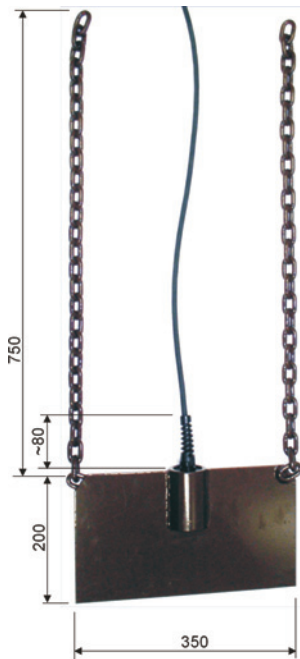


RHP-5 Sx1y Flap-type Overfill Detector



Flap-type overfill detector
[mm]

Sample application of the flap-type detector

The flap-type overfill detector has a rectangular shape with a tube installed vertically. Chains with the length of 750 mm are welded in the top beveled corners of the detector. The chains are used for suspending the sensor to the required position.

Description

The RHP-5 Sx1y overfill detector (hereinafter "overflow detector") is designed for indicating congestions of the conveyor and chute overflows with a material. The product is used especially for the self-acting shutdown of the automated conveyor lines.

The overflow detector may be used for all materials of fine up to medium grain size, whose properties (e.g. aggressiveness, abrasiveness) do not cause undesirable mechanical damage to the overflow detector.

Materials compatible with the detector include washed and raw coal, intermediate product, gangue, coke, iron ore, limestone, gravel, and materials of a bulky nature.

The pre-requisite of a correct operation is that the material causing congestion of the overflow forms a loose cone, which will deflect, with increasing congestion, the suspended section of the overflow detector by at least 20° up to 25° from the vertical position.

Application

The overflow detector thus cannot be used for materials that allow the suspended section to sink into the material conveyed.

The overflow detector is not designed for installation to the mobile equipment, such as mobile conveyers, vibratory feeders, and so on, and to equipment, the vibration of which could cause a spontaneous activation through the sensor vibration.

Function

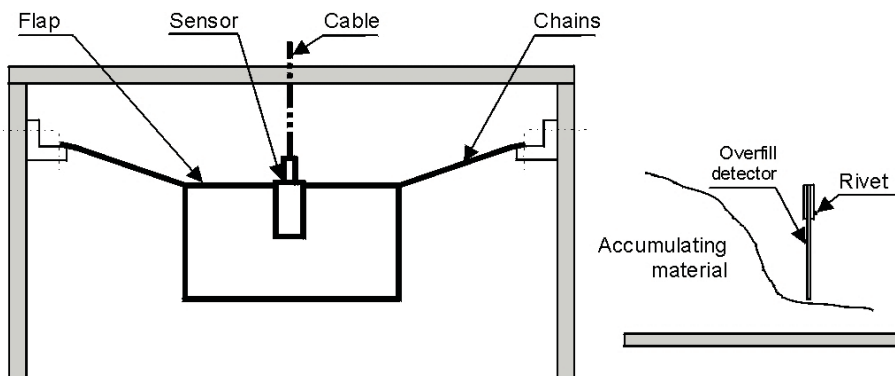
The principle of the overflow congestion indication by means of the overflow detector utilizes the spherical induction switch, which trips when deflected from the vertical axis.

Due to this, it is necessary to locate the overflow detector so that the flap moves, when a congestion occurs, to the side of the cone formed by the material conveyed in case of congestion. As the congestion increases, the flap is deflected by a given angle.

The overflow evaluation should be time-based to eliminate incidental short-term displacements caused e.g. by rebounding material

Design

The RHP-5 Sx1y flap-type overfill detector is made as unidirectional (deflection in a single direction only).



The catalogue sheet contains only some parameters important for your decision. For planning always require a corresponding user manual and eventually a technical consultation on the possibilities of use.

RHP-5 Sx1y Flap-type Overflow Detector

Material

The detectors are made of the steel plate with a thickness of 3 mm. All types of detectors including suspended components are powder coated in brown color. The sensor itself is located in the steel pipe welded at the upper section of the detector. The sensor cable is routed upwards from the sensor in the flexible metallic protector coated with the PVC foil.

Installation and assembly

The overflow detector is mounted to the overflow cover or to the support structure above the overflow or chute, always from the loose material cone in the material motion direction.

The installation location shall be selected so that the detector disconnects, even with activated delay, the feeding conveyer drive before hazardous congestion and deactivation of the drive by its own protection occur.

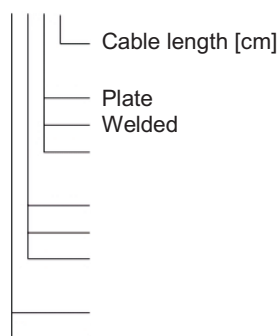
When locating the unit it is necessary to ensure the minimum number of incidental deflections (caused by the rebounding material, vibrations, and so on). The number shall not exceed value, which can still be eliminated by setting the delay. The chain suspensions of the overflow detector are attached to the support structure (e.g. to the overflow cover) by two M10 bolts.

The chain suspensions can be shortened as needed.

The sensor shall be suspended so that the rivet on its front side faces towards the accumulating material.

Type designation and ordering

RHP – 5 - XXXY



Technical parameters

Technical parameters:

| | |
|---------------------------------------|--|
| Detector weight incl. flap | 5,5 kg |
| Detector dimensions incl. flap | 200 x 350 x 58 mm |
| Detector chains length incl.flap | 750 mm |
| Ambient temperature range | -25°C - +70°C |
| Switching system: | |
| PNP output - three-wire | |
| Supply voltage | 10...30V DC |
| Voltage loss | <= 1,5V při $I_{a \max}$ |
| Constant current, $I_{a \max}$ | <= 300mA |
| Wire cross-section | 0,25 mm ² |
| Wire length | approx. 2m or 5m |
| Delay | 2ms |
| Supply voltage | 20...250V AC |
| 230 V AC output - twisted-pair | |
| Voltage loss | <= 8,5V při $I_{a \max}$ |
| Constant current, $I_{a \max}$ | <= 250mA (...+50°C) <= 200mA (...+80°C) |
| Wire cross-section | 0,5 mm ² |
| Wire length | approx. 2m |
| Delay | <= 10ms |
| NAMUR | |
| Supply voltage | 5...25V DC |
| Current consumption, unloaded | <= 1mA |
| Current consumption, loaded | >= 2,2mA |
| Wire cross-section | 0,5 mm ² |
| Wire length | approx. 2m |
| IP rating | IP 54 |

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