

Product Note N38-04/22

Single Seed Measurement Accessories

Specialized accessories to measure single seeds in reflection for breeding purposes. Specific insert rings and a reflection stamp enable single seed measurements with spectra similar to those obtained by bulk material samples.

The seeds are centered in a 22 mm vial (IN441) by insert rings with an opening shaped for specific seed types (table 1). In this manner, the seeds are placed reproducibly on the integrating sphere for macrosample measurements. A stamp (reflection mirror) is set on top to reflect transmitted and scattered light, which enhances signal and reproducibility. Use of this reflection stamp is recommended in general, but especially for transparent seeds.

Insert rings of a single type are available in sets of either 10 pieces (for single measurements) or 30 pieces (for use with the sample wheel of the MPA II). Reflection stamps can be ordered individually or as a set of 30 pieces for the sample wheel.

For test purposes and general research, a “sampler” set is offered, which includes one reflection stamp and one of each of the 12 standard insert ring types (12 rings in total).

In addition to the analysis of single seeds, the 22 mm vials can be used to measure bundles of seeds from one plant or milled seeds as powders. Bulk material samples are measured in rotating sample cups with a diameter of 50 or 97 mm (IN311 or IN312).

In all cases, a TANGO-R or MPA II with an integrating sphere is required.



Specifications

Available price list items:

- IN482-AX10: Insert rings (10 pieces) of one type for reflection measurement of single seeds. Ring type number (SAP#) need to be selected for the order.
- IN482-AX30: Insert rings (30 pieces) of one type for reflection measurement of single seeds for use with the sample wheel. Ring type number (SAP#) need to be selected for the order.
- IN482-A: One aluminum reflection stamp
- IN482-A30: Aluminum reflection stamps (30 pieces)
- IN482-AS: Set of 12 insert rings shaped for different seed types (table 1) and one aluminum reflection stamp

Required

- 22mm vials IN441

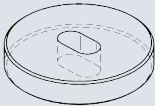
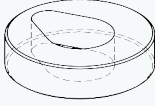
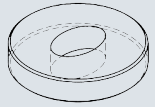
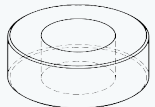
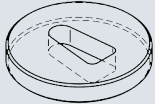
Ring Type Number SAP #	Seed Type	Seed Form		Height/mm	Length/mm (of opening)	Width/mm (of opening)
1892764	Wheat	Elongated hole		3.5	4	2.5
1892766	Wheat	Elongated hole		4	6.5	3.5
1892767	Wheat	Elongated hole		4	9.5	4.5
1892768	Maize, Corn	Corn/Maize shape		6	13.5	11
1892769	Maize, Corn	Corn/Maize shape		6.5	12.5	9
1892770	Rice, Barley, Rye	Oval		4	6	3.5
1892771	Rice, Barley, Rye	Oval		4	9	6
1892772	Rice, Barley, Rye	Oval		5	12	8
1892773	Rape seed	Round		4	4	4
1892774	Soya	Round		9	10	10
1892775	Sunflower	Sunflower shape		3	10	5
1892777	Sunflower	Sunflower shape		4	13.5	8

Table 1: Standard insert rings for different feed types