



NC MILLING MACHINE *series*

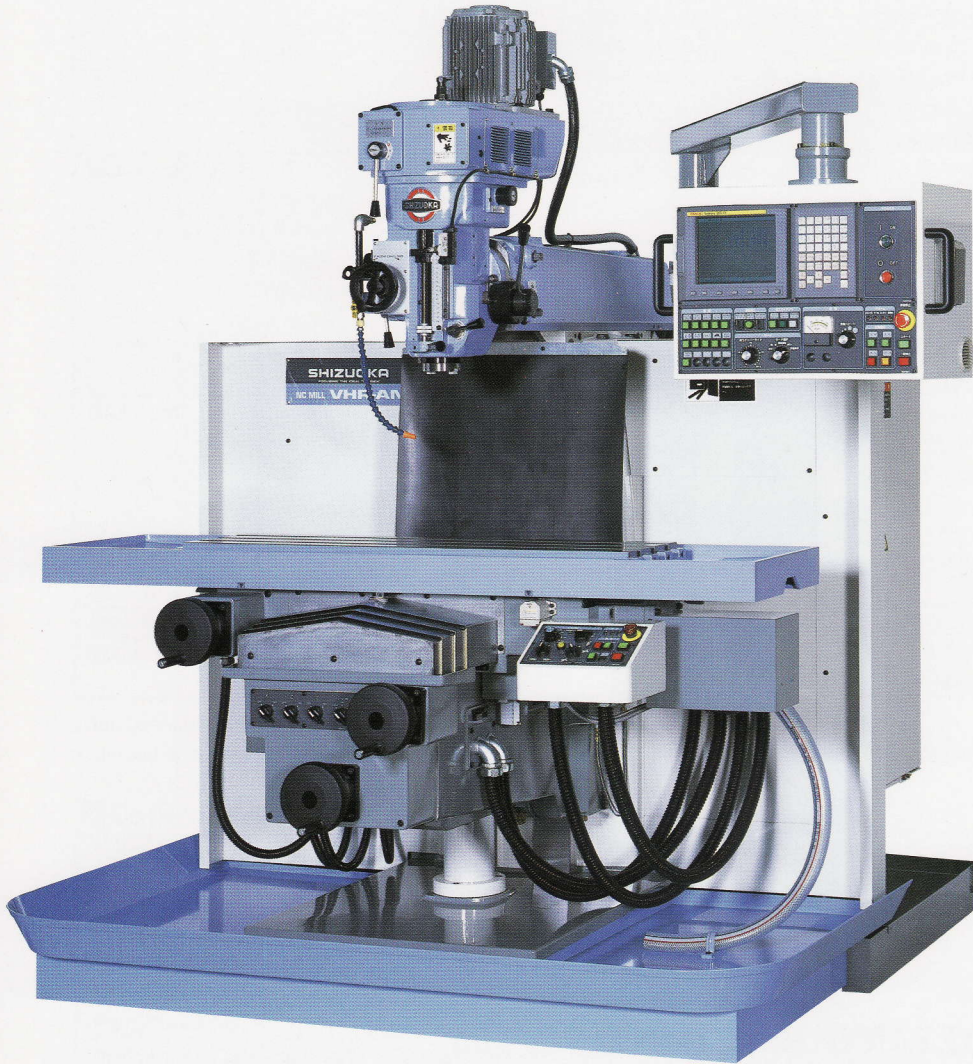
VHR-AN
AN-SRN
ST-NR



WIDE SPINDLE RANGE, RIGHT AND LEFT TILTED HEAD.

GIVE WIDE RANGE MACHINING OF ANY MATERIAL.

VHR-AN



Wide range box-way system.

Ultimate cutting stability, maximum rigidity and minimum cutting vibration are achieved.

High accuracy positioning and repeatability.

By adopting a central guide precision ball screw feed mechanism, positioning accuracy is greatly improved.

A clean working environment is assured.

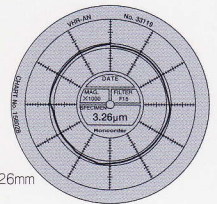
Due to the wide chip guard with oil pan and slide way cover.

Flexible spindle performance.

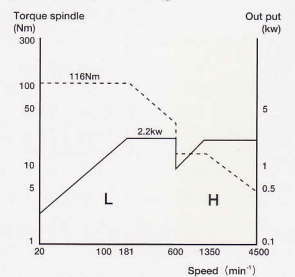
An AC inverter driven spindle with variable control gives wide range of speed from 20~4,500min. Oblique machining is possible with the tilting head mechanism.

Machine accuracy

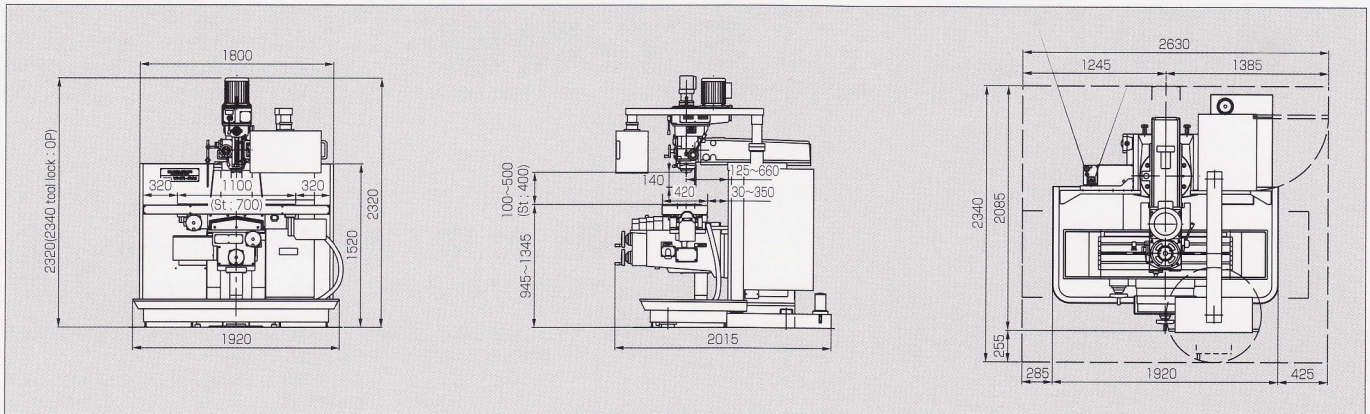
- Positioning 0.005mm/Full stroke
- Repeatability ± 0.002 mm
- Out-of-roundness ($\phi 200$) 0.00326mm



Main spindle output torque diagram



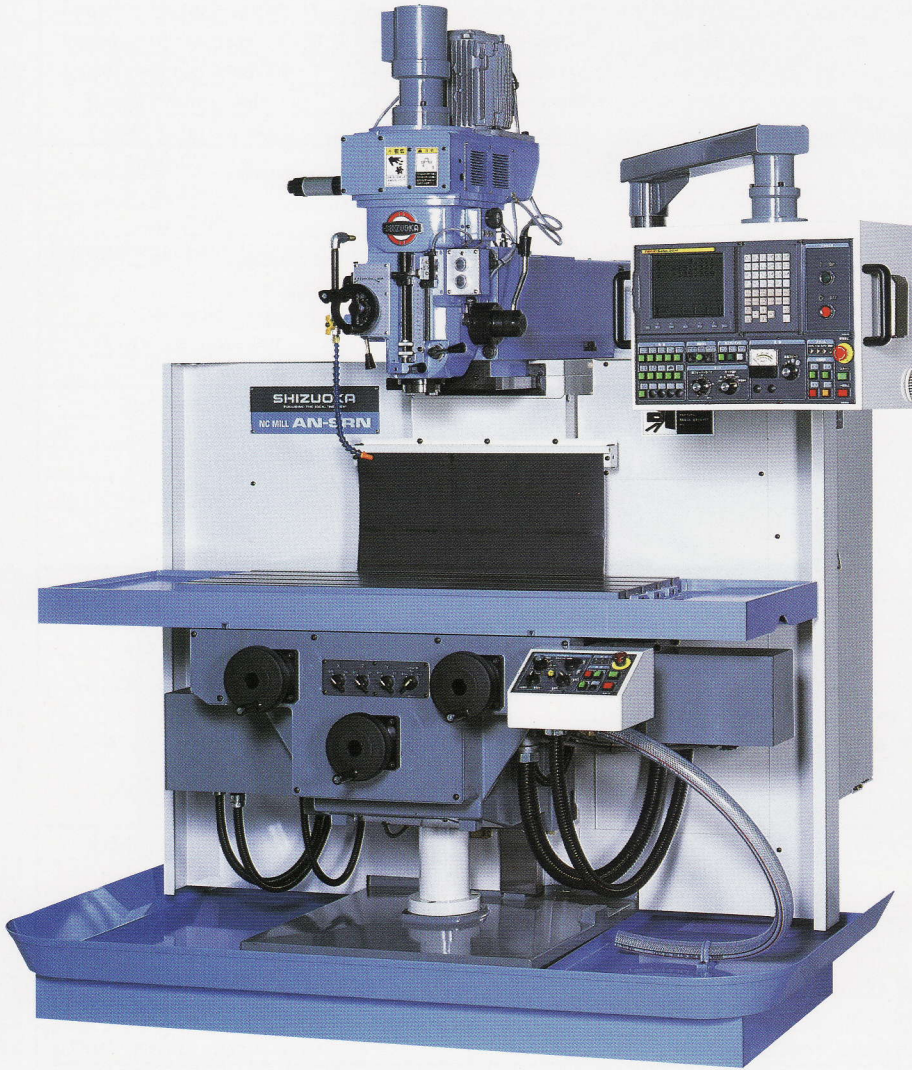
Dimension



THE NEWEST CLASS LEADING AN-SRN.

LARGEST WORKING AREA, SMALLEST FLOOR SPACE, LARGEST Y-AXIS TRAVEL.

AN-SRN



Large working area with smallest floor space.

450mm Y-axis travel is realized with ram traverse mechanism.

Long term accuracy.

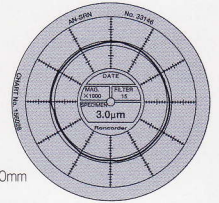
High precision ball screws are used for all axis. All slideways are ground hardened while their counter slideways are coated with TURCITE B. Forced lubrication is used all slideways providing long term accuracy.

Flexible spindle performance.

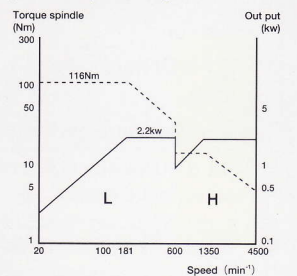
An AC inverter driven spindle with variable control gives wide range of speed from 20~4,500min.

Machine accuracy

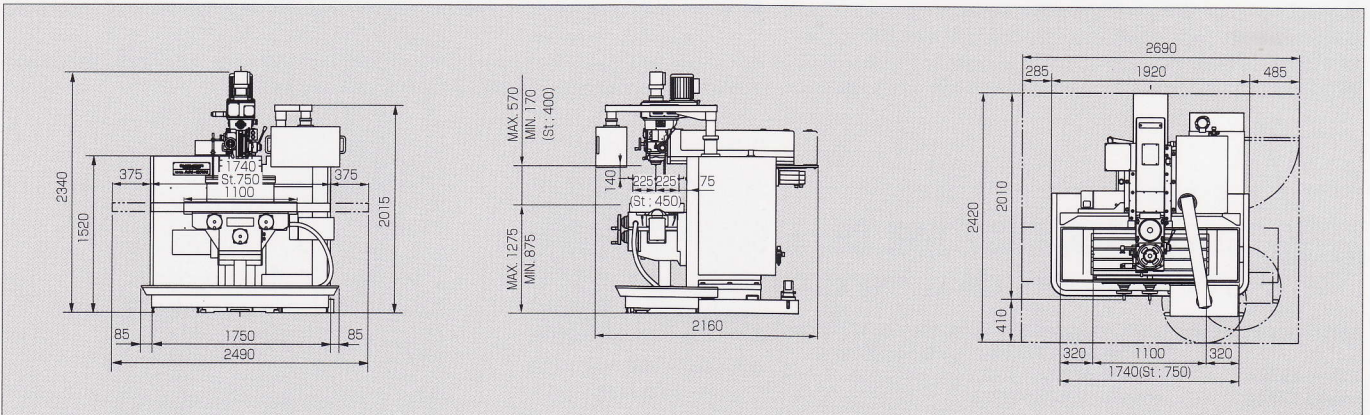
- Positioning 0.003mm/Full stroke
- Repeatability ± 0.001 mm
- Out-of-roundness ($\phi 200$) 0.0030mm



Main spindle output torque diagram



Dimension



HIGH ACCURACY, HIGH PRODUCTIVITY, AND MINIMUM FLOOR SPACE.

THE WORTH MACHINE JUST SUITED TO THIS AGE.

ST-NR



Large working area with smallest floor space.

350mm Y-axis travel is realized with ram traverse mechanism.

Long term accuracy.

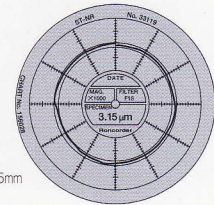
High precision ball screws are used for all axis. All slideways are ground hardened while their counter slideways are coated with TURCITE B. Automatic lubricating devices is used all slideways providing high accuracy positioning and long term accuracy.

Flexible spindle performance.

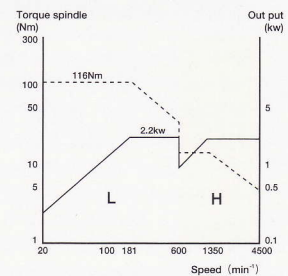
An AC inverter driven spindle with variable control gives wide range of speed from 20~4,500min.

Machine accuracy

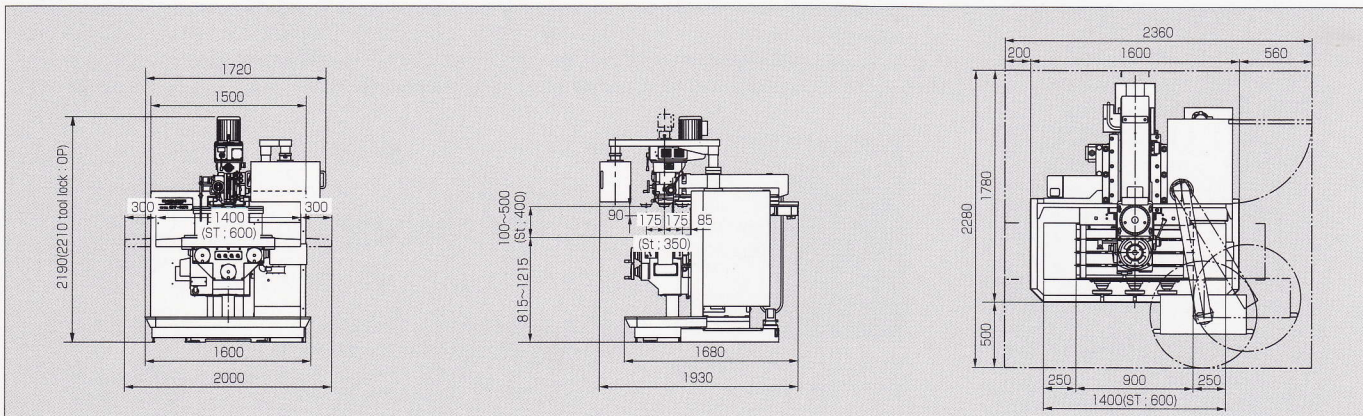
- Positioning 0.003mm/Full stroke
- Repeatability ± 0.001 mm
- Out-of-roundness ($\phi 200$) 0.00315mm



Main spindle output torque diagram



Dimension

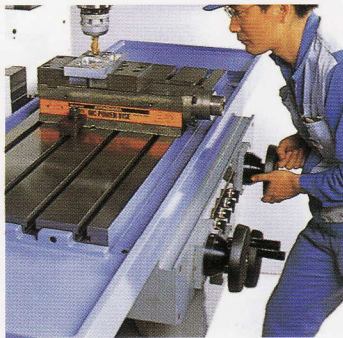


Hand CNC system

Like a Manual operation

Machining Guidance Function

The machining guidance function is basic one which enable a simultaneous 2 axis operation, example, slant line and arc cutting, with a single handle. Using this function, both operations, a cutting direction and an approach direction toward a right angle of the cutting direction are possible. And the guidance screen which shows the turning direction of a handle, cutting direction and a distance of the work piece are always displayed on the CRT. Use of the handle gives the operator the feeling of using a general-purpose machine tools.



CIRCLE CUTTING

X	70.0000
Z	0.0000
D	0.0000

X: 50.000 R: 50.000
Z: -10.000 RN: 5.000

GUIDANCE MACHINING
→ MACHINING → APPROACH

LIMIT POSIT.

X AXIS
 cutting

Y AXIS
 approach

LINE CUTTING

CIRCLE CUTTING

X	70.0000
Z	0.0000
D	0.0000

X: 50.000 R: 50.000
Z: -10.000 RN: 5.000

AFTER SETTING DATA, INPUT END (X, Z) CENTER

LIMIT POSIT.

X AXIS
 cutting

Y AXIS
 approach

CIRCLE CUTTING

Easy operations using guidance menus

Line cutting, circle cutting and other various guidance menus are available. As using play-back function, manual operations are memorized and repeating the memorized that operations can be possible.

application

- a: Circular
- b: Finish machining
- c: Pocketing
- d: Line cutting
- e: Limited machining
- f: Grid
- g: Corner R

PATTERN MACHINING

SIDE CUTTING (TRACK)

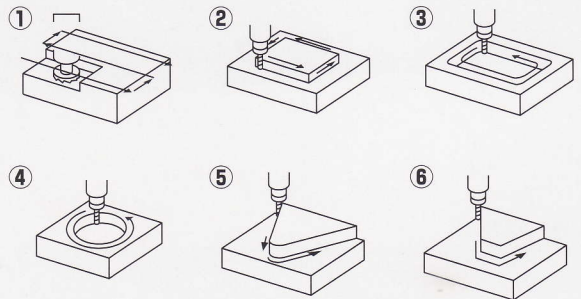
X	0.0000
Y	0.0000
Z	0.0000

X: 50.000 R: 50.000
Z: -10.000 RN: 5.000

MOVE TO OUTER-SETTING DATA, INPUT END (X, Y) RIGHT

LIMIT POSIT.

- ① Facing
- ② Side facing
- ③ Pocketing
- ④ Finish machining
- ⑤ Corner R
- ⑥ Corner C



PATTERN POSITIONING

POSITIONING

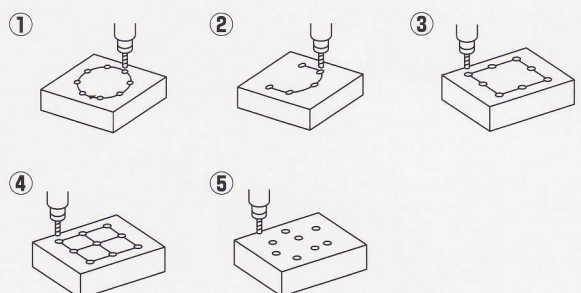
1: 2: 3: 4:
CIRCULAR SQUARE GRID

5: RANDOM

SELECT MENU BY SOFTKEY OR CURSOR

1 2 3 4 5

- ① Circular
- ② Arc
- ③ Square
- ④ Grid
- ⑤ Random



Specification

Unit : mm [inch]

Item		VHR-AN	AN-SRN	ST-NR
■Table	Working surface (length×width)	1100×280 [43.3×11.0]	1100×400 [43.3×15.7]	750×350 [29.3×13.7]
	Table size (length×width)	1100×420 [43.3×16.5]	1100×530 [43.3×20.9]	900×435 [35.4×17.1]
	T-slot (width×NO.×width)	18×3×80 [0.7×3×3.15]	18×4×100 [0.7×4×3.9]	16×3×100 [0.6×3×3.9]
	Max load on table	300kgf [660lbs]	300kgf [660lbs]	200kgf [440lbs]
■Travel	X-axis	700 [27.6]	750 [29.5]	600 [23.6]
	Y-axis	320 [12.6]	450 [17.7]	350 [13.8]
	Z-axis	400 [15.7]	400 [15.7]	400 [15.7]
■Feed rate	Cutting feed (X & Y)	1~3000mm/min [1~118ipm]	1~3000mm/min [1~118ipm]	1~3000mm/min [1~118ipm]
		(Z)	1~3000mm/min [1~118ipm]	1~3000mm/min [1~118ipm]
	Jog feed (X & Y)	0~3000mm/min [0~118ipm]	0~3000mm/min [0~118ipm]	0~3000mm/min [0~118ipm]
		(Z)	0~3000mm/min [0~118ipm]	0~3000mm/min [0~118ipm]
	Rapid feed (X & Y)	5000mm/min [197ipm]	6000mm/min [236ipm]	6000mm/min [236ipm]
		(Z)	3000mm/min [118ipm]	3000mm/min [118ipm]
■Main spindle	Speed	20~4500min ⁻¹	20~4500min ⁻¹	20~4500min ⁻¹
	Spindle taper	NT40.	NT40.	7/24 #40
	Quill Traverse	140 [5.5]	140 [5.5]	90 [3.5]
	Quill feed rate (mm/rev)	0.035·0.07·0.14 [0.0014·0.0028·0.0056"/rev]	0.035·0.07·0.14 [0.0014·0.0028·0.0056"/rev]	0.035·0.07·0.14 [0.0014·0.0028·0.0056"/rev]
	Tilting angle (L & R)	L & R 30°	—	—
	Ram travel	535 [21] (manual)	450 [17.7]	350 [13.8]
	Distance from table surface to spindle hose	100~500 [3.9~19.7]	170~570 [6.7~22.4]	100~500 [3.9~19.7]
	Distance from column surface to spindle center	125~660 [4.9~26]	75~525 [3.3~20.3]	—
■Motors	Main spindle	AC2.2kw [3hp]	AC2.2kw [3hp]	AC 2.2kw [3hp]
	X-feed	0.3kw [0.4hp]	0.3kw [0.4hp]	0.3kw [0.4hp]
	Y-feed	0.3kw [0.4hp]	0.3kw [0.4hp]	0.3kw [0.4hp]
	Z-feed	1.0kw [1.3hp]	1.0kw [1.3hp]	0.3kw [1.3hp]
	Coolant pump	100w [0.13hp]	100w [0.13hp]	100w [0.13hp]50L
	Slide way lub. pump	3w [0.004hp]	3w [0.004hp]	3w [0.004hp]
■Power source		9KVA	9KVA	9KVA
■Weight		2700kgf [5900lbs]	3000kgf [6600lbs]	2000kgf [4400lbs]
■Accuracy	Positioning	0.005 [0.0002]	0.003 [0.0001]	0.003 [0.0001]
	Repeatability	±0.002 [0.00008]	±0.001 [0.00004]	±0.001 [0.00004]

Standard accessories ● 3 axis manual feed handle ● Coolant unit ● Standard tool kit

Optional accessories ● Tool lock ● Rigid tap ● Oil mist ● Table splash guard ● Machine light ● Custom color ● Raised base 100mm(VHR-AN)(AN-SRN)

Control unit Specification FANUC 20i

Total control axes	3 axes (X,Y,Z)	Manual handle interpolation	Slant line and arc cutting with single handle
Least input increment	0.001mm	Machining guidance function	<ul style="list-style-type: none"> Line cutting Corner cutting Limit machining (setting for non machining area) Circle cutting Rough machining Facing (Bidirectional cutting X/Y, Un directional cutting X/Y) Pocketing (Corner R/Corner C) Side cutting (Circle/Circular/Square/Grid/Random) Pattern positioning (Circle/Circular/Square/Grid/Random) Hole machining (Center/Drilling/Tapping)
Interpolation	Linear interpolation / Circular interpolation		
Operation	MDI and DNC (mini) and memory operation		
CRT / MDI unit	8.4 inch color LCD		
Feed function	F4 digit feed direct input		
Part program storage length	Max.80m(ST-NR Max40m, 80m : OP)		

OTHER STANDARD FUNCTION ● Registered programs (Max. 63) ● Tool offset memory/Tool length compensation/Tool offset ● Cutter compensation C ● Back lash compensation ● Stored pitch compensation ● Reference position return ● Radius designation on arc ● Decimal point input/pocket calculator type decimal point input ● Mirror image ● Dry run ● Machine lock ● Z axis neglect ● Optional block skip ● Auxiliary function lock ● Single block ● Buffer register ● Dwell (per sec) ● Coordinate system local coordinate system ● Automatic Coordinate system setting ● Sequence number search ● Program number search ● Sub program call ● Automatic acceleration/deceleration ● Clock function ● Manual absolute ● Self-diagnosis function ● Helical cutting(ST-NR : OP) ● Canned cycles for drilling ● Data I/O interface (RS232C) ● Follow up ● DNC operation (mini) ● Playback

OPTIONAL FUNCTION ● Inch/metric conversion ● Handle interruption ● Single direction positioning ● Programable data input ● Scaling ● Coordinate system rotation ● Background editing ● Run hour and parts count display ● Multi-language display



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※All specifications are subject to change without notice.