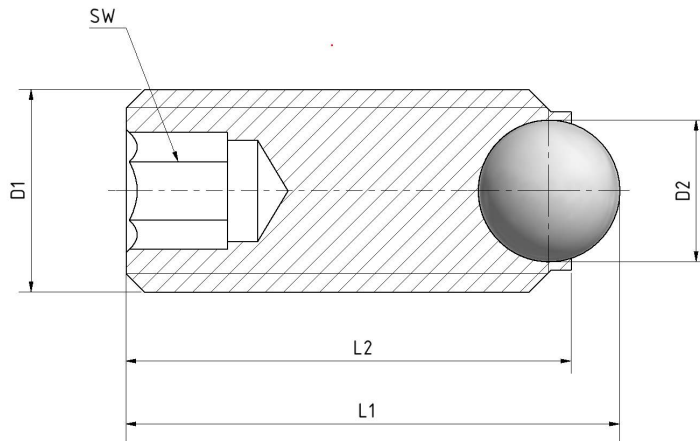


## Ball-end thrust screws without head

### Thread size M4 – M24, steel with full ball



Art. No. Ball stainless steel	Art. No. Ball POM	D1	L1	L2	D2 6U <sup>°</sup>	SW
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3-231-04-06,0	3-239-04-06,0	M4	6	5.3	2.5	2
3-231-04-08,0	3-239-04-08,0	M4	8	7.3	2.5	2
3-231-04-10,0	3-239-04-10,0	M4	10	9.3	2.5	2
3-231-04-12,0	3-239-04-12,0	M4	12	11.3	2.5	2
3-231-04-16,0	3-239-04-16,0	M4	16	15.3	2.5	2

## M4

3-231-05-08,0	3-239-05-08,0	M5	8	7.2	3	2.5
3-231-05-10,0	3-239-05-10,0	M5	10	9.2	3	2.5
3-231-05-12,0	3-239-05-12,0	M5	12	11.2	3	2.5
3-231-05-16,0	3-239-05-16,0	M5	16	15.2	3	2.5
3-231-05-20,0	3-239-05-20,0	M5	20	19.2	3	2.5
3-231-05-25,0	3-239-05-25,0	M5	25	24.2	3	2.5

## M5

3-231-06-10,8	3-239-06-10,8	M6	10.8	9.6	4	3
3-231-06-12,8	3-239-06-12,8	M6	12.8	11.6	4	3
3-231-06-16,8	3-239-06-16,8	M6	16.8	15.6	4	3
3-231-06-20,8	3-239-06-20,8	M6	20.8	19.6	4	3
3-231-06-25,8	3-239-06-25,8	M6	25.8	24.6	4	3
3-231-06-40,8	3-239-06-40,8	M6	40.8	39.6	4	3
3-231-06-50,8	3-239-06-50,8	M6	50.8	49.6	4	3
3-231-06-60,8	3-239-06-60,8	M6	60.8	59.6	4	3
3-231-06-80,8	3-239-06-80,8	M6	80.8	79.6	4	3

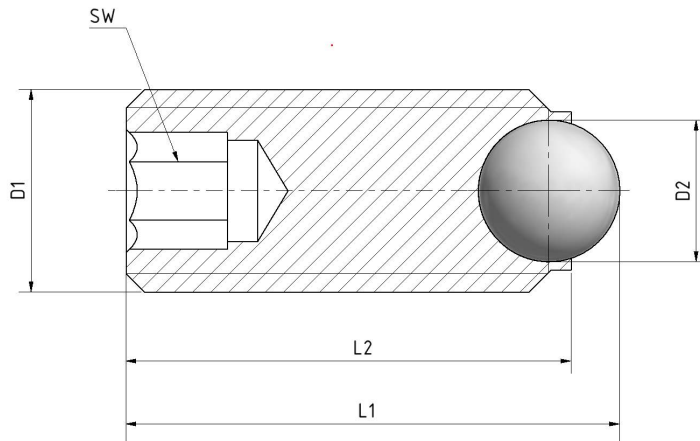
## M6

All data in mm. Standard version ex stock. Other dimensions and materials are also possible on request.  
We reserve the right to make design changes for technical/manufacturing reasons.



## Ball-end thrust screws without head

### Thread size M4 – M24, steel with full ball



Art. No. Ball stainless steel	Art. No. Ball POM	D1	L1	L2	D2 6U <sup>°</sup>	SW
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3-231-08-11,2	3-239-08-11,2	M8	11.2	9.5	5.5	4
3-231-08-13,2	3-239-08-13,2	M8	13.2	11.5	5.5	4
3-231-08-17,2	3-239-08-17,2	M8	17.2	15.5	5.5	4
3-231-08-21,2	3-239-08-21,2	M8	21.2	19.5	5.5	4
3-231-08-26,2	3-239-08-26,2	M8	26.2	24.5	5.5	4
3-231-08-31,2	3-239-08-31,2	M8	31.2	29.5	5.5	4
3-231-08-41,2	3-239-08-41,2	M8	41.2	39.5	5.5	4
3-231-08-51,2	3-239-08-51,2	M8	51.2	49.5	5.5	4
3-231-08-61,2	3-239-08-61,2	M8	61.2	59.5	5.5	4
3-231-08-81,2	3-239-08-81,2	M8	81.2	79.5	5.5	4

## M8

3-231-10-13,7	3-239-10-13,7	M10	13.7	11.4	7	5
3-231-10-17,7	3-239-10-17,7	M10	17.7	15.4	7	5
3-231-10-21,7	3-239-10-21,7	M10	21.7	19.4	7	5
3-231-10-26,7	3-239-10-26,7	M10	26.7	24.4	7	5
3-231-10-36,7	3-239-10-36,7	M10	36.7	34.4	7	5

## M10

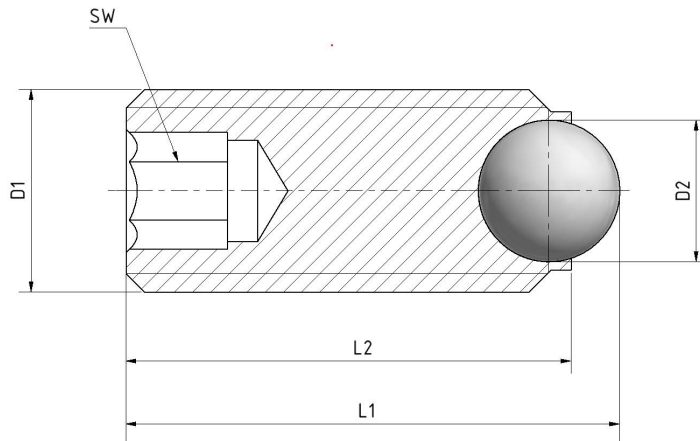
3-231-12-18,0	3-239-12-18,0	M12	18	15.2	8.5	6
3-231-12-22,0	3-239-12-22,0	M12	22	19.2	8.5	6
3-231-12-27,0	3-239-12-27,0	M12	27	24.2	8.5	6
3-231-12-32,0	3-239-12-32,0	M12	32	29.2	8.5	6
3-231-12-34,0	3-239-12-34,0	M12	34	31.2	8.5	6
3-231-12-42,0	3-239-12-42,0	M12	42	39.2	8.5	6

## M12



## Ball-end thrust screws without head

### Thread size M4 – M24, steel with full ball



Art. No. Ball stainless steel	Art. No. Ball POM	D1	L1	L2	D2 6U <sup>100</sup>	SW
3-231-16-23,3	–	M16	23.3	18.3	12	8
3-231-16-28,3	–	M16	28.3	23.8	12	8
3-231-16-38,3	–	M16	38.3	33.8	12	8
3-231-16-53,3	–	M16	53.3	48.8	12	8

M16

3-231-20-34,2	–	M20	34.2	28.4	15	10
3-231-20-44,2	–	M20	44.2	38.4	15	10
3-231-20-64,2	–	M20	64.2	58.4	15	10

M20

3-231-24-39,7	–	M24	39.7	33.4	18	12
3-231-24-54,7	–	M24	54.7	48.4	18	12
3-231-24-84,7	–	M24	84.7	78.4	18	12

M24

All data in mm. Standard version ex stock. Other dimensions and materials are also possible on request.  
We reserve the right to make design changes for technical/manufacturing reasons.

#### Material · Technical data

<b>Housing</b>	Burnished steel, 10.9
<b>Bolt</b>	Hardened stainless steel or POM (Thermoplastic)
<b>Thread lock</b>	On request, based on standards DIN 267-28 / Fasteners with locking coating DIN 267-27 / Fasteners with adhesive and microencapsulated coatings Designation examples: poly-surface, precote, etc.

