

## 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

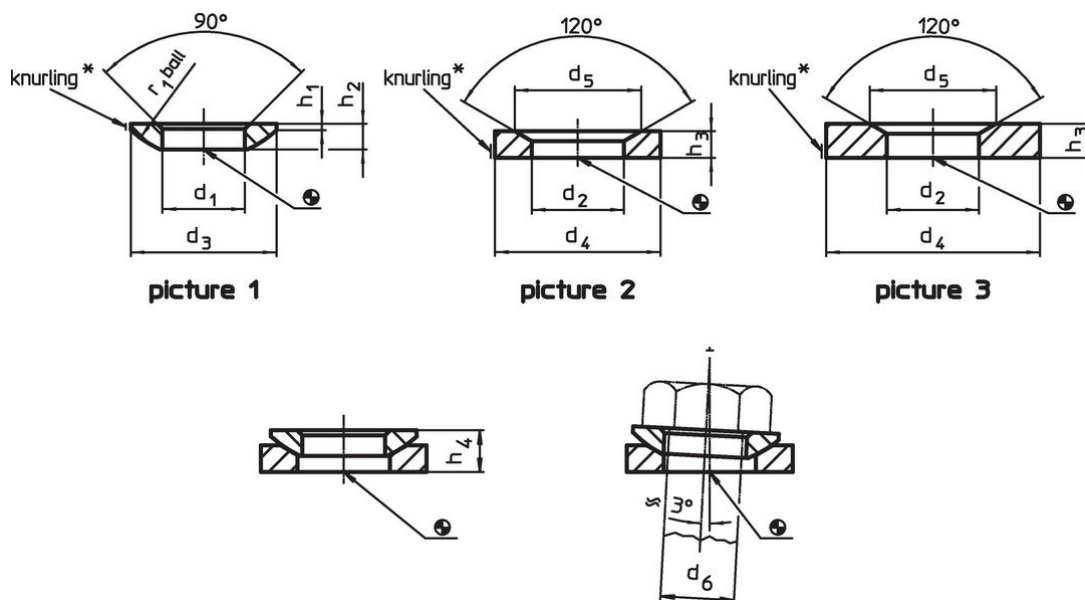
Types from stainless steel A4 with marking (knurling) according drawing.

### 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 $d_6$	For screws $d_6$	Load capacity for static load max.	Torque for screwed connections <sup>1)</sup> max.	Art. No.	
$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	$h_1$	$h_2$	$h_3$	$h_4$		$r_1$						
H13	H13							with conical seat form D	with conical seat form G							
[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

<sup>1)</sup> Torques of screws with standard thread, eventual pre-loads to be considered, coefficient of friction  $\mu_{total}$  0.14.

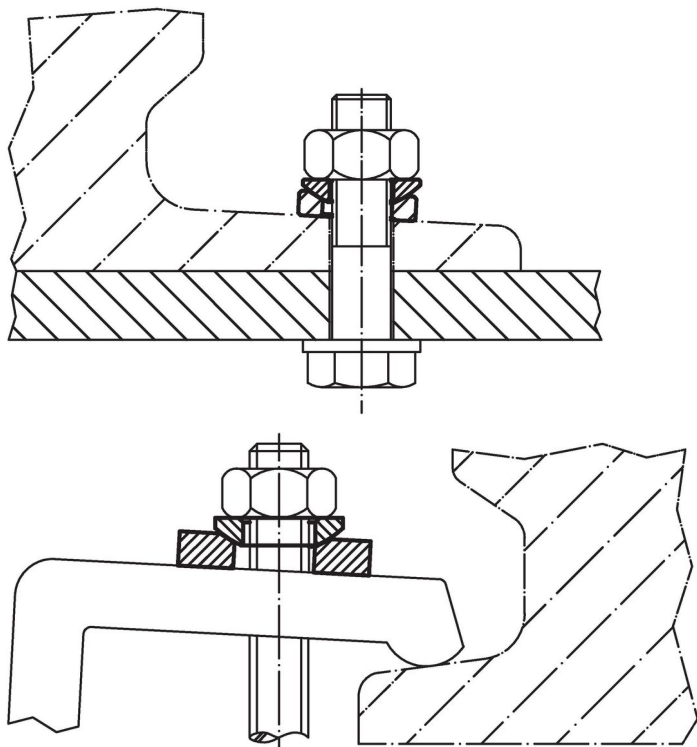
d <sub>1</sub> H13	d <sub>2</sub> H13	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	Dimensions					r <sub>1</sub>	For pin d <sub>6</sub>	For screws d <sub>6</sub>	Load capacity for static load max.	Torque for screwed connections <sup>1)</sup> max.		Art. No.
					h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>								
					with conical seat form D		with conical seat form G									
[mm]																
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
<b>spherical washers from stainless steel, form C – picture 1, Stainless steel A4</b>																
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	5.0	23050.0610
13.0	–	24	–	–	1.1	4.6	–	7.9	8.9	17	12	M12	24	56	7.7	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	46.0	23050.0624
31.0	–	56	–	–	3.6	11.2	–	18.8	18.8	41	30	M30	191	1050	104.0	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	–	–	313.0	23050.0642
50.0	–	92	–	–	8.0	21.0	–	35.0	–	67	48	M48	–	–	545.0	23050.0648
<b>conical seats from stainless steel, form D – picture 2, Stainless steel 1.4305</b>																
–	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	19.0	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
<b>conical seats from stainless steel, form D – picture 2, Stainless steel A4</b>																
–	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	3.7	23050.0668
–	12.0	–	21	18.5	–	–	4.2	–	–	–	10	M10	16	32	6.6	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	19.0	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	63.0	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	–	–	234.0	23050.0688
–	49.0	–	78	70.0	–	–	18.0	–	–	–	42	M42	–	–	362.0	23050.0692
–	56.0	–	92	82.0	–	–	22.0	–	–	–	48	M48	–	–	642.0	23050.0694
<b>conical seats from stainless steel, form G – picture 3, Stainless steel 1.4305</b>																
–	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
<b>conical seats from stainless steel, form G – picture 3, Stainless steel A4</b>																
–	7.1	–	17	11.0	–	–	4.0	–	–	–	6	M 6	6	6	5.8	23050.0706
–	9.6	–	24	14.5	–	–	5.0	–	–	–	8	M 8	12	16	15.0	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	40.0	23050.0712

<sup>1)</sup> Torques of screws with standard thread, eventual pre-loads to be considered, coefficient of friction  $\mu_{total}$  0.14.

Dimensions											For pin d <sub>6</sub>	For screws d <sub>6</sub>	Load capacity for static load max.	Torque for screwed connections <sup>1)</sup> max.		Art. No.
d <sub>1</sub> H13	d <sub>2</sub> H13	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub> with conical seat form D    with conical seat form G		r <sub>1</sub>						
[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	171.0	23050.0724
-	35.0	-	68	49.0	-	-	12.0	-	-	-	30	M30	191	1050	236.0	23050.0730

<sup>1)</sup> Torques of screws with standard thread, eventual pre-loads to be considered, coefficient of friction  $\mu_{total}$  0.14.

### Application example



### Compliance

#### RoHS compliant

Compliant according to Directive 2011/65/EU and Directive 2015/863.

#### Does not contain SVHC substances

No SVHC substances with more than 0.1% w/w contained - SVHC list [REACH] as of 27.06.2024.

#### Does not contain Proposition 65 substances

No Proposition 65 substances included.

<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.