CATALOG No. US4197-378

Mitutoyo

FS300

High Power Inspection Microscope

New Design Provides Improved Inspection

Mitutoyo FS300 Microscope

Redesigned for Improved Operation

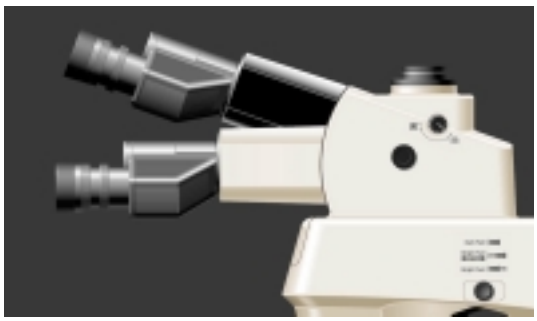
Employing Ergonomic Design to Reduce Fatigue

Controls designed for ease of use

The most frequently used functions, such as the focus handle, objective lens switch and light-volume adjuster, are positioned at the front of the microscope and within the reach of the operator's fingers, to allow him/her to perform various observations without adjusting his/her posture.
Transmitted illumination from another light source can also be controlled on the front panel.

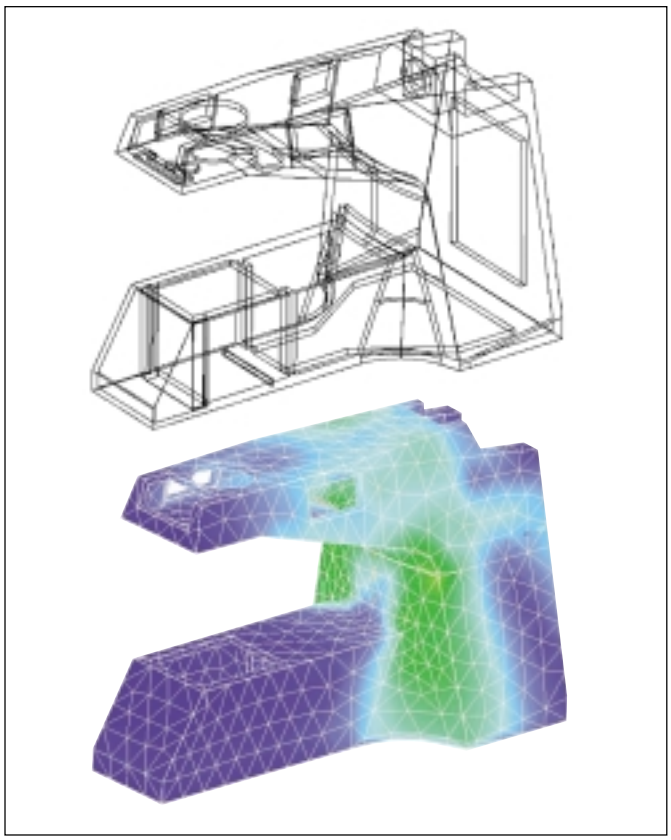
Improved eye level lens for fatigue free use

The eye-point of the objective lens is designed to be at the most ideal position to prevent eye fatigue in long-time observations. The models with the tilting head allow the operator to adjust the head to attain the eye-point position that best suit his/her work posture.



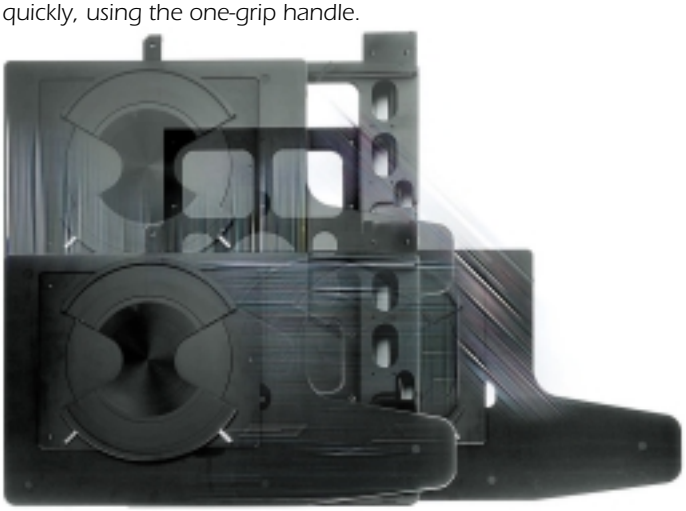
One-body frame with high-rigidity and high vibration-resistance for high-magnification observation

The design of the FS300 is based on the FEM and vibration analyses, creating a body with high-rigidity and high-vibration resistance. This greatly reduces image distortion and blurring, even in observations with high-magnifications.



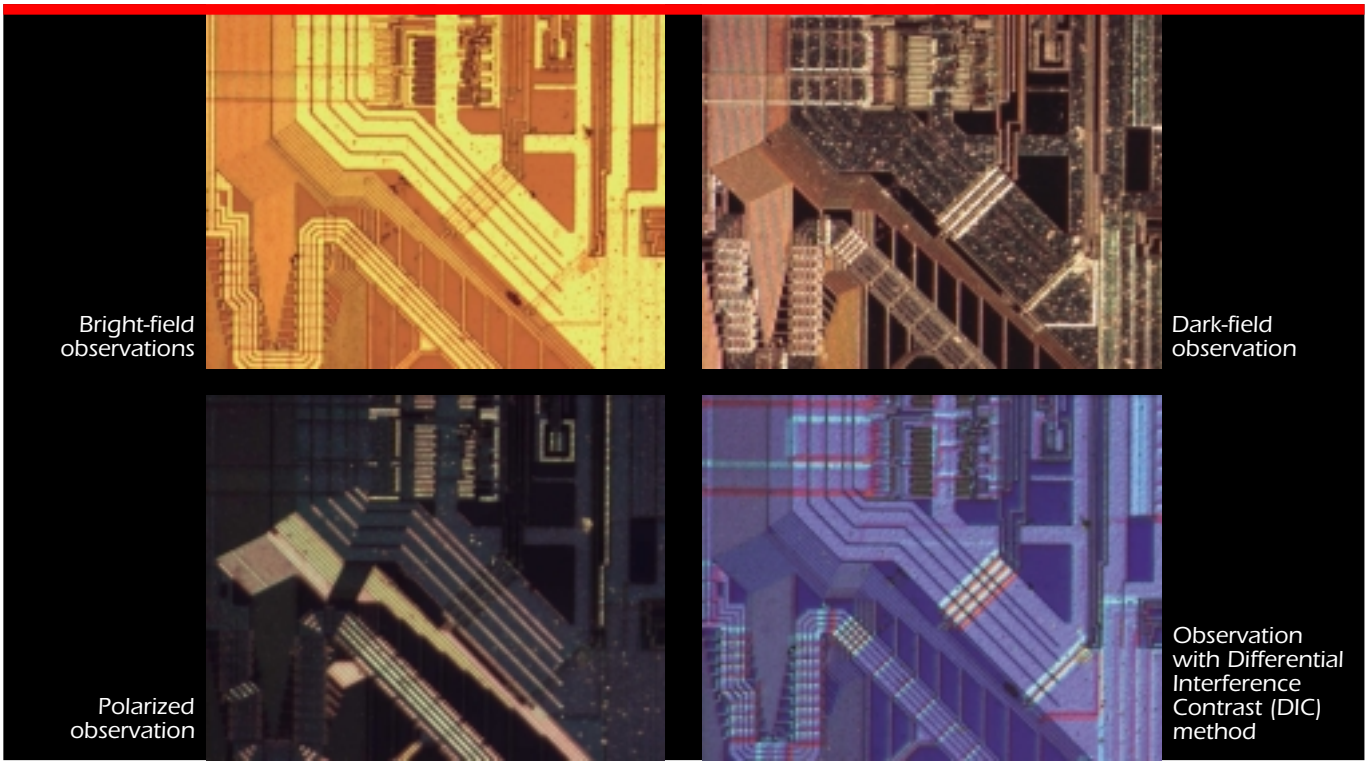
The newly developed 300mm (12″) cross-travel stage allows observation of an entire range of 300mm (12″) IC wafer

The newly developed 356mm x 306mm (14.01″x12.04″) stroke cross-travel stage allows inspection of the entire range of a 300mm (12″) IC wafer. A measuring target can be recognized quickly, using the one-grip handle.




Apo SL100
Mitutoyo

Wide Field of View Options

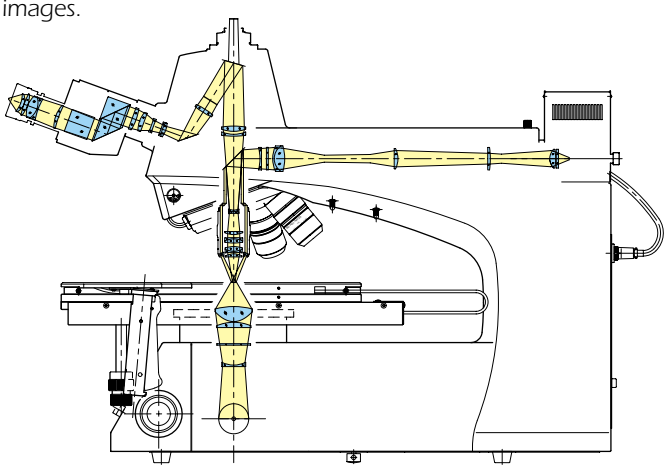


Super-wide field of view eyepiece

Being equipped with an eyepiece with field number 30, the highest in its class, allows observation of a wide view-field to greatly reduce eye fatigue.

Mitutoyo's unique optical system offers a clear image without flaring.

Mitutoyo's unique optical system has completely eliminated flaring and ghosting, which causes deterioration of contrast and image-formation, thus now achieving bright and clear images.



Equipped with the double-sliding mechanism for both bright-field and dark-field observations

One-touch operation of switching between the bright-field and the dark-field: the double-sliding knob composed of only one shaft allows the operator to switch between the bright- and dark-fields without taking an eye off the eyepiece. An eye-protecting filter is automatically inserted in the eyepiece, when the mode is switched from the dark-field observation to the bright-field observation.

Popular long working-distance objective lenses

Being equipped with the M Plan Apo series objective lenses (Plan Apochromat) takes advantage of high-operability as long working-distance objectives and high-resolution as high N.A. objective lenses.
M Plan Apo HR100x has a numerical aperture of 0.9 and a working distance of 1.3mm, the highest level of performance in its class.

System Diagram

Color filter

Order No.	Type
378-255	ND2
378-256	ND8
378-257	LB80
378-258	Green

Eyepiece

Order No.	Specifications
378-858	20X/Ø12, 2 pcs.
378-857	15X/Ø16, 2 pcs.

Eyepiece adapter
378-260

TV monitor system

Adapter B
378-042

C-mount
970441

DIC unit

Order No.	Applicable objective
378-076	100X, SL80X, SL50X
378-078	50X, SL20X
378-079	20X
378-080	10X, 5X

Polarizing unit
378-259

Set Configuration

Note:
To denote your AC line voltage fill the blank of Set No. with the following suffixes (e.g. 378-320A).
A for 120V, C for 110V, D for 220V, E for 240V.
No suffix is required for 100V

Ø30 field of view
Eyepiece (10X/Ø30, 2 pcs.)
378-851
Trinocular tube (Ø30)
378-240

Ø24 field of view
Eyepiece (10X/Ø24, 2 pcs.)
378-856
Tilting trinocular tube (Ø24)
378-241

Bright field observation, Reflected Illumination
Main unit (for bright field, reflected illumination)
378-330
Reflected illumination light source unit
378-248
Power revolver (for bright field)
378-250
Workstage, 300mm (12")
378-344

Bright field/dark field observation, Reflected Illumination
Main unit (for bright field, reflected illumination)
378-331
Reflected illumination light source unit
378-248
Power revolver (for bright field/dark field)
378-251
Workstage, 300mm (12")
378-344

Bright field observation, Reflected & Transmitted Illumination
Main unit (for bright field, reflected & transmitted illumination)
378-332
Reflected illumination light source unit
378-248
Power revolver (for bright field)
378-250
Workstage, 300mm (12")
378-344
Transmitted illumination light source unit
378-700

Bright field/dark field observation, Reflected & Transmitted Illumination
Main unit (for bright field/dark field, reflected & transmitted illumination)
378-333
Reflected illumination light source unit
378-248
Power revolver (for bright field/dark field)
378-251
Workstage, 300mm (12")
378-344
Transmitted illumination light source unit
378-700

Set No. 378-320□	Set No. 378-324□	Set No. 378-321□	Set No. 378-325□	Set No. 378-322□	Set No. 378-326□	Set No. 378-323□	Set No. 378-327□

Breath cover
378-260

Objectives (for bright field)

Order No.	Mag.	N.A.	W.D.
378-800	1X	0.025	11.0mm
378-801	2X	0.055	34.0mm
378-802-2	5X	0.14	34.0mm
378-803-2	10X	0.28	33.5mm
378-804-2	20X	0.42	20.0mm
378-810-2	20X	0.28	30.5mm
378-847*	20X	0.28	29.42mm**
378-805-2	50X	0.55	13.0mm
378-814	50X	0.75	5.2mm
378-811-2	50X	0.42	20.5mm
378-848*	50X	0.50	13.89mm**
378-812-2	80X	0.50	15.0mm
378-806-2	100X	0.70	6.0mm
378-815	100X	0.90	1.3mm
378-813	100X	0.55	13.0mm
378-816	200X	0.62	13.0mm

*with glass-thickness compensation
**Air conversion

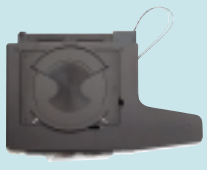
Objectives (for bright field /dark field)

Order No.	Mag.	N.A.	W.D.
378-831	2X	0.055	34.0mm
378-832	5X	0.14	34.0mm
378-833	10X	0.28	33.5mm
378-834	20X	0.42	20.0mm
378-840	20X	0.28	30.5mm
378-835	50X	0.55	13.0mm
378-845	50X	0.75	5.2mm
378-841	50X	0.42	20.5mm
378-842	80X	0.50	15.0mm
378-836	100X	0.70	6.0mm
378-846	100X	0.90	1.3mm
378-843	100X	0.55	13.0mm

Stage accessory

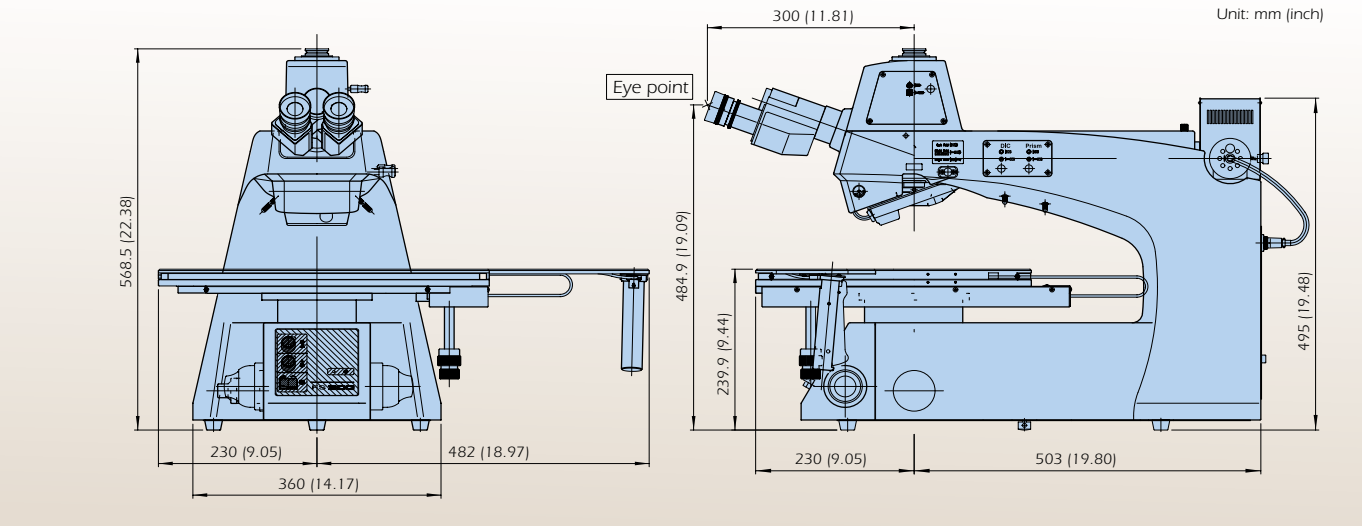
Stage glass, 350 x 280mm (13.78" x 11.02")
378-363

Mask holder, 8" - 12"
378-362



Optional Accessories

Dimensions



SPECIFICATIONS

Main unit	Observation system	Bright field (BF): **378-320**, **378-322**, **378-324**, **378-326** Bright/dark field (BF/DF): **378-321**, **378-323**, **378-325**, **378-327**
	Reflected illumination	Koehler illumination With aperture diaphragm (centering mechanism) and field stop 12V/100W halogen lamp (non-stepped brightness adjustment) With filter mounting slot (2-slot) With BF/DF switching slide (**378-321**, **378-323**, **378-325**, **378-327** only)
	Transmitted illumination	12V/100W fiber illumination (non-stepped brightness adjustment) With aperture diaphragm (**378-321**, **378-323**, **378-325**, **378-327** only)
	Focus adjustment	With concentric coarse and fine focusing wheels (right and left) Fine adjustment: 0.1mm/rev. for 32mm (1.25") travel range Coarse adjustment: 3.8mm/rev. for 32mm (1.25") travel range
Power revolver		Inward type with 4 lens mounts
Workstage		Travel stroke: 356 x 306mm (14.01"x12.04") With X-/Y-axis fine feed knobs and coarse travel handle
Optical tube	Type	Trinocular tube (erect image)
	Field number	30: **378-320**, **378-321**, **378-322**, **378-323** 24: **378-324**, **378-325**, **378-326**, **378-327**
	Depression angle	Fixed 20°: **378-320**, **378-321**, **378-322**, **378-323** Adjustable 0° to 20°: **378-324**, **378-325**, **378-326**, **378-327**
	Intermediate image mag.	1X
	Optical pass ratio	Switchable (eyepiece/CCD camera=100/0 or 0/100)
	Pupil distance	Siedentopf type, adjustment range: 51 - 76mm
Eyepiece	Field of view	10X/Ø30: **378-320**, **378-321**, **378-322**, **378-323** 10X/Ø24: **378-324**, **378-325**, **378-326**, **378-327**
Applicable objective (optional)		M Plan Apo, M Plan Apo SL, G Plan Apo: **378-320**, **378-322**, **378-324**, **378-326** BD Plan Apo, BD Plan Apo SL: **378-321**, **378-323**, **378-325**, **378-327**
Dimensions	Main unit	360 x 803 x 568.5mm (14.17" x 31.61" x 22.38")
	Workstage	712 x 456.5mm (28.03" x 17.97")
Power supply		100 to 240VAC, 50/60Hz
Power consumption		Approx. 150W: **378-320**, **378-321**, **378-324**, **378-325** Approx. 300W: **378-322**, **378-323**, **378-326**, **378-327**
Mass		Approx. 50kg (110lbs.) including workstage

Specifications are subject to change without notice.

Mitutoyo

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Printed in Japan
57.000005 (4) CMI