

| | # | The components | Distributor | Catalog number | Quantity required for one SPIRO system |
|--------------------------|-----|---|-------------------------------------|---|---|
| | | Electronics | | | |
| <input type="checkbox"/> | 1 | Raspberry Pi 3B+ | Mouser | 358-RPI3-MODBP-BULK | 1 |
| <input type="checkbox"/> | 2 | Power supply 5V 2.5A, micro USB | Mouser | 358-1101001000045 | 1 |
| <input type="checkbox"/> | 3 | Adafruit TB6612 h-bridge dc-stepper motor driver breakout board | Mouser | 485-2448 | 1 |
| <input type="checkbox"/> | 4 | Unipolar stepper motor NEMA-17, 12V, 0.35A | Mouser | 485-324 | 1 |
| <input type="checkbox"/> | 5 | Power adapter 12V 3A wih with 2.1 power plug | Amazon | | 1 |
| <input type="checkbox"/> | 6 | Female DC connector 5.5 x2.1mm | Amazon | | 1 |
| <input type="checkbox"/> | 7 | SparkFun MOSFET Power Control Kit | Mouser | 474-COM-12959 | 1 |
| <input type="checkbox"/> | 8 | Green LED strip 12V (note: must be possible to cut into 5-cm segments!) | Mouser | 828-OVQ12S30G7 | 1 meter |
| <input type="checkbox"/> | 9 | 90 degree connectors for 8 mm LED strip + terminal LED strip connector | Amazon | | 4 corners + 1 terminal connector |
| <input type="checkbox"/> | 10 | 2-pin 3.5 mm pitch PCB Mount Screw Terminal Connector | Mouser | 710-691214110002S | 1 |
| <input type="checkbox"/> | 11 | Jumper cables 10 cm, female to female (Dupont wires) | Amazon | | 20 |
| <input type="checkbox"/> | 12 | SD Memory Card Class 10 or higher, 32 GB or more | Mouser | 467-SDSDQAE-032G | 1 |
| <input type="checkbox"/> | 13 | Heat shrink tubes, diameter 1 mm and 2 mm | Amazon | | 5 cm of each |
| <input type="checkbox"/> | 14 | Wire end ferrules, 0.5 mm ² , not insulated | Amazon | | 20 |
| <input type="checkbox"/> | 15 | AWG 28 wires, longer than 40 cm | Amazon | | ca 3 m |
| <input type="checkbox"/> | 16 | Spiral wire cover | Amazon | | ca 30 cm |
| | | Camera | | | |
| <input type="checkbox"/> | 17 | Adafruit Flex Cable for Raspberry Pi Camera | Amazon | | 25-30 cm |
| | 18a | SPIRO configuration with manual focus: | | | |
| <input type="checkbox"/> | | Raspberry Pi Camera v2 - 8 MP | Mouser | 485-3099 | 1 |
| | 18b | SPIRO configuration with motorized focus: | | | |
| <input type="checkbox"/> | | Raspberry Pi Camera v2 - 8 MP | Mouser | 485-3099 | 1 |
| <input type="checkbox"/> | | Arducam IMX219 8 MP Auto Focus Camera Module, drop-in replacement for Raspberry Pi V2 Camera | Uctronics | SKU: B0182 | 1 |
| | | Endstop sensor | | | |
| <input type="checkbox"/> | 19 | Mini microswitch | Reichelt elektronik | MAR 1050.5202 | 1 |
| | | Structural parts | | | |
| <input type="checkbox"/> | 20 | Aluminium profile T2020, black | Amazon | | 1x 30cm for the vertical rail, 1x ca 34 cm for the horizontal rail, 2x ca 8cm for each leg, 2x 14 cm for the LED frame mounting |
| <input type="checkbox"/> | 21 | 2020 Aluminum Profile Slot Cover, black | Banggood | | 1 m |
| <input type="checkbox"/> | 22 | 635zz - R-1950ZZ - 5972K263 Miniature Ball Bearings | Amazon | | 3 |
| <input type="checkbox"/> | 23 | Rigid shaft coupling M5 to M5 | Amazon | | 1 |
| | | Screws | | | |
| <input type="checkbox"/> | 24 | M2.5 x 12mm, button head | | | 2 |
| <input type="checkbox"/> | 25 | M2.5 x 12mm, flat head countersunk, black | | | 2 |
| <input type="checkbox"/> | 26 | M2.5 x 8mm, flat head countersunk | | | 8 |
| <input type="checkbox"/> | 27 | M2.5 hex nuts | | | 12 |
| <input type="checkbox"/> | 28 | M3 x 12 mm, button head, hex socket, black | | | 8 |
| <input type="checkbox"/> | 29 | M3 x 20mm, flat head countersunk | | | 4 |
| <input type="checkbox"/> | 30 | M3 hex nuts | | | 8 |
| <input type="checkbox"/> | 31 | M5 x 8 mm, flat head countersunk, black | | | 1 |
| <input type="checkbox"/> | 32 | M5 x 12 mm, flat head countersunk | | | 8 |
| <input type="checkbox"/> | 33 | M5 x 8 mm screw, button head, hex socket, black | | | 21 |
| <input type="checkbox"/> | 34 | M5 x 11 mm , button head, hex socket, black. Lifehack: use M5x16 and print a 5mm tall washer | | | 6 |
| <input type="checkbox"/> | 35 | M5 x 16 mm screw, button head, hex socket, black | | | 3 |
| <input type="checkbox"/> | 36 | M5 x 16mm bolt, hex head | | | 5 |
| <input type="checkbox"/> | 37 | M5 T-nuts for T2020 aluminium profile | | | 35 |
| <input type="checkbox"/> | 38 | M5 hex nuts | | | 3 |
| <input type="checkbox"/> | 39 | M5 washer, OD 10 mm, flat | | | 6 |
| <input type="checkbox"/> | 40 | M5 slide-in bracket for T2020 aluminium profile | | | 3 |
| | | Plastic for the 3D printer | | | |
| <input type="checkbox"/> | 41 | PLA filament, matte black | 3Dprinthings | Matteforge Pro Filament PLA 1.75 mm, black | ca 1.5 kg |
| <input type="checkbox"/> | 42 | PLA filament, milky white | Amazon | Sunlu, PLA+, 1.75 mm, milky white / semi-transparent | ca 200 g |
| | | Tools | | | |
| <input type="checkbox"/> | 43 | Wire stripper suitable for AWG 28 wires | Amazon | | |
| <input type="checkbox"/> | 44 | Ferrule crimper suitable for 0.5 mm ² ferrules | Amazon | | |
| <input type="checkbox"/> | 45 | Soldering iron & solder | Amazon | | |
| <input type="checkbox"/> | 46 | Screw drivers for M2 and M3 (cross and flat head) | | | |
| <input type="checkbox"/> | 47 | Allen keys for M5 & M3 | | | |
| <input type="checkbox"/> | 48 | A saw for aluminium profiles | | | |