



operation
microscopes
series 191

operation microscopes series 191

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Operation microscopes present binocular head (straight or inclined depending on model) and 3 magnification positions and they are provided with a wide field of view of the surgery area.



model 191/120

model 191/101



- Reference: HBK001
- Head: straight
- Coobservation tube: no
- Video adapter: no

model 191/102



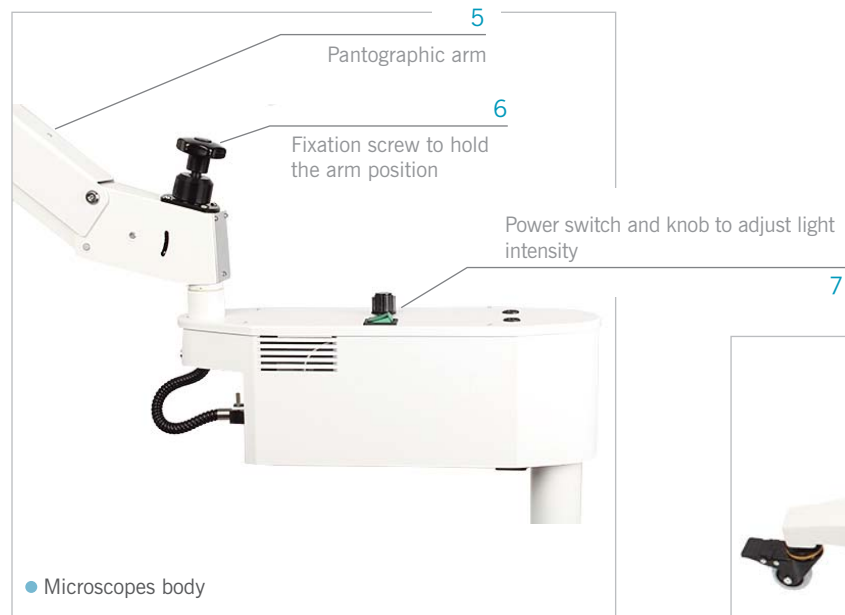
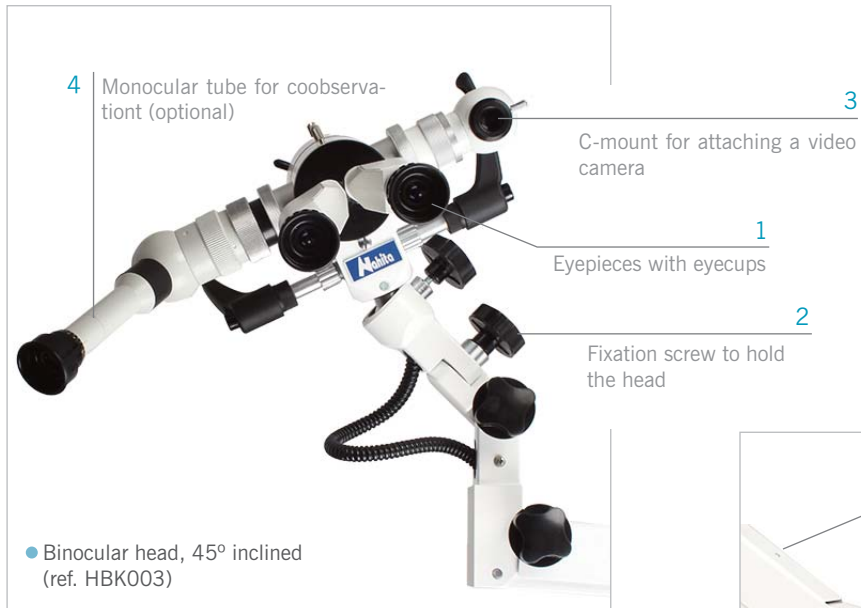
- Reference: HBK002
- Head : 45° inclined
- Coobservation tube: no
- Video adapter: no

model 191/120



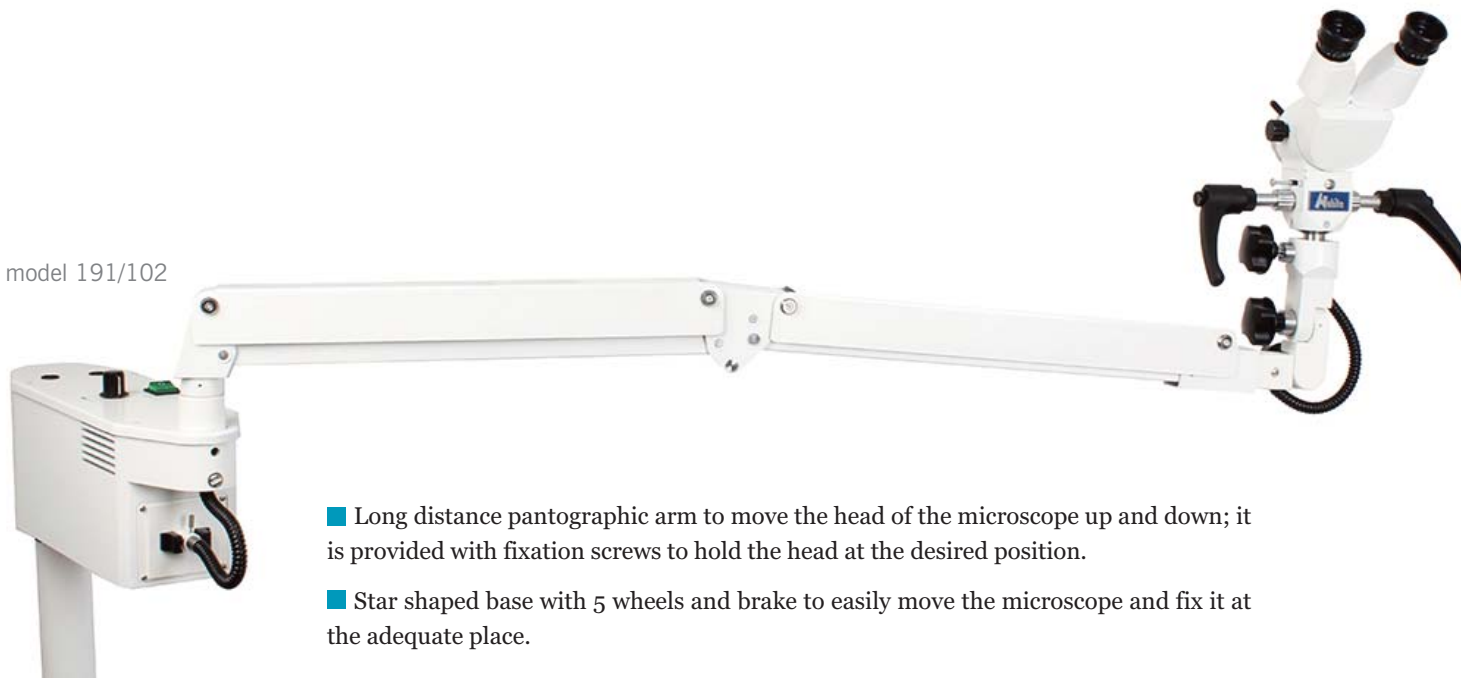
- Reference: HBK003
- Head : straight
- Coobservation tube: optional
- Video adapter: C-mount

operation microscopes s/191: equipment parts



operation microscopes s/191: estructure

model 191/102



- Long distance pantographic arm to move the head of the microscope up and down; it is provided with fixation screws to hold the head at the desired position.
- Star shaped base with 5 wheels and brake to easily move the microscope and fix it at the adequate place.

Provided with fixation screws to hold the head at the desired position.



With 5 wheels and brake to easily fix it at the adequate place.



operation microscopes s/191: optic system

- Straight or 45° inclined binocular head (depending on model) with interpupillary distance adjustment and dioptré correction.
- Wide field eyepieces supplied with eyecups to reduce the interferences caused by the external light.
- The head is provided with 3 magnification positions easily interchangeable by turning the corresponding knob; see chart of magnification and field of view for more information.
- Model 191/120 is supplied with C-mount for attaching a video camera and thus allowing visualization through a computer or monitor.

Binocular heads with interpupillary distance adjustment and dioptré correction



Eyepieces supplied with eyecups to reduce the interferences caused by the external light



Head with 3 magnification positions easily interchangeable



Star shaped base with 5 wheels and brake



Cold light source with illumination intensity adjustment system



operation microscopes s/191: illumination

- Cold light source by 21V/150W halogen lamp; with illumination intensity adjustment system.
- Fibre optics coaxial illumination system that allows a uniform and shadow-free illumination on the surgery area.

operation microscopes s/191:
**chart of magnification
 and field of view**

Nominal value												
Objective	F=200 mm			F=250 mm*			F=300 mm			F=400 mm*		
Magnification changer position	1.6x	1x	0.6x	1.6x	1x	0.6x	1.6x	1x	0.6x	1.6x	1x	0.6x
Total magnification	12x	7.5x	4.7x	9.6x	6x	3.7x	8x	5x	3x	6x	3.8x	2.3x
Field of view (mm)	15.8	25.3	40.6	19.7	31.6	50.7	23.6	37.9	60.8	31.5	50.5	81
Exit pupil diameter (mm)	1.04	1.66	1.04	1.66	1.04	1.66	1.04	1.66				
Exit pupil distance (mm)	15.3			15.3			15.3			15.3		
Resolution (LP/mm)	67	44.5	29.7	60	35.4	27	47.2	31.5	23.6	35	27	19.8

*Optional.

operation microscopes s/191: technical specifications

Reference	HBK001	HBK002	HBK003
Models	191/101	191/102	191/120
Head	Straight	45° inclined	Straight
Magnification of observation	6x		
Magnification changer	3 positions: 0.6x, 1x, 1.6x		
Focal length	2 objectives: F=200 mm y F=300 mm Connecting screw: M45x0.75		
Total magnification	3x-12x		
Diopter adjustment	+/-5D		
Interpupillary distance	52-78 mm		
Beamsplitter	No	No	50:50
Coobservation tube	No	No	Optional
Video adapter	No	No	C-mount
Fine focusing range	10 mm		
Filter	Built-in green and yellow filters		
Illumination system	Coaxial illumination with cold light source and fiber optic cable		
Lamp	Halogen 21V, 150 W; adjustable brightness		
Fiber-optic cable	1600 mm	1600 mm	1700 mm
Power	Voltage: AC 110/220 V; Frequency: 50/60 Hz		
Output power	<200W		

model 191/101



operation microscopes s/191: accessories*

Reference	Description
[1] HBP026	Objective F250 mm
[2] HBP027	Objective F400 mm
[3] HBR024	Monocular coobservation tube for model 191/120
[4] HBR022	Wall mount
[5] HBR023	Table mount

[1]



[2]



[3]



[4]



[5]



*Not included.