

Product Specifications

DLP™ LED Display Cube



Combination model name:

Model: 50PEF

Information in this document is subject to change without notice.

**Mitsubishi Electric Corporation
Kyoto Works**

Date: November 18, 2010

50PEF models Specifications

(1) Combination model name

Combination model name	Unit model name			All-in-one model name	Features
	Engine	Cabinet	Screen		
50PEF	VS-PE70U	S-5070CAF	SC-5070UF	–	LED light source Front maintenance Black stripe screen
50PEFB	VS-PE70U	S-5070CAF	SC-5070BF	–	LED light source Front maintenance Black bead screen

(2) Image panel and light source

Type	DLP™ technology (0.95" DLP™ 1 chip) DarkChip3™, BrilliantColor™
Resolution	1400 x 1050 pixels
Light source	LED (RGB)
Light source average lifetime	80,000hours(*)

(*) At 25°C / 77°F. Lifetime with Bright mode at 35°C / 95°F is 60,000hours.

DLP and Digital Light Processing are trademarks of Texas Instruments.

This product is "Class 2 LED PRODUCT".

(3) Electric specification

Power consumption (with 1 input board)	270W (typ.) @Bright Mode 210W (typ.) @Normal Mode 170W (typ.) @Eco Mode
Thermal dissipation	232.2kcal/h (921BTU/h)
Voltage range	AC 100 – 240V +/-10% , 50/ 60Hz +/-1Hz
Operating current (100/240V)	3.2/1.6 Amp.
Inrush current (100/240V)	30/60 Amp.
Control signal input	RS-232C: D-Sub 9 pins
	LAN: RJ45 x1 (10BASE-T/100BASE-TX)
	D-Sub 9 pins x 2 (input, output) Mitsubishi original control link
	Wire remote: F3.5Jack
	IR Receiver
Input board slot	Input board slot for optional input board x 3
Input signal specification	Refer to (10) Optional input board specification
Overlay function	Up to 6 windows per each screen.

(4) Optical specification

Screen model name		SC-5070UF	SC-5070BF
Brightness (typ.)		550cd/m ² @Bright Mode 450cd/m ² @Normal Mode 350cd/m ² @Eco Mode	135cd/m ² @Bright Mode 110cd/m ² @Normal Mode 90cd/m ² @Eco Mode
Viewing angle	Horizontal	178° (1/2 gain +/- 36°)	178° (1/2 gain +/- 35°)
	Vertical	60° (1/2 gain +/- 10°)	178° (1/2 gain +/- 35°)
Screen size		50" Diagonal size (1015mm x 761mm)	
Contrast ratio		1900:1 (typ.)	
Brightness uniformity		95% at 90% image height (typ.)	
Geometry distortion		0.2% (typ.)	
Mullion size		1.0mm – 2.0mm (*)	
Lateral color shift Red – Green Blue – Green		0.5pixel (typ.)	

(*) Depending on configuration and environment.

2.0mm recommended for large walls to allow for expansion due to heat and humidity.

(5) Mechanical specification (Refer to attached Fig.)

Dimensions	Width	1017mm / 40.0"		
	Height	1017mm / 40.0"		
	Depth	716.6mm / 28.2"		
Weight		78kg / 172lbs		
Audio noise		34dBA (typ.) (at 1m distance from screen center)		
Packing dimensions		Engine unit	Cabinet unit	Screen unit
	Width	910mm / 35.8"	1105mm / 43.5"	1170mm / 46.1"
	Height	500mm / 19.7"	1195mm / 47.2"	940mm / 37.0"
	Depth	530mm / 20.9"	852mm / 33.5"	180mm / 7.1"
Packing Weight		38kg / 84lbs	53kg / 117lbs	19kg / 42lbs
Accessories		Engine unit: User's manual Control cable Cabinet unit: User's manual Parts for connecting cubes Brackets for engine fixation Bolts for engine fixation Screen lock bolts for transportation Joint hole seal		

(6) Environment

Temperature and humidity Condition at operation	10°C – 30°C (50°F – 86°F), 20% – 80% non condensing
Temperature and humidity Condition at storage	-20°C – 50°C (-4°F – 122°F), 20% – 80% non condensing

(7) Safety approval

Safety approval	UL60950-1, CSAC22.2No.60950-1, EN60950-1 K60950-1, AS60950-1, GB4943
EMC	FCC part15 Subpart B Class A ICES-003 Issue No.4 Class A EN55022 Class A, EN55024 EN61000-3-2, EN61000-3-3 K00022 Class A, K00024 AS/NZS CISPR 22 Class A GB9254 Class A, GB17625.1

(8) Parts reliability (Average lifetime)

Cooling fan	100,000hours
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(9) Options

Remote control unit	R-XL50TX
Analog RGB input board	VC-B70G2
Digital RGB input board	VC-B70D2
Video input board	VC-B70V2
Daisy chain board	VC-B70DC
SDI input board	VC-B70SD1
LED unit	S-70LE
Power cord (North America)	JC-PC3MA
Power cord (Europe)	JC-PC3ME
Power cord (China)	JC-PC3MC
Motorized adjustment tool	S-A70E
Motor units for screen/mirror	S-MA70E

(10) Optional input board specification

Analog RGB input board: VC-B70G2

Signal input terminal (Analog RGB)		5BNC x1 HD Dsub15 x1
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Pixel clock rate		25MHz – 162MHz
Functions		Scaling: shrink and zoom. Frame rate conversion.

Digital RGB input board: VC-B70D2

Signal input terminal (Digital RGB)		DVI-D (with HDCP) x2
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Pixel clock rate		25MHz – 162MHz
Signal format		TMDS
Functions		Scaling: shrink and zoom. Frame rate conversion.

Video input board: VC-B70V2

Signal input terminal (Analog Video)		3BNC x2
Video input signals		NTSC, NTSC4.43 PAL, PAL-M, PAL-N, PAL-60, SECAM
Functions		Scaling: shrink and zoom. Frame rate conversion.

Daisy chain board: VC-B70DC

Signal input terminal		Analog RGB: HD Dsub15 x1 Digital RGB: DVI-D (with HDCP) x1 Analog Video: 3BNC x1
Signal output terminal		Digital RGB: DVI-D x1 (Daisy chain use only. Can not output HDCP signals.)
RGB Input scanning frequency	Signal resolution	VGA (640 x 480) – WUXGA (1920 x 1200) (Refer to attached “Supported signals list”)
	Horizontal	31.5kHz – 92kHz
	Vertical	49Hz – 85Hz
Video input signals		NTSC, NTSC4.43 PAL, PAL-M, PAL-N, PAL-60, SECAM
Pixel clock rate		25MHz – 162MHz
Functions		Scaling: shrink and zoom. Frame rate conversion. Daisy chain function (Up to 16 cubes)

SDI input board: VC-B70SD1

Signal input terminal		BNC x 1
Signal output terminal		BNC x 1 (for through output)
Input signals		3G-SDI (SMPTE424M): 1080p@50/59.94/60Hz HD-SDI (SMPTE292M): 1080i@50/59.94/60Hz 720p@50/59.94/60Hz SD-SDI (SMPTE259M-C): 480i@59.94Hz, 576i@50Hz
Gen lock input		Terminal: BNC x 1 Format: NTSC/PAL Black burst
Functions		Scaling: shrink and zoom. Frame rate conversion. Through output: (Up to 16 cubes @ HD-SDI, SD-SDI Up to 9 cubes @ 3G-SDI)

Supported signals list

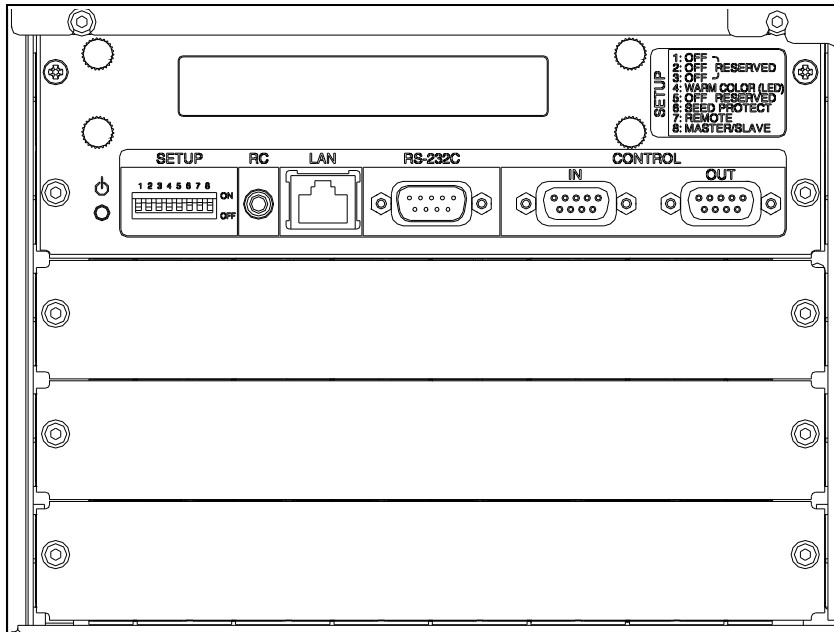
RGB signals

Signal	Resolution	Line rate (KHz)	Frame rate (Hz)
VESA	640 x 350	37.9	85.1
	640 x 400	37.9	85.1
	640 x 480	31.5	59.9
	640 x 480	37.9	72.8
	640 x 480	37.5	75.0
	640 x 480	43.3	85.0
	720 x 400	37.9	85.0
	800 x 600	35.2	56.3
	800 x 600	37.9	60.3
	800 x 600	48.1	72.2
	800 x 600	46.9	75.0
	800 x 600	53.7	85.1
	848 x 480	31.0	60.0
	1024 x 768	48.4	60.0
	1024 x 768	56.5	70.1
	1024 x 768	60.0	75.0
	1024 x 768	68.7	85.0
	1152 x 864	67.5	75.0
	1280 x 720	45.0	60.0
	1280 x 768	47.8	59.9
	1280 x 800	49.7	59.8
	1280 x 960	60.0	60.0
	1280 x 1024	64.0	60.0
	1280 x 1024	80.0	75.0
	1280 x 1024	91.1	85.0
	1360 x 768	47.7	60.0
	1366 x 768	47.7	59.8
	1400 x 1050	64.7	59.9
	1400 x 1050	65.3	60.0
	1400 x 1050	82.3	74.9
1440 x 900	55.9	59.9	
1600 x 1200	75.0	60.0	
1680 x 1050	65.3	60.0	
1920 x 1080	67.5	60.0	
1920 x 1200	74.0	60.0	
PC	640 x 400	31.5	70.1
	640 x 400	37.9	84.1
	1152 x 864	63.9	70.0
	1152 x 864	77.5	85.1
	1280 x 960	75.0	75.0
	1280 x 1024	63.4	60.0
	1400 x 1050	64.0	60.0
Mac	640 x 480	35.0	66.7
	832 x 624	49.7	74.5
	1024 x 768	60.2	74.9
	1152 x 870	68.6	75.0
Unix	1280 x 1024	64.6	59.9
	1280 x 1024	75.1	71.2
	1280 x 1024	78.1	72.0
	1280 x 1024	81.1	76.1
HDTV	1280 x 720	37.5	50.0
	1280 x 720	45.0	59.9
	1920 x 1080	28.1	50.0
	1920 x 1080	33.7	59.9

Y/Cb/Cr (Y/Pb/Pr) signals

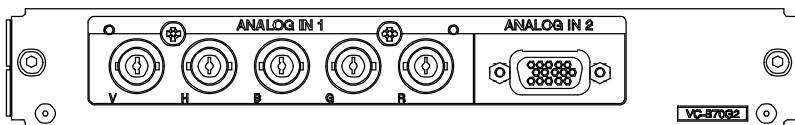
Signal	Resolution	Line rate (KHz)	Frame rate (Hz)
1125p/1080p	1920 x 1080	56.3	50.0
	1920 x 1080	67.4	59.9
1125i/1080i	1920 x 1080	28.1	50.0
	1920 x 1080	33.7	59.9
750p/720p	1280 x 720	37.5	50.0
	1280 x 720	45.0	59.9
625p/576p	720 x 576	31.3	50.0
525p/480p	720 x 480	31.5	59.9

Terminal panel

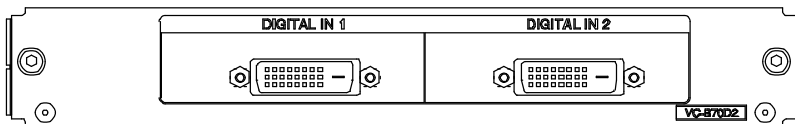


Optional input board appearance

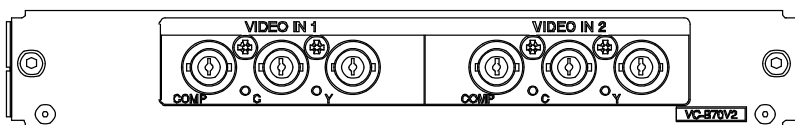
VC-B70G2



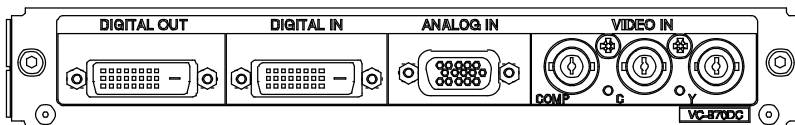
VC-B70D2



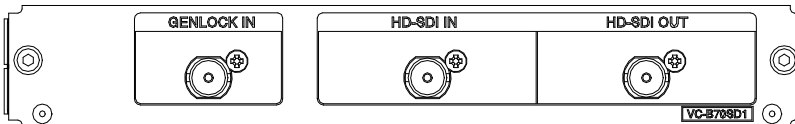
VC-B70V2



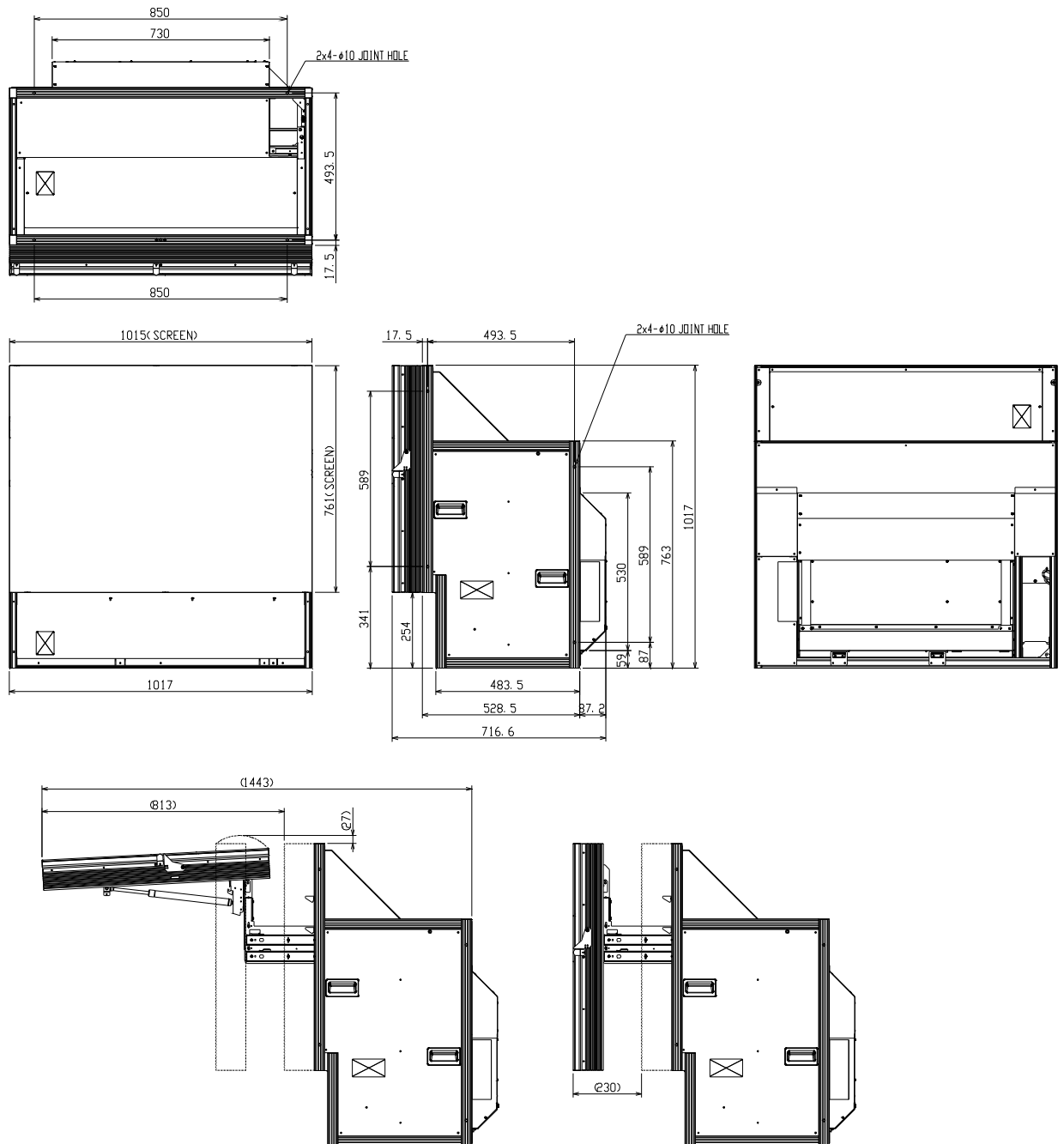
VC-B70DC



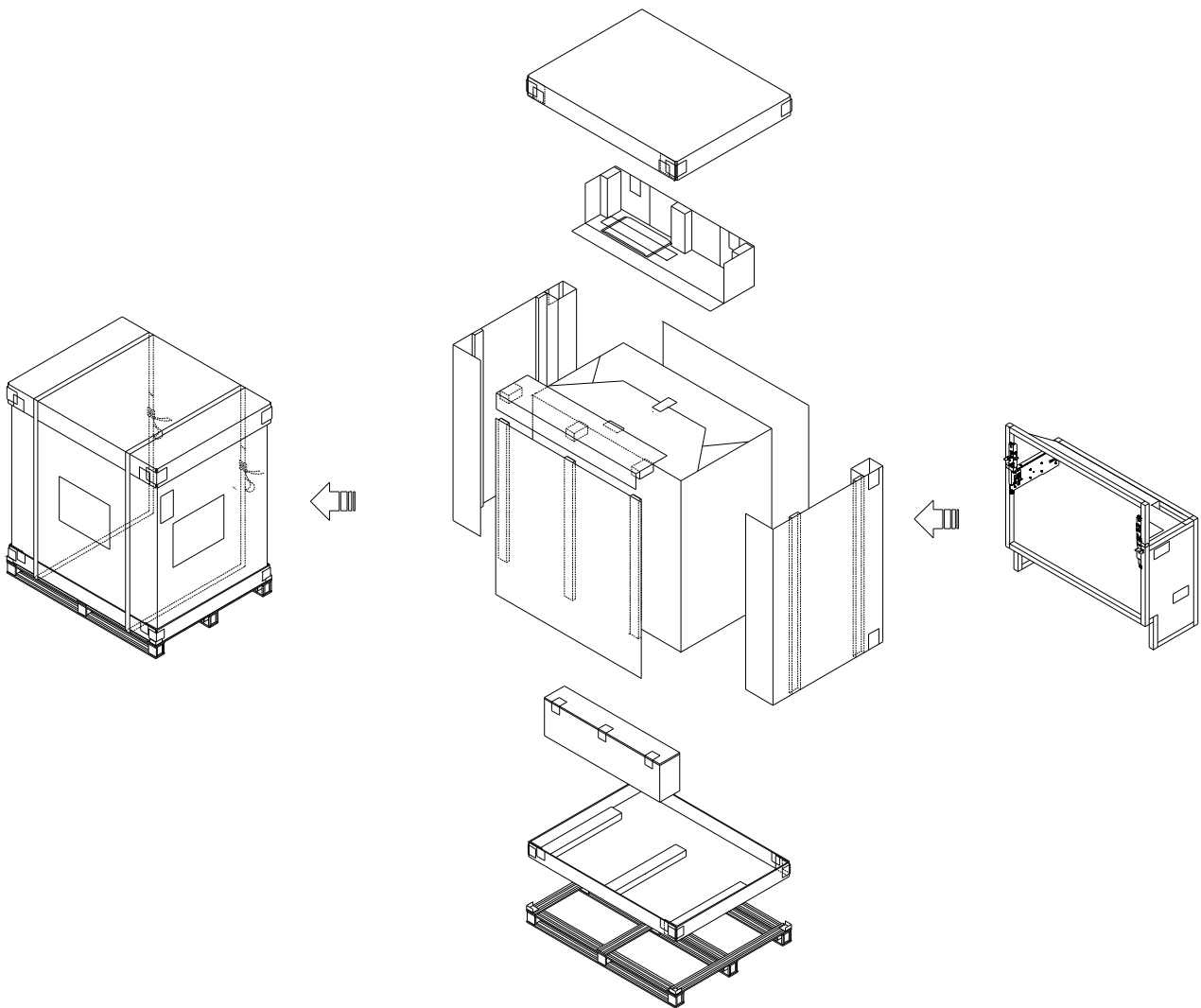
VC-B70SD1



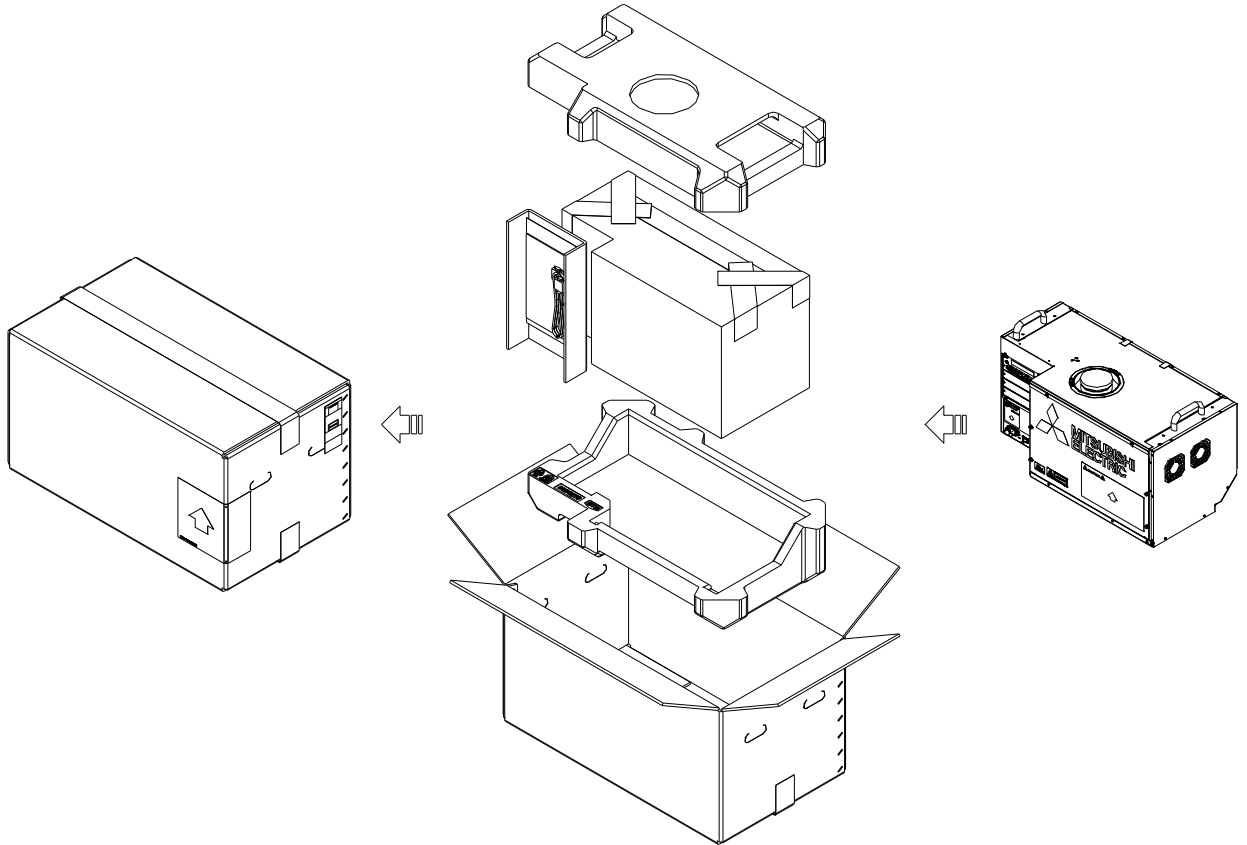
External dimensions



Packing specification
[Cabinet unit:S-5070CAF]



[Engine unit:VS-PE70U]



[Screen unit:SC-5070UF/BF]

