



FOR MORE  
INFORMATION



# CATALOGUE

REVISION

3.3

**TANK, VESSEL & PIPE INSPECTION CAMERAS**

PAN-TILT-ZOOM CAMERAS ▪ PIPE INSPECTION CAMERAS ▪ ACCESSORIES



## CHOOSE THE FITTING EQUIPMENT

This catalogue provides you with a choice of specialized remote visual inspection systems designed and optimized for bigger volume & vessel inspections.



### DIAMETER

Choose the closest outer diameter of your camera to the inner diameter of your application. The right choice keeps the costs low and the image quality high, as well as enabling a robust stability inside the application.



### WORKING LENGTH

To work without major interference, choose the correct working length necessary.



### PERFORMANCE



Choose the system offering best capabilities for your specific application: High light sensitivity and large optical zoom for big vessel inspections, far distant detail imaging, orbital rotation with dual view camera head for high quality, cost efficient orbital weld & pipe wall inspections.

The use of these systems can often save time, money and shorten production downtime. Using viZaar®'s products reduces the need for inspectors to enter potential hostile, hazardous environment. Excellent optical zoom capabilities diminish erecting expensive scaffolding, avoid potential contamination and damage on sensitive vessel surfaces.



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<https://vizaar.de/en/vizaar-worldwide/>





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# 1 PIPE AND WELD SEAM INSPECTION

For Efficient 360° Pipe & Weld Inspections from 80 mm to 1,000 mm Inner Pipe Diameter



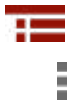
## REVOLVER 80



**PANORAMA  
SCAN**

The pipe inspection camera REVOLVER 80 provides an endless 360° rotating dual camera head (0° and 90° DOV) with high power LED illumination. Controlled by the joystick or following a predefined scan mode, the 360° revolving side view camera is ensuring 100% orbital weld / tube wall panorama inspections and seamless longitudinal weld inspections. No detail is missed. Zoom onto smallest details from the remotest areas with the impressive 10x optical and additional digital zoom. A high resolution forward view camera is offering excellent sight and orientation within your application. The powerful dual illumination technology is delivering homogenous automatic or manual illumination even in big, dark cavities. User defined left / right level functionality maximizes the potential failure contrast, also on shiny and reflective surfaces such as coated or electro polished food grade tubes.

Orientation and image interpretation becomes easy, even after a view twists and turns during remote visual inspection. If there is no specific geometry or water level, up / down & left / right orientation will be lost and manoeuvring the instrument, interpretation of the image and securing full inspection can become a nightmare. The REVOLVER 80 auto level function keeps your camera in an upright 0° position, which resets the orientation and ensures a precise inspection starting point. It provides simple equipment handling and image interpretation, reduces inspection time, user & equipment fatigue, and therewith costs.



# 1 PIPE AND WELD SEAM INSPECTION

## 1.1 REVOLVER 80 System Kits

1.1 Ø 79 mm



REVOLVER 80 System Kits

DOV	FOV	LENGTH	SYSTEM KIT
0° / 90°	4.6° to 46°	30 m	VXX-11-000116

Including:

- REVOLVER 80 Camera Head
- Camera Head Transport Case
- MATRIX E3
- Martix SNK 60x/Revolver 80 Interface
- Short Guide
- Accessories Pouch
- Main Cable 30 m
- Centering Ring

## 1.2 Camera Head

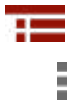
1.2 Camera Head



Camera Head

REVOLVER 80 SPARE CAMERA HEAD		BEM-30-000142
<b>Diameter</b>	79 mm	
<b>Recommended Pipe Ø</b>	80 mm to 1.000 mm	
<b>Rotation</b>	Endless 360° rotation, rotation speed: 0.1° to 90° / sec.	
<b>Cameras</b>	Dual Camera Head: Forward View and Side View	
<b>DOV</b>	Forward View: 0°   Side View: 90°	
<b>FOV</b>	Forward View: 70°   Side View: 4.6° to 46°	
<b>Focus</b>	Autofocus/Manual	
<b>Zoom</b>	Side View: 10x Optical / 12x Digital	
<b>Resolution</b>	Forward View: (H) 752 x (V) 582 px   Side View: 530 Lines	
<b>Illumination</b>	Forward View: 15 x Ultra-Bright LED Illumination (Auto)   Side View: 2 x 4 Ultra-Bright LED Illumination for side Module (Manual / Auto)	
<b>Illuminance</b>	Forward View: 1.2 lx	
<b>Mounting</b>	Adapter for 10 mm Glass Fiber Push Pole	
<b>Functions</b>	Panoramic Scan   Self-Leveling Automatic keeps the Camera Head in Upright Position (Positioning Dependent to Earth-Gravitation)   Programmable Return & Home Position	

Other configurations, spare camera heads and accessories are available in further chapters. For a detailed description of the features and benefits of the Matrix E3 documentation unit, see Chapter 3.






# 1 PIPE AND WELD SEAM INSPECTION




## 1.3 Accessories

## 1.3 Accessories

### Optional Accessories

- Glass Fiber Push Pole Set
- Centering Fixture Set
- Soft Bag for Glass Fiber Push Poles
- Main Cables

GLASS FIBER PUSH POLE SET		BMX-50-000297
	<b>5x Glass Fiber Push Pole „Soft“, Ø 6 mm, Each 1.5 Meter Length</b> Simply to Connect and Extend by the Tool-Free 10 mm Interconnector	
	<b>5x Glass Fiber Push Pole „Medium“, Ø 7.5 mm, Each 1.5 Meter Length</b> Simply to Connect and Extend by the Tool-Free 10 mm Interconnector	
	<b>5x Glass Fiber Push Pole „Stiff“, Ø 9 mm, Each 1.5 Meter Length</b> Simply to Connect and Extend by the Tool-Free 10 mm Interconnector	

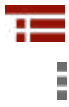
CENTERING FIXTURES SET		BMX-50-000296
	<b>Centering Fixtures „Medium“: 140 mm to 210 mm</b>	
	<b>Centering Fixtures „Large“: 225 mm to 540 mm</b>	
	Solid Constructed Aluminum Centering Fixtures Positioning the Camera Head in the Center of the Pipe, Keeping the Camera Head Away from Dirt. The Probe is Easier to Push Forward and a Center Image Position is Delivering Repetitive Magnified, Perfectly Focused Images Around the Tube	



Main Cables

LENGTH	SLIPRING CABLE REEL REQUIRED	ITEM NO.
3 m	-	BEM-30-000441
30 m	-	BEM-30-000448
50 m	-	BEM-30-000450
80 m	-	BEM-30-000451
150 m	✓	BEM-30-000452*

\*Orders of cable reels always include the main cable BEM-30-000441.  
Other cable lengths available on request.



# 1 PIPE AND WELD SEAM INSPECTION

## 1.3 Accessories

## 1.3 Accessories



Centering Ring



Centering Fixture



Centering Fixture



Glass Fiber Push Pole



Glass Fiber Push Pole



Glass Fiber Push Pole



Soft Bag



Glass Fiber Pushing Aids

SPARE CENTERING RING FOR REVOLVER 80, SMALL		MXX-10-000509
<b>Dimension</b>	95 mm	
<b>Recommended Pipe Ø</b>	From 100 mm	
<b>Construction</b>	Robust and low friction polyoxymethylene	
<b>Function</b>	This centering ring is used with the REVOLVER 80 camera head inside pipes. The centering ring keeps the camera off the ground allowing orbital camera rotation & eases inspection when centered in a tube.	

CENTERING FIXTURE, MEDIUM		BMX-50-000294
<b>Adjustment Range</b>	140 mm to 210 mm	
<b>Recommended Pipe Ø</b>	From 145 mm	
<b>Construction</b>	Aluminium	
<b>Function</b>	Centering fixture for usage of the REVOLVER 80 camera head inside pipes. Keeps the camera head off the ground and eases inspections when centered. The centering trolley contains six plastic wheels for low operation friction when pushing the camera head inside the pipe.	

CENTERING FIXTURE, LARGE		BMX-50-000295
<b>Adjustment range</b>	225 mm to 540 mm	
<b>Recommended pipe Ø</b>	From 230 mm	
<b>Construction</b>	Aluminium	
<b>Function</b>	Centering fixture for usage of the REVOLVER 80 camera head inside pipes. Keeps the camera head off the ground and eases inspections when centered. The centering trolley contains six plastic wheels for low operation friction when pushing the camera head inside the pipe.	

GLASS FIBER PUSH POLE, SOFT		FXX-71-000100
<b>Diameter</b>	6.0 mm	
<b>Construction</b>	PE coated Glass Fiber Push Pole	
<b>Length</b>	1.5 m	
<b>Mounting</b>	10 mm Stainless Steel Quick Coupling	

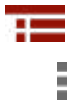
GLASS FIBER PUSH POLE, MEDIUM		FXX-71-000101
<b>Diameter</b>	7.5 mm	
<b>Construction</b>	PE coated Glass Fiber Push Pole	
<b>Length</b>	1.5 m	
<b>Mounting</b>	10 mm stainless steel quick coupling	

GLASS FIBER PUSH POLE, STIFF		FXX-71-000102
<b>Diameter</b>	9.0 mm	
<b>Construction</b>	PE coated Glass Fiber Push Pole	
<b>Length</b>	1.5 m	
<b>Mounting</b>	10 mm Stainless Steel Quick Coupling	

SOFT BAG FOR GLASS FIBER PUSH POLES		FXX-82-000108
This soft bag stores up to 15 of your connectable glass fiber push poles. Made from robust easy to clean materials, it will be simple to transport and store your full length push rod system.		

OUTER Ø	LENGTH	ADAPTER	WEIGHT	ITEM NO.
6.0 mm	30 m	6.0 mm to 10.0 mm	6.8 kg	FXX-71-000117
6.0 mm	50 m	6.0 mm to 10.0 mm	7.8 kg	FXX-71-000112
9.0 mm	30 m	9.0 mm to 10.0 mm	10.0 kg	FXX-71-000120
9.0 mm	50 m	9.0 mm to 10.0 mm	12.0 kg	FXX-71-000114
9.0 mm	70 m	9.0 mm to 10.0 mm	14.0 kg	FXX-71-000116
11.0 mm	100 m	11.0 mm to 10.0 mm	35.0 kg	FXX-71-000115





# 1 PIPE AND WELD SEAM INSPECTION

## 1.3 Accessories

## 1.3 Accessories



Transport Case

### REVOLVER 80 CAMERA HEAD TRANSPORT CASE

BMX-50-000523

Light-weight, compact and splash water proof high performance transport case for REVOLVER 80 camera head. The transport case is equipped with tailored foam interior for perfect protection of your camera heads during transport and storage.



Storage Box Tip Adapters

### CABLE & ACCESSORIES SOFT POUCH

FXX-82-000109

Robust dirt repelling Nylon pouch for transportation & storage of camera cable harness and accessories. The soft shoulder strap allows free hands and user comfort. The pouch carries up to 50 m main cable. All useful accessories have a designated space and fitting, the outer pocket provides space for typical little tools inspectors like to have on-site.



Display Protective Foil

### VUSCREEN DISPLAY PROTECTIVE FOIL

MXX-70-000274

This display cover will perfectly fit and protect your touch screen from any dirt and scratching, chemical substances corrosion, destruction, or deterioration caused by sea water. It is easy to place and replace from the screen and highly transparent. The antireflective coating will provide perfect image quality. The touch screen functions are guaranteed even with gloves on.



BOSCH Battery

### BOSCH BATTERY

EXX-91-00129

36 V BOSCH battery for up to 5 h operation in battery mode.



BOSCH Battery Charger

### BOSCH BATTERY CHARGER

EXX-92-00155

BOSCH battery charger for 36 V battery.



Product Training

### SYSTEM TRAINING IN ALBSTADT/WOLFENHAUSEN

SXX-20-000111

#### Up to 6 persons in one session. (6 hrs)

Inhouse training includes working with the MATRIX E3. First start-up of the system, quick start, handling the camera heads, accurate file management, working with the text generator, copying files on a USB device, changing centering discs and safe storage of the system.



## 2 TANK AND CONTAINER INSPECTION

Pan-Tilt-Zoom Inspection Camera with 60x Zoom

# SNK

60x

60X ZOOM

[WIDE  
DYNAMIC]

WIDE DYNAMIC  
RANGE

-15°C TO  
+55°C

TEMPERATURE  
RANGE

MAX.  
50  
METER

WATERTIGHTNESS

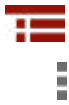
The SNK with a unique 60x zoom, precisely RUN & SCAN function & extensive range of pan-tilt-zoom camera accessories. Big vessels, huge volume tanks & other storage containments can be inspected by just entering the SNK through a small manhole.

Remotely positioned and maneuvered from the outside, this system reduces the need for inspectors to enter potential hostile, hazardous environment. A very light sensitive camera system with powerful illumination, unique and outstanding optical zoom capabilities delivers smallest detail view from long distances. This inspection method reduces costs for scaffolding; avoids potential contamination & damage on sensitive vessel surfaces.

The excellent pan & tilt capabilities offer all round inspection. Quickly achieve good orientation and overview with the wide angle view. No detail is missed. Zoom in the smallest detail from the remotest area with the impressive 60x and additional digital zoom. The image will be presented and analysed from the outside in high resolution, allowing ergonomic working & consultation by other experts. Specific X/Y position information guarantees detailed orientation and documentation and can be saved for repetitive inspections. The RUN & SCAN function ensures systematic outright containment wall inspections, camera coordinates are displayed and registered to prove and document the process. Two independent controllable, field replaceable headlights offer the best possible independent illumination & failure detection.

Connect the SNK camera head to the MATRIX E3 system utilizing the SNK / REVOLVER 80 pack. With optional, longer cable lengths, the system cable can be stored and operated while winding / unwinding from the patented viZaar® cable reel system. Digital image manipulation provides image presentation in upright position, even when the camera is operated upside down.





# 2 TANK AND CONTAINER INSPECTION

## 2.1 SNK 60x System Kits

## 2.1 System Kits



SNK 60x System Kits

ILLUMINATION	CONSTRUCTION	LENGTH	SYSTEM KIT
LED *	Aluminium	30 m	VXX-30-000148
LED *	Stainless steel	30 m	VXX-30-000150

\*upon request also with halogen light source

SNK 60x System-Kit included:

- SNK 60x camera head (LED)
- Camera head transport case
- MATRIX E3
- Martix SNK 60x/Revolver 80 interface
- Short Guide
- Accessories Soft Pouch
- Main Cable 30 m
- Strain Relief

ILLUMINATION	CONSTRUCTION	LENGTH	SYSTEM KIT
LED and UV emitter	Aluminium	30 m	VXX-30-000161

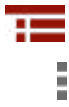
SNK Ultra 365 System-Kit included:

- SNK 60x Camera Head (LED + UV)
- Camera Head Transport Case
- MATRIX E3
- Martix SNK 60x/Revolver 80 Interface
- Short Guide
- Accessories Soft Pouch
- Main Cable 30 m
- Strain Relief



SNK Ultra 365 System-Kit

Other configurations, spare camera heads and accessories are available in further chapters. For a detailed description of the features and benefits of the Matrix E3 documentation unit, see Chapter 3.



# 2 TANK AND CONTAINER INSPECTION

## 2.2 SNK 60x Camera Heads

## 2.2 Camera Heads



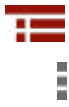
CAMERA HEAD	SNK 60X LED *	SNK 60X LED*	SNK 60X LED + UV
ITEM NO.	VXX-30-000147	VXX-30-000153	VXX-30-000159
Zoom	60x	60x	60x
Illumination	1x LED 7 Watt spot (25°) at 4.000K, dimmable 1x LED 7 Watt wide-angle (100°) at 4.000K, dimmable (for homogenous illumination coverage of close-up views)	1x LED 7 Watt spot (25°) at 4.000K, dimmable 1x LED 7 Watt wide-angle (100°) at 4.000K, dimmable (for homogenous illumination coverage of close-up views)	1x LED with 365 nm UV emitter 1x LED 7 Watt wide-angle (100°) at 4.000K, dimmable (for homogenous illumination coverage of close-up views)
Construction	Black anodized aluminium	Uncoated stainless steel	Black anodized aluminium
FOV	Min. 1.6° (tele angle) Max. 45° (wide angle)	Min. 1.6° (tele angle) Max. 45° (wide angle)	Min. 1.6° (tele angle) Max. 45° (wide angle)
Pan movement range	+/- 173.5° (total 347°)	+/- 173.5° (total 347°)	+/- 173.5° (total 347°)
Tilt movement range	-180° / +60° (total 240°)	-180° / +60° (total 240°)	-180° / +60° (total 240°)
Axis traveling speed	Max. 14 ° / sec.	Max. 9 ° / sec.	Max. 14 ° / sec.
Resolution	1920(H) x 1080(V) ( 1/3" Panasonic CMOS Sensor)	1920(H) x 1080(V) ( 1/3" Panasonic CMOS Sensor)	1920(H) x 1080(V) ( 1/3" Panasonic CMOS Sensor)
Compressive strength	50 m water depth default	50 m water depth default	50 m water depth default
Housing air pre-pressure	Max. 0.7 bar / 10.15 psi (for leakage testing and water depth pressure relieve)	Max. 0.7 bar / 10.15 psi (for leakage testing and water depth pressure relieve)	Max. 0.7 bar / 10.15 psi (for leakage testing and water depth pressure relieve)
Weight	2.97 kg	6.6 kg	2.97 kg
Features	Enables inspections of cavity entry zones, home-position, progressive scan for improved motion-video, maintenance-free safety clutch, Wide Dynamic Range, 2D / 3D noise reduction, 1/3" sensor size, temperature sensor, auto-brightness, long-time exposure up to 1/7 sec., min. illumination at 1/50 sec. exposure time 0.6 lux, min. object focussing distance capability 10mm, manual overrun of autofocus, automatic shutter speed. Fully compatible with all versions of SNK desktop control units (except availability of digital image enhancement and Wide Dynamic Range) & MATRIX E3 documentation systems with SNK / REVOLVER 80 interface.		

\*upon request also with halogen light source

### Housing Material

The economic choice is the robust & lightweight anodized aluminum housing. For harsh and materials aggressive environments or nuclear radiation environment, we recommend the stainless steel housing. Please contact one of our sales representatives for further help.

Sets and spare camera heads are interchangeable and differentiated by illumination and housing material.



# 2 TANK AND CONTAINER INSPECTION

## 2.3 Accessories

## 2.3 Accessories

### Optional Accessories

- Air Pump
- SNK Hardware Set
- Main Cables






Main Cables




Camera Lift



Manholfe Swivel Tripod

SNK INSPECTION HARDWARE SET		BMX-50-000298
	<b>Manhole Swivel Tripod</b>	
	<b>3 x 2 m Carbon Fiber Poles</b>	
	<b>SNK Camera Adapter to TR 18x4</b>	

MANUAL AIR PUMP FOR WATERTIGHTNESS CHECK	BMX-50-000300
	Check camera before inspection to be waterproof. Increase your water depth inspection range by pre pressurisation without CO <sub>2</sub> .

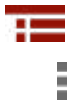
LENGTH	SLIPRING CABLE REEL REQUIRED	ITEM NO.
3 m	-	BEM-30-000441
30 m	-	BEM-30-000448
50 m	-	BEM-30-000450
80 m	-	BEM-30-000451
150 m	✓	BEM-30-000452*

\*Orders of cable reels always include the main cable BEM-30-000441.

Other cable lengths available on request.

CAMERA LIFT		BMX-50-000177
<b>Height</b>	Max. 5 m	
<b>Function</b>	Allows camera tranport into vessels from the bottom.	

MANHOLE SWIVEL TRIPOD		BMX-50-000128
<b>Horizontal operation</b>	Up to 4 m (Carbon Fiber Poles)	
<b>Vertical operation (up)</b>	Up to 6 m (Carbon Fiber Poles)	
<b>Vertical operation (down)</b>	Up to 30 m (Carbon Fiber Poles)	
<b>Push pole Ø</b>	29,0 mm	
<b>Fixation size</b>	250 mm to 1.200 mm	
<b>Application</b>	Manhole Bolts or Clamps	
<b>Mounting</b>	Two ergonomic fixation knobs and one ball joint	
<b>Function</b>	Offers fast, three dimensional locking of the camera head inside application. Provides precise and fatigue free camera movement even with higher weight and longer carbon fiber pole length.	



# 2 TANK AND CONTAINER INSPECTION

## 2.3 Accessories

## 2.3 Accessories



Carbon Fiber Poles

OUTER Ø	LENGTH	MOUNTING	FUNCTION	ITEM NO.
28,8 mm	1.0 m	Male / female TR 18x4 threads	Mounting and guiding of the SNK 60x camera head in the application	BMX-50-000125
28,8 mm	2.0 m	Male / female TR 18x4 threads	Mounting and guiding of the SNK 60x camera head in the application	BMX-50-000126



Soft Bag

SOFT BAG FOR CARBON FIBER POLES	FXX-82-000107
This soft bag stores up to 10x 2 m connectable carbon fiber poles. Made from robust easy to clean materials, it will be simple to transport and store your full length carbon fiber poles.	



L-Piece

L-PIECE	BMX-50-000108
Positions the camera head into a 90° horizontal position to the carbon fiber pole, increasing the potential inspection range. Inspect areas, else perhaps unreachable or hidden by the own push rood system such as the inner manhole entry, bearings at boiler agitator, heating cartridges or measurement probes.	



Push Pole Adapter

SNK CAMERA ADAPTER TO TR 18X4	BMX-50-000107
Stainless steel adapter to connect poles with the camera head.	



Pushing Trolley

PUSHING TROLLEY FOR SNK CAMERA HEAD	BMX-50-000301
<b>Dimensions</b>	380 (L) x 193 (W) x 142,5 (H) mm, incl. wheels
<b>Weight</b>	1.5 kg
<b>Function</b>	Connected to carbon fiber poles and 10 mm clutch of fiber epoxy poles. Utilized in forward and backward pushing direction.



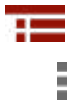
Strain Relief

STRAIN RELIEF FOR SNK CAMERA HEAD	BMX-50-000629
Bridging the weight forces from the camera head onto the Kevlar strengthened camera cable, this device is avoiding strain and potential damage to the electrical connector.	



Transport Case

SNK CAMERA HEAD TRANSPORT CASE	BMX-50-000522
Light-weight, compact and splash water proof high performance transport case for SNK camera heads. The transport case is equipped with tailored foam interior for perfect protection of your camera heads during transport and storage.	



## 2 TANK AND CONTAINER INSPECTION

### 2.3 Accessories

### 2.3 Accessories



Soft Pouch

#### CABLE & ACCESSORIES SOFT POUCH

FXX-82-000109

Robust dirt repelling Nylon pouch for transportation & storage of camera cable harness and accessories. The soft shoulder strap allows free hands and user comfort. The pouch carries up to 50 m main cable. All useful accessories have a designated space and fitting, the outer pocket provides space for typical little tools inspectors like to have on-site.



BOSCH Battery

#### BOSCH BATTERY

EXX-91-000129

36 V BOSCH battery for up to 5 h operation in battery mode.



BOSCH Battery Charger

#### BOSCH BATTERY CHARGER

EXX-92-000155

BOSCH battery charger for 36 V battery.



Display Protective Foil

#### VUSCREEN DISPLAY PROTECTIVE FOIL

MXX-70-000274

This display cover will perfectly fit and protect your touch screen from any dirt and scratching, chemical substances corrosion, destruction, or deterioration caused by sea water. It is easy to place and replace from the screen and highly transparent. The antireflective coating will provide perfect image quality. The touch screen functions are guaranteed even with gloves on.



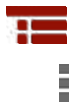
Product Training

#### SYSTEM TRAINING IN ALBSTADT / WOLFENHAUSEN

SXX-20-000111

##### Up to 6 persons in one session. (6 hrs)

The training includes working with the MATRIX E3. First start-up of the system, quick start, handling the camera heads, accurate file management, working with the text generator, copying files on a USB device, changing centering discs and safe storage of the system.



## 3 DOCUMENTATION UNIT

Operation and Documentation Platform for Remote Visual Inspections



The MATRIX E3 platform sets new standards for professional video and image recording and data capture in the remote visual inspection sector. The platform offers three different docking bays, one for mobile battery operation, one for mains power use and one specialized unit allowing full use and control of the SNK PTZ/ REVOLVER 80 inspection cameras.

Various connection/input options ensure full compatibility with a wide range of different inspection systems as well as images and videos recorded with other systems. Any Video and S-Video signal can be connected directly to the system.

Features of the MATRIX E3:

- Save your images and videos in low, medium and high resolution either on the integrated SSD or direct to USB.
- File manager (Create, copy, rename and delete files and folders).
- Image editing (e.g. flip, rotate, zoom, text input, long exposure, white balance, colour, contrast, full screen mode, point marker).
- Add text to images with the integrated text generator tool (additional 99 storage locations in standard configuration).
- Record audio commentary/narration for inspection images.
- Up to nine password protected user accounts with stored individual system settings and preferences.
- Multilingual user interface.

The MATRIX E3 is the ultimate single platform for control, capture, edit and viewing of all remote visual inspections.



**OPERATION WITH  
VIZAAR EQUIPMENT**



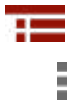
**EDITING  
INSPECTION  
DATA**



**DATA STORAGE**

# MATRIX **E3** dition





# 3 DOCUMENTATION UNIT

## 3.1 MATRIX E3

## 3.1 MATRIX E3



MATRIX E3

MATRIX E3	VXX-80-000102
<b>Dimensions</b>	(W) 540 x (H) 290 x (D) 400 mm
<b>Weight</b>	without power pack: 11.9 kg   with power pack: 14.6 kg
<b>Construction</b>	Impact resistant HDPE/HWU plastic, aluminium profile with plastic edge protection.
<b>AC input</b>	100 VAC - 240 VAC   50/60Hz   max. 250 Watt
<b>Memory</b>	80GB SSD
<b>Video input</b>	PAL / NTSC   Composite   S-video
<b>Video output</b>	HDMI worldwide standard (1024 x 768 px)
<b>Connectors</b>	USB 3.0   Recording remote control   12V(DC) / 750 mA Aux-out   Headset connector
<b>Environmental specifications</b>	Operation: -15°C to +48°C   Storage: -25°C to +65°C   Relative humidity: max. 95%, non condensing
<b>VUSCREEN touch screen control panel</b>	✓
<b>Display size</b>	10.4"
<b>Resolution</b>	1440 x 1080 px
<b>Contrast</b>	1.600:1
<b>Brightness</b>	850 cd/m <sup>2</sup>
<b>Backlight</b>	LED
<b>Colors</b>	262.144
<b>Operation</b>	Touch screen   Joystick   Direct access buttons
<b>Mounting</b>	System: Integrated Tilting Mounting   Portable: Neck Strap
<b>Dimensions</b>	(W) 320 x (H) 30 x (D) 230 mm
<b>Weight</b>	1.6 kg
<b>Construction</b>	Carbon fiber design with all around elastomer bumper   Power Cable 1.60 m



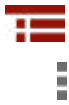
# 3 DOCUMENTATION UNIT

## 3.2 MATRIX E3 Software

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SOFTWARE	MATRIX E3	MATRIX E3 + SNK	MATRIX E3 + REVOLVER 80
<b>SETUP</b>			
Default User	✓	✓	✓
Individual User 1-9	✓	✓	✓
Multi Language User Interface	✓	✓	✓
Saving to SSD / external USB / SSD and external USB	✓	✓	✓
Display Pan and Tilt Data	-	✓	✓
E-Manual	✓	✓	✓
<b>OPERATION MENU</b>			
Standard Operation Menu	✓	-	-
SNK Operation Menu	-	✓	-
REVOLVER 80 Operation Menu	-	-	✓
<b>RUN &amp; SCAN</b>	-	Left / right / up / down	Left / right
Save / Load Camera Position (up to 9 Positions)	-	✓	✓
White Balance	✓	✓	✓
Brightness / Contrast / Color Saturation	✓	✓	✓
Image Focus	-	✓	✓
Long Time Exposure	✓	✓	✓
Illumination Switch	-	✓	-
Camera Switch (0° and 90° DOV)	-	-	✓
Laser on / off	-	✓	-
Flip / Mirror / Zoom	✓	✓	✓
Rotate (clockwise / counter-clockwise)	✓	✓	✓
Individual Reference Chart / Customer Logo	✓	✓	✓
Full Screen Mode	✓	✓	✓
Point Marker	✓	✓	✓
Auto Leveling	-	-	✓
Video Recording Length	Unlimited	Unlimited	Unlimited
Adjustable Recording Length	✓	✓	✓
Video Quality	Low / Medium / High*	Low / Medium / High*	Low / Medium / High*
Video Format	AVI / MPG	AVI / MPG	AVI / MPG
Audio Commentary for ,Images (up to 30 sec.)	✓	✓	✓
Image Capture during Video Recording	✓	✓	✓
Image Quality	Low / Medium / High*	Low / Medium / High*	Low / Medium / High*
Image Format	JPG / BMP	JPG / BMP	JPG / BMP
Measurement	✓	✓	✓
<b>TEXT GENERATOR</b>			
Status Bars	4	4	4
Free Text	✓	✓	✓
Text Color	7 colors	7 colors	7 colors
Text Background Color	9 colors	9 colors	9 colors
Date & Time	✓	✓	✓
Individual Reference Chart / Customer Logo	✓	✓	✓
Camera Head Temperature	-	✓	✓
Displayed Item Positioning	✓	✓	✓
Save / Load User Settings	✓	✓	✓
<b>FILE MANAGER</b>			
Copy Files	✓	✓	✓
Rename Files	✓	✓	✓
Delete Files	✓	✓	✓
Create Folders	✓	✓	✓
Create Subfolders	✓	✓	✓
Copy Folders / Subfolders	✓	✓	✓
Rename Folders / Subfolders	✓	✓	✓
Delete Folders / Subfolders	✓	✓	✓
<b>MEDIA PLAYER</b>			
Video Playlist	✓	✓	✓
Image Slide Show	✓	✓	✓
Play / Pause	✓	✓	✓
Forward / Backward	✓	✓	✓
<b>BACKUP MENU</b>			
Create / Load System files Backup	✓	✓	✓
Restore Factory Settings	✓	✓	✓
Autoscan and Repair	✓	✓	✓

\* Depending on connected video equipment.



# 3 DOCUMENTATION UNIT

## 3.3 Accessories

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AC Power Pack

### MATRIX E3 AC POWER PACK

BEM-30-000128

Your MATRIX E3 can be operated from any main power supply utilizing this docking device. Any voltage from 100 to 240 VAC and 50/60Hz will be accepted.



Power Pack

### MATRIX E3 POWER PACK FOR SNK / REVOLVER 80 INCL. BATTERY INTERFACE

BEM-30-000397

The power pack for SNK / REVOLVER 80 will greatly enhance the capabilities of your inspection service. This docking bay for your MATRIX E3 will allow connection, control and documentation with any SNK pan-tilt-zoom camera head REVOLVER 80 camera head. The module is simply plugged to the MATRIX E3 docking bay. The camera connections are compatible with your existing camera cables up to 80 m working length.



BOSCH Battery

### BOSCH BATTERY

EXX-91-00129

36 V BOSCH battery for up to 5 h operation in battery mode.



BOSCH Battery Charger

### BOSCH BATTERY CHARGER

EXX-92-00155

BOSCH battery charger for 36 V battery.



Transport Case

### DOCKING BAY CASE

BMX-50-000526

This robust case is home for all power pack and spare batteries. Light-weight, compact and splash water proof high performance transport case for MATRIX E3 power packs. Product tailored interior for perfect protection during transport and storage.

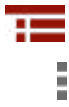


VUSCREEN Control Unit

### VUSCREEN CONTROL UNIT FOR VUMAN®/MATRIX E3

BEM-30-000257

<b>Display size</b>	10.4"
<b>Resolution</b>	1440 x 1080 px
<b>Contrast</b>	1.600:1
<b>Brightness</b>	850 cd/m <sup>2</sup>
<b>Backlight</b>	LED
<b>Colors</b>	262.144
<b>Operation</b>	Touch Screen   Joystick   Direct Access Buttons
<b>Dimensions</b>	(W) 320 x (H) 30 x (D) 230 mm
<b>Weight</b>	1.6 kg
<b>Construction</b>	Carbon Fiber Design with All-Around Elastometer Bumper   System Cable 1.60 m



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## 3.3 Accessories

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Umbilical Cable

UMBILICAL CABLE		EXX-70-000272
<b>Length</b>	1.60 m	
<b>Connection angle (VUSCREEN control unit)</b>	90°	
<b>Function</b>	Remote Operation Extension Cable for the VUSCREEN Control Unit	



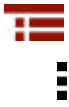
Display Protective Foil

VUSCREEN DISPLAY PROTECTIVE FOIL		MXX-70-000274
<p>This display cover will perfectly fit and protect your touch screen from any dirt and scratching, chemical substances corrosion, destruction, or deterioration caused by sea water. It is easy to place and replace from the screen and highly transparent. The antireflective coating will provide perfect image quality. The touch screen functions are guaranteed even with gloves on.</p>		



Product Training

SYSTEM TRAINING IN ALBSTADT/WOLFENHAUSEN		SXX-20-000111
<b>Up to 6 persons in one session. (6 hrs)</b>		
<p>The training includes working with the MATRIX E3. First start-up of the system, quick start, handling the camera heads, accurate file management, working with the text generator, copying files on a USB device, changing centering discs and safe storage of the system/spare probe.</p>		



# XPANDING YOUR VU



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