High-Volume Swaging Unit (HVSU)

Features

The Swagelok® high-volume swaging unit (HVSU) is designed to easily preswage Swagelok nut-ferrule sets onto stainless steel tubing. The pneumatically driven and electronically controlled semiautomatic unit uses sensors to start and stop the process for consistent preswaging results.

- Preswages Swagelok tube fitting ferrules onto tubing prior to assembly
- Reduces assembly and installation time
- Improves process controls
 - Starts automatically when tubing is inserted and properly bottomed
 - Prevents over swaging with stroke-limiting tooling
 - Optional gauge kits for 1/4 in. and 6 mm sizes
- High cycle life
- Easy to switch from one tube fitting size to another—no tools are needed to change sizes
- Cycle counter facilitates preventive maintenance



Tubing

ASTM A269, EN ISO 1127, or equivalent stainless steel tubing as described in Swagelok *Tubing Data*, MS-01-107:

Tu	ube OD in.	Tube Wall in.	Tube OD mm	Tube Wall mm
	1/4 3/8 1/2	0.028 to 0.065 0.035 to 0.083 0.035 to 0.083	6 8 10 12	0.8 to 1.5 1.0 to 1.5 1.0 to 2.0 1.0 to 2.0

Cycle Time

3 seconds (preswage process only)

Electrical

12 V (dc) 3.33 A max via 120 to 240 V (ac) adapter, provided

Air

125 psig (8.6 bar) max filtered, dry compressed air supply

Dimensions

8.3 W by 11.0 H by 26 L in. (21.1 W by 27.9 H by 66.0 L cm)

Weight

70 lb (31.8 kg); 100 lb (45.4 kg) with shipping case



Operation

The nut-ferrule assembly is loaded onto the die and secured with the retainer. Tubing is inserted into the assembly and preswaged automatically.



- Uses Swagelok nut-ferrule sets.
- The tube bottoming sensor ensures proper tube bottoming to start the preswage process.
- The nut bottoming sensor ensures the proper preswage stroke has been reached and stops the process.

For more information about the HVSU, see the *High Volume Swaging Unit (HVSU) User's Manual*, MS-13-223.



Ordering Information

Each HVSU is shipped in a durable case for ease of storage and transport. The case includes space for user's manual, tooling, power supply and power cord.

To order, add a power cord designator to the basic ordering

number: **MS-HVSU-**Example: MS-HVSU-**1**



Included Items

HVSU

■ Power supply: MS-HVSU-PS-12V

■ Shipping case: MS-HVSU-CASE-SHIP

■ Quick-Connect stem, with shutoff: SS-QC6-D-600

■ Hex driver 0.050 in. (1.27 mm): MS-HD-050

■ User's manual: **MS-13-223**

Tooling is sold and shipped separately to enable ordering only the size(s) needed.

Power Cord

Region	Voltage	Plug Type	Designator
Australia, China, New Zealand	230 V 50/60 Hz	AS 3112 😯	8
Continental Europe, Korea	230 V 50/60 Hz	CEE 7/7 •••	7
Japan,	100/115 V 50/60 Hz	NEMA 5-15 (1)	3
Taiwan	200/230 V 50/60 Hz	NEMA L6-20 🔾	4
India	230 V 50/60 Hz	BS 546	9
North	115 V 50/60 Hz	NEMA 5-15 (1)	1
America	230 V 50/60 Hz	NEMA 6-15	2
United	115 V 50/60 Hz	IEC 309 😯	5
Kingdom	230 V 50/60 Hz	BS 1363	6

Tooling

Tool kits are ordered separately according to size.

Each kit contains a puck assembly, a die assembly, and a spacer to match the size of tubing to be used.

Tooling Size	Kit Ordering Number
1/4 in.	MS-HVSU-TLG-KIT-400
3/8 in.	MS-HVSU-TLG-KIT-600
1/2 in.	MS-HVSU-TLG-KIT-810
6 mm	MS-HVSU-TLG-KIT-6M
8 mm	MS-HVSU-TLG-KIT-8M
10 mm	MS-HVSU-TLG-KIT-10M
12 mm	MS-HVSU-TLG-KIT-12M

Replacement Die Assemblies

Die assemblies are consumable and can be reordered individually for replacement as needed.

Die Size	Die Assembly Ordering Number	
1/4 in.	MS-HVSU-TLG-ASM-400	
3/8 in.	MS-HVSU-TLG-ASM-600	
1/2 in.	MS-HVSU-TLG-ASM-810	
6 mm	MS-HVSU-TLG-ASM-6M	
8 mm	MS-HVSU-TLG-ASM-8M	
10 mm	MS-HVSU-TLG-ASM-10M	
12 mm	MS-HVSU-TLG-ASM-12M	

Accessories



For quality-control requirements, an optional gauge kit for 1/4 in. or 6 mm sizes is available to verify ferrule position and preswage stroke.

The kit includes two gauges, gauge masters, gauge stands, carrying case, and user's manual.

Gauge Size	Gauge Kit Ordering Number
1/4 in.	MS-IG-NGTL-400-KIT
6 mm	MS-IG-NGTL-6M-KIT

Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.