

# MEASURING METHOD

| Property             | Near Infrared (NIR)                | Capacitive                    | TEWS-Microwave Resonance                       |
|----------------------|------------------------------------|-------------------------------|--|
| Mode of operation    | Analysis of optical spectral lines | Measurement of permittivity   | Measurement of resonance shift and attenuation |
| What can be measured | Moisture, fat, protein, sugar etc. | Moisture                      | Moisture                                       |
| Contact with product | Non-touching                       | Touching                      | Touching                                       |
| Depth of penetration | Surface only                       | Core                          | Core   |
| Calibration          | Complex (modelling)                | Simple                        | Simple   |
| Moisture range       | Limited, depending on product      | Limited, depending on product | Limited, depending on product                  |

## INTERFERING FACTORS

|   |   |   |   |
|---|---|---|---|
| Moisture range  | ✔ | ⚠ | ⚠ |
| Varying sensor filling level                                    | ✔ | ⚠ | ✔ |
| Independent of salt content of product                          | ✔ | ⚠ | ✔ |
| Varying product density   | ✔ | ⚠ | ✔ |
| Independent of small changes in composition and natural changes | ⚠ | ⚠ | ✔ |
| Varying product color   | ⚠ | ✔ | ✔ |
| Varying product surface structure                               | ⚠ | ✔ | ✔ |
| Varying temperature   | ⚠ | x | ✔ |
| Dust / dirty atmosphere   | ⚠ | ✔ | ✔ |
| Black product (light absorbing)                                 | ⚠ | ✔ | ✔ |
| Ambient light   | ⚠ | ✔ | ✔ |

✔ Not affected

⚠ Potentially problematic

x Compensation possible