

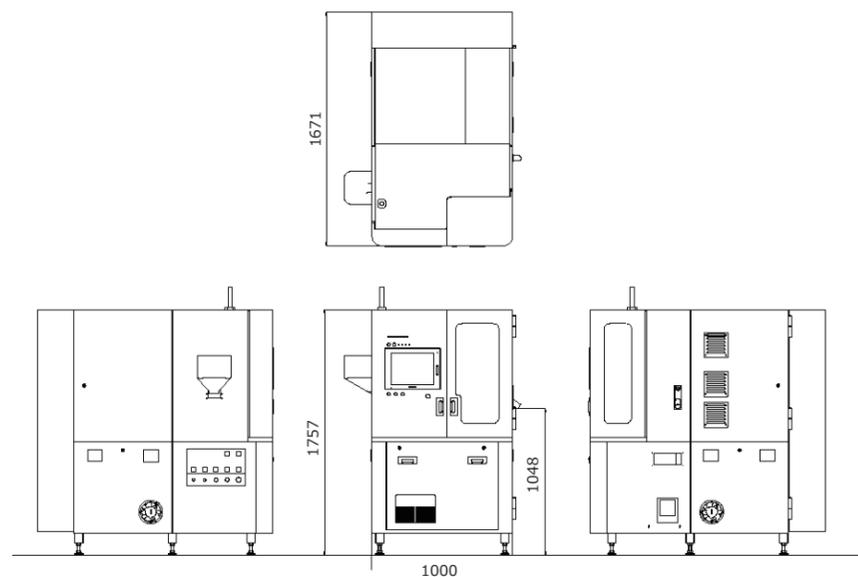
## Specification

Name	UV Laser Printer
Model Number	QUALIS-UVS
Production Capacity <sup>※1</sup>	400,000 pcs/hour (Φ7mm, lens tablet, 6 characters, size of one character: W 1.0mm x H 1.0mm)
Applicable dosage form <sup>※2</sup>	Film coated tablet, Uncoated tablet, Sugar-coated tablet, Soft capsule
Electricity	3Φ AC200V±10% 50/60Hz 13.9KVA (40A)
Compressed air	0.6 MPa 0.8 m <sup>3</sup> /min
Vaccum <sup>※3</sup>	-8 KPa 15m <sup>3</sup> /min
Installation enviroment	Temperature: 18 ~ 28 °C, Humidity: 45 ~ 65 %RH (no condensation)
Overall dimension(mm)	1,000 × 1,671 × 1,757 (W×D×H)
Height of discharge	1,048 mm
Weight	2,000 kg
Noise during operation	—

- ※1 Depends on printing design or shape of dosage form
- ※2 Titanium dioxide is required on the surface film and affects the light and shade of printing.  
There are cases where the products can't be printed depending on the shape and feature.  
The specific specifications correspondense may be required in some cases.
- ※3 The blower is built in the main body.

\*The above specifications and capacities are subject to change without notice for the reasons that include technological improvement.

## Overall size (mm)



# QUALIS-UVS

Single surface printing by UV laser

## UV Laser Printer

### Printing



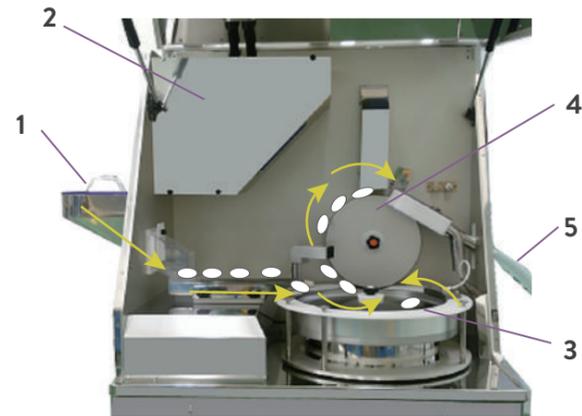
QUALICAPS, CO., LTD.  
321-5 Ikezawacho  
Yamatokoriyama  
Nara, 639-1032 Japan  
Tel: +81 743 57 8920  
Fax: +81 743 56 5113  
www.qualicaps.com



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Mitsubishi Chemical Holdings Group

# UV Laser printer QUALIS-UVS

Single surface printing by UV laser



### Name of components

1. Hopper
2. UV Laser Scanner
3. Dexter
4. Marking Disk
5. Product discharge chute

• **One of the highest speed UV laser printer**  
Production capacity is 400,000 pcs/hour\*

\*Depends on the size and number of characters

• **Low cost machine**

• **Compact size**

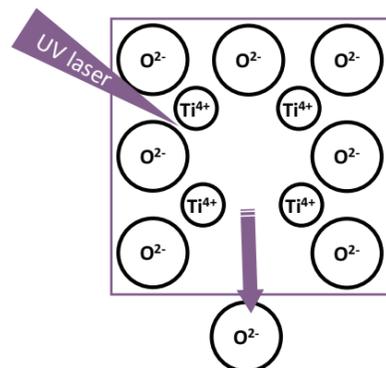
- QUALIS is more compact than our existing UV laser printer, LIS-250D
- Built in brower

• **Fewer change parts**

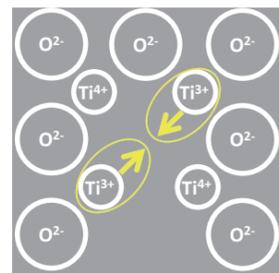
- Dexter and O-ring only

• **21 CFR Part 11 Compliance**

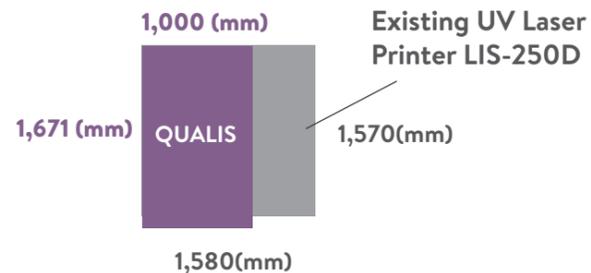
### Laser Printing Mechanism



The ratio of titanium dioxide(Ti) to oxygen(O) in titanium dioxide is 1:2. UV laser is irradiated on the titanium dioxide then oxygen atom is removed.

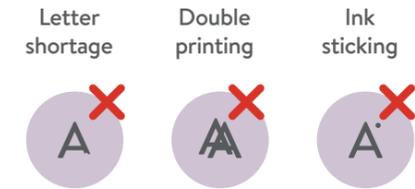


The removal of oxygen atom causes change of ratio of titanium atom to oxygen atom. This change of ratio induces the color change of titanium dioxide from white to grey.



### No defects caused by ink

No letter shortage, double printing, ink sticking (stain), etc. will occur due to color change of titanium oxide with non-contact UV laser.



### Flexible design

Marking letters, mark or logo can be made by CAD which allows flexible design. Test printing and printing result check are not needed before production.



### Operating efficiency improvement

Cleaning time is significantly reduced because there is no ink used in the process.



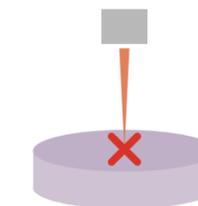
### Larger printable area

Not only alphanumeric character's but also katakana and kanji (Chinese characters) are available for printing, resulting in excellent repeatability of details.



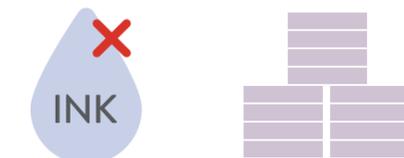
### No thermal denaturation

Non-thermal effects of the UV Lasers allow for printing without resulting in thermal denaturation on the tablets.



### Manufacturing cost reduction

Because no print design roll or ink is needed, those costs are eliminated, as well as the need for extra storage.



### Other features

Titanium dioxide is required on the surface film.  
Laser marking color is grey  
Auto CAD software is attached to this equipment.