Instruction Manual

6500kN FINEBLANKING PRESS

FB650-FD-BH(RL)

MORI IRON WORKS CO., LTD.

MO. 1940

取　説	MO. 1940

To:Hoerbiger Fine Stamping Inc.

MANUAL OF OPERATION

Name of machine : 6500kN FINEBLANKING PRESS
Model : FB650−FD−BH (RL)
NO. OF Manufacture : MO. 1940
Production date : DEC, 2006

・Before you operate, inspect and adjust this machine read this operating instructions and fully understand the items given in it.

・When the ownership of this machine is transferred, be sure to transfer this operating instructions with the machine.

・Keep this operating instructions in the specified place for quick reference and make regular use of it.

確認	作成
技術部 07.2.23 平	技術部 07.2.23 板井

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様式 08-02

1. MACHINE SPECIFICATIONS

1-1 Die System	Fixed punching system	
1-2 Pressure		
· Main pressure	3,250 to 6,500	(kN)
· V—ring pressure	320 to 3,200	(kN)
· Counter pressure	130 to 1,300	(kN)
· Strip pressure	600	(kN)
· Knockout pressure	300	(kN)
1-3 Speed (variable)		
· Cutting speed (Manual)	3 to 60	(mm/s)
· Approach speed	10 to 220	(mm/s)
· Return speed	10 to 220	(mm/s)
1-4 Stroke length		
· Ram slide working stroke	30 to 200	(mm)
· Maximum ram slide Opening stroke	280	(mm)
· Maximum V—ring piston stroke	40	(mm)
· Maximum Counter piston stroke	40	(mm)
1-5 Die mounting		
· Upper table	1,000×900 (LR×FB)	(mm)
· Lower table	1,000×1,050 (LR×FB)	(mm)
· Upper insert ring	φ400×80	(mm)
· Lower insert ring	φ400×80	(mm)
· Maximum shut height	400	(mm)
· Minimum shut height	320	(mm)
· Maximum Open height	600	(mm)
· Minimum shut height indication	0.01	(mm)
· Diameter of center support (Upper and lower)	φ50×4	(mm)
1-6 Cylinders		
·Main piston	φ600	(mm)
·V-ring	φ490×φ180	(mm)
·Counter	φ350×φ180	(mm)
·Approach cylinder	φ70—φ50×2	(mm)
·Stopper lock	φ30×4	(mm)

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1-7 Hydraulic unit

・Oil tank	1,400	(L)
・Power supply	480V × 60Hz × 3P	
・Total power	138	(kW)
・Main motor	Totally-enclosed fan-cooled type 90kW-6P, 1pc.	
・Main pump	K3VG180, 1pc.	
・Auxiliary motor	Totally-enclosed fan-cooled type 37kW-4P, 1pc.	
・Auxiliary pump	IPH46-32-80, 1pc.	
・Auxiliary motor	3.7kW-4P, 1pc.	
・Auxiliary pump	QT61-125, 1pc.	
・Oil cooler	1pce.	
・Heat exchange capacity	90	(kW/h)
・Flow rate of cooling water	180	(L/min)
・Oil heater	4	(kW)

1-8 Air

・Air pressure	0.4～0.7	(MPa)
・Air blow connector	6pcs.	
・Air consumption	60～80	(Nm^3/h)

2. Accessories

2-1 Cutting oil pump unit	1 set	
· Application method	Roller type	
· Tank capacity	40	
· Oil pump	MLA015	(L)
2-2Inlet and Outlet roll feeder	1 set	
· Feeding direction	Right→Left	
· Feeding method	Roller system	
· Roller driven	3.5kW AC servo motor	
· Roller diameter	φ98.146	(mm)
· Feeding length	0.1～999.9	(mm)
· Feeding accuracy	±0.1	(mm)
· Material width	40～320	(mm)
· Material thickness	0.5～16	(mm)
· Roller open height	Max.32	(mm)
· Feeding line height adjustment	Max.120	(mm)
· Clamp hydraulic cylinder	φ63×φ35.5	(mm)
· Clamp force	Max.40	(kN)
· Minimum sheet length	3048(For sheets)	(mm)
2-3Scrap cutter(hydraulic type)	1 set	
· Maximum power	400	(kN)
· Plate holding force	50	(KN)
· Stroke length	65	(mm)
· Cylinder diameter	φ160×φ125	(mm)
2-4QDC		
(1)Upper tool clamp	63kN×4pcs	
(2)Lower adapter plate clamp	63kN×4pcs	
(3)Lower adapter plate	2set	
(4)Hydraulic tool lift roller	1set	
(5)pre roller	1set	
2-5 Cutting oil mist collector	1set	
2-6 Additional hydraulic circuits	2set	

2-7B-type main cylinder for longer guide 1unit

2-8Handling tools for daily use

2-9Standard spare parts(O-ring filter element)

2-10Lubrication system in Die plate 1 set
(Pressurized oil tank with regulator)

2-11Front area sensor 1 set

2-12Remote access diagnosis system 1 set

Total weight of press (About)38, 000 (kg)

3. ACTTION OF FINEBLANKING PRESS

3-1 Structural summary

(1) Press body

There are 3 principal cylinders, main cylinder and counter cylinder which is(housed inside the main ram) in the lower half, and the V-ring cylinder in the upper half.

The lower half is also equipped with auxiliary approach cylinder.

(2) Accessories

The main accessories are the scrap cutter cylinder and the cylinders for the roll feeder clamps.

3-2 Operation summary

This explanation accompanies the motion curve diagram.

(1) Slide position indicator

Displays the distance in mm from the top dead center(L1) of the main ram. The number displayed rises as the main ram descends.

(2) Main ram

The movement of the main ram is controlled by approach cylinder from the bottom dead center (L12) to the blanking start position(L3). It then moves from L3 to the top dead center(L1) by the action of the main cylinder. The main ram descending and descending speeded are controlled by the approach cylinder.

(3) Counter cylinder

Counter cylinder acts through the tool by the action of main ram. The ejection is controlled by a command signal when the main ram is at position L8.

(4) V-ring cylinder

V-ring cylinder acts through the tool by the action of main ram. The stripping is controlled by a command signal when the main ram is at position L7.