



Digitized Automation for a Changing World

# Delta Electric Servo Press AM-ESP S Series

**Precise · Robust · Stable**

- High repeatability and multiple strokes
- Precise press and flexible control
- Seamless hardware and software integration for high efficiency
- Multiple processes adaptable to changeovers
- Multiple machine connection and remote control
- Robust design

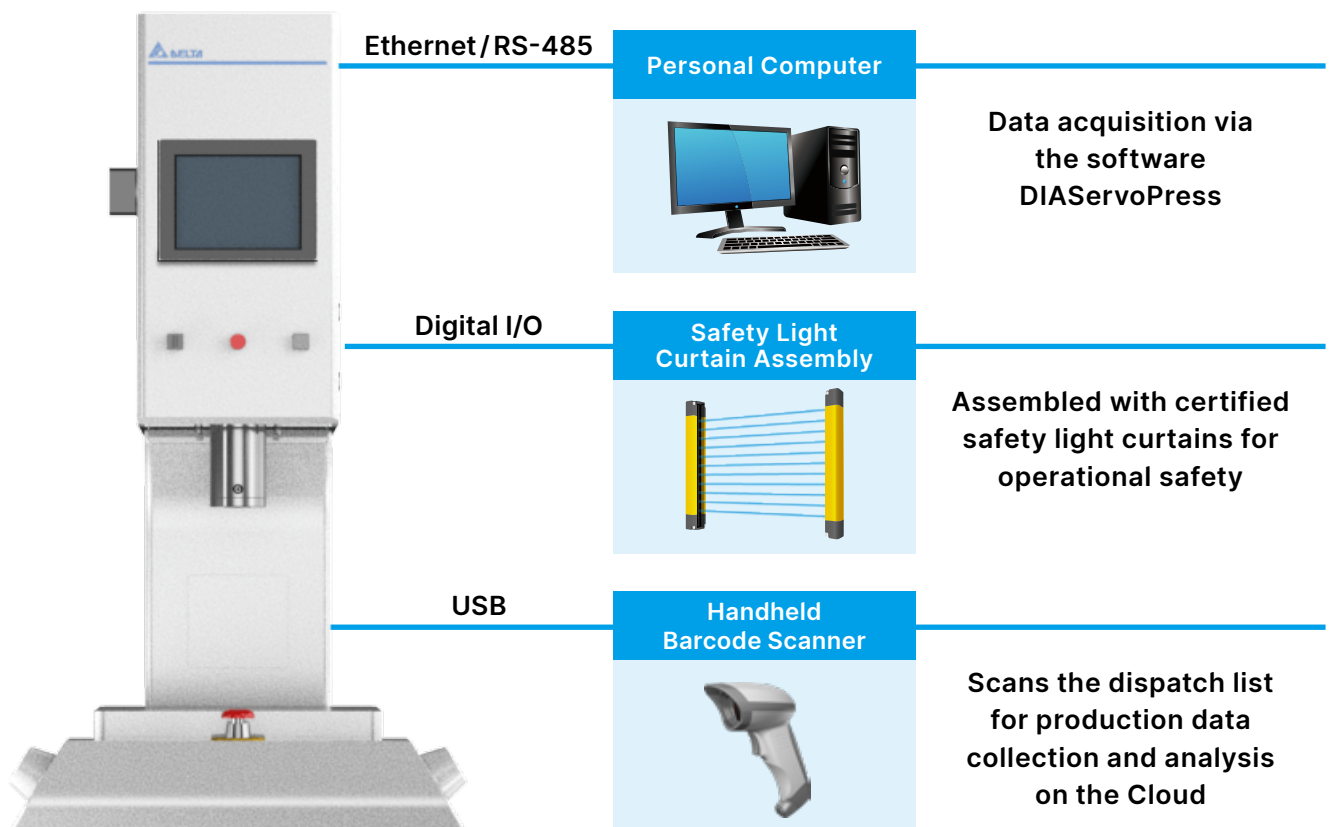
# Delta Electric Servo Press

## Precise Force Control

In modern industries, diversification, short lead time, multiple functions and customization are demanded for manufacturing in all fields. Since 2000, Delta has been working on the development of servo presses for the processing of fans, motors, network appliances, automobiles, electronics assembly, and more. With in-depth know-how and real experience, Delta presents this new electric servo press for more efficient, energy-saving manufacturing.

Delta's electric servo press features precise control of press force and processes for high efficiency and energy savings. It requires no conventional press parts such as flywheel, pneumatic cylinder, motor, clutch, or others, and can solve noise pollution, oil leakage, oil seal

### Servo Press AM-ESP S Series

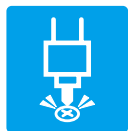


# Rapid Response Time

failure, inconsistent press force and other pneumatic or hydraulic press issues that automobile and electronic component manufacturers have experienced in the past.

All of the key components are designed and manufactured by Delta for seamless integration, stable operation, high production efficiency and provided as a one-stop-shop service. When connected with equipment management platforms, the electric servo press supports data exchange for monitoring in real time and flexible changeover on smart automated production lines. It helps customers increase their yield rates and competitiveness.

## Features



**Precise Force and Position Control**



**Remote Control for Fast Execution**



**Comprehensive PC-Based Software for High Efficiency**



**Multiple Control Modes**



**User-Friendly Interface**



**Dynamic Frame Limit**



**Process I/O Control**

## Applications



Vehicle Charging Devices



Metal Parts



Electronic and Electrical Appliance Components



Industrial Robots

## Features

### Precise Force and Position Control

Applies servo motors to drive low-backlash ballscrew and tool holder for high repeatability and precision

- Press force: 500 ~ 5,000 kgf
- Integral casting and used with Delta's servo motors for high dynamic load capacity
- Fast control mode switching and precise control of press force, position, time required, and settings

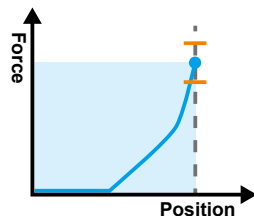


### Multiple Control Modes: Real-time Control and Monitoring

Reduces defect rates and elevates forming efficiency for specific products

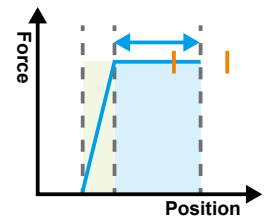
#### • Position Mode

Enables the press punch to move downwards to a defined absolute position and avoids over-press force



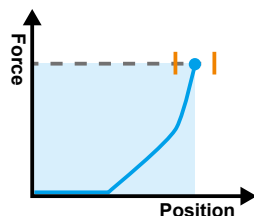
#### • Force Distance Mode

Presses to a relative distance with a constant force and ensures the precise press position



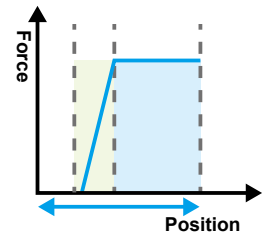
#### • Force Mode

Makes the press punch press to a defined force and ensures the precise press position



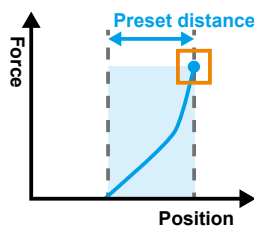
#### • Force Position Mode

Presses to an absolute position with a constant force



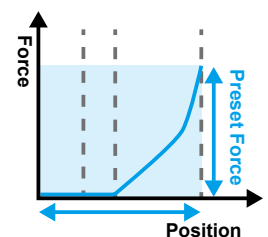
#### • Distance Mode

Allows the press punch to press a workpiece to a relative distance and ensures the precise press force and position



#### • Multiple Mode

All of the modes mentioned above can be applied interchangeably per users' demands



### Dynamic Frame Limit

- 8 types of frames for selection. Each pressing process can set 10 groups of pressing monitoring
- Real-time monitoring of the pressing process. If an anomaly occurs, the system will send a shutdown notification without delay
- Capable of setting different conditions based on multiple materials



For Various Applications & Operations



## Remote Control for Fast Execution

Data upload to the manufacturing execution system (MES) via the built-in Ethernet communication for efficient and remote management, recording and analysis



MES

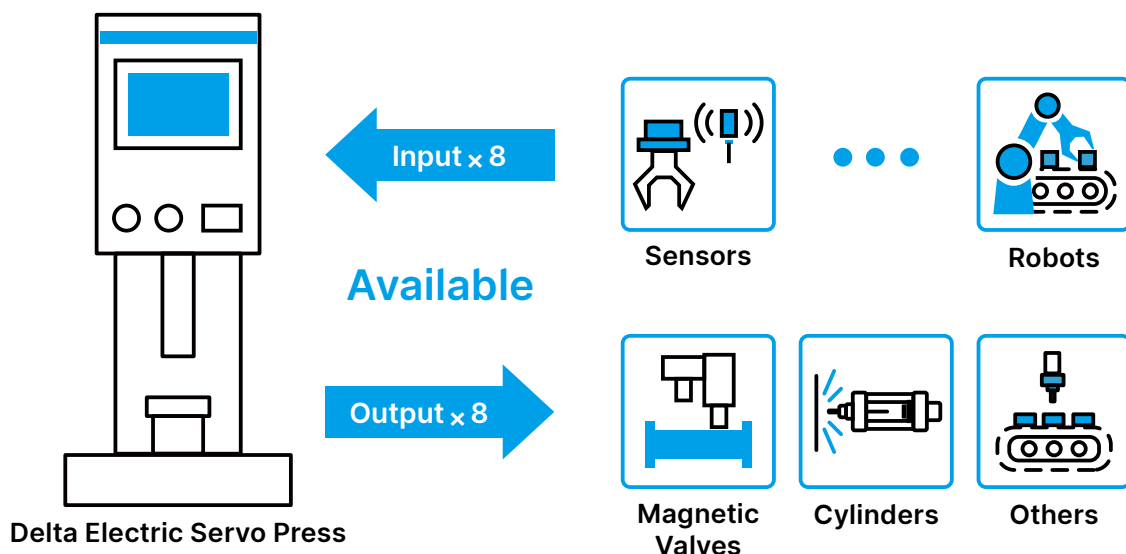
## User-Friendly Interface

- Intuitive operation interface
- Real-time pressing records and data upload
- Production data acquisition and tracking
- Data visualization with statistical reports and graphs output
- Data upload to the Cloud for remote management via manufacturing execution system (MES)



## Process I/O Control

- Built-in I/O mode connects to external sensors or devices for control
- No external controller for cost efficiency. Actively controls peripheral devices to complete complex logic actions

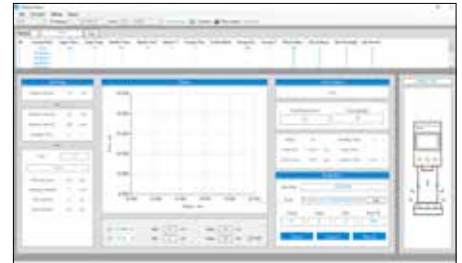


## Features

### Comprehensive PC-Based Software for High Efficiency (Optional)

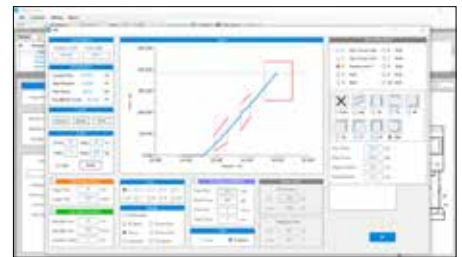
#### Real-time Monitoring on Pressing Status

- Real-time display of pressing curves and status, sensor values and statistics
- Production visualization (productivity, yield rates, and more) to enhance management efficiency



#### Comprehensive Process Settings

- Pressing parameter and condition settings
- Pressing recipes export for the use of other machines or saving as samples



#### Data Analysis and Statistical Reports Output

- Pressing data, records and charts
- Statistical data calculation for batch production
- Statistical reports and graphs output for tracking



## Model Information

**AM - ESP - S      001 - 1      0                      A                      I**

Category	Product Type	Serial	Max. Press Force	Max. Stroke	Voltage	Accessory	Certification
Advanced Manufacturing	Electric Servo Press	S : Standard	005 = 500 kgf 010 = 1,000 kgf 030 = 3,000 kgf 050 = 5,000 kgf	1 = 100 mm 2 = 200 mm	0 = 220 V / 1 φ 1 = 220 V / 3 φ 2 = 380 V / 3 φ	■ 500 kgf / 1,000 kgf Series A: Table Stand / Safety Light Curtain and Fences C: Table Stand E: Safety Light Curtain and Fences G: No need  ■ 3,000 kgf / 5,000 kgf Series B: Table Stand / Safety Light Curtain and Fences D: Table Stand F: Safety Light Curtain and Fences G: No need	D = Digital / TS certified C = CE certified

## Specifications

Model Name		AM-ESP-S005-10--	AM-ESP-S010-10--	AM-ESP-S030-21--	AM-ESP-S050-21--
Force	Max. Press Force (kgf)	500	1,000	3,000	5,000
	Force Range (kgf)	5 ~ 500	10 ~ 1,000	30 ~ 3,000	50 ~ 5,000
	Min Increment / Decrement (kgf)	0.1		1	
	Max. Deviation (%)	± 0.8 FS*1			
Spindle Stroke	Max. Stroke (mm)	100		250	
	Min. Increment / Decrement (mm)	0.001			
Spindle Speed	Max. No-load Speed (mm / s)	270			200
	Max. Press Speed (mm / s)	40*2			
	Min. Increment / Decrement (mm / s)	0.001			
Repeatability of Position Control (mm)		± 0.005*3			
Load Capacity of Press Punch (kg)*4		10		100	
Power Supply		220 V <sub>AC</sub> × 1 ϕ, 10 A		220 V <sub>AC</sub> × 3 ϕ, 30 A	
Power Cable Length (m)		5			
Pressing Area Dimensions (W × H mm)		325 × 245		400 × 450	
Over-press Protection		Yes			

--: Accessory and Certification (D indicates Digital/TS certified, C indicates CE certified)

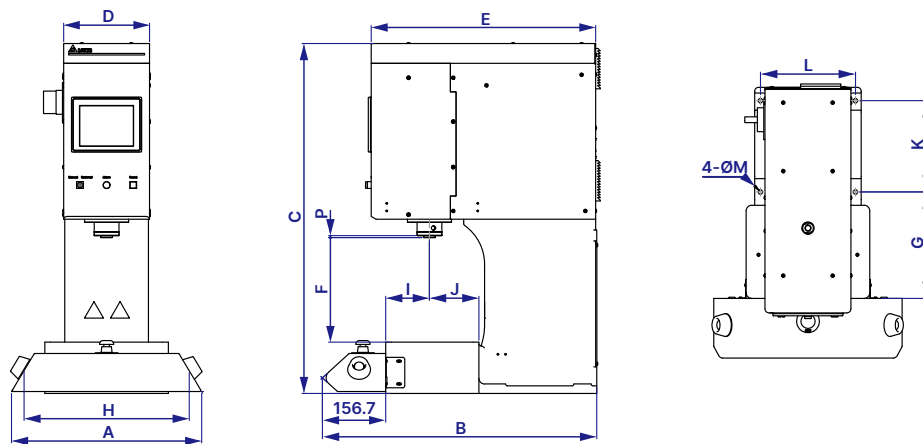
\*Note 1: FS = Full Scale

\*Note 2: Pressing speed is altered by pressing value ;

\*Note 3: The equipment should be operated under constant temperature and pressure to maintain the precision of press repeatability, not absolute accuracy.

\*Note 4: The index is not the breaking retaining force

## Dimensions



Model Name	A	B	C	D	E	F	G	H	I	J	K	L	M	P
AM-ESP-S005-10--	495	712	920	226	590	275	280	435	115	130	240	250	12	5
AM-ESP-S010-10--														
AM-ESP-S030-21--	645	1,107	1,400	458	948	380	470	589	200	200	430	510	22	5
AM-ESP-S050-21--														





--: Accessory and Certification (D indicates Digital/TS certified, C indicates CE certified)

## Ordering Information

Model Name	Max. Press Force (kgf)	Max. Stroke (mm)	Accessory
AM-ESP-S005-10AT	500	100	Uses the dedicated standard table stand, safety light curtain and fences.
AM-ESP-S005-10CT			Uses the dedicated standard table stand.
AM-ESP-S005-10ET			Uses the dedicated safety light curtain and fences.
AM-ESP-S005-10GT			No accessory needed
AM-ESP-S010-10AT	1,000		Uses the dedicated standard table stand, safety light curtain and fences.
AM-ESP-S010-10CT			Uses the dedicated standard table stand.
AM-ESP-S010-10ET			Uses the dedicated safety light curtain and fences.
AM-ESP-S010-10GT			No accessory needed
AM-ESP-S030-21BT	3,000	200	Uses the dedicated standard table stand, safety light curtain and fences.
AM-ESP-S030-21DT			Uses the dedicated standard table stand.
AM-ESP-S030-21FT			Uses the dedicated safety light curtain and fences.
AM-ESP-S030-21GT			No accessory needed
AM-ESP-S050-21BT	5,000		Uses the dedicated standard table stand, safety light curtain and fences.
AM-ESP-S050-21DT			Uses the dedicated standard table stand.
AM-ESP-S050-21FT			Uses the dedicated safety light curtain and fences.
AM-ESP-S050-21GT			No accessory needed

\_ \_ : Accessory and Certification (D indicates Digital/TS certified, C indicates CE certified)

## Optional Accessories

Item Image	Type	Part Number	Dimensions (W × D × H) and Description
	0.5T/1T Safety Light Curtain and Fences	5811125488	Type 4 Safety Light Curtain 327 × 540 × 460 mm
	3T/5T Safety Light Curtain and Fences	5811125487	Type 4 Safety Light Curtain 580 × 798 × 730 mm
	0.5T/1T Standard Table Stand	4277234500	Perfect height for operation 850 × 600 × 765 mm
	3T/5T Standard Table Stand	4277221200	Perfect height for operation 1,250 × 800 × 700 mm

## Advanced Manufacturing Industrial Automation Business Group

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