

Makitech

QUICK DIE&MOLD CHANGE SYSTEMS

Mold Changing Systems



Smart Logistics ... Makitech Industrie 4.0

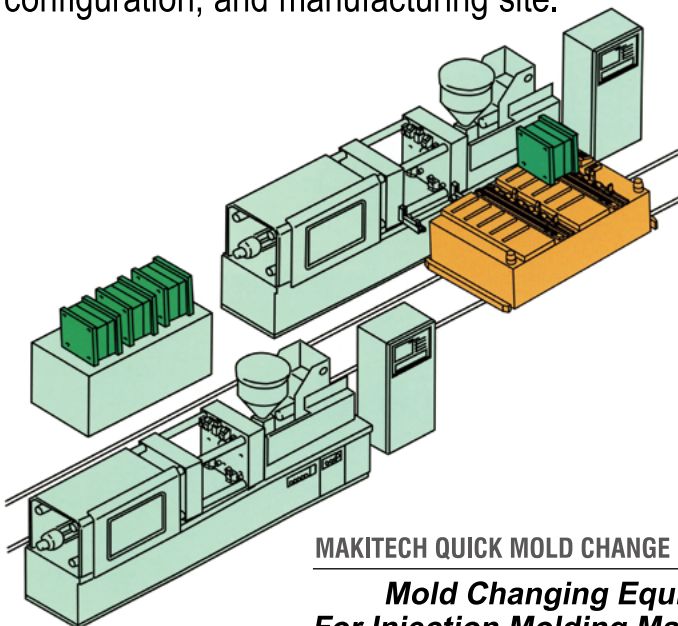


MAKITECH Co., Ltd.

Mold Change System



The Makitec Mold Change System fulfills multiple requirements, so we can offer the most suitable mold changing system for you according to your molding conditions, production configuration, and manufacturing site.



MAKITECH QUICK MOLD CHANGE SYSTEMS
***Mold Changing Equipment
For Injection Molding Machines***

EASY

SPEEDY

SAFETY

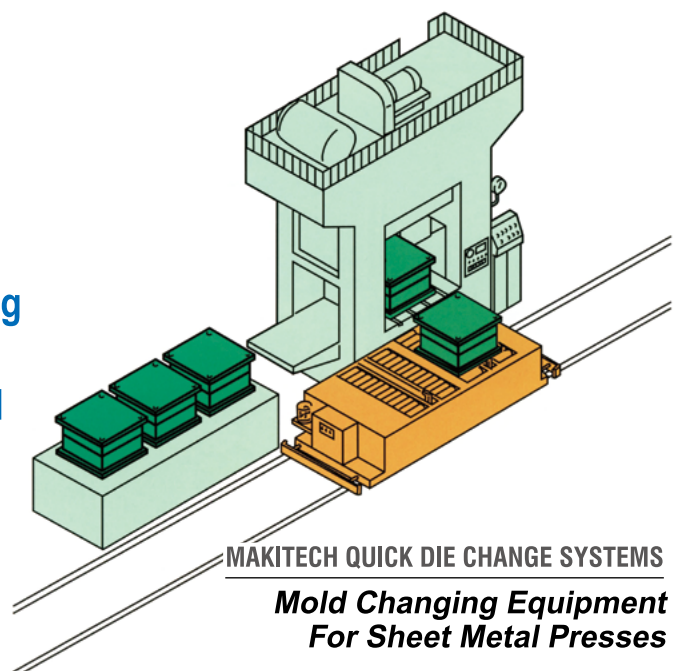


Special Features of the Makitec Mold Change System

Labor-saving / Power-saving
Easily operated with the
push of a button

We have reduced time wastage during
changing molds in one swoop!
Production times are greatly decreased

Safety procedures have been
carried out Thanks to this, all danger
has been eliminated!



Mold Change System

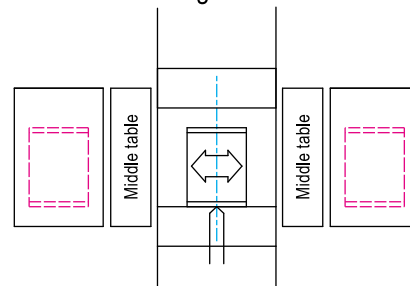
Single Mold Loading Fixed Table



[Performance Data]

Injection Molding Machine	: 850 metric tons
Loading and Unloading	: Driving Idler Method
Mold Weight	: 15 metric tons

Molding Machine



A 'Tokoroten Type' (extruder) mold changing table that can be installed on both the operating side and non-operating side of an injection molding machine, and which unloads the previous mold no longer needed for production from the machine at the same time as loading the next mold.

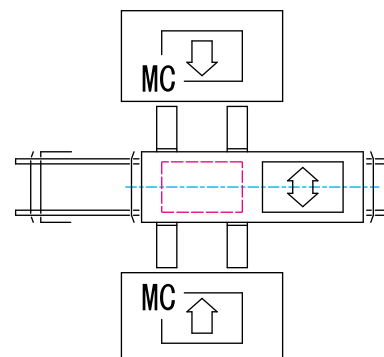
Loading molds onto the changing table is carried out by an overhead crane, as this system prevents any interference with the oscillating preheating device on top of the table.

Dual Mold Loading Truck



[Performance Data]

Injection Molding Machine	: 850 metric tons
Loading and Unloading	: Driving Idler Method
Mold Weight	: 15 metric tons



A mold changing system that can load two molds at a time.

The next mold ready to be used for production is loaded onto one stage, while the mold no longer in use is unloaded from the molding machine onto the empty stage.

The truck completes its path of movement in one pitch, so it is possible to change molds quicker than a single mold loading system.

It is not necessary to create any indents in the floor for rails, as the truck travels over rails that are installed on top of the floor.

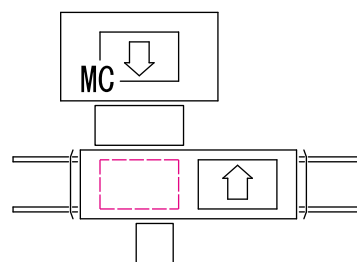
Loading and unloading molds can be done on both sides, so it is possible to install the truck between two injection molding machines and use with both machines at the same time.

Dual Mold Loading Truck (Free Idler Type)



[Performance Data]

Injection Molding Machine	: 650 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 6 metric tons



■ A free idler type mold changing truck that utilizes the chain pusher method.

The chain pusher method passes a chain with three rows of idlers along the inner side of a concave guide, then moves the tip of a hook forwards and backwards while restraining the bends in the chain.

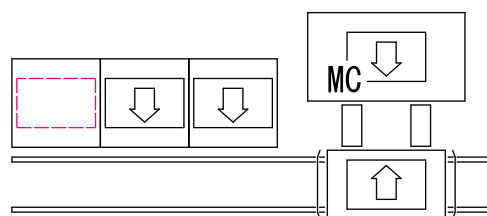
High speed transfers are not possible, however the drive unit terminates in one place, so the machine can be operated at a low cost. Also, the structure is quite simple, so it is easily maintained.

Single Mold Loading Truck With Inverter Mechanism



[Performance Data]

Injection Molding Machine	: 1,300 metric tons
Loading and Unloading	: Driving Idler Method
Mold Weight	: 15 metric tons



■ A changing truck equipped with our newly developed mold inverter machine.

Previously, our mold changing trucks and mold inverter machines were installed separately, however this one truck carries out both functions. Therefore, it is perfect for when molds need changing frequently, or for smaller production sites where space to lay out machinery is limited.

Also, it is possible to switch molds without using a crane, as we have allocated a stocker to the same line.

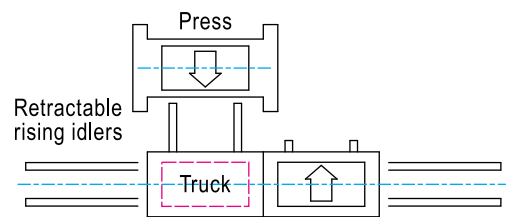
Mold Change System

Dual Mold Loading Truck



[Performance Data]

Sheet Metal Press	: 300 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 3 metric tons



A dual mold loading truck for use with sheet metal presses. Retractable rising idlers load and unload molds from the press, and a chain pusher transfers them. When the retractable idlers are not changing the molds, the truck withdraws from the front of the press and the idlers rise up and create a working space in front of the press.

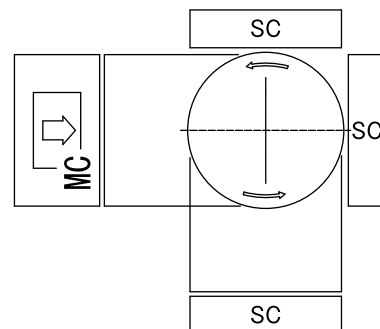
The truck is equipped with steps and a control board, and can travel for long distances when operated by a driver.

Die Holder Changing System Used With Hot Forging Press



[Performance Data]

Hot Forging Press	: 3,000 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 20 metric tons



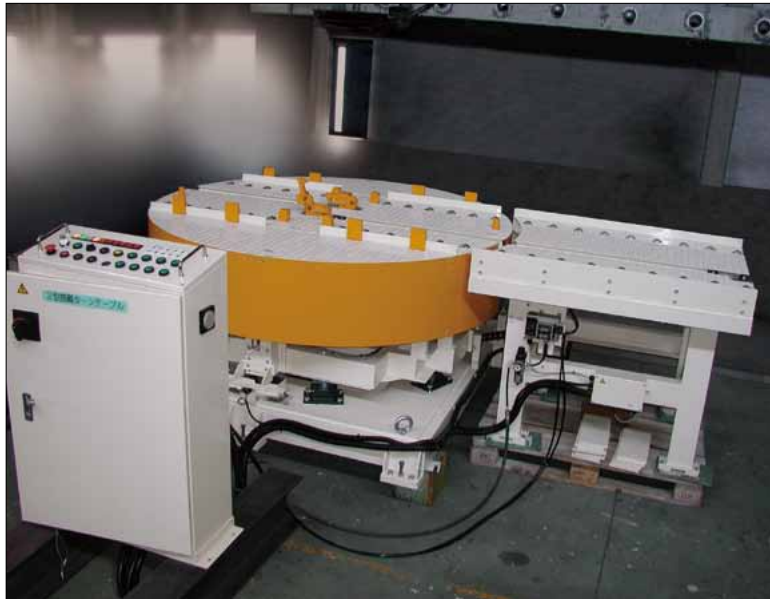
A system for changing die holders used with hot forging presses

The wheels of the die holder are connected to rails on top of the changing table, and the molds are transferred by being pushed and pulled by a chain pusher hook.

The transfer direction is changed by a turntable.

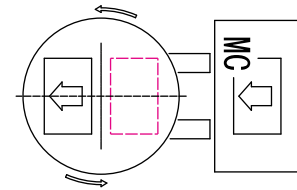
By installing the machine in an indent, it can transfer items over floor level, and can create a working space in front of the press.

Dual Mold Loading Turntable Changing Table



[Performance Data]

Cold Forging Press	: 200 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 2 metric tons



A mold changing table with turntable used with cold forging presses.

Two molds can be loaded onto the turntable, so it is possible to unload molds that are no longer needed for production while the next mold is being loaded.

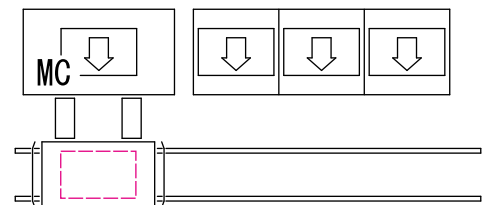
Both the loading/unloading of the molds, as well as the rotating turntable, are powered by electricity, so changing molds can be done automatically via signals between the press and the table.

Single Mold Loading Truck with Elevation Mechanism Attached



[Performance Data]

Sheet Metal Press	: 200 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 2 metric tons



A mold changing truck used with sheet metal presses.

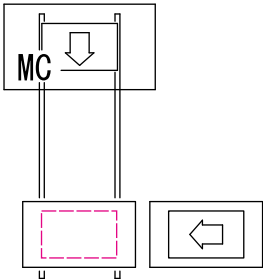
It is equipped with an elevation function that makes it compatible with two-level mold stockers. Molds are transferred using the chain pusher method, and can be loaded and unloaded from a press or stocker by lowering the raised idlers.

Mold Change System

Single Mold Loading Truck (For Heavy Molds)



[Performance Data]	
Portal Press	: 2,500 metric tons
Loading and Unloading	: Driving Idler Method
Mold Weight	: 55 metric tons

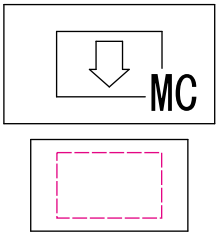


- A mold changing truck used with portal presses up to 2,500 metric tons. It enters the press' inner part as a truck, however will retract when the press clamps onto and receives the molds. The truck can carry 55 metric ton molds and transfer them to a stocker or another truck.

Single Mold Loading Changing Table



[Performance Data]	
Sheet Metal Press	: 4,000 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 30 metric tons



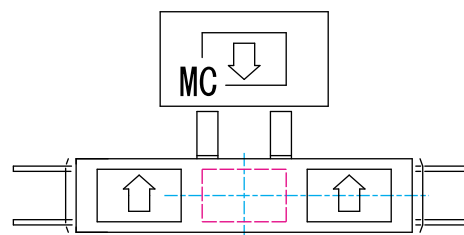
- A mold changing table for use with 4,000 metric ton sheet metal presses. The machine is equipped on both sides of the conveyor with guides for loading and transferring the molds. These guides can be adjusted to fit the mold size.

Manual Loading/Unloading Triple Mold Loading Truck



[Performance Data]

Injection Molding Machine	: 200 metric tons
Loading and Unloading	: Hand-operated type
Mold Weight	: 1.5 metric tons



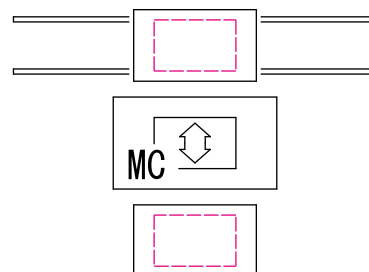
A triple mold loading mold changing truck. The truck's movement is controlled electronically by a pendant control, and molds are loaded and unloaded manually. It is aimed at smaller injection molding machines, and can support molds weighing up to 1.5 metric tons per stage. It has three stages, so is perfect for lines where molds must be changed frequently.

Single Mold Manual Loading Cart



[Performance Data]

Injection Molding Machine	: 350 metric tons
Loading and Unloading	: Hand-operated type
Mold Weight	: 2.5 metric tons



A mold changing cart that is moved by hand. Molds are also loaded and unloaded manually. It is aimed at smaller injection molding machines and can support molds weighing up to a maximum of 2.5 metric tons. Handling molds weighing 2.5 metric tons by hand is a difficult task. Therefore the molding machine's internal idlers work as driving idlers, helping the molds to engage with and be loaded onto the idlers on the side of the molding machine via transference. Mold changing can be done in a short period of time using the Tokoroten (extruder) method of changing molds.

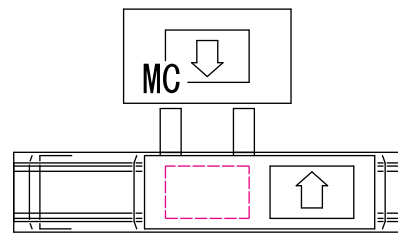
Mold Change System

One Pitch Sliding Type Mold Changing Table



[Performance Data]

Injection Molding Machine	: 450 metric tons
Method of Loading/Unloading	: Chain Pusher Method
Mold Weight	: 3 metric tons



■ A mold changing table that slides by one pitch.

It pushes and pulls the conveyor on the linear guide using air cylinders, and slides the upper part of the conveyor.

The molds are loaded and unloaded by a chain pusher unit that can be used with both stages.

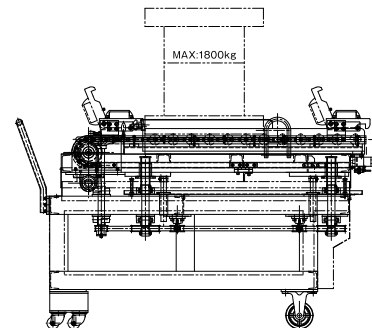
This equipment is aimed at small-scale lines that come to an end in front of the molding machinery, as there is no need to install ground rails.

Manually Operated Mold Changing Cart



[Performance Data]

Sheet metal press	: 200 metric tons
Method of Loading/Unloading	: Chain Pusher Method
Mold Weight	: 1.8 metric tons



■ A manually operated mold changing cart used with sheet metal presses.

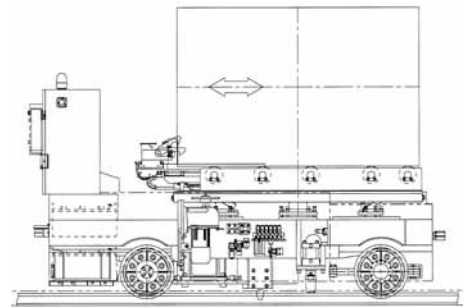
This model is completely manual; it is moved around by hand, the elevation mechanism is operated by a hand-operated handle, and the loading and unloading of molds is done via the chain pusher method which is also operated by a hand-operated handle.

Dual Off Rail/On Rail Battery-Powered Transportation Truck



[Performance Data]

Injection Molding Machine	: 850 metric tons
Loading and Unloading	: Using a Telesco
Mold Weight	: 15 metric tons



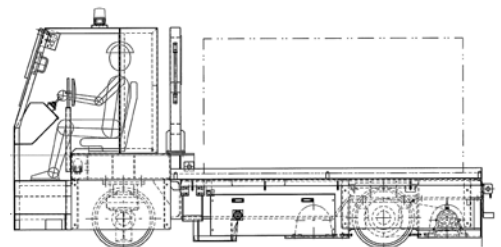
■ A mold transportation truck with attached turntable, which can travel both over the ground and over rails. It travels over rails automatically, transporting changing trucks and delivering molds along the production line. The truck can also be maneuvered off rails and over ground using a pendant control, transporting molds to maintenance areas outside the production line. This functionality eliminates the need for overhead cranes around molding machinery and stocker systems, and can help realize a crane-free production site.

Driver-Operated Battery-Powered Mold Transportation Truck



[Performance Data]

Load Capacity	: MAX 20 metric tons
Mold Weight	: 20 metric tons



■ A driver-operated, battery-powered mold transportation truck which travels over the ground. The driver's cab is equipped with a steering wheel, accelerator and brake, so can be operated like a standard passenger car. This truck is incredibly space-saving when compared to regular transportation via trailer.

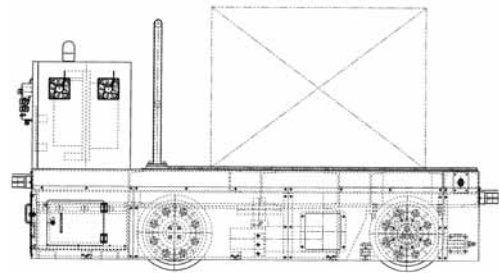
Mold Change System

Battery-Powered Mold Transportation Truck



[Performance Data]

Load Capacity	: 10 metric tons
Smallest Turning Radius	: Approx. 4m
Highest Speed	: 30m /min (when not loaded)



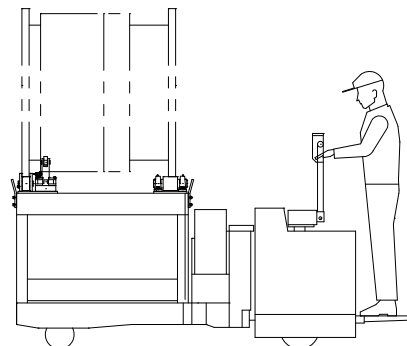
A battery-powered mold transportation truck which travels over ground. It is controlled by a steering wheel and accelerator button located on the pendant. The truck is equipped with sensors facing in front and behind the truck, and if these sensors detect any obstacles or pedestrians within the truck's direction of travel then the truck will come to an immediate stop.

Mold Changing Table Moved by Low Lift



[Performance Data]

Injection Molding Machine	: 1,000 metric tons
Loading and Unloading	: Chain Pusher Method
Mold Weight	: 10 metric tons



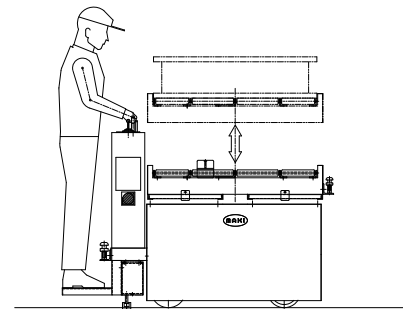
A movable mold changing table used with injection molding machines. It receives its power supply from the injection molding machine, and transfers molds via a chain pusher hook. This changing table can be moved around using a battery-powered low lift, so it is possible to use it as a mold changing cart. Also, it can be used with machines that have been extended, in exactly the same way as before.

Die Cart (DC Type)



[Performance Data]

Loading and Unloading	: Hand-operated type
Mold Weight	: 1.5 metric tons
Direction of Operation	: Multi-directional lever
Method of Movement	: DC motor (2 drive controls)
Method of Elevation	: Oil hydraulic cylinder



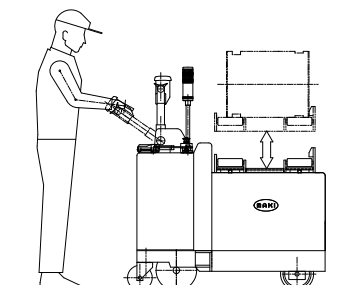
A battery-powered mold changing cart that can transport molds over ground. The cart is equipped with an oil hydraulic elevation function, so it can move molds to machinery that loads molds at different levels. Forward and backwards movement and left and right turns, as well as sideways movement and on-the-spot pivot turns, can all be controlled using a joystick control. Free idlers have been positioned across the entire transference surface, so not only molds but other heavy goods can be transported and transferred. It also has a very small turning circle, so we recommend it for manufacturing sites where the width of passage ways is restricted.

Die Cart (BC Type)



[Performance Data]

Injection Molding Machine	: 100 metric tons
Loading and Unloading	: Hand-operated type
Mold Weight	: 1 metric ton

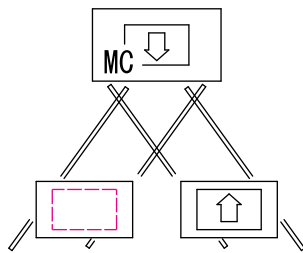


A battery-powered mold changing cart equipped with electronic elevation functionality. The cart is positioned along guides installed on the ground, and molds are loaded and unloaded manually by the operator. Movement is controlled by an accelerator lever installed on a steering handle very similar to that on a commercial battery-operated low lift. Elevation is controlled by a pendant switch next to the handle, and can be adjusted to any height.

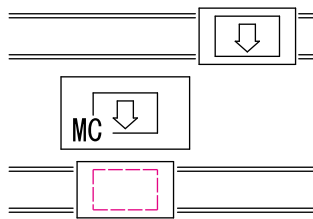
Mold Change System

System Variations

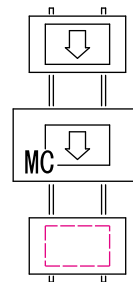
Please choose a layout that fits your requirements, for sheet metals presses, forging presses, and injection molding machines etc.



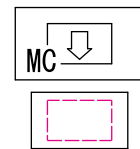
V-Model Truck



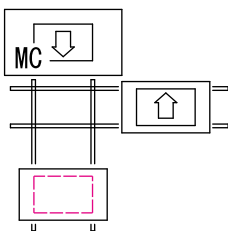
I-Model Horizontal System Truck



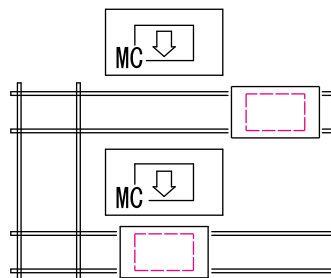
I-Model Vertical System Truck



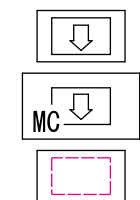
I-1 Model Fixed Table



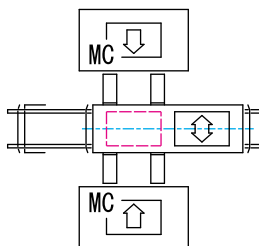
L-Model Truck



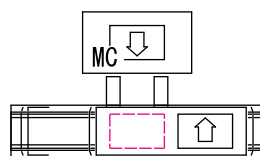
Cross Layout Truck



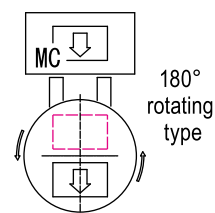
I-2 Model Tokoroten (Extruder) Method Fixed Table



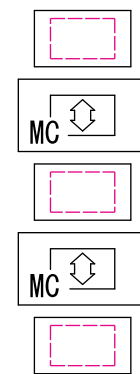
Two-way Dual Mold Truck



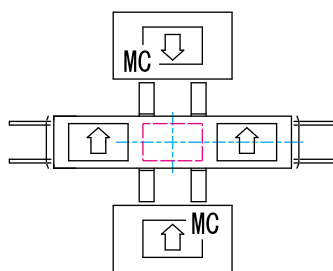
Truck that moves by one pitch (Above ground unit rail type)



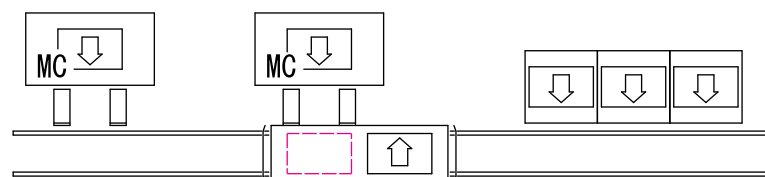
Fixed Table with Turntable



I-3 Model Tokoroten Method Fixed Table



Two-way Triple Mold Truck



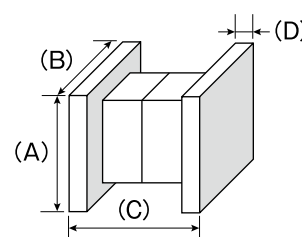
One-way Dual Mold Truck

Quotation Request and Specifications

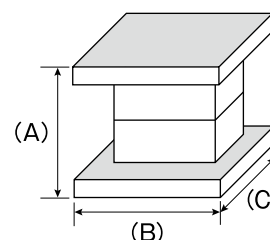
If you would like to inquire about our mold changing system, please contact us via the form below. We can then advise on the most appropriate layout for your company's needs.

Company name				Contact person	
Department name				E-mail address	
Company address					
Phone number				Fax number	
Expected installation date					
Target machine	Injection molding machine	Sheet metal press	Forging press	Other ()	
Name of manufacturer/model	Forging press				

Specifications of resin molds	Mold weight	metric ton
	Mold height (A)	mm
	Mold width (depth) (B)	mm
	Mold thickness (length) (C)	mm
	Thickness of attached plate (D)	mm



Specifications of molds for sheet metal press	Mold weight	metric ton
	Mold height (A)	mm
	Mold width (B)	mm
	Mold depth (C)	mm



Specifications of injection molding machine	Mold loading/unloading distance from floor	mm	Dimensions of fixed plate	mm
	Thickness of safety door	mm	Dimensions of moving plate	mm
	Distance between center of machine and safety door	mm	Interval between tie bars	mm
			Diameter of tie bar	mm
	Mold loading/unloading direction			

Specifications of sheet metal press and forging press	Mold loading/unloading distance from floor	mm	Dimensions FB of bolster	mm
	Column thickness	mm	Dimensions LB of bolster	mm
	Full press dimensions	mm	Mold loading/unloading direction	
	Wheels for loading/unloading from die set when using a forging press With / Without (shape/dimensions)			
	Open holes for scoring the base of the mold when using a sheet metal press With / Without (shape/dimensions)			

*If you have the configurations and/or dimensional drawings of the molds/die sets, please provide them to us.

*If you have a diagram of the injection molding machine, sheet metal press, or forging press, please provide it to us.

*If you have a plan of the layout, please provide it to us. [Please note down any details regarding the truck standby position and storage place (columns, walls, paths, floor indents).]



Smart Logistics ... Makitech Industrie 4.0

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<http://www.makitech.co.jp>
E-mail...info@makitech.co.jp



*Product specifications may be changed from those shown in this catalog without advanced notice. Thank you for your understanding.

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