

## Moisture Measurement on Butter

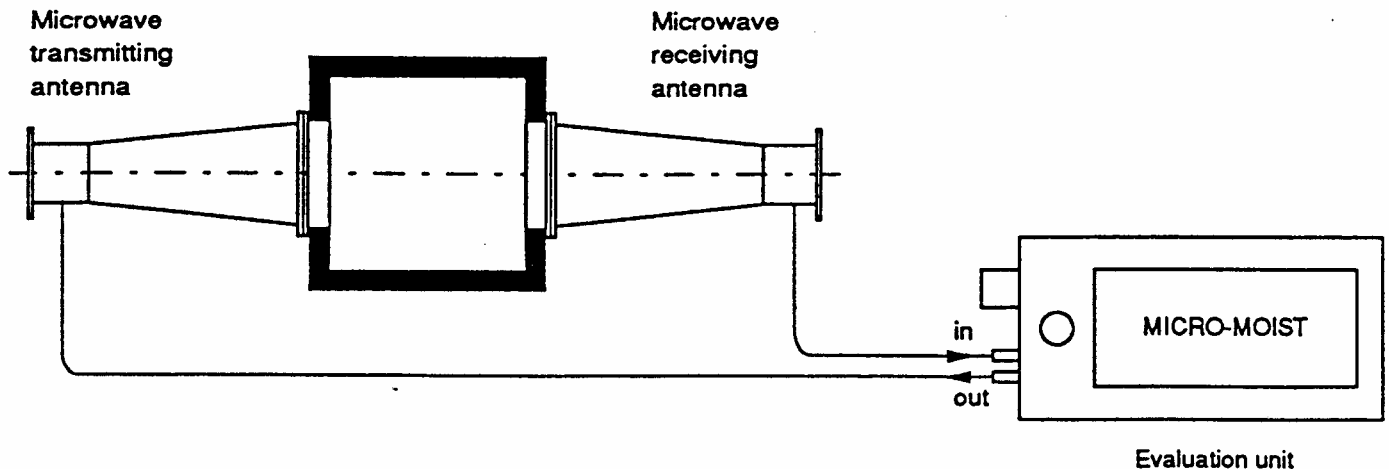
Fine butter and salted butter (salt content approx. 2 %) may have a water content of 14 % to 18 % at the most after delivery by the butter worker. The quality criteria stipulate that only butter with a max. water content of 16% may be sold. If the moisture content is too low, on the other hand, the butter specific characteristics may be adversely affected.

### Goal

The non-contacting, non-destructive on-line moisture measurement meets the hygienic requirements of the production process; it should rule out the chance of packing butter with a higher moisture content than the legal stipulations allow. In this case, drier butter may be added. If the moisture content is too low, water may be added prior-to the homogenizing process. Both steps can be done using the variable "water content" supplied by the microwave measuring system LB 456 MICRO-MOIST.

### Measurement Conditions

In a French dairy, butter is delivered in a continuous strand having a cross-section of 180 mm x 180 mm through a steel chute having the same dimensions. A horizontal microwave transmission is carried out in the frequency range of 3 GHz, using the moisture measuring system MICRO-MOIST. The respective horn antennae are mounted directly outside the delivery chute and transmit glass windows, which have the same dimensions as the outlet area of the horn antennae. This arrangement ensures a virtually even transmission of the entire butter cross-section and thus guarantees a representative determination of the moisture content.



The microwave horn antennae as well as the circular antennae can be used for this measurement. These circular antennae according to drwg no 1318.016-00 are very compact and therefore excellently suited to direct installation at the extruder outlet.

The photos below show an installation with horn antennae as well as with circular antennae:

