

Backpack Sluice

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Parts list

QTY	REF#	Dimension	Explanation
1	1	84"	Plastic 3" base width plastic drain gutter. Cut into four 21" sections (jig saw, saber saw works fine). Cut one side wall off each 21" piece.
2	2	6 X 10"	T6060 or better .030" sheet aluminum. Bend into final dimension of 6 X 8 X 1". The 1" lip will be used as the base for the bottom, and the attached classifier on the top.
1	3	4 X 10"	T6060 or better .030" sheet aluminum. Bend into final dimensions of 4 X 8 X 1". The 1" left and right side lip will be used to attach to the stand sides (Ref# 2). Center and cut a 3.8" semi circle into back panel. This will be used to attach to Ref# 4.
1	4	3" X 8'	Flexible 3" plastic accordion dryer venting.
1	5	4 X 10"	T6060 or better .030" sheet aluminum. Bend into final dimensions of 4 X 6 X 2". The 2" wings should be bent at about 30 degree angles to act as a stand, and to focus water flow into dryer venting (Ref 4). Items Ref #3, 4 & 5 together act as a flume to vector and control water flow into the sluice, when water flow/conditions permit.
1	6	4X8X10"	Semi flexible plastic tray. Use exacto knife to cut .75" square hole/matrix out from bottom. This will serve as your automatic classifier. The item attaches to Ref# 2 via 4 wing nuts through hole drilled in top sides of Ref# 2.
1	7	6 X 42"	Indoor/outdoor carpet, closed weave. Cut so grain will be perpendicular to water flow.
4	8	6 X 6"	1/2" grating. Available from Home Depot. Typically sold in rolls for stucco. Direction of grating diamonds should be perpendicular to water flow.
4	9	1/2 X 6"	Wood blocks to act as large riffles. Attach with glue gun directly to item Ref# 7.
4	10	1 X 5"	T6060 or better aluminum sheet. This will act as a tongue to fit between and connect the four primary pieces comprising the sluice. Slightly scoring the center of each tongue will assure a tight fit. Use glue gun to build slots for tongue to fit into. Note end tongue pieces run perpendicular to sluice. Center

tongues run with direction of sluice. Use scrap material from drain gutter to build slots.

- 10 #6 - #10 Wing nuts, bolts and washers to attach assembled sluice, classifier and sluice back to each other.
- 1 X 2 X 54" Duct tape. Take an almost used roll along. Run along length of sluice and across center connection to add strength to assembled sluice.

General Notes

1. Weight is a critical factor, use aluminum for all metal components. It's light weight, and won't rust.
2. 10 wing nuts with bolts and washers are used to assemble sides, back and top mounted classifier. Use stainless, brass etc. as these won't rust.
3. Use a glue gun to attach wood blocks to indoor/outdoor turf.
4. Make certain the "grain" of the indoor/outdoor turf is perpendicular to the water flow.
5. Ref items 2, & 5 can all be cut from one larger piece of 10 X 28" sheet aluminum.
6. Collapsible plasticized nylon bucket (available at REI) is used to augment/replace water flow from flume attachment (Ref# 4) if inadequate water flow. Also used to pour water into top of classifier to force anything .75" through matrix in bottom of classifier and into sluice.
7. Use duct tape to attach dryer venting to the water intake (Ref# 5) and the back (Ref# 3) of the sluice. Ducting is stretchable about 8' up stream to improve water flow into sluice.
8. Remove all duct tape prior to taking apart and repacking sluice.
9. It takes about 20 minutes to fully assemble the sluice.
10. Sluice fits into a 12 X 12 X 21" stuff/compression sack available at most outdoors stores.
11. Weight of the sluice box, including all associated parts and hardware is about 8 lbs.
12. Back of sluice is partially open to augment water flow with Collapsible bucket, if needed.

Figure 1 of 2, Assembled View

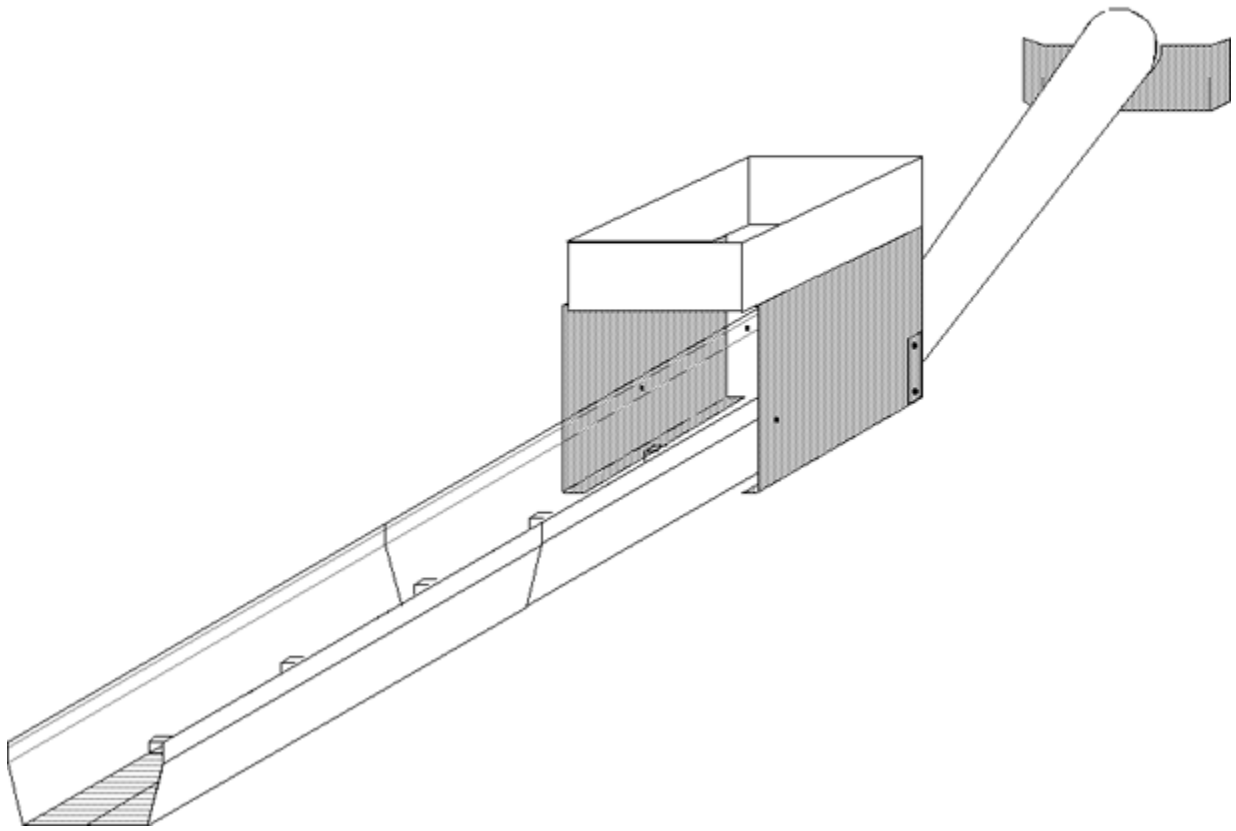


Figure 2 of 2, Exploded View

