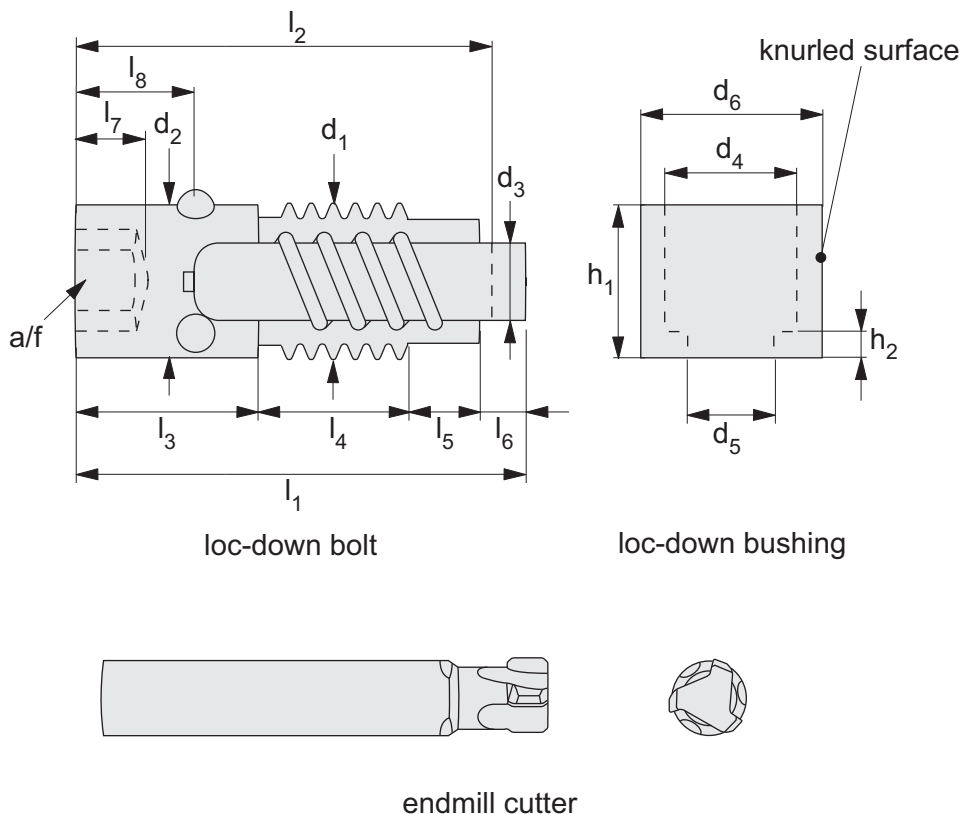
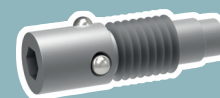


# Mitee-Bite Expanding Loc Down Bolts

for quick component clamping



## SLO900



### Material

Stainless steel, heat treated.

### Technical Notes

\*\* Please note: max. clamping force is typically 0.33kN force for every 1 Nm of torque, and is dependent upon workpiece material.  
 Max torque:  
 with bushing - 20Nm.  
 Alu/brass (w/o bush) 20Nm.  
 Mild steel/ s/s - 27Nm.  
 Metals 45RC 20 Nm.  
 See graph below.

### Tips

Ideal low cost quick component & fixture change, use in conjunction with location pins FP1576 and drill bushes FP2002 for fast and accurate positioning. Provides repeatability to 0.01mm. Time saving solution, removing the need for traditional bolts whilst reducing tooling interference from traditional clamping methods. Ideal for high speed machining of components.

### Important Notes

See installation guidance sheet for correct installation procedure.

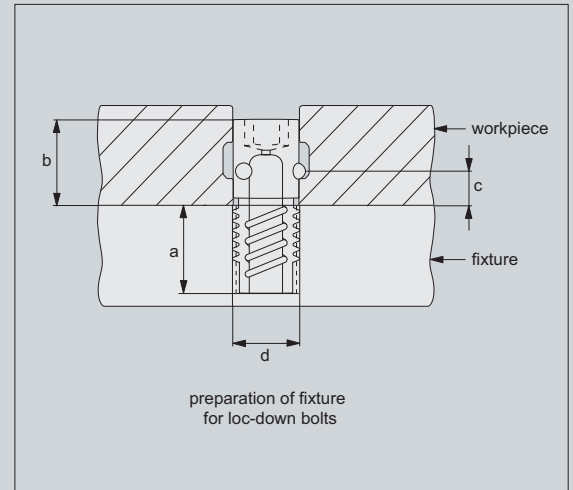
Order No.	Type	Size	$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	$d_6$	Clamp force max. (kN)**	$\frac{\Delta}{g}$
SL0900.11612	Loc-Down Bolt	M12	M12 x 1,75	12,38	7,75	-	-	-	8,9	22
SL0900.11525	Loc-Down Bushing	For M12	-	-	-	15,8	13	19,05	-	6
SL0900.11530	Endmill Cutter	1/2"	-	-	-	-	-	-	-	-
SL0900.11535	Bushing Installation Tool	for M12	-	-	-	-	-	-	-	-

Order No.	$h_2$	$l_1$	$l_2$ compressed	$l_3$	$l_4$	$l_5$	$l_6$	$l_7$	$l_8$
SL0900.11612	27	-	-	40,92	36,64	15,14	14,93	5,76	3,0
SL0900.11525	-	9,6	1,99	-	-	-	-	-	-
SL0900.11530	-	-	-	-	-	-	-	-	-

### Preparation of fixture

1. Drill and tap M12 x 1.75 flat bottom hole to a depth of "a", and countersink 0.8mm x 90°. Thread should be a minimum of 3.8mm from bottom of hole.
2. Note height bolt head will protrude above fixture surface when clamped, dimension "b" - to avoid any tooling interference.
3. Dimension "c" is the height at which loc-down bolt balls will clamp on workpiece. See "Fixture preparation" chart below.

Fixture preparation	
Dimension	mm
a	21.6
b	16.8
c	4.06
d	M12 x 1.75 (18mm deep), CS to 0,8 x 90°
ball dia.	4.75



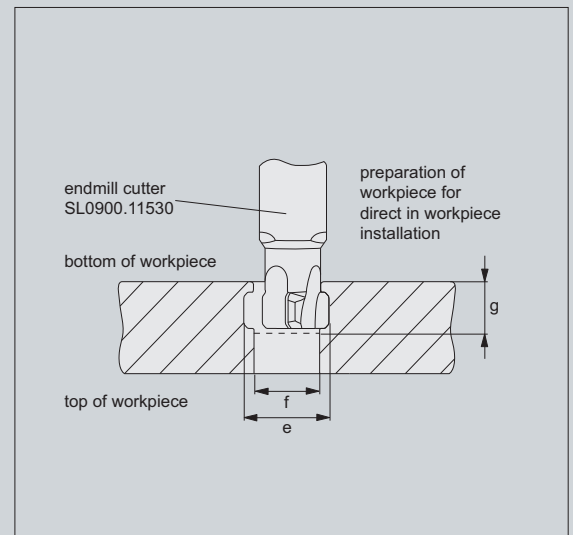
### Preparation of workpiece option 1 - without bushing direct into workpiece

1. Drill 12.7mm through hole, dimension "f".
2. Using endmill cutter, SL0900.11530 (please order separately), generate 15.88mm dia circle. Tip of cutter should be 10.41mm below bottom (i.e. mounting) surface of workpiece. Please refer to table of endmill cutter starting feeds and speeds for different materials.
3. Countersink 0.8mm x 90°. See "direct workpiece without bushing preparation" chart below.

Direct workpiece without bushing	
Dimension	mm
e	15.88
f	12.7 - 13.03, CS to 0.8 x 90°
g	10.41

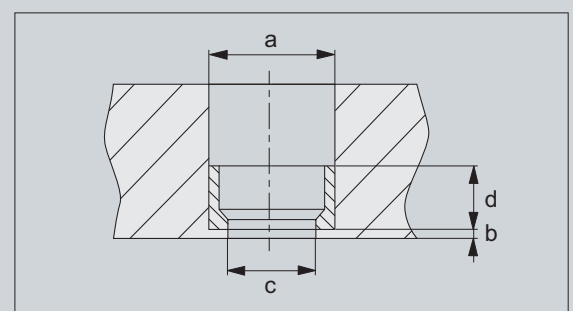
  

Endmill cutter starting feeds and speeds		
Material	Feed	Speed
Aluminium	25 IPM	3,000 rpm/1 radial pass
Hard metals	1 PM	1,200 rpm/3 equal radial passes



### Preparation of workpiece option 2 - with loc-down bushing (especially for soft materials)

1. Drill 12.7mm through workpiece. Deep countersink hole of dia. "a", leaving 1.57/2.39mm of material on bottom (i.e. mounting) surface of workpiece.
2. Install loc-down bushing SL0900.11525 (please order separately), ensuring bottom of bushing is flush with base of countersink hole.
3. On deep holes, consider counter bore for dimension "a" for easier bushing installation.
4. This is a press fit installation, metal is displaced. The OD of the bushing is knurled, to aid in retention, and minimize bushing and part distortion. Using bushing installation tool SL0900.11535 (order separately) provides properly seated bushing installation, without damage to the bushing.
5. Countersink 0.8mm x 90°. See "With loc-down bushing" preparation chart.



With loc-down bushing	
Dimension	mm (min/max)
a	Steel - 19.012/19.037 Alu/Brass - 19.000/19.025
b	1.57/2.39
c	12.70/13.46
d	9.6

### Maximum torque

Maximum torque is dependant upon material type and also conditional on whether the loc-down bolt is installed direct into material (without bushing) or installed with loc-down bushing. (see table)

Maximum torque*	
Material	Nm
With loc-down bushing	20.3
Direct material	Aluminium/brass 20.3 Mild steel/stainless 27.0 Hard metals >45 HRC 20.3

\*Hand tightening is sufficient for majority of applications.