

ICS 67.060
CCS B 20



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22481-2008

**Cereals, oilseeds and pulses -- Measurement of unit pressure
loss in one-dimensional air flow through bulk grain**

谷物、油料和豆类 单向气流穿过散粮的单位压力损失测定

(English Translation)

Issued on: November 4, 2008

Implemented on: February 1, 2009

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 4 Instrument
- 4.1 Determination of unit pressure loss means

Foreword

This standard is equivalent to ISO 4174 Implementation.1998 "cereals, oilseeds and pulses unidirectional flow through bulk grain loss measuring unit pressure" (English Chinese Version).

This standard is equivalent translation ISO 4174:1998.

For ease of use, the standard ISO 4174:1998 made the following editorial changes.

- a) "this International Standard" be replaced by "this standard";
 - b) use a decimal point instead of a decimal comma " , " . " , " ;
 - c) Remove international standards preface, introduction;
 - d) with the GB/T 5518 "Inspection of grain and grain and oilseeds - Determination of relative density" instead of the original reference standard ISO 3507. 1976 "secret Meter. "
- Appendix A of this standard is an informative annex.

The standard proposed by the National Food Authority.

This standard by the National Standardization Technical Committee OILS.

This standard was drafted. National Food Authority Standard Quality Center, Henan University of Technology.

1 Scope

This standard specifies the method for determination of unidirectional airflow through the grain bulk of unit pressure loss, which can be used to calculate the total pressure loss in the ventilation unit.

Which is equivalent to the sum of the following several pressure loss.

- a) in the ventilation system (ventilation pipes, etc.);

- b) in the grain (the main content of this standard);
- c) from the pipe into the channel at the grain heap.

This standard applies to the determination of the pressure loss of the gas flow rate in the following range of ventilation systems. If the flow rate does not exceed the following limits Speed, pressure loss in the ventilation system and airflow from the vent pipe into the grain heap passage pressure loss, the pressure loss with respect to grain heap Purposes, is negligible.

--- Main ventilation duct velocity 8m/s ~ 10m/s;

--- Sub ventilation duct velocity 4m/s ~ 5m/s;

--- Into the grain bulk velocity 0.25m/s.

This standard does not apply to the ventilation system airflow velocity greater than the speed limit above (eg. main pipe flow velocity reaches 30m/s), the case to calculate the pressure loss due to lower airflow distribution and discharge system caused.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 5518 Inspection of grain and grain and oilseeds relative density measurement Principle 3 Function with the speed airflow into the grain mass per unit length of time to express generated when a uniform airflow through the grain mass (m) of the pressure loss. by Test to determine the curve, and then come airflow through the grain bulk formula unit pressure loss.

4.1 Determination of unit pressure loss means

Pressure loss measuring apparatus shown in Figure 1. The food into smooth wall of the cylindrical vessel, the outer wall of the container is equipped with two measuring 500mm apart Pressure port, each has two pressure taps and the inner diameter of the tube leading to food for the 1mm. On the base there is a pressure chamber and a fine sieve Network, measured grain stacked in a fine sieve online.

Fan, pump or compressor air pressure to the buffer tank, and then into the air equipped with a needle valve of the pressure chamber. Needle valve can switch, in order to adjust the volume of gas passing through the grain. Measured by the air flow meter (e.g. rotameter).

Pressure air into the meter before measuring gauge (such as U-tube manometer); 500mm

thickness of the grain heap pressure loss with an accuracy $\pm 0.1\text{Pa}$ micro-pressure meter (precision manometer) measurements.

GB/T 22481-2008/ISO 4174:1998