

# SORESS

*More than Simple !  
Better than Smart !*

# Certification

**SORESS**

- Patent "High-efficiency Unit Type Driving Device of Electro Servo Press [No. 10-1190428]
- Apply for a patent "Control Method of Electro Servo Press"
- Patent " Safety control method of table top oil-hydraulic press" [NO. 10-1195174]
- Acquired the certificate of Design Registration Electro Servo Press
- Utility model patent registration (No. 0292489, No. 0359515, No. 0360402)
- Design patent registration (No. 0334782, No. 0334780, No. 0334780)
- Acquired certificate of product-specific approved exporter(FTA)
- Venture Business recognition
- Acquired the certificate of ISO 9001 / 14001
- Acquired the Korea safety Certification System(KCS Mark)
- Acquired the safety Certification(S Mark)
- Acquired the certificate of Technical Research Institute
- Granted export industrialization business for Small & Medium company
- Acquired the certificate of CE Mark (Bench Type Hydraulic Pressing & Riveting Machine)
- Acquired the certificate of CE Mark(HD Press Control Board)
- Acquired the certificate of Trademark Registration "CETTA"





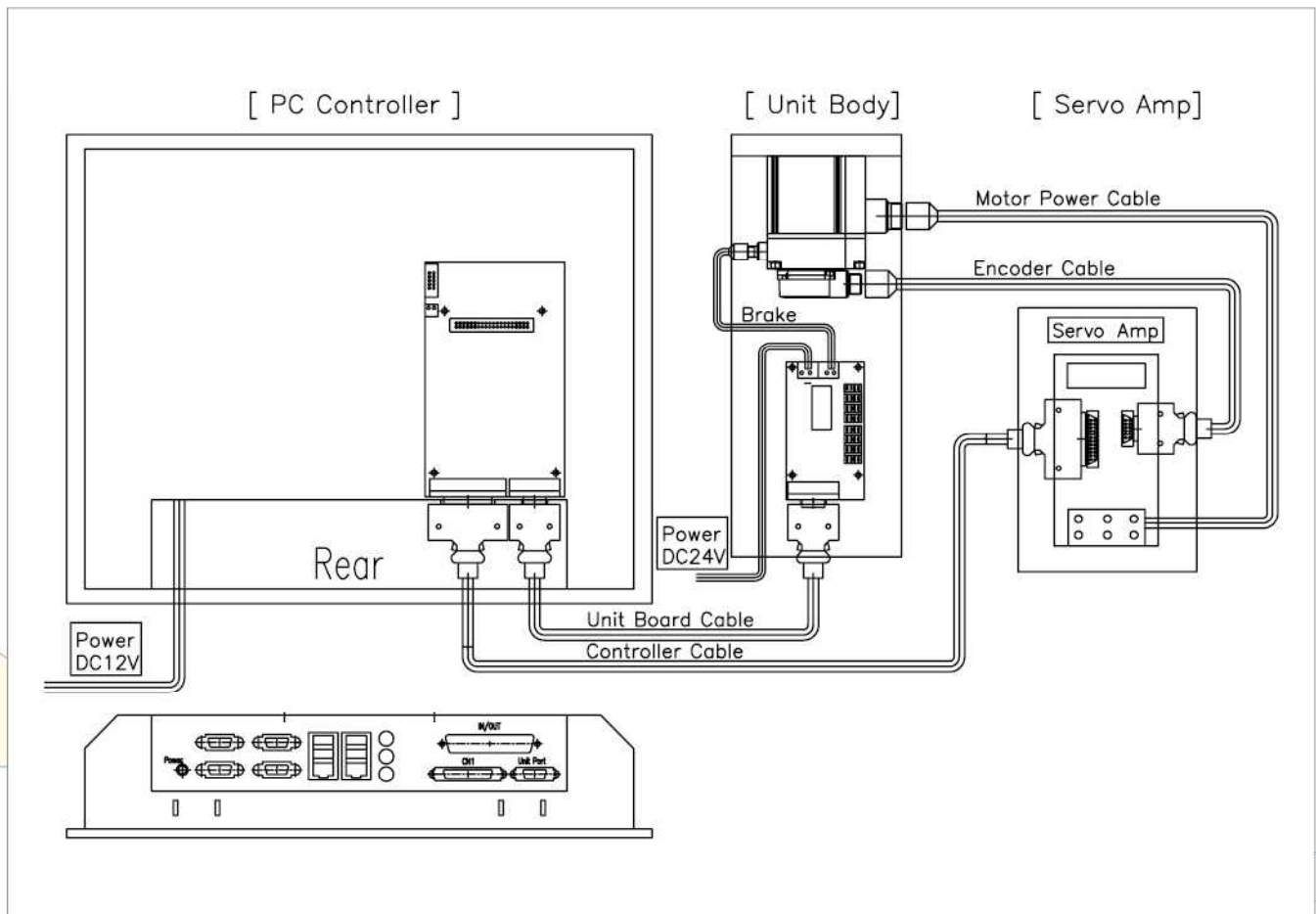
# ELECTRO SERVO PRESS

SORESS

## ELECTRO SERVO PRESS Main Features

- 1) Controller Based on P.C / NI FPGA
- 2) User convenient interface [Motion control, load cell, A/DC]  
10.4/15"LCD Touch Screen - Minimized Pre-setting Labor  
Easy programming for different product
- 3) Flexibility for various conditions
- 4) Maximization of load control function
  - Pressing with constant load
  - Finding desired load
  - Finding work home position by measuring pressing load
- 5) Repeatability (High precision)
  - Free load : 0.005mm(Normal Temperature)
  - Load : 0.02 mm
- 6) Real-Time plotting Function
- 7) Various judgment function
  - Numerical judgment : Distance, Load
  - Graph judgment : Generate judgment block for waveform observation
- 8) Miscellaneous interface  
Emergency Stop, Safety Sensor, External I/O, etc...
- 9) Efficiency of data management
  - Generating data file and managing work data
  - Save working list
  - Search pre-working list and redisplay
- 10) Easy programming  
Command selection method helps beginner write a program easily

## ELECTRO SERVO PRESS Electrical Schematic

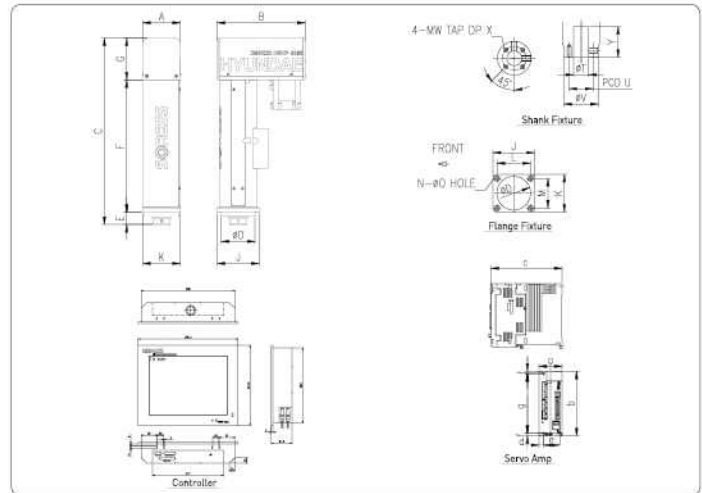


# SORESS Slim Type

SORESS S Series



## Drawing



## Specification

Model		SORESS-005S	SORESS-010S	SORESS-030S	SORESS-050S	SORESS-080S	SORESS-120S
Capacity (kg-f)	Range	40~500	40~1,000	50~3,000	100~5,000	100~8,000	500~12,000
	Increment	1	1	1	1	1	1
Ram Stroke (mm)	Range	0~150	0~200	0~200	0~200	0~200	0~350
	Increment	0.001	0.001	0.001	0.001	0.001	0.001
Ram Speed (mm/sec)	Range	0.1~240	0.1~220	0.1~180	0.1~180	0.1~180	0.1~170
	Increment	0.01	0.01	0.01	0.01	0.01	0.01
Repeatability (mm)	Free load	0.005 (Normal Temperature)					
	loading	0.02 (Vary with RAM Speed)					
Allowable Jig Weight (kg)		6	12	60	75	90	90
M/C Weight (kg)		25	30	60	70	100	160
Power Capacity (kVA)		1.3	1.6	4	6	7.5	9
Power Source (V)	3-Phase	220					
	Single-Phase	220	Not applicable				

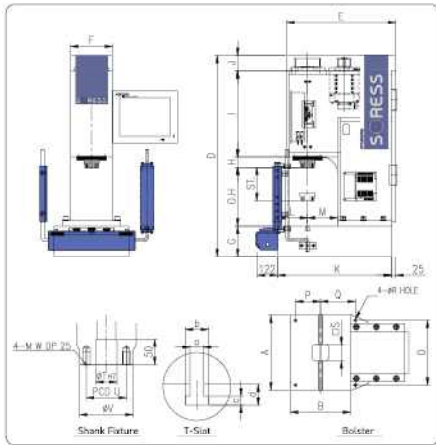
## Dimension

Model	ST.	Frame Dim.									Flange Fixture Dim.					Shank Fixture Dim.					Servo Amp Dim.								
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	T	U	V	W	X	Y	a	b	c	d	e	f	g
-005S	150	102	220	468	99	35	328	105	187	100	116	102	96	82	4	9	22	35	50	6	15	45	40	168	170	6	-	6	156
-010S	200	110	257	545	99	35	388	122	209	109	122	110	98	86	4	11	22	35	50	6	15	45	60	168	185	12	42	6	156
-030S	200	145	300	660	129	43	470	147	415	136	163	145	130	115	4	16	32	50	65	8	25	50	90	168	195	6	78	6	156
-050S	200	150	347	683	143	40	489	154	474	141	168	150	136	116	4	16	32	50	70	8	25	50	130	250	200	6	118	7.5	235
-080S	200	195	423	730	160	60	501	169	518	140	230	195	200	200	8	16	32	60	80	8	25	50	130	250	200	6	118	7.5	235
-120S	350	195	520	970	180	70	685	215	596	165	250	195	220	220	8	16	32	70	100	8	25	50	172	300	200	6	160	7.5	285

# SORESS Bench Type

SORESS B Series

## Drawing



## Specification

Model		SORESS-005B	SORESS-010B	SORESS-030B	SORESS-050B	SORESS-080B
Capacity (kg·f)	Range	30~500	40~1,000	50~3,000	100~5,000	100~8,000
	Increment	1	1	1	1	1
Ram Stroke (mm)	Range	0~150	0~200	0~200	0~200	0~350
	Increment	0.001	0.001	0.001	0.001	0.001
Ram Speed (mm/sec)	Range	0.1~240	0.1~220	0.1~200	0.1~200	0.1~190
	Increment	0.01	0.01	0.01	0.01	0.01
Repeatability (mm)	Free load	0.005 (Normal Temperature)				
	loading	0.02 (Vary with RAM Speed)				
Holding Time (sec)	Range	0~20	0~20	0~20	0~10	0~10
	Increment	0.1	0.1	0.1	0.1	0.1
Allowable Jig Weight (kg)		10	20	100	120	150
M/C Weight (kg)	Bench Type	160	210	310	460	810
Power Capacity (kVA)		1.3	2	4	6	7.5
Power Source (V)	3-Phase	220				
	Single-Phase	220	Not applicable			

\* Holding Time will be varied with various conditions.

## Dimension

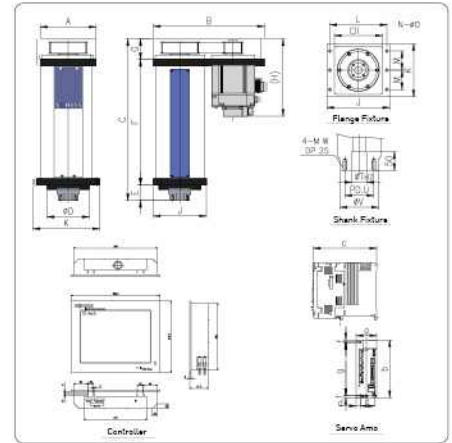
Model	O.H	ST.	Base Size			Frame Dim.								Bolster Dim.					Shank Fixture Dim.				T-Slot Dim.					
			A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	Q	R	S	T	U	V	W	a	b	c	d
-005B	250	150	350	240	612	890	450	200	140	40	410	50	465	120	120	300	90	140	9	80	22	35	50	6	16	28	10	20
-010B	300	200	400	300	732	1070	555	228	150	45	510	65	585	150	150	340	120	170	11	80	32	48	62	8	16	28	10	20
-030B	350	200	450	360	832	1205	655	250	180	65	520	90	685	180	180	390	150	210	11	100	32	60	80	8	16	28	11	25
-050B	350	200	480	360	852	1275	675	300	200	65	570	90	705	180	180	420	150	150	11	100	32	65	90	8	16	28	11	25
-080B	500	350	580	425	957	1730	750	350	250	80	780	120	810	225	200	520	190	230	14	100	32	70	100	8	16	28	11	25
-120B	550	350	600	450	997	1800	800	400	250	80	800	120	850	225	225	540	190	190	14	100	32	80	130	10	16	28	11	25
-180B	600	350	600	500	1147	2100	960	550	350	120	900	130	1000	250	250	610	150	650	18	100	32	100	150	10	16	28	11	25

# SORESS Unit Type

SORESS U Series



Drawing



## Specification

Model		SORESS-005U	SORESS-010U	SORESS-030U	SORESS-050U	SORESS-080U	SORESS-120U	SORESS-180U
Capacity (kg-f)	Range	30~500	40~1,000	50~3,000	100~5,000	100~8,000	500~12,000	500~18,000
	Increment	1	1	1	1	1	1	1
Ram Stroke (mm)	Range	0~150	0~200	0~200	0~200	0~350	0~350	0~350
	Increment	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ram Speed (mm/sec)	Range	0.1~240	0.1~220	0.1~200	0.1~200	0.1~190	0.1~150	0.1~140
	Increment	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Repeatability (mm)	Free load	0.005 (Normal Temperature)						
	loading	0.02 (Vary with RAM Speed)						
Holding Time (sec)	Range	0~20	0~20	0~20	0~20	0~10	0~10	0~5
	Increment	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Allowable Jig Weight (kg)		10	20	100	120	150	150	180
M/C Weight (kg)	Unit Type	45	60	160	170	230	300	370
Power Capacity (kVA)		1.3	2	4	6	7.5	9	13
Power Source (V)	3-Phase	220						
	Single-Phase	220	Not applicable					

\* Holding Time will be varied with various conditions.

## Dimension

Model	ST.	Frame Dim.								Flange Fixture Dim.							Shank Fixture Dim.				Servo Amp Dim.						
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	T	U	V	W	a	b	c	d	e	f	g
-005U	150	130	230	500	110	40	410	50	183	115	154	130	134	50	4	9	22	35	50	6	40	168	170	6	-	6	156
-010U	200	180	350	620	130	45	510	65	243	150	200	170	180	60	6	9	32	48	62	8	60	168	185	12	42	6	156
-030U	200	240	490	675	175	65	520	90	283	200	260	220	236	80	6	11	32	60	80	8	90	168	195	6	78	6	156
-050U	200	240	490	725	175	65	570	90	232	200	260	220	236	80	6	11	32	65	90	8	130	250	200	6	118	7.5	235
-080U	350	270	550	980	210	80	780	120	373	230	306	260	270	95	6	14	32	70	100	8	172	300	200	6	160	7.5	285
-120U	350	320	590	1000	230	80	800	120	595	260	344	290	310	115	6	16	32	80	130	10	172	300	200	6	160	7.5	285
-180U	350	350	700	1150	280	120	900	130	863	300	398	350	360	120	6	18	32	100	150	10	260	400	260	12	236	12	376

Main Work Window

The Main Work Window is divided into several functional areas:

- Top Bar:** Contains 'Work List', 'Search Work Data', and 'Work Name' buttons.
- Graph Area:** A central plot titled 'TEST-1' showing 'LOAD [Kg]' vs 'MOVE [mm]'. The y-axis ranges from 0 to 650, and the x-axis ranges from 0 to 4500. A red line shows the load profile, which rises to a peak of approximately 500 kg and then levels off. A callout box points to the graph with the text 'Coordination of the Graph (x axis, y axis)'.
- Right Panel:** Displays real-time data:
  - LOAD [Kg]: 0
  - MOVE [mm]: 50.000
  - Present Position: 0.000
  - Search Present Position: -69.257
  - TOTAL COUNT: NO. OK NG
  - TOTAL: 1
  - OK: 1
  - NG: 0
  - Buttons: 'SELECT WORK' and a large 'OK' button.
- Bottom Panel:** A table with columns 'NO.', 'FUNCTION', 'DETAILS', and 'RESULT'. It lists various test parameters and their outcomes.
- Control Buttons:** On the right side, there are buttons for 'Quit Program', 'Display Pressing Load', 'Display Present Position', 'Daily Count' (with sub-options for Total, OK, NG), 'Change Work', and 'Display OK or NG'.

MAIN DATA LIST DATA SEARCH L HOLD [graph sv] <JASON> Graph

NO.	MODE	PLAN	SPD	PRG	ISSUE	DATE	TIME	DATE	TIME
1	OK	OK	118.880	01710	200.2	200.4	001	5/15/2013 12:19 PM	
2	OK	OK	118.820	01710	200.0	200.4	002	5/15/2013 12:19 PM	
3	OK	OK	118.841	01710	200.1	200.7	003	5/15/2013 12:19 PM	
4	OK	OK	118.811	01710	200.0	200.0	004	5/15/2013 12:19 PM	
5	OK	OK	118.840	01710	200.0	200.0	005	5/15/2013 12:19 PM	
6	OK	OK	118.200	01710	200.4	202.1	006	5/15/2013 12:19 PM	
7	OK	OK	118.205	01710	200.1	202.6	007	5/15/2013 12:19 PM	
8	OK	OK	118.240	01710	200.7	203.0	008	5/15/2013 12:19 PM	
9	OK	OK	118.020	01710	200.0	202.0	009	5/15/2013 12:19 PM	
10	OK	OK	118.305	01710	200.0	202.0	010	5/15/2013 12:19 PM	
11	OK	OK	118.220	01710	200.7	202.2	011	5/15/2013 12:19 PM	
12	OK	OK	118.820	01710	200.1	200.5	012	5/15/2013 12:19 PM	
13	OK	OK	118.240	01710	200.7	200.4	013	5/15/2013 12:19 PM	

Data List Sub Window

MAIN DATA LIST DATA SEARCH READ Graph

The Data Search Sub Window displays a calendar for May 2010. The calendar shows days from Sunday to Saturday. A date is selected, and there is a 'CANCEL SELECT' button at the bottom.

Data Search Sub Window

SELECT WORK

1	LX[45mm] sample
2	LX[48mm]
3	LX[50mm]
4	LQ[50mm]
5	LD[50mm]
6	MA[36mm]
7	MA[40mm]
8	MA[45mm]
9	MA[48mm]
10	MQ[50mm]
11	LOAD HOLD
12	LOAD SEARCH
13	LOAD HOLD [ DATA SAVE ]
14	LOAD HOLD I-search[ DATA SAVE ]
15	LG elec [45mm - test ]
16	
17	

Navigation buttons: Up, Down, Page Up, Page Down, Move Up, Move Down, Delete, Copy, Edit Mode, Work, Config, I/O, FINISH

Work Selection Window

Configurations

The Configuration Window is divided into several sections for parameter adjustment:

- OTest:** Parameters for OT test (D, J, P1, P2).
- Weight:** Parameters for weight (D, J, P1, P2).
- Check Load:** Parameters for load checking (D, J, P1, P2).
- Unit:** Parameters for unit settings (D, J, P1, P2).
- Auto Compensation:** Parameters for auto compensation (D, J, P1, P2).

Control buttons: CANCEL, APPLY, Save & Exit, RUN

Configuration Window



# Program Edit Window



## 1) Maximization of User Convenience

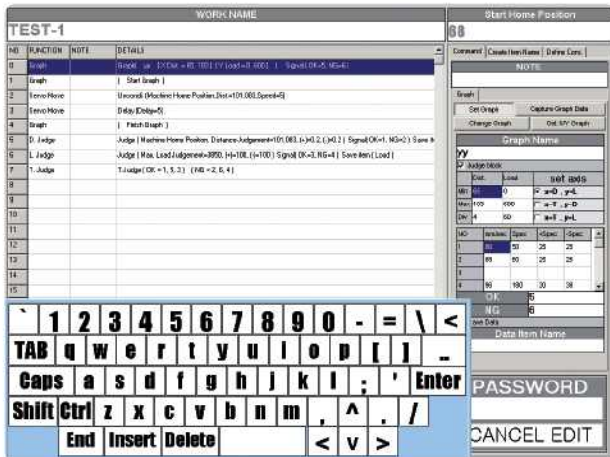
- Servo Control Function : Distance, Speed, Load & Hold Time
- Judgment function : Distance, Load, Block, Graph
- Jump Function : Conditional / Unconditional branching command
- Graphical User Interface
- Password setting function
- Real-Time data display function

## 2) Flexibility for Various Conditions

- Control Flexibility for any Operation Conditions
- Real-Time Data Plotting  
(Time VS Load, Time VS Distance, Load VS Distance)
- Multiple-Judgement Block

## 3) External Interface

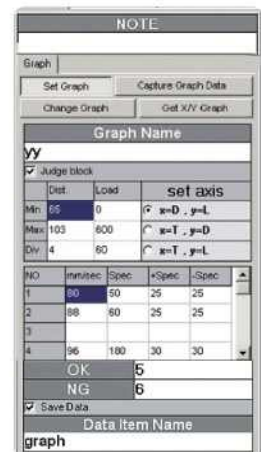
- Easy Communication Using I/O port
- ex) Start Button, Alarm, Safety Sensor, PLC, Feeder, etc...



Main Program Edit Window



Input Keypad



Graph Setting



Set Total Judgment



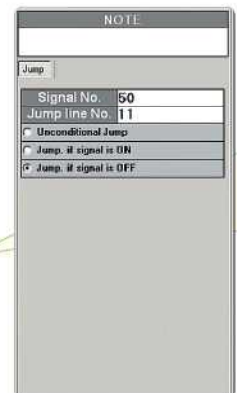
Distance Judgment



Load Judgment



Servo Move Function



Jump Function

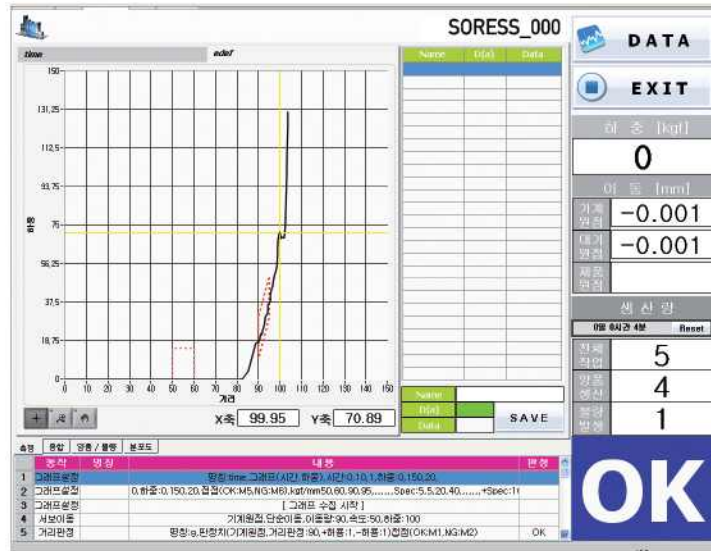
English Version

# Work Window

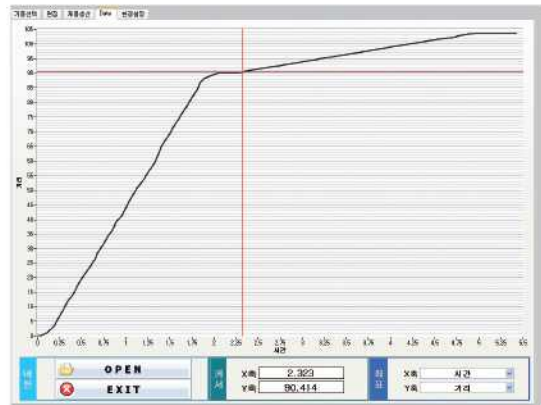
NI FPGA Controller

SORESS

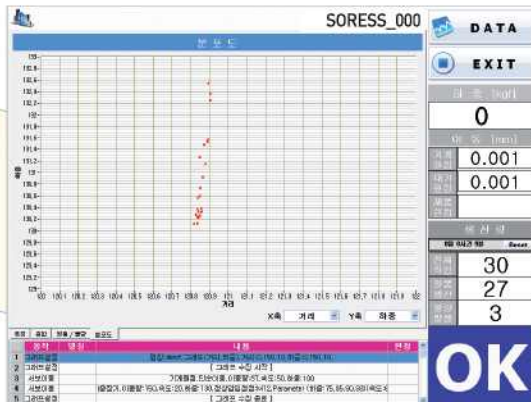
## Main Work Window



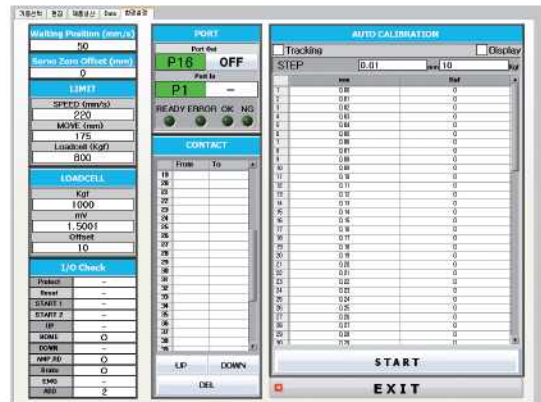
Result Display Window(OK/NG)



Data Search Window



SPC Function



Configuration

Korean Version

# Program Edit Window



## 1) Maximization of User Convenience

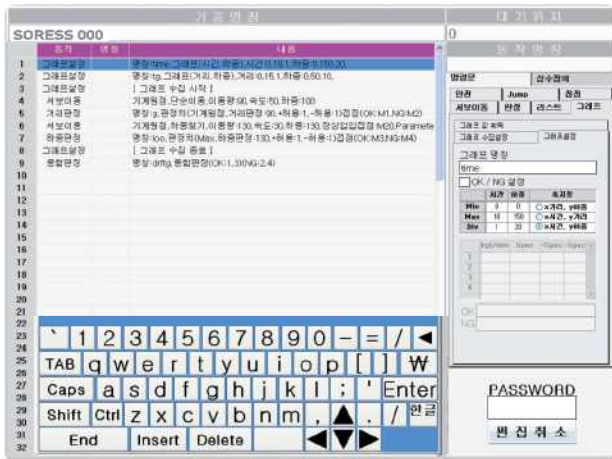
- NI FPGA Controller(High performance, durability)
- RT Operation(stand alone)
- SPC Function(Distribution Map)
- Load Limit Function(Overload Preventing function)
- RS 232C communication(ethernet)

## 2) Flexibility for Various Conditions

- Control Flexibility for any Operation Conditions
- Real-Time Data Plotting  
(Time VS Load, Time VS Distance, Load VS Distance)
- Multiple-Judgement Block

## 3) External Interface

- Easy Communication Using I/O port
- ex) Start Button, Alarm, Safety Sensor, PLC, Feeder, etc...



Main Program Edit Window



Input Keypad



Graph Setting



Total Judgment



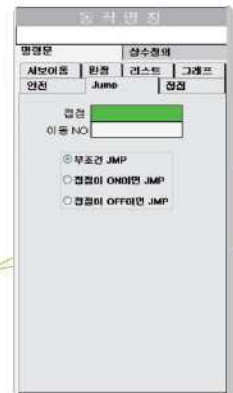
Distance Judgment



Load Judgment



Servo Move Function



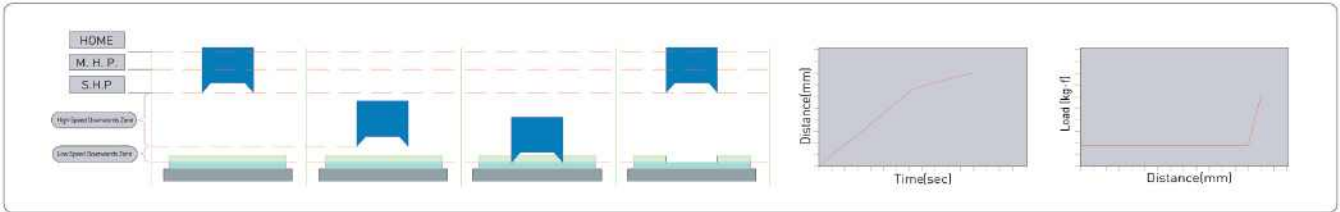
Jump

Korean Version

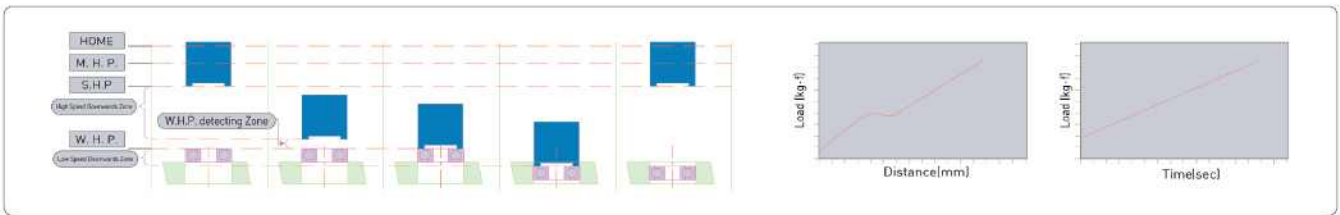
# Servo Moving Function

**SORESS**

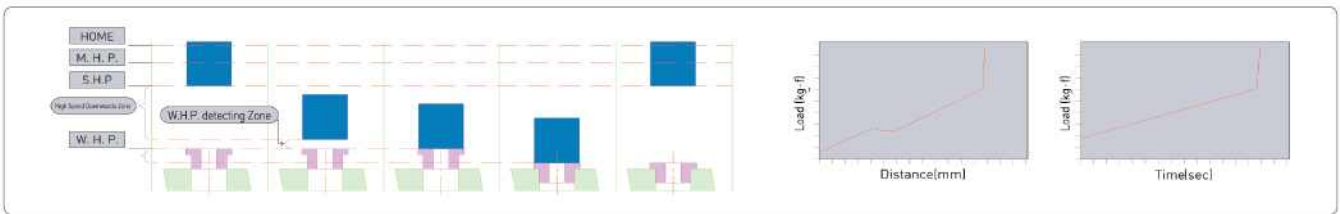
1) Move Setted Distance (S.H.P. -> Setted Distance) ex. Half Cutting



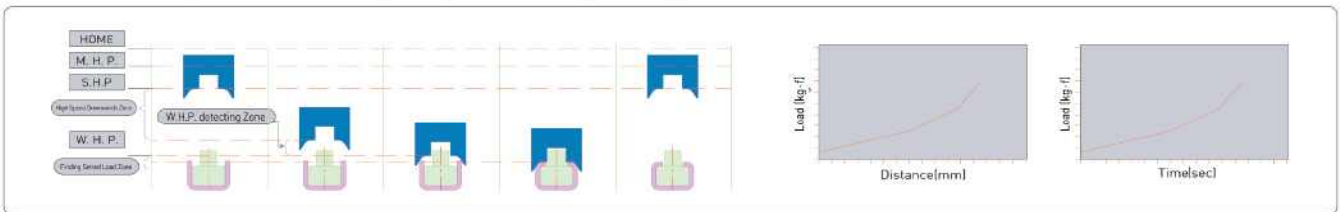
2) Move Setted Distance (S.H.P. -> W.H.P.-> Setted Distance) ex. Bearing Insertion



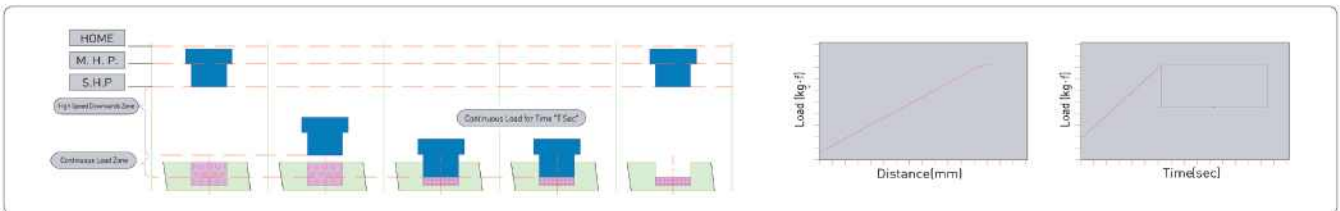
3) Move Setted Distance (S.H.P. -> W.H.P.-> Setted Distance) ex. Bush Insertion



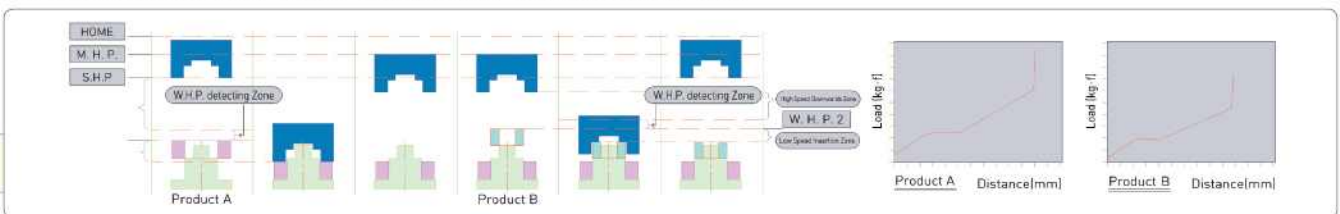
4) Move Setted Load (S.H.P. -> W.H.P.-> Finding Load) ex. Motor Flange Caulking



5) Move Setted Load (S.H.P. -> Continuous Load for Time "T Sec") ex. Powder Compression



6) Move Setted Distance (S.H.P. -> W.H.P.-> Setted Distance) ex. Multiple-Bush Insertion



# Judgment Function

**SORESS**

- Various Methods for Judgment : Distance, Load, Graph, Block
- In Total judgment Function can select desired judgment result

## Distance judgment

- Judgment Name
- Spec. ()
- Set Reference Position
- Set I/O for OK, NG
- Save the Judgment Result

## Load judgment

- Judgment Name
- Spec. ()
- Set Reference Position
- Set I/O for OK, NG
- Save the Judgment Result

## Graph Judgment

- Judgment Name
- Graph Name
- Set Graph Judgment
- Set Graph Coordination
- Set Judgment Block
- Set I/O for OK, NG
- Save the Judgment Result

## Total judgment

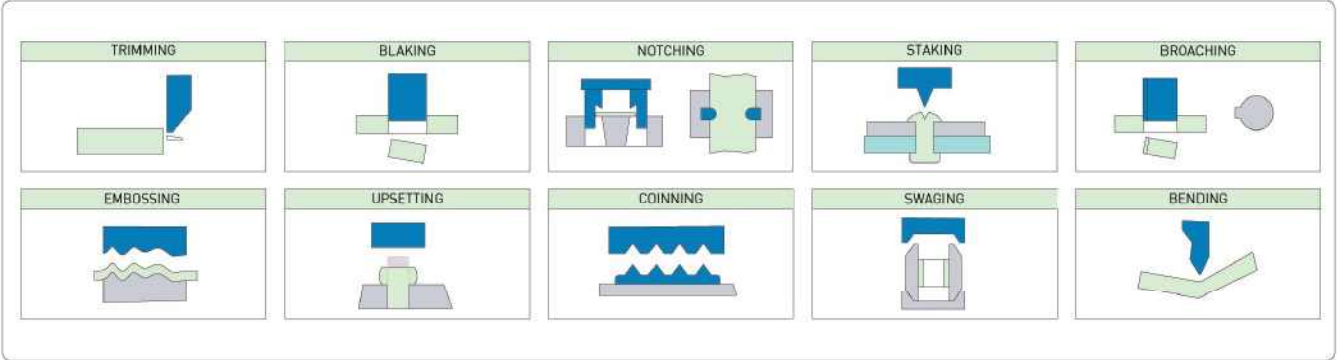
- Judgment Name
- Save Graph
- Set Total Judgment Results
- Save Serial NO
- Save Date

## Example of judgments

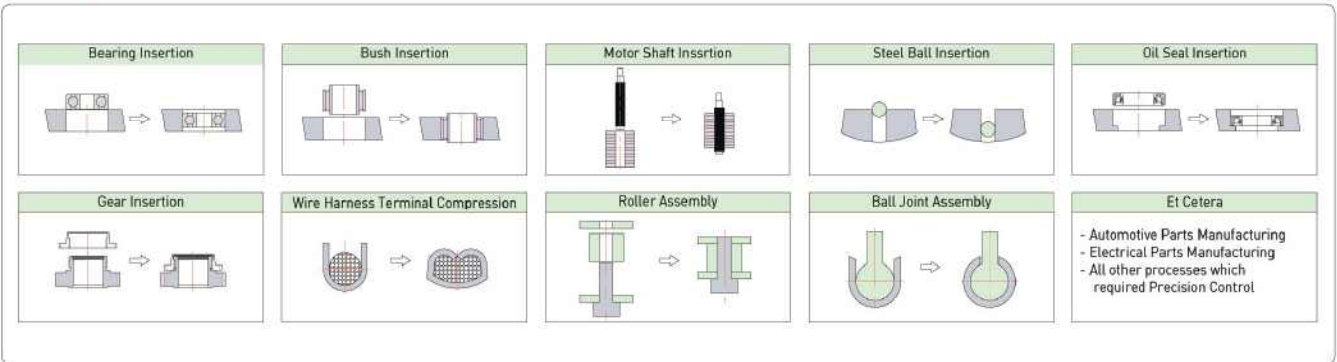
# Application

**SORESS**

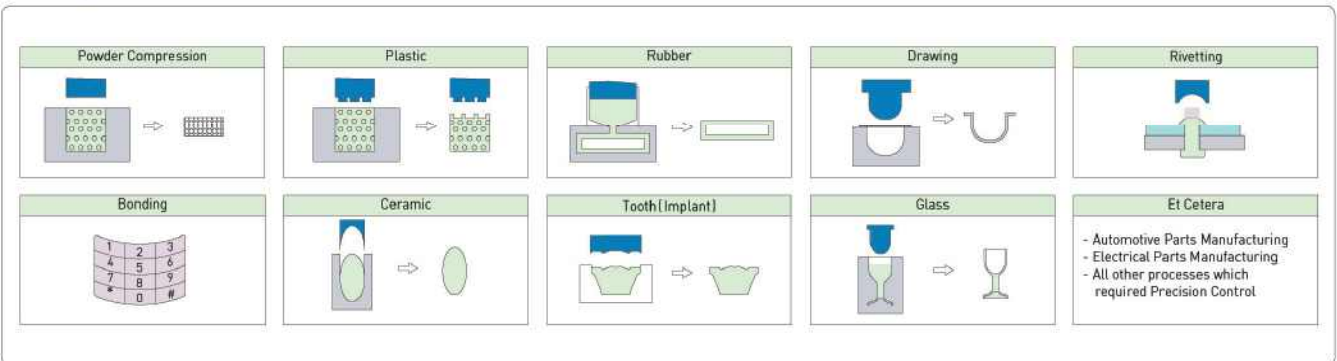
## Manufacturing



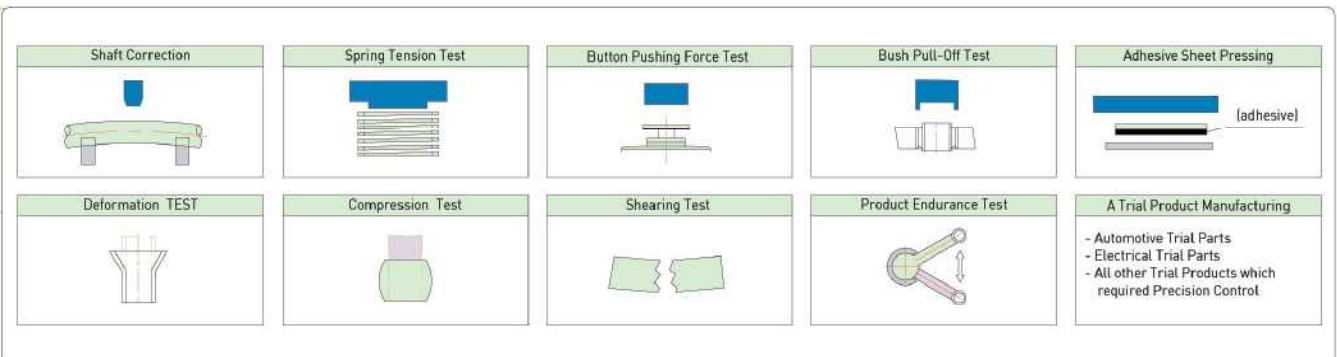
## Assembly



## Forming



## Others





**SORESS**

Electro Servo Press Machine

**HEAD OFFICE/FACTORY**

[NEW] 36-9, Seongseogongdan-ro 47-gil, Dalseo-gu, Daegu [Seoul 704-190 Korea]

[OLD] 404-25, Jang-dong, Dalseo-gu, Daegu [Seoul 704-190 Korea]

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The logo for SORESS, featuring the word "SORESS" in a bold, blue, sans-serif font. The letter "O" is replaced by a stylized yellow and green circle.

Electro Servo Press Machine

HEAD OFFICE/FACTORY

[NEW] 36-9, Seongseogongdan-ro 47-gil, Dalseo-gu, Daegu (Seoul 704-190 Korea)

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