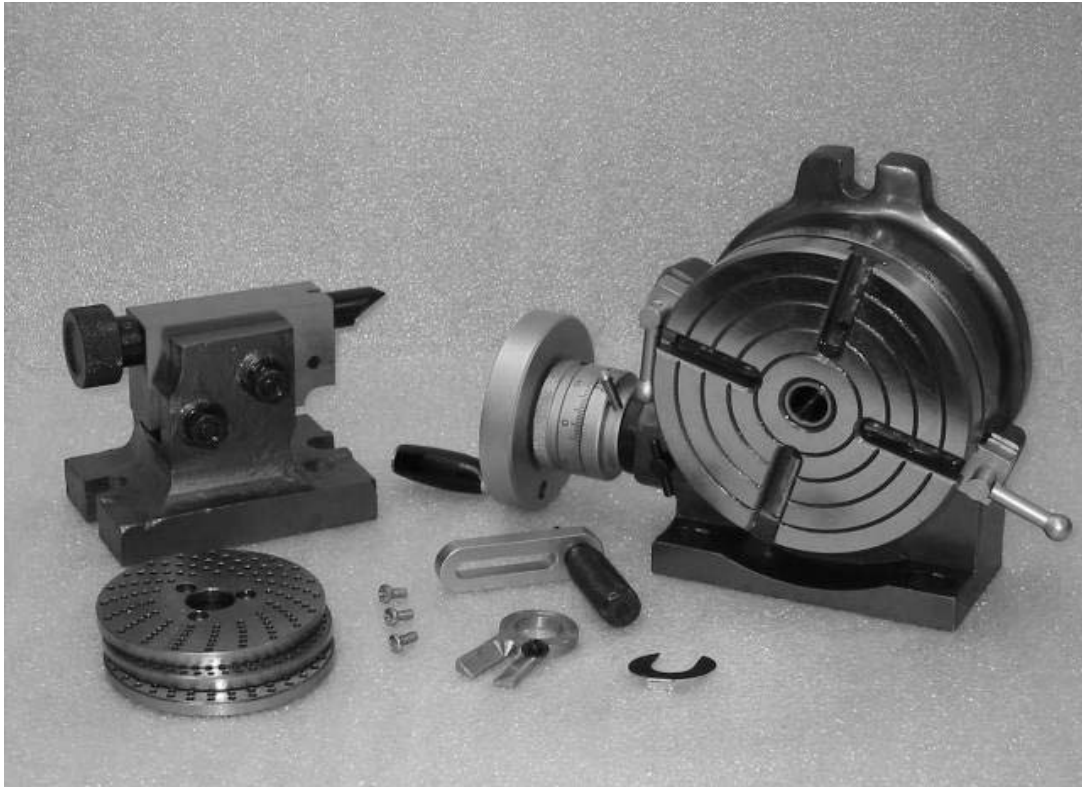


RT-060S

Horizontal / Vertical Rotary Table



INSTRUCTION MANUAL

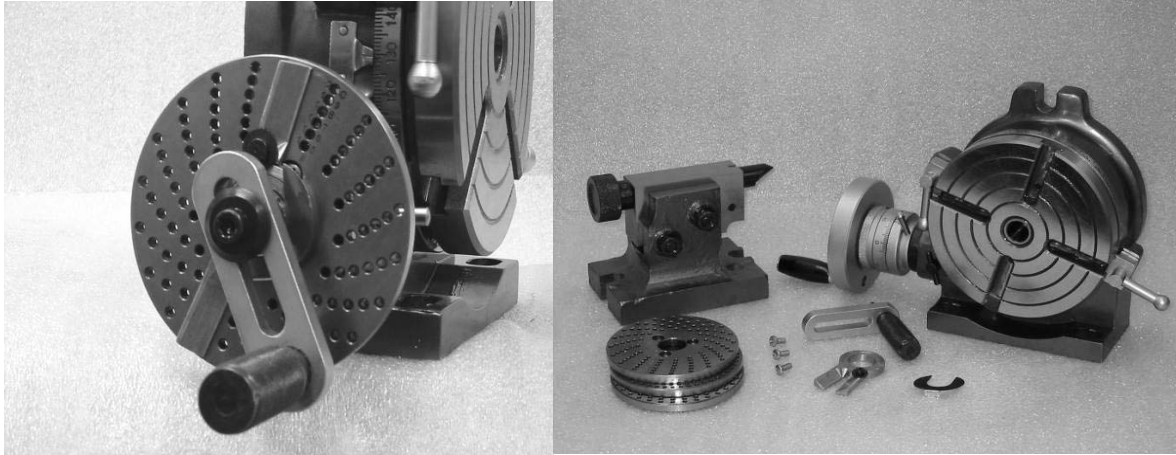
Horizontal / Vertical Rotary Table - Instructions

There are three methods of setting positions using a rotary table.

1. Use the degree scale on the outer edge of the table
(scale reading = 1 degree)
 2. Use the degree handwheel (scale on handwheel = degrees and minutes)
 3. Use the index method (use index plates and refer index table)
-
- 1.1 To use the degree scale on the table top, disengage the worm by unlocking the T screw and rotating the pin on the worm collar clockwise. The table can be rotated by hand and can be locked in any position using the lock clamps.
 - 2.1 To use the handwheel, unlock or loosen the T screw and rotate the pin on the worm collar anti-clockwise and when the worm has engaged, lock or tighten the T screw. If the worm collar will not rotate easily, it may be necessary to rotate the handwheel while keeping pressure on the pin so the worm will mesh or engage.

The hand wheel is divided into degrees and minutes eg: 4 degrees per revolution or ratio of 90:1. The minute divisions on the handwheel can be further divided into 20 seconds using the vernier scale.
-
- 3.1 To use the index method first refer to the index table to select the index plate with the correct holes on the circle. (See Index table located at the back of this manual)
 - 3.2 To use the index plates, the hand wheel must be removed by loosening the centre retaining screw and washer.
 - 3.3 Mount the appropriate index plate with the correct number of holes to the collar with 3 screws.
 - 3.4 Next fit the sector arms (the brass pieces) and adjust the sector arms for the correct number of holes. Holes are counted after the pin or first hole. So for six holes, sector arms are actually set for seven holes ie; pin + 6 holes.
 - 3.5 Fit the retaining washer in the groove in front of the sector arms.
 - 3.6 Fit the crank with the spring loaded handle, adjusting so the plunger lines up with the correct circle of holes. Tighten with the screw and washer that held the handwheel.

Horizontal / Vertical Rotary Table - Instructions



3.7 To index, rotate the handle the correct number of full turns and then using the sector arms to measure the number of holes. After the handle is locked in, rotate the arms ready for the next cycle or index.

Eg: For 21 tooth gear or 21 divisions, Use the 21 hole plate. Set the sector arms for 6 holes then rotate the handle 4 full turns plus 6 holes. If in doubt, have a practice run

Some possible uses of a rotary table:

- Cutting gears
- Machining hex or square on a shaft
- Drilling holes equal distance around a circle eg holes in a flywheel
- Used as an adjustable angle plate - eg machine one face then rotate 90° degrees and machine the next face
- Milling a radius or an arc
- Create wheels with spokes by using the rotary table to machine out the triangular shaped holes in a wheel

Operators Responsibility:

Please take the time to read the users instructions.

Descriptive notations in our catalogue and discussions with staff are offered as a guide only. Purchasers must satisfy themselves as to (a) The suitability of the product for their particular application and (b) The process by which the product is used.

Metal working machines and tools are potentially dangerous, therefore the purchaser of product offered in our catalogue and sold by Minitech Engineering and Model Supply and Myford Machine Tools Australia should take every precaution to avoid injury. Courses of instruction are also offered by many Technical Colleges and books are available from most libraries. Books are available for instruction in safe use of metal working machines and tools.

Horizontal / Vertical Rotary Table - 6"

Formula for calculating complete turns and part of a turn
(ie number of holes) for indexing

Indexing:

Number of turns and holes = $\frac{\text{Ratio}}{\text{Number of teeth of gear}}$
or
Number of divides in circle

Example:

$$\begin{aligned}\text{No Turns} &= \frac{90 \text{ (Ratio 90:1)}}{20 \text{ Number of Teeth or Divides}} \\ &= \frac{90}{20} = \frac{9}{2} = 4 + \frac{1}{2} = 4 \text{ full turns} + \frac{1}{2} = \frac{10 \text{ Holes}}{20 \text{ Hole Plate}}\end{aligned}$$

OR

$$\frac{90}{21} = \frac{30}{7} = 4 + \frac{2}{7} = 4 \text{ full turns} + \frac{2}{7} = \frac{6 \text{ Holes}}{21 \text{ Hole Plate}}$$

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Index tables for 6" Horizontal / Vertical Rotary Table 90:1 ratio

Number	Plate and Circle	Complete Turns	Part of Turn	Number	Plate and Circle	Complete Turns	Part of Turn
1	ANY	90		51	N/A		
2	ANY	45		52	N/A		
3	ANY	30		53	N/A		
4	A20	22	10/20	54	A18	1	12/18
5	ANY	18		55	B33	1	21/33
6	ANY	15		56	N/A		
7	B21	12	18/21	57	A19	1	11/19
8	A20	11	5/20	58	B29	1	16/29
9	ANY	10		59	N/A		
10	ANY	9		60	A20	1	10/20
11	B33	8	6/33	61	N/A		
12	A20	7	10/20	62	B31	1	14/31
13	C39	6	36/39	63	B21	1	9/21
14	B21	6	9/21	64	N/A		
15	ANY	6		65	C39	1	15/39
16	A16	5	10/16	66	B33	1	12/33
17	A17	5	5/17	67	N/A		
18	ANY	5		68	N/A		
19	A19	4	14/19	69	B23	1	7/32
20	A20	4	10/20	70	B21	1	6/21
21	B21	4	6/21	71	N/A		
22	B33	4	3/33	72	A20	1	5/20
23	B23	3	21/23	73	N/A		
24	A20	3	15/20	74	C37	1	8/37
25	A20	3	12/20	75	A20	1	4/20
26	C39	3	18/39	76	N/A		
27	A18	3	6/18	77	N/A		
28	N/A			78	C39	1	6/39
29	B29	3	3/29	79	N/A		
30	ANY	3		80	A16	1	2/16
31	B31	2	28/31	81	A18	1	2/18
32	A16	2	13/16	82	C41	1	4/41
33	B33	2	24/33	83	N/A		
34	A17	2	11/17	84	N/A		
35	B21	2	12/21	85	N/A		
36	A20	2	10/20	86	C43	1	2/43
37	C37	2	16/37	87	B29	1	1/29
38	A19	2	7/19	88	N/A		
39	C39	2	12/39	89	N/A		
40	A20	2	5/20	90	ANY	1	
41	C41	2	8/41	91	N/A		
42	B21	2	3/21	92	N/A		
43	C43	2	4/43	93	B31	0	30/31
44	N/A			94	C47	0	45/47
45	ANY	2		95	A19	0	18/19
46	B23	1	22/23	96	A16	0	15/16
47	C47	1	43/47	97	N/A		
48	A16	1	14/16	98	C49	0	45/49
49	C49	1	41/49	99	B33	0	30/33
50	A20	1	16/20	100	A20	0	18/20

For index numbers greater than 100, use formula.