

NFPA ROTARY AIRLOCK FEEDER APPLICATION DATA SHEET



Company _____	Date _____
Contact _____	Salesperson _____
Phone _____	Fax _____
Job Ref _____	

293-K-003

NFPA EXPLOSION MITIGATION STRATEGY	
<p><input type="checkbox"/> Choose One of the following: <input type="checkbox"/></p> <p><input type="checkbox"/> NFPA 68 - Venting (Employed by Others)</p> <p><input type="checkbox"/> NFPA 69 - Suppression (Employed by Others) P(red) _____ PSIG/BARG</p> <p><input type="checkbox"/> NFPA 85 - 50 PSIG Containment - Pulverized Fuel Pmax _____ PSIG/BARG</p> <p><input type="checkbox"/> NFPA 69 - Containment Kst of Material _____</p> <p><input type="checkbox"/> NFPA - Other (Please Specify) _____ NFPA 69 - Isolation (12.2.4.2) - Select if required ONLY</p>	
Required fields:	
FUNCTION OF VALVE	MATERIAL CHARACTERISTICS
<p><input type="checkbox"/> Airlock</p> <p><input type="checkbox"/> Feeder</p> <p><input type="checkbox"/> Airlock / Feeder</p>	<p>COMMON NAME: _____</p> <p>CHEMICAL FORMULA: _____</p> <p>BULK DENSITY, AERATED: _____ Lbs./Cu.Ft.</p> <p>BULK DENSITY, SETTLED: _____ Lbs./Cu.Ft.</p> <p>MAXIMUM PARTICLE SIZE: _____</p> <p>PARTICLE TYPE/SHAPE IS: <input type="checkbox"/> PELLET <input type="checkbox"/> POWDER <input type="checkbox"/> CHIP <input type="checkbox"/> LUMP <input type="checkbox"/> GRANULAR <input type="checkbox"/> FLAKE <input type="checkbox"/> CURL <input type="checkbox"/> FIBROUS</p> <p>MESH SIZE-ANGLE OF REPOSE IS: _____°</p> <p>_____%THRU 1/2" _____%THRU 1/4" _____%THRU 1/8" _____%THRU 1/16" _____%THRU 25 _____%THRU 50 _____%THRU 100 _____%THRU 200 _____%THRU 400</p> <p>FLOWABILITY: <input type="checkbox"/> EXTREME <input type="checkbox"/> MODERATE <input type="checkbox"/> SLUGGISH</p> <p>MOISTURE CONTENT OF MATERIAL IS: _____%</p> <p>TEMPERATURE OF MATERIAL IS: _____°F</p> <p style="text-align: center;">SPECIAL CHARACTERISTICS:</p> <p><input type="checkbox"/> HYGROSCOPIC <input type="checkbox"/> CORROSIVE-REACTIVE <input type="checkbox"/> EXPLOSIVE <input type="checkbox"/> TOXIC-EMITS FUMES <input type="checkbox"/> STICKY-SMEARS <input type="checkbox"/> HEAT SENSITIVE <input type="checkbox"/> AERATES-DUSTY <input type="checkbox"/> TENDS TO PACK <input type="checkbox"/> OTHER: _____</p> <p>ABRASIVENESS: <input type="checkbox"/> EXTREME <input type="checkbox"/> MODERATE <input type="checkbox"/> MILD</p> <p>ALLOWABLE MATERIAL DEGRADATION IS: _____%</p>
WHAT IS ABOVE VALVE?	
<p>VALVE IS INSTALLED BENEATH:</p> <p><input type="checkbox"/> HOPPER <input type="checkbox"/> SILO <input type="checkbox"/> BAGHOUSE <input type="checkbox"/> CYCLONE <input type="checkbox"/> FILTER RECEIVER <input type="checkbox"/> SCREW <input type="checkbox"/> SHREDDER <input type="checkbox"/> DRYER <input type="checkbox"/> MIXER <input type="checkbox"/> OTHER: _____</p> <p>PRESSURE ABOVE VALVE IS: <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE <input type="checkbox"/> ATMOSPHERIC _____ PSI _____"Hg _____"H2O</p> <p>TEMPERATURE ABOVE VALVE IS: _____°F</p> <p>IS VALVE CHOKE-FED? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>HUMIDITY IS: <input type="checkbox"/> HIGH <input type="checkbox"/> AVERAGE <input type="checkbox"/> LOW</p>	
WHAT IS BELOW VALVE?	
<p>VALVE IS INSTALLED ABOVE:</p> <p><input type="checkbox"/> HOPPER <input type="checkbox"/> SCREW <input type="checkbox"/> AIRSLIDE <input type="checkbox"/> BELT <input type="checkbox"/> CHUTE <input type="checkbox"/> MIXER <input type="checkbox"/> TANK <input type="checkbox"/> VACUUM LINE <input type="checkbox"/> PRES. LINE <input type="checkbox"/> OTHER: _____</p> <p>PRESSURE BENEATH VALVE IS: <input type="checkbox"/> POSITIVE <input type="checkbox"/> NEGATIVE <input type="checkbox"/> ATMOSPHERIC _____ PSI _____"Hg _____"H2O</p> <p>TEMPERATURE BENEATH VALVE IS: _____°F</p> <p>DIAMETER OF CONVEYING LINE IS: _____</p> <p>HUMIDITY IS: <input type="checkbox"/> HIGH <input type="checkbox"/> AVERAGE <input type="checkbox"/> LOW</p> <p>WHAT IS THE AMBIENT TEMPERATURE? _____°F</p>	
	OPERATING CONDITIONS
	<p>CONSTANT RATE OF FLOW PER HOUR: _____ Tons _____ Lbs. _____ Cu.Ft.</p> <p>VARIABLE FEED RATE (IF REQUIRED) MAX: _____ AVG: _____ MIN: _____</p> <p>DUTY CYCLE: <input type="checkbox"/> CONTINUOUS <input type="checkbox"/> INTERMITTENT</p> <p>COMMENTS: _____ _____ _____</p>

NFPA Mitigation Strategy Specs

General (All NFPA Mitigation Strategies)

All NFPA airlock orders require complete application details (Pred Pmax, Kst, material, pressure differential, temperatures, etc.). Meyer WILL NOT process an order without this information. OSHA requires a Dust Hazard Analysis be performed on explosive dusts prior to fabrication of NFPA rated equipment and the results provided to equipment vendors. The Pmax and Kst must be provided along with the Pred (when required) in order to satisfy the OSHA requirements.

When applying a rotary airlock, the end user is responsible for compliance of other aspects of NFPA not directly related to the rotary airlock scope that Meyer supplies.

In the event of a deflagration event or fire, Meyer will neither warrant parts nor guarantee the airlock will be operational thereafter. In particular, after such an event, Meyer recommends inspection and testing to assure the airlock functions normally. This may include repair and/or replacement of some parts or the entire airlock.

Choose One of the Following:

NFPA 68 (Deflagration Venting)

The maximum pressure developed in a vented enclosure during a vented deflagration (Pred) must be provided as defined by NFPA 68.

NFPA 69 (Deflagration Suppression)

Explosion prevention (suppression) within the process system in which Meyer's equipment will operate will be provided by others in accordance with NFPA 69 "Suppression". Pred must also be provided as defined by NFPA 69.

NFPA 69 (Oxidant Concentration Reduction)

Explosion prevention (suppression) within the process system in which Meyer's equipment will operate will be provided by others in accordance with NFPA 69 "Oxidant Concentration Reduction".

NFPA 69 (Combustible Concentration Reduction)

Explosion prevention (suppression) within the process system in which Meyer's equipment will operate will be provided by others in accordance with NFPA 69 "Combustible Concentration Reduction".

NFPA 69(Containment)

The Equipment will contain a deflagration pressure of Pmax as defined by NFPA 69 "Containment".

NFPA 85 (Containment – Pulverized Fuel)

The Equipment will contain a deflagration event of 50 PSIG as defined by NFPA 85.

Choose If Required:

NFPA 69 (Isolation)

Deflagration Isolation - Section 12.2.4 (NFPA 69 – 2014)

COMPLIANCE WITH NFPA 69 "DEFLAGRATION ISOLATION" IS BASED ON THE FOLLOWING:

- A. Two vanes within the airlock will be maintaining a seal at all times on each side (WWM eight vane rotary airlocks comply with this requirement).
- B. External (outboard) bearings.
- C. Internal Clearances under 0.0079" when operating at quoted Design Temperature. This gap MUST be maintained by the END USER to assure Deflagration Isolation capability is preserved.
- D. An independent explosion detection device or interlock (not provided by Meyer) from an explosion prevention or control system on the same protected enclosure shall be interlocked to automatically stop the rotary airlock upon a deflagration event.