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Spherical Washers / Conical Seats • similar to DIN 6319, stainless steel

EH 23050.



Product Description

Spherical washers / Conical seats are used as washers in a screw connection to compensate non-parallel surfaces.

Material

Conical seat
- Stainless steel 1.4305
- Stainless steel A4

Spherical washer
- Stainless steel 1.4305
- Stainless steel A4

Assembly

Conical seats form D are to be used only for plain, closed round areas.
For larger holes only use form G!

Characteristic

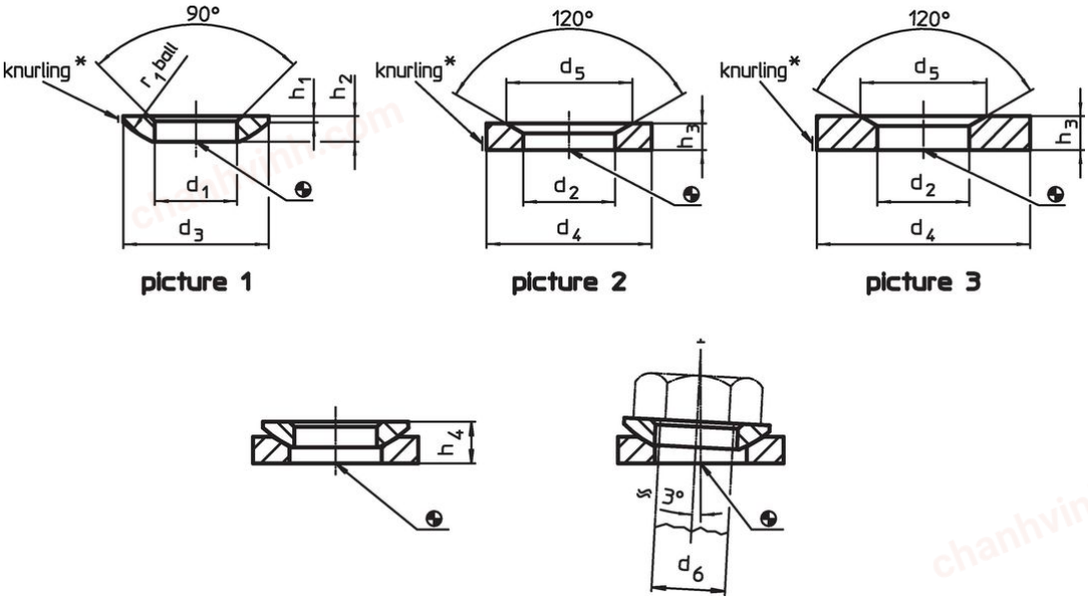
Types from stainless steel A4 with marking (knurling) according drawing.

More information

Further products

- Spherical Washers / Conical Seats, DIN 6319
- Fixture Nuts, DIN 6330 (height 1,5 d)

Drawing



* Knurling = material identification for stainless steel A4 type

Order information

Dimensions											For pin	For screws	Load capacity for static load	Torque for screwed connections[1]		Art. No.
d_1 H13	d_2 H13	d_3	d_4	d_5	h_1	h_2	h_3	h_4 with conical seat form D ~	h_4 with conical seat form G ~	r_1	d_6	d_6	max.	max.		
[mm]											[mm]	[mm]	[kN]	[Nm]	[g]	
spherical washers from stainless steel, form C – picture 1, Stainless steel 1.4305																
6.4	–	12	–	–	0.7	2.3	–	4.0	5.2	9	6	M 6	6	6	1.0	23050.0306
8.4	–	17	–	–	0.6	3.2	–	5.3	6.8	12	8	M 8	12	16	2.8	23050.0308
10.5	–	21	–	–	0.8	4.0	–	6.3	7.1	15	10	M10	16	32	5.0	23050.0310
13.0	–	24	–	–	1.1	4.6	–	7.9	8.9	17	12	M12	24	56	7.7	23050.0312
17.0	–	30	–	–	1.3	5.3	–	9.3	10.1	22	16	M16	45	135	13.0	23050.0316
21.0	–	36	–	–	2.0	6.3	–	11.6	12.1	27	20	M20	71	280	23.0	23050.0320
25.0	–	44	–	–	2.4	8.2	–	14.9	15.4	32	24	M24	105	455	46.0	23050.0324

[1] Torques of screws with standard thread, eventual pre-loads to be considered, coefficient of friction μ_{total} 0.14.

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Dimensions											For pin	For screws	Load capacity for static load	Torque for screwed connections[1]		Art. No.
d_1 H13	d_2 H13	d_3	d_4	d_5	h_1	h_2	h_3	h_4 with conical seat form D ~	h_4 with conical seat form G ~	r_1	d_6	d_6	max.	max.		
[mm]											[mm]	[mm]	[kN]	[Nm]	[g]	
31.0	–	56	–	–	3.6	11.2	–	18.8	18.8	41	30	M30	191	1050	104.0	23050.0330
37.0	–	68	–	–	4.6	14.0	–	23.4	–	50	36	M36	–	–	193.0	23050.0336
43.0	–	78	–	–	6.5	17.0	–	28.3	–	58	42	M42	–	–	313.0	23050.0342
50.0	–	92	–	–	8.0	21.0	–	35.0	–	67	48	M48	–	–	545.0	23050.0348
spherical washers from stainless steel, form C – picture 1, Stainless steel A4																
6.4	–	12	–	–	0.7	2.3	–	4.0	5.2	9	6	M 6	6	6	1.0	23050.0606
8.4	–	17	–	–	0.6	3.2	–	5.3	6.8	12	8	M 8	12	16	2.8	23050.0608
10.5	–	21	–	–	0.8	4.0	–	6.3	7.1	15	10	M10	16	32	5.2	23050.0610
13.0	–	24	–	–	1.1	4.6	–	7.9	8.9	17	12	M12	24	56	7.6	23050.0612
17.0	–	30	–	–	1.3	5.3	–	9.3	10.1	22	16	M16	45	135	13.0	23050.0616
21.0	–	36	–	–	2.0	6.3	–	11.6	12.1	27	20	M20	71	280	23.0	23050.0620
25.0	–	44	–	–	2.4	8.2	–	14.9	15.4	32	24	M24	105	455	44.0	23050.0624
31.0	–	56	–	–	3.6	11.2	–	18.8	18.8	41	30	M30	191	1050	106.0	23050.0630
37.0	–	68	–	–	4.6	14.0	–	23.4	–	50	36	M36	–	–	193.0	23050.0636
43.0	–	78	–	–	6.5	17.0	–	28.3	–	58	42	M42	–	–	318.0	23050.0642
50.0	–	92	–	–	8.0	21.0	–	35.0	–	67	48	M48	–	–	553.0	23050.0648
conical seats from stainless steel, form D – picture 2, Stainless steel 1.4305																
–	**7.1**	–	12	11.0	–	–	2.8	–	–	–	6	M 6	6	6	1.3	23050.0406
–	**9.6**	–	17	14.5	–	–	3.5	–	–	–	8	M 8	12	16	3.7	23050.0408
–	**12.0**	–	21	18.5	–	–	4.2	–	–	–	10	M10	16	32	6.6	23050.0410
–	**14.2**	–	24	20.0	–	–	5.0	–	–	–	12	M12	24	56	10.0	23050.0412
–	**19.0**	–	30	26.0	–	–	6.2	–	–	–	16	M16	45	135	18.0	23050.0416
–	**23.2**	–	36	31.0	–	–	7.5	–	–	–	20	M20	71	280	32.0	23050.0420
–	**28.0**	–	44	37.0	–	–	9.5	–	–	–	24	M24	105	455	63.0	23050.0424
–	**35.0**	–	56	49.0	–	–	12.0	–	–	–	30	M30	191	1050	127.0	23050.0430
–	**42.0**	–	68	60.0	–	–	15.0	–	–	–	36	M36	–	–	234.0	23050.0436
–	**49.0**	–	78	70.0	–	–	18.0	–	–	–	42	M42	–	–	362.0	23050.0442
–	**56.0**	–	92	82.0	–	–	22.0	–	–	–	48	M48	–	–	642.0	23050.0448
conical seats from stainless steel, form D – picture 2, Stainless steel A4																
–	**7.1**	–	12	11.0	–	–	2.8	–	–	–	6	M 6	6	6	1.3	23050.0666
–	**9.6**	–	17	14.5	–	–	3.5	–	–	–	8	M 8	12	16	3.6	23050.0668
–	**12.0**	–	21	18.5	–	–	4.2	–	–	–	10	M10	16	32	6.5	23050.0670
–	**14.2**	–	24	20.0	–	–	5.0	–	–	–	12	M12	24	56	10.0	23050.0672
–	**19.0**	–	30	26.0	–	–	6.2	–	–	–	16	M16	45	135	18.0	23050.0676
–	**23.2**	–	36	31.0	–	–	7.5	–	–	–	20	M20	71	280	32.0	23050.0680
–	**28.0**	–	44	37.0	–	–	9.5	–	–	–	24	M24	105	455	62.0	23050.0684
–	**35.0**	–	56	49.0	–	–	12.0	–	–	–	30	M30	191	1050	127.0	23050.0686
–	**42.0**	–	68	60.0	–	–	15.0	–	–	–	36	M36	–	–	236.0	23050.0688
–	**49.0**	–	78	70.0	–	–	18.0	–	–	–	42	M42	–	–	365.0	23050.0692
–	**56.0**	–	92	82.0	–	–	22.0	–	–	–	48	M48	–	–	649.0	23050.0694
conical seats from stainless steel, form G – picture 3, Stainless steel 1.4305																
–	**7.1**	–	17	11.0	–	–	4.0	–	–	–	6	M 6	6	6	5.8	23050.0466
–	**9.6**	–	24	14.5	–	–	5.0	–	–	–	8	M 8	12	16	15.0	23050.0468
–	**12.0**	–	30	18.5	–	–	5.0	–	–	–	10	M10	16	32	22.0	23050.0470
–	**14.2**	–	36	20.0	–	–	6.0	–	–	–	12	M12	24	56	40.0	23050.0472
–	**19.0**	–	44	26.0	–	–	7.0	–	–	–	16	M16	45	135	66.0	23050.0476
–	**23.2**	–	50	31.0	–	–	8.0	–	–	–	20	M20	71	280	95.0	23050.0480
–	**28.0**	–	60	37.0	–	–	10.0	–	–	–	24	M24	105	455	171.0	23050.0484
–	**35.0**	–	68	49.0	–	–	12.0	–	–	–	30	M30	191	1050	236.0	23050.0490
conical seats from stainless steel, form G – picture 3, Stainless steel A4																
–	**7.1**	–	17	11.0	–	–	4.0	–	–	–	6	M 6	6	6	5.6	23050.0706
–	**9.6**	–	24	14.5	–	–	5.0	–	–	–	8	M 8	12	16	14.0	23050.0708
–	**12.0**	–	30	18.5	–	–	5.0	–	–	–	10	M10	16	32	22.0	23050.0710
–	**14.2**	–	36	20.0	–	–	6.0	–	–	–	12	M12	24	56	39.0	23050.0712

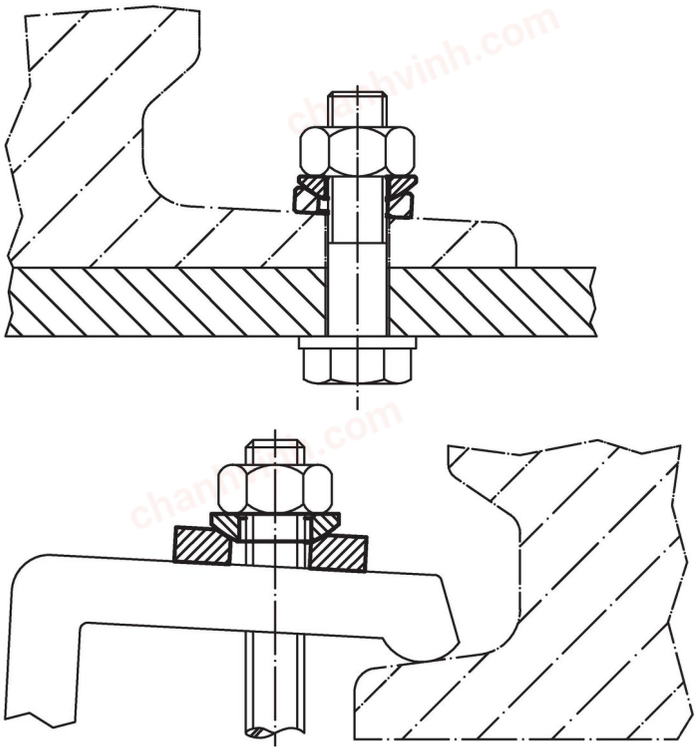
[1] Torques of screws with standard thread, eventual pre-loads to be considered, coefficient of friction μ_{total} 0.14.

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Dimensions											For pin	For screws	Load capacity for static load	Torque for screwed connections[1]		Art. No.
d_1 H13	d_2 H13	d_3	d_4	d_5	h_1	h_2	h_3	h_4 with conical seat form D ~	h_4 with conical seat form G ~	r_1	d_6	d_6	max.	max.		
[mm]											[mm]	[mm]	[kN]	[Nm]	[g]	
–	**19.0**	–	44	26.0	–	–	7.0	–	–	–	16	M16	45	135	66.0	23050.0716
–	**23.2**	–	50	31.0	–	–	8.0	–	–	–	20	M20	71	280	95.0	23050.0720
–	**28.0**	–	60	37.0	–	–	10.0	–	–	–	24	M24	105	455	170.0	23050.0724
–	**35.0**	–	68	49.0	–	–	12.0	–	–	–	30	M30	191	1050	238.0	23050.0730

[1] Torques of screws with standard thread, eventual pre-loads to be considered, coefficient of friction μ_{total} 0.14.

Application example



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Compliance

RoHS-compliant
Compliant with Directive 2011/65/EU [RoHS].

Does not contain SVHC substances
No SVHC substances with more than 0.1% w/w contained - SVHC list [REACH] as of 04.02.2026.

SCIP-code
N/A

Contains Proposition 65 substances


Nickel can cause cancer from exposure.
https://www.P65Warnings.ca.gov/

Free from Conflict Minerals
This product does not contain any substances designated as "conflict minerals" such as tantalum, tin, gold or tungsten from the Democratic Republic of Congo or adjacent countries.

POP-compliant
Contains no persistent organic pollutants – Stockholm Convention [POP] as of September 2025.

PFAS-compliant
Contains no per- and polyfluoroalkyl substances (PFAS).

TSCA-compliant
Agent concentration in this product does not exceed the specified threshold.