

Small Footprint and Smooth Operation Make Grundfos VSM the Top Choice for the University of British Columbia

The University of British Columbia's (UBC) Department of Earth and Ocean Sciences (EOS) is the largest and most highly ranked earth sciences department in Canada. Since 1974 EOS has been nestled inside the Earth Systems Science Building. However, with students' evolving educational needs there wasn't enough space to accommodate them.

In the new \$57-million laboratory building constructed to LEED (Leadership in Energy and Environmental Design) standards, an advanced mechanical room was required to ensure the building would operate sustainably and efficiently. Stantec Consulting faced the challenge of designing a multi-million dollar system that would adjust to new requirements in terms of flexibility, while maintaining a small footprint. The system, consisting of six layers of piping and 16 pumps, required a specific sequence of installation and had to meet specific seismic mounting and vibration requirements.

The [PACO Vertical Space Miser \(VSM\)](#) pump was chosen for the following reasons:

- Its vertical mount allows the pump to fit in tight spaces and its pull-out design makes for easy maintenance and service without having to disturb the volute, motor or piping.
- It has a double volute design which extends the pump's life cycle and helps reduce radial loads, internal recirculation and turbulence, thus also increasing efficiency.
- With the Francis vane impellers and contoured suction vanes, the [VSM](#) provides high efficiency.
- The design of the [VSM](#) already incorporates the turns in pipe at suction and discharge points (which is usually a part of a standard vertical inline install) and the product is still comparable in efficiency or in some cases higher. This was a major factor

TOPIC:

PACO Vertical Space Miser (VSM)

LOCATION:

Vancouver, British Columbia

COMPANY:

University of British Columbia's (UBC) Department of Earth and Ocean Sciences

in the selection process. The design means the **VSMS** product is more efficient with all the pipe turns at suction and discharge included, versus a standard vertical inline pump.

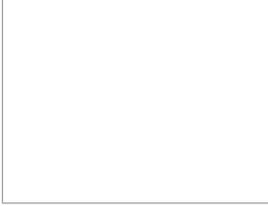
- The **VSMS** pumps are built with a ductile iron casing and have a built-in ductile iron pump base versus cast iron. This feature increases the longevity of the pump substantially. Also, this material of construction does not change the flange rating, which remains a 150LB ANSI connection.

- Same-size suction and discharge connections simplify piping and make it easy to install. Since the new building was designed to be independent from the UBC's distribution system, it will be able to take heat from that system when there is excess, or contribute heat into the loop. It will also have the ability to optimize either electrical or gas power by shutting down the heat recovery chillers to run the boilers if electricity prices climb higher than gas prices.

The **VSM** has proved to be the perfect solution because of its compact footprint which fits the requirements of the small mechanical room. Also, the rigid and reliable mounting service met seismic readiness requirements due to the low turbulence of the pump.

Ever since the installation of the **VSMs** in 2011 they have been running perfectly without a single issue, not even a mechanical seal failure to date. The new Earth Systems Science Building opened its doors in November 2012 and in addition to the EOS department, it houses the Department of Statistics, the Pacific Institute of Mathematical Sciences, the Dean of Science and the Pacific Museum of Earth.

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Vertical Space Miser Pumps