

Motic®

MORE THAN MICROSCOPY



SMZ160 Series

ALL-PURPOSE STEREOMICROSCOPE

THE WORLD IN 3D

SMZ160 Series



Greenough
optical system



LED illumination



Zoom ratio



Zoom magnification



Pole type stand



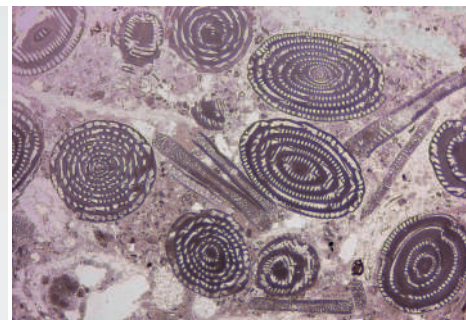
Affordability and precision are beautifully combined in Motic's new SMZ160 Stereo Zoom Microscope. This all-rounder, designed to be a versatile and durable optical instrument, can handle the rigorous demands of high school and university usage, all while also meeting the high-performance requirements for industrial quality control and inspection, research, medical

A versatile stereomicroscope for everyday use in education, industry, and the life sciences

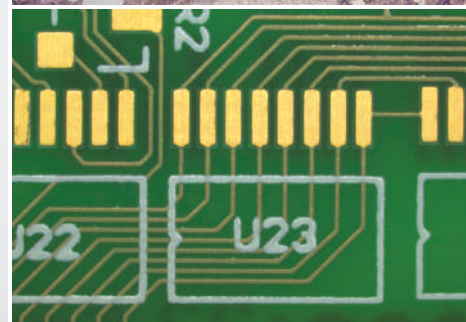
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Fossilized limestone ▶



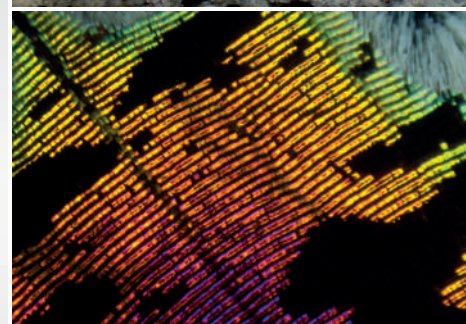
Printed circuit board ▶



Corroded aluminium alloy aircraft engine part ▶



Butterfly wing ▶



and forensic applications. The SMZ160 series stereomicroscopes feature an ergonomically designed yet resistant metal body that ensures years of consistent performance without compromising quality. Additionally, a variety of accessories are available to ensure perfect functionality for any application.

OPTICS & MECHANICS

Ergonomics meets clarity

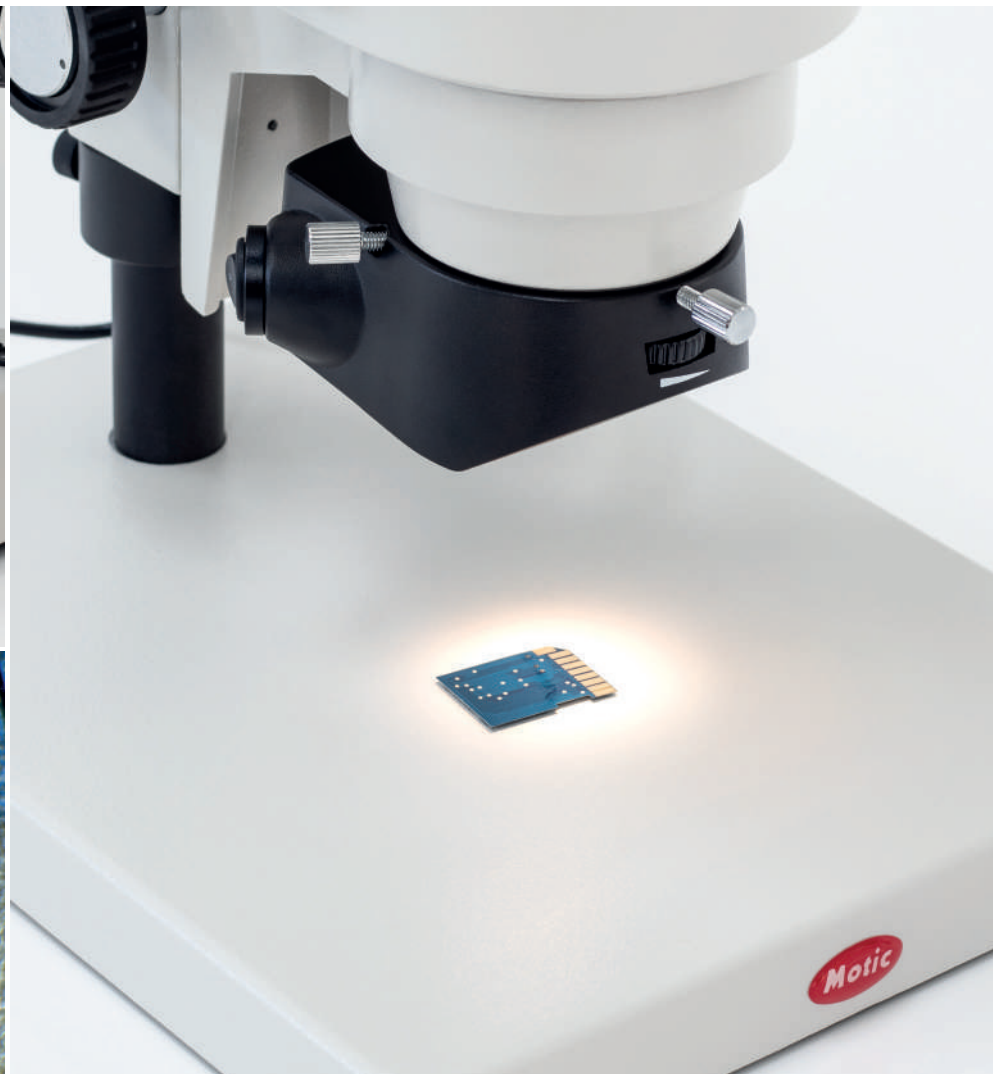


By offering a working distance of 100mm, the SMZ160 series' Greenough optical system allows you to move from smaller to larger samples and vice-versa with minimal focus adjustment. When combined with its high-eyepoint 10X/20mm eyepieces and a 45-degree inclination, this makes for hours of comfortable sample viewing.

This series also features a smooth focusing system that offers crisp and highly responsive handling, providing high-resolution images throughout the full standard magnification range of 7.5X to 45X with a 6:1 zoom ratio. Available with either LED illuminated and plain stands and either a binocular or trinocular head, you can choose the model that best suits your needs. At Motic, we offer you a wide range of auxiliary objectives with different magnifications: 0.35X, 0.5X, 0.75X, 1.5X, and 2.0X that can be selected based on your total magnification and/or working distance requirements.

ILLUMINATION

Lighting your way to perfect sample visualisation



€20 banknote: Ring light illumination / horizontal illumination

The SMZ160 series' state-of-the-art LED illuminated stand offers a bright 3W LED illumination in both the reflected and transmitted light packages. The provided LED light source resembles the colour temperature of natural light (5000K-6000K^o), ensuring that sample colours remain true to life. It also features intensity control for the optimal viewing of all kinds of samples.

These stereomicroscopes can be paired with a wide range of illumination accessories to meet the needs of any application. When a larger sample area is needed while also maintaining shadow-free illumination, a high-intensity Ring Light can be affixed below the objective or auxiliary lenses to provide steady light to the entire sample surface. By contrast, when your application requires looking for features and defects that can only be seen when certain parts are in shadow, the Segmentable Ring Light (60T) is the perfect accessory, shining light on certain quadrants while keeping others in shadow for effortless viewing.

ACCESSORIES



Expand your possibilities with a wide range of accessories



Nail marks on a prehistoric potsherd

BOOM STANDS

When your workflow calls for your stereomicroscope to be able to move freely on the x,y, and z axes for the optimal viewing of larger samples, a boom stand is your best option. Whether you need to view bulky samples like automotive parts, voluminous biological specimens, or long, flat samples like paintings, we offer you several high-quality options that are fully compatible with the SMZ160 series. These boom stands come in ball-bearing, clamping, and articulating arm versions to facilitate the work that needs to be carried out over longer distances.

ACCESSORIES

Whatever your needs, Motic has you covered

STAGE ACCESSORIES

When you need more from your stage, there are several options available to meet any requirement. These accessories are mounted on to the base plate of the transmitted light stand to offer greater dimensionality in sample viewing and imaging. One is the X/Y-Stage, which gives smooth movement on both the x-axis and y-axis by turning coaxial adjustment knobs. The second is a gliding stage, which allows for effortless multidirectional movement and gives you a 360-degree plane for moving your sample.

CONTRAST METHODS

In addition to the standard brightfield mode, discover the SMZ160 series' two additional contrast methods: darkfield and polarising light. The first is obtained by a darkfield insert mounted on top of the light exiting the transmitted light stand. This enhances contrast when observing transparent and translucent specimens, facilitating the imaging of samples like fibres and jewellery. Optionally, this insert can be combined with an optional iris diaphragm that allows for adjusting the illumination.

Instead, polarisation is essential when analysing the birefringence of transparent materials; to do this, a combination of a polariser and analyser for the SMZ-160 that is affixed atop the light exit of the transmitted light stand, is needed.

C-MOUNT ADAPTERS

If your researching activities require capturing images of your samples, the new SMZ160 series can be paired with Motic's C-Mount camera lens adapters, which are available in three optical factors, 0.35X, 0.5X, and 1X, and complete range of digital cameras. The new focus-adjustable adapter set ensures parfocality between the eyepiece and camera, meaning that the photographs of your images will remain as crisp and vibrant as when they come through the lens.



DIGITALISE YOUR LAB



Make documentation and photography a snap



HDMI



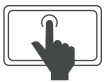
USB



Wi-Fi



RJ-45



MotiConnect App for mobile devices



MIP3.0 Image Analysis Software and MotiConnect for computers



Embedded App/Software to work with screens and projectors

MOTICAM SOLUTIONS

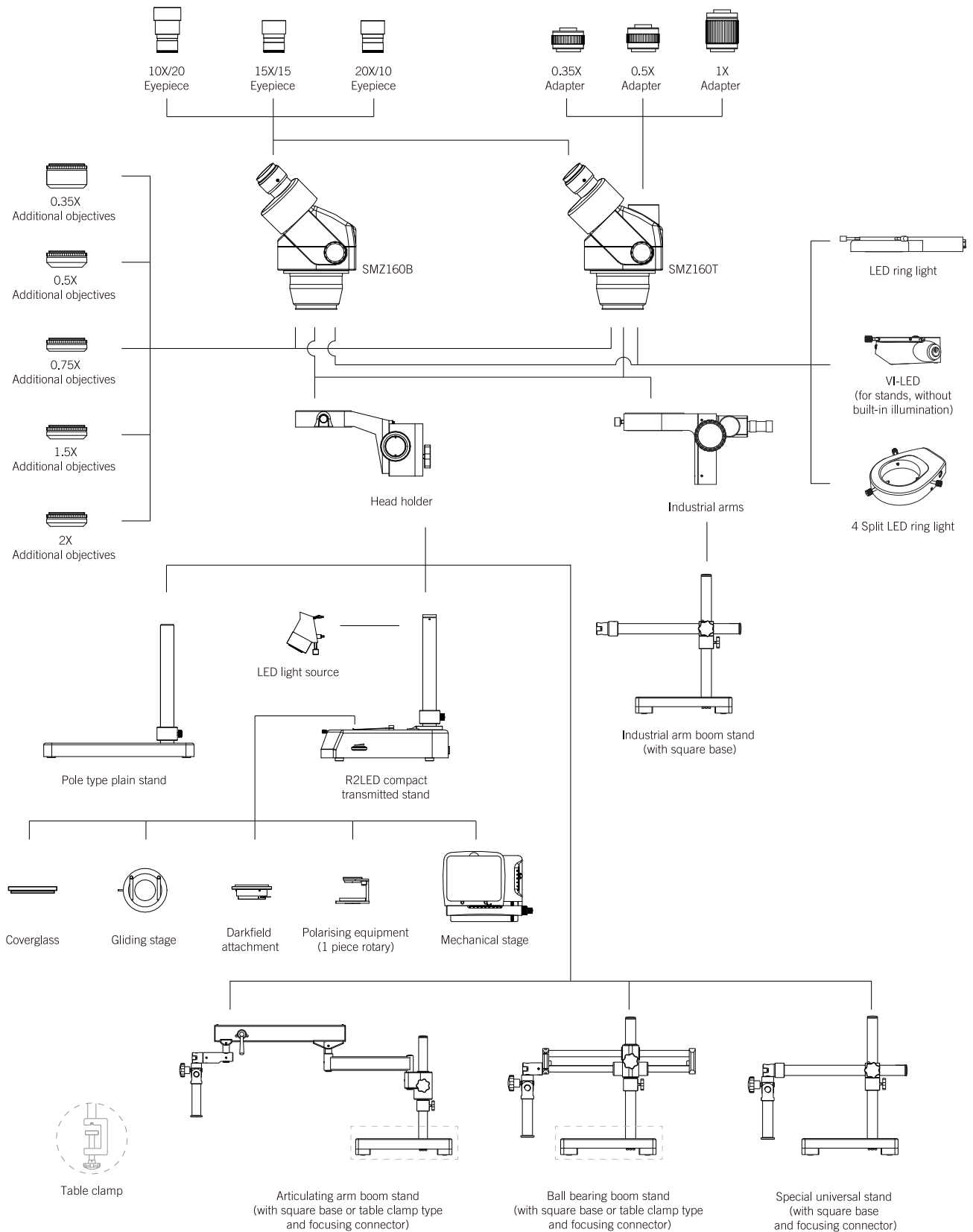
Digitalise your lab with our MotiCam solutions. Display your samples on your computer, tablet, smartphone or using a TV screen or projector and view, capture, edit, measure, create reports, and easily share your work with anyone in just a few clicks. The software solutions included in our packages feature a user-friendly interface, making for a collaborative environment by enabling effortless data sharing, encouraging teamwork, and fostering collective learning experiences.

TECHNICAL SPECIFICATIONS



| Name | SMZ-160-BP | SMZ-160-TP | SMZ-160-BLED | SMZ-160-TLED |
|----------------------------|--|-----------------|---|-----------------|
| Optical system | Greenough | | | |
| Observation tube | Binocular head | Trinocular head | Binocular head | Trinocular head |
| Inclination | 45° inclined | | | |
| Trinocular light split | - | Fixed 50:50 | - | Fixed 50:50 |
| Interpupillary distance | 55-75mm | | | |
| Diopter adjustment | +/-5 diopter on both eyepieces | | | |
| Eyepieces | Widefield WF10X/20mm with diopter adjustment | | | |
| Objectives system | Zoom, ratio 6:1 | | | |
| Objectives | 0.75X~4.5X | | | |
| Working distance | 100mm | | | |
| Stand type | Pole-type stand | | Pole-type stand with transmitted illumination | |
| Head holder | For Ø25mm column and Ø76mm head | | For Ø 25mm column and Ø76mm head with incident illumination | |
| Focus mechanism | Coarse focusing system with tension adjustment | | | |
| Focusing stroke | 43mm | | | |
| Incident illumination | - | - | LED 3W with intensity control | |
| Transmitted illumination | - | - | LED 3W with intensity control | |
| Transformer | - | - | External | |
| Power supply | - | - | 100-240V (CE) | |
| Accessories included | Dust cover | | Dust cover, black/white and frosted stage plates | |
| Dimensions LxWxH | 280x220x367mm | | 237x170x398mm | |
| Base | 280x220mm | | 237x170mm | |
| Column/Arm | Height 221mm, Ø25mm | | Height 205mm, Ø25mm | |
| Net weight | 3.2 Kg | 3.3 Kg | 3.6 Kg | 3.7 Kg |
| CONTRAST TECHNIQUES | | | | |
| Brightfield | Brightfield | | | |
| Polarisation | - | - | Optional add-on | |
| Darkfield | - | - | Optional add-on | |

SYSTEM DIAGRAM

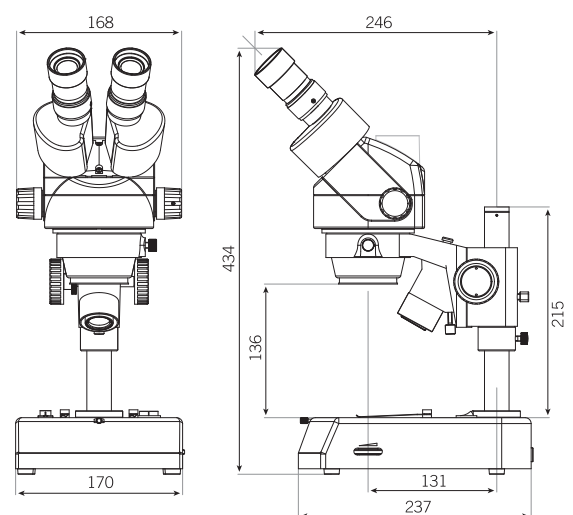
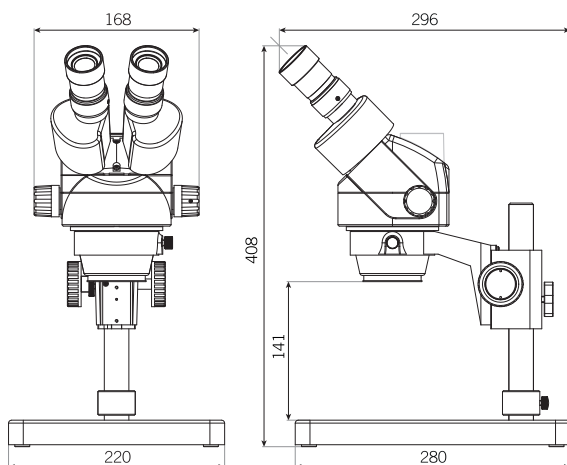


OPTICAL DATA & DIMENSIONS

| Eyepiece | Magnification (X) | Standard objective | | Auxiliary objectives | | | | | | | | | |
|----------|-------------------|--------------------|-----------|----------------------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|
| | | | | 0.35X | | 0.5X | | 0.75X | | 1.5X | | 2X | |
| | | WD 100mm | | WD 287mm | | WD 165mm | | WD 120mm | | WD 47mm | | WD 30mm | |
| | | Mag. (X) | F.N. (mm) | Mag. (X) | F.N. (mm) | Mag. (X) | F.N. (mm) | Mag. (X) | F.N. (mm) | Mag. (X) | F.N. (mm) | Mag. (X) | F.N. (mm) |
| 10X/20 | 0,75 | 7,50 | 26,67 | 2,63 | 76,19 | 3,75 | 53,33 | 5,63 | 35,56 | 11,25 | 17,78 | 15,00 | 13,33 |
| | 1 | 10,00 | 20,00 | 3,50 | 57,14 | 5,00 | 40,00 | 7,50 | 26,67 | 15,00 | 13,33 | 20,00 | 10,00 |
| | 2 | 20,00 | 10,00 | 7,00 | 28,57 | 10,00 | 20,00 | 15,00 | 13,33 | 30,00 | 6,67 | 40,00 | 5,00 |
| | 3 | 30,00 | 6,67 | 10,50 | 19,05 | 15,00 | 13,33 | 22,50 | 8,89 | 45,00 | 4,44 | 60,00 | 3,33 |
| | 4 | 40,00 | 5,00 | 14,00 | 14,29 | 20,00 | 10,00 | 30,00 | 6,67 | 60,00 | 3,33 | 80,00 | 2,50 |
| | 4,5 | 45,00 | 4,44 | 15,75 | 12,70 | 22,50 | 8,89 | 33,75 | 5,93 | 67,50 | 2,96 | 90,00 | 2,22 |
| 15X/15 | 0,75 | 11,25 | 20,00 | 3,94 | 57,14 | 5,63 | 40,00 | 8,44 | 26,67 | 16,88 | 13,33 | 22,50 | 10,00 |
| | 1 | 15,00 | 15,00 | 5,25 | 42,86 | 7,50 | 30,00 | 11,25 | 20,00 | 22,50 | 10,00 | 30,00 | 7,50 |
| | 2 | 30,00 | 7,50 | 10,50 | 21,43 | 15,00 | 15,00 | 22,50 | 10,00 | 45,00 | 5,00 | 60,00 | 3,75 |
| | 3 | 45,00 | 5,00 | 15,75 | 14,29 | 22,50 | 10,00 | 33,75 | 6,67 | 67,50 | 3,33 | 90,00 | 2,50 |
| | 4 | 60,00 | 3,75 | 21,00 | 10,71 | 30,00 | 7,50 | 45,00 | 5,00 | 90,00 | 2,50 | 120,00 | 1,88 |
| | 4,5 | 67,50 | 3,33 | 23,63 | 9,52 | 33,75 | 6,67 | 50,63 | 4,44 | 101,25 | 2,22 | 135,00 | 1,67 |
| 20X/10 | 0,75 | 15,00 | 13,33 | 5,25 | 38,10 | 7,50 | 26,67 | 11,25 | 17,78 | 22,50 | 8,89 | 30,00 | 6,67 |
| | 1 | 20,00 | 10,00 | 7,00 | 28,57 | 10,00 | 20,00 | 15,00 | 13,33 | 30,00 | 6,67 | 40,00 | 5,00 |
| | 2 | 40,00 | 5,00 | 14,00 | 14,29 | 20,00 | 10,00 | 30,00 | 6,67 | 60,00 | 3,33 | 80,00 | 2,50 |
| | 3 | 60,00 | 3,33 | 21,00 | 9,52 | 30,00 | 6,67 | 45,00 | 4,44 | 90,00 | 2,22 | 120,00 | 1,67 |
| | 4 | 80,00 | 2,50 | 28,00 | 7,14 | 40,00 | 5,00 | 60,00 | 3,33 | 120,00 | 1,67 | 160,00 | 1,25 |
| | 4,5 | 90,00 | 2,22 | 31,50 | 6,35 | 45,00 | 4,44 | 67,50 | 2,96 | 135,00 | 1,48 | 180,00 | 1,11 |

SMZ-160-BP/TP

SMZ-160-BLED/TLED





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