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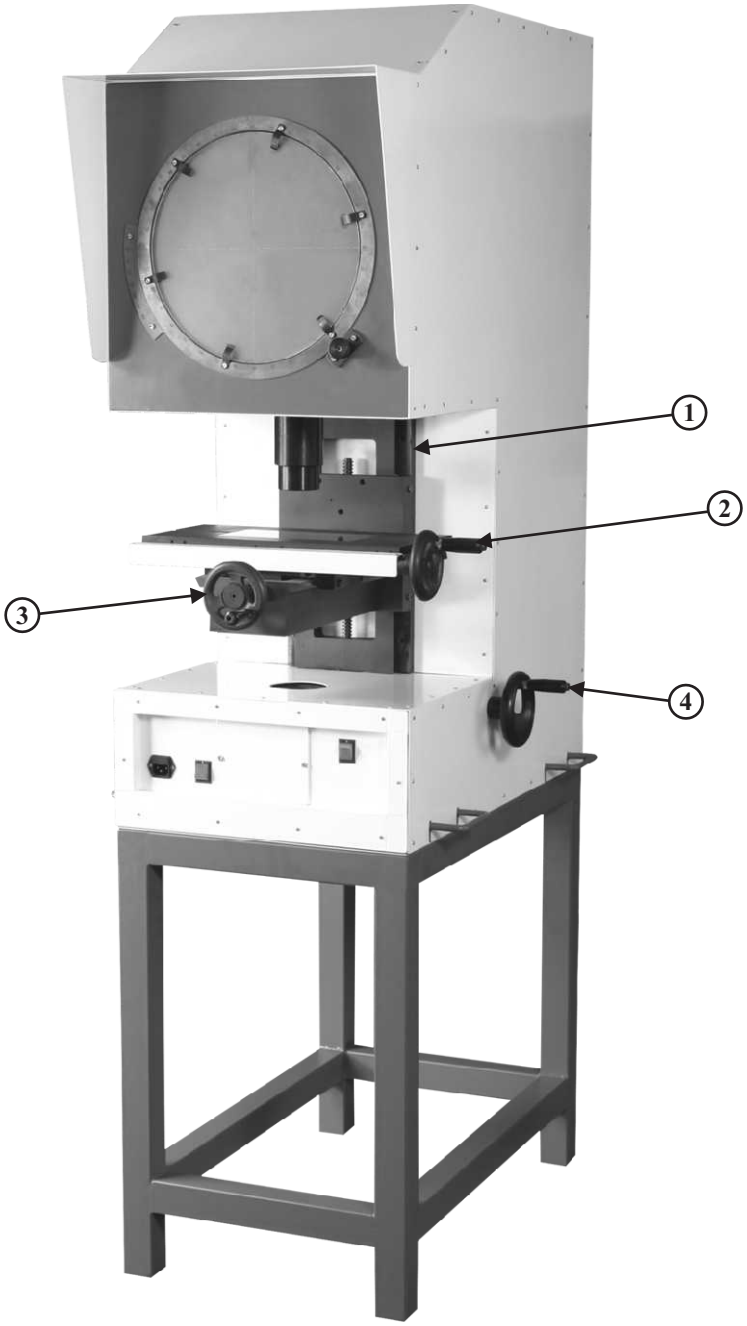
User Manual for

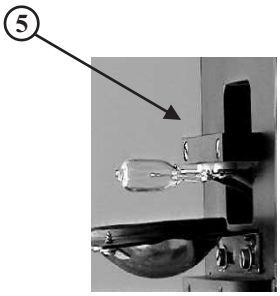
Profile Projector PRO300T[1]

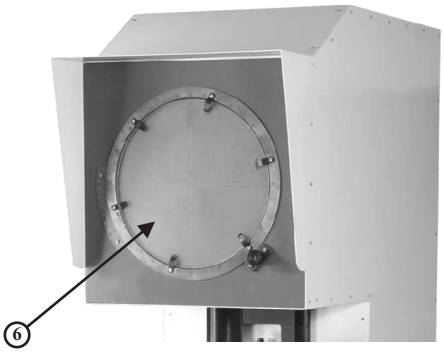
1 - This operating manual is applied for this specific model only, i.e. PRO300T

The delivered package contains following :

1. Profile projector PRO300T (table top / vertical model).
2. User manual for Profile Projector PRO300T.
3. DRO (Digital Readout) - Attached as an accessory, if ordered.
4. DRO user manual - comes along with DRO
5. Spare Projection Lamp (24V, 150W Halogen) - 1 no.
6. *Additional magnification lenses - if ordered







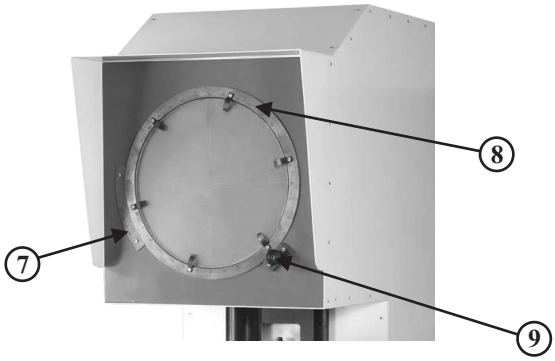
Operating Instructions :

Option 1 : Basic operations without using DRO (Digital readout) system.

Kindly note that, due to constant improvement in the design, actual product may look slightly different than shown in the pictures here. Also, though the above pictures may not resemble with the actual product, functions are same.

1. Unpack the instrument and place it on flat surface. Try to put the projector on maximum horizontal level.
2. Insert the power cable at the back of the projector. Insert the other end of the cable to wall plug (standard 3 pin, 230V AC, 5 Amp outlet plugs).
3. Switch on the projector by pressing red pilot indicator switch. When the pilot indicator glows, it ensures that the proper electrical supply is given to the equipment.
4. At the same time, the cooling fan under the lamp housing will start operating. Make sure that it is throwing "cool" air. You can find the exhaust at the bottom of the projector.
5. A standard X-Y-Z slide (1) is provided with the projector.
    a. Knob (2) moves the job along X-axis.
    b. Knob (3) moves the job along Y-axis.
    c. Knob (4) moves the job along Z-axis.
6. Switch on the main projection with toggle switch. This toggle switch is used for "profile (shadow)" and "surface" projection systems differently. Both systems can not be accessible at the same time. Turn the dimmer knob at the control panel gently to the right till the main projection lamp (5) turns on. This illumination shows shadow of the job on the screen.
7. Place the job on the platform (2). There is a rectangular shaped glass piece placed inside a slot of X-axis slide. You need to put your job on that glass itself. The light comes from the bottom and your job obstructs the light. This will produce a shadow on the upper screen (6).

8. If the shadow is not shown perfectly sharp, try to move the job or Z-axis knob (4). This is called as “focusing”. If this placement does not give the profile you want to observe or to get the shadow at the center of the screen, move the X and Z slides by rotating knobs (2) and (4) respectively.
9. Rotate the knob (3) back and forth until the sharp and clear image of the edge/s or profile/s are observed on the screen.
10. Sample is shown in the Fig. 1 on next page. Choose the method to measure linear dimensions. Linear measurements can be taken by vernier calipers or scale or by comparing the profile with the overlay charts[#].
    (# overlay charts are provided optional at extra cost)



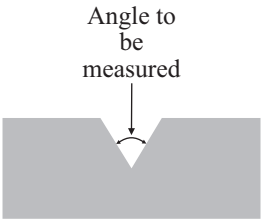


Fig. 1

Taking angular measurements :

Following section describes how to take angular measurements without DRO unit. Our standard system provides 1' least count vernier (7) for angular measurements.

The screen rotates in 360^0. It has degree markings (8) measuring 1^0 towards periphery. It also has cross-hair markings on the glass. The screen has a knob (9) at the bottom right corner. The knob is used to turn the entire screen glass.

Let's take an example to measure the angle at the bottom of "V" notch in degrees as shown in Fig. 1.

1. Make sure that the screen degree scale is set to 0 (zero). If it is not, then rotate the screen with the help of a knob (9).
2. Adjust the job such that the bottom of "V" is exactly at the center of the cross-hair. Also, make sure that one edge of "V" is aligned to either vertical or horizontal line on the screen. For this example we align the right edge of "V" notch to the vertical line on the screen and at the same time we align the bottom of "V" to the center of cross-hair (Fig. 2).
3. After setting the basic cross-hair, rotate the screen to the left until that same vertical line aligns exactly to the other edge of "V" (Fig. 3).

This vernier scale gives you least count of 1', so each line represents 1'. Carefully look which line in the vernier scale touches the main degree scale on the screen. In this example, we can say that line representing 34' is touching the main degree scale. Also, observe that we have completed 62^0.

Thus the compiled reading we get from this exercise is 62^0 34'. Therefore, the angle between two edges of "V" is 62^0 34'.

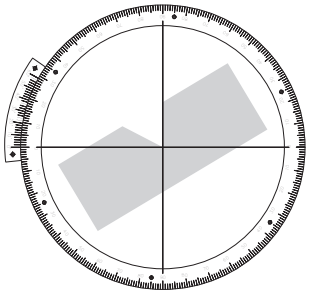


Fig. 2

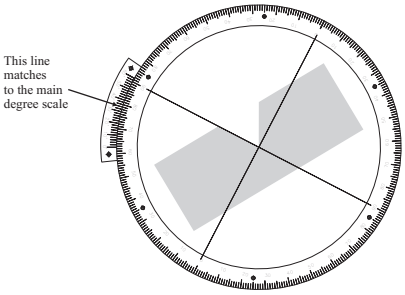
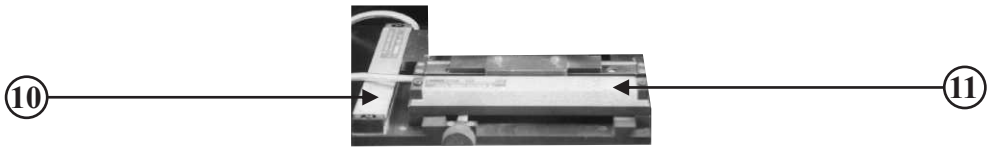


Fig. 3



Option 2 : These are the instructions for the Profile Projectors equipped with DRO system i.e. MakeII and MakeIII Projectors.

DRO unit is included as part of our MakeIII equipment. DRO unit comes with its own operating manual. Follow the instructions in that manual to get better results.

DRO unit has two basic components. One is linear scale and the other is DRO display. Linear scales are fixed to the X-Y slide of the Profile Projector and the DRO display is fixed below the projection screen.

Becuase of the continuous developments, the accessories provided vary in shape, sizes and designs. The above image is not a standard part of the equipment. It only shows how it looks when the DRO scales (10) and (11) are attached to the X-Y slide. Kindly note that this is an illustration only.

Maintainance :

1. Screen Glass : Clean the dirt / dust with soft cotton or tissue paper. Do not press hard while cleaning. Just blow the dirt and wipe the screen with soft cotton.

2. Try to place the Projector in a clean environment. Never keep the Projector near heavy machinery to avoid vibrations. A small accident may cause breaking of glassware.

3. The X-Y slide needs little lubrication just to make sure it moves fluently.

4. In case of any type of system failure or any critical situation, call us on 020-25291035. Opening the Projector system voids manufacturer's warranty.

List of consumables :

1. Main Projection Lamp : 24V, 150W halogen, 2 pin type
2. Episcopic Projection Lamps : 24V, 70W halogen, H3 PK 22s type fog lamp

Changing the Projection Lamp :

This projector uses standard 24V, 150W halogen pin type projection bulb (5) for illuminating optics. When the lamp blows out, replace it with new lamp with precaution. Pull out the blown lamp from the pins, but to replace it with a new one, do not touch the lamp with bare hands. Always use the plastic cover in which it is shipped. Cut the bottom portion of the plastic cover and pull the pins of the lamp out from the cover. Locate the pin position on the lamp holder and insert the lamp gently.

The illustrations below show how to change the projection lamp.