Pinch Valve Documentation

MiPI TERRA

drawing

Introduction:

Explore the future of fluid regulation with our Pinch Valve 3D, meticulously crafted to seamlessly integrate with the Multistat. This economical valve, entirely 3D-printed with cost-effective components, provides a high-performance solution tailored to your machine. This pinch valve is compatible with the following pipes: Click here

Key Features:

- **Optimal Compatibility with the Multistat:** Our Pinch Valve 3D seamlessly adapts to the Multistat, ensuring flawless synergy between the valve and the machine.
- **Costs Controlled without Compromise:** Manufactured with budget-friendly components while maintaining reliable performance, this valve delivers quality fluid regulation at an affordable price.
- **Quick and Simple Installation:** The design streamlines the installation process on the Multistat, saving your time and simplifying integration.
- **Almost Nonexistent Wear:** After a year of continuous use without any issues, our Pinch Valve 3D demonstrates exceptional durability with virtually nonexistent wear.

drawing

Choose Proven Reliability:

Opt for the Pinch Valve 3D with the Multistat and benefit from an economical solution that provides consistent and reliable fluid regulation. Explore this documentation to understand how our technology can enhance the performance of your Multistat without compromising your budget. Get ready for worry-free regulation, where durability and efficiency converge to propel your business to new heights.

- 1- Parts Assembly (page 4)
- 2- Electrical assembly (page 8)

And you should definitely let people know about the bill of materials (HTML, CSV) page.

Bill of Materials

Download this as a CSV file

Parts

- 1 bearing
- 1 cable
- 1 Click here
- 1 heat shrink
- 1 LEMO connector
- 1 M2x6
- 1 M3x12 CHC
- 4 M3x6
- 1 servo motor

Tools

- 1 allen key
- 1 screw driver
- 1 soldering iron
- 1 stripping pliers
- 1 wire cutter

Parts

- 1 bearing
- 1 M3x12 CHC
- 4 M3x6
- 1 servo motor

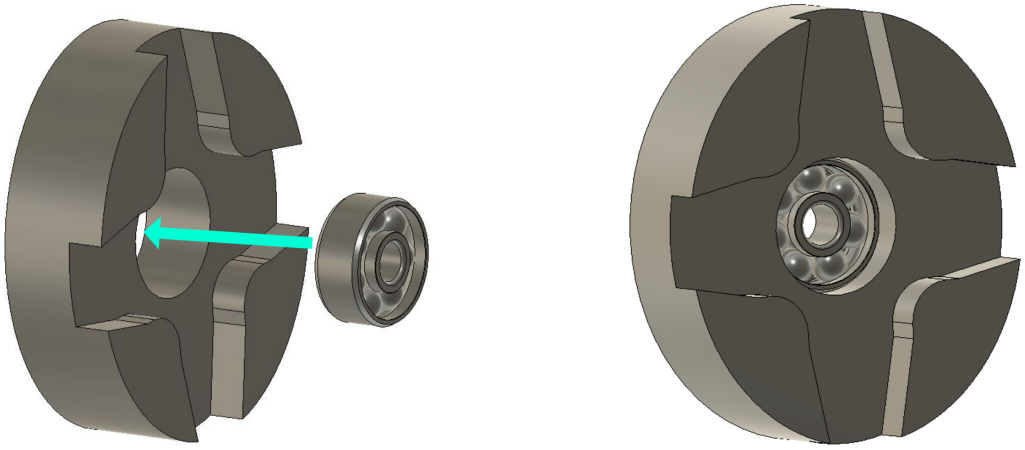
Tools

- 1 allen key
- 1 screw driver
- 1 wire cutter

1- Parts Assembly

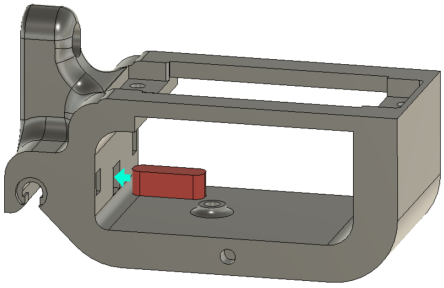
Step 1: Cam & Bearing

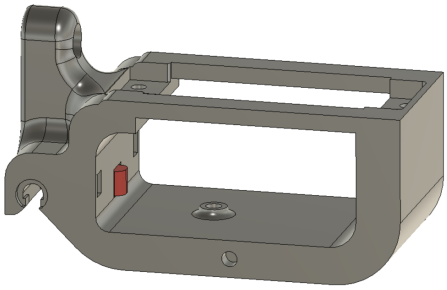
- Insert the bearing into the rotary cam.stl



Step 2: Clamp

- Place the clamp.stl into the main part.stl

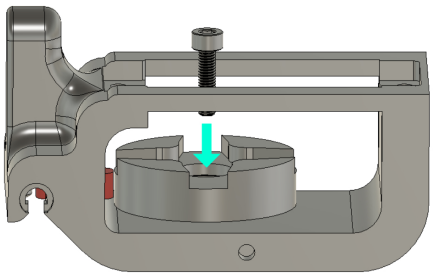


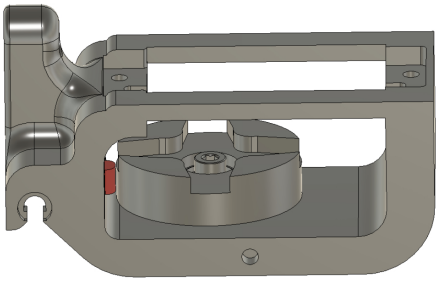


Step 3: Secure Rotary Cam

- Insert the screws M3x12 CHC socket head cap screw to secure the rotary cam onto the main component with an allen key .

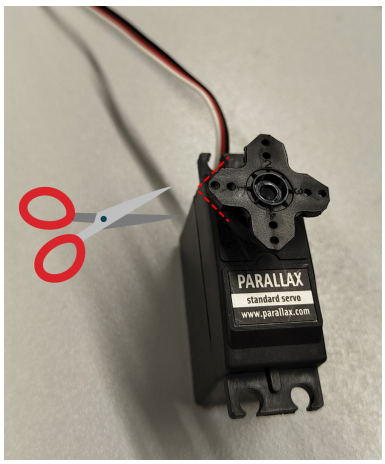
> **Note**
>
> You must screw directly into the plastic.





Step 4: Servo Motor

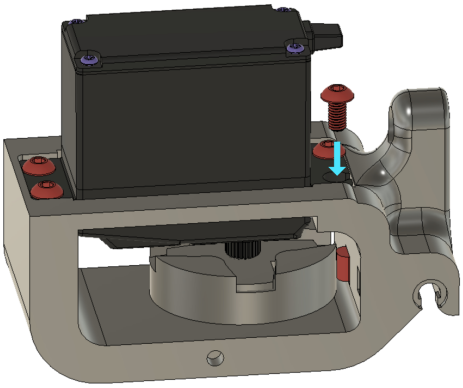
- Take the servo motor and reduce the size of the blades with a wire cutter to ensure a proper fit with the rotary cam coupling.



Step 5: Secure servo motor

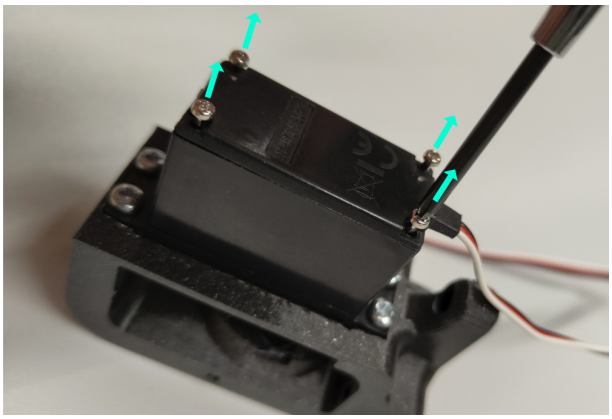
- Screw the servo motor onto the main part using M3x6 screws x4 and allen key or screw driver depending on the type of screws used.

> **Note**
>
> You must screw directly into the plastic



- Remove the four screws from the servo motor casing.

> **Caution**
>
> Do not discard the four screws as we will reuse them in the next step.



Parts

- 1 cable
- 1 heat shrink
- 1 LEMO connector
- 1 M2x6

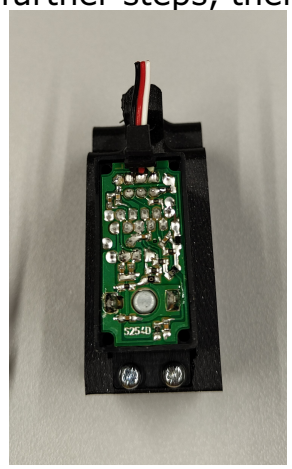
Tools

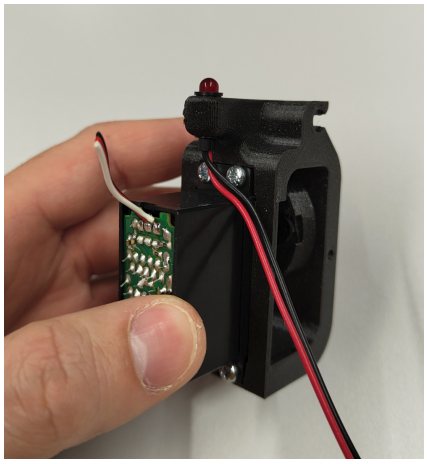
- 1 soldering iron
- 1 stripping pliers
- 1 wire cutter

2- Electrical assembly

Step 1: Led

- Cut the servo motor wires with a wire cutter and retrieve the cable gland for further steps, then insert the LED into its designated slot.

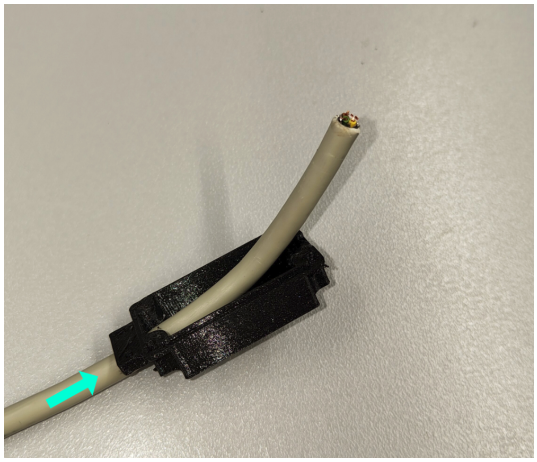




Step 2: Preparation of the servo cap

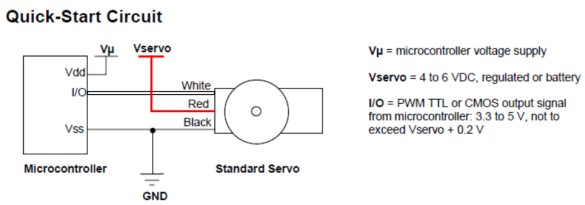
- Insert the cable into the hole of the servo cap.stl, and pull it sufficiently to strip it. Strip the cable 2.5 cm with a stripping pliers.

> ⚠ **Caution**
>
> Careful not to cut the strands inside

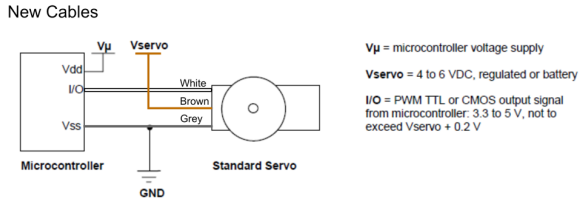


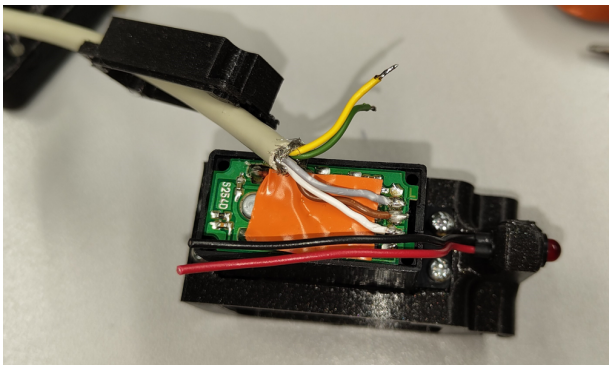
Step 3: Solder onto the PCB

- Cut the LED cables so they reach the bottom of the PCB compartment of the servo motor.
- Strip and solder the wires as shown in the photo with a soldering iron to replace the original wires: Black to Grey, Red to Brown, and White



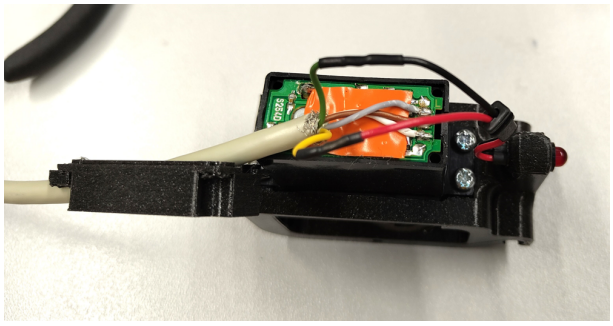
to White.



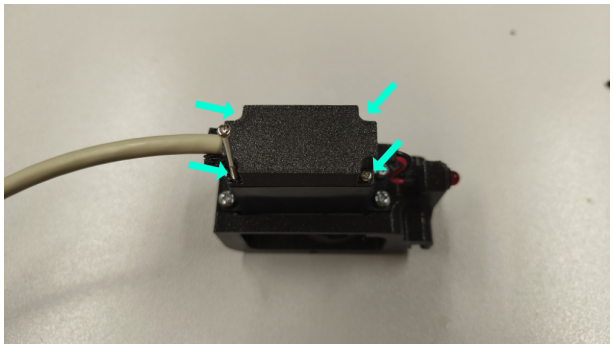


Step 4: Led wires

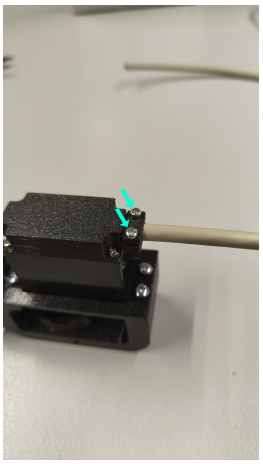
- Ensure that you have reattached the cable gland from the servo motor wires onto the LED cables. Solder the red LED cable to the yellow cable, then solder the black cable to the green one, securing the connections with heat shrink tubing.



- Secure the servo cap onto the servo motor using the four screws previously retained.



- Screw the cable clamp.stl in place using the two M2x6 screws.

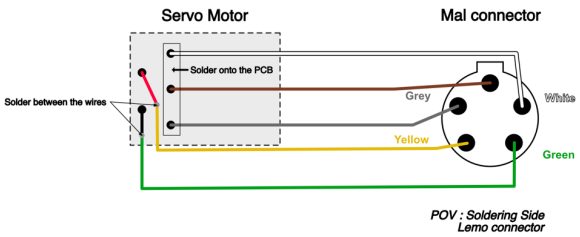


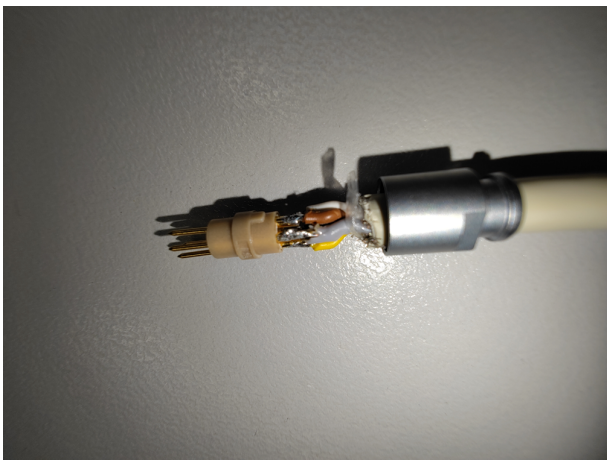
Step 5: Solder the connector

- Strip the end of the 5-strand cable to approximately 1cm.
- Solder the strands of the cable onto the pins of the LEMO connector following the diagram.

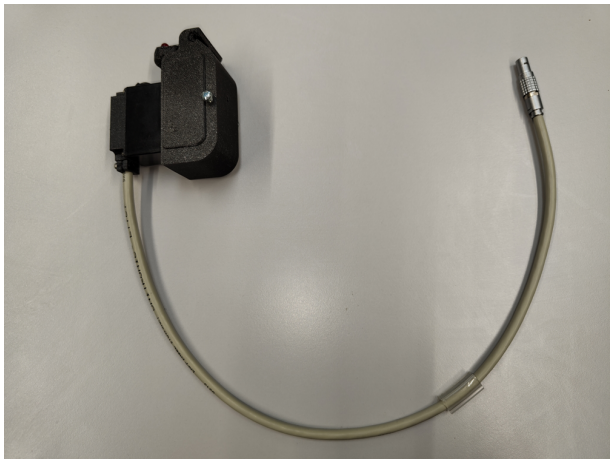
> ⚠ **Warning**
>
> Don't forget to insert all the parts of the lemo connector on the cable before soldering the wires.

- Then tighten the connector's clamping screw to close it.


Servo Motor
Mal connector
Solder onto the PCB
Solder between the wires
Grey
White
Yellow
Green
POV : Soldering Side
Lemo connector



Step 6: Tadam !!



Widget

This is an example page for a part that needs more information than can be provided in a part library. You can also add links and images into this page.

Specifications

Attribute	Value
Type	Unknown
Quality	Fantastic

Suppliers

Supplier	Part Number
Widget Shop	Widget1

Pipe 0,040"

Tuyaux, PharMed BPT

Suppliers

Supplier	Part Number
VWR	228-1702

bearing 10mm

This is lots of text about some screws?

Specifications

Attribute	Value
Ø in	3mm
Ø out	10mm

Suppliers

Supplier	Part Number
RS	618-9884

M3x12 CHC screw black

Specifications

Attribute	Value
Thread Size	M3
Length	12mm
Head Shape	Hex Socket Cap
Material	Steel
Finish	Black, Self-Colour
Thread Type	Metric

Suppliers

Supplier	Part Number
RS	467-9802

Servo Parallax Inc 4

6 V 140 mA Servo Motor, 27 Ncm Max Output Torque

Suppliers

Supplier	Part Number
RS	781-3058

M3x6 Pan Steel Machine Screws DIN 7985Z

Specifications

Attribute	Value
Thread Size	M3
Length	6mm
Head Shape	Round Cap
Material	Steel
Thread Type	Metric

Suppliers

Supplier	Part Number
RS	560-580

Multicore Cable

Unitronic® LiYCY, Screened, 5 Core, 24 AWG, 0.25 mm², 164 ft, 50 m

Suppliers

Supplier	Part Number
FARNELL	1204281

RS PRO Heat Shrink Tubing

Black 2.4mm Sleeve Dia. x 10m Length 2:1 Ratio

Suppliers

Supplier	Part Number
RS	700-4624

M2 Pan Head M2x6

Pan A2 304 Stainless Steel Machine Screws DIN 7985

Suppliers

Supplier	Part Number
RS	528-693

Lemo FGG.0B.305.CLAD52Z

Connecteur circulaire, 0B Series, Fiche à montage sur câble, 5 Contact(s), Broche à souder

Suppliers

Supplier	Part Number
FARNELL	3817258

MiPI TERRA

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