

Máy chiếu

Profile Projector

1. Name of product: **Profile Projector**
2. Model: V12B series
3. Brand: NIKON
4. Specification:



V-12BDC configured with PS 10x6B Stage

PROFILE PROJECTOR

V-12B Series

Desktop-type profile projectors with an effective 305mm screen diameter

Wide measurable range: cross travel 250×150mm.

Models with a built-in digital counter and/or protractor are available.

Four types selectable

	Built-in digital protractor	Built-in digital counter
V-12BDC	●	●
V-12BD	●	-
V-12BSC	*Fixed screen	●
V-12BS	*Fixed screen	-

D: Deluxe type. Comes with a built-in digital protractor.

S: Standard type. No digital protractor is included.

C: With built-in X-Y digital counter.

*The V-12BSC and V-12BS types have a fixed screen.

Therefore, angular measurement by rotating the screen is not possible.

Large stage mountable

The V-12B adapts a focusing mechanism that achieves focus by moving the objective head up and down, allowing stages with longer cross travel to be mounted. When the PS 10×6B Stage is used, the projector can measure areas as wide as 250×150mm.

Adjustable base feet

Because the base is 2mm away from the installation surface and the base feet are adjustable, the projector is less affected by irregularities in the installation surface and external vibrations.

Increased maximum workpiece height

Because the rigidity of the instrument is increased, thanks to CAE (Computer-Aided Engineering) design, workpieces as tall as 100mm can be loaded.

Built-in digital counter and protractor

The V-12BDC and V-12BSC types come with a digital XY counter, while the V-12BDC and V-12BD types have a built-in digital protractor for greater ease of use.

Erect images

Projection images are erect and unreversed for easy measurements, and their quality is as sharp as inverted images.

Switchable vertical/oblique illumination

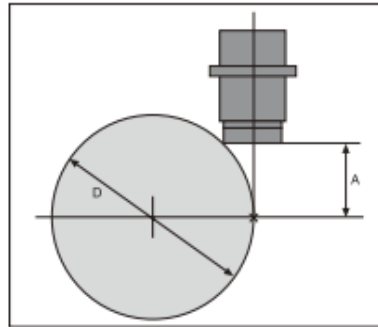
The built-in surface illuminator can be switched between vertical and oblique illumination, making detection of edges in resin parts and other workpieces much easier.

Four-step zooming condenser lens

When contour illumination is used, this condenser lens delivers the right amount of light to suit the magnification of the projection lens selected. (The DIA condenser must be used with this lens when the magnification is 200x)

PROJECTION LENSES

Three projection lenses can be mounted on the rotary turret at one time. All projection two emdashes boast high resolution and minimal distortion, while their working distances are longer than competitive lenses.



A=working distance
D=maximum diameter of a measurable cylindrical specimen

(mm)

Magnification	Diameter of field of view	Half mirror	A	D
5x	61	Built-in; fixed	60	127
10x	30	Built-in; switchable	74	215
20x	15	Built-in; switchable	74	244
25x	12	Built-in; switchable	62	178
50x	6	Built-in; switchable	61	173
100x	3	Built-in; switchable	49	123
200x	1.5	Built-in; switchable	24	49

*Part of the field of view is vignetted when the 5x projection lens is used under contour illumination.

EPI Condenser Lens

Under surface illumination, the EPI condenser lens is necessary when 200x projection lenses are used.

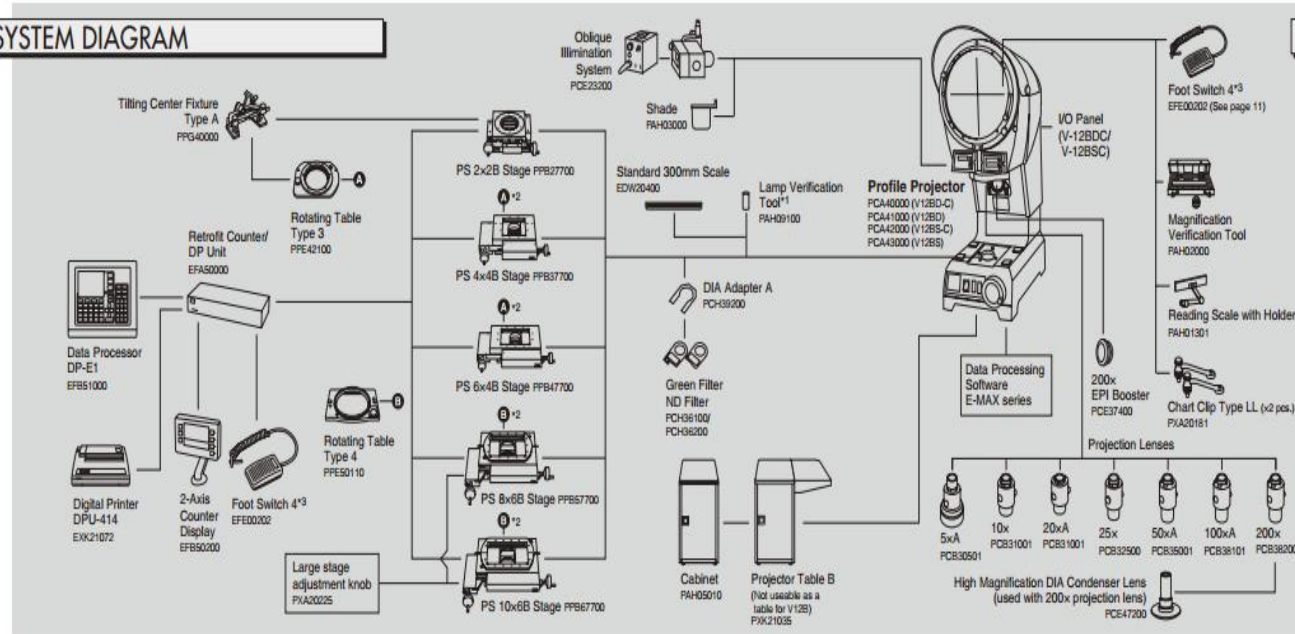


DIA Condenser Lens

Under contour illumination, the DIA condenser lens is necessary when 200x projection lenses are used.



SYSTEM DIAGRAM



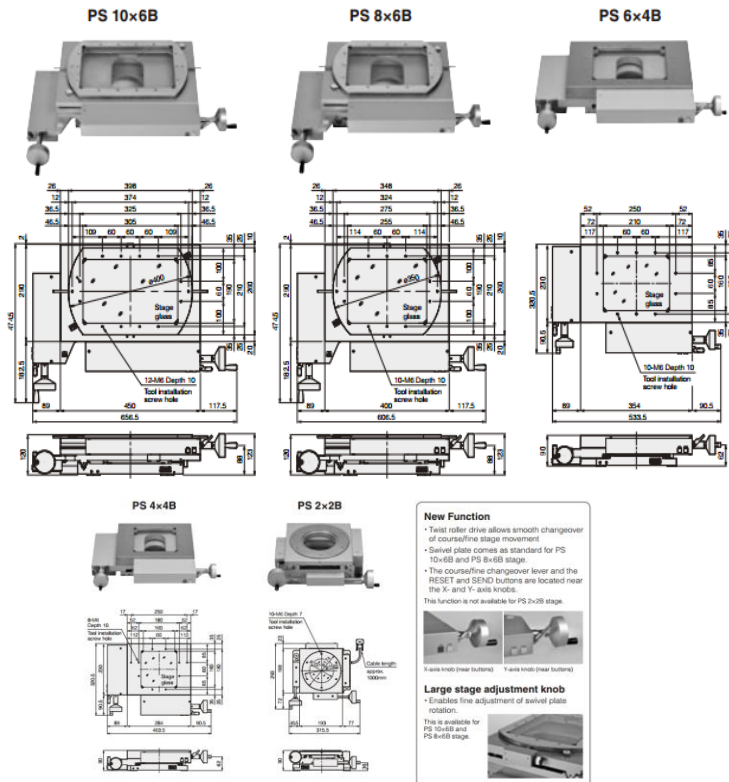
*1: Standard accessory *2: Letters above the stages represent accessories that can be mounted.
*3: *3: Please use the Foot Switch 2 (EFE00200) for Profile Projectors that have serial numbers starting with 1 or 2. To use the Foot Switch and [Reset/Send] buttons simultaneously, the "M" cable for simultaneous use (PXA20224) is required.

SPECIFICATIONS

Type	Vertical optical axis bench type
Image	Erect and unreversed
Screen	V-12BDC/V-12BD ø305mm; etched center crossline; provided with digital protractor fine rotation knob; 360 rotatable (with digital reading to 1 minute of arc) V-12BSC/V-12BS ø305mm fixed screen
Lens mount	3-lens turret mount; clamping type
Projection lens	5x, 10x, 20x, 25x, 50x, 100x, 200x
Magnification accuracy (except 200x)	0.1% for oblique surface/contour illumination 0.15% for vertical surface illumination
Light source	24V-150W halogen for both contour and surface illumination
Max. workpiece height	100mm (70mm: with PS 10x6B, PS 8x6B Stage)
Stage	PS 10x6B, PS 8x6B, PS 6x4B, PS 4x4B or PS 2x2B Stage directly mountable
Power input	AC 100/120V (50/60 Hz), AC 220/230/240V (50/60 Hz)
Dimensions(WxDxH)	410x650x938-1038mm
Weight	Approx. 80kg
XY counter	V-12BDC Built-in (1.0/0.5m selectable) V-12BD Not provided V-12BSC Built-in (1.0/0.5m selectable) V-12BS Not provided

ACCESSORIES

Stages (mm)



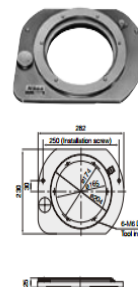
Stage Specifications

Type	Surface area (mm)	Stage glass dimensions(mm)	Stroke (mm)	Reading method	Min. reading (μm)	Rotation range	Tool installation screw hole	Loading capacity(g)	Weight (kg)
PS 10x6B	398x260	305x190	250x150	Linear encoder	0.1	±3° (swivel plate) - ±360°(rotation table)	12-M6 depth 10	20	51.5
PS 8x6B	348x260	255x190	200x150				10-M6 depth 10	48.5	
PS 6x4B	354x230	210x160	150x100				10-M6 depth 10	27.5	
PS 4x4B	284x230	160x160	100x100				8-M6 depth 10	23.5	
PS 2x2B	ø174	ø107	50x50				6-M6 depth 7	5	15.5

Rotating Tables (mm)

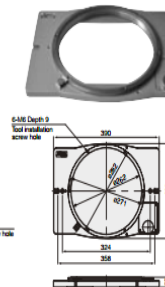
Rotating Table Type 3

For PS 6x4B, PS 4x4B



Rotating Table Type 4

For 9V, PS 10x6B, PS 8x6B



Rotating Table Specifications

	Table diameter (mm)	Glass insert diameter (mm)	Reading range	Tool installation	Weight (Approx. kg)
Rotating Table Type 3	204	165	360° (uncalibrated)	Screw hole 6-M6	5
Rotating Table Type 4	282	262	360° (uncalibrated)	Screw hole 6-M6	8

Standard 300mm Scale

Gauges stage travel accuracy up to 300mm. Both 10mm-interval sensor patterns and calibrations are provided. Made of low heat-expansion glass, for minimizing influence of heat. Accuracy: Within 1m against compensation values

Magnet-type V-Block Fixture

The dedicated V-block fixture is available for the stage type 9V. Contact Nikon for detail on system configuration.



Tilting Center Fixture

Used to tilt samples around the center axis. Type A2 is available for PS 2x2B with Rotating table type 3. Type B is available for 9V stage.



	Maximum sample size diameter x length (mm)	Center height (mm)	Tilt angle (°)	Weight (Approx. kg)
A2	ø68x120	45	10° (1°/min)	2.2
B	ø100x250	100	10° (1°/min)	6.0