

Mechanical Power clamping screw I Series SC

/// wedge mechanism as force booster /// high clamping forces /// maximum operating safety
/// low tightening torque /// simple manual operation

The power clamping screws of the series SC are equipped with a wedge clamping system as a force amplifier. This innovative system allows highest clamping forces with low tightening torques and simple manual operation. The robust design of all parts, the self-locking function as well as a high overload capability guarantees a maximum operational safety. The clamping screws series SC have various application possibilities, mainly in presses, punches and machine tools, as well as in jigs, fixtures and similar devices.

Function:

The wedge clamping system of the SC clamping screw is self-locking in each clamping position due to its geometry, and offers a clamping stroke of up to 3 mm. This way, dependent on tightening torque, very high clamping forces up to the nominal clamping force can be achieved.

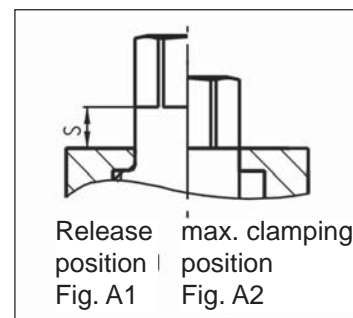
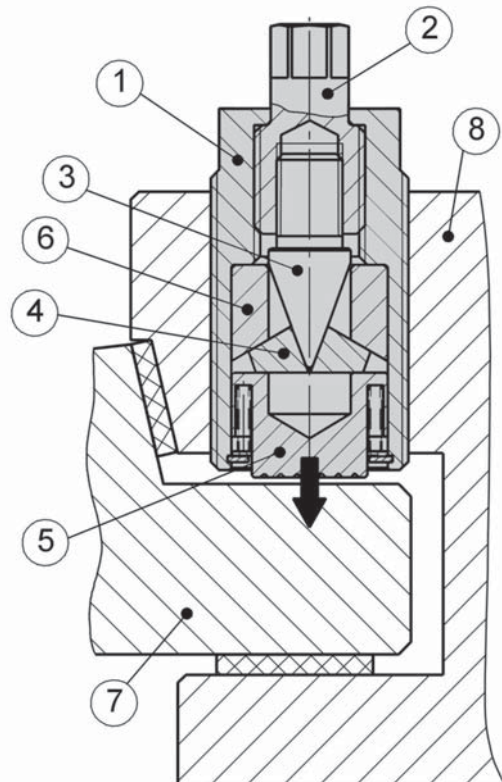
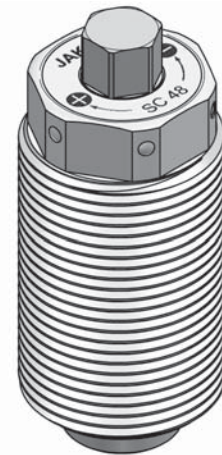
Clamping procedure:

The infeed of the clamping screw down to a solid contact with the part to be clamped (7) is the first step, done by manually turning the housing (1) clockwise. Only then the hexagon of the actuation spindle (2) should be turned clockwise, thus moving the forced-in key (3) in axial direction and pressing the slide gores (4) in radial direction. The latter motion results in the axial stroke of the thrust piece (5) against the part to be clamped (7). The clamping force is lead over the gore bedding (6) through the housing (1) into the yoke of the clamping device (8).

After approximately two turns of the actuation hexagon the travel of the thrust piece will be blocked by an internal positive stop and the torque wrench will disengage although the required clamping force has not been generated; the clamping operation has to be repeated. The clamping travel "s" is indicated as optional clamping motion control. The maximal clamping position is reached when the lower cylindrical portion of the actuation hexagon is even with the top of the housing (Fig. A2).

Release:

The release procedure is carried out in reverse order. By turning the operating hexagon to the left up to the fixed back stop (Fig. A1), the wedge slide moves back and the clamping mechanism is released. Coil springs push the pressure piece and the wedges back into the starting position.



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Technical data and dimensions [mm]: length dimensions according to DIN ISO 2768 mH

SC Size	nominal clamping force [kN]	max. tightening torque [Nm]	max. clamping stroke [mm]	max. static load [kN]	operating path s [mm]	mass approx. [kg]	thread D*	Ø d	L1	L	SW 1	SW 2
36	40	45	1,5	80	5	0,5	M 36 x 3	19	62	73	13	30
48	80	90	2,2	160	7,5	1,1	M 48 x 3	28	75	90	17	41
64	120	120	2,5	240	8,5	2,5	M 64 x 4	39	90	110	19	55
80	160	160	2,5	320	8,5	5,3	M 80 x 4	39	100	160	19	65
100	250	130	3	400	17	12	TR 100 x 6	60	205	230	14**	65

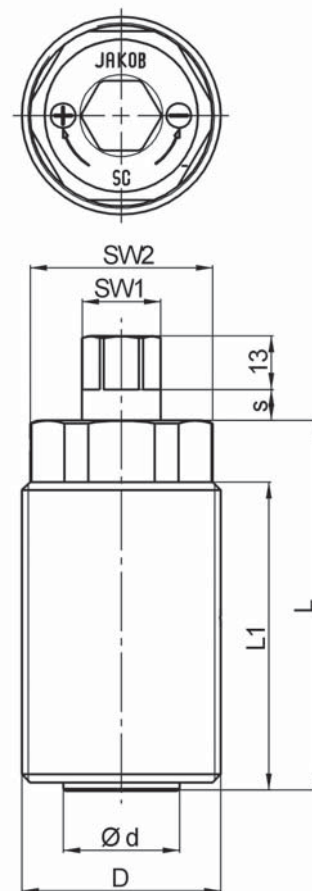
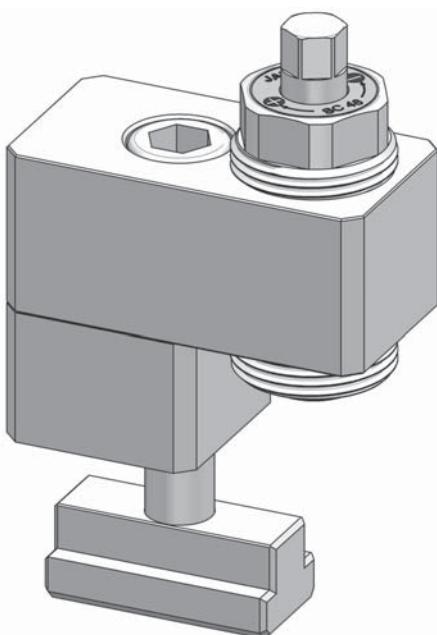
* Further sizes and threads (inch thread) are possible on request

** hexagon socket - operating pin length: s = 17 mm

allowed temperature range: -40°C up to +250°C

Notice:

- ✓ To ensure the required clamping force is achieved, and to protect the internal mechanism from damage, we recommend the use of a torque wrench for applying the actuation torque. With certain preconditions clamping is also acceptable with a standard wrench or socket wrench.
- ✓ The clamping screws are lubricated for life and maintenance free under normal operating conditions. A high temperature version up to 400°C is possible



Application example:

slide in clamp Series MES

- ✓ 3 sizes up to 100 kN clamping force
- ✓ flexible possible application with variable clamping edge/T-groove sizes: 18/22/28/36
- ✓ Technical data on request or rather see homepage: www.jakobantriebstechnik.de