MAXsa™ 22 Feed Head

Submerged Arc Hard Automation Wire Drive

Designed specifically for hard automation applications, the MAXsa™ 22 Wire Drive delivers accurate wire feeding of large diameter submerged arc wires. Based on Lincoln's proven gearbox and cast aluminum feedplate, the MAXsa™ 22 model features a 32VDC permanent magnet, high torque motor that delivers plenty of traction to push up to 7/32 in. (5.6 mm) diameter solid wire. A top speed of up to 500 ipm (11.43 m/min) can be achieved by changing the gear ratio.

Output

Input

40 VDC

Processes
Submerged Arc

NEXTWELD®

ArcLink® COMMUNICATIONS PROTOCOL

Key Features

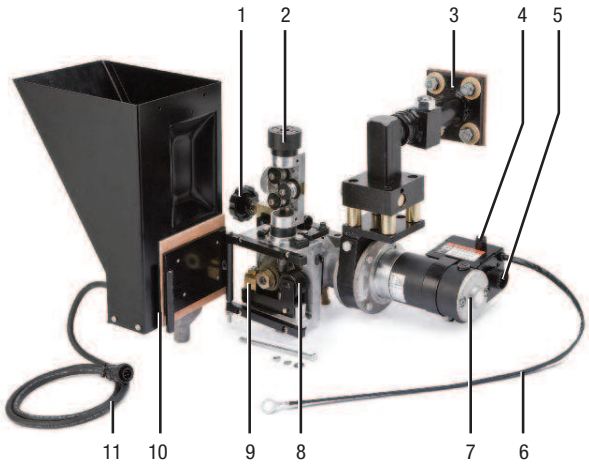
- **Flexible Configuration** – Can be used in single, tandem, Twinarc® or multiple arc applications.
- **Closed Loop Speed Control** – Facilitates full control over starting, running and stopping wire feed speed.
- **IP23 Rated** – Tested to withstand harsh environments.
- **Standard Conversion Kits** – Used to change the speed ratio to match the requirements of your application.
- **Multi-Axis Rotation** – Rotational feed head adjustment in two planes allows flexible, accurate setup for fixturing or arc locating. Additional positioning flexibility can be achieved with optional horizontal and vertical lift adjusters.
- **Standard Accessories** – Including an adjustable wire straightener, cross-seam adjuster and electrical valve flux hopper and mounting bracket for TC-3 carriage.

Technical Specifications

Product Name	Product Number	Input Power	Rated Output Current / Duty Cycle	Gear Box	Wire Feed Speed Range [1] imp (m/min)	Wire Size Range [1] in. (mm) Solid	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
MAXsa™ 22 Head (includes flux hopper)	K2370-2	40 VDC	1000A/100%	142:1[1]	10 - 200 (.25 - 5.08)	5/32 - 7/32 (4.0 - 5.6)	23.5 x 17 x 20 (597 x 432 x 508)	80 (36.3)
				95:1[1]	10 - 300 (.25 - 7.62)	1/8 - 5/32 (3.2 - 4.0)		
				57:1[1]	40 - 500 (1-12.7)	.045 - 1/16 (1.1 - 1.6)		

[1] 142:1 gear box is standard. Conversion Kit supplied for conversion to 95:1 with Wire Drive (K2370-2, K2312-2, or K2311-1)

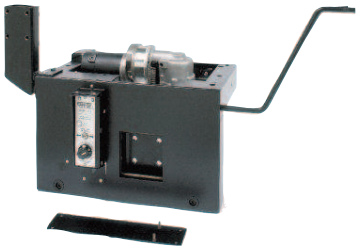
A CLOSER LOOK



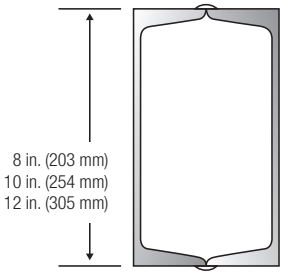
1. Cross Seam Adjuster
2. Wire Straightener
3. Mounting Bracket
4. Fuse
5. 14-Pin Connector
6. Lead (67)
7. Motor
8. Idle Roll Arm
9. Tension Indicator
10. Flux Hopper
11. Flux Valve Connector

OPTIONAL TC-3 TRACTOR

TC-3 Tractor
The TC-3 travel carriage allows the mounting of up to two feed heads/ controllers and wire reels to a beam for basic hard automation installations.



Beam Profile
Recommended for the TC-3 carriage. (See manual for more precise dimensions.)



CONTACT NOZZLES (ONE REQUIRED)

1. **Submerged Arc Contact Nozzle Assembly**
   For 5/64 thru 3/16 in. (2.0 thru 4.8 mm) electrode at currents generally below 600 amps. Outer flux cone gives full flux coverage with minimum consumption. (Rated for up to 650 amps.)

2. **Positive Contact Assembly**
   For single arc welding at high currents.

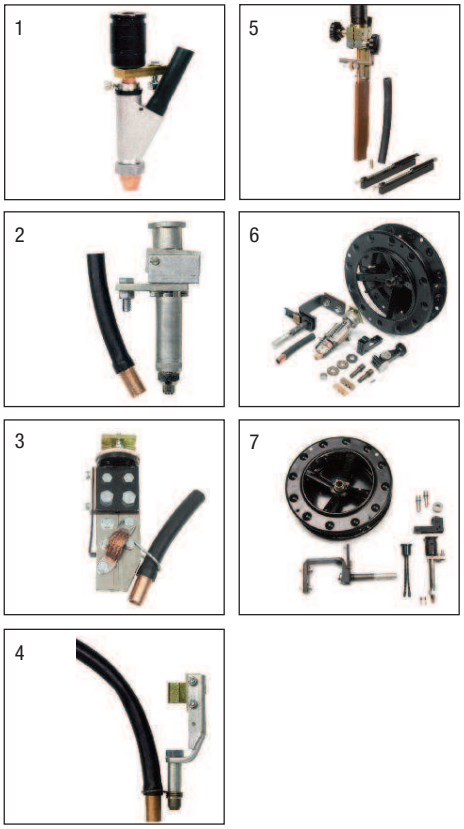
3. **Contact Jaw Assembly**
   Single arc contact jaw assembly for 1/8 - 7/32 in. (3.2 - 5.6 mm) diameter wire. Maximum life at currents over 600 amps.

4. **ESO (Extended Stick-Out) Extension**
   Linc-Fill long stickout extension for K148A Single Arc Positive Contact Nozzle Assembly. Required for long stickout technique.

5. **Narrow Gap Deep Groove Nozzle**
   For single arc 3/32 in. (2.4 mm) diameter wire welding on thick walled steel plate with nearly parallel-sided, narrow gap joint preparations.

6. **Large Wire Twinarc® Contact Assemblies**
   Feeds two 5/64 in. (2.0 mm), 3/32 in. (2.4 mm) or 1/8 in. (3.2 mm) wires for submerged arc welding on “Fast-Fill” joints or hardfacing beads.

7. **Tiny Twinarc® Contact Assemblies**
   Feeds two electrodes for high speed submerged arc welds. Includes contact nozzle, wire guides, drive rolls and guides, and a second wire reel and mounting bracket.



LINCOLN ELECTRIC
THE WELDING EXPERTS®

MAXsa™ 10 Controller

ArcLink®-enabled Controller for Power Wave® AC/DC 1000® SD Systems

The MAXsa™ 10 controller offers a single monitoring and control point for the entire hard automation welding system. Operators have full control over AC and DC welding parameters and easy PLC interfacing to control fixture travel, timers and other system commands.

Processes
Submerged Arc

Output
40 VDC

Input
40 VDC

NEXTWELD®

ArcLink® COMMUNICATIONS PROTOCOL

Key Features

- **Severe Duty Ready** – The controller is IP23 rated and ready for operation in harsh environments.
- **Pendant Box** – Mount the controller in the standard protective box or remove the pendant for hand-held operation. Extend hand-held operation from 4 feet (1.2 m) up to 100 feet (30.5 m) with an ArcLink® extension cable.
- **Eight Procedure Memories** – Pre-set and save your optimal welding parameters for repeating applications and recall later for fast changeovers.
- **User-Friendly Controls** – Clear digital display and controls make it easy to set weld modes, AC operation, strike/start/end options, travel stop/start, timers and other parameters.
- **Limit Control** – Apply operator procedure limits or lockout on any or all parameters.
- **Waveform Control Technology®** – Allows the user to choose from a library of pre-programmed weld modes. Parameters for each mode can be adjusted within a limited range to achieve optimal balance between deposition rate and penetration.

Technical Specifications

Product Name	Product Number	Input Power [1]	Dimensions H x W x D in. (mm)	Net Weight lbs. (kg)
MAXsa™ 10 Controller	K2814-1	40 VDC	15 x 13 x 4 (381 x 259 x 102)	25 (11.3)

[1] When not driving a motor.

KEY CONTROLS

1. AMPS/WFS Control

2. AMPS/WFS Display
- AMPS Indicator Light
- WFS Indicator Light

3. Travel Switch
- Auto/Off/Manual

4. Flux Hopper Switch

5. Mode Select Panel (MSP) Display

6. Weld Mode Selector
- Weld Mode Indicator Light
- Frequency/Balance Indicator Light

7. Mode Select Panel Control Knob

8. Eight Memory Buttons:
- Save common procedures
- Apply operator range or limits
- Lockout changes for procedure control

9. Feed Reverse/Feed Forward Buttons

10. Arc Start/End Options Selector
- Start Options Indicator Light
- End Options Indicator Light

11. Set-Up Menu Indicator

12. Arc Established Indicator

13. Stop/Start Buttons

14. Volts Display
- Volts Indicator Light

15. Volts Control

16. User Interface/Pendant Connector

17. Status LED

18. Wire Drive Connector

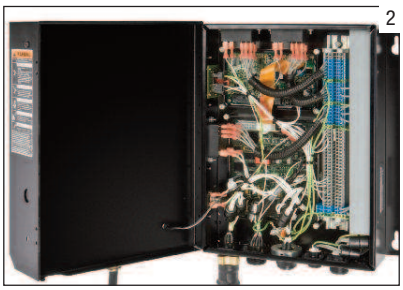
19. Power Source Connector

20. Flux Hopper Connector

21. Travel Carriage Connector

RUGGED DESIGN, FLEXIBLE CONNECTION

1. **IP23 Rated** – Tested and approved to withstand rain, humidity, dust and other environmental conditions. When placed vertically, the unit can be stored outdoors.
2. **Hard Automation Connection** – Motion control, limit switches, PLC inputs and other auxiliary equipment are easily added to control device starting, stopping and other functions.
3. **Hand-held Options** – The protective base unit shell facilitates fixed mounting and protects the controller. To get closer to the work, detach the controller for hand-held operation.



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