viZaar®
industrial imaging AG

CATALOGUE

| REVISION | 2.4 | **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.

+49 7432 98375-0

Call us with your specific requirements.

INFO@VIZAAR.COM

Write us your detailed application description.

VIZAAR.DE/EN
FIND YOUR LOCAL DEALER

Find your official sales & service distributor online.

CONTENT

Tank, vessel & pipe inspection cameras

1 BIG

Pipe & weld inspections from 30 mm inner pipe diameter

Configuration 1	BIG	>	MONITOR
Configuration 2	BIG	>	PC / LAPTOP
Configuration 3	BIG	>	MATRIX E3

The pipe inspection push camera BIG is the ideal solution for cost saving and reliable remote visual inspections of tube welds and larger volume vessels. BIG provides outstanding image quality and focus capabilities that typical sewage camera systems miss out. Weld quality definitions are based on perfect colour representation, which is a key feature of the product.

Its unique, field replaceable 90° side view camera adapter is providing outstanding inspection results of orbital welds, where colour and detailed image presentation are key decision criteria. The design allows very tight pipe bend radius movement. Professional centering devices and accessories complete the system for professional industrial users.

Combined with the MATRIX E3 control and documentation system, the BIG is the choice for the professional push camera user in industrial and weld inspection applications.

OUTER Ø	LENGTH	ILLUMINATION	FOV	DOV	SYSTEM KIT
29 mm	30 m	LED	65°	0°	VXX-13-000100
29 mm	50 m	LED	65°	0°	VXX-13-000101
29 mm	80 m	LED	65°	0°	VXX-13-000102

BIG system kits

Including:

- BIG camera head (PAL)
- Hard wearing PU main cable
- 10 mm push pole adapter
- Two centering fixtures
- Accessories pouch

The pipe inspection push camera BIG is the ideal solution for cost saving and reliable remote visual inspections (RVI). Connected to PC/laptop or monitor for a high quality video image for presentation or to the documentation system MATRIX E3.

Other configurations and accessories are available in further chapters.

Optional accessories

- Transport case
- 90° side view adapter
- Centering fixture set
- Glass fiber push pole set
- Glass fiber pushing aid

TRANSPORT CASE	BMX-50-000308

Lightweight, compact and splash waterproof HPX® high performance transport case for products and accessories for perfect product protection during transport and storage. Integrated wheels and large telescope handle, press & pull closing latches, reinforced hinges, nameplate area for customer logo.

90° SIDE VIEW ADAPTER FOR BIG	BEM-30-000117

Unique side viewing prism with LED illumination. Focus can be adjusted. Focus range from 30 mm to 200 mm. Dazzle-free full image, maintenance-free construction.

CENTERING FIXTURES SET	BMX-50-000288

Centering fixtures "standard": 100 mm to 174 mm

Centering fixtures "large": 172 mm to 466 mm

Solid constructed aluminum centering fixtures positioning the probe 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.

GLASS FIBER PUSH POLE SET	BMX-50-000292
3x Glass fiber push pole "soft", Ø 6 mm, each 1,5 meter length Simply to connect and extend by the tool free 10 mm interconnector.	FXX-71-000100
3x Glass fiber push pole "medium", Ø 7.5 mm, each 1,5 meter length Simply to connect and extend by the tool free 10 mm interconnector.	FXX-71-000101
3x Glass fiber push pole "stiff", Ø 9 mm, each 1,5 meter length Simply to connect and extend by the tool free 10 mm interconnector.	FXX-71-000102

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

Glass fiber pushing aids

MATRIX E3

MATRIX E3 — VXX-80-000102

Most powerful image presentation and documentation platform. Allowing to connect multiple endoscopes, cameras and pan-tilt-zoom systems.

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 50/60 Hz will be accepted.

*The MATRIX E3 system can also be used with a battery power pack. Further information can be found on page 26.

90° side view adapter

90° SIDE VIEW ADAPTER FOR BIG — BEM-30-000117

Side viewing prism with LED illumination. Focus needs manual adjustment, focus range from 30 mm to 200 mm. Dazzle-free full image, maintenance-free construction.

40 mm LED head

ADVANCED 40 MM LED HEAD INCL. OPTIC — FXX-10-000114

Super bright LED head, interchangeable with 29 mm head, FOV 90° incl. one centering tool.

Centering fixture

CENTERING FIXTURE, STANDARD — BMX-50-000286

Adjustment range	100 mm to 174 mm
Construction	Aluminium
Mounting	10 mm coupling for glass fiber push poles / pushing aid ｜ Adapter for 40 mm camera head
Function	Centering fixture for usage of the BIG 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

CENTERING FIXTURE, LARGE — BMX-50-000287

Adjustment range	172 mm to 466 mm
Construction	Aluminium
Mounting	10 mm coupling for glass fiber push poles / pushing aid ｜ Adapter for 40 mm camera head
Function	Centering fixture for usage of the BIG 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 device

CENTERING DEVICE FOR 29 MM / 1.14" CAMERA HEAD — FXX-10-000108

Centering device formed as a tailored aluminum bead. For use in tubes starting at dia. 50 mm (2.0"). The tool fits perfectly to the standard BIG head. It keeps the camera centered in the pipe and out of potential dirt and mud. Images are perfectly repetitive in magnification and well focused by the focus mechanism. The fastest and most cost efficient way to excellent inspection results. It works with forward view and side view camera.

Centering brush

Transport case

Glass fiber push pole

Glass fiber push pole

Glass fiber push pole

Soft bag

Glass fiber pushing aids

Product training

| **CENTERING BRUSH FOR DIAMETER 65 MM / 2.5"** | **FXX-10-000109** |

Centering device made of a tailored aluminum body and solid brush. For use in tubes starting at dia. 65 mm (2.5"). The tool fits perfectly to the standard BIG head. It keeps the camera centered in the pipe and out of potential dirt and mud. Images are perfectly repetitive in magnification and well focused by the focus mechanism. The fastest and most cost efficient way to excellent inspection results. It works with forward view and side view camera.

| **TRANSPORT CASE** | **BMX-50-000308** |

Lightweight, compact and splash waterproof HPX® high performance transport case for products and accessories for perfect product protection during transport and storage. Integrated wheels and large telescope handle, press & pull closing latches, reinforced hinges, nameplate area for custom logo.

GLASS FIBER PUSH POLE, SOFT		**FXX-71-000100**
Diameter	6.0 mm	
Construction	PE coated glass fiber push pole	
Length	1.5 m	
Mounting	10 mm stainless steel quick coupling	

GLASS FIBER PUSH POLE, MEDIUM		**FXX-71-000101**
Diameter	7.5 mm	
Construction	PE coated glass fiber push pole	
Length	1.5 m	
Mounting	10 mm stainless steel quick coupling	

GLASS FIBER PUSH POLE, STIFF		**FXX-71-000102**
Diameter	9.0 mm	
Construction	PE coated glass fiber push pole	
Length	1.5 m	
Mounting	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

| **INHOUSE SYSTEM TRAINING IN ALBSTADT/WOLFENHAUSEN** | **SXX-20-000111** |

Up to max. 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 REVOLVER 80

For efficent 360° pipe & weld inspections from 80 mm to 1.000 mm inner pipe diameter

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 manoeuvering 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 staring point. It provides simple equipment handling and image interpretation, reduces inspection time, user & equipment fatigue, and therewith costs.

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

REVOLVER 80
system kits

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

Other configurations, spare camera heads and accessories are available in further chapters. For a detailed description of features and the benefit of a MATRIX E3 documentation system please refer to the MATRIX E3 brochure.

Optional accessories

- Glass fiber push pole set
- Centering fixture set
- Soft bag for glass fiber push poles
- REVOLVER 80 camera head
- Main cables

GLASS FIBER PUSH POLE SET		BMX-50-000297
	5x Glass fiber push pole "soft", Ø 6 mm, each 1,5 meter length Simply to connect and extend by the tool free 10 mm interconnector.	FXX-71-000100
	5x Glass fiber push pole "medium", Ø 7.5 mm, each 1,5 meter length Simply to connect and extend by the tool free 10 mm interconnector.	FXX-71-000101
	5x Glass fiber push pole "stiff", Ø 9 mm, each 1,5 meter length Simply to connect and extend by the tool free 10 mm interconnector.	FXX-71-000102

CENTERING FIXTURES SET	BMX-50-000296
	Centering fixtures "medium": 140 mm to 210 mm
	Centering fixtures "large": 225 mm to 540 mm
	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.

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.

REVOLVER 80 SPARE CAMERA HEAD	BEM-30-000142
	A dual-camera head with one high resolution [>470 video lines: 752 (H) x 582 (V) pixel, 1,2lx]. 90° DOV side viewing orbital inspection camera & 0° DOV forward viewing navigation camera. The orbital camera performing autofocus function with a 10x optical zoom, wide angle oversight at 46° FOV to details at 4.6° FOV. System features include: Endless rotation, unique panoramic scan function, an adapter for 10 mm glass fiber push poles, circumferential LED illumination for 80 mm to 1.000 mm pipe diameter, high speed rotation to programmable return & home position, advanced digital drive and white balance adjustment.

Main cables

LENGTH	SLIPRING CABLE REEL REQUIRED	ITEM NO.
3 m	-	BEM-30-000159
30 m	-	BEM-30-000175
50 m	-	BEM-30-000176
80 m	-	BEM-30-000177
150 m	✔	BEM-30-000229*

* Orders of cable reels always include the main cable BEM-30-000159.

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
Dimension	95 mm	
Recommended pipe Ø	From 100 mm	
Construction	Robust and low friction polyoxymethylene	
Function	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
Adjustment range	140 mm to 210 mm	
Recommended pipe Ø	From 145 mm	
Construction	Aluminium	
Function	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
Adjustment range	225 mm to 540 mm	
Recommended pipe Ø	From 230 mm	
Construction	Aluminium	
Function	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
Diameter	6.0 mm	
Construction	PE coated glass fiber push pole	
Length	1.5 m	
Mounting	10 mm stainless steel quick coupling	

GLASS FIBER PUSH POLE, MEDIUM		FXX-71-000101
Diameter	7.5 mm	
Construction	PE coated glass fiber push pole	
Length	1.5 m	
Mounting	10 mm stainless steel quick coupling	

GLASS FIBER PUSH POLE, STIFF		FXX-71-000102
Diameter	9.0 mm	
Construction	PE coated glass fiber push pole	
Length	1.5 m	
Mounting	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

Camera head

REVOLVER 80 SPARE CAMERA HEAD	BEM-30-000142
Diameter	79 mm
Recommended pipe Ø	80 mm to 1.000 mm
Rotation	Endless 360° rotation, rotation speed: 0.1° to 90° / sec.
Cameras	Forward view camera and side view camera (dual camera head)
DOV	Forward view: 0° │ Side view: 90°
FOV	Forward view: 70° │ Side view: 4.6° to 46°
Focus	Autofocus/Manual
Zoom	Side view: 10x optical / 12x digital
Resolution	Forward view: (H) 752 x (V) 582 px │ Side view: 530 lines
Illumination	Forward view: 15 x ultra-bright LED illumination (auto) │ Side view: 2 x 4 ultra-bright LED illumination for side module (manual / auto)
Illuminance	Forward view: 1.2 lx
Mounting	Adapter for 10 mm glass fiber push pole
Functions	Panoramic scan │ Self-leveling automatic keeps the camera head in upright position (positioning dependent to earth-gravitation) │ Programmable return & home position

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 harnes 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 max. 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.

3 SNK 60X

Pan-tilt-zoom inspection camera with 60x zoom

60X ZOOM

WIDE DYNAMIC RANGE

TEMPERATURE RANGE

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.

3 SNK 60X

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 kits

Including:

- SNK 60x camera head
- Camera head transport case
- MATRIX E3
- Martix SNK 60x/Revolver 80 interface
- Short Guide
- Accessories soft pouch
- Main cable 30 m
- Strain relief

Benefit from the pre-selected system kits

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

Other configurations, spare camera heads and accessories are available in further chapters. For a detailed description of features and the benefit of a MATRIX E3 documentation system please refer to the MATRIX E3 brochure.

CAMERA HEAD	SNK 60X LED**	SNK 60X LED
ITEM NO.	VXX-30-000147	VXX-30-000153
Zoom	60x	60x
Illumination*	1x LED 7 Watt spot (25°) at 3.500K, dimmable 1x LED 7 Watt wide-angle (100°) at 3.500K, dimmable (for homogenious illumination coverage of close-up views)	1x LED 7 Watt spot (25°) at 3.500K, dimmable 1x LED 7 Watt wide-angle (100°) at 3.500K, dimmable (for homogenious illumination coverage of close-up views)
Construction	Black anodized aluminium	Uncoated stainless steel
FOV	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°)
Tilt movement range	-180° / +60° (total 240°)	-180° / +60° (total 240°)
Axis traveling speed	Max. 14 mm / sec.	Max. 9 mm / sec.
Resolution	1920(H) x 1080(V) (1/3" Panasonic CMOS Sensor)	1920(H) x 1080(V) (1/3" Panasonic CMOS Sensor)
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)
Weight	2.97 kg	6.6 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

**The SNK 60x camera heads are also available with a standard 365 nm UV emitter. ITEM No: VXX-30-000159.

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.

Optional accessories
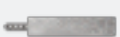
- SNK inspection hardware set
- Air pump
- SNK 60x camera heads
- Main cables

SNK INSPECTION HARDWARE SET		BMX-50-000298
	Manhole swivel tripod	BMX-50-000128
	3 x 2 m carbon fiber poles	BMX-50-000126
	SNK camera adapter to TR 18x4	BMX-50-000107

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_2.	

ILLUMINATION	CONSTRUCTION	ITEM NO.
LED	Aluminium	VXX-30-000147
LED	Stainless steel	VXX-30-000153

SNK 60x
spare camera heads

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*

Main cables

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

Manholfe swivel tripod

MANHOLE SWIVEL TRIPOD		BMX-50-000128
Horiztontal operation	Up to 4 m (carbon fiber poles)	
Vertical operation (up)	Up to 6 m (carbon fiber poles)	
Vertical operation (down)	Up to 30 m (carbon fiber poles)	
Push pole Ø	29,0 mm	
Fixation size	250 mm to 1.200 mm	
Application	Manhole bolts or clamps	
Mounting	Two ergonomic fixation knops and one ball joint	
Function	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.	

Camera lift

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

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
Dimensions	380 (L) x 193 (W) x 142,5 (H) mm, incl. wheels
Weight	1.5 kg
Function	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-50-000133

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.

Soft pouch

CABLE & ACCESSORIES SOFT POUCH — FXX-82-000109

Robust dirt repelling Nylon pouch for transportation & storage of camera cable harnes 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-91-00129

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.

Display protective foil

Product training

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.

SYSTEM TRAINING IN ALBSTADT / WOLFENHAUSEN	SXX-20-000111

Up to max. 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.

4 MATRIX E3

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 und 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

MATRIX E3

MATRIX E3	VXX-80-000102
Dimensions	(W) 540 x (H) 290 x (D) 400 mm
Weight	without power pack: 11.9 kg | with power pack: 14.6 kg
Construction	Impact resistant HDPE/HWU plastic, aluminium profile with plastic edge protection.
AC input	100 VAC - 240 VAC | 50/60Hz | max. 250 Watt
Memory	80GB SSD
Video input	PAL / NTSC | Composite | S-video
Video output	VGA analog (1024 x 768 px)
Connectors	USB 3.0 | Recording remote control | 12V(DC) / 750 mA Aux-out | Headset connector
Environmental specifications	Operation: -15°C to +48°C | Storage: -25°C to +65°C | Relative humidity: max. 95%, non condensing
VUSCREEN touch screen control panel	✔
Display size	10.4"
Resolution	1440 x 1080 px
Contrast	1.600:1
Brightness	850 cd/m²
Backlight	LED
Colors	262.144
Operation	Touch screen | Joystick | Direct access buttons
Mounting	System: integrated tilting mounting | Portable: neck strap
Dimensions	(W) 320 x (H) 30 x (D) 230 mm
Weight	1.6 kg
Construction	Carbon fiber design with all around elastomer bumper | Power cable 1.65 m

SOFTWARE	MATRIX E3	MATRIX E3 + SNK	MATRIX E3 + REVOLVER 80
SETUP			
Default user	✔	✔	✔
Individual user 1-9	✔	✔	✔
Multi language user interface	✔	✔	✔
Saving to SSD / external USB / SSD and external USB	✔	✔	✔
Dipslay pan and tilt data	-	✔	✔
E-Manual	✔	✔	✔
OPERATION MENU			
Standard operation menu	✔	-	-
SNK operation menu	-	✔	-
REVOLVER 80 operation menu	-	-	✔
RUN & SCAN	-	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	✔	✔	✔
TEXT GENERATOR			
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	✔	✔	✔
FILE MANAGER			
Copy files	✔	✔	✔
Rename files	✔	✔	✔
Delete files	✔	✔	✔
Create folders	✔	✔	✔
Create subfolders	✔	✔	✔
Copy folders / subfolders	✔	✔	✔
Rename folders / subfolders	✔	✔	✔
Delete folders / subfolders	✔	✔	✔
MEDIA PLAYER			
Video playlist	✔	✔	✔
Image slide show	✔	✔	✔
Play / pause	✔	✔	✔
Forward / backward	✔	✔	✔
BACKUP MENU			
Create / load system files backup	✔	✔	✔
Restore factory settings	✔	✔	✔
Autoscan and repair	✔	✔	✔

* Depending on connected video equipment.

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 taylored interior for perfect protection during transport and storage.

VUSCREEN control unit

VUSCREEN CONTROL UNIT FOR VUMAN®/MATRIX E3	BEM-30-000257
Display size	10.4"
Resolution	1440 x 1080 px
Contrast	1.600:1
Brightness	850 cd/m²
Backlight	LED
Colors	262.144
Operation	Touch screen	Joystick	Direct access buttons
Dimensions	(W) 320 x (H) 30 x (D) 230 mm
Weight	1.6 kg
Construction	Carbon fiber design with all around elastometer bumper

Umbilical cable

UMBILICAL CABLE	EXX-70-000272
Length	1.6 m
Connection angle (VUSCREEN control unit)	90°
Function	Remote operation extension cable for the VUSCREEN control unit.

Display protective foil

VUSCREEN DISPLAY PROTECTIVE FOIL	MXX-70-000274

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Product training

SYSTEM TRAINING IN ALBSTADT/WOLFENHAUSEN	SXX-20-000111

Up to max. 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/spare probe.

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