ALPHA AIR SLIM SERIES 6

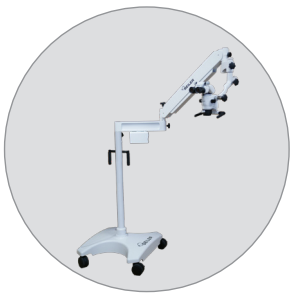
DENTAL OPERATING MICROSCOPE

USER'S MANUAL

Including installation instructions for all mounting options











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This device is restricted to the sale and the use by authorized and trained personnel.

SEILER
MEDICAL DIVISION

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INTRODUCTION

To Our Valued Professionals,

On behalf of the Seiler Medical Division, I would like to thank you for your recent purchase. We stand by our products and are thrilled that when choosing one of the most important aspects of your practice, you chose us.

We are proud to say that, as a company, we have over 70 years' experience in the optical field. We have the expertise to provide you with modern, reliable devices that incorporate some of the most advanced optical design tools on the market. This product's intent is to amplify an image while providing the user with an exceptional level of comfort, improved visual acuity, and provide flawless maneuverability for any office or hospital.

All of our products are manufactured according to strict medical and ISO standards. We also ensure all optical components have undergone an anti-reflective, multi-layer treatment; guaranteeing the efficiency of the system and enhancing the longevity of all of our products. Along with strict manufacturing standards and rigorous testing, we also stand behind all of our products by offering a lifetime warranty on all optics and mechanics for microscopes purchased in the United States, as well as a 3-year warranty on all international purchases.

Every Seiler Medical Division team member is here to provide you with outstanding service, quality, and knowledge. Our number one priority is, and always will be, providing 100% customer satisfaction to every one of our customers. If you need any further information about the equipment or just have a question, please contact us using the information below.

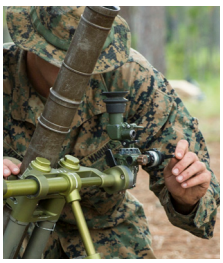
Thank you again for your purchase and we look forward to serving all of your optical needs for years to come.

Sincerely,

Dane Carlson
Medical Division Manager

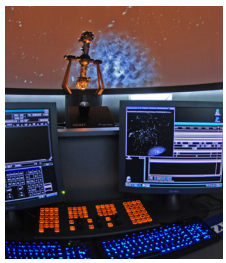
Seiler Medical Division
Toll Free: (800) 489-2282
Local: (314) 968-2282
Email: micro@seilerinst.com
Web: www.seilerinst.com

THE DIVISIONS OF SEILER INSTRUMENT


Manufacturing


Geospatial


Medical


Planetarium



Design Solutions

INTENDED USE

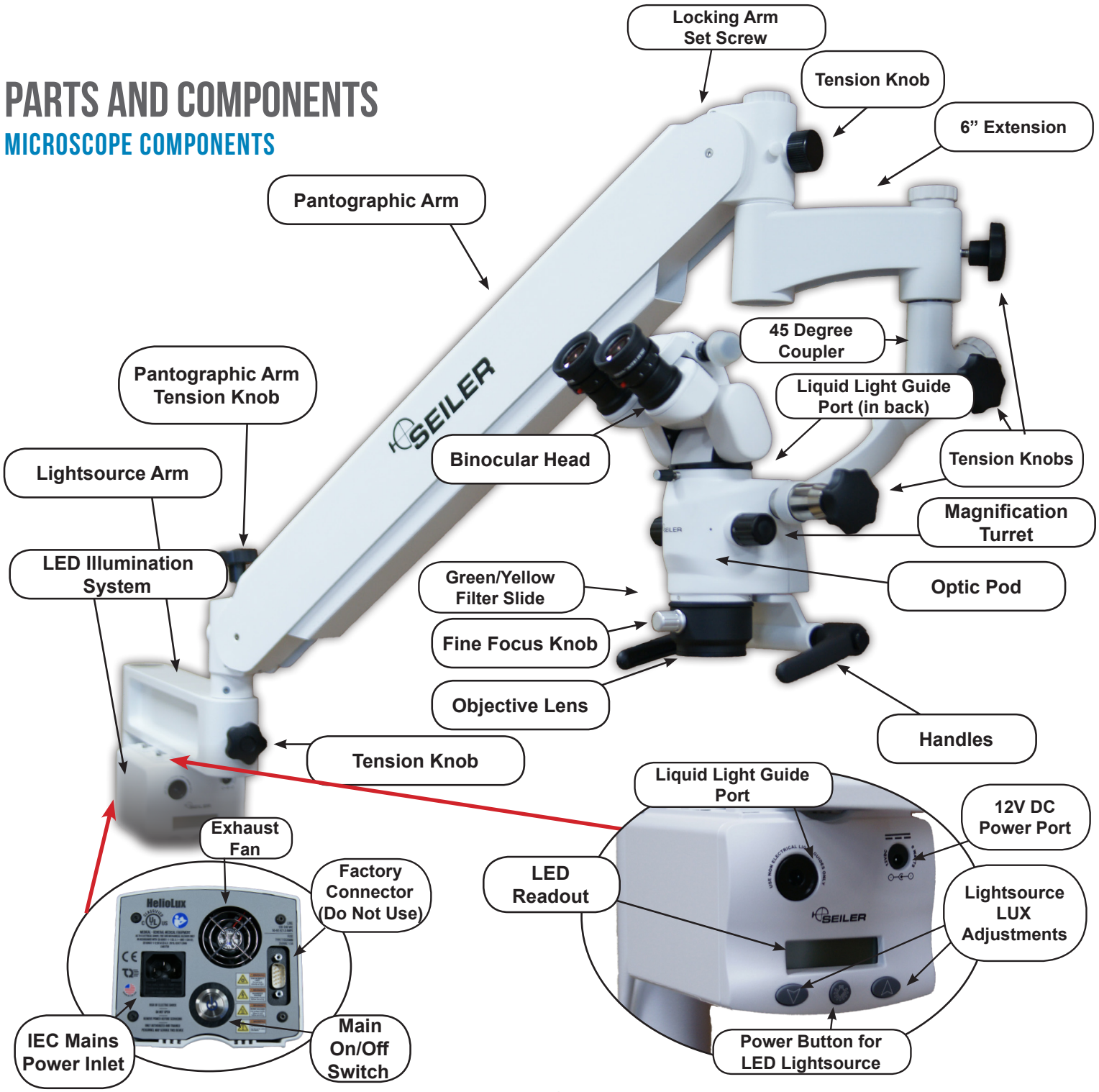
An operating or surgical microscope is an optical instrument that provides the surgeon with a stereoscopic, high quality magnified and illuminated image of the small structures in the surgical area.

Seiler Instrument & Mfg. Co, Inc.
3433 Tree Court Industrial Blvd.
St. Louis, Missouri 63122
USA
Toll Free: (800) 489-2282
Local: (314) 968-2282
Email: micro@seilerinst.com
www.seilerinst.com

EC REP
Atlantico Systems Ltd.
34 Oldfield
Kingston, Galway
Ireland
www.atlanticosystems.com
Phone: +35391443609

PARTS AND COMPONENTS

MICROSCOPE COMPONENTS



ASSEMBLING THE EQUIPMENT

UNPACKING

Carefully unpack all components. If necessary, the unit can be cleaned with isopropyl alcohol and a soft cloth. Inspect all components for any signs of damage that may have occurred during shipping.

If shipping damage is suspected, notify Seiler or your authorized dealer immediately.

Please check whether the box contains the items set out below:

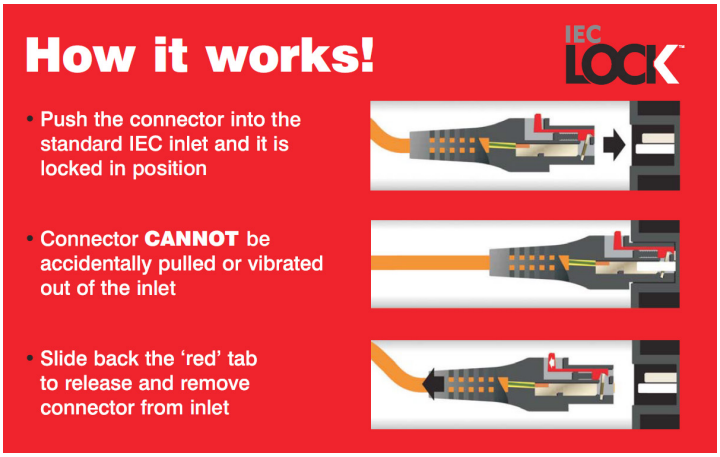
- This User Guide
- Mounting Option (Floor, ceiling, wall, high wall, or tabletop)
- LED Illumination System
- Pantographic Arm
- Optic Pod
- Binocular Head
- Additional Accessories Purchased with Microscope

The control box, the illumination box and the pantographic arm must be handled carefully, because the external surfaces of these modules can be easily damaged. A sharp impact on these surfaces may result in scratches or other damages. The optical module is the most delicate part. Take care during use, transportation or handling.

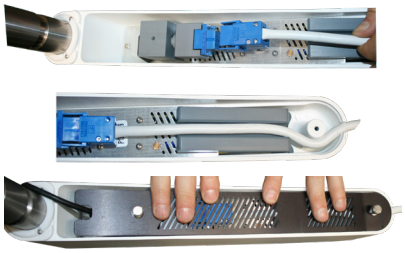
The optical module is assembled in a sealed block. Maintenance activities shall only be performed by the service department at Seiler.

PANTOGRAPHIC ARM AND OPTIC POD INSTALLATION

1. Reference page 9-14 for proper mounting instructions.
2. Insert the pantographic arm into the light source arm.
3. Place the Power cable through the bottom cover and reattached protective plate.
4. Insert the 45 degree coupler into the underside of the pantographic arm. Be sure to unscrew and loosen the black knob and pull the silver plunger out in order to insert the coupler. Finally screw down the white locking nut.
5. Secure the Binocular Head onto the Optical Pod by tightening the thumb screw.







PANTOGRAPHIC ARM BALANCING

Pantographic Arm may need tension adjustment. Turn knob counter-clockwise to add tension, clockwise to release tension on pantographic arm. This may need to be done if camera/video are added to the scope. This will increase or decrease the tension to desired function for user. The Pantographic Arm may have to be in the horizontal position to make adjustments.

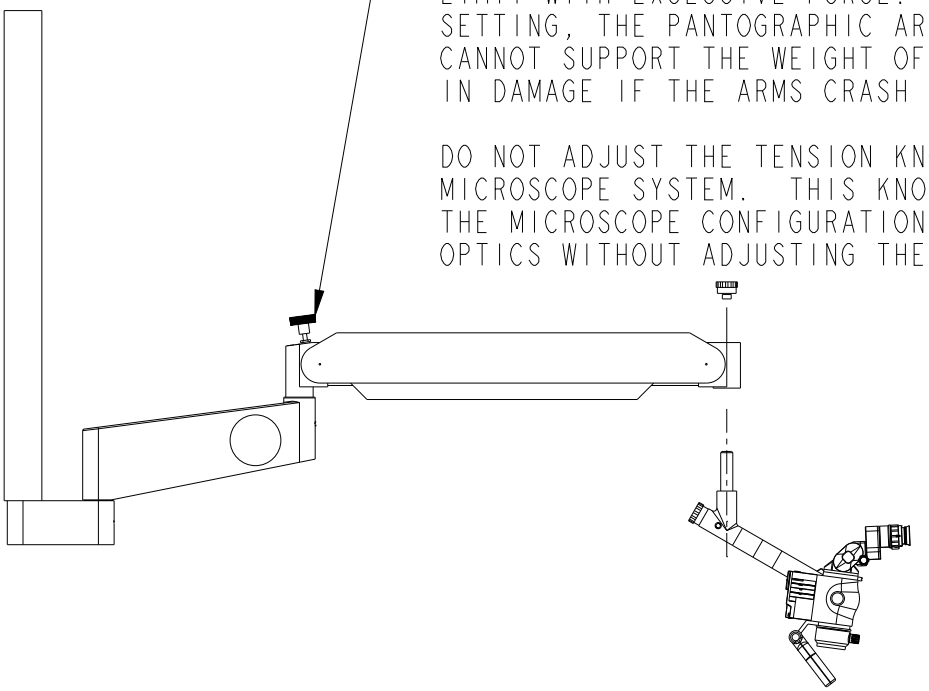


SEILER

WARNING:

DO NOT ADJUST THE TENSION KNOB TO THE LOWEST SETTING. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN BODILY INJURY OR DAMAGE TO EQUIPMENT. THE ARM CASTING MAY BE DAMAGED RESULTING IN INJURY WHEN THE ARM MOVES DOWN TO ITS LOWER LIMIT WITH EXCESSIVE FORCE. WHILE SET TO THE LOWEST TENSION SETTING, THE PANTOGRAPHIC ARM IS NOT FUNCTIONAL AND IT CANNOT SUPPORT THE WEIGHT OF THE OPTICS WHICH COULD RESULT IN DAMAGE IF THE ARMS CRASH TO THE LOWER LIMIT.

DO NOT ADJUST THE TENSION KNOB WHEN INSTALLING A NEW MICROSCOPE SYSTEM. THIS KNOB IS FACTORY PRESET TO MATCH THE MICROSCOPE CONFIGURATION OF THE ORDER. INSTALL THE OPTICS WITHOUT ADJUSTING THE TENSION KNOB.



USING THE MICROSCOPE

SWITCHING ON THE UNIT

To operate the LED light source: turn on the main power by pressing the power button on the LED lightsource. Then turn on light by pushing in the center Power Button for the LED lightsource located on the front of the LED illumination system. Adjust the illumination using the two momentary buttons. There is one button for decreasing intensity, one for increasing intensity, and the center button for placing the light into a standby mode when the microscope will be idle for 30 minutes or longer. If you intend to leave the microscope idle for more than 30 minutes turn off the main power by depressing the power button on the LED lightsource. To change intensity press and release either the up or down buttons (do not press both at once) and the light level will increase or decrease approximately 10 percent depending on which button was depressed. If you require fine tuning of the light level press and hold either button and it will slowly scroll through 10 different illumination settings - this can be much slower than press and release. Do not press more than 1 of the 3 buttons at a time." It is important that you turn the main power OFF when the unit will be idle for long periods of time (such as nights and weekends) to avoid unnecessary wear on the electronics.

ADJUSTING THE MICROSCOPE

INTERPUPILLARY DISTANCE

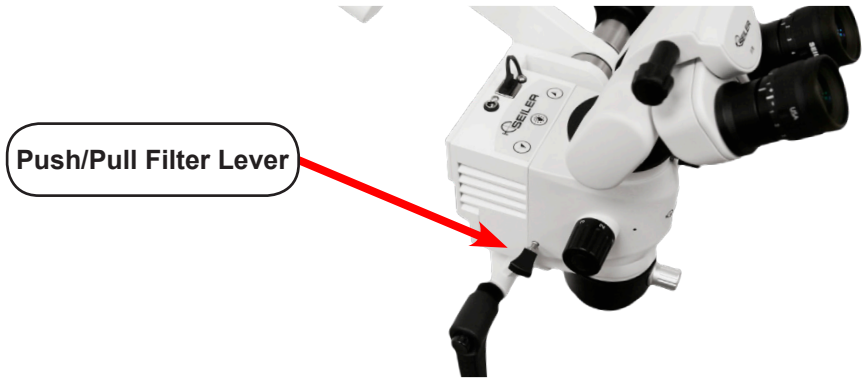
Looking through the eyepieces on the binocular head, adjust the Interpupillary distance until the end user is the Field of View in one single image.

PARFOCALIZING

1. Set both eyepieces at 0.
2. Take a piece of paper and draw an "X" on it. Place that piece of paper onto a flat stationary area at the recommended focal length (10" with 250mm, 12" with 300mm objective). Adjust the eyepiece until you get a single solid image.
3. Set the microscope to the highest power and position the microscope to where the "X" is as sharp as possible.
4. Then go to the lowest power without moving the microscope's physical position and one eye at a time focus the eyepieces.
5. Look through the scope and focus on the "X" and change the magnification levels to make sure each setting stays in focus. If the microscope goes out of focus start the process over again.
6. Once the image is clear in both eyes, this completes the Parfocalizing Process

COLOR FILTER

There is a lever installed on the side of the microscope body to put in front of the lamp luminous flux and Yellow and Green filter.



MAINTENANCE AND HYGIENE

CLEANING

The objective, placed in front of the field under clinical or surgical treatment, is exposed to blood and topical medicine spots, etc. The spots dim the passage of the light, with loss of brightness in the optical observation.

Keep dust from accumulating on the vent on the head by blowing the vents with compressed air.

Alcohol or ether applied with a clean cotton swab can be used to remove all smudges. Use a soft CIRCULAR movement. Use your laboratory's prescribe procedures to remove blood stains or other contaminants from your equipment.

If the objective is blotched too much, change the cotton swab in each circular friction, avoiding spreading again the impurities.

The Objective lens can be protected by use of an objective protector (6132000). It is placed under pressure in the external margin of the objective lens and protects it against eventual blows of the surgical tools and against contamination.

The metallic parts (chrome-plated or painted) are cleaned with cotton, alcohol and ether.

CLEANING THE REST OF THE MICROSCOPE

Exterior surface cleaning with window cleaner.

Do not attempt to clean any internal components. Keep dust from accumulating on the vents on the head - best is to blow it clean with compressed air or carefully removing the dust with q-tips, as long you don't go too far inside the unit.

TROUBLESHOOTING

The power indicator is not lit.	• Check that the AC power cord is properly connected. • Check the unit fuses. If necessary, replace.
Press the blue power button, if the LED will not illuminate.	• Press center power button on optic pod.
Temperature high or exceeded	• Ambient air temp is too high, improve air. • Air vents are blocked or restricted.

REPLACING THE FUSES

: Replace fuses with 250VAC 1.5A rated fuses, type GMA 5mm X 20mm long.

Replace the fuses as follows:

1. Disconnect the device from the main power supply.
2. Retract fuse holder drawer on mains jack.
3. Measure resistance of each fuse, and replace as necessary.
4. Close fuse holder drawer
5. Re-attach mains power cable.
6. Call Parts and Service for additional assistance.

General Details		
Working Distance Minimum Possible	175 mm	6.89 in
Working Distance Maximum Possible	400 mm	15.75 in
Microfocus Vertical Adjustment Range	13 mm	
***Microscope Weight (Floor Model)**	73.48 kg	162 lbs
Packaging	3 boxes	

Optical Details		
	Standard Setup	**Optional Setup**
Objective Lens	f=250mm	175-400mm
Eyepieces	10x	12.5x, 16x, 20x
Diopter Setting	-6 to +6	NA
Field of Vision	10 - 66 mm	*5 - 133 mm
Magnification Levels	2.8x, 4.1x, 5.3x, 8.7x, 11x, 17x	**Max low: 1.3x Max high: 48.5x

*Depends on eyepieces and Objective lens

**Max low refers to the lowest power able to be achieved by combination of eyepiece and objective lens magnification. Max High is the maximum power able to be achieved through combination of eyepiece and objective lens magnification.

Electrical Details	
Power Supply	Mains Power 96-264 VAC 47-63 Hz
Auxillary Power Jack	12 VDC .5 A maximum
Fuses	(2) 1.5A 250VAC, type GMA 5mm X 20mm Fast Blow 5x20mm
USB Jack	5.0 VDC .5 AMP
Power Cable	IEC 320/C13 Hospital Grade

LED Illumination Details	
Photometric Specifications and Performance	
Light Source Type	LED (Light Emitting Diode)
Color Temperature	Depends on customer configuration
LED Life	>30,000 Hours
Typical Illuminance	120,000-150,000 LUX
Controls	
Brightness Control	Digital - 1024 Resolution
Mode of Operation	Run/Standby
Input Voltage	100-240
Regulatory Approvals	
Equipment Class	Class I, Type B
EMC	CISPR 11, Group 1 Class B
EMC	IEC 61000-4-3
Product Safety	IEC 60601-1:2005
Photobiological Safety	IEC 62471 2006
Operating Environment	
Water Resistance	IPXO
Temperature	32°- 104°F (0°- 40°C)
Relative Humidity	30 - 75% non-condensing
Air Pressure	700 HPA to 1060 HPA
Flammability	Equipment not suitable for use in presence of flammable mixtures
Storage Environment	
Temperature	32°- 122°F (0°- 50°C)
Relative Humidity	30 - 75% non-condensing
Air Pressure	700 HPA to 1060 HPA

MAGNIFICATION CHART

		OBJECTIVE LENS																			
		175				200				250				300				400			
	position of	magnification		field		magnification		field		magnification		field		magnification		field		magnification		field	
eyepiece	button	f 135	f170	f 135	f170	f 135	f170	f 135	f170	f 135	f170	f 135	f170	f 135	f170	f 135	f170	f 135	f170	f 135	f170
	1 (0.4x)	3.09	3.89	58.33	46.32	2.70	3.40	66.67	52.94	2.16	2.72	83.33	66.18	1.80	2.27	100.00	79.41	1.35	1.70	133.33	105.88
	2 (0.6x)	4.63	5.83	38.89	30.88	4.05	5.10	44.44	35.29	3.24	4.08	55.56	44.12	2.70	3.40	66.67	52.94	2.03	2.55	88.89	70.59
	3 (0.78x)	6.02	7.58	29.91	23.76	5.27	6.63	34.19	27.15	4.21	5.30	42.74	33.94	3.51	4.42	51.28	40.72	2.63	3.32	68.38	54.30
	4 (1.28x)	9.89	12.45	18.20	14.45	8.65	10.90	20.80	16.52	6.92	8.72	26.00	20.65	5.77	7.26	31.20	24.78	4.33	5.45	41.60	33.04
	5 (1.6x)	12.86	16.19	14.00	11.12	11.25	14.17	16.00	12.71	9.00	11.33	20.00	15.88	7.50	9.44	24.00	19.06	5.63	7.08	32.00	25.41
10x/18mm	6 (2.5x)	19.29	24.29	9.33	7.41	16.88	21.25	10.67	8.47	13.50	17.00	13.33	10.59	11.25	14.17	16.00	12.71	8.44	10.63	21.33	16.94
	1 (0.4x)	3.86	4.86	58.33	46.32	3.38	4.25	66.67	52.94	2.70	3.40	83.33	66.18	2.25	2.83	100.00	79.41	1.69	2.13	133.33	105.88
	2 (0.6x)	5.79	7.29	38.89	30.88	5.06	6.38	44.44	35.29	4.05	5.10	55.56	44.12	3.38	4.25	66.67	52.94	2.53	3.19	88.89	70.59
	3 (0.78x)	7.52	9.47	29.91	23.76	6.58	8.29	34.19	27.15	5.27	6.63	42.74	33.94	4.39	5.53	51.28	40.72	3.29	4.14	68.38	54.30
	4 (1.28x)	12.36	15.57	18.20	14.45	10.82	13.62	20.80	16.52	8.65	10.90	26.00	20.65	7.21	9.08	31.20	24.78	5.41	6.81	41.60	33.04
	5 (1.6x)	16.07	20.24	14.00	11.12	14.06	17.71	16.00	12.71	11.25	14.17	20.00	15.88	9.38	11.81	24.00	19.06	7.03	8.85	32.00	25.41
12.5x/18mm	6 (2.5x)	24.11	30.36	9.33	7.41	21.09	26.56	10.67	8.47	16.88	21.25	13.33	10.59	14.06	17.71	16.00	12.71	10.55	13.28	21.33	16.94
	1 (0.4x)	4.94	6.22	51.85	41.18	4.32	5.44	59.26	47.06	3.46	4.35	74.07	58.82	2.88	3.63	88.89	70.59	2.16	2.72	118.52	94.12
	2 (0.6x)	7.41	9.33	34.57	27.45	6.48	8.16	39.51	31.37	5.18	6.53	49.38	39.22	4.32	5.44	59.26	47.06	3.24	4.08	79.01	62.75
	3 (0.78x)	9.63	12.12	26.59	21.12	8.42	10.61	30.39	24.13	6.74	8.49	37.99	30.17	5.62	7.07	45.58	36.20	4.21	5.30	60.78	48.27
	4 (1.28x)	15.82	19.93	16.18	12.85	13.85	17.44	18.49	14.68	11.08	13.95	23.11	18.35	9.23	11.62	27.73	22.02	6.92	8.72	36.98	29.36
	5 (1.6x)	20.57	25.90	12.44	9.88	18.00	22.67	14.22	11.29	14.40	18.13	17.78	14.12	12.00	15.11	21.33	16.94	9.00	11.33	28.44	22.59
16x/16mm	6 (2.5x)	30.86	38.86	8.30	6.59	27.00	34.00	9.48	7.53	21.60	27.20	11.85	9.41	18.00	22.67	14.22	11.29	13.50	17.00	18.96	15.06
	1 (0.4x)	6.17	7.77	38.89	30.88	5.40	6.80	44.44	35.29	4.32	5.44	55.56	44.12	3.60	4.53	66.67	52.94	2.70	3.40	88.89	70.59
	2 (0.6x)	9.26	11.66	25.93	20.59	8.10	10.20	29.63	23.53	6.48	8.16	37.04	29.41	5.40	6.80	44.44	35.29	4.05	5.10	59.26	47.06
	3 (0.78x)	12.03	15.15	19.94	15.84	10.53	13.26	22.79	18.10	8.42	10.61	28.49	22.62	7.02	8.84	34.19	27.15	5.27	6.63	45.58	36.20
	4 (1.28x)	19.78	24.91	12.13	9.64	17.31	21.79	13.87	11.01	13.85	17.44	17.33	13.76	11.54	14.53	20.80	16.52	8.65	10.90	27.73	22.02
	5 (1.6x)	25.71	32.38	9.33	7.41	22.50	28.33	10.67	8.47	18.00	22.67	13.33	10.59	15.00	18.89	16.00	12.71	11.25	14.17	21.33	16.94
20x/12mm	6 (2.5x)	38.57	48.57	6.22	4.94	33.75	42.50	7.11	5.65	27.00	34.00	8.89	7.06	22.50	28.33	10.67	8.47	16.88	21.25	14.22	11.29

MECHANICAL DATA

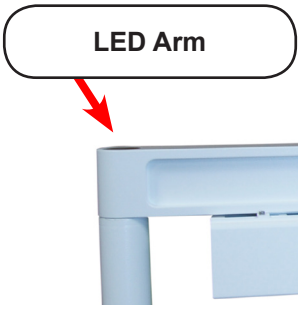


MOUNTING INSTRUCTIONS

Once the pole is in the collar and indentions are aligned, use the provided Allen wrench to tighten the two Allen bolts in the base center post to secure the pole.



FLOOR MOUNTING



1. Start by removing the base from the box and set the base bottom up (casters facing up) on the foam from the box for cushion.
2. Remove the base weights from the weights box and insert the weights one at a time into place by pressing the blue pins in and release once fully seated into base. Be sure they click in.
3. Flip the base back over so that the top center hole is facing upward.
   Make sure that the weights are secured before flipping the base over.
4. Remove the pole from the packaging and insert pole into the center post hole in the base. Align the two indention marks in the pole to the holes in the base center post hole collar.

5. Once the pole is secured into the base, insert the LED Arm portion into the top of the pole. This is where the electrical system is housed.

You are now ready for the Pantographic Arm and Optic Pod Installation. See page 5.

When moving the microscope, you must transport the scope by the handles mounted on the post.

HIGH WALL MOUNTING

1. Determine suitable location: Wall next to doctor, wall behind doctor, etc. at a distance no greater than 50” and no less than 30” from the wall to the patients mouth
2. Position the wall bracket with the threaded opening facing down and with the lower mounting holes approximately 76” above the floor. Fasten the wall bracket to the wall making sure the wall construction is wood stud (16” on center) or cinder block. All other constructions require wall bracing - contact your building maintenance department or an outside contractor in this case.
3. Remove the arm assembly from the shipping carton and connect this assembly to the bottom of the wall bracket by carefully threading the shaft into the wall bracket using the gray cap on the arm assembly to thread in the shaft.
4. Two holes are used to insert a tool for loading the internal bearings. One hole contains a setscrew which you can adjust to lock the desired tension.
5. After the entire microscope is assembled to the high wall bracket, check for satisfactory rotational movement.
6. After you have set the tension as described previously and checked the rotational movement, tighten the setscrew in the front of the wall bracket.
7. A thru hole is provided to wire the microscope into the wall/ceiling. Check your local electrical code for proper wiring.

Seiler does not supply screws for mounting all brackets. The type of screws and/or anchors used should be determined by a qualified contractor. If mounting to a metal studded wall, there needs to be backing such as plywood mounted to each side of the wall and screws to attach the wall bracket through both pieces of plywood so it is structurally sound. For mounting to a wood studded wall, large Lag screws should be sufficient. Again, a professional contractor should determine size and length.

WEDGE ANCHORS

Wedge anchors are for attaching fixtures to a solid such as concrete . The installed end of the anchor features a conical segment with a metal clip around it. Upon setting the anchor the cone pulls up through the clip and pushes the clip against the sides of the hole. This gives the anchor its holding power within the hole. Anchor diameter will be equal to the hole size.

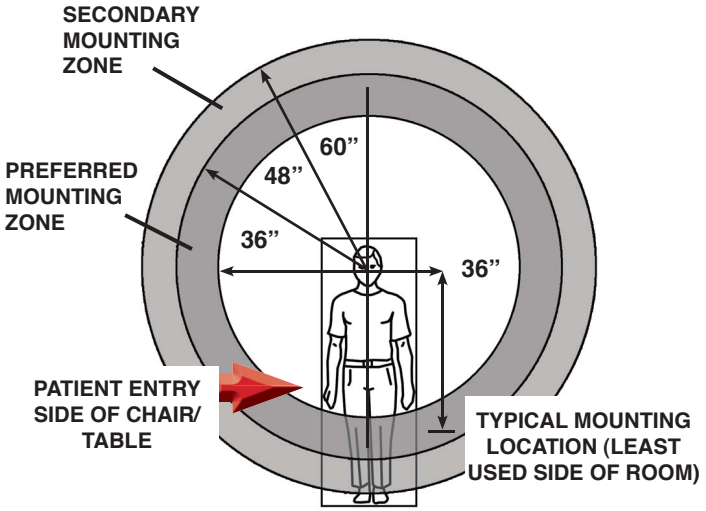
Expansion of the wedge anchor creates large point bearing stresses within the hole; therefore, this anchor requires a solid base material to develop its full capacity. For this reason, brick and partially filled mortar joints in brick walls or paving may be unsuitable for wedge anchor usage.

SLEEVE ANCHORS

Sleeve anchors also are used to attach fixtures to solid materials. A bolt is surrounded by a cylindrical metal sleeve. They operate by the expansion of the sleeve into the base material when one tightens the bolt. Expanding the sleeve along the length of the anchor enables a larger bearing

POSITIONING

High Wall and Ceiling Recommended Mounting Location



NOTE:
If the typical position is not available, locating the microscope within the Preferred Mounting Zone (vertically shaded) will ensure that there is maximum maneuverability of the microscope in all directions. Locating the microscope within the Secondary Mounting Zone (diagonally shaded) is possible, depending upon the specific layout of a room, but may reduce maneuverability.

surface than that offered by the wedge anchor, and can better adhere to irregular surfaces within the base material than can the wedge anchor. Therefore, sleeve anchors can be better suited for brick masonry than wedge anchors. Sleeve anchor diameter will be equal to the hole size.

Sleeve Anchors come in models with round-headed bolts, flat-headed bolts, bolts with a hex nut/washer assembly, and bolts with an acorn nut/washer assembly.

DROP-IN ANCHORS

Drop-In Anchors are designed for solid concrete base material, and are not recommended for masonry or brick. Drop-in anchors are a female mating part anchor with coarse threads. The drop-in anchor requires a setting tool for expanding the anchor.

EXPANSION SHIELD

(Single Expansion Shield or Double Expansion Shield)

Expansion shields may be single or double piece design. Both are inserted for shear loads or where the bolt may be under side pressure or vibration. Expansion shields consist of a nut, a cone and a tubular shield that are put together as a single unit. The two-piece tubular shield in either version contains a wedge shaped nut at one end, a wedge shaped hollow cone at the other end and is held in place by two spring bands. The expansion at both ends of the shield spreads the anchored load throughout its length

WALL MOUNTING

1. Determine suitable location: Wall next to doctor, wall behind doctor, etc. at a distance no greater than 50” and no less than 30” from the wall to the patient’s mouth.

2. Position the wall bracket with the threaded opening facing down and with the lower mounting holes 50” above the floor. Fasten the wall bracket to the wall making sure the wall construction is wood stud (16” on center) or cinder block. All other constructions require wall bracing - contact your building maintenance department or an outside contractor in this case.

3. After the wall bracket is securely attached to the wall, carefully thread the bearing and microscope holder assembly into the bottom opening of the bracket until it is hand tight.Tighten set screw on front of wall bracket.



Seiler does not supply screws for mounting all brackets. The type of screws and/or anchors used should be determined by a qualified contractor. If mounting to a metal studded wall, there need to be backing such as plywood mounted to each side of the wall and screws to attach the wall bracket through both pieces of plywood so it is structurally sound. For mounting to a wood studded wall, large Lag screws should be sufficient. Again a professional contractor should determine size and length.

WEDGE ANCHORS

Wedge anchors are for attaching fixtures to a solid such as concrete . The installed end of the anchor features a conical segment with a metal clip around it. Upon setting the anchor the cone pulls up through the clip and pushes the clip against the sides of the hole. This gives the anchor its holding power within the hole. Anchor diameter will be equal to the hole size.

Expansion of the wedge anchor creates large point bearing stresses within the hole; therefore, this anchor requires a solid base material to develop its full capacity. For this reason, brick and partially filled mortar joints in brick walls or paving may be unsuitable for wedge anchor usage.

SLEEVE ANCHORS

Sleeve anchors also are used to attach fixtures to solid materials. A bolt is surrounded by a cylindrical metal sleeve. They operate by the expansion of the sleeve into the base material when one tightens the bolt. Expanding the sleeve along the length of the anchor enables a larger bearing surface than that offered by the wedge anchor, and can better adhere to irregular surfaces within the base material than can the wedge anchor. Therefore, sleeve anchors can be better suited for brick masonry than wedge anchors. Sleeve anchor diameter will be equal to the hole size.

Sleeve Anchors come in models with round-headed bolts, flat-headed bolts, bolts with a hex nut/washer assembly, and bolts with an acorn nut/washer assembly.

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CEILING MOUNTING

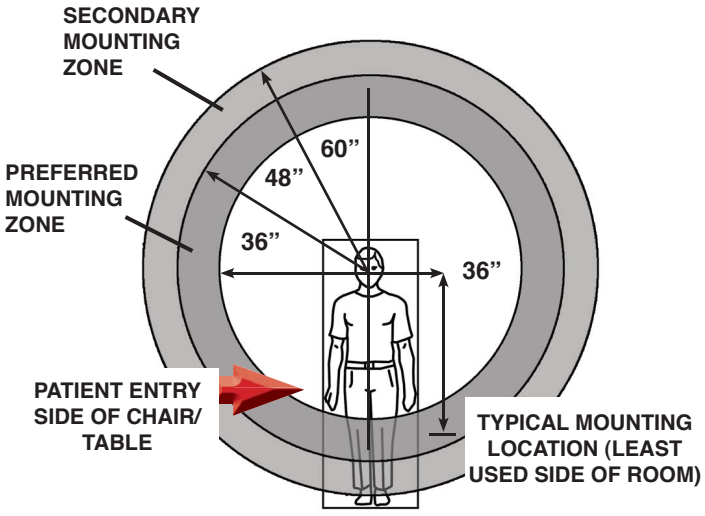
To be sure that the unit is properly secured to the structural members of the building, ensure mounting integrity and stability. Such members will usually be located above a dropped ceiling. If it is necessary to span between members in order to mount the unit the installer must insure that whatever material they elect to use (i.e. lumber, angles, channels, etc.) possesses the strength and rigidity required to provide stability.

Unpack all of the boxes and verify that all of the parts are present, noting that some are in a sub-assembly state. Any loose pieces will be labeled with their corresponding part number.

Using the template provided, transfer the hole locations onto the structural members to which the unit will be mounted. It is recommended that the unit be thru-bolted into the member using 1/2” bolts and nuts. In some applications, when thru-bolting is not possible, it may be necessary to use lag bolts or some other type of anchoring.

The unit can be installed at a nominal height with plus/minus adjustment of four inches available in two inch increments. The center hole of the five Pin locating holes in the Mounting Post is the nominal height. If the unit must be mounted closer to the ceiling than the nominal height, it will be necessary for the installer to provide either a four inch diameter opening above the Mounting Plate Assembly for the Mounting Post to protrude into, or cut off any of the Mounting Post material that comes to within 3/8 inch of the back of the Mounting Plate Assembly. This provides the clearance that is necessary to allow for any tilt adjustment.

POSITIONING



NOTE:
If the typical position is not available, locating the microscope within the Preferred Mounting Zone (vertically shaded) will ensure that there is maximum maneuverability of the microscope in all directions. Locating the microscope within the Secondary Mounting Zone (diagonally shaded) is possible, depending upon the specific layout of a room, but may reduce maneuverability.

SEILER MEDICAL DIVISION

CEILING MOUNT INFORMATION

DATE _____

OFFICE

Doctor's Name

Practice Name

Street Address

City, State, ZIP

MEASUREMENTS

“True” ceiling mounting structure to floor	_____ inches
Bottom of ceiling tile to floor	_____ inches
Placement of pole in relation to chair	_____ o'clock
Reach needed from center of pole to patient’s mouth	_____ inches
Bottom of objective to floor when in optimal working position with patient	_____ inches

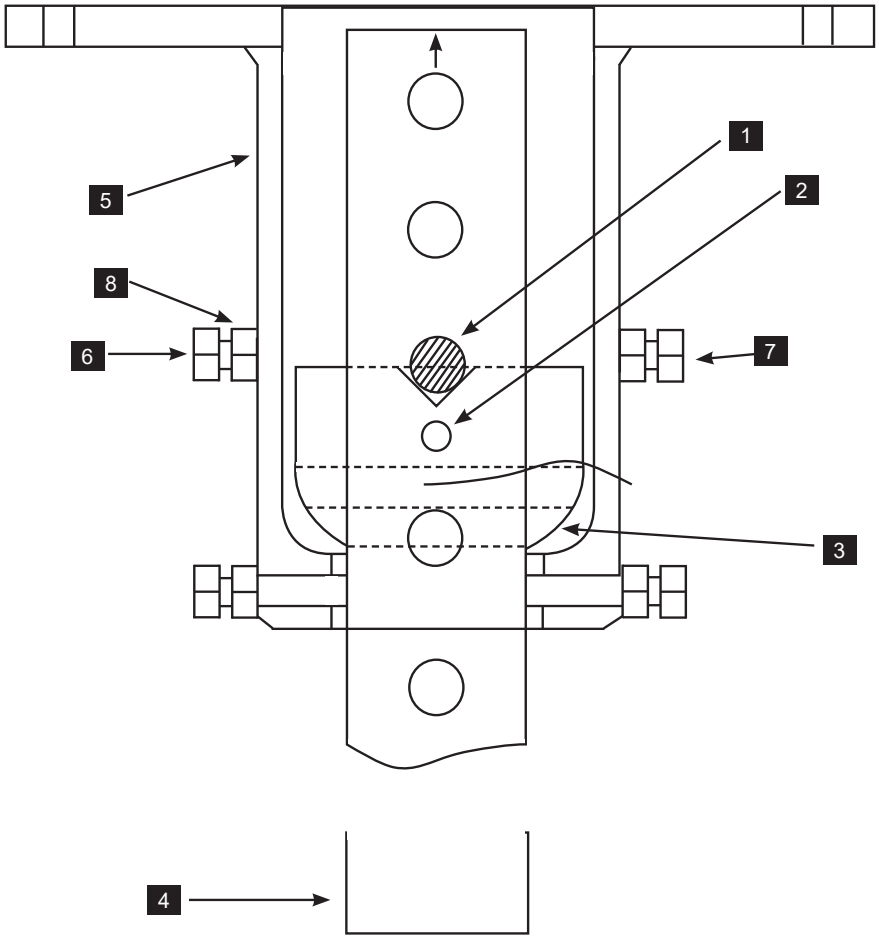
HOLES

Entry hole* needed for power	Top Y/N	Bottom Y/N
Entry hole* needed for HDMI	Top Y/N	Bottom Y/N

*Custom charges apply

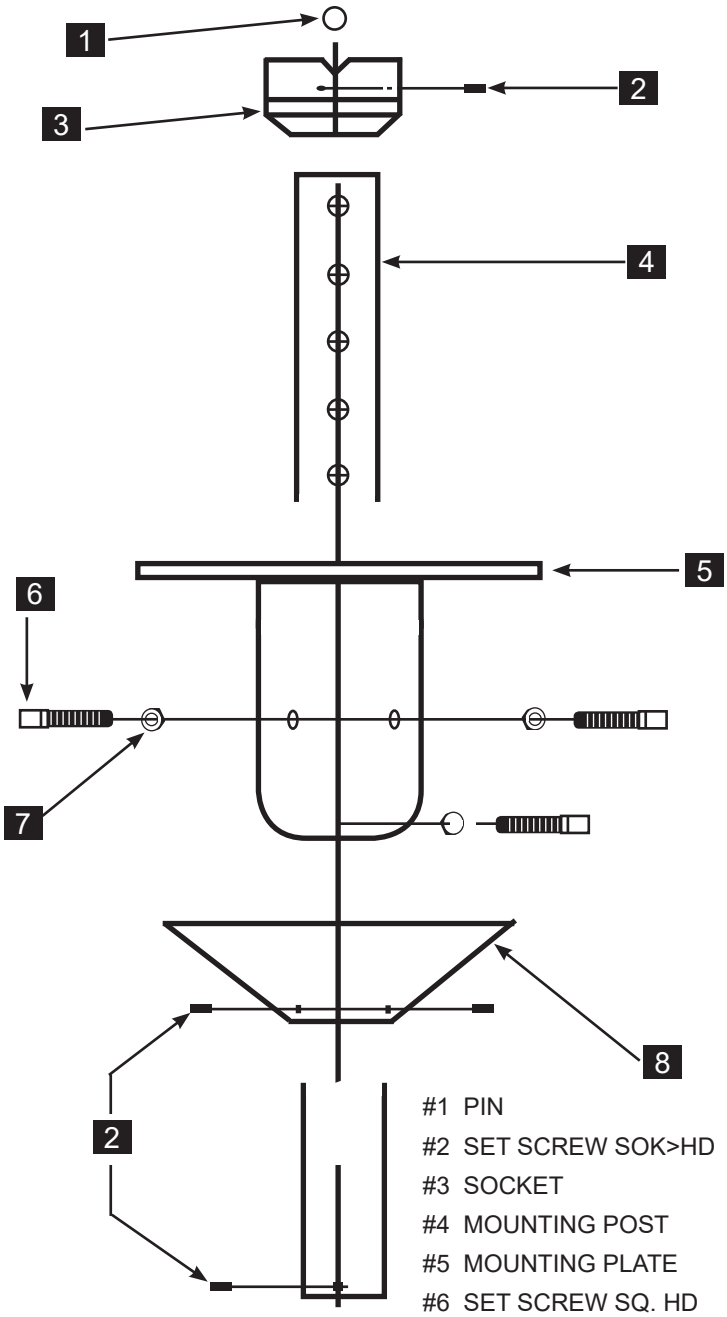
NOTES

IF UNIT NEEDS TO BE MOUNTED CLOSER TO CEILING AND NO PROVISION IS MADE IN WHICH THE MOUNTING TUBE CAN PROTRUDE INTO, IT WILL BE NECESSARY TO CUT THE TUBE SO THAT IT IS AS LEAST 3/8" FROM THE BACK OF THE MOUNTING PLATE ASSEMBLY

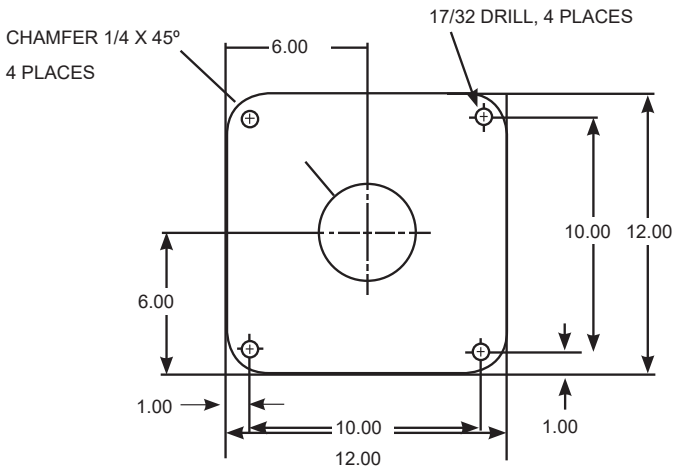


#1 PIN
#2 SET SCREW SOK>HD
#3 SOCKET
#4 MOUNTING POST
#5 MOUNTING PLATE
#6 SET SCREW SQ. HD
#7 HEX NUT

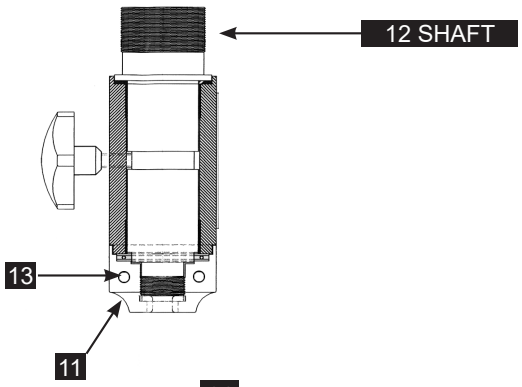
Place the Mounting Plate Assembly 5 on its side to allow parts to be placed into it from both the top and bottom. Back out all Square Head Set Screw 6 in order to insert column 4. Feed in Mounting Post 4 through the opening of Mounting Plate with the end of the Mounting Post that has the five pin mounting holes entering first. Push the Mounting Post through far enough to allow the Socket 3 to be installed onto the Mounting Post in such a position that the Pin 1 can be installed in the proper holes above the Socket. Then slide the Socket back up so that the Pin engages in the "V" groove in the Socket and ensure that the Pin protrudes the same amount from each side of the Post. While holding the Socket firmly against the Pin, tighten the Set Screw 2 (1/8" hex key) in the Socket to lock it to the Post. Then pull the Mounting Post back through the Mounting Plate Assembly and hand tighten the six Set Screws 6 to hold the Post/Socket Assembly in place while attaching the complete unit to the ceiling structure (Note: loosen the Hex Nuts 7 to allow movement of the Set Screws 6). Have an assistant lift the Post Assembly into position and fasten the assembly into the structural member. If there is any rocking motion due to a non-flat mounting surface, it will be necessary to shim between the surface and the Assembly to ensure that there is a solid coupling between the two.



#1 PIN
#2 SET SCREW SOK>HD
#3 SOCKET
#4 MOUNTING POST
#5 MOUNTING PLATE
#6 SET SCREW SQ. HD
#7 HEX NUT
#8 CEILING MOUNT FLANGE



The next step is to level and secure the Mounting Post. 4 do this, loosen the six Set Screws 6 to allow the Mounting Post to tilt (it has a five degree tilt angle in all directions). Using a carpenters level held against the Mounting Post and the Mounting Post is plumb position, continue to tighten the set screws assuring that the column remains plumb. The six Nuts 7 may then be tightened against the Mounting Plate Assembly Tube. In this next step, install the Ceiling Flange Assembly 8 over the Mounting Post with the flat side towards the ceiling. Slide it up the Post approximately two feet and lightly tighten the three Set Screws 2 to hold the Flange Assembly in this temporary position. Thread the Shaft 12 into the Mounting Post 4 until it stops against the shoulder of the Shaft and then insert the Set Screw 2 into the Mounting Post and tighten it (1/8" hex key) to lock the Shaft into place.



Note: Turning the cap 11 clockwise or counter-clockwise will adjust Rotation Tension. Only one hole contains a Set Screw which locks the desired tension. Tighten Set Screw 13 to secure.

Prior to shipping, the set screw was tightened arbitrarily in order to allow previously mentioned assembly procedure.

After the entire microscope is assembled to the Ceiling Mount, check for satisfactory rotational movement.

Optional: Cut off male plug from cord and feed up through cap 11 until into ceiling space and install connector

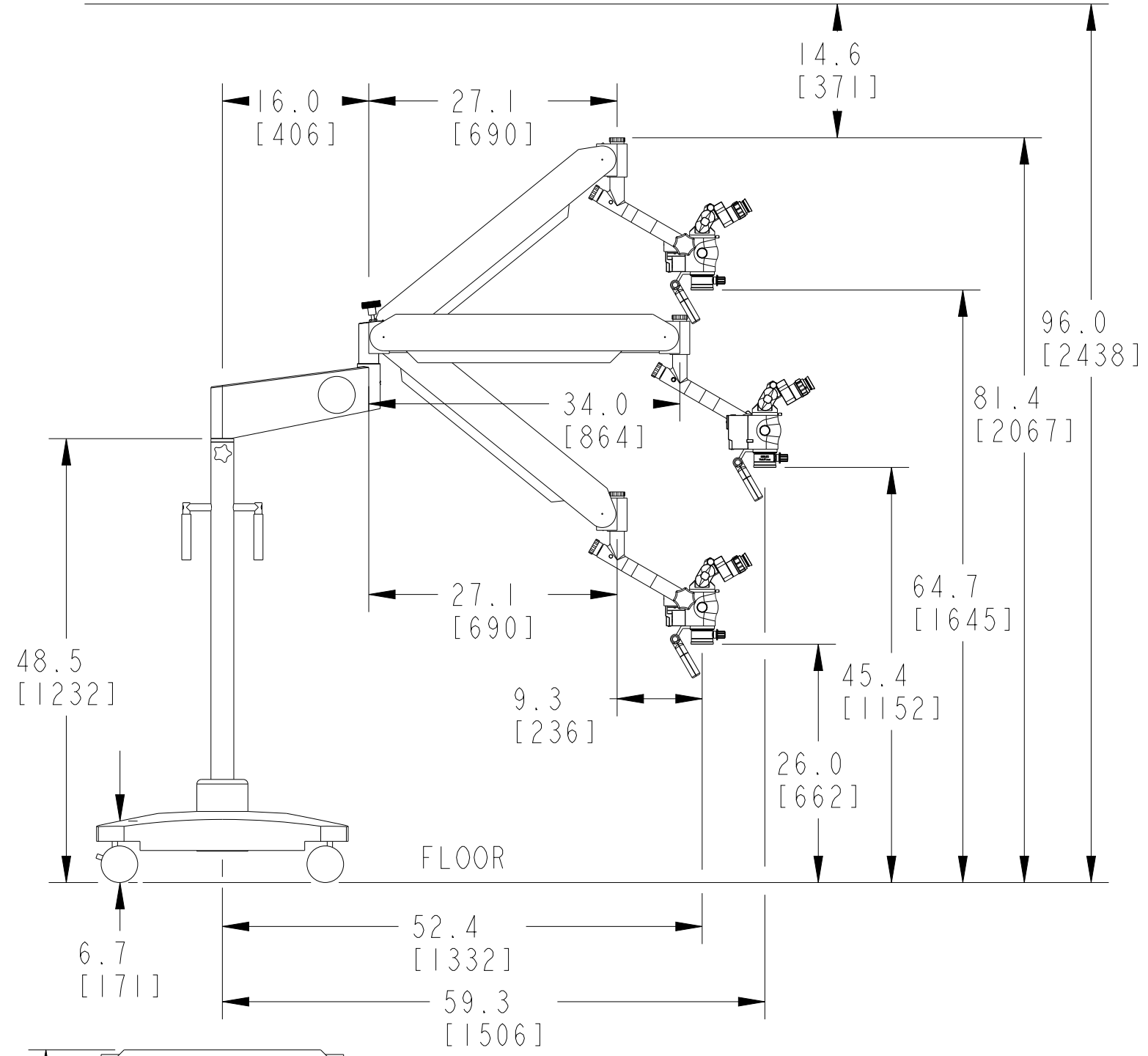
A thru hole is provided to wire the Assembly into the ceiling. Check with the electrical code on how to wire for the ceiling outlet.

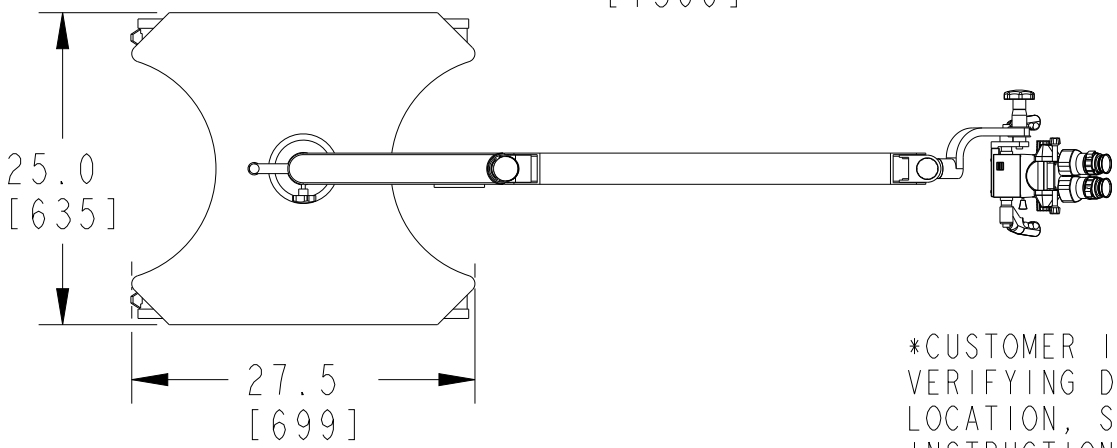
The caps must be tightened to prevent the arm from drifting.

FLOOR

TYPICAL INSTALLATION DIMENSIONS* DIMENSIONS MAY VARY

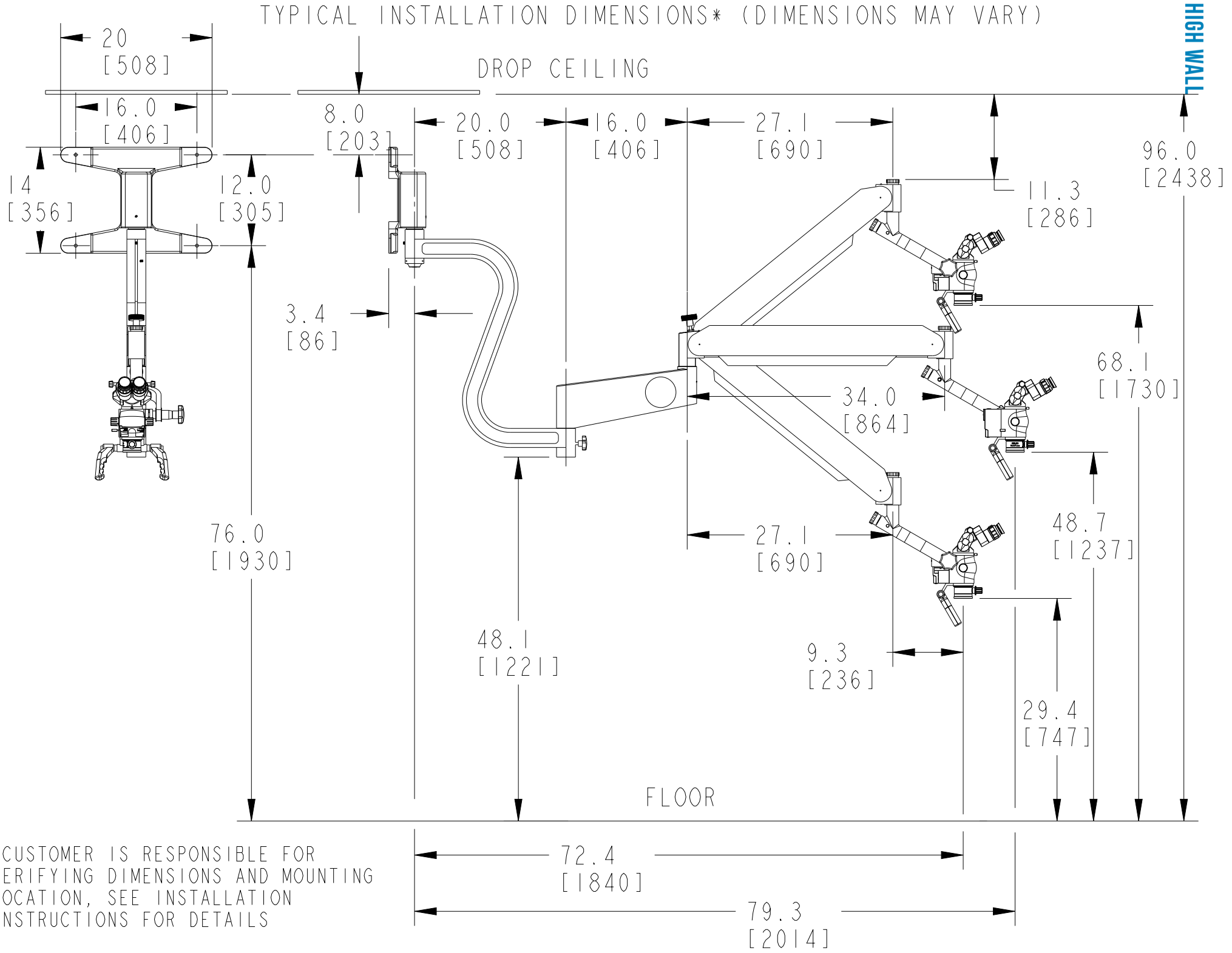
DROP CEILING



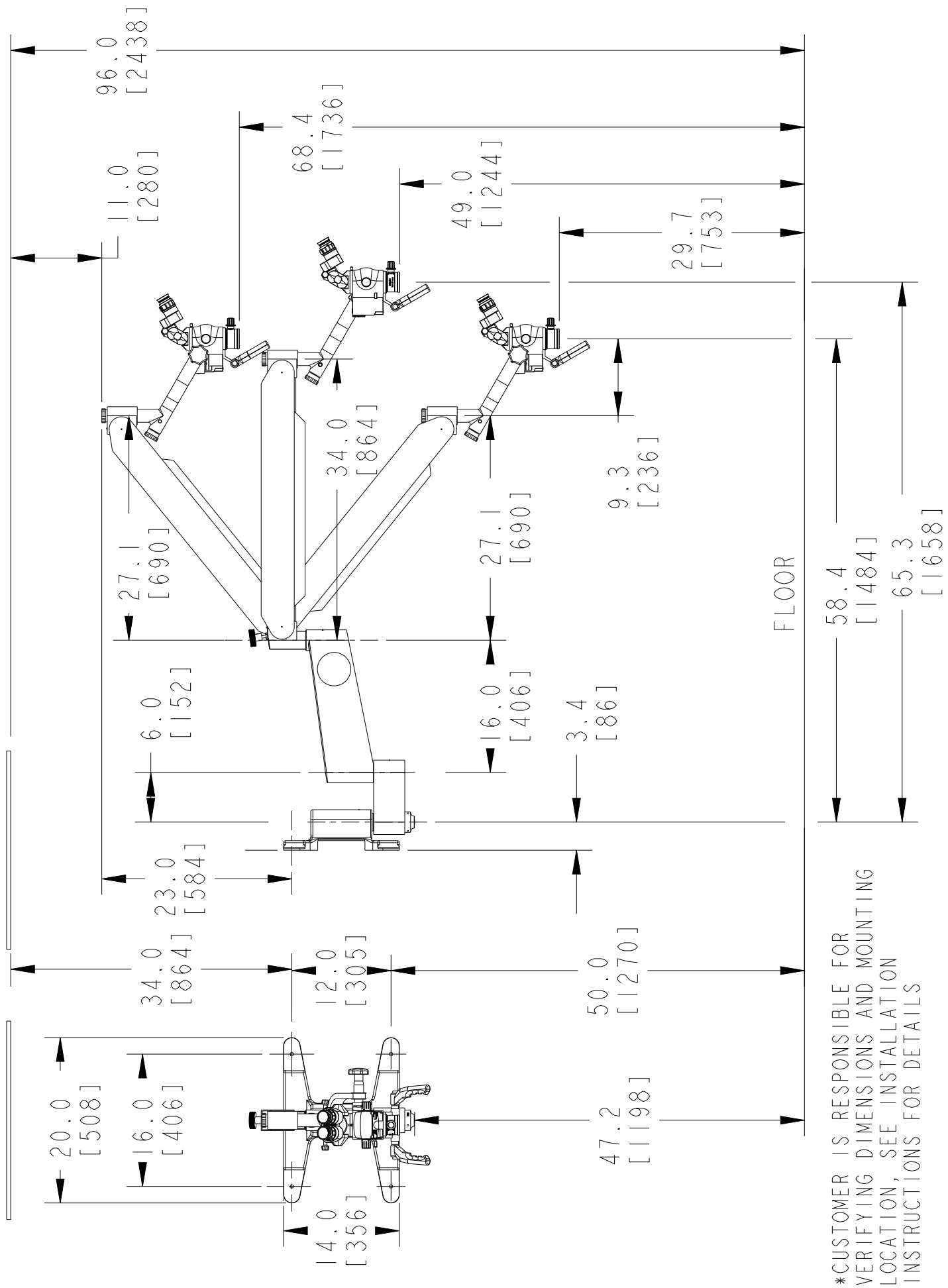


*CUSTOMER IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND MOUNTING LOCATION, SEE INSTALLATION INSTRUCTIONS FOR DETAILS

TYPICAL INSTALLATION DIMENSIONS* (DIMENSIONS MAY VARY)

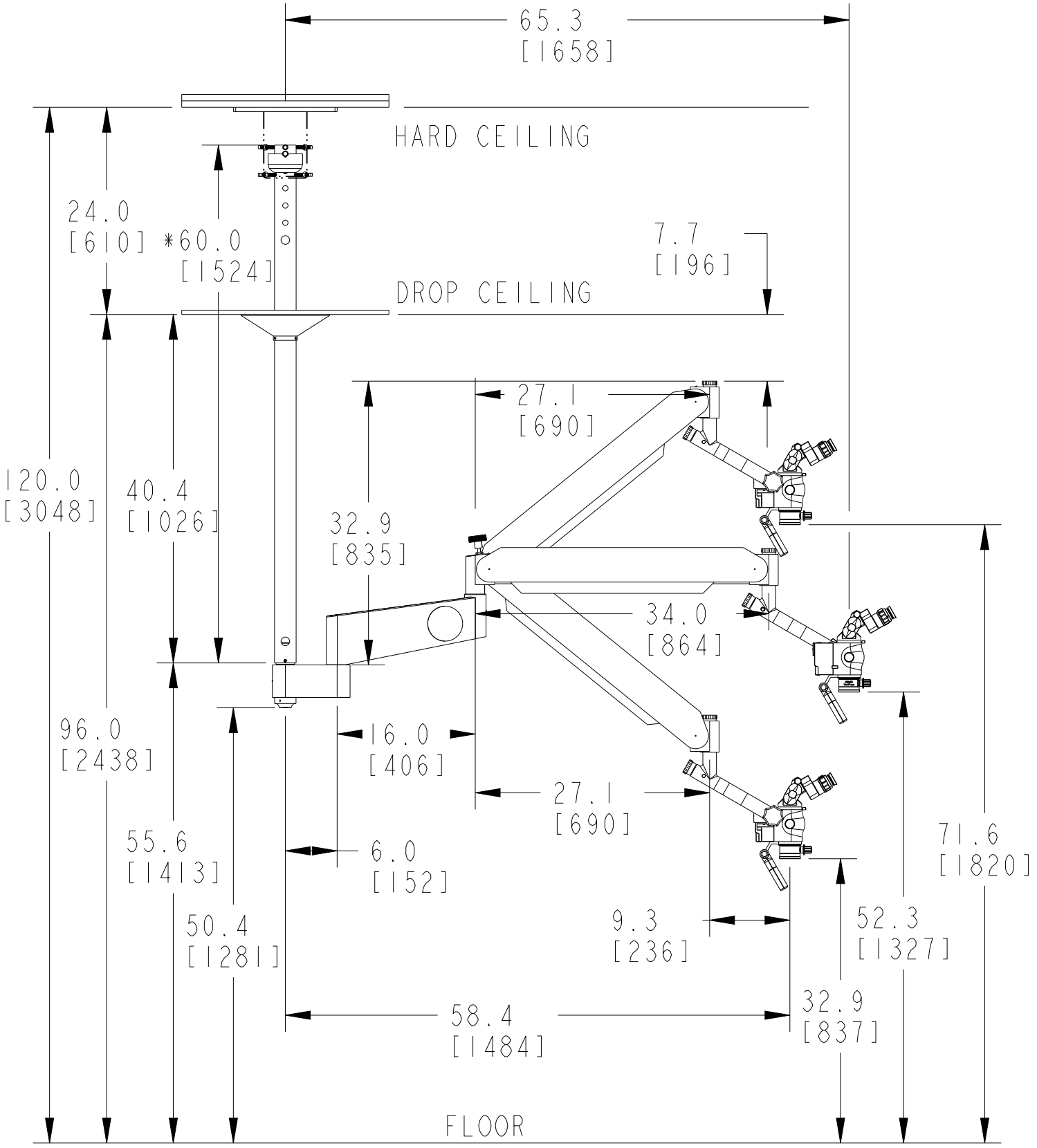


*CUSTOMER IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND MOUNTING LOCATION, SEE INSTALLATION INSTRUCTIONS FOR DETAILS


TYPICAL INSTALLATION DIMENSIONS* (DIMENSIONS MAY VARY)
DROP CEILING
FLOOR
96.0 [2438]
68.4 [1736]
11.0 [280]
49.0 [1244]
29.7 [753]
34.0 [864]
27.1 [690]
27.1 [690]
9.3 [236]
6.0 [152]
16.0 [406]
3.4 [86]
58.4 [1484]
65.3 [1658]
23.0 [584]
34.0 [864]
12.0 [305]
50.0 [1270]
20.0 [508]
16.0 [406]
47.2 [1198]
14.0 [356]
*CUSTOMER IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND MOUNTING LOCATION, SEE INSTALLATION INSTRUCTIONS FOR DETAILS

CEILING

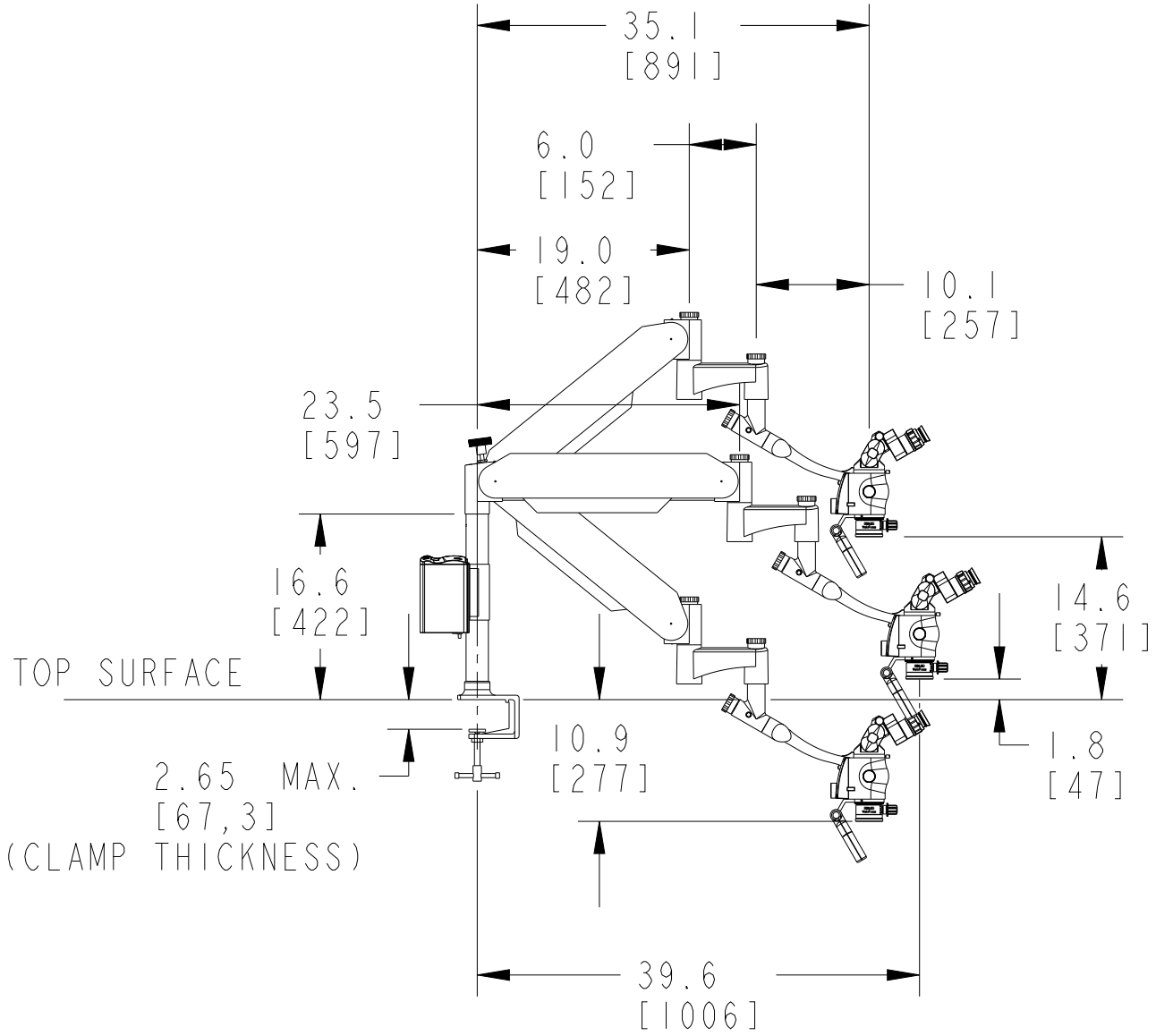
TYPICAL INSTALLATION DIMENSIONS* (DIMENSIONS MAY VARY)



*CUSTOMER IS RESPONSIBLE FOR VERIFYING HARD AND DROP CEILING HEIGHTS AND MOUNTING LOCATION. ALL UNITS ARE SHIPPED WITH THE 60" POST UNLESS A CUSTOM SIZE HAS BEEN ORDERED. ADDITIONAL PARTS AND SHIPPING CHARGES WILL APPLY IF A DIFFERENT POST IS NEEDED AND ORDERED AFTER THE INITIAL ORDER HAS BEEN PROCESSED. SEE INSTALL INSTRUCTIONS FOR DETAILS

TABLE MOUNT

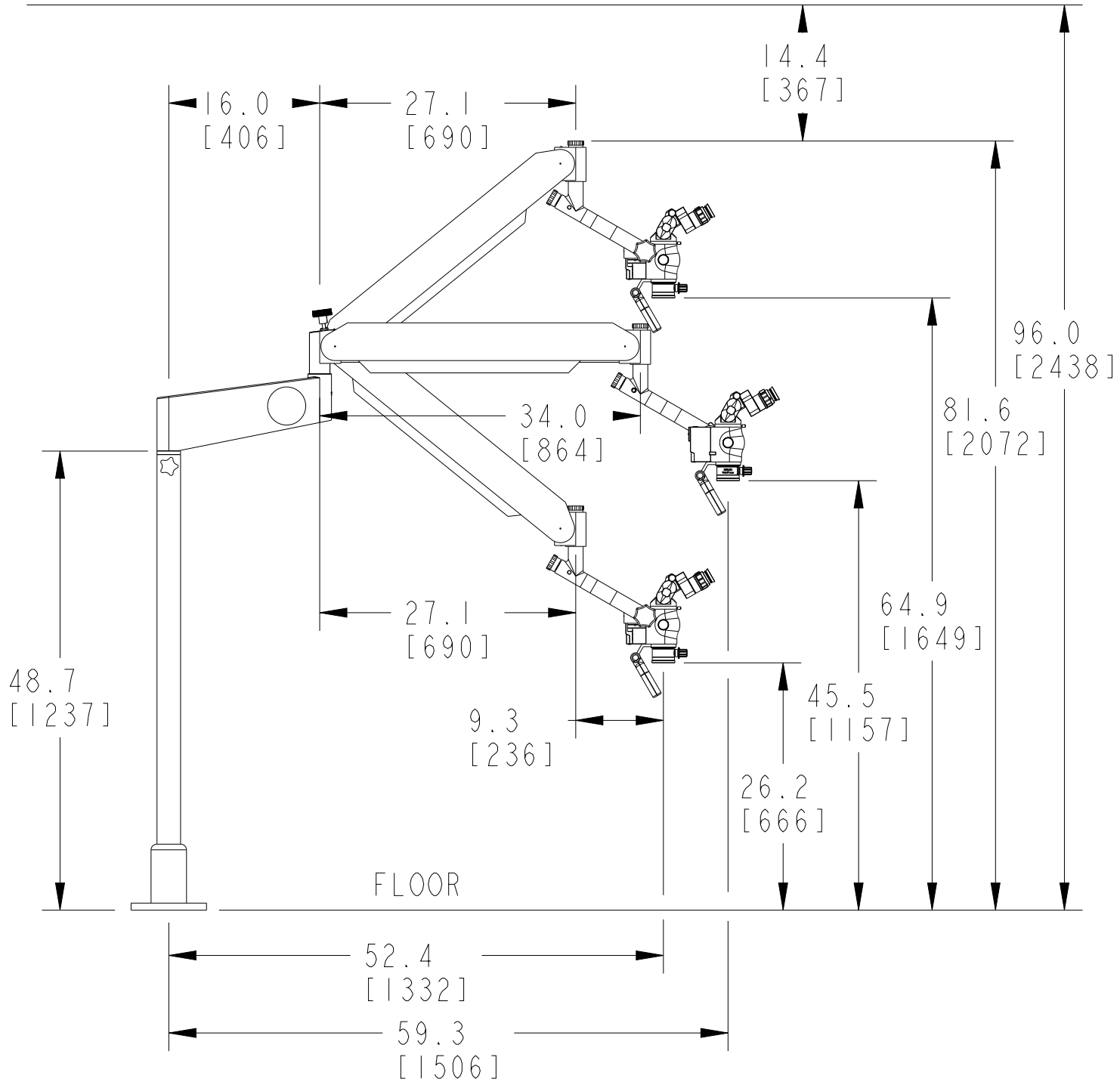
TYPICAL INSTALLATION DIMENSIONS* (DIMENSIONS MAY VARY)

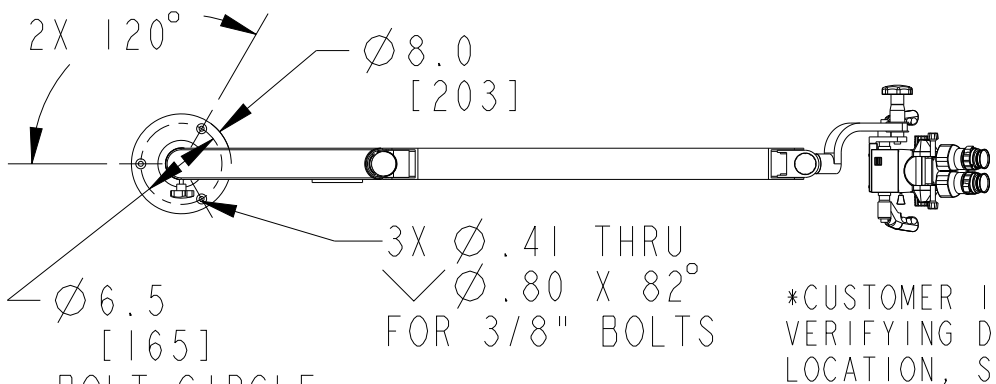


*CUSTOMER IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND MOUNTING LOCATION, SEE INSTALLATION INSTRUCTIONS FOR DETAILS

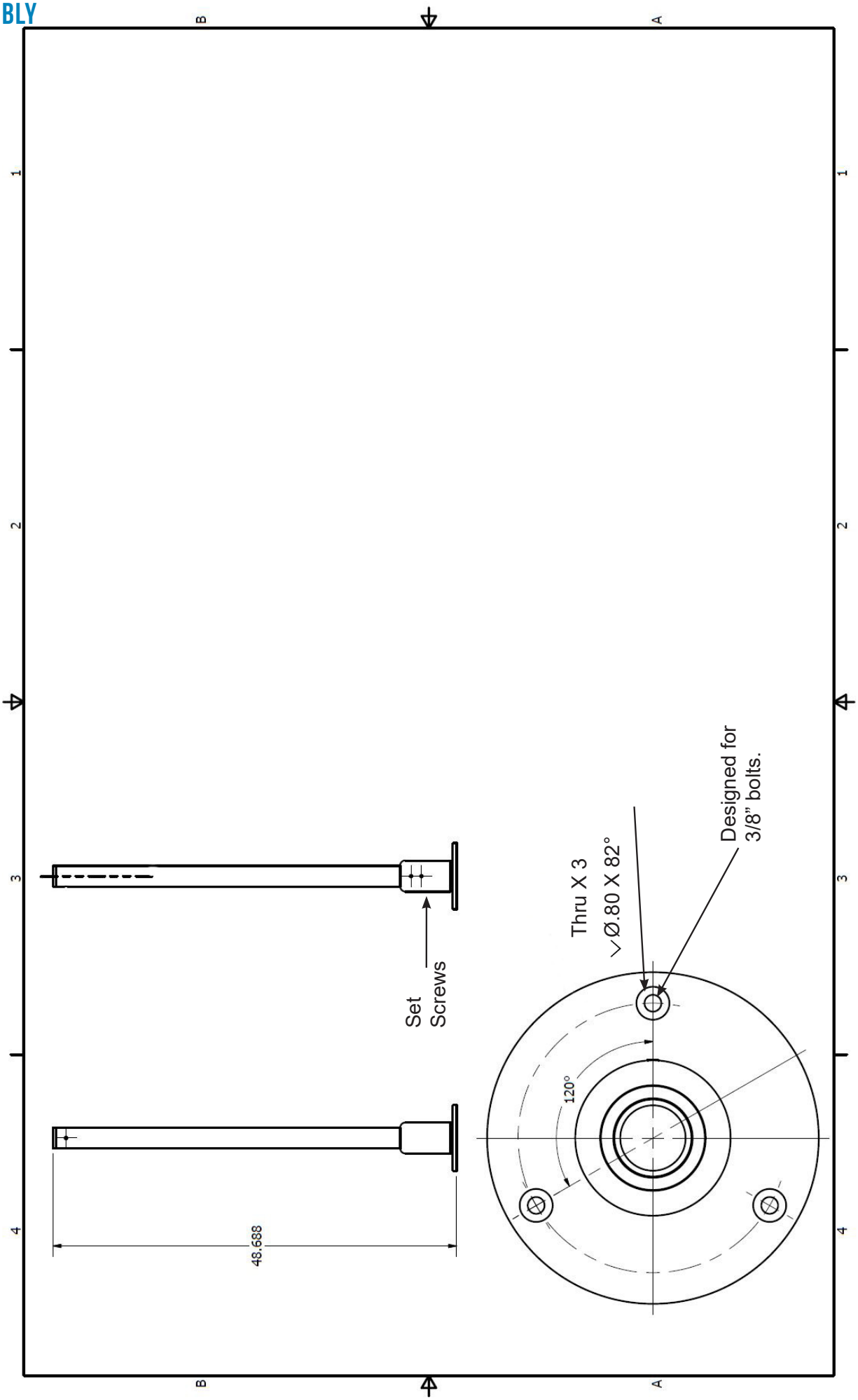
BOLT-DOWN FLOOR MOUNT

TYPICAL INSTALLATION DIMENSIONS* DIMENSIONS MAY VARY

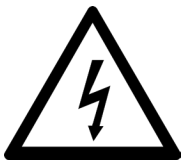
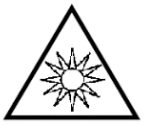
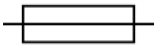
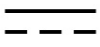
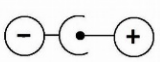




*CUSTOMER IS RESPONSIBLE FOR VERIFYING DIMENSIONS AND MOUNTING LOCATION, SEE INSTALLATION INSTRUCTIONS FOR DETAILS


Set
Screws
48.688
Thru X 3
⌵Ø.80 X 82°
Designed for
3/8" bolts.
120°

SYMBOLS USED IN THIS MANUAL OR DEVICE

MARKING/SYMBOL	MEANING
	Symbol for “Consult instructions for use” or “Consult operating instructions.”
	Symbol for “Caution, consult accompanying documents” or “Attention, see instructions for use.”
	Symbol for “Caution Hot Surface”. This symbol cautions that surface should not be touched as it may be hot and could be a burn hazard.
	Symbol cautions of shock hazard.
	Symbol cautions of intense light. Do not look directly at light source.
	Symbol for shock protection “Type B.” Adequate protection against electric shock with regards to leakage current and reliability.
	Symbol for fuse.
	Alternating Current (AC)
	Direct Current (DC)
	Direct Current Polarity
	Catalog Number

SN	Symbol for “Serial Number.” This symbol shall be followed by, or above, the manufacturer’s serial number.
EC REP	Symbol for “Authorized Representative in the European Community.” This symbol shall be adjacent to the name and address of the authorized representative in the European Community. The address is not required on an immediate container unless the immediate container is the outer container.
	Symbol indicating “Not for general waste.” For European Union (EU) States, this symbol should be used to mark devices that are reusable and not contaminated at the end of the device life.
CE	This symbol is a mandatory marking for devices entering the European market to indicate conformity with the essential health and safety equirements set out in European Directives.
	Symbol for “Manufacturer.” This symbol shall be adjacent to the name and address of the manufacturer.
	Symbol indicating the “date of manufacture.” The symbol shall be adjacent to the date that the product was manufactured, expressed as four digits for the year and two digits for the month and where appropriate, two digits for the day.

WARNINGS

LED ILLUMINATION

Symbols Used in this Manual or on the Device

The manual contains important regarding set-up and operation to facilitate ease of use and obtain effective results.

This manual contains critical information regarding safe handling and use of this system. Device malfunction or property damage could result if all instructions are not followed.

WARNINGS



EXPOSURE TO INTENSE BRIGHT LIGHT

Never look directly into the objective lens of the microscope when the unit is turned on as the light intensity can be damaging.



FIRE

Do not operate the unit near flammable materials including flammable gases or liquids.

If the microscope needs to be cleaned with a volatile liquid (such as IPA) turn off the unit before proceeding.

After cleaning allow vapors to disperse before turning on.



UNIT PRODUCES SIGNIFICANT AMOUNTS OF HEAT

Always allow the unit to cool to ambient temperature before attempting any adjustments or replacement of parts.



MICROSCOPE OVERHEATING

Do not block air inlets or outlets (vents) with anything including plastic protection covers.

If the microscope overheats it will turn the light off. If this happens, turn off the unit and allow sufficient time for the unit to cool (approx. 10 minutes) then turn the unit back on.

If the light remains off, turn the unit off and allow more time for cooling.



DEVICE OPERATES AT HIGH ELECTRICAL CURRENTS

Only qualified personnel should inspect the unit for internal damage.

Only operate the equipment in a professional manner as set forth in this manual.

Do not remove interior components from the power supply with the unit connected to a wall outlet.



QUALIFIED PERSONNEL ONLY

Only operate the equipment in a professional manner as set forth in this manual.

Only employ authorized and properly trained personnel to perform maintenance functions.



EMITTING OF ELECTROMAGNETIC ENERGY

This equipment has passed testing for EMI/RFI radiation and susceptibility; however if not installed and used in accordance with the instructions, interference to other devices in the near vicinity may occur.

Electromagnetic energy can travel through the power cord or through radio transmission.

Ensure there is adequate separation distance between the unit and any device that may be affected by the electromagnetic energy coming from the unit.

Power the illuminator from a separate AC main circuit that does not have a device connected that could be affected by the electromagnetic energy coming from the illuminator.

SERVICE AND REPAIR

Defective items of equipment are to be serviced and repaired exclusively by persons authorized by the manufacturer. All repair work shall employ original manufacturer's parts only.

FUSE REPLACEMENT

Caution: Always disconnect power cord and turn main switch off before fuse replacement.

Turn light source off and unplug power cord. On underneath of unit remove fuse by prying fuse cover and pulling out fuse.

Replace fuse with 250VAC 1.5A rated fuse, type GMA 5mm X 20mm long. Insert back into fuse housing.

Re-connect the power cord and turn on the LED light source.

LIMITED WARRANTY

Your LED light source carries a LIFETIME Warranty on the LED bulb and three years on the electronic parts such as circuit boards and fans inside the light source. The warranty starts from the date of shipment. Should your product prove to have such manufacturing defects within three years of the shipment, Seiler Instrument will repair or replace the product and/or component part without charge. Should your LED Light Source product(s) need servicing under this warranty, please contact Seiler Instrument for a return authorization documentation. You should carefully pack the unit in a sturdy carton and ship it to the factory. Please include a note describing the defects, your name, telephone number and a return address. Warranty does not cover equipment subject to misuse, accidental damage, normal wear and tear or if transferred to a new owner without authorization from Seiler Instrument. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

POST WARRANTY REPAIRS

You may return your product(s) for repair, shipping prepaid to the factory. Your product will be inspected and an estimate of repair charges will be submitted to you for approval. Payment must be received before repairs are completed.

- In the US: 800-489-2282 (toll free)
- FAX number: 314-968-3601
- Customer Service: 314-218-6336

WARRANTY REGISTRATION

Register your product warranty online:
http://www.seilermicro.com/warranty-registration/

END OF PRODUCT LIFE

We encourage our customers to recycle this product whenever possible. Disposal of this unit must be performed in accordance with the applicable local environmental regulations.

In the United States a list of recyclers in your area can be found at: http:/www.eiae.org/.

Please contact customer service to issue a return authorization to return product to manufacturer at the end of product life.

RETURN POLICY

Buyer must obtain a Return Material Authorization (RMA) Number from Seller prior to shipping any Product back to Seller. All Returns to be sent prepaid by Buyer. At the discretion of the Seller, unused and undamaged Standard Products may, under certain circumstances, be accepted back for credit or exchange. A restocking charge may apply. Please consult the factory. Custom made products which are returned as defective, but are found to meet the specifications agreed upon, will be subject to a re-testing charge.

CONTACT INFORMATION

Seiler Instrument and Manufacturing Co., Inc.
Medical Division
Toll Free: (800) 489-2282
Local: (314) 968-2282
Fax: (314) 968-3601
Email: micro@seilerinst.com
Web: www.seilerinst.com

OWNER'S RECORD

Model Number _____

Serial Number _____

Date Purchased _____

Location Purchased _____

NOTES

Certificate of Compliance

Application of Council Directive: 2014/30/EU - EMC Directive &
Application of Council Directive: 93/42/EEC – Medical Device Directive

Standards to which Conformity is Declared:
EN 60601-1: 2012 including:
CISPR 11:2015/A1:2016, EN 61000-3-2:2018, EN 61000-3-3:2013,
EN 60601-1-2:2014 including:
EN 61000-4-2:2008, EN 61000-4-3:2006/A1:2007/A2:2010, EN 61000-4-4:2012,
EN 61000-4-5:2014, EN 61000-4-6:2013, EN 61000-4-8:2009, EN 61000-4-11: 2004

Applicant:	Seiler Instrument
Address:	3433 Tree Court Industrial Blvd St. Louis, MO 63122 Tel: (314) 218-6365
Product Tested:	Alpha Slim Series Microscope (See attached models list)
Equipment Type	Class 1
Tested By:	ITC Engineering Services, Inc. 9959 Calaveras Road, PO Box 543 Sunol, California 94586-0543 Tel: 925.862.2944 Fax: 925.862.9013 Email: info@itcemc.com http://www.itcemc.com
Date of Issue:	July 19, 2019
Report Numbers:	20180508-01R-EMC

I, the undersigned hereby declare that the model(s) listed above
was tested and conforms to the Directives and Standards listed above.

Certified By: **Date** July 19, 2019

Mr. Michael Gbadebo, PE
(California License # 11303)
Chief Engineer/Principal Consultant

L2470

ISO/IEC17025:2017 Accredited Laboratory

ALPHA SLIM SERIES MICROSCOPE MODELS LIST

Part #	ITEM NAME AND DESCRIPTION
EVO-100SLIM220	ALPHA SLIM, 0 -220° HEAD, FLOOR STAND, LED
EVO-200SLIM220	ALPHA SLIM, 0 -220° HEAD, WALL MOUNT, LED
EVO-300SLIM220	ALPHA SLIM, 0 -220° HEAD, HIGHWALL MOUNT, LED
EVO-400SLIM220	ALPHA SLIM, 0 -220° HEAD, CEILING MOUNT, LED
EVO-500SLIM220	ALPHA SLIM, 0 -220° HEAD, TABLETOP MOUNT, LED
EVO-600SLIM220	ALPHA SLIM, 0 -220° HEAD, BOLTED FLOOR MOUNT, LED
EVO-ENT1SLIM220	ALPHA SLIM, 0 -220° HEAD, FLOOR STAND, LED
EVO-ENT2SLIM220	ALPHA SLIM, 0 -220° HEAD, WALL MOUNT, LED
EVO-ENT3SLIM220	ALPHA SLIM, 0 -220° HEAD, HIGHWALL MOUNT, LED
EVO-ENT4SLIM220	ALPHA SLIM, 0 -220° HEAD, CEILING MOUNT, LED
EVO-ENT5SLIM220	ALPHA SLIM, 0 -220° HEAD, TABLETOP MOUNT, LED
EVO-ENT6SLIM220	ALPHA SLIM, 0 -220° HEAD, BOLTED FLOOR MOUNT, LED
EVO-ENT1SLIM220	ALPHA SLIM, 0 -220° HEAD, FLOOR STAND, LED
EVO-ENT2SLIM220	ALPHA SLIM, 0 -220° HEAD, WALL MOUNT, LED
EVO-ENT3SLIM220	ALPHA SLIM, 0 -220° HEAD, HIGHWALL MOUNT, LED
EVO-ENT4SLIM220	ALPHA SLIM, 0 -220° HEAD, CEILING MOUNT, LED
EVO-ENT5SLIM220	ALPHA SLIM, 0 -220° HEAD, TABLETOP MOUNT, LED
EVO-ENT6SLIM220	ALPHA SLIM, 0 -220° HEAD, BOLTED FLOOR MOUNT, LED
EVO-ENT1SLIM	ALPHA SLIM, STRAIGHT HEAD, FLOOR STAND, LED
EVO-ENT2SLIM	ALPHA SLIM, STRAIGHT HEAD, WALL MOUNT, LED
EVO-ENT3SLIM	ALPHA SLIM, STRAIGHT HEAD, HIGHWALL MOUNT, LED
EVO-ENT4SLIM	ALPHA SLIM, STRAIGHT HEAD, CEILING MOUNT, LED
EVO-ENT5SLIM	ALPHA SLIM, STRAIGHT HEAD, TABLETOP MOUNT, LED
EVO-ENT6SLIM	ALPHA SLIM, STRAIGHT HEAD, BOLTED FLOOR MOUNT, LED
IQ-100SLIM220	ALPHA SLIM, 0-220 HEAD, FLOOR STAND, LED
IQ-200SLIM220	ALPHA SLIM, 0-220 HEAD, WALL MOUNT, LED
IQ-300SLIM220	ALPHA SLIM, 0-220 HEAD,HIGH WALL MOUNT, LED
IQ-400SLIM220	ALPHA SLIM, 0-220 HEAD, CEILING MOUNT, LED
IQ-500SLIM220	ALPHA SLIM, 0-220 HEAD, TABLETOP MOUNT, LED
IQ-600SLIM220	ALPHA SLIM, 0-220 HEAD, BOLTED FLOOR MOUNT, LED
IQ-ENT1SLIM220	ALPHA SLIM, 0-220 HEAD, FLOOR STAND, LED
IQ-ENT2SLIM220	ALPHA SLIM, 0-220 HEAD, WALL MOUNT, LED
IQ-ENT3SLIM220	ALPHA SLIM, 0-220 HEAD,HIGH WALL MOUNT, LED
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IQ-ENT6SLIM220	ALPHA SLIM, 0-220 HEAD, BOLTED FLOOR MOUNT, LED
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IQ-ENT3SLIM	ALPHA SLIM, STRAIGHT HEAD,HIGH WALL MOUNT, LED
IQ-ENT4SLIM	ALPHA SLIM, STRAIGHT HEAD, CEILING MOUNT, LED
IQ-ENT5SLIM	ALPHA SLIM, STRAIGHT HEAD, TABLETOP MOUNT, LED
IQ-ENT6SLIM	ALPHA SLIM, STRAIGHT HEAD, BOLTED FLOOR MOUNT, LED

Dear Purchaser,

Congratulations on the purchase of your microscope. Your instrument has been carefully assembled and shipped to you. Please complete the Warranty Registration online at the link below and answer the questions to activate and guarantee your warranty. Retain this warranty document for your records.

Thank you for purchasing a Seiler microscope.

INTERNATIONAL WARRANTY

Except as set forth in this Three (3) Year International Warranty, Seiler Instrument Company ("SIC") hereby warrants that each Seiler microscope product manufactured and/or sold by SIC shall be free from defects in materials and workmanship under normal use and service for three years. International Warranty includes mechanics, optics, and hardware (such as casters, knobs, tension band). This warranty is non-transferable and is valid only with respect to the original purchaser of the product. SIC obligation under this warranty shall be limited to repairing or replacing, at SIC facility and at SIC expense, any parts or components which are demonstrated to be defective. The purchaser shall be responsible for shipment of the product to SIC facility at 3433 Tree Court Industrial Blvd., St. Louis MO 63122, Attention: Micro Product Department, or such other facility as SIC may otherwise designate. Under certain circumstances which are pre-approved by SIC, necessary repairs may be made at the purchaser's facility. A return authorization is required before returning any product for warranty service by calling 1-800-489-2282 x347.

This warranty shall not apply to electronic and electrical components of the microscope or accessories such as video equipment, monitors and laptop which carry a three (3) year warranty OR any components which are consumable or are required to be replaced or disposed of in normal use of the product, such as lamps, fiber-optic cables and rubber eye cups OR any product which was purchased prior to April 29, 2016.

This warranty shall be void and of no effect: (1) if the product is damaged due to misuse, use in a manner other than pursuant to the instruction for the use of the product, abuse, physical mishandling or natural causes such as flood, fire, earthquake or other perils, as determined by SIC, or (2) if any repairs are made by persons unauthorized by SIC to perform such services.

The warranties set forth here are in lieu of any and all other warranties expressed or implied, including, without limitation, warranties of merchantability and fitness for a particular purpose. Purchaser's rights thereunder are granted in lieu of any other rights purchaser may have and purchaser hereby waives all other rights, warranties, remedies or guarantees whatsoever with respect to the product.
SIC shall not be liable for any reason to any third parties in respect of the product or its performance. Further, SIC shall not be liable for, and purchaser hereby releases SIC from any direct, indirect, consequential, special, incidental or punitive damages in respect to the product. In no event shall SIC be liable for any breach of warranty or other claim in an amount exceeding the purchase price of the product.

The customer is responsible for the shipping costs to Seiler Instrument Company. Seiler Instrument Company will pay the most economical method of shipping back to the customer. Any special shipping method will be paid by the customer.

Warranty must be registered online at:
http://www.seilermicro.com/products/warranty-registration/

SEILER
MEDICAL DIVISION

Toll-Free: 800.489.2282 | Local: 314.968.2282 | Fax: 314.968.3601 | E-mail: micro@seilerinst.com | www.seilerinst.com

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The warranties set forth here are in lieu of any and all other warranties expressed or implied, including, without limitation, warranties of merchantability and fitness for a particular purpose. Purchaser's rights thereunder are granted in lieu of any other rights purchaser may have and purchaser hereby waives all other rights, warranties, remedies or guarantees whatsoever with respect to the product.
SIC shall not be liable for any reason to any third parties in respect of the product or its performance. Further, SIC shall not be liable for, and purchaser hereby releases SIC from any direct, indirect, consequential, special, incidental or punitive damages in respect to the product. In no event shall SIC be liable for any breach of warranty or other claim in an amount exceeding the purchase price of the product.

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3433 Tree Court Industrial Blvd.
St. Louis, Missouri 63122
USA
Toll Free: (800) 489-2282
Local: (314) 968-2282
Email: micro@seilerinst.com
www.seilerinst.com

EC REP

Atlantico Systems Ltd.
34 Oldfield
Kingston, Galway
Ireland
www.atlanticosystems.com
Phone: +35391443609

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