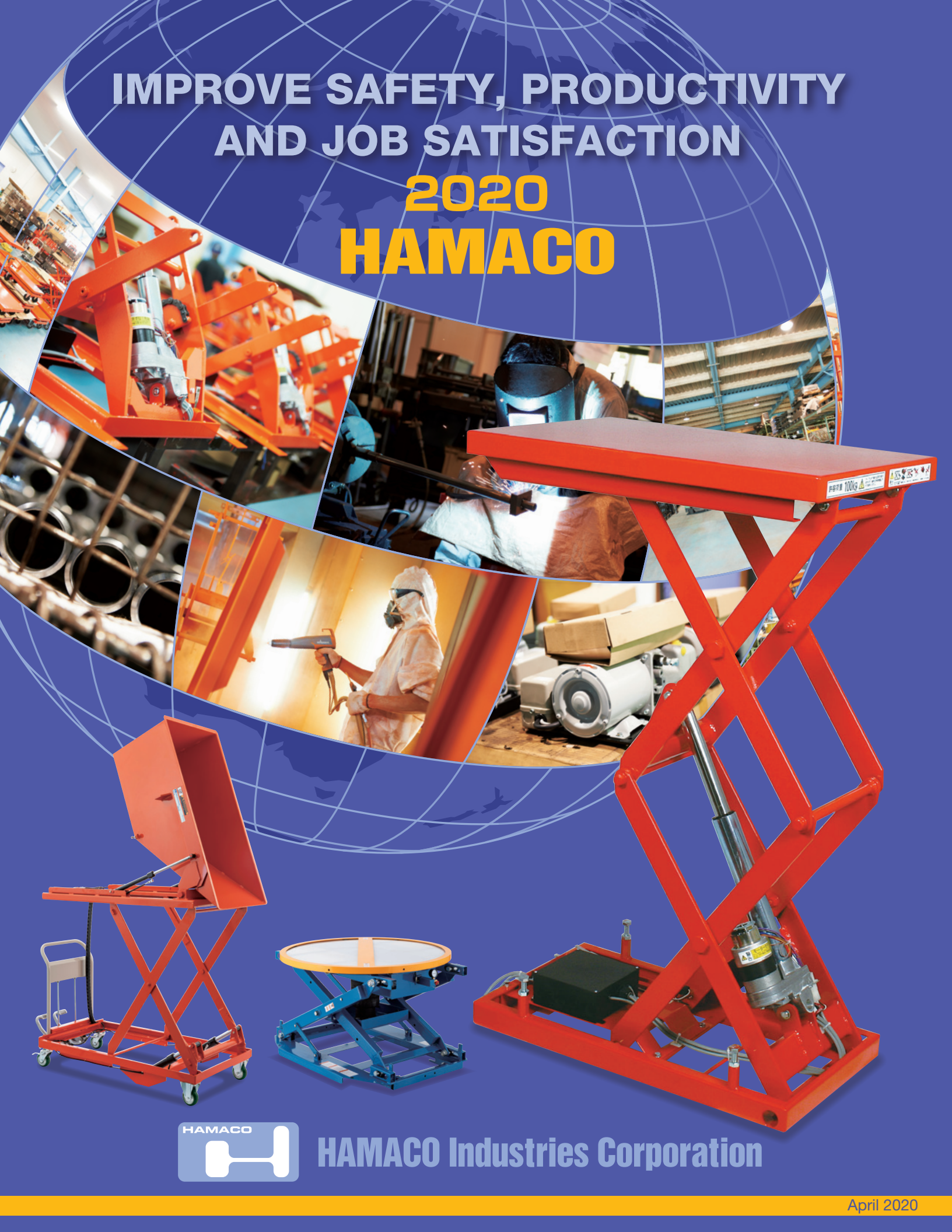


**IMPROVE SAFETY, PRODUCTIVITY
AND JOB SATISFACTION**

**2020
HAMACO**



HAMACO Industries Corporation



hamaco is proud to make one of the world's highest-quality lines of lifters. All of our products feature precision craftsmanship and are ergonomically designed, making them exceptionally easy to use and materials handling safer and more efficient.

Hamaco offers a wide range of models that assist in numerous functions throughout the manufacturing process, from the automation line and assembly to the casting foundry and everyday materials transportation. Some of our line includes:

- Hydraulic cylinder or dry cylinder designs
- Synchronization control models
- Ultra-low floor models
- Most-style models



All mechanical models feature ball screw lifting construction which eliminates oil leaks, prevents lift platforms from sinking during loading, and ensures consistent lift speeds for added ease and safety.

Useful at Every Stage of Production

Production

Flexible height adjustment and 360-degree rotating pedestal make it easy to adapt to your production line.

Machining and Inspection

Use as a convenient and sturdy tabletop that adjusts easily to your processes, from opening press holes to inspection.

Conveyor Line

EXTend your conveyor line or loading area with one or more microcomputer-controlled lifters.

Loading & Unloading

perfect for any warehouse environment, casters make it easy to move lifters with heavy loads quickly to any location.

Press and Process

when working with steel plates, processing machines, and other large items, combine the power of two or more lifters and a foot switch to accomplish your tasks efficiently and easily.

ML MLM SPM

4Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
Ultra-low Platform & Compact***MLP** IPM

5Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
Mini / IPM Motor***ML MLM HDV** SPM IPM

6Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
DC12V/DC24V***Mechanical Lift Features****Vector Control Features****The IPM (Interior Permanent Magnet) Motor****How the Brushless Motor Works** 7-8Pg**MLI**

9-10Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
Heavy Duty***MLI**

11-12Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
Synchronized / Heavy Duty***MLI**

13Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
Tilt***HLH**

15-16Pg

*Hydraulic / Manual Foot Pump
Standard / Aluminum***HLH**

17Pg

*Hydraulic / Manual Foot Pump
Roller Conveyor***HLH**

18Pg

*Hydraulic / Manual Foot Pump
Bellows***HLH**

19Pg

*Hydraulic / Manual Foot Pump
Stainless Steel***HLH**

20Pg

*Hydraulic / Manual Foot Pump
Handle-less***HLH**

21Pg

*Hydraulic / Manual Foot Pump
Ultra-low***HBTS**

22Pg

*Hydraulic / Manual Foot Pump
Container Dumper***HLFN**

23Pg

*Hydraulic/Manual Foot Pump
Pallet Lift***MLSB** SPM

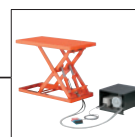
25Pg

*Mechanical-Electric Lift (Ball Screw, Electric)
Ultra-low & Slim***MLSH**

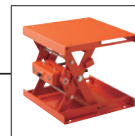
26Pg

*Hydraulic / Manual Foot Pump
Ultra-low & Slim***MLSE**

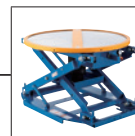
27Pg

*Hydraulic-Electric Lift
Ultra-low***MH**

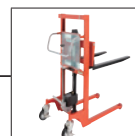
29Pg

*Mechanical-Manual Lift (Trapezoidal Screw, Manual)
Trapezoidal Screw / Manual***QAL**

30Pg

Pneumatic Pallet Leveler**HFH**

31Pg

*Hydraulic / Foot Operated Type
Standard***PD**

32Pg

*Steel Platform Truck
Folding Handle Type With Stopper***SHTG**

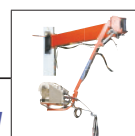
33Pg

*Work Table(Gas Cylinder.Manual)
Gas Cylinder / Manual***E-FORK**

34-36Pg

*Powered Pallet Truck
Battery***SPE SPH**

37-42Pg

*Space Arm
Mechanical Electric/Hydraulic Manual*

Improve safety, productivity and job satisfaction

No-Leaks, No-Drift, Smooth Operation

MECHANICAL-ELECTRIC LIFT TABLES



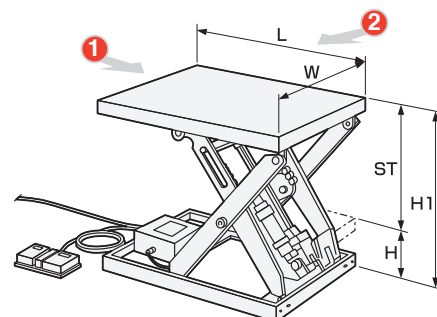
Mechanical-Electric Lift (Ball Screw, Electric)**ML** Ultra-low Platform
Compact**MLM** Compact

Mechanical SPM See 7-8Pg

Compact, space-saving, and thin model
which can be placed anywhere.
No hydraulic drift and no oil leaks.

**MAJOR FEATURES**

- 3.2 in. ultra-low platform (no external units)(ML)
- SPM motor
- Vector control • Dry ball screw cylinder
- 115 V single-phase power supply
- Built-in unit
- Max. starting frequency 10 times/min.
- Max. usage 30 times/hr.
- With limit switch
- Foot switch with LED Cord: 78.7 in.
- Power cord: 118.1 in.
- Bellows type provides full cover (with 'J' at the end)



Load capacity: 220 / 330 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Stroke (ST)	Table height (H to H1)	Duration of lifting and lowering in seconds	Motor output Watts	Deadweight
Ultra-low	Standard	220 lbs	ML-100-47V	19.6"	3.2" to 22.8"	10	70	79 lbs
			ML-100-58V					93 lbs
			ML-150-45V					68 lbs
	Bellows	330 lbs	ML-150-56V	13.7"	3.2" to 16.9"	10	70	77 lbs
			ML-100-58VJ					104 lbs
			ML-150-56VJ					86 lbs

Load capacity: 220 / 551 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Stroke (ST)	Table height (H to H1)	Duration of lifting and lowering in seconds	Motor output Watts	Deadweight
Standard	MLM-100-46V-12	220 lbs	15.7"×25.6"	16.8"	5.2" to 22.0"	10	70	71 lbs
	MLM-100-56V-12		19.7"×25.6"					75 lbs
	MLM-100-58V-12		20.5"×33.5"					88 lbs
	MLM-250-47V-12	551 lbs	15.7"×28.3"	19.5"	6.0" to 25.5"	22	70	99 lbs
	MLM-250-58V-12		20.5"×33.5"					110 lbs
	MLM-100-46WV-12		15.7"×25.6"					93 lbs
	MLM-100-56WV-12	220 lbs	19.7"×25.6"	33.4"	7.9" to 41.3"	23	70	97 lbs
	MLM-100-58WV-12		20.5"×33.5"					110 lbs
Bellows	MLM-100-58VJ-12	220 lbs	20.5"×33.5"	16.8"	5.2" to 22.0"	10	70	108 lbs
	MLM-250-58VJ-12	551 lbs		19.6"	6.0" to 25.6"	22	70	132 lbs
	MLM-100-58WVJ-12	220 lbs		33.4"	7.9" to 41.3"	23	70	130 lbs

* Bellows cannot be installed in a standard type.

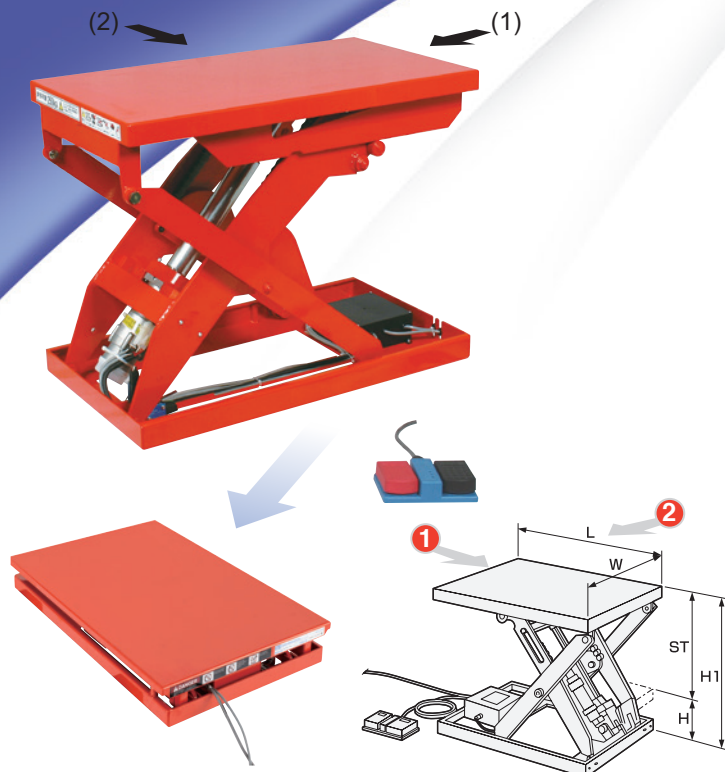
Note When loading from the side of the table, please do so in the following manner: from side ① load less than or equal to 1/2 of the loading capacity (see table), and from side ② load less than or equal to 1/4 of the loading capacity (see table). **Note** Not for use as a welding table.

MLP Mechanical-Electric Lift (Ball Screw, Electric)

Mini / IPM Motor

Mechanical IPM See 7-8Pg

Smooth operation and precision positioning by IPM motor. No hydraulic drift and no oil leaks.



MAJOR FEATURES

- IPM motor
- Vector control
- Dry ball screw cylinder
- 115 V single-phase power supply
- Built-in unit
- Max. starting frequency 10 times/min.
- With limit switch
- Foot switch with LED Cord: 78.7 in.
- Power cord: 118.1 in.
- Enhanced rigidity with cam-type cylinder head
- Enhanced durability through strengthening the axis
- Bellows type provides full cover (with 'J' at the end)

Load capacity: 551 to 2204 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Stroke (ST)	Table height (H to H1)	Duration of lifting and lowering in seconds	Usage	Motor Output Watts	Deadweight
Standard	MLP-250-69V-12	551 lbs	23.6"×35.4"	23.5"	4.0" to 27.5"	14	15 times / hour	400	220 lbs
	MLP-250-610V-12		23.6"×41.3"	28.2"	4.0" to 32.2"	18		400	254 lbs
	MLP-250-89V-12		31.5"×37.4"	23.5"	4.0" to 27.5"	14		400	232 lbs
	MLP-250-810V-12		31.5"×41.3"	28.2"	4.0" to 32.2"	18		400	276 lbs
	MLP-500-610V-12	1102 lbs	25.6"×41.3"	28.2"	5.4" to 33.6"	14		400	331 lbs
	MLP-500-612V-12		25.6"×47.2"	32.1"	5.4" to 37.5"	15		400	353 lbs
	MLP-500-810V-12		31.5"×41.3"	28.2"	5.4" to 33.6"	14		400	353 lbs
	MLP-500-812V-12		31.5"×47.2"	32.1"	5.4" to 37.5"	15		400	375 lbs
	MLP-1000-610V-12	2204 lbs	25.6"×41.3"	22.7"	6.2" to 28.9"	25		400	331 lbs
	MLP-1000-612V-12		25.6"×47.2"	28.6"	6.2" to 34.8"	32		400	397 lbs
	MLP-1000-810V-12		31.5"×41.3"	22.7"	6.2" to 28.9"	25		400	342 lbs
	MLP-1000-812V-12		31.5"×47.2"	28.6"	6.2" to 34.8"	32		400	408 lbs

* Bellows cannot be installed in MLPs.

Note When loading from the side of the table, please do so in the following manner: from side ① load less than or equal to 1/2 of the loading capacity (see table), and from side ② load less than or equal to 1/4 of the loading capacity (see table).

Note Few subductions will occur.

Note The unit cannot be used outdoors, or in places that are dusty, with high temperature and humidity, or in temperatures (0°C or below).

ML MLM HDV *Mechanical-Electric Lift (Ball Screw, Electric)*

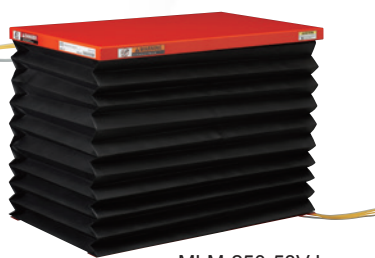
DC12V/DC24V

Mechanical SPM IPM See 7-8Pg

The AGV lift table works efficiently during the manufacturing process of the production line.



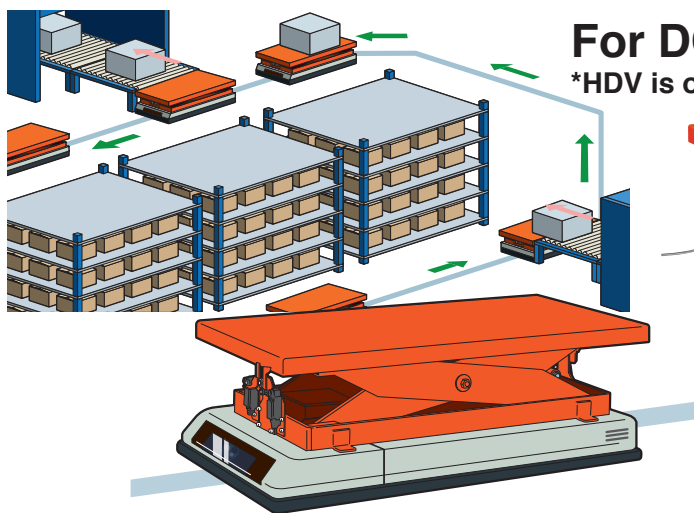
ML-150-45V



MLM-250-58VJ

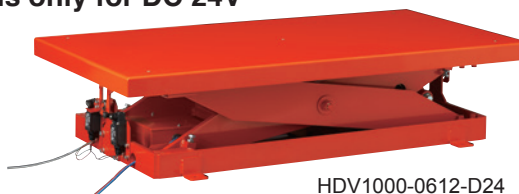
MAJOR FEATURES

- Brushless motor
- Vector control
- Dry ball screw cylinder
- Built-in unit
- **Power supply: DC 12V / DC 24V**
- Bellows type provides full cover (with 'J' at the end)
- Foot switch with LED Cord: 78.7in.
- With limit switch
- Power cord: 118.1in.
- For lead battery only
- Optional control box for lithium ion battery
- Optional CAN (Controller Area Network) available for MLP-2000-0814V-D24)

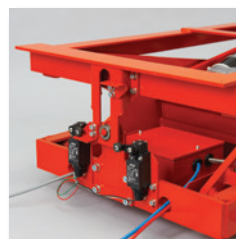


For DC 12V and DC 24V

*HDV is only for DC 24V



HDV1000-0612-D24



Load capacity: 330 to 2205 lbs

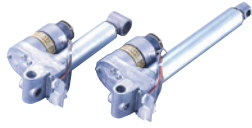
Unit: inch

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Duration of lifting and lowering in seconds	Motor output Watts	Deadweight
Standard	ML-150-45V-D12	330 lbs	15.7"×19.7"	13.7"	3.2" to 16.9"	10	70	68 lbs
	ML-150-45V-D24							
Bellows	ML-150-56VJ-D12	330 lbs	20.5"×24.8"	13.7"	3.2" to 16.9"	10	70	86 lbs
	ML-150-56VJ-D24							
Standard	MLM-250-47V-D12	551 lbs	15.7"×28.3"	19.5"	6.0" to 25.5"	22	70	99 lbs
	MLM-250-47V-D24							
Bellows	MLM-250-58VJ-D12	551 lbs	20.5"×33.5"	19.6"	6.0" to 25.6"	22	70	132 lbs
	MLM-250-58VJ-D24							
	HDV-1000-0612-D24	2205 lbs	23.6"×47.2"	3.9"	6.7" to 10.6"	4	400	287 lbs
	MLP-2000-0814V-D24	4409 lbs	55.1"×31.5"	28.3"	7.9" to 36.2"	37	750	772 lbs

Note Not for use as a welding table.

Mechanical Lift Features

Hamaco lifts utilize a ball screw driving system, making them exceptionally compact and easily able to adapt to any work environment. This dry cylinder method, rather than hydraulics, virtually eliminates leaks and enhances performance. Additionally, they feature brushless motors for much longer life and simple maintenance.



Cylinder



Ball-screw



Microcomputer Control



Foot Switch
(with LED)

Major Advantages of Hamaco Mechanical-Electric Lifts:

Lower Cost

Costs less to purchase and maintain than hydraulic models.

No Leak

Using a dry cylinder, there's no oil leak and the work environment stays clean.

Longer Life

With brushless motor design, it is not prone to typical wear and tear and will last significantly longer.

Precision Positioning

The ball-screw design makes it possible to perfectly position the lifts to your exact needs as well as to keep levels steady when loading or unloading the tables.

No Hydraulic Drift

Table height stays steady and consistent even when leaving it fully loaded for long periods of time.

Quiet

Hamaco motors are quiet during operation, eliminating additional workplace noise.

Easy Maintenance

Because of the simplified, clean design, such as long-life brushless motors and leak-free operation, maintenance is minimal and easy.

Built-In Power Unit

Lifters use a built-in power unit enabling you to use them anywhere.

LED Alarm

A LED alarm on the foot switch alerts you to operational troubles.

High Quality Foot Switch

Made of durable, rigid plastic, the foot switch is two-toned (UP: black and DOWN: red) to make it easy to use even in low light. Switch is water-resistant.

Consistent Speed Control

By controlling the amount of current through the motor, we are able to accurately control the rotation speed.

Ultra-Efficient

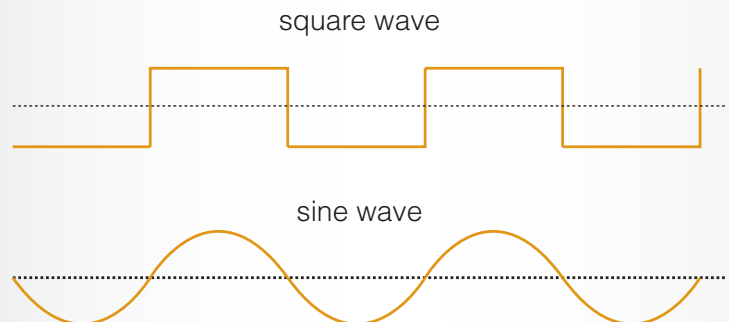
Because of significant efficiency advantages over hydraulic, the lifters are able to use smaller output motors to handle large loads.

Vector Control Features

While a conventional system (120-degree conduction system) has the current impressed in the motor as a square wave, a vector control impresses voltage, which turns into a sine wave toward the rotor's position (angle of the magnet), so it becomes possible to control the motor current.

Vector control offers numerous advantages, including:

- Efficient operation using low torque pulsation. By being able to control the motor current according to the angle of the magnet, you can achieve smoother acceleration and accurate stopping.
- It can instantly respond to speed changes during load fluctuations.
- Compared with conventional systems, the degree of speed regularity greatly improves when lifting or lowering, regardless of the load.



The IPM (Interior Permanent Magnet) Motor

A conventional SPM (Surface Permanent Magnet) motor features a permanent magnet attached to the rotor surface. It only uses magnetic torque from a magnet. On the other hand, the IPM (Interior Permanent Magnet) motor, like Hamaco uses, features an embedded permanent magnet in the rotor itself and uses reluctance through magnetic resistance in addition to magnetic torque.

The IPM motor offers significant advantages:

High torque and high efficiency

By using reluctance torque in addition to magnetic torque, the motor can achieve high output.

Energy-saving operation

It consumes up to 30% less power compared to conventional SPM motors.

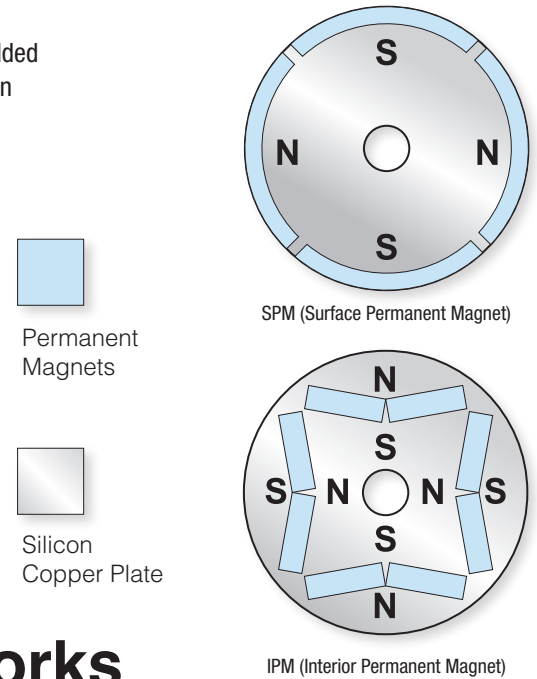
High-speed rotation

It can respond to high-speed motor rotation by controlling the two types of torque using vector control.

Safety

Since the permanent magnet is embedded, mechanical safety is improved. Unlike in a SPM, the magnet will not detach due to centrifugal force.

Example of SPM & IPM Motor Rotor Structure



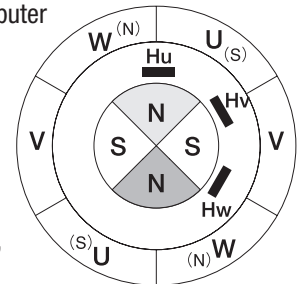
How the Brushless Motor Works

The Brushless Motor operates using a sensor and IC and without mechanical sliding parts such as brush and commutator. Because there is no friction, it lasts much longer and doesn't give off carbon. We use a microcomputer to control the lifter and it's possible to easily control and change functionality simply through software.

Controlling and Rotating the Motor

The brushless motor, like typical motors, uses a magnet to make it rotate. However, the brushless motor also relies on electrical current running through coils to move the rotor to the proper position, also called "repulsive force of attraction."

The right figure represents the rotation principle of the brushless motor (4-pole 6-coil). U, V, and W represent the coil, Hu, Hv, Hw indicates Hall element, and N, S is rotor magnetic pole. Also, (N), (S) shows the magnetic pole.



course	Hall element			coils		
	Hu	Hv	Hw	U	V	W
1	on	off	off	S		N
2	on	on	off		S	N
3	off	on	off	N	S	
4	off	on	on	N		S
5	off	off	on		N	S
6	on	off	on	S	N	

① Only Hu (Hall element) is ON. The rotor rotates to ② by making $U \rightarrow S$ and $W \rightarrow N$.

② Hu and Hv are ON. The rotor rotates to ③ by making $V \rightarrow S$ and $W \rightarrow N$.

Rotate the rotor using this control. Reverse N and S poles of the coil and it will spin in reverse.

Brushless Mechanical Lifter Options

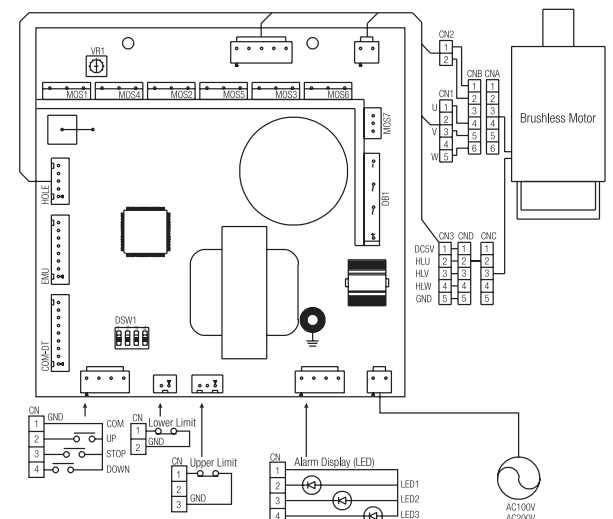
OPTION 1. Three Push Button

The three push button switches (rise, fall, and stop) work by holding Driving Mode. Push rise (fall) button one time and it operates automatically to the highest (lowest). The LED alarm display is lost, but the safeguard feature keeps working.

OPTION 2. Two Push Button

Using the two push button option (rise and fall), the LED alarm display is lost, but the safeguard feature keeps working.

Vector Control Circuit Board with 32 bit CPU



MLI Mechanical-Electric Lift (Ball Screw, Electric) Heavy Duty

Mechanical See 7Pg

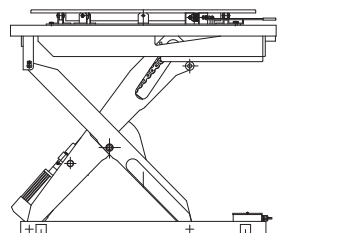
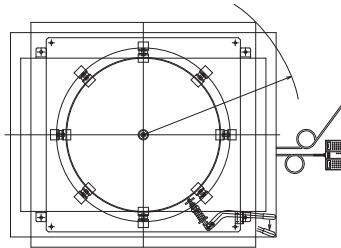
This Series of lift tables are heavy-duty and could be used up to 100,000 cycles continuously.

MAJOR FEATURES

- Low cost equivalent to hydraulic lifts
- Single-phase 115VAC
Three-phase 220VAC
Three-phase 460VAC
- Has a maximum/minimum limit switch
- Can be used consecutively up to 100,000 cycles
- Can be used up to 30 times/hr for 115V
80 times/hr for 220V and 460V



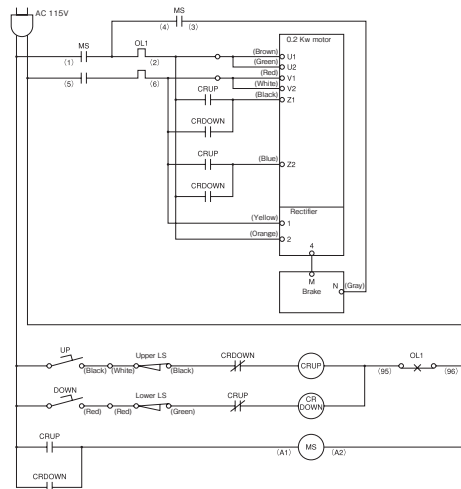
MLI-1000-1113-12TN



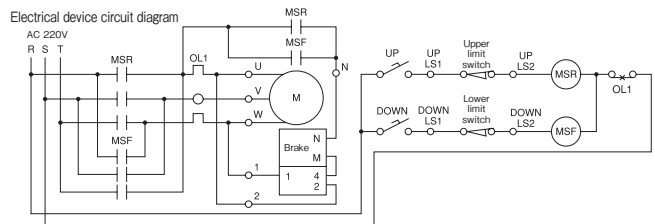
Note) When loading from the side of the table, please do so in the following manner: from side (1) load less than or equal to 1/2 of the load capacity (see table), and from side (2) load less than or equal to 1/4 of the load capacity (see table).

Note) Do not carry out welding operations on top of the table.

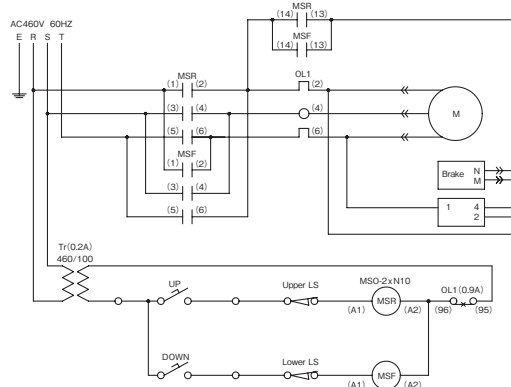
Electric Circuit Diagram: 115V Specification



Electric Circuit Diagram: 220V Specification



Electric Circuit Diagram: 460V Specification



Load capacity: 220 to 4409 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Stroke (ST)	Table height (H to H1)	Lifting duration (in seconds) 60Hz	Motor output Watts	Deadweight
Standard (115V/Single phase)	MLI-100-0508W3A	220 lbs	19.7"×31.5"	57.1"	13.8" to 70.9"	26	200	267 lbs
	MLI-200-0508WA	441 lbs	19.7"×31.5"	38.2"	9.8" to 48.0"	26		227 lbs
	MLI-300-0409A	661 lbs	15.7"×35.4"	21.5"	6.1" to 27.6"	17		196.2 lbs
	MLI-300-0410A	661 lbs	15.7"×41.3"	30.5"	6.1" to 36.6"	25		218.3 lbs
	MLI-300-0509A	661 lbs	19.7"×35.4"	21.5"	6.1" to 27.6"	17		202.8 lbs
	MLI-300-0510A	661 lbs	19.7"×41.3"	30.5"	6.1" to 36.6"	25		224.9 lbs
	MLI-300-0609A	661 lbs	23.6"×35.4"	21.5"	6.1" to 27.6"	17		233.7 lbs
	MLI-300-0610A	661 lbs	25.6"×41.3"	30.5"	6.1" to 36.6"	25		260.1 lbs
	MLI-300-0809A	661 lbs	31.5"×35.4"	21.5"	6.1" to 27.6"	17		244.7 lbs
	MLI-300-0810A	661 lbs	31.5"×41.3"	30.5"	6.1" to 36.6"	25		269.0 lbs
	MLI-500-0510WA	1102 lbs	19.7"×41.3"	47.2"	16.5" to 63.0"	35	400	374.9 lbs
	MLI-500-0612A	1102 lbs	23.6"×47.2"	33.5"	7.1" to 40.6"	25		374.9 lbs
	MLI-750-0615A	1654 lbs	23.6"×59.1"	39.0"	9.1" to 48.0"	35		474.1 lbs
	MLI-1000-0613A	2205 lbs	23.6"×51.2"	30.7"	9.1" to 39.8"	30		383.7 lbs
	MLI-1000-1013A	2205 lbs	39.0"×52.0"	31.0"	9.0" to 40.0"	35		529.0 lbs
bellows (115V/Single phase)	MLI-500-0612JA	1102 lbs	25.6"×47.2"	29.5"	7.1" to 36.6"	18	400	370 lbs
	MLI-500-0713JA	1102 lbs	29.5"×53.1"	33.9"	6.1" to 40.0"	18		419 lbs
Turn table (115V/Single phase)	MLI-1000-1113-12-TN	2205 lbs	43.3"×51.2"*1	30.7"	12.0" to 42.7"	35	400	617.4 lbs
standard (220V/Three phase)	MLI-100-0508W3	220 lbs	19.7"×31.5"	57.1"	13.8" to 70.9"	24	200	267 lbs
	MLI-200-0508W	441 lbs	19.7"×31.5"	38.2"	9.8" to 48.0"	24		227 lbs
	MLI-300-0409	661 lbs	15.7"×35.4"	21.5"	6.1" to 27.6"	16		196 lbs
	MLI-300-0410	661 lbs	15.7"×41.3"	30.5"	6.1" to 36.6"	24		218 lbs
	MLI-300-0509	661 lbs	19.7"×35.4"	21.5"	6.1" to 27.6"	16		203 lbs
	MLI-300-0510	661 lbs	19.7"×41.3"	30.5"	6.1" to 36.6"	24		225 lbs
	MLI-300-0609	661 lbs	23.6"×35.4"	21.5"	6.1" to 27.6"	16		234 lbs
	MLI-300-0610	661 lbs	25.6"×41.3"	30.5"	6.1" to 36.6"	24		260 lbs
	MLI-300-0809	661 lbs	31.5"×35.4"	21.5"	6.1" to 27.6"	16		245 lbs
	MLI-300-0810	661 lbs	31.5"×41.3"	30.5"	6.1" to 36.6"	24		269 lbs
	MLI-500-0510	1102 lbs	19.7"×41.3"	30.5"	6.1" to 35.6"	18	400	311 lbs
	MLI-500-0510W	1102 lbs	19.7"×41.3"	46.5"	15.7" to 63.0"	30		375 lbs
	MLI-500-0610	1102 lbs	23.6"×41.3"	29.5"	6.1" to 35.6"	18		381 lbs
	MLI-500-0612	1102 lbs	25.6"×47.2"	31.5"	6.1" to 40.0"	18		375 lbs
	MLI-750-0615	1654 lbs	23.6"×59.1"	38.9"	9.1" to 48.0"	30		474 lbs
	MLI-1000-0510	2205 lbs	19.7"×41.3"	19.8"	8.0" to 27.8"	18		328 lbs
	MLI-1000-0610	2205 lbs	25.6"×41.3"	19.8"	8.0" to 27.8"	18		337 lbs
	MLI-1000-0612	2205 lbs	23.6"×47.2"	30.8"	9.0" to 39.8"	30		384 lbs
	MLI-1000-0613	2205 lbs	23.6"×51.2"	30.7"	9.1" to 39.8"	35		384 lbs
	MLI-1000-0812	2205 lbs	31.5"×47.2"	30.7"	9.1" to 39.8"	35		384 lbs
	MLI-1000-1013	2205 lbs	39.0"×52.0"	31.0"	9.0" to 40.0"	35		529 lbs
	MLI-1100-1010	2500 lbs	41.3"×41.3"	19.7"	8.1" to 27.8"	20	750	430 lbs
	MLI-1100-1012	2500 lbs	41.3"×47.2"	30.7"	9.1" to 39.8"	35		485.1 lbs
	MLI-1100-1212	2500 lbs	47.2"×47.2"	30.7"	9.1" to 39.8"	35		661.5 lbs
	MLI-1500-1020	3306 lbs	39.4"×78.7"	38.0"	11.0" to 49.0"	28		992 lbs
	MLI-2000-0914	4409 lbs	35.4"×55.0"	29.6"	11.0" to 40.6"	28		772 lbs
	MLI-500-0612J	1102 lbs	25.6"×47.2"	29.5"	6.1" to 35.6"	18	400	370 lbs
	MLI-500-0713J	1102 lbs	29.5"×53.1"	33.9"	6.1" to 40.0"	18		419 lbs
	MLI-1000-0612J	2205 lbs	25.6"×47.2"	19.8"	8.0" to 27.8"	18		388 lbs
	MLI-1000-0713J	2205 lbs	29.5"×53.1"	30.8"	9.0" to 39.8"	30		450 lbs
Turn table (220V/Three phase)	MLI-1000-1113-22-TN	2205 lbs	43.3"×51.2"*1	30.7"	12.0" to 42.7"	35	400	617.4 lbs
Standard (460V/Three phase)	MLI-500-0510-46	1102 lbs	19.7"×41.3"	29.5"	6.1" to 35.6"	18	400	311 lbs
	MLI-500-0510W-46	1102 lbs	19.7"×41.3"	46.5"	15.7" to 63.0"	30		375 lbs
	MLI-500-0610-46	1102 lbs	23.6"×41.3"	29.5"	6.1" to 35.6"	18		381 lbs
	MLI-500-0612-46	1102 lbs	25.6"×47.2"	31.5"	6.1" to 40.0"	18		375 lbs
	MLI-750-0615-46	1654 lbs	23.6"×59.1"	38.9"	9.1" to 48.0"	30		474 lbs
	MLI-1000-0510-46	2205 lbs	19.7"×41.3"	19.8"	8.0" to 27.8"	18		328 lbs
	MLI-1000-0610-46	2205 lbs	25.6"×41.3"	19.8"	8.0" to 27.8"	18		337 lbs
	MLI-1000-0612-46	2205 lbs	23.6"×47.2"	30.8"	9.0" to 39.8"	30		384 lbs
	MLI-1000-0613-46	2205 lbs	23.6"×51.2"	30.7"	9.1" to 39.8"	35		384 lbs
	MLI-1000-1013-46	2205 lbs	39.0"×52.0"	31.0"	9.0" to 40.0"	35		529 lbs
	MLI-2000-0914-46	4409 lbs	35.4"×55.0"	29.6"	11.0" to 40.6"	28	750	772 lbs
	MLI-500-0612J-46	1102 lbs	25.6"×47.2"	29.5"	6.1" to 35.6"	18	400	370 lbs
	MLI-500-0713J-46	1102 lbs	29.5"×53.1"	33.9"	6.1" to 40.0"	18		419 lbs
	MLI-1000-0612J-46	2205 lbs	25.6"×47.2"	19.8"	8.0" to 27.8"	18		388 lbs
	MLI-1000-0713J-46	2205 lbs	29.5"×53.1"	30.8"	9.0" to 39.8"	30		450 lbs
Turn table (460V/Three phase)	MLI-1000-1113-46-TN	2205 lbs	43.3"×51.2"*1	30.7"	12.0" to 42.7"	35	400	617.4 lbs

Note)*1: Turntable dimensions: W 43.3" x H 43.3"

Note) When loading from the side of the table, do so in the following manner: from side ① load less than or equal to 1/2 of the loading capacity (see table), and from side ② load less than or equal to 1/4 of the loading capacity (see table).

Note) Not for use as a welding table.

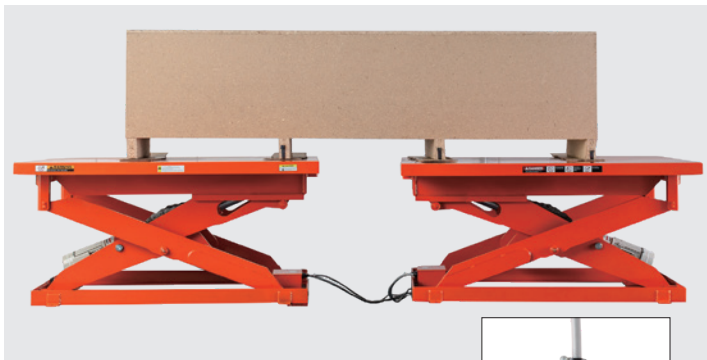
MLI Mechanical-Electric Lift (Ball Screw, Electric) Synchronized / Heavy Duty

Mechanical See 7Pg

2 -units synchronized. Also available in your choice of lift motion depending on the usage.

MAJOR FEATURES

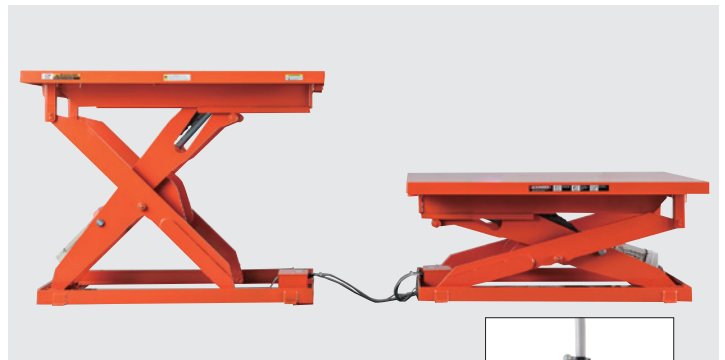
- No hydraulic drift
- Can be used up to 100,000 cycles continuously
- Available in 3 types of lift motion according to the usage
- Three-phase 220VAC
Three-phase 460VAC



Synchronized. Both units move.



Motion select dial

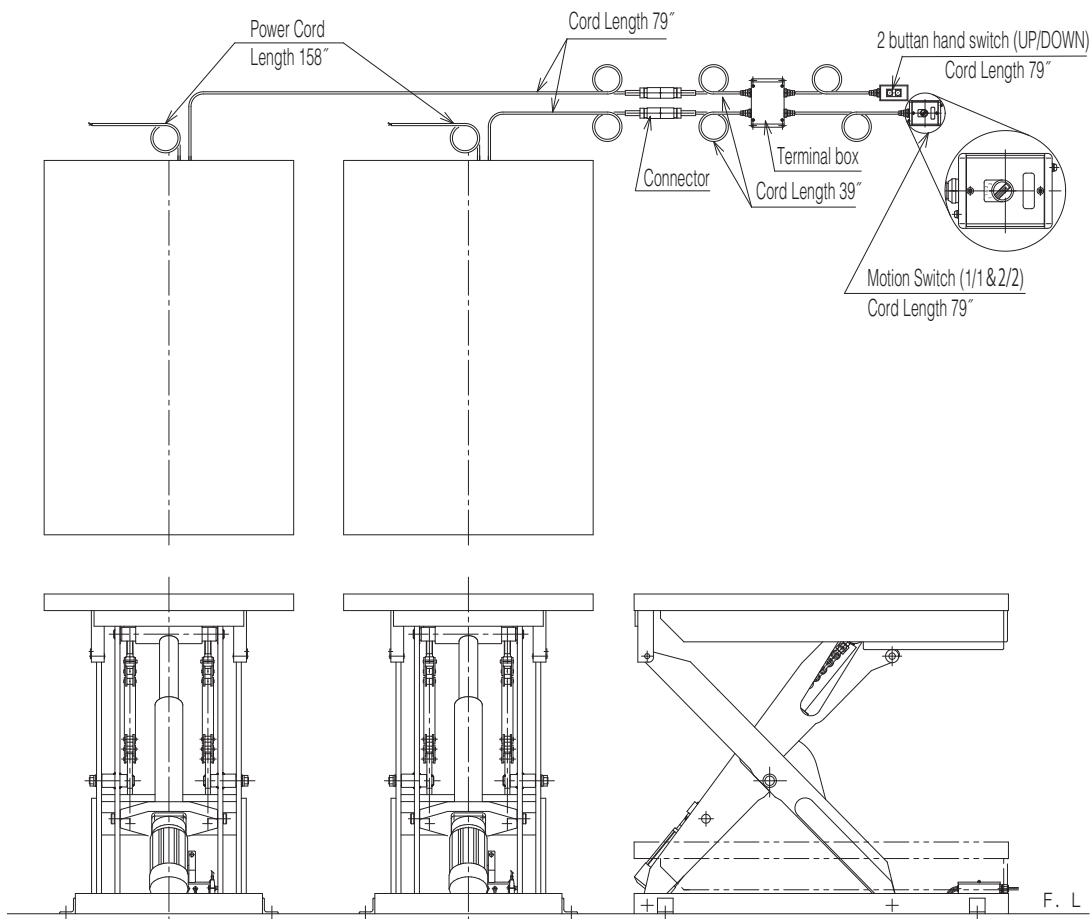


Only the left unit moves.

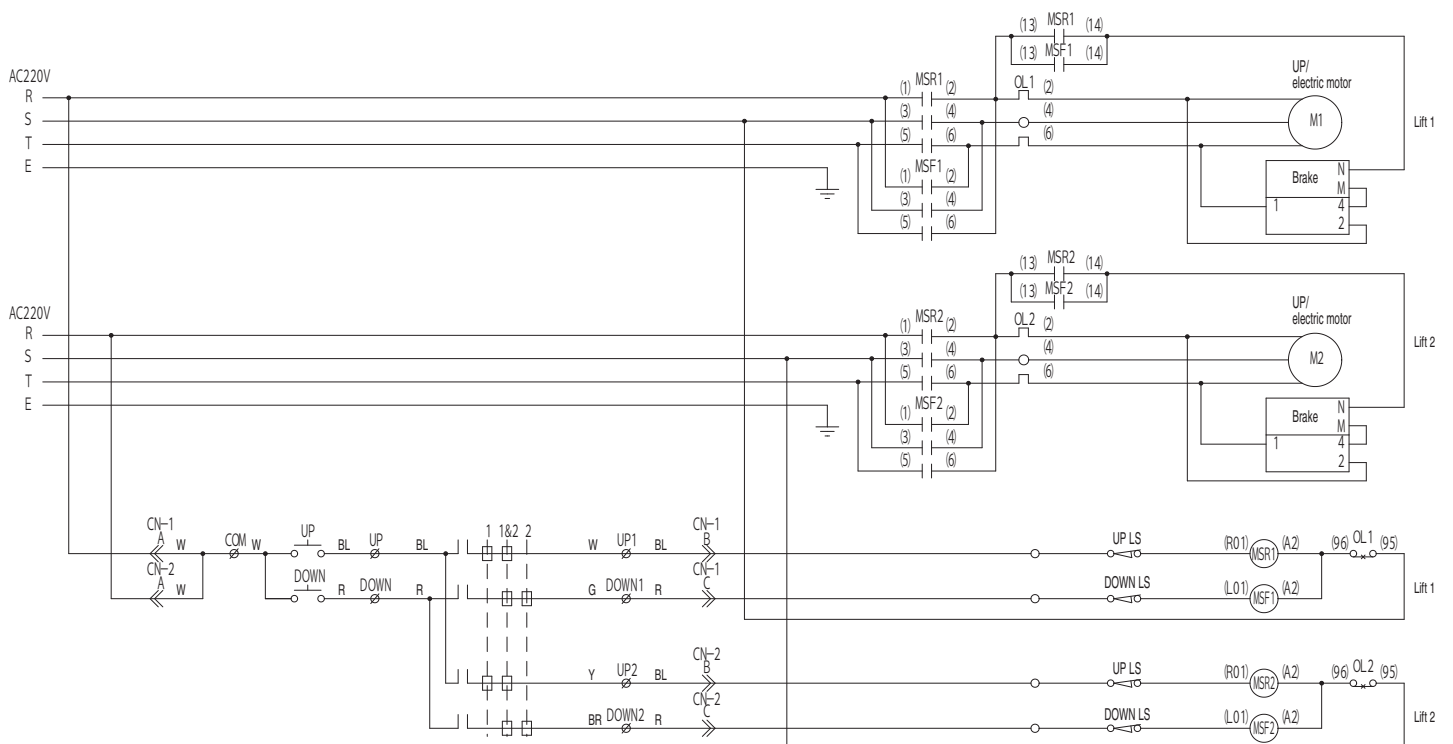


Motion select dial

2 synchronized units



Electric circuit diagram



MLI Mechanical-Electric Lift (Ball Screw, Electric)

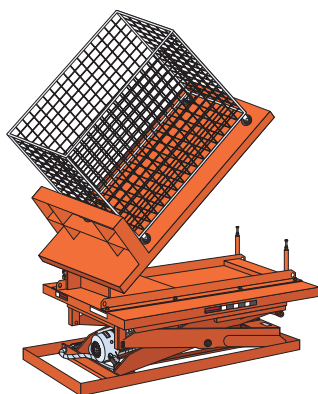
Tilt

Mechanical See 7Pg

Introducing a new model with a tilting table.
The ability to load carts as they are facilitates efficient assembly work.

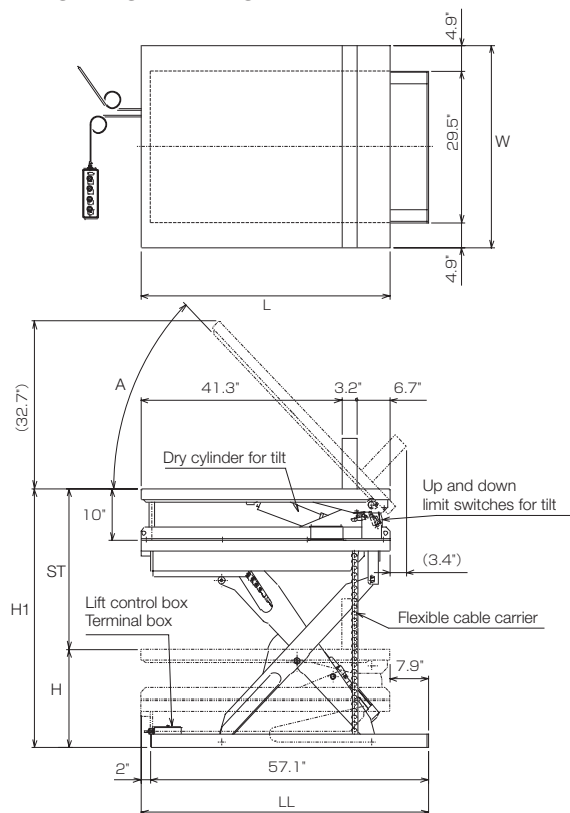


Control switch



MAJOR FEATURES

- Vector control
- Dry ball screw cylinder
- No oil leaks
- 220 V Three-phase power supply for lift
- 220 V Single-phase power supply for tilt (Uses IPM motor for tilt)
- Built-in unit
- Power cord: 13.1 feet
- Tilting range: 45degrees



Unit: inch

Load capacity: 2205 lbs

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Overall length (LL)	Tilting range	Duration of lifting and lowering in seconds	Motor output Watts	Dead weight
Tilt	MLI-1000-1013TILT	2205 lbs	39.4"×51.2"	30.7"	19.1" to 49.8"	59.1"	45°	35	400	838 lbs

Note Not for use as a welding table.

Improve safety, productivity and job satisfaction

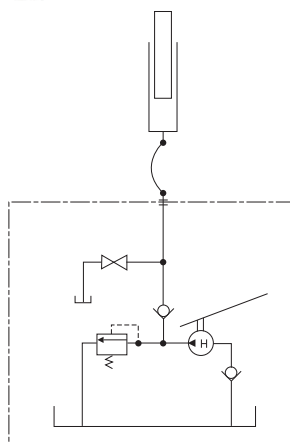
HYDRAULIC PUSH CARTS



HLH Hydraulic/Manual Foot Pump

Standard / Aluminum

Easy move and wide stroke. The hydraulic drift is minimized to 2% or less of full strokes when left for 15 minutes with the maximum load weight.



Hydraulic circuit diagram

MAJOR FEATURES

- Hydraulic cylinder
- Swivel casters with brakes
- Foot pedal for easy height adjustment
- Overload prevention device *1
- Springback mechanism in the release handle *2

SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22

Materials (Standard)

Pump : Aluminium

Cylinder : Steel

Main body : Steel

Materials (Aluminum)

Pump : Aluminum

Cylinder : Steel

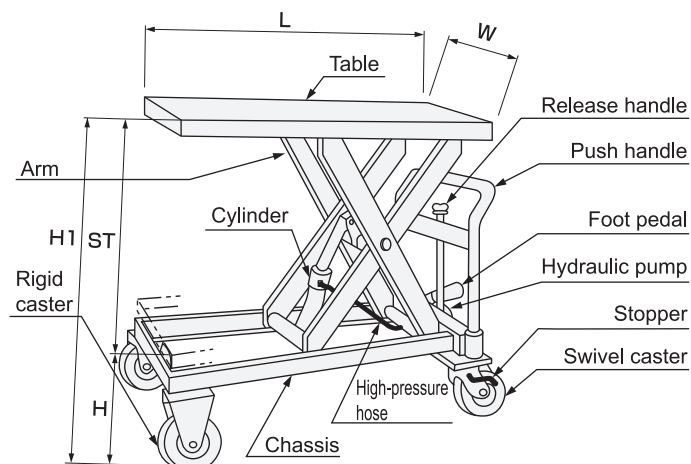
Main body : Aluminum

*1 The lift will not elevate when overloaded.

*2 In an emergency, lowering will stop as soon as you release the handle.

To raise the lift, tighten the release handle.

This is not attached to the HLH-100 and aluminum models.



Aluminum models are equipped with a handle to make it easier to carry around. It is ideal for lifting/lowering and transporting heavy items on the go.



HLH-SA50

Foot pedal and
Hydraulic pump

Hydraulic cylinder

Unit: inch

Load capacity: 220 to 2205 lbs

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Overall Length (LL)	Wheels	Number of pump steps fast/standard	Deadweight
Standard	HLH-S80W	176 lbs	15.7"×28.3"	38.2"	12.2" to 50.4"	37.0"	φ 3.9 rubber	18	81.6 lbs
	HLH-S120	264 lbs	13.8"×22.4"	15.7"	7.9" to 23.6"	30.7"	φ 3.9 rubber	12	41.9 lbs
	HLH-S150	330 lbs	15.7"×28.3"	19"	9.3" to 28.3"	36.6"	φ 3.9 rubber	22	66.1 lbs
	HLH-S200W	440 lbs	19.7"×31.5"	43.4"	14.0" to 57.4"	39.8"	φ 3.9 rubber	62	198 lbs
	HLH-S250	551 lbs	19.7"×31.5"	21.1"	10.3" to 31.4"	39.8"	φ 3.9 rubber	36	99 lbs
	HLH-E350W	772 lbs	23.6"×35.4"	48"	16.2" to 64.1"	44.1"	φ 5.9 rubber	34/90	220 lbs
	HLH-S500S	1103 lbs	19.7"×31.5"	20.5"	10.9" to 31.4"	39.8"	φ 3.9 urethane	62	136.7 lbs
	HLH-S500SW		19.7"×23.6"	27.3"	14.4" to 41.7"	32.1"	φ 5.1 rubber	62	168 lbs
	HLH-S500M		23.6"×35.4"	23.6"	12.7" to 36.6"	44.1"	φ 5.9 rubber	58	165 lbs
	HLH-E500L		23.6"×47.2"	34.2"	12.7" to 47.2"	55.9"	φ 5.9 rubber	34/90	220 lbs
	HLH-E500MW	1103 lbs	23.6"×35.4"	49.2"	18.7" to 67.9"	45.7"	φ 7.9 urethane	65/172	374.9 lbs
	HLH-E750	1653 lbs	23.6"×35.4"	23.6"	12.7" to 36.4"	44.1"	φ 5.9 urethane	34/90	176 lbs
	HLH-E1000M	2205 lbs	23.6"×35.4"	23.6"	15.7" to 39.4"	45.7"	φ 7.9 urethane	46/122	286.7 lbs
	HLH-E1000L		23.6"×47.2"	33.1"	15.7" to 48.8"	57.5"		65/172	363.8 lbs

* The push handle of HLH-100 can be folded.

Load capacity: 110 to 176 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Overall Length (LL)	Wheels	Number of pump steps fast/standard	Deadweight
Aluminum	HLH-SA50	110 lbs	13.8"×22.4"	15.7"	7.9" to 23.6"	31.5"	φ 3.9 rubber	6	25.1 lbs
	HLH-SA60	132 lbs	15.7"×28.3"	19.7"	8.7" to 28.3"	37.8"	φ 3.9 rubber	7	30.1 lbs
	HLH-SA80	176 lbs	19.7"×31.5"	21.7"	9.1" to 30.7"	40.6"	φ 3.9 rubber	14	44.1 lbs

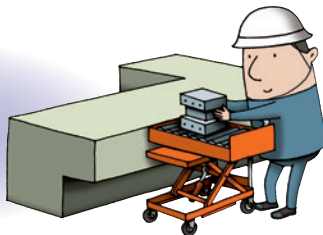
*The push handles of HLH-A50, A60 and A80 can be folded.

HLH Hydraulic/Manual Foot Pump Roller Conveyor

Roller conveyor allows for a smooth operation of heavy product such as molds. The stopper prevents product from sliding off of rollers.



Suitable for transferring metal molds and heavy objects.



MAJOR FEATURES

- Hydraulic cylinder
- Swivel casters with brakes
- Foot pedal
- Comes with an overloading prevention device *1
- Comes with a rapid traverse device (changes by approximately 20% of the load) *2
- Has a springback mechanism in the release handle. Lowering will immediately stop as soon as you release the handle.

OPTION

- Rapid pump (reduces the number of pump steps)

MAJOR SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22

Materials

Pump : Aluminum

Cylinder : Steel

Main body : Steel

*1 The lifter will not elevate when overloaded.

*2 This is optional depending on the model.
See the specification table for details.

Load capacity: 287 to 1984 lbs

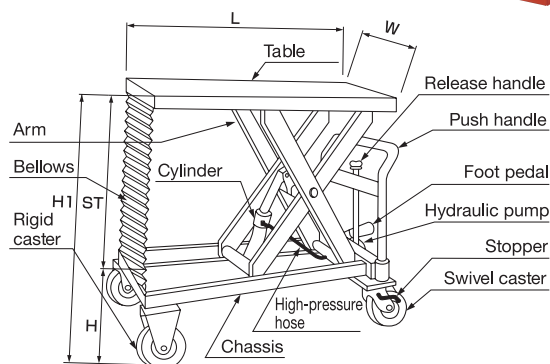
Unit: inch

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Top roller height (H to H1)	Overall length (LL)	Wheels	Number of pedals Rapid traverse / Standard	Deadweight	Roller diameter	Roller pitch*
Roller Conveyor	HLH-S130R	287 lbs	15.7"×28.3"	19.1"	12.0" to 31.1"	36.6"	φ3.9 rubber	22	104 lbs	φ1.5	2.2
	HLH-S230R	507 lbs	19.7"×31.5"	21.3"	13.0" to 34.3"	39.8"	φ3.9 rubber	36	143 lbs		
	HLH-E450R	992 lbs	23.6"×35.4"	23.6"	15.7" to 39.4"	44.1"	φ5.9 rubber	24/63	243 lbs		
	HLH-E900MR	1984 lbs	23.6"×35.4"	23.6"	19.7" to 43.3"	45.7"	φ7.9 urethane	46/122	353 lbs	φ2.2	3.9
	HLH-E900LR		23.6"×47.2"	33.0"	19.3" to 52.8"	57.5"	φ7.9 urethane	65/172	441 lbs		
Turn Table	HLH-S200TR	441 lbs	19.3"×20.1"	21.3"	15.4" to 36.6"	39.8"	φ3.9 rubber	36	198 lbs	φ1.5	2.2
	HLH-S400TR	882 lbs	23.2"×24.4"	23.6"	18.1" to 41.7"	44.1"	φ5.9 rubber	58	309 lbs		
	HLH-S200WTR	441 lbs	19.3"×20.1"	27.3"	19.5" to 49.8"	32.1"	φ5.1 rubber	62	243 lbs		

*Center-to-center dimension of rollers.

HLH Hydraulic/Manual Foot Pump Bellows

Bellows are attached to create a safer work environment.



MAJOR FEATURES

- Hydraulic cylinder
- Swivel casters with brakes (double stoppers, not available in HLH-150J)
- Foot pedal
- Comes with an overloading prevention device *1
- Complete bellows skirting
- Rapid pump (The pump mode switches from fast to standard when loaded 20% of capacity.) *2
- Has a springback mechanism in the release handle. In an emergency, lowering will stop as soon as you release the handle

OPTION

- Rapid pump (reduces the number of pump steps)

SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22

Materials

Bellows : Acrylic resin-coated polyester

Pump : Aluminum

Cylinder : Steel

Main body : Steel

*1 The lift will not elevate when overloaded.

*2 Rapid pump is made available to limited models. See specifications.

Load capacity: 330 to 2205 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Stroke (ST)	Table height (H to H1)	Overall Length (LL)	Wheels	Number of pump steps fast/standard	Deadweight
Bellows	HLH-S150J	330 lbs	20.5"×33.5"	19.1"	9.3" to 25.4"	42.1"	φ 3.9 rubber	22	99.2 lbs
	HLH-S200WJ	440 lbs	23.6"×37.4"	43.3"	14.2" to 57.5"	46.0"	φ 3.9 rubber	62	231 lbs
	HLH-S250J	551 lbs	23.6"×37.4"	21.3"	10.4" to 31.7"	46.0"	φ 3.9 rubber	36	148 lbs
	HLH-E350WJ	772 lbs	23.6"×41.3"	48.0"	15.9" to 64.0"	50.4"	φ 5.9 rubber	34/40	265 lbs
	HLH-S500SJ	1103 lbs	23.6"×37.4"	20.7"	11.0" to 31.7"	46.0"	φ 3.9 rubber	62	176 lbs
	HLH-S500SWJ	1103 lbs	23.6"×29.5"	27.4"	14.4" to 41.7"	38.6"	φ 5.1 rubber	62	191 lbs
	HLH-E500MJ	1103 lbs	23.6"×41.3"	23.6"	12.8" to 36.4"	50.4"	φ 5.9 rubber	24/63	216 lbs
	HLH-E500MWJ	1103 lbs	23.6"×41.3"	49.2"	18.7" to 67.9"	52.0"	φ 7.9 rubber	65/172	405 lbs
	HLH-E500LJ	1103 lbs	23.6"×53.1"	33.9"	13.2" to 47.0"	61.8"	φ 5.9 rubber	34/90	267 lbs
	HLH-E750J	1653 lbs	23.6"×41.3"	23.6"	12.8" to 36.4"	50.4"	φ 5.9 rubber	34/90	216 lbs
	HLH-E1000MJ	2205 lbs	23.6"×41.3"	23.2"	16.1" to 39.4"	52.0"	φ 7.9 rubber	46/22	320 lbs
	HLH-E1000LJ	2205 lbs	23.6"×53.1"	32.3"	16.5" to 48.8"	63.8"	φ 7.9 rubber	65/172	396 lbs

HLH Hydraulic/Manual Foot Pump

Stainless Steel

The HLH Stainless steel lift cart is using SUS304. (The pump is aluminum and the piston is plated iron.) Stainless steel is resistant to water so it can be washed down for a sanitary work area.



MAJOR FEATURES

- Hydraulic cylinder
- Swivel casters with brakes
- Foot pedal
- Comes with an overloading prevention device *1

SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22

Materials

Pump : Aluminum

Cylinder : SUS304 (The piston is plated iron)

Main body : SUS304

*1 The lift will not elevate when overloaded.



Load capacity: 330 to 1103 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Overall Length (LL)	Wheels	Number of pump steps	Deadweight
Stainless	HLH-S150SUS	330 lbs	15.7"×28.3"	18.9"	9.4" to 28.3"	36.6"	φ3.9 urethane	22	66.2 lbs
	HLH-S250SUS	551 lbs	19.7"×31.5"	21.3"	10.2" to 31.5"	39.9"	φ3.9 urethane	36	99.2 lbs
	HLH-S500SUS	1103 lbs	23.6"×35.4"	23.6"	13.0" to 36.6"	44.1"	φ5.9 urethane	58	176.4 lbs

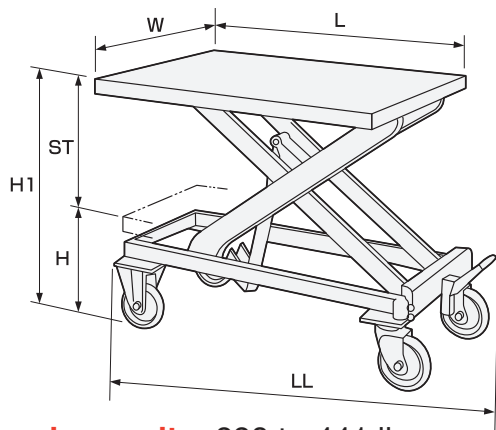
HLH Hydraulic/Manual Foot Pump

Handle-less

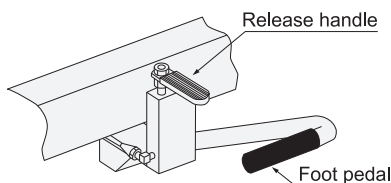
With the handle removed from the standard type, this cart is ideal for loading long items.



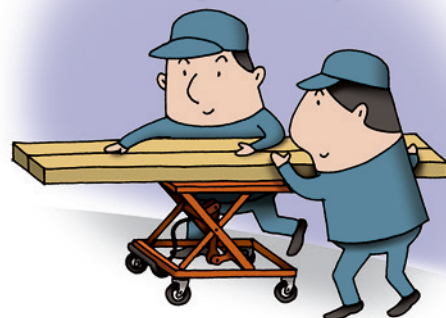
HLH-S250HL



(Handle-less type pump diagram)



Useful for carrying long loads such as panels and poles.



Load capacity: 220 to 441 lbs

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Overall Length (LL)	Wheels	Number of pump steps	Deadweight
Handle-less	HLH-S120HL	264 lbs	13.8"×22.4"	15.7"	7.9" to 23.6"	30.1"	φ3.9 rubber	12	38 lbs
	HLH-S150HL	330 lbs	15.7"×28.3"	19"	9.3" to 28.3"	36.6"	φ3.9 rubber	22	55 lbs
	HLH-S250HL	551 lbs	19.7"×31.5"	21.3"	10.3" to 31.4"	39.8"	φ3.9 rubber	36	88 lbs

Unit: inch

* This cart is also available with bellows (except HLH-100HL).

MAJOR FEATURES

- Hydraulic cylinder
- Swivel casters with brakes
(double stopper for models other than HLH-S120HL and HLH-S150HL)
- Foot pedal
- Comes with an overloading prevention device *1

OPTION

- Rapid pump (reduces the number of pump steps)

SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22

Materials

Pump : Urethane type resin spray painting

Cylinder : Urethane type resin spray painting

Main body : Baked melamine / Powder coating

*1 The lift will not elevate when overloaded.

HLH Hydraulic/Manual Foot Pump

Ultra-low

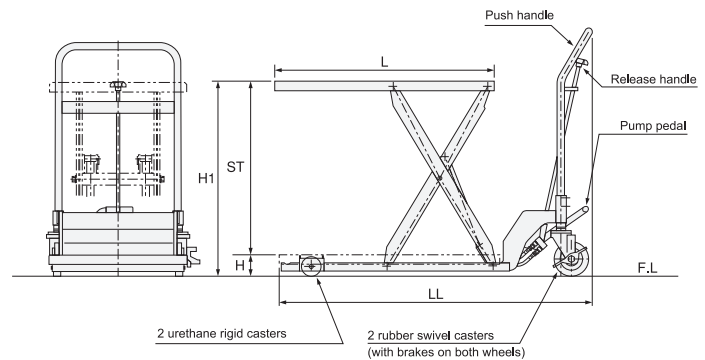
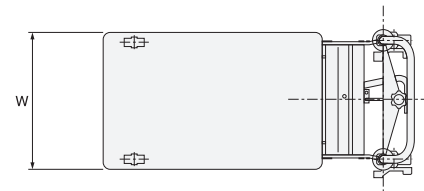
A vailable with increased standard stroke. Equipped with easy movement wheels. Lift table lowers to 3.2 inches.



HLH-S100-80L

MAJOR FEATURES

- Hydraulic cylinder
- Casters with brakes
- Foot pedal
- Overloading prevention device
- Nose dive prevention valve (HLH-100-80L only)



3.2in

Load capacity: 220 to 881 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Total Length (LL)	Wheel Dimensions		Number of pump steps	Deadweight
							Rigid Caster	Swivel Casters with brakes		
Low Platform	HLH-S100-80L	220 lbs	15.7"×28.3"	21.7"	3.2" to 24.9"	40.6"	φ3.0	φ3.9	20	77 lbs
	HLH-S200-80L	440 lbs	19.7"×31.5"	24.8"	3.2" to 28.0"	44.9"	φ3.0	φ4.9	46	125.7 lbs
	HLH-S400-85L	881 lbs	23.6"×35.4"	27.6"	3.4" to 31.0"	50.7"	φ3.0	φ5.9	70	207.3 lbs

Note The swivel casters have rubber wheels and the rigid casters have urethane wheels.

Note HLH-100-80L has rubber wheels.

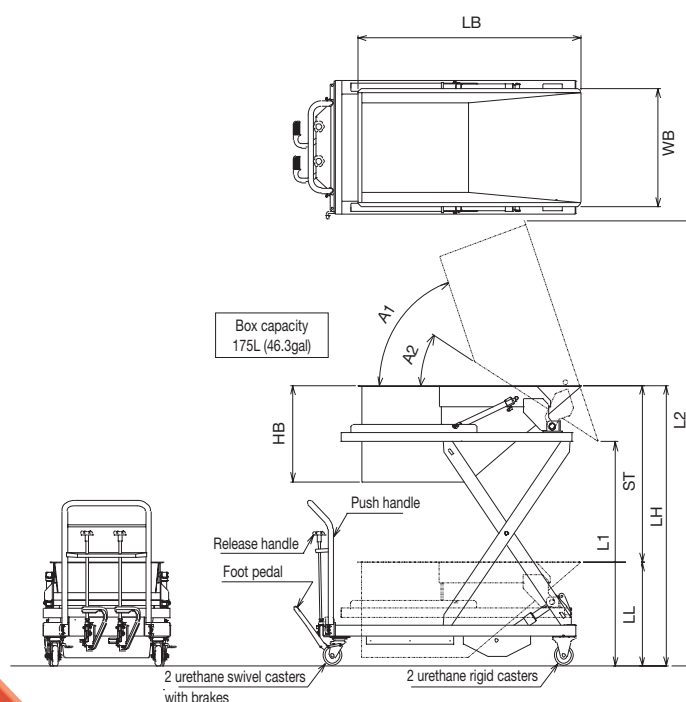
HBTS Hydraulic/Manual Foot Pump Container Dumper

High reach and portable dumpers provide a quick, easy and smooth way to empty heavy loads.



MAJOR FEATURES

- Hydraulic cylinder
- Casters with brakes
- Manual foot pedals for lifting and tilting
- Dump box tilting angle up to 71 °



Load capacity: 551 lbs

Unit: inch

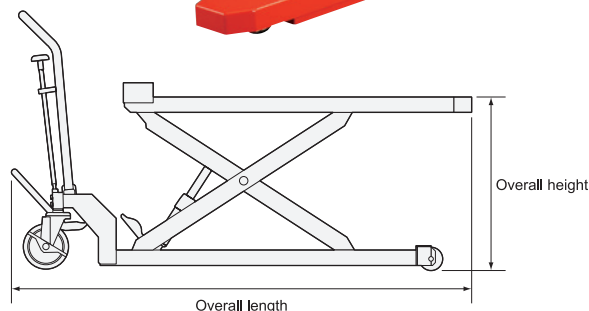
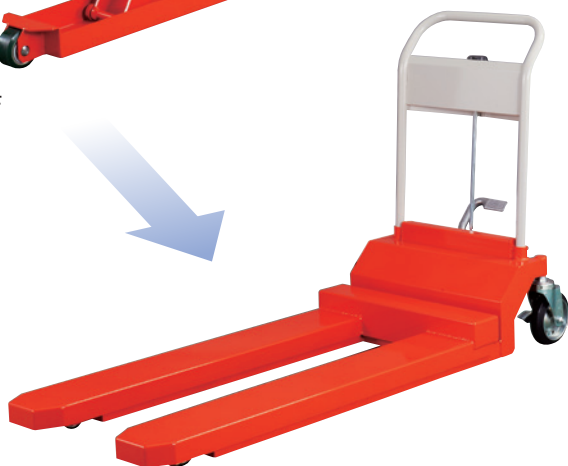
	Model	Load capacity	Box dimensions (WB × LB × HB)	Stroke (ST)	Box height (LL to LH)	Overall box height (L to 2L)	Wheels	Tilt angle (A1/A2)	Number of pump steps (Up/Tilt)	Deadweight
Container Dumper	HBTS-250	551 lbs	22.8"×45.2"×18.5"	33.7"	20" to 53.7"	43.3" to 86"	φ3.9	71°/31°	63/42	363 lbs
	HBTW-250	551 lbs	22.8"×45.2"×18.5"	48.4"	24.6" to 73"	63" to 106"	φ3.9	71°/31°	94/42	440 lbs

HLFN Hydraulic/Manual Foot Pump Pallet Lift

By installing cylinders under the forks, we were able to eliminate the part of hydraulic unit from push handle area for stronger and safer design.



HLFN-500F



MAJOR FEATURES

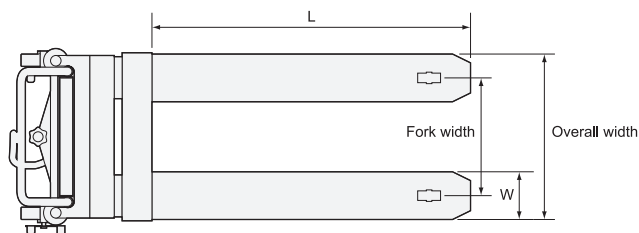
- For open bottom pallet
- Hydraulic cylinder
- Swivel casters with brakes
- Foot pedal
- Equipped with an overloading prevention device *1

MAJOR SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22

*1 The lift will not elevate when overloaded.



Load capacity: 1103 / 2205 lbs

Unit: inch

	Model	Load capacity	Overall length	Overall width	Overall height	Fork dimensions (W x L)	Fork width	Fork height	Stroke (ST)	Wheels	Number of pump steps	Deadweight
										(Swivel caster / Rigid caster)		
Pallet Lift	HLFN-500F	1103 lbs	60.2"	24.6"	33.9"	6.3"×41.3"	21.7"	3.4" to 21.1"	17.7"	Φ5.9 rubber / Φ3.0 urethane	52	198.4 lbs
	HLFN-1000F	2205 lbs	64.6"	28.3"	39.4"	7.9"×42.5"	19.1"	3.5" to 23.6"	20.1"	Φ7.9 rubber / Φ3.1 urethane	32/74	352.7 lbs

Improve safety, productivity and job satisfaction

SLIM LIFTS



MLSB Mechanical-Electric Lift (Ball Screw, Electric)

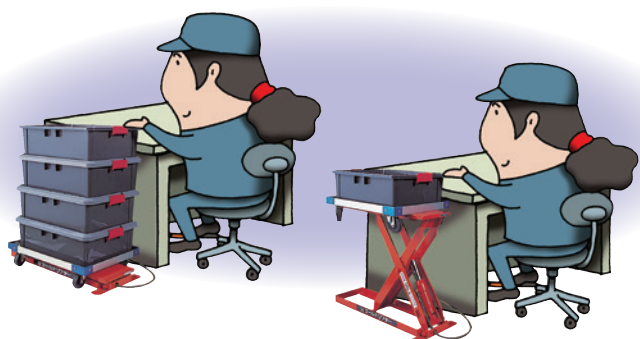
Ultra-low & Slim

Mechanical SPM See 7-8Pg

All-electric lift tables. The smallest footprint in the industry with the lowest profile dramatically improve productivity and work efficiency.

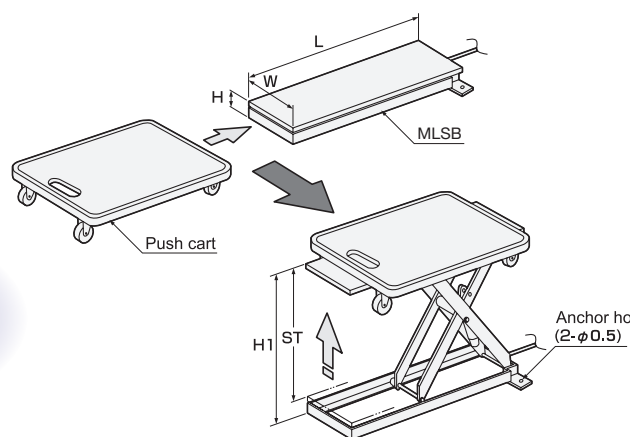


MLSB-100-2007



MAJOR FEATURES

- Ultra-low platform
- Built-in unit
- 115V single-phase power supply
- Foot switch cord: 78.7 in.
- Power cord: 118.1 in.
- Maximum usage frequency: 30 times per hour
- Dry ball screw cylinder



Load capacity: 220 / 440 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Stroke (ST)	Table height (H to H1)	Lifting duration <i>in seconds</i>	Lowering duration <i>in seconds</i>	Motor Output <i>Watts</i>	Deadweight
Ultra-low & Slim	MLSB-100-2007	220 lbs	7.9"×27.6"	19.6"	3.2" to 22.8"	12	12	70	62 lbs
	MLSB-100-2507		9.8"×27.6"						66 lbs
	MLSB-100-3007		11.8"×27.6"						71 lbs
	MLSB-100-2009		7.9"×35.4"	25.5"	3.2" to 28.7"	15	15		75 lbs
	MLSB-100-2509		9.8"×35.4"						79 lbs
	MLSB-100-3009		11.8"×35.4"						84 lbs
	MLSB-200-2108	440 lbs	8.3"×31.5"	20.1"	4.3" to 24.4"	22	22		91 lbs
	MLSB-200-2508		9.8"×31.5"						91 lbs
	MLSB-200-3008		11.8"×31.5"						91 lbs

* When the table is raised from the lowest position to the highest position, the table shifts up to 1.1 in. in the longitudinal direction (direction of L).

MLSH Hydraulic/Manual Foot Pump

Ultra-low & Slim

No need to pile up items on the table lift. Directly roll a hand-pushed or flat cart over the lift for more efficient production.



MLSH-150-2007



Adjust the height for work efficiency and improve productivity.

MAJOR FEATURES

- Ultra-low platform
- Hydraulic cylinder
- Stand-alone unit
- Foot switch cord: 6.6 feet
- High-pressure hose: 6.6 feet

SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22



Load capacity: 330/551 lbs

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Number of pump steps	Deadweight
Ultra-low & Slim	MLSH-150-2007	330 lbs	7.9"×27.6"	19.9"	2.6" to 22.4"	28	88.2 lbs
	MLSH-150-2509		7.9"×35.4"	25"	2.6" to 27.6"		101.4 lbs
	MLSH-250-2008	551 lbs	8"×31"	20"	3" to 29"	37	94 lbs
	MLSH-250-2508	551 lbs	9"×31"	20"	3" to 29"	37	94 lbs
	MLSH-250-3008	551 lbs	12"×31"	20"	3" to 29"	37	103 lbs

Unit: inch

MLSE Hydraulic Electric Lift

Ultra-low

Ultra-low-profile model makes it easy to load carts, boosting work efficiency.



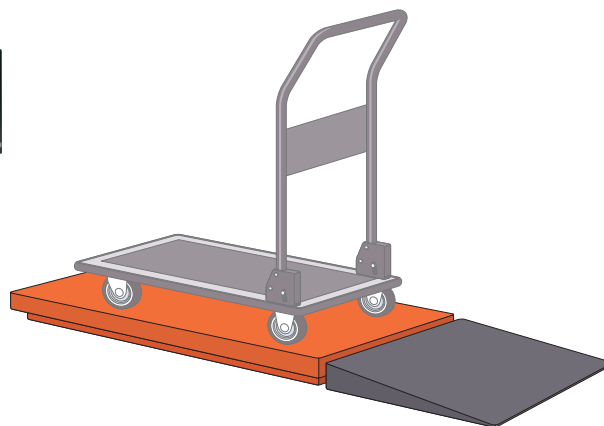
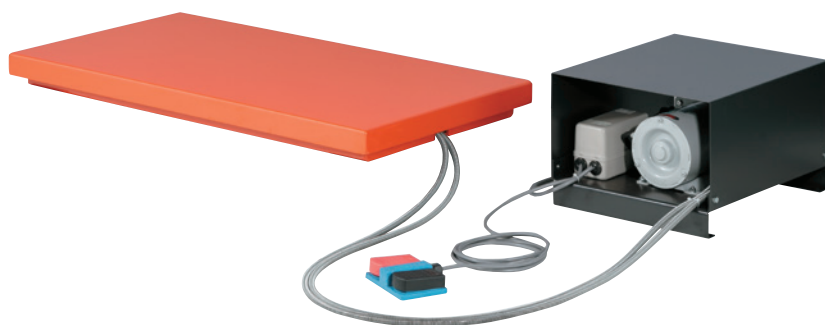
MAJOR FEATURES

- Ultra-low platform
- Hydraulic cylinder
- Stand-alone unit
- Foot switch cord: 13.1 feet
- Separate hydraulic unit

SPECIFICATIONS

Oil Used

Turbine oil: ISO VG22



Load capacity: 551/1102 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Lifting duration (50HZ) in second	Lifting duration (60HZ) in second	W	Deadweight
Ultra-low	MLSE-250-0509	551 lbs	19.7"×37.4"	22.8"	2.8" to 25.6"	12	10	550	220.5 lbs
	MLSE-500-0509	1102 lbs	19.7"×37.4"	20.9"	3.1" to 24"	12	10	550	264.6 lbs
	MLSE-500-0610J	1102 lbs	25.6"×41.3"	20.9"	3.1" to 24"	12	10	500	297.7 lbs

Improve safety, productivity and job satisfaction

HAMACO ERGONOMIC EQUIPMENT

**MECHANICAL - MANUAL LIFT TABLE
PNEUMATIC PALLET LEVELER
STACKERS
ERGONOMIC EQUIPMENT**



MH Mechanical-Manual Lift (Trapezoidal Screw, Manual)

Trapezoidal Screw / Manual

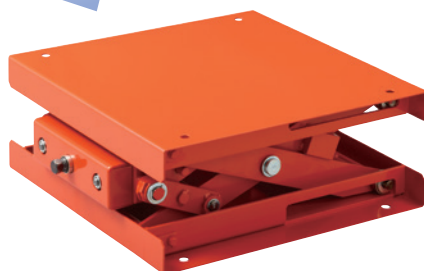
Smooth manual operation when loaded by using trapezoidal screw.

MAJOR FEATURES

- Smooth operation with loads while lowering and raising
- No-hydraulic drift
- Strong structure by using trapezoidal screw.



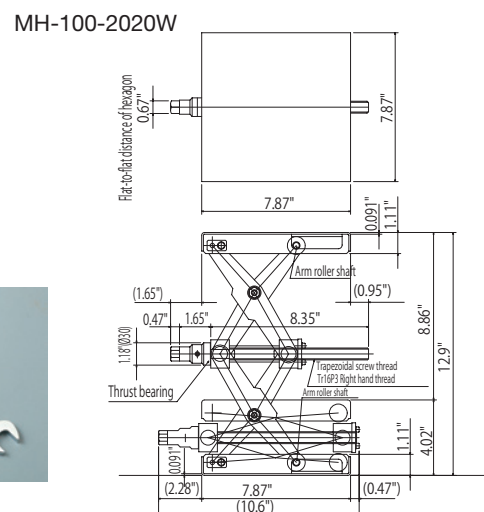
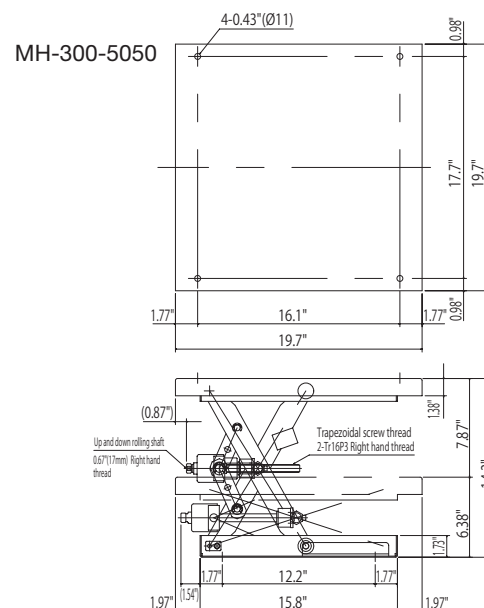
MH-300-5050



MH-100-2020W



* Wrench included with all MH Lift Tables.



Load capacity: 220 to 661 lbs

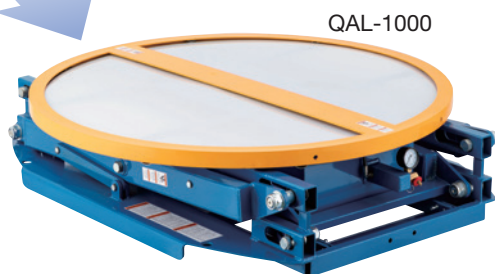
Unit: inch

Model	Load capacity	Table dimensions (W x L)	Stroke (ST)	Table height (H to H1)	Lift method	Number of rotation	Deadweight
MH-100-2020W	331 lbs (Static)* 220 lbs (Dynamic)*	7.9" x 7.9"	8.9"	4.0" to 12.9"	Trapezoidal screw/manual	Approx. 30 times	18 lbs
MH-300-4040	661 lbs	15.8" x 15.8"	7.9"	6.3" to 14.2"		Approx. 40 times	66 lbs
MH-300-5050	661 lbs	19.7" x 19.7"	7.9"	6.4" to 14.3"		Approx. 40 times	71 lbs

* The load capacity of MH-100-2020W is 220 lbs while it is lifting or lowering and 331 lbs while it is stopping.

QAL Pneumatic Pallet Leveler

Self positioning pneumatic pallet leveler constantly keeps the load at a comfortable working height. Helps to reduce injury caused by bending and lifting.

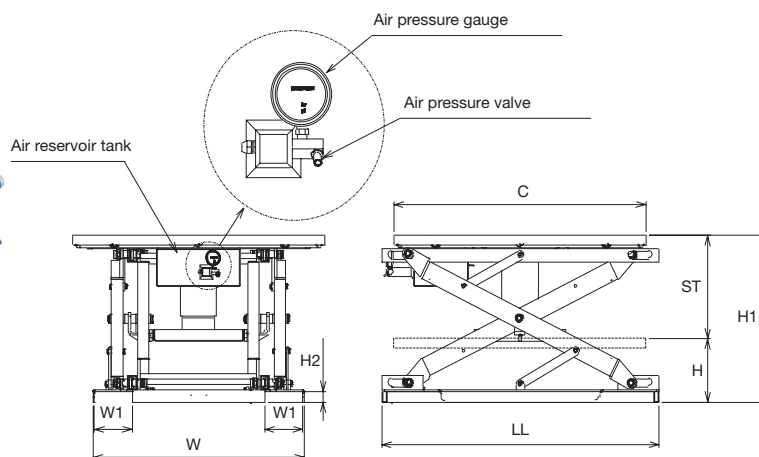


QAL-1000

SET UP RECOMMENDATIONS

The Pallet leveler can handle a wide range of load capacities depending on the air pressure. The following recommendations are a general guide for initial operations. Working pressure should be adjusted depending on load and operator preferences .

Capacity (LBS)	<440	660	990	1450	2300
Initial Pressure (PSI) (Unloaded unit)	20	30	45	65	95



Load capacity: 4500 lbs

	Model	Load capacity	Table dimensions (C)	Stroke (ST)	Table height (H to H1)	Table size (W1xH2xWxLL)	Max air pressure	Deadweight
Air Leveler	QAL-1000	4500 lbs	Φ43.7"	17.6"	10.4" to 28.0"	6.5"x1.77"x36.6"x48"	95 psi	500 lbs

Unit: inch

HFH Hydraulic/Foot Operated Type Standard

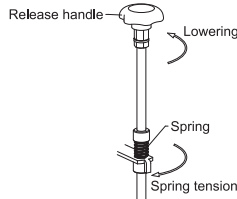
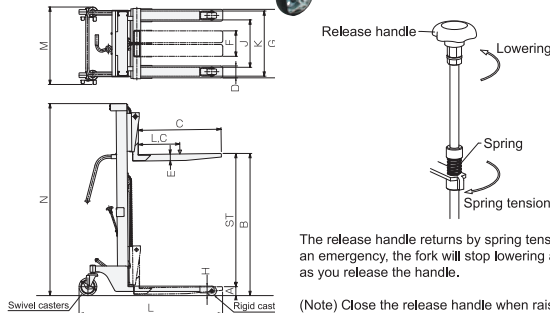
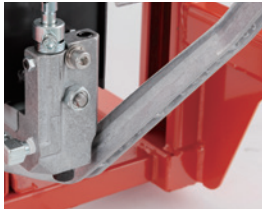
Useful in transporting pallets between narrow spaces and walkways.



HFH-HS150-9



HFH-HE600-12



The release handle returns by spring tension, so in an emergency, the fork will stop lowering as soon as you release the handle.

(Note) Close the release handle when raising the lift.

MAJOR FEATURES

- Compact hydraulic step type lifter is easy to operate in narrow walkways
- Low total height type is easy to operate in entrances and exits and in buildings with low ceilings
- Swivel handling with creatively designed plated handles
- The rigid casters have urethane wheels, and the swivel casters have rubber wheels with brakes on both sides
- Strong and light-weight mast and fork design that uses high tensile strength steel
- Comes with an overloading prevention valve
- Fork width is easy to adjust
- Mast with new structure that prevents fork vibration
- Comes with a rapid traverse device (attached to the HFH-H150 or H200)
- Has a springback mechanism in the release handle*1

*1 In an emergency, lowering will stop as soon as you release the handle. Close the release handle when raising the lift.

The pump pedal is designed to be easy to press.

Load capacity: 330 to 1322 lbs

Unit: inch

	Model	Load capacity	Load center distance (LC)	Fork height				Fork dimensions				Leg dimensions			Wheel dimensions		External dimensions			Number of Steps		Deadweight		
				Minimum height (A)	Minimum height (*A)	Maximum height (B)	Stroke (ST)	Length (C)	Width (D)	Thickness (E)	Slide outside width (F to G)	Height (H)	Internal width (J)	External width (K)	Rigid caster	Swivel casters with brakes	Total length (L)	Total width (M)	Total height (N)	No load	Full load			
Standard	HFH-HS150-9	330 lbs	13.8"	2.9"	3.3"	35.5"	32.6"	27.6"	2.4"	1.5"	5.2" to 18.5"	3"	14.2"	18.1"	3"	4.9"	44"	21.7"	48"	-	29	104 lbs		
	HFH-HS150-12					47.3"	44.4"												59.9"	-	40	110 lbs		
	HFH-HS150-15					59.1"	56.2"												71.7"	-	50	117 lbs		
	HFH-HS200-9	440 lbs	11.8"	2.8"	3.2"	35.4"	32.6"	23.6"	2.4"	1.5"	5.2" to 18.5"	3"	14.2"	18.1"	3"	4.9"	40.1"	21.7"	48"	-	29	101 lbs		
	HFH-HS200-12					47.2"	44.4"												59"	56.2"	59.9"	-	40	108 lbs
	HFH-HS200-15					59"	56.2"												71.7"	-	50	115 lbs		
	HFH-HE300-9	661 lbs	15.7"	3.1"	3.7"	35.5"	32.4"	31.5"	3.9"	2.2"	8.5" to 22.8"	3.1"	15.7"	21.7"	3.1"	5.9"	51.7"	25.8"	52"	18	49	190 lbs		
	HFH-HE300-12					47.3"	44.2"												63.8"	25	66	212 lbs		
	HFH-HE300-15					59.1"	56"												75.6"	32	83	251 lbs		
	HFH-HE400-9	881 lbs	13.8"	3"	3.8"	35.4"	32.4"	27.6"	3.9"	2.2"	8.5" to 22.8"	3.1"	15.7"	21.7"	3.1"	5.9"	47.7"	25.8"	52"	18	49	187 lbs		
	HFH-HE400-12					47.2"	44.2"												63.8"	25	66	209 lbs		
	HFH-HE400-15					59"	56"												75.6"	32	83	249 lbs		
	HFH-HE500-9	1102 lbs	17.7"	3.2"	3.8"	35.4"	32.2"	35.4"	3.9"	2.2"	8.6" to 22.9"	3.1"	15.7"	21.7"	3.1"	5.9"	55.7"	25.8"	53.6"	24	63	247 lbs		
	HFH-HE500-12					47.2"	44"												65.4"	32	83	269 lbs		
	HFH-HE500-15					59.1"	55.9"												77.2"	41	107	291 lbs		
	HFH-HE600-9	1322 lbs	15.7"	3.2"	3.7"	35.4"	32.2"	31.5"	3.9"	2.2"	8.6" to 22.9"	3.1"	15.7"	21.7"	3.1"	5.9"	51.8"	25.8"	53.6"	24	63	243 lbs		
	HFH-HE600-12					47.2"	44"												65.4"	32	83	265 lbs		
	HFH-HE600-15					59"	55.8"												77.2"	41	107	287 lbs		

* When the fork is placed on the legs the minimum height will be increased by about 0.4 in.

Note The swivel casters have rubber wheels and the rigid casters have urethane wheels.

PD Steel Platform Truck

Folding Handle Type With Stopper

Smooth and quiet operation.
Easy glide while traveling.



RD-350T

The push handle can be folded.

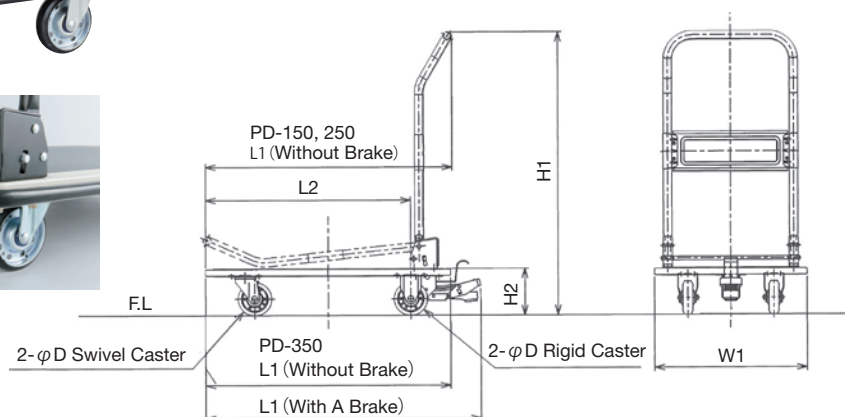
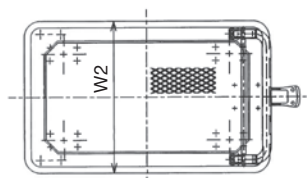


RD-150T



MAJOR FEATURES

- Same installation pitch for swivel and rigid casters
- Folding handle
- Front: Swivel casters, Rear: Rigid casters
- Platform: Steel
- Handle: Steel
- Casters: Steel
- Casters: Steel
- Wheels: Rubber
- Mat: PVC



Load capacity: 331 to 772 lbs

Unit: inch

	Model	Load capacity	Table dimensions (W × L)	Loading face W2 × L2 × H2	Handle height H1	Wheels	weight	Brake
Standard	PD-150T	331 lbs	18.1"×29.3"	18.1"×24.4"×5.6"	33.7"	Φ 3.9 rubber	24.0 lbs	No
	PD-250T	551 lbs	21.3"×33.1"	21.3"×28.8"×5.7"	34.7"	Φ 3.9 rubber	30.6 lbs	No
	PD-350T	772 lbs	25.4"×37.2"	25.4"×32.2"×6.9"	33.7"	Φ 4.9 rubber	37.5 lbs	No
With Brake	PD-150TS	331 lbs	18.1"×32.7"	18.1"×24.4"×5.6"	33.7"	Φ 3.9 rubber	26.2 lbs	Yes
	PD-250TS	551 lbs	21.3"×36.7"	21.3"×28.8"×5.1"	34.7"	Φ 3.9 rubber	32.8 lbs	Yes
	PD-350TS	772 lbs	25.4"×40.8"	25.4"×32.2"×6.9"	33.7"	Φ 4.9 rubber	33.0 lbs	Yes

SHTG Work Table (Gas Cylinder, Manual)

Gas Cylinder / Manual

Perfect as a side table for light indoor work or office work such as machining, packing, assembling or inspecting.



MAJOR FEATURES

- Table height can be steplessly adjusted to match worker and usage conditions
- Can tilt up to 40° with tilt function (For SHSG-100-45C)
- Damage-resistant surface with melamine decorative panels
- Height adjustment: Free-lock gas cylinder
- Frame material: Steel (Baked melamine)


 Cannot be raised or lowered when loaded



Table Height Adjustable



Load capacity: 220 / 264 lbs

Unit: inch

Model	Load capacity	Table dimensions (W × D)	Table height (H)	Wheels
SHSG-100-45C	220 lbs	17.7"×17.7"	23.0" to 32.9"	Swivel casters with brakes: Φ2.5 rubber
SHTG-120-90	264 lbs	17.7"×35.4"	15.4" to 31.5"	Rigid caster: Φ3.9 / Swivel casters with brakes: Φ2.5 rubber

Improve safety, productivity and job satisfaction

E-FORK



E-FORK Powered Pallet Truck

Ergonomic & smart tiller design,
high performance by lithium battery

MAJOR FEATURES

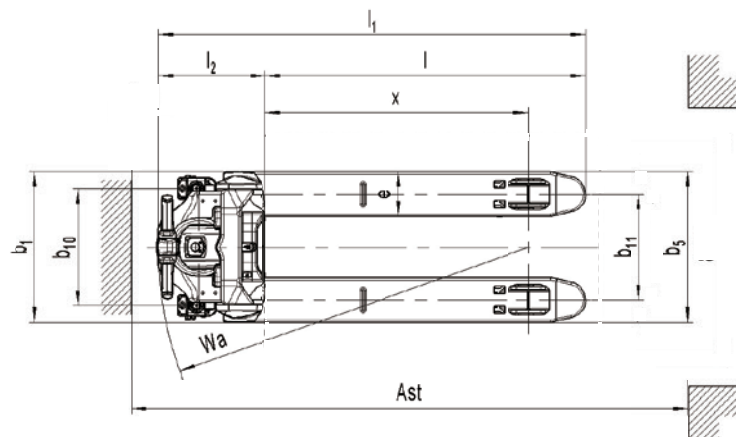
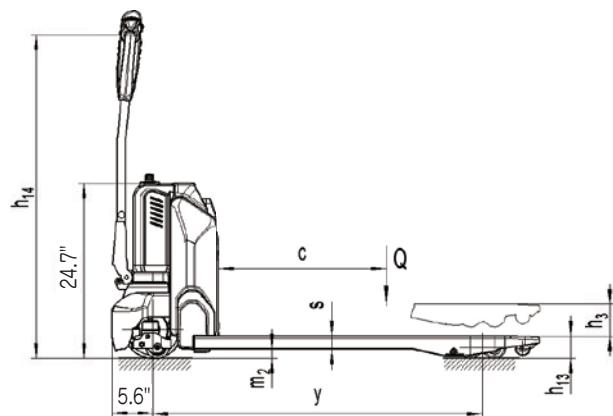
- Integrated PIN cord panel with LCD display
- Provides the shortest turning radius of 50.1/52.3 inch with lifted
- Light weight & high quality lithium battery for easy replacement
- 2 hour working time
- Emergency button for workers' safety



Emergency reverse

Emergency button

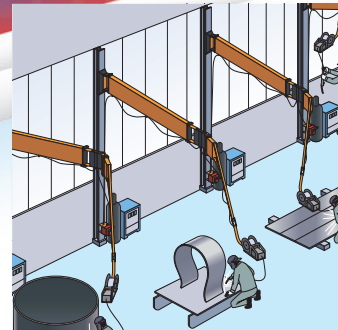




specification data		
General data	Manufacturer's type designation	HPT12N
	Drive	Battery
	Operator type	pedestrian
	Q Load Capacity / rated load	2645 lbs
	c Load centre distance <inch>	23.6"
	x Load distance .centre of drive axle to fork <inch>	37.2"
	y Wheelbase <inch>	46.6"
Weight	Service weight	271 lbs
Tires, chassis	Tires	Polyurethane (PU)
	Tire size, front<inch>	Ø 8.2"x2.7"
	Tire size, rear<inch>	Ø 3.1"x3.6"
	Additional wheels(dimensions)<inch>	Ø 3.1"x1.1"
	wheels,number front/rear(x=driven wheels)	lx/2 or lx+2/2
	b10 Tread, front <inch>	16.5"
	b11 Tread, rear<inch>	14.9"
Dimensions	h3 Lift<inch>	4.5"
	h14 Height of tiller in drive position min./ max.	27.5"/45.6"
	h13 Height, lowered<inch>	3.1"
	l1 Overall length<inch>	60.2"
	l2 Length to face of forks<inch>	14.9"
	b1 Overall width<inch>	21.2"
	s/e/l Fork dimensions<inch>	1.8"/6.2"/45.2"
	b5 Distance between fork-arms <inch>	21.2"
	m2 Ground clearance, centre of wheelbase<inch>	1.2"
	Ast Aisle width for pallets 31.4"x47.2" lengthway (7.8" sfe distance)<inch>	78.7"
	Wa Turning radius <inch>	52.3"
Performance data	Travel speed, laden/unladen <mph>	2.8/3.0
	Lift speed, laden/ unladen <fpm>	3.9/5.0
	Lowering speed, laden/unladen <fpm>	9.8/7.8
	Max. gradeability, laden/ unladen <%>	4/16
	Service brake	Electromagnetic
Electric- Motor (IPM Motor)	Drive motor rating S2 60min <Kw>	0.65
	Lift motor rating at S3 10% <Kw>	0.50
	Battery acc, to DIN 43531/35/36A,B,C,no	No
	Battery voltage, nominal capacity K5 <V/Ah>	24V/20
	Battery weight	10 lbs
	Energy consumption acc. to VDI cycle <kWh/h>	0.18
Additional data	Type of drive control	DC-speed control
	Sound level at driver's ear acc. to EN 12053 <dB(A)>	<70

Create a safer workplace
Improve work efficiency

SPACE ARM

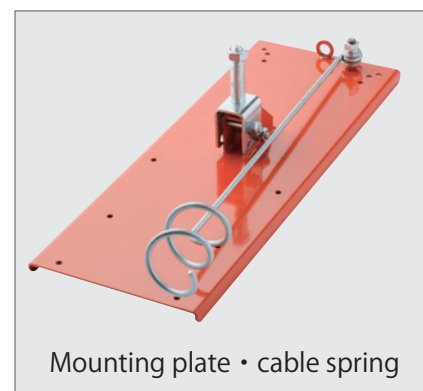


SPE *Mechanical Electric*

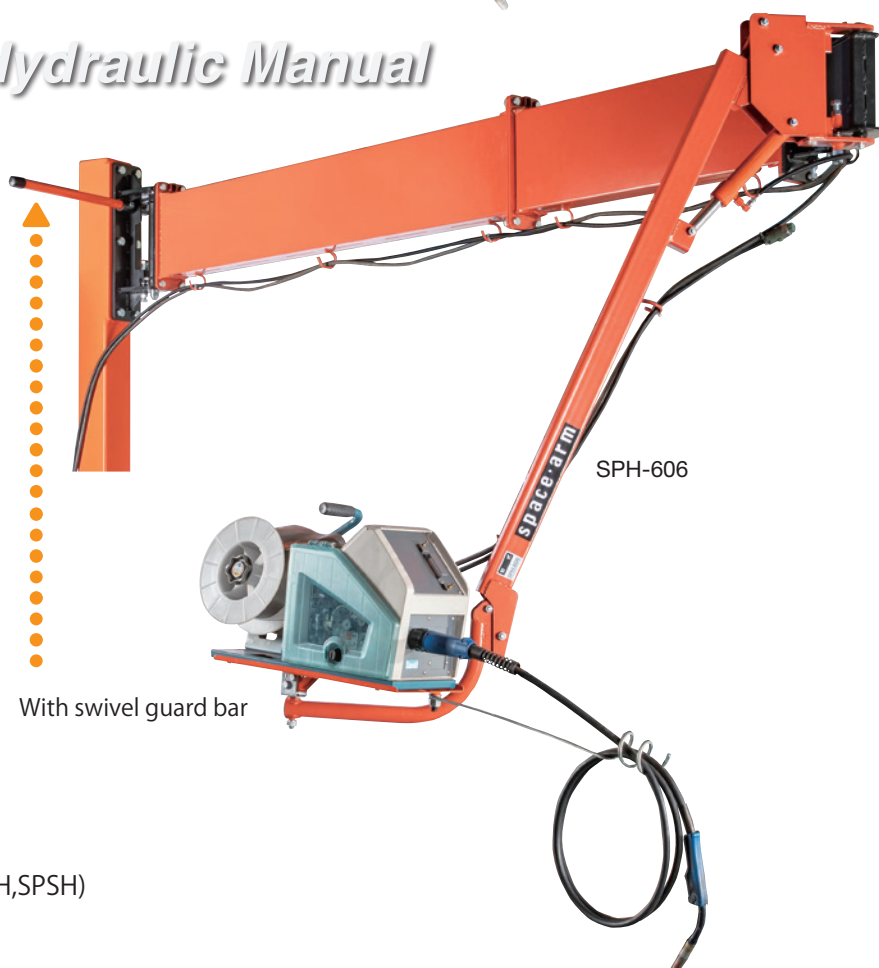


With swivel guard bar

Motorized pushbutton switch box (for SPE, SPSE)



SPH *Hydraulic Manual*

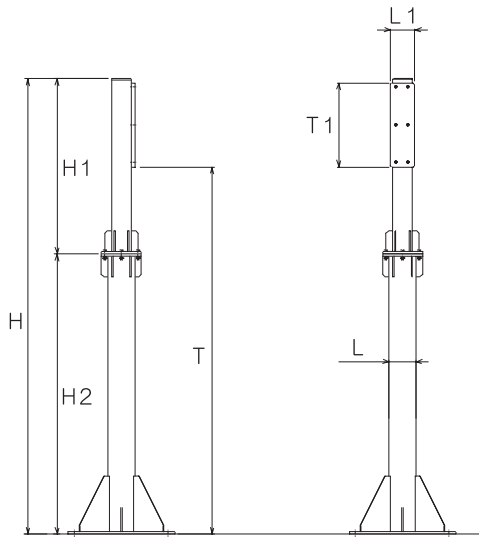
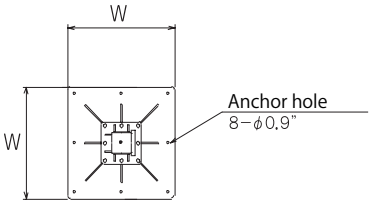
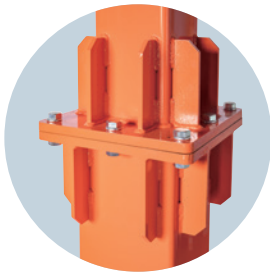
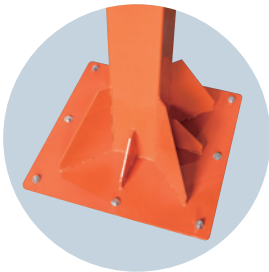
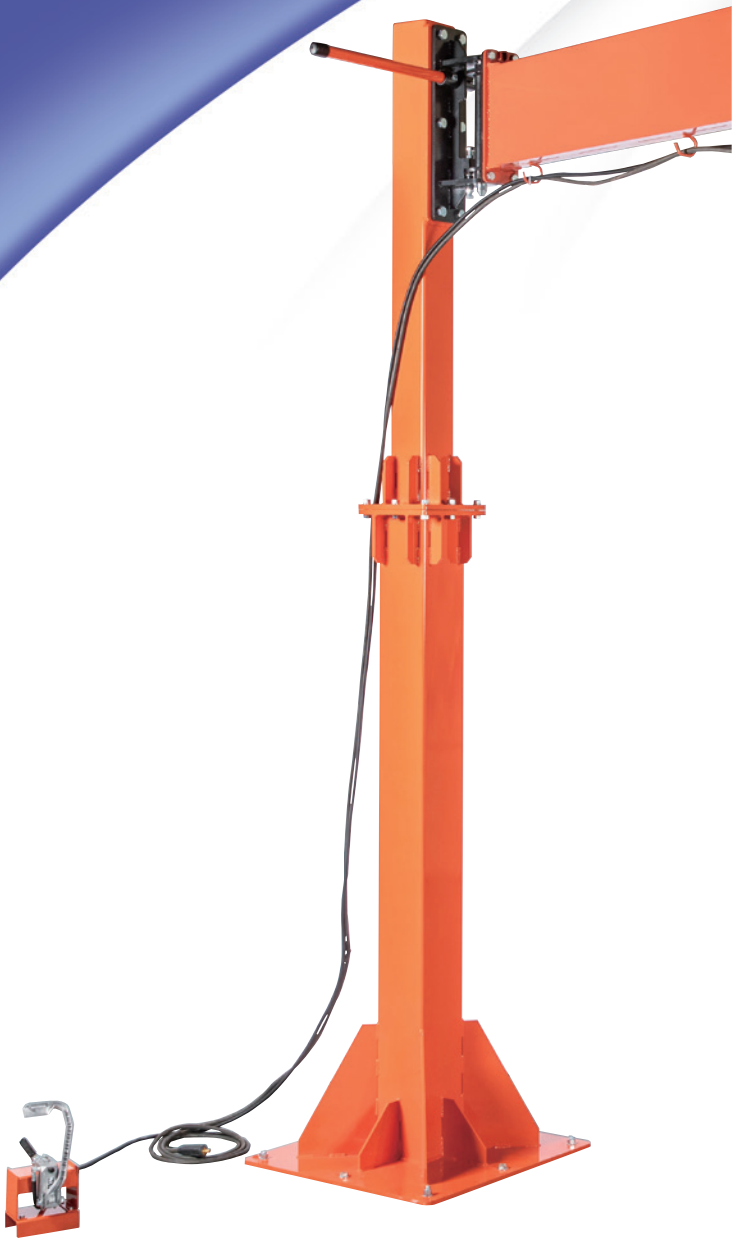


With swivel guard bar

Manual pump (for SPH,SPSH)

Option *Mounting Post*

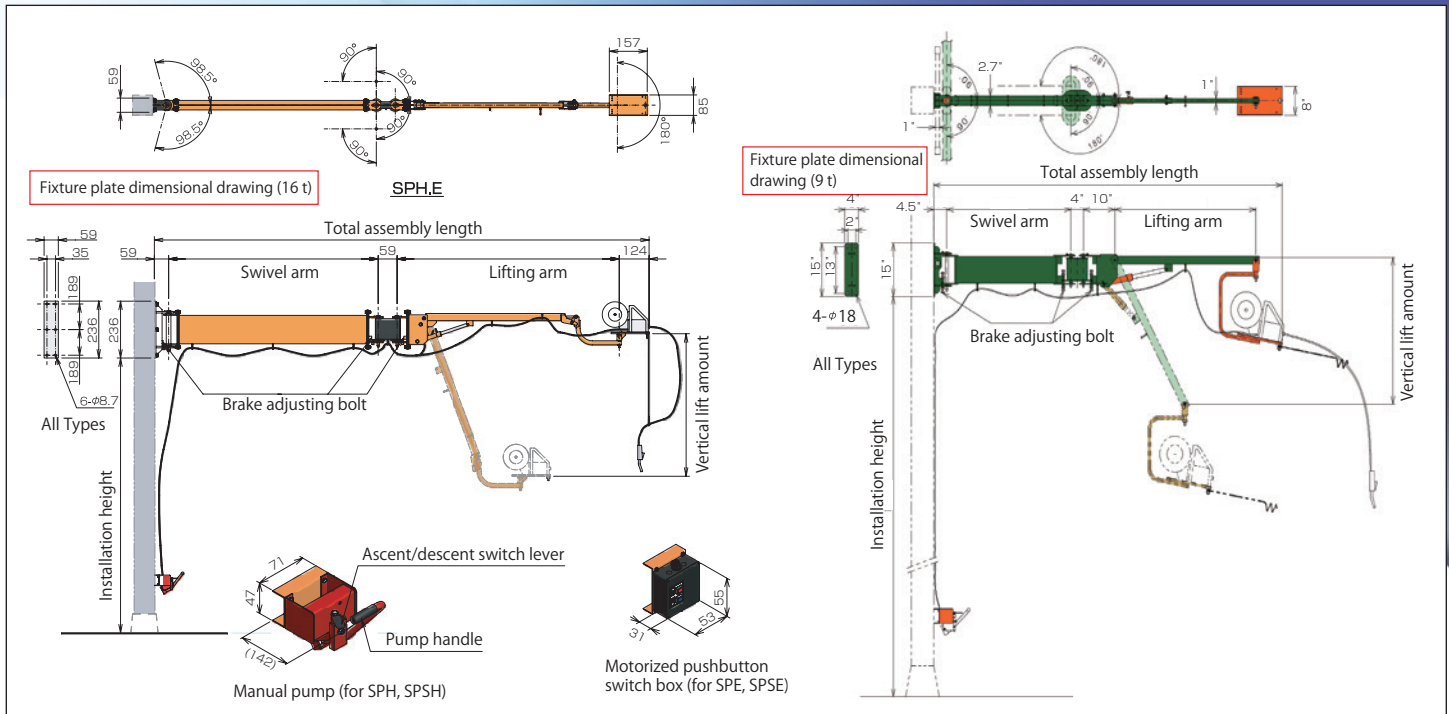
If you need a pole height other than the standard one, please consult your dealer.



Unit: inch

	Model	Load capacity	Pole Height (H)	Floor Width (W)	Parts Height (H1/ H2)	Mounting plate (T1xL1)	Pole Length (L)	Mounting Height (T)	Deadweight
Mounting post	SPM-3250	660 lbs	128"	31.5"	49.2"x78.7"	23.6"x7.1"	7.9"	103"	573 lbs

Space Arm dimensional drawing



Specifications

Unit: inch

Ascent and descent method	Electric SPE							Manual SPH							Electric SPSE			Manual SPSH		
Model	SPE-306	SPE-406	SPE-506	SPE-606	SPE-706	SPE-626	SPE-826	SPH-306	SPH-406	SPH-506	SPH-606	SPH-706	SPH-626	SPH-826	SPSE-252	SPSE-312	SPSE-372	SPSH-252	SPSH-312	SPSH-372
Maximum load	110.2 lbs							110.2 lbs							88.1 lbs					
Total assembly length	124.8"	164.2"	198.9"	237.0"	270.5"	237.0"	309.9"	124.8"	164.2"	197.6"	237.0"	270.5"	237.0"	309.8"	98.4"	122.0"	145.6"	98.4"	122.0"	145.6"
Swivel arm	-	47.6"	81.1"	120.5"	153.9"	81.1"	120.5"	-	47.6"	81.1"	120.5"	153.9"	81.1"	153.9"	19.4"	43.1"	66.7"	19.4"	43.1"	66.7"
Installation height	Approx. 98.4"					Approx. 126.0"		Approx. 98.4"					Approx. 126.0"		Approx. 66.9" to 98.4"					
Lifting arm	92.1"					131.5"		92.1"					131.5"		48.9"					
Vertical lift amount	59.1"					86.6"		59.1"					86.6"		43.3"					
Unloaded weight	169.8 lbs	233.7 lbs	293.2 lbs	363.8 lbs	429.9 lbs	319.7 lbs	451.9 lbs	169.8 lbs	233.7 lbs	293.2 lbs	363.8 lbs	429.9 lbs	319.7 lbs	451.9 lbs	116.8 lbs	130.0 lbs	143.3 lbs	116.8 lbs	130.0 lbs	143.3 lbs
Lifting/lowering device	Dry cylinder (motorized ball screw)							Hydraulic cylinder							Dry cylinder (motorized ball screw)			Hydraulic cylinder		
Ascent/descent time	Top/Bottom for 24 seconds							—							Top/Bottom for 24 seconds			—		
Power switch	Brushless Motor 90 VDC, 70 W with electromagnetic brake							Manual hydraulic type							Brushless Motor 90 VDC, 70 W with electromagnetic brake			Manual hydraulic type		
Power source	AC100V50/60Hz 3A							—							AC100V50/60Hz 3A			—		
Operation method	Two pushbutton type (built-in microcomputer)							Manual pump operations: 40							Two pushbutton type (built-in microcomputer)			Manual pump operations: 40		
High-pressure hose length (SPH,SPSH)	—							255.9"		315.0"					—			255.9"		
Power cord length (SPH,SPSH)	255.9"			315.0"				—			—				255.9"			—		

* This machine does not include a welding machine or feeder device.

* If using a digital feeder device, a load plate will need to be ordered separately.

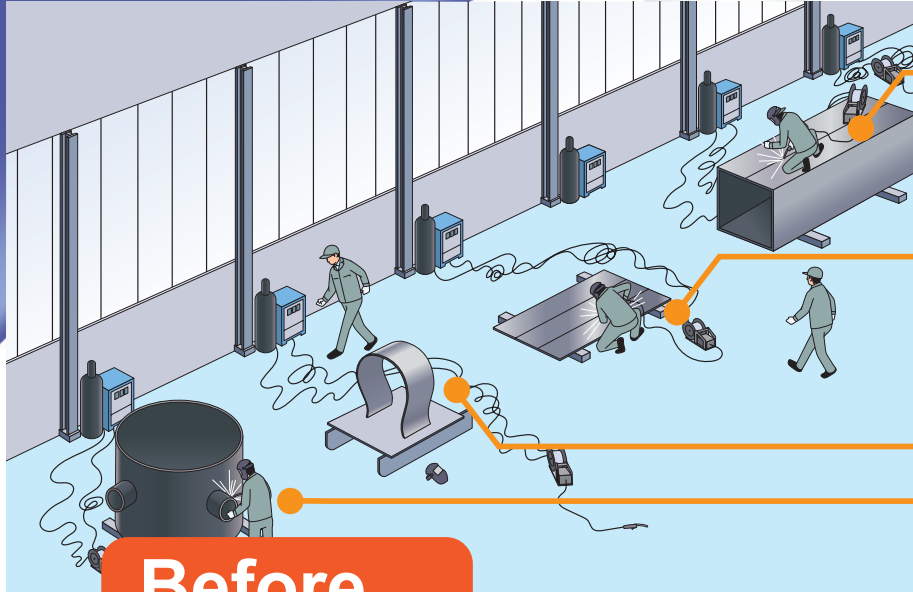
Usage precautions

- Use solely for the intended purpose.
- Check on a regular basis for any loose nuts, screws & bolts.
- Retighten any loose nuts, screws & bolts.
- Do not use if there is any cracking, chipping, abrasion, or deformation are observed.
- Do not use it close to any fire; there is a risk of burning the paint coating of the machine.
- Do not overload the units recommended weight capacity.

* Contact your local distributor for repair requests or when purchasing replacement parts. It is recommended that you keep a record of the distributor that you purchased the unit from, when calling in provide the model type, serial number, and purchase date.

Thinking about improving how you use your current space?

Introduce Space Arm into your work site as a means to solve each issue shown below-instantly. A safe and comfortable site can bring work efficiency to the next level!



Before

Storing equipment is a hassle!

Loose cables and hoses damaged by conveyors!

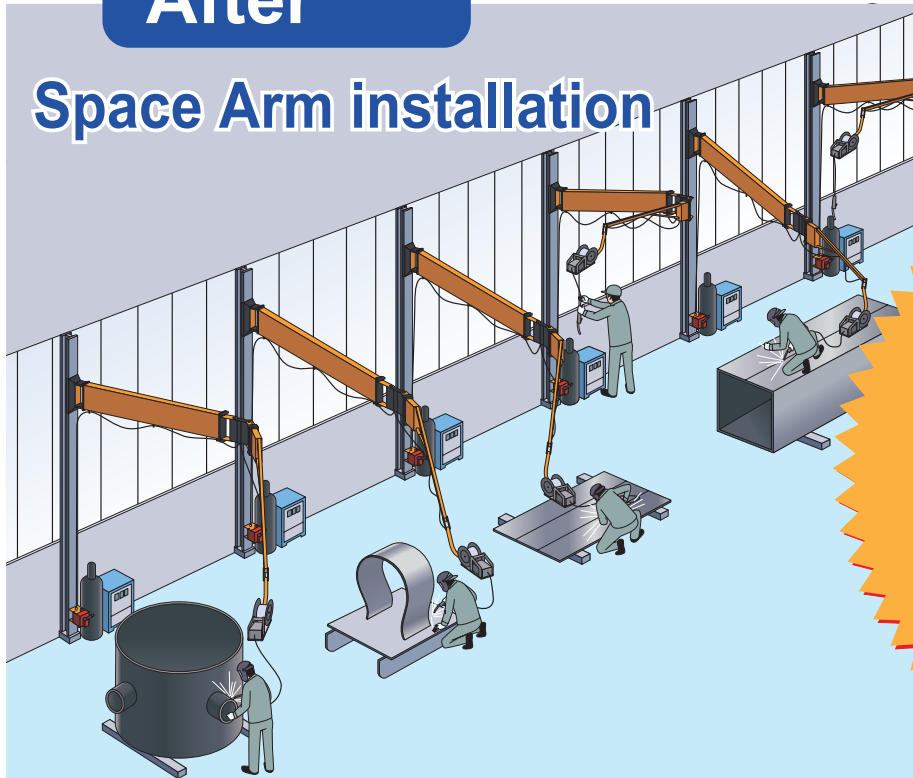
Feeder device left on the floor restricts working area!

Damage or trip on cables and hoses.

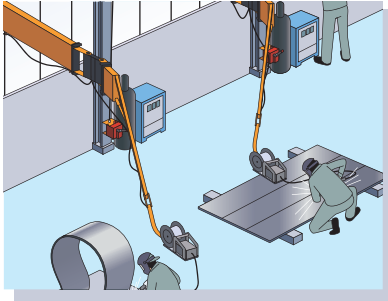
More efficient and safe

After

Space Arm installation



Much less damage to cables and hoses.

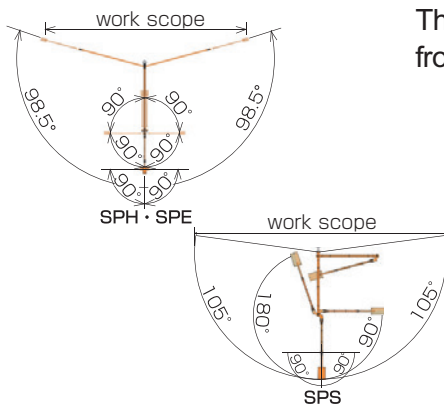


Expanded actual work area

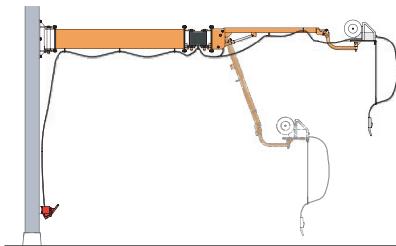
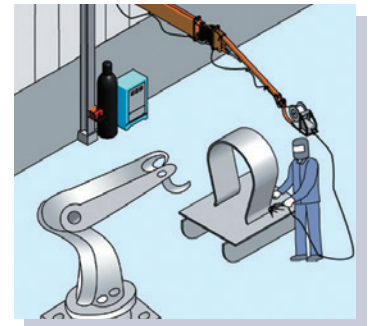
The arm moves in three dimensions so that the feeder device is constantly over the work piece, allowing it to be used over a wider work area.

Supports a wide variety of work pieces

The machine uses a three shaft-type arm to support a wide range of scenarios, from large structures to small work pieces.

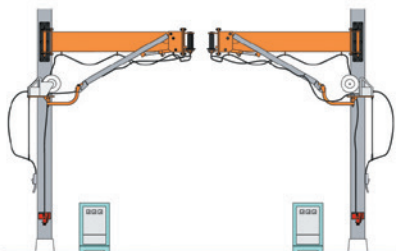


Ideal for robot pre/post processing



Simple wire exchange

The lifting arm is raised/lowered on a motorized pole cylinder, making it simple to replace the wires in the feeder device.

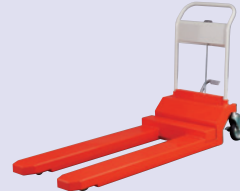


Fold and store

The lifting arm can be folded toward the support column, for quick and compact storage.

Other features

The torch is light and easy to pull, making work more efficient. Light and solid design uses an extremely rigid box structure for the arm. Requires less time to inspect work and clean up. Less frequent replacement of cables, torch, and chips. The brushless motor is vector-controlled for smooth movement.



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