

12010

LOW PROFILE SIDE CLAMPING

Material

Stainless steel (17-4 PH, AISI 630).
Smooth faced jaws (34 HRC), serrated jaws (44 HRC).

Technical Notes

Very low profile, compact design, strong clamping. With smooth or serrated faces. The clamp jaw slides on an angle for positive downhold force - the down force is approx. 25% of the holding force.

The support surface of the clamp is wire-cut to ensure accurate positioning.

Tips

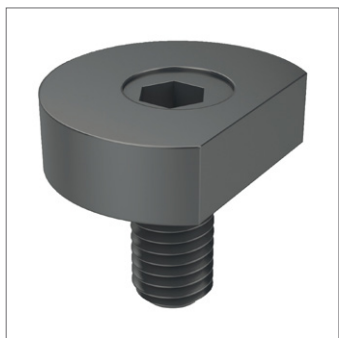
The support surface of the clamp can be installed flush with the fixture plate or raised to allow through drilling. Often used in conjunction with our Talongrips, part no. 12034.

Important Notes

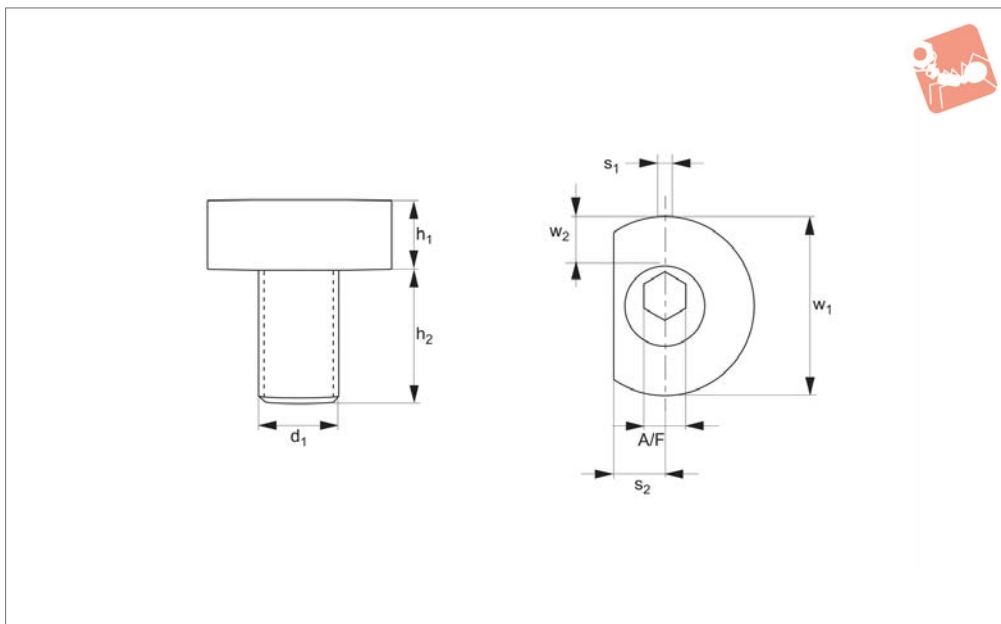
1. Bore installation hole d_1 , with a centre-line at distance l_1 (tol. M8) from edge of workpiece.
2. Drill and tap „ d_2 “ to mount the clamp in the pocket.
3. Machine counterbore „ h_4 “ if recessing the clamp into the fixture.
4. Provide a back stop to locate the part.

Order No.	Jaw type	d_1	d_2	Drive screw d_3	h_1	h_2	h_3 min.	h_3 opt.	h_3 max.	h_4	h_5 +0.1 -0.1	l_1 +0.1 -0.1	l_2	r_1 +0.1 -0.0	Weight g
12010.W0014	Smooth	20	M 5	M 6x12	19.0	4.5	3.3	5.0	6.8	4.5	20	4.9	5.0	25	54
12010.W0018	Serrated	20	M 5	M 6x12	19.0	4.5	3.3	5.0	6.8	4.5	20	4.9	5.0	25	54
12010.W0020	Smooth	25	M 6	M 8x16	24.0	5.0	4.5	6.5	8.3	5.0	25	5.6	6.0	30	100
12010.W0022	Serrated	25	M 6	M 8x16	24.0	5.0	4.5	6.5	8.3	5.0	25	5.6	6.0	30	100
12010.W0024	Smooth	30	M 8	M10x18	29.0	7.0	4.5	7.5	10.8	7.0	30	7.1	7.5	38	159
12010.W0028	Serrated	30	M 8	M10x18	29.0	7.0	4.5	7.5	10.8	7.0	30	7.1	7.5	38	159

Order No.	r_2 +0.1 -0.0	R_3	Stroke s_1	w_1	w_2	w_3	Torque to Nm max.	Key size A/F	Holding force kN
12010.W0014	20	6.0	2.0	24.9	19.9	13.5	10	5	8.8
12010.W0018	20	6.0	2.0	24.9	19.9	13.5	10	5	8.8
12010.W0020	25	6.5	2.2	29.9	24.9	15.0	24	6	11.5
12010.W0022	25	6.5	2.2	29.9	24.9	15.0	24	6	11.5
12010.W0024	30	8.0	3.8	37.9	29.9	20.0	42	8	14.2
12010.W0028	30	8.0	3.8	37.9	29.9	20.0	42	8	14.2



12020



Material

Steel, mild.

Technical Notes

Used to machine and hold irregular or round parts.

Dimension „w₂“ is the amount of machinable stock. Dimension „s₂“ is the distance to drill and tap hole from edge of workpiece to use flat face.

Tips

Suitable for holding flat, round or irregular shaped workpieces, the mild steel washer

can easily be machined to match the profile of a component.

Supplied with cam screws, and one machining screw to hold clamp during machining of clamp face to fit profile of the component.

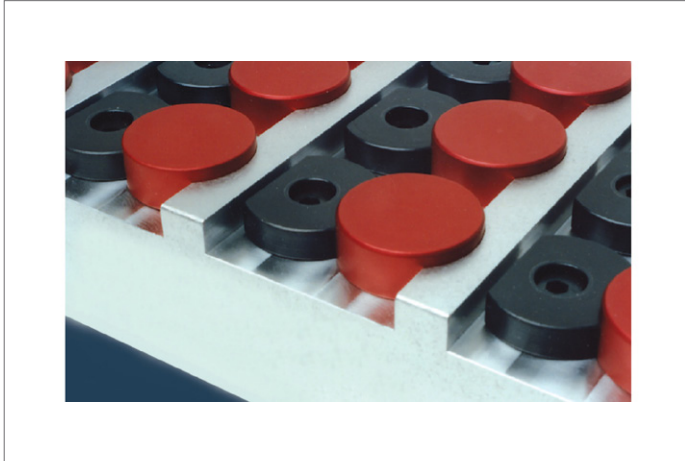
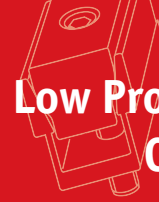
Important Notes

1. Drill and tap hole in required location, refer to dimension „s₂“ if using the clamp flat face.
2. Clear drill 1,5mm deep.
3. Using the special machining screw

supplied (identifiable by NOT having a cam action), insert and tighten the steel washer.

4. Machine the washer to conform with profile of the workpiece.
5. Exchange the machining screw for a cam screw, load the component and clamp with cam screw.
6. CAUTION: Never assume clamp is tight, always check the tightened clamp prior to machining.

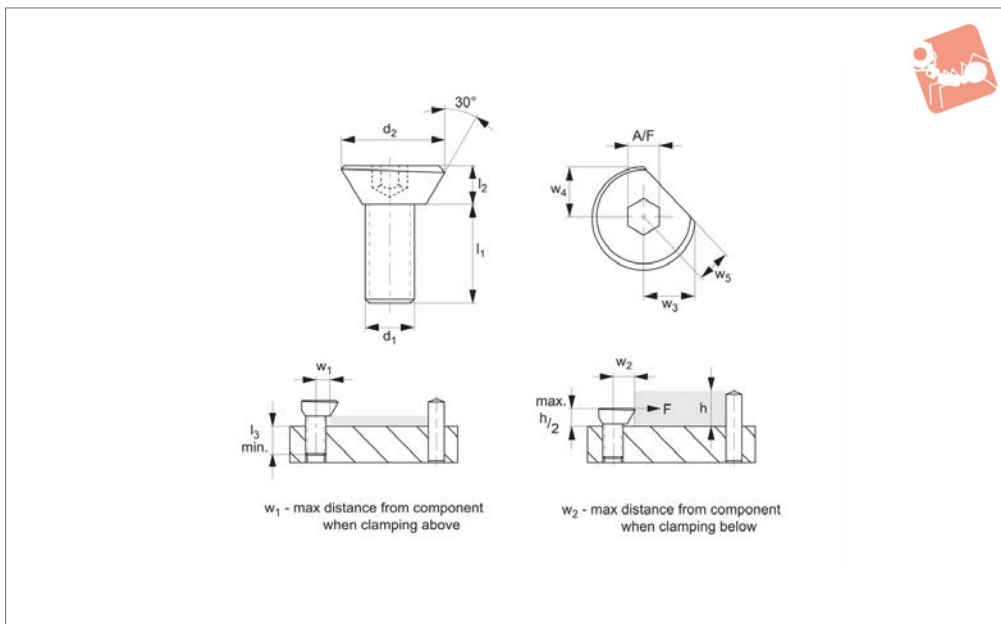
Order No.	d ₁	h ₁	h ₂	Clamping force kN max.	Stroke s ₁	Stroke s ₂	w ₁	w ₂	A/F	Torque to Nm max.	Qty/pack	Weight g
12020.W0006	M 6	6.4	11.9	3.4	1.0	7.8	24.9	6.4	4	8.5	4	100
12020.W0010	M10	8.9	18.0	8.9	1.5	10.2	31.2	7.0	7	28.0	4	236
12020.W0012	M12	11.4	22.9	17.8	2.0	12.7	37.6	7.6	8	88.0	4	435
12020.W0016	M16	14.0	28.6	26.7	2.5	15.0	43.9	8.9	12	135.0	4	748



LOW PROFILE SIDE CLAMPING



12111



Material

Steel, hardened and blue zinc coated.

Technical Notes

Single piece clamping screw. Unique eccentric side profile of the clamp ensures

both downhold and side clamping action.

„ w_1 “ = max. distance from component when clamping above component surface.

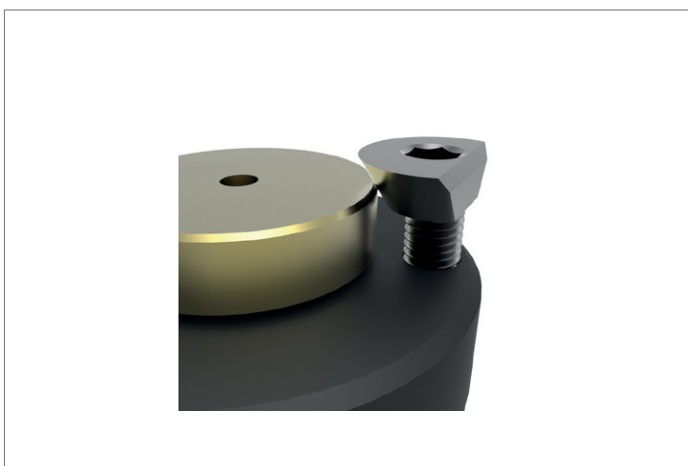
„ w_2 “ = max. distance from component when clamping below component surface.

„ h “ - workpiece height.

„ l_3 “ - min. suggested thread engagement.

Clamping stroke achieved via 120° turn of clamping screw.

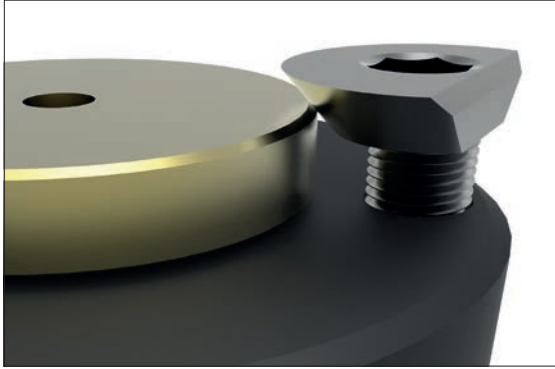
Order No.	d_1	d_2	l_1	l_2	l_3 min.	w_1	$w_2 \pm 0.2$	w_3	w_4	w_5	A/F	Torque to Nm max.	Holding force F kN	Weight g
12111.W0003	M 3	6.7	6	2	3	3.0	3.2	3.5	2.9	2.2	2.0	1.0	0.05	0.57
12111.W0004	M 4	8.7	8	3	4	3.5	4.2	4.6	4.0	3.0	2.5	1.5	0.09	1.43
12111.W0005	M 5	10.9	10	4	5	4.2	5.2	5.7	5.0	3.5	3.0	2.0	0.10	2.84
12111.W0006	M 6	13.5	12	5	6	5.4	6.4	7.1	6.1	4.5	4.0	4.5	0.30	4.95
12111.W0008	M 8	16.9	16	6	8	6.6	8.0	8.9	7.7	5.5	5.0	20.0	2.70	9.10
12111.W0010	M10	20.9	20	7	10	8.3	9.8	11.1	9.4	6.5	6.0	30.0	4.00	17.0
12111.W0012	M12	26.1	24	9	12	10.1	12.0	13.5	11.6	8.0	8.0	44.0	5.40	31.0





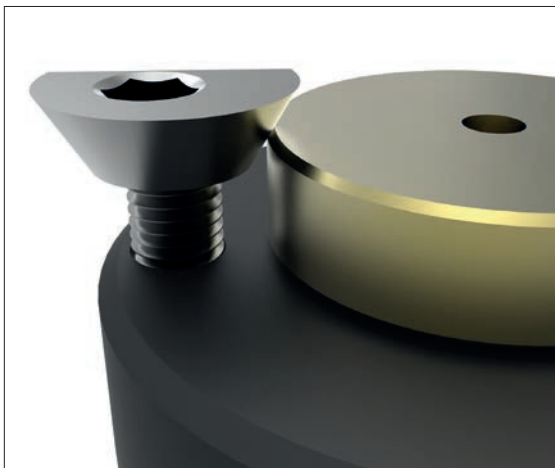
A unique one-piece eccentric pull down clamping screw with compact design is an ideal solution for providing both pull down and side clamping forces in applications where space is limited. Our eccentric Pull Down Clamping Screw, uniquely combines a tapered cone and an offset eccentric thread to provide clamping above or below a component's surface.

Unique Solution

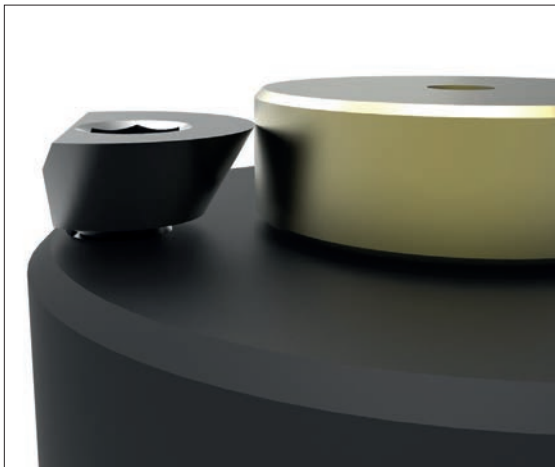


- Durable, stable, compact design.
- Unaffected by swarf ingress.
- Easily actuated.
- Effective pull down and side thrust clamping.
- High clamping force.
- Small installation footprint, ideal for multi-component clamping.
- Low height clamping solution.

Advantages



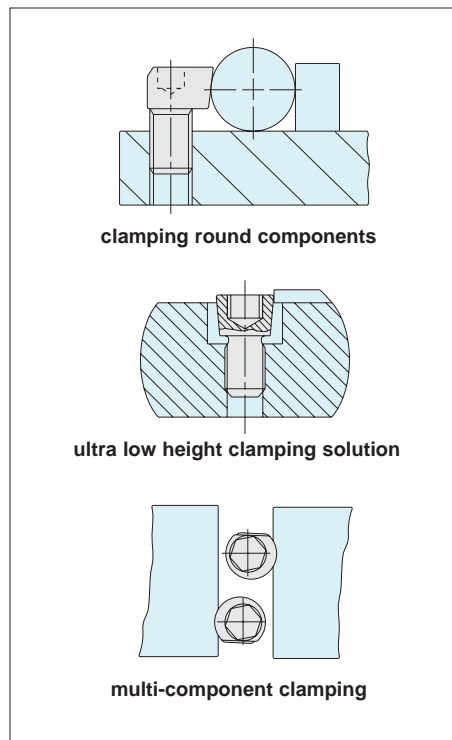
Clamping above component.



Clamping below component surface.

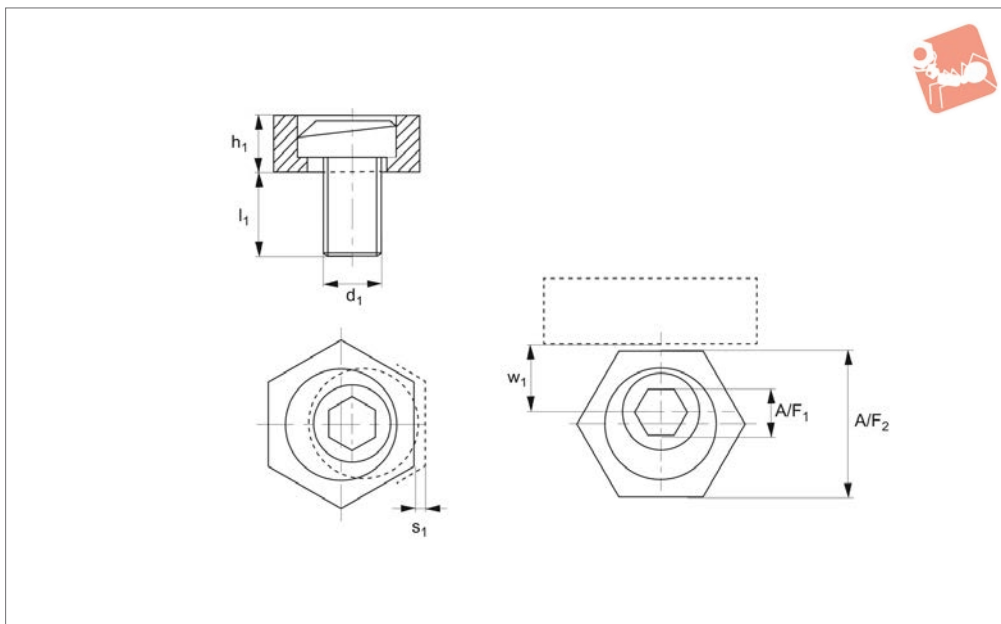
1. Drill and tap hole for required clamp size.
2. Install screw into the hole, and lower to the desired height of the component.
3. Ensure the flat side of the clamp is facing the workpiece - to allow for easy installation of component.
4. Once the clamping screw is installed, insert workpiece/ component.
5. Make a 120° turn of the screw to clamp the component.
6. A simple 120° reverse turn of the screw unclamps the component.

Installation





12112



Material

Hexagonal clamp: brass.
Screw: steel, hardened, strength class 10,9.

Technical Notes

Cam action provides fast, strong clamping.
Small size allows more parts per load.

Workpiece stop is on the right hand side of the clamp.

Tips

Clockwise rotation is recommended. The workpiece stop should be to the right of the clamp. Replacement cam screws are suitable for all clamp parts 12112, 12120,

12020 and 12150. For stainless steel version, see 12113.

Important Notes

w_1 - is the location to drill and tap from the edge of workpiece.

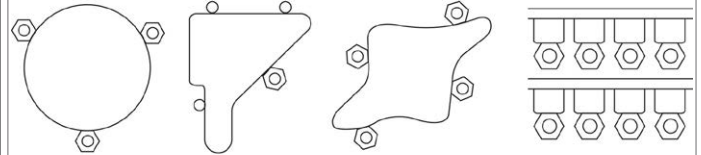
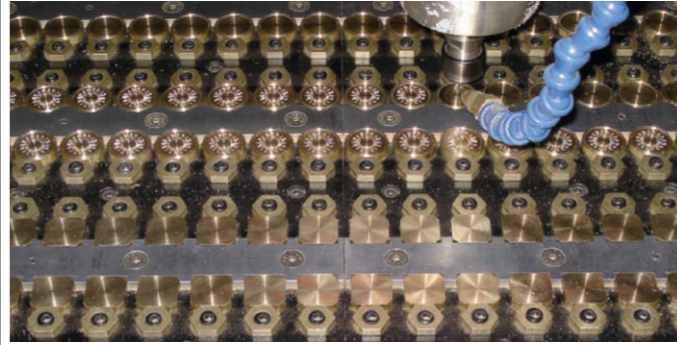
Order No.	Type	d_1	h_1	l_1	Clamping force kN	Stroke s_1	w_1	A/F_1	A/F_2	Torque to Nm max.	Qty/pack	Weight g
12112.W0004	Brass Clamp	M 4x0,7	2.80	9.6	0.9	0.76	3.8	3	7.93	2.5	10	3.0
12112.W0006	Brass Clamp	M 6x1	4.75	11.2	3.5	1.01	7.8	4	15.86	10.0	10	11.0
12112.W0008	Brass Clamp	M 8x1,25	4.55	15.0	3.5	1.01	10.2	5	20.60	18.0	12	18.0
12112.W0010	Brass Clamp	M10x1,5	6.35	19.0	8.8	1.27	10.2	7	20.60	26.0	10	27.0
12112.W0012	Brass Clamp	M12x1,75	9.52	22.8	17.7	2.03	12.7	8	25.38	75.0	8	53.0
12112.W0016	Brass Clamp	M16x2	12.70	28.5	26.6	2.54	15.0	12	30.13	120.0	4	103.0
12112.W0504	Replacement Screw	M 4x0,7	-	-	-	-	-	-	-	-	-	-
12112.W0506	Replacement Screw	M 6x1	-	-	-	-	-	-	-	-	-	-
12112.W0508	Replacement Screw	M 8x1,25	-	-	-	-	-	-	-	-	-	-
12112.W0510	Replacement Screw	M10x1,5	-	-	-	-	-	-	-	-	-	-
12112.W0512	Replacement Screw	M12x1.75	-	-	-	-	-	-	-	-	-	-
12112.W0516	Replacement Screw	M16x2	-	-	-	-	-	-	-	-	-	-



Eccentric Fixture Clamps

low profile

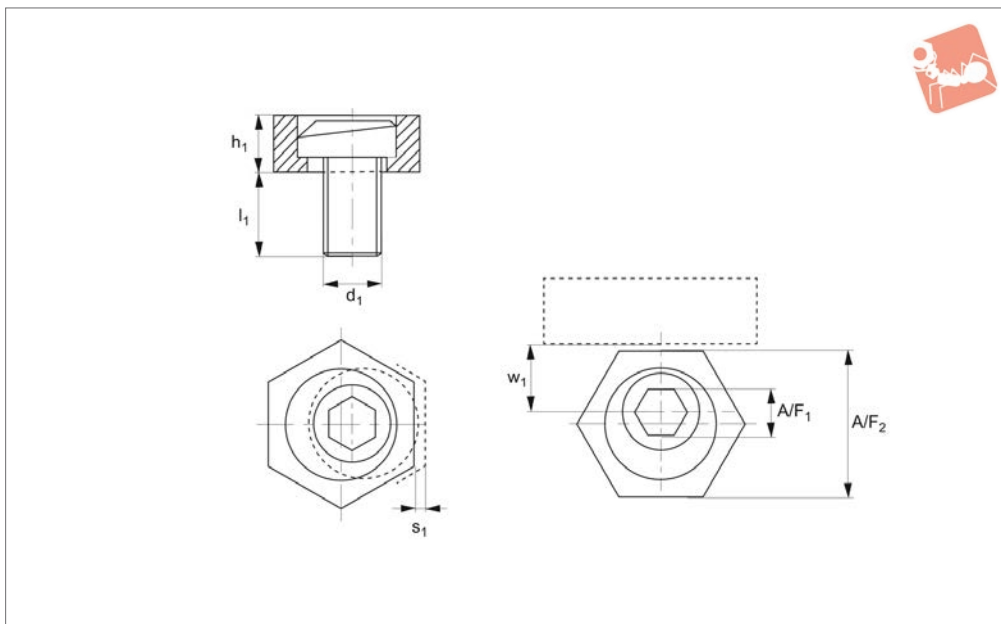
Low Profile Side Clamping



LOW PROFILE SIDE CLAMPING



12113



Material

Hexagonal clamp: stainless steel.
Eccentric clamp screw and washer: stainless steel.

Technical Notes

Clockwise rotation is recommended. Work-

piece stop is on the right hand side of the clamp. For non-stainless steel versions of 12112.

Tips

Compact size and fast, strong clamping allows maximum number of parts to be

clamped.

Important Notes

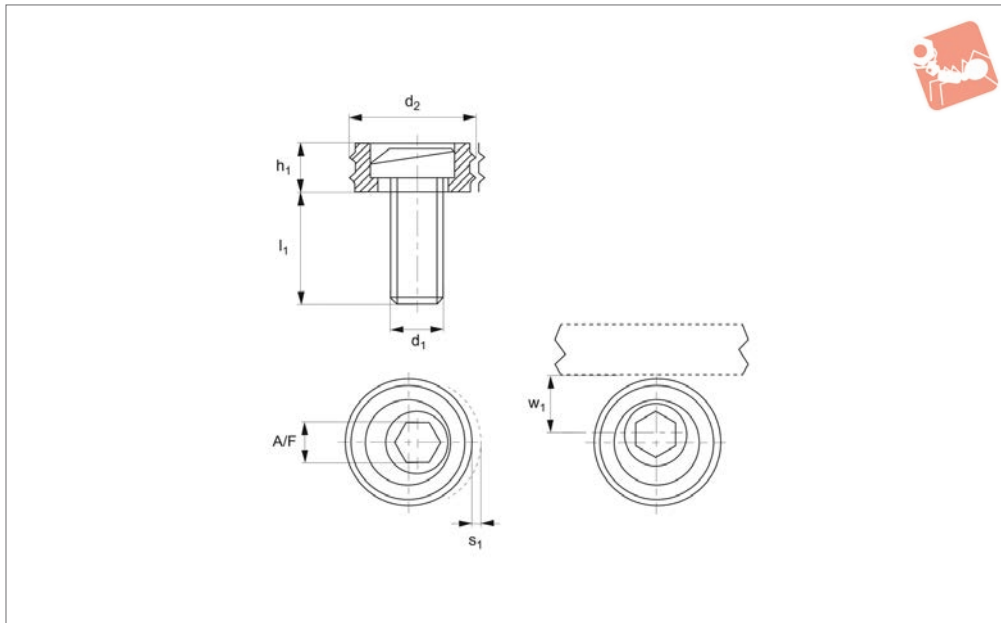
w_1 - is the location to drill and tap from the edge of workpiece.

Order No.	Type	d_1	h_1	l_1	Stroke s_1	w_1	A/F_1	A/F_2	Clamp force kN	Torque to Nm max.	Qty/pack	Weight g
12113.W0525	Stainless Screw	M 4 x 0,7	-	-	-	-	-	-	-	-	4	-
12113.W0205	Stainless Clamp	M 4x0,7	2.80	9.6	0.76	3.80	3	7.93	0.9	2.0	4	3.0
12113.W0206	Stainless Clamp	M 6x1	4.75	11.2	1.01	7.80	4	15.86	3.5	8.5	4	11.0
12113.W0208	Stainless Clamp	M 8x1,25	6.35	15.0	1.01	10.20	5	20.60	3.5	11.3	4	18.0
12113.W0526	Stainless Screw	M 6x1	-	-	-	-	-	-	-	-	4	-
12113.W0528	Stainless Screw	M 8x1,25	-	-	-	-	-	-	-	-	4	-



Eccentric Knife Edge Clamps

Low Profile Side Clamping



12120

LOW PROFILE SIDE CLAMPING

Material

Ribbed face steel, hardened and plated.
Screw steel hardened, strength class 10,9.

Technical Notes

For clamping workpieces with uneven

surfaces, this clamp provides serrations to help the clamp grip the workpiece.

Tips

Clockwise rotation is recommended. The workpiece should be to the right of the

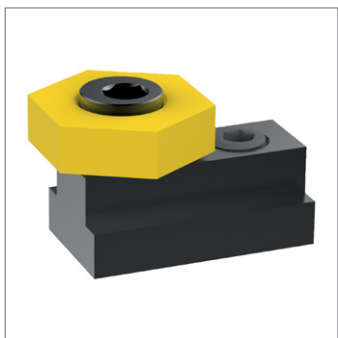
clamp. For replacement cam screws see parts 12112.

Important Notes

w_1 is distance to drill and tap from edge of workpiece.

Order No.	d_1	d_2	h_1	l_1	Clamping force kN	Stroke s_1	w_1	A/F	Torque to Nm max.	Qty/pack	Weight g
12120.W0020	M10x1,5	20.60	6.35	19.0	8.8	1.22	10.2	7	28	8	40
12120.W0025	M12x1,75	25.40	9.52	22.8	17.7	2.03	12.7	8	88	8	45
12120.W0030	M16x2	30.15	12.70	28.5	26.6	2.54	15.0	12	135	4	90





12170



Material

Clamping kits comprising no.12150 clamps.

Please see no. 12150 for dimensions.

Order No.	Slot size	Contents
12170.W0008	8	6 Clamps (12150.W0008), 4 T-nuts, 2 Hex keys
12170.W0010	10	6 Clamps (12150.W0010), 4 T-nuts, 2 Hex keys
12170.W0012	12	6 Clamps (12150.W0012), 4 T-nuts, 2 Hex keys
12170.W0014	14	6 Clamps (12150.W0014), 4 T-nuts, 2 Hex keys
12170.W0016	16	6 Clamps (12150.W0016), 4 T-nuts, 2 Hex keys
12170.W0018	18	6 Clamps (12150.W0018), 4 T-nuts, 2 Hex keys
12170.W0020	20	6 Clamps (12150.W0020), 4 T-nuts, 2 Hex keys
12170.W0022	22	6 Clamps (12150.W0022), 4 T-nuts, 2 Hex keys