

Total cost to build 2 shower filters for one tank is AUD \$1,471.48.

Cost for shower filter #1	AUD Inc. GST	\$509.98
Cost for shower filter #2	AUD Inc. GST	\$509.98
Cost for 1 tank (hood components for 2 shower filters)	AUD Inc. GST	\$46.64
Total Additional Cost (many shower filters can be made from this cost)	AUD Inc. GST	\$124.27
Cost of special tools (once off cost)	AUD Inc. GST	\$280.61
Total cost of high-performance filtration on a large tank (minimum 4 ft. x 18 inches)	AUD Inc. GST	\$1,471.48
Total cost for 2x Fluval FX6 V2 Giant Canister Filters	AUD Inc. GST	\$1,358.00

Comparison of Premium DIY Shower Filter vs. Fluval FX6 V2 Giant Canister Filter

	Premium DIY Shower Filter	Fluval FX6 V2 Giant Canister Filter
Total Cost per filter	\$736/filter if you build 2 filters	\$679 (The TechDen on 18-05-2021)
Total Cost per filter	\$635/filter if you build 4 filters	\$679 (The TechDen on 18-05-2021)
Noise Level	Noisy	Quiet
Risk of Leaks	Higher if filter is not well built	Minimal
Internal capacity	~26 lt. (15.8 lt. + 5.1 lt + 5.1 lt)	20 lt.
Pump flow rate (lph)	5,000 lph pump	3,500 lph pump
BioMedia	More (3-4 kg?)	Less (1-2 kg?)
Bulk	Narrow. Takes up less space	Awkward. Takes up more space
Accessibility/Ease of Maintenance	Easy	Cumbersome
Oxygenation	Extreme	Moderate
Customisation	Extreme (e.g., BYO pump)	Moderate
Mulm breakdown	Pulverised. Biomedica remains clean	Builds up inside filter

Per Filter Parts List (pricing as at 15-05-2021)

Item	Description	Source	Qty	AUD Unit Cost	AUD Total Cost
Lustroware 15.8L Bin/Receptacle White	Made in Japan from quality, well-finished plastic.	Howards Storage World https://www.hsw.com.au/ Call or go instore as this item is not listed on their website.	3	\$29.95	\$89.95
Grey DIN Tank Fitting (Bulkhead) 25mm	25mm bulkhead	New Life Aquarium, Keysborough	1	\$15.00	\$15.00
Grey DIN UPVC Pipe 1m x 25mm	1m of 25mm UPVC pipe	New Life Aquarium, Keysborough Sold in 1m lengths.	1	\$7.00	\$7.00
Grey DIN 90-degree elbow 25mm	For shower bar.	New Life Aquarium, Keysborough	1	\$2.50	\$2.50
Grey DIN Cap 25mm	25mm end cap for shower bar.	New Life Aquarium, Keysborough	1	\$1.75	\$1.75
DIN Rain Bar 30 cm x 25mm	Shower bar	New Life Aquarium, Keysborough	1	\$5.50	\$5.50
Grey DIN Coupling 25mm	25mm pipe joiner	New Life Aquarium, Keysborough	1	\$4.50	\$4.50
Grey DIN Tank Fitting	40mm bulkhead	New Life Aquarium, Keysborough	1	\$20.00	\$20.00

(Bulkhead) 40mm					
Grey DIN Tee 40mm	40mm T-piece for bottom container.	New Life Aquarium, Keysborough	1	\$11.25	\$11.25
Strainer 40mm	Overflow protection for top most container.	New Life Aquarium, Keysborough	1	\$7.00	\$7.00
Grey DIN 45-degree elbow 40mm	To direct outflow back into tank.	New Life Aquarium, Keysborough	1	\$7.50	\$7.50
Grey DIN UPVC Pipe 1m x 40mm	1m of 40mm UPVC pipe	New Life Aquarium, Keysborough Sold in 1m lengths.	1	\$12.00	\$12.00
Ribbed Flexi Hose 100cm x 25mm	25mm corrugated pipe, 1m long.	New Life Aquarium, Keysborough	1	\$22.00	\$22.00
Garden Rain 25mm Female Tank Access Outlet	Rubber washers bridge the gap between container thickness and the minimum (normally tank glass) thickness required by bulkhead fittings.	Bunnings https://www.bunnings.com.au/garden-rain-25mm-female-tank-access-outlet_p3113886 You only make use of the rubber washers that come with this part.	2	\$6.20	\$12.40
Acrylic Aquarium Fish Tank Glass Cover Clip Support Holder 6 Pcs 8mm	Used to hold Sunlite Polycarbonate lid on top of shower filter. 8mm fits rim of Lustroware container. You only need 4 of these per filter.	Amazon https://www.amazon.com.au/Acrylic-Aquarium-Glass-Support-Holder/dp/B07S1R56PQ/ref=sr_1_1?dchild=1&keywords=8+pcs+fish+tanks+glass+cover+clip+8mm+aquarium+fish+tank&qid=1621259200&s=pets-supplies&sr=1-1 Try to buy them locally such as from DH Aquarium for approximately \$1.50 ea.	1	\$14.63	\$14.63
Up Aqua A-038-5000 5,000 L/H Pump	For pumping water up from tank and into overhead shower filter.	New Life Aquarium, Springvale	1	\$155.00	\$155.00
Mountain Tree Lotus Root bacteria house	You can fit around 17 rods per shower filter in the upper most tray.	DH Aquarium https://www.dhaquarium.com.au/aquarium-filtration Each box holds 24 rods, each measuring 150mm x 40mm.	1	\$90.00	\$90.00
Aquarium Biological filter media bacteria bio ring \$16/kg	About 2 kg is sufficient to fill middle tray in shower filter plus fill some gaps in the upper most tray.	DH Aquarium https://www.dhaquarium.com.au/aquarium-filtration	2	\$16.00	\$32.00
Total Cost for 1 shower filter			AUD Inc. GST		\$509.98

Per Tank Hood Parts List (pricing as at 17-05-2021). Each hood holds 2 shower filters.

Item	Description	Source	Qty	AUD Unit Cost	AUD Total Cost
Zenith 135mm Chrome Plated Round Robe Hook	U shaped mounting bracket for tank hood lid.	Bunnings https://www.bunnings.com.au/zenith-135mm-chrome-plated-round-robe-hook_p3930544 Colour range: Chrome Plated; Polished Brass; Matte Black; Brushed Nickel & Gun Metal.	2	\$11.47	\$22.94
Taskmaster 2mm x 40cm All Purpose Chain	40cm chain for holding open hood lid during tank maintenance.	Bunnings https://www.bunnings.com.au/taskmaster-2mm-x-40cm-all-purpose-chain_p4211328	2	\$2.95	\$5.90

Taskmaster 5mm 316 Stainless Steel Square Eye Plate	U-shaped eye plate for attaching to back of aquarium hood.	Bunnings https://www.bunnings.com.au/taskmaster-5mm-316-stainless-steel-square-eye-plate_p0237890	2	\$6.80	\$13.60
Taskmaster Carabiner 6mm Aluminium	U-shaped locking clip for attaching chain to eye plate on hood. Buy the uncoloured silver metal ones.	Bunnings https://www.bunnings.com.au/taskmaster-carabiner-6mm-aluminium_p4220909 Alternative: Taskmaster 5 x 50mm 316 Stainless Steel Snap Hook - 2 Pack \$5.93 https://www.bunnings.com.au/taskmaster-5-x-50mm-316-stainless-steel-snap-hook-2-pack_p0237922	2	\$1.00	\$2.00
Otter 7 x 20mm Satin Stainless Steel 304 Hinge Screws - 16 Pack	16 screws is exactly how many you need and 20mm is the maximum length you want to go.	Bunnings https://www.bunnings.com.au/otter-7-x-20mm-satin-stainless-steel-304-hinge-screws-16-pack_p0162349 Alternative: Otter 7 x 20mm Polished Stainless Steel 304 Hinge Screws - 16 Pack https://www.bunnings.com.au/otter-7-x-20mm-polished-stainless-steel-304-hinge-screws-16-pack_p0162349	1	\$2.20	\$2.20
Total Cost for 1 tank (2 shower filters)			AUD Inc. GST		\$46.64

One-off parts purchases. Each one is sufficient to build many shower filters.

Sunlite 8 Clear Twinwall Polycarbonate Sheet (1.2m x 0.61m)	For filter lid. One sheet is big enough to make many lids. Also cut to size and use it instead of cover glass on your aquariums.	Bunnings https://www.bunnings.com.au/sunlite-8-1-2-x-0-61m-clear-twinwall-polycarbonate-sheet_p1010852	1	\$22.80	\$22.80
Crescent 150 x 3.6mm Black Cable Ties - 25 Pack	Used for attaching U shaped moulding to egg crate.	Bunnings https://www.bunnings.com.au/crescent-150-x-3-6mm-black-cable-ties-25-pack_p4431120	1	\$2.10	\$2.10
DETA Trunking White 16mm x 16mm 4m Length	Used for lifting egg crate off the base of bottom most container.	Bunnings https://www.bunnings.com.au/deta-16-x-16mm-trunking_p4330857 Use provided hacksaw in store to cut it down to 2x 2m lengths for transport. Alternative but it sits a bit taller (higher) on container base: Brutus 16mm x 2.4m Building Moulding U Mould \$9.30 https://www.bunnings.com.au/brutus-16mm-x-2-4m-building-moulding-u-mould_p1100637	1	\$11.12	\$11.12
Tontine Pre-Packed Wadding 200 gsm (30 mm thick by 122 cm x 150 cm sheet)	Bag of white polyester filter wool for top container in shower filter.	Spotlight https://www.spotlightstores.com/sewing-fabrics/quilting/wadding-batting/tontine-pre-packed-wadding-200g/BP80360364 Stock up when it periodically goes on special for about half-price.	1	\$17.00	\$17.00
Medium coarseness black filter sponge	For top container in shower filter. You want sheets between 1-2cm in thickness.	Try your local Aquarium. Here's a typical example showing right coarseness and thickness: https://www.theaquariumshop.com.au/shop/exd.asp?id=7265&name=Black+Coarse+Bio%2DFilter+Sponge%2FFoam	1	\$10.45	\$10.45
Aquarium Eggcrate White – Eight	This is thinner, cheaper, and less brittle than real egg crate. You need 1 sheet per filter.	The TechDen This is exactly the right product: https://www.thetechden.com.au/products/aquarium-eggcrate-white-60cmx60cm Try your local aquarium shop to obtain single sheets.	1	\$18.95	\$18.95

30cmx15cm panels					
Anti-Slip Foam Matting 1m long x 70cm wide x 6mm thick	This anti-slip, shock-absorbing and insulating mat provides padding between shower filter and top of aquarium hood.	Clark Rubber https://www.clarkrubber.com.au/products/24906p-anti-slip-foam-matting?variant=30920632631350 Smell it before buying to make sure it doesn't stink of rubber fumes.	1	\$24.95	\$24.95
Protek 500ml Type P Clear Solvent Cement	Glue for PVC pipes. Make sure you buy the clear version.	Bunnings https://www.bunnings.com.au/protek-500ml-type-p-clear-solvent-cement_p3140036	1	\$11.45	\$11.45
Protek 250ml Clear Priming Fluid	Cleaning fluid for PVC pipes. Make sure you buy the clear version.	Bunnings https://www.bunnings.com.au/protek-250ml-clear-priming-fluid_p4750123	1	\$5.45	\$5.45
Total Additional Parts Cost (divide this by the number of shower filters you make)			AUD Inc. GST		\$124.27

Tools (pricing as at 15-05-2021)

Item	Description	Source	Qty	Unit Cost	Total Cost
Lenox 25mm Speedslot Bi-Metal Hole Saw	For 25mm bulkhead in bottom container (water intake). Use with Arbour 5L. US size?	Bunnings https://www.bunnings.com.au/lenox-25mm-speedslot-bi-metal-hole-saw_p6350230	1	\$24.99	\$24.99
Lenox 29mm Speedslot Bi-Metal Hole Saw	For drilling middle and top containers to accommodate 25mm PVC pipe. Use with Arbour 5L. US size 1 1/8".	Bunnings https://www.bunnings.com.au/lenox-29mm-speedslot-bi-metal-hole-saw_p6350231	1	\$25.99	\$25.99
Lenox 40mm Speedslot Bi-Metal Hole Saw	For 40mm bulkhead in bottom container (water outflow). Use with Arbour 6L. US size?	Bunnings https://www.bunnings.com.au/lenox-40mm-speedslot-bi-metal-hole-saw_p6350234	1	\$28.49	\$28.49
Lenox 44mm Speedslot Bi-Metal Hole Saw	For drilling top container to accommodate 40mm PVC pipe. Use with Arbour 6L. US size 1 3/4".	Bunnings https://www.bunnings.com.au/lenox-45mm-speedslot-bi-metal-hole-saw_p6350236 Website incorrectly lists size as 45mm.	1	\$28.99	\$28.99
Lenox 51mm Speedslot Bi-Metal Hole Saw	For drilling through aquarium MDF hood to accommodate 25mm bulkhead. Use with Arbour 6L. US size?	Bunnings https://www.bunnings.com.au/lenox-51mm-speedslot-bi-metal-hole-saw_p6350237	1	\$29.99	\$29.99
Lenox 60mm Speedslot Bi-Metal Hole Saw	For drilling through aquarium MDF hood to accommodate 40mm bulkhead and for the two adjoining holes in base of middle container to fit 40mm UPVC Tee. Use with Arbour 6L. US size?	Bunnings https://www.bunnings.com.au/lenox-45mm-speedslot-bi-metal-hole-saw_p6350236	1	\$31.99	\$31.99
Lenox 5L Snap-back Arbor	Drill bit for use with 25mm and 29mm hole saws.	Bunnings https://www.bunnings.com.au/lenox-5l-snap-back-arbor-holesaw_p6350254	1	\$34.49	\$34.49
Lenox 6L Snap-back Arbor	Drill bit for use with 40mm, 44mm, 51mm and 61mm hole saws.	Bunnings https://www.bunnings.com.au/lenox-6l-snap-back-arbor_p6350256	1	\$52.99	\$52.99
Trojan Scraper Blades - 10 Pack	You only need 1 razor blade. Use it to trim plastic edges roughened by drilling.	Bunnings https://www.bunnings.com.au/trojan-scraper-blades-10-pack_p0191109	1	\$5.25	\$5.25

Fine Sandpaper	1 sheet of very fine grit (higher than 240G) to finish off sanding.	Bunnings Probably checkout one of these: Flexovit 230 x 280mm 800 Grit Wet And Dry Sanding Sheet \$1.25 https://www.bunnings.com.au/flexovit-230-x-280mm-800-grit-wet-and-dry-sanding-sheet_p1210483 Flexovit 230 x 280mm 600 Grit Wet And Dry Sanding Sheet \$1.25 https://www.bunnings.com.au/flexovit-230-x-280mm-600-grit-wet-and-dry-sanding-sheet_p1210481	1	\$1.25	\$1.25
Rocket Mouse Sander	Used to hold Rocket 240G Mouse Sanding Sheet.	Bunnings https://www.bunnings.com.au/rocket-mouse-sander_p1661072	1	\$10.96	\$10.96
Rocket 240G Mouse Sanding Sheet - 5 Pack	For initial, rougher sanding of cut UPVC pipes.	Bunnings https://www.bunnings.com.au/rocket-240g-mouse-sanding-sheet-5-pack_p1661076	1	\$5.23	\$5.23
Total Cost of Special Tools (divide this by the number of shower filters you make)			AUD Inc. GST		\$280.61

Other needed tools it's assumed you already have or can borrow:

- Phillips head screwdriver, medium sized.
- Heavy duty cutting knife.
- Power drill with a range of drill bits.
- Ruler and/or tape measure.
- Marking pen (texta).
- 1 pair of disposable gloves.
- Band-aids (optional).















































