JFX200-1213 EX



Mimaki Engineering Col., Ltd. FA Division
Mimaki USA 5 Sept 2024 v1.1

Information in this document is subject to change without notice due to technical improvement, etc.

Components Overview

Maintenance station

Printing table

Print head

Vacuum levers



LAN / USB port

Ink drawer



Control panel

Ink IC chip slot

Key Points

1 Compact size JFX200

- Supports wide range of media sizes up to 53 x 54 in including standard half-board
- Easy to load and unload media, operators have an easier time reaching any part of the table



2 Top class productivity

- Top class printing speed in the mid-size flatbed range.
- More than twice as productive as UJF-6042MK Ⅱ e

3 High-speed overprint

- Added bi-directional Braille printing mode
  High speed braille application supported
- Approximately twice as productive as UJF-6042MK Ⅱ e

4 High quality printing

- Uses Mimaki core technologies to support high quality printing
- 6-color for high definition & expressiveness
  Higher quality reproduction than ever before

Compact size

Compact and Convenient

Approx. 30% smaller than the JFX200-2513EX

(W)124in(3142mm)

(D)91in (2320mm)

(H)49in(1235mm)

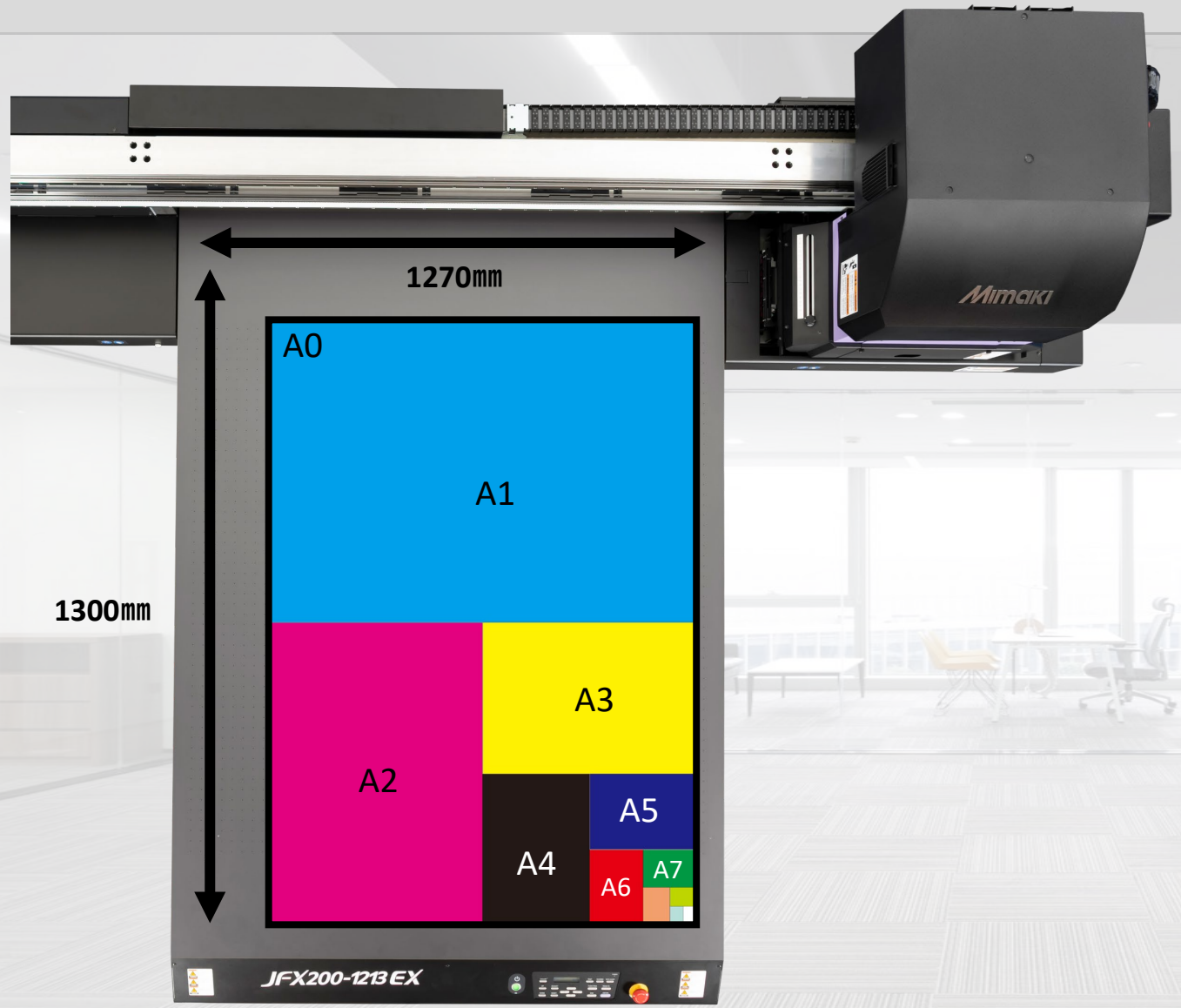


Convenient Ink Storage



Easy to reach all parts,
Easy to set media, etc.

Compact size



A print area that covers all international standard **A sizes**

Standard size	Settable number of sheets	Main applications
A0	1 sheet	Poster, painting and photo exhibition
A1	2 sheets	Storefront signs and tapestries
A2	6 sheets	In-store signage and calendars
A3	12 sheets	Election Poster and Blueprint
A4	24 sheets	Flyers, panels
A5	48 sheets	Books, notebooks, stickers
A6	96 sheets	Postcards and acrylic stands
A7	204 sheets	Flyer Magnet Ads
A8	425 sheets	Cards and accessories

Key Points

1 Compact size JFX200

- Supports wide range of media sizes up to 53 x 54 in including standard half-board
- Easy to load and unload media, operators have an easier time reaching any part of the table

2 Top class productivity

- Top class printing speed in the mid-size flatbed range.
- More than twice as productive as UJF-6042MK Ⅱ e



3 High-speed overprint

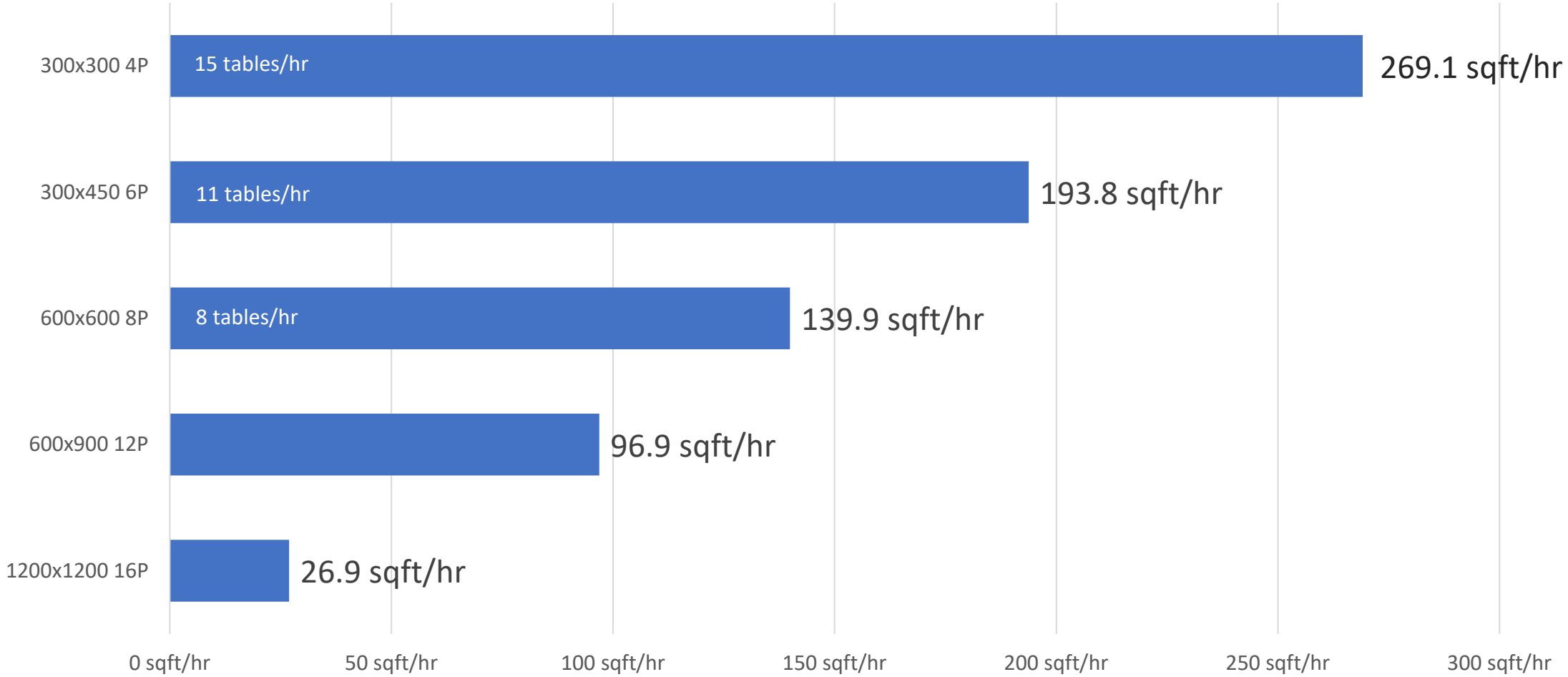
- Added bi-directional Braille printing mode
  High speed braille application supported
- Approximately twice as productive as UJF-6042MK Ⅱ e

4 High quality printing

- Uses Mimaki core technologies to support high quality printing
- 6-color for high definition & expressiveness
  Higher quality reproduction than ever before

Print Speed

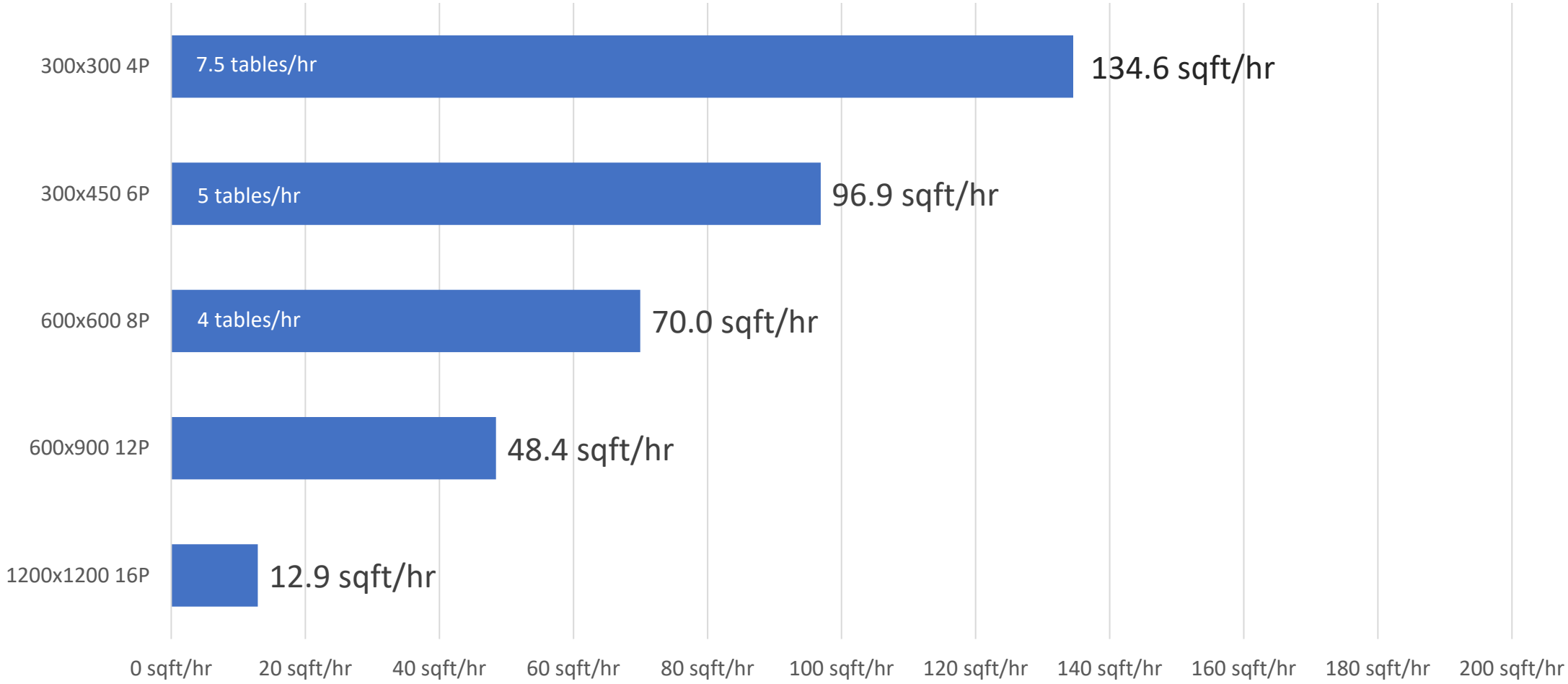
JFX200-1213EX 4C+W Print Speed



※Only printing speed (ft2/h) is shown
※LH-100 ink does not support 300x300 4P mode.

Print Speed

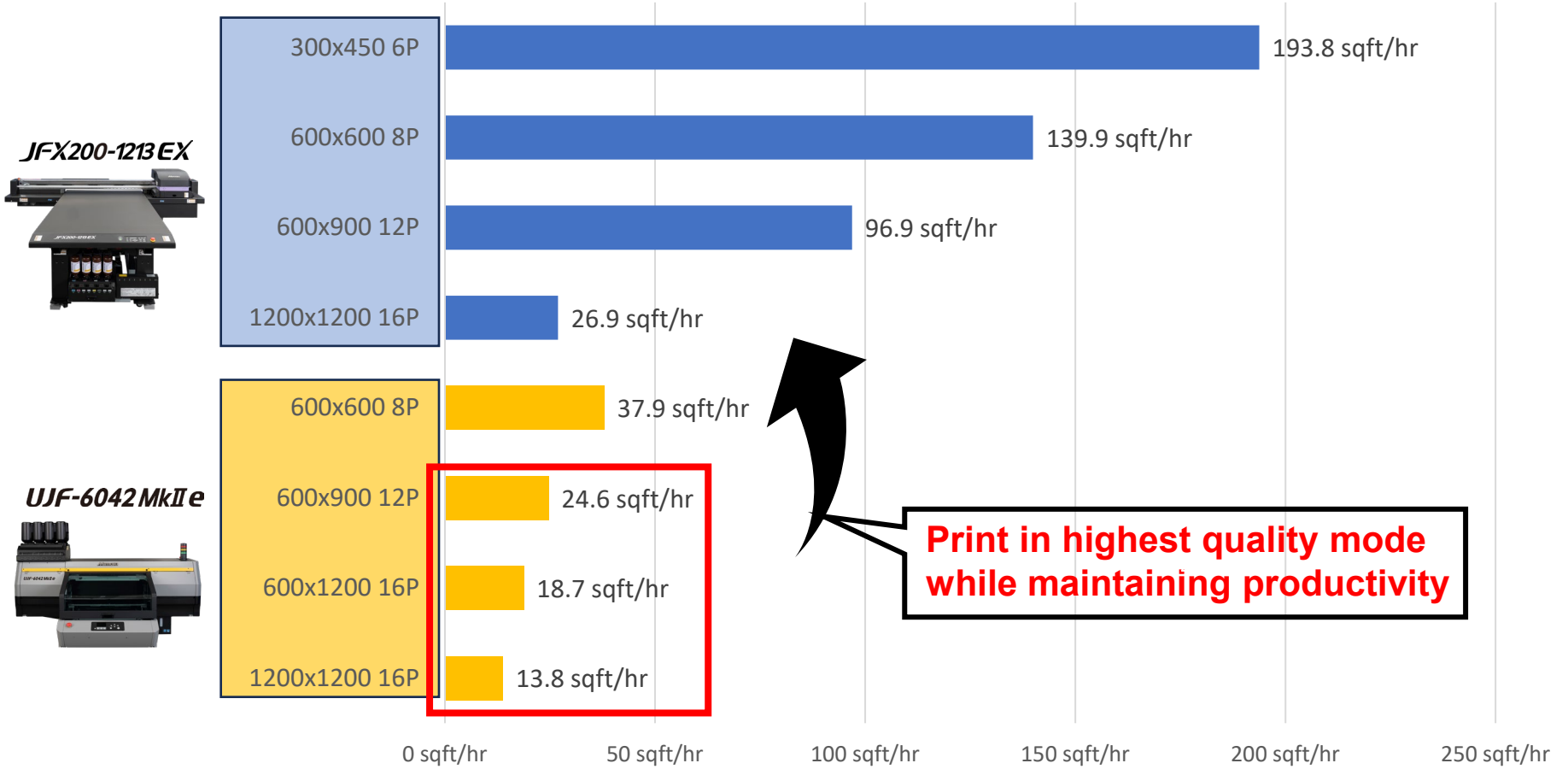
JFX200-1213EX 6C+W Print Speed



※Only printing speed (ft2/h) is shown
※LH-100 ink does not support 300x300 4P mode.

Print Speed Comparison to UJF-6042 MkII e

JFX200-1213EX is faster at highest quality compared to production speeds!



※Only printing speed (ft2/h) is shown
※LH-100 ink does not support 300x300 4P mode.

High Productivity vs. UJF Series Single Layer Printing

JFX200-1213EX is approx. **2.7** times
more productive than the UJF-6042MKIIe



Places 24 A4 size sheets at a time
Printing time is approx. 8 minutes



Single Layer Productivity	JFX200-1213EX	UJF-6042MK Ⅱ e
Resolution	600x600	600x600
Pass	8P	8P
Production time (sec)	687 sec	311 sec
Number of pieces produced per run (A4)	24 pieces	4 pieces
Printing capacity per hour	5.24 times	11.58 times
Number of pieces produced per hour (A4)	125.8 pieces	46.3 pieces
Number of pieces produced per day (8 hours)	**1,006 pieces**	**370 pieces**

※Speed comparison of A4 size media placed on a table for printing
JFX200：24 pieces　UJF：4 pieces
※Comparison of both models with heater temperature raised

※Both models start counting when the RL7 RIP start button is pressed in remote mode.
※200: Head view position / 6042: Counting ends when the table returns.

WE ARE WIDE FORMAT

High Productivity vs. UJF Series Single Layer Printing

JFX200-1213EX is approx. **1.9** times
more productive than the UJF-6042MKIIe



Places 24 A4 size sheets at a time
Printing time is approx. 8 minutes



Single Layer Productivity	JFX200-1213EX	UJF-6042MK Ⅱ e
Resolution	600x900	600x900
Pass	24P (recommended)	12P
Production time (sec)	1,533 sec	476 sec
Number of pieces produced per run (A4)	24 pieces	4 pieces
Printing capacity per hour	2.35 times	7.56 times
Number of pieces produced per hour (A4)	56.4 pieces	30.3 pieces
Number of pieces produced per day (8 hours)	**451 pieces**	**242 pieces**

※Speed comparison of A4 size media placed on a table for printing
JFX200 : 24 pieces UJF : 4 pieces
※Comparison of both models with heater temperature raised
※Both models start counting when the RL7 RIP start button is pressed in remote mode.
※200: Head view position / 6042: Counting ends when the table returns
※JFX200 is MAPS disabled at 12P, so compare with MAPS enabled at 24P.

Key Points

1 Compact size JFX200

- Supports wide range of media sizes up to 53 x 54 in including standard half-board
- Easy to load and unload media, operators have an easier time reaching any part of the table

2 Top class productivity

- Top class printing speed in the mid-size flatbed range.
- More than twice as productive as UJF-6042MK Ⅱ e



3 High-speed overprint

- Added bi-directional Braille printing mode
  High speed braille application supported
- Approximately twice as productive as UJF-6042MK Ⅱ e

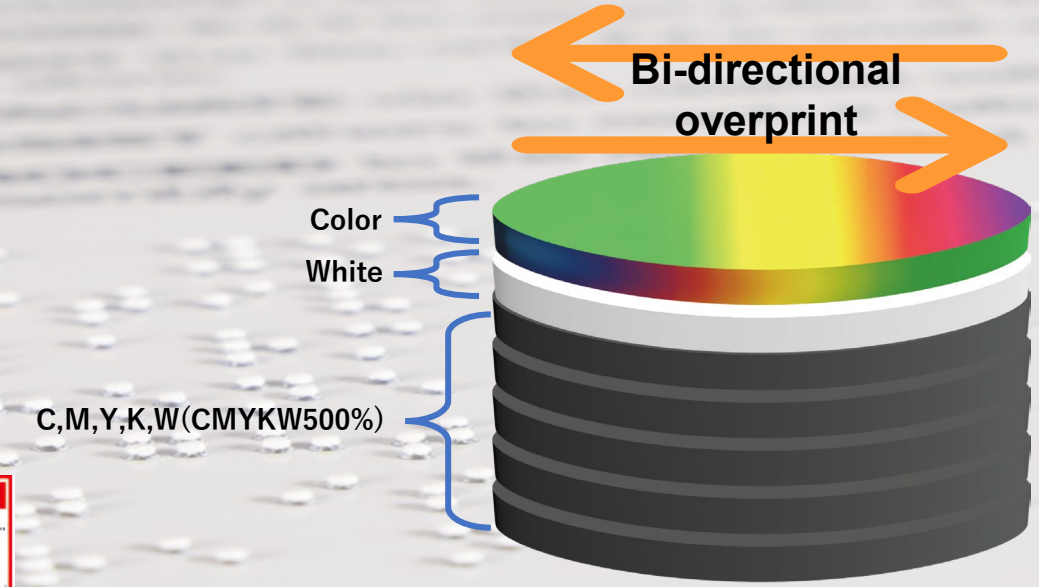
4 High quality printing

- Uses Mimaki core technologies to support high quality printing
- 6-color for high definition & expressiveness
  Higher quality reproduction than ever before

High Speed Braille Printing!

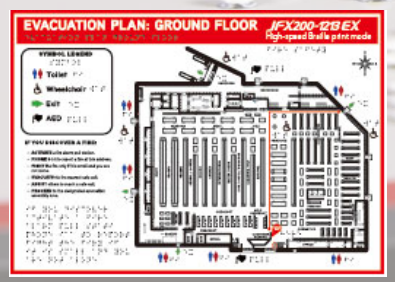
JFX200-1213EX is capable of bi-directional Braille printing.

It is bi-directional printing and **it is fast.**





Approx. **twice** the printing speed
of the UJF series, which prints in one direction



When printing A3 size with a thickness of 0.9 mm (ADA standard)

	Resolution	Pass	Print time
UJF6042MK Ⅱ e	600x1200	16Pass	Appox. 58 mins
JFX200-1213EX	**600x900**	**12Pass**	**Appox. 28 mins**

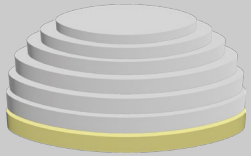
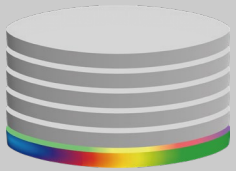
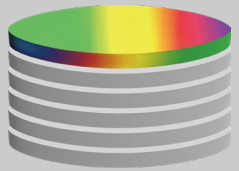
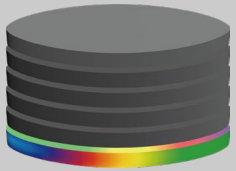
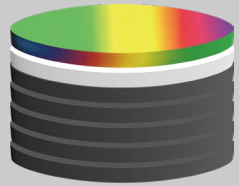
※Printing time includes the time from the pre-print RIP time to the end of all printing.
※JFX200-1213EX : 1st layer color printing : 600×900 12P Thickness printing : 600×900 12P Final color : 600×900 12P Including head height change time.
※UJF-6042MKIIe : 1st layer color printing: 600x900 12P Thickness printing: 600x1200 16P Final color: 600x900 12P Including head height change time.

WE ARE WIDE FORMAT

Mimaki®

High Speed Braille Printing!

The JFX200-1213EX offers three types of Braille printing methods to suit your needs.

	Conform mode	Standard mode		High speed mode	
Image					
Printing sequence	PR →CL	Color →CL	CL →Color	Color → 4K+W	4K+W →White →Color
Print speed	Slow	Slow	Slow	High speed	High speed
Color	Clear	Clear	Clear	Black (CMYKW)	Black (CMYKW)
Ink	LH-100 (Ink set with CL and Pr)	LH-100・LUS-120 (Ink set with CL)	LH-100・LUS-120 (Ink set with CL)	LH-100・LUS-120	LH-100・LUS-120
How to	Specify JIS/ADA from "Conform" in the RL tool and output to RL.	Select "Standard" in the RL tool, adjust the level (thickness), and output with Rl.	Select "Standard" in the RL tool, adjust the level (thickness), and output with Rl.	Select “High speed" in the RL tool, adjust the level (thickness), and output with Rl.	Select “High speed" in the RL tool, adjust the level (thickness), and output with Rl.

※For detailed printing instructions, please refer to the Braille Printing Guide.

Key Points

1 Compact size JFX200

- Supports wide range of media sizes up to 53 x 54 in including standard half-board
- Easy to load and unload media, operators have an easier time reaching any part of the table

2 Top class productivity

- Top class printing speed in the mid-size flatbed range.
- More than twice as productive as UJF-6042MK Ⅱ e



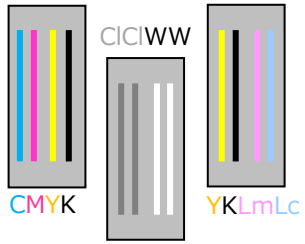
3 High-speed overprint

- Added bi-directional Braille printing mode
  High speed braille application supported
- Approximately twice as productive as UJF-6042MK Ⅱ e

4 High quality printing

- Uses Mimaki core technologies to support high quality printing
- 6-color for high definition & expressiveness
  Higher quality reproduction than ever before

Ink Configurations

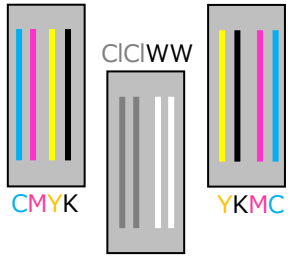


【6C+Cl+W】

M K C Y Lm Lc Cl W

The combination of light colors and clear allows for high-quality printing without graininess.

Ink : LH-100 LUS-150

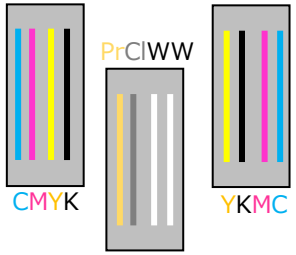


【4C+Cl+W】

M K C Y Cl Cl W W

The addition of clear ink can achieve a glossy finish on the printed surface and a three-dimensional finish with multiple overprint

Ink : LH-100 LUS-120 LUS-150 LUS-350 LUS-211

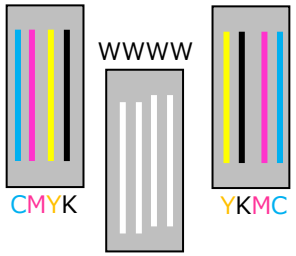


【4C+Cl+Pr+W】

M K C Y Cl Pr W W

Adhesion between ink and material is improved by adding primer ink.

Ink : LH-100 LUS-120 LUS-150



【4C+W+W+W+W】※1

M K C Y W W W W

Setting all center heads to white allows white MAPS from draft mode (lowest pass) for clean printing.

Ink : LH-100 LUS-120 LUS-150

Ink characteristics comparison



Ink performance

		LH-100		LUS-120		LUS-150		LUS-350	LUS-211
		W/O Primer	PR-200	W/O Primer	PR-200	W/O Primer	PR-200	W/O Primer	W/O Primer
Scratch resistance※1	Pencil hardness※2	5H	2H	2H～H	HB～B	3H～H	HB～B	H～F	2H～H
Flexibility	Expansion	100% (Does not stretch)		170% (Stretches up to 1.7 times)		150% (Stretches up to 1.5 times)		Room temperature: 105% (will not stretch) 120 ℃ heating: 350% (Stretches up to 3.5 times)	200% (Stretches up to 2 times)
Solvent abrasion resistance※3 (Rub Test)	Water	○		○		○		○	○
	Ethanol	○		△		△		△	△
	IPA(100%)	○		×		○		×	×
	Xylene(100%)	○		×		○		×	×
	[Evaluation criteria] ○: Did not peel / △: Peeled with low solution concentration/ ×: peeled immediately								
Solvent immersion※4 (Immersion Test)	Water	×	△	○		○		○	○
	Hot Water(60℃)	×	×	△		△		△	△
	Ethanol(100%)	○	×	××		××		××	××
	[Evaluation criteria] ○: Did not peel / △: Peeled with time / ×: peeled immediately ×× : Peeled immediately after immersion (3 minutes after immersion in ethanol and xylene)								

※1Abrasion resistance tends to depend on the hardness of the membrane.
※2When the print end face etc. is rubbed with a nail, the value of pencil hardness is the index of whether or not the membrane can be removed. Because the hardness of the nail is approximately "H", it is effective to select an ink with a hardness higher than that. However, this does not apply to materials with weak adhesion.
※3Evaluation method: Overall score based on test results of primary color, secondary color and tertiary color
※4When printing on material that does not adhere well to UV ink,
water and solvent penetrate from the edge and are easily peeled

Ink adhesion properties

Material	Substrate		LH-100		LUS-120		LUS-150		LUS-350	LUS-211
			W/o Primer	PR-200	W/O Primer	PR-200	W/O Primer	PR-200	W/O Primer	W/O Primer
Resin	Polycarbonate		○	Adheres without primer※1	○	Adheres without primer※1	△～○	○	○	○
	Polystyrene		○		○		○	Adheres without primer※1	○	○
	ABS		○		○		○		○	○
	PET w/ Adhesive Coating	HK31WF	○		○		○		○	○
		U292W	×	○	○		○		○	○
	Acrylic		×	○	×	○	△	○	△	△
	Glass Epoxy		×	○	×	○	△	○	△	×
	6-Nylon		×	○	×	○	×	○	△	×
	PP/PE		×	×	×	×	×	×	×	×
	FOREX		○	○	○	○	○	○	○	○
Inorganic	Glass		×	○	×	○	×	○	×	×
Metal	SUS		×	○	×	○	×	○	×	×
	Aluminum		×	○	×	○	×	○	×	×
	Copper		×	○	×	○	×	○	×	×
	Brass		×	○	×	○	×	○	×	×
Surface Treated	Nickel		×	○	×	○	×	○	×	×
Aluminum composite	DIBOND		○	○	○	○	○	○	○	○
Coated paper	KAPA		○	○	○	○	○	○	○	○

※1 Primer unnecessary. When using in combination with primer, adhesion may be reduced.
※The above adhesion test is evaluated based on Mimaki standards and is not guaranteed. The same results may not be obtained if the same type of substrate used differs by manufacturer or type. We recommend that you always test in advance.

※LUS-350 and LUS-211 cannot be used with primers.

Greenguard Gold Certified

Three types of JFX200-2513EX inks (LH-100 / LUS-120 / LUS-150) are GREEN GUARD certified. They can be used safely for indoor decorative applications.





What is GREENGUARD?

It is a third-party certification for indoor air quality (IAQ) initiated by the GREENGUARD Environmental Institute (GEI) in 2001.GREENGUARD certification is based on the world's most stringent standards for Volatile Organic Compound (VOC) emissions measurement testing.

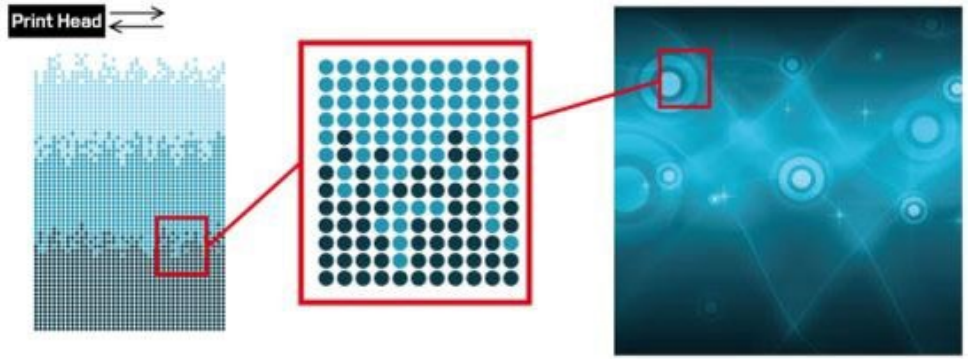
GREENGUARD certified products are distinguished from other products as more environmentally friendly products with lower emissions of chemical substances in indoor spaces.In addition to GREENGUARD certification, Mimaki Engineering's UV inks are also GREENGUARD GOLD certified, a more stringent standard.

Core Technology MAPS

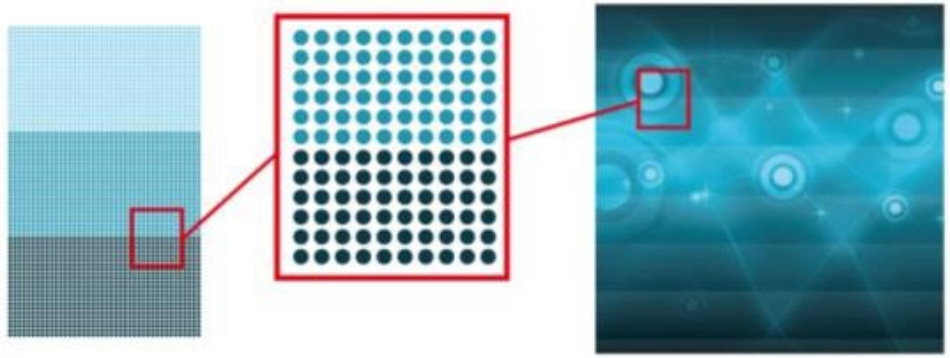
High image quality by MAPS

MAPS, which has a proven track record in JFX200-2513EX / JFX500-2131, is continuously employed.By printing the boundary between passes in a gradation style, banding (thin stripes), color irregularities, and glossy stripes are reduced, resulting in smooth printing.

〈MAPS（IMAGE）〉



〈Without MAPS（IMAGE）〉



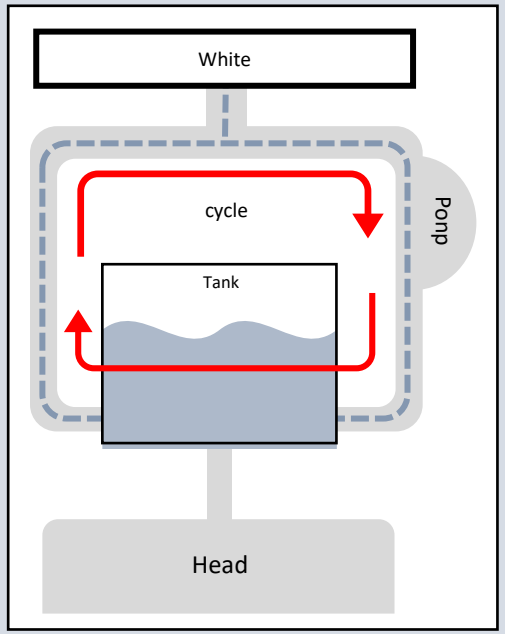
The optimal gradation pattern is automatically selected and printed according to printing conditions such as media type, ink type, and resolution.

Core Technology MCT

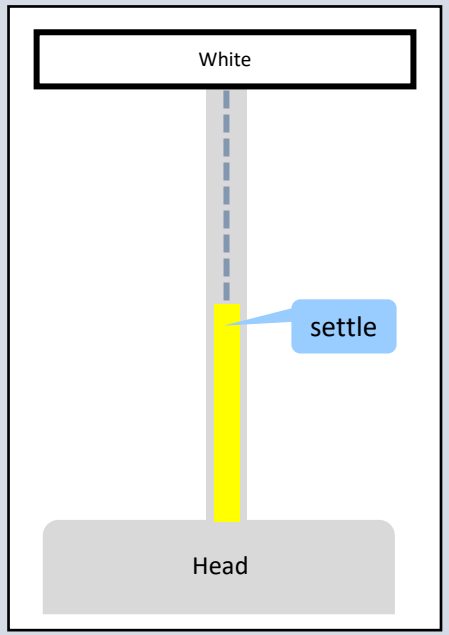
Mimaki Circulation Technology (MCT) maintains white ink quality

JFX200-1213EX is equipped with a circulation mechanism in the ink tank and ink path.
By periodically circulating white ink, nozzle problems caused by ink pigment precipitation are prevented and stable printing is achieved.

〈MCT〉



〈Without MCT〉



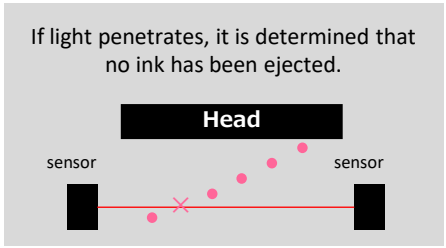
Core Technology NCU / NRS

Automatic nozzle maintenance NCU / NRS

The NCU (Nozzle Check Unit) automatically detects the condition of nozzles. If a nozzle is found to be defective, it is automatically cleaned. If cleaning does not solve the problem, the defective nozzle is automatically replaced by with another nozzle, allowing work to continue without waiting for service repair.

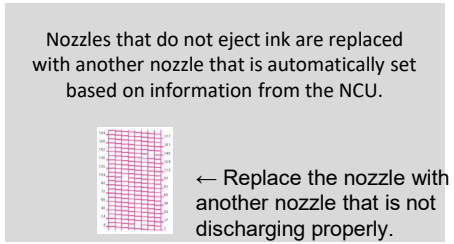
NCU(Nozzle Check Unit)

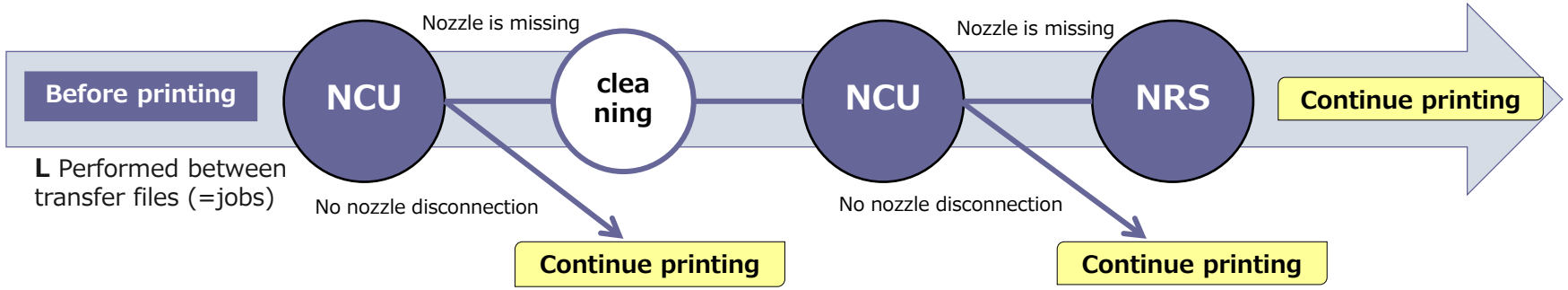
A sensor automatically detects nozzle status.
If a missing nozzle is detected, automatic cleaning is performed to eliminate the missing nozzle.



NRS(Nozzle Recovery System)

Nozzle defects that cannot be resolved by cleaning are automatically replaced with another nozzle, allowing work to continue without waiting for CE repair.



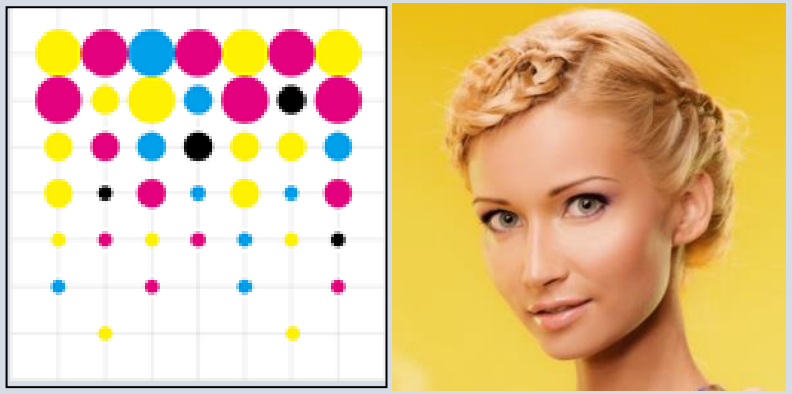


※To use the nozzle check, automatic cleaning, and automatic nozzle recovery functions, settings must be made on the printer itself.
※The timing of the nozzle check can be set by the number of files.
※Nozzle recovery may not work in some modes.

Sharp finish with Mimaki Waveform Control (WC)

Ink droplets are ejected in a straight, nearly spherical shape, which improves the landing performance and reduces overlap between dots. As a result, sharp print quality with less graininess can be obtained.

〈 When printed near the true sphere 〉

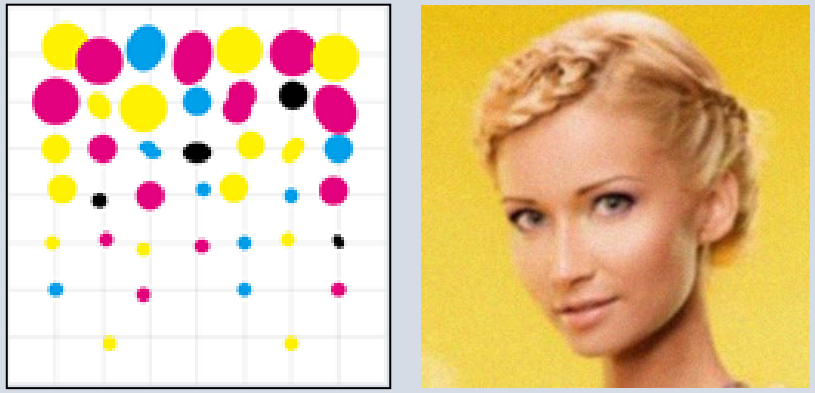


High-precision printing is possible

↓

Sharp finish with less graininess

〈 When printed not the true sphere 〉



Gaps and overlaps occur between dots

↓

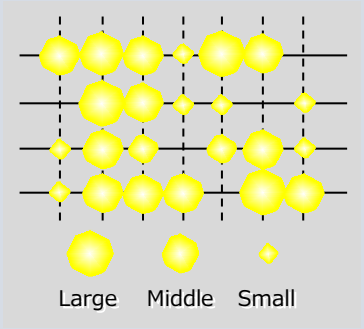
Rough image quality and blurred edges

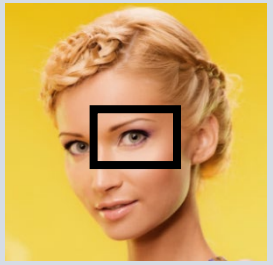
Reduced graininess

Variable dot technology to suppress graininess

By dividing the ink dots into three sizes (small, medium, and large), high quality prints with reduced graininess are achieved.

〈 variable dot image 〉



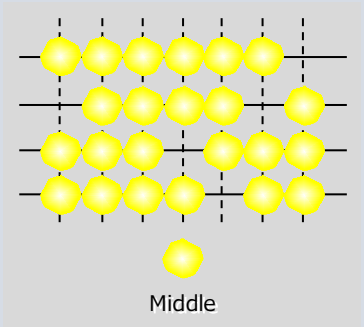


〈variable dot〉



Smooth color printing with less graininess with a combination including a minimum of 7 pl dots

〈 Fixed Dot Image 〉





〈fixed dot〉

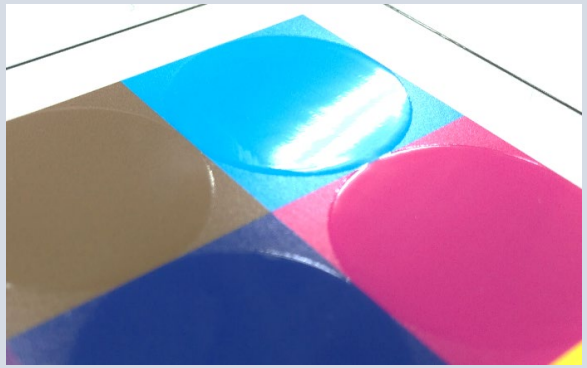


Clear ink: single pass gloss

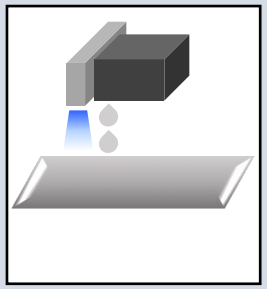
High quality clear printing system

Advanced UV-LED lamps control the curing of clear ink. Dust adhesion and air bubbles are minimized to achieve beautiful gloss clear printing. Glossy clear can be printed in a single process, enabling sharp edges.

MCC

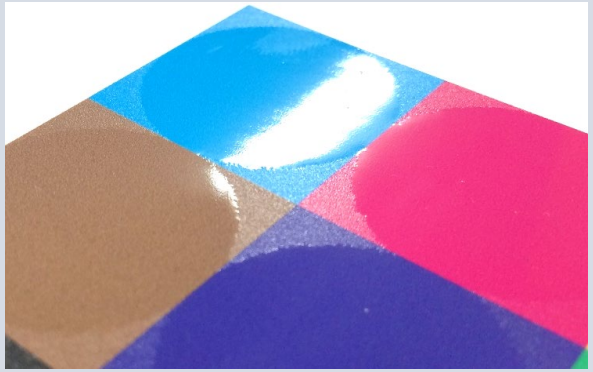


Printing process for gloss finish

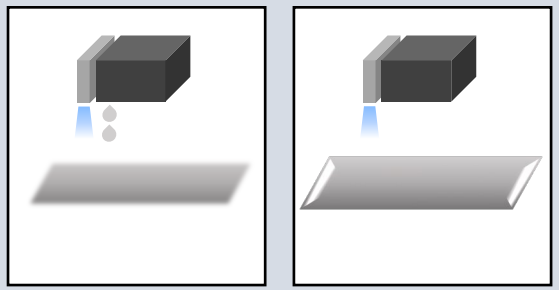


Gloss effects printing is possible in one pass.

Without MCC



Printing process for gloss finish



Two passes are required to print gloss finish.

※The photos show LH-100 clear.

Clear ink: selectable finish mat & gloss

Clear ink adds value to printed materials

Printing with clear ink adds value to printed materials. There are "gloss finish" to enhance the sense of quality with a glossy finish, "matte finish" for textured printing, and "thick finish" for multi-layer printing.



Without Clear



Gloss



Mat



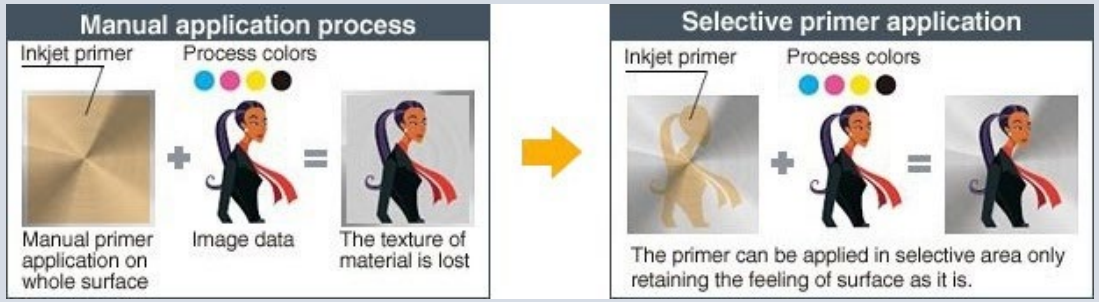
Texture printing (mat finish)

※The photos show LH-100 clear.

Printed primer

Inkjet primer for improved adhesion

JFX200-1213EX can be equipped with inkjet primer PR-200.When adhesion to materials is poor with color ink alone, the use of inkjet primer can improve adhesion. PR-200 can improve adhesion to resin-based materials such as acrylic as well as to glass, metal, and materials with surface finish.



Since primer can be applied by inkjet printing, it can be applied only to the necessary areas.In addition, the texture of the substrate can be retained, which is lost in the conventional manual application of primer.

＜ Difference in adhesion with the presence or absence of PR-200 ※1＞

〈Acrylic〉

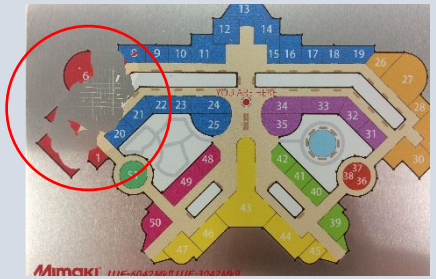


Without PR-200
（White + Color）

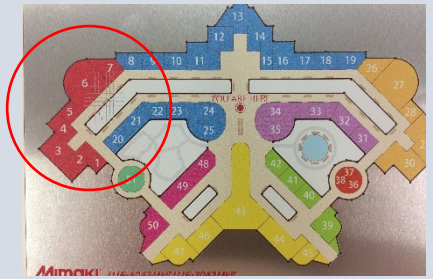


With PR-200
（PR-200 + White + Color）

〈Aluminum〉



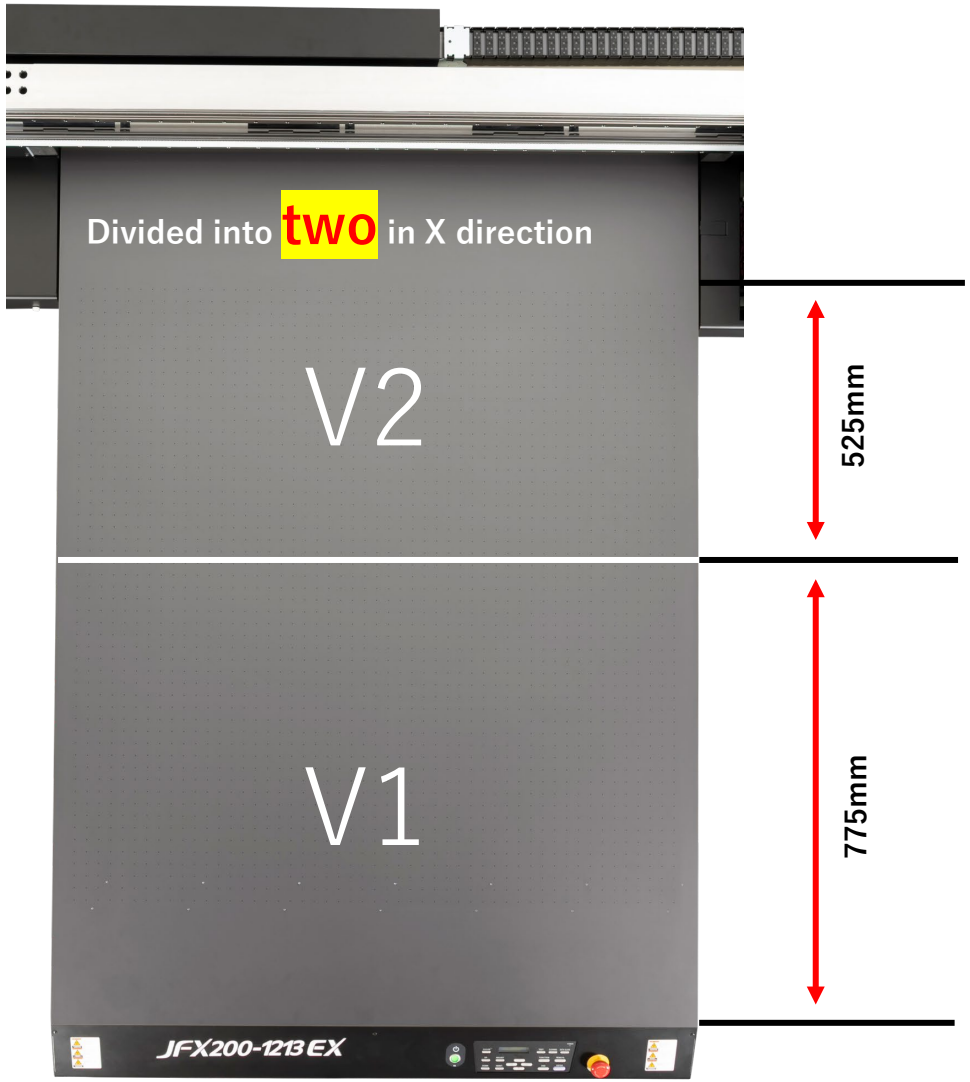
Without PR-200
（White + Color）



With PR-200
（PR-200 + White + Color）

※ 1 Comparison of adhesion by crosscut test.
In the cross-cut test, a cut is made in a grid pattern on the printed surface using a utility knife and verified by applying and peeling off tape.
※Please refer to the "Adhesive comparison" page for a list of adhesion by material with and without PR-200.
※When printing PR-200, there are recommended densities according to each resolution.
When printing using RasterLink 6 Plus, the recommended density is automatically set. Be sure to print with the setting "Primer concentration: 100%".

Vacuum



The suction area is divided into two sections in the X direction, so open and close the valves according to the size of the media. Closing the valve in the unused area or covering the suction holes with a film improves the suction efficiency on the substrate surface.

In addition to the ON/OFF switch on the operation panel, the JFX200-1213EX can be turned ON/OFF with a standard equipped foot pedal, improving workability when using large media where both hands are occupied. An optional blower is also available for media that cannot be suctioned by the standard blower.



foot pedal

vacuum lever



Optional Blower

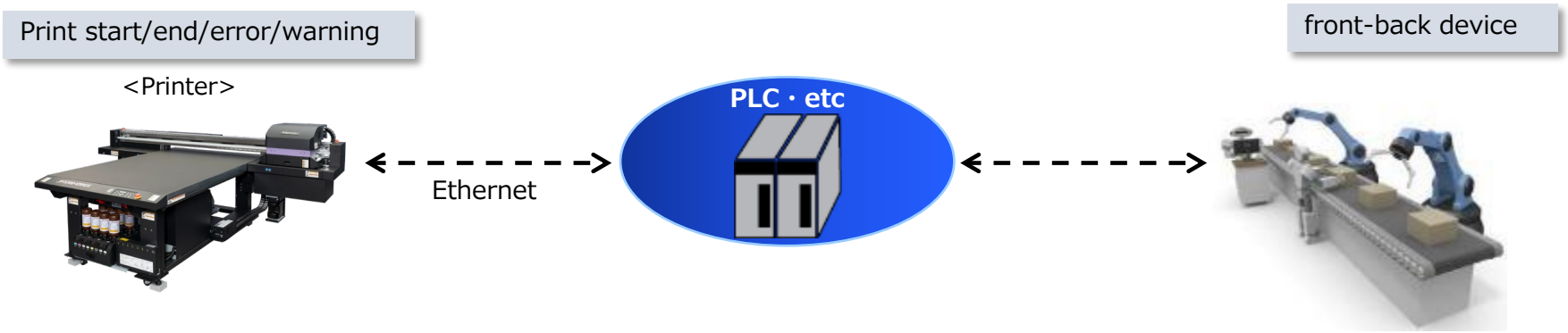
Blower type	weak	standard	strong
Standard accessories	Appox.13kpa（fixation）		
OPT-J0217　vacuum unit（1ϕ-200）	2kpa	8kpa	14kpa
OPT-J0216　vacuum unit（3ϕ-200）	4kpa	14kpa	25kpa
OPT-J0232　vacuum unit（3ϕ-400）	4kpa	14Kpa	25kpa

※All figures are approximate.

IoT ready

Automation supports labor and manpower savings

MDL commands can be used externally to control the printer and manage jobs.









※When using MDL commands, please refer to the manual for MDL commands included in the SDK.
※We may not be able to guarantee machine failure due to the use of MDL commands.

Cloud-based printer status monitoring tool

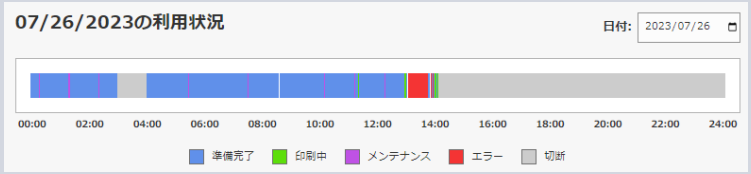
Mimaki Cloud Technology PICT

Printer operating status and ink usage

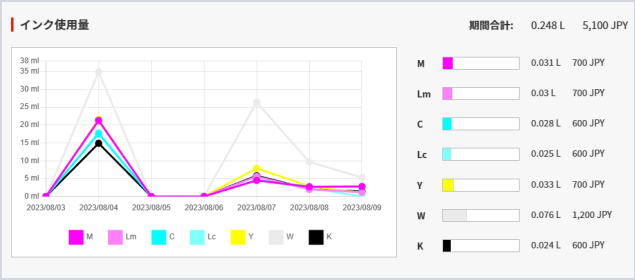
All, Can See!

Operation results, ink usage, and printing results can be checked by specifying a time period.

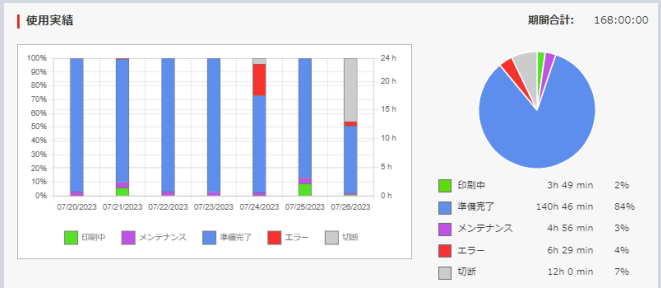
Timeline of performance within days



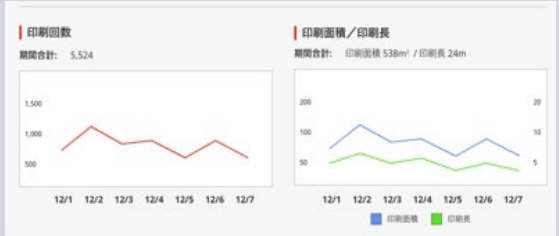
Ink usage per day, per period



Operation Status Graph
Displays the accumulated time and percentage of printer status.



Number of sheets printed per day and per period/printed area/length





× Mimaki Cloud Technology PICT

Progress can be monitored during mass production
Can support planned operations

※Each specification is subject to change.

PC for RIP



RIP process

- **Resolution and number of passes**
- **Color matching**
- **Board setting**
- **Imposition, nesting**
- **Ink quantity, printer Status**

Ethernet/USB

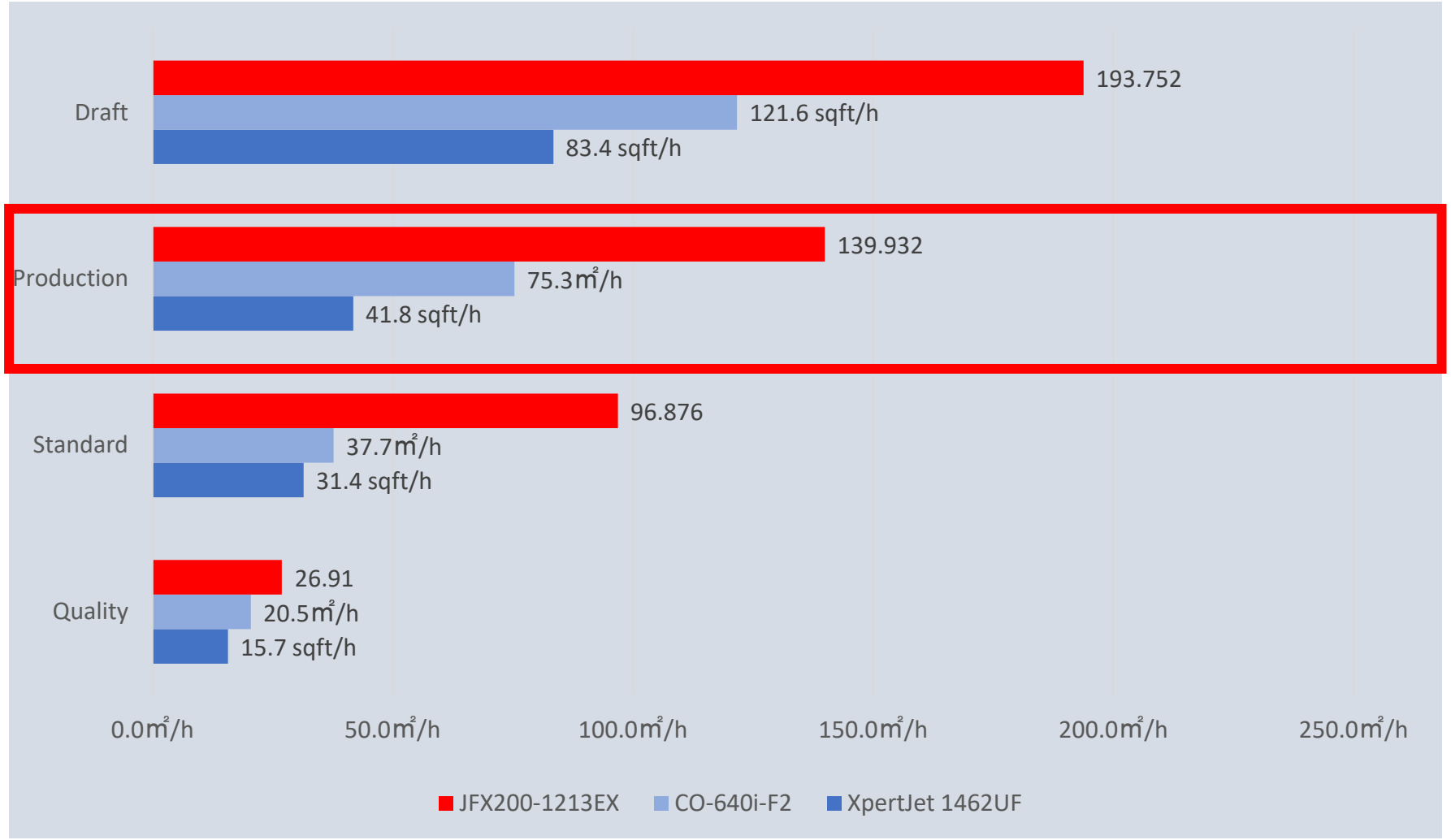
connection

JFX200-1213EX



Recommended RIP PC SpecsCPU: Intel® Core™ i5-4670K 3.4GHzMemory: 8GB or moreHDD: 1TB or more (NTFS)Network: Ethernet (10GBASE-T)Windows 10® Pro (64bit)Monitor: 1920x1200 or higher

Speed comparison

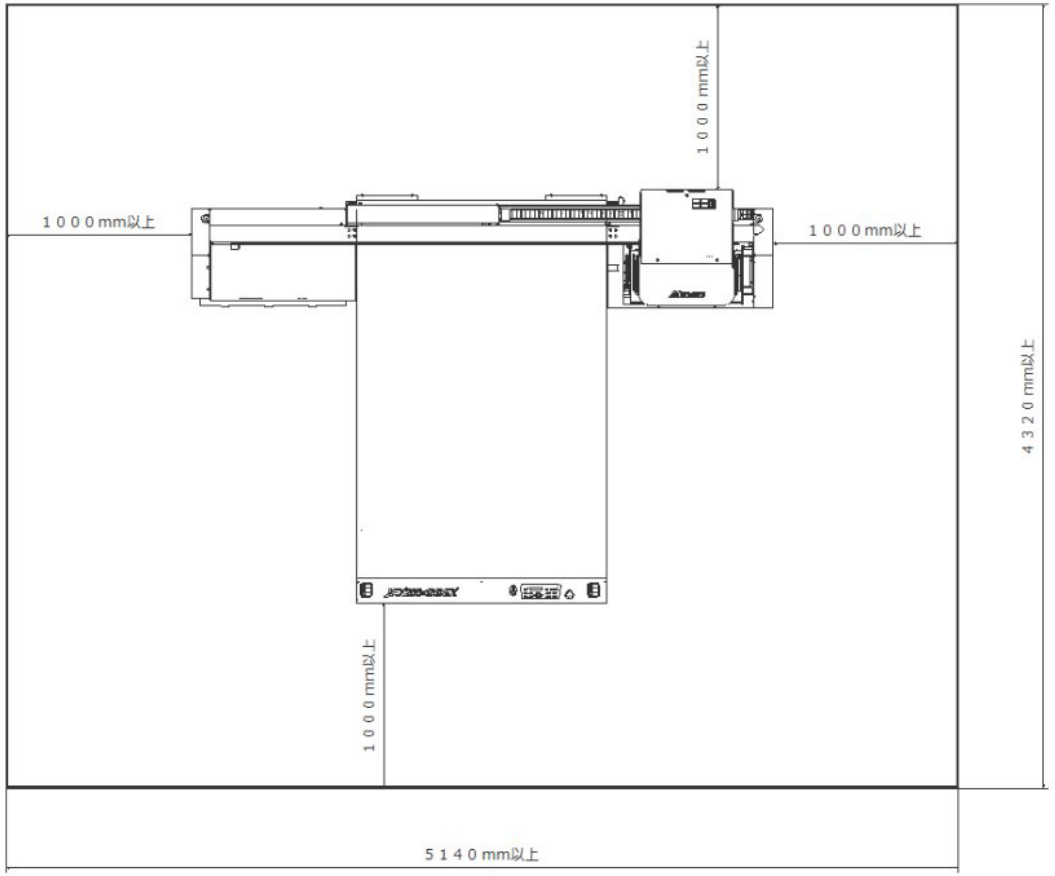


※Only printing speed (m2/h) is shown
※Graph shows printing speed of LH-100
※LH-100 ink does not support 300x300 4P mode.

Specification Comparison

	functions	JFX200-1213EX	JFX200-2513EX
Added value	2.5D Texture Maker	✓	✓
Workability	Media thickness automatic measurement	✓	✓
	Layout pin	✓	✓
	USB 2.0	✓	✓
	Ethernet	✓	✓
	MDL	✓	✓
	Foot pedal (for blower)	✓	✓
	External I / F (for safety measures)	✓	✓
Stability	Media jam sensor	✓	✓
	NRS	✓	✓
	NCU	✓	✓
Quality	PR-100	-	-
	PR-200	✓	✓
	V3.2 Profile	✓	✓
	V3.5 Profile	✓	✓
	MAPS	✓	✓
	MCT	✓	✓
	MCC	✓	✓

5.Recommended installation environment



Installation environment
Operating temperature: 15 to 30°C (68 to 86°F)
Relative humidity: 35 to 65%Rh
Guaranteed accuracy temperature: 20 to 25°C
Temperature gradient: ±10°C/H max.
Dust: Equivalent to office

■Precautions for installation environment

1. Please refrain from using weak floors, such as OA floors.
2. Please use in an air-conditioned environment. Operating environment temperature: 15° C to 30° C
3. Carpets, etc. should not be used as they are susceptible to electrostatic charges and may affect the image quality.
4. Since ink odor is generated, please use the product in a well-ventilated environment.
5. Please lay down a foot base to reduce deformation of the floor surface.

Installation environment	width	depth	high	weight
JFX200-1213EX	5,140mm(202”)	4,320mm(170“)	1,235mm(48”)	510kg



Thanks for joining us today.

www.mimakiusa.com