

SONY
make.believe

7000 WUXGA Installation Projector

VPL-FH500L



BrightEra™
Long Lasting Optics



Ultimate Picture Quality in WUXGA Projection Delivering a Dramatic Brightness of 7,000 Lumens

Packing the most advanced projector technologies into an “blend-in” design, the VPL-FH500L is an excellent choice for universities, corporates, museums and medical (DICOM) applications. Delivering a dramatic brightness of 7,000 lumens and ultra high-quality images with WUXGA resolution, the VPL-FH500L offers peace of mind operation with a twin-lamp system providing automatic backup should the primary lamp fail. It also delivers amazing installation flexibility and hassle-free maintenance in a stylish design that blends into any decor.

This projector has a very wide lens shift range, enabling excellent flexibility when installing the unit and adjusting the image. Lamp and air filter maintenance cycles are synchronised and are exceptionally long compared to single-lamp and other dual-lamp systems, cutting maintenance time and cost.

Overall, the VPL-FH500L delivers a low total cost of ownership and additionally includes environmentally conscious features such as long-lasting lamps and low power consumption.

Features

High Picture Quality

High Picture Quality and Bright Images
By combining a new-generation optical system that uses Sony's BrightEra™ Long Lasting Optics technology* and a 3LCD projection system, the VPL-FH500 delivers an amazing resolution of WUXGA (1920 x 1200) which exceeds Full-HD resolution (1920 x 1080) and a high brightness of 7,000 lumens.

* BrightEra with Long Lasting Optics is the brand name for a new generation of optical system, which is a more advanced version of Sony's original BrightEra technology. In addition to the adoption of LCD panels that have pixels with large aperture ratios and inorganic alignment layers, BrightEra with Long Lasting Optics technology also uses an inorganic layer for polarisation plates to greatly enhance reliability.



Optional High-resolution Lenses

The optional VPLL-Z4015, VPLL-Z4019, VPLL-Z4025 and VPLL-Z4045 are known as All Range Crisp Focus (ARC-F) lenses. Each with a large diameter and fine pitch, they ensure crisp pictures.



ARC-F Lens



Typical Lens

12-bit 3D Gamma Correction

The VPL-FH500L incorporates 12-bit 3D Gamma Correction circuitry to perform highly accurate gamma correction, achieving smoother gradations and a richer grey-scale.



12-bit



10-bit

I/P Conversion and Film Mode

The video signal processing technology that Sony has incorporated in the VPL-FH500L offers I/P conversion and 2-3 pull-down to generate high-quality images with outstanding clarity.

Features

"Blend-in" design

The VPL-FH500L showcases a newly designed low profile chassis, so the projector appears to blend into the ceiling on which it is mounted.

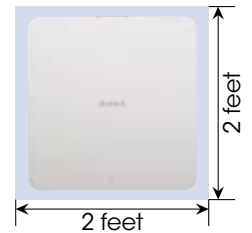
The connector panel is located on the front of the unit so its cables cannot be seen by the audience.



Two Feet

Functional Size

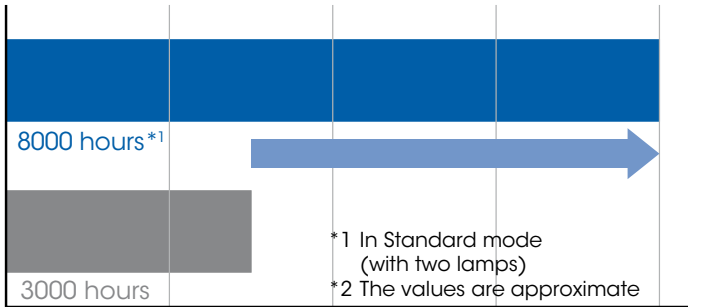
The VPL-FH500L matches well with the typical ceiling tile size and blends into the ceiling.



VPL-FH500L



Conventional Model



Lamp Replacement Time*2

Excellent Total Cost of Ownership and ECO-friendly Design

Long-lasting Lamp

By incorporating newly developed high-performance lamps and advanced lamp-control technology, the VPL-FH500L delivers a recommended lamp replacement time of approximately 8,000 hours.*

* In Standard mode (with two lamps).



Fail Safe Twin-lamp System

Fail Safe Twin-lamp System

The VPL-FH500L's twin-lamp system provides peace of mind and economical operation. One lamp can output a total of 7,000 lumens but a second lamp is built in to provide automatic backup should the primary lamp fail. The two lamps can be alternately used, achieving a recommended lamp replacement time of approximately 8,000 hours, saving maintenance time and cost.

Low Power Consumption

The VPL-FH500L offers remarkably low power consumption, allowing users to make significant savings on electricity costs.

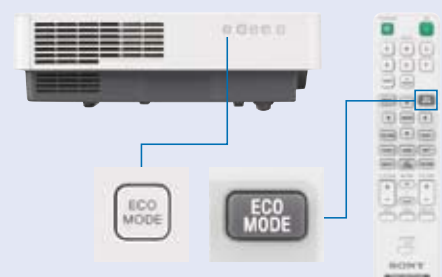
ECO MODE

Eco Mode optimises combinations of the following functions.

- **Lamp mode**
"High / Standard"
- Saving the consumption of lamp wattage.
- **Power Saving mode**
"Lamp Cutoff / Projector Standby"
- When set to "On", the projector goes into power saving mode if there is no operation for 10 minutes without any signal input.
Lamp Cutoff ; The lamp goes off. The lamp lights again when a signal is input or any key is pressed.
Projector Standby ; "Standard / Low"
In "Standard", power consumption is 12W and is reduced to 0.3W in "Low"*.
*Network function cannot be operated

ECO MODE Key

With a single push of the ECO MODE key on either the projector or the supplied Remote Commander™ unit, the user can select an energy-saving setting in the ECO Mode menu.



Picture-by-Picture

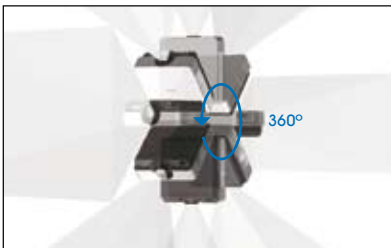
With this feature, users can project two different images at the same time, greatly expanding creative possibilities and enabling exciting new applications.



Simulated image

360-degree Orientation

The VPL-FH500L can be turned vertically for installation. This flexibility allows the projector to be used in several different ways.



360°

Screen Aspect

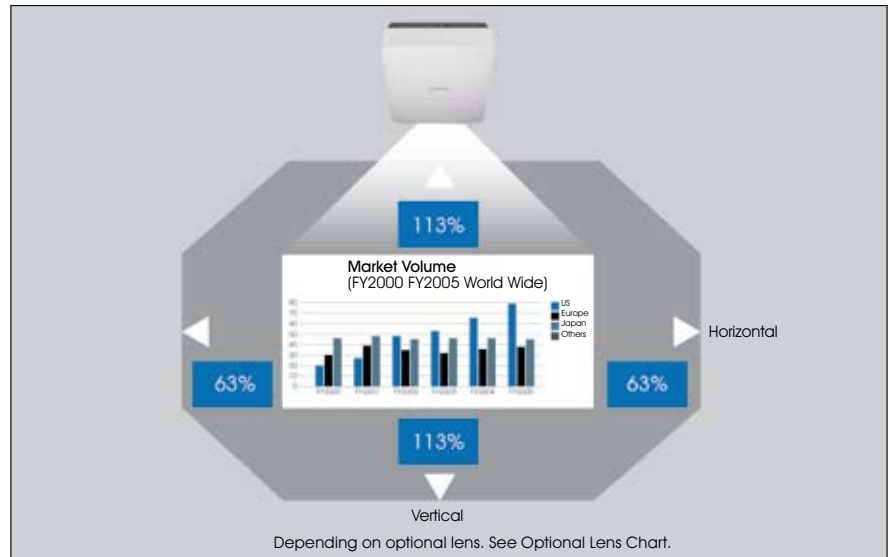
When screen and image aspect ratios do not match*, this function fits the projected image to the screen. So, even when images are switched between different aspect signals, the projected image can always fit the screen.

*Using the same aspect ratio between screen and projector is ideal.

Installation Advantages

Lens Shift Function

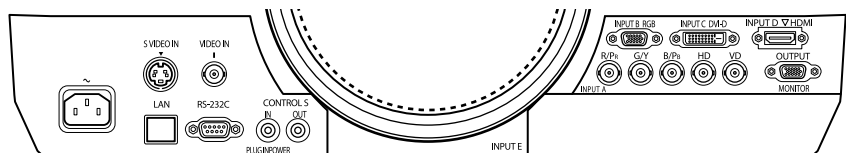
The VPL-FH500L is equipped with a lens shift function which is controlled from the projector control panel or the supplied Remote Commander unit. Using this function, the position of the projected image can be moved vertically by -113% to +113% and horizontally by -63% to +63%. Images can be easily adjusted to the desired settings during installation.



FH500L's Shift Range

Multiple Inputs

The VPL-FH500L is equipped with multiple connectivity inputs, including HDMI and DVI-D for digital connectivity with advanced video processing. In addition, with the optional BKM-FW16 HD-SDI Input Adaptor installed, the projector can accept HD-SDI/SDI signals to project high-quality digital video.



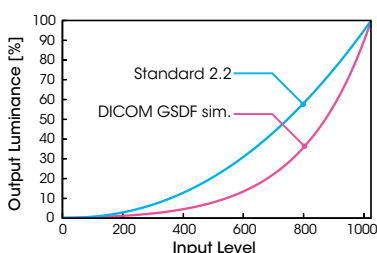
Features

DICOM GSDF Simulation*

The VPL-FH500L is equipped with a new gamma mode, called DICOM GSDF Simulation. This is ideal for viewing digital medical imagery for non-diagnostic applications.

* Conforms to GSDF (Grayscale Standard Display Function) medical standards for DICOM (Digital Imaging and Communications in Medicine).

* This function is for training and reference only and cannot be used for medical diagnosis.



Gamma curve



Standard 2.2



DICOM GSDF simulation

Simulated image

Presentation Functions

Freeze Function

Freezes the projected image

Digital Zoom Function

Enlarges a section of the image

Picture Muting Function via Built-in Mechanical Shutter

Mutes the projection of images on screen via a built-in mechanical shutter. This function can be easily operated with just the touch of a button on the supplied Remote Commander unit

Other Features

Panel Alignment

Allows the user to adjust colour alignment for ultimate picture perfect images

Whole picture alignment - Adjustment range: ± 2.0 dot by 0.1 dot

Desired Zone alignment: Selects the desired

range (H:16 x V:10 = 160 cross points)

Adjustment range: ± 2.0 dot by 0.1 dot

Colour Matching

Allows the user to adjust brightness and colour of the whole projected image to match the original image

Quiet Noise Operation

Low frequency sound

Closed Captioning

Official teletext broadcasting, developed by the NCI, USA

Security Pack

Security lock (password and mechanical), security bar, panel key lock and security label

Test Pattern Key

For easy screen adjustment

ID Mode

For individual control of multiple projectors

Audio Monitor Function

Allows audio to be selected based on input selection

Smart APA

Auto pixel alignment

Direct Power On/Off

Direct power control using the circuit breaker on the switch board

High Altitude Mode

For projector operation at high altitude

Network and Control

Controls and monitors projector status
Compatible with various control systems

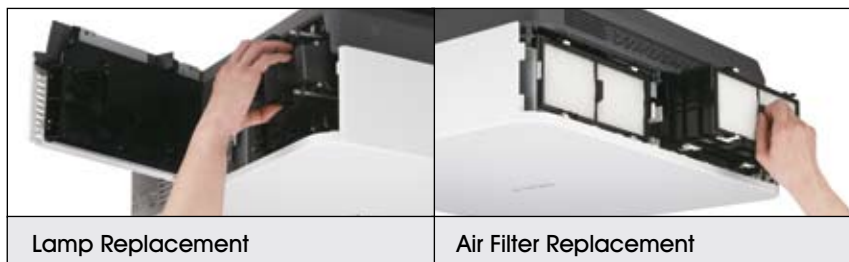
Features

Trouble-free Maintenance

Easy Lamp and Filter Maintenance

When the lamps and air filter are due for replacement, a timely message is clearly displayed on screen. The lamps and air filter are accessible from both sides, so their replacement can be performed without uninstalling the projector. Like the lamps, the replacement filter has an approximate 8,000-hour replacement cycle in standard mode. This synchronised replacement is achieved, even in tough environments, by a Quad Filter System Plus, saving maintenance time and cost.

The Quad Filter System Plus is composed of four pleated electrostatic filters. This substantial unit is designed to maintain high performance for a long period of time, requiring air filter replacement only when lamp replacement is also required (included with replacement lamp).



Choice of Sony Lenses

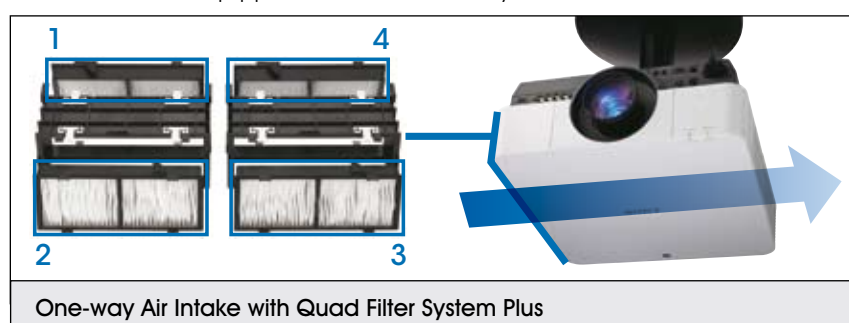
Various optional zoom lenses are available for the VPL-FH500L which can be used for many different applications.

Centered Lens Design

The centered lens provides symmetry for a balanced installation and makes set up very simple.

One-way Air Intake with Quad Filter System Plus

To keep all internal parts clean, the projector design unifies air intake through just one hole which is equipped with a Quad Filter System Plus.



PrimeSupport



All Sony Professional's business projectors sold into the EU, Norway and Switzerland come supplied with a 3 year PrimeSupport pack. This offers unique services and benefits over and above standard warranty:-



3 Years Cover

Freephone telephone helpdesk support **(00800 7898 7898)** in 5 languages.

Collection, repair and return anywhere in EU, Norway and Switzerland.

In addition, optional PrimeSupport Plus packs can be purchased which can further enhance the 3 year support to give extra peace of mind:-

- A 2 year extension to give long-term assurance of expert support and technical assistance
- Provision of a loan unit throughout the 3 year of PrimeSupport cover to minimise disruption to business
- Free replacement lamp throughout the 3 year PrimeSupport cover to reduce unexpected running costs



Optional Accessories

LMP-F330 Projector Lamp (Replacement filters included)	PSS-630 Projector Suspension Support	PSS-630P Projector Suspension Support Joint Pole	PK-F500LA1 Projection Lens Adapter	PK-F500LA2 Projection Lens Adapter	BKM-FW16 HD-SDI/SDI Input Adaptor

Optional Lenses

Premium Series

Projection Lens	VPLL-Z4008	VPLL-Z4015	VPLL-Z4019	VPLL-Z4025	VPLL-Z4045
Throw ratio	1.08:1	2.02:1 to 2.67:1	2.62:1 to 3.36:1	3.30:1 to 6.11:1	6.08:1 to 10.52:1
Zoom / Focus	- / Manual	Powered / Powered	Powered / Powered	Powered / Powered	Powered / Powered
Lens shift	Vertical: Upward 41% to Downward 41% Horizontal: Right 19% to Left 19%	Vertical: Upward 109% to Downward 109% Horizontal: Right 57% to Left 57%	Vertical: Upward 113% to Downward 113% Horizontal: Right 63% to Left 63%	Vertical: Upward 113% to Downward 113% Horizontal: Right 63% to Left 63%	Vertical: Upward 113% to Downward 113% Horizontal: Right 63% to Left 63%
Aperture	f/2.00	f/2.20 to 2.60	f/1.70 to 2.10	f/2.20 to 3.10	f/2.20 to 3.60
Screen size*	40" to 600"	40" to 600"	40" to 600"	40" to 600"	60" to 600"
Dimensions	W 148 x H 133 x D 240 mm (W 5 13/16 x H 5 1/4 x D 9 7/16 in)	W 148 x H 133 x D 231 mm (W 5 13/16 x H 5 1/4 x D 9 3/32 in)	W 148 x H 133 x D 212 mm (W 5 13/16 x H 5 1/4 x D 8 11/32 in)	W 148 x H 133 x D 243 mm (W 5 13/16 x H 5 1/4 x D 9 9/16 in)	W 148 x H 133 x D 235 mm (W 5 13/16 x H 5 1/4 x D 9 1/4 in)
Mass	2.55 kg / 5 lb 10 oz	3.00 kg / 6 lb 10 oz	3.06 kg / 6 lb 12 oz	2.80 kg / 6 lb 3 oz	3.00 kg / 6 lb 10 oz
Required projection lens adapter	-	-	-	-	-

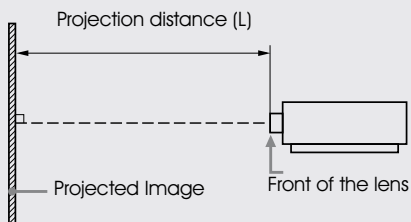
Value Series

Projection Lens	VPLL-FM22PK	VPLL-ZM32PK	VPLL-ZM42PK	VPLL-ZP41PK	VPLL-ZM102PK
Throw ratio	0.87:1	1.45:1 to 1.59:1	1.83:1 to 2.32:1	2.48:1 to 2.71:1	3.28:1 to 4.83:1
Zoom / Focus	- / Manual	Manual / Manual	Manual / Manual	Powered / Powered	Manual / Manual
Lens shift	-	Vertical: Upward 59% to Downward 59% Horizontal: Right 31% to Left 31%	Vertical: Upward 59% to Downward 59% Horizontal: Right 31% to Left 31%	Vertical: Upward 113% to Downward 113% Horizontal: Right 63% to Left 63%	Vertical: Upward 59% to Downward 59% Horizontal: Right 31% to Left 31%
Aperture	f/2.00	f/1.76 to 1.96	f/1.74 to 2.28	f/1.70 to 2.00	f/2.04 to 2.57
Screen size*	40" to 300"	40" to 300"	40" to 300"	40" to 300"	40" to 300"
Dimensions	W 88 x H 88 x D 169 mm (W 3 15/32 x H 3 15/32 x D 6 21/32 in)	W 88 x H 88 x D 159 mm (W 3 15/32 x H 3 15/32 x D 6 1/4 in)	W 88 x H 88 x D 159 mm (W 3 15/32 x H 3 15/32 x D 6 1/4 in)	W 117 x H 110 x D 198 mm (W 4 19/32 x H 4 11/32 x D 7 25/32 in)	W 88 x H 88 x D 198 mm (W 3 15/32 x H 3 15/32 x D 7 25/32 in)
Mass	0.95 kg / 2 lb 2 oz	1.00 kg / 2 lb 3 oz	0.65 kg / 1 lb 7 oz	1.46 kg / 3 lb 3 oz	1.50 kg / 3 lb 5 oz
Required projection lens adapter	PK-F500LA2	PK-F500LA2	PK-F500LA2	PK-F500LA1	PK-F500LA2

* Viewable area, measured diagonally.

VPL-FH500L

Installation Diagram



Projection Distance

Projection Image Size		Projection Distance (L)									
Diagonal	Width x Height	VPLL-FM22PK	VPLL-ZM32PK	VPLL-ZM42PK	VPLL-ZP41PK	VPLL-ZM102PK	VPLL-ZM101PK	VPLL-Z4015	VPLL-Z4019	VPLL-Z4025	VPLL-Z4045
80-inch (2.03 m)	1.72 x 1.08 (68 x 42)	1.48 (58)	2.49 – 2.74 (98 – 108)	3.17 – 3.98 (125 – 157)	4.28 – 4.78 (169 – 188)	5.62 – 8.33 (221 – 328)	1.80 (71)	3.36 – 4.42 (132 – 174)	4.36 – 5.57 (172 – 219)	5.48 – 10.14 (216 – 399)	10.09 – 17.46 (397 – 687)
100-inch (2.54 m)	2.15 x 1.35 (85 x 53)	1.87 (74)	3.12 – 3.44 (123 – 135)	3.98 – 4.99 (157 – 196)	5.37 – 6.00 (211 – 236)	7.07 – 10.46 (278 – 412)	2.27 (89)	4.22 – 5.55 (166 – 219)	5.48 – 6.99 (216 – 275)	6.88 – 12.71 (271 – 500)	12.66 – 21.88 (498 – 861)
120-inch (3.05 m)	2.58 x 1.62 (102 x 64)	2.25 (89)	3.76 – 4.15 (148 – 163)	4.78 – 6.00 (188 – 236)	6.45 – 7.22 (254 – 284)	8.52 – 12.58 (335 – 495)	2.74 (108)	5.09 – 6.68 (200 – 263)	6.60 – 8.41 (260 – 331)	8.29 – 15.28 (326 – 602)	15.23 – 26.30 (600 – 1035)
150-inch (3.81 m)	3.23 x 2.02 (127 x 79)	2.83 (111)	4.71 – 5.20 (185 – 205)	5.99 – 7.51 (236 – 296)	8.09 – 9.05 (319 – 356)	10.69 – 15.77 (421 – 621)	3.44 (135)	6.38 – 8.38 (251 – 330)	8.29 – 10.55 (326 – 415)	10.40 – 19.14 (409 – 754)	19.10 – 32.93 (752 – 1296)
200-inch (5.08 m)	4.31 x 2.69 (170 x 106)	3.79 (149)	6.30 – 6.95 (248 – 274)	8.01 – 10.03 (315 – 395)	10.80 – 12.11 (425 – 477)	14.31 – 21.09 (563 – 830)	4.61 (182)	8.55 – 11.20 (337 – 441)	11.09 – 14.10 (437 – 555)	13.92 – 25.57 (548 – 1007)	25.53 – 43.99 (1005 – 1732)

Unit: m (inches)

Preset Signal Chart

Computer Signal			
Resolution	fH [kHz]/ fV [Hz]	Input connector	
		RGB ^{*1}	DVI-D ^{*2} /HDMI ^{*6}
640 x 350	31.5/70	●	—
	37.9/85	●	—
640 x 400	31.5/70	●	—
	37.9/85	●	—
640 x 480	31.5/60	●	●
	35.0/67	●	—
	37.9/73	●	—
	37.5/75	●	—
	43.3/85	●	—
800 x 600	35.2/56	●	—
	37.9/60	●	●
	48.1/72	●	—
	46.9/75	●	—
832 x 624	53.7/85	●	—
	49.7/75	●	—
1024 x 768	48.4/60	●	●
	56.5/70	●	—
	60.0/75	●	—
1152 × 864	68.7/85	●	—
	64.0/70	●	—
	67.5/75	●	—
1152 x 900	77.5/85	●	—
	61.8/66	●	—
1280 x 960	60.0/60	●	●
	75.0/75	●	—
1280 x 1024	64.0/60	●	●
	80.0/75	●	—
	91.1/85	●	—
1400 x 1050	65.3/60	●	●
1600 x 1200	75.0/60	●	●
1280 x 768	47.8/60	●	●
1280 x 720	45.0/60	●	● ^{*5}
1920 x 1080	67.5/60	—	● ^{*5}
1360 x 768	47.7/60	●	●
1440 x 900	55.9/60	●	●
1680 x 1050	65.3/60	●	●
1280 x 800	49.7/60	●	●
1920 x 1200	74.0/60	● ^{*4}	● ^{*4}
1600 x 900	60.0/60	● ^{*4}	● ^{*4}

Digital TV Signal				
Signal	fV [Hz]	Input connector		
		RGB/ YPbPr ^{*3}	DVI-D ^{*2} / HDMI ^{*6}	HD-SDI/SDI input adaptor BKM-FW16 ^{*7}
480i	60	●	●	●
576i	50	●	●	●
480p	60	●	●	—
576p	50	●	●	—
1080i	60	●	●	●
1080i	50	●	●	●
1080i	48	—	—	●
720p	60	●	● ^{*5}	●
720p	50	●	●	●
1080p	60	—	● ^{*5}	—
1080p	50	—	—	—
1080p	24	—	●	●
1080p	30	—	—	●
Analogue TV Signal				
Signal	fV [Hz]	Input connector VIDEO/S VIDEO		
NTSC	60	●		
PAL/SECAM	50	●		

*1: INPUT A, INPUT B

*2: INPUT C

*3: INPUT A

*4: Available for VESA Reduced Blanking signals only.

*5: INPUT C is determined as a computer signal;
INPUT D is determined as a digital TV signal.

*6: INPUT D

*7: INPUT E

- When a signal other than the signals listed in table is input, the picture may not be displayed properly.
- An input signal meant for a screen resolution different from that of the panel will not be displayed in its original resolution. Text and lines may be uneven.
- Some actual value may differ slightly from the design values given in the table.

*1: INPUT A, INPUT B

*2: INPUT C

*3: INPUT A

*4: Available for VESA Reduced Blanking signals only.

*5: INPUT C is determined as a computer signal;
INPUT D is determined as a digital TV signal.

*6: INPUT D

*7: INPUT E

• When a signal other than the signals listed in table is input, the picture may not be displayed properly.

• An input signal meant for a screen resolution different from that of the panel will not be displayed in its original resolution. Text and lines may be uneven.

• Some actual value may differ slightly from the design values given in the table.

VPL-FH500L

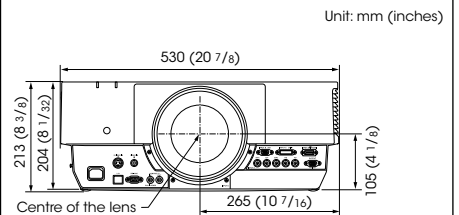
Specifications

Display system		3 LCD system
Display device	Size of effective display area	0.95" (24.1 mm) x 3, BrightEra, Aspect ratio: 16:10
	Number of pixels	6,912,000 (1920 x 1200 x 3) pixels
Projection lens	Zoom	Powered / Manual (Depends on lens)
	Focus	Powered / Manual (Depends on lens)
	Lens shift	Powered
Light source		High-pressure mercury lamp, 330 W type (Twin lamp system)
Recommended lamp replacement time*1		6000 H (Lamp mode: High), 8000 H (Lamp mode: Standard) *2
Filter replacement cycle		Same time as the lamp replacement
Screen size		40" to 600" (1.02 m to 15.24 m) (Depends on lens)
Light output		7000 lm (Lamp mode: High)*3, 5600 lm (Lamp mode: Standard)*3
Colour light output		7000 lm (Lamp mode: High)*3, 5600 lm (Lamp mode: Standard)*3
Contrast ratio (full white / full black)*4		2500:1
Displayable scanning frequency	Horizontal	14 kHz to 93 kHz
	Vertical	47 Hz to 93 Hz
Display resolution	Computer signal input	Maximum display resolution: 1920 x 1200 dots*5 Panel display resolution: 1920 x 1200 dots
	Video signal input	NTSC, PAL, SECAM, 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/60p, 1080/50p, 1080/48i*6, 1080/24p, 1080/30p*6
Colour system		NTSC3.58, PAL, SECAM, NTSC4.43, PAL-M, PAL-N, PAL60
Keystone correction		Vertical: Max. +/- 5 degrees
OSD language		20-languages (English, Dutch, French, Italian, German, Spanish, Portuguese, Turkish, Polish, Russian, Swedish, Norwegian, Japanese, Simplified Chinese, Traditional Chinese, Korean, Thai, Vietnamese, Arabic, Persian)
Computer and video signal input/output	INPUT A	RGB / Y Pb Pr input connector: 5BNC (female)
	INPUT B	RGB input connector: Mini D-sub 15-pin (female)
	INPUT C	DVI-D input connector: DVI-D 24-pin (Single link), supported HDCP
	INPUT D	HDMI input connector: Digital RGB/Y Pb Pr
	INPUT E	Optional adaptor slot (For HD-SDI/SDI Input Adaptor "BKM-FW16")
	S VIDEO IN	S video input connector: Mini DIN 4-pin
	VIDEO IN	Video input connector: BNC
Control signal input/output	OUTPUT	Monitor output connector*7: Mini D-sub 15-pin (female)
		RS-232C connector: D-sub 9-pin (female) LAN connector: RJ45, 10BASE-T/100BASE-TX Control S input connector: Stereo mini jack, Plug in power DC 5 V Control S output connector: Stereo mini jack
Operating temperature (Operating humidity)		0°C to 40°C / 32°F to 104°F (35% to 85%; no condensation)
Storage temperature (Storage humidity)		-20°C to +60°C / -4°F to +140°F (10% to 90%)
Power requirements		AC 100 V to 240 V, 4.9 A to 2.0 A, 50/60 Hz
Power consumption	AC 100 V to 120 V	490 W
	AC 220 V to 240 V	460 W
Standby mode power consumption	AC 100 V to 120 V	11 W (Standby mode: Standard) / 0.1 W (Standby mode: Low)
	AC 220 V to 240 V	10 W (Standby mode: Standard) / 0.2 W (Standby mode: Low)
Heat dissipation	AC 100 V to 120 V	1672 BTU
	AC 220 V to 240 V	1569 BTU
Outside dimensions		W 530 x H 213 x D 545 mm (W 20 7/8 x H 8 3/8 x D 21 15/32 in) W 530 x H 204 x D 545 mm (W 20 7/8 x H 8 1/32 x D 21 15/32 in) (without protrusions)
Mass		20 kg / 44 lb 1 oz
Supplied accessories		RM-PJ19 Remote Commander (1), Size AA (R6) batteries (2), AC Power Cord (1), Cable ties (2), Cable tie holder for HDMI (1), Lens installation screws (4), Lens gap cover (1), Quick Reference Manual (1), Security Label (1), Operating Instructions (1)

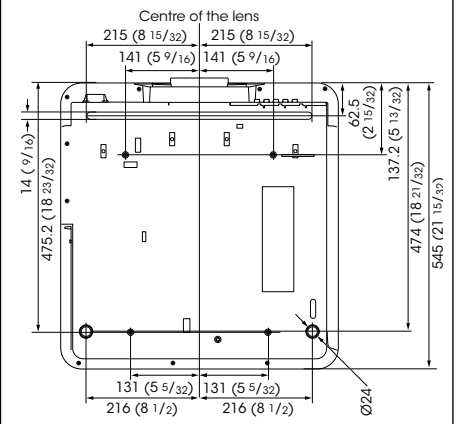
*1 The figures are expected maintenance time and not guaranteed. They will depend on the environment or how the projector is used.
 *2 With two lamp sequential use. *3 When attaching the VPLL-ZP41PK. *4 The value is average. *5 Available for VESA Reduced Blanking signal. *6 Available via BKM-FW16. *7 From INPUT A and INPUT B.

Dimensions

Front



Bottom



The distance L' is between the front of the lens (centre) and the front of the cabinet

Unit: mm (inches)

Lens	L'	Type
VPLL-FM22	30.9 (1 7/32)	①
VPLL-ZM32	42.5 (1 11/16)	①
VPLL-ZM42	40.1 (1 19/32)	①
VPLL-ZP41	9.1 (11/32)	②
VPLL-ZM102	3.0 (1/8)	①
VPLL-Z4008	57.8 (2 9/32)	②
VPLL-Z4015	47.8 (1 7/8)	②
VPLL-Z4019	26.7 (1 1/16)	②
VPLL-Z4025	55.4 (2 3/16)	②
VPLL-Z4045	53.0 (2 3/32)	②

