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Ball-Ended Thrust Screws • headless, flat-faced ball

EH 22720.



Product Description

Headless ball-ended thrust screws with a flat-faced ball are used for positioning, clamping, tensioning and supporting components. They are particularly suitable for applications requiring force transmission over a larger surface area or space-saving integration into the assembly. Versions with a thermoplastic ball are specifically designed for brittle and pressure-sensitive components.
The headless design allows a variable screw penetration depth and space-saving integration into the assembly.
The movable, flat-faced ball adapts to inclined or non-parallel locating surfaces. It distributes the applied force over a larger contact surface, enabling force transmission over a larger surface area.
The smooth bearing surface allows even and gentle force application to the component. The ribbed bearing surface provides increased grip and helps prevent lateral movement of the component.
The version with a smooth thermoplastic bearing surface provides particularly gentle force application. The anti-turn locking device also makes assembly easier.
This product group offers the following features and advantages:

- Compact headless design
- Variable screw penetration depth to suit the installation situation
- Movable, flat-faced ball
- Compensates for inclined or non-parallel locating surfaces
- Force transmission over a larger contact surface
- Smooth bearing surface for gentle force application
- Ribbed bearing surface for increased grip
- Ball in hardened steel, hardened stainless steel or thermoplastic
- Thermoplastic ball for brittle and pressure-sensitive components, with a smooth bearing surface and anti-turn locking device
- Adjustment with a hexagon key
- Versions in steel or stainless steel

Material

Ball

- Ball-bearing steel, hardened
- Stainless steel, hardened
- Thermoplastic POM, red

Screw

- Heat-treated steel, 1200 ±100 N/mm^2
- Stainless steel 1.4305

More information

Notes

Ball not secured against rotating.
Customized design on request.

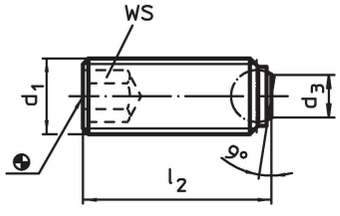
References

Thread lock on request.

Further products

- Ball-Ended Thrust Screws, headless, ball protected against rotating
- Ball-Ended Thrust Screws, headless, with fine-pitch thread
- Ball-Ended Thrust Screws, headless, short
- Ball-Ended Thrust Screws, headless, flat-faced ball and hexalobular socket

Drawing



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Order information

Dimensions				WS	Load capacity for static load[1] max.				Art. No.
d_1	l_2	d_3	Ball diameter			min.	max.		
[mm]				[mm]	[kN]	[°C]		[g]	
bearing surface plain , Heat-treated steel									
M 4	**5.6**	1.8	2.5	2.0	3.5	–	250	0.3	22720.0542
M 4	**7.6**	1.8	2.5	2.0	3.5	–	250	0.4	22720.0543
M 4	**9.6**	1.8	2.5	2.0	3.5	–	250	0.6	22720.0544
M 4	**11.6**	1.8	2.5	2.0	3.5	–	250	0.7	22720.0545
M 4	**15.6**	1.8	2.5	2.0	3.5	–	250	1.0	22720.0546
M 5	**7.5**	2.2	3.0	2.5	4.5	–	250	0.6	22720.0552
M 5	**9.5**	2.2	3.0	2.5	4.5	–	250	0.8	22720.0553
M 5	**11.5**	2.2	3.0	2.5	4.5	–	250	1.1	22720.0554
M 5	**15.5**	2.2	3.0	2.5	4.5	–	250	1.6	22720.0555
M 5	**19.5**	2.2	3.0	2.5	4.5	–	250	2.0	22720.0556
M 5	**24.5**	2.2	3.0	2.5	4.5	–	250	2.6	22720.0558
M 6	**10.0**	3.2	4.0	3.0	9.0	–	250	1.3	22720.0562
M 6	**12.0**	3.2	4.0	3.0	9.0	–	250	1.6	22720.0563
M 6	**16.0**	3.2	4.0	3.0	9.0	–	250	2.3	22720.0564
M 6	**20.0**	3.2	4.0	3.0	9.0	–	250	3.0	22720.0565
M 6	**25.0**	3.2	4.0	3.0	9.0	–	250	3.8	22720.0566
M 8	**10.0**	4.5	5.5	4.0	15.0	–	250	2.4	22720.0581
M 8	**12.0**	4.5	5.5	4.0	15.0	–	250	2.8	22720.0582
M 8	**16.0**	4.5	5.5	4.0	15.0	–	250	3.9	22720.0583
M 8	**20.0**	4.5	5.5	4.0	15.0	–	250	5.1	22720.0584
M 8	**25.0**	4.5	5.5	4.0	15.0	–	250	6.7	22720.0585
M 8	**30.0**	4.5	5.5	4.0	15.0	–	250	8.2	22720.0586
M10	**12.0**	6.0	7.0	5.0	20.0	–	250	4.6	22720.0601
M10	**16.0**	6.0	7.0	5.0	20.0	–	250	5.9	22720.0602
M10	**20.0**	6.0	7.0	5.0	20.0	–	250	7.8	22720.0603
M10	**25.0**	6.0	7.0	5.0	20.0	–	250	10.0	22720.0604
M10	**30.0**	6.0	7.0	5.0	20.0	–	250	13.0	22720.0605
M10	**35.0**	6.0	7.0	5.0	20.0	–	250	15.0	22720.0606
M10	**40.0**	6.0	7.0	5.0	20.0	–	250	17.0	22720.0608
M12	**16.0**	7.2	8.5	6.0	30.0	–	250	8.8	22720.0621
M12	**20.0**	7.2	8.5	6.0	30.0	–	250	11.0	22720.0622
M12	**25.0**	7.2	8.5	6.0	30.0	–	250	14.0	22720.0623
M12	**30.0**	7.2	8.5	6.0	30.0	–	250	18.0	22720.0624
M12	**40.0**	7.2	8.5	6.0	30.0	–	250	25.0	22720.0626
M12	**50.0**	7.2	8.5	6.0	30.0	–	250	32.0	22720.0628
M16	**20.0**	10.7	12.0	8.0	60.0	–	250	21.0	22720.0661
M16	**25.0**	10.7	12.0	8.0	60.0	–	250	26.0	22720.0662
M16	**35.0**	10.7	12.0	8.0	60.0	–	250	40.0	22720.0664
M16	**50.0**	10.7	12.0	8.0	60.0	–	250	60.0	22720.0666
M20	**30.0**	13.5	15.0	10.0	90.0	–	250	49.0	22720.0702
M20	**40.0**	13.5	15.0	10.0	90.0	–	250	70.0	22720.0704
M20	**50.0**	13.5	15.0	10.0	90.0	–	250	91.0	22720.0705
M20	**60.0**	13.5	15.0	10.0	90.0	–	250	112.0	22720.0706
M24	**35.0**	15.8	18.0	12.0	120.0	–	250	85.0	22720.0742
M24	**50.0**	15.8	18.0	12.0	120.0	–	250	129.0	22720.0744
M24	**80.0**	15.8	18.0	12.0	120.0	–	250	219.0	22720.0746
bearing surface plain , Stainless steel									
M 4	**5.6**	1.8	2.5	2.0	3.5	–	250	0.3	22720.0827
M 4	**7.6**	1.8	2.5	2.0	3.5	–	250	0.4	22720.0828
M 4	**9.6**	1.8	2.5	2.0	3.5	–	250	0.6	22720.0829
M 4	**11.6**	1.8	2.5	2.0	3.5	–	250	0.7	22720.0830
M 4	**15.6**	1.8	2.5	2.0	3.5	–	250	1.0	22720.0832
M 5	**7.5**	2.2	3.0	2.5	4.5	–	250	0.6	22720.0833
M 5	**9.5**	2.2	3.0	2.5	4.5	–	250	0.9	22720.0834
M 5	**11.5**	2.2	3.0	2.5	4.5	–	250	1.1	22720.0835
M 5	**15.5**	2.2	3.0	2.5	4.5	–	250	1.6	22720.0836

[1] Statements on load capacity are not valid for the stainless steel type (except the type fitted with thermoplastic balls).

Dimensions				WS	Load capacity for static load[1] max.				Art. No.
d_1	l_2	d_3	Ball diameter			min.	max.		
[mm]				[mm]	[kN]	[°C]		[g]	
M 5	**19.5**	2.2	3.0	2.5	4.5	–	250	2.1	22720.0837
M 5	**24.5**	2.2	3.0	2.5	4.5	–	250	2.7	22720.0838
M 6	**10.0**	3.2	4.0	3.0	9.0	–	250	1.3	22720.0840
M 6	**12.0**	3.2	4.0	3.0	9.0	–	250	1.6	22720.0842
M 6	**16.0**	3.2	4.0	3.0	9.0	–	250	2.3	22720.0844
M 6	**20.0**	3.2	4.0	3.0	9.0	–	250	3.0	22720.0845
M 6	**25.0**	3.2	4.0	3.0	9.0	–	250	3.9	22720.0846
M 8	**10.0**	4.5	5.5	4.0	15.0	–	250	2.4	22720.0850
M 8	**12.0**	4.5	5.5	4.0	15.0	–	250	2.8	22720.0852
M 8	**16.0**	4.5	5.5	4.0	15.0	–	250	3.9	22720.0853
M 8	**20.0**	4.5	5.5	4.0	15.0	–	250	5.2	22720.0854
M 8	**25.0**	4.5	5.5	4.0	15.0	–	250	6.9	22720.0855
M 8	**30.0**	4.5	5.5	4.0	15.0	–	250	8.4	22720.0856
M10	**12.0**	6.0	7.0	5.0	20.0	–	250	4.5	22720.0860
M10	**16.0**	6.0	7.0	5.0	20.0	–	250	5.8	22720.0862
M10	**20.0**	6.0	7.0	5.0	20.0	–	250	8.1	22720.0863
M10	**25.0**	6.0	7.0	5.0	20.0	–	250	10.0	22720.0864
M10	**30.0**	6.0	7.0	5.0	20.0	–	250	13.0	22720.0865
M10	**35.0**	6.0	7.0	5.0	20.0	–	250	15.0	22720.0866
M10	**40.0**	6.0	7.0	5.0	20.0	–	250	17.0	22720.0868
M12	**16.0**	7.2	8.5	6.0	30.0	–	250	8.7	22720.0870
M12	**20.0**	7.2	8.5	6.0	30.0	–	250	11.0	22720.0872
M12	**25.0**	7.2	8.5	6.0	30.0	–	250	14.0	22720.0873
M12	**30.0**	7.2	8.5	6.0	30.0	–	250	18.0	22720.0874
M12	**40.0**	7.2	8.5	6.0	30.0	–	250	25.0	22720.0876
M12	**50.0**	7.2	8.5	6.0	30.0	–	250	32.0	22720.0878
M16	**20.0**	10.7	12.0	8.0	60.0	–	250	21.0	22720.0880
M16	**25.0**	10.7	12.0	8.0	60.0	–	250	25.0	22720.0882
M16	**35.0**	10.7	12.0	8.0	60.0	–	250	41.0	22720.0884
M16	**50.0**	10.7	12.0	8.0	60.0	–	250	61.0	22720.0886
flat-faced ball from thermoplastic, bearing surface plain (protected against rotating), Heat-treated steel									
M 4	**5.9**	1.8	2.5	2.0	0.3	-30	80	0.2	22720.0452
M 4	**7.9**	1.8	2.5	2.0	0.3	-30	80	0.3	22720.0453
M 4	**9.9**	1.8	2.5	2.0	0.3	-30	80	0.5	22720.0454
M 4	**11.9**	1.8	2.5	2.0	0.3	-30	80	0.7	22720.0455
M 4	**15.9**	1.8	2.5	2.0	0.3	-30	80	0.9	22720.0456
M 5	**7.8**	2.1	3.0	2.5	0.5	-30	80	0.6	22720.0462
M 5	**9.8**	2.1	3.0	2.5	0.5	-30	80	0.8	22720.0463
M 5	**11.8**	2.1	3.0	2.5	0.5	-30	80	1.0	22720.0464
M 5	**15.8**	2.1	3.0	2.5	0.5	-30	80	1.5	22720.0465
M 5	**19.8**	2.1	3.0	2.5	0.5	-30	80	1.9	22720.0466
M 5	**24.8**	2.1	3.0	2.5	0.5	-30	80	2.5	22720.0467
M 6	**10.3**	3.0	4.0	3.0	0.9	-30	80	1.1	22720.0472
M 6	**12.3**	3.0	4.0	3.0	0.9	-30	80	1.4	22720.0473
M 6	**16.3**	3.0	4.0	3.0	0.9	-30	80	2.1	22720.0474
M 6	**20.3**	3.0	4.0	3.0	0.9	-30	80	2.8	22720.0475
M 6	**25.3**	3.0	4.0	3.0	0.9	-30	80	3.6	22720.0476
M 8	**10.4**	4.2	5.5	4.0	1.5	-30	80	1.9	22720.0482
M 8	**12.4**	4.2	5.5	4.0	1.5	-30	80	2.3	22720.0483
M 8	**16.4**	4.2	5.5	4.0	1.5	-30	80	3.4	22720.0484
M 8	**20.4**	4.2	5.5	4.0	1.5	-30	80	4.7	22720.0485
M 8	**25.4**	4.2	5.5	4.0	1.5	-30	80	6.2	22720.0486
M 8	**30.4**	4.2	5.5	4.0	1.5	-30	80	7.7	22720.0487
flat-faced ball from thermoplastic, bearing surface plain (protected against rotating), Stainless steel									
M 4	**5.9**	1.8	2.5	2.0	0.3	-30	80	0.3	22720.0492
M 4	**7.9**	1.8	2.5	2.0	0.3	-30	80	0.4	22720.0493
M 4	**9.9**	1.8	2.5	2.0	0.3	-30	80	0.5	22720.0494
M 4	**11.9**	1.8	2.5	2.0	0.3	-30	80	0.7	22720.0495
M 4	**15.9**	1.8	2.5	2.0	0.3	-30	80	1.0	22720.0496
M 5	**7.8**	2.1	3.0	2.5	0.5	-30	80	0.6	22720.0502

[1] Statements on load capacity are not valid for the stainless steel type (except the type fitted with thermoplastic balls).

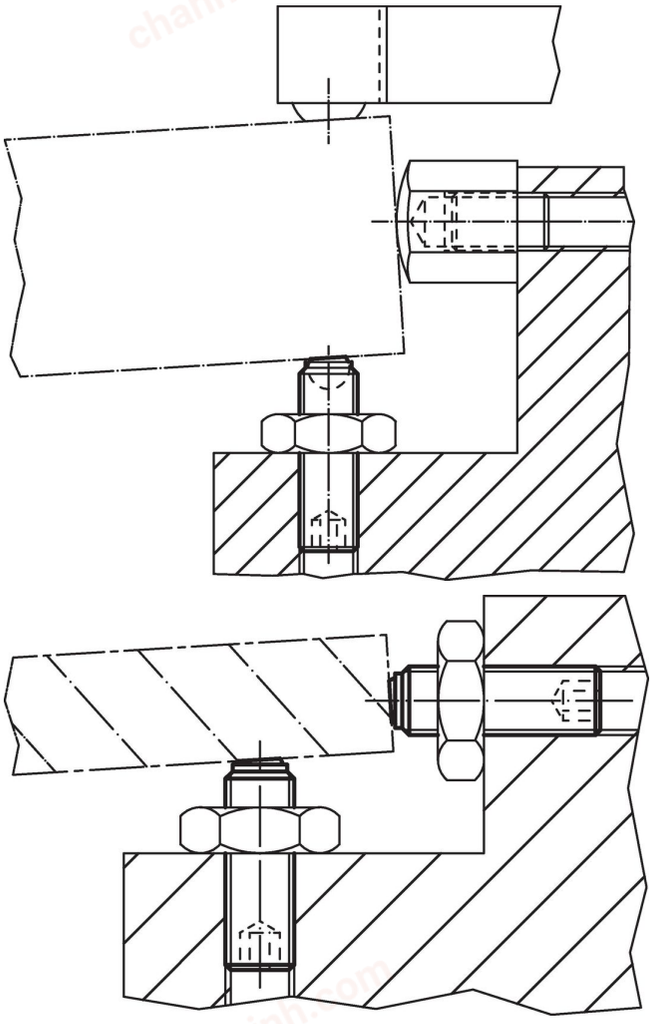
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Dimensions				WS	Load capacity for static load[1] max.				Art. No.
d_1	l_2	d_3	Ball diameter			min.	max.		
[mm]				[mm]	[kN]	[°C]		[g]	
M 5	**9.8**	2.1	3.0	2.5	0.5	-30	80	0.7	22720.0503
M 5	**11.8**	2.1	3.0	2.5	0.5	-30	80	1.0	22720.0504
M 5	**15.8**	2.1	3.0	2.5	0.5	-30	80	1.5	22720.0505
M 5	**19.8**	2.1	3.0	2.5	0.5	-30	80	2.0	22720.0506
M 5	**24.8**	2.1	3.0	2.5	0.5	-30	80	2.6	22720.0507
M 6	**10.3**	3.0	4.0	3.0	0.9	-30	80	1.1	22720.0512
M 6	**12.3**	3.0	4.0	3.0	0.9	-30	80	1.5	22720.0513
M 6	**16.3**	3.0	4.0	3.0	0.9	-30	80	2.1	22720.0514
M 6	**20.3**	3.0	4.0	3.0	0.9	-30	80	2.7	22720.0515
M 6	**25.3**	3.0	4.0	3.0	0.9	-30	80	3.6	22720.0516
M 8	**10.4**	4.2	5.5	4.0	1.5	-30	80	1.9	22720.0522
M 8	**12.4**	4.2	5.5	4.0	1.5	-30	80	2.3	22720.0523
M 8	**16.4**	4.2	5.5	4.0	1.5	-30	80	3.5	22720.0524
M 8	**20.4**	4.2	5.5	4.0	1.5	-30	80	4.7	22720.0525
M 8	**25.4**	4.2	5.5	4.0	1.5	-30	80	6.3	22720.0526
M 8	**30.4**	4.2	5.5	4.0	1.5	-30	80	7.9	22720.0527
bearing surface ribbed, Heat-treated steel									
M 8	**10.0**	4.5	5.5	4.0	15.0	–	250	2.4	22720.0891
M 8	**12.0**	4.5	5.5	4.0	15.0	–	250	2.7	22720.0892
M 8	**16.0**	4.5	5.5	4.0	15.0	–	250	3.9	22720.0893
M 8	**20.0**	4.5	5.5	4.0	15.0	–	250	5.1	22720.0894
M 8	**25.0**	4.5	5.5	4.0	15.0	–	250	6.7	22720.0895
M 8	**30.0**	4.5	5.5	4.0	15.0	–	250	8.2	22720.0896
M10	**12.0**	6.0	7.0	5.0	20.0	–	250	4.5	22720.0901
M10	**16.0**	6.0	7.0	5.0	20.0	–	250	5.8	22720.0902
M10	**20.0**	6.0	7.0	5.0	20.0	–	250	8.0	22720.0903
M10	**25.0**	6.0	7.0	5.0	20.0	–	250	10.0	22720.0904
M10	**30.0**	6.0	7.0	5.0	20.0	–	250	13.0	22720.0905
M10	**35.0**	6.0	7.0	5.0	20.0	–	250	15.0	22720.0906
M10	**40.0**	6.0	7.0	5.0	20.0	–	250	18.0	22720.0908
M12	**16.0**	7.2	8.5	6.0	30.0	–	250	8.6	22720.0921
M12	**20.0**	7.2	8.5	6.0	30.0	–	250	11.0	22720.0922
M12	**25.0**	7.2	8.5	6.0	30.0	–	250	14.0	22720.0923
M12	**30.0**	7.2	8.5	6.0	30.0	–	250	17.0	22720.0924
M12	**40.0**	7.2	8.5	6.0	30.0	–	250	25.0	22720.0926
M12	**50.0**	7.2	8.5	6.0	30.0	–	250	28.0	22720.0928
M16	**20.0**	10.7	12.0	8.0	60.0	–	250	22.0	22720.0961
M16	**25.0**	10.7	12.0	8.0	60.0	–	250	27.0	22720.0962
M16	**35.0**	10.7	12.0	8.0	60.0	–	250	40.0	22720.0964
M16	**50.0**	10.7	12.0	8.0	60.0	–	250	60.0	22720.0966
M20	**30.0**	13.5	15.0	10.0	90.0	–	250	49.0	22720.0972
M20	**40.0**	13.5	15.0	10.0	90.0	–	250	70.0	22720.0974
M20	**50.0**	13.5	15.0	10.0	90.0	–	250	90.0	22720.0975
M20	**60.0**	13.5	15.0	10.0	90.0	–	250	112.0	22720.0976
M24	**35.0**	15.8	18.0	12.0	120.0	–	250	85.0	22720.0982
M24	**50.0**	15.8	18.0	12.0	120.0	–	250	129.0	22720.0984
M24	**80.0**	15.8	18.0	12.0	120.0	–	250	219.0	22720.0986

[1] Statements on load capacity are not valid for the stainless steel type (except the type fitted with thermoplastic balls).

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Application example



Compliance

For detailed compliance information please select the desired article number.