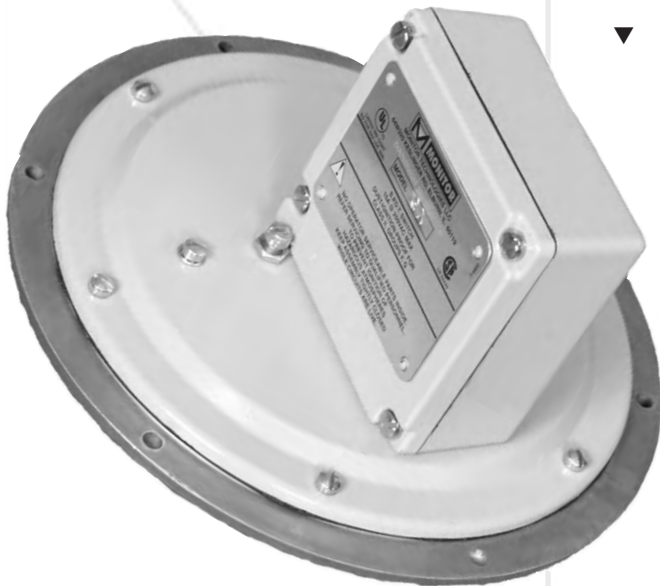




BINATROL[®] **Diaphragm Bin Monitor**

- ▼ Economical, Reliable and Durable Point Level Detection
- ▼ Low Profile Mounting
- ▼ Multiple Diaphragm Materials
- ▼ Over-Pressure Protection
- ▼ Ultra-Sensitive Switch Option
- ▼ UL, CSA Approvals





- ▼ **Industry's Preferred Diaphragm Unit for Over 30 Years**
- ▼ **Economical Point Level Detection in Bins and Hoppers**
- ▼ **Ultra-Sensitive Switch for Lightweight Materials**
- ▼ **Unique External Installation and Maintenance**
- ▼ **Multiple Diaphragm Materials**

Monitor's line of **BINATROL**® diaphragm bin monitors consists of economical, reliable, and durable point level controls for point level detection of dry bulk materials. The units can be used to eliminate bin overflow, maintain a predetermined material level, indicate plugging of chutes or conveyors or provide any of a number of level control functions. The flush mount, non-intrusive **BINATROL** units are ideally used when vessel size or internal clearance is limited, or where protrusion into a vessel is not acceptable. All installation and servicing, including diaphragm replacement and sensitivity adjustment, can be done from outside the vessel.



Model G **BINATROL**® diaphragm switches are in use at this ready-mix plant as high-level alarms.



PRINCIPLE OF OPERATION

A diaphragm bin monitor provides level indication by detecting pressure applied by the bulk material to the sensing diaphragm. The unit is installed to a vessel wall so that the diaphragm is exposed to the material to be sensed. As material contacts the diaphragm, a force is exerted through the diaphragm to a pressure plate within the bin monitor. Physical deflection of the pressure plate activates an internal switch which is user accessible for signaling alarms, lights or PLC inputs. When material recedes from the diaphragm, a light duty spring returns the pressure plate and internal switch back to their original positions.

APPLICATIONS

The **BINATROL**® diaphragm bin monitors can be used to detect high, low and intermediate product levels on dry material storage bins. The **BINATROL** can be used on either flat or curved surfaces. For bins with a diameter greater than 12' (3.6m), extra gaskets are not required. For certain applications, the **BINATROL** can also be used to detect plugged or backed-up conveyor chutes. Depending on the selected options and accessories, these units can be used with light powders, granules, materials with varying particle sizes, pellets, and abrasive and corrosive materials. These products are not normally used with materials which are very light, sticky or of large particle size.



TYPICAL APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO:

Grain	Wood Chips
Chemicals	Powders
Cement	Feed Pellets
Sawdust	Resin
Regrind	Other

FEATURES

▼ Simple Design

The simple design of **BINATROL** diaphragm bin monitors provides for maximum ease of use. The **BINATROL** operates using a "floating" diaphragm, which is free of the electric switch mechanism. Diaphragm movement as little as 1/32" (0.8mm) triggers the unit. Also, the **BINATROL** requires no auxiliary power source. These features ensure reliable and low maintenance operation.

▼ Adjustable Sensitivity

The **BINATROL** offers a sensitivity adjustment that is accessible from outside of the bin and easily adjusted with a screwdriver. If needed, sensitivity adjustment can be done without removing the unit from the vessel.

▼ Low Profile Mounting

The low profile mounting of the **BINATROL** eliminates major protrusions into the bin. This minimizes obstruction of the material flow in the vessel or chute.

▼ Overpressure Protection

The **BINATROL** incorporates a sensing plate which provides for overpressure protection. This prevents damage to the unit due to heavy loads. If a heavy load is applied to the sensing plate, a mechanical stop prohibits the plate from exerting excessive pressure on the sensitivity spring.



▼ External Installation/Maintenance

One of the biggest assets of the **BINATROL** is the ability to install and maintain the unit from outside of the vessel. All parts are accessible from outside of the bin, without removing the mounting flange. This enables installation and basic maintenance without removing the unit. For applications which require installation from within the bin, this can also be easily accomplished.

MODELS

▼ MODEL G

The Model G is the most basic **BINATROL**® diaphragm bin monitor. It provides accurate point level control on most bin types for products ranging from pellets to fine powders.

▼ MODEL GX

The Model GX offers all the features of the Model G, but is specially designed for applications that require Class II dust-ignition proof approval.

▼ MODEL GX-SS

The Model GX-SS is the dust-ignition proof version of the Model G with a type 321 stainless steel diaphragm. This diaphragm provides corrosion resistance when used with corrosive materials or added protection in abrasive applications.

OPTIONS

▼ Diaphragm Materials

The Model G and GX **BINATROL**® units are available with two different diaphragm materials.

Standard Diaphragm:

The standard diaphragm is constructed of neoprene and is compatible with most basic applications.

Teflon® Diaphragm:

A Teflon® diaphragm is available for use in high-temp applications. This diaphragm can also be used with some sticky materials.

▼ Ultra-Sensitive Switch

The Model G, GX and GX-SS units come with a standard SPDT switch. However, for applications involving lightweight materials, Models G and GX can be specified with an ultra-sensitive switch.

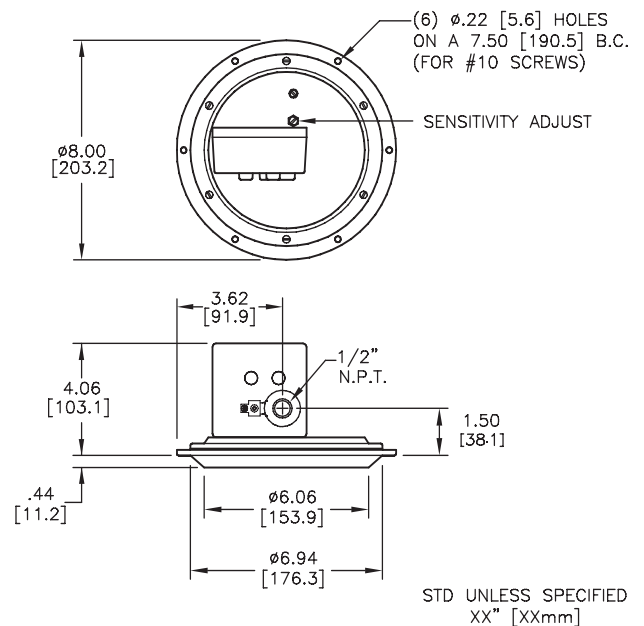
ACCESSORIES

▼ HYCAR® Cover

Monitor offers a HYCAR® (oil resistant) cover for the diaphragm for watertight applications and to provide additional abrasion resistance. This cover is typically used with Models G and GX.

SENSOR MECHANICALS

DIMENSIONS ARE SHOWN IN INCHES WITH MILLIMETER EQUIVALENT IN BRACKETS
MODELS G/GX/GX-SS



ORDERING INFORMATION

Model G:

- 7-8100 Neoprene diaphragm, standard switch
- 7-8101 Neoprene diaphragm, ultra-sensitive switch
- 7-8104 Teflon® diaphragm, standard switch
- 7-8105 Teflon® diaphragm, ultra-sensitive switch

Model GX:

- 7-8150 Neoprene diaphragm, standard switch
- 7-8153 Neoprene diaphragm, ultra-sensitive switch
- 7-8152 Teflon® diaphragm, standard switch
- 7-8151 Teflon® diaphragm, ultra-sensitive switch

Model GX-SS:

- 7-8156 Stainless steel diaphragm, standard switch

Hycar Cover:

- 7-2009 HYCAR® diaphragm cover



SPECIFICATIONS

Power Requirements:	none
Output:	SPDT dry contact, 15A @ 250 VAC max
Sensitivity:	
GX-SS:	20 lb/ft ³ (320 kg/m ³) minimum material density
Standard Switch:	15 lb/ft ³ (240 kg/m ³) minimum material density
Extra-Sensitive Switch:	10 lb/ft ³ (160 kg/m ³) minimum material density
Enclosure:	die cast aluminum, powder coated
Enclosure Protection:	NEMA 4, IP56 (Model G Only)
Mounting Connection:	flange with 7.5" (190.5mm) bolt circle Pressure Rating: atmospheric pressure only
Wire Entry:	1/2" NPT
Diaphragm Material:	neoprene, reinforced Teflon [®] , or 321ss (GX-SS only)
Operating Temperature:	
G/GX w/neoprene:	-40° to 180° F (-40° to 82°C)
G/GX w/Teflon [®] :	-40° to 250° F (-40° to 121°C)
GX-SS:	-40° to 250° F (-40° to 121°C)
Weight:	
G, GX, GX-SS:	3.25 lb (1.5 kg)
Approvals:	G - CSA _{US/C} ordinary locations GX, GX-SS - UL and CSA Class II Div. 1,2 Groups F,G; CE marking (ordinary locations only)
Minimum Vessel Dia.:	12' (Smaller vessels will require modifications and extra gasketing.)

WARRANTY

Monitor Technologies LLC warrants each **BINATROL**[®] diaphragm bin monitor 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 a 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.

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