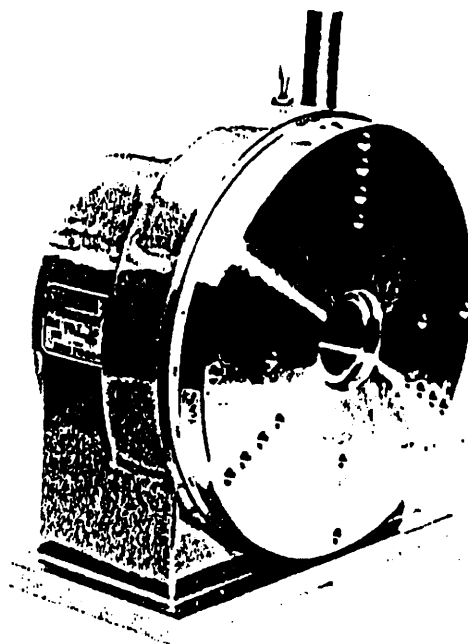


SUPER-RAPIDEX®

STOCK # 710-300

I N S T R U C T I O N M A N U A L



I N D E X

INTRODUCTION (SPECIAL CAUTIONS/WARNINGS)	1
1. DIMENSIONS & ACCURACY	2- 3
2. OPERATION with CNC Machines	4
2-1) FULL STROKE	5
2-2) INDIVIDUAL POSITIONING	6
2-3) POSITION CHECKING	7
[Sample Operation]	8
3. OPERATION with MANUAL HANDLE	9-10
4. MAINTENANCE	11

SUPER-RAPIDEX INSTRUCTION MANUAL

INTRODUCTION

Thank you very much for choosing our SUPER-RAPIDEX indexer.

This indexer has been newly designed and manufactured precision indexer not only time and cost saving purpose but also being designed considering maintenance, safety and durability.

SPECIAL CAUTIONS

1. The coolant oil should be given directly to cutting spot, not to the indexer. If the coolant oil penetrates accidentally, it may deteriorate the performance of SUPER-RAPIDEX, though the indexer is basically free from maintenance and wholly sealed to prevent the coolant oil penetration into the body.
2. The thickness of the indexer turret is about 20mm.(0.787")
Do not make deeper holes when you mount fixtures etc.
3. Read the manual carefully and prevent machine crush and jig interference, which cause the index pin damage and accuracy problem.
4. Work pieces and fixtures should be equally balanced as much as possible (less than 15lbs at 8.7"), otherwise the indexer may not turn, and the internal mechanism will be broken.

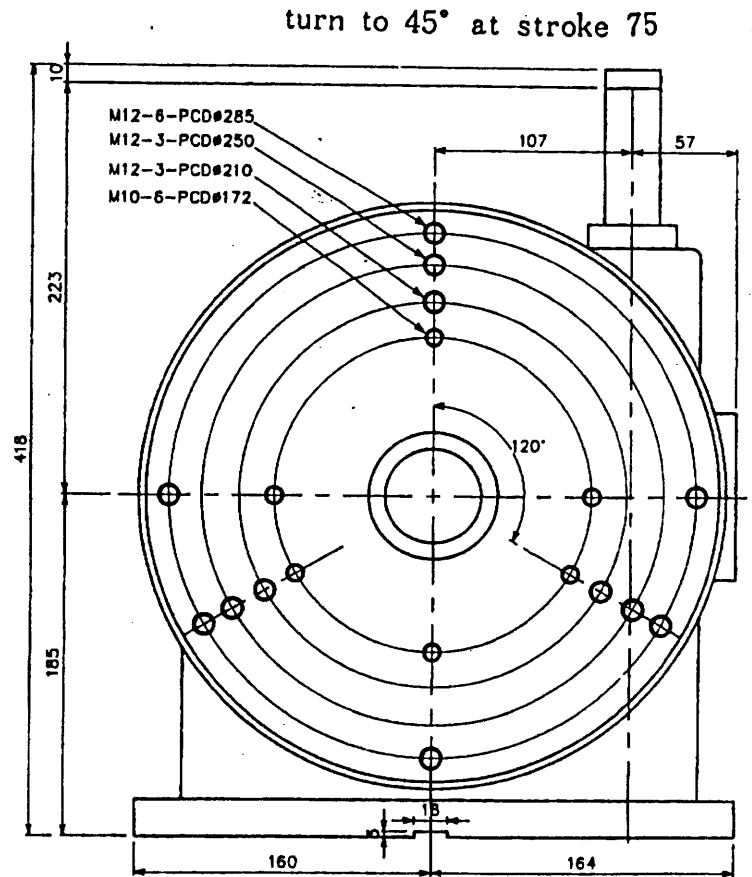
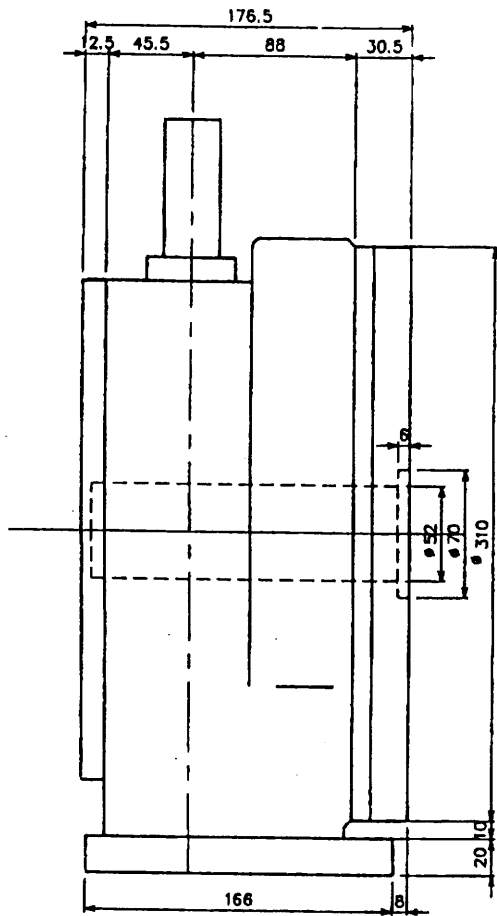
NEGLECTING ABOVE CAUTIONS WILL VOID OUR WARRANTY POLICY

WARNINGS

1. Loading and unloading of the workpieces should be done away from the machine or when machine operation is totally stopped. Or you will get hurt accidentally.
2. Our SUPER-RAPIDEX is a mechanical unit, therefore very safe. But, you must pay a full attention at any time to avoid any trouble and accident.

1. DIMENSION & ACCURACY

SUPER-RAPIDEX MODEL: 710-300



(Note 1) The center lines of tap hole do not make parallel 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.

Description		Tolerance
Table center hole runout		0.01mm 0.0004"
Table surface runout	15mm inner from the table circumference	0.02mm 0.0008"
Table surface squareness	15mm inner from the table circumference	0.03mm 0.0012"
Indexing	cumulative error accuracy	±30sec.

Fig 2

2. OPERATION with CNC Machines

Using any tool from the machine (or install a metal bar at the machine spindle), a programmed Z-axis motion provides indexing motion of the SUPER-RAPIDEX.

Model: 710-300 45° Compact Type Indexer

Depending on length of stroke programmed, the unit will index 5°, 10°, 15°, 20°, 25°, 30°, 35°, 40° and 45°.

① ↓ in Fig 3 shows table rotation and ② ↑ positioning and clamping

CAUTION :

- The head adapter, «P» is 10mm (0.4") thick, is fixed with M8 screw. In case of damage of the head adapter, replace it by any similar material. Be careful not to interfere the guide tube when depressed.
- SUPER-RAPIDEX has a mechanical absorber (5mm = 0.2" allowance), which absorbs an excessive moving of the push bar. In case of overstroke, the absorber will be broken.

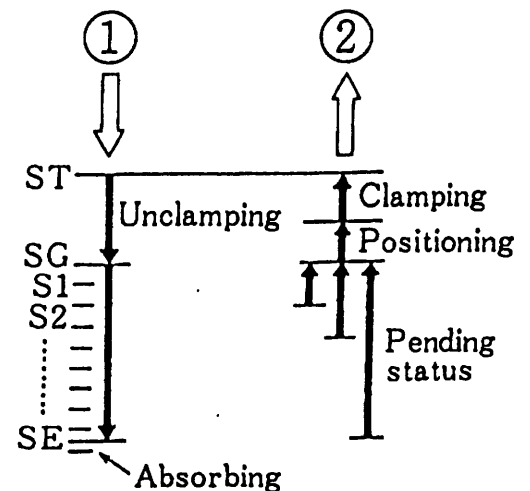
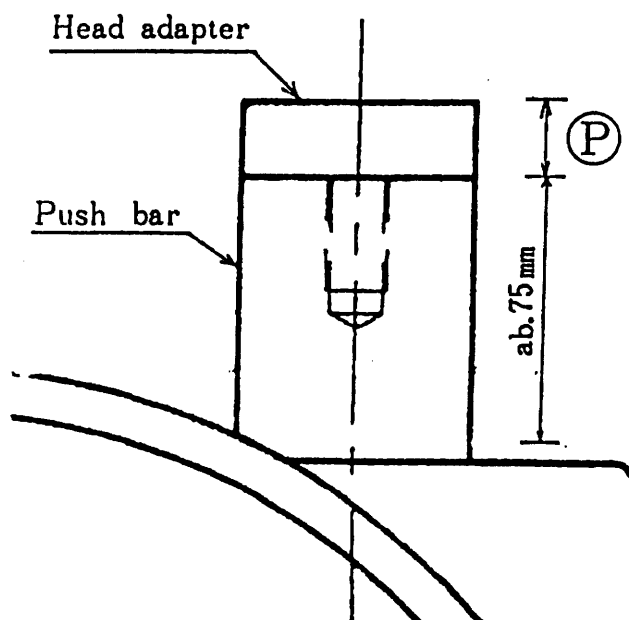


Fig 3

2-1) FULL STROKE

710-300: The full stroke(75mm=1.5")of the push bar of SUPER-RAPIDEX achives 45° movement of the indexer.

The push bar will be depressed by any toucher tool(e.g.End Mills). (We recomend you to install a metal bar at the spindle to push the indexer,which is easy and faster for indexing.)

[P r o c e d u r e]

- ① Stop the toucher tool(or the bar)once at 2mm(0.1")away from the indexer push bar. (Violent push will give damage to SUPER-RAPIDEX)
- ② Depress,by approx.75mm(1.5"),the push bar at 1.2 to 1.5m/minute (4 to 5ft/min.)speed.(Adjust the depressing speed according to the application or the weight of workpiece,heavy workpiece will cause an overrun.)
- ③ Retrace the toucher tool to the initial stop position.

CAUTION:

- The indexer push bar should be depressed exactly in the direction of its center line.
- The toucher tool(e.g.End Mills)should not rotate while depressing. 45° movement will be given by 75mm(1.5")stroke of the push bar, however,the exact amount must be determined by depressing the push bar gradually until the table stops rotating.
- The retracing speed is as same as the depressing one.

2-2) INDIVIDUAL POSITIONING

710-300

5° : Depress the push bar at 1/9 of its stroke.(Point S1)

10° : Depress the push bar at 2/9 of its stroke.(Point S2)

15° : Depress the push bar at 3/9 of its stroke.(Point S3)

.

.

.

.

45° : Depress the push bar by 75mm(1.5")of its stroke.(Point SE)

●45° =75mm stroke is essentially 1 section.

The table can not turn over 1 section/stroke.

●When you rotate 10° (2/9 stroke),the additional(2nd) 10° will be accomplished at the position of 20° (4/9 stroke) (→S4)

●In case of incremental movement, because of the work weight or fixtures, you may lose the position (overrun). Reduce the speed of depressing the bar from 1.2-1.5m/min.(3 to 4ft/min)to 0.8m/min.(2.7ft/min)

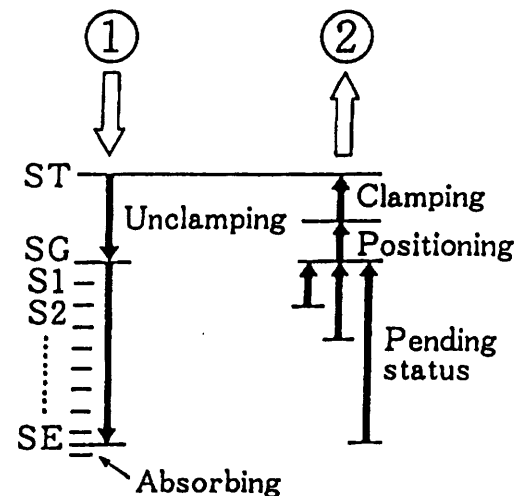
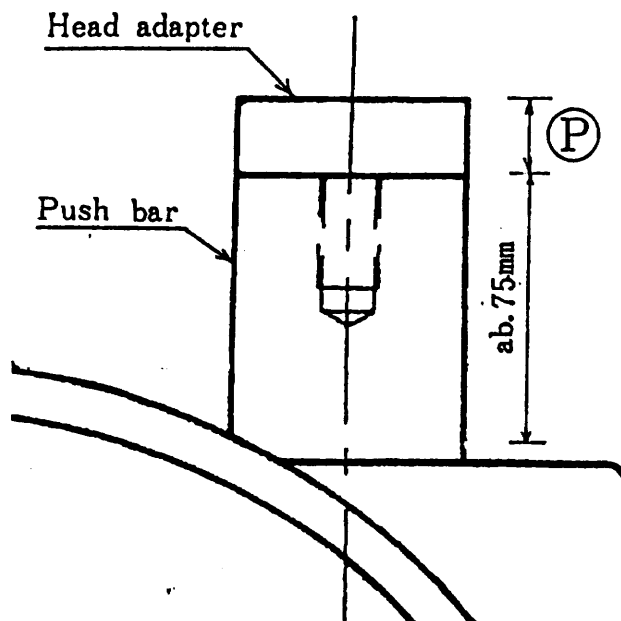


Fig 4

If you do not push a push bar to a set point properly when the push bar goes back to the original position, A table automatically move a little bit to stabilize the position its self. You need to adjust until this table's movement disappear

2-2-1) 1° division

FD-300-360

How to use 1 degree index(FD-300-360.FDM-300-360).

Operation is almost same as 2-2),but there are 45 points in every one degree such as S1,S2,S3-----S44, from SG to SE.

***Remark:**

If you do not push a push bar to a set point properly when the push bar goes back to the original position, A table automatically move a little bit to stabilize the position its self.

You need to adjust until this table's movement disappear.

Especially the space that the cramp pin enter is narrow, make sure to do this procedure.

2-3) POSITION CHECKING

The angle indication scale on the indexer turret shows 5° reference points and 15° increment marks.

The position of Point S1 is where the reference mark comes to meet the first 5° reference point, Point S2 is on the 10° (2nd reference point) position and Point SE is on 45° mark position.

Before starting actual production, please carefully check the table rotation.

CAUTION:

While test running, carefully operate your machine. Your machine hits you when you are checking the indexer rotation.

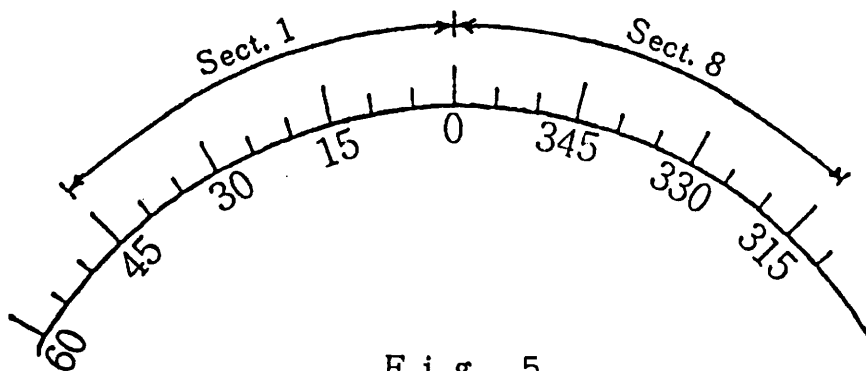


Fig 5

7 1 0 - 3 0 0

[Sample Operation]

1. Turn from 0° to 65°

1st 65°

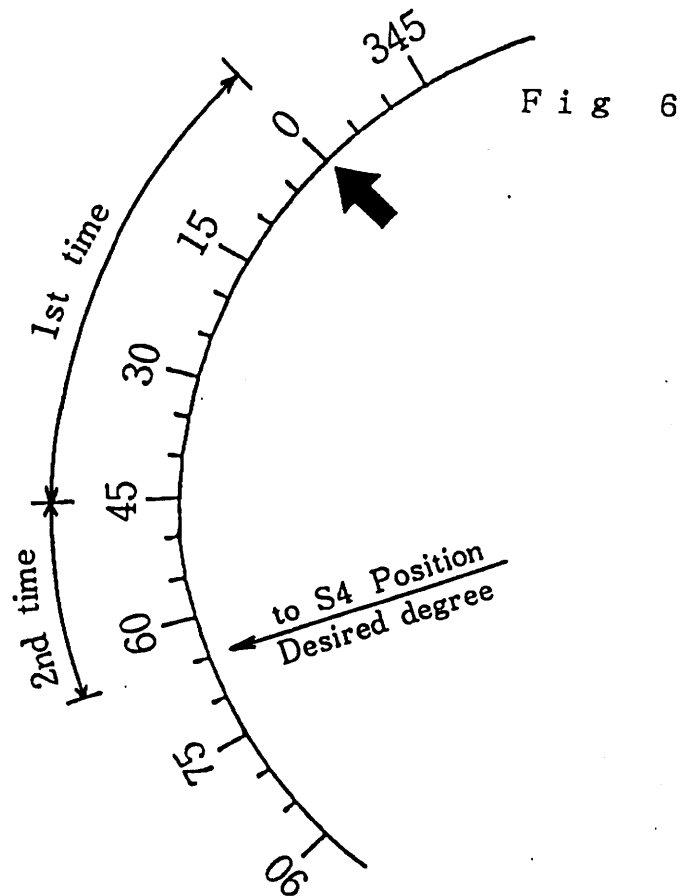
Depress the push bar once (full stroke) to get 45° , and then $4/9$ stroke to get an additional 20° .

2nd 65°

Depress the bar fully to get an additional 25° , ($4/9$ of the stroke gives no movement.) and then $8/9$ stroke to get an additional 40° .

45° = 75mm stroke is essentially 1 section.

The table can not turn over 1 section/stroke.



3. OPERATION with MANUAL HANDLE

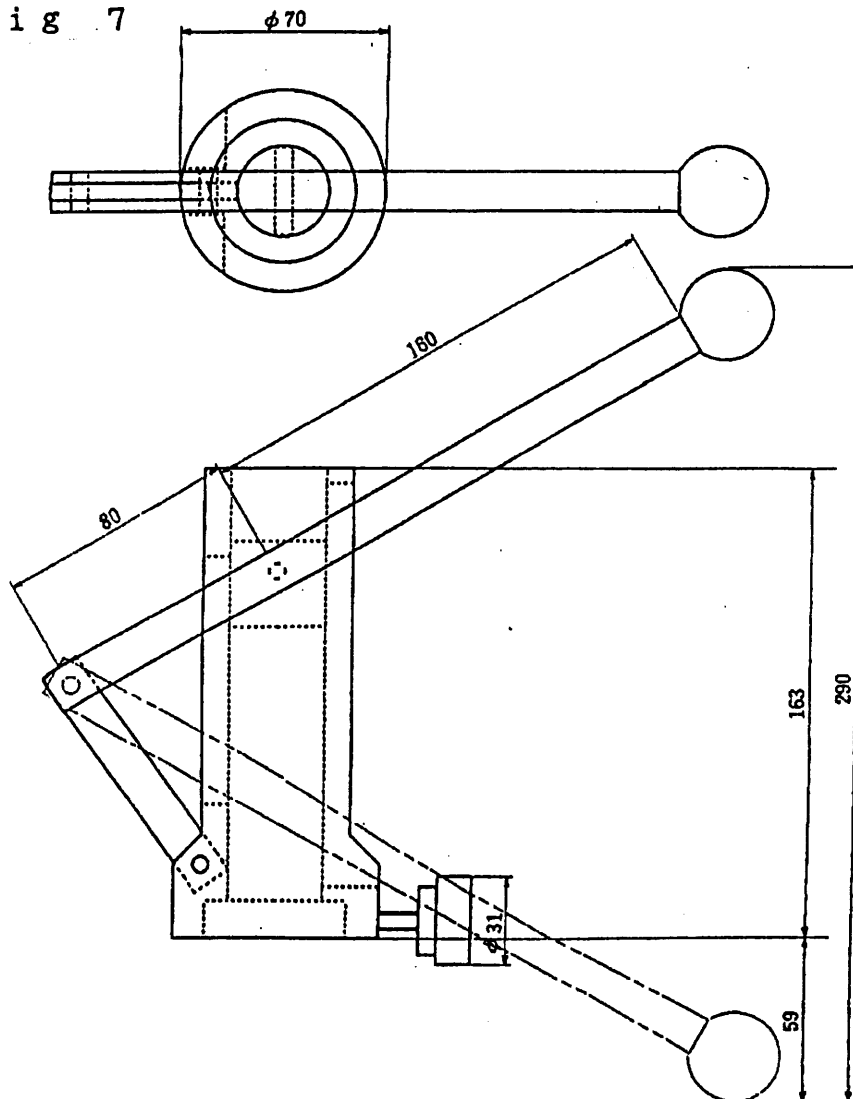
You can use the SUPER-RAPIDEX as a manual indexer.

You can use the handle for workpiece setting before operation.

[SETUP]

- ① Mount the handle on to the push bar and tighten the fixing knob into the pit by the side of the guide tube.
- ② Turn the handle and check if the table actually rotate.

Fig 7



4. MAINTENANCE

○ 7 1 0 - 3 0 0 :

45° Compact Type SUPER-RAPIDEX is practically a maintenance free product. However, to keep better accuracy, please pay attention to the following.

1. Always keep it clean after the job.
2. Keep it dry (oily) and clean in storage.

Coolant water and moisture will gather rust, which may cause rotational trouble and inaccuracy of positioning.

Always keep it clean and put some oil after completely dry.