Paint Marking System
Paint Jet Printer

PJ-1B

New Function

■ Specification

Type	PJ-1B-0, PJ-1B-1, PJ-1B-2									
Type of character	• Numberals: 10　• AlphabetsLetters (upper/lower case): 26　• Symbols: 28kinds　• Special letters: 100 kinds (can be registered)									

Size of character

size	Dot Constitution H×W	Size of character (Height×Width mm)								
		Tall character			Standard character			Wide character		
		Type-0	Type-1	Type-2	Type-0	Type-1	Type-2	Type-0	Type-1	Type-2
Small	7 × 5 dot	21×15	15×11	9 × 7	21×23	15×17	9 ×11	21×30	15×22	9 ×14
Medium1	10 × 8	30×24	21×17	13×11	30×36	21×26	13×17	30×48	21×34	13×22
Medium2	12 × 8	36×24	26×17	16×11	36×36	26×26	16×17	36×48	26×34	16×22
Large	14 ×10	42×30	30×21	18×14	42×45	30×32	18×21	42×60	30×42	18×28
Ext. large	16 ×12	48×36	34×25	21×16	48×54	34×38	21×24	48×72	34×50	21×32
Width/height ratio of dot pitch		1.0			1.5			2.0		

Marking speed	Maximum (m/min)	138	97	80	207	145	120	276	194	160

Marking function	•Auto repeat　•Numbering　•Tow lines　•Time codes　•Character size selection　•Inverse character •Long space　•Reverse (PIO specify)　•Block marking　•DataMatrix
Number of Marking character	The maximum text data shall be within 2,048 byte (including control codes)
Capability	Can be marked with Extra large characters with 4L paint (approximately) Type-0: 250,000　Type-1: 350,000　Type-2: 500,000
Marking head	3mm pitch/16 nozzles (Actual dot pitch: Type-0 : 3.0mm, Type-1: 2.1mm, Type-2 : 1.3mm)
Marking distance	Distance between head face and objective surface. (Type-0 and Type-1: <20mm　Type-2: <10mm)
Alarm function	Paint/Remover shortage, Air pressure, Memory error, Communication error, Voltage abnormal, Fuse breaking shall be indicated with single LED indicator on the front panel. Substance of Error shall be confirmed with Handy-Terminal or output signal receiving.
Operation I/F	•Input (photo isolated 24V) 6 points: Marking start , Wash,Test shot, Reverse marking, Auto, Reset (Alarm reset and marking reset) •Output (open collector) 5 points: On auto, Alarm, On marking, Paint shortage, Remover shortage
Comm. I/F	RS232C serial interface (within 19,200 bps), Ethernet
Encoder input	DC24V, For open collector. (For external synchronization, Dual phase/Single phase) , Line driver
Power	AC100V (50・60Hz)　5A or AC220V (50・60Hz)　3A
Air	>0.4MPa (Recommend: 0.5MPa), 0.2Nm³/min
Temperature	Service condition shall be within normal temperature (5-40°C) and dry condition.

Standard Composition

Marking Machine	For type-0 : 2HGSB001-016 For type-1 : 2HGSB001-116 For type-2 : 2HGSB001-216	Coating: Stainless steel without coating Measurement: 169H x 162W x 186D (about 2.6kg)
Controller	Type : IC4-1016 (AC100) Type : IC4-2216 (AC200)	Coating: Stainless steel without coating Measurement: 168H x 450H x 386D (about 10kg)
Pump Unit	Type: IU43-PCBA-SS Coating: Stainless steel without coating Measurement: 625H x 450W x 525D (about 25kg)	
Special cables	1. Pump Unit – Controller (0.5m)　2. Marking Machine – Controller (3m or 10m)　3. Marking Machine – Pump Unit (3m or 10m)	
Special tubes	Marking Machine－Pump Unit (5 tubes bandied): 3m or 10m	
Standard accessory	•Paint / Remover filter: 1pc for each　•Special tools : 1pc	

Option	Handy-Terminal: For marking data preparation / transmission, text data storage up to 100 items, controller status confirmation, operation parameter setting and transmission

* At maximum marking speed, Auto-repeat function and Duty cycle shall be regulated.
* Combination of marking function shall be regulated.

■ Special paint and remover for PJ-1B

		Alcohol type	Eco type
Paint	Type	PSA75	PSG
	Major solvent	Ethyl alcohol	Ethyl alcohol, Ethylene glycol di-alkyl ether
	Color	White	White, Blue, Red, Green
Remover	Type	Remover A	Remover G
	Major solvent	Ethyl alcohol	Ethyl alcohol, Ethylene glycol di-alkyl ether

The specifications are subject to change for improvement without notice.

Integrated supplier of Non-Destructive Testing and Marking

MARKTEC Corporation
www.marktec.co.jp

CLEAR MARKING is PJ-1B from MARKTEC

PJ-1B the new Paint Marking Machine of MARKTEC offers a high quality marking at reasonable price.
Optimum type can be selected from 3-types (0,1 and 2) of PJ-1B corresponding to the character size requirement.

Every unsatisfactory result of the IJP marking as less contrast, less weather/light resistance, low visibility of the character, hypersensitivity to the dusty condition of the machine, too much consumables and high maintenance can be solved with PJ-1B.

Machine Component

PJ-1B is composed of Marking Machine, Controller, Pump Unit and Special Tubes/Cables for components interconnection.

Marking Machine

Marking Machine is the device which actually discharges paint from 16 nozzles to indicate characters.
Its weight is only 2.6kg, and is easy to adapt to the line facility.
Connecting cables/tubes can be easily adapted and removed beside the machine case with one-touch connectors.

Marking Machine

Controller

It performs marking condition setting and controls Marking Machine and Pump Unit in accordance with the marking data transmitted from master computer.

Controller (Front)

Controller (Back)

Pump Unit

It pressurizes and supplies paint, remover and supplies air to Marking Machine.

Pump Unit (Front)

Pump Unit (Back)

Example of printing on steel plate and pipe using PJ-1B

Features

Distinct clearness marking

The printing with special paint provides good contrast and does not show through the surface of the ground. It is also highly weather resistant and does not fade easily even outdoors.

High-speed marking

Marking speed 276mpm with type-0 and 160mpm with type-2 can be realized, withwide character.

Easy and stabilized start-up

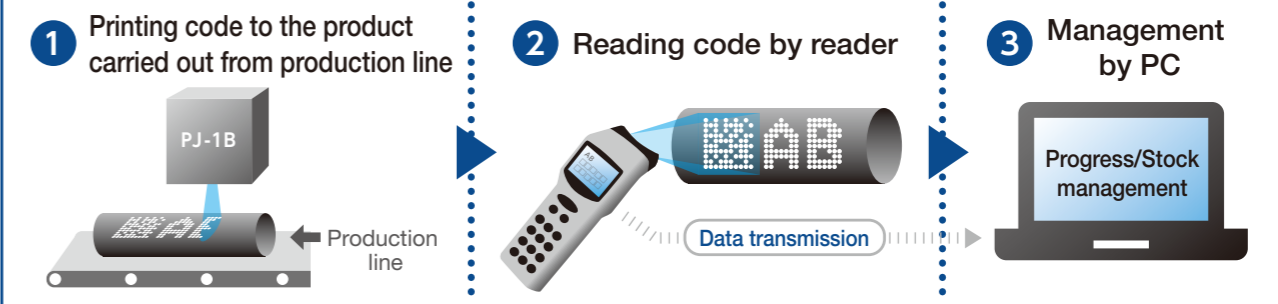Not only Monday start-up but also the start-up after one week holidays, PJ-1B can be started up with simple operation.

Low running cost

Drop-On-Demand does not need excess paint nor thinner for proper adjustment, means low running cost.

New DataMatrix 2D Code Marking

2D code Marking has been implemented as a standard function. It can be used for progress control of production processes and inventory control.

Example of use

1 Printing code to the product carried out from production line

PJ-1B
← Production line

2 Reading code by reader

AB
Data transmission

3 Management by PC

Progress/Stock management

System connection and configuration

Controller (168H x 450W x 386D)
External Device
Special Cable
PC
Master computer (Ethernet or RS232C)
Marking Machine (169H x 162W x 186D)
Special Cable
Power AC100V/220V
Compressed air ≧0.5MPa
Special Tubes
Pump Unit (625H x 450W x 525D)

Machine arrangement and Character Pattern

ABCD 123 456
Marking Nozzles Center Line
Marking Center Line
θ*

* Type-0: 90° Type-1: 45° Type-2: 26°