MEASUREMENT OF GRAIN MOISTURE IN FLOW

- Measurement of grain moisture in flow on grain-drying complexes
- Measurement of grain moisture in flow at flour-grinding enterprises
- Provision of input control of grain moisture in flow for elevator
The microwave grain flow moisture sensor "A-315" has been developed by the research team of OOO "Aquar-system" (Aquar-system, Ltd. Minsk, Belarus) and it is intended for:
- continuous automatic measurement of the current value moisture in the grain, leguminous and oil crops flow at the grain drying complexes, that allows to automate the process of drying;
- grain moisture measurement at flour milling plants and ensuring an effective technological cycle of moistening before milling it as a part of automatic moistening system;
- laboratory high-accurate grain moisture express-control.

ADVANTAGES:

As distinct from all the worldwide known grain moisture sensors, the grain flow moisture sensor "A 315" has the significant advantages:
- grain moisture indications are independent of it’s density that ensures high reliability of flow moisture measurement;
- additional calibration at the installation place is not required for all the crops during microwave sensor service life;
- all the characteristics of the moisture sensor are confirmed by certificates and included as grain flow moisture sensor in the State Register of measuring equipment.

Measured crops:
- Grain - wheat, barley, triticale, rye, oats, corn, millet, buckwheat;
- Leguminous crops - lupine;
- Oil crops - rape, sunflower.
*the number of crops can be increased to 25 kinds (species)

The moisture sensor is intended for work with other automatic devices, centralized control machinery and management systems where the information interchange is carried out through the RS-232, RS-485 interfaces or the current output.

ADVANTAGES:
- indication range of grain moisture in the flow (5-25)%
- permissible limit moisture measurement absolute error from 5% to 18% ±0,5%
- the moisture sensor provides an indication of grain crops moisture measurements in the range from 18% to 25% (no requirements on the measurement accuracy)
- required grain flow temperature ±5±55°C continuous
- required operating mode time up to 10 min
- supply voltage 24 V
- power consumption up to 5 W
- the IP Code (International Protection Rating) IP-54
- sensor weight up to 6.0 kg
- Operational safety requirements:
  - mean-time-to-failure 10 000 h
  - mean recovery time up to 6 h
  - full mean service time 5 years and more

The technical details and quality of delivered equipment meet the technical requirements of the manufacturer (Aquar-system, Ltd.) and TÓ (TC) BY 101235030.017-2011.