A Detailed description of the process flow for the manufacture of readymix concrete at Ramsgate.

Raw materials

Aggregate

The aggregate will arrive by boat having been dredged from the sea or extracted from the land and cleaned and sized at another loaction usually use into three sizes 20mm 10mm and sharp sand.
This material is off load by self discharge ships, onto a conveyor which then transports it to surge pile, a front end loader or bulk tipper then moves it to the bays shown on the plan RG35, these bays have a level concrete floor and three sides constructed of wooden sleepers, the material is stocked in it three sizes below the height of the bay walls, the material arrives in a damp state commonly between 2- 8% moisture depending on the size and type.

Cement

Cements including Ground granulated blast furnace slag arrives in bulk lorry mounted sealed tankers, these tankers have filters fitted , and air pressurization equipment, they pressurise the tank, which the driver controls, the powder is then air born and is forced through a four inch rubber pipe which is connected to a steel four inch pipe by the way of a unicone interlocking connector, the cement and air then travel along the pipe into the sealed steel silo, approx 2.5m in diameter and 10m high approx 70t capacity, each silo has a "Dust Check CSV 24.5m2 " reverse air jet filter that allows the spent air from the filling operation to exhaust and collect any dust from the spent air , the filter will give 10mg/m3 efficiency the filter then pulses and blows air back through the filter media, allowing the media to perform to its design specification, each silo is equipped with a protection system designed to reduce the risk to the environment and safety of people, the silo is fitted with a "Torex IPM400" pressure pad which sense the pressure inside the silo and will alarm both visually and audible to the driver and then shut a valve in the steel inlet line after 20 secs if a pressure of 0.04bar is reached prevent the silo from splitting, also fitted is a "Safe point" high level alarm which is a paddle which turns suspended from the silo roof at approx 1m and once the powder reaches the paddles and stops it , this activates the valve in the steel pipe line, the final protection system is a "Collins Youldon 40VM" pressure relief valve which would allow any pressure that went undetected above 0.05bar .to escape through a rubber/metal spring mounted valve at top of the silo.

The silo filters are then left on for approx 20mins after deliver has taken place to allow the filter to be cleaned for the next delivery.

The lorry mounted tanker vents any residual air in his tanker through the on board filter.

The whole process of delivery is managed by the plant supervisor and the delivery driver who monitors the tanker operation pressures and the silo protection system alarms and visually the inlet point and silo tops

Records are made at each delivery showing start times, stop times, weather conditions and records any emissions.

The equipment is inspected and maintained and repaired of replaced, at weekly, monthly and six monthly intervals as per our internal proecudres and records kept.

The Tanker drivers and our Plant supervisors are trained to carry out all the processes and records are kept.

Bulk tankers and their filling equipment are inspected and records kept by the suppliers.

Admixtures

Admixtures arrive in three states liquid, powder and short metal or plastic fibres, the liquids are stored in locked bunded tanks and are pumped from a lorry through a plastic pipe into the tank

Powders arrive in plastic sealed tubs and are stored in our locked metal container.

Fibres arrive in boxes and are contained in plastic bags; these are also stored in the locked metal container.

Water

Water arrives on site through mains water pipe from southern water and is stored in metal tanks and pumped into the plant along metal and rubber pipes.

The Manufacture process of each 2m3 batch of concrete

The empty readymix truck usually 6m3 or 8m3 carrying capacity , reverse's under the rubber plant loading sock, the operator of the truck puts the drum in charge and connects a mains water hose to fill up his truck cleaning water tank , the plant operator then instructs the plant computer what size load and what specification he wants from the concrete, the Plant then starts each electric silo screw auger which draws cement up a steel tube from the silo frustum cone, via a metal butterfly valve, this is then deposited in a steel sealed cement weigh hopper over the top of the mixer, until the desired weight is meet, no more than 1000kgs total, the aggregate is drawn by gravity from the four sided storage bins that were filled by a loading shovel from the ground storage bays, taking quantities of each of the three materials, no more than 4000kgs total , is dropped on to a aggregate weigh belt that is

located in under the storage bins with is protection on all four sides, water is pumped from either our mains water tank, hot water tank, but most commonly our recycled water tank, its is pumped into a steel tank which holds no more than 500kgs this sits above the mixer, admixture is pumped into a metal container above the mixer no more than 16kgs, once the computer is happy the desired weights are within tolerance the operator signals it to start mixing, the aggregate is taken by conveyor into a steel skip which is hoisted up above the mixer, approx 90% of the water is dropped into the sealed mixer with the admixture and then the cement and aggregate is added, any dust from this process is vented through a bag filter on the side of the plant , this bag filter is protected from moisture by outer plastic cover which allows it to expand and contract, the concrete is then mixed in the mixer which is horizontally barrel shaped and a central shaft revolves mixing the concrete, 30 sec later once the concrete is mixed and uniformed the amp meter on the mixer motor indicates to the operator the concrete is mixed, the bottom of the barrel mixer opens and the wet concrete discharges under gravity into the weighting mixer truck , this process is the repeated until the truck reaches the correct delivery size, the final 10% of water is added through the mixer and the load inspected, the driver then washes his truck down and collects his tickets and leaves the site.

The cleaning of the equipment and clearing up of spillages

Spilt aggregate from movement of aggregate on the belt or transfers of between the belts and skip.

Any material spilt is swept up by a broom and transferred by wheel barrow or loading shovel bucket back to the stock piles to be reused.

Spilt cement from the movement of cement, and maintenance of equipment

As this process is through sealed containers , spillages of cement are rare and often planned due to maintenance, they are dampened down with sand swept up and collected in a our waste concrete bay, any light dust is hosed down into our water collection pit.

Used filter media from maintenance operations is bagged and taken and disposed off by a licensed waste contractor

Spillage of wet concrete from the process is swept up and barrowed to the waste concrete bay and any residually material is hosed into the water collection pit.

Cleaning of the plant mixer involves water at high pressure low volume being forced into the mixer and a stabilizing chemical admixture "Delvo" added, the residue is then deposited into a truck mixer which stores the waste liquid material over night, with its own cleaning waste the following day the material is reused in the first batch of fresh concrete.

All the other trucks are loaded with 2t of 20mm aggregate and 200lts of water and Delvo, this is moved up and down the truck mixer drum to agitate any

waste from the drum and then stays in the mixer to be used the following day in fresh concrete.

In an emergency we can wash out our mixers trucks and plant mixer using recycled water and then dispose of the water into our water collection pit.

Spillage of admixtures

Liquid admixture is either hosed into the water collection pit and reused or spill kits are used and disposed of through licensed waste contractors

Spillage of powder admixture is cleaned up with spill kits and sand and taken away by licensed waste contactor

Rain water and any waste production water falling on the concreted area the plant and buildings sit on falls into the water collection pit (wedge pit) and then a solids handling submersible water pump lifts the grey water it into a steel tank which has a stirrer in it, The grey water is stirred and pumped into back into the process before we use any mains water, Any excess water is taken away by a licence waste contractor

All waste materials occurring from maintenance of the concrete batching plant area stored in plastic wheeled bins and taken away by a licence waste contractor.

Fuels, Lubricants are stored in locked bunded containers, and capacities marked and delivery supervised

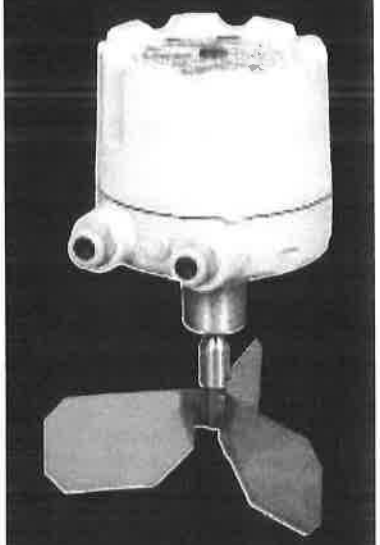
Any concrete retuned from customers unwanted is dealt with in three ways, reused in the next delivery, issued FOC to other customers, or discharged into our waste concrete bay, allowed to dry then broken up and taken away to be recycled.

BULLETIN
253

SafePoint®

"TRUE" FAIL-SAFE ROTARY PADDLE BIN MONITOR

- *Industry-First Magnetic Sensing (Patent Pending)*
- *Local Status Light*
- *Microcontroller-based Reliability*
- *Material Sense and Fault Outputs*
- *Choice of Process Connections & Accessories*
- *Hazardous Location Approvals Available*



SafePoint®

MONITOR®

"SETTING THE STANDARD FOR SUPPLIER EXCELLENCE"

BULLETIN 253 SafePoint®

"TRUE" FAIL-SAFE ROTARY PADDLE BIN MONITOR

- **Reliable Magnetic Sensing Technology (Patent Pending)**
- **Twist On/Off Cover – No More Bolts!**
- **Wiring Access - 2 Conduit Entrances**
- **1-1/2" BSPT or 1-1/4" NPT Process Connection**
- **Motor Shuts Off When Paddle Is Impeded**
  - **Significantly Extends Motor Life**
  - **Reduces Maintenance Costs**
- **Local Status Indicating Light on Most Models**
- **Standard Units Rated to 250˚F (121˚C)**
- **Hi-Temp Models Rated to 750˚F (399˚C)**
- **ATEX/IECex and CSA Approvals Available**

The **SafePoint®** fail-safe bin monitor is the state-of-the-art in rotary paddle technology. Utilizing patent-pending magnetic sensing technology and a unique housing design, the **SafePoint** bin monitor is the most reliable, technician-friendly, rugged and economical truly fail-safe rotary paddle point level control sensor of its kind.

The **SafePoint** bin monitor provides the ultimate in performance wherever critical continuous operation must be ensured. Detection of both material presence and its own operational status is performed on a continuous basis. The **SafePoint** level sensor monitors its electrical and mechanical operating condition. This, in conjunction with separate outputs provided for material sense and unit status (fault conditions) make the **SafePoint** a "truly" fail-safe device.

While the **SafePoint** bin monitor is an evolution in rotary paddle technology, it continues to use tried-and-true Monitor operating techniques. Unlike many other available units, the **SafePoint** incorporates a feature that automatically shuts off its motor when the paddle is in a stalled condition. This extends the life of the unit and minimizes maintenance.

An installed SafePoint® unit in an aggregate application.

PRINCIPLE OF OPERATION

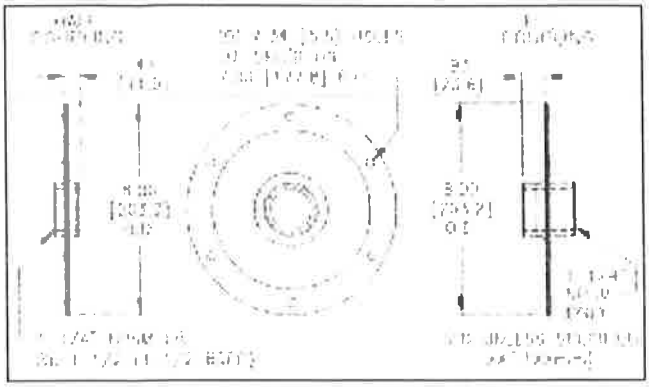
The operation of the **SafePoint®** rotary paddle bin monitor uses Monitor's magnetic sensing technology to detect both material presence and operational status of the unit. This method is simple and more reliable than that used by other brands. The unit is installed through the wall of the vessel so that the paddle protrudes inside the vessel. A small electric motor drives the paddle, which rotates freely in the absence of material.

The rotation of the unit's shaft is continuously monitored by detection of a magnetized rotating disk (patent pending). When the paddle is impeded by material, the shaft rotation stops. The motor rotates within the housing and magnetized sections of the motor mounting plate are detected (patent pending). Use of these magnetic sensing techniques eliminates problems that may occur with fouling of the optical systems used by other brands.

The built-in microcontroller performs self-diagnostics and monitors both shaft and motor mounting plate rotation. This allows the **SafePoint** to easily distinguish between material presence and any electrical and mechanical failure of the unit. When material presence is detected, the SENSE relay changes state and the drive motor is de-energized to extend motor life. This output is available to control a process function or alarm circuit. When the material level drops, a tension spring returns the drive motor to its original running condition and is reactivated.

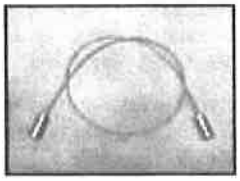
A unit failure is detected by sensing a lack of shaft rotation while material presence has not been detected by rotation of the motor mounting plate. In a failure condition the independent FAULT relay will change state indicating that an error condition exists. Monitoring the state of both the SENSE and FAULT relays provides the most flexibility for control and fail-safe monitoring.

DIMENSIONS ARE SHOWN IN INCHES WITH MILLIMETER EQUIVALENT IN BRACKETS



SHAFT EXTENSIONS

Many top mount installations require that the paddle extends into the vessel to a predetermined level. Solid shaft extensions are available in a variety of lengths up to 144 inches (3.6 m) to meet these demands. A flexible cable extension is also available. This 6.5 foot (2.0 m) flexible extension can be easily shortened in the field by the user. The use of the flexible cable extension eliminates the need for a mounting plate, extension guard and flexible coupling.

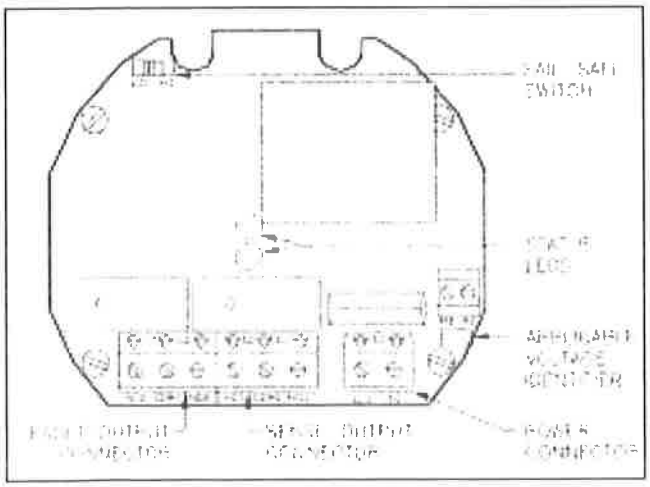


Flexible Cable Extension

SHAFT GUARDS

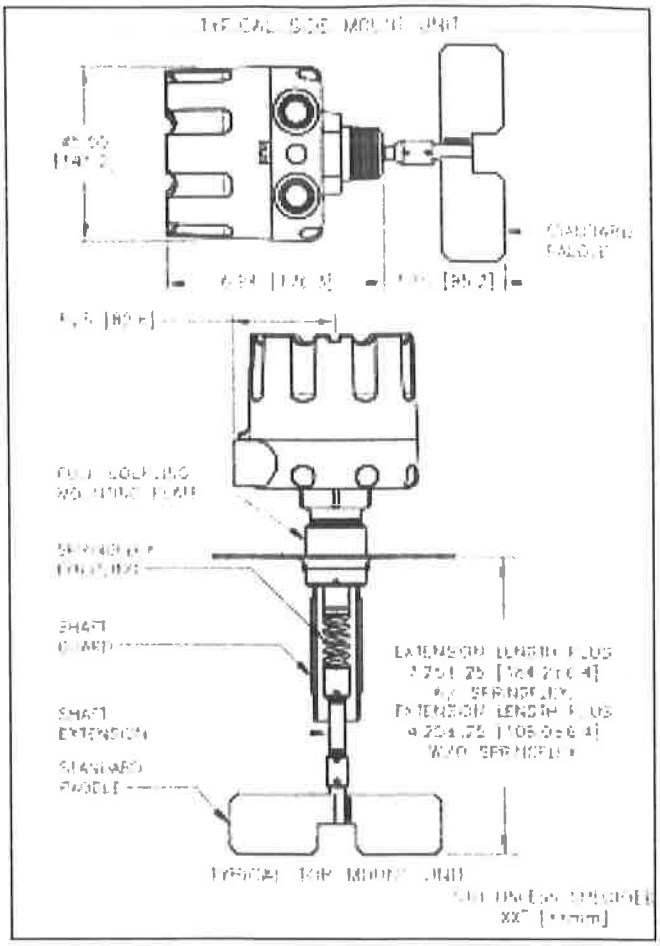
Shaft guards are recommended for use with solid shaft extensions to limit the movement caused by side loading that would otherwise damage the working components of the paddle unit. Shaft guards should be the same length as the extension and should always be used when the extension meets or exceeds 18 inches (460 mm) in length.

WIRING DIAGRAM



MECHANICALS

DIMENSIONS ARE SHOWN IN INCHES WITH MILLIMETER EQUIVALENT IN BRACKETS



ORDERING INFORMATION

1	-	8	5	X	X	-	X	X

MOTOR VOLTAGE
1 = 115VAC
2 = 230VAC
3 = 24VDC/AC

PROCESS CONNECTION
1 = 1-1/4" NPT
2 = 1-1/2" BSPT[1]

APPROVALS
1 = Ordinary locations, $CSA_{US/C}$, CE
2 = Hazardous locations $CSA_{US/C}$ (North America)[2]
3 = Hazardous locations ATEX/IECex[2]

TEMPERATURE STYLE
1 = Hi-temp, CS[1]
2 = Hi-temp, SS[1]
Blank, none

Note:
1 1-1/2" BSPT process connection is not available with high temperature style selection. A mounting plate is furnished for the process connection on all high temperature units.
2 External lights are not available with hazardous location approvals.

BULLETIN 253 SafePoint®

ACCESSORIES

Flexible Coupling
1-3335 Spring flex

Paddles
See "Accessories" section

Cable Extension
1-1176-2-78: Flexible extension, 304 SS, 78 inches (2 m) length (can be modified in the field for shorter length)

Solid Shaft Extensions:
1-1175-1-#* 1/4" Pipe, SCH-40, Galvanized
1-1175-2-#* 1/4" Pipe, SCH-40, Stainless Steel

Shaft Guards:
1-1174-1-#* 1-1/4" Pipe, SCH-40, Galvanized
1-1174-2-#* 1-1/4" Pipe, SCH-40, Stainless Steel

Mounting Plates
1-0100 Mounting plate with 1-1/2" BSPP half coupling, CS
1-0101 Mounting plate with 1-1/4" NPT half coupling, CS
1-0102 Mounting plate with 1-1/4" NPT full coupling, CS
1-0112 Mounting plate with 1-1/4" NPT half coupling, SS
1-0113 Mounting plate with 1-1/4" NPT full coupling, SS
1-3316 Mounting plate, heavy duty alum. with 1-1/4" NPT

* # = Extension and guard lengths (not to exceed 144 inches (3.6 m) in length)

WARRANTY

Monitor Technologies LLC warrants each **SafePoint®** rotary paddle bin indicator it manufactures to be free from defects in material and workmanship under normal use and service within two (2) years from the date of purchase. The purchaser must give notice of any defect to Monitor within the warranty period, return the product intact and prepay transportation charges. The obligation of Monitor Technologies LLC under this warranty is limited to repair or replacement at its factory. This warranty shall not apply to any product which is repaired or altered outside of the Monitor Technologies LLC factory, or which has been subject to misuse, negligence, accident, incorrect wiring by others or improper installation. Monitor Technologies LLC reserves the right to change the design and/or specifications without prior notice.

SPECIFICATIONS

General:

Power Requirements:	115 VAC (+/- 15%); 9 VA; 50/60 Hz 230 VAC (+/- 15%); 9 VA; 50/60 Hz 24 VAC/DC (+/- 15%); 11 VA
Ambient Operating Temp:	-40°F (-40°C) to +150°F (65°C)
*Internal Bin Temp:	
Standard Unit:	to +250°F (+121°C)
Hi-Temp Unit:	to +750°F (+399°C)
Conduit Connection:	Two(2) 3/4" NPT; M20 cable glands (Ordinary Location units with 1-1/2" BSPT process connection only; Not provided on Hazardous Locations units)
Outputs:	
Material Sense:	One SPDT; 5A @ 277 VAC, 30 VDC max
Unit Status (Fault):	One SPDT; 5A @ 277 VAC, 30 VDC max
Maximum Pressure:	30 PSI (2 bar)
Sensitivity:	5 lb./ft³ (80 kg/m³)minimum material density (when using large 3-vane paddle)
Indicators:	Red and green high intensity LEDs indicate material sense and unit status conditions (Ordinary Location unit only)
Housing:	Die cast alum, NEMA 4, IP66
Housing Finish:	Powder coating
Mounting Connection:	1-1/4" NPT or R 1-1/2 (BSPT 1-1/2)
Weight:	Approx. 8-1/2 lb. (3.9 kg)

Materials of construction/accessories:

Flexible Couplings:	304 stainless steel
Mounting Plates:	Carbon steel or 304 stainless steel
All Paddles except Ex-Flex:	304 SS
Ex-Flex Belt:	304 SS coupling, rubber/fabric blend belt
Flexible Cable Extension:	304 SS 1/4" diameter
Listings/Approvals:	$CSA_{US/C}$: Ordinary Locations; Class I, Div. 1 & 2, Groups C, D; Class II, Div. 1& 2, Groups E, F, G ATEX Ⓔ II 1/2 D T 85°C IECex DIP B20 T_A 85°C CE Mark

*Influenced by mounting, material thermal conductivity and ambient temp.

U.S. Patent Pending

MONITOR®

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www.monitortech.com

253A.A4.2.0403.1M

APPLICATIONS

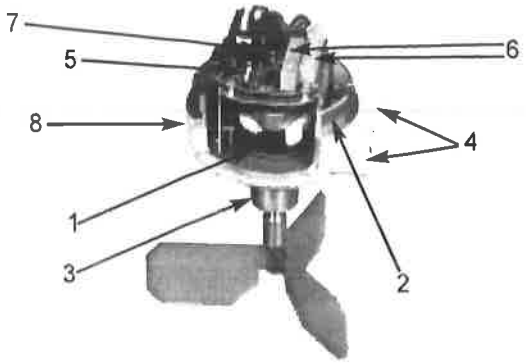
The rugged and reliable fail-safe design of the **SafePoint®** bin monitor makes it the best choice for critical level control applications. The unit is compatible with many granular, pelletized and powder bulk applications. It can be utilized for high level indication of materials over 10 lb/ft³ (160 kg/m³) and for low and intermediate level indication for materials over 5 lb/ft³ (80 kg/m³). The **SafePoint** bin level monitor can be installed almost anywhere dry bulk materials are stored including bins, hoppers, silos and tanks.

TYPICAL APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO:

- **Feed**
- **Pellets**
- **Rubber**
- **Coal**
- **Clays**
- **Grain**
- **Rawhide**
- **Silica Sand**
- **Wood**
- **Metals**
- **Peanuts**
- **Resin**
- **Foundry Sand**
- **Sawdust**
- **Rocks**
- **Calcium Dust**
- **Regrind**
- **Malt**
- **Limestone**
- **Ingredients**
- **Cement**

FEATURES

- "TRUE" Fail-Safe operation detects electrical and mechanical status essential for critical applications
- [1]Use of magnetic sensing technology ensures reliable operation even in dusty environments where optical-based units may exhibit problems
- [2]Twist on/off cover for convenient and easy access – No bolts to lose or hold
- [3]1-1/2" BSPT or 1-1/4" NPT process connections
- [4]Two conduit connections provides easy wiring access (M20 cable glands provided with Ordinary Location units with BSPT process connection)
- [5]Microcontroller-based electronics ensures consistent and reliable operation
- [6]Independent SPDT relays for material sense and fault outputs provides for flexible control wiring
- [7]Indicating light (ordinary locations only) provides local visual indication of operating status
- [8]Cast aluminum housing with rugged powder coat finish can be used in a wide range of applications
- High Temperature version available (up to 750°F/399°C)



AVAILABLE CONFIGURATIONS

MOTOR VOLTAGES

The **SafePoint®** fail-safe rotary paddle bin monitor is available in forms to serve most power requirements. Available forms include 115VAC, 230VAC and 24VAC/DC.

LOCAL VISUAL STATUS INDICATION

The **SafePoint** bin monitor incorporates a red and green LED to indicate material sense and unit status. A red LED illuminates when material presence is detected. A green LED illuminates when material is not present. The green LED will flash during initialization immediately following power-up. The red LED will flash during a failure mode. This indication can be viewed without removing the cover (units supplied for general purpose ordinary electrical locations only).

APPROVALS/LABELING

The **SafePoint** bin monitors are available approved to ATEX/IECex and CSA ($CSA_{US/C}$ for North American use) requirements. Approvals for either general purpose, dust-ignition-proof and/or explosion-proof hazardous area locations can be provided. In addition, all units carry the CE mark. Refer to "Specifications" for details.

HIGH TEMPERATURE UNIT

The **SafePoint** high temperature model incorporates all the standard features of the **SafePoint** bin monitor, but can be used in applications where internal bin temperatures reach as high as 750°F (399°C). The hi-temp models incorporate a specially designed mounting plate, pipe extension with air purge connection (recommended for all high temperature applications; must be used for 500°F/260°C), shaft extension, couplings and bushings. The high-temp assembly is available in either a carbon steel or stainless steel version. Refer to "Ordering Information" for applicable part numbers.

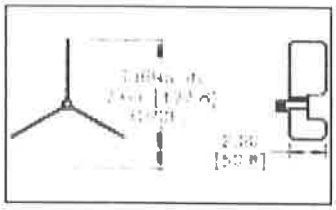
ACCESSORIES

DIMENSIONS ARE SHOWN IN INCHES WITH MILLIMETER EQUIVALENT IN BRACKETS

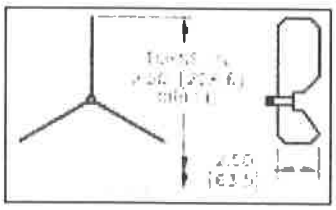
PADDLE ASSEMBLIES

Monitor offers a variety of interchangeable paddle assemblies to meet the needs of a wide variety of applications. Different material densities, particle sizes and flow characteristics require specific paddles to provide optimum performance. See Monitor's Paddle Selection Guide for more detailed application recommendations.

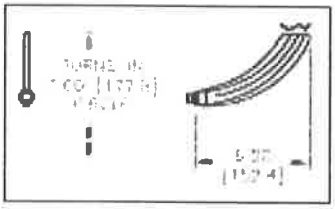
1.) Standard Stainless Steel Three Vane Paddle: The most popular of all paddles. For use with average weight materials. P/N 1-4146



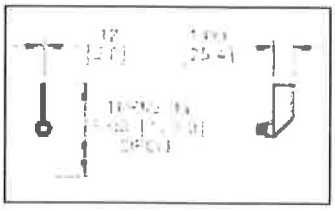
2.) Large Stainless Steel Three Vane Paddle: Provides accurate level control for lightweight materials. P/N 1-4141



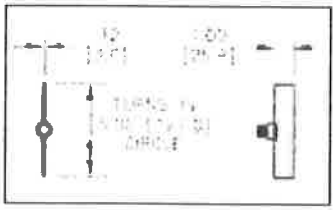
3.) Insertable* Stainless Steel, Scimitar Single Vane Paddle: Provides low and high level control for light to average weight materials. P/N 1-4193



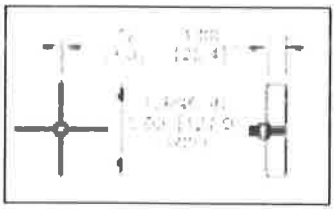
4.) Insertable*, Stainless Steel Single Vane Paddle: Provides low level control for average weight materials and low to high level control for heavy materials under 1-1/2 inch (40 mm) in diameter. P/N 1-4145



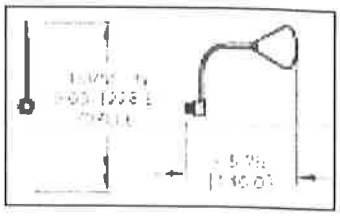
5.) Stainless Steel, Two Vane Paddle: Provides low and high level control for heavy materials under 1-1/2 inch(40 mm) in diameter. P/N 1-4135



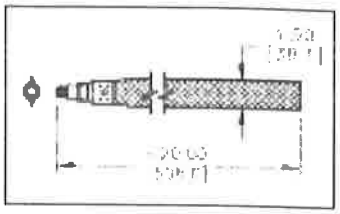
6.) Stainless Steel Four Vane Paddle: For use with average to heavy weight materials in low and high level control installations. P/N 1-4156



7.) Stainless Steel Triangular Arc Single Vane Paddle: Provides low and high level control for light to average weight materials. P/N 1-4144



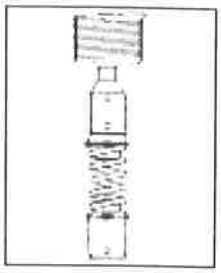
8.) Ex-Flex Three-Ply 20 inch (508 mm) Belt Vane Paddle: Provides low and high level control for heavy materials over 2 inch (50 mm) in diameter. Top mount only. P/N 1-4137



**Insertable paddles eliminate the need for a mounting plate. 1-4193 is insertable through either a half or full 1-1/4" or 1-1/2" coupling, that is welded to the bin wall. 1-4145 is insertable through a half 1-1/4" or 1-1/2" coupling.*

FLEXIBLE COUPLING

The flexible coupling works to absorb heavy loads, side loads and loads caused by product surges, thus protecting the internal workings and extending the life of the paddle unit. A flexible coupling should be used with heavy materials and in top mount installations where a solid shaft extension is used. Monitor offers the following coupling option: Spring-Flex: P/N 1-3335



MOUNTING PLATES

Mounting plates allow the paddle units to be mounted from the outside of a vessel to curved or flat surfaces. All mounting plates featured below mount via six bolts.

1.) Half Coupling Mounting Plate: For use in side mount installations. Available in powder coated carbon steel for general purpose applications and stainless steel for use in corrosive environments. Stainless Steel Plate: P/N 1-0112. Carbon Steel Plate: P/N 1-0101 for 1-1/4" NPT connection and P/N 1-0100 for 1-1/2" BSPT connection.

2.) Full Coupling Mounting Plate: For use in top mount installations where a shaft extension and shaft guards are required. Available in powder coated carbon steel for general purpose applications and stainless steel for use in corrosive environments. Stainless Steel Plate: P/N 1-0113. Carbon Steel Plate: P/N 1-0102.

3.) K-Flange Aluminum Mounting Plate: For flat surfaces or thin walled vessels where extra strength is required. Ideal for semi-corrosive environments, including outdoors. P/N 1-3316.

DUSTCHECK

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CERTIFICATE OF SILO VENT FILTER EFFICIENCY

Regulation

The following is the specified regulation referring to batching plant systems.

Department of the Environment	PG3/1 (04)
The Scottish Office	June 2004
The Welsh Office	

Environmental Protection Act 1990, Part 1

Process Prescribed for air pollution control by Local Authorities

SECRETARY OF STATE'S GUIDANCE – BLENDING, PACKING, LOADING UNLOADING AND USE OF BULK CEMENT.

Emission Limits, monitoring and other provisions relating to arrestment equipment.

Where the discharge is to the external environment:

Exhaust flow greater than 18000 m3/hr: Emission limit = 50 mg/m3

Exhaust flow greater than 6000 m3/hr: No visible emission. Equipment to achieve emission limit of 50 mg/m3

Exhaust flow less than 6000 m3/hr: No visible emission.

Dustcheck certify that their silo vent filters fitted with original Dustcheck polyester filter cartridges comply with the emission limits as outlined above this, providing that the units are correctly installed, sized, operated and maintained.

Dustcheck confirm that filters correctly sized and maintained will give efficiency better than 10mg/cu.m.

Signed.....

E J Spires
Joint Managing Director

Registered In England
No.1365594

Directors:
E. J. Spires
D. Spires

SHAPA
SOLIDS HANDLING AND PROCESSING ASSOCIATION

SAFEcontractor APPROVED

ISOBAR QUALITY ASSURED FIRM
UKAS QUALITY MANAGEMENT 026
Certificate No: 4064/03

COLLINS YOULDON LTD

SOUTH ROAD, TEMPLEFIELDS, HARLOW, ESSEX, CM20 2AX, ENGLAND.

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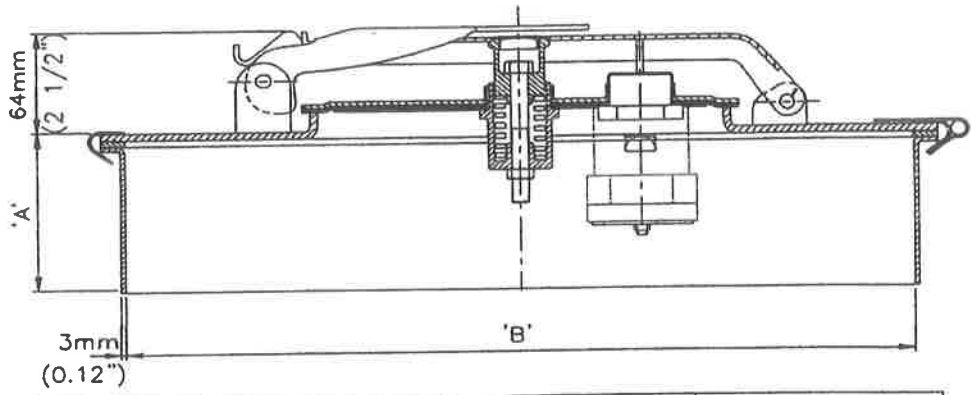
Style 40VM Manhole Cover

Suitable for tanks and silos with a maximum working pressure of 0.34bar (5 psi)



Dimension	16"	20"	24"
'A'	86mm (3.4")	111mm (4.4")	163mm (6.4")
'B'	406mm (16")	508mm (20")	610mm (24")

The Style 40VM manhole cover has a 255mm (10 inch) diameter opening with a hinged lid on a baseplate. The baseplate is secured to the neckring by the locking band and the compression of the gasket ensures an efficient seal. The neckring is designed for welding directly into the tank shell.

The 10 inch fill cover is spring loaded to act as a relief valve. Different springs are available to give nominal opening pressures of 0.05 bar (¾ psig), 0.1 bar (1½ psig) and 0.21 bar (3 psig). The opening pressure cannot be adjusted and this range of manhole covers is not tested after assembly. Manhole covers should be tested after installation as any distortion caused by welding the neckring to the tank may affect the sealing face and reduce the opening pressure.

The cam action of the lid clamp and hinge provides a positive closing and sealing arrangement.

Manufactured in mild steel (zinc electro-plated, except for the neckring) or stainless steel (parts in contact with tank contents in 316 grade, other parts 304 grade). An aluminium breather vent can be fitted if required. The standard fill cover gasket is nitrile and the standard neckring gasket is nitrile bonded cork.

NB: A special version of this manhole cover (Style 40VMP) is available for use on tanks used for the conveyance of flammable liquids (eg petroleum spirit) covered by 'The Carriage of Dangerous Goods by Road Regulations 1996' (CDG Road). These should also be fitted to tanks that have a capacity lower than the threshold covered by CDG Road. Unlike VM manhole covers, the fill cover assemblies of all Style 40VMP manlids are tested before despatch to ensure a minimum opening pressure of 3.05 psig (0.21 bar) is achieved. Full details are available on request.

WARNING: Before opening or removing any manhole cover or inspection hatch, ensure that all pressure in the tank has been relieved. This will eliminate the possibility of a potentially dangerous "kick-back" and the risk of injury.

IMPORTANT NOTE:

Before ordering please ensure that the relief valve on this manhole cover is suitable for your application. If this valve is intended to protect against over pressurisation of a vessel or system, it is important that an assessment is made to ensure that the pressure setting and the flow capability of the valve will ensure protection against damage to the plant and/or personnel. Flow rates are detailed on our separate sheet (see Appendix A).

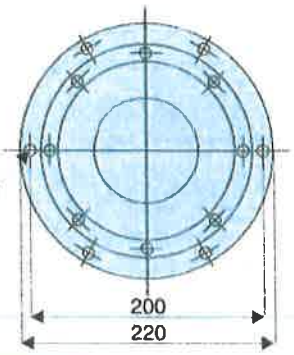
TOREX®

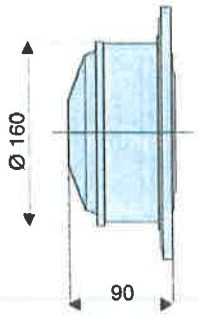
WAMGROUP®

DIFFERENTIAL PRESSURE GAUGE
DIFFERENZDRUCKWÄCHTER
SIGNALEUR DE PRESSION
SEGNALATORE DI PRESSIONE

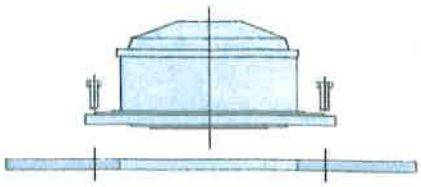
IPM400

IPM400

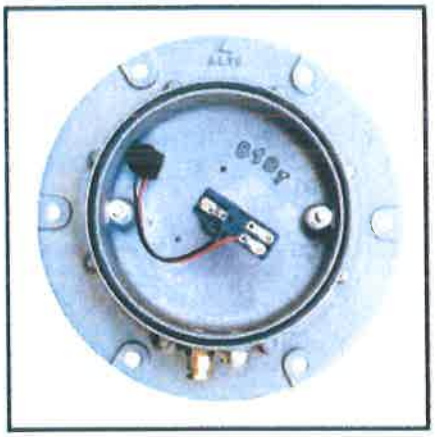




Dimensions in mm



Silo wall - *Silowand*
Paroi silo - *Parete silo*



FUNCTION

The silo pressure gauge supervises the overpressure rising inside the silo during the filling procedure and during the purging of the tanker.

DESCRIPTION

- Self-cleaning wear and temperature resistant membrane
- Aluminium alloy body
- Contact switch
- Assembly fittings (bolts and gasket)

TECHNICAL FEATURES

- Working temperature: -30 C to +80 C
- Cable size: 2 x 1.5 mm²
- Electromechanical contacts: 15 A / 250 V
- Protection: IP55
- Pre-set activating pressure: 400 mm H_2O = 0.04 bar
- Power consumption: 0.5 W

ASSEMBLY

Installed on top of the IPX spigot.

FUNKTION

Der Differenzdruckwächter zeigt im Silo auftretenden Überdruck während des Befüllens und während des Endschwalls an.

BESCHREIBUNG

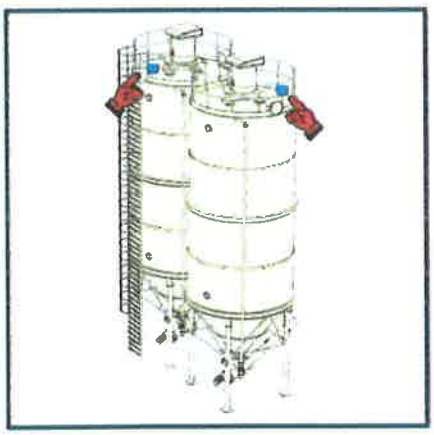
- *Selbstreinigende und temperaturwechselbeständige Membran*
- *Aluminiumgehäuse*
- *Mikroschalter*
- *Schrauben und Dichtungen für den Einbau*

TECHNISCHE DATEN

- *Betriebstemperatur: -30 bis +80 C*
- *Anschlußkabel: 2 x 1,5 mm²*
- *Elektrische Kontakte: 15 A / 250 V*
- *Schutzart: IP55*
- *Voreingestellter Ansprechdruck: 400 mm H_2O = 0,04 bar*
- *Energieverbrauch: 0,5 W*

EINBAU

Wird auf IPX-Stutzen montiert.



UTILISATION

Le signaleur a pour but d'avertir le dépassement de la pression d'étalonnage de l'instrument lui-même durant le chargement pneumatique du silo.

DESCRIPTION

- Membrane résistante aux écarts de température et autonettoyante.
- Corps en aluminium.
- Microrupteur.
- Boulons et garnitures pour le montage.

CARACTÉRISTIQUES TECHNIQUES

- Température de service: de -30 C à +80 C
- Câble de liaison électrique: 2 x 1,5 mm²
- Contacts électriques: 15 A / 250 V
- Protection: IP55
- Pression de tarage: 400 mm H_2O = 0,04 bar
- Consommation d'énergie: 0,5 W

MONTAGE

Il est installé sur l'embout de remplissage IPX.

UTILIZZO

L'indicatore ha lo scopo di avvertire l'eventuale superamento della pressione di taratura dello strumento stesso.

DESCRIZIONE

- *Membrana resistente all'escursione termica e autopulente*
- *Corpo in alluminio*
- *Microinterruttore*
- *Bulloni e guarnizioni per il montaggio*

CARATTERISTICHE TECNICHE

- *Temperatura di esercizio: da -30 C a +80 C*
- *Cavo di collegamento elettrico: 2 x 1.5 mm²*
- *Contatti elettrici: 15A / 250V*
- *Protezione: IP55*
- *Pressione di taratura: 400 mm H_2O = 0.04 bar*
- *Consumo energia: 0.5 W*

MONTAGGIO

Viene installato per mezzo del tronchetto IPX.

RANGE OF PRODUCTS
LIEFERPROGRAMM
PRODUCTION
PRODUZIONE

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