



Peristaltic pump - nominal diameter Ø8mm - for fluids like cooling water, water, engine oil and other similar



H3dSprint

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Summary

To make a service on a car and other vehicles, I have designed a handy peristaltic pump with a medium flow rate.

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Tags: [water](#) [fluid](#) [peristaltic](#) [pump](#) [oil](#) [peristalticpump](#) [flowrate](#)

All designed parts of the peristaltic pump are printed out of PETG. For the hose I have chosen silicon to avoid high forces by rotating the impeller. The hexagon shaft where the impeller is put-on have two interfaces, on one side an inner hexagon suitable for 6mm and on the other side an outer hexagon suitable for 10mm. The inner hexagon could be used for hexagon bits and the outer hexagon could be used for a nut or to operate the peristaltic pump by a handwheel.

The goal of the design was to print many parts as possible. Only bearings and fixing elements are not printed. Also it should be possible to adapt the

pump to a motor. Therefore there are 2 fixing points which could be used to adapt the peristaltic pump to a power unit.

See also: [Adapter for cordless screwdriver suitable for Makita](#)

Maximum recommended operating speed: 100 rpm

Part list:

- printed parts (see .stl)
- bearings
 - needle bearing HK0608 (6x10x8) | quantity: 6
 - ball bearing 6001-2RS (12x28x8) | quantity: 2
- hose
 - silicon hose Ø10mm with a wall thickness of 1mm | length: min. 1m recommended
- fixing elements
 - cylinder screw M5x35 | quantity: 3
 - hexagon nut M5 | quantity: 5

Printing parts:

- use setting “support on bed only” and set distance to 0,2mm - only small areas need support

Assembly instruction:

1. prepare housings and add hexagon nuts to the housings (1&2)
2. assemble bearings to the housings (1&2)
3. prepare sleeves and insert needle bearings symmetric to the sleeve
4. plug on the sleeves to the impeller-1
5. plug on impeller-2 to impeller-1 and ensure there is enough clearance for the sleeves
6. insert hexagon shaft to impeller
7. add spacer-ring on both sides to the impeller
8. assemble impeller to the housing-1
9. mount hose between impeller and housing and ensure a smooth shape
10. align hose in the fixing zone for the hose and ensure there is no sharp bend
11. assemble housing-2 to housing-1 and check if hose is well-positioned
12. mount cylinder screws and tighten the screws

Now use your new printed peristaltic pump and have fun.

Model files



housing-1.stl



housing-2.stl



impeller-1.stl



impeller-2.stl



sleeve.stl



hexagon_shaft.stl



spacer_ring.stl

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