

	#	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 with 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 (Coiled cable protection)	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 8MP Auto Focus Camera Module, drop-in replacement for Raspberry Pi V2 Camera	Uctronics	SKU: B0182	1
		Positional 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 16 mm screw, button head, hex socket, black			3
<input type="checkbox"/>	35	M5 x 16mm bolt, hex head			5
<input type="checkbox"/>	36	M5 x 20mm bolt, hex head			1
<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
<input type="checkbox"/>	41	M5 x 11 mm, button head, hex socket, black			6
		Plastic for the 3D printer			
<input type="checkbox"/>	42	PLA filament, matte black	3Dprinthings	Matteforge Pro Filament PLA 1.75 mm, black	ca 1.5 kg
<input type="checkbox"/>	43	PLA filament, milky white	Amazon	Sunlu, PLA+, 1.75 mm, milky white / semi-transparent	ca 200 g
		Tools			
<input type="checkbox"/>	44	Wire stripper suitable for AWG 28 wires	Amazon		
<input type="checkbox"/>	45	Ferrule crimper suitable for 0.5 mm ² ferrules	Amazon		
<input type="checkbox"/>	46	Soldering iron & solder	Amazon		
<input type="checkbox"/>	47	Screw drivers for M2, M2.5 and M3 (cross and flat head)			
<input type="checkbox"/>	48	Allen keys for M5 & M3			
<input type="checkbox"/>	49	A saw for aluminium profiles			
<input type="checkbox"/>	50	Superglue	any would do		
		Optional			

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<input type="checkbox"/>	51	Ethernet cable	Amazon		1 cable, the length will depend on the distance between the robot and ethernet port. we strongly recommend using flat ethernet cables to enable closing incubators door