

VBI



B-R Controls Pty Ltd

OSCILLATION

OSCILLATION PTY LTD

The **VIRTUAL BED INTERFACE®**, **VBI®**, is a bed level device developed by Oscillation Pty Ltd, to operate in the most demanding applications.

It operates on the probe diver principle, by lowering a turbidity probe into the bed of thickeners, settlers & washers.

The probe can be customised to operate in low process temperature and pressure ranges, 20°C and 2 metres, through to high temperature and pressure, 105°C and 20 metres.

As the probe is lowered two signals are produced. One signal is proportional to probe depth and the second is the active turbidity measurement. Combined, the two signals produce a complete turbidity profile. This provides not only bed depth information, but also vital information on the overall status of the thickener which allows more accurate control of the process.

As detailed in the following pages the VBI gives you a unique opportunity to customise this bed level device for your application including the most severe mineraliferous plants including alumina and nickel as well as sand mining and sewage.

VBI OVERVIEW

The Virtual Bed Interface, VBI, has a main cable drum supported on a metal frame. It is driven by a small motor through externally mounted gear wheels. For extreme applications, all metal parts, including frame, gears and motor come in 316 stainless steel.



VBI CABLE DRUMS

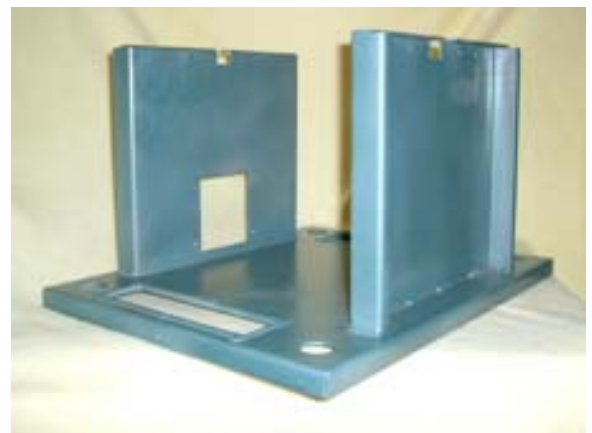
The cable drum is customised to provide for drop distances for 2 metres to 20 metres.

While the drive mechanism and other auxiliaries remain the same the support frame is modified according to drum size.

VBI SUPPORT FRAME

The support frame positions both the cable drum and drive motor. It is easily separated from the cable drum, which greatly simplifies the initial installation.

Typically it is manufactured from 316 stainless steel. For non corrosive environments it is available in powder coated mild steel.



VBI DRIVE MOTOR

The drive motor is also available in either stainless steel or mild steel. In addition to an IP65 rating, the entire VBI is covered with a weather hood to protect it from the elements.

If the probe or cable gets caught in the rake, the motor will stall and initiate a rake stoppage. This will prevent a probe loss.



VBI ELECTRICAL CABINET

This picture details the fully optioned control cabinet, using standard industrial components. It includes a touch screen, panel heater and stainless steel enclosure.

This cabinet can also be optioned down, through the use of a small PLC with integral message display and steel cabinet.

VBI COMPLETE PROBE

The high temperature probe was a critical part of the VBI development. This probe is designed and manufactured by Oscillation.

It is designed to operate continually at 105°C and is tested to 120°C during manufacture. It can be lowered to 20 metres which makes it suitable for high cone thickeners.



VBI CLEANING STATION

The cleaning station is a vital part of the VBI system.

Due to the harshness of the environment the probe is automatically cleaned on the completion of every dive cycle.



CUSTOMISATION

The unique feature of the VBI, is that it couples a very heavy duty industrialised design with the luxury of complete customisation for the application.

By specifying, drop distance, up to 20 metres, temperature range, up to 105°, corrosive environment, using stainless steel or mild steel components, and style of operator controls, the VBI can be tailored to any application including mineraliferous plants including alumina and nickel as well as sand mining and sewage.

SPECIFICATIONS:

CONTROL PANEL

Main Supply: 240 / 110 VAC
PLC controlled
Operator Interface: Touch screen
Optional Panel Heater
Cabinet: 316 stainless steel
Rating: IP65

PROBE

Turbidity probe rated up to 105°C
Signal output 4-20 mA
Accurate to 1 cm
Operating depth: 20 metres

CLEANING STATION

High temperature nylon body
Four spray nozzles