

List of parts and prices of toilet:

<u>Component:</u>	<u>Details:</u>	<u>Price:</u> (without tax)	<u>Source:</u>
Temperature sensor	Two of this component to measure the temperature within the two tanks	Approximately 65\$, 32.50\$ each	https://www.amazon.ca/s?k=temperature+probe&ref=nb_sb_noss (Amazon)
Pressure sensor	Used to make sure tanks and pipes do not explode due to temperature and pressure of expanding substances	Approximately 60\$ for two 30\$ each	https://www.amazon.com/Electronic-Pressure-Sensor/s?k=Electronic+Pressure+Sensor (Amazon)
Stainless steel piping	The diameter will change but overall the price will stay generally the same and it is rounded up anyway	About 320\$ worth of piping however this will change based on	https://www.grainger.com/category/plumbing/pipe-tubing-and-fittings/pipe/stainless-steel-pipe (Grainger)
Stepper high torque motors	Two of this component, have to be compatible with motherboard and wiring system	Approximately 90\$ each 180\$ for 2	https://www.moonsindustries.com/c/powerplus-hybrid-stepper-motors-a020102 https://makerparts.ca/products/nema-23-high-torque-stepper-motor?variant=42199699919 (Makerparts)
Pressurized air pumps	Two of this component, for a medium quality air pump this kind will do the job, removing the needed gasses from the digestion tank	Approximately 70\$, 35\$ each	https://www.amazon.ca/s?k=methane+pumps&ref=nb_sb_noss (Amazon)
Water filter for	Not the same build or	Approximately	https://www.irrigation

chemicals and particles	shape of component however the component is the same in its function and the way it works so the price would be similar	ely 50\$ given size and quality of component	global.com/contents/en-us/d20415_Chemical-fluids-discs-filters.html (Irrigation global)
Steel frame	For holding and supporting the entire mechanism	Approximately 120\$	https://www.homedepot.com/p/Husky-6-ft-Adjustable-Height-Solid-Wood-Top-Workbench-G7200S1-US/312383950 (Home depot)
Small Steel supports for components and connections	This is a ballpark estimate for component attachments because prices may vary and amount used it not fully calculated so the price is high balled	About 80\$	https://www.technobotsonline.com/perforated-metal-strip-305x8.75x0.5x3mm-pk-of-5.html (Technobots)
Steel nuts and bolts	About 100 required for connecting components	About 40\$	https://www.homedepot.com/b/Hardware-Fasteners-Bolts-Hex-Bolts/N-5yc1vZc2c0 (Home Depot)
Wires and circuit/ motherboard	Based off simple components although my knowledge is limited in this area but I believe that this price reasonable for the board (Arduino mega) and connecting wires and cords	150\$	https://www.arduino.cc/en/Main/Products (Arduino)
Stainless steel churn	Specialized component, based price off of quality kitchen whisk	About 35\$ based on size and quality	https://www.amazon.ca/s?k=steel+wisk&ref=nb_sb_noss_2 (Amazon)
Welding solder	Lead free, copper or another mix of metals (Tin probably) to make secure connections	About 45 - 55\$ depending on amount	https://www.homedepot.com/b/Tools-Welding-Soldering-Brazing-Soldering-Equipment-

	between the pipes of the system	used	Solder-Solder-Wire/Copper-Pipe/N-5yc1vZ1z18gvgZ1z1a33p?storeSelection= (Home Depot)
Toilet	The system can be sold with and without the toilet. The system is adapted to fit any toilet design	An average toilet can cost around 160\$, however a higher end toilet will cost 250\$ or more	https://www.homedepot.ca/en/home/categories/bath/toilets-toilet-seats-and-bidets/toilets.html (Home Depot)
Double boiler conduction burner	With insolation (like water heater)	Approximately 280\$ based on sizing and cost ratios	https://www.homedepot.ca/en/home/categories/building-materials/plumbing/water-heaters/tank-water-heaters.html?products=&q=:relevance:attributeidwhcapacity:23.0:categoryPathHierarchy:4%252Fhd-classes%252F11-building-materials%252F12-plumbing%252F1011029%252F14-tankwaterheaters19:attributeidwhcapacity:30.0 (Home Depot)
Digestor container,	Based on industrial closed churners/ mixers. includes: steel churners, two motors, the connecting pipes and the outer isolation shell.	About 230\$ based on size and conversion	https://sh-kaiguan.en.made-in-china.com/product/BXLnhHAMnvkV/China-Industrial-Liquid-Mixer-Price-Stainless-Steel-Mixer-Liquid-Mixer.html (Made in China, industrial supplier of chinese made goods)
igniter/spark plug	The electric igniter	About 10\$	https://www.amazon.c

	controlled by the motherboard that will light the first methane and the methane overall within the burning chamber		om/Grill-Igniters/b?ie=UTF8&node=7787972011 (Amazon)
Liquid solid separator	The size is adopted to the price, a single screw design using a motor and a mesh filter strainer.	Approximately 150\$	https://www.made-in-china.com/products-search/hot-china-products/Solid_Liquid_Separator_Price.html https://www.russellfinex.com/en/separation-equipment/liquid-solid-separation/centrifugal-separator/
Rotator airtight lock	Airtight rotating valve for connection between liquid solid separator and digester	36.63\$	https://www.walmart.ca/en/ip/100MM-Stainless-Steel-Electric-Air-Valve-220VAC-Air-Damper-Air-Tight-Type-Ventilation-Pipe-Valve-without-flange/PRD4GH07Q23HEF9 (Walmart Hardware)
Total: 2146.63\$			