

SUPER-RAPIDEX

STOCK# 710-002

No

INSTRUCTION MANUAL

YUASA INTERNATIONAL

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PREFACE

We greatly appreciate your selection of our RAPIDEX for your machine.

This device is designed only as an indexing table that is characterized by the "touch method". Thanks to this new method, you can execute incomparably easy indexing operations with high accuracy.

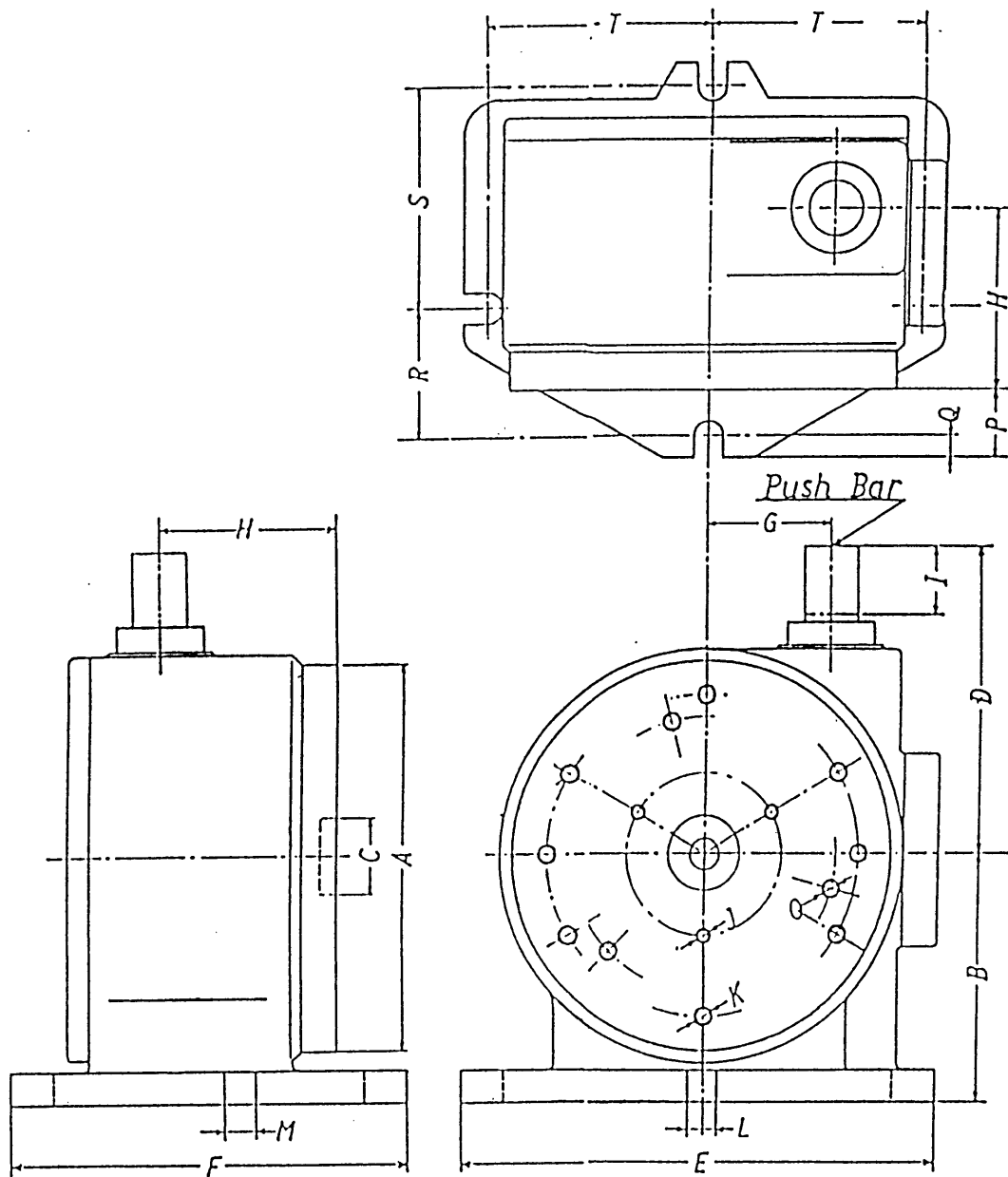
Since this device is entirely free from wiring and piping, automatic indexing operation is possible by depressing the push bar on it with the tool in the spindle of machining center or drilling center.

We hope its reliable performance will contribute to rationalization and laborsaving in your production system as well as realization of the unmanned machine shop.

With this device, you can execute three different indexing operations: 5°, 10° and 15°.

1. DIMENSION

A : 210 ϕ	B : 135	C : 40 ϕ
D : 165	E : 260	F : 215
G : 70	H : 95	I : Stroke 35
J : PCD 88 ϕ 3-M8	K : PCD 172 ϕ 8-M10	L : 16.5
M : 16.5	N : -	O : PCD 147 ϕ 3-M10
P : 40	Q : 12	R : 69
S : 122	T : 118	



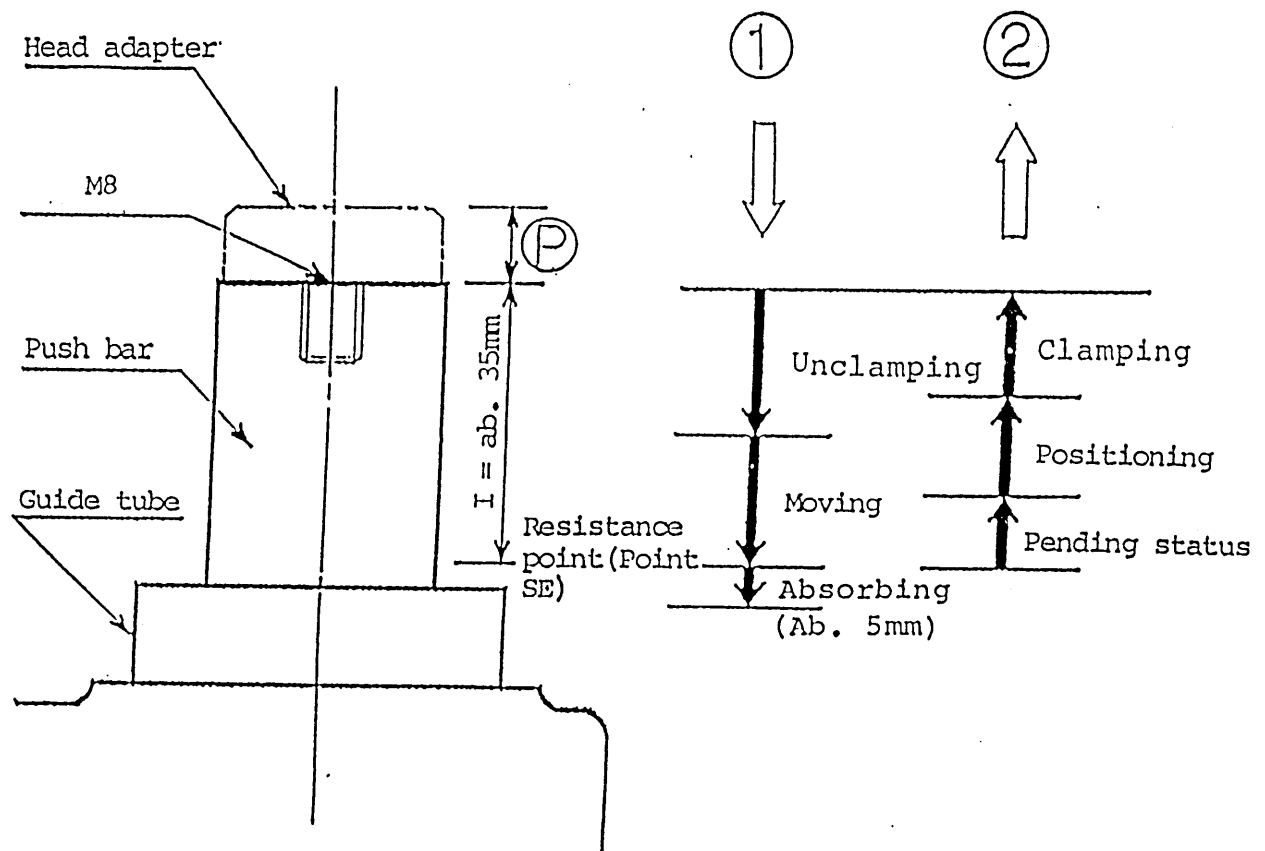
(Note 1) The center lines of J, K and O do not make paralelle with that of the table. So, take account of it when using jigs.

(Note 2) The head adaptor's dimension is not contained in D.

2. OPERATION

When the stroke of the push bar (I) is 35 mm, Case ① shows the table moving and Case ② its clamping.

The arrows ↓ ↑ shows the directions of the table moving.



(Note 1) The height of the head adaptor (P) is 10mm.

(Note 2) Head adapter is fixed with M8 screw. When a special head adapter made by yourself is replaced, make sure that the new one does not interfere the guide tube not the body of RAPIDEX at the moment of absorbing.

(Note 3) TOUCHDEX has a mechanical absorber which absorbs an excessive moving of the push bar.

2-1. 15° Dividing

15° dividing is possible by depressing the push bar of RAPIDEX by 35mm with the tool in the spindle (hereinafter called "toucher").

Procedure

- 1) Stop the toucher once 2mm far from the push bar. This is a precaution to be taken to prevent giving a violent shock to the push bar, which may damage RAPIDEX
- 2) Execute the 15° dividing by depressing the push bar by 35mm with the toucher. Normally a depressing speed from 12 to 15m/min. is applied.

When the workpiece is very heavy or when it doesn't keep well its balance against the turning center, the application of the above speed must cause an overrun. So, it is preferable to execute operation in a lower speed.

(Note 1) In this operation, the toucher must not be rotating.

(Note 2) The push bar should be depressed exactly in the direction of its center line.

(Note 3) Theoretically, the push bar should be depressed 35mm.

However, the exact amount must be determined by depressing the push bar gradually until the table stops rotating.

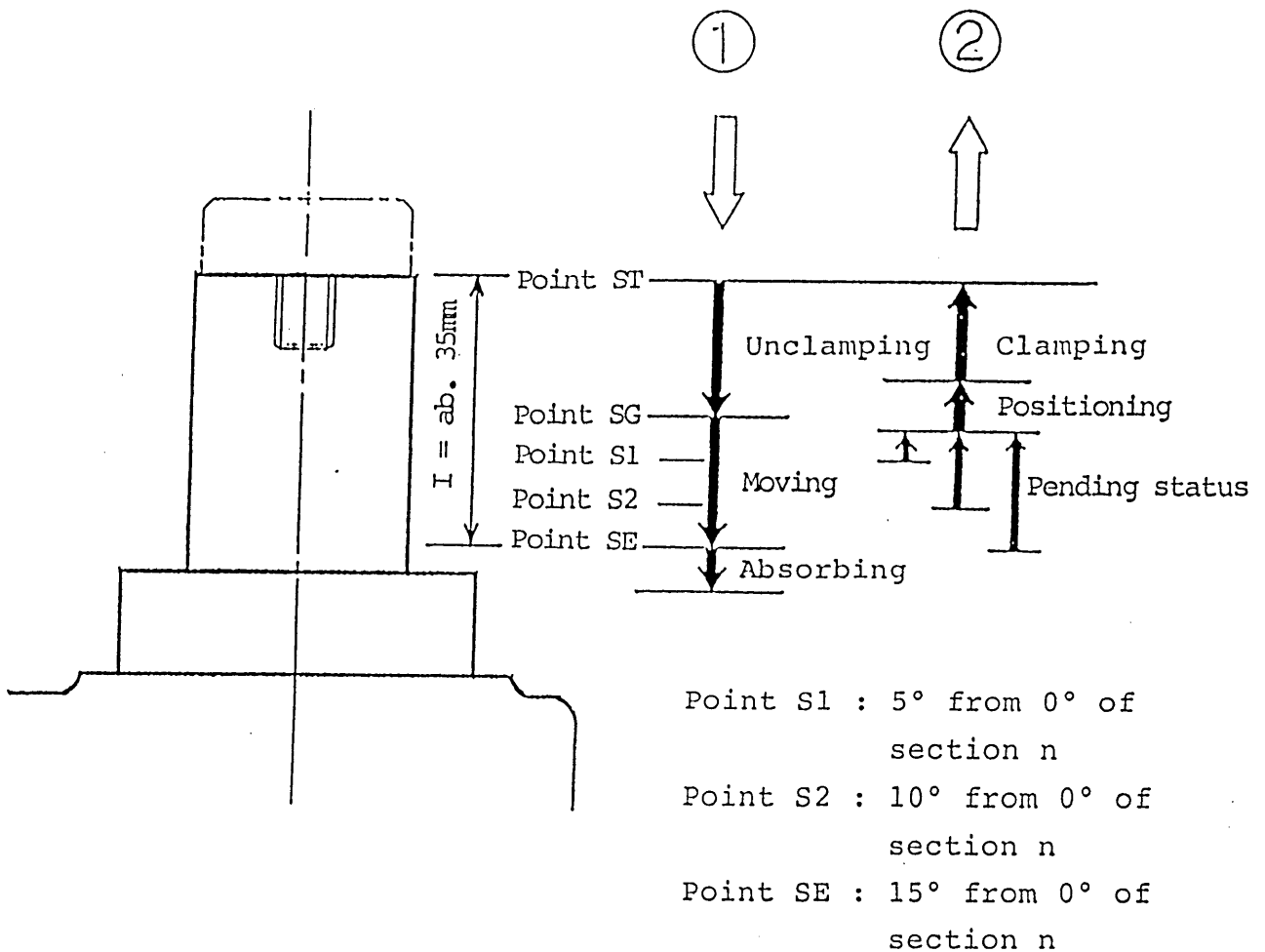
3) Retrace the toucher to the initial stop position.

(Note 1) In this operation, the toucher must not be moved horizontally.

(Note 2) The retracing speed is as same as the depressing speed.

2-2. 5°, 10° or 15° Dividing

Full depressing of the push bar makes the table turn at 15 degrees.



Operation 1 : Dividing to Point S1

Depressing of the push bar to 1 third of its stroke (from Point SG to Point S1) makes 5° dividing from 0° of section n.

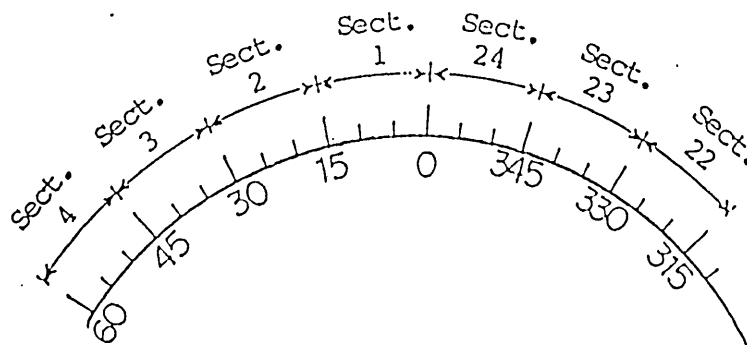
Operation 2 : Dividing to Point S2

Depressing of the push bar to 2 thirds of its stroke (from Point SG to Point S2) makes 10° dividing from 0° of section n.

Operation 3 : Dividing to Point SE

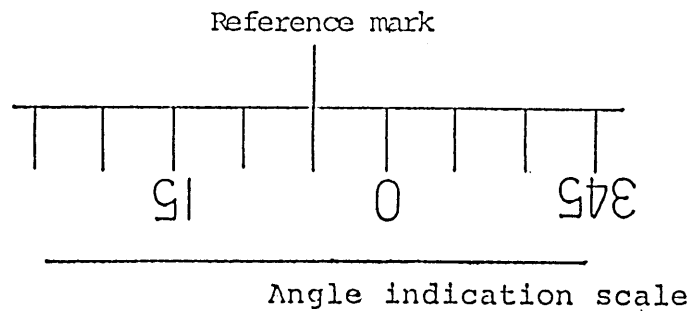
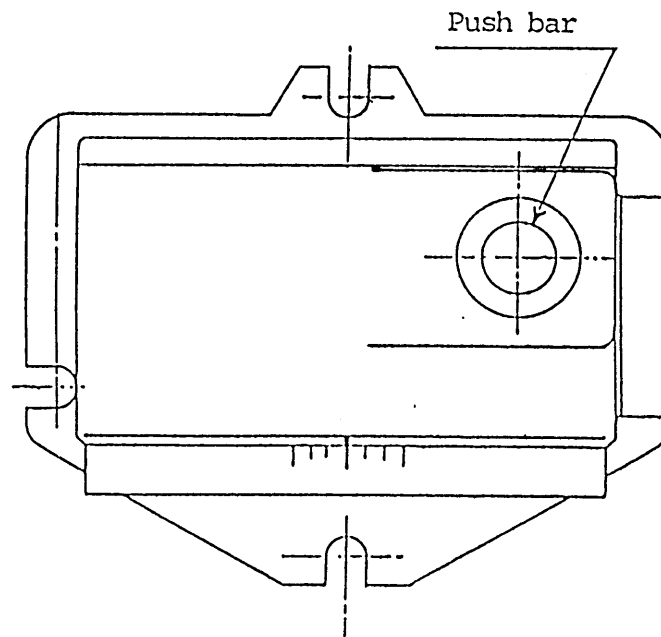
Depressing of the push bar to its stroke limit (from Point SG to Point SE) makes 15° dividing from 0° of section n.

(Note 1) The table can not turn over 1 section/stroke. i.e. essentially RAPIDEX divides by 15° , when the last dividing degrees are $5^\circ/10^\circ$, the next push should be to Point SE, which divides $10^\circ/5^\circ$. Then plus necessary degrees. When the last dividing degrees are 5° and another 5° are to be added, push until Point S2.



(Note 2) In Operations 1 and 2, even if the dividing operation is executed in a normal speed (12-15m/min), it may happen the table turns over the desired stop point because of the inertial effect given by the weight of the workpiece plus fixing jibs. In that case, slow down the table moving speed to

2-3. Points S1 and S2 Position Checking



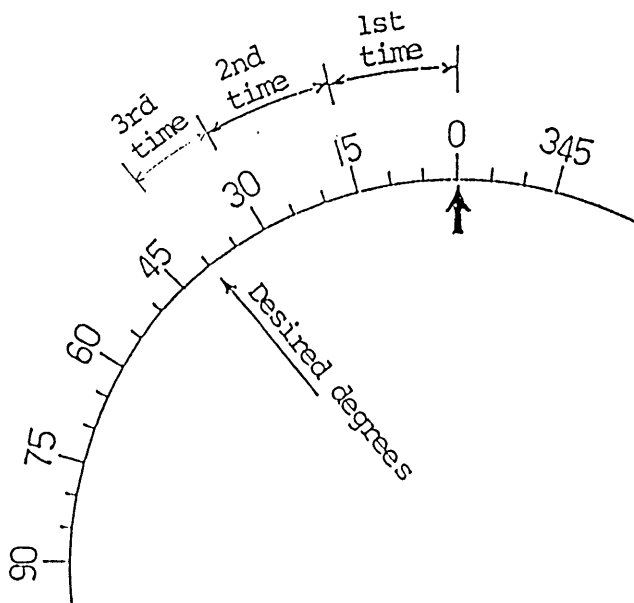
- 1) The position of Point S1 is where the reference mark comes to meet the first scale (1 scale gives 5 degrees) on the Angle Indication Scale after starting depressing the push bar (Point ST).
- 2) The position of Point S2 is where the reference mark comes to meet the second scale on the Angle Indication Scale after starting depressing the push bar.

(Note) As same as in the above cases, the position of Point SG is where the Angle Indication Scale starts moving after starting depressing the push bar.

Before a normal operation, check the position of Points SG, S1 and S2 by depressing the push bar in handle mode.

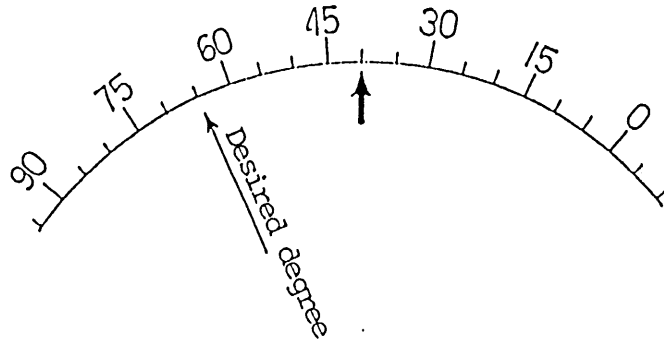
Operation examples

Example 1 : Turn from 0 to 40 degrees



- 1) Execute Operation 3 two times. The table moves at 30 degrees.
- 2) Then, execute Operation 2 one time. The table reaches the desired position(40 degrees).

Exemple 2 : Turn from 40 to 65 degrees (refer to P.6)



- 1) Execute Operation 3 one time. The table moves to 45 degrees.

(Note) The table can not move over 1 section/
stroke.

- 2) Execute Operation 3 one time. The table moves to 60 degrees.
- 3) Execute Operation 1 one time again. The table reaches the desired position(65 degrees).

3. OPERATION WITH MANUAL UNIT

Manual unit is an option.

Procedure

- 1) Attach a RAPIDEX the manual unit which consists of a top bolt, a manual handle and a manual unit fixing knob.
- 2) To fix it, tighten the manual unit fixing knob into the pit by the side of the guide tube.

For this operation, the table of RAPIDEX should be already fixed.

- 3) Tighten the top bolt. When it reaches the top of the push bar, retrace it by 2mm.

Thus, the manual unit setting is accomplished.

- 4) Turn the manual handle to the right until you feel some resistance.

Then, turn it to the initial position.

Thus, 15° dividing can be made.

Repeating this operation n times gives $n \times 15^\circ$ dividings.

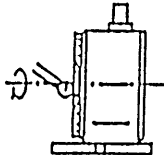
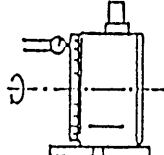
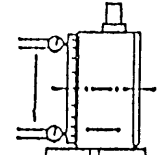
4. PRECAUTIONS TO BE TAKEN

- 1) This table is free from maintenance and wholly sealed to prevent the coolant oil penetrating inside. However, if the coolant oil penetrates accidentally, it may deteriorate the performance of RAPIDEX

For that reason, the coolant oil must not be jet directly onto the slide surface.

- 2) When new screw holes are made newly on the table surface, their depth should not exceed 20mm.

6. CHECKS

Checking Item	Checking point		Tolerance
Table center hole runout			0.01mm
Table surface runout	15mm inner from the table circumference		0.01mm
Table surface squareness	15mm inner from the table circumference		0.03mm
Indexing accuracy	Cumulation		60 sec.

MANUAL UNIT

