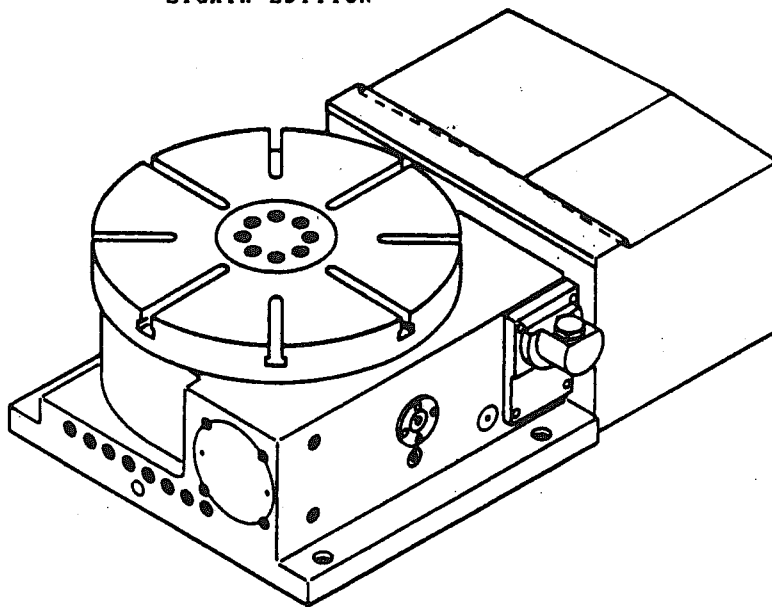


NIKKEN CNC ROTARY TABLE

320H-8
CNC 400H-8

INDIVIDUAL INSTRUCTION MANUAL

EIGHTH EDITION



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1. Preface

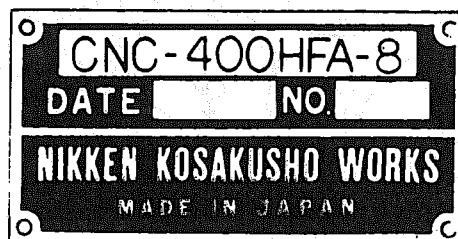
Thank you for your purchasing the NIKKEN CNC rotary table this time.

The NIKKEN CNC rotary table is always designed and manufactured on the basis of concept and intention to "make daily studies" in order to meet various requests and demands made by customers. The customers will be satisfied high performance, high quality, easy operation and economical price etc. offered by the NIKKEN CNC rotary table.

Although the NIKKEN CNC rotary table is durable for heavy duty cutting and long-term operation, please read through this "Instruction Manual" carefully before operating the NIKKEN CNC table.

We appreciate our connection with you through NIKKEN CNC rotary table and wish to enroll you in our customer list for future service activities. Please fill and mail the attached post card to us.

Please keep "Inspection Table", "Common Instruction Manual" and "Individual Instruction Manual" in your file. If there should happen any trouble on the rotary table, please advise us of all letters engraved on its name plate as shown below.



② Removal of rust-preventive oil

Carefully wipe off rust-preventive oil which has been applied on the entire surfaces of table before shipping. Avoid use of benzine and gasoline which may cause rust.

③ Installation

After installing the table, securely tighten it according to the method and installation holes as previously discussed.

2-2. Filling lubricating oil

Since the oil reservoir is of a totally enclosed type, mingling-in of coolant and leakage of lubricating oil will scarcely occur.

But, be sure to examine oil, inspect the oil pot every day and supply appropriate oil if necessary.

2-3. Supply of hydraulic pressure for clamp

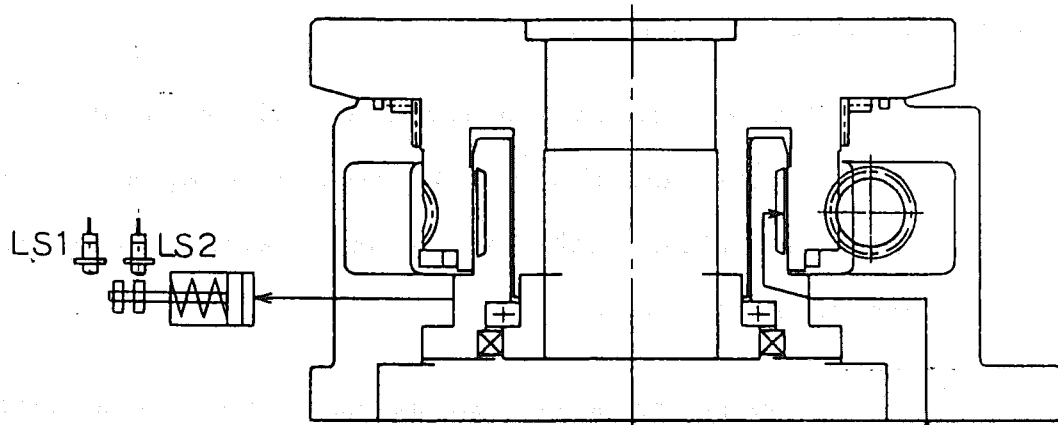
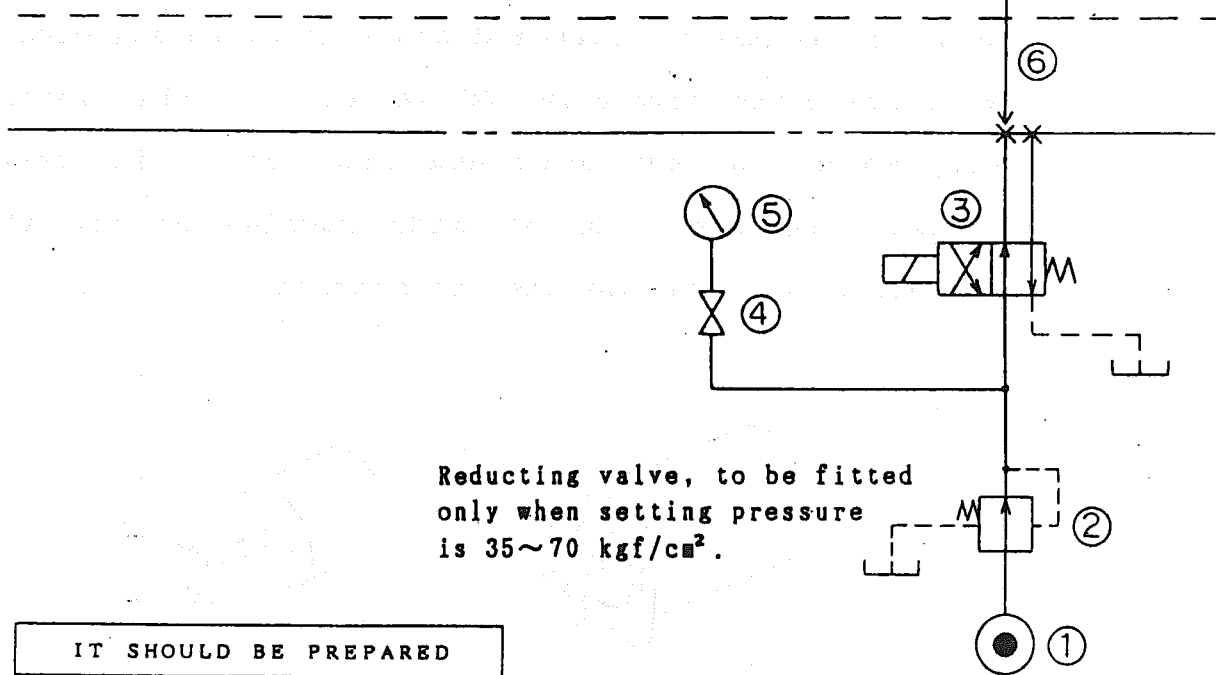


Fig. 3



Delivery: 10^l /min

IT SHOULD BE PREPARED	
⑥	HYDRAULIC HOSE
⑤	PRESSURE GAUGE
④	GAUGE COCK
③	SOLENOID VALVE
②	REDUCING VALVE
①	PUMP
No.	ITEM

2-5 Trial run

- 1) Connect hydraulic pressure to the table to make sure it is supplied correctly.
- 2) Do not install a work piece on the table to apply no load thereon.
- 3) Give the table brake clamp (M10, M68 etc.) and brake unclamp (M11, M69 etc.) signals alternatively and repeatedly from NC unit to make sure the brake functions normally.

When driven by the NIKKEN 8800AX, make sure by using the G10 (unclamp instruction) and G11 (clamp instruction).

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NO00      G10 G13 (unclamp, single operation mode)
NO01 J000 G11      (jump to NO00 after clamp)
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- 4) For the trial run of the rotating axis, carry out the break-in by making the axis rotate in both normal & reverse directions for about twice at a low feeding speed (about F360) to make sure of smooth rotation.

Then, increase the rotation speed gradually.

3 Mechanism and preservative adjustment of major functioning part

3-1. Mechanism and arrangement of major functioning part

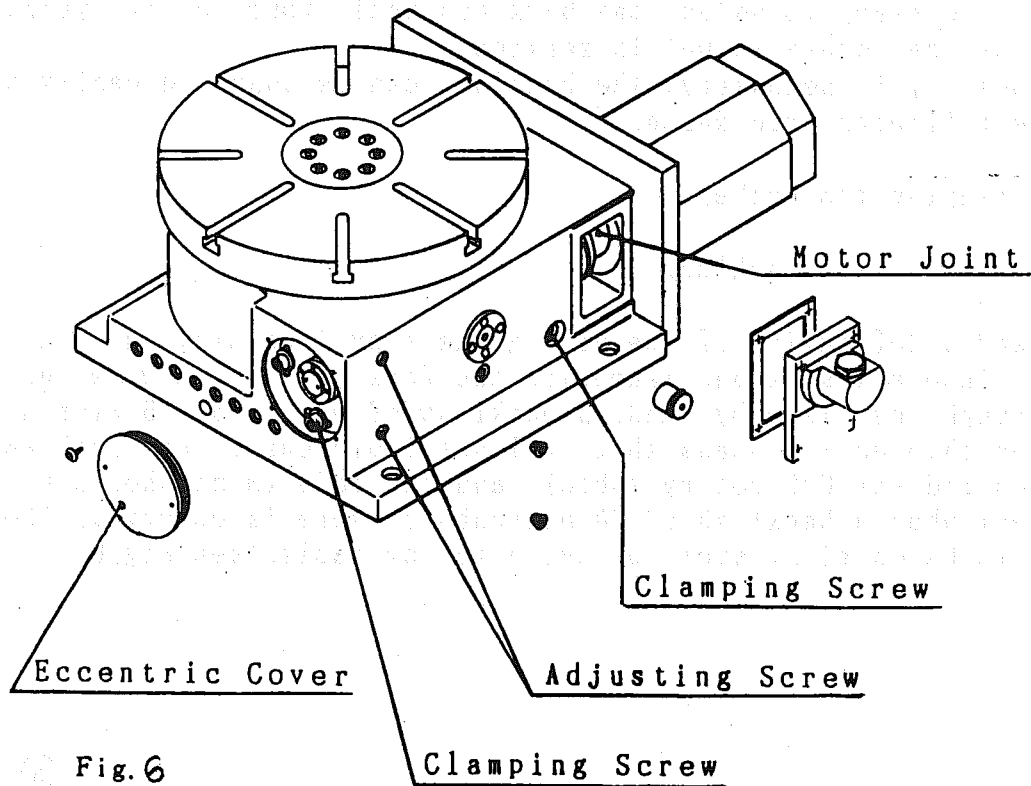


Fig. 6

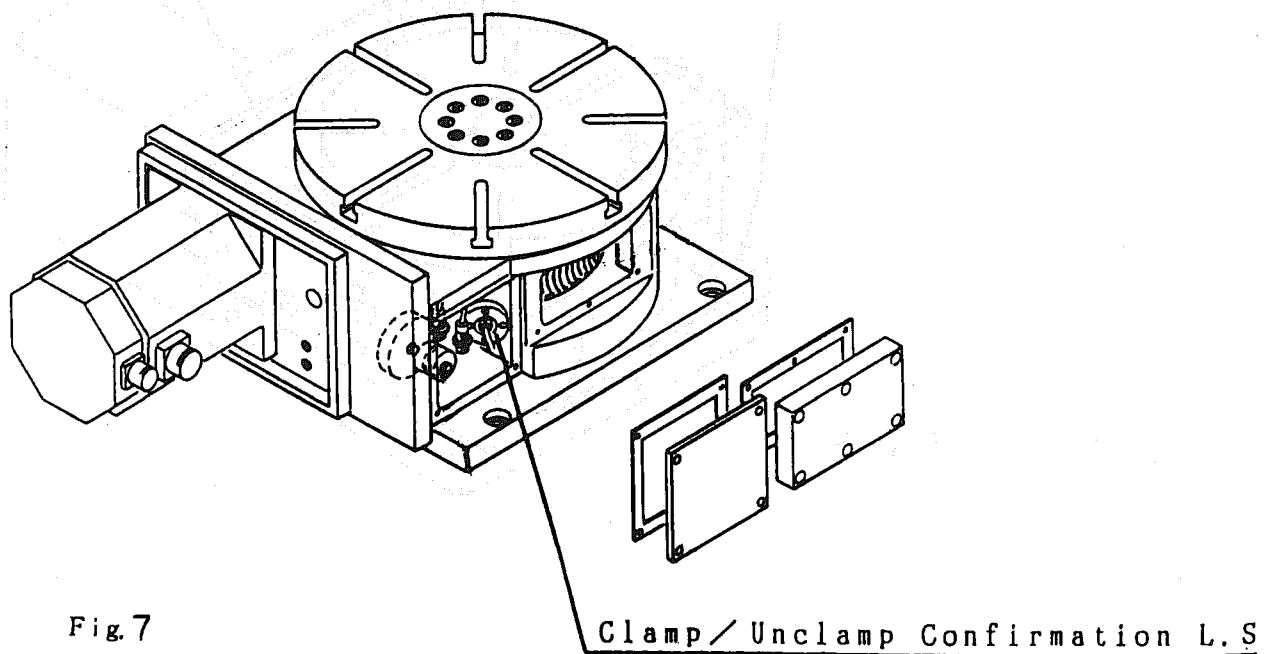
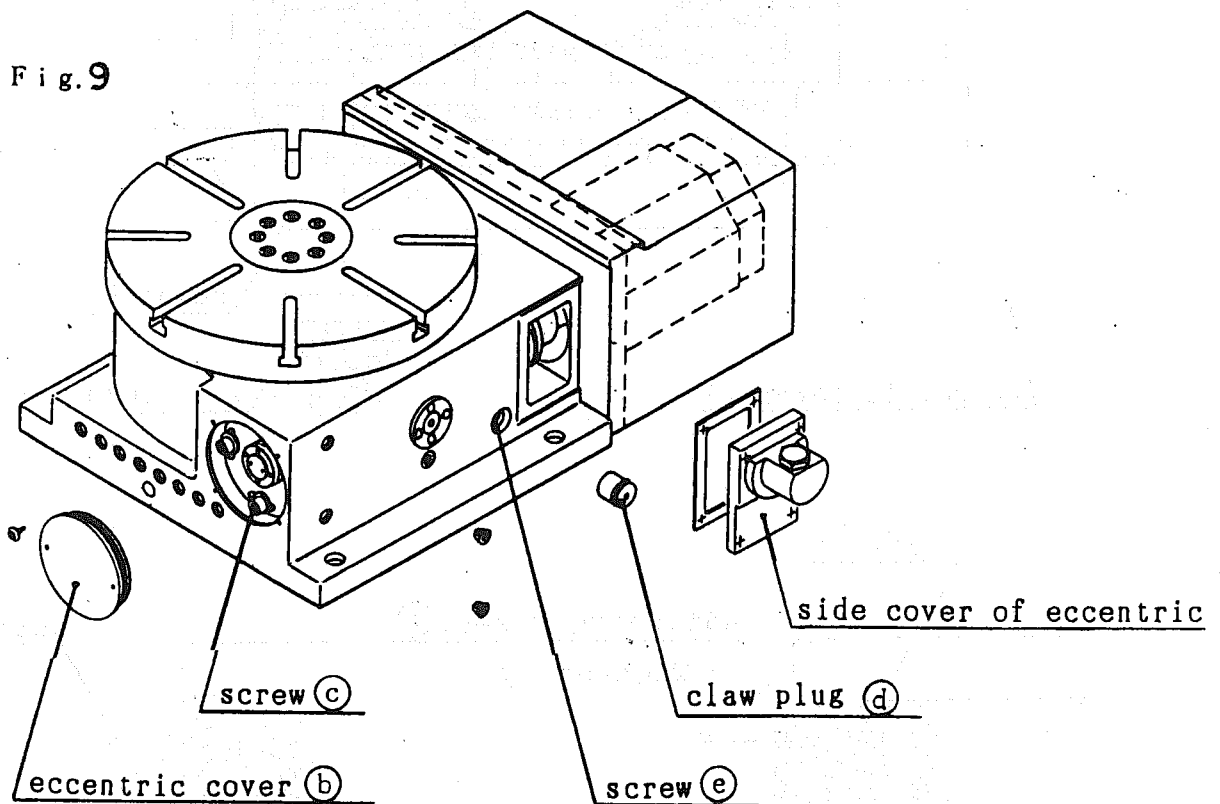


Fig. 7

3) Adjustment of backlash of worm gear

- ① Pull out the oil from the drain.
- ② Loosen four fastening screws for the eccentric cover "b" and remove the cover.
- ③ Slightly loosen four eccentric shaft clamping screws "c".
- ④ Pull out (Fig 9- "d") the claw plug.
- ⑤ Loosen, two or three turns, the screw "e" fastening an inner part of the claw plug. Slightly tap its head, and the inner part clamping piece "f" will be loosened and the eccentric shaft will be released. Thus, the clamped state is made free for permitting adjustment.
- ⑥ Remove the side cover of eccentric part and loosen the inner part screw "g" for coupling and switch off the connection with motor.

Fig. 9



- ⑦ Reset the dial gauge "a" as shown Fig 8, loosen the backlash adjusting screw "h" and tighten the screw "i" clockwise, then the eccentric shaft will turn to bring the backlash between worm wheel and worm shaft near to zero.

3-3 Brake and ensuring mechanism

- 1) Hydraulic pressure is supplied to the expansion ring for clamp by the clamp command. Since the expansion ring uniformly tightens the internal surface of the table, a strong and precise clamping state can be ensured. In this instance, the hydraulic pressure is simultaneously supplied to the brake ensuring part too, so that the piston is actuated to operate the clamp ensuring limit switch.
- 2) When unclamp hydraulic pressure is supplied by the unclamp command, the tightening of expansion ring is released to bring about the unclamping state. At the same time, this pressure is supplied to the brake ensuring part too. The piston is returned to its original position to operate the unclamp ensuring switch.

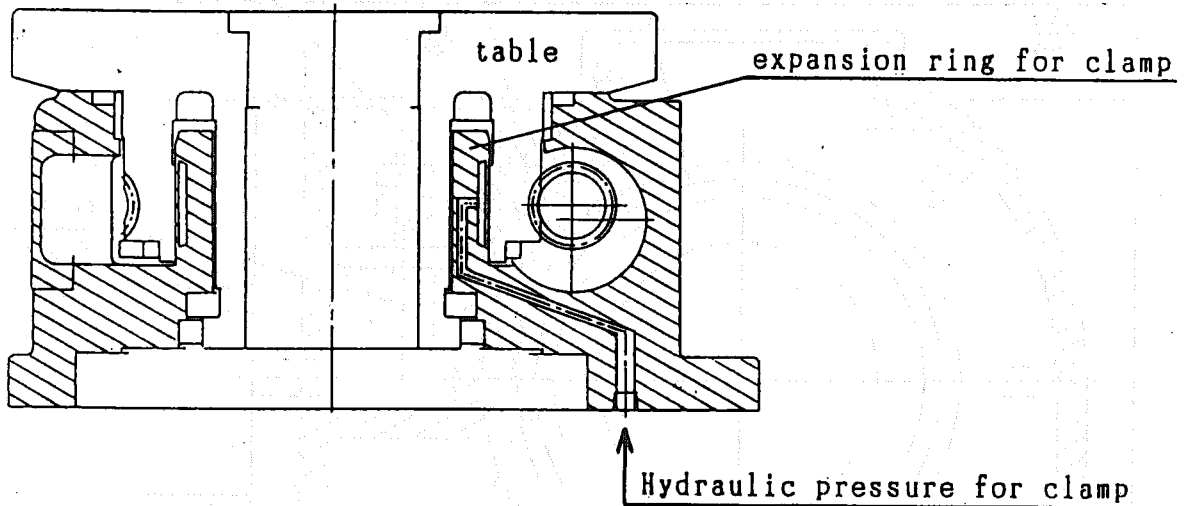


Fig. 12

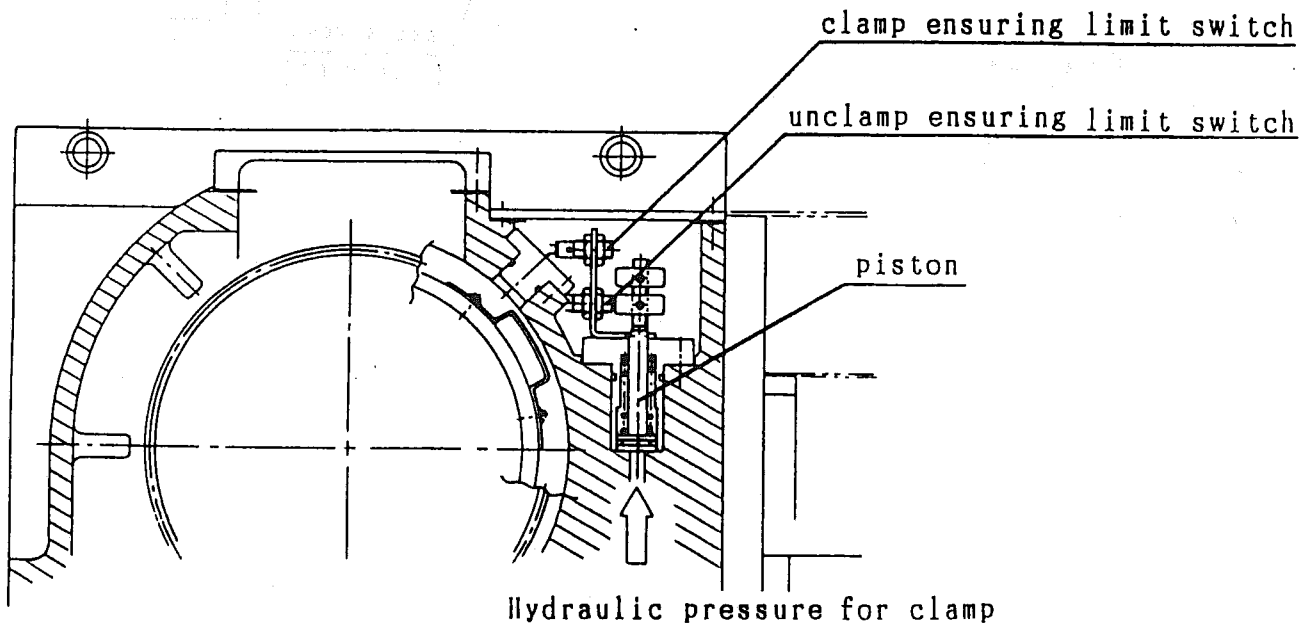


Fig. 13

4-1 Relation between work dia. and length for allowable max. load

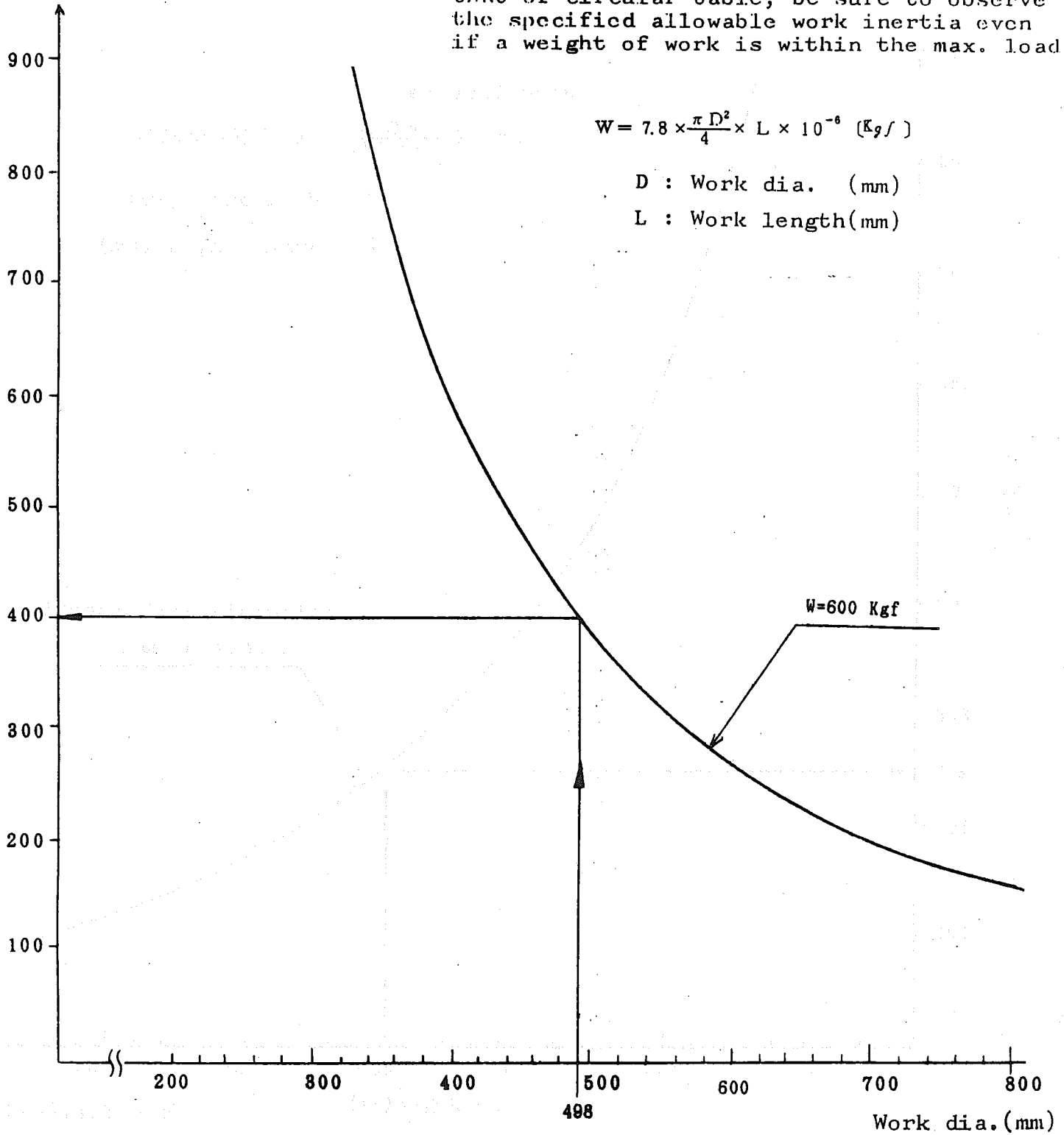
Work length (mm)

Note) For a work having a diameter of more than that of circular table, be sure to observe the specified allowable work inertia even if a weight of work is within the max. load.

$$W = 7.8 \times \frac{\pi D^2}{4} \times L \times 10^{-6} \text{ (Kgf)}$$

D : Work dia. (mm)

L : Work length (mm)



Utilizing method of above figure

A work, having $\phi 498$ mm dia. and a length of within 400mm, will have an allowable max. load of within 600kgf.