



inviZ VUMAN[x-ray]
inspektion & kontrolle

Efficient ► Effective ► **VUMAN**



viZaar
 industrial imaging AG



Advanced features for easy and efficient operation

Simple to use and guaranteeing reproducible results, the pass-code secured INVIZ VUMAN can store up to nine user-configurations, meaning individual system settings and information are immediately available - reducing set up time. It features a patented reel system; only the exact probe length required needs to be pulled off the reel. Other features included: fingertip joystick navigation of the INVIZ VUMAN probe which can be easily locked in position for detailed examinations; a high powered light for rapid and clear exploration and quick, precise image focus at all distances from 2mm to infinity. Its advanced optical design, excellent light transmission and intelligent image processing maximise performance, even in very dark and large cavities.

The INVIZ VUMAN's key pad offers one-click direct access to the most frequently used features such as probe lock, snapshot and recording. White balance, contrast and brightness functions ensure detailed, true colour images for accurate assessment and decision making. When recalling an image, this will always be identical to that captured, including text- **What you see is what you get.** Detail can be highlighted with the touch screen zoom function and the images can be rotated, flipped or mirrored for accurate image presentation. The adjustable, high resolution 10.4" transreflective screen provides detailed images for analysis both indoors and outdoors. Observation notes can be added using the touch screen keyboard and an external VGA output allows transfer of images to additional monitors or other locations.

Easy documentation and data management

Standard MPEG4 video resolution for simple use and start up from Microsoft XP, or still images can be saved either compressed or full resolution (loss-free), up to 32 bit depth. Up to 150 hours full resolution recording can be quickly transferred via the USB 2.0 interface. Standard digital documentation allows easy communication of results in Windows compatible formats such as JPG, BMP and MPEG4. The instant preview function delivers immediate access to results. Comparison with reference cases is simple thanks to the smart file management system with "Zoom By Move Over" picture gallery. Older video recordings can be digitally recorded on your VUMAN via its analogue PAL and NTSC interfaces.



Fully mobile control panel with high resolution 10.4" LCD touch screen.



Easy head articulation without the inconvenience of straightening 8m and longer probes.



4-way 360° articulating camera head with easy remote joystick operation.



Massive 160 GB hard drive for almost unlimited inspection document storage.



Unbreakable fibre optic light provides 20% more light efficiency maximising the viewing distance and imaging capabilities.



INVIZ "RF ready" probes allow a wide range of inspections to be carried out quickly and accurately and without the need to change optical adapters - from very small access tubes where close up inspection is required to long distance inspection in huge cavities.



Attractive lightweight, compact unit for increased productivity.



Enjoy full mobility and independence with X-WAY articulation, even with the probe on the reel.



1024 x 768 px, 10.4" high-resolution LCD with touch screen operation, MPEG4 video recording and viewing with the latest DVD players with MPEG4 capability.



Exclusive viZaar linear lens positioning sets new standards in remote visual inspection. Developed by our German engineering team, it provides the best optical system performance and image quality around.



100% customer commitment - Our Hot Shop Service meets the demands of all our customers even those in the most demanding industries. We are ISO 9001, KTA 1401 compliant and are always constantly improving our products and service.



Optional high capacity rechargeable NiMH battery provides full mobility and retains capacity and performance even under the harshest conditions.



160 GB



1024 x 768
Large HD resolution

MPEG4

The new high resolution LCD control panel

Weighing just 1.3kg, the ergonomically designed control panel allows effortless inspection and fingertip control of all functions. It can either be positioned on its fully adjustable monitor bracket or used remotely with its four-point shoulder harness. Irrespective of where it is used the high resolution backlit transreflective display provides crystal clear images, indoors and outdoors.

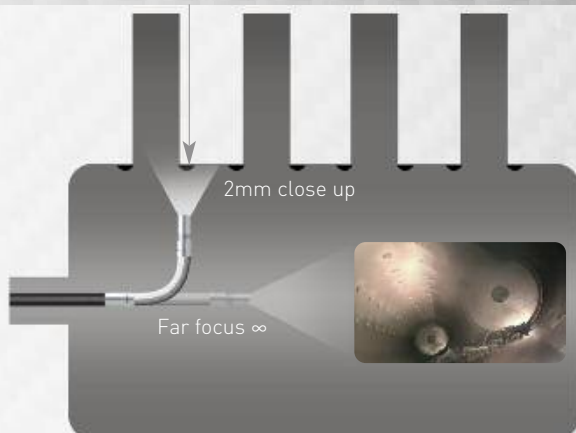
Unique and desirable functions such as RF "Remote Focus", POI point of interest zoom and image enhancement combine to guarantee unmatched image detail presentation. The 'move by touch' feature allows text and graphics to be positioned anywhere on the image.

Advantages of the RF focus bandwidth ready probe over conventional tip adapters



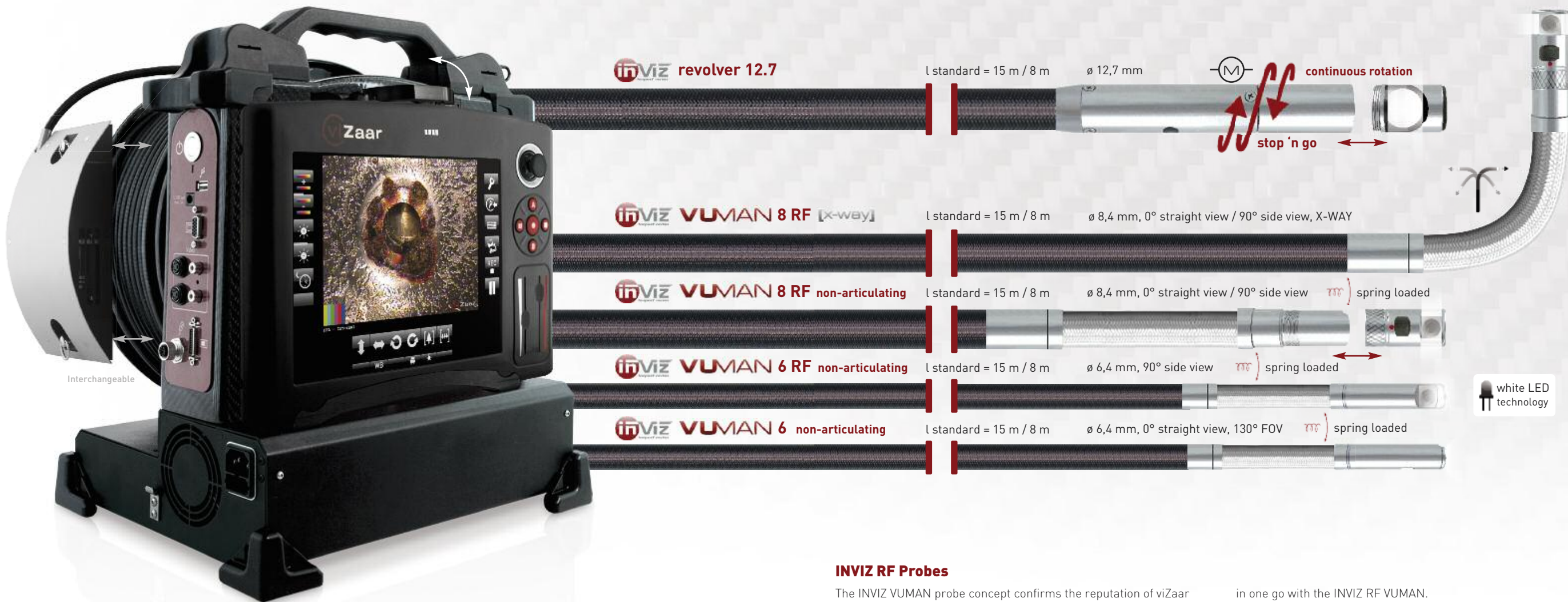
Always stay focused!

RF (Remote Focus) with patented LLP (Linear Lens Positioning) means no detail is missed (30µm resolution at 2mm distance = 1/333mm!).



Point and shoot

Save time, money and improve inspection results. From close up to distant focus, fingertip control adjusts the image quality quickly and accurately. VUMAN's improved light output gives unique optical performance, and intelligent image processing provides unmatched image quality and detail resolution whilst reducing overall inspection time and costs.



The new INVIZ VUMAN “Long Range” video scope system.

The most advanced and versatile long range video scope system with X-WAY articulation and patented RF “Remote Focus” capabilities.

Feedback from our customers, and thousands of our own inspection hours have shaped the versatile and compact functional design of the VUMAN. By developing complete new technologies and using advanced materials such as carbon fibre and aluminium, this system combines an attractive design with minimal weight, maximum robustness and practicality.

The primary objective of our engineers was to develop a remote visual inspection system that would produce excellent imaging quality and inspection results in all possible environments and scenarios. No compromise was therefore made in engineering design and manufacturing quality.

The result is VUMAN- an inspection system which reduces inspection time and costs, whilst instantly improving image and documentation quality.

VUMAN means increased effectiveness and efficiency. INVIZ VUMAN RF will increase user safety and reduce production down-time by eliminating any tripping hazard and the need for heavy external equipment. VUMAN is a fully integrated, lightweight, mobile and compact inspection system. Unique, patented technologies and design concepts such as “RF Remote Focus”, an integrated high performance light and air supply, optimal probe length and operation from the reel, ensure on site independence with minimal set up time.



INVIZ RF Probes

The INVIZ VUMAN probe concept confirms the reputation of viZaar technology. Made in Germany, these sophisticated, interchangeable probes will prove to be an excellent investment - providing a flexible solution to today’s and tomorrow’s inspection challenges.

- :: In their standard configuration, probes in all diameters are available up to 49.3ft/15m offering maximum independence and flexibility to the user.
- :: Their functional design is based on the feedback of our customers, the extensive experience of our own industry inspection service group, and our own unique repair service covering both our own products and those of other manufacturers.
- :: A polyurethane stainless steel retained composite construction, they provide excellent torsion and sliding characteristics, whilst still maximizing flexibility and bending cycles over 100 times greater than tungsten designs.
- :: With their tried and tested push and centering devices, the probes can be manoeuvred precisely into the required position, with minimum wear and tear.
- :: By comparison, on many inspections, outdated endoscopes with their limited fix-focus technology require tip adaptors which are time consuming to change, costly and difficult-to-use. For INVIZ users, patented RF focus technology means such difficulties are a thing of the past.
- :: A full spectrum of inspection scenarios, from close up in low light to far focus in large, dark cavities, can be successfully completed

in one go with the INVIZ RF VUMAN.

- :: The proven 12.7mm INVIZ Revolver is the most efficient and effective tool available for extensive tube and weld inspections. Rotating, fully adjustable and able to rotate through 360 degrees clockwise or anticlockwise, this small motorised camera head offers thorough and effortless continuous inspections of tube walls and welds.
- :: Use just as much probe length as required – any surplus probe can be safely and securely stored in the reel eliminating both damage and the risk of creating a tripping hazard. Efficient probe articulation is guaranteed, even with the majority of the probe stored in the reel.
- :: Unbreakable fibre optic light gives 20% more light efficiency meaning the 8/15 RF is one of the most light-intense video endoscopes on the market.
- :: Standard RF probes without X-WAY are designed for heavy duty tube inspections over long periods. When used in combination with its dedicated centering devices, these probes with their spring loaded tip firmly connected to the insertion tube are an economically unbeatable inspection system. Operating swiftly and around several tube bends, there is no better or more robust solution for your tube inspection needs.

Well designed and fit for purpose, “Made in Germany”. The stability and unmatched cost efficiency of the new INVIZ Probes builds onto proven technology. In a five month 24/7 field test, 50.000 tubes totalling nearly 2.000.000 feet /600 km length were successfully inspected for corrosion using just one INVIZ probe.

Dimensions in inches (mm)	W 13,2 (335) x H 16,15 (410) x D 10,8 (275)
Weight	16,4 lbs / 7,4 kg (21,8 lbs / 9,9kg X-WAY)
Environmental Specifications	Operation temperature 5°F – 118°F [-15°C - 48°C] Storage temperature -13°F – 150°F [-25° - 65°C] Relative humidity max. 95%, non condensing
AC Input	96 VAC – 256 VAC / 47Hz – 63Hz / max. 175 Watt
Housing	Aluminum – carbon fibre with elastomer bumpers
X-WAY Drive	Integrated compressor, maintenance free
Video Input	PAL or NTSC composite and S-Video, auto dedecting
Video Output	Analog VGA PC to monitor connector [Resolution 1024 x 768], worldwide standard
Connectors, Outlets	USB 2.0, recording remote control, 12VDC / 500mA Aux-Out, external compressed air, rechargeable battery
HID Lamp	21 Watt / high Efficient Optical Coupling System / lamp life 750h / daylight quality 5700K / Auto-Off when used with LED-probes
System Memory	160 GB, up to 150 hours of high resolution MPEG 4 video-recording or several thousand BMP and JPG high quality screen shoots
Dimensions in inches (mm)	W 12,6 (320) x H 1,2 / 1,8* (30/45*) x D 9,05 (230) 2,85 lbs / 1,3 kg
Mounting	Base Unit: integrated recording Portable: shoulder harness or magic-arm
LCD Monitor	10,4" LCD, contrast 500:1, 350 cd, transreflective LED illumination, 65.535 colors, viewing angle all directions +/- 80°
Operation	Resistive touch screen incl. five direct access buttons and joystick
Housing	Carbon fibre design with all around elastomer bumper; power tube 2,5 meter (8,2 ft)
Functions	Color-onscreen text editing with memory, 8x enhanced zoom with variable image section, 360° image rotation, reference-colour chart, whitebalance adjustment, longtime exposure 200ms -10 sec., light- and brightness control, color, contrast, camera focus control, memory for nine user settings, full directory and file management

Probe length in metres / feet	8/8 RF X-WAY 8/15 RF X-WAY	8/8 RF 8/15 RF	6/8 RF 6/15 RF	6/8 RF LED 6/15 RF LED	6/8 S 6/15 S	Revolver 12.7/8 Revolver 12.7/15
Probe diameter in mm	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3
Camera resolution 440.000 Pixel (H 752x V 582)	x	x	x	x	x	x
Genuine optical Remote Focus (RF) with LLP	x	x	x	x		x
Fastener for optional centering tools	x	x	x	x	x	x
Centering tools within scope of supply			x			x
Field of view (FOV)	70°	70°	65°	65°	130°	60°
Direction of view (DOV)	0°	0°	90°	90°	0°	90° / 360°
Fastener for optional side viewing adapter	x	x				x
High efficient, non breaking polymer light guide	x	x	x	White LED	x	x
Motorized rotating side view optic with speed control and full image						x
Hard wearing stainless steel braid on polyurethan probe (bending cycles x 100 vs tungsten braid)	x	x	x	x	x	x
Probe watertight up to 1,5 bar / 14 psi	x	x	x	x	x	
Probe splash waterproof						x
Weight in gramm / lbs	990 / 2,2 1360 / 3,0	870 / 1,9 1240 / 2,7	820 / 1,8 1140 / 2,5	820 / 1,8 1140 / 2,5	810 / 1,8 1130 / 2,5	1120 / 2,5 1520 / 3,4
Four-way camera head articulation up-down +/-130° left-right +/-90°	x					
Self centering supple bending section at camera head		x	x	x	x	

Option magic-arm

1,5 kg, 2,5 axis magic arm.

Mounting capability for LCD at any tube or at endoscope control unit frame.

**Option transport case**

Dimensions W 635 x H 510 x D 365 mm, weight 12,25 kg.

Transport case with wheels.

**Option centering tools**

 VUMAN 8
Ø 60, 44, 34, 24

 VUMAN 6
Ø 44, 19, 10

 Revolver 12.7
Ø 60, 46, 36, 26
Option pushing-aid**Option side view****Option battery**

Capacity of coldness resistant NiMh: 9 Ah, 24 Volt. Operation time: ca. 1,5 h.

