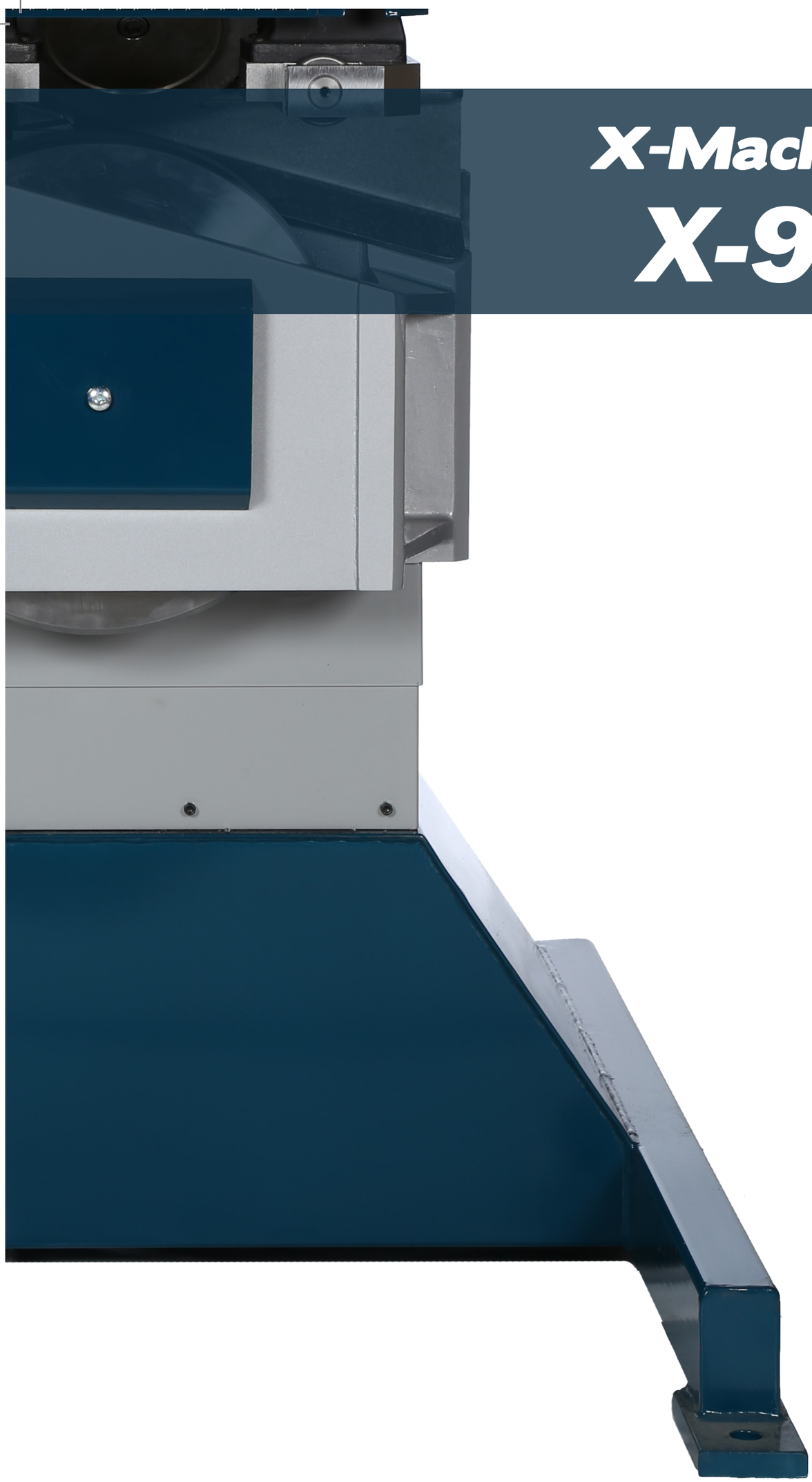

X-Machines
X-97


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BEVELS FOR HIGH QUALITY WELDS

Meeting requirements

The groundwork for high-quality welded joints is carried out at the preparation stage - when the edges of the workpieces are beveled. It is important that the bevel is uniform along the full length of the edges to be welded and this is particularly important when using automatic welding where the volume of the weld is constant. Another important factor is that the beveling must not cause deformation of the pieces to be welded. If they are bent or buckled, it becomes difficult to keep the gap width constant along the whole length of the joint.

If these requirements for dimensional accuracy and freedom from deformation are met, then the conditions are right for making a high-quality weld. Cleanliness of the edges of the work and freedom from chemical action are, of course, also advantageous to the production of good welds. X-97 beveling machines produce a result which meets all these basic requirements.

Effectiveness

A good weld means good economics, and that means doing a good job quickly. The X-97 beveling method is up to five times faster than ordinary gas cutting machines. There is no loss of time in setting-up and starting. And, more than that - the cost is normally less than 25% of the cost of gas cutting.

The low running costs are decisive in the final economics of the job. The X-97 machine requires little physical effort from the operator - it is very easy to set and to operate and requires only basic operator training. Reliable and accurate beveling eliminates scrap. All this adds up to good welding economics.

Everyone who has used the X-97 appreciates its qualities. It gives much better working and environmental conditions when compared with gas cutting or grinding.

No smoke or noise

Noise and sparks are eliminated. The machine works quietly with little noise. The sound emission at full load is maximum 65 dB (A).

Fire hazard and risk of burns by open flame are entirely eliminated, so the operator does normally not require any special protective equipment, such as goggles etc. Nor is he exposed to troublesome smoke and fumes.

Compared with other methods of beveling, the X-97 machine is much less harmful to the working environment. This is important, not only to the operator, but also to the surroundings as a whole. The X-97 beveling method contributes to a reduction of the total noise level in production areas.

HIGH PERFORMANCE WELDS

Capacity

The X-97 beveling machine functions basically in the same way as roller shears, but using only one cutter. The workpiece is fed automatically through the machine. The method can be used for X, V, Y and K-form joints.

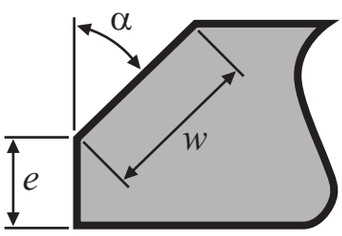
The angle of bevel is infinitely variable from 25° to 55°. The angle can be read easily on a graduated scale and can be set with a high degree of accuracy.

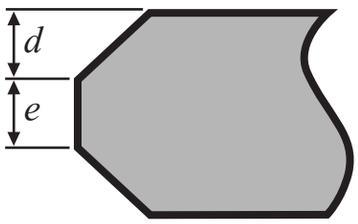
The capacity of the machine covers following:

A: 25 mm bevel in normal mild steel with a tensile strength of 390 N/mm².

B: 13 mm bevel in a material with a tensile strength of 690 N/mm².

The speed of beveling is between 1.5 and 3.1 m/min, depending on the width of the bevel being produced. Since the beveling is carried out without heat, the cut surface is clean and unaffected by chemicals. This makes the X-97 machine suitable for stainless steel and also aluminum.





α = *bevel angle* $\quad$ *d = bevel depth*
e = unbeveled edge $\quad$ *w = bevel width*

The X-97 will show its superiority – both in economy and in handling – especially when working with smaller pieces.

The X-97 beveling method does not require any time for setting. You can feed the workpieces immediately after having started the machine. By means of a special attachment you can also bevel round workpieces down to a diameter of about 450 mm.

Choose the type of cutter to suit your type of work

The standard serrated cutter can be used for most jobs, but the machine can be fitted with coarse serrated or fine serrated cutters as required. Coarser teeth are used for larger bevel widths in heavy material and fine teeth are intended for use in lighter work with smaller bevel widths up to 15 mm. Cutters are made from hardened alloy tool steel.

High performance bevel

1. Maximum bevel is 25 mm and is possible to achieve in plate with a tensile strength of 390 N/mm².
2. Maximum tensile strength to be beveled is 690 N/mm² and gives a bevel of 13 mm.

ACCESSORIES

The X-97 machine adapts itself to the work-piece

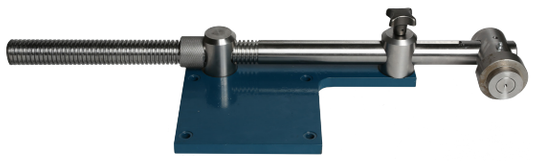
The position of the machine can be adjusted to suit the shape, size and weight of the workpiece. It can stand in a stationary position, or it can be suspended for movement either in ordinary position or upside-down. If the machine is suspended, it can be made to move itself along the workpiece, instead of feeding the workpiece through the machine.

X-machines spray lubrication

Lubrication of the beveling area prolongs the life of the cutting wheel. X-machines has therefore developed a spray lubrication unit that can be fitted on X-97 beveling machines. The lubrication is automatic and is only active when there is material in the machine.

Guide for beveling narrow steel strips

When narrow steel strips and flat bars, or similar material is to be beveled, there is sometimes a tendency for the width of the bevel to increase towards the end. A guide can be provided for use with the X-97 on workpieces with parallel edges.



Beveling circular discs

When fitted with a circular control device the machine can be used for external beveling of circular workpieces, with diameters down to 450 mm. The device consists of a guide roller and adjuster. Settings are made on a graduated scale.

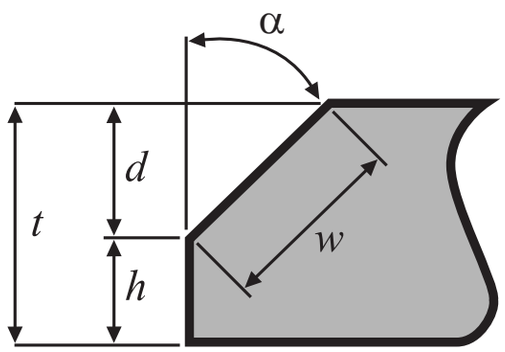
SPECIFICATIONS

Technical data	
	Value
Feeding rate, (depending on bevel width and tensile strength)	1.5 – 3.1 m/min
Beveling angle (α)	25° – 55°
Minimum unbeveled edge (e)	3 mm
Maximum plate thickness	50* mm
Maximum tensile strength to be beveled	690 N/mm²
Overall height	1510 mm
Overall length	1360 mm
Overall width	1110 mm
Motor output	3/4 kW
Sound level at full load	65 dB (A)
Weight	1300 kg

*) In case of very large plates, capacity may be limited by practical scope for handling and feeding material into the machine.

Tensile strength N/mm²								
	< 390		390 – 490		490 – 590		590 – 690	
α	w	d	w	d	w	d	w	d
25	25	22.7	19	17.2	15	13.6	13	11.8
30	25	21.7	19	16.5	15	13.0	13	11.3
35	25	20.5	19	15.6	15	12.3	13	10.7
40	25	19.2	19	14.6	15	11.5	13	10.0
45	25	17.7	19	13.4	15	10.6	13	9.2
50	25	16.1	19	12.2	15	9.6	13	8.4
55	25	14.3	19	10.9	15	8.6	13	7.5

We reserve the right to make alterations to the above specifications without notice.



α = bevel angle d = bevel depth
h = root face w = bevel width

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