

XMS-OSC Mechanical Weld Oscillator Product Specification



Mechanical Weld Oscillators

AMET is pleased to provide the following product introduction on our stand-alone model of mechanical weld oscillators. These mechanical oscillators are designed to move a GMAW (MIG/MAG), FCAW (flux-core arc welding), SAW (Submerged Arc), GTAW (TIG) and PAW (plasma) welding arc back and forth. They accomplish this oscillating motion using a mechanical slide to physically move the welding torch or gun in a weaving motion.

AMET has a distinct advantage over “conventional” mechanical oscillators on the market. AMET uses DSP technology and using this digital technology provides us the ability to completely program the oscillation parameters. Many companies only allow you to program one parameter, such oscillation width, while the rest of the parameters have to be set physically on an analog control panel. The AMET oscillator allows your operator to program and recall all oscillation parameters during welding, which reduces the chance of an incorrect parameter being set on the control. In addition, the XMS-OSC also allows the operator the ability to override all of the parameters from the hand pendant.

Also, AMET uses encoder feedback on its mechanical oscillators. Encoders are an optical device with a long life span. Some companies in the welding industry have to use potentiometer feedback, because they are using an analog control circuit or cannot handle position based motion. A potentiometer is a mechanical device and will wear-out after number of cycles. Downtime and replacement costs are increased.

AMET’S Mechanical Weld Oscillators are currently presented to the market in two models, the X-OSC and XMS-OSC. The X-OSC is designed to mate with AMET XM series of controls. The XMS-OSC is our “Stand-Alone” version, which can be mounted on an existing system and operated independently via a hand pendant. At any time in the future, the XMS-OSC can be integrated with the XM system control.

The XMS-OSC oscillator can be supplied with different slide configurations. The “standard” slide has a 7.25” (180 mm) stroke with a weight capacity of 30 lbs (13.5 kgs) out 6” (150 mm). This is a sealed slide, which is excellent for all arc welding applications. We can provide this slide in strokes from 1.5 to 19.0 inches. (30 to 480 mm) If you need to go heavy-duty, AMET can meet this demand as well. We can supply a slide with strokes of 11.8” to 59” (300 to 1500 mm) with a weight capacity of 135 lbs (60 kgs), out 6” (150 mm). AMET can also supply an extra heavy-duty slide if required.

All of our oscillator slides are ball screw, driven by a Servo motor with encoder feedback, to insure accurate and precise oscillation.

Purpose/ Applications:

The mechanical weld oscillator is designed to provide precisely controlled weaving motion to the weld bead. This type of oscillation motion is typically required for the following welding applications:

1. Overlay and hard surfacing projects
2. “Cap” pass on a multi-pass weld
3. Small oscillation motion to improve sidewall tie-in on “deep” groove welds
4. Fillet welds for fill and sidewall tie-in

Benefits:

The AMET Oscillator is ideally suited for most arc welding applications as a result of the following features and benefits:

- Programmed oscillation parameters. Eliminates risk of operator setting incorrect oscillation parameters.
- Precise motion due to mechanical drive, DC servo drive motor with encoder feedback
- Design and use of high quality components results in less downtime for repairs.
- Able to override each oscillation parameter during welding
- Ability to start from “home” position, index to weld start location, and commence oscillation.
- Various slide configuration selections
- Able to adjust center position during welding

These benefits and advanced features give AMET oscillators an advantage over most of the oscillators in the welding market. These oscillators are designed for more precise welding requirements and to meet your requirements, yet affordably priced.



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XMS-OSC

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Product Specification



XMS-OSC

AMET'S Stand-Alone mechanical weld oscillator uses a single DSP in the control module to monitor, control and change the oscillation as required or requested. The weld oscillator is a true position based control, providing accurate weaving motion.

The XMS-OSC includes the operator remote control hand pendant. This pendant allows the operator to set up, program, control and override the oscillation from a convenient location.

The XMS-OSC consists of an XM control module, loaded with oscillation software, a slide assembly, an interconnection cable between control and slide, a hand pendant with cord and the power cord.

The sealed slide assembly is fitted with servomotor with encoder feedback.



GENERAL SPECIFICATIONS:

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|--------------------------|--------------------------------|
| Oscillation Stroke: | 0 to 2" (50 mm) is standard |
| Oscillation Speed | 0 to 100 IPM (2500 mm/min) |
| Oscillation Start Delay: | 0 to 99.9 seconds |
| Oscillation Stop Delay: | 0 to 99.9 seconds |
| Home Capability: | all models |
| Move to weld position: | available on all models |
| Left Dwell Time: | 0 to 5 seconds, adjustable |
| Right Dwell Time: | 0 to 5 seconds, adjustable |
| Center Position: | adjustable at all times |
| Width Setting: | adjustable during oscillation |
| Speed Setting: | adjustable during oscillation |
| Closed-loop: | via encoder feedback |
| Limit Switches: | Includes Home & Travel extents |

Control Dimensions & Mounting Specs:

XMS-OSC Module: **Please contact AMET for drawing**

XMS-PDNT: **Please contact AMET for drawing on hand pendant**

Slide Specifications:

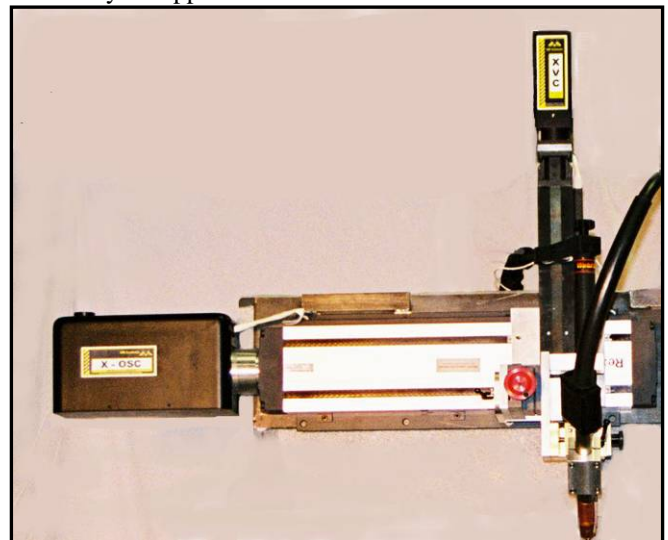
Standard Version (PSK60)

Weight Capacity: 30 lbs (13.5 kg) out 6" (150 mm)
 Max. Slide Speed: 150 IPM (3800 mm/min)
 Strokes Available: 1.5", 3.35", 7.25", 11.2", 15" & 19"
 (35, 85, 180, 280, 380 & 480 mm)

Heavy-Duty Version (CKK-120)

Weight Capacity: 135 lbs (65 kg) out 6" (150 mm)
 Max. Slide Speed: 100 IPM (2540 mm/min)
 Strokes Available: 11.8", 15.75", 23.5", 31.5", 39.35", 47.25" & 59"
 (300, 400, 600, 800, 1000, 1200 & 1500 mm)

Please contact AMET for dimensional information on the above slides. Final dimensions will depend on the stroke you select for your application.



Above photo shows our heavy-duty (CKK 20) slide holding an XVS slide, TIG torch, Hot wire contactor assembly, and brackets.