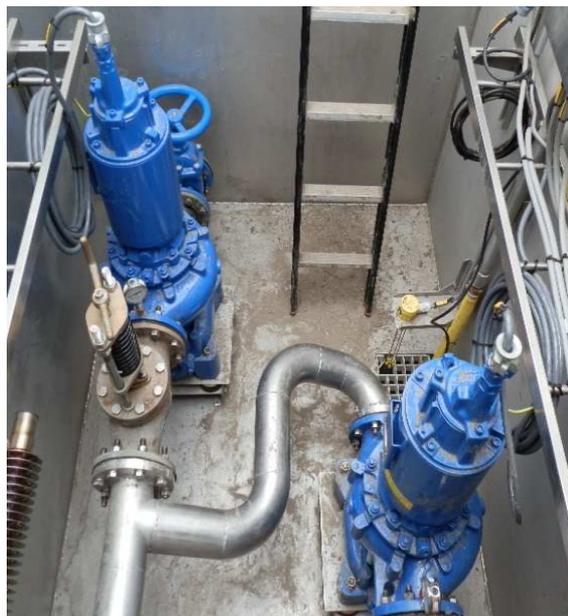


Fish Lift Lage Broekpolder Delft

Application market	Construction
Market segment	Dewatering & Drainage Flood Control Fish & Aquaculture
Pumped medium	Sweet water
Pump product	Immersible
Country	Netherlands



Challenge

Fish migrations to the mainland and back to the sea are often restrained by polders and the associated pumping stations. The endangered, full-grown eel migrates mainly from spring to early summer towards the sea and return to their spawning grounds in the huge Sargasso Sea, a maritime zone in the Atlantic east of North America. In winter, the young glass eels migrate back inland. Reliable, fish-friendly solutions are required to not obstruct fish migration (in both directions) and not to further endanger the fish population.

Solution

The polder is emptied towards the sea by two fish-friendly Hidrostal Screw Centrifugal Pumps type H12K with large free passage. The fish use the flow generated during emptying to continue on their way. However, this only works when the drain pumps are operating and only in one direction. For fish migration in both directions, a bypass system was installed in parallel. This pipeline connection with valves at the inlet and outlet functions like a locking system. For the transfer from the sea to the mainland, the fish are pulled-in from the sea by an artificial stream acting against the swimming direction of the fish. This stream is made with two smaller Hidrostal Screw Centrifugal Pumps where the fish does not go through these pumps, but pass exclusively via the pipe connection. The fish swim into the bypass, the valve on the sea side closes, the previously closed valve on the polder side opens and the fish migrate into the polder.

Benefits

The glass eel can easily pass the fish lift and finds a habitat for growing up in the polders. This fish lift system is used at many other locations, where twenty more pumps type D100-S and with the same function are used.

Quantity of units sold	2
Pump type	D100-S01 + DEYS4-M
Motor data	4 kW / 4 pole / 50 Hz / 400 V
Material combination	Cast iron pump body and wear parts with ductile iron impeller
Duty point	Flow : 25 litres per second / Head : 4.5 meters (at shaft speed 1'410 rpm)
In operation since	2015