GRANO

As a mass flow controller, the GRANO differential dosing scale precisely doses a pre-selected quantity of product and registers the total weight in grams. The differential dosing scale serves as a mass flow meter for the accurate measuring of a given product flow. For an absolutely constant and exact measure of grain mixtures, the differential dosing scale is used below silos, raw product bins and tempering bins.

WHEAT

BARLEY

OATS

RYE

RICE

CORN

FEED

MALT

SWISCO

DIFFERENTIAL DOSING SCALE

GRANO

Type	Diameter mm	Height mm	Wheat measuring t/h	Wheat dosing t/h	Barley/Corn measuring t/h	Barley/Corn dosing t/h	Oats/Malt measuring t/h	Oats/Malt dosing t/h
20	400	882	5.6	7	4.3	5.3	3.6	4.5
35	400	1032	9.6	12	7.3	9.1	6.1	7.7
65	500	1342	19.2	24	14.6	18.2	12.3	15.4
145	500	1587	48	60	36.5	45.6	30.7	38.4
220	600	2097	64	80	48.6	60.8	41	51.2

DENSI

Type	Diameter mm	Height mm	Wheat measuring t/h	Barley/Corn measuring t/h	Oats/Malt measuring t/h
35	400	1641	9.6	7.3	6.1
65	500	1871	19.2	14.6	12.3
145	500	2346	48	36.5	30.7

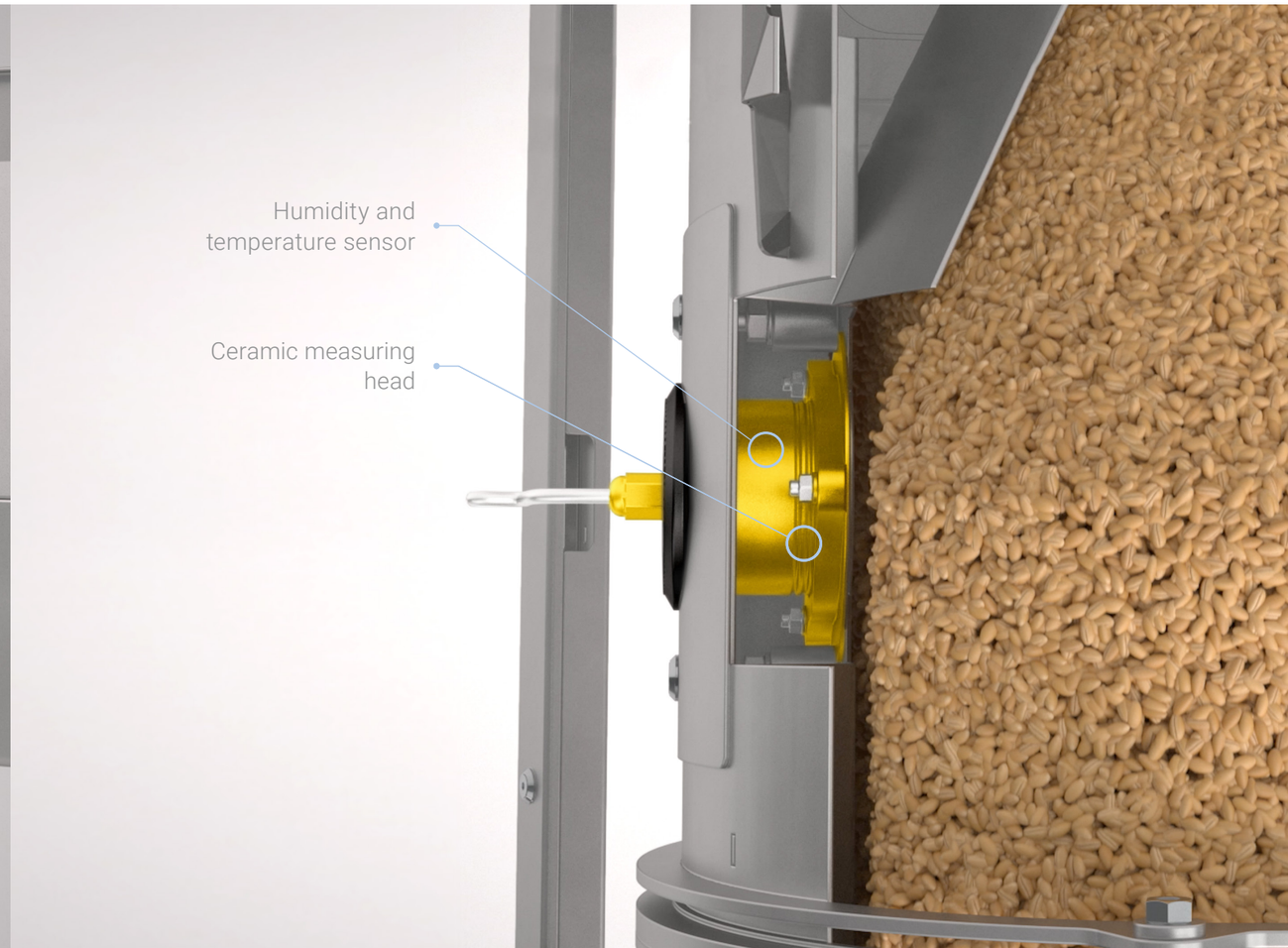
For grain processing in a continuously operating setting, accurate measurement and exact regulation are made possible by innovative drive and measurement technology. The differential dosing scale GRANO is suitable for weight-oriented measurement of quantity, performance-oriented process control and recipe-oriented mixtures. The flow quantity of a free-flowing product is precisely determined, the capacity is precisely regulated, and the total weight is accurately recorded. An extraordinarily robust control system with touchscreen, along the precise swisca measuring cells used in our dosing scales, guarantee the highest quality and reliability.

DENSITY

As a mass flow controller, the GRANO differential dosing scale with the DENSI additional equipment doses a selectable output, registers the total weight and simultaneously measures the density of the product in the weighing container. As a mass flow meter, product flow and product density are measured online. The quality of the data for in-plant process monitoring can be improved by measuring the product density, because the measurement of the mass flow depends on the product density. An innovative control system allows easy calibration of the density measurement and accurate comparison with empirical values determined in the laboratory. The measurements of mass flow and density are suitable for optimising and continuously monitoring internal processes online. The DENSI add-on equipment is also suitable for retrofitting existing GRANO differential weighfeeders if the installation conditions permit a higher installation height.

TEMPERATURE MOISTURE

The GRANO differential dosing scale with the additional MOIST sensor doses a selectable output as a mass flow controller, registers the total weight and simultaneously measures the moisture and temperature of the product in the weighing container. As a mass flow meter, the moisture and temperature are measured online in addition to the product flow. The quality of the data for internal process monitoring can be improved by measuring the product temperature and product moisture, because the measurement of the mass flow depends on the product moisture. An innovative control system allows easy calibration of the capacitive moisture sensor and accurate comparison with empirical values determined in the laboratory. The measurements of mass flow, temperature and moisture are also necessary to determine an exact addition of the wetting water quantity or are suitable for optimising and continuously monitoring internal processes online. The additional sensor with ceramic MOIST measuring head is also suitable for retrofitting existing GRANO differential weighfeeders.



ACCURACY

The differential weigh feeder GRANO with the additional equipment GRAVI doses a selectable capacity as a mass flow controller and registers the total weight with even higher accuracy. Innovative control technology and weighing algorithms process the force measurement after the dosing slide even during refilling. The measurement uncertainty during refilling of the scale is compensated by the force measurement and the measurement accuracy is approximately doubled. Thanks to the force measurement, the system always works gravimetrically and the opening of the dosing slide can be continuously monitored and adjusted. The advantages of high accuracy and the continuous process of a differential scale are optimally combined. The shortfall for an inventory in a mill operation with a B1 differential weighfeeder GRANO with the additional equipment GRAVI thus becomes up to ten times more accurate. Higher accuracy is advantageous for determining constant wetting conditions and exact addition of the amount of wetting water. The GRAVI additional equipment is also suitable for retrofitting existing GRANO differential proportioning scales.

Mettlenstrasse 10 | 9050 Appenzell | Schweiz

SWISCA

+41 71 552 44 00 | www.swisca.com | info@swisca.com