



Motic®

MORE THAN MICROSCOPY

SMZ-161

Zoom Magnification
Stereomicroscope



SMZ-161 | Zoom Magnification Stereomicroscope

Employing the Greenough stereoscopic optical system, the Motic SMZ-161 series stereomicroscopes provide you large-scale zoom ratio and the clearest image, high distortion-free and depth of field as well. SMZ-161 offers the best performance of a zoom ratio with 1:6, high resolution and long working distance.

SMZ-161 displays sharp, three-dimensioned images and wide field of view. Designed with eye point of 367mm and a comfortable viewing angle of 45°, which meets the ergonomic requirements, the SMZ-161 enables you to work with prolonged hours of viewing without discomfort felt by neck and shoulder. It mainly used for industries applications, allow you to observe assembly and inspect small parts or integrated circuits on PCB, LCD production line, as well as detection of precision parts for mechanical machining. The SMZ-161 is most suitable for combining with other equipment at the same time.







Binocular head

Designed with a comfortable viewing angle of 45° and interlock eyepiece tube, the SMZ-161 eyepiece tubes allows a flexible adjustment of the interpupillary distance between 50 and 75mm. Adjustable eyepiece tubes gives the user the additional freedom to vary the diopter in a range of $\pm 5^\circ$, finally get the best observation effect.

Greenough principle improves overall resolution, displays 460 lines in maximum per mm. The SMZ-161 designed with zoom magnification click stops and 1:6 zoom ratio allows a flexible magnification change between 0.75X~4.5X.

Eyepieces

The SMZ-161 displays a wide field flatness of 23mm, equipped with couple of eye cup allowing a convenient observation.

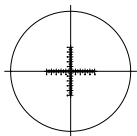
Besides the standard 10X eyepieces, the SMZ-161 series also offers higher magnification eyepieces.

Description	F.N.	SAP code
Widefield N-WF 15X	Ø16	1300700102811
Widefield N-WF 20X	Ø13	1300700102881

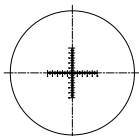


Eyepiece Graticules

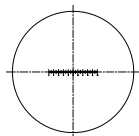
In the Motic SMZ-161 a variety of graticules for measuring purposes are available to meet your different needs..These include:



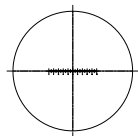
10mm:0.1mm
Graticule with
bidirectional scale
10mm:100 and
crosshair



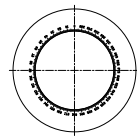
10mm:0.1mm
Graticule with
bidirectional scale
10mm:100



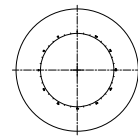
10mm:0.1mm
Micrometer (100
divisions in 10mm)
(25mm diameter)



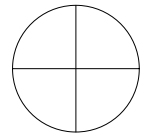
10mm:0.1mm
Micrometer (100
divisions in 10mm)
(25mm diameter) with
crosshair



360°:1°
Graticule with scale



360°:10°
Graticule with scale
360°: 360 and crosshair
360°: 36 and crosshair



Crosshair graticule



Hand feeling adjustable

Focus knob with slip function to
prevent excessive gear extrusion

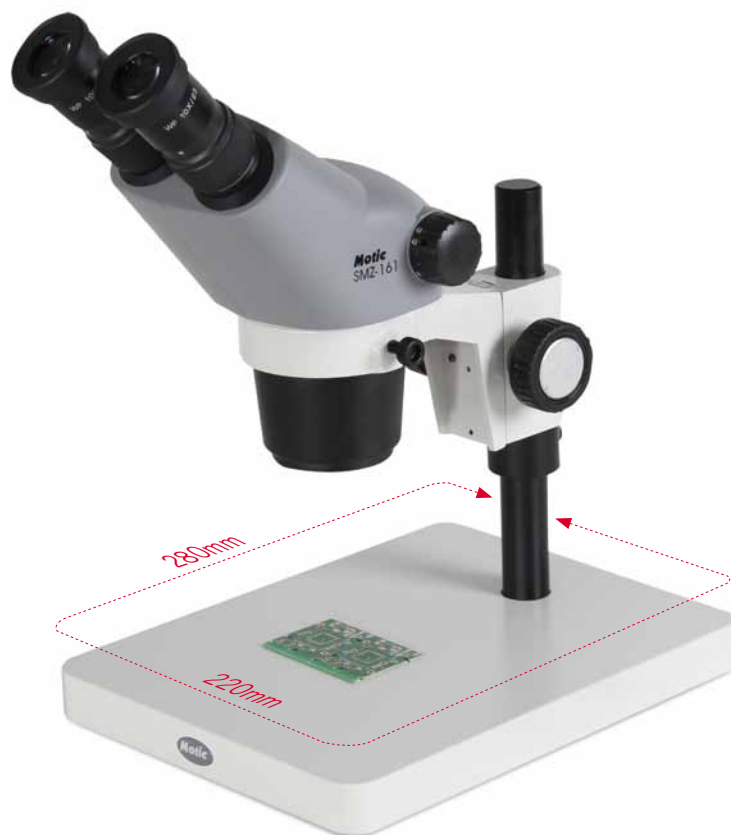
The focusing mechanism

Designed with dovetail focusing mechanism, the SMZ-161 ensures focusing flexible, comfortable, stable and reliable. Focusing stroke of Pole stand base is 45mm, the holder dimensions is Ø76mm.

The microscope has been set up at the factory so only a small adjustment is necessary when changing magnification. Hand feeling can be adjusted through elastic adjustment ring to prevent the binocular head dropping down or feeling too tight. Focus knob with slip function, when focusing going to a limit position of upper or lower, the swinging of focus knob will become idle, to prevent excessive gear extrusion.

Pole plain stand

The Motic SMZ-161 provides you spacious and comfortable working platform with 220mm x 280mm. Pole mount diameter is $\varnothing$ 25mm. Pillar bearing rings beneath focusing mechanism prevents it slipped down accidentally.



Auxiliary ESD objectives

Newly designed a variety of Auxiliary ESD objectives are available. These include 0.3X, 0.5X, 0.63X, 0.75X, 1.5X and 2X to meet you various requirement according to different working distance and total magnification. Only a small adjustment is necessary when mounting these auxiliary ESD objectives, just resize the focusing mechanism on the pole and refocus.

Working distance	SAP code
0.3X [WD = 301 mm]	1101001703651
0.5X [WD = 191.8 mm]	1101001703821
0.63X [WD = 142.7 mm]	1101001703661
0.75X [WD = 128.6 mm]	1101001703811
1.5X [WD = 56.3 mm]	1101001703671
2X [WD = 38.6 mm]	1101001703681

Industrial base stands

SMZ-161 has variety of industrial base stands available to satisfy different observation demands.



Articulating arm boom stand
(with square base and focusing connector)
1300705802751+1300705802641
+1300705802771
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm
Length of vertical pole: 400mm, 600mm for optional



Special universal stand
(with round base and focusing connector)
1300705802731+1300705802671
+1300705802771
Diameter of base: Ø300mm
Length of vertical pole: 400mm, 600mm for optional
Horizontal movement: 260mm
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm



Ball bearing boom stand
(with square base and focusing connector)
1300705802741+1300705802641
+1300705802771
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm
Length of vertical pole: 400mm, 600mm for optional



Special universal stand
(with square base and focusing connector)
1300705802731+1300705802641
+1300705802771
Length of base: 300mm
Width of base: 300mm
Horizontal movement: 400mm
Length of vertical pole: 400mm, 600mm for optional
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm



Articulating arm boom stand
(with table clamp type and focusing connector)
1300705802751+1300705802691
+1300705802771
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm
Maximum thickness of clamping the table: 75mm
Length of vertical pole: 400mm, 600mm for optional



Industrial arm boom stand
(with square base)
1300705802731+1300705802641
Length of base: 300mm
Width of base: 300mm
Horizontal movement: 400mm
Length of vertical pole: 400mm, 600mm for optional
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm
Connected with the industrial arm directly without focusing connector



Ball bearing boom stand
(with table clamp type and focusing connector)
1300705802741+1300705802691
+1300705802771
Vertical pole mounting diameter: Ø32mm
Focusing pole mounting diameter: Ø25mm
Maximum thickness of clamping the table: 75mm
Length of vertical pole: 400mm, 600mm for optional



Manual movement stand
1300705802711
Area of surface: 450mm x 350mm
X movement: 410mm
Y movement: 220mm
Supporting holder can swing around before and after, to satisfy the requirements to observe objects from different sides.

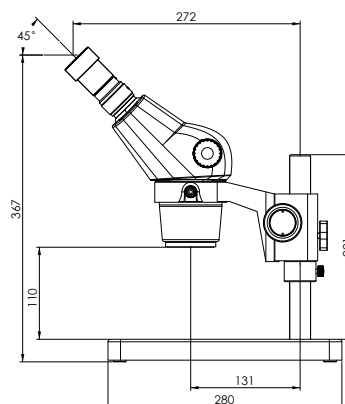
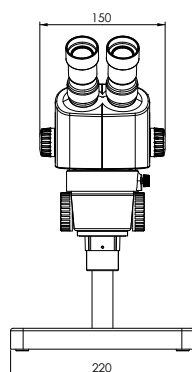
SMZ-161 Specifications

	SMZ-161-BP
Optical system	Greenough
Observation angle	45°
Magnification rang (standard)	0.75X - 4.5X
Zoom ratio	1:6
Eyepiece (standard)	WF10X (Ø23) / Adjustable eyepiece tube
Interpupillary adjustment	50mm-75mm
Working distance(standard)	110mm
Auxiliary ESD objectives	0.3X [WD = 301 mm]
	0.5X [WD = 191.8 mm]
	0.63X [WD = 142.7 mm]
	0.75X [WD = 128.6 mm]
	1.5X [WD = 56.3 mm]
	2.0X [WD = 38.6 mm]
Max. working distance	301mm

SMZ-161 Standard Configuration

	speciation		SAP code
Binocular head	Viewing angle of 45°		1300709600271
Eyepiece	WF 10X/ Ø23		1300700103231
	N-WF 15X/ Ø16 (Optional)		1300700102811
	N-WF 20X/ Ø13 (Optional)		1300700102881
Eyecup			1300303600071
Arm stands	Pole version	Plain stand	1300709600201
		Focusing block	1300709600191

SMZ-161-BP Schematic diagrams (mm)

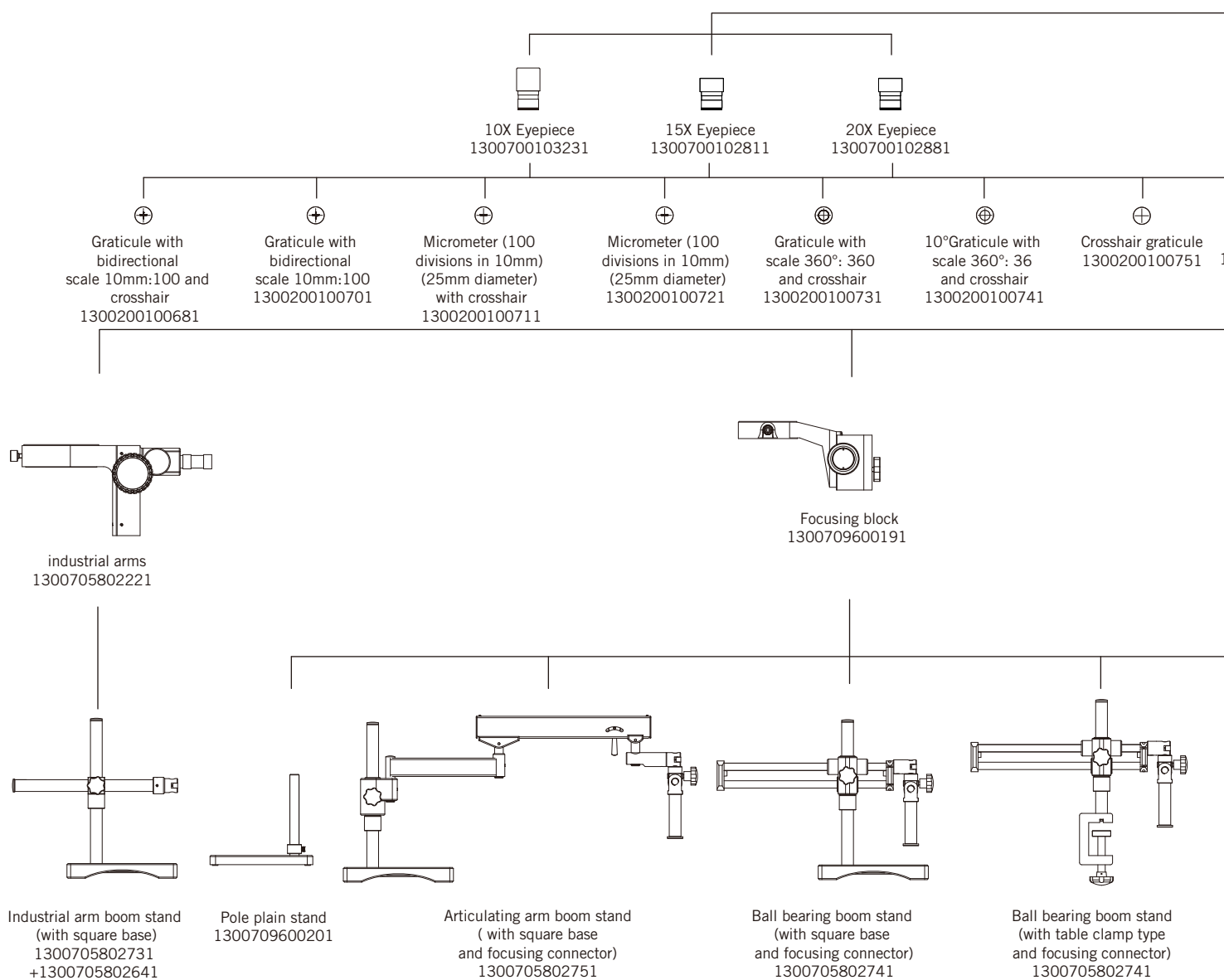


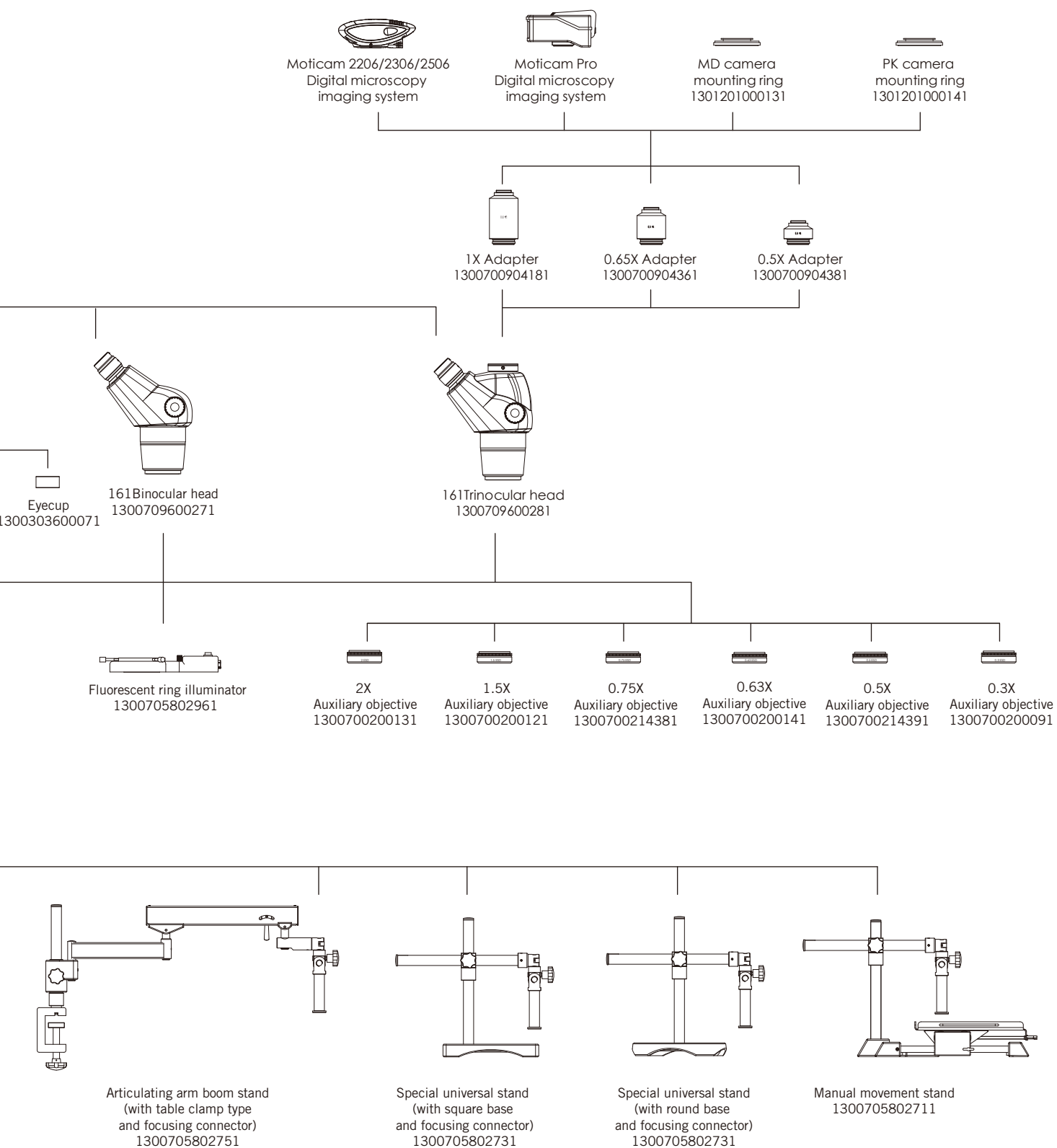
SMZ-161 Optical Data

Eyepiece	Mag. (X)	Standard Objectives		Auxiliary objectives											
				0.3X		0.5X		0.63X		0.75X		1.5X		2X	
		WD110mm		WD 301 mm		WD 191.8 mm		WD 142.7 mm		WD 128.6 mm		WD 56.3 mm		WD 38.6 mm	
		Mag.(X)	FD(mm)	Mag.(X)	FD(mm)	Mag.(X)	FD(mm)/ β	Mag.(X)	FD(mm)	Mag.(X)	FD(mm)	Mag.(X)	FD(mm)	Mag.(X)	FD(mm)
10X/23	0.75	7.5	30.67	2.25	102.22	3.75	61.33	4.725	48.68	5.625	40.89	11.25	20.44	15	15.33
	1	10	23.00	3	76.67	5	46.00	6.3	36.51	7.5	30.67	15	15.33	20	11.50
	2	20	11.50	6	38.33	10	23.00	12.6	18.25	15	15.33	30	7.67	40	5.75
	3	30	7.67	9	25.56	15	15.33	18.9	12.17	22.5	10.22	45	5.11	60	3.83
	4	40	5.75	12	19.17	20	11.50	25.2	9.13	30	7.67	60	3.83	80	2.88
	4.5	45	5.11	13.5	17.04	22.5	10.22	28.35	8.11	33.75	6.81	67.5	3.41	90	2.56
15X/16	0.75	11.25	21.33	3.375	71.11	5.625	42.67	7.0875	33.86	8.4375	28.44	16.875	14.22	22.5	10.67
	1	15	16.00	4.5	53.33	7.5	32.00	9.45	25.40	11.25	21.33	22.5	10.67	30	8.00
	2	30	8.00	9	26.67	15	16.00	18.9	12.70	22.5	10.67	45	5.33	60	4.00
	3	45	5.33	13.5	17.78	22.5	10.67	28.35	8.47	33.75	7.11	67.5	3.56	90	2.67
	4	60	4.00	18	13.33	30	8.00	37.8	6.35	45	5.33	90	2.67	120	2.00
	4.5	67.5	3.56	20.25	11.85	33.75	7.11	42.525	5.64	50.625	4.74	101.25	2.37	135	1.78
20X/13	0.75	15	17.33	4.5	57.78	7.5	34.67	9.45	27.51	11.25	23.11	22.5	11.56	30	8.67
	1	20	13.00	6	43.33	10	26.00	12.6	20.63	15	17.33	30	8.67	40	6.50
	2	40	6.50	12	21.67	20	13.00	25.2	10.32	30	8.67	60	4.33	80	3.25
	3	60	4.33	18	14.44	30	8.67	37.8	6.88	45	5.78	90	2.89	120	2.17
	4	80	3.25	24	10.83	40	6.50	50.4	5.16	60	4.33	120	2.17	160	1.63
	4.5	90	2.89	27	9.63	45	5.78	56.7	4.59	67.5	3.85	135	1.93	180	1.44

Note: "WD" represents Working distance, "Mag" represents Magnification, "FD" represents Field Diameter.

SMZ-161 System Diagrams







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Motic®

www.motic.com

Motic Incorporation Ltd. (HONG KONG)

Rm 2907-8, Windsor House, 311 Gloucester Road,
Causeway Bay, Hong Kong
Tel: 852-2837 0888 Fax: 852-2882 2792

Motic Instruments Inc. (CANADA)

180-4320 Viking Way Richmond, B.C. V6V 2L4 Canada
Tel: 1-877-977 4717 Fax: 1-604-303 9043

Motic Spain, S.L. (SPAIN)

Poligon Industrial Les Corts, Camí del Mig, 112
08349 Cabrera de Mar, Barcelona, Spain
Tel: 34-93-756 6286 Fax: 34-93-756 6287

Motic Deutschland GmbH (GERMANY)

Christian-Kremp-Strasse 11, D-35578 Wetzlar, Germany
Tel: 49-6441-210 010 Fax: 49-6441-210 0122

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The manufacturer reserves the right to make changes in instrument design in accordance with scientific and mechanical progress, without notice and without obligation.



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