# Vibro 320 Series

VIBRATING FORK LEVEL LIMIT SWITCH
(WITH PIEZO ELECTRIC CRYSTAL)

## APPLICATIONS

Orion Vibro is used with all powdery and granulated bulk materials of coarse grade, for level monitoring (detection) in all types of containers and silos. Vibrating level switch with capability to adjust sensing precision.

### A SELECTION OF FIELDS OF APPLICATION

- In Building Materials Industry; plaster, lime, fine sand, dolomite, calcite, perlite plaster, cement, rock, coal, pulverised coal dust, etc.
- In Food Industry; fodder, seed, flour, salt, sugar etc.
- In Plastics Industry; plastic granules etc.

### FUNCTIONS

Fitted to the vibrating level switch at its frontal end is a piezo-electrically stimulated oscillating fork, which electronically registers the loss of vibration and the damping thus generated if the probe is covered by the bulk material so that it can no longer vibrate and actuates a corresponding signal output Detection settings can be made as required, depending on the specific weight of material processed.





## TECHNICAL DATA

### ELECTRICAL SPECIFICATIONS

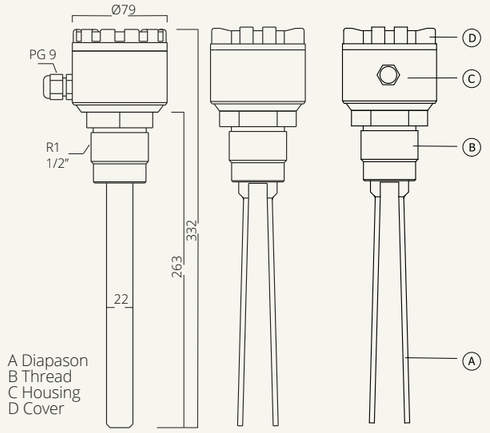
| | |
|---|---|
| Connection Terminals | Max. 2mm² (AWG 14) cable entry |
| Sleeve | PG9 |
| Power Supply 24V | 24V AC/DC +-30% max. 2.0W |
| Signal Output | 1 inverter relay AC max. 250V, 1A, 500VA resistive load |
| Signal Delay | Max. 1.0 sec. |
| Protection Class | IP68 (with cover in closed position and 4.... 8 mm thick rated cables used and sleeve fully torqued) |

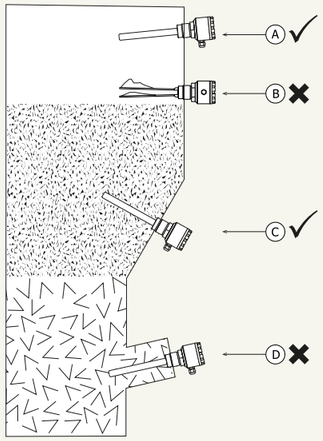
### MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Housing | Option L: PC-ABS, Option A: Aluminum machining processing |
| Probe | IP68 |
| Screw Material | Stainless Steel SS316 |
| Screw Size | R 1½. DIN 259 whit worth threads |
| Oscillating Fork | Stainless Steel SS316 |
| Housing External Surfaces | Alodine coating finished with electrostatic powder paint RAL6014 (Option A) |
| Overall weight | 1.16 kg |

### WORKING CONDITIONS

| | |
|---|---|
| Ambient Temperature | -20°C.. +60°C (outside) |
| Process Temperature | -20°C.. +100°C (material) |
| Min. Sensing Resolution | 20 g/l |
| Vibrating Frequency | 80 Hz |
| Max. Particle Size | 6 mm (without a shield) |
| Max. Mechanical Load | 500 N laterally |
| Max. Traction Force | 1 kN |
| Max. Internal Silo Pressure | 10 bars |
| Max. Vibration in operation | N/A |




### MECHANICAL INSTALLATION

- Should be kept away from the point of material entry.
- It is better to have the cable entry in downward position, to prevent water intrusion.
- Where extremely heavy materials are processed, a shield should be provided to protect the shaft, thus reduce the amount of force exerted on the shaft.
- The device should be operated with its rear cover entirely closed, for water-tightness.
- Do not mount on vibrating surfaces or vibrating surfaces.

A- For checking fullness at mounting spot.
B- Wrong mounting procedure.
C- For detecting minimum level at mounting spot.
D- Wrong mounting procedure

### ORDERING CODES

VBR0320L-24VDC 24V supply type
VBR0320A-24VDC with 24V supply type 2 types are sold.

### COMPLIANCE TO APPLICABLE NORMS

### CE COMPLIANCE

| | |
|---|---|
| EN 61000-6-4:2001 | Generic emission standard. Industrial environments. |
| EN 61000-6-2:2005 | Generic emission standard. Industrial environment. |
| EN 61010-1:2001 | Safety requirements for electrical equipment for measurement, control, and laboratory use. |