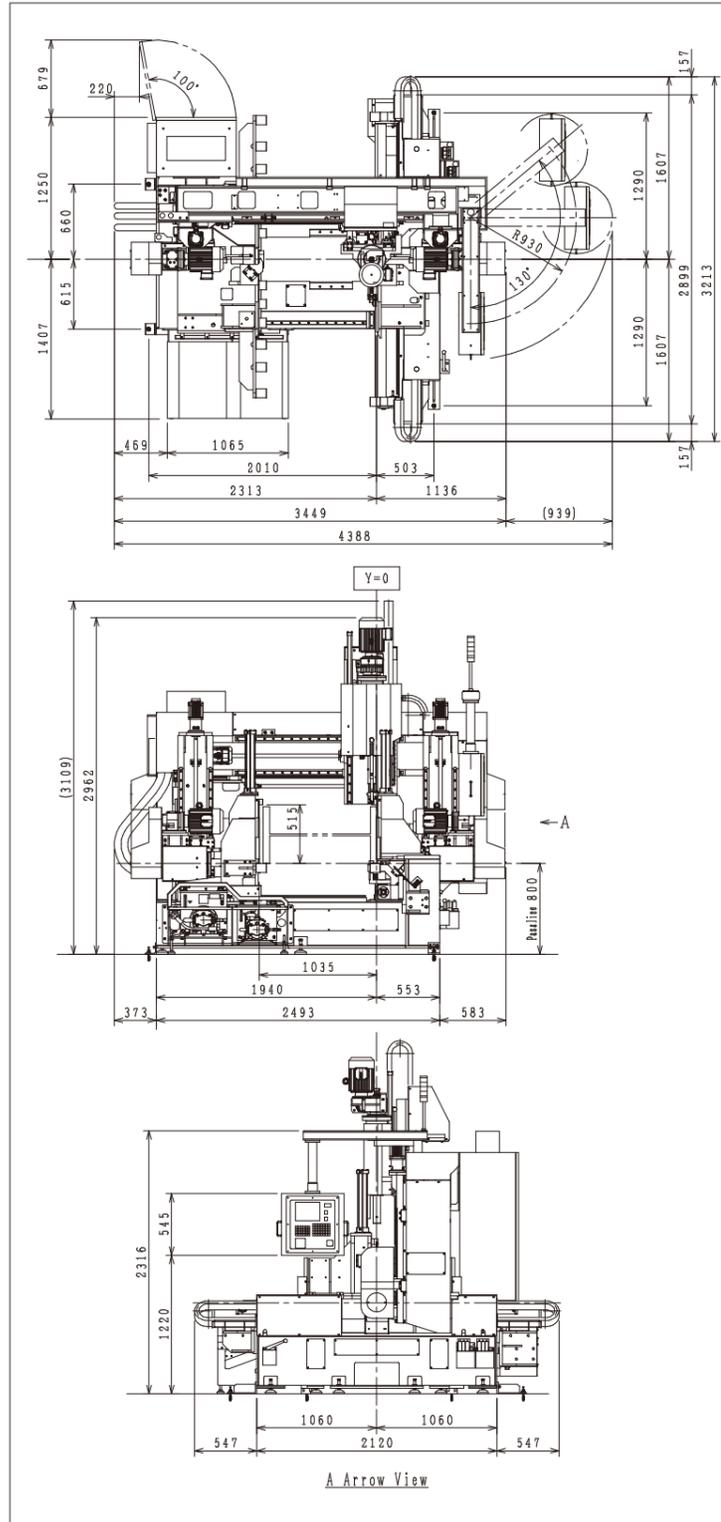


Outline Drawing



Mechanical Specification

Item	Specification		
Workpiece	Size of Workpiece	Max	1000mm x 500mm
		Min	150mm x 75mm
	Length of Workpiece	Min	2000mm
		Max	18000mm
Size of Drill (Standard)	Web Axis	ϕ 14.5mm~ ϕ 40.0mm	
	Flange Axis	ϕ 14.5mm~ ϕ 32.0mm	
Size of Drill (Oile Hole)	Web Axis	ϕ 18 ϕ 22 ϕ 24 ϕ 25 ϕ 26mm	
	Flange Axis	ϕ 18 ϕ 22 ϕ 24 ϕ 25 ϕ 26mm	
Travel Distance of Drill Head	Web Axis	910mm(45mm~955mm)	
	Flange Axis	460mm(20mm~480mm)	
Feeding Part	Method	Double Gripper	
	Stroke	750mm each	
	Grip Force	20kN (2tf)	
Positioning Speed	Gripper Axis	18m/min(Work Weight 6ton or less)	
	Web Axis	15m/min	
	Flange Axis	10m/min	
Positioning Accuracy	Gripper Axis	13m/±0.1mm	
	Web Axis	Feeding Speed Control for Drilling	
	Flange Axis	Feeding Speed Control for Drilling	
Spindle	Number of Axes	Web Axis	One Axis
		Flange Axis	One Axis Each Right and Left Flange Axis
	Speed Change Method	No Steps Controlled by an Inverter	
	Stroke	Web Axis	420mm
Flange Axis		150mm	
Drilling Control	Feeding Speed Control for Drilling	Automatically controlled by a proportional valve and encoder	
	Switchover Method for Drilling	A pressure switch of 3 axes controls automatic deceleration of drills and automatic deceleration of them just before reaching the material after measuring the length of drills.	
	Feeding Amount	0~0.4mm/rev	
Feeding Amount	Adjustment of Advance End	Automatically detected by an encoder	
	Web Axis	Choice of Datum of the end face or Sort	
	Flange Axis	Choice of Datum of the end face or Sort	
Coolant Oil	Method	Clean Mist Method	
	Tank Volume	1.8L x 1	
Electric Motor	Spindle	3.7kWx4P Reduction Ratio 1/6	
	Hydraulic Pressure	2.2kWx4P 1.5kW 1 unit each	
	Gripper Axis	3.0kW AC Servomotor 1 unit	
	Traveling on Web Axis	0.3kW AC Servomotor 1 unit	
Positioning Control	Traveling on Flange Axis	0.6kW AC Servomotor 2 unit	
	X axis	Ball Screw+AC Servomotor	
Mechanical Dimension	Y&Z Axis(Right&Left Flange Axis)	Ball Screw+AC Servomotor	
	Width x Depth x Height	3214mm x 3308mm x 3109mm	
Machine Weight	Main Body only	About 8,500kg	
CNC Device	Data Display	10.4inch LCD Color Liquid Crystal Display	
	Data Storage	Product Data	100ch
		Processing Data	100ch
	CPU	32bit	
Data Storage	USB Flash Memory		

TAKEDA

AUTO DRILL MACHINE SERIES 3BF-1050B Automatic Drilling Machine for H-Beam



 **タケダ機械株式会社**
TAKEDA MACHINERY CO.,LTD.

Head Office

132,Ao-Machi,Nomi-Shi,Ishikawa,Japan 923-1101
TEL 81(761)58-8211 FAX 81(761)58-6861
URL <http://www.takeda-mc.co.jp>
E-mail:hokuriku@takeda-mc.co.jp

branch office

Sendai,North Kanto,Tokyo,Nagoya,Hokuriku,Osaka,Hirosima,Kyushu

Remark) Photos of the machine in this catalog can be partly different from the delivered machine itself.Specifications are subject to change without any notice.

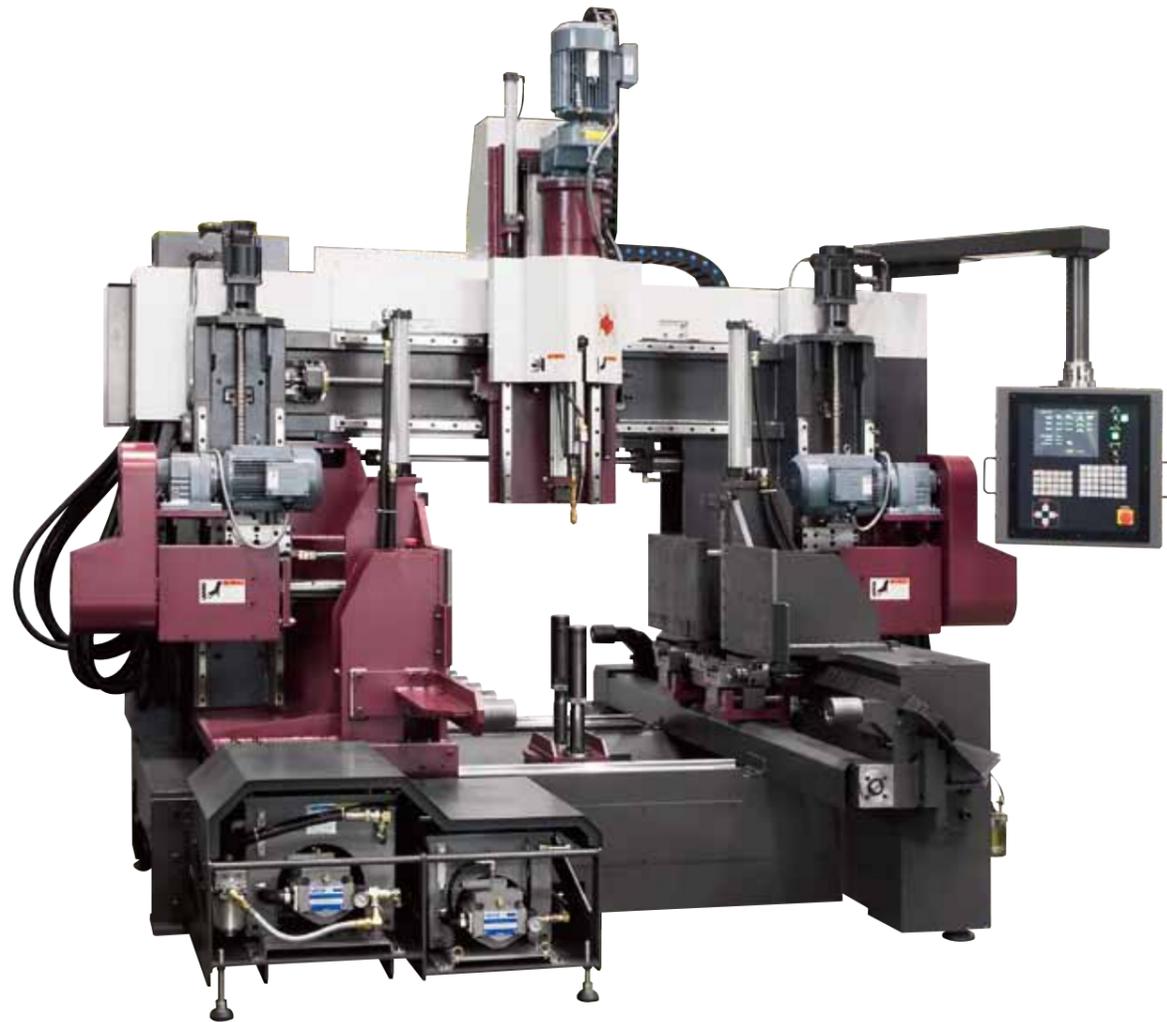
AGENCY

<http://www.takeda-mc.co.jp>

3BF-1050B

AUTO DRILL MACHINE SERIES
Automatic Drilling Machine for H-Beam

This automatic machine is capable of drilling various sizes of H-Beam from 150mm x 75mm to 1,000mm x 500mm.



The size of this machine is the smallest in this class of machines, which contributes to space-saving.

Double grippers are used for the high accuracy of feeding the workpiece and positioning it. The double grippers absorb the warpage and deflection of the workpiece.

The clean mist method incorporated in the drill lubrication system keeps the work environment clean and the materials from getting wet, which can facilitate the machining like surface treatment in the following process.

This machine is equipped with an automatic detector unit that can sense the workpiece end face simply by feeding the workpiece, which can eliminate complicated manual operation and ensure stable machining accuracy and accurate positioning.

It's possible to automatically drill the workpiece at one edge when the length is 550mm or more and at both edges when the length is 650mm or more. Therefore, it's easy to drill a short material like a joint part.

Easy to operate with an interactive CNC



Automatic interactive input of data. Just press the right key following the instruction of CNC. Then the data is automatically programmed, which proceeds fully automatic operation accordingly. (Graphic pattern input & G-code input on the screen display, which is reliable and convenient.)



Double Grippers



Double grippers feeds and returns a workpiece at the same time. Either of the two grippers clamps the workpiece, thus minimizing errors caused by vise clamping and ensuring accuracy of $\pm 0.5\text{mm}$ per 13m of the material.

Oil Hole Drill (Option)



Since oil hole drill is available, it's possible to comfortably drill the flange whose thickness is up to 50mm. The drilling speed and tool service life have been 20% more improved than those of the conventional one. A high-speed steel drill is also available.

Detecting Device of the height of web and breadth of flange



This device automatically detects inclination of web and the machine drills correcting some error. Then it's unnecessary to take correction action at the assembly site. (Some error of the breadth of flange is detected by the length measurement of the vises.)

Automatic setting of the adjustment of drill length and the rotation number of the drill



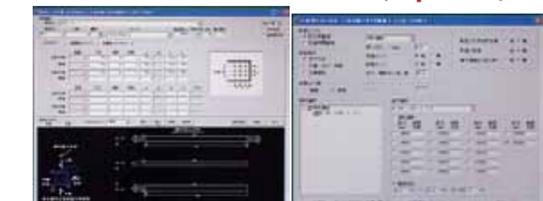
A pressure switch of 3 axes controls automatic deceleration of drills and automatic deceleration of them just before reaching the material after measuring the length of drills. Just input the drill diameter. It's not necessary to make adjustment of a limit switch.

Lower supporter of web (Option)



A thin web may severely warp at its center due to the drill thrust, thus affecting drilling operation. This machine is equipped with two lower supporters that function automatically to ease the drilling operation.

Data Conversion Soft (Option)



It's TAKEDA's unique data conversion soft, which can convert CAD data into Product data, fix some combination data of workpieces and make machining data smoothly. It's easy to convert CNC data.