BULK DENSITY SYSTEM - BDS™

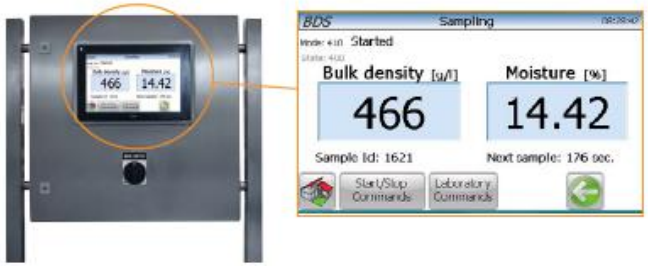
BDS™
BULK DENSITY SYSTEM

Sampler model BDS™

Empty cup prior to sampling

Overfilled cup after sampling

Scraped cup prior to weighing



Control System for BDS™

ANALYTICAL PARAMETERS

- Bulk Density
- Moisture Index (Resonance) *
- External sample
- Temperature *
- Visual product inspection*

* Option

ADVANTAGES

- Eliminates manual resources for sampling and analysis.
- Actual bulk density every 60 seconds.
- Full control of product quality.
- Improve performance of essential key process equipment such as extruders and dryers.

BDS™
CONFIGURATE YOUR OWN SAMPLER

EXTERNAL SAMLING
By-pass chute for external product release

BULK DENSITY
Loss-on-weight principle by means of high-performance load cell technology

MOISTURE (RESONANCE)
Moisture sensor based on resonance technology integrated in the sampling cup

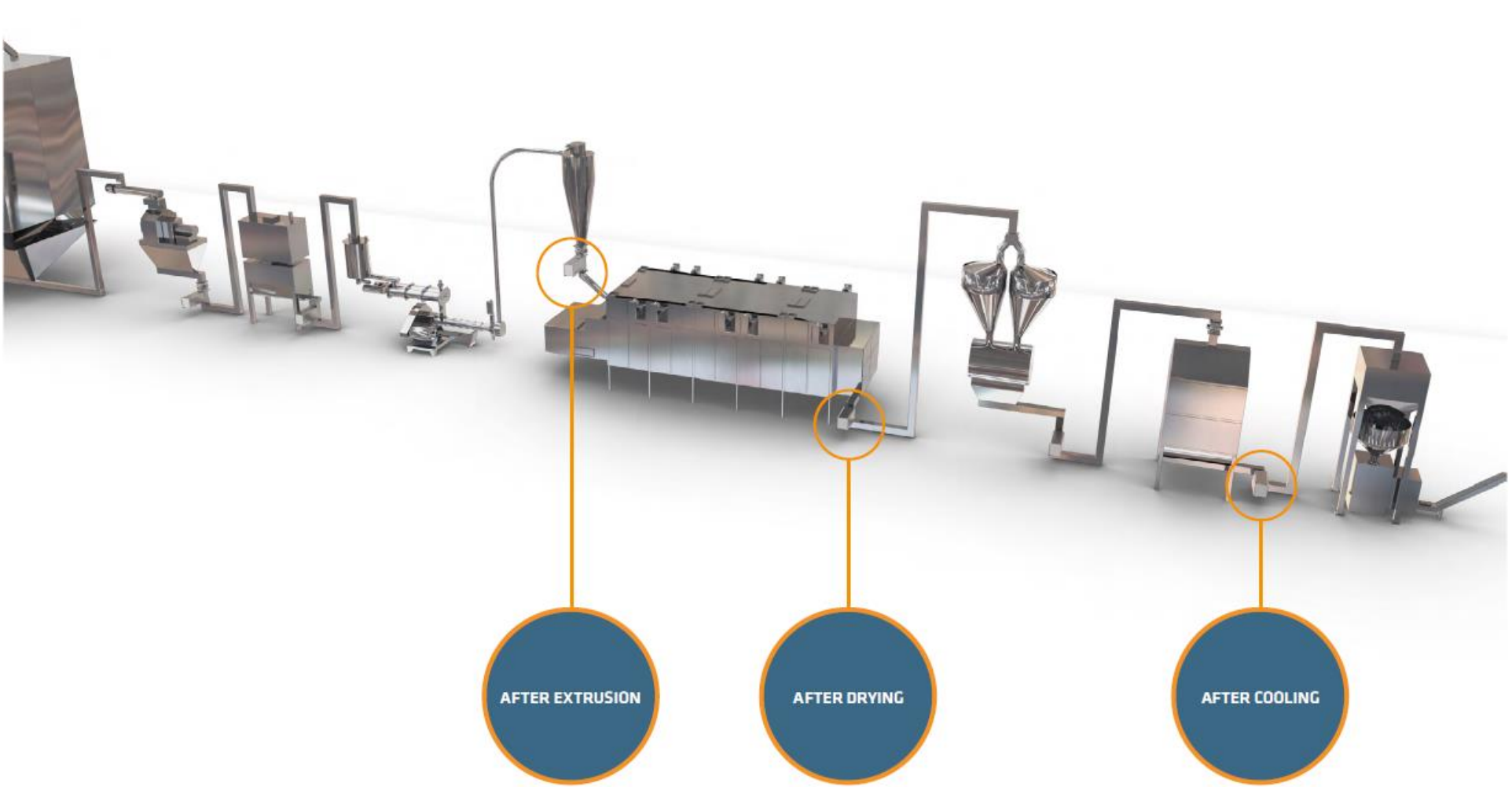
TEMPERATURE
Infrared sensor for instant temperature measurement

VISUAL PRODUCT INSPECTION
Vision camera and software for presenting an image of the product in the sampling cup after for example extrusion

Description

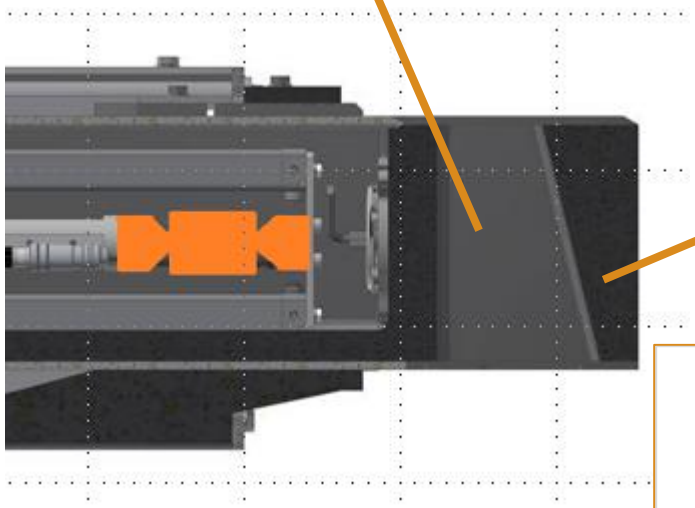
The Bulk Density System provides frequent inline sampling and analysis of the bulk density as well as moisture index (option) and visual product inspection (option). A very high measuring accuracy for all type of pellets ensures superior control of essential process equipment such as for example extruders and dryers. By frequent analysing the pellet quality, problems in terms of over or under filled bags, mouth feel, starch gelatinization, bacteria growth and fat absorption are minimized.

BDS™
BULK DENSITY SYSTEM – WHERE TO MEASURE

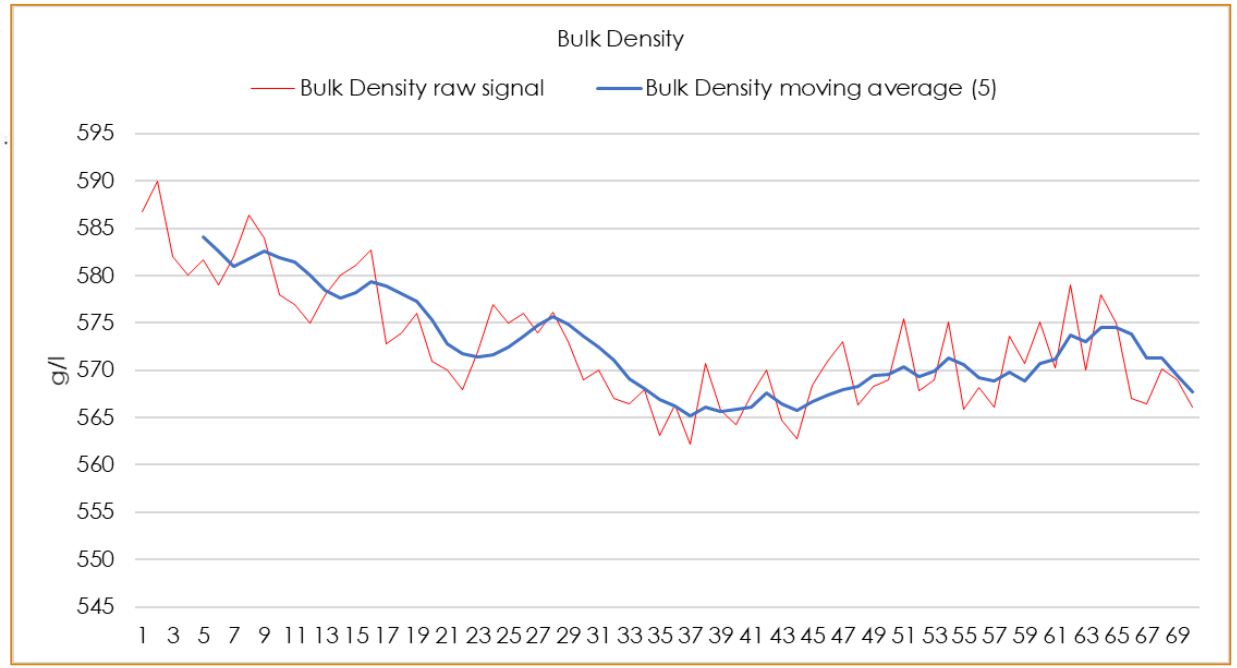


BDS™
BULK DENSITY MEASUREMENT

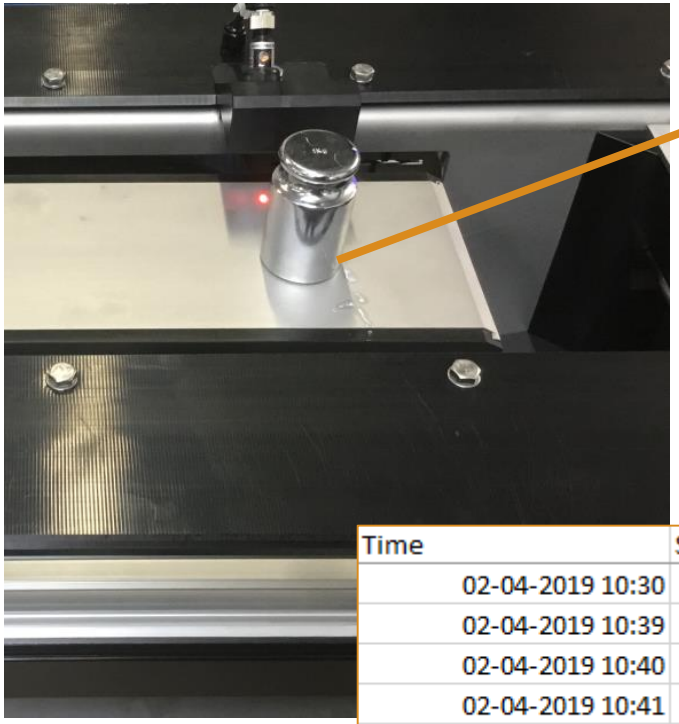
Sample volume 1,8 Liter



Conical shape of sample cup



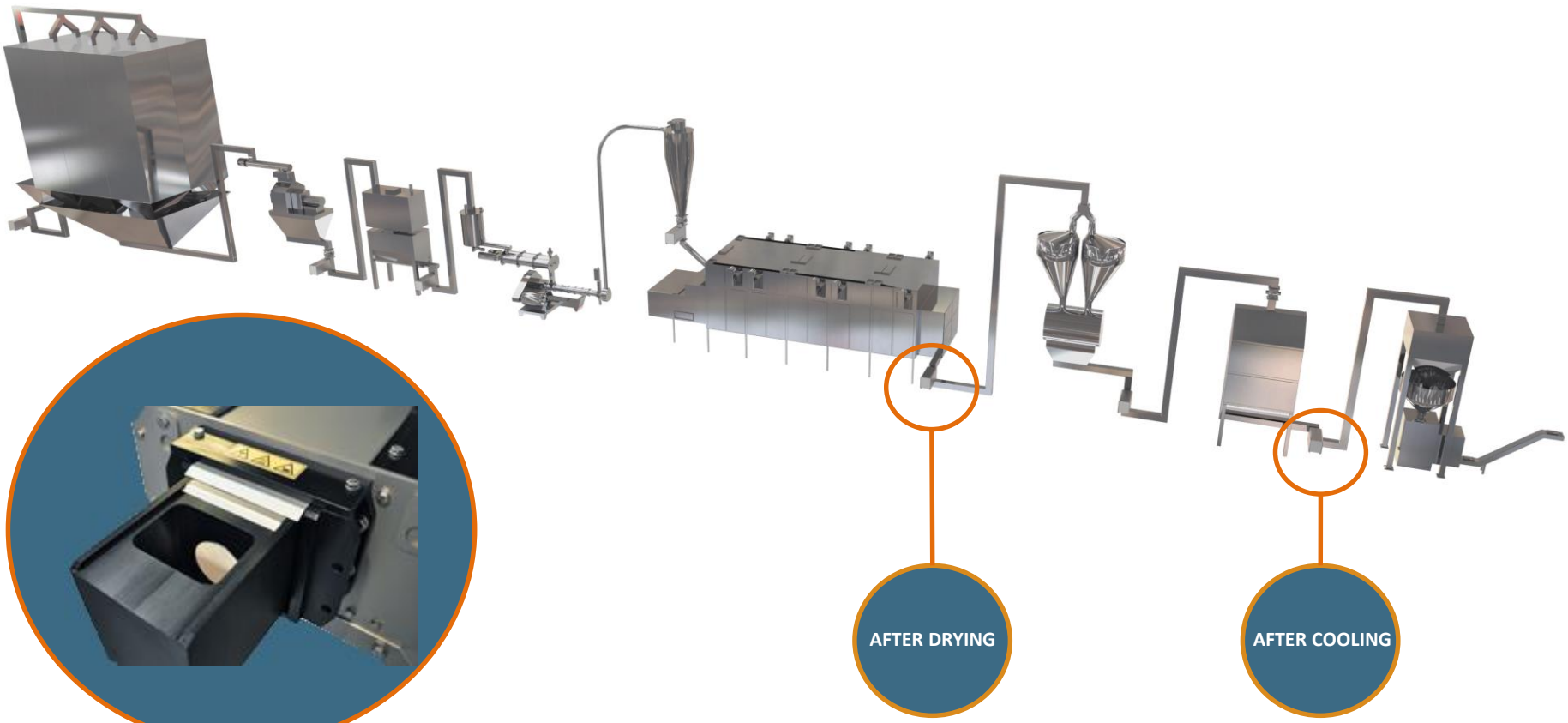
BDS™
BULK DENSITY MEASUREMENT



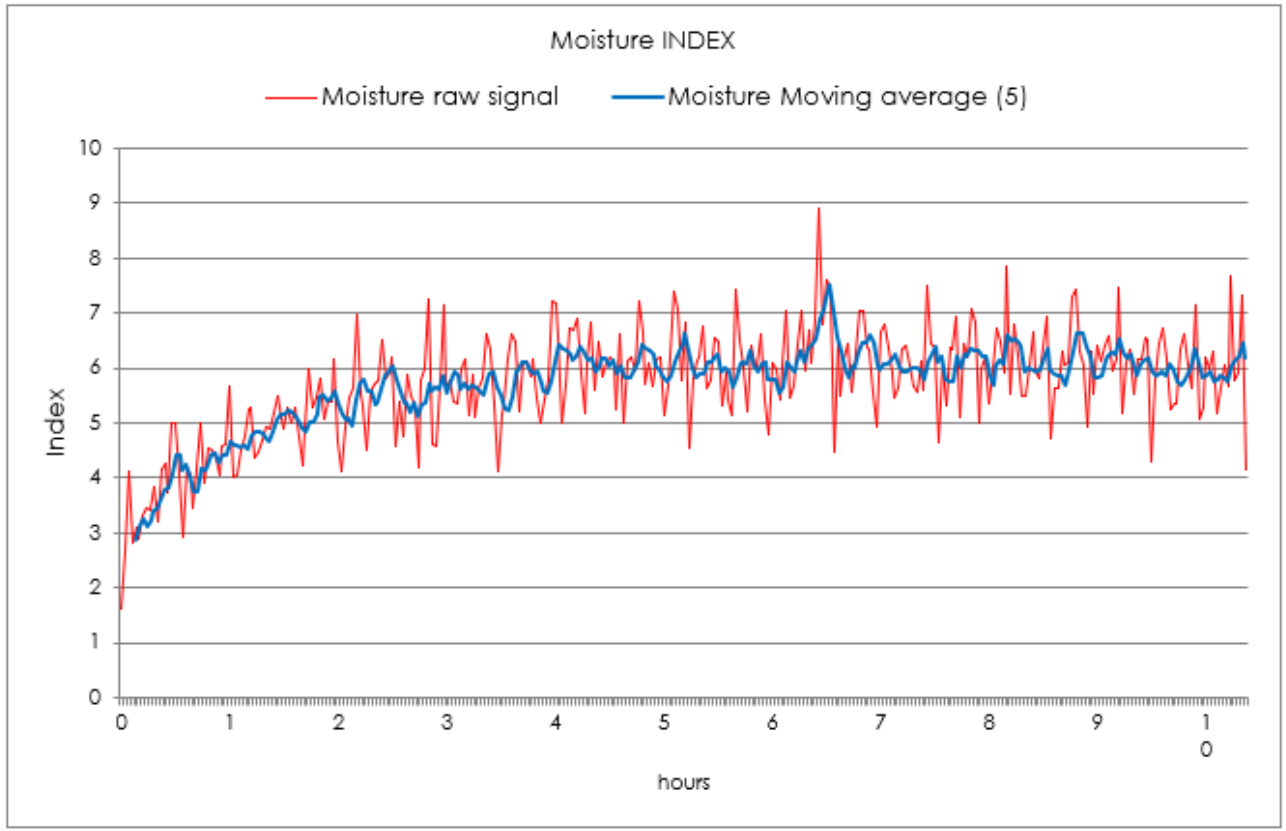
1kg load is used for test of weighing accuracy

Time	SampleId	ProductCode	ProductName	DensityGroup	MoistureGroup	Filling	Weight	Density
02-04-2019 10:30	0	0		0	0	0	0	0
02-04-2019 10:39	1	0		0	0	100	1002	541
02-04-2019 10:40	2	0		0	0	100	1000	540
02-04-2019 10:41	3	0		0	0	100	1000	540
02-04-2019 10:42	4	0		0	0	100	1000	540
02-04-2019 10:42	5	0		0	0	100	1001	541
02-04-2019 10:43	6	0		0	0	100	1000	541
02-04-2019 10:44	7	0		0	0	100	1004	544
02-04-2019 10:44	8	0		0	0	100	1000	540
02-04-2019 10:45	9	0		0	0	100	999	540
02-04-2019 10:49	10	0		0	0	100	1002	541

BDS™
MOISTURE INDEX AND BULK DENSITY MEASUREMENT



BDS™
MOISTURE INDEX AND BULK DENSITY MEASUREMENT

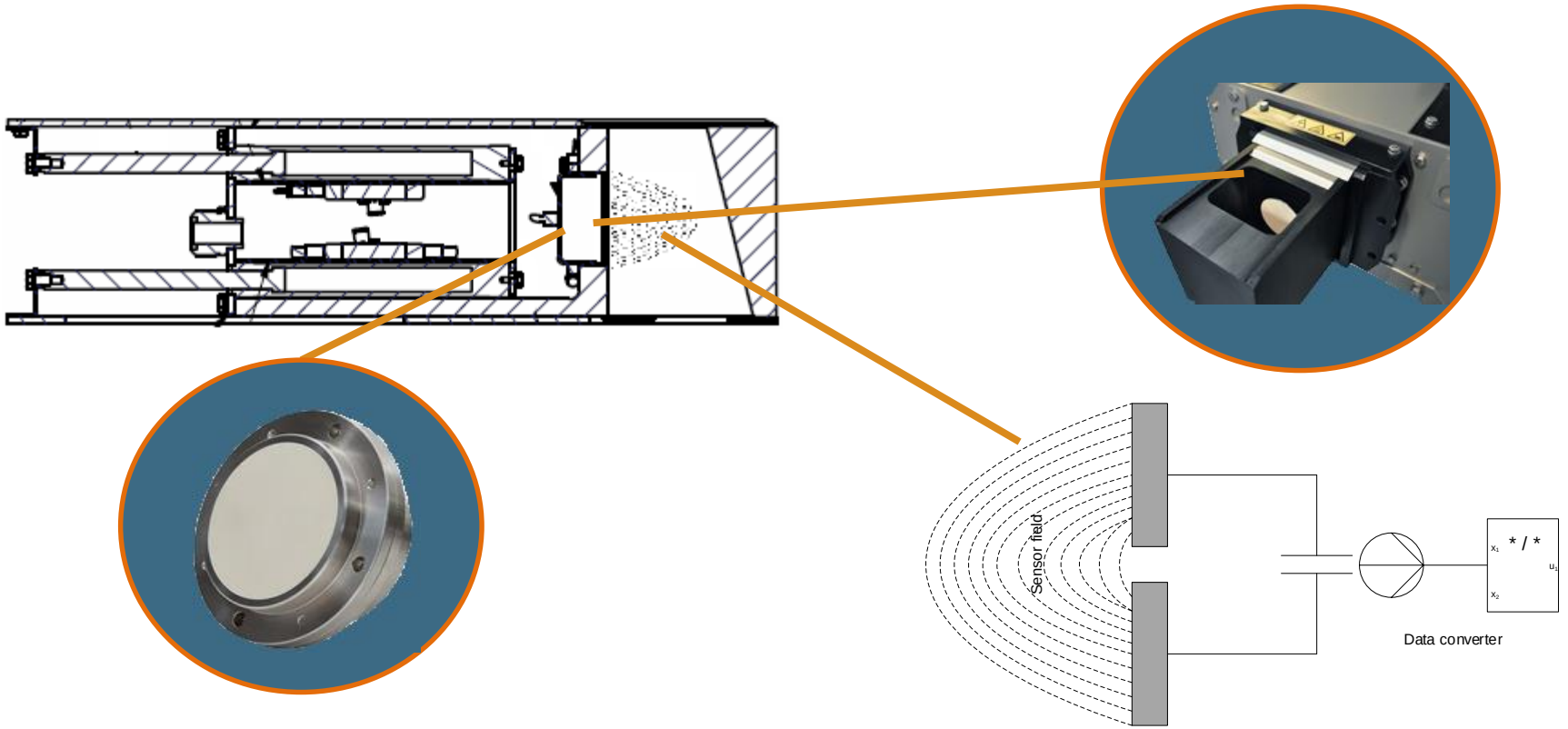


Moisture sensor integrated inside sample cup

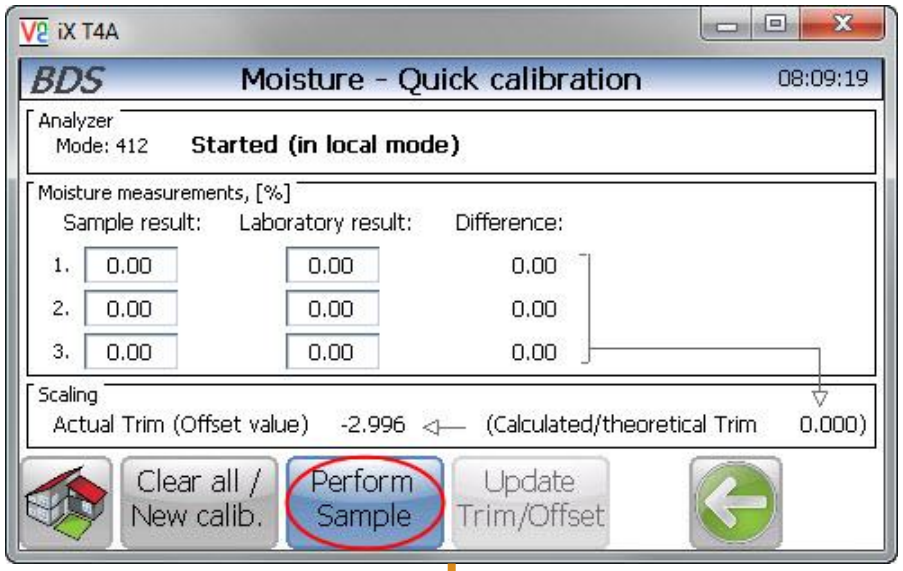
BDS™
MOISTURE MEASUREMENT PRINCIP

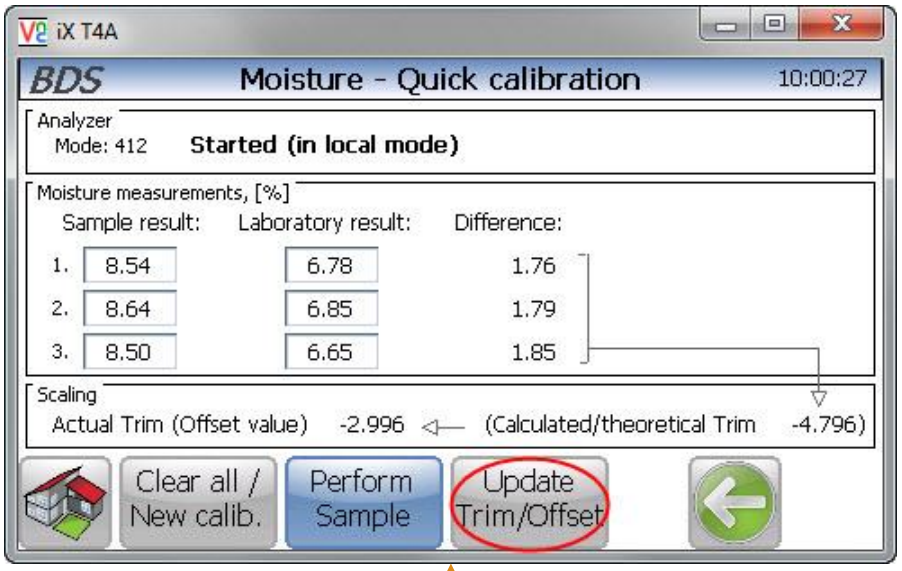
The Sensor is to be considered as a capacitor, which is connected to a power/frequency source.
When material is placed in front of the Sensor head, its arched field lines will permeate the material.
The capacitor will change its capacity depending on the moisture. The changes in the capacitance of the sensor will be transmitted to a data converter, which will convert the data into a measured moisture %.

Due to the various relative dielectric constants of the respective individual materials, the measurement signal must be evaluated specifically for each material



BDS™
MOISTURE QUICK CALIBRATION

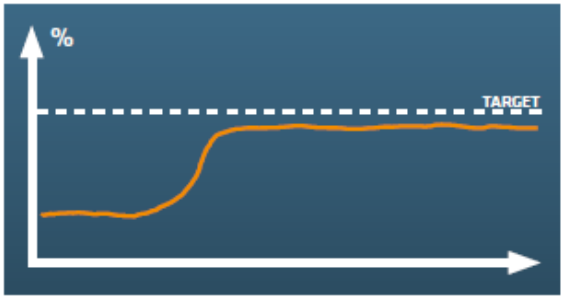




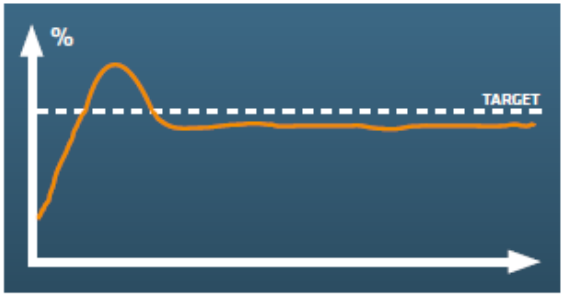
BDS™
BULK DENSITY SYSTEM
INTERFACE TO CUSTOMER CONTROL SYSTEM

Analog/Digital
EtherNet IP
Profibus
ModBus TCP/IP

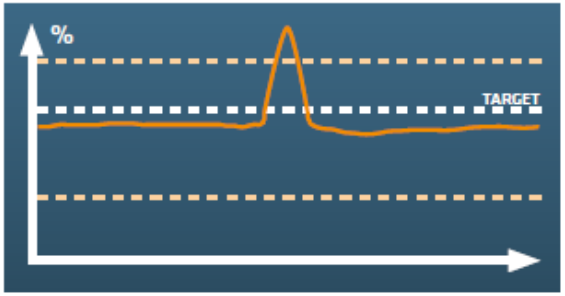
REDUCE GIVE-AWAY



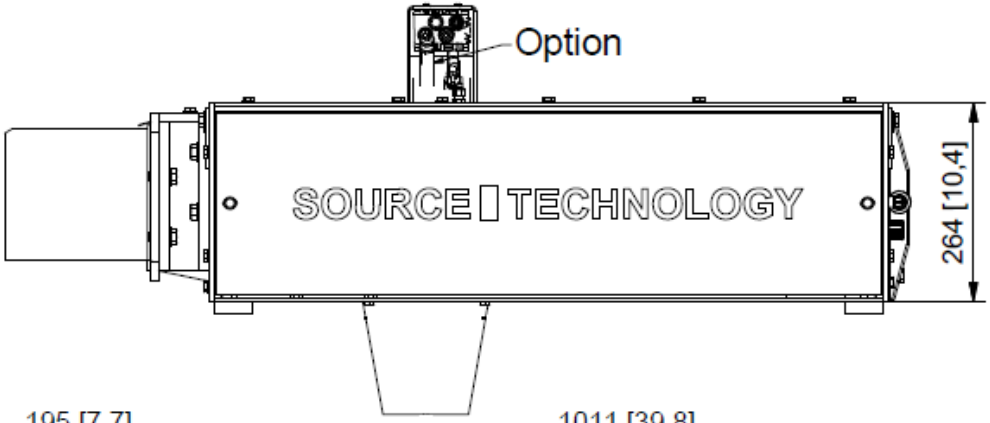
IMPROVE START-UP PROCEDURE

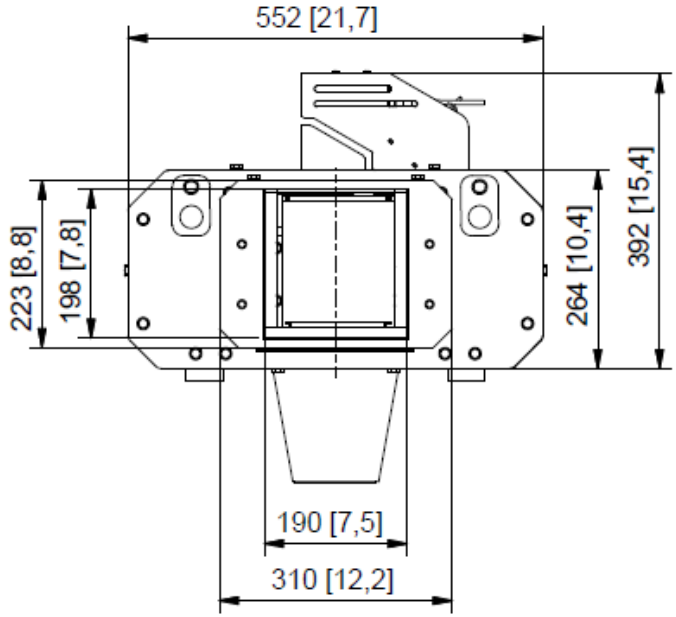


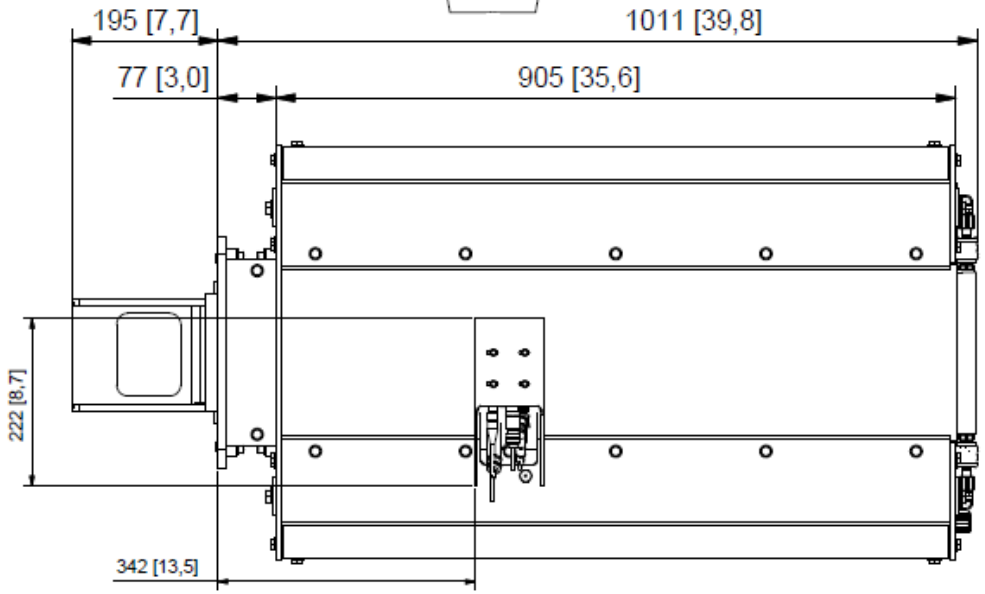
ALARM WHEN OUT OF SPECIFICATIONS

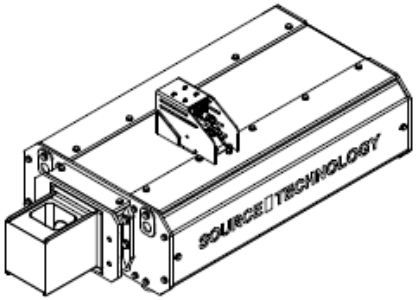


BDS™
BULK DENSITY SYSTEM – DIMENSIONS









BDS™
BULK DENSITY SYSTEM ON YOU-TUBE

CLICK HERE TO WATCH VIDEO ON YOU-TUBE