

TECHNOLOGY INFORMATION SHEET

Turbine Tank Design for Venturi-Enhanced Turbine Technology (VETT)

TURBINE TANK DESIGN

For larger flow projects a turbine tank is required to guide flow from upstream into VETT with minimum hydraulic loss whilst housing the turbine and fish screens. The design of the tank must be sufficient to prevent free-surface vortices or cavitation in the turbine.

The turbine tank is manufactured in concrete and can be positioned into the riverbank or directly into the watercourse, as per the requirements of the site.

TURBINE TANKS DIMENSIONS

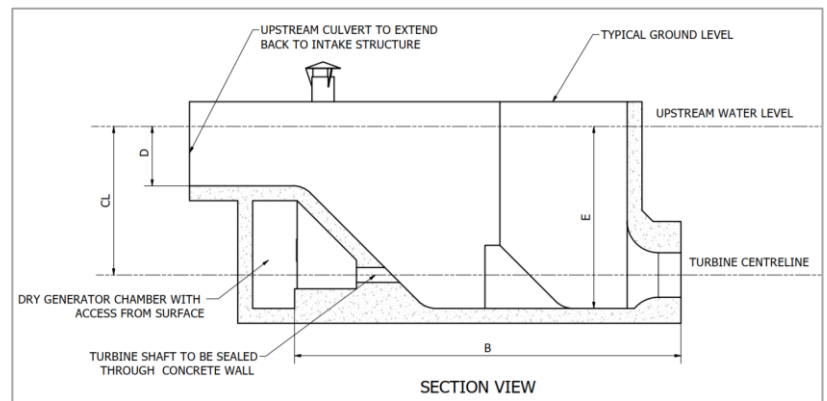
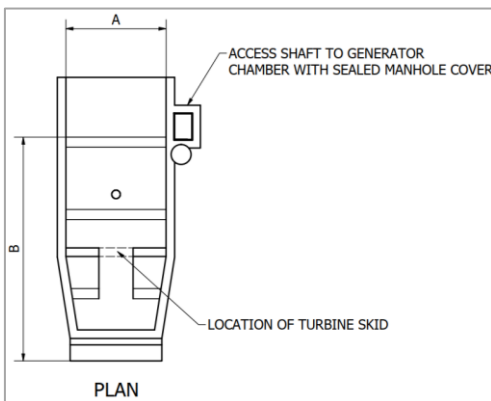


Figure 1: Plan schematic of Turbine Tank

Figure 2: Section schematic of Turbine Tank

The turbine tank is designed for each specific project and its dimension depend on the head and flow parameters of the installation.

An example of some typical tank dimensions is provided for below. For run-of-river projects, each tank can be designed for up to 15m³/s and tanks can be installed in parallel for projects with very large flow rates.

Flow Rate (m ³ /s)	Head (m)	Installed Capacity (kW)	Tank Dimensions (m)				
			A	B	CL	D	E
5	3	75	3.0	6.0	3.0	2.0	3.7
6	5	150	3.0	9.0	6.2	2.0	6.9
9	4	170	3.7	9.0	5.0	2.0	5.8
12	4	230	4.3	9.9	5.0	2.0	6.0

Table 1: Typical tank dimensions for a VETT installation

TANK VISUALISATIONS (RENDERS)

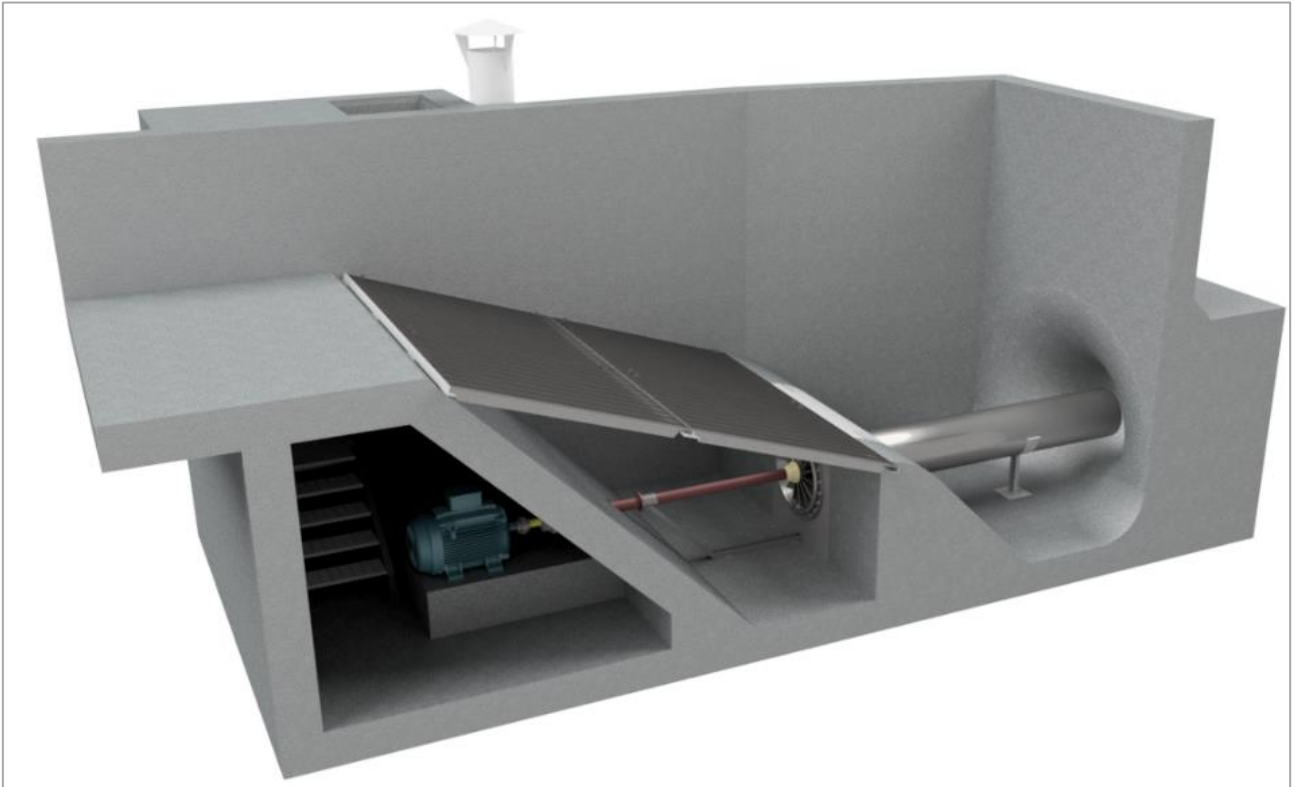


Figure 3: Rendered image of Turbine Tank complete with turbine and fish screens

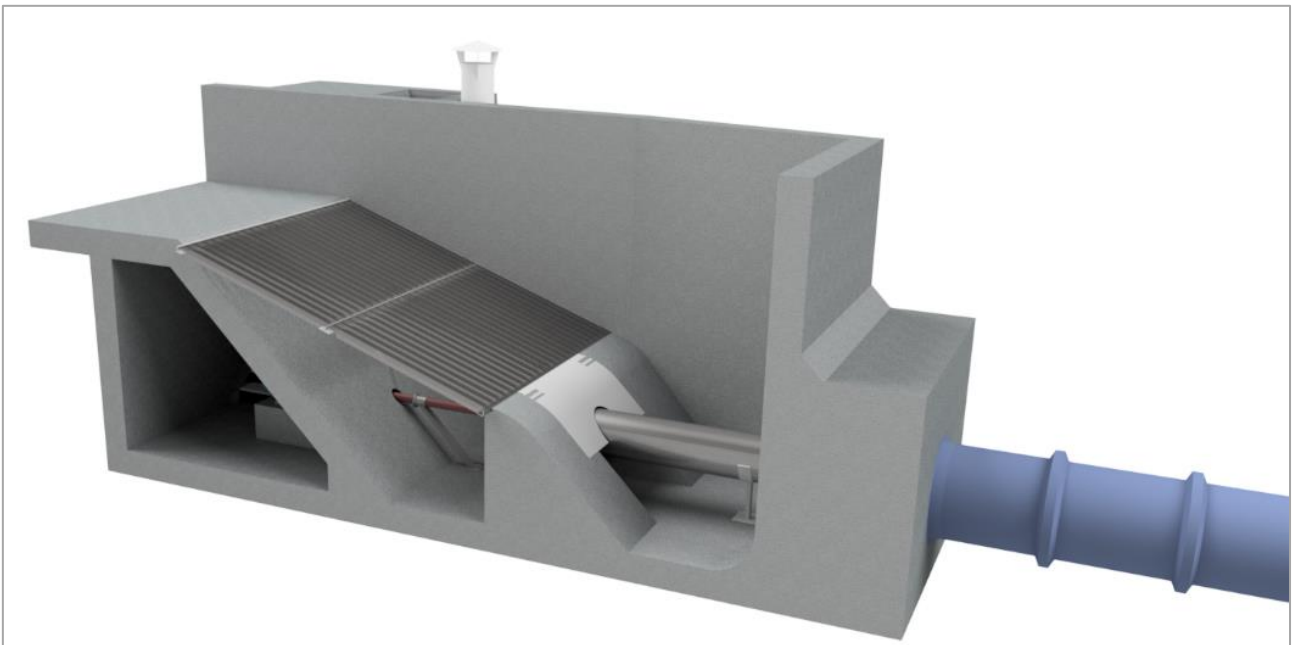


Figure 4: Rendered image of Turbine Tank complete with turbine and fish screens