



Rich Green on Land
Deep Blue in Sky a.

COLUMN TRAVERS VERTICAL DRILLING & TAPPING CENTER

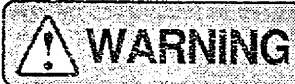
HPC-3V

INSTRUCTION MANUAL



WARNING

For your safety, always carefully read instruction Manual before starting operation and make sure you understand the contents.



WARNING

Always keep this Instruction Manual in the designated place of the machine.

Serial No. _____

Date of Production | _____

IKEGAI WADO CO., LTD.

TABLE OF CONTENTS

TO CUSTOMERS

TABLE OF CONTENTS

Chapter 1 SAFETY INSTRUCTIONS

1-1 Basic Safety Instructions	1-1
1-2 Hazardous Area	1-5
1-3 Protective Components and Interlocks.....	1-9
1-3-1 Location of Protective Components and Interlocks	1-10
1-3-2 Roles of Protective Components and Interlocks	1-11
1-3-3 Location of Keys for Protective Components	1-13
1-4 Precaution Labels	1-14
1-4-1 Warning Labels	1-14
1-4-2 Location of Warning Labels	1-17
1-4-3 Machine Labels	1-18
1-4-4 Location of Machine Labels	1-20
1-5 Warnings and Instructions	1-21

Chapter 2 SPECIFICATIONS

2-1 Specifications	2-1
2-1-1 Standard Specifications of Machine	2-1
2-1-2 Accessories	2-2
2-2 Specifications of NC Unit.....	2-4
2-3 List of M Codes	2-6
2-4 List of G Codes	2-8
2-5 General Drawing	2-11
2-6 Tool Holder	2-12

Chapter 3 OUTLINE

3-1 Features	3-1
3-2 Names of Major Components	3-2

Chapter 4 PREPARATION FOR OPERATION

4-1 Safety Precautions	4-1
4-1-1 Turning Power ON/OFF	4-1
4-1-2 Warming-Up	4-2
4-2 Inspection	4-3
4-2-1 Inspection before Turning Power ON	4-3
4-2-2 Turning Power ON/OFF	4-4
4-2-3 Inspection after Turning Power ON	4-6

Chapter 5 FUNCTIONS OF OPERATING PARTS

5-1 Operation Panel	5-1
5-1-1 Layout of Operation Panel	5-1
5-1-2 Functions of Operation Panel	5-2
5-2 Control Cabinet	5-16
5-2-1 Layout of Control Cabinet	5-16
5-2-2 Functions of Control Cabinet Operating Parts	5-16
5-3 Others	5-17
5-3-1 Layout	5-17
5-3-2 Functions	5-17

Chapter 6 MANUAL OPERATION

6-1 Safety Precautions	6-1
6-2 Manual Operation	6-3
6-2-1 Names of Axes and Movement Direction	6-3
6-2-2 Zero Point Return	6-4
6-2-3 Manual Jog Feed	6-5
6-2-4 Handle Feed	6-6
6-2-5 Magazine Operation	6-7

Chapter 7 MDI OPERATION

7-1 Safety Precautions	7-1
7-2 Procedures of MDI Operation.....	7-2
7-3 Routine MDI Operation.....	7-5

Chapter 8 SETTING-UP

8-1 Safety Precautions	8-1
8-2 Mounting of Tools	8-2
8-2-1 Mounting/Dismounting of Tools	8-2
8-2-2 Tool Offset	8-3
8-3 Mounting/Dismounting of Workpieces	8-5
8-4 Adjustment of Coolant	8-6

Chapter 9 AUTOMATIC OPERATION

9-1 Safety Precautions	9-1
9-2 Procedures of Daily Operation	9-4
9-3 Program	9-9
9-3-1 Creation of Program.....	9-9
9-3-2 Editing of Program	9-11
9-3-3 Deletion of Program	9-13

Chapter 10 MAINTENANCE

10-1 Safety Precautions	10-1
10-2 Periodical Inspection	10-3
10-2-1 Daily Maintenance and Inspection	10-3
10-2-2 Monthly Maintenance and Inspection	10-4
10-2-3 Semi-Yearly Maintenance and Inspection	10-5
10-3 Oiling	10-6
10-3-1 Lubrication	10-7
10-3-2 Greasing	10-7
10-4 Replacement of Consumables	10-9

10-5 Trouble Shooting	10-10
10-5-1 Checking of Bits	10-10

Chapter 11 INSTALLATION

11-1 Safety Precautions	11-1
11-2 Working Environment	11-2
11-2-1 Installation Site	11-2
11-2-2 Power Source	11-2
11-2-3 Air Source	11-2
11-3 Foundation	11-3
11-3-1 Concrete Foundation of Min. 200mm in Thickness	11-3
11-3-2 Concrete Foundation of Approx. 100mm in Thickness (including rubble)	11-4
11-4 Hoisting	11-5
11-4-1 By Crane	11-5
11-4-2 By Fork Lift	11-6
11-5 Leveling and Removal of Fixing Brackets	11-7
11-6 Pneumatic Connection	11-10
11-7 Electric Connection and Grounding	11-12
11-7-1 Electric Connection	11-12
11-7-2 Grounding	11-13
11-8 Installation of Coolant Unit	11-14

Chapter 12 STORAGE OF MACHINE

12-1 Safety Precautions	12-1
12-2 Procedures of Storage	12-3

Chapter 13 DISPOSAL OF MACHINE

13-1 Notes on Disposal of Machine	13-1
---	------

Chapter 14 ATTACHED DRAWINGS

Drawing 1 Operation Panel Overall Drawing	14-1
Drawing 2 Table Dimensional Drawing	14-2
Drawing 3 Axis Fixture Layout Drawing.....	14-3
Drawing 4 Hoisting Steel Rod Drawing	14-3
Drawing 5 Pneumatic Circuit Diagram.....	14-4