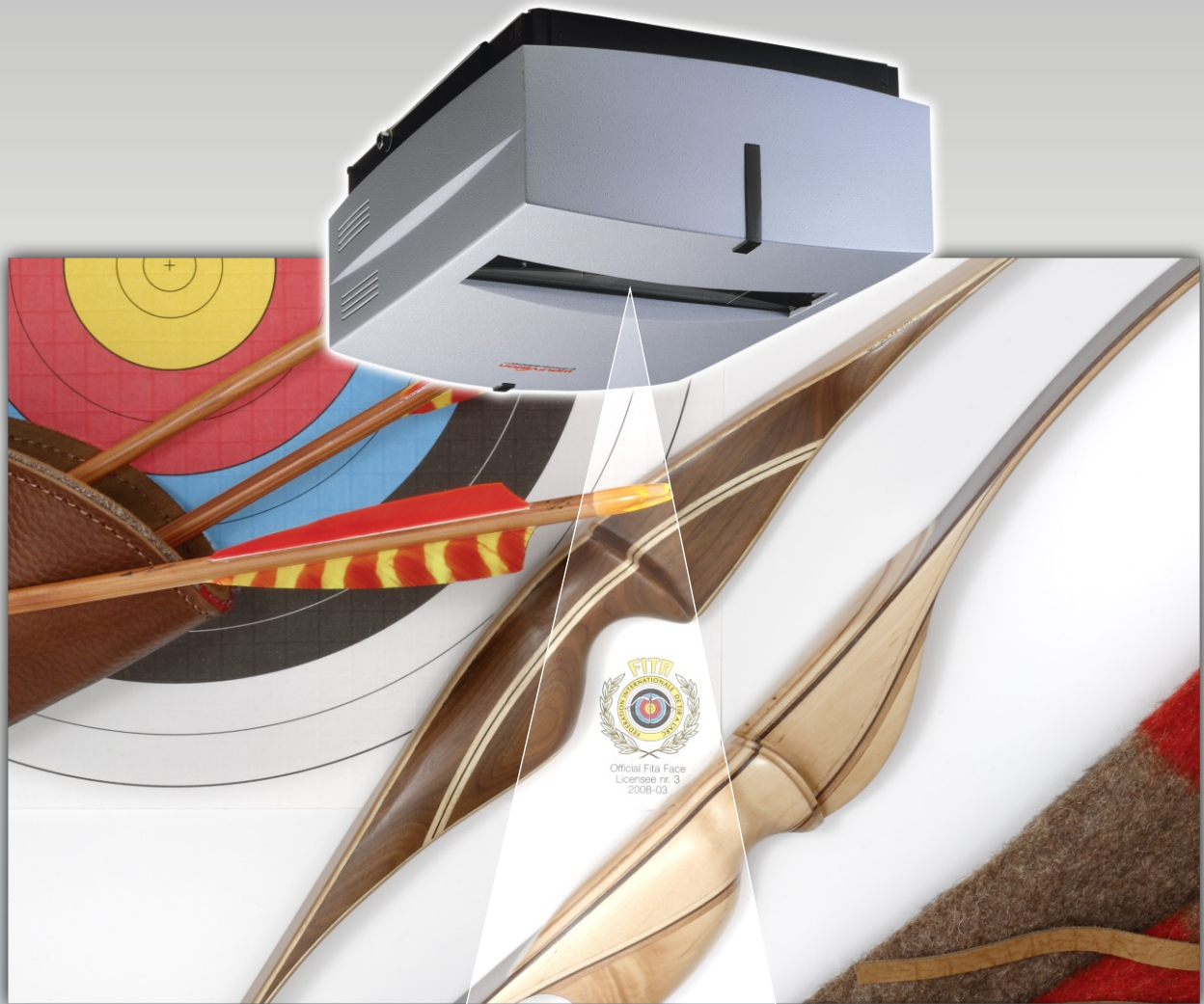ENGLISH

WOLFVISION®

Ceiling Visualizers

VZ-C12³ / VZ-C32³
Third Edition

Designed like a Projector - A Visualizer on the Ceiling

The basic idea behind the Ceiling Visualizer is to keep the speaker's table or lectern free, so that nothing disturbs the view between the speaker and audience.

In situations like this presentation of architectural diagrams (see image below), it would be impossible to place everything the audience is supposed to see on a working surface of a "Desktop Visualizer". A Ceiling Visualizer is the ideal solution for such applications.

Other advantages compared to "Desktop" Visualizers:

- Visualizer can be completely hidden in a suspended ceiling
- No cables from the table to the ceiling
- Objects can be even larger and higher
- Fix installed unit can hardly be stolen

WolfVision's Ceiling Visualizers can be mounted to the ceiling like a projector. The design fits perfectly to modern data projectors. Furthermore, the Ceiling Visualizers can also be integrated into a suspended ceiling.

WolfVision's Ceiling Visualizers come with their own ceiling mounts. The height of the ceiling mount is only 40mm (1.6").

To suspend the Visualizer from the ceiling (in order to get bigger enlargements), any standard ceiling mount for projectors can be used. The Ceiling Visualizers have flexible fixings which will fit with almost any brand.

The Ceiling Visualizers come in a small and elegant housing. Accessing the cable connectors on the top side of the unit is very easy, as the Visualizer can be opened with just one pull.

The automatic height adjustment mode allows easy installation and also offers the possibility to expand the optical zoom range with a height adjustable table or ceiling mount.

Easy Positioning (with Synchronized Lightfield)

The Synchronized Lightfield is a key feature of WolfVision's Professional and Ceiling Visualizer series. This patented system can only be found on WolfVision units.

A lightfield, the size of the pick-up area of the built-in camera is projected onto the working surface. The illuminated part of the working surface is always identical to the pick-up area of the camera. When zooming in and out, the size of this lightfield changes accordingly.

This allows very easy positioning of objects. There is no need to look at a monitor. Just place the object in the illuminated portion of the working surface!

Extremely High Resolution / Advanced Keystone Correction

The difference between the two Ceiling Visualizers is the built-in camera. The VZ-C12³ comes with a state of the art 1-CCD SXGA-camera with 820 lines resolution, while the VZ-C32³ features a brand new 3-CCD SXGA- camera with 1200 lines resolution and 100% lifelike colors. Both units have 3 native resolutions in all 3 popular aspect ratios:

- SXGA- 1280x960 pixel - 4:3
- WXGA 1280x800 pixel - 16:10
- 720p HD 1280x720 pixel - 16:9

sRGB Color Precision

The high end scaler of the Visualizers can scale the picture at the image source. As a result the picture quality is not only perfect in native resolution, but also in all scaled signal formats. All of todays projectors, monitors, plasma displays or videoconferencing systems can display at least one of these standards. If new standards come up in the future, WolfVision will be there with Firmware Updates!

A new feature of the Ceiling Visualizers VZ-C12³ and VZ-C32³ is the Advanced Keystone Correction. It works very precisely and in real time - completely invisible to the user.
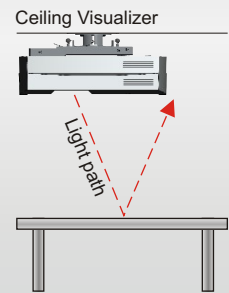

Connectors of both units

Both units output the picture on RGB- (15-pin D-Sub and BNC connectors) and DVI outputs.

The Auto Resolution function recognizes the connected projector or monitor and automatically selects the perfect output mode.

Ceiling Visualizer
Light path

100% Reflection Free

With the special light system of WolfVision's Ceiling Visualizers, it is impossible that the Visualizer's light is reflected back into the camera (see illustration).

Thus the whole working surface is always 100% reflection free.

Extremely High Depth of Focus (Depth of Field)

high depth of focus: *low depth of focus:*

The Ceiling Visualizers are equipped with professional telezoom lenses with very high depth of focus. This is very important for working with larger 3-dimensional objects. Even at high magnification, they are always sharp from top to bottom.

The Visualizers are equipped with a One-Push-Autofocus. However due to the great depth of focus, it is rarely necessary to adjust the focus.

Shadow Free Illumination

no shadows: *shadows:*

As the camera and the light projector are situated side by side within the Visualizer and follow the same path, shadows are almost completely eliminated.

During a presentation, it is often necessary to write something on a document on the working surface or to point to a certain detail with a finger or a pencil. The Visualizers are perfectly suited for this, as there are practically no shadows covering up important details.

Illumination of Hollow Objects / No Light Adjustments

illuminated on inside: *not illuminated on inside:*

Due to the special light system of the Ceiling Visualizers, every part of the recorded picture is always perfectly illuminated.

Hollow objects or complex 3-D objects are always completely illuminated - even on the inside.

As a result, there is never a need for adjustment of the light.

Maintenance Free High-Intensity LED Light System

The new Ceiling Visualizers VZ-C12³ and VZ-C32³ come with a High-Brightness LED Light System. The light output has been increased while the power consumption is now much lower.

The new light only requires a very small internal cooling fan. As a result the new Ceiling Visualizers are very quiet in operation.

The new light system has an incredible long lifetime of 30,000 hours - which can be considered as "maintenance free" for most installations. This is especially important, when the unit is built-into a suspended ceiling, where changing of lamps may not be easy.

Firmware Updates / New Mainboard

WolfVision's Visualizers are the only units on the market that offer upgradeable firmware. This allows new features and technical improvements to be added at no cost!

Downloading firmware updates from the internet and uploading them onto a Visualizer can be done in 2-3 minutes, with just 4 mouse clicks, using the latest version of WolfVision's Connectivity Software.

The user can choose from 3 different connections between Visualizer and computer for updating the firmware: Serial (RS232), USB or LAN. WolfVision's engineers are constantly working on new improvements and features to keep your units up to date with the technology of tomorrow!

The Ceiling Visualizers VZ-C12³ and VZ-C32³ come with a new mainboard with even more computing power and additional resources (for more features and enhancements to be added later on via Firmware Updates).

USB-Device and USB-Host Port

The **USB-device port** of the Visualizer can be used to transfer images from a Visualizer to a computer and save them in JPG, TIF or BMP format. This way, a Visualizer can be used as a scanner for 3-dimensional objects. Images can be scanned in a fraction of a second - much faster than with a desktop scanner.

WolfVision's USB Software (Connectivity Software) works under Windows 2000, XP and Vista and is fully Twain/WIA compatible.

This is important when using Visualizers in connection with popular graphic programs such as Photoshop, or for connecting them to Interactive Whiteboards (Smart Boards). A USB Software for Apple Macintosh is also available.

The fast USB 2.0 port can also output live motion. The WolfVision Connectivity Software can store AVI-files and includes a video capture driver. You can view and save the live image from the Visualizer on your computer in almost every modern video editing software.

A new feature of the Ceiling Visualizers VZ-C12³ and VZ-C32³ is the **USB-host port**.

This can be used for connecting USB-sticks and other devices (E.g. for extension of the image memory, up- and downloading of images etc.)

LAN Port / Additional LAN features

The Ceiling Visualizers are equipped with a LAN port (10/100 Mbps). It is IP-addressable, so that it can be controlled from any computer in the network. It can also be controlled over the internet, if it is assigned an official (WAN) IP-address.

The LAN-port is a key feature of all high-end Visualizers from WolfVision. It is especially important for the Ceiling Visualizers, because it is the most convenient way to communicate with the unit on the Ceiling.

The new Ceiling Visualizers VZ-C12³ and VZ-C32³ offer a lot of additional LAN features.
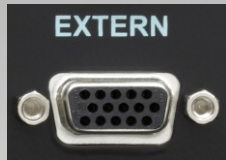
Authentication:
In order to prevent unauthorized users from logging into the Visualizer over the network, it is now possible to set administrator and user passwords. The transmission of the passwords over LAN is encrypted with MD5.

Multicast/Singlecast Streaming:
The VZ-C12³ and VZ-C32³ now offer streaming of live images from a Visualizer in Singlecast (Unicast) and Multicast mode.

(In Singlecast mode each computer opens a separate connection to the Visualizer, which requires a lot of bandwidth if many clients are connected. Multicast is like a broadcast - many clients are watching the same video stream. In Multicast mode the bandwidth is always the same, no matter how many computers are connected. However as many routers do not support Multicast it can not be used everywhere. This is why both streaming modes are important.)

Computer Input (Internal/External Switch)

A computer can be connected to the Visualizer's RGB input (15-pin D-Sub-plug). With the Ext/Int switch, a user can switch between the Visualizer image and computer image to be output by the Visualizer's RGB and DVI outputs.

Therefore, only one RGB or DVI cable is required to be attached to the display unit (projector, monitor, video conferencing system etc.) and no separate remote control has to be used for switching between the two image sources.

The Visualizers have a built-in A/D-converter in order to digitize the analog RGB signal from the computer and output it on the digital DVI output.

Internal and External Image Memory

The user has the opportunity to store 9 images in the internal memory of the unit and recall them by just pressing one of the numerical keys on the infrared remote control. By pressing the "View All" key, a split image with all 9 pictures of the memory can be displayed, enabling easy selection.
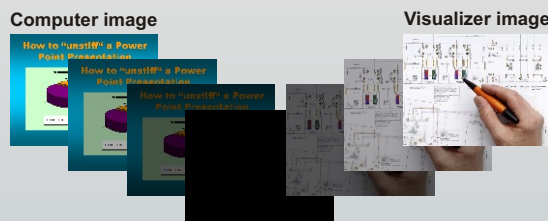
When a USB-stick is connected to the unit the image memory can be extended to 500 images.

Split image of memory

Built-in Digital Scaler (for Extern-In and USB-Stick)

The Visualizer has a built-in digital image scaler which can process the signal from the external input and output it in the same mode as the Visualizer image (For example: If the Visualizer is set to output an SXGA image to the projector and the computer outputs an XGA signal, the scaler of the Visualizer converts the XGA image of the computer to SXGA. As a result the projector does not readjust the input mode when switching between the Visualizer and computer image).

In addition images on a connected USB-stick are automatically scaled to the current output mode of the Visualizer.

Integrated Seamless Switch

Computer image   Visualizer image

The Ceiling Visualizers VZ-C12³ and VZ-C32³ come with an integrated Seamless Switch.

This allows fade-over/dissolve effects when switching between the Visualizer image, the image from the external input, the internal image memory of the Visualizer and pictures on an USB-stick.

This feature makes switching from one media to the other appear very smooth and professional.

Live to Freeze Comparison

Freeze

Live

The Preview output of the Visualizers always outputs the live image of the Visualizer camera, while all other outputs (DVI, RGB etc.) can be set to output a "freeze" image.

This can be used for a "Live Picture to Freeze Picture Comparison" on two monitors or screens with just one Visualizer.

While one monitor or screen displays a "freeze" image that can be used for comparison, another monitor or screen can be used for presenting the live image from the Visualizer.

External Controlling - Enhanced RS232/LAN/USB-Protocol

The Visualizer offers 4 different possibilities to control the unit from external devices, such as a remote control system for the whole room, a video conferencing system or a computer:

Serial RS232, USB, LAN and Infrared

The Enhanced Protocol of the Ceiling Visualizers VZ-C12³ and VZ-C32³ supports the same professional commands over the RS232-, LAN- and USB-port. Thus the units support all of todays and tomorrows external controlling devices.
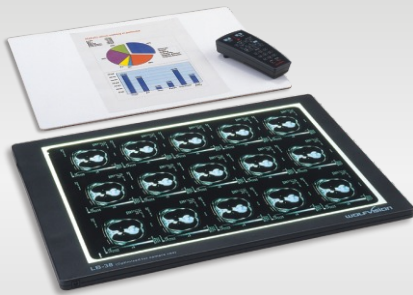
"Image Turn" Mode for Higher Resolution

Picking up a complete vertical (portrait) letter or A4 sized page has always been a critical issue for a Visualizer because the image has always been picked up in a horizontal (landscape) format. As a result, only 50% of the camera pixels could be used to pick up the vertical (portrait) document.

WolfVision's unique "Image Turn" mode solves this problem. The user places the document on the working surface horizontally and zooms in on it completely. In doing so, approximately 90% of the camera's effective pixels are used to pick up the document. WolfVision's state-of-the-art electronics turn the image to a 90 degree angle and output it in a vertical format with 40% higher resolution. The margins left and right are blacked out.

Another advantage of the image turn mode is that very long vertical pages (like US legal format) can be picked up completely.

X-large Lightbox LB-38 can be Used

Transparencies can be picked up in perfect quality on the supplied crystalline white working plate of the Ceiling Visualizers. For x-rays and slides, an external lightbox is required.

A big advantage of the Ceiling Visualizers in the medical field, is that it can also pick up the largest x-rays.

For this purpose, WolfVision offers the very large optional Lightbox LB-38. The size of the lit area is 430 x 359mm (16.9" x 14.1"). The unit has a very elegant appearance and is very thin (only 14mm / 0.6").

Perfect for Video Conferencing

The big advantage of a Ceiling Visualizer in a video conferencing application is that it is completely invisible to the audience. As you can see in the illustration on the left, documents can be picked up on the table, directly in front of the speaker.

This is much more convenient than with a "Desktop" Visualizer, which always has to be placed at an acceptable distance to the speaker. Otherwise it could disturb the visual contact between camera/monitor and speaker.

WolfVision's camera electronics produce a very strong and stable picture, which is very important when a Visualizer is used as a document camera for videoconferencing systems.

The even lighting, smooth auto iris and perfect focus are very important features, enabling video conferencing systems to digitize and transfer the picture from a WolfVision Visualizer much faster than pictures from other document cameras. Furthermore there is no blinding stray light from a WolfVision Visualizer, which could disturb the auto iris of the room camera.

Of course these features are equally important for live image presentations with a data projector and for other Visualizer applications.

Other important features

- **DVI-Output (HDMI compatible)**
  (DVI is the standard for 100% digital image transfer. No image adjustments are necessary on a projector or monitor with DVI input. Using a DVI-HDMI cable the Visualizer can be connected to units with HDMI input)

- **Special Crystalline White Working Plate for Transparencies**. This is perfect picking up transparencies with the Visualizer's top light. It is not necessary to have an external lightbox for transparencies!

- **No Disturbing Stray Light** (important for projection) and **No Blinding of the Audience or the Speaker**

- **Alternative Image Display for Improving the Readability of Text**: Negative, Negative/Blue and Text Enhancer

- **3 User Programmable Presets** (for zoom, focus, iris, light, camera settings etc.) Preset keys can also be used for specific functions (like black/white, negative, negative/blue, image on/off, iris etc.)

- **Graphically Improved On-Screen Menu** for setting up the unit according to your own requirements

- **On-Screen Help** with Reset Function

- **Low Power Consumption** - only 50W

Zoom Range of Ceiling Visualizers

The Ceiling Visualizers come with professional telezoom lenses with an amazing 16x optical zoom factor. In combination with the 4x digital zoom, the total zoom range of the new Ceiling Visualizers is 64x. This allows for the installation in rooms with differing heights. The Ceiling Visualizers can zoom in very close as well as pick up very large objects.

16x Optical Zoom
+ 4x Digital Zoom
64x Total Zoom

Calculation Program

A very comfortable method to calculate the exact positioning and the possible image sizes of the Ceiling Visualizer is a dedicated calculation program on WolfVision's homepage:
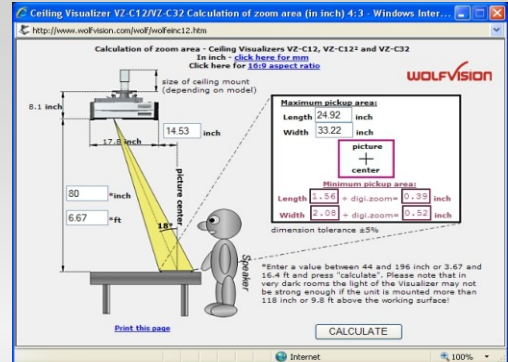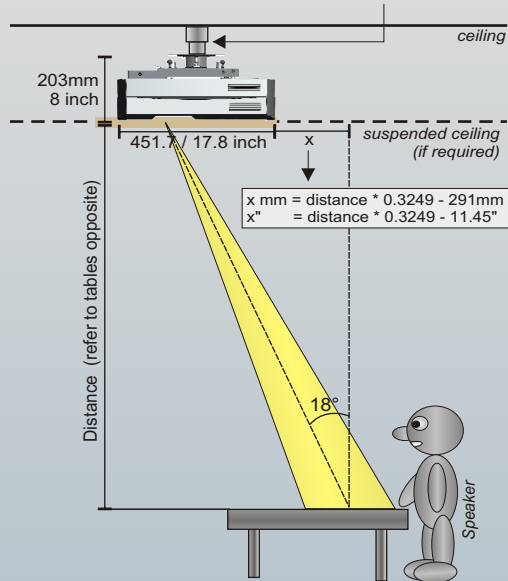
www.wolfvision.com/wolf/indexdistance.html

A difference to "Desktop" Visualizers is that the size of the smallest and largest picture the units can pick up is not fixed. Instead, it depends on how high above the table the Ceiling Visualizer is mounted. The tables below show the ratio between mounting height and pick-up sizes:

	Length			Width		
Distance in mm	Smallest picture with 4x digital zoom	Smallest picture with optical zoom	Largest picture	Smallest picture with 4x digital zoom	Smallest picture with optical zoom	Largest picture
1.100	6	22	352	7	30	470
1.200	6	24	382	8	32	509
1.400	7	28	441	9	37	589
1.600	8	32	502	11	42	669
1.800	9	35	562	12	47	749
2.000	10	39	623	13	52	831
2.200	11	43	685	14	57	913
2.400	12	47	747	16	62	996
2.600	13	50	810	17	67	1079
2.800	14	54	873	18	72	1164
3.000	14	58	937	19	77	1249
3.200	15	62	1001	21	82	1334
3.400	16	65	1066	22	87	1421
3.600	17	69	1131	23	92	1508
3.800	18	73	1197	24	98	1596
4.000	19	77	1264	26	103	1685

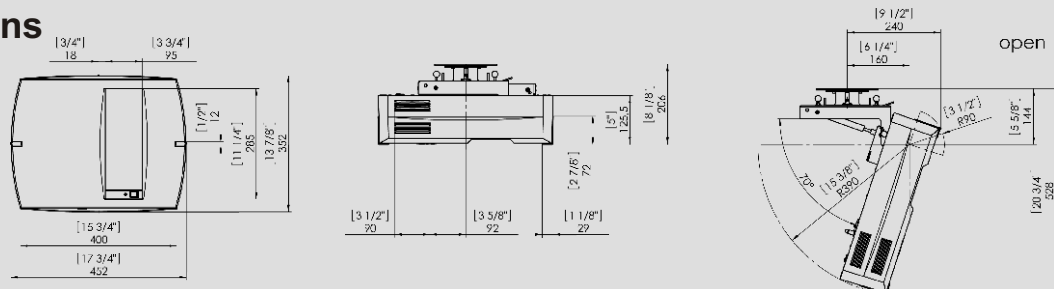|	Length			Width		
Distance in inch (feet)	Smallest picture with 4x digital zoom	Smallest picture with optical zoom	Largest picture	Smallest picture with 4x digital zoom	Smallest picture with optical zoom	Largest picture
40" (3.33')	0.2"	0.82"	12.89"	0.27"	1.09"	17.19"
50" (4.17')	0.25"	1"	15.85"	0.33"	1.34"	21.14"
60" (5.00')	0.3"	1.19"	18.84"	0.4"	1.58"	25.12"
70" (5.83')	0.34"	1.37"	21.86"	0.46"	1.83"	29.15"
80" (6.67')	0.39"	1.56"	24.92"	0.52"	2.08"	33.22"
90" (7.50')	0.44"	1.75"	28.01"	0.58"	2.33"	37.34"
100" (8.33')	0. 48"	1.93"	31.13"	0.64"	2.58"	41.5"
110" (9.17')	0.53"	2.12"	34.28"	0.71"	2.83"	45.71"
120"(10.00')	0.58"	2.31"	37.47"	0.77"	3.08"	49.97"
130"(10.83')	0.63"	2.5"	40.7"	0.83"	3.34"	54.27"
140"(11.67')	0.67"	2.7"	43.96"	0.9"	3.59"	58.62"
150"(12.50')	0.72"	2.89"	47.26"	0.96"	3.85"	63.02"
160"(13.33')	0.77"	3.08"	50.6"	1.03"	4.11"	67.46"

In extremely high rooms the smallest picture the unit can pick up may not be small enough. In such cases, a standard ceiling mount with pole or lift for projectors can be used to suspend the Ceiling Visualizer further from the ceiling.

ceiling

203mm
8 inch

451.7 / 17.8 inch   x

suspended ceiling
(if required)

x mm = distance * 0.3249 - 291mm
x"   = distance * 0.3249 - 11.45"

Distance (refer to tables opposite)

18°

Speaker

Values in these tables are for 4:3 aspect ratio output modes. For 16:9 or 16:10 please use the width values of this table and calculate the length accordingly.

Please note that in very dark rooms the light of the Visualizer may not be strong enough if the unit is mounted more than 3m (10 feet) above the working surface!

Dimensions

More detailed dimension drawings can be downloaded from: www.wolfvision.com/support

Technical Data

	VZ-C12³	VZ-C32³
Camera	1-CCD 1/3" Progressive Scan	3-CCD 1/3" Progressive Scan
Pictures per second (as picked up by the camera)	30 frames (in all resolutions)	30 frames (in all resolutions)
Effective Pixel	1280 x 960 (=1,228,800)	3 x 1280 x 960 (=3,686,400)
Total pixels of CCD(s)	1,320,000	3,960,000
Pixels processed per second	36,864,000	110,592,000
Color reproduction / precision	very good colors (sRGB color precision)	100% lifelike colors (sRGB color precision)
Native signal output	SXGA- (1280x960) and WXGA (1280x800) and 720p HD (1280x720)	SXGA- (1280x960) and WXGA (1280x800) and 720p HD (1280x720)
Converted output signals (4:3 and 5:4)	UXGA (1600x1200), SXGA+ (1360x1024), SXGA (1280x1024), XGA (1024x768), SVGA (800x600)	UXGA (1600x1200), SXGA+ (1360x1024), SXGA (1280x1024), XGA (1024x768), SVGA (800x600)
Converted Widescreen output signals (16:9 and 16:10)	WUXGA (1920x1200), 1080p HD (1920x1080), WSXGA+ (1680x1050), WXGA+ (1440x900), WXGA (1360x768)	WUXGA (1920x1200), 1080p HD (1920x1080), WSXGA+ (1680x1050), WXGA+ (1440x900), WXGA (1360x768)
Resolution (measured)	820 lines	1200 lines
Resolution in Image Turn mode	1050 lines	1550 lines
Image Rotation	90, 180 and 270 degrees	90, 180 and 270 degrees
Iris and White balance adjustment	automatic and manual	automatic and manual
Autofocus	one-push-autofocus (focusing is rarely necessary due to high depth of focus)	one-push-autofocus (focusing is rarely necessary due to high depth of focus)
Manual focus	yes	yes
Synchronized lightfield (for easy positioning of objects)	yes (in size of pick-up area of camera) with 4:3 / 16:10 switching	yes (in size of pick-up area of camera) with 4:3 / 16:10 switching
Text Enhancer	yes	yes
Live to Freeze comparison (on two monitors or screens with just one Visualizer)	yes (RGB, DVI and Preview outputs can output different signals. One can output a live image and another one a "freeze" image)	yes (RGB, DVI and Preview outputs can output different signals. One can output a live image and another one a "freeze" image)
On screen menu with Help	yes	yes
Firmware Updates via	USB, RS232, LAN	USB, RS232, LAN
Zoom / Lens	two telezoom lenses, 64x zoom (16x optical + 4x digital)	two telezoom lenses, 64x zoom (16x optical + 4x digital)
Max object height on working surface	no limit	no limit
Max. pick-up area on working surface	depending on installation height	depending on installation height
Min. pick-up area on working	depending on installation height	depending on installation height
Depth of focus on small object (42 x 33 mm)	larger than 70mm (2.75")	larger than 70mm (2.75")
Depth of focus on large object (360 x 270 mm)	larger than 250mm (9.7")	larger than 250mm (9.7")
Shadow free illumination	yes	yes
Illumination of hollow objects	yes	yes
Light source	Maintenance free high-brightness LED light system (high light output, low power consumption), lamp lifetime: 30,000 hours	Maintenance free high-brightness LED light system (high light output, low power consumption), lamp lifetime: 30,000 hours
Connectivity Software (USB/LAN, for controlling, image and video capturing and firmware updates)	included for 32- and 64-bit Windows + Macintosh, Twain/WIA compatible, with video capture driver	included for 32- and 64-bit Windows + Macintosh, Twain/WIA compatible, with video capture driver
Reflection free area on working surface	whole working plate	whole working plate
User programmable presets	3 (+ 8 fixes presets through RS232, USB or LAN)	3 (+ 8 fixes presets through RS232, USB or LAN)
Special working surface for transparencies	yes (special working plate included)	yes (special working plate included)
Slide pick-up	with optional lightbox	with optional lightbox
Bottom light	optional external lightboxes (extremely large models like WolfVision's LB-38 can be used)	optional external lightboxes (extremely large models like WolfVision's LB-38 can be used)
External computer input / Input switch	yes (15-pin D-Sub/VGA plug)	yes (15-pin D-Sub/VGA plug)
Built-in digital scaler for the computer input	yes (processes the signal from computer input for RGB- and DVI-output)	yes (processes the signal from computer input for RGB- and DVI-output)
Seamless switch with fading effects	yes	yes
Advanced keystone correction	yes	yes
Image memory (with "Show all" function / split-screen)	9 pictures in internal memory + unlimited number on USB-stick	9 pictures in internal memory + unlimited number on USB-stick
Alternative Image display	negative, negative-blue and black/white image	negative, negative-blue and black/white image
RGB output	three (2x 15-pin D-Sub/VGA-plug and 5x BNC)	three (2x 15-pin D-Sub/VGA-plug and 5x BNC)
DVI output (HDMI compatible via adapter or cable)	DVI-I (digital and analog)	DVI-I (digital and analog)
USB standard / port	USB 2.0 Device-Port and Host-Port	USB 2.0 Device-Port and Host-Port
Ethernet/LAN port, IP-addressable	yes, 10/100 Mbps	yes, 10/100 Mbps
Additional LAN-features: multicast and singlecast (unicast) streaming, authentication	yes	yes
RS232 port	9-pin D-Sub	9-pin D-Sub
Advanced controlling with professional protocol	yes - via RS232, LAN and USB	yes - via RS232, LAN and USB
Dimensions (L x W x H)	452mm x 352mm x 206mm (17.8" x 13.9" x 8.1")	452mm x 352mm x 206mm (17.8" x 13.9" x 8.1")
Weight	12 kg (25 lbs)	12 kg (25 lbs)
Infrared remote control	yes (with laserpointer), internal and external receiver (with 10 m cable and status LED)	yes (with laserpointer), internal and external receiver (with 10 m cable and status LED)
Anti-theft device	T-Lock (Kensington® Lock)	T-Lock (Kensington® Lock)
Ceiling mount	included	included
Power	multi range 100-240 V, 50W	multi range 100-240 V, 50W
Made in	EU / Austria	EU / Austria
Warranty	3 years	3 years

All units made in European Union (Austria)   *Design and specifications subject to change!*

Your WolfVision dealer:

WOLFVISION®

More information at:

www.wolfvision.com