

## Technical Data Sheet TI-STB10 SITEMA rod attachment STB

### General Information

#### Purpose

The SITEMA rod attachment STB is used to fix clamping rods to machines or systems. The rod attachment STB is intended for use with SITEMA Clamping Heads.

The mounting flange is designed as a floating bearing and allows an axial play of approx. 0.5 mm and a radial play of 0.5 - 1 mm (depending on design, see "Dimensions of the rod attachment STB", Fig. 3).

#### Scope of delivery

For standard designs of the SITEMA rod attachment STB, the scope of delivery contains:

- mounting flange
- mounting screws
- adjusting nut (precision locknut)
- adjustment aid for adjusting nut

The clamping rod is not included in the scope of delivery and must be procured by the customer.

### Attachment

The different rod attachments STB and connecting dimensions for typical applications are listed in this data sheet.

The mounting elements which take up the load must be dimensioned to a loading of at least 1.3 x admissible axial force FA. A detailed description of function, mounting and performance test of the rod attachment STB can be found in "Assembly Instructions MA-STB10".

For mounting on a steel (e.g. 1.0553 / 1.0570) part, the following guide values are recommended for the tightening torques of the mounting screws:

Thread	Strength class	Tightening torque
M6	10.9	11 Nm
M8	10.9	30 Nm
M10	10.9	55 Nm
M12	10.9	85 Nm
M16	10.9	200 Nm
M20	10.9	400 Nm
M24	10.9	750 Nm
M30	10.9	1400 Nm
M 36	10.9	2600 Nm
M42	10.9	4000 Nm

Table 1: Tightening torque

These specifications do not absolve the machinery manufacturer of its responsibility to check the screw fittings for the specific application in a professional manner.

- i** Only use rods which are compatible with the rod attachment STB as well as with SITEMA clamping heads, see "Dimensions of the clamping rod" on page 3 and technical data sheet of the particular clamping head.

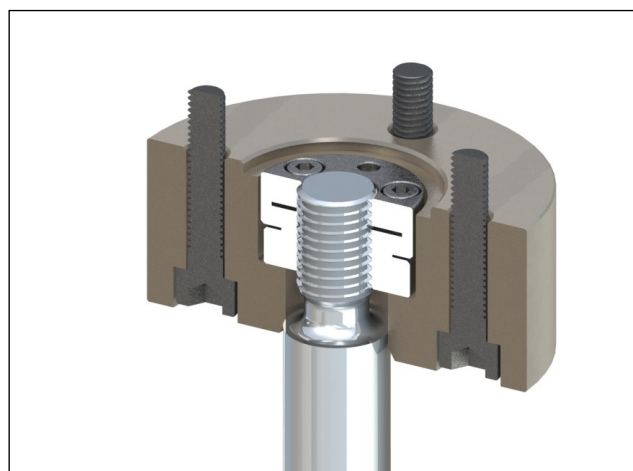


Fig. 1: Rod attachment STB, section view (example design)

### Axial play

For a safe function, the protrusion of the rod must be adjusted exactly, so that the end of the rod protrudes 0.5 mm  $\pm 0.1$  over the adjusting nut.

This results in an axial play of 0.5 mm between rod end and contact surface of the machine part. The safe function is ensured when the rod protrusion over the adjusting nut is respected according to the supplied adjustment aid.

- i** The adjustment aid is included to check the correct setting. The adjusting nut must be adjusted in such a way that the adjustment aid rests on the rod end as well as the adjusting nut without a gap, see Fig. 2.

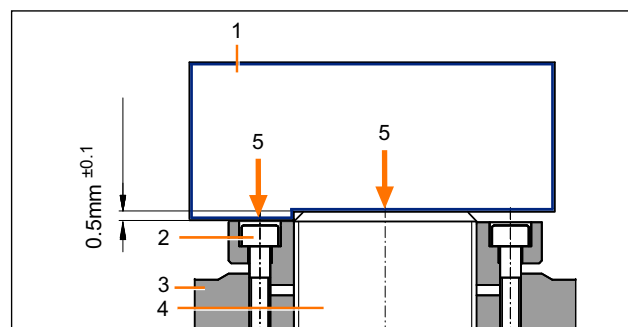


Fig. 2: Adjustment aid, seated

- 1 Adjustment aid (dimensions 70 mm x 30 mm)
- 2 Clamping screw
- 3 Adjusting nut
- 4 Rod
- 5 Adjustment aid, seated without gap

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### Dimensions of the rod attachment STB

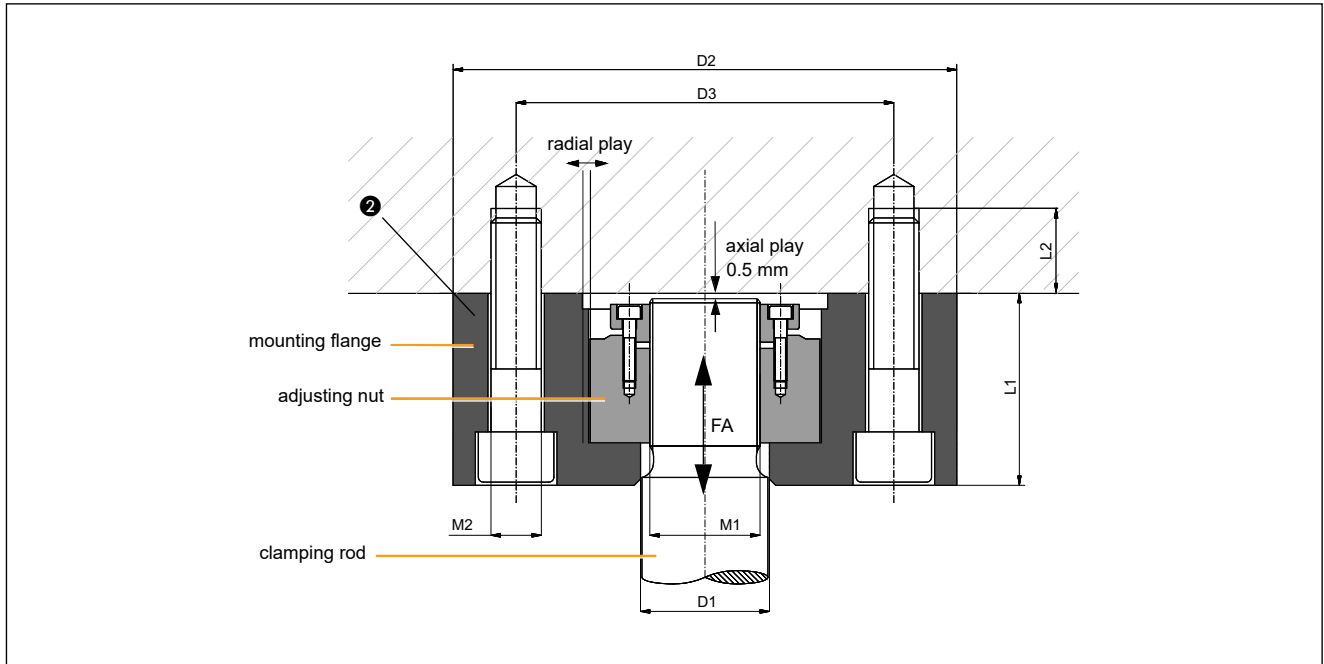


Fig. 3: Dimensions of the rod attachment STB (download CAD files from [www.sitema.com](http://www.sitema.com))

①

Type	ID no. (order no.)	D1 mm	FA kN	M1	Adjusting nut ID no./size	D2 mm	D3 mm	L1 mm	L2 mm	M2	Radial play mm	Weight Kg
STB 16	STB 016 01	16	14	M12x1.5	MSR12x1.5	65	45	27	13	4xM6	0.5	0.6
STB 18	STB 018 01	18	20	M16x1.5	MSR16x1.5	85	60	30	15	6xM6	0.5	1.2
STB 22	STB 022 01	22	45	M20x1.5	MSW 20.28	100	70	42	16	8xM8	0.5	2.3
STB 25	STB 025 01	25	53	M20x1.5	MSW 20.28	100	70	45	18	8xM8	0.5	2.7
STB 28	STB 028 01	28	80	M25x1.5	MSW 25.40	115	90	57	23	8xM10	0.5	4.0
STB 32	STB 032 01	32	110	M30x1.5	MSW 30.44	130	100	60	28	10xM12	0.5	5.6
STB 36	STB 036 01	36	120	M30x1.5	MSW 30.44	130	100	65	28	10xM12	0.5	6.0
STB 40	STB 040 01	40	160	M35x1.5	MSW 35.44	160	120	65	34	8xM16	0.5	9.3
STB 45	STB 045 01	45	180	M40x1.5	MSW 40.44	160	120	75	34	10xM16	0.5	9.7
STB 50	STB 050 01	50	250	M45x1.5	MSW 45.44	175	135	75	40	8xM20	0.5	12.5
STB 56	STB 056 01	56	300	M50x1.5	MSW 50.46	180	140	75	40	8xM20	1.0	13.0
STB 60	STB 060 01	60	320	M55x1.5	MSW 55.46	200	150	75	40	8xM20	1.0	16.2
STB 70	STB 070 01	70	375	M65x1.5	MSW 65.46	200	160	80	40	10xM20	1.0	16.8
STB 80	STB 080 01	80	550	M72x1.5	MSW 72.60	260	200	100	55	10xM24	1.0	36.8
STB 90	STB 090 01	90	700	M85x2.0	MSW 85.60	300	240	110	62	8xM30	1.0	54.0
STB 100	STB 100 01	100	830	M 85x2.0	MSW 85.60	300	240	120	62	10xM30	1.0	57.8

Subject to modification without prior notice

- ① FA is the value for the admissible axial force.
- ② The surface of the housing parts is ZnNi coated.

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### Requirements for the clamping rod

The rod attachment STB must only be stressed with the admissible axial force FA if the clamping rod is correctly designed.

- minimum yield strength of rod material: min. 580 N/mm<sup>2</sup>
- rod thread according to tolerance class at least "medium":  
tolerance field 6g, DIN 13 part 21 ... 25
- surface roughness of thread undercut:  
Rz = 1 to 4 µm (Ra 0,15 - 0.3 µm)

**i** Also observe the requirements for the clamping rod of the particular clamping head.

**i** Make sure the rod will not bend under pressure.

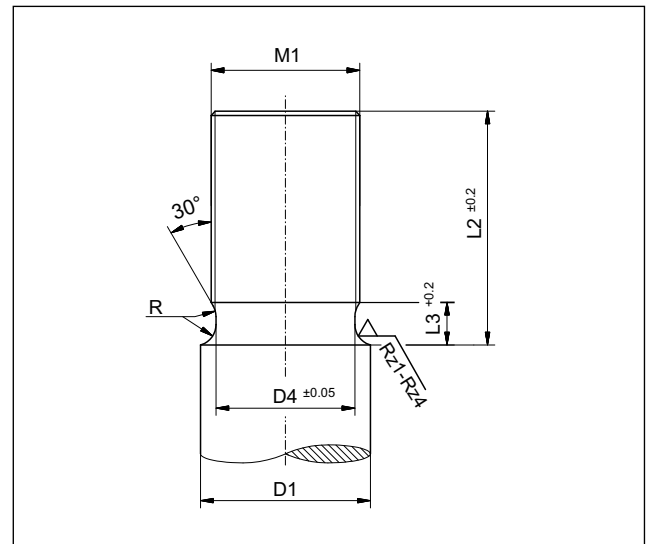


Fig. 4: Dimensions of the clamping rod

Type	D1	D4	M1	FA	L2	L3	R
	mm	mm		kN	mm	mm	mm
STB 16	16	9.7	M12x1.5	14	24	7	2.5
STB 18	18	13.7	M16x1.5	20	28	8	3.5
STB 22	22	17.7	M20x1.5	45	39	9	4
STB 25	25	17.7	M20x1.5	53	42	12	5
STB 28	28	22.7	M25x1.5	80	54	12	5
STB 32	32	27.7	M30x1.5	110	58	12	5
STB 36	36	27.7	M30x1.5	120	61	15	7
STB 40	40	32.7	M35x1.5	160	61	15	7
STB 45	45	37.7	M40x1.5	180	61	15	7
STB 50	50	42.7	M45x1.5	250	61	15	7
STB 56	56	47.7	M50x1.5	300	63	15	7
STB 60	60	52.7	M55x1.5	320	63	15	7
STB 70	70	62.7	M65x1.5	375	63	15	7
STB 80	80	69.7	M72x1.5	550	82	20	8
STB 90	90	82	M85x2.0	700	88	25	10
STB 100	100	82	M85x2.0	830	88	25	10

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