

Class 1MCT3
 First Name: Yngwie
 Name Verstraete
 Project Name : MAG (Miniature Automatic Greenhouse)
 Assembly Revision : _____
 Approval Date : _____
 Part Count : 21
 Total Cost : €220



Part #	Part Name	Description	Revision	Qty	Supplier	also available from	Units	Unit Cost	Max Cost	Real Cost
1	RASPBERRY PI 4B/4GB	The main controller for this project.	1	1	Digi-key	reichelt	1	€ 62,06	€ 62,06	
2	PI T-Cobbler PLUS	T-Cobbler Plus is an add-on prototype board.	1	1	kiwi-electronics	reichelt	1	€ 9,92	€ 9,92	
3	Capacitive Soil Moisture Sensor	Measure the moisture of the soil near the plants.	1	4	banggood	Digi-Key Electronics	4	€ 6,53	€ 26,14	
4	DEBO DHT 11	Measure the temperature and humidity in the air at the top of the conservatory.	1	1	reichelt.com	Banggood	1	€ 1,78	€ 1,78	
5	LM35DZ / NOPB	A One-wire sensor for measuring the temperature at the bottom of the greenhouse.	2	1	Digi-key	Antratek	1	€ 2,17	€ 2,17	
6	Machifit QR30E Ultrastil Mini Brushless Pump DC 12V	Pump water per plant if the soil moisture is too low.	2	4	banggood	grandado	4	€ 5,24	€ 20,96	
7	Water level switch	Measure the water level in the reservoir.	2	1	HobbyElectronica	banggood	1	€ 2,45	€ 2,45	
8	3pcs DC 3V Watering Small Water Pump Silent Mini Water Cooling Water Pipe	Water tubes for the submersible pump.	2	2	banggood	alexnlid	1	€ 3,55	€ 7,10	
9	Arduino - 5V Relaismodule	Relays for the pumps.	2	4	HobbyElectronica	Banggood	4	€ 1,45	€ 5,80	
10	Water reservoir	Water reservoir from which the pumps pump their water.	2	1	Multi Bazar	Banggood	1	€ 8,49	€ 16,80	
11	SunFounder IIC I2C TWI 1602 Serial LCD Module Display for Arduino R3 Mega 2560 16x2	Displays the IP address.	1	1	Amazon	Digi-Key Electronics	1	€ 7,99	€ 7,99	

12	MCP3008	Used to control the sensors via SPI.	2	1	kiwi-electronics	Amazon	1	€	3,50	€	3,50
13	Solid round bar of iron Ø 4mm 100cm	Metal frame to position the DHT11 and make the layout clear.	2	1	Multi Bazar		2	€	1,05	€	1,05
14	JéWé firing solid carpentry panel 18mm 85X40cm	Bottom of the housing.	2	1	Multi Bazar		1	€	11,95	€	11,95
15	JéWé firing solid carpentry panel 18mm 115X20cm	Edges of the housing.	2	3	Multi Bazar		3	€	5,90	€	17,70
16	Universal AC - DC Adapter - 12 V	Supply the pumps with power.	2	1	Allekabels	Banggood	1	€	8,99	€	8,99
17	Aquaplan roof-tight	Waterproof the compartments for the plants.	2	1	Werkenmetmerken		1	€	13,95	€	13,95
Total			21								€ 220,31

