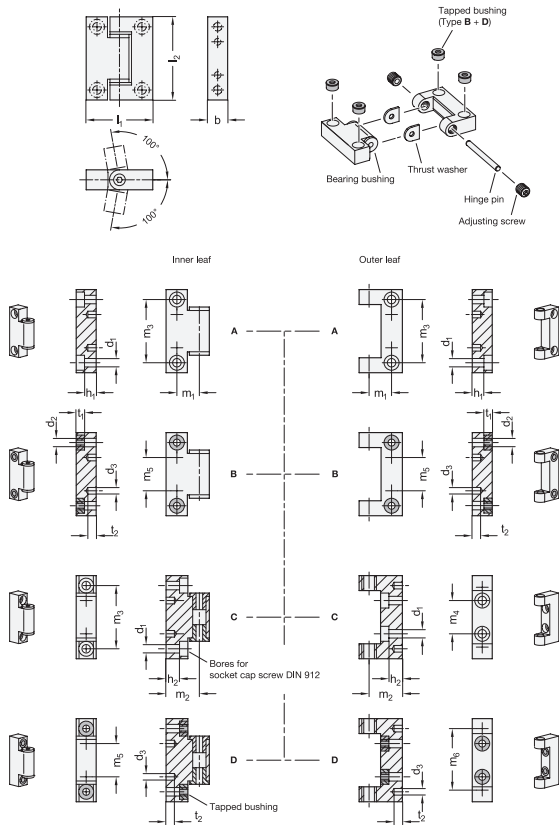
Assembly Instructions





GN 7580

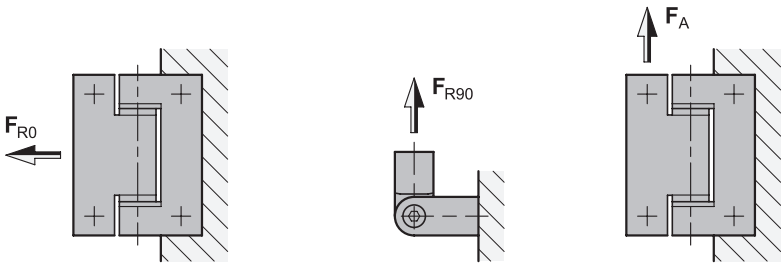
Description	l ₁	l ₂	b	d ₁	d ₂	d ₃ H7	h ₁	h ₂	m ₁	m ₂	m ₃	m ₄	m ₅	m ₆	t ₁	t ₂	
GN 7580-ALS-40-50-A-A	40	50	12	5.1	-	4	7	-	13.5	20	38	-	20	-	5	9	66
GN 7580-ALS-40-50-A-B	40	50	12	5.1	M5	4	7	-	13.5	20	38	-	20	-	5	9	70
GN 7580-ALS-40-50-A-C	40	50	12	5.1	-	4	7	8.1	13.5	20	38	20	20	40	5	9	66
GN 7580-ALS-40-50-A-D	40	50	12	5.1	M5	4	7	8.1	13.5	20	38	20	20	40	5	9	70
GN 7580-ALS-40-50-B-A	40	50	12	5.1	M5	4	7	-	13.5	20	38	-	20	-	5	9	70
GN 7580-ALS-40-50-B-B	40	50	12	5.1	M5	4	7	-	13.5	20	38	-	20	-	5	9	74
GN 7580-ALS-40-50-B-C	40	50	12	5.1	M5	4	7	8.1	13.5	20	38	20	20	40	5	9	70
GN 7580-ALS-40-50-B-D	40	50	12	5.1	M5	4	7	8.1	13.5	20	38	20	20	40	5	9	74
GN 7580-ALS-40-50-C-A	40	50	12	5.1	-	4	7	8.1	13.5	20	38	-	20	-	5	9	66
GN 7580-ALS-40-50-C-B	40	50	12	5.1	M5	4	7	8.1	13.5	20	38	-	20	-	5	9	70
GN 7580-ALS-40-50-C-C	40	50	12	5.1	-	4	-	8.1	-	20	38	20	20	40	5	9	66
GN 7580-ALS-40-50-C-D	40	50	12	5.1	M5	4	-	8.1	-	20	38	20	20	40	5	9	70
GN 7580-ALS-40-50-D-A	40	50	12	5.1	M5	4	7	8.1	13.5	20	38	-	20	-	5	9	70
GN 7580-ALS-40-50-D-B	40	50	12	5.1	M5	4	7	8.1	13.5	20	38	-	20	-	5	9	74
GN 7580-ALS-40-50-D-C	40	50	12	5.1	M5	4	-	8.1	-	20	38	20	20	40	5	9	70
GN 7580-ALS-40-50-D-D	40	50	12	5.1	M5	4	-	8.1	-	20	38	20	20	40	5	9	74



Description	l ₁	l ₂	b	d ₁	d ₂	d ₃ H7	h ₁	h ₂	m ₁	m ₂	m ₃	m ₄	m ₅	m ₆	t ₁	t ₂	△
GN 7580-ALS-55-70-A-A	55	70	16	6.1	-	5	10	-	18	27.5	56	-	26	-	6	11	184
GN 7580-ALS-55-70-A-B	55	70	16	6.1	M 6	5	10	-	18	27.5	56	-	26	-	6	11	190
GN 7580-ALS-55-70-A-C	55	70	16	6.1	-	5	10	12.3	18	27.5	56	26	26	56	6	11	184
GN 7580-ALS-55-70-A-D	55	70	16	6.1	M 6	5	10	12.3	18	27.5	56	26	26	56	6	11	190
GN 7580-ALS-55-70-B-A	55	70	16	6.1	M 6	5	10	-	18	27.5	56	-	26	-	6	11	191
GN 7580-ALS-55-70-B-B	55	70	16	6.1	M 6	5	10	-	18	27.5	56	-	26	-	6	11	197
GN 7580-ALS-55-70-B-C	55	70	16	6.1	M 6	5	10	12.3	18	27.5	56	26	26	56	6	11	191
GN 7580-ALS-55-70-B-D	55	70	16	6.1	M 6	5	10	12.3	18	27.5	56	26	26	56	6	11	197
GN 7580-ALS-55-70-C-A	55	70	16	6.1	-	5	10	12.3	18	27.5	56	-	26	-	6	11	184
GN 7580-ALS-55-70-C-B	55	70	16	6.1	M 6	5	10	12.3	18	27.5	56	-	26	-	6	11	190
GN 7580-ALS-55-70-C-C	55	70	16	6.1	-	5	-	12.3	-	27.5	56	26	26	56	6	11	184
GN 7580-ALS-55-70-C-D	55	70	16	6.1	M 6	5	-	12.3	-	27.5	56	26	26	56	6	11	190
GN 7580-ALS-55-70-D-A	55	70	16	6.1	M 6	5	10	12.3	18	27.5	56	-	26	-	6	11	190
GN 7580-ALS-55-70-D-B	55	70	16	6.1	M 6	5	10	12.3	18	27.5	56	-	26	-	6	11	197
GN 7580-ALS-55-70-D-C	55	70	16	6.1	M 6	5	-	12.3	-	27.5	56	26	26	56	6	11	190
GN 7580-ALS-55-70-D-D	55	70	16	6.1	M 6	5	-	12.3	-	27.5	56	26	26	56	6	11	197
GN 7580-ALS-75-100-A-A	75	100	22	8.1	-	6	14	-	25	37.5	80	-	45	-	8	13	478
GN 7580-ALS-75-100-A-B	75	100	22	8.1	M 8	6	14	-	25	37.5	80	-	45	-	8	13	490
GN 7580-ALS-75-100-A-C	75	100	22	8.1	-	6	14	16.8	25	37.5	80	45	45	80	8	13	478
GN 7580-ALS-75-100-A-D	75	100	22	8.1	M 8	6	14	16.8	25	37.5	80	45	45	80	8	13	490
GN 7580-ALS-75-100-B-A	75	100	22	8.1	M 8	6	14	-	25	37.5	80	-	45	-	8	13	490
GN 7580-ALS-75-100-B-B	75	100	22	8.1	M 8	6	14	-	25	37.5	80	-	45	-	8	13	503
GN 7580-ALS-75-100-B-C	75	100	22	8.1	M 8	6	14	16.8	25	37.5	80	45	45	80	8	13	490
GN 7580-ALS-75-100-B-D	75	100	22	8.1	M 8	6	14	16.8	25	37.5	80	45	45	80	8	13	503
GN 7580-ALS-75-100-C-A	75	100	22	8.1	-	6	14	16.8	25	37.5	80	-	45	-	8	13	477
GN 7580-ALS-75-100-C-B	75	100	22	8.1	M 8	6	14	16.8	25	37.5	80	-	45	-	8	13	490
GN 7580-ALS-75-100-C-C	75	100	22	8.1	-	6	-	16.8	-	37.5	80	45	45	80	8	13	477
GN 7580-ALS-75-100-C-D	75	100	22	8.1	M 8	6	-	16.8	-	37.5	80	45	45	80	8	13	490
GN 7580-ALS-75-100-D-A	75	100	22	8.1	M 8	6	14	16.8	25	37.5	80	-	45	-	8	13	490
GN 7580-ALS-75-100-D-B	75	100	22	8.1	M 8	6	14	16.8	25	37.5	80	-	45	-	8	13	503
GN 7580-ALS-75-100-D-C	75	100	22	8.1	M 8	6	-	16.8	-	37.5	80	45	45	80	8	13	490
GN 7580-ALS-75-100-D-D	75	100	22	8.1	M 8	6	-	16.8	-	37.5	80	45	45	80	8	13	503

Load Capacity

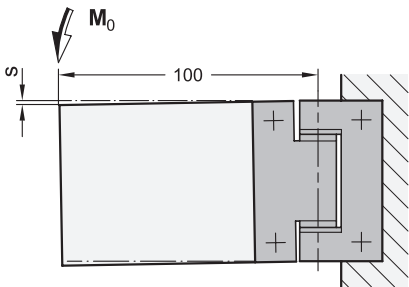
Precision hinges GN 7580 have been subjected to extensive load tests. For these tests, the hinge leaves were positioned using dowel pins and screwed on with socket cap screws at the respective rated torque. The values for F_A , F_{R0} and F_{R90} were determined in compression tests with gradually increasing force and slow loading and unloading. The permissible load capacity was selected as the value after which a very low plastic deformation, irrelevant to the function, remained. The failure loads of the hinges are many times higher than the specified values.



Code no.	Radial load capacity		Axial load capacity
	F_{R0} in N	F_{R90} in N	F_A in N
GN 7580-ALS-40-55-*	1500	1500	1250
-ALS-55-70-*	3500	3500	2000
-ALS-75-100-*	7500	7500	5000

Applying the torque values specified in the table results reproducibly in an elastic setting displacement, measured at the specified distance from the pivot point.

Code no.	Permissible torque	Setting displacement
	M_0 in Nm	s
GN 7580-ALS-40-55-*	20	0,3
-ALS-55-70-*	40	0,3
-ALS-75-100-*	100	0,3



The information on load capacity are non-binding guide values to the exclusion of any liability. In general, they do not constitute a warranty of condition. The user must determine whether a product is suitable for the intended use in each individual case. Environmental influences and aging may affect the specified values.