

artisJet

Direct to Substrate Printing Solutions

artisJet 5000U
Service Manual

artisJet Customer Care

July 2018

1.1 Product Technical Overview

1. Basic Functions.....P01

2. Contents and Functions of Operation Panel.....P17

3. Working Principles of Electronical and Mechanical Parts.....P22

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1.1 Product Technical Overview

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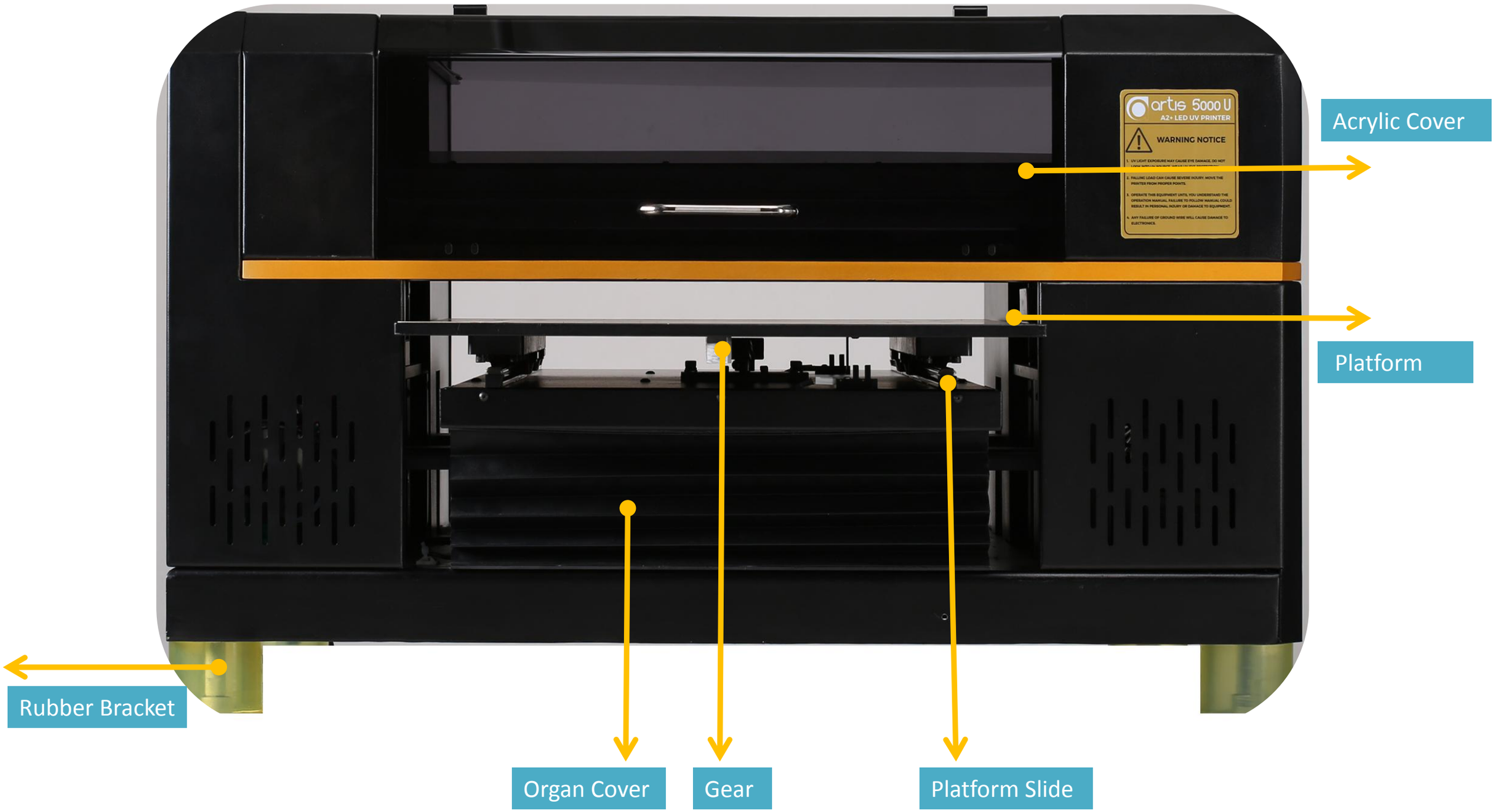
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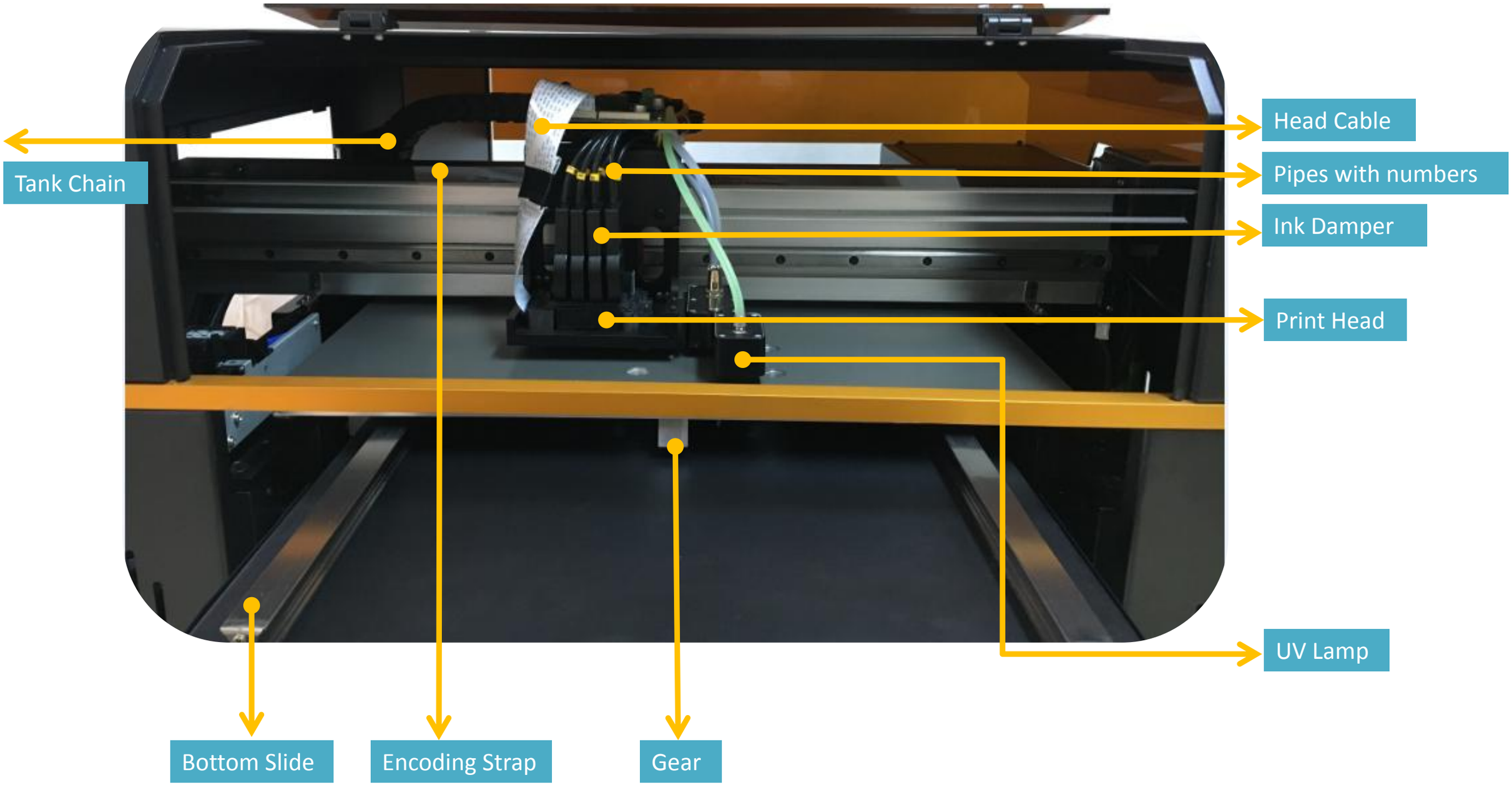
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1.1.1 Front View



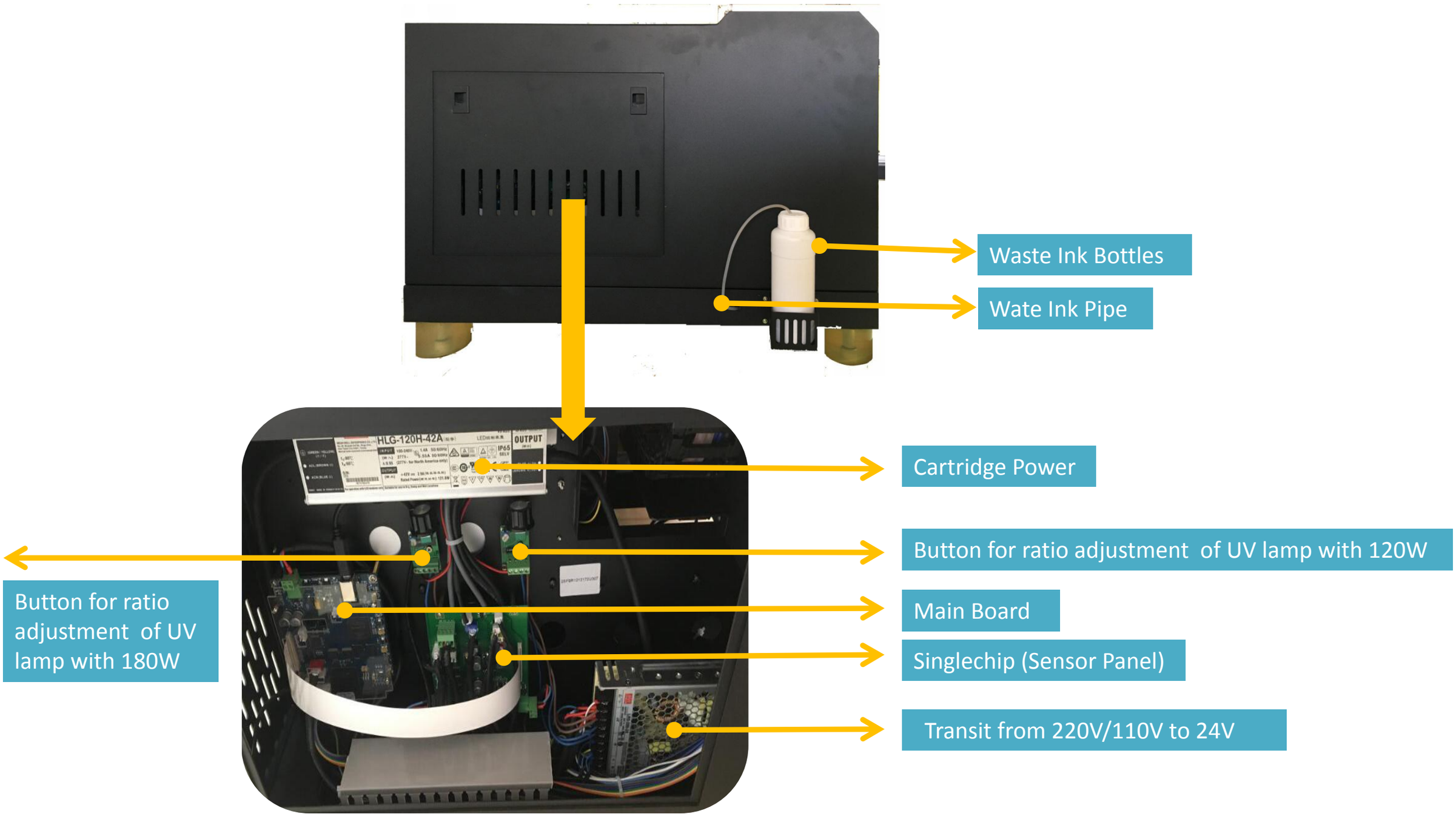
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1.1.1 Front View



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1.1.1 Lateral view at the left



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1.1.1 Lateral view at the right



Operation Panel

Gerneral Power Button



Inks Bottles



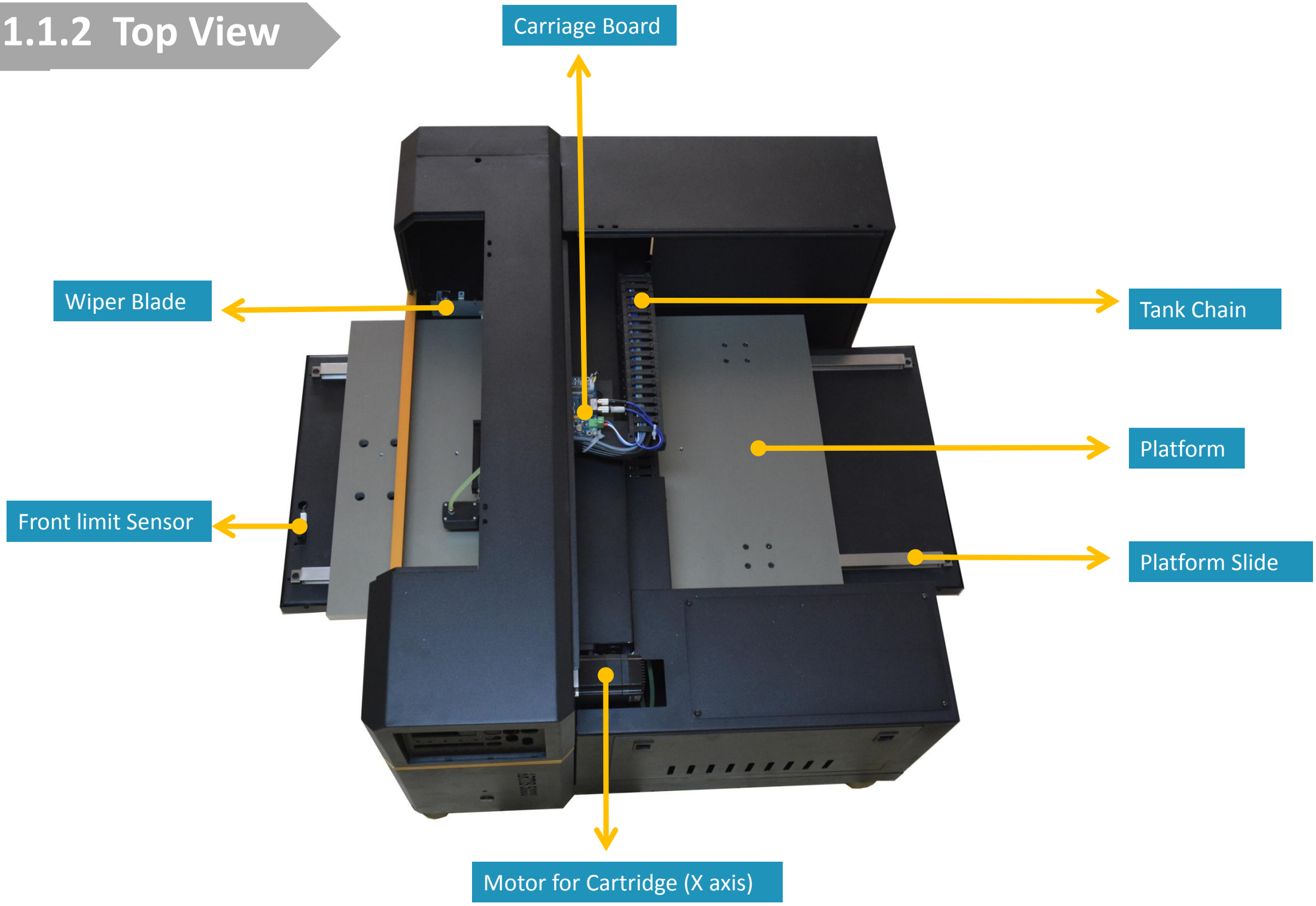
Recycling pump for cooling system



Fans for cooling

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1.1.2 Top View



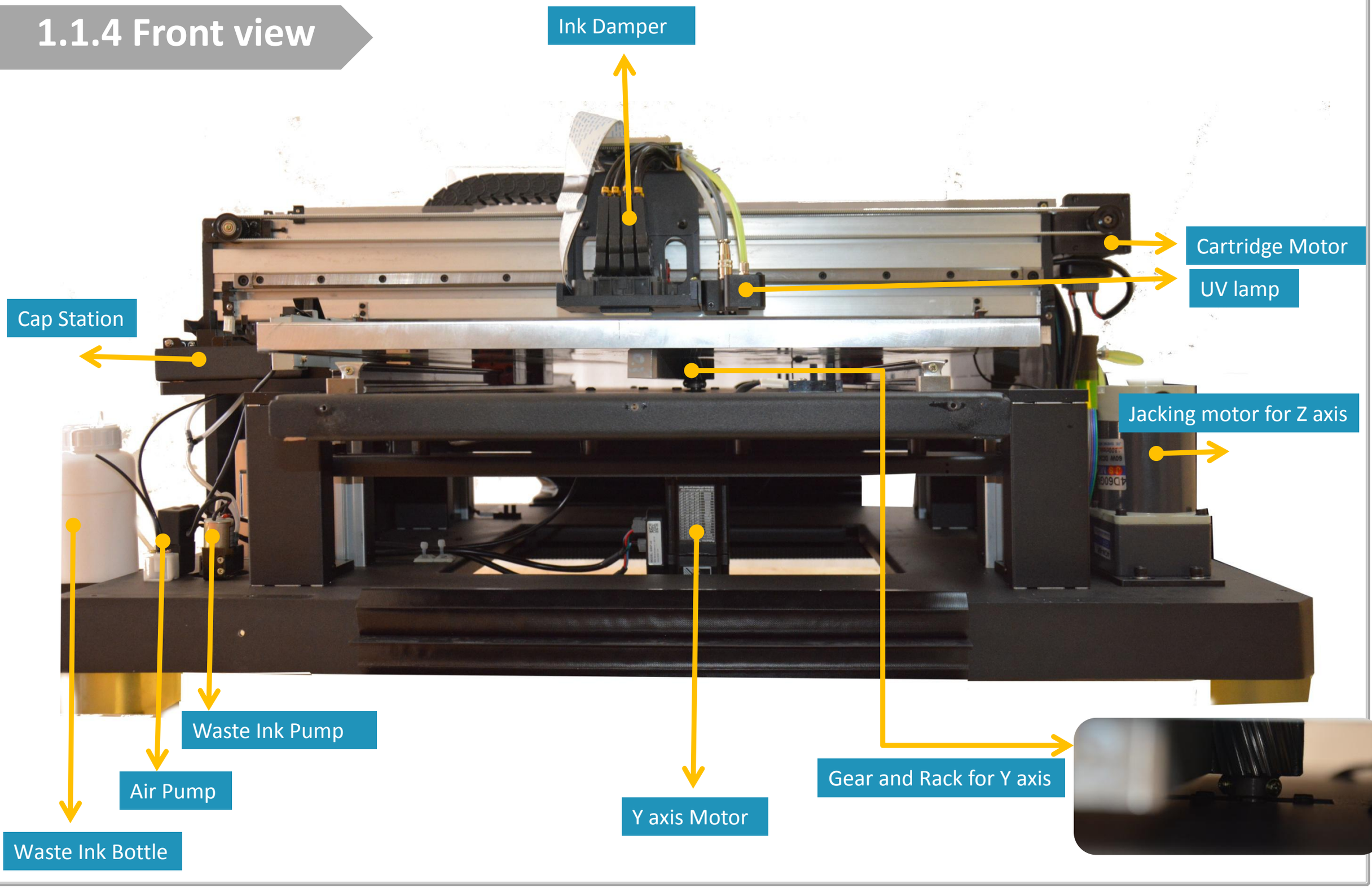
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1.1.3 Back view



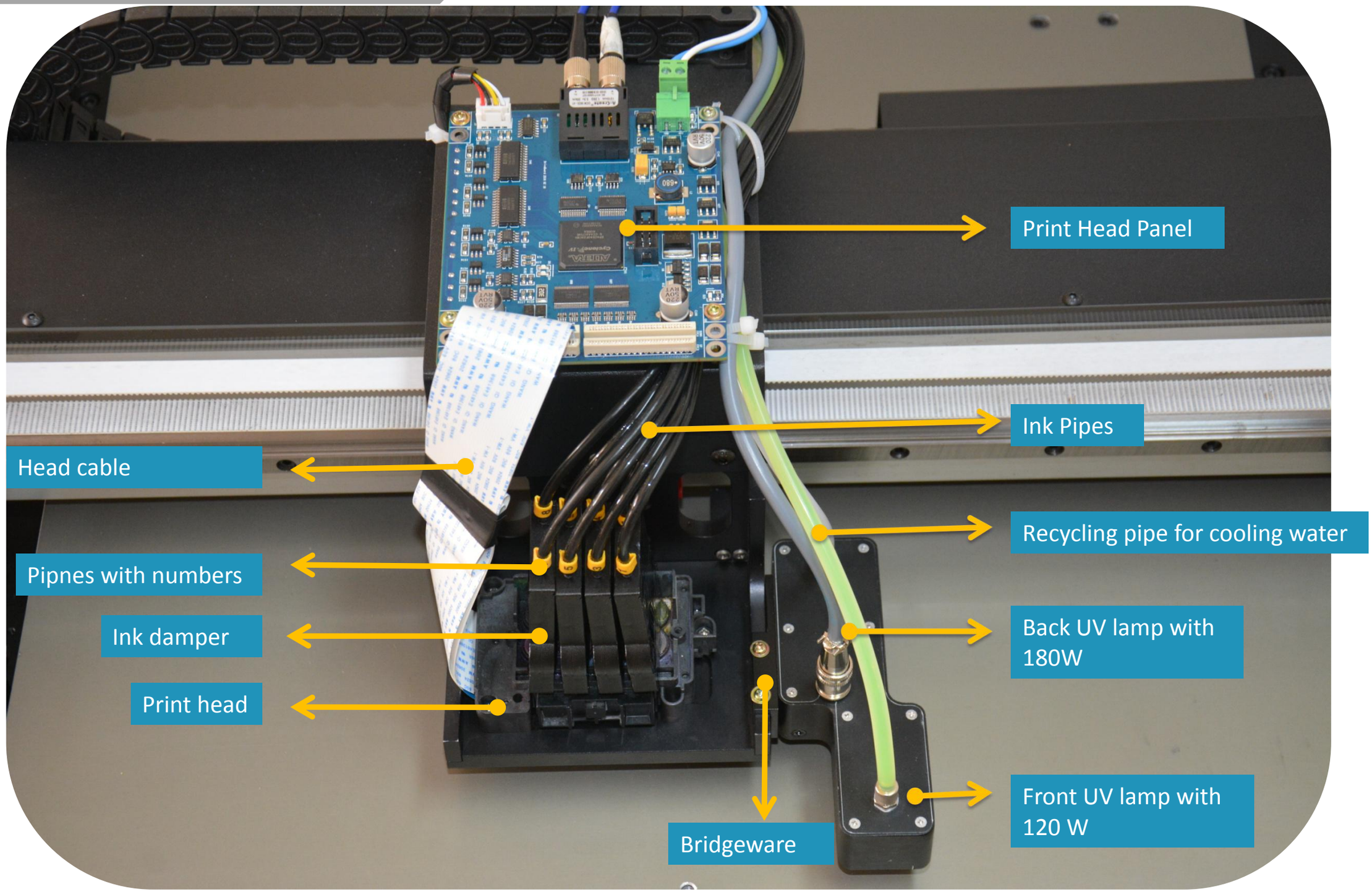
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1.1.4 Front view



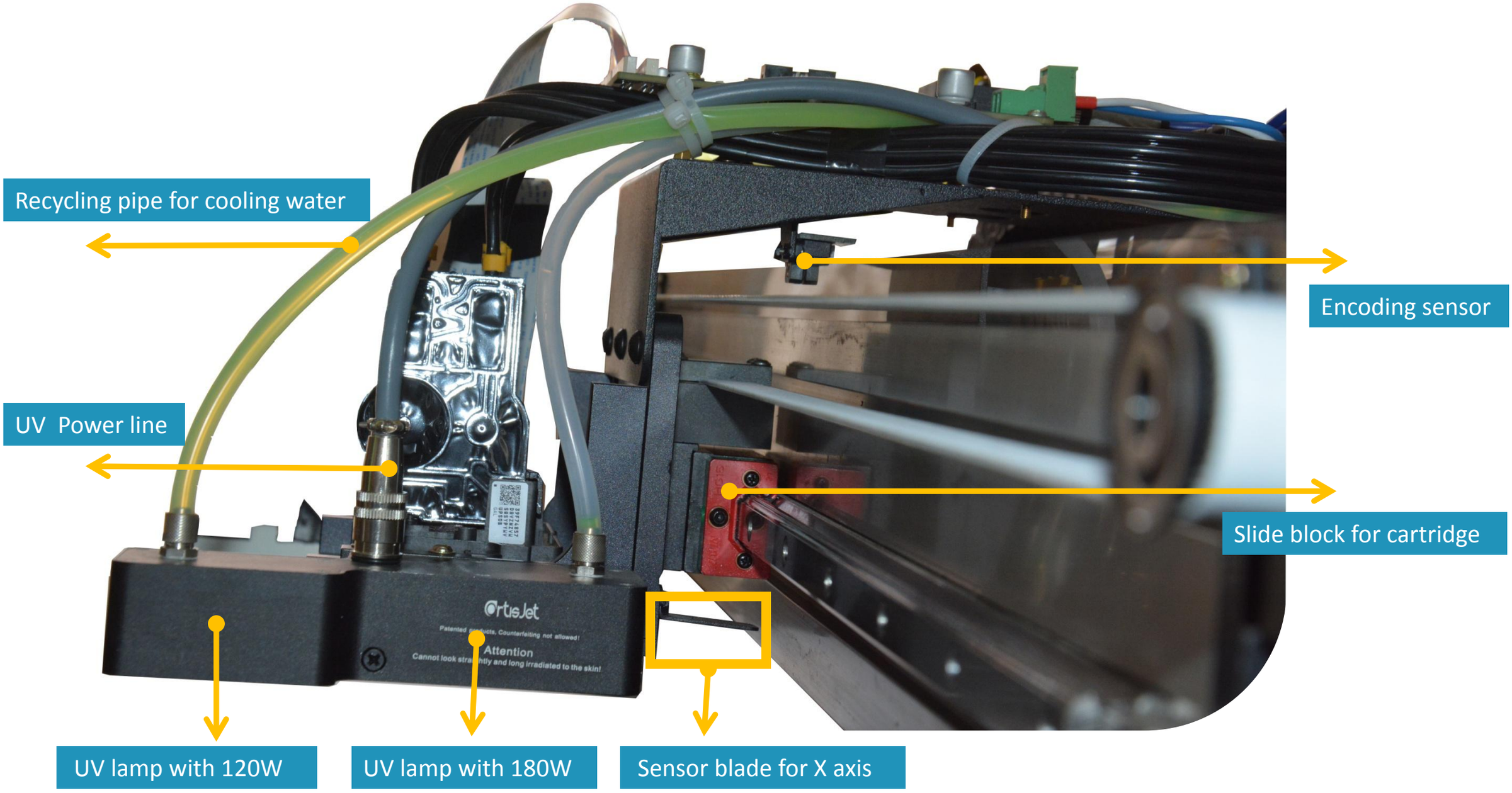
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1.1.4 View of cartridge



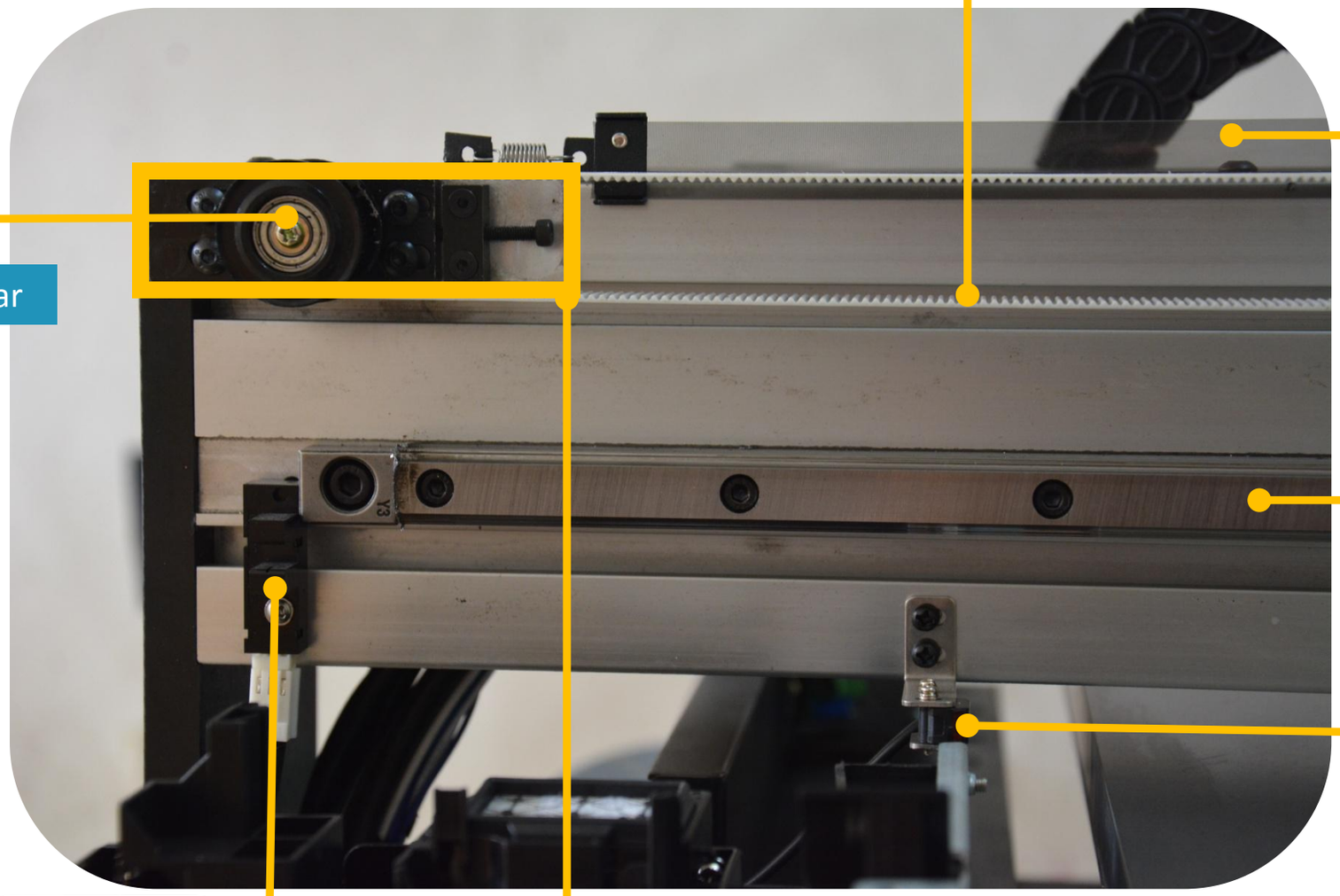
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1.2.2 Outline of cartridge



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1.2.2 Left Cartridge





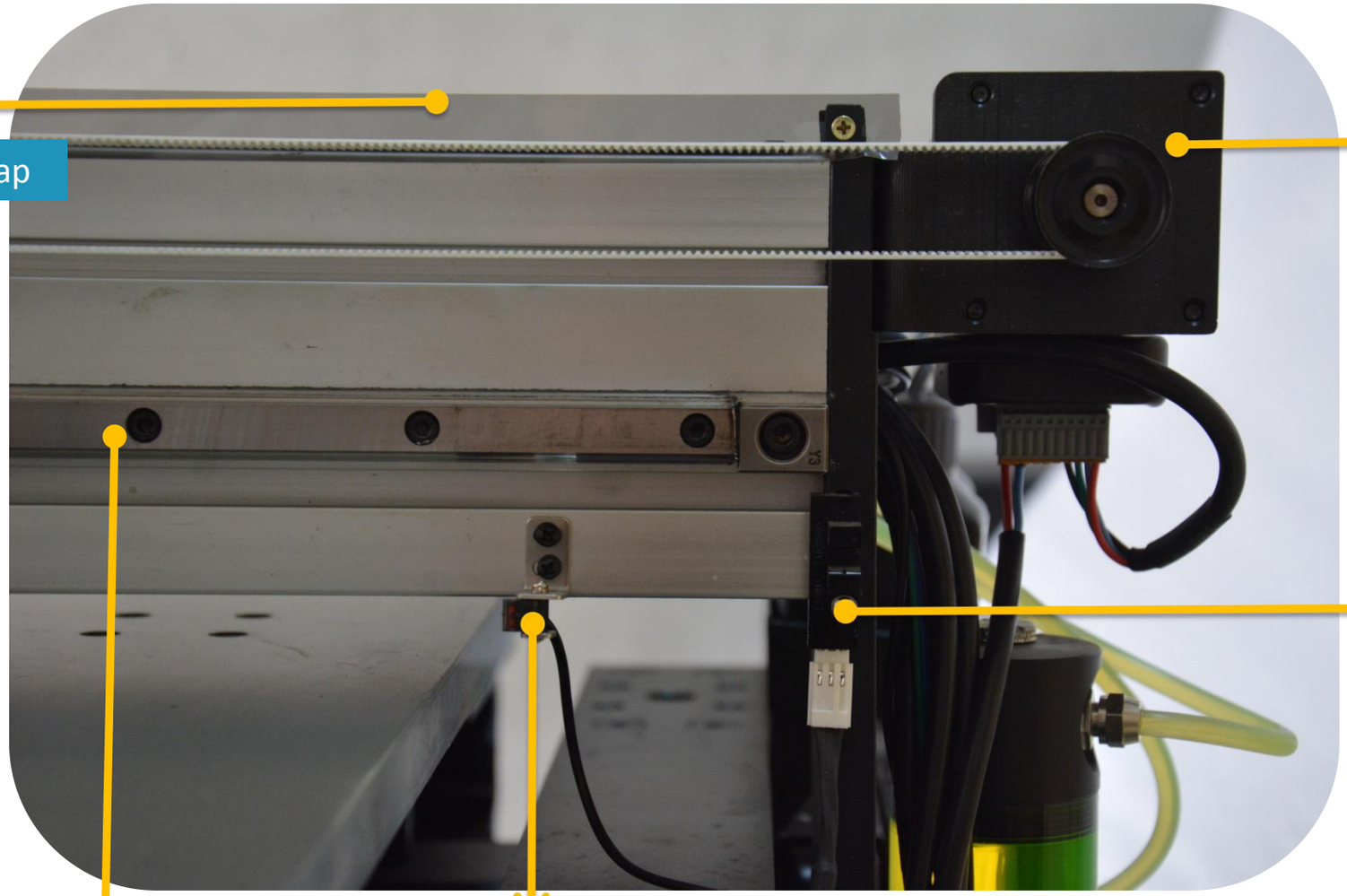
Receiving end of height limit sensor for Z axis



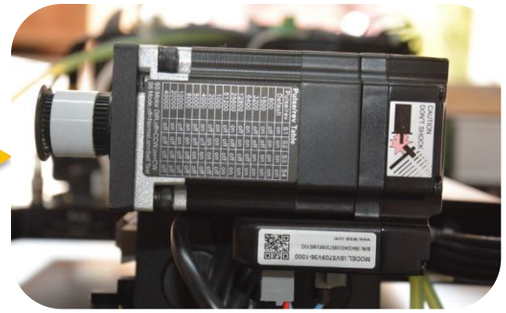
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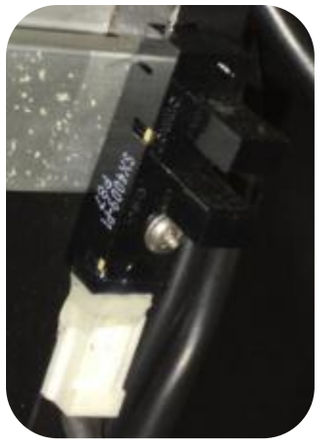
1.2.2 Right Cartridge

Encoding Strap



Motor for Cartridge





Sensor at the left for X axis

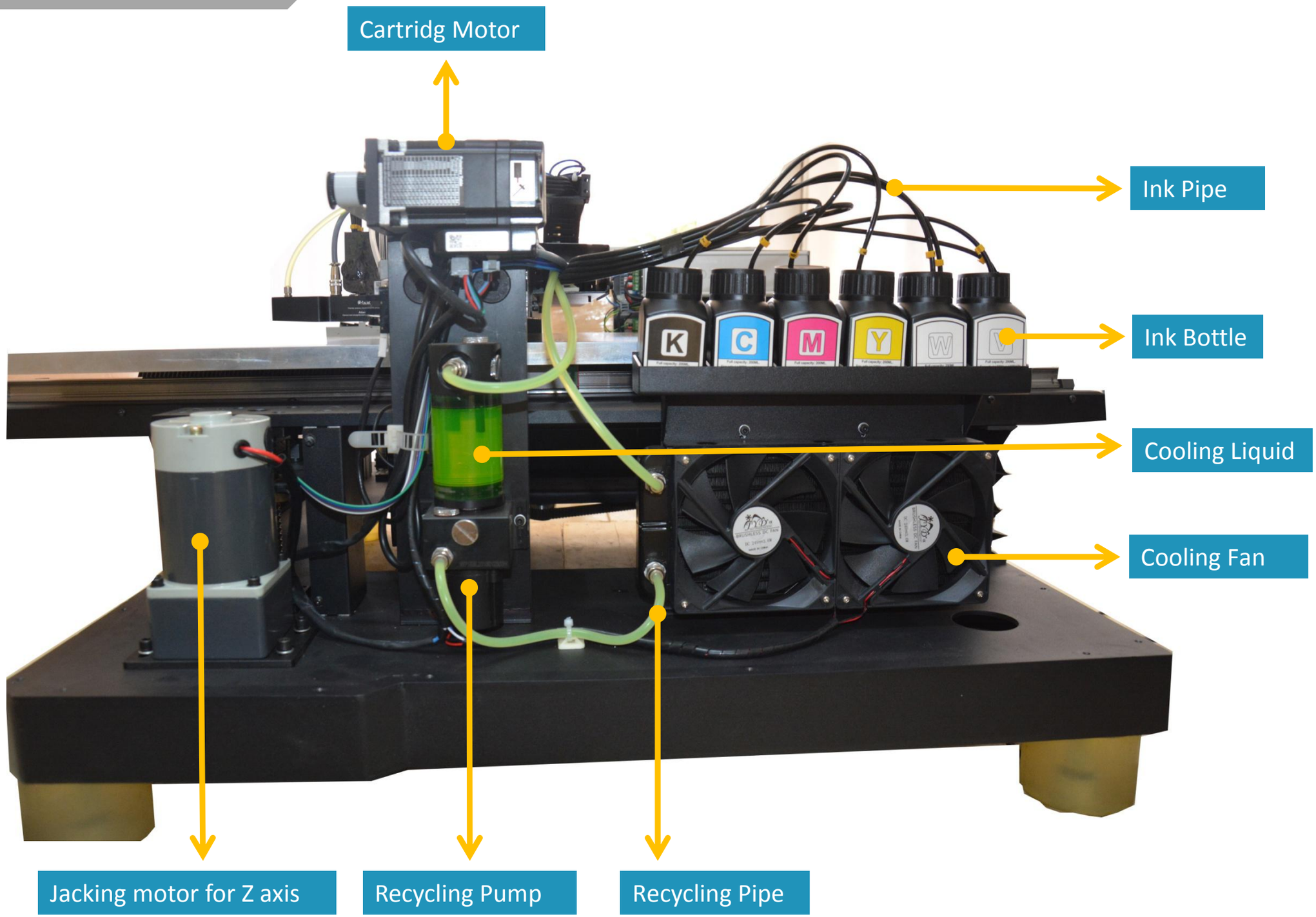
Rail



Transmitting terminal for height limit sensor for Z axis

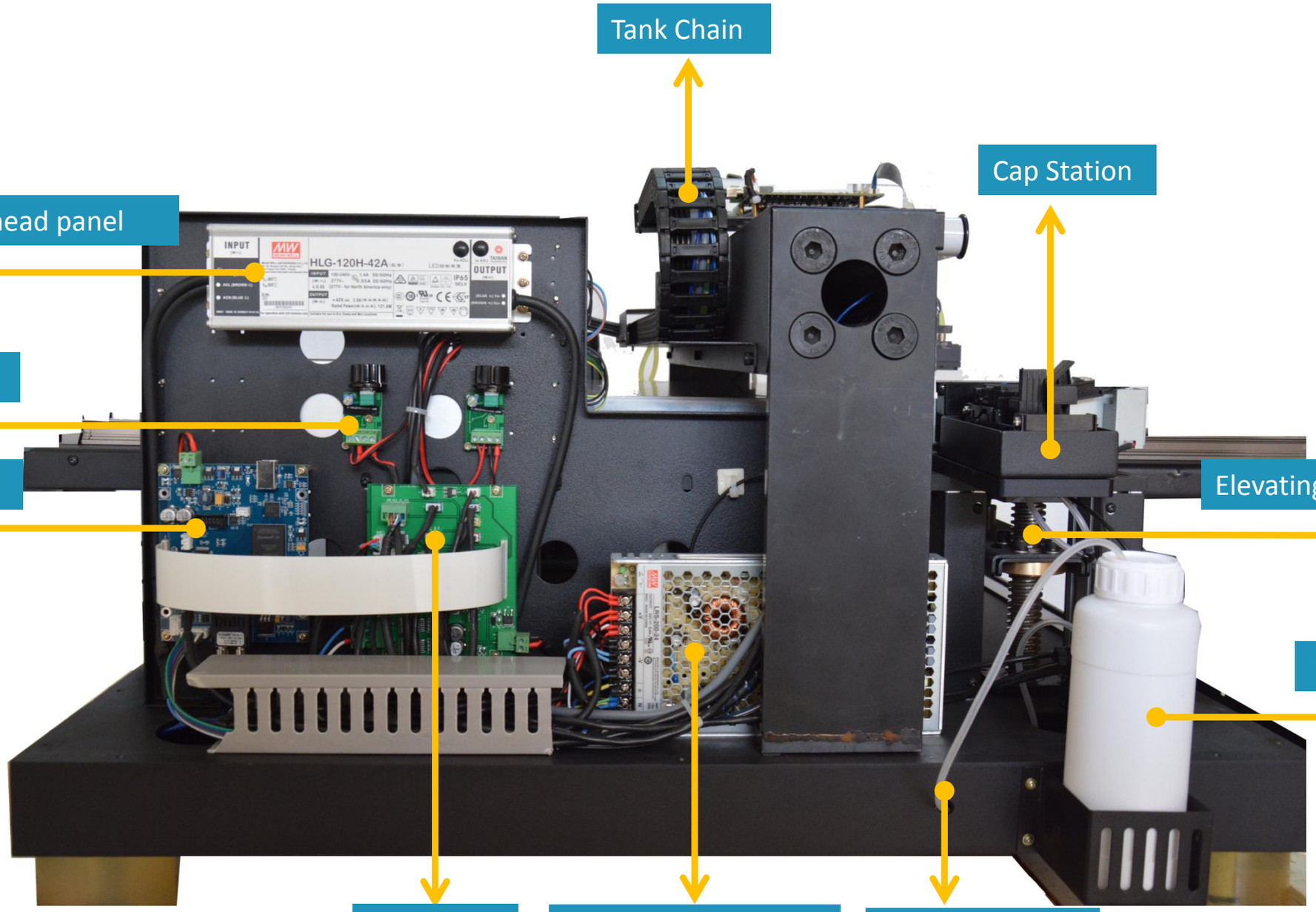
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1.2.2 Right View



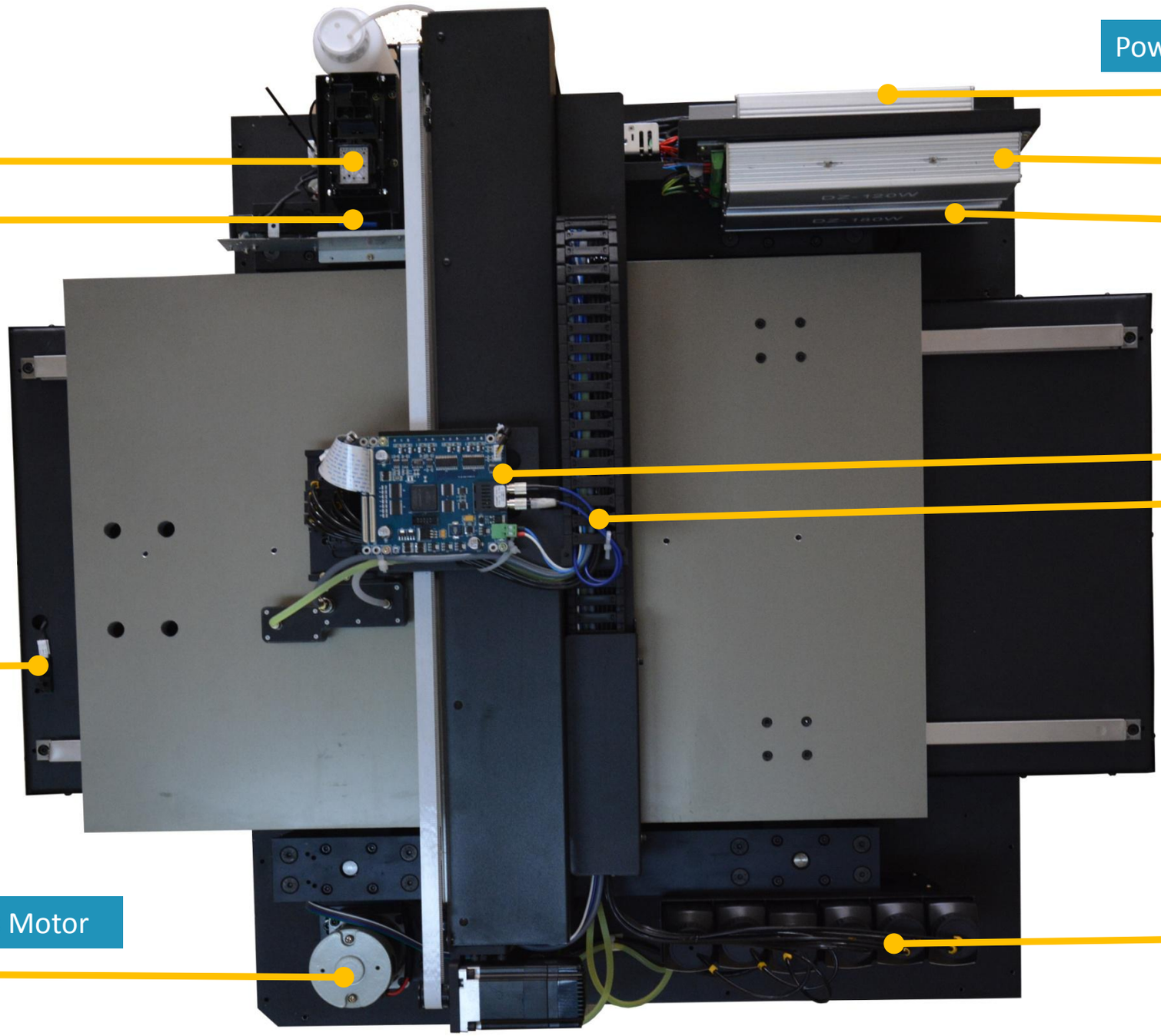
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1.2.2 Left View



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1.1.2 Top View



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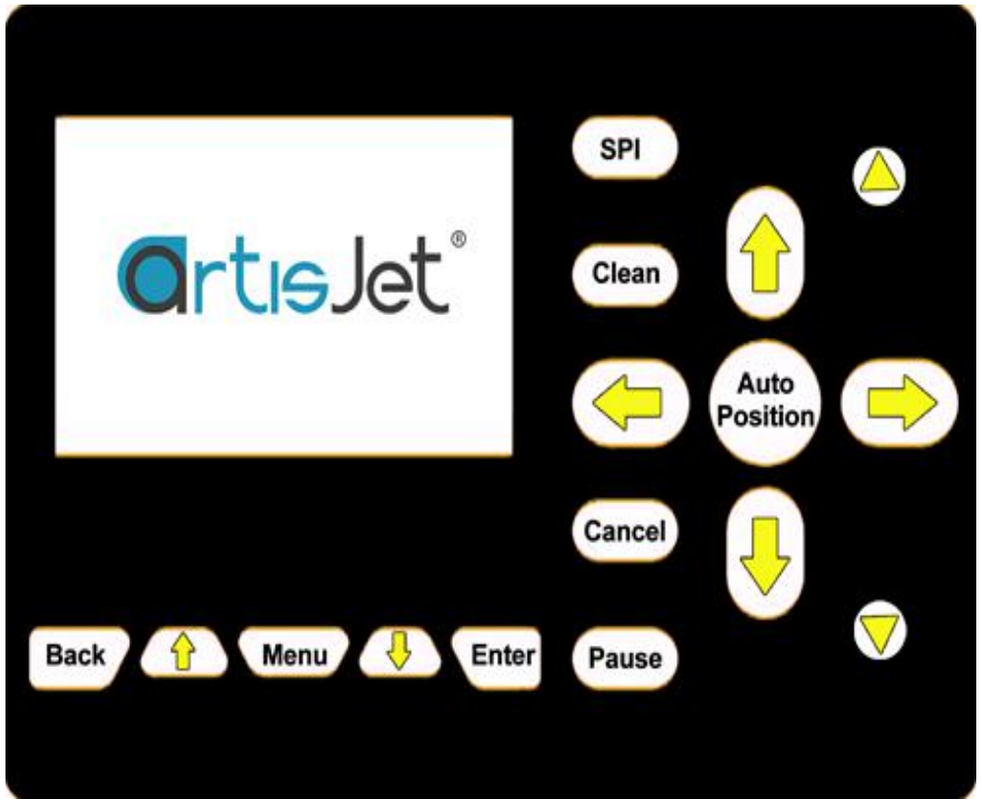
2.1 Product Technical Overview

2. Information and functions for the Operation Panel

2.1 Operation Panel information Brief
2.2 Functions Brief

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2.1 Operation Panel Brie

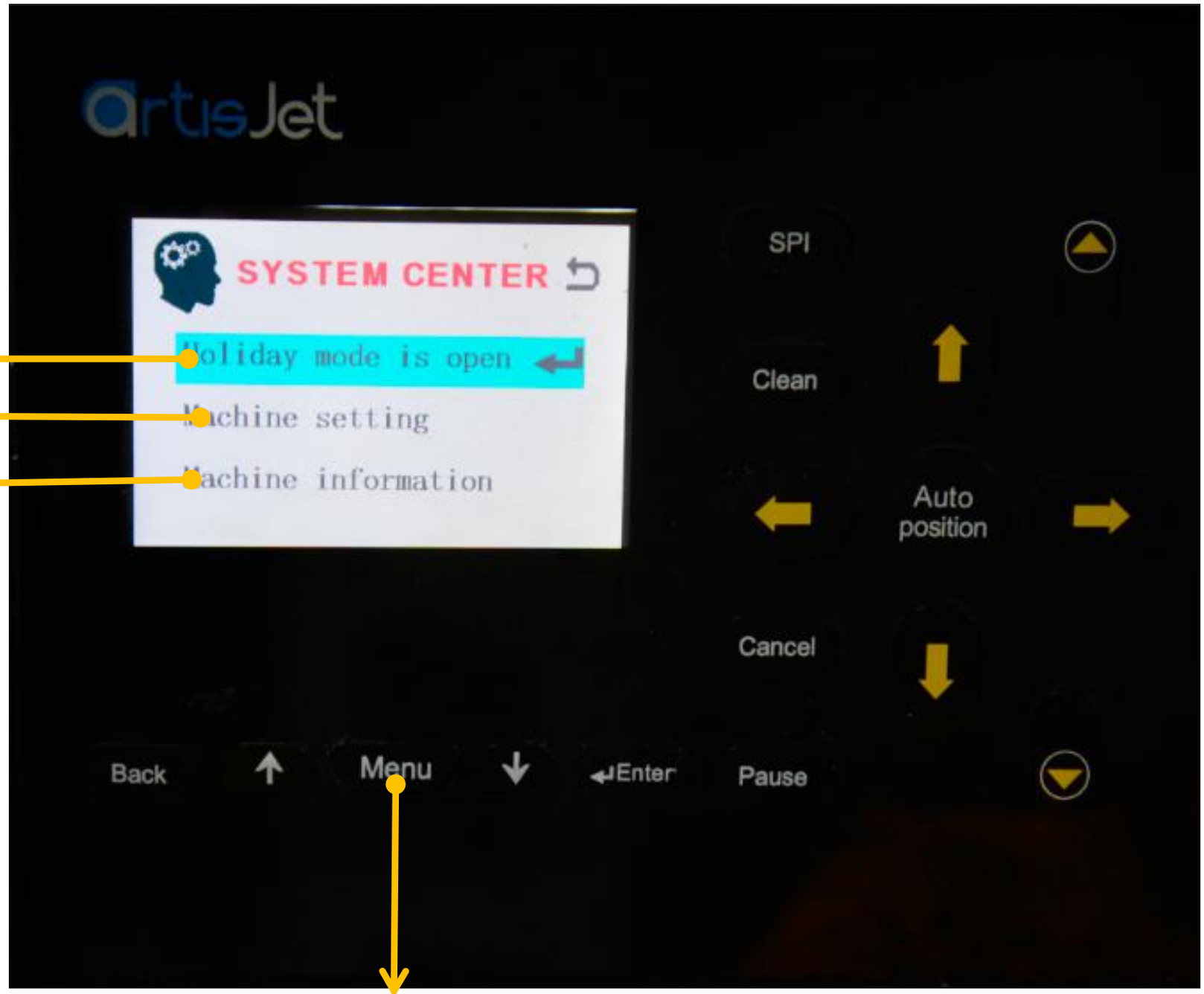


SPI	Pump ink to waste ink bottle
Clean	Manual Head Cleaning
Cancel	Cancel the current printing task
Pause	Pause the current printing task
	Move up
	Move out
	Move down
	Move back
	Micro up
	Micro down
Auto Position	Table back to home position
Back	Back to previous settings menu
	Move to before option
	Move to next option
Menu	Machine main setting option
Enter	Confirm setting option

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2.1 Operation Panel Brief

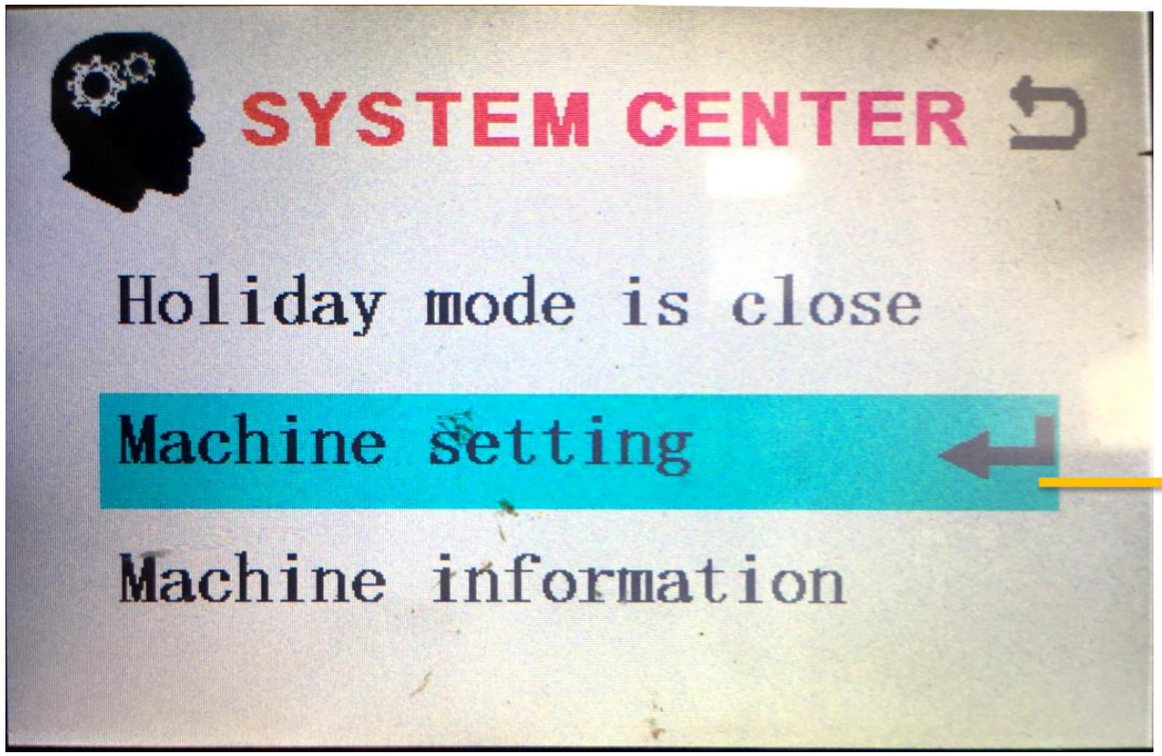
Press Menu to enter the list

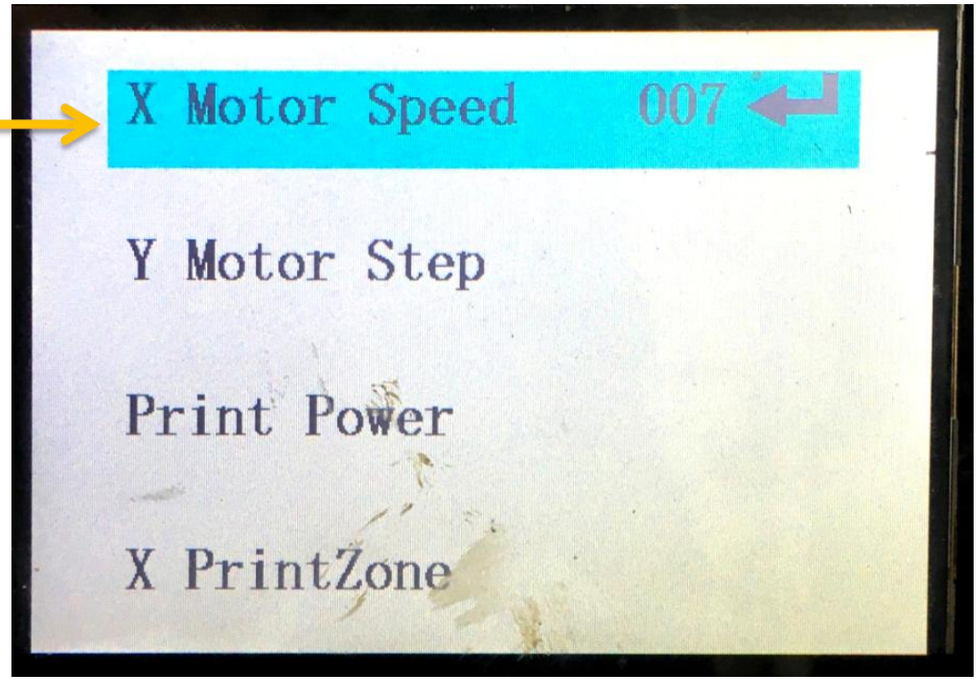


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2.2 Functions Brief

Press Menu to enter the list

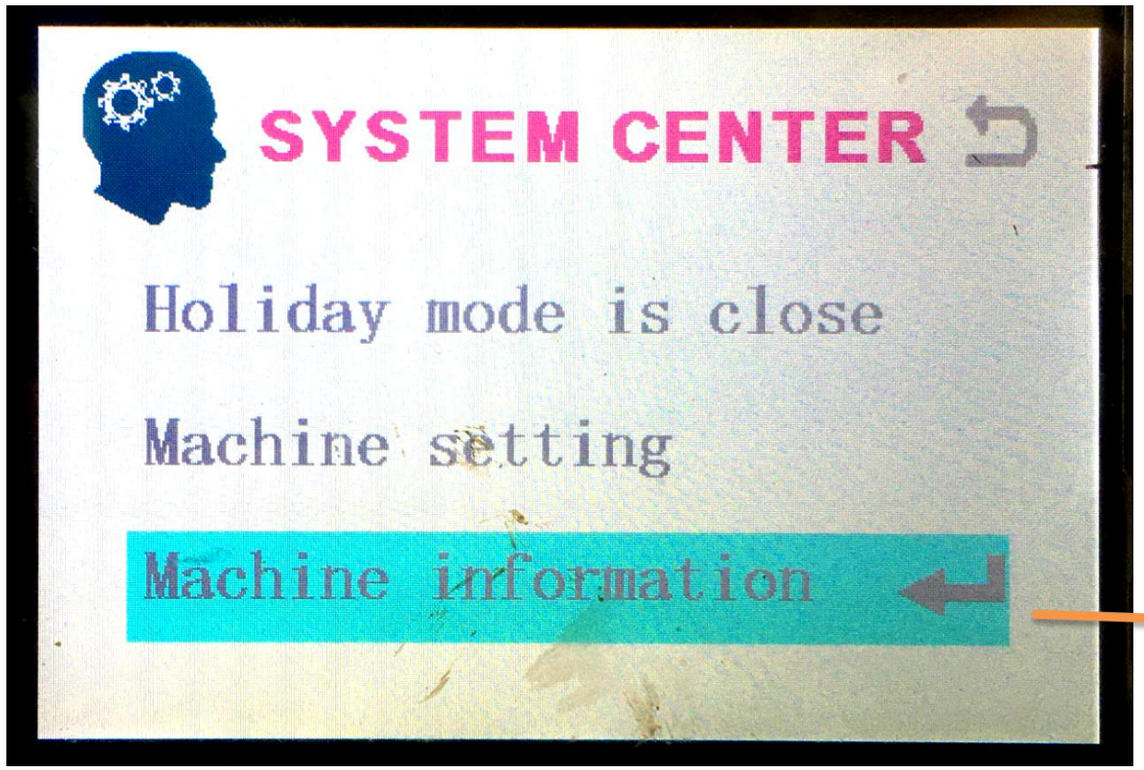


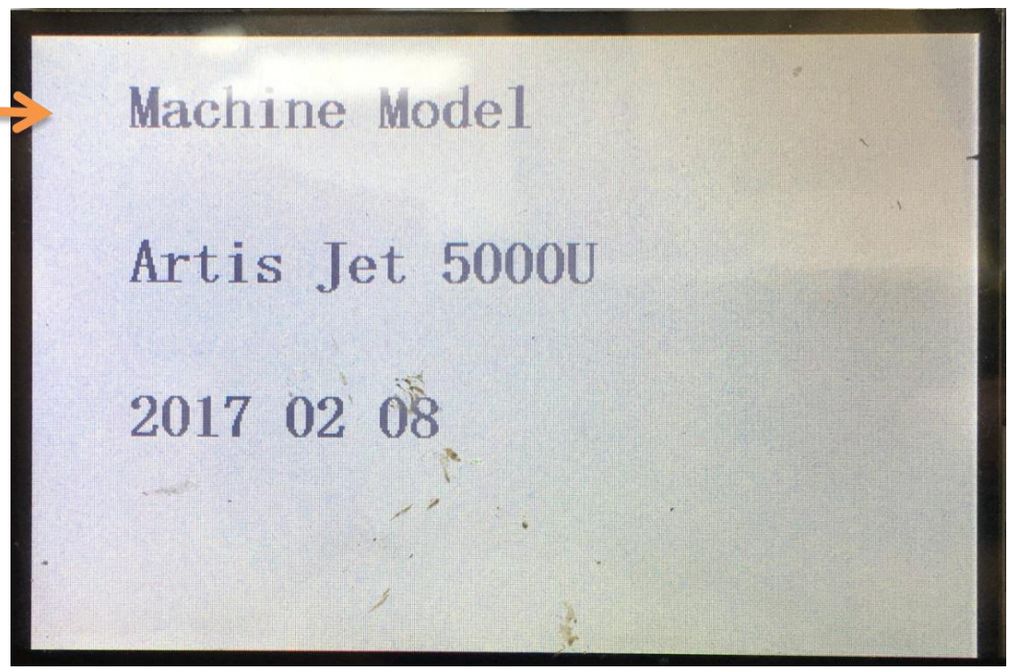


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2.2 Functions Brief

Press Menu to enter the list



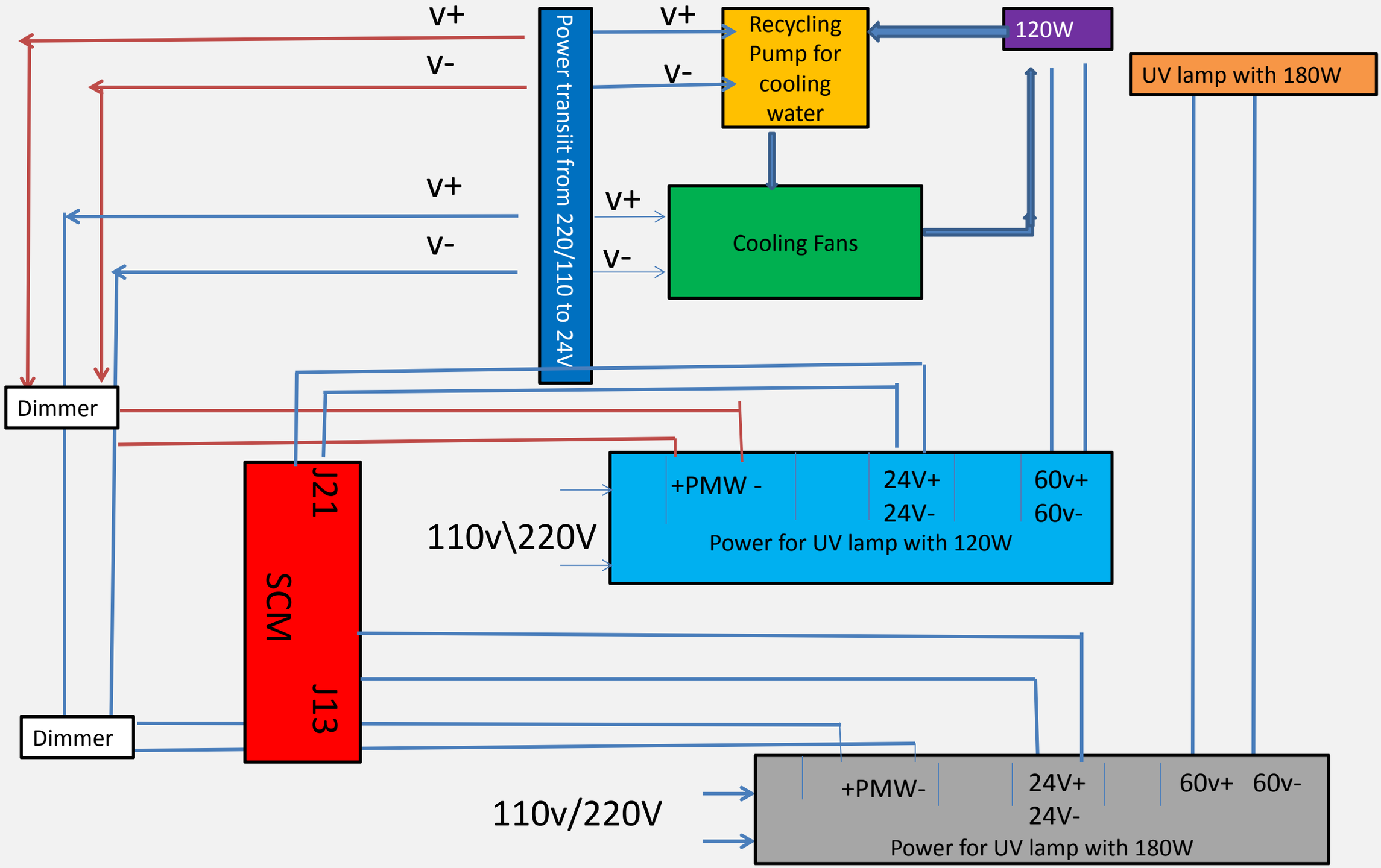


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3. Principles of electronic and mechanical parts
    3.1 UV System
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        3.1.2 Cooling system
    3.2 Y axis
        3.2.1 Yaxis control system
        3.2.2 Drive System
    3.3 Z axis
        3.3.1 Z axis control System
        3.3.2 Drive System
    3.4 Inkjet system
        3.4.1 Printing data transmission
        3.4.2 Cartridge moving and encoding strap
        3.4.2 Inkjet data
    3.5 Ink supply system
        3.5.1 Ink system
        3.5.2 Ink pumping system
    3.6 Circuit board
        2.6.1 Main Board
        2.6.2 Singlechip

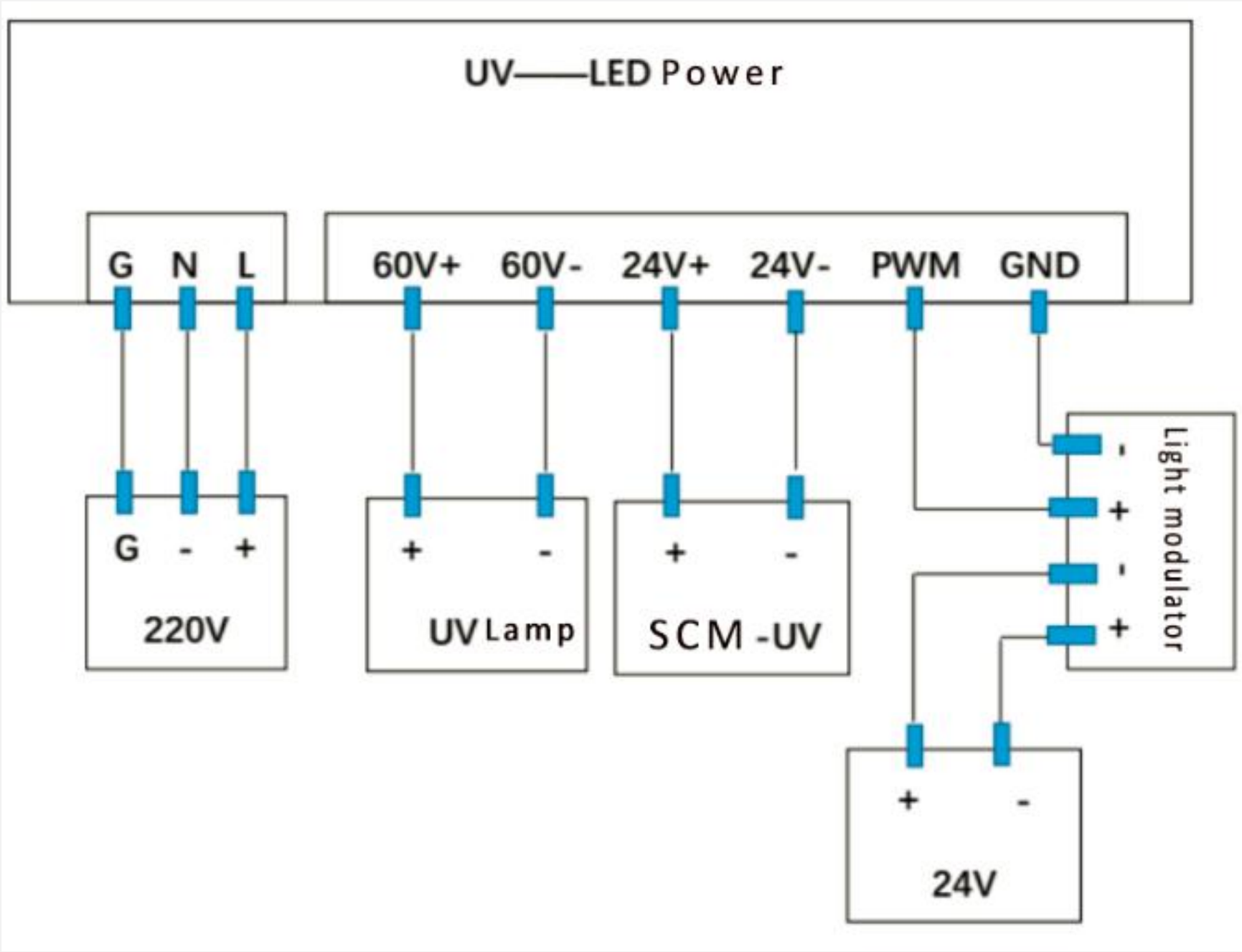
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3.1.1. Built-in water cooling UV LED curing system



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3.1.1 Power for UV lamp



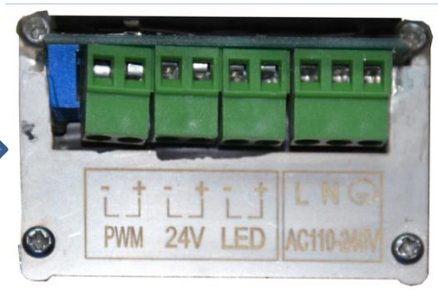
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3.1.1 Electronic parts for UV lamp

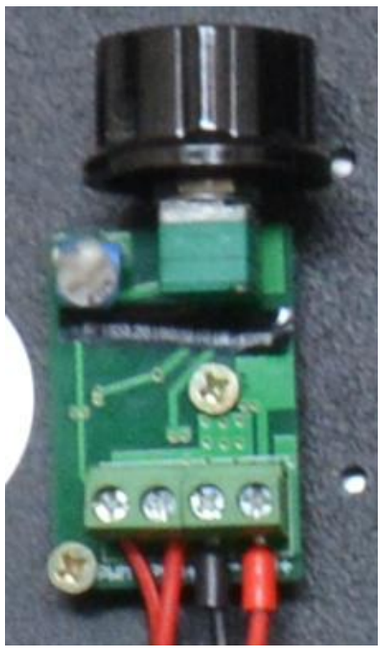


UV Lamp

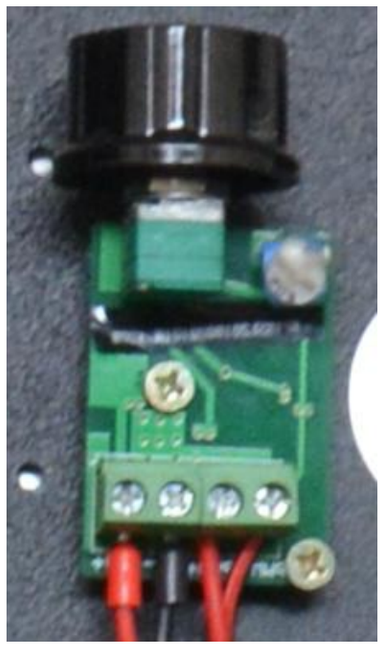




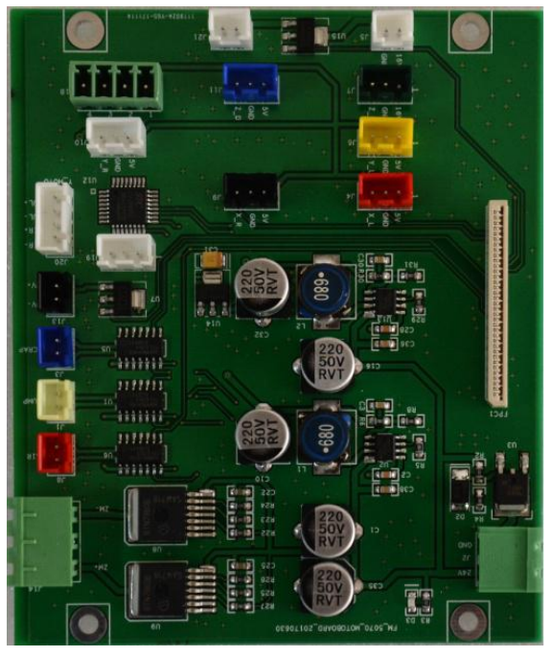
Power for UV lamp



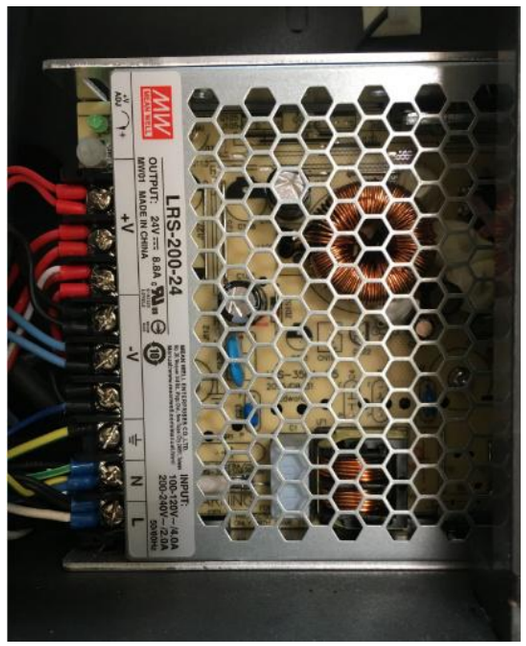
Dimmer



Dimmer



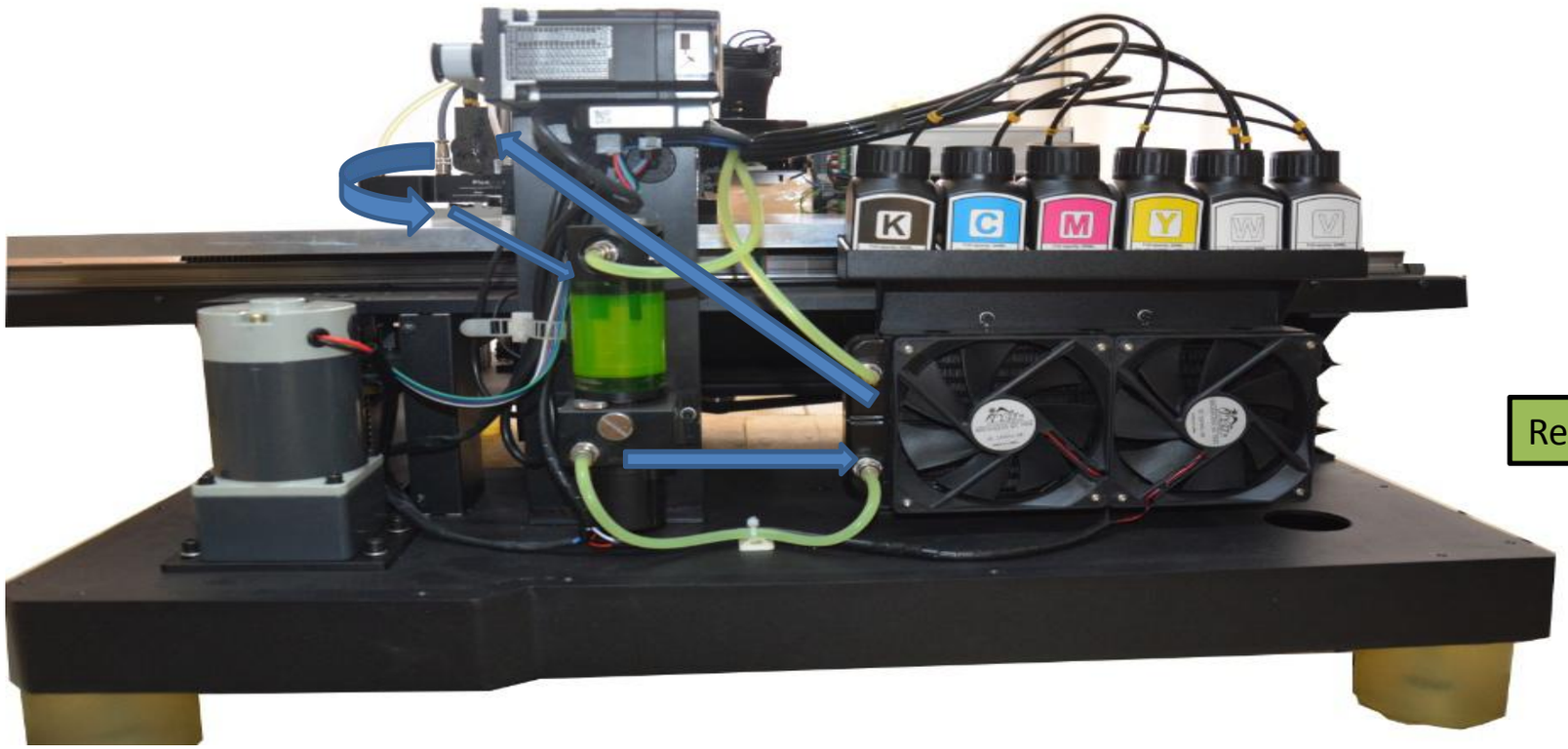
SInglechip

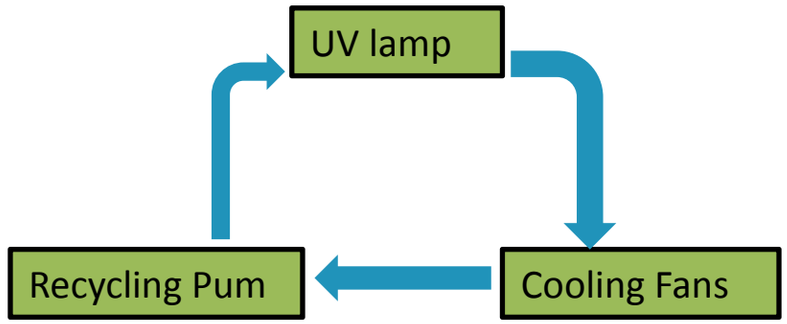


Power transit from 220/110V to 24V

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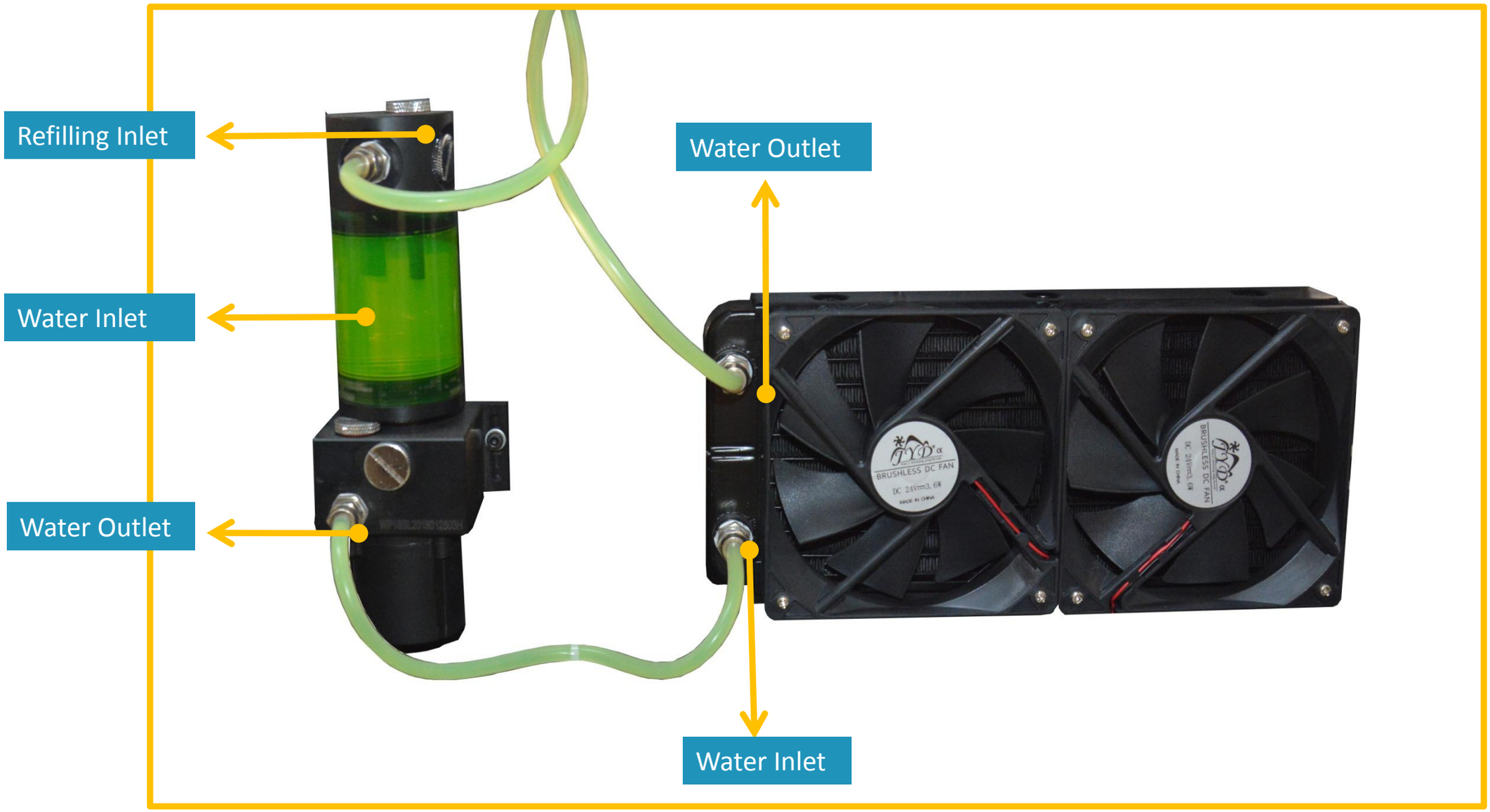
3.1.2 Cooling water and recycling system





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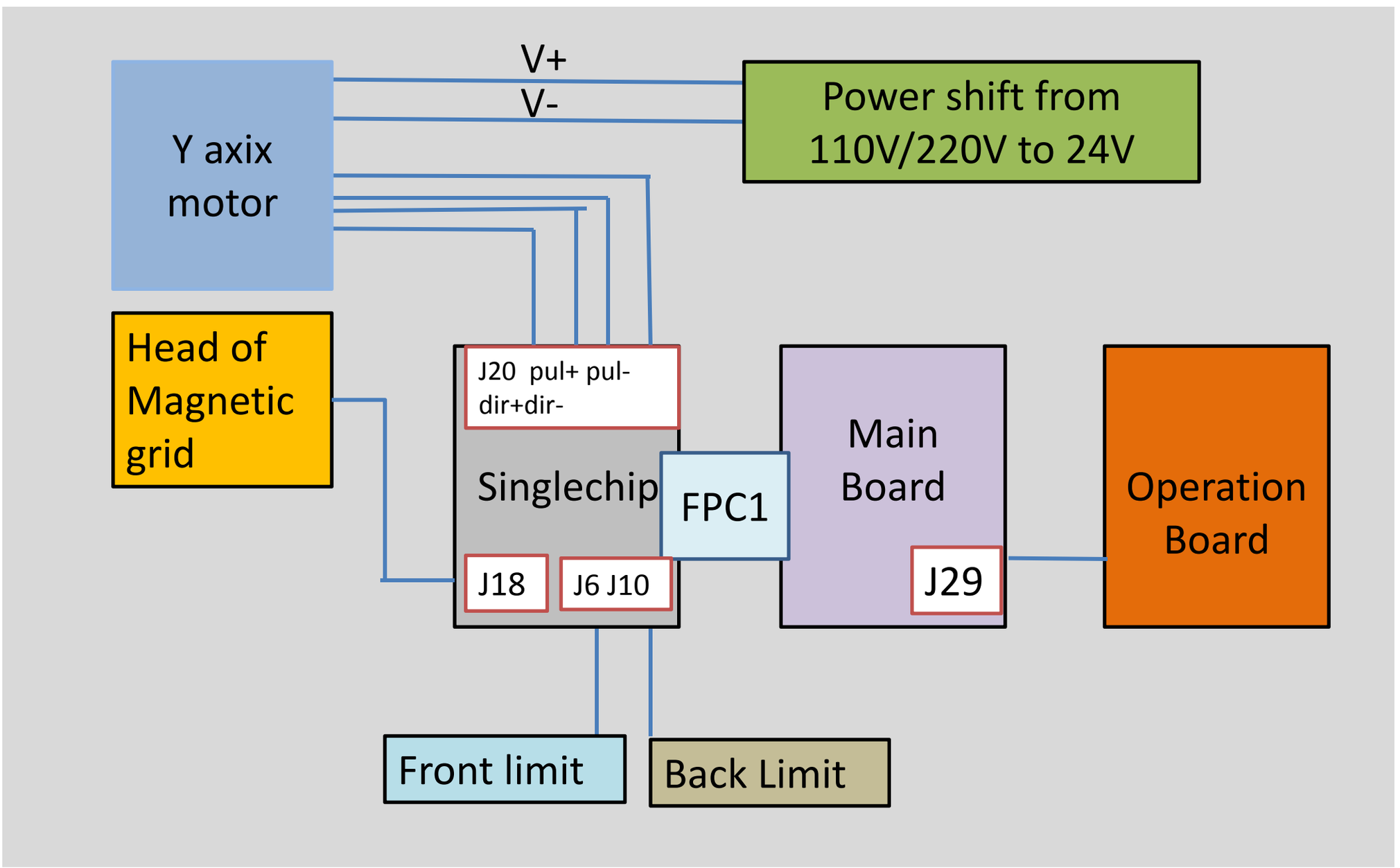
3.1.2 Water cooling and recycling system



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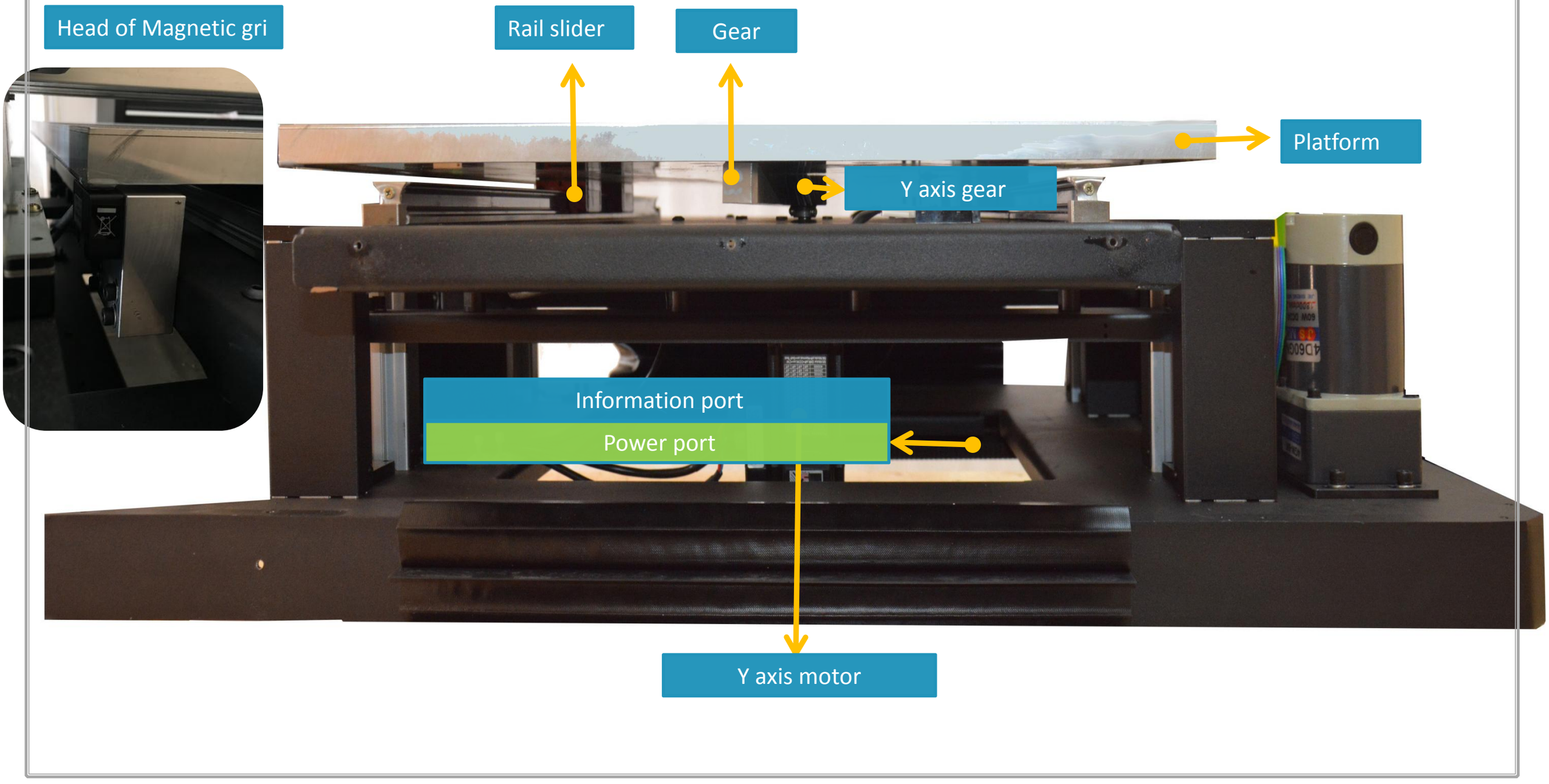
3.2 Components of Y axis system

Component of System



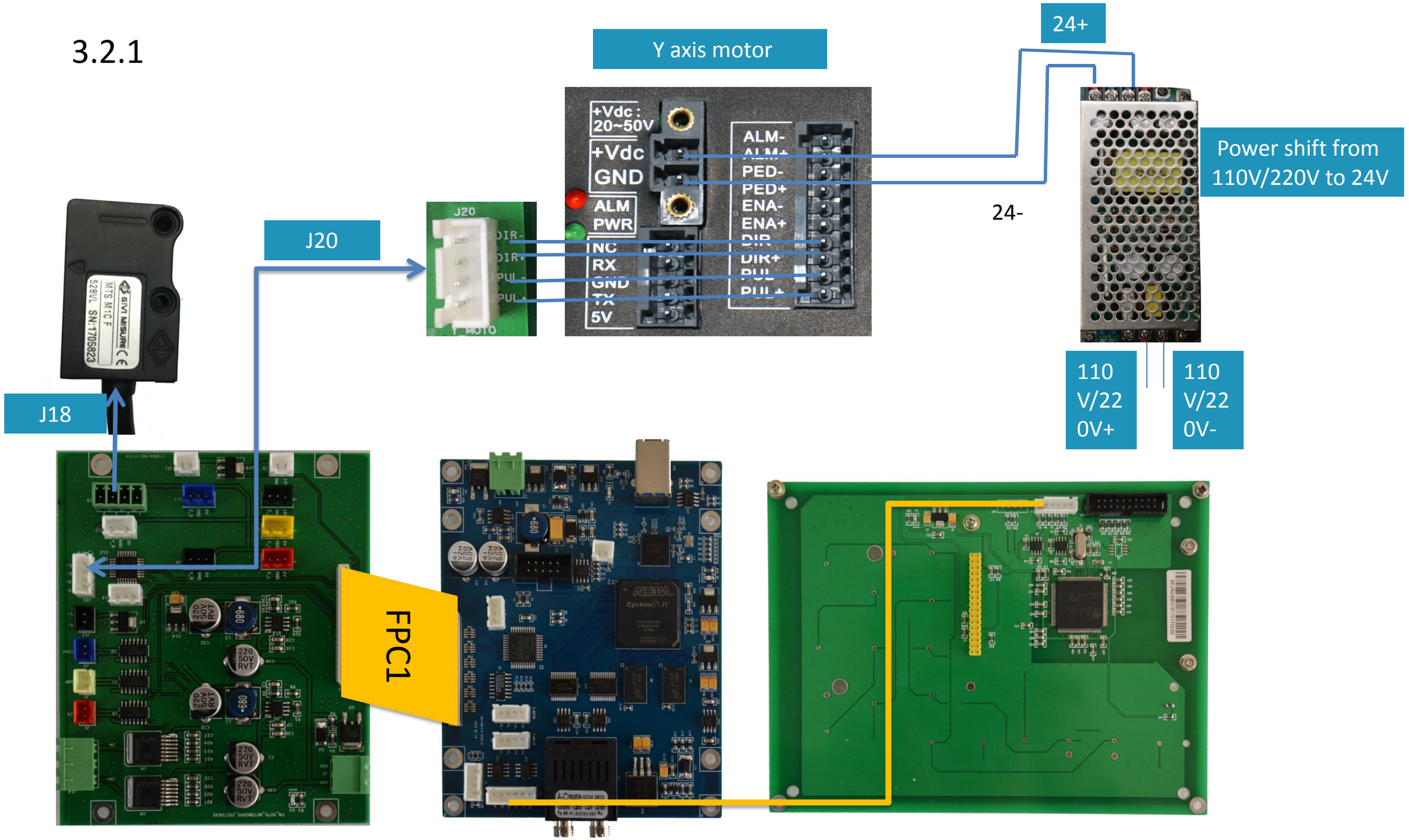
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3.2 Servo Motor driven for Y movement



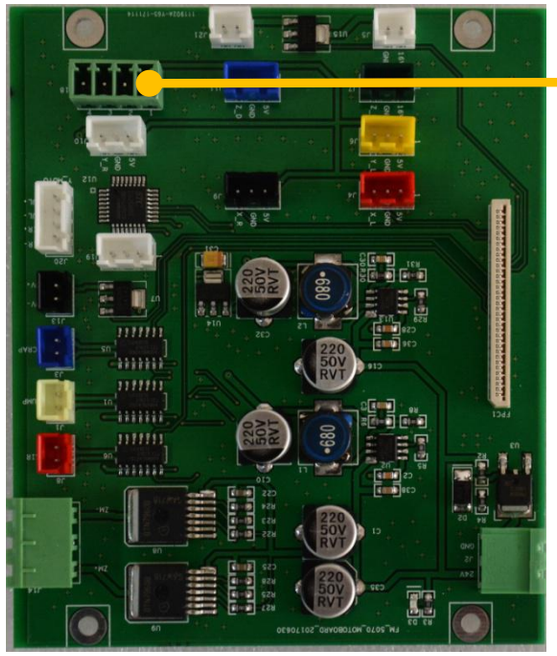
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3.2.1

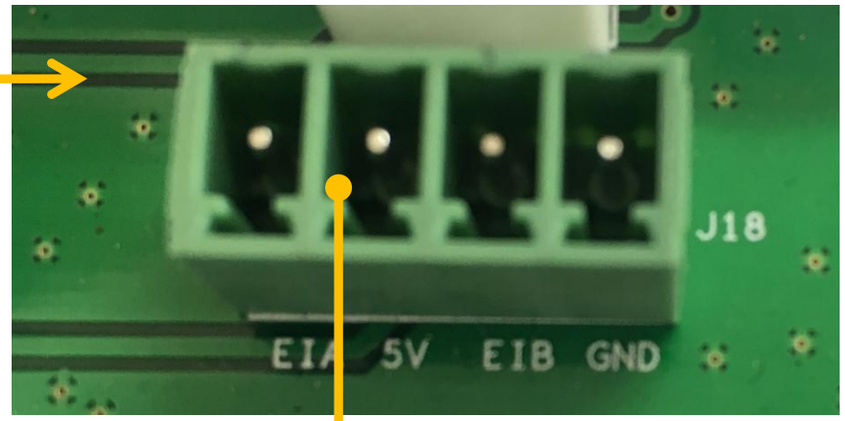


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3.2.2 Singchip and Magnetic Grid



Singlechip



J18 Magnetic grid port





Head of Magnetic grid

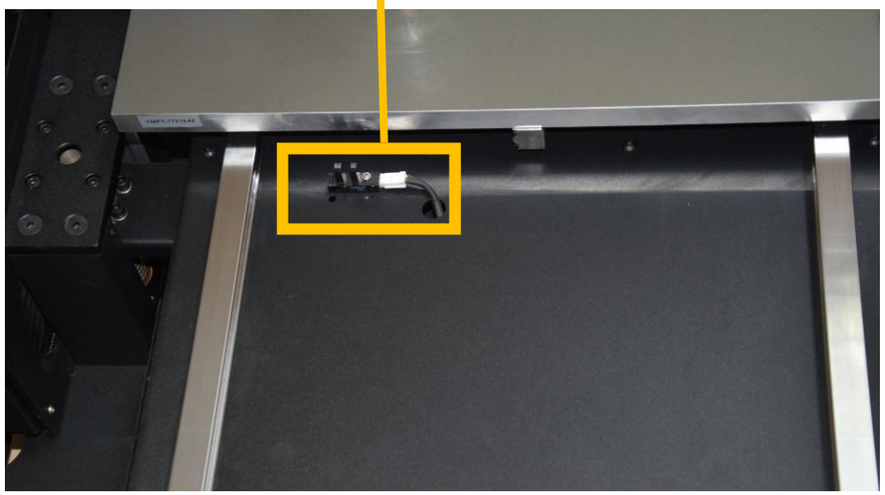
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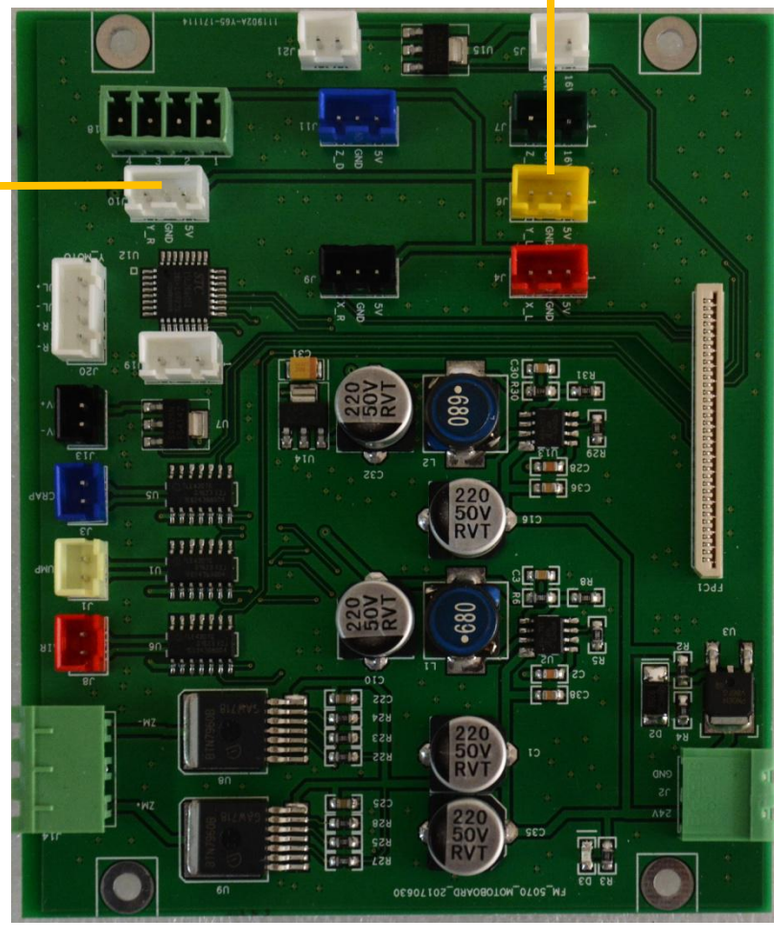
3.2.2 Position and port for front / back limit sens



J6 Front limit

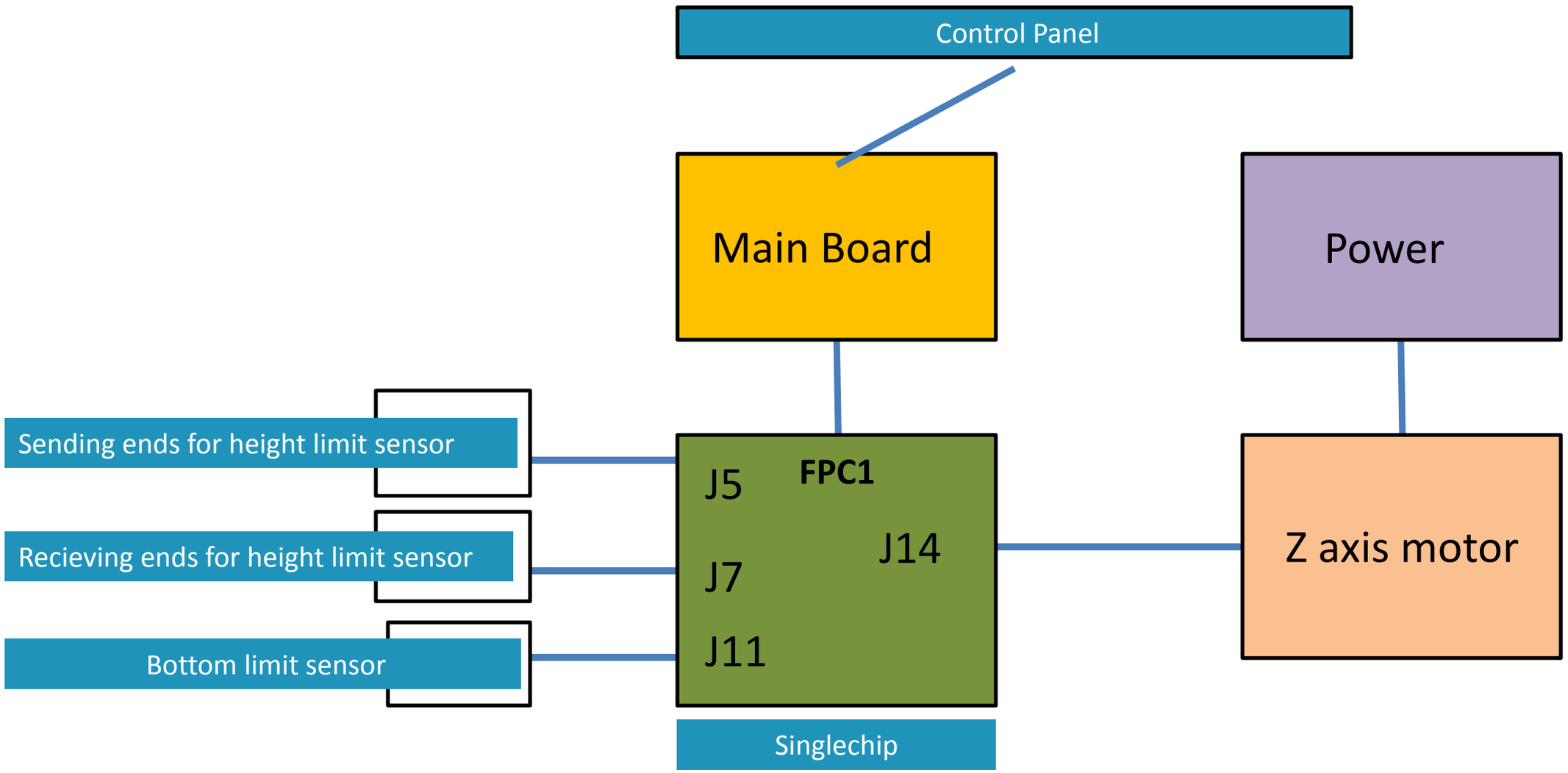
J10 Back limit





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3.3 Z axis control system



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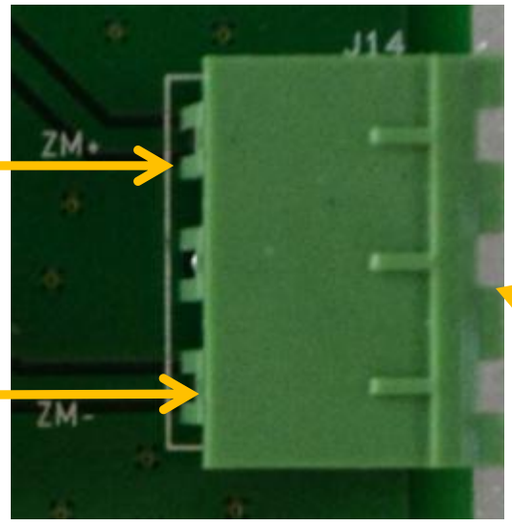
3.3.1 Z axis

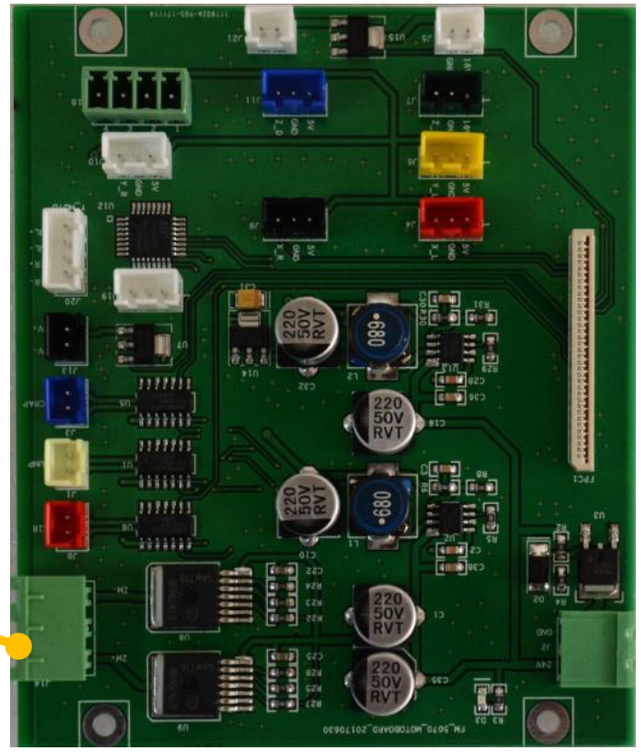


Z+

Z-

Z axis Motor

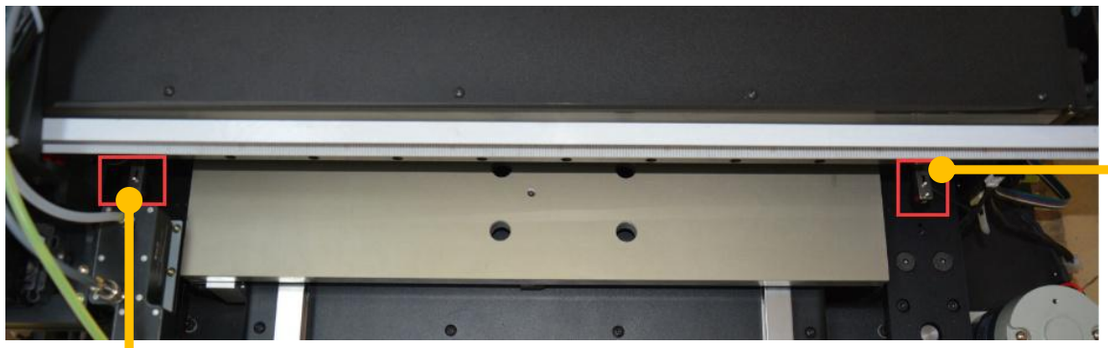




Singlechip

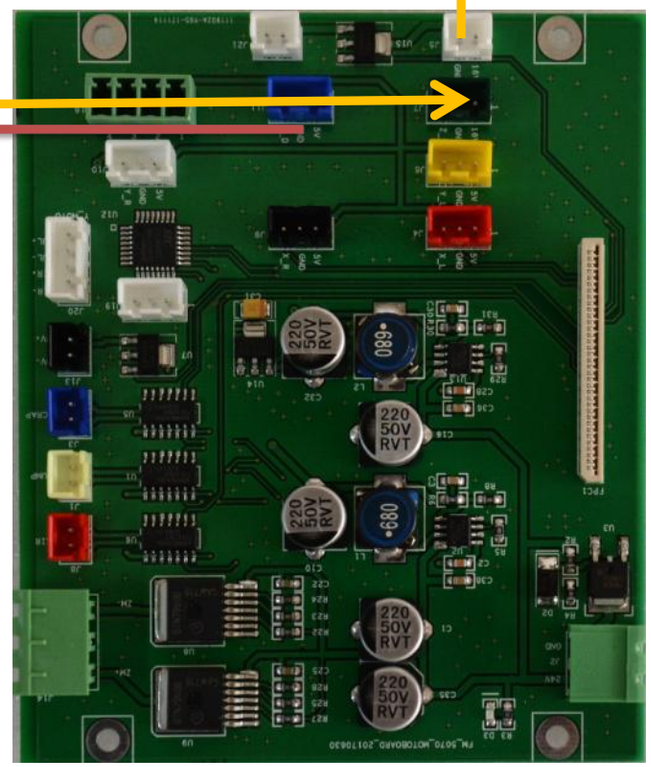
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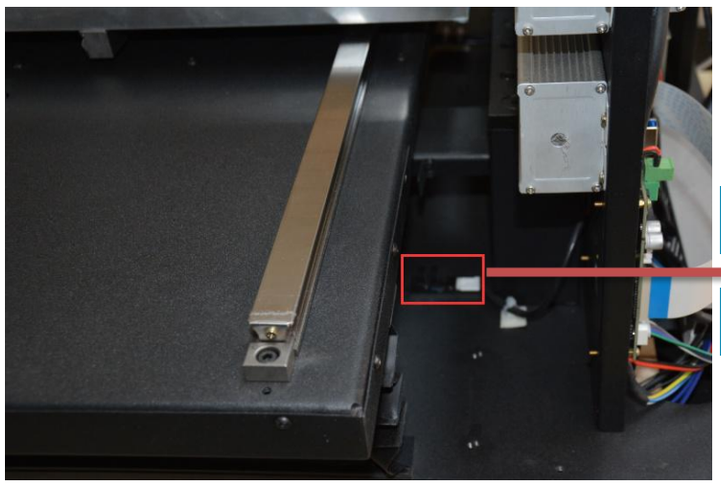
3.3.1 Position and ports of Top/Bottom limit sensor



Transmitting terminal of J5 ultrared rays sensor of height

Receiving ends of J7 ultrared rays sensor of height





J11

Bottom limit sensor

Singlechip

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3.3.2 Drive System

Platform moves up or down through drive of belt rotated by Z axis motor.

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3.4 Inkjet system

3.4.1 Printing data transmission

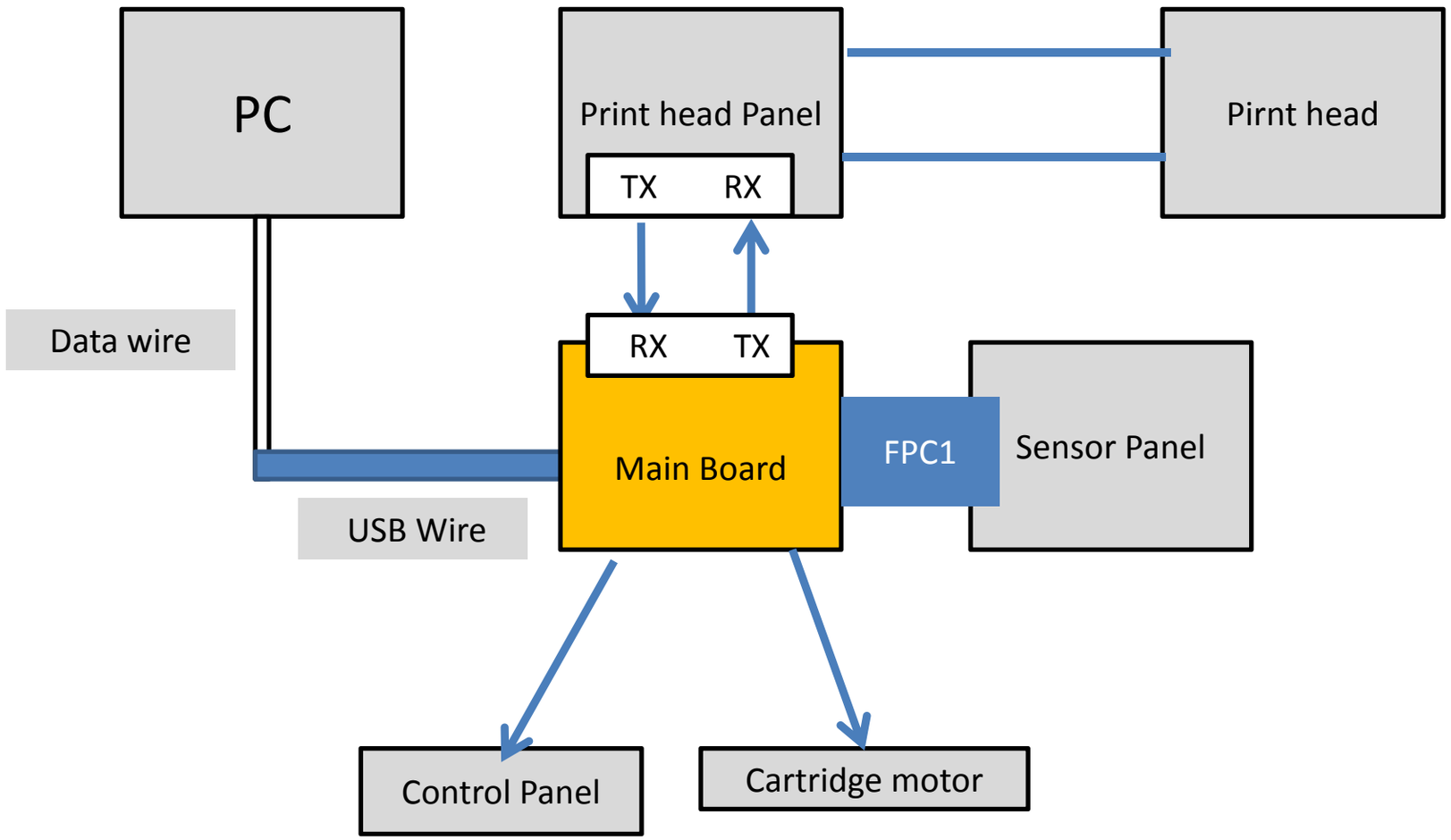
3.4.2 Cartridge movement

3.4.3 Inkjet data

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High resolution print system

3.4.1 Printing data transmission



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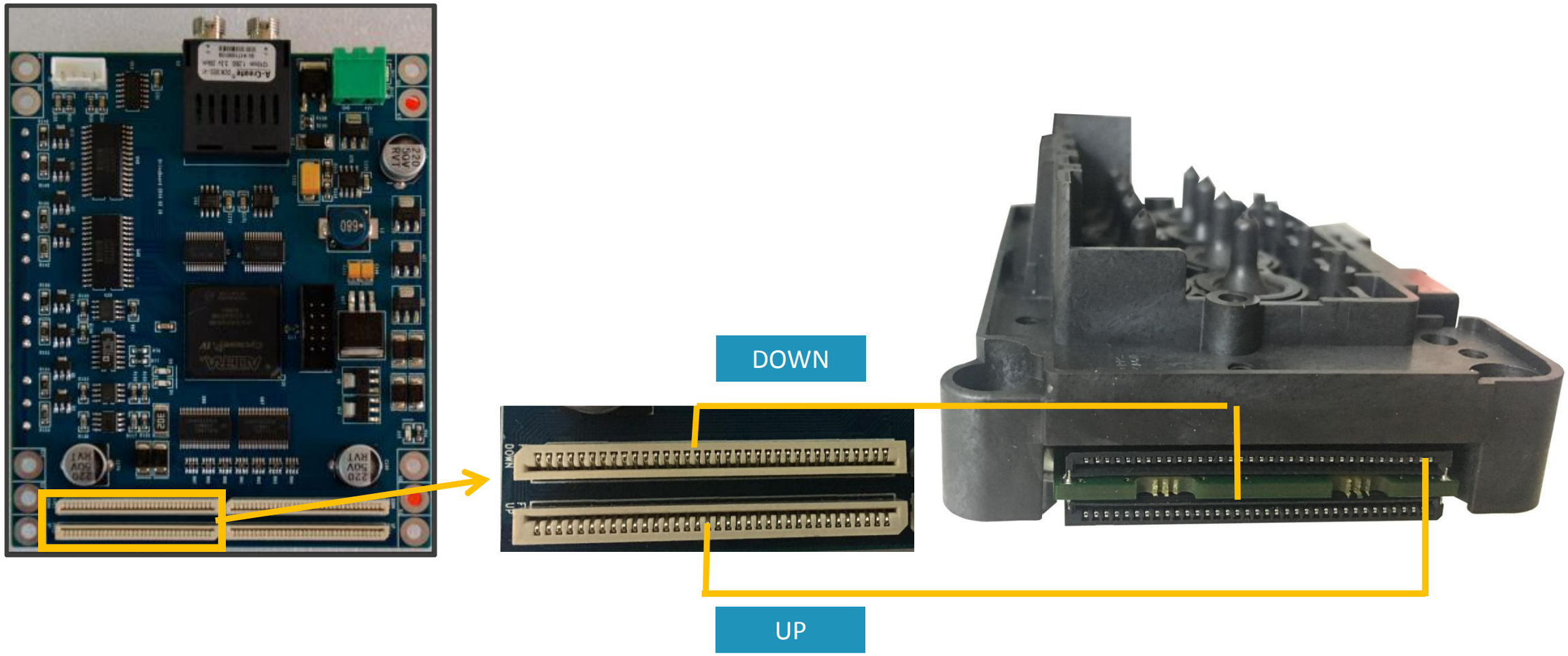
3.4.1 Printing data transmission

Principle of Data transmission

Printing files created by computer, transmitts to main board through USB data wire. Main board transmitts signals to cartridge motor, and to print head panel and singlechip through Optical fiber line and flat wire. Print head panel transmitts inkjetting signals to print head. When ins is firing, singlechip gets the signals and transmitts to platform. The data transmission is completed in cooperative way.

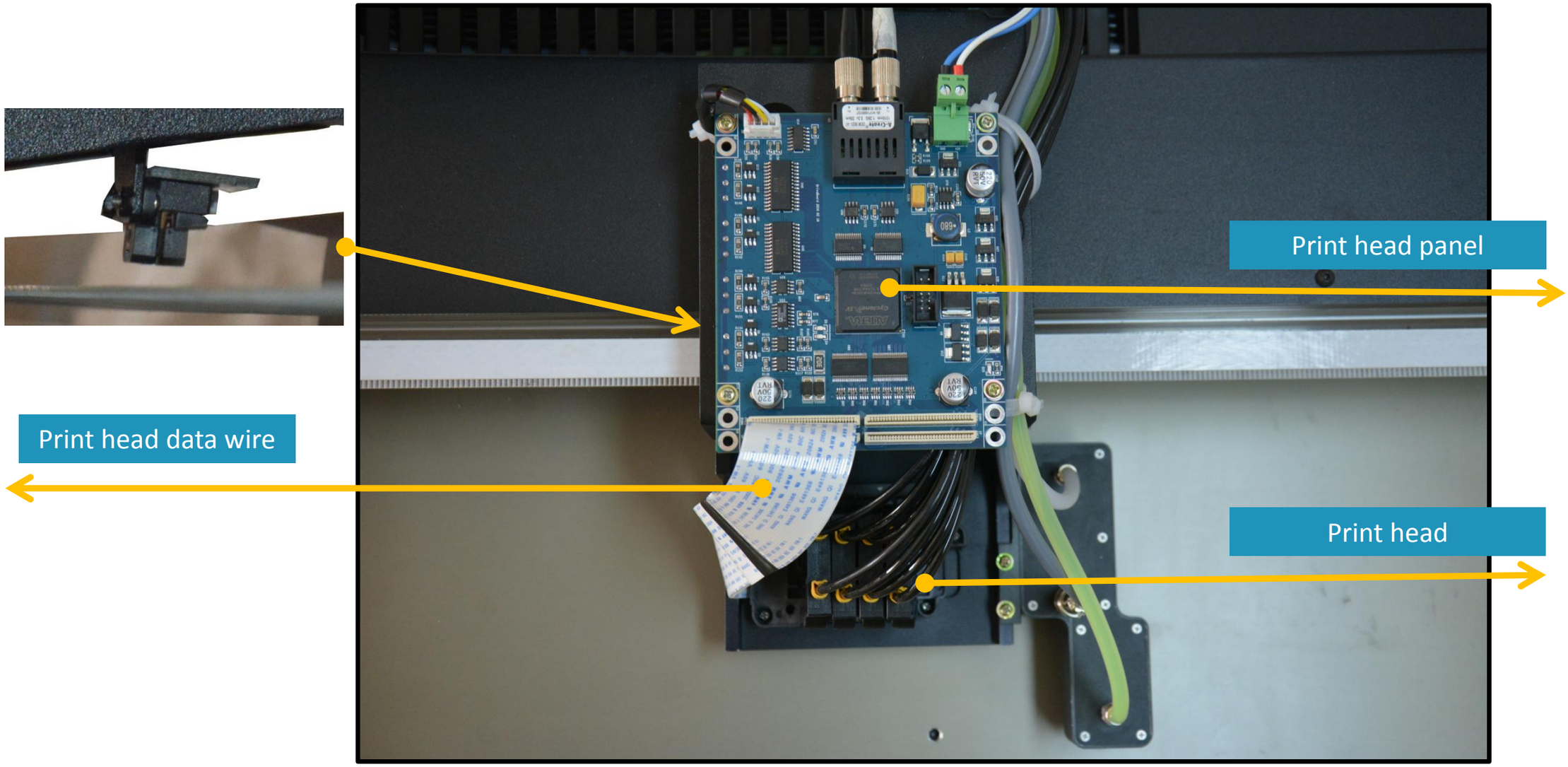
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3.4.1 Printing data transmission



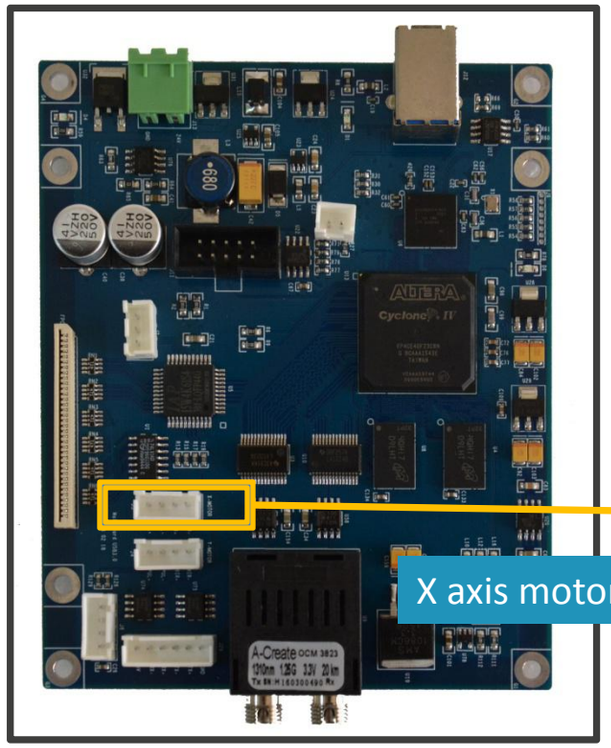
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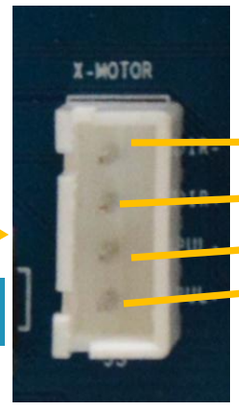
3.4.1 Printing data transmission

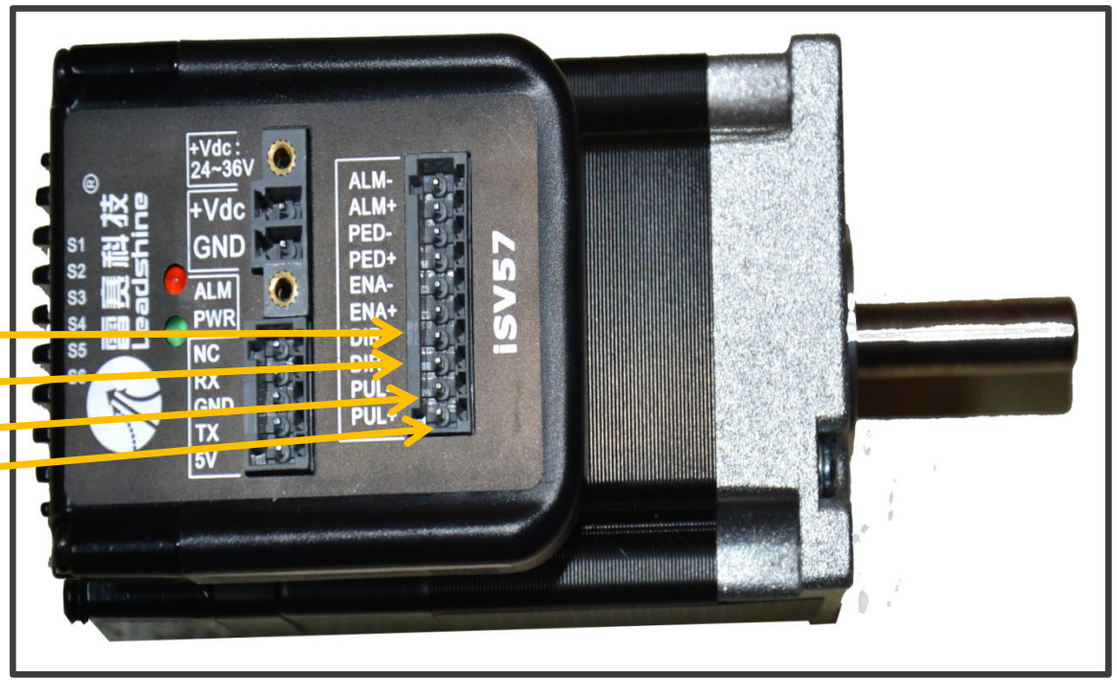


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3.4.2 Cartridge movement







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3.4.2 Cartridge movement and inkjetting

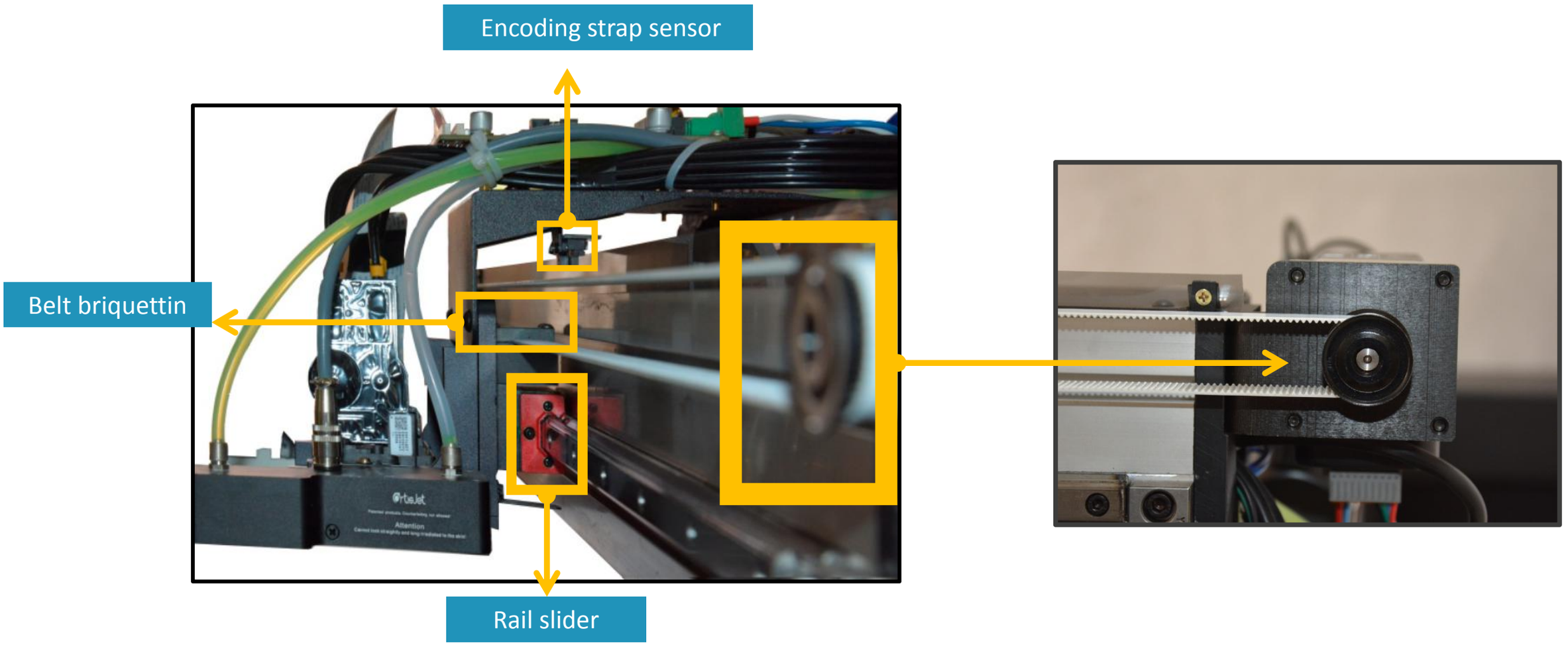
After receiving printing signals, main board transmits them to motors which drives print head and its panel.

After receiving printing signals, main panel transmits the to print head panel through cables. Print head panel moves through cartridge motor and works out amount of inks and inkjet mode, according to encoding strap signal read by encoding strap sensor.

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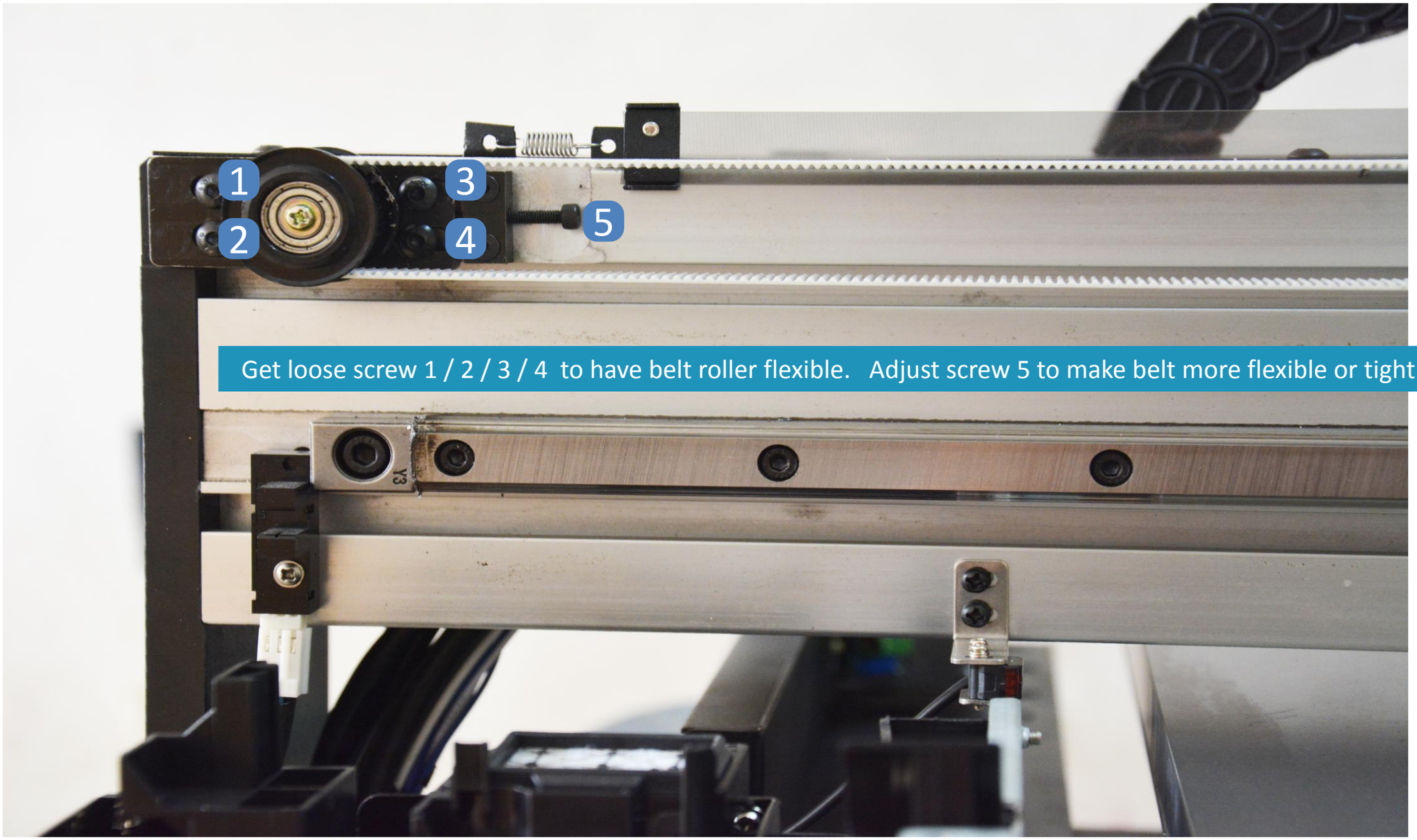
3.4.2 Movement mode of cartridge

Cartridge motor moves cartridge through belt. Both cartridge and belt are fixed by briquettin. Encoding strap sensor read encoding singals in the process.



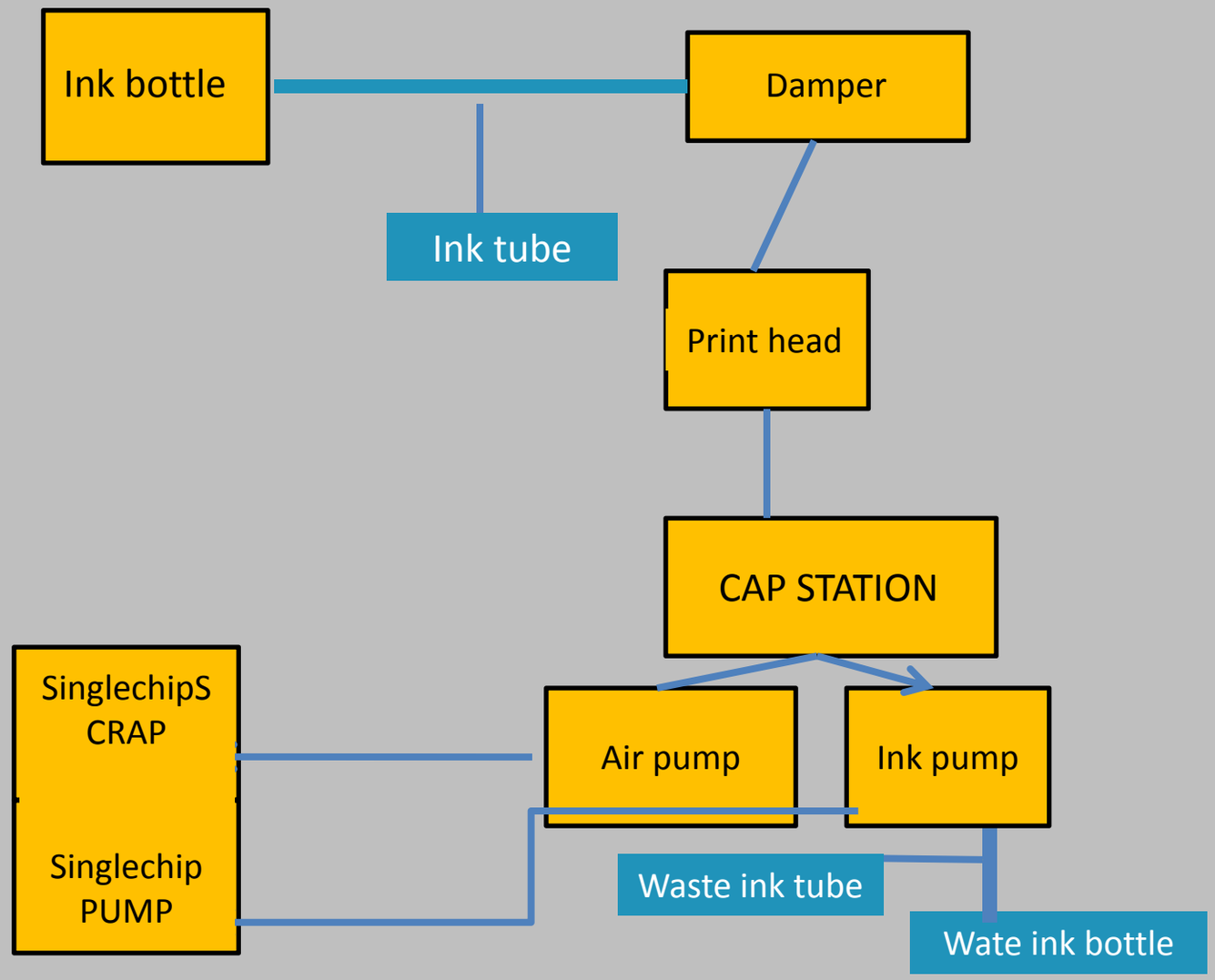
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3.4.3 Fixing and adjusting of cartridge belt



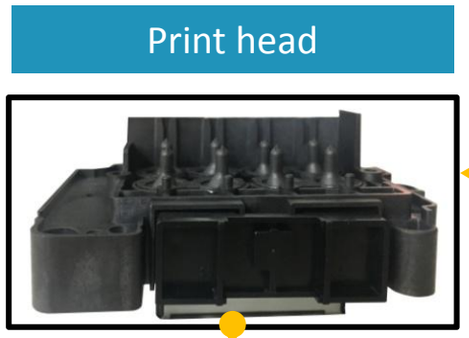
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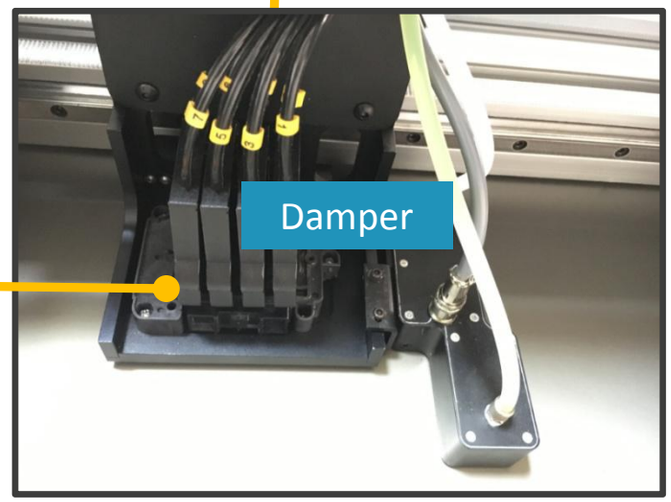
3.5 Ink supply system



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3.5 Ink supply system

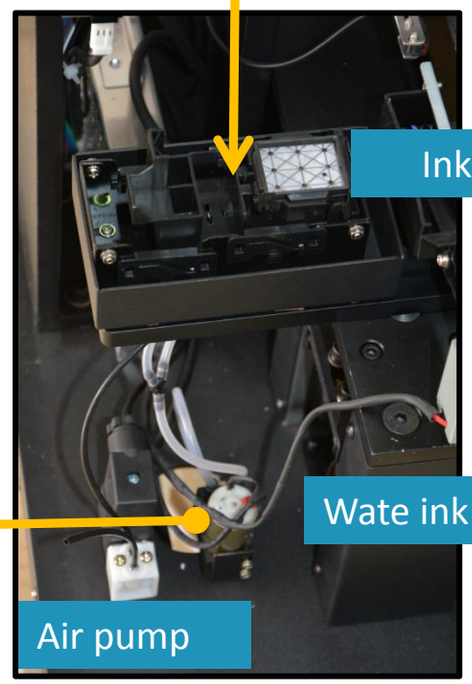


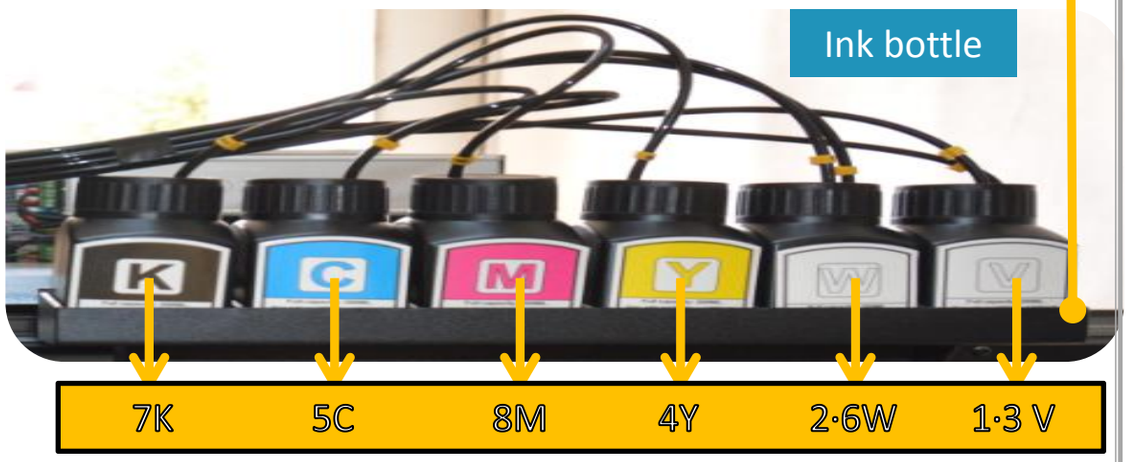


Ink tube

Waste ink tube





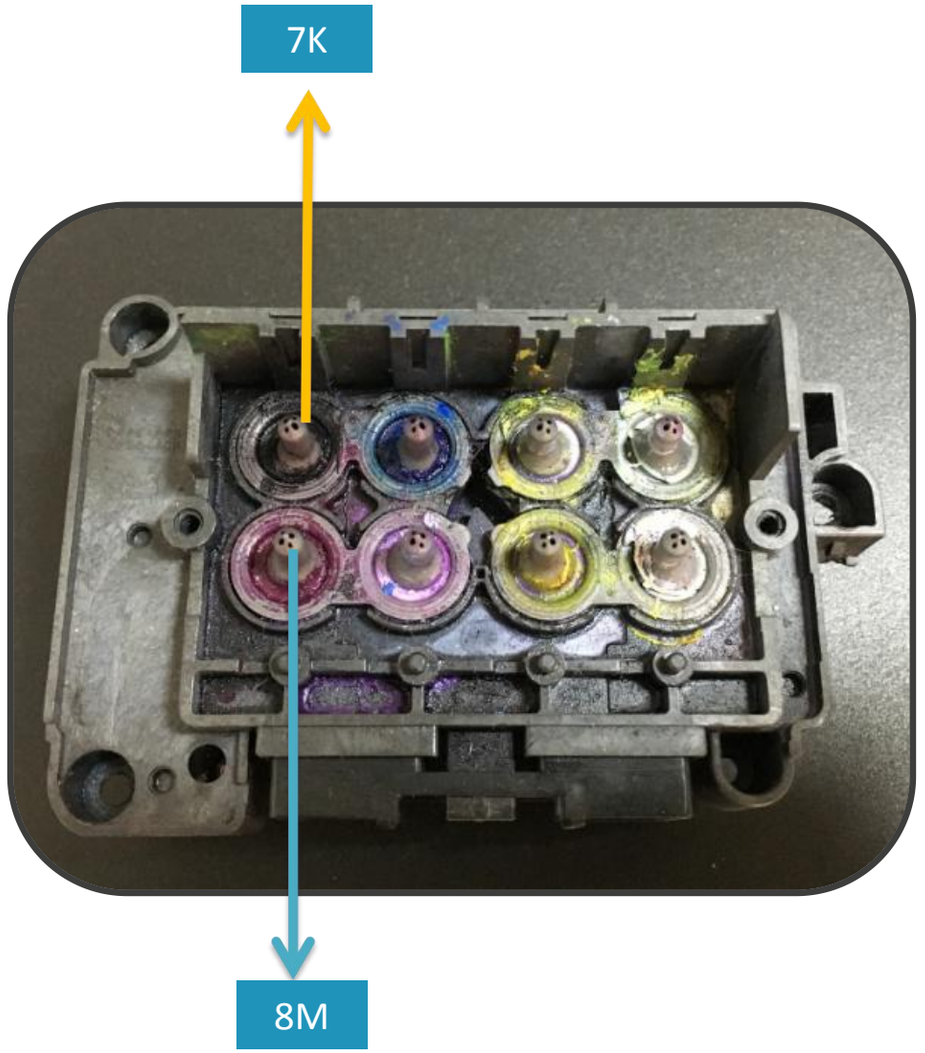


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3.5.1 Damper and print head

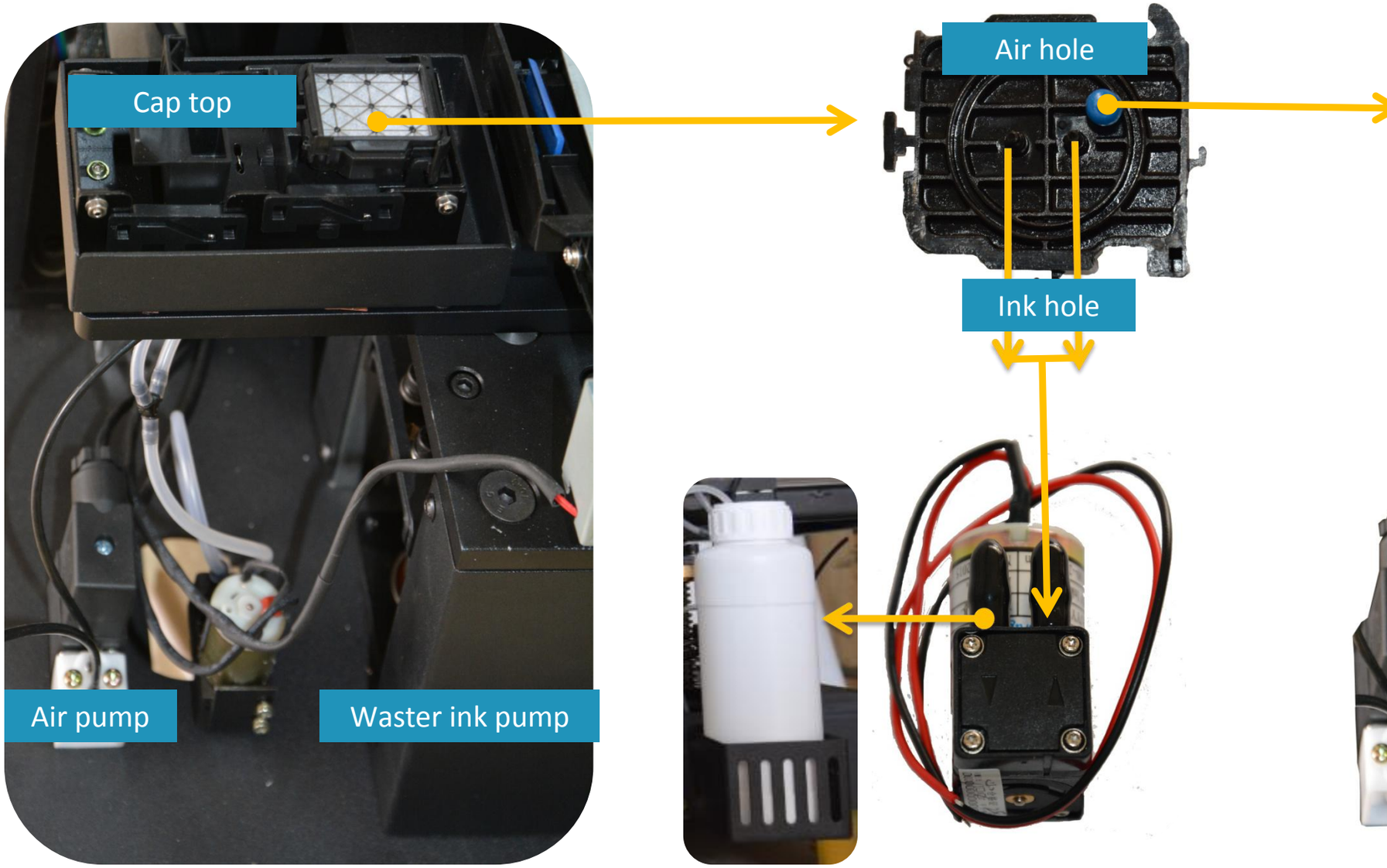




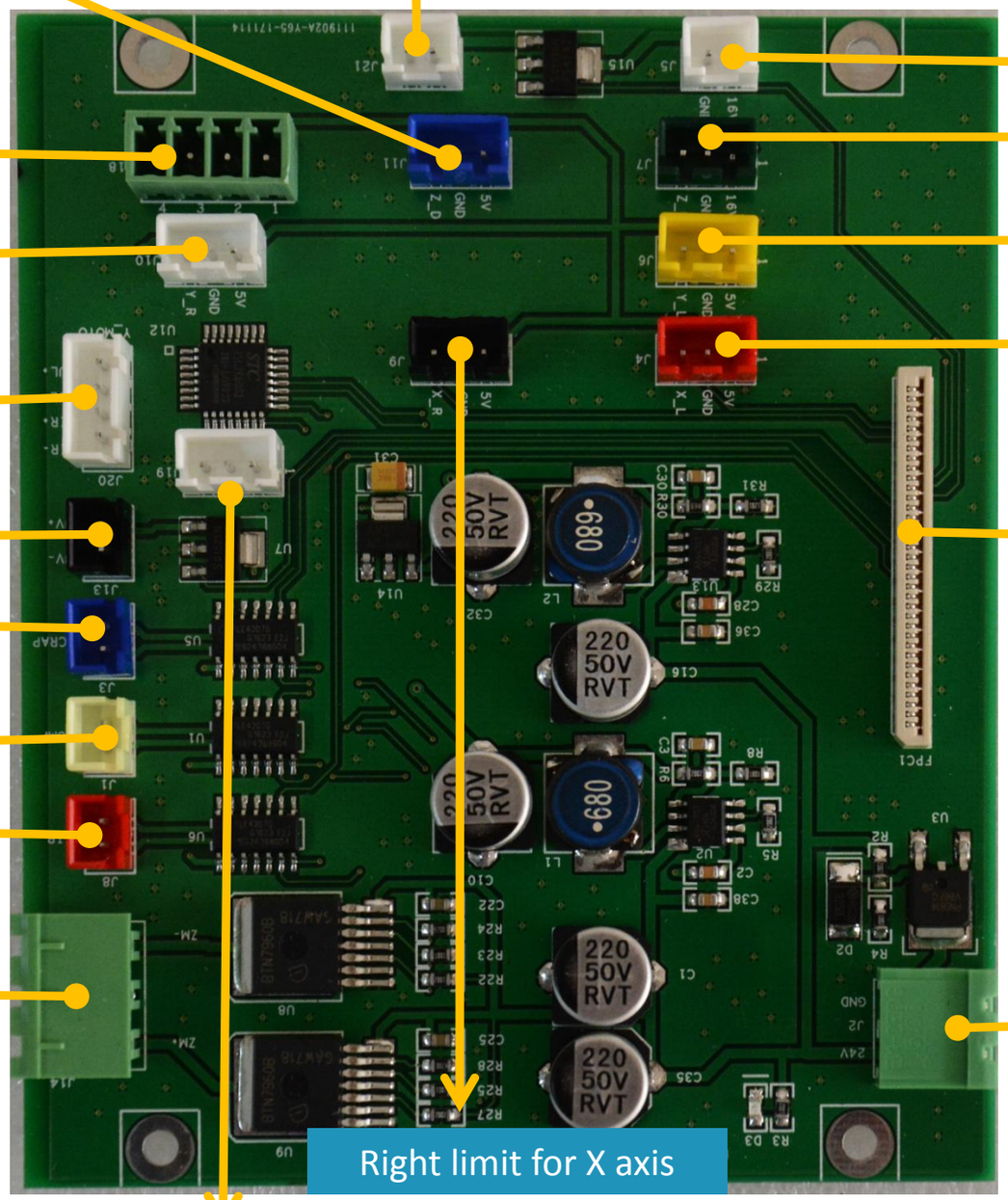


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3.5.2 Ink Supply System

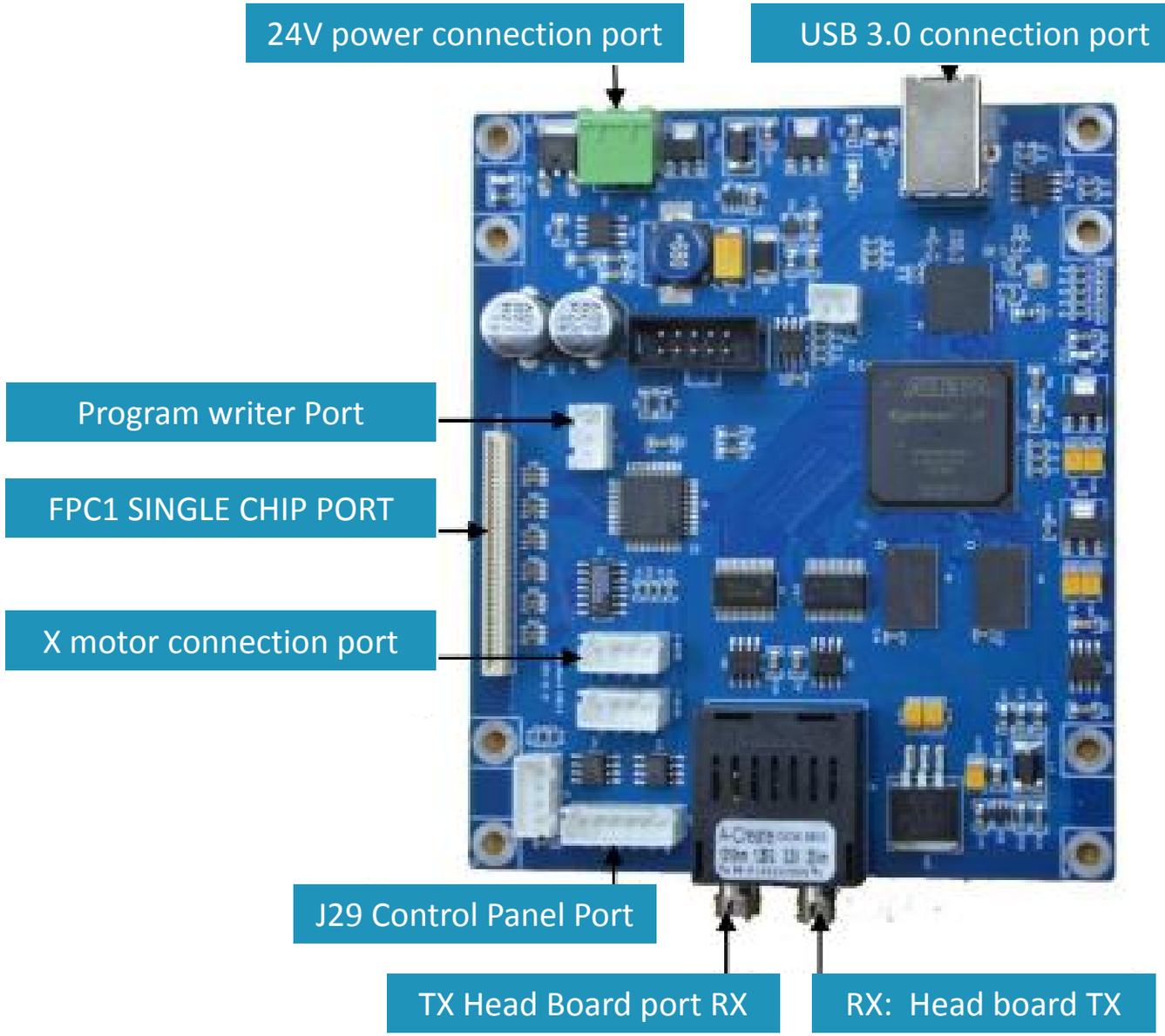


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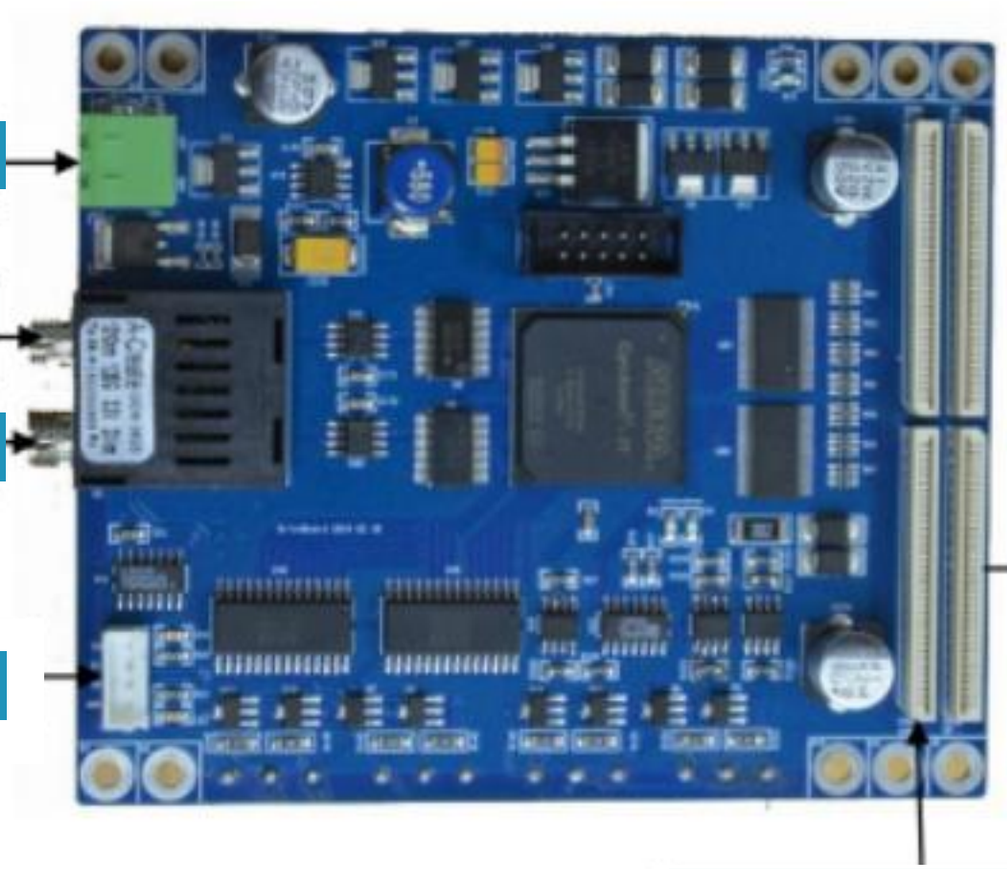
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3.6.1 Main Board



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3.6.2 Printer Head



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