



ADVANCED MANUFACTURING ENGINEERING TECHNOLOGIES

ADVANCED TECHNOLOGY FOR WIND TOWER MANUFACTURING EXCELLENCE

AMET HAS BEEN PROVIDING WELDING AUTOMATION SOLUTIONS FOR 20 YEARS. OUR XM CONTROLLER BASED WIND TOWER SOLUTION PROVIDES A COMPLETELY INTEGRATED "ARC LINK" DIGITAL CONTROL INTERFACE FOR MULTIPLE HEAD SUBARC AND GMA APPLICATIONS. THE LASER TRACKING, PROGRAMMABLE ALIGNMENT CORRECTION, AND AUTOMATIC MULTI-PASS POWER WAVE MODE CONTROL IS SPECIFICALLY FOR WIND TOWER ASSEMBLY. THIS AMET / LINCOLN COMBINATION PROVIDES THE ULTIMATE IN HIGH PRODUCTION AND HIGH QUALITY.



ADVANCED TANDEM SUBARC SYSTEMS FOR
INTERNAL / EXTERNAL CIRCUMFERENTIAL OR
LONGITUDINAL WELDS

XM Controls



AMET'S XM LINE OF CONTROL PRODUCTS
PROVIDES ENHANCED CAPABILITIES FOR
AUTOMATIC MULTI-PASS, MULTI-PROCESS,
MULTIPLE HEAD SUBARC AND GMA APPLICATIONS.

THE XM ADVANTAGE

- EASILY PROGRAM AND CONTROL ALL WELDING PARAMETERS FOR ANY NUMBER OF LINCOLN POWERWAVES, AS WELL AS TRAVEL SPEED, HEAD POSITION, OSCILLATION, ETC FOR MULTIPLE PASSES FROM A SINGLE CONTROLLER.
- AMET / LINCOLN ARCLINK INTERFACE PROVIDES "ON-THE-FLY" MODE SWITCHING FOR EACH POWER SUPPLY (ie. DC ROOT TO AC FILL) FOR CONTINUOUS ROOT-TO-CAP WELDING.
- DIGITAL INTEGRATION WITH META'S LASER SENSOR SYSTEMS PROVIDES REAL-TIME JOINT TRACKING, SIDEWALL OFFSET BEAD PLANNING, ROOT-GAP COMPENSATION, AND ADAPTIVE FILL.
- OPTIONAL DATA ACQUISITION AND ETHERNET COMMUNICATION FOR SYSTEM STATUS.



AMET

ADVANCED MANUFACTURING ENGINEERING TECHNOLOGIES

AMET AUTOMATED WELDING SYSTEMS

TURN-KEY SYSTEMS • PRECISION MANIPULATORS UP TO 7MX7M • TURNING ROLLS UP TO 100 TON
PRECISION 2 OR 3 AXIS HEAD POSITION CONTROL • MULTIPLE HEADS WITH MULTIPLE TORCHES •



XM / LINCOLN ARCLINK COMMUNICATIONS



AMET ADVANCED WELDING SYSTEMS

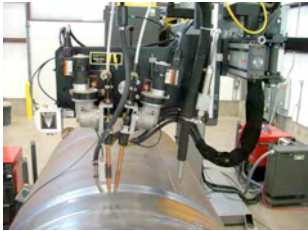


XM / Power Wave Tandem Wire Column and Boom Manipulator SAW System for Wind Tower Fabrication

Component Listing and Specifications

Part Illustration	Description
XMC-2 	XM Weld Control System A single, integrated controller for all part & torch motion and sensor input. Single control for both Power Wave power supplies, no need for PF 10A controllers. Direct interface with Lincoln's ArcLink allows Power Wave modes and output to be programmed as function of time or position (enables full root to cap pass in one program). Control of all modes and parameters on the Power Wave power supplies. Operator Interface / Remote Pendant specifically for submerged arc welding. Lightweight and ergonomically designed for handheld or stand-mounted use. Full color, 6.4 inch backlit LCD for displaying weld program values, numerically and graphically. Practical "select & dial" interface for operation and programming (No NC code or programming language required). Convenient program / data storage and transfer using USB drive or optional built-in Ethernet connection. 4 rotary incremental adjustment knobs for "hands-on" parameter overrides and program value entry. Built-in program storage for hundreds of operator programs, select and load from menu or optional bar code. 4 joysticks for control of column & boom, torch height, cross-seam and turning roll position. Dedicated buttons for commonly used functions such as wire jog, flux feed, etc. Easy to read, large display of actual values as well as program setpoint and any override setting during welding. Emergency stop is integrated with all system components. Optional data acquisition for process monitoring and verification, displays programmed tolerance and actual value. Further details can be found in attached XM Brochure. This quotation for a system configured for circumferential welding, which includes XM Rotary Module and turning rolls integration.
CBMH-6X4 	Heavy Duty 6mX4m (19.5'X13') Column and Boom Manipulator Configured For Circumferential Welding Only Column 6m (19.5') – AC motor drive with variable speed and chain lift Boom 4m (13') – Programmable AC servo motor drive with encoder feedback . Boom weight capacity is equal to or exceeds 300kg (660 lbs) at full extension (dependant on manipulator size). Stationary base with Kingpin manual rotation. CBM boom motion controlled by joystick on the XM control pendant High speed jog/move available. Column and Boom are machined and fitted with precision linear rails Boom is heat treated, stress relieved box beam structure for superior rigidity, accuracy and repeatability. Boom droop is no more than 2 mm/meter (.020 inch/foot) at full load Flexible cable track is included for both column and boom cable handling Further details can be found in attached Manipulator Data Sheets.

XM Tandem Wire SAW System with Column and Boom Manipulator

Weld Head 	Welding Head Assembly Heavy duty SAW weld head frame. Isolated mounting for 2 Lincoln Power Feed 10 SF Sub Arc Wire Feeders with programmable wire speed (two 60 lb spools standard, with options for bulk wire delivery). Wire straightener mounted at the wire feeder. Torch spacing and Lead/lag angle is manually adjustable. Torch contact tips upgraded to run at full current rating Articulated bracket for flux delivery nozzle, pneumatic retract for flux recovery nozzle Precision Industrial, heavy duty, sealed recirculating ball-screw slides (2) for precise. position and velocity control of torch motion.
AVS-3 	SAW Camera System with Video Tripod Mount Camera mounting brackets integrated into weld head assembly. 15" flat screen color monitor. Remote camera controller (zoom and focus adjustment) integrated into monitor/tripod mount or operator console. Integrated Laser pointer to assist in torch placement Air-cooled camera body with set-up lighting.
X-TRACKER-M	Tactile Seam Tracker Integration of seam tracking probe and mechanical assembly with XM Controller. Enables both cross seam and torch height slide control to maintain path/direction and height to part offset. Automatic horizontal adjustment can be turned off during the weld, at which point the operator may manually steer the cross seam adjustment using a joy stick. The tactile seam tracker will still maintain height control when automatic horizontal control is disabled.
HPFDR-7.5 	AMET Flux Delivery and Recovery System Flux handling for integrated delivery and recovery operation and control at XM Controller. 7-1/2 hp vacuum flux recovery unit with dust separator. Heated Pressure Feed and Flux Recovery Tanks. Flux Hopper with flux flow control valve and Flux recovery nozzle at weld head. Bulk flux fill point at ground level, includes low flux level indication. Mounting brackets, flux hose, vacuum hose, etc.
Weld Gear 	Power Supplies Two Lincoln Power Wave AC/DC 1000 power supplies. Rated output of 1000 amp, 44 Volt at 100% duty cycle. Remote process quality monitoring through XM Controller and ArcLink communication. System Interfaces with both power supplies for programming, monitoring and control Eliminate downtime with easy polarity switching – no hardware reconfiguration required. Polarity can be programmed and changed within a single XM program. Stable and independent arc controls for multiple arc applications. Each arc can be accessed and programmed independently. AMET 2000 amp rotary ground – Rated for 2000 amps at 100% duty cycle. All necessary welding and interconnect cables. Further details can be found in attached Power Wave Brochure
MISC	Complete documentation package including: - 2 sets of system manuals (English), 2 sets of system drawings (English), - 1 digital copy of documentation package. On site start up assistance and training – 5 days at customers facility (includes travel time)

System Total, Including Installation

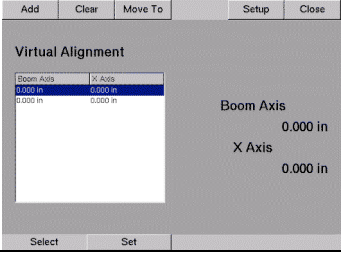
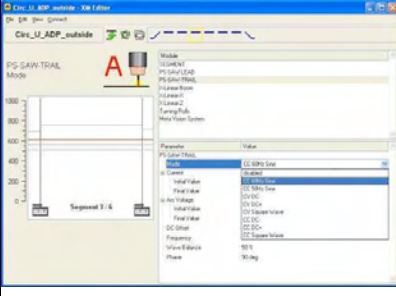
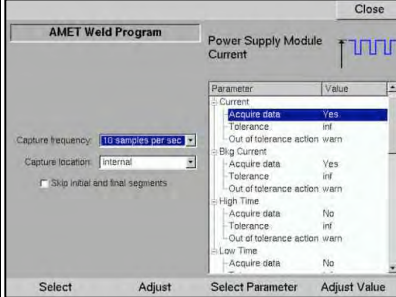
US\$276,900

XM Tandem Wire SAW System with Column and Boom Manipulator

Optional Items and Pricing

Manipulator Upgrades 	<u>Upgrades to Quoted 6m x 4m Manipulator</u> Upgrade to 6x5 Manipulator US\$ 4,500 6X5 Manipulator increases boom extension to 4655mm from the edge of the travel cart. Upgrade to 6x6 Manipulator US\$ 9,000 6X6 Manipulator increases boom extension to 5655mm from the edge of the travel cart. Upgrade to 7X7 Manipulator US\$ 15,300 7x7 Manipulator increases Boom extension to 6655mm from the edge of the travel cart. <u>Travel Control Upgrades</u> Modification to Programmable Servo Controlled Boom Travel US\$ 2,100 For Longitudinal Welding Only Provide programmable precision position and velocity control for longitudinal application. Upgrade to precision boom gear drive with XM drive motion module control. Install boom home and travel limit switches and other necessary integration. Modification for Both Longitudinal and Circumferential Welding US\$ 6,500 Pivot for linear or circumferential welding, ground shaft and ball bearing pivot. Provide programmable precision position and velocity control for longitudinal application. Upgrade to precision boom gear drive with XM drive motion module control. Install boom home and travel limit switches and other necessary integration. Provides additional XM drive motion module <u>Add Travel Car</u> Powered Travel Car US\$ 11,900 AC motor drive and simple hand pendant control Includes manual crank for column rotation Constant travel speed of 1.5 meters (4.9') per minute Provides mounting area for weld gear and flux equipment Note: Rail is not included in quotation
X-VERT-TRACKER 	US\$ 15,900 Laser Height Tracker XM-Module configured to control XM-HS100 Sensor. Sensor produces laser strip approximately 1/2" wide and precedes the welding arc. Sensor and module create correction signal which is passed along to vertical slide control which reacts to maintain preset height XM-HS100 height sensor maintains preset height to within .020" (0.5 mm) for consistent electrode stickout.

XM Tandem Wire SAW System with Column and Boom Manipulator

META Laser Tracking System 	META Vista Weld Platform Tracking System For XM Controller US\$ 47,125 Seamless integration with XM control system, META tracking system programmed and controlled through the XM Controller. Provides a single control interface for positioning head with respect to joint travel and maintaining height offset. Multi-pass control by offset. META Laser Scanner assembly tracks grooves up to 2" deep. Recognizes U-joint, V-joint and butt- joints. Includes Video Operator Console Upgrade Integration of SAW camera monitor and Meta Laser seam tracker into one operator console. Provisions for lead and trail sub arc filler wire jog. Switching for flux recovery, flux gate, and digital flux scale display.
XMC-VIRT_ALIGN 	Virtual Alignment for Longitudinal Weld US\$ 4,500 Because the XM has complete integrated control of all motion axes, the controller can be used to set a linear path with two or more operator defined points. During the weld the XM Controller will automatically compensate for misalignment between the weld boom and the weld joint by changing the weld head cross-seam position relative to boom position. This basically allows the torch to be maintained above the centerline of the weld joint, even if the weld joint is not parallel to the manipulator beam.
XMC-OLP 	XM Program Storage & Offline Programming Software - Single Terminal License US\$ 2,500 - Site license for up to 6 systems US\$ 6,000 - Site license for up to 15 systems US\$ 12,000 Offline programming capability allows weld program entry while equipment is still in production. Create, Modify, and Store weld programs on a PC terminal (Supplied by Customer). USB Flash Drive transport of weld program files from PC to XM Controller. Provides the ability to back-up all weld programs from the XM Controller to a PC.
Networked Factory Information and Data Collection System 	Networked Factory Information, Data Acquisition and Tolerance Checking Software Bundle - License for 1 to 3 terminals US\$ 5,900 each - License for 4 to 8 terminals US\$ 5,000 each - License for 9 or more terminals US\$ 4,000 each Networked Factory Information - Add capability to show system status and parameter data in a browser window from network of welding systems. Allows Wireless networking hardware and set up is included. Data Acquisition – Data can be collected and stored for each weld performed. This data can then be exported for review and graphing in Microsoft Excel (.csv) format. Tolerance Checking – Real time absolute value monitoring compares the actual weld parameter value to a preprogrammed, operator defined tolerance range. When the reported value exceeds the tolerance level, either too high or too low, the system will perform one of two actions. It can be preprogrammed to warn the operator of the condition or it may be programmed to perform a stop operation to the weld program.

XM Tandem Wire SAW System with Column and Boom Manipulator

Conventional Turning Roll Packages

All powered turning rolls are set up for integration with the XM control system.

DESCRIPTION AND SPECIFICATION	Price / Set
20 Metric Ton Standard / Conventional Turning Rolls (22 Ton English Equivalent) Powered Turning Roller – 10,000 kg (22,000 lb) -Turning capacity with 1 idler = 20,000kg (44,000 lb)	US\$ 22,450
30 Metric Ton Standard / Conventional Turning Rolls (33 Ton English Equivalent) Powered Turning Roller – 15,000 kg (33,000 lb) -Turning capacity with 1 idler = 30,000kg (66,000 lb)	US\$ 34,650
40 Metric Ton Standard / Conventional Turning Rolls (44 Ton English Equivalent) Powered Turning Roller – 20,000 kg (44,000 lb) -Turning capacity with 1 idler = 40,000kg (88,000 lb)	US\$ 38,200
60 Metric Ton Standard / Conventional Turning Rolls (66 Ton English Equivalent) Powered Turning Roller – 30,000 kg (66,000 lb) -Turning capacity with 1 idler = 60,000kg (132,000 lb)	US\$ 42,700
90 Metric Ton Standard / Conventional Turning Rolls (99 Ton English Equivalent) Powered Turning Roller – 45,000 kg (99,000 lb) -Turning capacity with 1 idler = 90,000kg (198,000 lb)	US\$ 54,800

XM Tandem Wire SAW System with Column and Boom Manipulator

Delivery

Delivery estimated 18 to 20 weeks after receipt of purchase order and confirmation of all pertinent information to start design and/or manufacturing releases. Firm date commitment and schedule will be provided at order, based on shop load.

On Site Training (Included)

An AMET Technician will be available for five (5) days, including travel, at the customer's site to complete installation and provide operational and general maintenance training to the customer's personnel.

Warranty and Conditions

AMET Standard Terms and Conditions are as follows, including warranty.

Payment Terms

AMET Standard Terms and Conditions sheet is included. Payment terms for system orders are:

30% at time of order,

65% from acceptance at AMET and shipment,

Balance of contract due (5%) upon completion of installation or 30 days following shipment, whichever comes first.

System Performance

While AMET warrants the performance of this control system and the new equipment to carry out the process control operations as described in this quotation, because this is a retrofit project, AMET can only offer this warranty on new components. Further, it remains the responsibility of the Buyer to insure that the proposed scope meets intended uses. Buyer remains responsible to develop and utilize the manufacturing procedures necessary for the welding of their parts. Weld quality, part weldability, and specific manufacturing performance remain the responsibility of the Buyer. AMET assumes no responsibility in this area, unless as described and separately contracted support for product and/or process development.

**PRICES EFFECTIVE FOR 60 DAYS • PRICES ARE FOB REXBURG IDAHO
•BUYER PAYS ALL SHIPPING COSTS •**

AMET STANDARD TERMS and CONDITIONS

XM Tandem Wire SAW System with Column and Boom Manipulator

GENERAL:

1. (a) Any sale of products by AMET, Inc., (hereinafter called "Seller") is governed exclusively by these Standard Terms and Conditions of Sale (hereinafter called "Standard Terms") which, unless otherwise agreed by Seller in writing, shall be a part of the sales contract and shall supersede any inconsistent terms on Buyer's purchase order, Buyer's acceptance of Seller's products or services, or Buyer's signature or acceptance of Seller's order confirmation form shall constitute Buyer's acceptance of these Standard Terms.
1. (b) Any order placed with Seller must be in the form of a written purchase order. Upon receipt of Buyer's order. Seller, at its sole discretion, shall evaluate Buyer's then current performance of payment to Seller, and to other suppliers and creditors, and Seller's acceptance of Buyer's order is subject to Seller's satisfaction with such payment performance.
1. (c) Any modification or variation of these Standard Terms must be upon the written approval of Seller.

UPDATING OF MODELS:

2. Seller reserves the right to slightly modify the design and/or the specifications of the product already ordered by Buyer and accepted by Seller, and Seller may ship the modified products to Buyer without prior notice to Buyer.

WARRANTY:

3. (a) Seller warrants to Buyer only that each new and unused product supplied by it is of good workmanship and free from any inherent mechanical defects, provided that it is installed and operated in accordance with generally accepted industrial practices, and further provided that the product is used under normal conditions for which designed and that it received due and proper care, lubrication, protection, and maintenance under the supervision of competent personnel.
3. (b) The warranty period begins at shipment and continues thereafter for 12 months for systems and standard components, and 90 days for repaired and/or spare parts. The Buyer must notify the Seller in writing of the claimed defect or failure within the warranty period for the item in question to be covered by the warranty. For claims covered by the warranty, the Seller shall repair or replace defective parts or equipment F.O.B. Seller's plant or refund the price paid for such defective or non-conforming goods or equipment, upon the return of such defective or non-conforming goods or equipment to Seller. Diagnostic services shall be performed by the Seller at the Buyer's plant only pursuant to a purchase order issued by the Buyer that will cover said services if the failure is the result of conditions that void the warranty or are outside the control of the Seller. Specific components of Sellers' welding systems may be covered by independent warranties, copies of which may be shipped with the products.
3. (c) Seller does not guarantee welding production rates or the quality of welds made using Seller's products.
3. (d) ALL OTHER GUARANTEES, WARRANTIES, CONDITIONS, OR REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING UNDER STATUTE, COMMON LAW, COMMERCIAL USAGE, OR OTHERWISE, INCLUDING IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED.
3. (e) UNDER NO CIRCUMSTANCES WHATSOEVER SHALL SELLER BE LIABLE TO ANY PERSON, FIRM, OR CORPORATION FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING IN LOST PROFITS, LOSS OF INTEREST IN MONEY BORROWED OR INVESTED, IMPAIRMENT OF GOODS, WORK STOPPAGE, OR OTHERWISE, IN ANY WAY ARISING OUT OF ANY TRANSACTIONS TO WHICH THESE STANDARD TERMS APPLY.

DRAWINGS:

4. All illustrations, drawings, etc., issued by Seller or contained in Seller's catalogs, price lists, advertisements, or any other publications must be regarded as approximate representations only, except where otherwise specified. Weights, measurements, capacities, and all other particulars of products offered by Seller are stated in good faith as being approximately correct but no responsibility can be accepted for their accuracy.

SHIPMENT, DELIVERY, AND FORCE MAJEURE:

5. (a) Shipment and delivery dates are quoted in good faith and are approximate. Delay in delivery or shipment shall not give Buyer the right to cancel any order, unless Seller has accepted in writing a firm delivery or shipment date. Seller shall not be liable to pay any penalty for delay or failure to ship, nor shall it be bound by any provision for the payment of any nature wheresoever contained unless it has expressly consented to such penalty provision in writing. Quoted delivery days begin only after credit approval is completed.
5. (b) In no event shall Seller be liable for any consequential damages caused by delay or failure to deliver or ship, due especially but not exclusively to force majeure and other causes beyond its reasonable control. The term force majeure shall include but not be limited to war, blockade, civil disturbances, strikes and lockouts, labor shortages, fire and other casualties, accidents, governmental acts (including regulation concerning export and import licensing and currency exchange), material shortages and delays in obtaining materials, equipment or transportation. In case of nondelivery or failure to timely deliver, Seller's obligation shall be limited to the refund of any advance payment which may theretofore have been made by Buyer or with reservation of title.
5. (c) Seller shall have the right to have any goods from Seller's suppliers shipped directly to Buyer. In any event, the products shall travel at Buyer's risk even when the products are sold free at destination or with any reservation of title.
5. (d) Notwithstanding any quoted shipping and delivery dates, Seller shall have the right to delay or refuse shipment on an accepted order when it determines, in its sole discretion, that there may be difficulty obtaining payment or when Buyer has delayed or is delaying payment on previous orders.

PRICES:

6. (a) The price of any products or services shall be that price stated in the order acknowledgement.
6. (b) Unless otherwise provided on the face of Seller's relevant form or specified otherwise in writing by Seller, quotations and offers by Seller are F.O.B. Seller's manufacturing plant or warehouse and are firm as to the price for sixty (60) days from the date the quotations or offers which are sent by Seller. After the expiration of the initial sixty (60) day offer period, the applicable prices are those in effect at the time of shipment. Any reference to F.O.B. or other delivery terms shall, unless otherwise provided herein, have the same meaning as that ascribed by the International Chamber of Commerce in its current edition of Incoterms.
6. (c) Storage or warehousing charge which may accrue against Seller after shipment shall be at Buyer's expense, unless otherwise provided by Seller in writing.
6. (d) Errors and omissions in any element of a quotation are subject to correction by Seller.

TERMS OF PAYMENT:

7. (a) Payment terms are as follows: 50% of the contract amount upon receipt of order, 40% of the contract amount upon shipment, and 10% of the contract amount upon completion of installation or 30 days following shipment, whichever comes first.
7. (b) Payment shall be made at the agreed time, place, and in the currency indicated by the invoice. The failure by Buyer to pay at the agreed time and place constitutes a waiver of all his rights under this order and all outstanding orders with Seller unless Seller provides subsequent notice before shipment that other payment terms or financial assurances are required. This determination shall be made at Seller's sole discretion.
7. (c) All products sold by Seller are shipped F.O.B. its manufacturing plant or warehouse and terms are those provided in Seller's Quotation. When an account becomes past due according to its terms, interest will be charged at 1.5% per month (18% per annum or the maximum permitted by law) until paid.
7. (d) Failure of Buyer to make any payment at the time due as provided for in the Quotation shall give Seller the right to suspend work or delivery on all outstanding orders until such payment is made. In the event that any such default by Buyer continues for more than fifteen (15) days after the date due, Seller may at any time thereafter cancel the sale contract and all other pending sales contracts by written notice mailed or telegraphed to Buyer and thereupon be entitled to recover the cancellation charges set forth herein below. In addition, Seller shall have the right to repossess without process any previously delivered products which have not been paid for in full. In the event Seller suspends work on Buyer's order or orders due to Buyer's failure to make payment at the agreed time, any claim by Buyer against Seller for alleged delay in completion of the work shall be barred.
7. (e) Buyer is responsible to timely arrange for the transportation and insurance of the products from Seller's manufacturing plant or warehouse. Buyer is also responsible to timely procure all necessary import licenses in the country of destination and permits of any sort required for the consummation of the transaction. Failure of Buyer to timely procure all such necessary documents shall entitle Seller to recover from Buyer all charges Seller necessarily incurs in order to store products pending Buyer's performance under this paragraph.
7. (f) All taxes, fees, costs, and other charges connected with shipment, transportation, insurance, and importation of the products are the responsibility of Buyer, and, if paid by Seller, such expenses may be recovered by Seller from Buyer.

RESERVATION OF TITLE:

8. Seller reserves title in and to the products sold until all of Seller's claims arising out of its business relations with Buyer have been finally settled. If payment is made from another country, title shall pass to Buyer only when payment has been received at Seller's bank; otherwise, title shall pass to Buyer upon Buyer's payment to Seller according to the terms Seller specifies in its invoice. As long as title remains with Seller, Buyer may not sell the products except in ordinary course of his business provided that any payments Buyer may have or receive from their resale shall be, and hereby are, assigned to Seller as security for Seller's claims resulting from Seller's and Buyer's business relationship. Seller upon written request, shall in writing release such part of such security as, in the opinion of Seller exceeds one hundred twenty percent (120%) of the outstanding claims of Seller. This assignment of claims by Buyer shall last as long as there are any claims on the part of Seller which are unpaid. Buyer may not encumber the products sold or transfer title to them for security purposes. Buyer shall notify Seller immediately by registered airmail letter if third parties should attach or cause the attachment of the products sold under the retention of title or preassigned claims provided for hereunder. Buyer shall be liable for the judicial and legal expenses Seller may be obliged to incur to protect its rights hereunder.

RISK OF LOSS:

XM Tandem Wire SAW System with Column and Boom Manipulator

9. Unless expressly provided for on a basis independent of that set forth above for passage of title, risk of loss or damage to the products shall pass from Seller to Buyer upon delivery thereof to Buyer or is representative, or to a carrier for shipment to Buyer, as the case may be. F.O.B. at Seller's manufacturing plant or warehouse.

ENTIRE AGREEMENT; AMENDMENT:

10. The terms and conditions set forth herein constitute the final, complete, and exclusive agreement between the parties as to the subject matter thereof. This Agreement may not be amended except by a writing signed by the authorized representatives of both parties.

CANCELLATION CHARGES:

11. (a) If Buyer wrongfully fails to accept delivery or wrongfully revokes acceptance of products ordered ("refusal"), Buyer shall incur cancellation charges as invoiced by Seller according to Seller's option as follows:

(1) The full agreed price for the products completed; or

(2) Seller's full cost including overhead, plus twenty-five percent (25%) for all products actually in process or which are scheduled for completion less than thirty (30) days after the date Seller receives notice of Buyer's refusal; or

(3) Seller's full cost plus twenty-five percent (25%) for any raw materials or supplies purchased or contracted for by Seller for Buyer's order as of the date Seller receives notice of Buyer's refusal.

11. (b) Additionally, in the event Buyer causes unreasonable delays or otherwise unreasonably hampers or interrupts Seller's manufacture, shipment, or installation of products, Seller may terminate the sales contract and Buyer shall be liable to pay Seller the applicable cancellation charges set forth above.

11. (c) Any products paid for by Buyer under this paragraph will become Buyer's property and shall be removed at its expense within thirty (30) days after Seller receives payment of the cancellation charges. If not removed within such time the products may be shipped to Buyer at Buyer's expense. If any invoice of Seller for cancellation charges is paid within thirty (30) days after its date the product in question may be disposed of by Seller for Seller's account.

PATENTS OR TRADEMARK INFRINGEMENT:

12. If the goods and equipment sold hereunder are prepared or manufactured according to Buyer's specification, Buyer shall indemnify Seller against any claims or liability, including attorney fees, for patent or trademark infringement arising out of such preparation or manufacture.

GOVERNING LAW:

13. The validity, construction, and interpretation of all documents relating to this sale, and rights and duties of the parties hereto shall be governed by the laws of the State of Idaho, United States of America.

This sales transaction shall be governed by the Convention on Contracts for the International Sale of Goods except for Articles 8, 19, and 50, which are expressly repudiated. Instead, UCC provisions 2-202, 2-207 (1) and 2-717, respectively, shall govern.

ARBITRATION:

14. (a) Any controversy arising out of the interpretation and/or performance of this contract shall be submitted to arbitration in a place mutually agreed upon between the parties, and shall be settled according to the Rules of Arbitration of the American Arbitration Association by one or more arbitrators appointed in accordance with the above-mentioned Rules.

14. (b) Notwithstanding the foregoing, Seller reserves the right to bring suit against Buyer with respect to any matter arising out of the interpretation and/or performance of this contract in the courts of Buyer's jurisdiction or where Buyer has assets.

MISCELLANEOUS:

15. (a) All provisions of this contract are essentially integral and correlated; therefore, failure on the part of Buyer to fulfill any of his obligations under this contract shall constitute a default of the contract and Buyer shall be liable as a defaulter.

15. (b) Failure on the part of Seller to enforce any of the rights derived from this contract shall never be construed as a waiver of any of its rights.

15. (c) The declaration of the nullity of one or more of the clauses of this contract by any competent authority shall not affect the validity of the other clauses, which for this purpose are considered severable.

15. (d) The acceptance by Seller of an order from Buyer for products bearing any registered AMET trademark does not grant to Buyer the right to use such marks in advertising its products. All advertising material incorporating such marks in any manner must be approved by Seller prior to its release to the public.

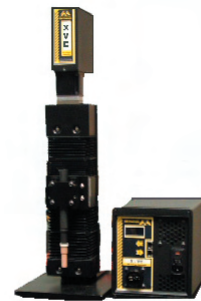


The neXt Generation of Automated Welding Systems and Standalone Components

XM Controller

The XM Controller along with its set of precision control modules represent the neXt Generation in welding controls. The XM Controller is a unique blend of powerful control electronics, bright graphical operator display, and seamless expandability. It utilizes both AMET's advanced DSP / microprocessor electronics, and our user friendly display software. It is the foundation for a complete set of precision modules to satisfy all your arc welding needs.

The XM modules are designed to be "Plug and Weld" additions to a new or existing welding system. The controller will automatically recognize a module when connected and allow immediate use with all other system modules. The module control is automatically mapped to the XM Controller / Pendant.



FEATURES

- XM** Lightweight ergonomic Controller / Pendant package for handheld or mounted use.
- XM** Simple yet powerful graphical programming interface - just select and dial a value.
- XM** Simple plug and play connection of any X module (AVC, wire feed, oscillation, etc.)
- XM** Outstanding bright backlit color 6.4" TFT LCD operator display.
- XM** Dedicated buttons for most commonly used welding functions.
- XM** 3 Tactile joysticks for controlling up to 6 axis of part, torch, wire nozzle motion.
- XM** 4 Precision digital encoder pots for parameter override control & programming.
- XM** Powerful Microprocessor/DSP for precision control and accurate feedback.
- XM** Integrated power supply control for virtually any arc welding supply.
- XM** Pre and Post Weld automation software for motion control, tooling integration.

XM Controls

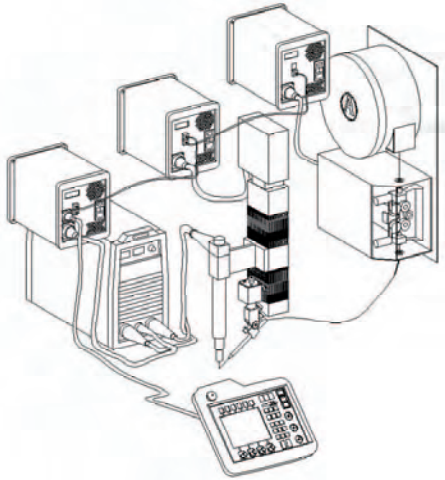


The neXt Generation of Automated Welding Systems and Standalone Components

XM Modules

A Modular and Networked approach to welding system design. The X-Modules work with the XM controller like USB peripherals work with a personal computer.

"PLUG & WELD" CONNECTIVITY

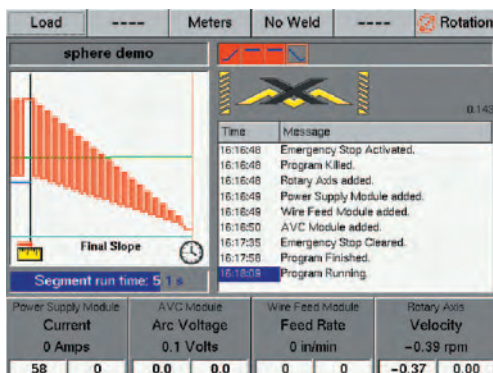


Build, or expand, your own system with the first "Plug and Weld" modules. XM modules are designed to be automatically recognized by the XM controller. Plug in any module and instantly add weld process capability.

XM "Plug and Weld" Modules

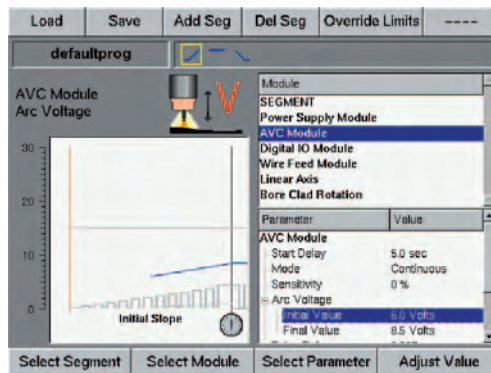
- XPS - Power Supply Control
- XVC - Automatic Voltage Control
- X-Feeder - Wire Feed Control (2 and 4 roll versions)
- X-HW - Hot Wire Feed Control
- X-Slide - Travel and Mechanical Oscillation Control
- X-Rotary - Rotation Control
- X-Plasma - Plasma Gas Control

GRAPHICAL WELDING SOFTWARE



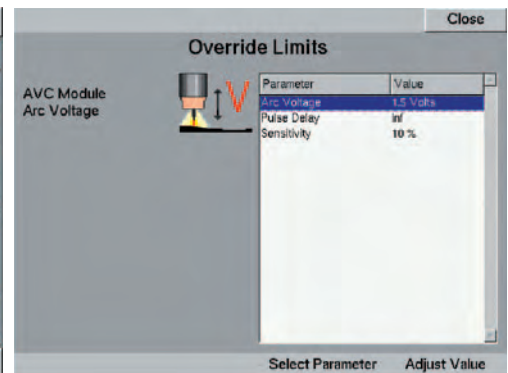
Weld Mode

Used to execute weld programs. Displays the Weld with a graphical display and meter panel showing the programmed, actual, and over-ride value for each parameter.



Edit Mode

Used to Create and or Edit Weld Programs. Menu based program editor with a graphical display. Any XM Module plugged into the CAN bus is available for programming.



Setup Mode

Used to define the Hardware / Software configuration of a system.

XM Controls



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XM Controller Specifications

Electrical

- 6.4" TFT LCD Display
- 400 MHz 32 bit Xscale RISC embedded processor
- Internal 32 MB of SDRAM for weld program storage
- Standard USB OTG port (USB Memory Stick) for Data Mobility
- CAN Bus interface to other XM Modules
- 110-240 VAC 50/60 Hz Single Phase

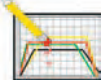
Mechanical

- Height: 8"
- Width: 7.75"
- Depth: 9.75"
- Weight: 12 Lbs

PENDANT CONFIGURATION



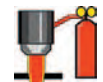
Weld Mode – button is used to access the Weld Mode. This mode is used, as the name implies to execute previously created weld schedules.



Edit Mode – button is used to access the Edit Mode. The Edit Mode is used to create and/or modify weld schedules; all programmed adjustments of the welding parameters are completed in this mode.



Set Up Mode – button is used to access the Set Up Mode. The Set Up Mode is used to define the hardware configuration of a system. As modules are added their functionality is made available through adjustments made in this mode.



Plasma Gas – button activates the plasma gas at the default flow rate. Plasma Gas will flow at this rate until the button is deactivated.



Torch Gas – button activates the torch gas at the default flow rate. Torch Gas will flow at this rate until the button is deactivated.



Back Gas – button activates the back gas at the default flow rate. Backing Gas will flow at this rate until the button is deactivated.



Wire Disable – when active will stop the wire feed from advancing regardless of the programmed feed rate. If wire is feeding when this button is activated a programmed wire retract is performed.



Oscillation Disable – when active will suspend the programmed oscillation settings until the button has been deactivated.



AVC Disable – when active will suspend AVC Control and allow torch height to be controlled from the joystick.



Set Position – when this button is pressed, the position 1 and position 2 buttons are made ready for programming. The Position 1 or 2 buttons then save the current position.



Position 1 and 2 – buttons are used to move the torch to a previously saved position. (See Set Position (1 or 2) above.) All axis involved in torch positioning will be affected.



Touch Retract – is used to retract the torch a specific (per defined) distance from the weld coupon. The retract distance is defined in the



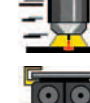
Cross Home – button moves the cross slide to its hardware home position.



XVC Home – button moves the XVC slide to its hardware home position.



Home All – moves all of the current motion axis's to their hardware home positions.



Travel Jog – buttons are used to incrementally "jog" the travel axis either in the positive, or negative directions.



Wire Jog – buttons are used to incrementally "jog" the wire feed either in the positive, or negative directions.



Continuous Jog – button is used to activate the continuous jog mode. When the travel or wire jog button are subsequently pressed, the axis will move continuously at the programmed rate until the button has been deactivated.



XM Controls



The neXt Generation of Automated Welding Systems and Standalone Components

XMC Description

The XM Controller is the focal point of the XM modular series of welding components. It is both a stand-alone controller, and Operator Pendant. It plugs directly into the X-PS Power Supply Module, and to any other modules through their CAN bus connection. As XM modules are plugged into the CAN bus, they are recognized automatically by the XM Controller, and are then available for programming.

Programming is performed via leading edge Graphical Editing Software, combining semi-automated segment style programming, with automated features. The end result is a controller that can be easily programmed using common segment oriented weld programming, and then operated in either a semi-automated, or automated mode.

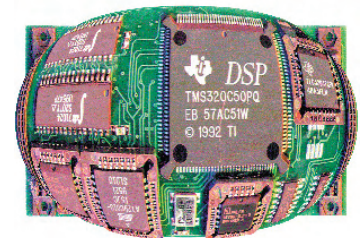
DSP TECHNOLOGY

The world is fast becoming digital, and Digital Signal Processors (DSPs) are at the heart of this digital revolution. It's a simple fact that accurate welding process control and monitoring requires fast and accurate signal processing. It's also a fact that DSPs do sophisticated signal processing better and faster than anything else. Need proof? DSPs are the fastest growing segment of the semi-conductor industry, and are used in cell phones, digital cameras, cable modems, and many other information processing devices.

AMET has brought this technology to the welding industry via a series of DSP boards specifically designed for welding control and monitoring applications. AMET DSP powered systems run their control and monitoring cycles at up to 10,000 times per second for every welding parameter. It is this powerful processing capability along with AMET's famous graphics software that makes AMET systems more accurate, flexible, and much, easier to use.



THERE IS A DIFFERENCE!



LINUX

Linux has evolved as a preferred Operating System for the future. It is widely respected for its stability and open source software architecture. AMET has developed the XM Series running on an Embedded Linux Real Time Operating System for enhanced performance and long term support.

Linux allows the Xm to support the Hardware advances of the future, with stability and transparency to the end user



XM Controls



The neXt Generation of Automated Welding Systems and Standalone Components

Column & Boom Manipulator



Product Overview

Column & Boom Manipulator

AMET is pleased to provide the following product introduction on our standard models of column and boom manipulators. These manipulators are designed to move a weld head over a weld joint. The models we produced cover various ranges, from 4 x 4 ft to 23 ft x 23 ft (1.2 x 1.2 to 7 x 7 meters), in order to meet your application requirements. We offer manipulators in five standard versions.

Four versions are based on weight carrying capacity on the boom. We have a light duty, standard duty, heavy duty and extra heavy duty product range. Each range has different weight and stroke ranges. The fifth version is our "fixed" boom where the boom is fixed to the saddle and we use a boom carriage to move the weld head along the length of the boom.

Our booms are designed for linear welding. Each boom, as standard, is designed with a variable speed drive suited for typical GMAW, FCAW and SAW welding applications. On GTAW and PAW projects, we do suggest the customer upgrade to our servo driven package. (The upgrade includes a servo motor with encoder, servo motor drive and precision gear box.)

For special projects, AMET can upgrade each axis of the CBM motion to be a precision, robotic grade welding axis. We upgrade the boom drive to an extra precision helical gear rack, pinion gear, precision gear box, driven by a servomotor with encoder feedback. On the column, we use a ball screw drive and servomotor with encoder feedback. On the travel car, we use a servomotor with encoder feedback, driving a precision pinion gear which engages a precision gear rack, mounted to a machined base assembly fitted with linear rails. AMET will also consider your special requests for column and boom manipulators and features as well.

Purpose:

Standard column and boom manipulators are typically used to locate a weld head to a desired position for welding in a stable and secure manner. Once in position, the part is moved during welding to produce high quality welds. A manipulator can be used on a wide variety of parts and part shapes and offers the customer excellent flexibility. Welding is performed using GTAW, PAW, GMAW, FCAW, SAW or YAG Laser.

In most GMAW, SAW and FCAW welding, the standard boom can be used as a linear welding axis, as these weld processes may not require precise welding motion. We strongly recommend upgrading the boom motion to the precision boom drive option if precise linear welding is desired, for example GTAW, PAW and Laser welding.

Benefits:

The standard column and boom manipulator has several benefits over welding the part manually, including:

- Able to achieve consistent weld results
- Able to maintain weld head over weld joint in a stable position during the weld
- Increases arc-on time and overall productivity
- Provides ability to have multi-weld stations using only one weld head, increasing your return on investment
- Reduced operator fatigue
- Reduced consumable costs
- Ability to have two welding process at one welding station by using both ends of the boom



These benefits greatly reduce the time to prepare a part for welding and the time to finish a part after welding. Also, rework time will be reduced and part scrap will be cut.

AMET can include optional features, such as travel carts, machined base rails and precision linear boom travel, to complete our standard CBM models.

CBM-HD-7x4.5 with XM controlled Lincoln Tandem SAW
Babcock Wilcox Canada

Capacities:

As standard, AMET can produce column and boom manipulators with a wide capacity range from 1200 to 7000 mm (4 ft to 23 ft) strokes. We will increase to a maximum of 7500 mm (24.5 ft) with reduced weight capacities.

All standard column and boom manipulators have the following general capacities and specifications:

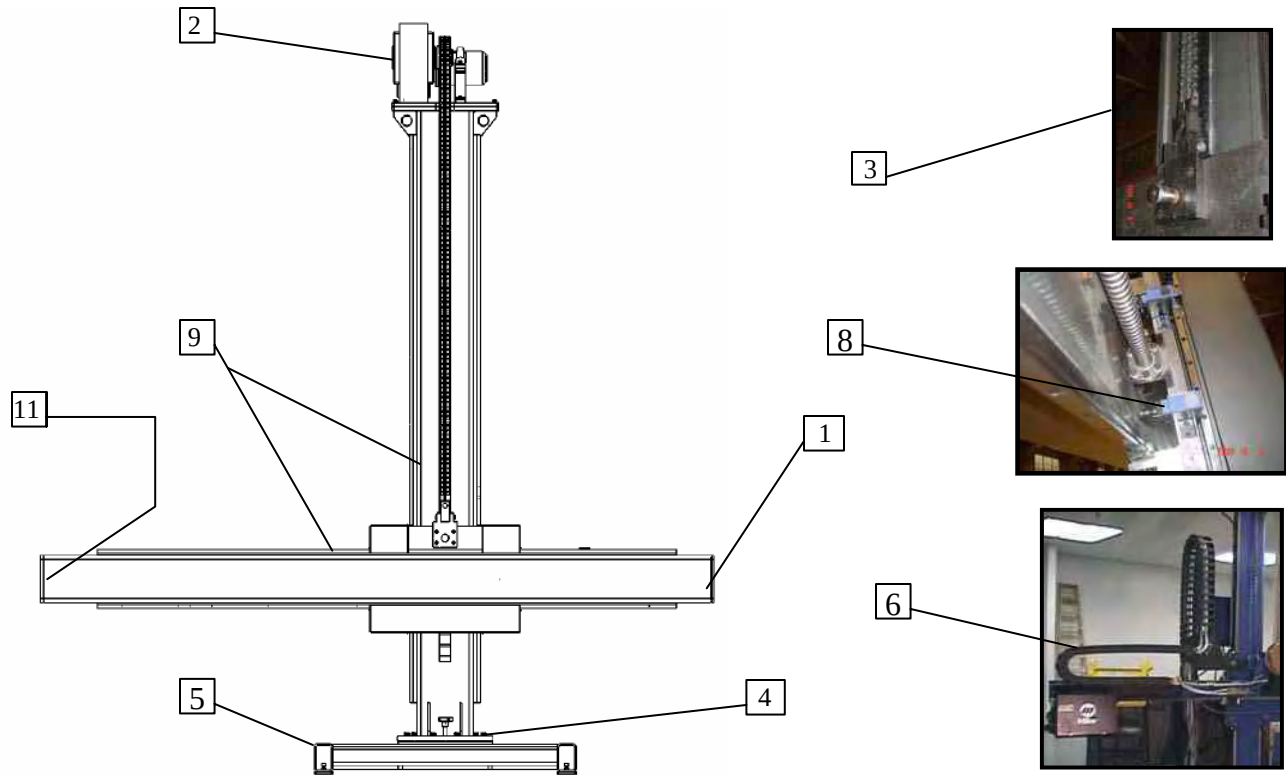
- Boom Weight capacity: See Chart on next page
- Boom drive: Gear rack and pinion drive
- Boom motor: AC Motor, adjustable speed
- Column Lift mechanism: Chain drive and gear box
- Column drive motor: AC Motor, fixed speed
- Free Standing, Rotating base: allows 360 degrees of column rotation
- Safety Device to stop boom if chain should fail
- Cable carriers for proper cable management

Column & Boom Manipulator



Product Overview

STANDARD FEATURES on CBM - Standard Manipulators



1. Motorized horizontal boom travel, rack and pinion gear drive. Adjustable speed, 100 to 2000 mm/min. (4 to 80 IPM) using AC Motor. (Precision drive uses Servo motor with encoder feedback, speed range is 1 to 80 IPM / 25 to 2000 mm/min)
2. Motorized boom lift travel, double or triple chain drive. Fixed speed using AC motor, approx. 1000 mm/min. (40 IPM)
3. Safety Device – anti-fall device in case the chain or pin assembly should fail
4. Rotational Base assembly – allows column to be rotated 360 degrees. Includes locking brake.
With travel car option, includes manual gearing to rotate column.
5. Free Standing base assembly
6. Cable Carriers for proper cable management on the boom and column.
7. Pendant Control – Includes buttons for operator to control up/down and in/out position of manipulator and adjust boom speed
8. Travel Extent Limit Switches included to prevent over-travel.

9. Hardened Heavy-duty linear rails on boom and column to insure smooth travel in both axis. Horizontal boom travel acceptable for some GMAW, FCAW and SAW applications.
10. Boom and Column are stress relieved and machined to insure smooth and accurate travel motion
11. Designed to hold rated load of total weight on boom, on either end.

NOTE: AMET manipulators are NOT designed as personnel carriers. A seat or operator platform should never be added to the boom, nor should a person ever ride on the boom.



CBM-F-3x3

Fixed Boom Manipulator

Combined with Seamer table top and weld lathe

XM Controlled GTAW welding

Column & Boom Manipulator



Product Overview

Standard Product Range of Column & Boom Manipulators

Stroke (Metric)	Stroke (SAE) *	"Light Duty" (Service 1)	Standard (Service 2)	Heavy-Duty (Service 3)	Extra Heavy-Duty (Service 4)	Fixed Boom (Service 5)
		CBML	CBM	CBMH	CBMX	CBMF
Weight Cap.	Weight Cap. **	Weight Cap.	Weight Cap. **	Weight Cap.**	Weight Cap.**	Weight Cap.***
1.2 x 1.2	4 ft x 4 ft	225 kg / 500 lbs				
2 x 2	6.5 ft x 6.5 ft	225 kg / 500 lbs	500 kg / 1100 lbs			150 kg / 330 lbs
2.5 x 2.5	8 ft x 8 ft	180 kg / 400 lbs	(500 kg / 1100 lbs)			150 kg / 330 lbs
3 x 3	10 ft x 10 ft	150 kg / 330 lbs	415 kg / 900 lbs	700 kg / 1500 lbs		150 kg / 330 lbs
4 x 4	13 ft x 13 ft		310 kg / 685 lbs	525 kg / 1150 lbs	1000 kg / 2200 lbs	150 kg / 330 lbs
5 x 5	16.5 ft x 16.5 ft		250 kg / 550 lbs	420 kg / 900 lbs	1000 kg / 2200 lbs	
6 x 6	19.5 ft x 19.5 ft			350 kg / 770 lbs	875 kg / 1900 lbs	
7 x 7	23 ft x 23 ft			300 kg / 660 lbs	750 kg / 1650 lbs	

Standard Stroke Offering:

On CBM, CBMH, CBMX, you can increase boom or column strokes by 0.5 meter (20").
Thus, the absolute largest CBM AMET can make is 7.5 by 7.5 M (24.5 ft x 24.5 ft)

* AMET will manufacture boom and column strokes to insure they meet the SAE strokes stated

** For SAW applications, contact AMET for possible flux equipment allowances

*** Weight capacity is based on Boom Carriage Capacity

Note: The Boom Drive on each model can be upgrade with Precision Drive, using AC Servo Motor, Amplifier and better gear box drive

Note: AMET can make special manipulators to meet special requirements. Please contact factory with your project details.
For Example:

1. Tower Tech - CBMX, but also fitted with two boom carriages
2. FMC - Precision/Robotic grade X-Y-Z manipulator with travel cart



CBMF-2.5 x 3 Precision CNC
Manipulator – FMC



CBML-3 x 3 Manipulator
ERC



CBM-2x2.5 Manipulator
with two weld processes

Column & Boom Manipulator



Product Overview

Typical Applications for a CBM Column & Boom Manipulator

Large Dry Storage Tanks

These large storage tanks are typically welded using the SAW process. The tank is placed on turning rolls and CBM holds the weld head in position as the tank rotates beneath it.



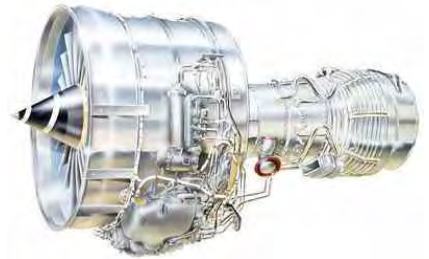
Boiler Industry

Typically used for high pressure vessels and condensers.



Aero-engine

Components used on jet engines (and other areas on aircraft), using the Dabber type GTAW process



Chemical Tanks

These tanks are typically made of stainless steel, aluminum or other special alloys and welded using various weld processes.



Bore Cladding

Internal cladding on valves and pipe used in the petrol-chemical industry.



Aerospace

Large fuel cells used in launch vehicles.



Fuel Tanks

Fuel storage containers, including large LPG tanks and propane tanks.



Tanker Truck & Rail Trailers

Stainless and Aluminum tanks associated with truck hauling and trailers.



Pipe Manufacturing Industry

Used to weld flange and fittings to pipe sections.



Column & Boom Manipulator

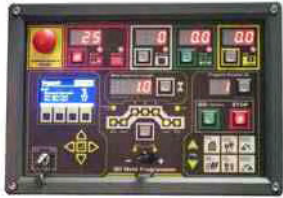
Product Overview



CBM Manipulator Optional Features

QII System Control

Allows operator to control 4 welding parameters at one time with one weld program, including the weld sequence. See QII Literature for details.



Precision Linear Boom Drive

Upgrade the linear boom travel mechanism for precision linear welding applications. Upgrade includes servo motor for boom drive, with encoder feedback. Servo motor drive amplifier is used. Precision gear box is also used to insure more accurate travel and greater speed range.

Precision Linear Boom Weld Travel Drive Mechanism

Upgrade the linear boom travel mechanism for precision linear welding applications. Boom design and boom drive are enhanced for smoother, more accurate travel required for these welding processes. Upgrade includes Helical gear rack drive and Servomotor with encoder feedback



Motorized Travel Cart

The standard manipulator can include a motorized travel cart. The standard carts are friction driven, using an AC Motor drive with gearbox to drive one axle of the cart. AMET supplies prints so customer can manufacture their own base rails.



Travel carts are designed to hold weld gear and gas bottles for one weld head as standard. AMET can design larger travel carts upon request.

All travel carts also include manual gearing for column rotation. The operator turns a handle on the side of the cart to rotate the CBM into position.



Precision version also available, with Servomotor with encoder drive and uses gear rack instead of friction.

Standard Base Rails

AMET can supply the customer with standard base rails for the standard friction drive travel cart. Customer installs mounting pads to their factory floor and then installs and level rails for travel motion.

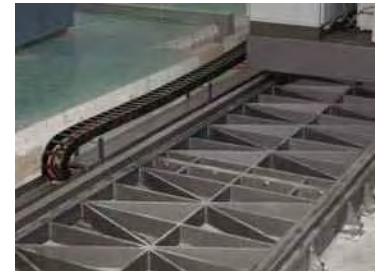


Variable Speed Drive

AMET can provide AC variable speed drives for the column lift and the travel cart. AMET uses a variable speed vector drive and appropriate AC motor for this capability.

Precision Base Rail Assembly

AMET can supply the customer with precision base rail assembly for the standard friction drive travel cart, enhanced with variable speed drive or for servo drive. These are applications where the travel cart will be used as a welding axis. A fabricated base assembly is made and stress relieved. The assembly is machined and the rails are mounted to it.



Servo Grade / CNC Base Rail Assembly

AMET can also supply the customer with a base rail assembly designed for CNC travel cart motion. The precision base rail assembly is enhanced with linear rails and servo grade motor and gear box is used to drive the travel carriage using ball screw drive or robotic grade, helical gear rack.

Operator Platform (for travel cart only)

The travel cart can be fitted with a operator platform, which extends from the travel cart. This feature allows the operator to move out closer to the weld zone. Maximum 1 meter extension allowed.



Column & Boom Manipulator



Product Overview

Welding Positioners

AMET can also supply welding positioners to hold, rotate and tilt the part under the weld head. These positioners are made in many models to meet your exact requirements.



Turning Rolls

AMET manufactures a complete line of powered and idler turning rolls for welding application. These turning rolls assist in rotating and supporting vessels under the weld head during welding. Please see separate literature.



Manual Torch Pivot and Tilt Axis

AMET can supply single axis or dual axis pivot assemblies to allow the operator to have manual tilt and pivot adjustment. Tilt axis for fillet welding are rated for +/- 45 degrees and Pivot axis for Lead/Lag angles are rated for +/- 15 degrees. Please see separate literature.



Motorized Tilting Boom

On the CBML series of manipulators, AMET can add motorized tilting of the boom to provide special boom and torch angles.



Manual Cross-Slides

AMET can supply single axis or dual axis manual cross slides to allow the operator to have manually adjusted cross seam and vertical stand-off positioning of the weld head. The slides include necessary mounting hardware. Please see separate literature for slide strokes and weight capacities.



Motorized Cross-Slides

AMET can supply a single axis or dual axis motorized cross slides for minor torch adjustment. Includes slide assembly, variable speed control and a joystick pendant for positioning the torch position. AMET can offer the motorized slide in 4 different weight configurations, with various slide strokes. Slides include necessary mounting hardware. Please see separate literature.



Manual Torch Swivel Axis

AMET can supply a +/- 90 Weld Head swivel. This mounting bracket is typically used to rotate the weld head between linear and circumferential welding orientation. We also have a version designed to swivel the weld head from TDC position to the 3 o'clock welding position.



Rev - CBM-PO – July 2007

Power Wave AC/DC 1000

Increase Productivity, Quality and Flexibility

Product Number: K2344-2

The Power Wave® AC/DC 1000 is the first power source to introduce Waveform Control Technology™ to submerged arc welding. Variable frequency and amplitude AC, DC positive or DC negative output allows the user to control the deposition rate and penetration. An operator can increase weld speeds, yield higher quality welds and improve efficiencies in a single or multi-arc environment. The phase angle and frequency of different machines can also be synchronized to balance the interactions between multiple arcs and minimize arc blow. Depending on the output, a welding arc may be driven by a single machine or multiple machines in parallel for applications that require more than 1000 amps of continuous operation.

Advantage Lincoln

- Eliminate downtime with easy polarity switching — no hardware reconfiguration required.
- Stable and independent arc controls for multiple arc applications.
- Improved efficiency and reliability with cooler operation through patented Coaxial Transformer Technology™.
- 95% power factor correction enables connection of more machines on the same plant infrastructure for lower installation costs compared to other machines.
- Remote process monitoring and control through ArcLink, Ethernet, and DeviceNet communication.
- Consistent operation over $\pm 10\%$ input voltage variation through built-in line voltage compensation and reliable input voltage connection.
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 environmental standards.
- Three-year warranty on parts and labor.
- **Free** system updates available at PowerWaveSoftware.com.

Read about the AC/DC Submerged Arc Welding [process](#) and its [application](#).

Physical specifications

Weight: 650 lbs. (295 kgs.)

Dimensions (in) H x W x D : 43.5 x 19.2 x 23



Description



Processes

Submerged Arc

Recommended General Options

- [K2282-1](#) System Interface
- [K1795-10](#) Interface Control Cable (22-pin)
- [K1795-25](#) Control Cable - 25 ft
- [K1795-50](#) Control Cable - 50 ft
- [K1795-100](#) Control Cable - 100 ft
- [K1543-8](#) ArcLink/Linc-Net Control Cable - 8 ft
- [K1543-16](#) ArcLink/Linc-Net Control Cable - 16 ft
- [K1543-25](#) ArcLink/Linc-Net Control Cable - 25 ft.
- [K1543-50](#) ArcLink/Linc-Net Control Cable - 50 ft.
- [K1543-100](#) ArcLink/Linc-Net Control Cable - 100 ft.
- [K2683-25](#) Heavy Duty ArcLink Control Cable - 25 ft
- [K2683-50](#) Heavy Duty ArcLink Control Cable - 50 ft

Dimensions (in) H x W x D : 43.3 x 19.2 x 33
Dimensions (mm) H x W x D : 1105 x 488 x 838

- [K2683-100](#) Heavy Duty ArcLink Control Cable - 100 ft
- [K1785-12](#) Control Cable (Heavy Duty) - 12 ft.
- [K1785-16](#) Control Cable (Heavy Duty) - 16 ft.
- [K1785-25](#) Control Cable (Heavy Duty) - 25 ft.
- [K1785-50](#) Control Cable - 50 ft.
- [K1785-100](#) Control Cable - 100 ft.
- [K2444-2](#) Power Wave CE Filter

Recommended Wire Feeder Options

[K2362-1](#) Power Feed 10A Controller

Welding Specifications

Rated CC DC Output Amps/Volts/Duty Cycle	Rated CV Output Amps/Volts/Duty Cycle	Output Range
1000/44/100%	1000/44/100%	100-1000A