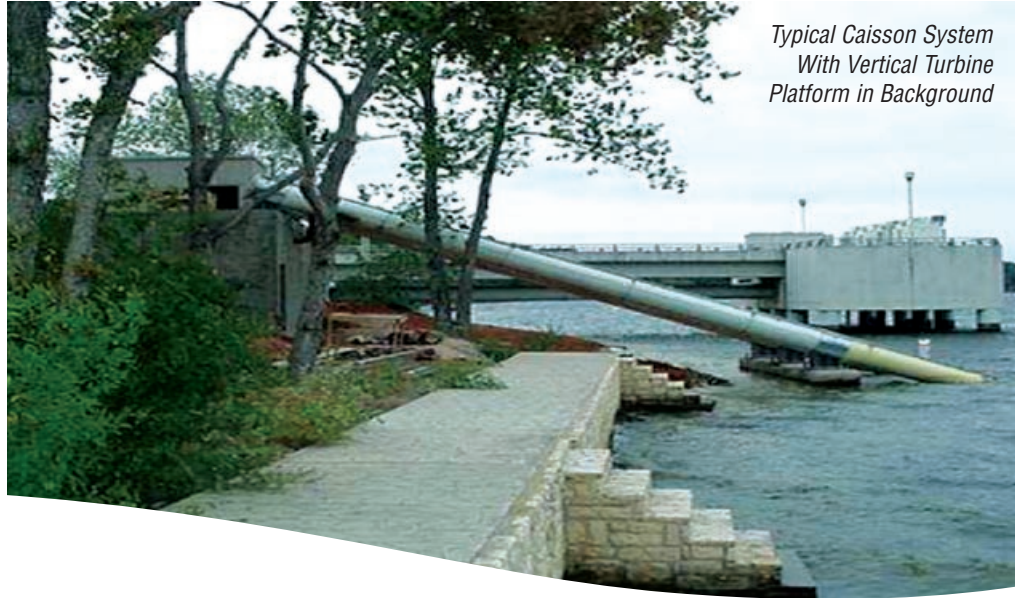




# Submersible Incline Pumps

for Surface Pumping Applications

*Flowserve incline pumping systems are ideal for lake, river, open-pit and quarry surface pumping applications.*



*Typical Caisson System With Vertical Turbine Platform in Background*

Flowserve submersible incline pumps are a proven reliable and cost-effective alternative to vertical turbine pumps for lake, river, open-pit mine and quarry pumping applications. Unlike the vertical turbine pumps, the submersible incline pumps do not require building a structure for operation.

A submersible incline pumping system is a multistage centrifugal pump with the advanced technology of Flowserve submersible motors which can be mounted at an angle on a slope. The unit is guided into place on a rail system or intake caisson and then extended out into the body of water.

Incline pumps significantly reduce the overall cost of a water production site from an open body of water since vertical structures are not necessary. The picture above shows a comparison between a vertical turbine installation and a submersible incline installation.

## **Applications**

- Water supply
- Waterflood
- Fluid transfer

## **Submersible Incline Pumps Advantages**

**Easy Installation** – The unit can be installed at virtually any angle from vertical to horizontal.

**Flood Plain Installation** – The system can be installed in an area designated as a flood plain.

**Reliable Operation** – The incline pumps can operate in any environment. The pump design eliminates potential damage from floods or leaks and vandalism.

**Quiet Operation** – The submersible design runs quietly – an important advantage for use in high-density areas.

**Maximum Flexibility** – The Flowserve submersible incline program covers a wide range of modular designed, multistage pumps, allowing maximum flexibility.

**Maintenance Free** – The units are maintenance and trouble free.

**Various Modes** – The incline pumps can operate in various modes: continuous duty, automatic stop-start or continuous variable speed by frequency control.

## Incline Rail System

### Operating Parameters

- Flows to 3410 m<sup>3</sup>/h (15 000 gpm)
- Heads to 550 m (1800 ft)
- Power to 2210 kW (3000 hp)



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