

WASHaLOT 3.0 Technical Details

Overview

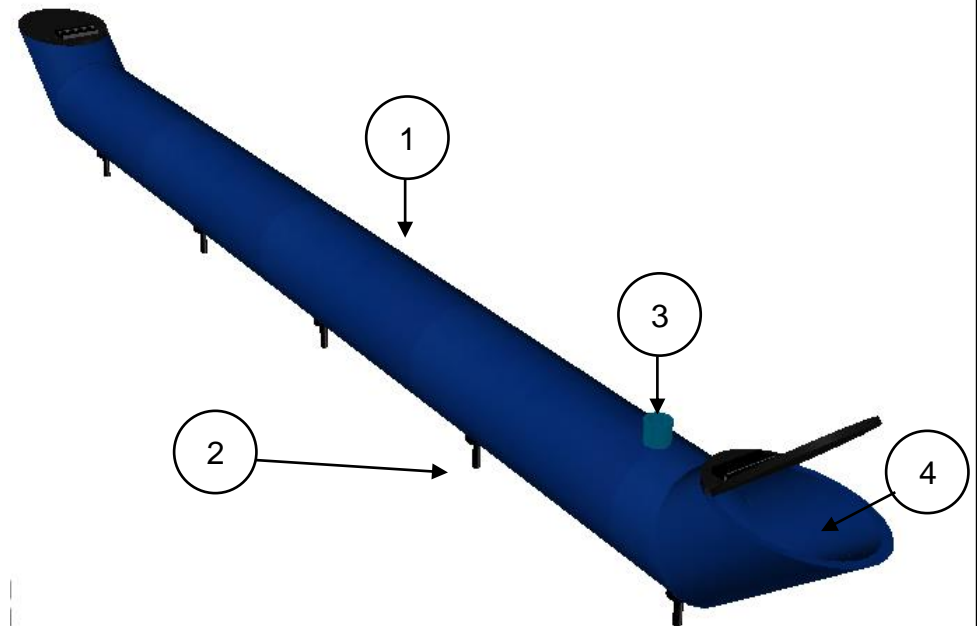
The WASHaLOT is a design of a group hand washing facility that allows simultaneous hand washing and accommodating large number of users at the same time. The WASHaLOT 3.0 is the third iteration of the WASHaLOT technology that uses High Density Polyethylene pipe as the main water carrying vessel with mechanically operated water outlets made from stainless steel to dispense water to be used for hand washing.

Bill of Materials

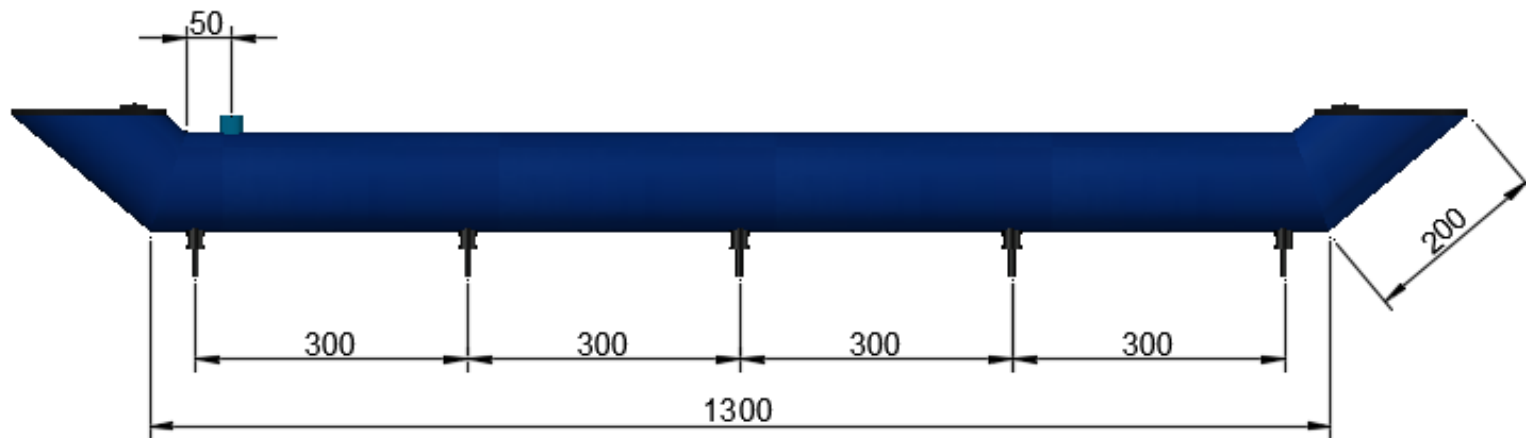
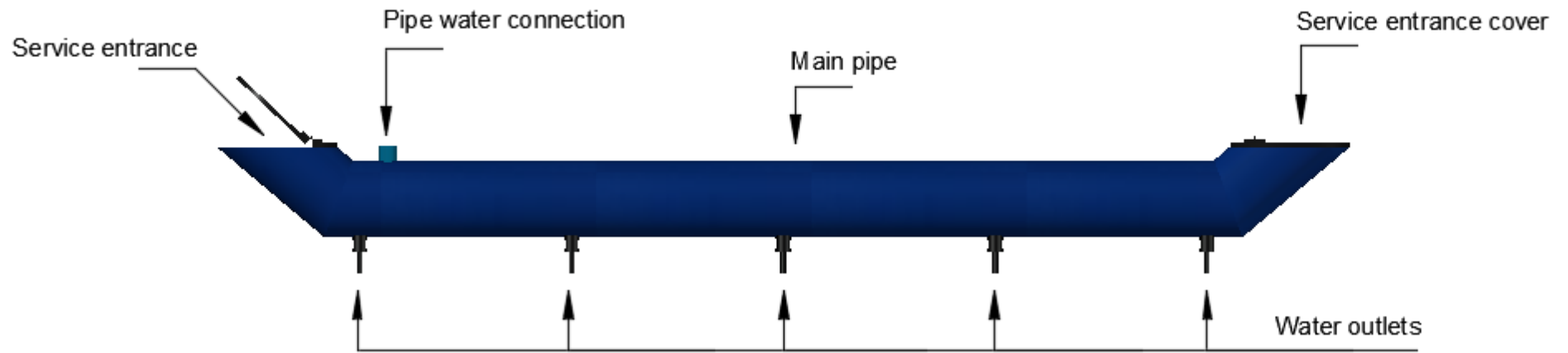
Item	Qty	Unit
Materials for production		
110 mm HDPE pipe SDR 17	1.7	Meter
1/2" Stainless nipple feeder NPT-1/2 thread	5	Pcs
1/2" Female adaptor (connection to pipe water)	1	Pc
HDPE plate (LxWxT) 11cm x 17cm x 0.6cm	2	Pcs
PE rod (plastic welding)	0.3	meter
Stainless hinge 5cm x 3cm	2	Pcs
Teflon Tape	2	Rolls
5/32" x 1/2" Rivet and washers	8	pcs
Additional material for each WASHaLOT 3.0 package		
Circular brush 4" dia as cleaning tool	1	Pc
Vinyl stickers 12" x 12"	4 colors	Pcs
1/2" Stainless nipple feeder NPT-1/2 thread (spare)	2	pcs
4" rubber lined pipe clamp with M10 nut head (Pipe – Leg connection)	2	pcs

Features

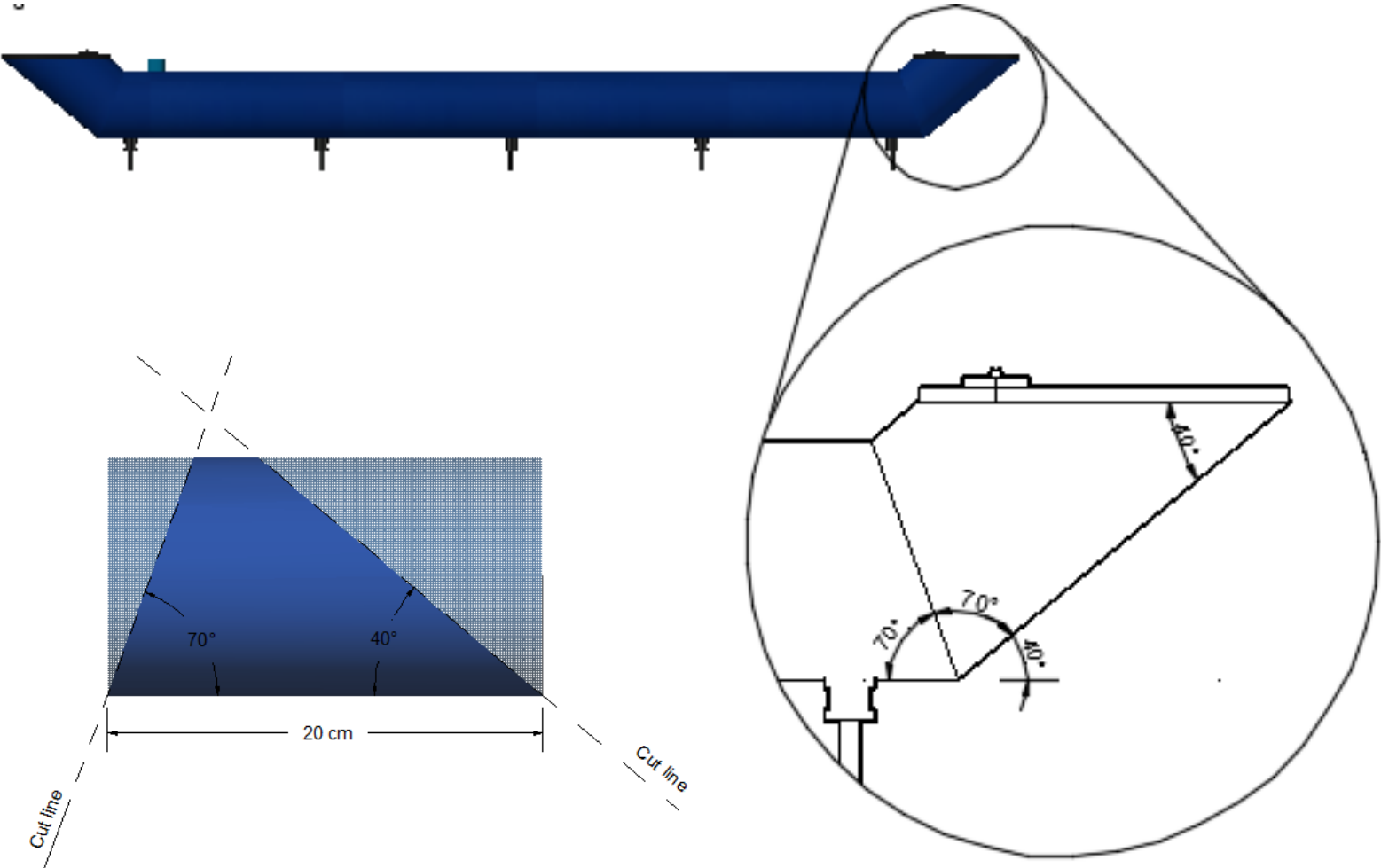
- 1 Main pipe as water storage with capacity of 12 liters or 60 handwashing events
- 2 Water saving and automatically closing valves as water outlets minimizing water usage
- 3 Can be connected directly to existing pipe water supply
- 4 Wide opening at both ends for manual refilling and service maintenance
- 5 Portable design. Can be stored for safekeeping



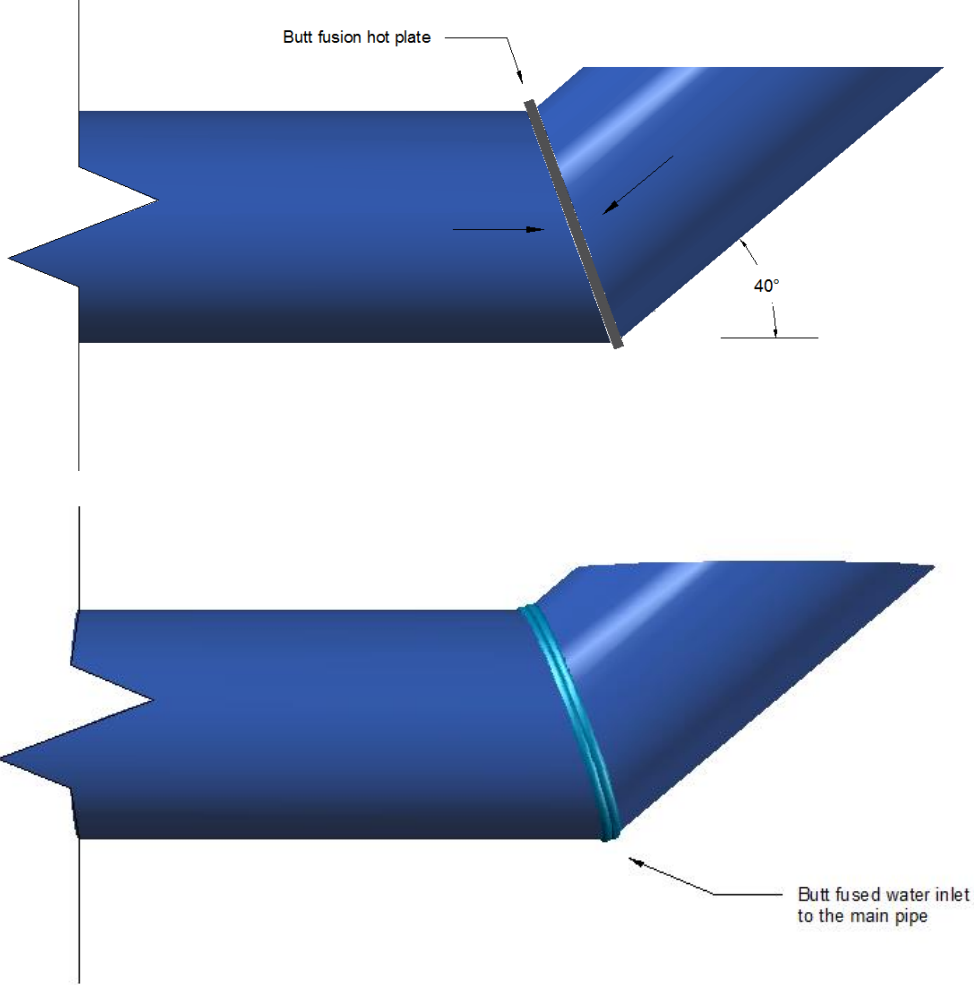
Parts and Dimensions



Detail on the angled connection of HDPE



Butt fusion of angled connection

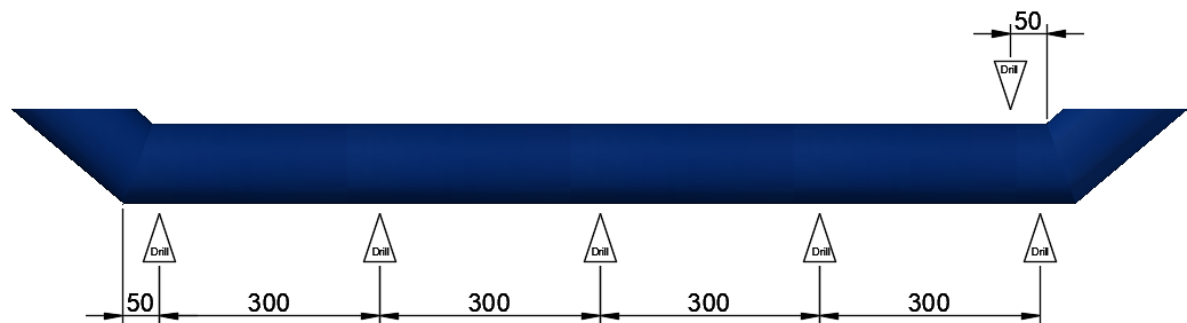


Detail on drill and tap points for the water outlets

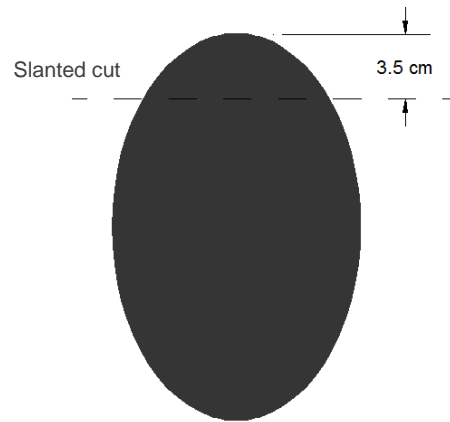
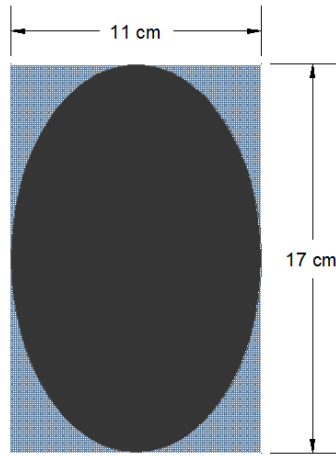
GIZ will provide the contact of the supplier that passed quality assurance testing and certification. For reference purposes, bidders can check the link bit.ly/stainlessnipplefeeder to come-up with cost estimate on the cost of the nipple feeder. Alternatively, bidders can use the cost of locally available 1/2" stainless nipple feeders with NPT – 1/2 Thread.

Note:

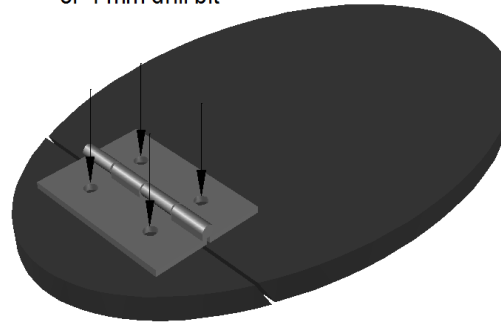
- Use 45/64" or 18 mm drillbit for drilling the holes.
- Use 1/2 – 14 NPT tap size



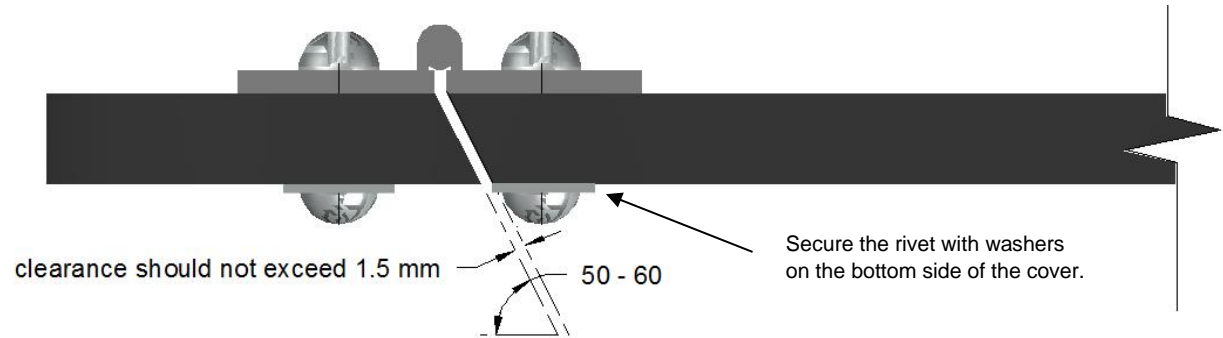
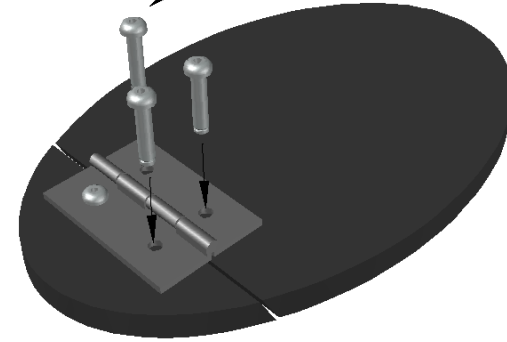
Details of the Water inlet cover



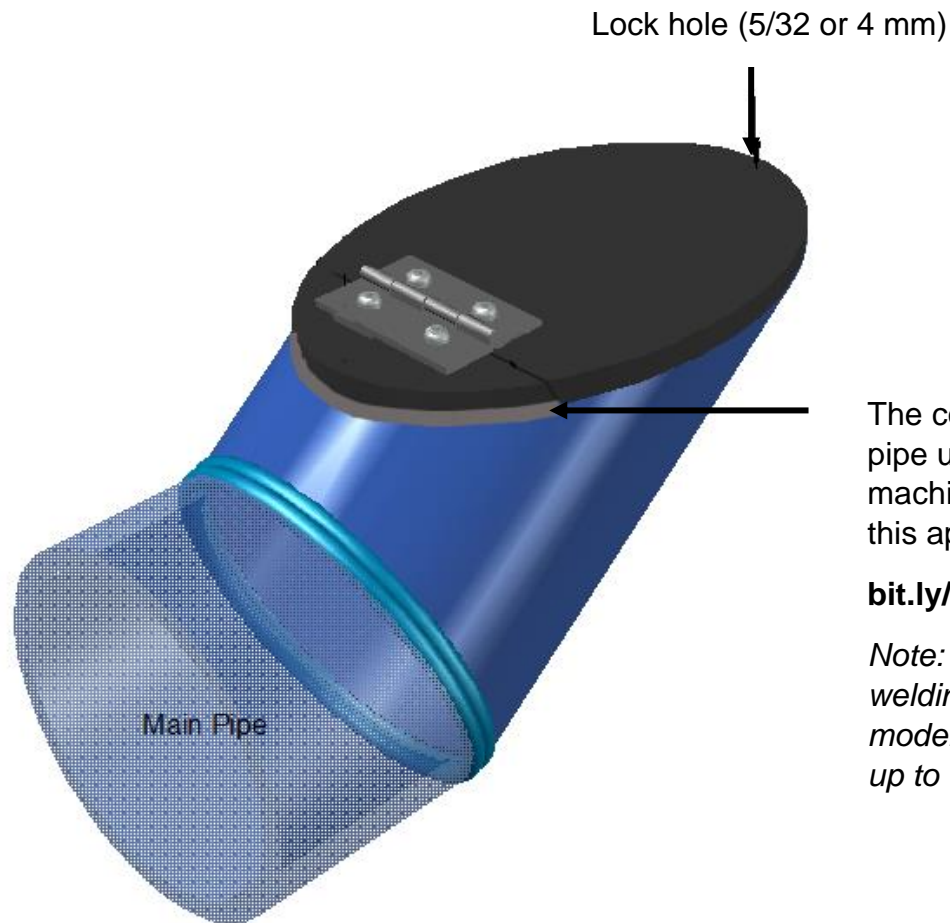
Drill holes using 5/32" or 4 mm drill bit



5/32" x 1/2" rivets



Fixing the Cover to the WASHaLOT



The cover should be plastic welded onto the pipe using hot extrusion plastic welding machine. For information on plastic welding for this application, visit this link

bit.ly/plasticwelding

Note: we only recommend the process of plastic welding using hot extrusion. The brand and model of the machine to carryout the process is up to the producer.

Recommended processes in mass production of WASHaLOT 3.0

The processes and equipment below are recommended to ensure replicability of the WASHaLOT 3.0 produced and also making sure the quality of WASHaLOT 3.0 produced.

Aspect of production	Recommended equipment to be used
Cutting of HDPE pipes (110 mm) to desired lengths and angles	Cutt-off saw with capacity to do angled cutting of up to 70°
Butt fusion of short pipe and long pipe	Angled butt fusion machine that can butt fuse 110 mm diameter pipes
Drilling and tapping of holes into the pipe	Automatic or Magnetic drilling and tapping machine (Drill size of 19 mm and tap for NPT – 1/2 threads.
Cutting the covers	CNC machine or water jet cutting machine for making the elliptical shaped covers and a bevel cutting machine for the slant cut
Fixing the cover to the main pipe	Hot extrusion plastic welding machine (handheld)
5/32 drilling and riveting	Electric hand drill and riveter