YUSHIN

HST series

High-Speed Take-out Robot

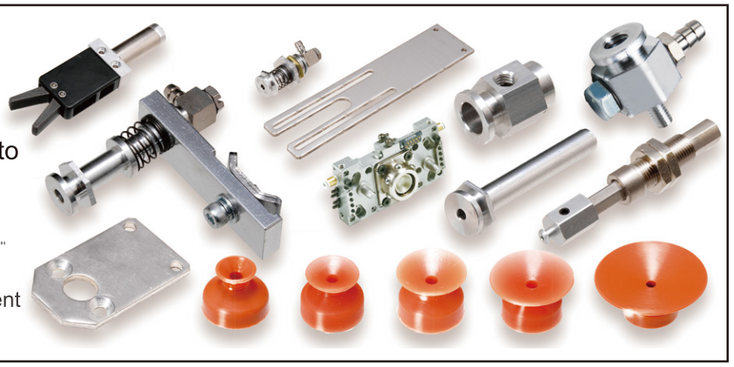
YUSHIN PRECISION EQUIPMENT CO., LTD.

◆ ATTACHMENT PARTS

Yushin-Approved Robot Tooling and Accessories

Yushin offers a wide range of parts to help users easily build their own end-of-arm tools.

◆ Please contact your local Yushin sales representative for tooling or tool component inquiries, orders, and catalog requests.



	Safety Warning	
⚠		● The parts appearing in this catalog are for industrial robots defined by Japan's Ordinance on Industrial Safety and Health. Use them as stipulated in the safety provisions of that same ordinance. ● The photographs appearing in this catalog were taken without safety enclosures and other safety devices and equipment required by the aforementioned ordinance, in order to make product explanations easier to understand. ● Before using the product, prepare and install all required safety devices and equipment. Before using the products appearing in this catalog, carefully read all instruction manuals and other documentation provided with the product, to ensure proper use.

＊The content of this catalog is subject to change without notice for improvement purposes.

Yushin seeks a healthy coexistence with the planet throughout all of our business activities, including developing, employing, and promoting ergonomic and environmentally-friendly technologies.

YUSHIN YUSHIN PRECISION EQUIPMENT CO., LTD.

please visit ····· yushin.com
www.yushin.com

Headquarters / 555 Kuzetonoshiro-cho, Minami-ku, Kyoto, 601-8205 JAPAN TEL(81)75-933-9555 FAX(81)75-934-4033

2017.10 (1) 1200_SQ_E

HST® series

HIGH SPEED

25.4% Weight Reduction

9.2% Faster Take-out Time

Optimum Design Engineering

▼

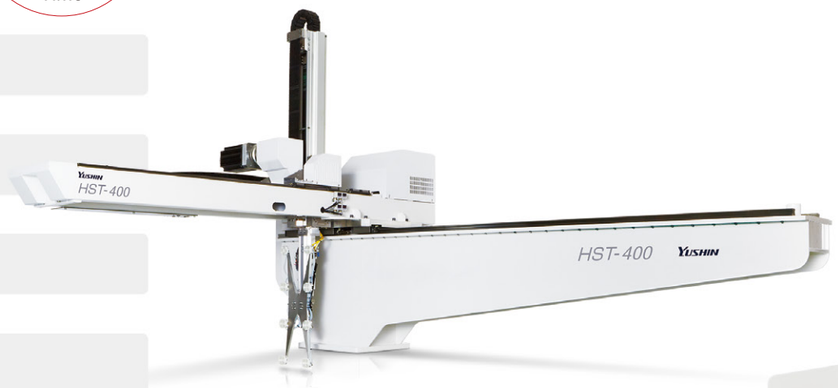
Reduced Mass of Moving Components

▼

Faster Take-out Times

▼

Improved Productivity



VIBRATION CONTROL

98.6% Shorter Settling Time

Design Optimization + CFRP + Anti-vibration Controls

▼

Shorter Settling Times & Improved Vibration Damping

▼

Shorter Timers & More Stable Take-Out

▼

Improves Productivity

* Robots are available in 2 different colors

Design Optimization

- Co-Researched with Kyoto University -

Design Optimization is what Yushin Calls the practice of applying CAE (computer-aided engineering) to seek the most theoretically optimal form for a robot based on its mechanism and motions. This advanced approach is used to design lighter weight and increased reliability into automobiles and aircraft. Yushin's design optimization efforts began by co-researching end-of-arm tool design with Kyoto University. After successfully optimizing robot tools, Yushin employed the process with HSA, TSXA, YC, SC, and now HST robots.

Japan Society of Mechanical Engineers Technology Award Winner

The JSME presented their prestigious Technology Award in 2011 to Yushin's project to use structural optimization technology to develop a take-out robot for high-performance injection molding machines.

Expanded Lineup

The HST has 17 more traverse and vertical stroke length configurations than its predecessor.

More Standard Features

Six features, formerly options, are standard equipped on HST robots.

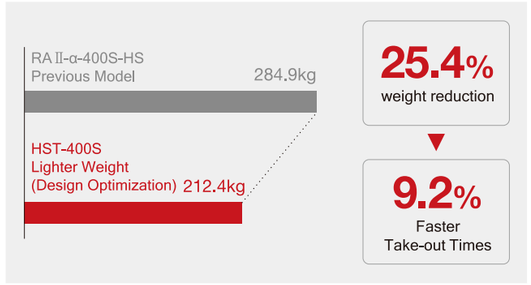
Your Choice of Controller

HST robots are available with either the high-performance E-touch Ⅱ or more economical E-touch Compact controller.

HIGH SPEED

Built Lighter & Faster

Yushin R&D employed design optimization to enhance the shape and structure of many HST parts and components for lighter weight. The effort trimmed 72.5kg from the HST's moving components, 25.4% lighter than the previous RAII-α-HS series model. The HST also enjoys 9.2% faster speeds than the RAII-α-HS without a motor size increase. But design changes on the HST were not simply for lighter weight, but rather "Lighter weight through optimum design, which preserves superior rigidity."



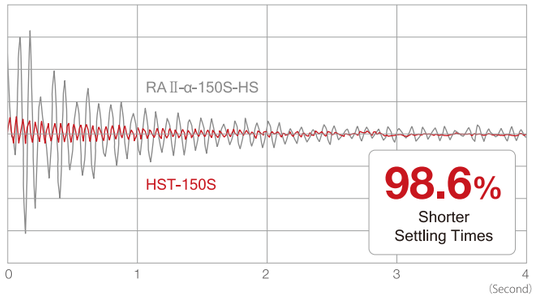
Comparing the weight of HST-400's moving components

VIBRATION CONTROL

Shorter Settling Times

Design Optimization + CFRP + Anti-Vibration Controls

By examining such factors as natural oscillation and damping characteristics, design optimization led to much better vibration control for the HST. Specifically, settling time (time required for oscillations to calm down to within a set value) was reduced by 98.6%.



Measurement of HST-150S at take-out position.

BENEFITS

Shorter Timers

With such an extreme reduction in settling time, each wait timer on the HST can be shortened to allow for faster overall molding cycles.

Smooth, Stable Take-out

HST robots excel at high-speed take-out of even precision micro-molded products, thanks to its excellent vibration damping and very little oscillation during starts and stops.

▼

Improves Productivity

Expanded Lineup

HST robots are available in 17 more stroke configurations than our previous high-speed robot series.

	HST-150	HST-250	HST-400	HST-600
Traverse stroke	1500	1500	—	—
	1700	1700	1700	—
	1900	1900	1900	—
	2200	2200	2200	2200
	2500	2500	2500	2500
	—	—	—	3000

	HST-150	HST-250	HST-400	HST-600
Vertical stroke	850	—	—	—
	950	950	—	—
	1100	1100	1100	—
	1300	1300	1300	1300
	—	—	—	1550
	—	—	—	1800

Strokes in red are standard strokes newly available with the HST series.

More Standard Features

6 features, formerly options, are standard equipped on the HST series.

Reject Circuit	Initial Shots Discharge Motion	Sampling Motion
Under-Cut Motion	Wait on Traverse	Wait for Descent Order

Your Choice of Controller

HST robots are available with either the high-performance E-touch II or more economical E-touch Compact controller.

E-touch II

10.4in full-color touchscreen
Voice Guidance feature
Predictive Maintenance feature is standard
Take-out Robot Simulator is standard feature
Lead Through Teaching is standard feature

E-touch compact

7.5in full-color touchscreen
Predictive Maintenance feature is standard
Lead Through Teaching is standard feature

Spec

Standard specifications

Power source	Drive method	Control method	Air pressure	Wrist flip angle
3 phase AC200V/220V/230V (50/60Hz)	Digital servo motor 3/5-axis	Micro computer control	0.49MPa Maximum air pressure 0.7MPa	90deg

* Equipping this option may affect the robot's strokes, payload or other standard specifications. Please consult a Yushin sales representative for details.

HST-150

Specifications

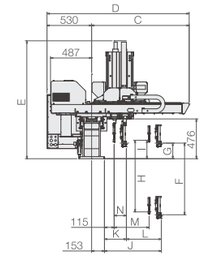
Model	Power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (NL/cycle)	Maximum payload (kg)	Clamping force (tf)
			Main arm	Sub arm	Main arm	Sub arm			
HST-150S	3 phase AC200V 14.4 A Max.	1500 [1700] [1900] [2200] [2500]	550	—	850 [950] [1100] [1300]	—	3.6	3	100 ～ 220
HST-150D	3 phase AC200V 18.8 A Max.		415	415		850 [950] [1100] [1300]			

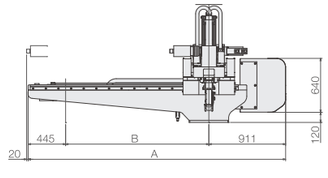
S type:Robot is equipped with product take-out arm only. D type:Robot is equipped with product take-out arm and runner take-out arm. [ ]=Extended stroke
Maximum payload includes the end-of-arm-tool.

Dimensions (mm) [ ]=Extended stroke

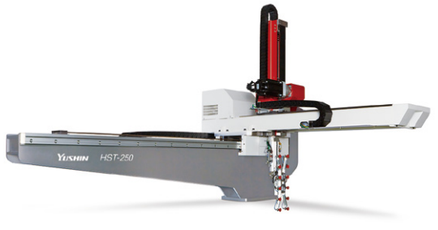
Model	A	B	C	D	E	F	G
HST-150S	2856 [3056] [3256] [3556] [3856]	1500 [1700] [1900] [2200] [2500]	1158	1688	1321 [1374] [1454] [1546]	850 [950] [1100] [1300]	185
HST-150D					1399 [1452] [1532] [1624]		

Model	H	I	J	K	L	M	N
HST-150S	—	—	675	125	550	—	—
HST-150D	850 [950] [1100] [1300]	219		260	415	415	145





HST-250



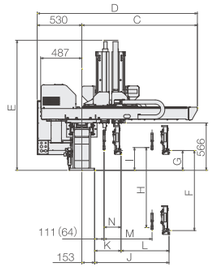
Model	Power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (NL/cycle)	Maximum payload (kg)	Clamping force (tf)
			Main arm	Sub arm	Main arm	Sub arm			
HST-250S	3 phase AC200V 17.3 A Max.	1500 [1700] [1900] [2200] [2500]	760	—	950 [1100] [1300]	—	4.3	5	180 ～ 300
HST-250D	3 phase AC200V 23.1 A Max.		570	570		950 [1100] [1300]			
HST-250DS	3 phase AC200V 26.0 A Max.		720	720			8.4		

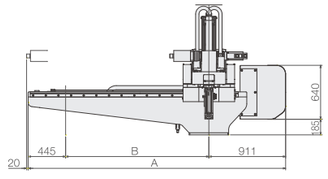
S type:Robot is equipped with product take-out arm only. D type:Robot is equipped with product take-out arm and runner take-out arm. DS type:Robot is equipped with 2 product take-out arms. [ ]=Extended stroke
Maximum payload includes the end-of-arm-tool.

Dimensions (mm) [ ]=Extended stroke ( )=DS type dimensions

Model	A	B	C	D	E	F	G
HST-250S	2856 [3056] [3256] [3556] [3856]	1500 [1700] [1900] [2200] [2500]	1372	1902	1542 [1622] [1714]	950 [1100] [1300]	235
HST-250D							
HST-250DS			1522	2052			

Model	H	I	J	K	L	M	N
HST-250S	—	—	883	123	760	—	—
HST-250D	950 [1100] [1300]	270		313	570	570	202
HST-250DS		235	1033		720	720	249





HST-400

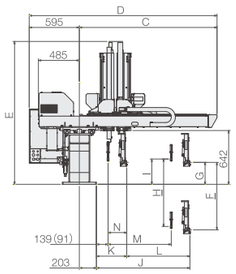
Model	Power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (NL/cycle)	Maximum payload (kg)	Clamping force (tf)
			Main arm	Sub arm	Main arm	Sub arm			
HST-400S	3 phase AC200V 17.3 A Max.	1700 [1900] [2200] [2500]	950	—	1100 [1300]	—	5.4	10	280 ～ 450
HST-400D	3 phase AC200V 23.1 A Max.		750	750		1100 [1300]			
HST-400DS	3 phase AC200V 26.0 A Max.		850	850			10.6		

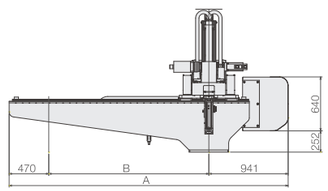
S type:Robot is equipped with product take-out arm only. D type:Robot is equipped with product take-out arm and runner take-out arm. DS type:Robot is equipped with 2 product take-out arms. [ ]=Extended stroke
Maximum payload includes the end-of-arm-tool.

Dimensions (mm) [ ]=Extended stroke ( )=DS type dimensions

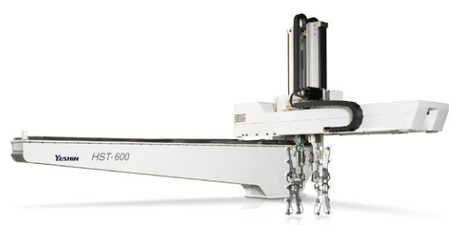
Model	A	B	C	D	E	F	G
HST-400S	3111 [3311] [3611] [3911]	1700 [1900] [2200] [2500]	1634	2229	1695 [1787]	1100 [1300]	260
HST-400D							
HST-400DS			1734	2329			

Model	H	I	J	K	L	M	N
HST-400S	—	—	1110	160	950	—	—
HST-400D	1100 [1300]	300		360	750	750	222
HST-400DS		260	1210		850	850	269





HST-600



Model	Power consumption	Traverse stroke (mm)	Kick stroke (mm)		Vertical stroke (mm)		Air consumption (NL/cycle)	Maximum payload (kg)	Clamping force (tf)
			Main arm	Sub arm	Main arm	Sub arm			
HST-600S	3 phase AC200V 17.3 A Max.	2200 [2500] [3000]	1160	—	1300 [1550] [1800]	—	8.1	15	400 ～ 650
HST-600D	3 phase AC200V 23.1 A Max.		960	960		1300 [1550] [1800]			
HST-600DS	3 phase AC200V 26.0 A Max.						16.0		

S type:Robot is equipped with product take-out arm only. D type:Robot is equipped with product take-out arm and runner take-out arm. DS type:Robot is equipped with 2 product take-out arms. [ ]=Extended stroke
Maximum payload includes the end-of-arm-tool.

Dimensions (mm) [ ]=Extended stroke ( )=DS type dimensions

Model	A	B	C	D	E	F	G
HST-600S	3821 [4121] [4621]	2200 [2500] [3000]	2033	2614	1901 [2021] [2149]	1300 [1550] [1800]	243
HST-600D							
HST-600DS							

Model	H	I	J	K	L	M	N	O
HST-600S	—	—	1390	230	1160	—	—	540 [565]*
HST-600D	1300 [1550] [1800]	310		430	960	960	283	
HST-600DS							315	

*Extended traverse 3000mm stroke.