

Food Texture Fixtures

Back Extrusion Cell

Catalog Number 2830-003

Features

- High capacity (5 kN, 500 kgf, 1125 lbf) for tests on raw vegetables, plums, etc.
- Made from anodized aluminum for corrosion resistance and easy cleaning
- Mounts in a drip tray that contains overflow
- Centering device for cup cell keeps the plunger properly aligned
- Easy-to-disassemble for cleaning between tests

Description

The back extrusion cell consists of a plunger that connects to the load cell and a cylindrical cup that holds the test specimen. The cup is mounted in a drip tray that contains any specimen overflow that may occur during the testing. The drip tray mounting plate has four pins that accurately locate the cup concentrically to the plunger. This design simplifies removal of the cup for cleaning and ensures a consistent 4 mm (0.16 in) gap around the plunger.

As the plunger is driven into the cup the specimen is compressed and eventually forced to flow through the gap between the plunger and the cup wall.



▲ Back extrusion cell, base plate and drip tray

Principle of Operation

The back extrusion cell simulates many of the deformation mechanisms that occur during mastication. The flow resistance, related to the aggregate viscosity of the food specimen, is measured as the food is extruded through the annular gap between the plunger and cell wall. The force level during extrusion is related to texture properties such as hardness and compressibility. Elasticity or recovery of the sample can be evaluated by performing multiple compressions on the same specimen.

Application Range

- Fruits
- Vegetables
- Ground meat
- Baked beans
- Seafood salad
- Pie fillings
- Pudding
- Purees

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Specifications

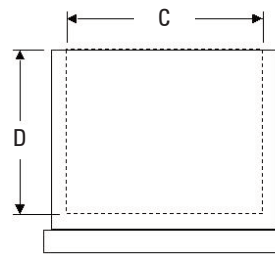
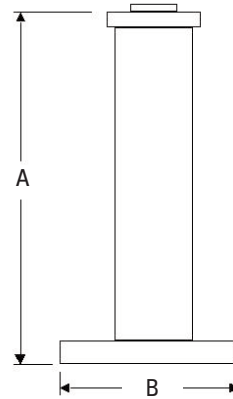
Catalog Number	2830-003
Maximum Capacity	5 kN (500 kgf, 1125 lbf)
MECHANICAL CONNECTION	
Upper	Food fixture load cell adapter
Lower	Base plate and drip tray
Plunger Length (A)	175 mm (6.87 in)
Plunger Diameter (B)	93.5 mm (3.682 in)
Cup Diameter (C)	102 mm (4.00 in)
Cup Depth (D)	89 mm (3.5 in)
Weight (Plunger)	84 g (29.7 oz)
Temperature Range	+70 °C to +250 °C (-95 °F to -480 °F)

Accessories

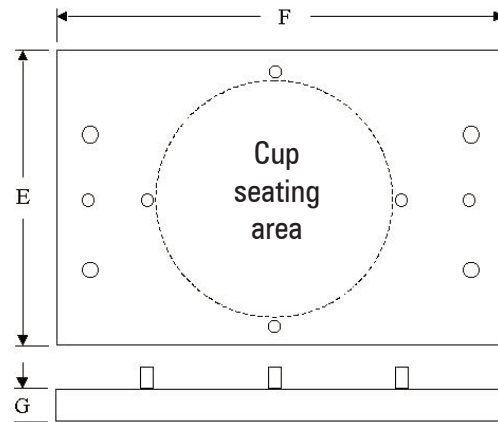
Catalog Number	Description
2830-033	Drip tray for all models except 1000/ 1011 and 4411
2830-027	Drip tray for model 1000 or 1011
2830-032	Drip tray for model 4411
2830-004	Base plate for back extrusion cell
Width (E)	152 mm (6.0 in)
Length (F)	216 mm (8.5 in)
Thickness (G)	12.5 mm (0.5 in)

Notes:

1. The base plate and appropriate drip tray are required



▲ Plunger and cup



▲ 2830-004 base plate



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