

In-Line MPT System for Steel Billet (LM)

Line-Magna (LM)

This system performs in-line surface flaw inspection of steel billet utilizing fluorescent magnetic particle testing method while the billet being transferred on the V-roller conveyor. All surfaces and corners of the billet is visually inspected and marked by inspectors for removal in the grinding process later.



Line-Magna (LM)

Features

In-line continuous inspection during the billet being transferred

Low equipment cost, less installation space

Flaw inspection can be done by two inspectors. This is less than one half compared to required number of inspector of Axial electric current magnetization method.

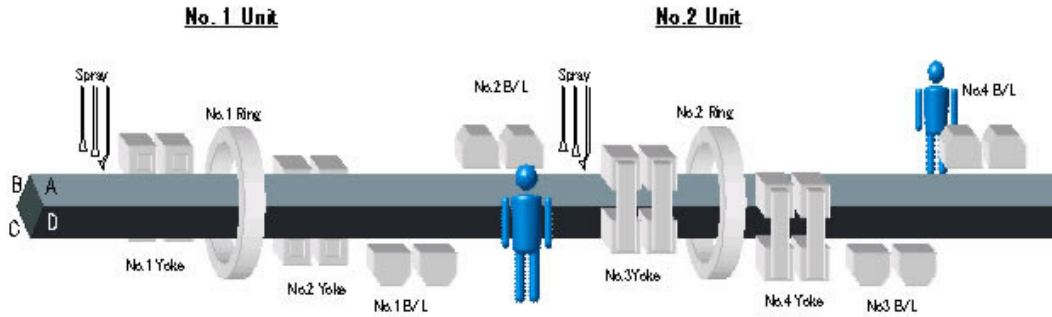
Detecting longitudinal, transverse and corner defects simultaneously

Main Specification	
Type of steel to be inspected	Carbon steel, Low alloy steel and Special steel
Dimension	Square billet 120-160 mm sq.
Billet transfer speed	Max. 15 m/min. (V-roller transfer)
Magnetizing method	Combined magnetization with Yoke coils and Ring coil
MPT material	Fluorescent magnetic particle suspension
Defects to be detected	Surface breaking natural flaws (crack, scab etc.)
Detecting accuracy	Longitudinal flaw (crack): more than 0.3 D x 10 L mm Transverse flaw (scab) : more than 0.3 D x 10 dia. mm
Electric power	AC 400/440 V ± 10%, 3-phase, approx. 150 KVA
Air	More than 0.4 MPa, 5.0 Nm ³ /min. Normal consumption : approx. 0.8 m ³ /min.
Water	Service water 100 L/min.

Main Equipment	
Suspension spraying equipment	Suspension spray nozzles
Magnetizing equipment	(4 sets of Yoke coils and one Ring coil) x 2 sets

Suspension tank	500 L tank with circulation pump
UV light	Super-Light E-40-2 x 8 sets, Mirror units
Control equipment	Control panel, Magnetizing power source panels, Local operation panel

Inspection Procedure



※ Actual work may differ from what you see in the image.