

Food Texture Fixtures Probes and Chucks

Catalog Number 2830-006, 2830-036, 2830-005, 2830-015

Features

- Flat end probes for puncture and penetration tests
- Magness-Taylor probes for fruits and vegetables
- Keyless three-jaw chuck simplifies mounting and changing probes
- Probes are made from nickel plated steel and stainless steel for corrosion resistance
- Spherical and cone probes are available in a variety of materials

Description

Catalog number 2830-005 is a set of cylindrical, flat-end probes for puncture tests. Diameters range from 1.57 mm (0.062 in) to 12.7 mm (0.50 in). These 152 mm (6 in) long probes are made from nickel plated tool steel for a combination of strength and corrosion resistance.

Catalog number 2830-015 is a set of Magness-Taylor probes. The set includes standard 7.9 mm (0.312 in) and 11.1 mm (0.437 in) diameter probes. Each probe has a machined groove 8.8 mm (0.34 in) from the end to indicate penetration depth. The 7.9 mm probe has a 4.95 mm (0.20 in) radius end. The 11.1 mm probe has a 8.8 mm (0.34 in) radius end.

Probes with various cone angles and spherical probes are also available.

Catalog number 2830-036 is a three-jaw chuck for mounting probes to the load cell. The chuck can hold probe shanks up to 13 mm (0.5 in) in diameter. The keyless design simplifies mounting and changing probes. A keyed chuck, catalog number 2830-006 is also available.



▲ Probe chuck with puncture and Magness-Taylor probes

Principle of Operation

Flat-end puncture probes produce a shear stress in the specimen. The force required to cause shearing as the probe penetrates the specimen relates to texture properties such as firmness and hardness. Magness-Taylor probes are used to measure texture properties of fruit flesh. Typically, the specimen's skin is removed and the force required to push the probe to a depth of 8.8 mm (0.34 in) is recorded as the bio-yield force.

Cone-shaped probes produce shear in the specimen that causes it to flow parallel to the surface of the cone. The force required to create this flow is related to texture in semi-solids, butter, cream cheese, etc.

Application Range

- Butter and margarine
- Cream cheese
- Chewing gum
- Gels
- Chewy candy
- Fish
- Ice cream
- Vegetables
- Fruits

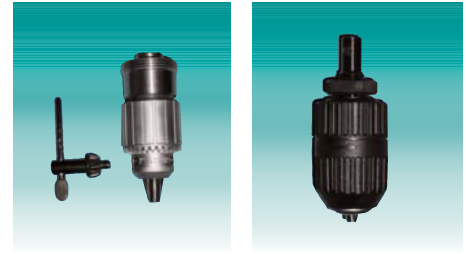
Food Texture Fixtures

Probes and Chucks

Catalog Number 2830-006, 2830-036, 2830-005, 2830-015

Specifications

Catalog Number	2830-006 Probe Chuck	2830-036 Keyless three-Jaw Chuck
Mechanical Connection	Food fixture load cell adapter	6 mm clevis pin (Type Om)
Maximum Capacity	500 N (112 lbf)	500 N (112 lbf)
Effective Length	89 mm (3.5 in)	94 mm (3.7 in)
Weight	721g (25 oz)	340 g (12 oz)
Gripping Range	2 mm to 13 mm (0.08 in to 0.5 in)	1.5 mm to 13 mm (0.06 in to 0.5 in)
Temperature Range	-40 °C to +250 °C (-40 °F to +480 °F)	0 to +100 °C (+32 °F to +212 °F)



▲ Keyed chucks and keyless chucks

Catalog Number	2830-005 Puncture Probe Set
Overall Length	152 mm (6.0 in)
Diameters	1.57 mm (0.062 in) 3.18 mm (0.125 in) 4.75 mm (0.187 in) 6.35 mm (0.250 in) 7.92 mm (0.312 in) 9.53 mm (0.375 in) 11.28 mm (0.444 in) (1 cm ² area) 12.70 mm (0.050 in)
Cherry Pitter	Five blade



▲ Puncture probes

Catalog Number	2830-015 Magness-Taylor Probes
Diameters	7.9 mm (0.312 in) 11.1 mm (0.437 in)



▲ Magness - Taylor probes

Accessories

Catalog Number	Description
2830-014	Support frame
2830-008	Sample support plates
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
2830-034	2.6 mm clevis pin (Type 00m) food fixture load cell adapter
2830-035	6 mm clevis pin (Type Om) food fixture load cell adapter



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