

2736-004/005 Series

High-Temperature Manual Wedge Action Grips

Manual Wedge Action Grips are designed for easy specimen loading, alignment, and positioning. After initial face-to-specimen contact, the gripping force increases as the testing load increases. Virtually no pre-load is seen during specimen clamping due to the design of the moving grip bodies. This makes them particularly suitable for testing high-strength materials, such as metals and composites, ensuring that specimen slippage is eliminated.

A ring handle is provided to operate the grip from the front of the chamber. This makes it very practical for an operator that is wearing proper gloves when testing under hot or cryogenic conditions.

Features

- Rated capacity: 100 kN (10,000 kgf, 22,500 lbf)
- Quick setup with rapid clamping and unclamping action
- Easy specimen loading for increased productivity
- Self-tightening wedge design eliminates slippage
- Interchangeable jaw faces for a range of specimen geometries and types
- Fixed faces and moving body during specimen loading
- Round tightening handles for ease of operation inside chambers
- Temperature range: -73 °C to +315 °C (-100 °F to +600 °F)

Principle of Operation

The wedge action principle enables the grips to be tightened onto a specimen without altering the vertical position of the faces in relation to the specimen. This is accomplished by an Instron® design that moves the grip body to close the faces. This feature makes it possible to pre-select the exact point at which the specimen will be held with consistent gauge length and no compressive force applied, which may cause specimen buckling.

The grip faces are spring loaded against a shoe that is in a fixed position in respect to the testing frame holding mechanism. Initially, only a light grip force is needed to securely grip the specimen. However, a stronger clamping force can be applied by the tightening mechanism to materials that are more difficult to hold.

As the grip is tightened, its frame is drawn up and the inclined sides push against the faces that move laterally against the specimen. The open-front design of the grips body allows faces to be easily interchanged, as well as easy specimen loading. Due to the fixed position of the faces, there is no recoil, or loosening, when the specimen ruptures. Additionally, if an extensometer is attached, it will remain in place.

Accuracy

- Type of loading: Tension*
- Specimen material: Wires, plastics, metals, and elastomers
- Specimen shapes: Flat, round

*Not suitable for through-zero/ reverse stress or fatigue testing.



2736-004 Manual Wedge Action Grips



2736-005 Manual Wedge Action Grips

Specifications

2736-004

2736-005

Specimen Thickness	kN	100	100
	kgf	10,000	10,000
	lbf	22,500	22,500

Mechanical Connection

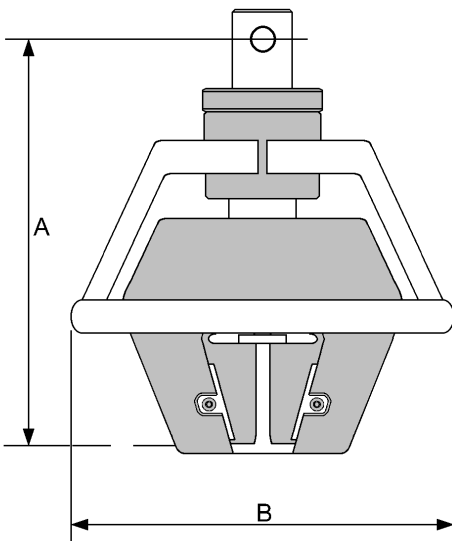
Upper Fitting	--	1/2 in Clevis Pin (Type Dm)	1/2 in Clevis Pin (Type Dm)
Lower Fitting	--	1/2 in Clevis Pin (Type Dm)	1/2 in Clevis Pin (Type Dm)

Dimensions

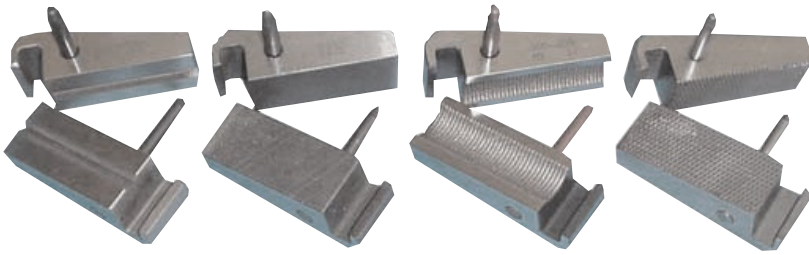
Upper Grip Length (A)	mm	230	250
	in	9.0	9.8
Lower Grip Length (A)	mm	230	250
	in	9.0	9.8
Overall Width (B)	mm	185	185
	in	7.3	7.3
Grip Weight (No Faces)	kg	9	13.6
	lb	20	30
Weight of Faces	kg	0.468	1.170
	lb	1.0	2.09
Temperature Range	°C	-73 to +315	-73 to +315
	°F	-100 to +600	-100 to +600
Gripping Length	mm	57	57
	in	2.2	2.2

Notes:

1. Grip catalog number provides two grips
2. Grips may require a coupling to connect to load cell or machine base
3. Upper grip may require a flexible coupling for certain applications



Grip Face Options



Grip Faces for 2736-004



Grip Faces for 2736-005

Grip Faces for 2736-004	Type	Pitch (mm)	Teeth (per inch)	Clamping Area (W × H) mm	Maximum Specimen Thickness (mm)
2703-001	Diamond-Serrated	1.5	16	25 × 57	0 - 6.4
2703-002	Diamond-Serrated	1.5	16	25 × 57	6.4 - 12.7
2703-006	Diamond-Serrated	1.0	25	25 × 57	0 - 6.4
2703-007	Diamond-Serrated	1.0	25	25 × 57	6.4 - 12.7
2703-008	V-Serrated ³	1.0	25	57 on a 120° included Angle V-Groove	3.5 - 8
2703-009	V-Serrated ³	1.0	25	57 on a 120° included Angle V-Groove	7 - 12.7
2703-010	V-Serrated ³	1.0	25	57 on a 120° included Angle V-Groove	12.7 - 19
2703-004	V-Serrated ³	1.5	16	57 on a 120° included Angle V-Groove	7 - 12.7
2703-070	Round Threaded ³	1.5	16	57 on a 0.75-18 UNF-2B (Threaded)	12 - 16
2703-071	Round Threaded ³	1.5	16	57 on a 0.75-18 UNF-2B (Threaded)	16 - 19

Grip Faces for 2736-005

2703-012	Diamond-Serrated	1.5	16	50 × 57	6.4 - 12.7
2703-011	Diamond-Serrated	1.5	16	50 × 57	0 - 6.4
2703-013	V-Serrated ³	1.0	25	57 on a 120° included Angle V-Groove	3.5 - 8
2703-014	V-Serrated ³	1.0	25	57 on a 120° included Angle V-Groove	7 - 12.7
2703-015	V-Serrated ³	1.0	25	57 on a 120° included Angle V-Groove	12.7 - 19
2703-072	Round Threaded ³	1.5	16	57 on a 0.75-16 UNF-2B (Threaded)	12 - 16
2703-073	Round Threaded ³	1.5	16	57 on a 0.875-16 UNF-2B (Threaded)	16 - 19

Notes:

1. Faces catalog number provides four faces
2. All faces are hardened to 60 Rc to 65 Rc, excluding rubber-coated and if otherwise specified
3. Threaded and Vee style faces are used for round specimens

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