

## Sealless Magnetic Drive Pumps

### Operational Security Options

#### Peace of Mind

The sealless pump clearly offers the ultimate solution to fugitive emission regulation. All pumps, however, can also become operationally sensitive owing to unstable process conditions. Protection is recommended therefore on all applications to alert the operator to system failure conditions, such as cavitation, low flow, dead heading, no flow, empty suction vessel and similar. A range of protection devices is available from Sundyne HMD Kontro Sealless Pumps.

Working in close co-operation with pump users, we have identified the most common areas for concern and have researched the available products that address these issues. The products we supply and recommend have been carefully assessed to ensure they have the same reliability built into them that we, at Sundyne HMD Kontro, have built into the pump.

The diagram overleaf shows all the options available, however, not all these would be used together, and some of these are not available for specific pump models. Please contact Sundyne HMD Kontro for full details concerning your specific requirements.

### HMD Kontro



#### VapourView® Non-Intrusive 'Gas-in-Liquid' Detector

Eliminates the risk of dry running, avoiding costly damage and downtime.

#### Features

- Power Monitoring
- Temperature Sensing
- Flow Direction
- Pressure Differential
- Minimum Flow
- Liquid Detection
- Secondary Control
- Gas-in-liquid Detection

#### Benefits

- Early problem identification
- Reduces call-outs to false alarms
- Conform to most international standards
- Retro-fitting available on many items
- Constant monitoring of pump performance
- All configurations of pump and prime mover catered for
- Protects against operator error
- Easily integrated with new or existing DCS systems.



## Monitoring Devices

### 1. Drive Motor Monitoring - PCM

A microprocessor based, digital load monitor protects against under and overload conditions caused by dry running, low flow, cavitation or magnetic decoupling etc.

### 2. Pressure Containment Shell Surface Temperature Detection

RTD (PT 100) or thermocouple sensors permanently located at the containment shell, monitoring variations of the temperature inside the magnetic coupling.

### 3. Flow And Liquid Detection

Liquid or flow sensor mounted at the suction or discharge connection which will:

- Prevent pump start-up should the pump not be primed, or
- Stop the pump should the system be allowed to run dry.

### 4. Pressure Monitoring

A differential pressure switch is piped across the suction and discharge connections to monitor the performance of the pump. Should the differential pressure across the pump change beyond the limits set in the device, either a warning will be sounded and/or the pump will be turned off so that the cause can be investigated.

### 5. Automatic Recirculation Control

Automatic recirculation valve fitted at, or near to, the pump discharge connection providing a permanent by-pass during pump operation in the event of system flow fluctuations or closed discharge valve, but will not protect against dry running.

### 6. Liquid Sensing Probe

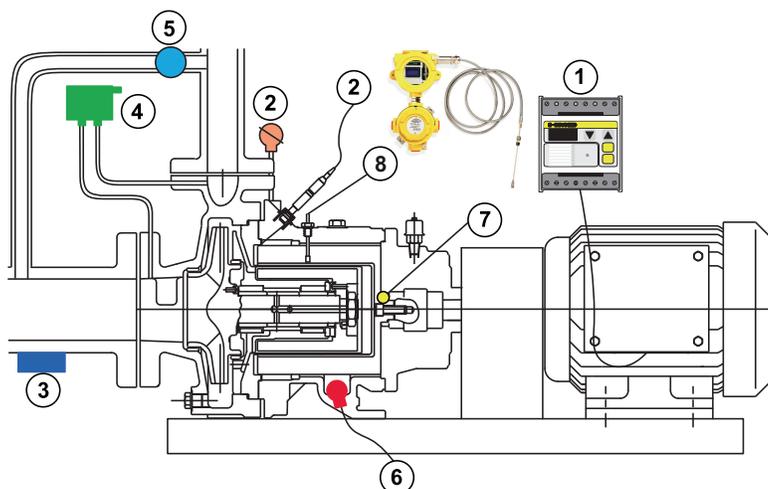
This instrument is usually installed in conjunction with secondary control. It provides an early warning of containment shroud/shell failure before dangerous quantities of product can fill the coupling housing.

### 7. Secondary Control

On some processes the added benefit of secondary control is regarded as essential. Sundyne HMD Kontro is able to provide pumps with secondary control devices to severely restrict any leakage into the immediate locality. Mechanical devices are fitted to the drive shaft assembly that are activated in the unlikely event of containment shroud/shell failure, together with this the pump coupling housing is fitted with gaskets to eliminate any leakage across the joining faces.

### 8. VapourView® Non-Intrusive 'Gas-in-Liquid' Detector

Using an ultrasonic sensor, VapourView® highlights the presence of gas caused by entrapment or cavitation within a process liquid, eliminating the risk of dry running and avoiding costly damage and downtime.



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