

**HYCONTROL**  
LEVEL MEASUREMENT SOLUTIONS



**HYVENT**  
**SILO VENTING FILTER UNIT**

# SILO VENTING FILTERS

**Hycontrol's Hyvent dust collector and filter unit** is specifically designed to vent silos during the filling process without allowing valuable powdered product to escape. Product is filtered from the air during both the conveying period and the air surge at the end of the cycle. The filter is self-maintaining, returning the product into the silo via an automatic reverse-jet pulse cleaning system which utilises compressed air.

This filter unit features the latest technology in conical-shaped filter design. This patented cone shape provides outstanding cleaning efficiency while enabling maximum airflow through the unit, and has the added benefit of an increased life for the cartridges. The filter has a rugged weatherproof construction and is built for safe and simple maintenance.

**Hyvent** has been designed to the latest guidance from the **Mineral Products Association (MPA)** and to meet **HSE** guidelines on the prevention of over-pressurisation of storage silos during deliveries. It complies fully with environmental emission standards and is capable of filtering all types of powders. **Hyvent** forms an integral component of Hycontrol's advanced **SHIELD Lite silo protection system**; this provides the ultimate defence against the dangers of overfilling and over-pressurisation in silos of products like **cement, ash, ready mix concrete, lime, fly ash, GGBS, and many others.**

## FEATURES AND BENEFITS

- ◆ **Low-maintenance reverse jet cleaning**
- ◆ **Conical cartridge technology for greater efficiency**
- ◆ **Latest spun-bonded polyester filtration media**
- ◆ **Reduced dust entrainment with better cleaning separation**
- ◆ **Safe, hinged weatherproof cover with lockable snap hook**
- ◆ **Robust, corrosion-resistant construction**
- ◆ **Simple, fast replacement of filter cartridges**
- ◆ **No scaffolding required for cartridge removal**
- ◆ **21 m<sup>2</sup> or 24½ m<sup>2</sup> (226 ft<sup>2</sup>/263 ft<sup>2</sup>) filter surface area**
- ◆ **Durable 304 Stainless Steel body**
- ◆ **Small silo-top footprint for space-restricted installations**
- ◆ **High filtration efficiency - better than 5 mg/m<sup>3</sup>**



## TECHNICAL SPECIFICATIONS

Filter Reference	Hyvent
No. filter cartridges	6 or 7
Filter area (m <sup>2</sup> )	21.0 (6 cartridges) or 24.5 (7 cartridges)
Filter media (standard version)	Polyester
Nominal duty – normal dusts (m <sup>3</sup> /hr)	850 (6 cartridges) or 1000 (7 cartridges)
Maximum duty – short bursts (m <sup>3</sup> /hr)	1,700 (6 cartridges) or 2,000 (7 cartridges)
Filter velocity – at stated duty (m/min)	0.99
Electrical input options (standard AC)	230/110 V AC – 50 or 60 Hz
Solenoid coil voltage (standard DC)	24 V DC
Filter weight (incl. std packing)	102 kg
Filter weight (unpacked)	92 kg

*\*\*Please note that for special applications the above data may vary.*

The Hyvent unit requires an adequate supply (approximately 11.7m<sup>3</sup>/hr) of clean, dry and oil-free compressed air. Contaminated air will cause malfunction and reduce the life-span of the filter media. Operating pressure for the air supply is 5.0 - 6.0 bar (maximum 6.5 bar).

# PRODUCT HIGHLIGHTS



Uniquely designed, conical-shaped polyester cartridges provide enhanced filter surface area in a compact space.

The design maximises the amount of product returned during air cleaning, resulting in longer filter life.



A powerful, automatically-operated reverse pulse cleaning system is built into the underside of the weatherproof lid.

The compressed air jet purges the filters, allowing free-flowing air and returning valuable product back into the silo.



The heavy-duty weatherproof lid can be locked in both closed and upright positions with a simple sliding bolt mechanism.

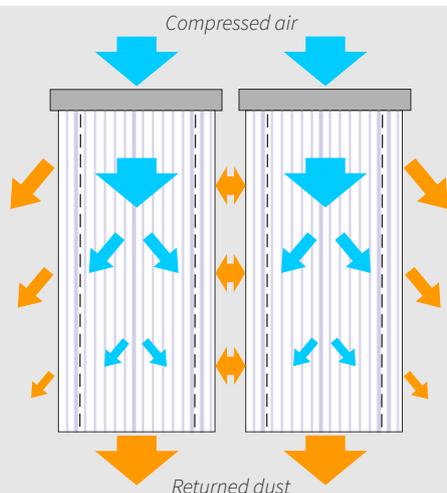
This provides the user with both safety and ease of access when servicing the unit or changing the filtration cartridges.

## CONICAL FILTER CARTRIDGES FOR GREATER EFFICIENCY

The conical cartridges utilised in the Hyvent filter unit offer many advantages over traditional cylindrical cartridge or bag filters due to their compact design, higher filtration efficiency and superior pre-separation of dust. The tapered shape allows increasing separation from top to bottom between the filter elements inside the unit resulting in reduced up-stream air velocities, increased pre-separation and lower dust re-entrainment.

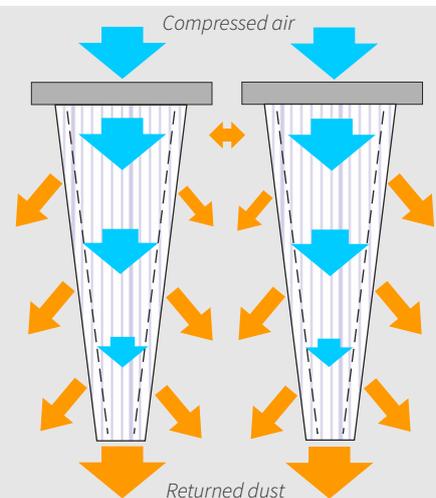
The inner core of the filter elements is also tapered, enhancing the effectiveness of the compressed air jet and giving a more even clean over the length of the cartridge.

As shown in the illustrations below, this unique design means that 82% of the area at the inlet chamber of the filter unit is free, as opposed to a typical 59% when using cylindrical elements. This results in lower upward air velocities at this point, increasing dust separation. These features mean the filter cartridges have a longer functional life and also offer a higher consistency of performance.

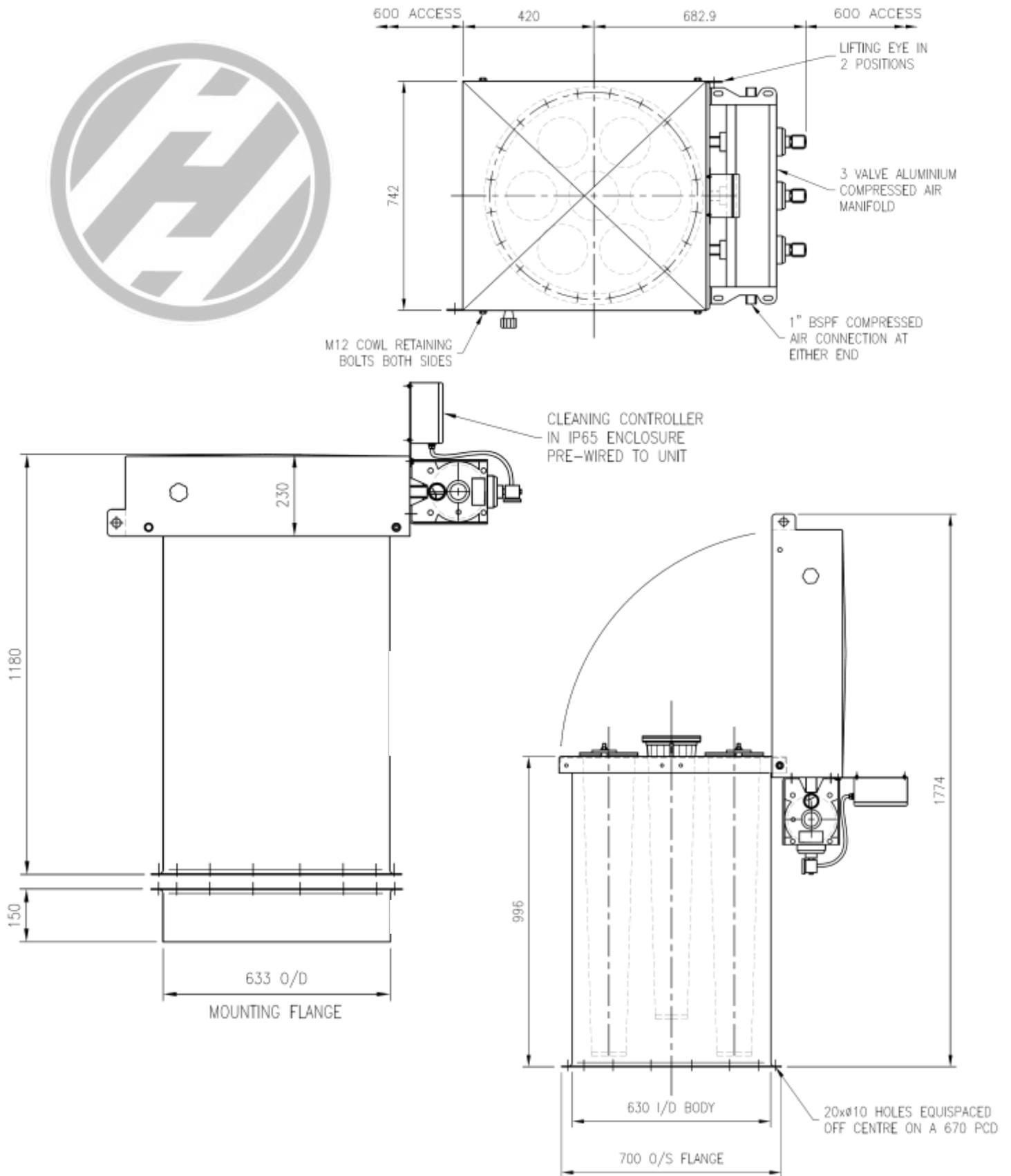


**Left:** Traditional cartridge filters suffer from reduced air flow towards the bottom as pressure is lost. There is also the serious issue of dust re-entrainment between neighbouring filters.

**Right:** The conical shape of the Hyvent filter means pressure is more evenly distributed down the cartridge, maximising product removal. It has the additional advantage of increasing free air space for dust to fall away, significantly reducing re-entrainment.



# PRODUCT DIMENSIONS



# HYCONTROL - THE COMPLETE LEVEL SOLUTION

**Hycontrol has been at the forefront** of level control and measurement technology for over thirty-five years, providing effective solutions for diverse applications across a wide range of industries ranging from quarrying to food; from nuclear power to chemical; and from animal feed to waste recycling. From our manufacturing base in Redditch, Worcestershire, we have been trusted to oversee thousands of applications across the UK and around the world.

At Hycontrol, we pride ourselves on providing a 'complete solution' service to our UK customers. We provide a turnkey solution for level equipment requirements, with the experience and skill to design, manufacture, install and maintain bespoke measurement and control systems that are crafted to suit the particular needs of each individual customer.

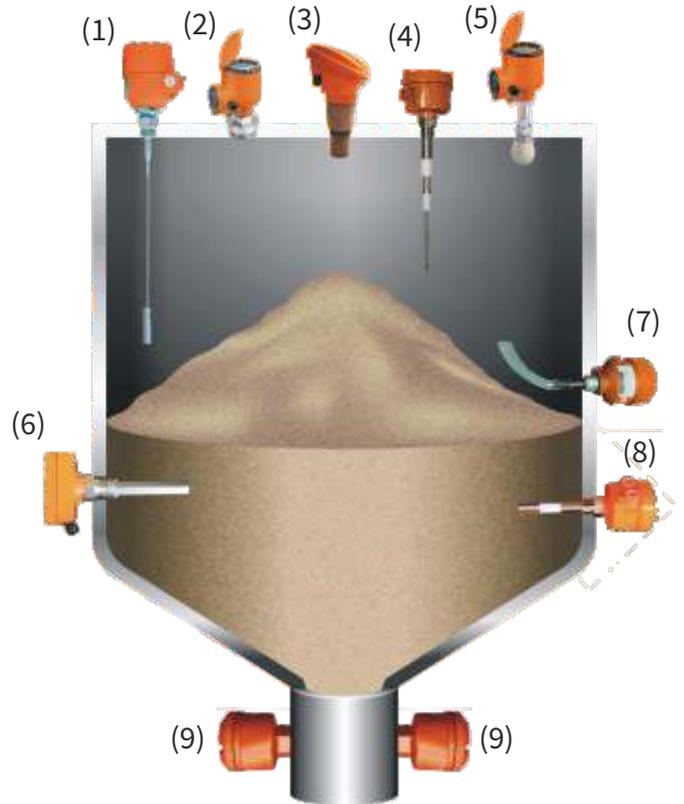
We understand the consequences of inaccurate or unreliable level systems, and therefore each Hycontrol installation is tailored precisely to match your application. Our goal is simple: to provide the best-engineered solution - *without compromise*.

With one of the widest ranges of level measurement technologies on the market including award-winning silo pressure safety systems and a patented range of foam detection and control equipment, backed up by a team of highly experienced engineers and technicians, Hycontrol is a leading force in the manufacture and supply of advanced level solutions.



## Product Range for Solids:

- (1) TDR radar for solids
- (2) 80 GHz FMCW radar
- (3) 2-wire ultrasonic transmitter
- (4) RF admittance level switch
- (5) 24 GHz FMCW radar
- (6) Vibrating level probe
- (7) Rotary paddle switch
- (8) Capacitance level switch
- (9) Microwave flow & blockage switch



## Product Range for Liquids:

- (1) Bypass level indicator
- (2) 80 GHz FMCW radar
- (3) Foam control system
- (4) 24 GHz FMCW radar
- (5) 2-wire ultrasonic transmitter
- (6) TDR radar for liquids
- (7) Capacitance level switch
- (8) RF admittance level switch
- (9) Tuning fork vibrating level switch

