

400 SERIES

WELD HEAD MODULES FOR AUTOMATION



Model 400M
Opposed electrode configuration for in-line welding.



Model 408SM
Dual electrode configuration for parallel gap or series welding.

MULTIPLE BENEFITS FOR SYSTEMS INTEGRATION

The 400 Series are resistance weld head modules for miniature and microjoining applications. Designed for integration into automated assembly systems, two models are available: the **400M** for opposed welding and the **408SM** for parallel gap or series welding. Both models are constructed of high durability components for consistent, trouble-free operation. Their compact size benefits integration by minimizing space requirements while maximizing system design flexibility.

Durable	Exceeds 50 million cycles in harsh environmental tests
Compact	Requires minimal space for integration
Repeatable Triggering	Non-contact, opto-coupled firing switch for consistent triggering
Minimize Downtime	Mount, set, and lock electrodes in seconds with quick-change holder
Flexible Tooling	Universal electrode holder accommodates 0.125 in., 0.250 in., 3.00 mm, 6.00 mm electrodes
Easy Mounting	Pre-tapped metric and inch holes require no additional machining for mounting

OPERATING FEATURES FOR PRECISION METALS JOINING

The 400 Series has a stroke of 0.2 inches (5 mm), ideal for automated welding of small and miniature parts. Its nominal stroke can be extended when integrated into an assembly system as defined by the driver.

The 400 Series has two weld force ranges, easily re-configured in less than sixty seconds via change of a spring. Weld force setting and adjustment are tool-free: the operator releases the anti-rotation adjustment system lock and rotates the knob to the desired setting (see picture at left).

Triggering is enabled with a built-in force firing switch. Upon reaching the programmed force, the switch triggers the power supply to output current. This force dependent control assures consistent and repeatable welds. For complete specifications see the reverse side or contact Unitek Peco.

Unitek Peco is the leading supplier of products and technical expertise for precision resistance welding applications. In addition to the 400 Series, Unitek Peco manufactures power supplies, monitors, and weld heads. The company provides applications engineering and product integration support. Contact our Applications Development Lab for details.



Tool-Free Weld Force Adjustment



Quick Change Electrode Holder

Precision Welding
Applications for High
Speed Automation



Unitek Peco has developed thousands of successful applications. Contact our Applications Development Lab for assistance.

RESISTANCE WELD HEAD MODULE DESIGNED FOR AUTOMATION

MECHANICAL AND ELECTRICAL SPECIFICATIONS: 400M & 408SM

Weld Force Range, Low Force Spring (Assembled in head)	2.0 to 12.0 lbs (9 to 53 N)
Weld Force Range, Mid Force Spring (Supplied as accessory)	3.0 to 16.0 lbs (13 to 71 N)
Differential Weld Force, Low Force Spring (408SM only)	1.0 lbs (4.5 N)
Differential Weld Force, High Force Spring (408SM only)	1.4 lbs (6.2 N)
Weld Force Repeatability	10%
Weld Force Degradation from Spring Fatigue	<5%
Moving Mass during weld, no electrodes	0.31 lbs (0.14 kg)
Minimum Follow-up Acceleration @ 2.0 lbs (9 N)	6.0 g
Maximum Weld Current Duty Cycle @ 2400 amps	1.25%
Maximum Electrode Holder Operating Temperature	100°C
Maximum Ambient Temperature	40°C
Electrode Stroke	0.2 in (5 mm)
Electrode Shank Diameters	3 mm, 0.125 in, 6 mm, 0.25 in
Electrode Gap Adjustment Range (408SM only)	0.02 in to 0.59 in (0.5 to 15.0 mm)
Minimum Tested Operating Life at a Max Moment Load of 19.5 in-lbs (220 cm - N)	50 Million Cycles
Opto Firing Switch Input	5-24 VDC, 35 mA Max
Opto Firing Switch Output (Open Collector)	5-24 VDC, 40 mA Max
Minimum Stroke Required to Trigger Opto Firing Switch	0.10 in (2.5 mm)

Physical Characteristics	400M	408SM
Height	8.5 in (21.6 cm)	8.5 in (21.6 cm)
Width	1.56 in (4.0 cm)	2.59 in (6.6 cm)
Depth	2.93 in (7.4 cm)	3.62 in (9.2 cm)
Throat Depth	1.45 in (3.7 cm)	2.00 in (5.0 cm)
Weight	1.71 lbs (0.8 kg)	2.62 lbs (1.2 kg)

ORDERING INFORMATION

MODEL	DESCRIPTION	INCLUDES
400M	Single, opposed weld head module, with low force spring	"Ship Kit": Metric hex key set, SAE hex key set, electrodes, mid-force spring, electrode insertion stop collars, head module mounting screws and washer set, 73 in. (1.85 M) opto-firing switch cable and RJ 11 phone jack and box, manual
408SM	Dual, parallel gap/series weld head module, with low force spring	"Ship Kit": Metric hex key set, electrodes, mid-force springs, head module mounting screws and washer set, 73 in. (1.85 M) opto-firing switch cable and RJ 11 phone jack and box, manual

Your Local Representative



Yaylagül Sk. 8/4, A.Ayrancı 06540 ANKARA - TÜRKİYE
Tel: +90 (312) 468 8114 Faks: +90 (312) 468 8115
<http://www.esenel.com> eposta@esenel.com

Specifications subject to change without notice.

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Corporate Office: 1820 S. Myrtle Ave. • P.O. Box 5033 • Monrovia, CA 91017-7133 USA
Tel: (626) 303-5676 • FAX: (626) 358-8048 • E-Mail: info@unitekmiyachi.com
Internet <http://www.unitekmiyachi.com>

EASTERN (USA) Sales Office:
21 Cummings Park, Suite 252
Woburn, MA 01801
Tel: (781) 935-3191
FAX: (781) 932-4633
E-Mail: eastsales@unitekmiyachilasers.com

ASIA Sales Office:
Unit D, 20/F, Infotech Centre
21 Hung To Road
Kwun Tong, Hong Kong
Tel: +852 2833-6998
FAX: +852 2833-6672
E-Mail: asiapacific@unitekmiyachi.com

EUROPEAN HEADQUARTERS
UNITEK EAPRO:
Schoolense Dreef 21
NL-5708 HZ Helmond
The Netherlands
Tel: +31 492-54-22-25
FAX: +31 492-53-62-22
E-Mail: info@unitekeapro.com

ISO 9001 Certified Company