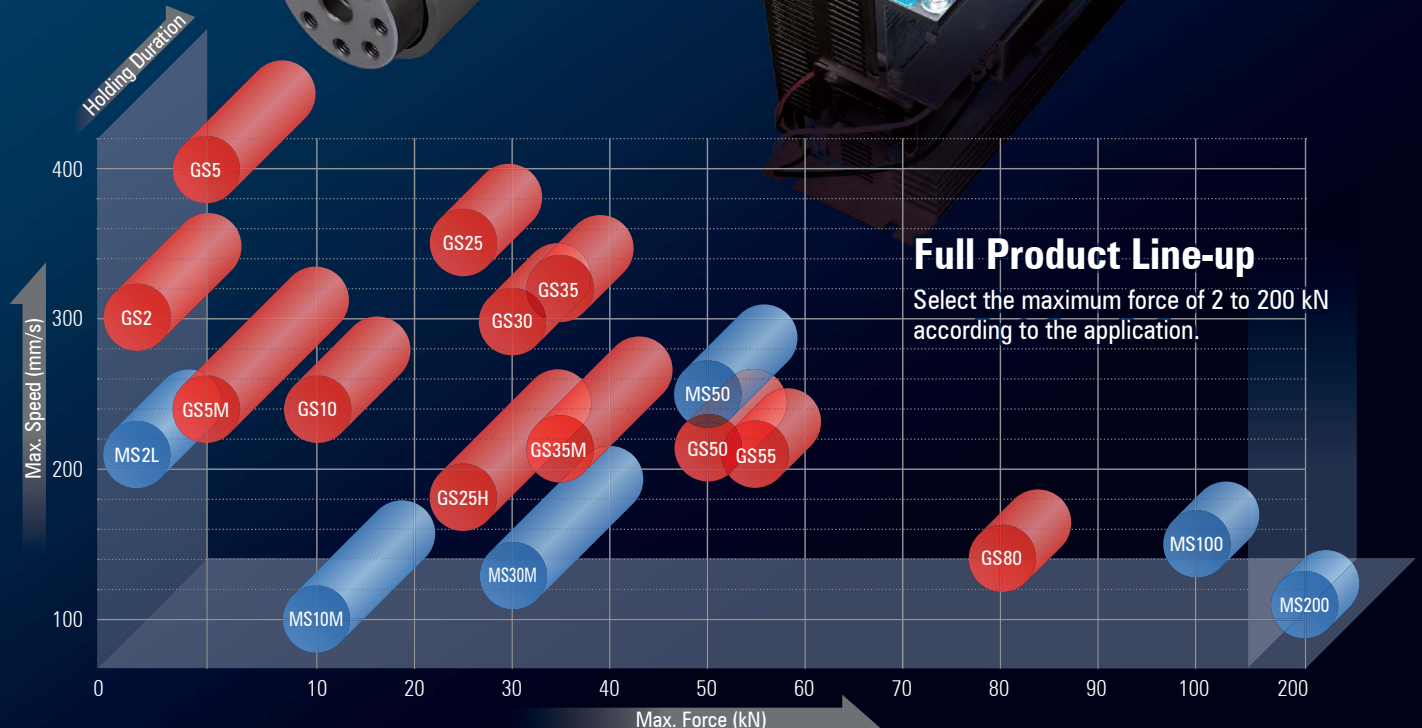


## WPS Controller



# Coretec's "AC Servo Press System": Adopted for a Wide Range of Production Processes

## AC Servo Press Tools

### We have further expanded the GS Series lineup

- The GS Series is an advanced version of the CS Series, with a stronger motor for increased capacity and no origin sensor.
- The MS Series uses a high value-added model with large force, high load, and absolute specifications and is excellent in slow speed operation.
- The middle mounting flange structure provides high rigidity despite its slimness. Internal structure that allows pull operation (except MS200)
- Equipped with a load cell amplifier with a built-in microprocessor. Provided with tool ID function as well as a linearity correction function and tool operation history.

## WPS Controller

### Next-Generation controller with improved expandability, safety and convenience

- Inherits the features of previous generations of controllers while also adopting cutting-edge methods and features. This controller can also be used to control existing CS and MS tools being used.
- A compact controller has been added specifically for small tools. This enhances cost competitiveness.
- Two expansion slots are provided for connection to external devices. Optional circuit boards can be installed to support various types of communication and control.
- All types are equipped with a dedicated emergency stop input to ensure safety. This allows you to directly connect an emergency stop button.
- The use of non-volatile memory enables battery-free operation. This eliminates troublesome replacement procedures and enables easy transport.

## Massive Improvement in Work Data Storage and Analysis Capabilities

### Improved Data Collection and Analysis Capabilities

A maximum of 100,000 points\*1 of data can be saved per waveform of operation results every 0.25 ms in the shortest\*2.

A total of four waveforms can be selected and saved for tool speed, current load factor, load rate, and similar items as based on load and stroke.

### Equipped with USB Memory

Enables saving of various data and history.

- Numeric/Waveform data
- Program archives
- Alarm record, etc.

Other functions

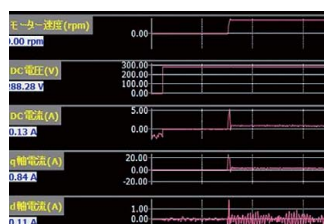
- Firmware updating



### Scope Function

Up to eight types of specific data in the controller can be continuously transmitted to the PC side.

As it can continuously monitor data, it is expected to be used for analyzing rare phenomena and for IoT applications.



Load value, stroke value, tool speed, load change rate, motor current absolute value, DC voltage, PIN/POUT, program block, electronic thermal load rate, instantaneous load rate, mechanical brake status, origin sensor, external stroke, etc.

## Servo Systems with Various Performance Enhancements

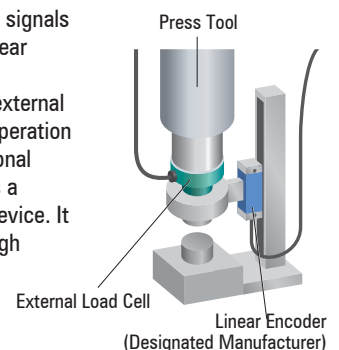
### Thorough Pursuit of Basic Performance

A program execution cycle of 0.25 ms\*3 provides even better responsiveness and repeatability.

### Control by External Load Value and Stroke Value

Can control the tool by reading signals from external load cells and linear sensors.

In particular, control using an external linear encoder enables press operation with dramatically better positional accuracy while also using it as a high-precision measurement device. It is perfect for fields requiring high precision.



The load signal from the external load cell converted by the dedicated load cell amplifier is connected to the WPS controller via a standard cable. The stroke signal from the external linear encoder is connected to an optional circuit board of the WPS controller.

\*1: 1,000 times that of our current products \*2: Four times faster than our current products \*3: Four times faster than our current products

# Great advancement of "Reliability" as well as "Performance"

The features of Coretec's products, such as

*high-speed  
response*

*free  
operation*

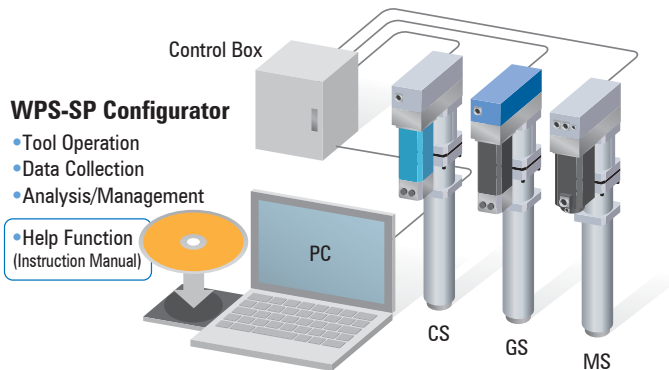
*real-time  
judgment  
control*

have been further refined.

## Press System Designed to Pursue Ease of Use

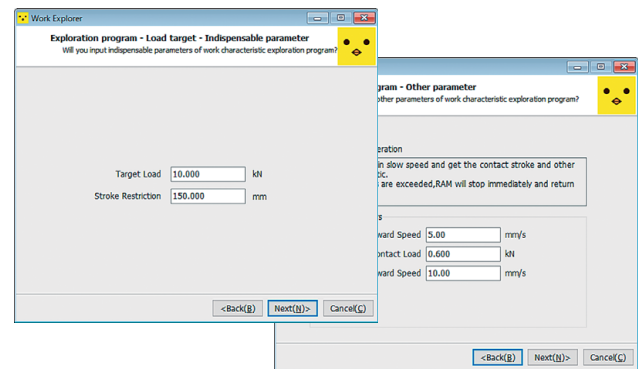
### Completed in All-in-One Application Software

One software package covers everything from tool operation to data collection, analysis and management for all servo tools of the CS/GS/MS Series. The software is available in multiple languages. There is also a full range of help functions to provide operability and ease of understanding beyond the instruction manual.



### Work Explorer Function

Simply set the workpiece and enter a few parameters interactively to start the tool. The easiest and most realistic method to create a program, which finds the contact position with the workpiece and automatically generates an operating program, is available.



### Easy-to-Understand Programming Methods

Programming methods include adoption of a "block method" that makes it easy to grasp the flow of operations and a "label method" that allows names to be attached to variable parts for ease of understanding.

The function for rewriting programs from the PLC has been inherited. Equipped with a function for converting programs from CPS to WPS style.

Main Body		Program Table		Judgement Table		Registers Label		Comment	
Block	Block Name		Step	Invalid	Loop	Instruction		Parameter	
01	Initial		1			Mechanical Brake		Off	
			2			Data Save		Begin	
			3			Stroke Limit+		Stroke Limit	
			4						
02	Load Protection		1			Load<<		Protection Load	
			2			Mul		Protection Load	
			3			Load Limit		Protection Load	
			4						

Programming Screen (Partial)

### Operation Simulator

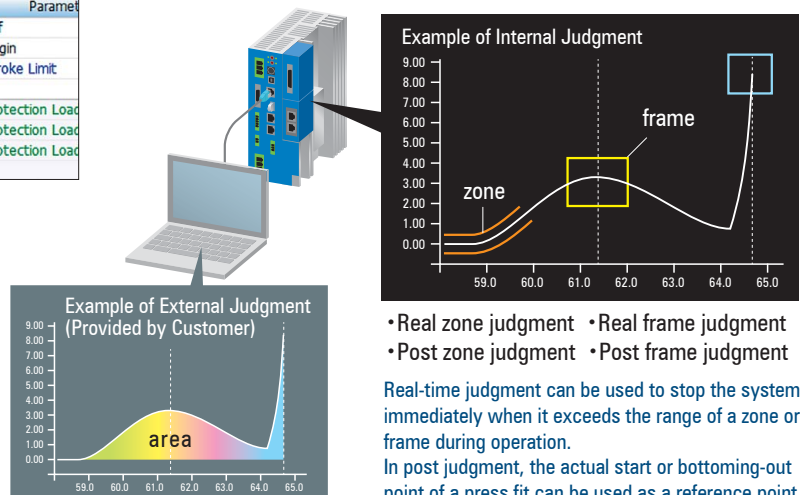
Software to verify press operation on a PC in advance is available.

This enables customers to smoothly select and start up their tools.

### Expanded Post-Operation Judgment Function

In addition to Coretec's characteristic real-time judgment function, we have added a post-operation judgment function that is processed internally by the controller after operation. In addition to standard zone and frame judgments, upper and lower limits can be judged using general numerical values.

Moreover, a new function to link with external judgment applications has also been added. This allows each customer to use their own preferred judgment methods. The internal and external judgment results are combined for a comprehensive pass/fail judgment.



- Real zone judgment
- Real frame judgment
- Post zone judgment
- Post frame judgment

Real-time judgment can be used to stop the system immediately when it exceeds the range of a zone or frame during operation.

In post judgment, the actual start or bottoming-out point of a press fit can be used as a reference point after operation so that the stroke value can be corrected before judgment.

Operation data is sent and judgment results are captured.



AC Servo Press GS Series

AC Servo Press MS Series

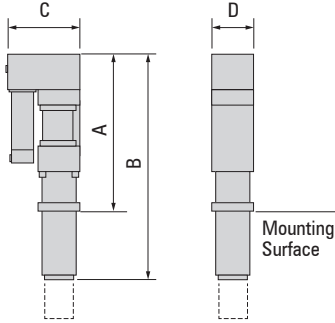
Specifications

Model	GS2	GS5	GS5M	GS10	GS25	GS25H	GS30	GS35	GS35M	GS50	GS55	GS80	MS2L	MS10M	MS30M	MS50	MS100	MS100M	MS100H	MS200		
Max. instantaneous force (kN)	2	5	5	10	25		30	35		50	55	80	2	10	30	50	100			200		
Applicable force (kN)*1	1.5	3	5	7	15		21	35		40	45	70	1.5	7	21	45	70			150		
Max. stroke (mm)	100	100/250			100/200/350			200/400			100/200/350		100	100/250	100/200/350						100/200	
Special stroke (mm)	200	150			400		400/500		-			400/500		200	150	400/500						300
Max. speed (mm/s)*2	300	400	240		350	180	300	320	215		210	140	215	100	130	250	150	90	50	110		
Controller model	WPS-SP30 or WPS-SP75				WPS-SP75								WPS-MSJ4 + Amplifier									
Load cell accuracy	±1.5% @FS (Repeatability ±0.5% @FS)																					
Positional repeatability	±0.01mm *3																					
Max. power supply capacity (kVA)	0.3	0.75			3.5			4.2					0.3	0.9	3.5	5.5	7.5			10		
Brake holding load (kN)	0.5	0.6	1		2.8		3.2	1.8		2.6	2.5		0.7	1.1	4.1	1.8	2.5			23.4		

\*1: This is the applied force in consideration of the mechanical life. \*2: Coretec recommends using GS and MS models at 75% or less of the maximum speed. A maximum press fitting speed of 30 mm/s is recommended for all models. \*3: Under the same conditions \* Please feel free to inquire about specifications for models not indicated above.

Dimensions

Model No.	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
GS2-100BK	162	262	108	48	3.5
GS5 (M)-100BK	335	466	150	65	13
GS5 (M)-250BK		671			18
GS10-100BK		466			13
GS10-250BK		671			18
GS25 (H)-100BK	390	511	200	80	24
GS25 (H)-200BK		651			28
GS25 (H)-350BK		851			34
GS30-100BK		556			32
GS30-200BK	398	681	215	94	36
GS30-350BK		861			42
GS35 (M)-200BK	487	760	260	118	66
GS35 (M)-400BK		1000			82
GS50-200BK		761			66
GS50-400BK		1001			82
GS55-100BK	535	781	290	135	76
GS55-200BK		861			82
GS55-350BK		1041			96
GS80-100BK		781			76
GS80-200BK		861			82
GS80-350BK		1041			96

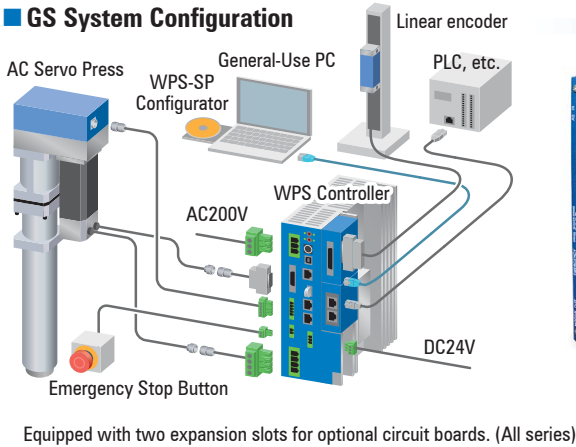


Model No.	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)
MS2L-100BK	162	262	108	48	3.5
MS10M-100BK	335	466	152	65	12
MS10M-250BK		671			17
MS30M-100B	415	573	215	94	33
MS30M-200B		698			37
MS30M-350B		878			43
MS50-100BK	535	781	290	135	79
MS50-200BK		861			85
MS50-350BK		1041			99
MS100-100B		781			84
MS100-200B		861			90
MS100-350B		1041			104
MS100M (H)-100B	560	806			86
MS100M (H)-200B		886			92
MS100M (H)-350B		1066			106
MS200-100B	721	1146	451	228	170
MS200-200B		1246			184

Tool Model Notations

Series name: GS,MS ..... **GS 35 M - 400 B**  
Max. force (kN) .....  
2,5,10,20,30,35,50,55,80,100,200  
(Refer to the specifications)  
L,M,H: Load holding type .....  
B: With holding brake  
C: No load cell (MS200 only)  
K: No origin sensor  
A: Absolute type (MS series only)  
Max. stroke (mm)  
100,200,250,350,400,500 (Refer to the specifications)

GS System Configuration



WPS Controller

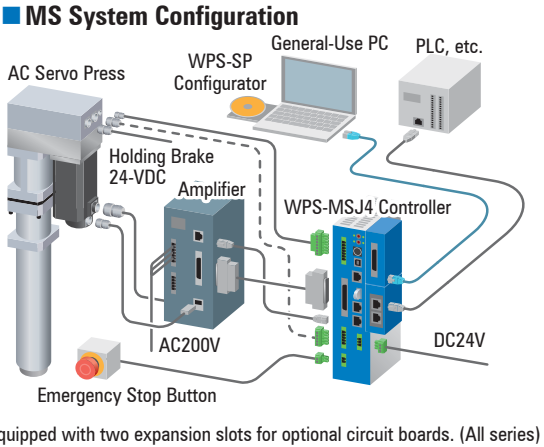
Controller Specifications

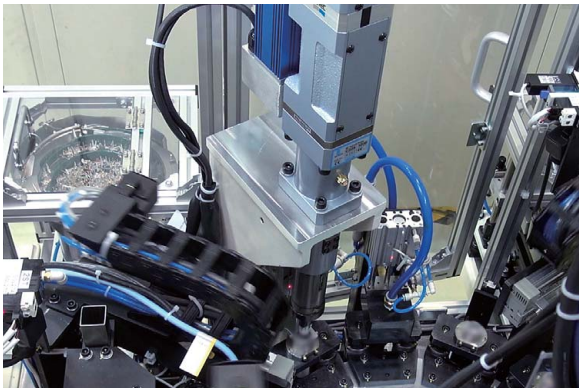
Product name	Compact controller	Standard controller	MSJ4 controller
Model	WPS-SP30	WPS-SP75	WPS-MSJ4
Control power	DC24V ± 10%		
Operating power	3-phase 200-230V ± 10% 50/60Hz		
Cooling method	Natural air cooling	Built-in fan forced air cooling	—
Regenerative function	—	80-W regenerative resistance	—
External size (mm)	65×180×242	75×190×242	51×110×230

Controller Model Notations

Indicates the hardware version  
WPS-SP30 - SP75 - MSJ4  
Code indicating the optional circuit board of option slot 1  
Code indicating the optional circuit board of option slot 2  
Optional Circuit Board  
Field bus  
Industrial-use Ethernet  
P/I/O  
Linear encoder interface  
Dedicated Ethernet circuit board  
External load cell interface  
CCL  
DEV  
PFB  
PFN  
EIP  
CIF  
NPN  
PNP  
LINE  
SET  
EXL

MS System Configuration





Terminal Press Fitting

## Applications

Press fitting (bearings, bushings, pins, and the like), staking, bending, forming, joining, punching, cutting, engraving, clamping, straightening, hot press, inspection, etc.

Stack compression, valve seat/guide press fitting, pressurized height measurement, bending of electric component terminals, long-term constant pressure, ultrasonic welding, heat welding, various testing (endurance test, and the like), etc.

## Use Examples



C-Frame Type

4-Column Type

Desktop Type

Coretec can deliver servo presses of 2 to 200 kN with various specifications as well as peripheral electrical equipment.



Multiple-Shaft Synchronized Press

Pressure can be applied to large workpieces in an even manner by dispersing the pressurizing points.

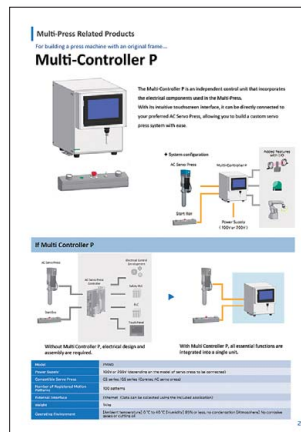
Please consult with Coretec for high thrust forces exceeding 200 kN.

## AC Servo Related Products



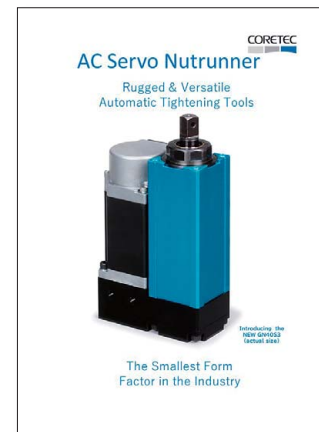
Multi Press

Allows you to start working right after connecting to a power source.  
No need to create operating programs.



Multi Controller

An all-in-one controller that provides completely free servo press operation. All electrical components, including the safety PLC, are housed in a compact enclosure.



Nutrunner

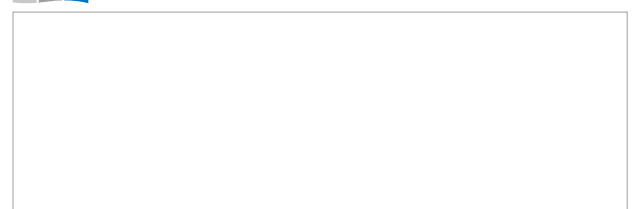
Perfect for tightening high-precision parts in production lines.  
Compact, long life, and high rigidity.



# CORETEC INC.

Head Office/Factory 500 Akahama, Soja-shi, Okayama, 719-1121, Japan  
Tel. +81 866-94-9016 Fax +81 866-94-1178  
Chubu Office 2-14 Akebono-cho, Toyota-shi, Aichi, 471-0835, Japan  
Tel. +81 565-71-9000 Fax +81 565-71-9010  
Kanto Office Fuji Building 3rd floor, 2-7-4 Shinyokohama, Kohoku-ku,  
Yokohama-shi, Kanagawa, 222-0033, Japan  
Tel. +81 45-442-9088 Fax +81 45-442-9089

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URL <https://www.coretec.co.jp/> E-mail [info@coretec.co.jp](mailto:info@coretec.co.jp)

\*Specifications are subject to change without notice.

SPW07-2511E