

## FORCE GAGE GRIPS AND ACCESSORIES

Platens

Eccentric Rollers

Vise-Action Fixtures

Wedge-Action Fixtures

Rope & Bollard Fixtures

Flexural Fixtures

Peel Fixtures

Coefficient of Friction (COF)

Pneumatic Fixtures

Food Texture Fixtures

Spring Test Fixtures

Syringe Test Fixtures

Scissor Fixtures

Hook Adapters

Clevis Adapters

Force Gage Adapters

Cables

Gage Adapter Plates

Mounting Blocks

Tester Accessories

Specialty Products & Services



# PRECISION, QUALITY, INNOVATION

For more than 135 years, manufacturers, builders and craftsmen worldwide have depended upon tools from the L.S. Starrett Company to ensure the consistent quality of their manufacturing processes.

They know that the Starrett name on force and material testing, precision hand tools, metrology equipment, hand tools, power tool accessories, saws, laser measurement, and gage blocks means exceptional quality, innovative products and expert technical assistance.

With strict quality control, state-of-the-art equipment and an ongoing commitment to producing products with superior quality, the 5,000 plus products in today's Starrett line continue to be the most accurate, robust and durable tools available.

This catalog features Starrett Force and Material Testing Systems, their applications and characteristics.





## PLATENS

Made from aluminum and steel for compression applications; available in fixed or self-leveling for soft samples, cardboards, plastics, steel, stone, foam, and more.

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## ECCENTRIC ROLLERS

An excellent self-tightening fixture for materials that deform under load, idea for flat samples, rollers available in smooth, rubber, or serrated jaw faces.

19

## WISE-ACTION FIXTURES

A very easy sample loading option, these grips are tightened manually and keep alignment simple, jaw faces come in a variety of sizes and surface finishes.

25

## WEDGE-ACTION FIXTURES

Designed for easy loading and alignment these fixtures can be equipped with smooth, serrated, v-notch, diamond-coated and rubber jaw faces. Wedge-action fixtures apply an increasing clamping pressure on the sample as they are pulled axially.

43

## ROPE AND BOLLARD FIXTURES

Use these for testing materials like rope, cable, filaments, yarn and more. They are designed to ensure proper sample alignment and promote a correct sample break.

49

## BUTTON FIXTURES

These fixtures are designed to test the tensile strength of electrical connectors such as wire connectors that are crimped on to wires.

55

## FLEXURAL FIXTURES

Used in 3 and 4 point bending testing a flexible testing solution with adjustable spans. Determine strength, deformation, or even flexural modulus with these grips.

57



**FORCE GAGE GRIPS AND ACCESSORIES**



## PEEL FIXTURES

These are suitable for determining adhesive strength on a variety of adhesive tapes, thin film coatings, copper runners and more. Fixed 90° and adjustable models are available.

61



## PNEUMATIC FIXTURES

Pneumatic actuation is used to open and close the jaw faces on these grips, ideal for high volume testing and maintaining a consistent clamping pressure.

69



## SPRING TEST FIXTURES

Custom solutions for tension and extension springs, these ensure correct axial alignment for accurate measurements of spring constants, initial tension and free length.

93



## SYRINGE TEST FIXTURES

These are designed to make loading and unloading easy, test in tension and compression, stand sizes available or custom on request.

95



## SCISSOR FIXTURES

Self-tightening grips with a large variety of jaw faces available, great for general purpose testing of elastomers, plastic, rubber, textiles and more.

97



## COEFFICIENT OF FRICTION (COF)

These fixtures meet ASTM, TAPPI, and ISO application standards for determining COF and films, substrates, ceramics, and slip resistant finishes.

101



## FOOD TEXTURE FIXTURES

Use these fixtures to measure food characteristics like shear, brittleness, softness, crispness and more.

105



## HOOK ADAPTERS

A good general purpose option available in clevis and threaded mounting options.

111

## CLEVIS ADAPTERS

Used to secure most of the testing fixtures available to the test frame and the load cell in Starrett systems, these provide a quick and easy way of swapping setups.

115

## FORCE GAGE ADAPTERS

These are used to mate dissimilar threaded connections available in male-to-male and male-to-female.

119

## CABLES

For data exporting, or communications between DFX hand-held force gages and test frames.

123

## GAGE ADAPTER PLATES AND MOUNTING BLOCKS

Adapter plates for mounting competitive gages to the Starrett FMM motorized force test frame.

Mounting block options for L1 systems and FMM motorized force test frame.

127

## TESTER ACCESSORIES

Bench clips for motorized stands and horizontal legs for manual stands.

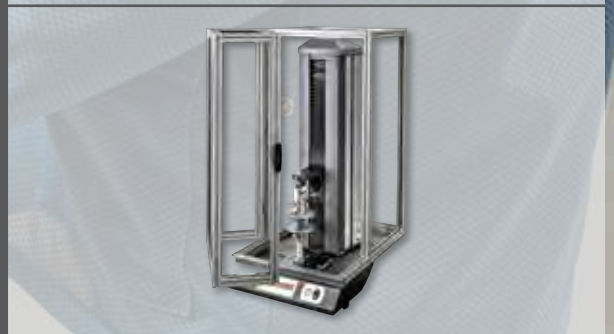
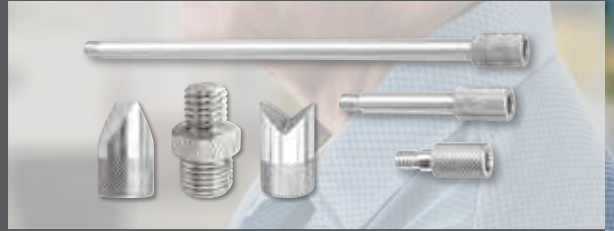
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## SPECIALTY PRODUCTS AND SERVICES

Customer fixtures, specialty products and integrated solutions, ask a Starrett representative for more information about these services.

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# FORCE GAGE GRIPS AND ACCESSORIES

# FACTORIES AROUND THE WORLD



1-Athol, Massachusetts, USA



2-Laguna Hills, California, USA



3-Waite Park, Minnesota, USA



4-Cleveland, Ohio, USA

FACTORIES



 Factories and Distribution Centers

 Starrett Distribution Centers and Offices





5-Mount Airy, North Carolina, USA



6-Columbus, Georgia, USA



7-Itu, São Paulo, Brazil



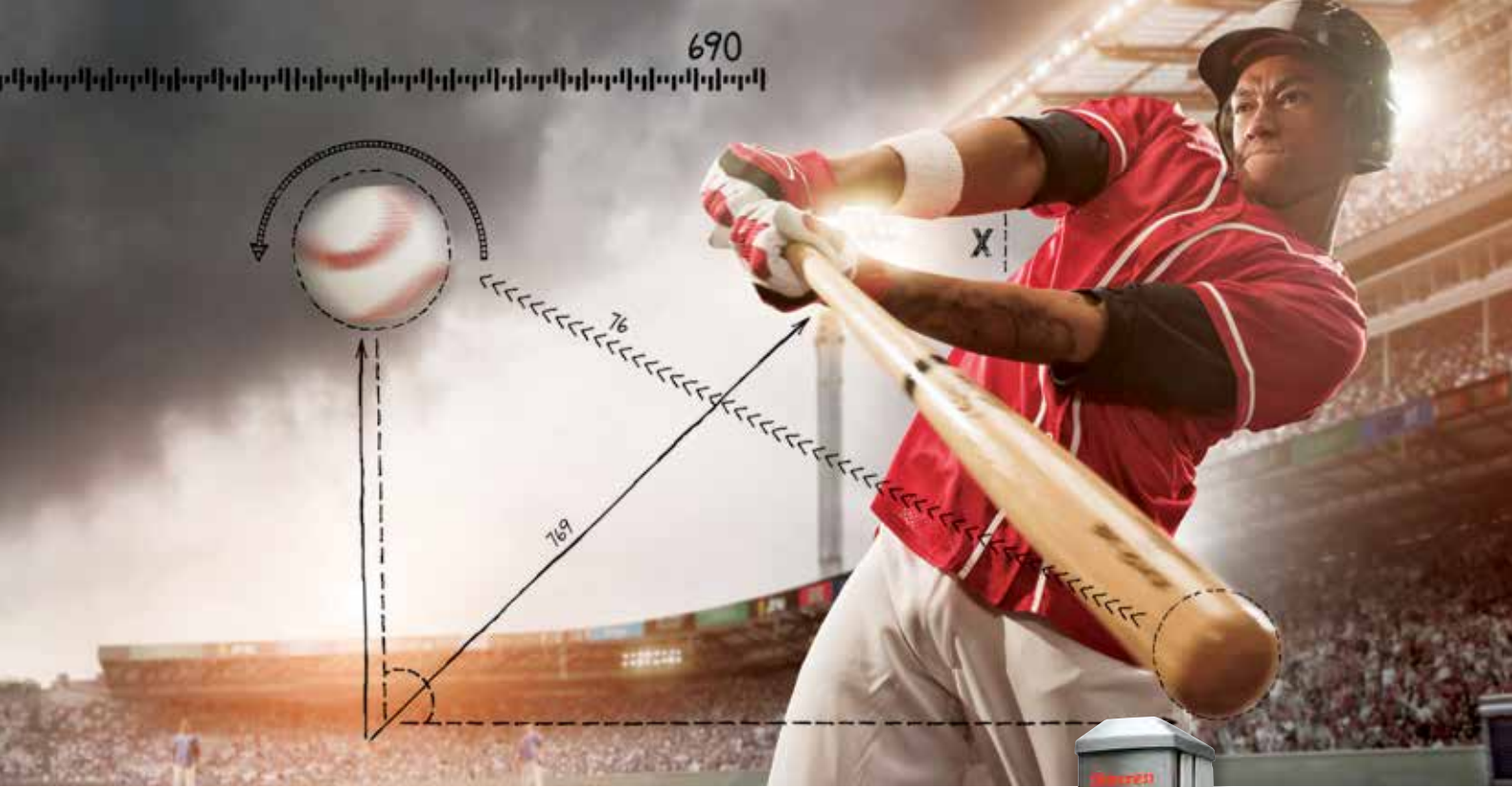
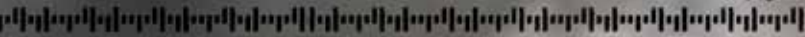
8-Jedburgh, Scotland



9-Suzhou, China



690



PRECISION MAKES THE DIFFERENCE

# EXCEED YOUR CAPABILITIES.

The Starrett FMS incorporates new performance-based capabilities and user-friendly features to help you perform critical force tests with greater accuracy and efficiency.

It can perform all of your basic force measurement tests, as well as more complex multi-stage tests to international standards.



Model FMS5000

# Starrett®

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PLATENS

## PLATENS

Starrett offers a variety of standard platens for various forms of compression testing. Standard platen types are:

- Circular Platens
- Rectangular Platens
- Perforated Platens for Foam Testing
- Self-aligning Platens for Springs

Starrett platens are made of aluminum or steel. Most of our platens mount using a 15.9mm clevis and are secured with a locking ring and grip pin. We also offer threaded platens which attach using a set screw or adapter screw.

Starrett can also custom-design platens for your specific requirements and applications.



Model No.	Load Capacity			Dimension	Material	Type
	N	KGF	LBF			
<b>Circular Platens</b>						
PLATEN-23A-56-1	20k	2,000	4,500	56mm Ø	Aluminium	Clevis
PLATEN-23A-96-1	20k	2,000	4,500	96mm Ø	Aluminium	Clevis
PLATEN-23A-116-1	20k	2,000	4,500	116mm Ø	Aluminium	Clevis
PLATEN-23A-156-1	20k	2,000	4,500	156mm Ø	Aluminium	Clevis
PLATEN-23A-196-1	20k	2,000	4,500	196mm Ø	Aluminium	Clevis
PLATEN-23A-246-1	20k	2,000	4,500	246mm Ø	Aluminium	Clevis
PLATEN-23A-296-1	20k	2,000	4,500	296mm Ø	Aluminium	Clevis
PLATEN-23S-56-1	20k	2,000	4,500	56mm Ø	Steel	Clevis
PLATEN-23S-96-1	20k	2,000	4,500	96mm Ø	Steel	Clevis
PLATEN-23S-116-1	20k	2,000	4,500	116mm Ø	Steel	Clevis
PLATEN-23S-156-1	20k	2,000	4,500	156mm Ø	Steel	Clevis
PLATEN-23S-196-1	20k	2,000	4,500	196mm Ø	Steel	Clevis
PLATEN-23S-246-1	20k	2,000	4,500	246mm Ø	Steel	Clevis
PLATEN-23S-296-1	20k	2,000	4,500	296mm Ø	Steel	Clevis
PLATEN-23S-56-3	50k	5,000	11,000	56mm Ø	Steel	Clevis
PLATEN-23S-96-3	50k	5,000	11,000	96mm Ø	Steel	Clevis
PLATEN-23S-116-3	50k	5,000	11,000	116mm Ø	Steel	Clevis
PLATEN-23S-156-3	50k	5,000	11,000	156mm Ø	Steel	Clevis
PLATEN-23S-196-3	50k	5,000	11,000	196mm Ø	Steel	Clevis
PLATEN-23S-246-3	50k	5,000	11,000	246mm Ø	Steel	Clevis
PLATEN-23S-296-3	50k	5,000	11,000	296mm Ø	Steel	Clevis
MLX-PLATE-TA-50	1500	150	330	50mm Ø	Aluminium	M6
MLX-PLATE-TS-100	2500	250	550	100mm Ø	Steel	M10
<b>Rectangular Platens</b>						
PLATEN-36A-50-1	20k	2,000	4,500	50 x 50mm	Aluminium	Clevis
PLATEN-36A-100-1	20k	2,000	4,500	100 x 100mm	Aluminium	Clevis
PLATEN-36A-120-1	20k	2,000	4,500	120 x 120mm	Aluminium	Clevis
PLATEN-36A-150-1	20k	2,000	4,500	150 x 150mm	Aluminium	Clevis
PLATEN-36A-200-1	20k	2,000	4,500	200 x 200mm	Aluminium	Clevis
PLATEN-36A-250-1	20k	2,000	4,500	250 x 250mm	Aluminium	Clevis
PLATEN-36A-300-1	20k	2,000	4,500	300 x 300mm	Aluminium	Clevis
PLATEN-36A-400-1	20k	2,000	4,500	400 x 400mm	Aluminium	Clevis
PLATEN-36S-100-1	20k	2,000	4,500	100 x 100mm	Steel	Clevis
PLATEN-36S-196-1	20k	2,000	4,500	196 x 196mm	Steel	Clevis
PLATEN-36S-246-1	20k	2,000	4,500	246 x 246mm	Steel	Clevis
PLATEN-36S-296-1	20k	2,000	4,500	296 x 296mm	Steel	Clevis
PLATEN-36S-396-1	20k	2,000	4,500	396 x 396mm	Steel	Clevis
<b>Perforated Platens for Foam</b>						
PLATEN-36LA-150-1	20k	2,000	4,500	150 x 150mm	Aluminium	Clevis
PLATEN-36LA-200-1	20k	2,000	4,500	200 x 200mm	Aluminium	Clevis
PLATEN-36LA-400-1	20k	2,000	4,500	400 x 400	Aluminium	Clevis
<b>Self-Aligning Platens for Springs</b>						
PLATEN-223S-56-1	20k	2,000	4,500	56mm Ø	Steel	Clevis
PLATEN-223S-96-1	20k	2,000	4,500	96mm Ø	Steel	Clevis
PLATEN-223S-116-1	20k	2,000	4,500	116mm Ø	Steel	Clevis
PLATEN-223S-156-1	20k	2,000	4,500	156mm Ø	Steel	Clevis

### IMPORTANT

The standard clevis diameter is 15.9mm. This clevis is suitable for load capacities up to 30kN (6600lbf). Aluminium and steel platens may be used up to 20kN except where noted.

If higher capacities are required (50kN), the clevis diameter must be 31.8mm.



# CIRCULAR PLATENS

These general purpose compression platens are available in aluminum or steel. They mount to a 15.9mm clevis and are secured with a locking ring and grip pin.

## ALUMINUM

- For compression testing applications on soft materials
- Surface has concentric grooves
- Anodized finish
- Operating Temperatures -94° to 356°F (-70° to 180°C)

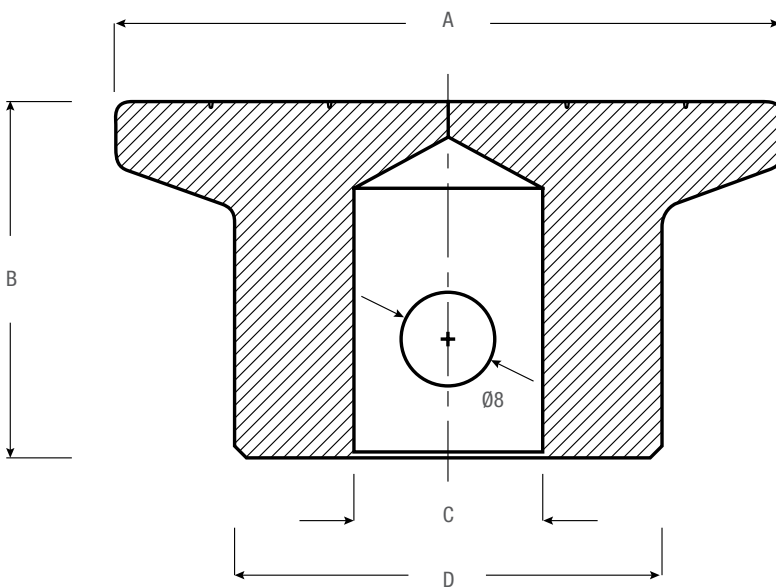


PLATENS

Circular Platens- Aluminum									
Model No.	Load Capacity			Diameter $\phi$		Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	lbs	kgs		
PLATEN-23A-56-1	20,000	2,000	4,500	2.2	56	0.2	0.1	15.9	2
PLATEN-23A-96-1	20,000	2,000	4,500	3.8	96	0.7	0.3	15.9	2
PLATEN-23A-116-1	20,000	2,000	4,500	4.6	116	0.9	0.4	15.9	2
PLATEN-23A-156-1	20,000	2,000	4,500	6.2	156	1.3	0.6	15.9	2
PLATEN-23A-196-1 <sup>1</sup>	20,000	2,000	4,500	7.7	196	2.7	1.2	15.9	2
PLATEN-23A-246-1 <sup>1</sup>	20,000	2,000	4,500	9.7	246	3.3	1.5	15.9	2
PLATEN-23A-296-1 <sup>1</sup>	20,000	2,000	4,500	11.6	296	7.3	3.3	15.9	2

Note 1: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

## DIMENSIONS



Circular Platens- Aluminum				
Model No.	A	B	C	D
PLATEN-23A-56-1	56mm	36mm	15.9mm	34mm
PLATEN-23A-96-1	96mm	36mm	15.9mm	34mm
PLATEN-23A-116-1	116mm	36mm	15.9mm	34mm
PLATEN-23A-156-1	156mm	36mm	15.9mm	34mm
PLATEN-23A-196-1 <sup>1</sup>	196mm	36mm	15.9mm	34mm
PLATEN-23A-246-1 <sup>1</sup>	246mm	36mm	15.9mm	34mm
PLATEN-23A-296-1 <sup>1</sup>	296mm	36mm	15.9mm	34mm

Note<sup>1</sup>: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

# CIRCULAR PLATENS

## STEEL

- For compression testing applications on hard materials 58 HRC
- Surface has concentric grooves
- Black Phosphate finish
- Operating Temperatures 0° to 350°C ( 32° to 662°F)



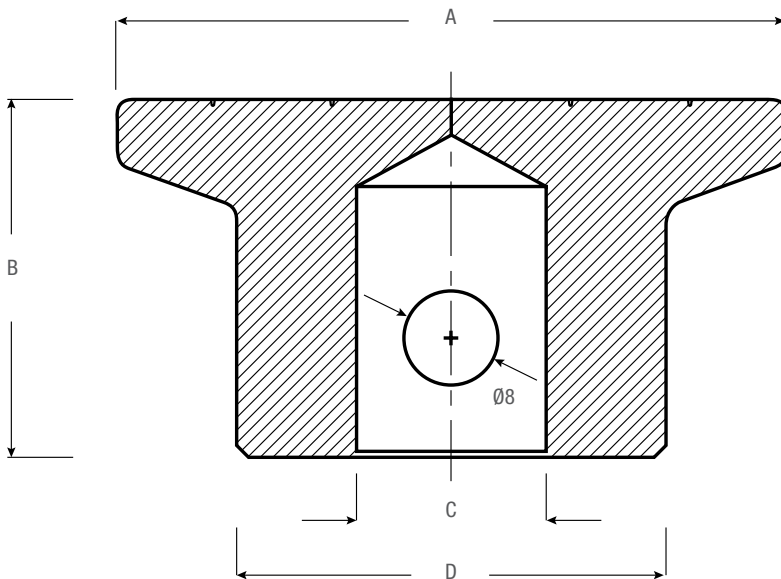
PLATENS

### Circular Platens- Steel

Model No.	Load Capacity			Diameter $\phi$		Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	lbs	kgs		
PLATEN-23S-56-1	20,000	2,000	4,500	2.2	56	0.7	0.3	15.9	2
PLATEN-23S-96-1	20,000	2,000	4,500	3.8	96	1.6	0.7	15.9	2
PLATEN-23S-116-1	20,000	2,000	4,500	4.6	116	2.4	1.1	15.9	2
PLATEN-23S-156-1	20,000	2,000	4,500	6.2	156	3.5	1.6	15.9	2
PLATEN-23S-196-1	20,000	2,000	4,500	7.7	196	8.8	4	15.9	2
PLATEN-23S-246-1 <sup>1</sup>	20,000	2,000	4,500	9.7	246	9.5	4.3	15.9	2
PLATEN-23S-296-1 <sup>1</sup>	20,000	2,000	4,500	11.6	296	19.9	9	15.9	2
PLATEN-23S-56-3	50,000	5,000	11,000	2.2	56	0.7	0.3	31.8	2
PLATEN-23S-96-3	50,000	5,000	11,000	3.8	96	1.6	0.7	31.8	2
PLATEN-23S-116-3	50,000	5,000	11,000	4.6	116	2.4	1.1	31.8	2
PLATEN-23S-156-3	50,000	5,000	11,000	6.2	156	3.5	1.6	31.8	2
PLATEN-23S-196-3	50,000	5,000	11,000	7.7	196	8.8	4	31.8	2
PLATEN-23S-246-3 <sup>1</sup>	50,000	5,000	11,000	9.7	246	9.5	4.3	31.8	2
PLATEN-23S-296-3 <sup>1</sup>	50,000	5,000	11,000	11.6	296	19.9	9	31.8	2

Note<sup>1</sup>: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

### DIMENSIONS



### Circular Platens- Steel

Model No.	A	B	C	D
PLATEN-23S-56-1	56mm	36mm	15.9mm	34mm
PLATEN-23S-96-1	96mm	36mm	15.9mm	34mm
PLATEN-23S-116-1	116mm	36mm	15.9mm	34mm
PLATEN-23S-156-1	156mm	36mm	15.9mm	34mm
PLATEN-23S-196-1 <sup>1</sup>	196mm	36mm	15.9mm	34mm
PLATEN-23S-246-1 <sup>1</sup>	246mm	36mm	15.9mm	34mm
PLATEN-23S-296-1 <sup>1</sup>	296mm	36mm	15.9mm	34mm
PLATEN-23S-56-3	56mm	36mm	31.8mm	34mm
PLATEN-23S-96-3	96mm	36mm	31.8mm	34mm
PLATEN-23S-116-3	116mm	36mm	31.8mm	34mm
PLATEN-23S-156-3	156mm	36mm	31.8mm	34mm
PLATEN-23S-196-3 <sup>1</sup>	196mm	36mm	31.8mm	34mm
PLATEN-23S-246-3 <sup>1</sup>	246mm	36mm	31.8mm	34mm
PLATEN-23S-296-3 <sup>1</sup>	296mm	36mm	31.8mm	34mm

Note<sup>1</sup>: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

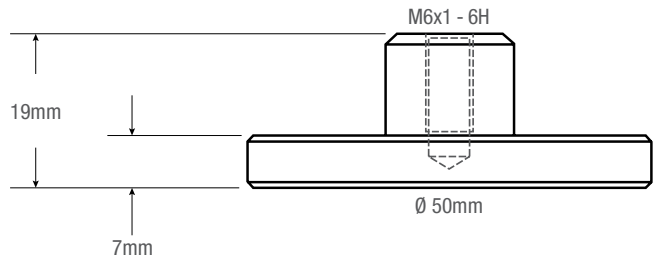
# CIRCULAR PLATENS

## ALUMINUM

- For compression testing applications on soft materials
- Surface is smooth
- Anodized finish
- Operating Temperatures -94° to 356°F (-70° to 180°C)



## DIMENSIONS



### Circular Platens - Aluminum

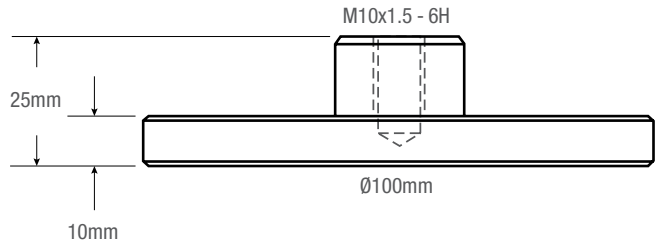
Model No.	Load Capacity			Diameter $\phi$		Weight (each)		Thread	Supply
	N	KGF	LBF	in	mm	lbs	kgs		
MLX-PLATE-TA-50	1,500	150	330	1.97	50	0.2	0.1	M6 x 1-6H	1

## STEEL

- For compression testing applications on hard materials
- Surface is smooth
- Nickel plate finish
- Operating Temperatures -94° to 356°F (-70° to 180°C)



## DIMENSIONS



### Circular Platens - Steel

Model No.	Load Capacity			Diameter $\phi$		Weight (each)		Thread	Supply
	N	KGF	LBF	in	mm	lbs	kgs		
MLX-PLATE-TS-100	2,500	250	550	3.94	100	0.7	0.3	M10 x 1.5-6H	1



## RECTANGULAR PLATENS

These general purpose compression platens are available in aluminum or steel. They mount to a 15.9mm clevis and are secured with a locking ring and grip pin.

### ALUMINUM

- For compression testing applications on soft materials
- Surface has concentric grooves
- Anodized finish
- Operating Temperatures -94° to 356°F (-70° to 180°C)

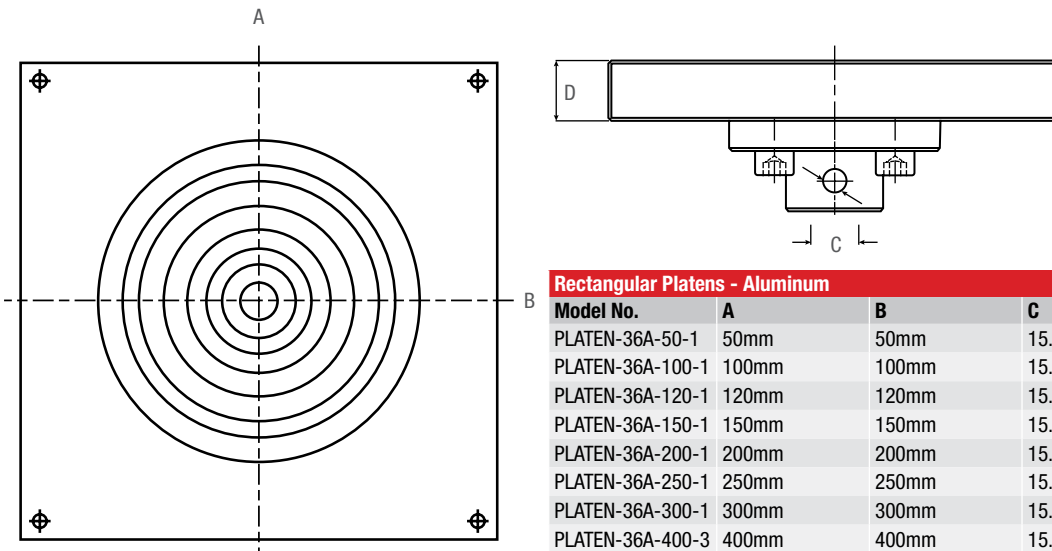


Grip pins provided with each grip standard

Rectangular Platens - Aluminum									
Model No.	Load Capacity			Dimensions		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF	in	mm	lbs	kg		
PLATEN-36A-50-1	20,000	2,000	4,500	1.96 x 1.96	50 x 50	0.5	0.2	15.9	2
PLATEN-36A-100-1	20,000	2,000	4,500	3.9 x 3.9	100 x 100	1.3	0.6	15.9	2
PLATEN-36A-120-1	20,000	2,000	4,500	4.7 x 4.7	120 x 120	1.8	0.8	15.9	2
PLATEN-36A-150-1	20,000	2,000	4,500	5.9 x 5.9	150 x 150	2.9	1.3	15.9	2
PLATEN-36A-200-1	20,000	2,000	4,500	7.9 x 7.9	200 x 200	4.6	2.1	15.9	2
PLATEN-36A-250-1 <sup>1</sup>	20,000	2,000	4,500	9.8 x 9.8	250 x 250	7.5	3.4	15.9	2
PLATEN-36A-300-1 <sup>1</sup>	20,000	2,000	4,500	11.8 x 11.8	300 x 300	9.7	4.4	15.9	2
PLATEN-36A-400-1 <sup>1</sup>	20,000	2,000	4,500	15.7 x 15.7	400 x 400	19.2	8.7	15.9	2

Note<sup>1</sup>: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

### DIMENSIONS



Rectangular Platens - Aluminum				
Model No.	A	B	C	D
PLATEN-36A-50-1	50mm	50mm	15.9mm	10mm
PLATEN-36A-100-1	100mm	100mm	15.9mm	20mm
PLATEN-36A-120-1	120mm	120mm	15.9mm	20mm
PLATEN-36A-150-1	150mm	150mm	15.9mm	20mm
PLATEN-36A-200-1	200mm	200mm	15.9mm	20mm
PLATEN-36A-250-1	250mm	250mm	15.9mm	20mm
PLATEN-36A-300-1	300mm	300mm	15.9mm	20mm
PLATEN-36A-400-3	400mm	400mm	15.9mm	20mm

# RECTANGULAR PLATENS

## STEEL

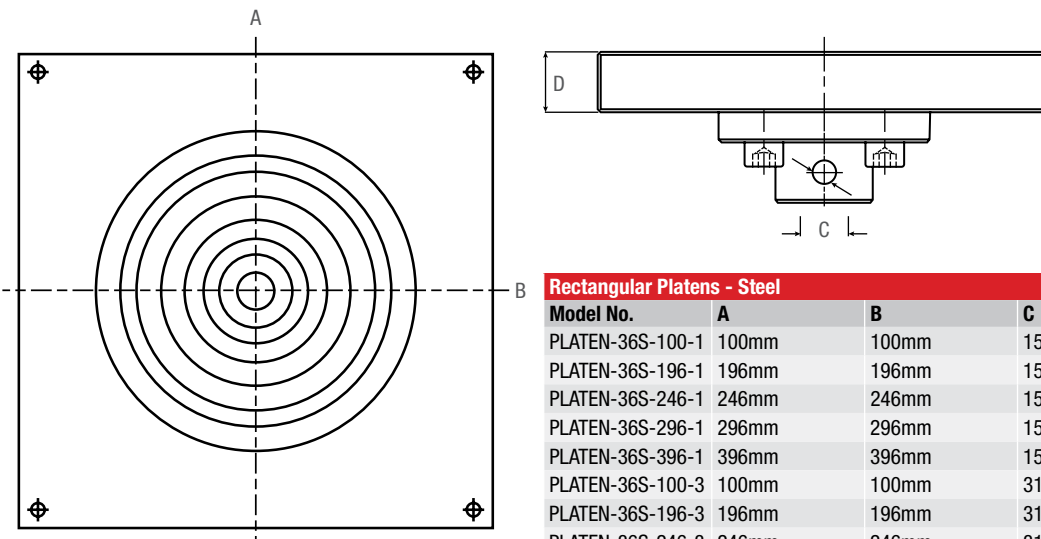
- For compression testing applications on hard materials 58 HRC
- Surface has concentric grooves
- Black Phosphate finish
- Operating Temperatures 0° to 350°C ( 32° to 662°F)



Rectangular Platens - Steel									
Model No.	Load Capacity			Dimensions		Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	lbs	kgs		
PLATEN-36S-100-1	20,000	2,000	4,500	3.9 x 3.9	100 x 100	3.5	1.6	15.9	1
PLATEN-36S-196-1	20,000	2,000	4,500	7.7 x 7.7	196 x 196	14.6	6.6	15.9	1
PLATEN-36S-246-1 <sup>1</sup>	20,000	2,000	4,500	9.7 x 9.7	246 x 246	22.9	10.4	15.9	1
PLATEN-36S-296-1 <sup>1</sup>	20,000	2,000	4,500	11.7 x 11.7	296 x 296	30	13.6	15.9	1
PLATEN-36S-396-1 <sup>1</sup>	20,000	2,000	4,500	15.6 x 15.6	396 x 396	72.8	33	15.9	1
PLATEN-36S-100-3	50,000	5,000	11,000	3.9 x 3.9	100 x 100	3.5	1.6	31.8	1
PLATEN-36S-196-3	50,000	5,000	11,000	7.7 x 7.7	196 x 196	14.6	6.6	31.8	1
PLATEN-36S-246-3 <sup>1</sup>	50,000	5,000	11,000	9.7 x 9.7	246 x 246	22.9	10.4	31.8	1
PLATEN-36S-296-3 <sup>1</sup>	50,000	5,000	11,000	11.7 x 11.7	296 x 296	30	13.6	31.8	1
PLATEN-36S-396-3 <sup>1</sup>	50,000	5,000	11,000	15.6 x 15.6	396 x 396	72.8	33	31.8	1

Note<sup>1</sup>: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

## DIMENSIONS



Rectangular Platens - Steel				
Model No.	A	B	C	D
PLATEN-36S-100-1	100mm	100mm	15.9mm	20mm
PLATEN-36S-196-1	196mm	196mm	15.9mm	20mm
PLATEN-36S-246-1	246mm	246mm	15.9mm	20mm
PLATEN-36S-296-1	296mm	296mm	15.9mm	20mm
PLATEN-36S-396-1	396mm	396mm	15.9mm	20mm
PLATEN-36S-100-3	100mm	100mm	31.8mm	20mm
PLATEN-36S-196-3	196mm	196mm	31.8mm	20mm
PLATEN-36S-246-3	246mm	246mm	31.8mm	20mm
PLATEN-36S-296-3	296mm	296mm	31.8mm	20mm
PLATEN-36S-396-3	396mm	396mm	31.8mm	20mm

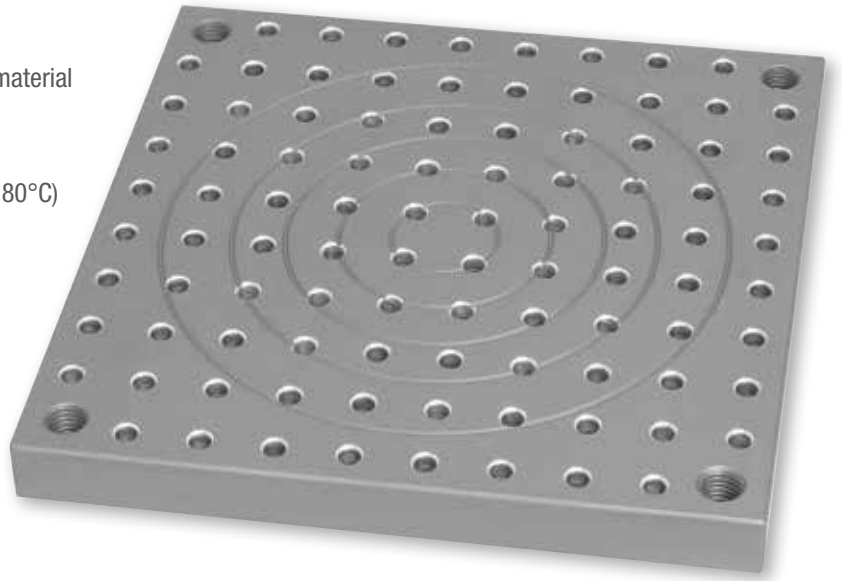
# RECTANGULAR PLATENS

## PERFORATED PLATENS

These rectangular compression platens are ideal for testing foam. These platens have 6mm holes every 20mm that allow air to escape during compression. They mount to a 15.9mm clevis and are secured with a locking ring and grip pin.

### ALUMINUM

- For compression testing applications on foam material
- Surface has 6mm holes every 20mm
- Anodized finish
- Operating Temperatures 32° to 356°F (0° to 180°C)

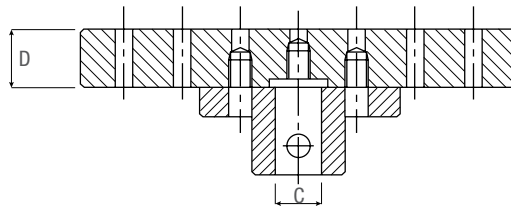
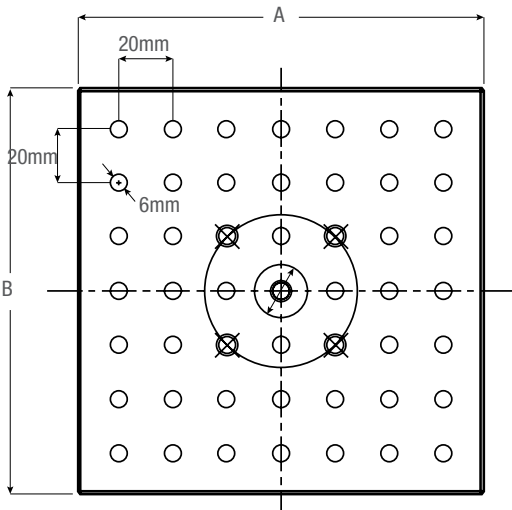


### Rectangular Platens - Aluminum

Model No.	Load Capacity			Dimensions		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF	in	mm	lbs	kgs		
PLATEN-36LA-150-1	20,000	2,000	4,500	5.9 x 5.9	150 x 150	2.5	1.1	15.9	1
PLATEN-36LA-200-1	20,000	2,000	4,500	7.9 x 7.9	200 x 200	4.4	2	15.9	1
PLATEN-36LA-400-1 <sup>1</sup>	20,000	2,000	4,500	15.8 x 15.8	400 x 400	18.1	8.2	15.9	1

Note<sup>1</sup>: Platen cannot be used on Starrett single column test frame. Use on Starrett dual column test frames only.

### DIMENSIONS



### Rectangular Platens - Aluminum

Model No.	A	B	C	D
PLATEN-36LA-150-1	150mm	150mm	15.9mm	20mm
PLATEN-36LA-200-1	200mm	200mm	15.9mm	20mm
PLATEN-36LA-400-1	400mm	400mm	15.9mm	20mm



## SELF-ALIGNMENT PLATENS

These specialty circular platens are ideal for compression samples that may not be parallel to the test datum. These platens are self-aligning where the platen adjusts to the sample's surfaces to ensure parallel and perpendicular axial loading. These platen may be set in a fixed position if required. They mount to a 15.9mm clevis and are secured with a locking ring and grip pin.

### STEEL

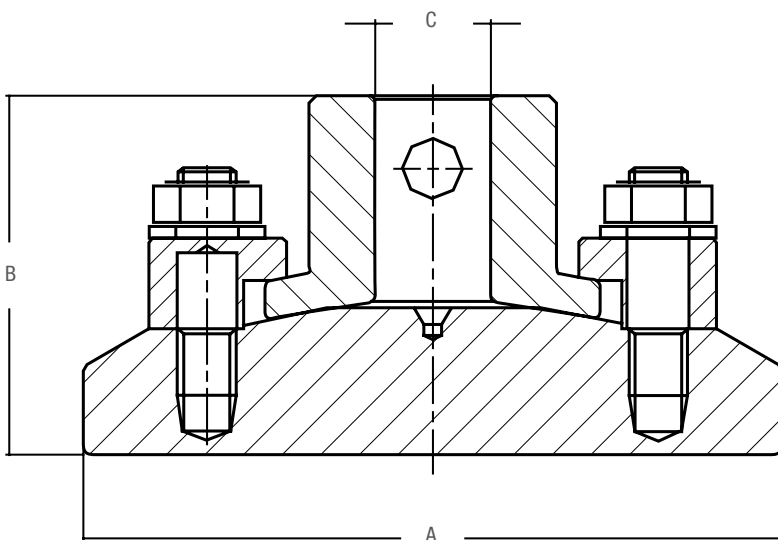
- For compression testing applications where sample parallelism is a problem
- Self-aligning or fixed positioning
- Surface has smooth finished
- Phosphate coating
- Operating Temperatures -0° to 280°C ( 32° to 536°F)



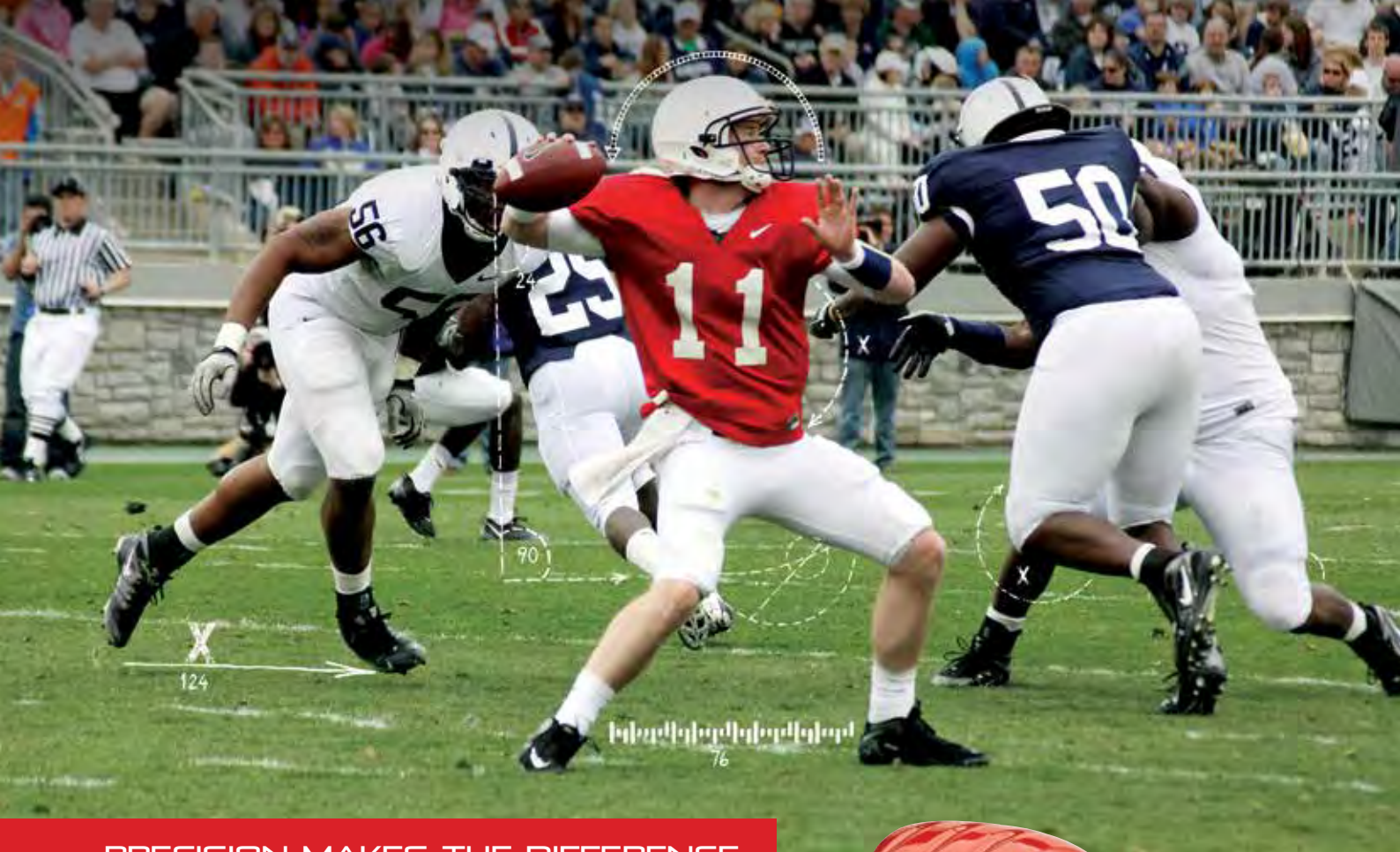
Self-Aligning Circular Platens- Steel										
Model No.	Load Capacity			Diameter $\phi$		Weight (each)		Clevis Type mm	Supply	
	N	KGF	LBF	in	mm	lbs	kgs			
PLATEN-223S-56-1	20,000	2,000	4,500	2.2	56	3	1.3	15.9	1	
PLATEN-223S-96-1	20,000	2,000	4,500	3.8	96	3.3	1.5	15.9	1	
PLATEN-223S-116-1	20,000	2,000	4,500	4.6	116	4	1.8	15.9	1	
PLATEN-223S-156-1	20,000	2,000	4,500	6.2	156	6.5	2.8	15.9	1	

The maximum load for the standard 15.9mm is 20kN.

### DIMENSIONS



Self-Aligning Circular Platens - Steel			
Model No.	A	B	C
PLATEN-223S-56-1	56mm	49mm	15.9mm
PLATEN-223S-96-1	96mm	49mm	15.9mm
PLATEN-223S-116-1	116mm	49mm	15.9mm
PLATEN-223S-156-1	156mm	49mm	15.9mm



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**ECCENTRIC ROLLERS**



## ROLLER FIXTURES

Eccentric roller fixtures are self-tightening and ideal for flat samples. Starrett offers a variety of different roller fixtures with various diameters and sample thicknesses.

Eccentric rollers can be supplied with smooth, serrated and rubber surfaces.

Starrett can assist you in selecting the proper roller fixture for your sample.

### OPERATION

Eccentric roller fixtures feature a design that helps ensure proper sample alignment and that promotes a correct sample break between the upper and lower test fixture. These fixtures feature an eccentric roller that holds the sample firmly in place during tensile movement.

Eccentric rollers are easy to use. The roller is held in place with a spring mechanism that lets you open and close the roller onto the sample under test. There are different sizes for different sample thicknesses. Rollers typically have a serrated face, though you may also use rubber-coated and smooth faced rollers.

### TESTING STANDARDS

There are a variety of materials that can utilize eccentric roller samples. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.

Model No.	Load Capacity			Roller Diameter	Clamping Width	Type
	N	KGF	LBF			
<b>Eccentric Roller Grip - Single Roller</b>						
ROLLER-7-1A-1	1,000	100	225	25mm $\emptyset$	50mm	Clevis
ROLLER-7-1RA-A	1,000	100	225	25mm $\emptyset$	50mm	Clevis
ROLLER-7-5A-1	5,000	500	1,100	30mm $\emptyset$	50mm	Clevis
ROLLER-7-5A-100	5,000	500	1,100	30mm $\emptyset$	100mm	Clevis
ROLLER-7-10S-1	10k	1,000	2,200	50mm $\emptyset$	60mm	Clevis
<b>Eccentric Roller Grip - Dual Opposing Rollers</b>						
ROLLER-766-5S-1	5,000	500	1,100	30mm $\emptyset$	30mm	Clevis



# ROLLER FIXTURES

Eccentric roller fixtures are self-tightening and ideal for flat samples. Starrett offers a variety of different roller fixtures with various diameters and sample thicknesses.

Eccentric rollers can be supplied with smooth, serrated and rubber surfaces.

Starrett can assist you in selecting the proper roller fixture for your sample.

## ROLLER 1kN

### ALUMINUM

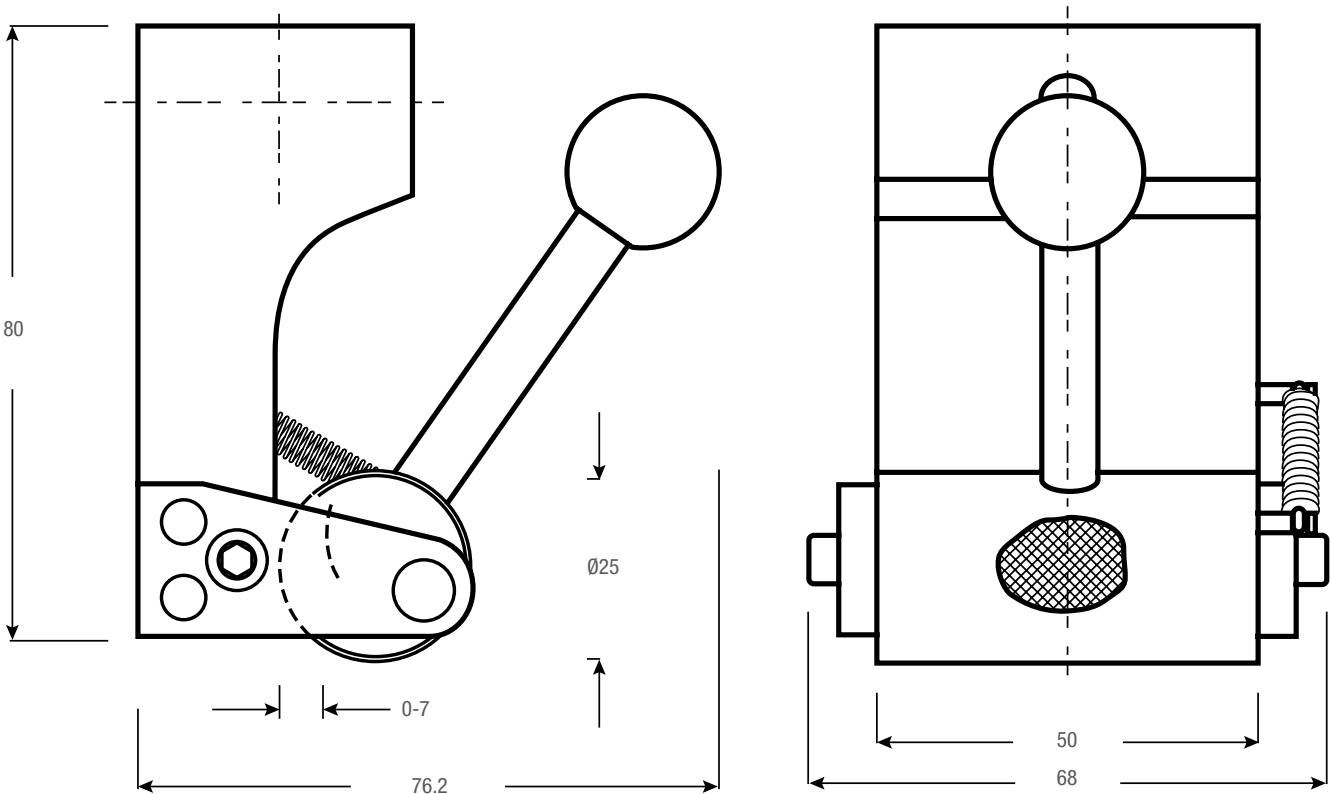
- For general-purpose tensile testing applications
- Use on soft samples including rubber, foils, paper and plastic film
- Anodized finish
- Operating Temperatures 32° to 266°F (0° to 130°C)



Model No.	Load Capacity			Roller Diameter	Clamping Width	Type
	N	KGF	LBF			
<b>Eccentric Roller Grip- Single Roller</b>						
ROLLER-7-1A-1	1,000	100	225	25mm ø	50mm	Clevis
ROLLER-7-1RA-A	1,000	100	225	25mm ø	50mm	Clevis
ROLLER-7-5A-1	5,000	500	1,100	30mm ø	50mm	Clevis
ROLLER-7-5A-100	5,000	500	1,100	30mm ø	100mm	Clevis
ROLLER-7-10S-1	10k	1,000	2,200	50mm ø	60mm	Clevis
<b>Eccentric Roller Grip- Dual Opposing Rollers</b>						
ROLLER-766-5S-1	5,000	500	1,100	30mm ø	30mm	Clevis

Eccentric Roller Grips													
Model No.	Load Capacity			Base Plate Material	Jaw Face Type	Sample Thickness (max)		Sample Width (Max)		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
ROLLER-7-1A-1	1,000	100	225	Aluminum	Serrated	0.28	7	1.97	50	1.1	0.5	15.9	2
ROLLER-7-1RA-1	1,000	100	225	Rubber	Smooth	0.25	7	1.97	50	1.1	0.5	15.9	2

## DIMENSIONS



## ROLLER FIXTURES

### ROLLER 5kN

#### ALUMINUM

- For general-purpose tensile testing applications
- Use on soft samples including rubber, foils, paper and plastic film
- Anodized finish
- Operating Temperatures 32° to 266°F (0° to 130°C)

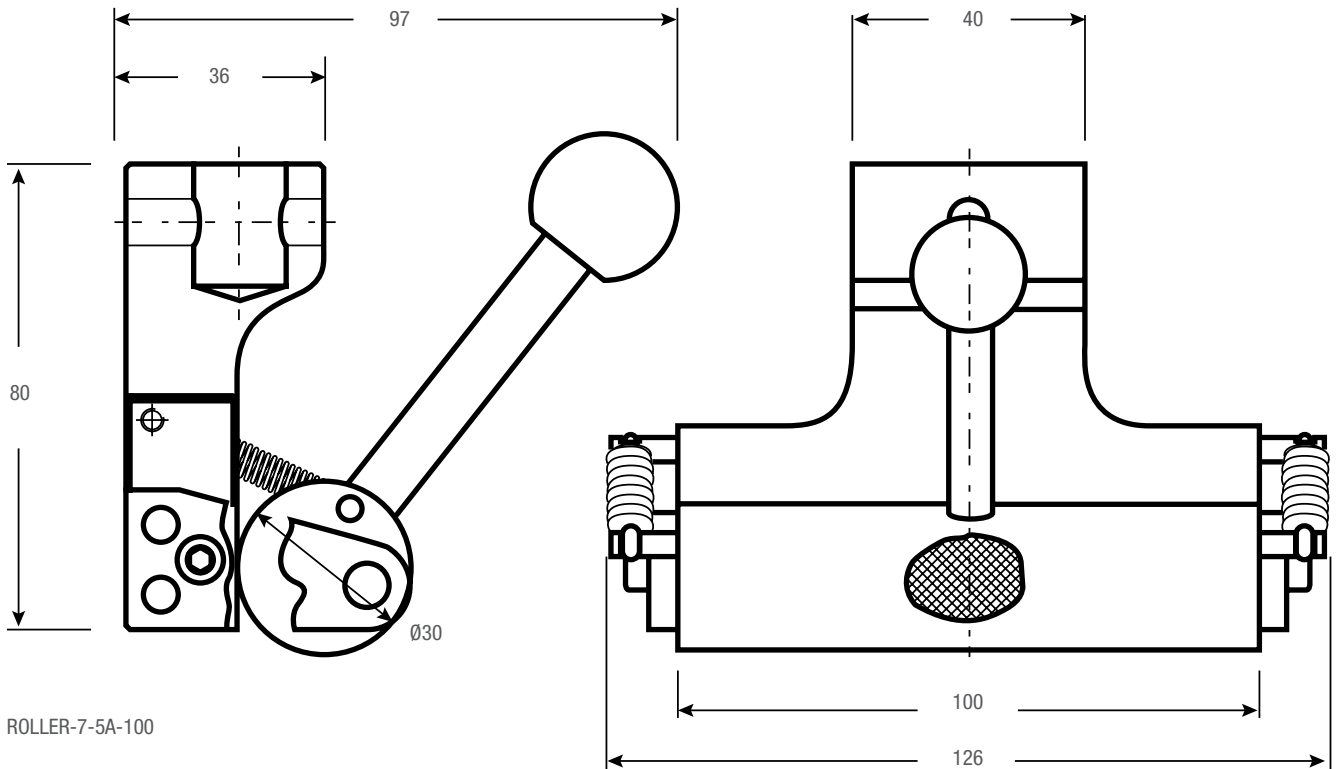


Shown: ROLLER-7-5A-100

#### Eccentric Roller Grips

Model No.	Load Capacity			Jaw Face Type	Sample Thickness (max)		Sample Width (Max)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
ROLLER-7-5A-1	5,000	500	1,100	Serrated	1.97	50	0.28	7	1.6	0.7	15.9	2
ROLLER-7-5A-100	5,000	500	1,100	Serrated	3.94	100	0.28	7	7.5	3.4	15.9	2

#### DIMENSIONS





# ROLLER FIXTURES

## ROLLER 10kN

### ALUMINUM

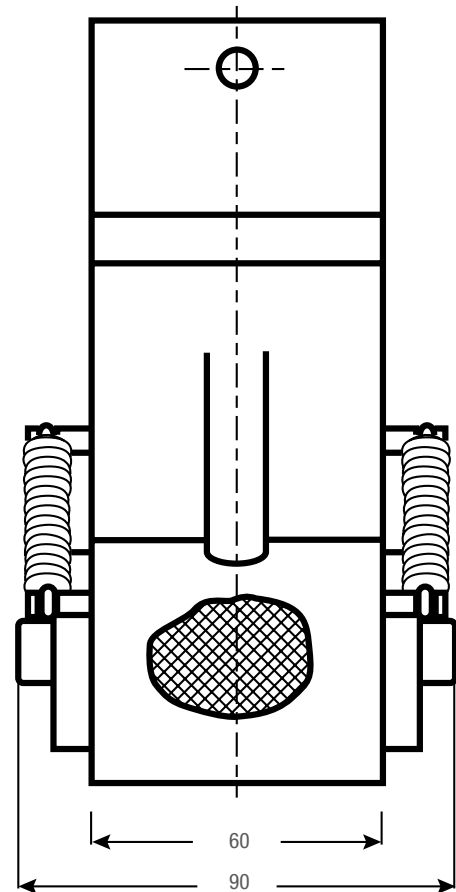
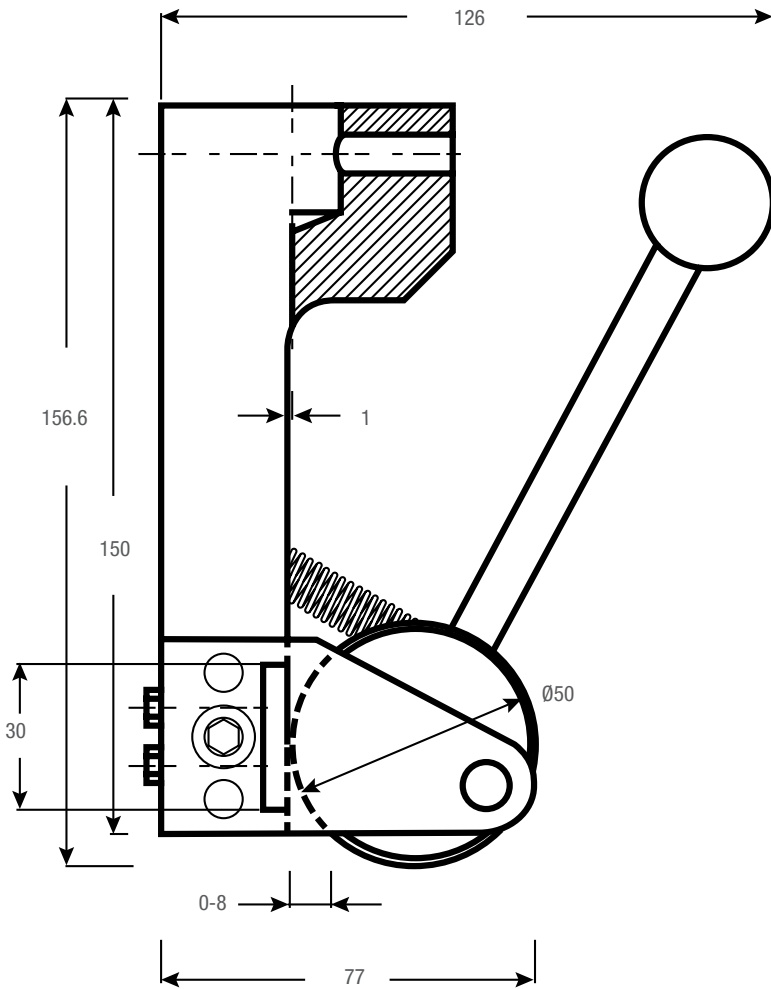
- For general-purpose tensile testing applications
- Serrated roller
- Anodized finish
- Operating Temperatures 32° to 266°F (0° to 130°C)



### Eccentric Roller Grips

Model No.	Load Capacity			Jaw Face Type	Sample Thickness (max)		Sample Width (Max)		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
ROLLER-7-10S-1	10k	1000	2200	Serrated	0.31	8	2.36	60	3.3	1.5	15.9	2

### DIMENSIONS



## ROLLER FIXTURES

### ROLLER 5kN

STEEL, NICKEL-PLATED

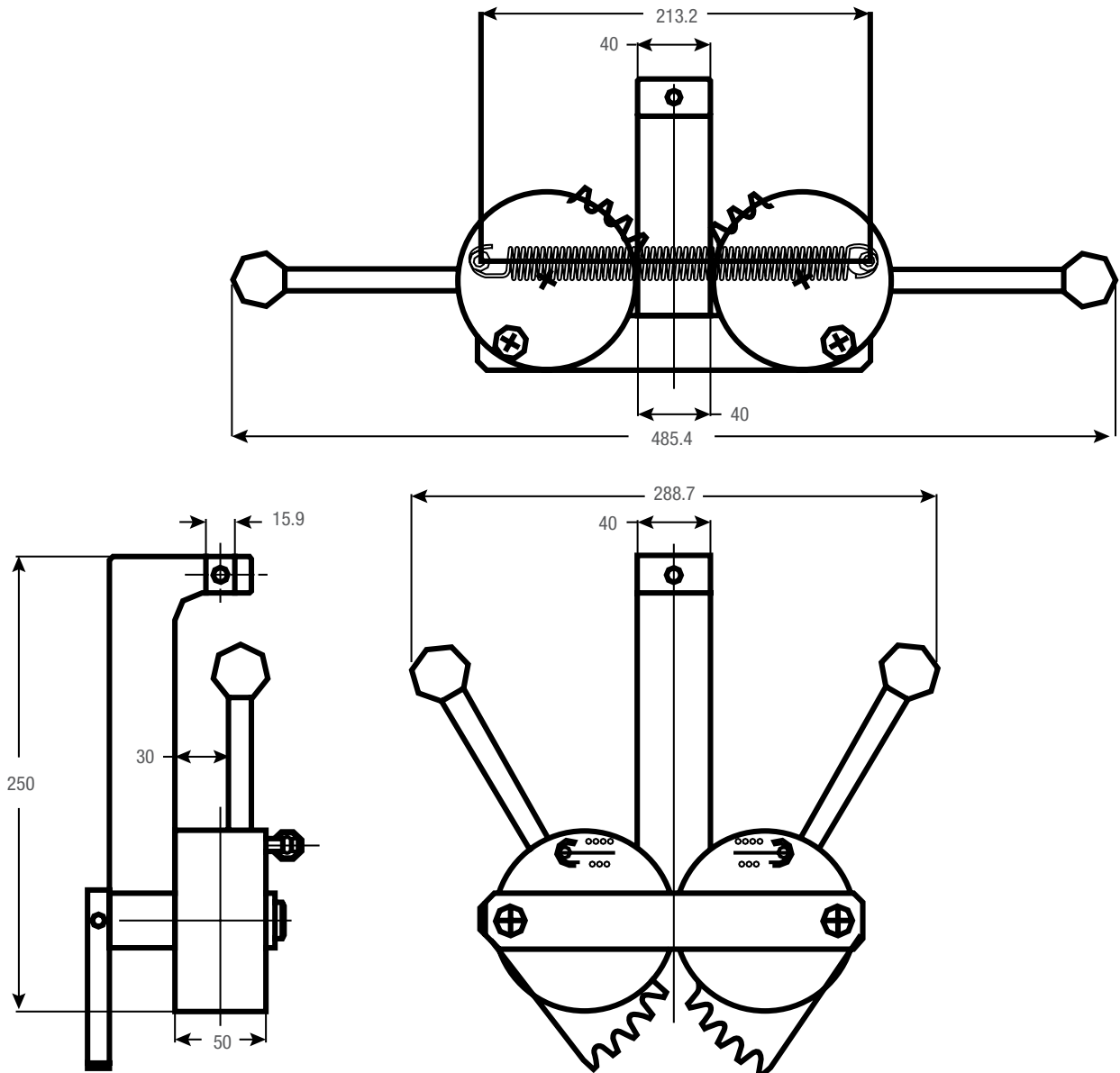
- For general-purpose tensile testing applications
- Dual-action rollers
- 30mm diameter rollers
- Operating Temperatures 32° to 266°F (0° to 130°C)



#### Eccentric Roller Grips

Model No.	Load Capacity			Jaw Face Type	Sample Thickness (max)		Sample Width (max)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kg		
ROLLER-766-5S-1	5000	500	1100	Serrated	0.29	15	1.2	30	3.1	1.4	15.9	2

### DIMENSIONS





WISE-ACTION FIXTURES

## VISE-ACTION FIXTURES

Starrett vise-action test fixtures tighten manually. Starrett offers a variety of different vise-action fixtures with various clamping surfaces and jaw openings.

Vise-action fixtures can be supplied with smooth, serrated diamond and rubber surfaces.

Starrett can assist you in selecting the proper vise-action fixture for your sample.

### OPERATION

Vise-action test fixtures are designed for easy sample loading and alignment. Using a screw mechanism on the test fixture, you apply force against the sample being tested in order to secure the sample in place.

Starrett offers a variety of vise-action test fixtures with different capacities. We also offer a wide assortment of grip faces including smooth, serrated, v-notch, diamond and rubber.

### TESTING STANDARDS

There are a variety of testing standards that can make use of a vise-action test fixture. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.



Vise-Action Fixtures						
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max) mm	Clamping Surface mm
	N	KGF	LBF			
WISE-205K-10-S	20	2	4	Smooth	3.4	10 x 10
WISE-205X-10-S	20	2	4	Smooth	3.4	10 x 10
WISE-341-6-P	100	10	22	Serrated	4	6 x 5
WISE-341-6-PX	100	10	22	Serrated	4	6 x 5
WISE-341-10-P	100	10	22	Serrated	4	10 x 15
WISE-341-10-PX	100	10	22	Serrated	4	10 x 15
WISE-140K	100	10	22	Serrated	8	10 x 15
WISE-227A-M5	100	10	22	No Jaws	8	Jaw Dependant
WISE-227S-46	100	10	22	No Jaws	46	Jaw Dependant
WISE-466-10	500	50	110	Smooth	33.1	10
WISE-56KA-1	1,000	100	225	No Jaws	8	Jaw Dependant
WISE-56GA-1	1,000	100	225	No Jaws	15	Jaw Dependant
WISE-56GHA-1	1,000	100	225	No Jaws	15	Jaw Dependant
WISE-240KA-1	2,500	250	550	No Jaws	10	Jaw Dependant
WISE-240KA-20-1	1,000	100	225	No Jaws	20	Jaw Dependant
WISE-240KA-30-1	1,000	100	225	No Jaws	30	Jaw Dependant
WISE-240KA-50-1	1,000	100	225	No Jaws	50	Jaw Dependant
WISE-470-25P	2,000	200	450	Serrated	10	25 x 25
WISE-9	2,500	250	550	No Jaws	6	Jaw Dependant
WISE-240G	5kN	500	1,124	No Jaws	24	Jaw Dependant
WISE-240G-S50	5kN	500	1,124	No Jaws	50	Jaw Dependant
WISE-240G-S100	5kN	500	1,124	No Jaws	100	Jaw Dependant
WISE-154A-10-1	10K	1,000	2,200	No Jaws	Jaw Dependant	Jaw Dependant
WISE-154S-20-1	20K	2,000	4,400	No Jaws	Jaw Dependant	Jaw Dependant



# WISE-ACTION FIXTURES

Vise-action test fixtures secure the sample with a pinching force. Vise-action test fixtures let you manually tighten the jaws to the sample. A variety of vise-action test fixtures are available and suited for a wide assortment of samples and applications.

Many vise-action test fixtures may be supplied with pneumatic actuators. These are ideal for high-volume testing applications offering a quick open-release capability. Please see the Pneumatic specification sheet for more information.

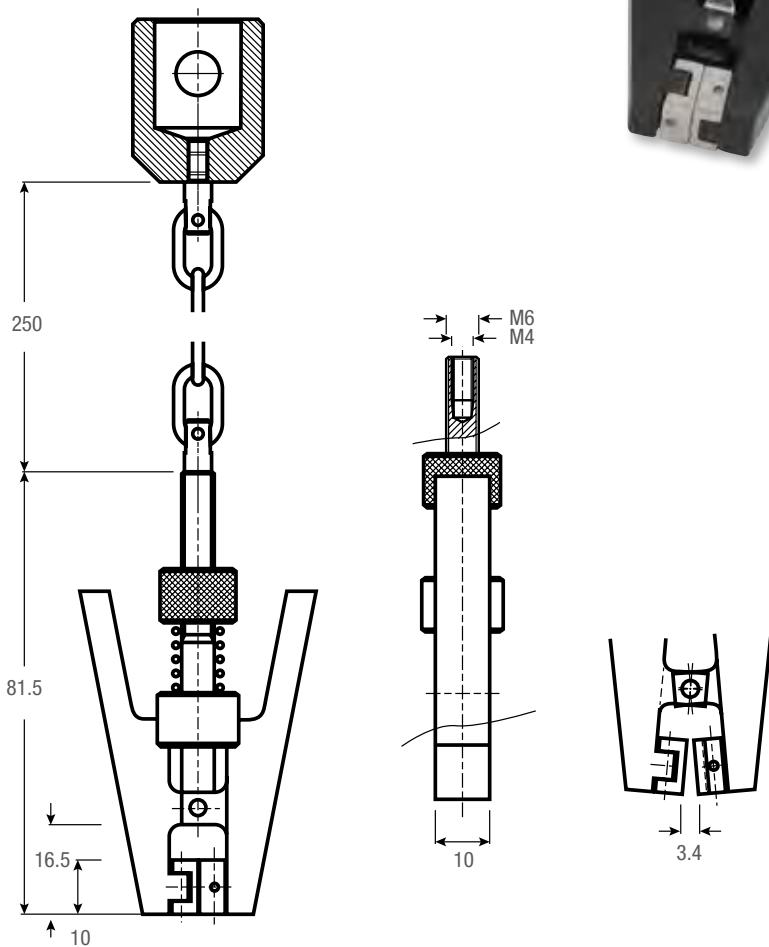
## 205K

ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Available as chain attachment or direct connect model
- Operating Temperatures 32° to 356°F (0° to 180°C)



### DIMENSIONS



Vise-Action Fixtures													
Model No.	Load Capacity			Chain Attachment	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
WISE-205K-10-S	20	2	4	Yes	Smooth	0.13	3.4	0.4 x 0.4	10 x 10	1.3	0.6	15.9	1
WISE-205X-10-S	20	2	4	No	Smooth	0.13	3.4	0.4 x 0.4	10 x 10	1.1	0.5	15.9	1

# VISE-ACTION FIXTURES

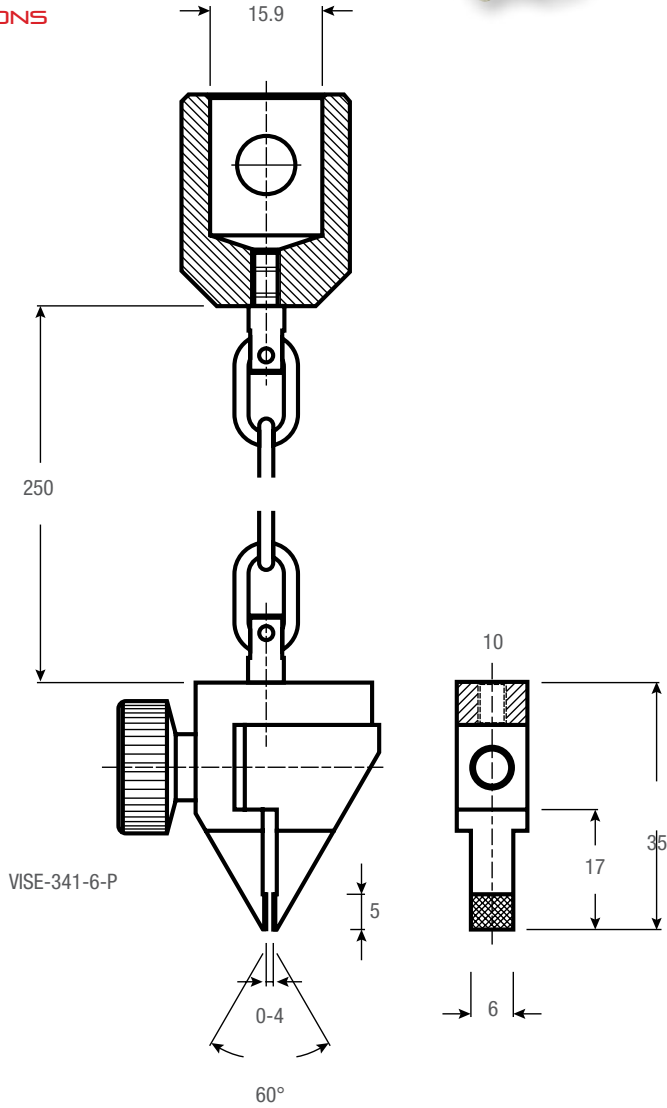
## 341

STEEL, PHOSPHATE COATED

- For general-purpose tensile testing applications
- Ideal for pull-off testing on electrical components
- With or without chain attachment
- Operating Temperatures 32° to 266°F (0° to 130°C)



### DIMENSIONS



Vise-Action Fixtures													
Model No.	Load Capacity			Chain Attachment	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
WISE-341-6-P	100	10	22	Yes	Serrated	0.16	4	0.24 x 0.2	6 x 5	0.2	0.1	15.9	1
WISE-341-6-PX	100	10	22	No	Serrated	0.16	4	0.24 x 0.2	6 x 5	0.2	0.1	15.9	1
WISE-341-10P	100	10	22	Yes	Serrated	0.16	4	0.4 x 0.6	10 x 15	0.2	0.1	15.9	1
WISE-341-10PX	100	10	22	No	Serrated	0.16	4	0.4 x 0.6	10 x 15	0.2	0.1	15.9	1

# WISE-ACTION FIXTURES

## 140

ALUMINUM, ANODIZED

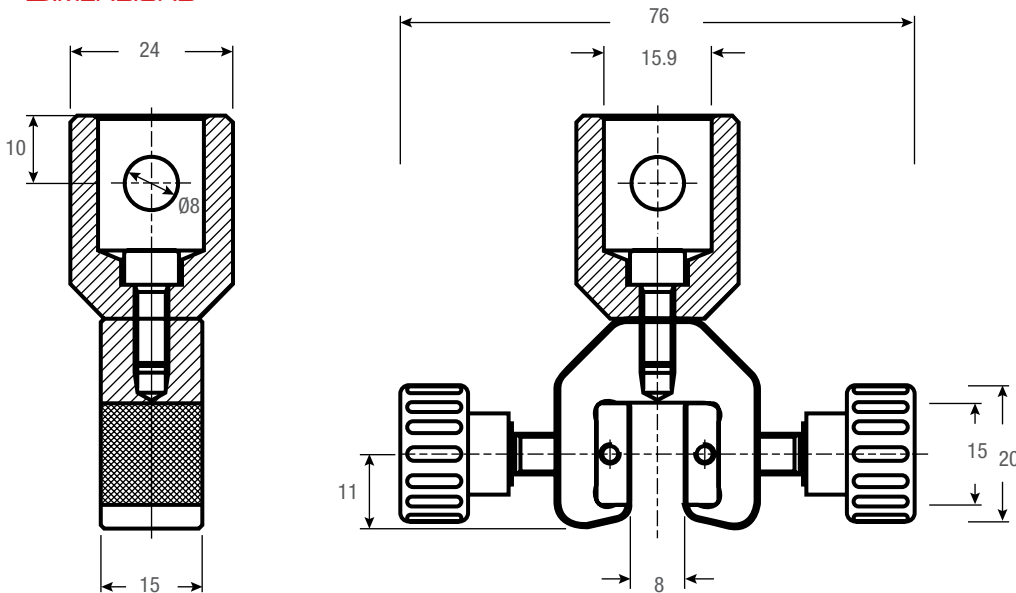
- For general-purpose tensile testing applications
- Dual-action tightening from both sides
- Operating Temperatures 32° to 266°F (0° to 130°C)



WISE-ACTION FIXTURES

Vise-Action Fixtures													
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply	
	N	KGF	LBF		in	mm	in	mm	lbs	kgs			
WISE-140K-15P	100	10	22	Serrated	0.3	8	0.6 x 0.6	15 x 15	0.2	0.1	15.9	1	

### DIMENSIONS

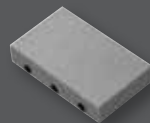


### 140 JAW SETS

STEEL, HARDENED

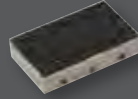
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets						
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface		
		in	mm	in	mm	
JAW140-B	Smooth	0.3	8	0.6 x 0.6	15 x 15	
JAW140-BR	Rubber	0.2	6	0.6 x 0.6	15 x 15	
JAW140-PY	Serrated	0.3	8	0.6 x 0.6	15 x 15	



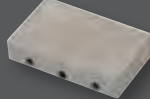
**SMOOTH JAW**

- Suitable for own further treatments
- Steel-blanks without coating



**RUBBER-COATED JAW**

- 1 mm rubber coating (NBR)
- Nickel-plated



**SERRATED JAW**

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

# VISE-ACTION FIXTURES

## 227

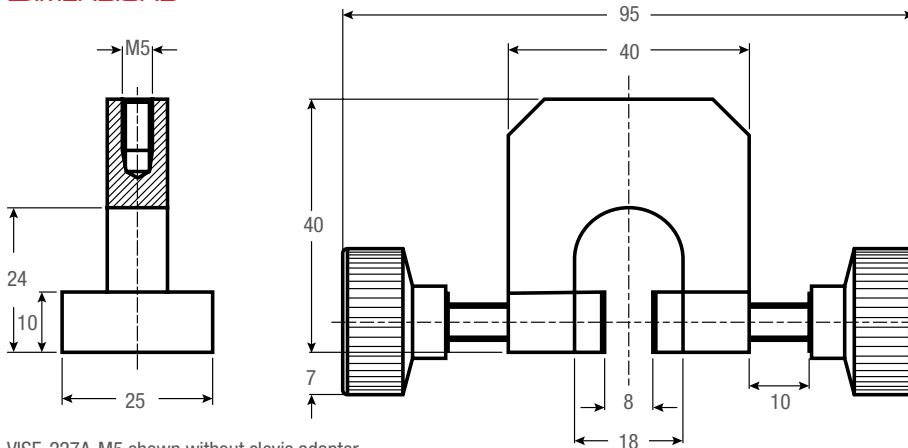
ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Dual-action tightening from both sides
- Order required jaw set separately
- Operating Temperatures 32° to 266°F (0° to 130°C)



Vise-Action Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		mm	in	in	mm	lbs	kgs		
WISE-227A-M5	100	10	22	No Jaws	8	0.3	Jaw Dependent		0.2	0.1	15.9	2
WISE-227S-46	100	10	22	No Jaws	46	1.8	Jaw Dependent		0.2	0.1	15.9	2

### DIMENSIONS



WISE-227A-M5 shown without clevis adapter

### 227 JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets							
Model No.	Jaw Face	Jaw Opening (Max)				Clamping Surface	
		WISE-227-08		WISE-227-46		in	mm
JAW227-B25	Smooth	0.3	8	1.8	46	0.4 x 0.98	10 x 25
JAW227-BR25	Rubber	0.2	6	1.7	44	0.4 x 0.98	10 x 25
JAW227-PY25	Serrated	0.3	8	1.8	46	0.4 x 0.98	10 x 25
JAW227-WV25	Wave	0.3	8	1.8	46	0.4 x 0.98	10 x 25
JAW227-D25	Diamond	0.3	8	1.8	46	0.4 x 0.98	10 x 25
JAW227-B50	Smooth	0.2	6	1.7	44	0.4 x 1.97	10 x 50
JAW227-BR50	Rubber	0.16	4	1.65	42	0.4 x 1.97	10 x 50
JAW227-PY50	Serrated	0.2	6	1.7	44	0.4 x 1.97	10 x 50
JAW227-D50	Diamond	0.2	6	1.7	44	0.4 x 1.97	10 x 50
JAW227-B100	Smooth	0.2	6	1.7	44	0.4 x 3.94	10 x 100
JAW227-BR100	Rubber	0.16	4	1.65	42	0.4 x 3.94	10 x 100
JAW227-PY100	Serrated	0.2	6	1.7	44	0.4 x 3.94	10 x 100
JAW227-D100	Diamond	0.2	6	1.7	44	0.4 x 3.94	10 x 100

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating
- Rubber-Coated Jaw
- 1mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- Nickel-plated



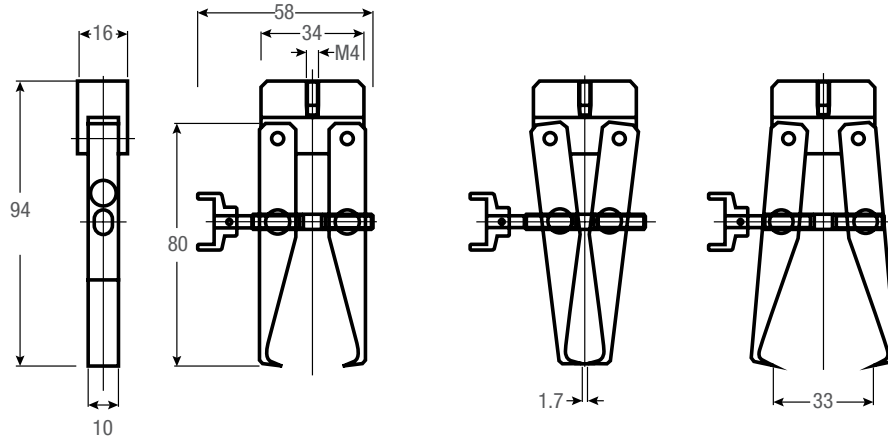
# WISE-ACTION FIXTURES

## 466

ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Thumbscrew operation
- Operating Temperatures -94° to 536°F (-70° to 280°C)

### DIMENSIONS



WISE-ACTION FIXTURES

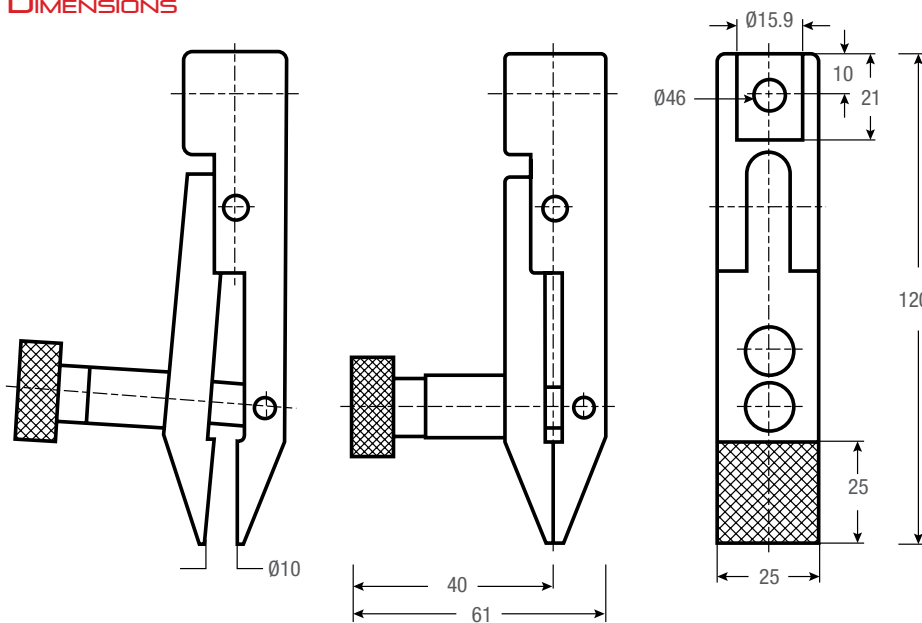
Vise-Action Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
VISE-466-10	500	50	110	Smooth	1.3	33.1	0.39	10	0.4	0.18	15.9	1

## 470

ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Fixed jaw faces
- Operating Temperatures 32° to 356°F (0° to 180°C)

### DIMENSIONS



Vise-Action Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
VISE-470-25P	2,000	200	450	Serrated	0.4	10	1 x 1	25 x 25	1.1	0.5	15.9	1

## VISE-ACTION FIXTURES

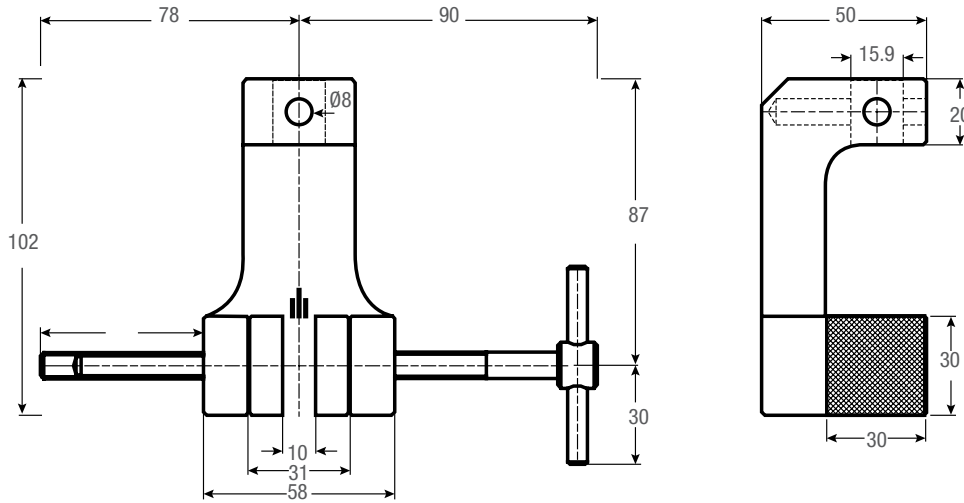
### 56K

ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Dual-action tightening from both sides
- Order required jaw set separately
- Operating Temperatures 32° to 356°F (0° to 180°C)



### DIMENSIONS



### Vise-Action Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
WISE-56KA-1	1,000	100	225	No Jaws	0.3	8	Jaw Dependent		0.9	0.4	15.9	2

## VISE-ACTION FIXTURES

### 56K JAW SETS

#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

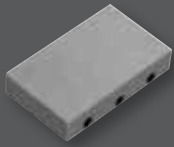
Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW56K-B30	Smooth	0.4	10	1.18 x 1.18	30 x 30
JAW56K-BR30	Rubber	0.2	8	1.18 x 1.18	30 x 30
JAW56K-PY30	Serrated	0.4	10	1.18 x 1.18	30 x 30
JAW56K-V2	V-Notch	0.08-0.4 $\phi$	2-10 $\phi$	1.18 x 1.18	30 x 30
JAW56K-V3	V-Notch	0.12-0.4 $\phi$	3-10 $\phi$	1.18 x 1.18	30 x 30
JAW56K-WV30	Wave	0.4	10	1.18 x 1.18	30 x 30
JAW56K-D30	Diamond	0.4	10	1.18 x 1.18	30 x 30

### OPTIONAL CARRIER AND CARRIER SETS

#### STEEL, HARDENED

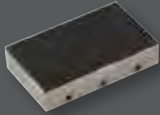
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick change jaw sets
- Requires both CARRIER-56K and CAR56K

Carrier Sets							
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width (h x w)		Supply (each)
			in	mm	in	mm	
CARRIER-56K	Steel	-	-	-	-	-	4
CAR56K-B36	Steel	Smooth	1.18 x 1.18	30 x 30	0 - 0.3	0 - 8	4
CAR56K-BR36	Steel	Rubber	1.18 x 1.18	30 x 30	0 - 0.2	0 - 6	4
CAR56K-D36	Steel	Diamond	1.18 x 1.18	30 x 30	0 - 0.3	0 - 8	4
CAR56K-PY36	Steel	Serrated	1.18 x 1.18	30 x 30	0 - 0.3	0 - 8	4



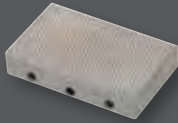
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



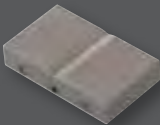
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



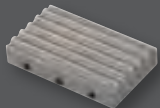
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



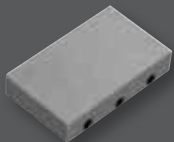
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# VISE-ACTION FIXTURES

## 56G

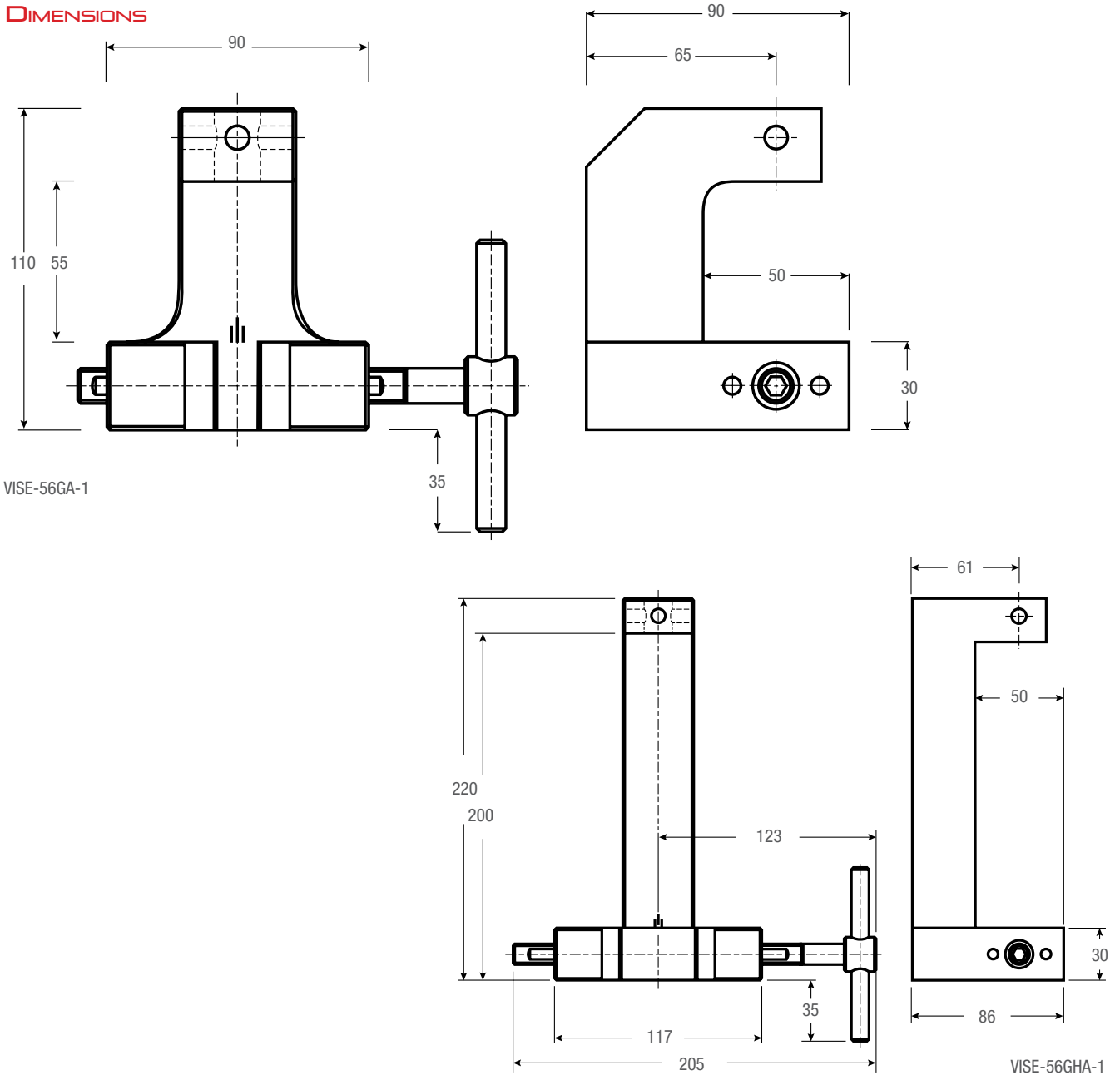
ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Dual-action tightening from both sides
- Order required jaw set separately
- Operating Temperatures 32° to 356°F (0° to 180°C)



Vise-Action Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
WISE-56GA-1	1,000	100	225	No Jaws	0.6	15	Jaw Dependent		2.4	1.1	15.9	2
WISE-56GHA-1	1,000	100	225	No Jaws	0.6	15	Jaw Dependent		3.0	1.4	15.9	2

### DIMENSIONS





## VISE-ACTION FIXTURES

### 56G JAW SETS

#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

#### Jaw Sets

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW56G-B30	Smooth	0.6	15	1.18 x 1.97	30 x 50
JAW56G-BR30	Rubber	0.5	13	1.18 x 1.97	30 x 50
JAW56G-PY30	Serrated	0.6	15	1.18 x 1.97	30 x 50
JAW56G-V2	V-Notch	0.08-0.6 $\emptyset$	2-15 $\emptyset$	1.18 x 1.97	30 x 50
JAW56G-V3	V-Notch	0.12-0.4 $\emptyset$	3-11 $\emptyset$	1.18 x 1.97	30 x 50
JAW56G-WV30	Wave	0.6	15	1.18 x 1.97	30 x 50
JAW56G-D30	Diamond	0.6	15	1.18 x 1.97	30 x 50

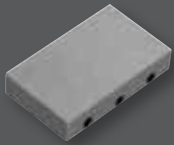
#### OPTIONAL CARRIER AND CARRIER SETS

#### STEEL, HARDENED

- Supplies four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick change jaw sets requires both CARRIER56K and CAR56K

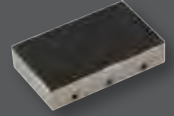
#### Carrier Sets

Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width		Opening Width		Supply (each)
			in	mm	in (h x w)	mm (GA-1)	in (h x w)	mm (GHA-1)	
CARRIER-56G	Steel	-	-	-	-	-	-	-	4
CAR56G-B50	Steel	Smooth	1.18 x 1.97	30 x 50	0 - 0.2	0 - 5	0 - 1.3	0 - 34	4
CAR56G-BR50	Steel	Rubber	1.18 x 1.97	30 x 50	0 - 0.1	0 - 3	0 - 1.2	0 - 32	4
CAR56G-D50	Steel	Diamond	1.18 x 1.97	30 x 50	0 - 0.2	0 - 5	0 - 1.3	0 - 34	4
CAR56G-PY50	Steel	Serrated	1.18 x 1.97	30 x 50	0 - 0.2	0 - 5	0 - 1.3	0 - 34	4



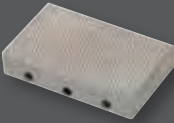
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



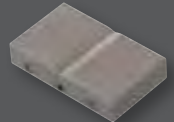
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



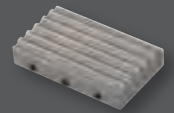
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



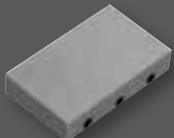
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# VISE-ACTION FIXTURES

9

ALUMINUM, ANODIZED

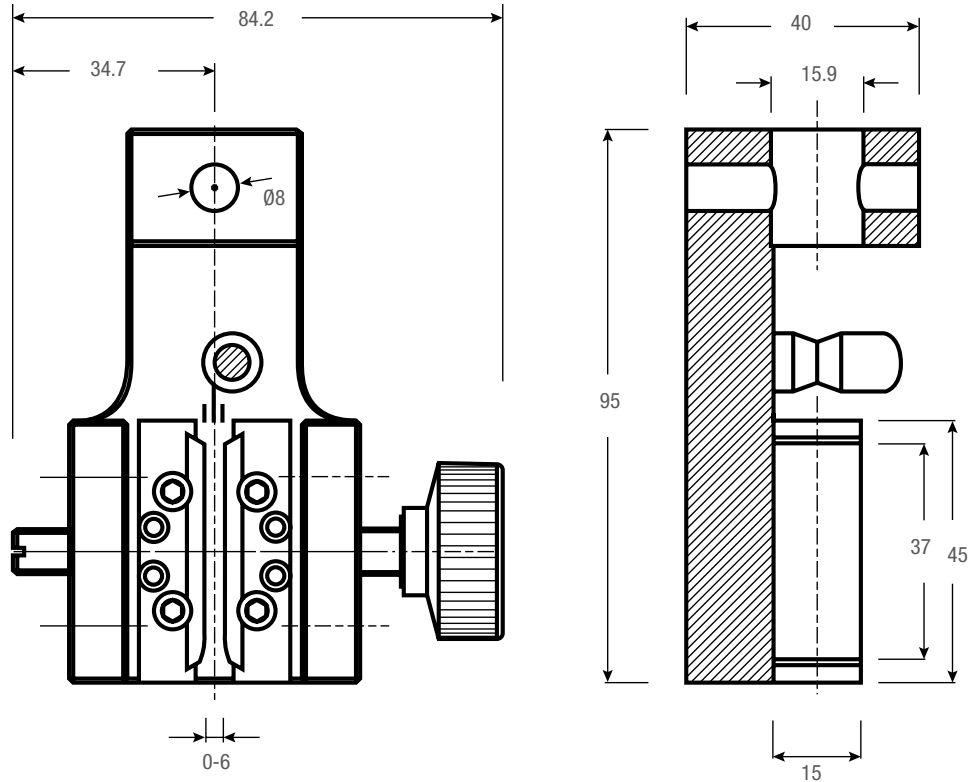
- For general-purpose tensile testing applications
- For fine wire, filament, string
- Order required jaw set separately
- Operating Temperatures -94° to 356°F (-70° to 180°C)



**Vise-Action Fixtures**

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
VISE-9	2,500	250	550	No Jaws	0.2	6	Jaw Dependent		0.9	0.4	15.9	2

**DIMENSIONS**



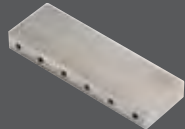
**9 JAW SETS**

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

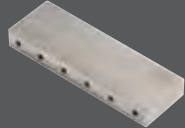
**Jaw Sets**

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW9-B15	Smooth	0.2	6	1.5 x 0.6	37 x 15
JAW9-D15	Diamond	0.2	6	1.5 x 0.6	37 x 15



**SMOOTH JAW**

- Suitable for own further treatments
- Steel-blanks without coating



**DIAMOND-COATED JAW**

- Clamping surface coated with synthetic diamonds
- Nickel-plated

# WISE-ACTION FIXTURES

## 240K

### ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures -94° to 356°F (-70° to 180°C)



VISE-240KA-1



VISE-240KA-20-1



VISE-240KA-30-1

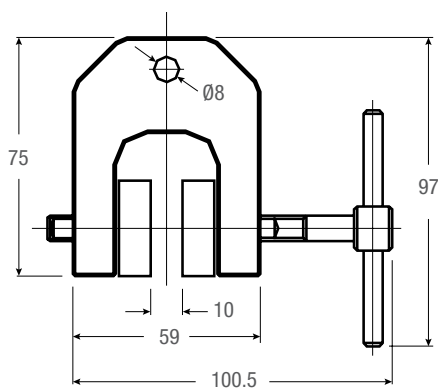


VISE-240KA-50-1

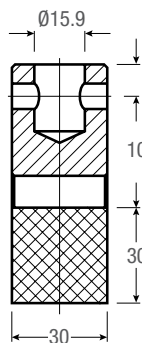
### Vise-Action Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
VISE-240KA-1	2,500	250	550	No Jaws	0.4	10	Jaw Dependent	Jaw Dependent	0.7	0.3	15.9	2
VISE-240KA-20-1	1,000	100	225	No Jaws	0.8	20	Jaw Dependent	Jaw Dependent	0.7	0.3	15.9	2
VISE-240KA-30-1	1,000	100	225	No Jaws	1.2	30	Jaw Dependent	Jaw Dependent	0.7	0.3	15.9	2
VISE-240KA-50-1	1,000	100	225	No Jaws	2.0	50	Jaw Dependent	Jaw Dependent	0.7	0.3	15.9	2

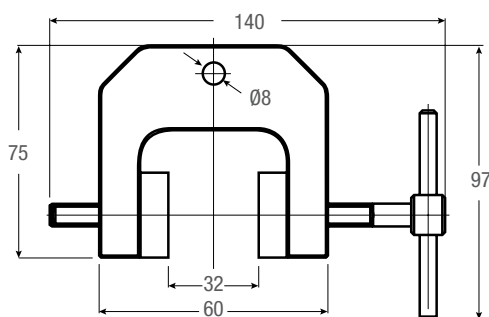
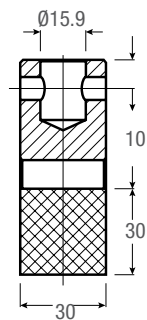
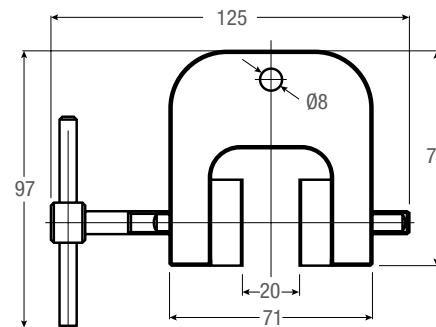
### DIMENSIONS



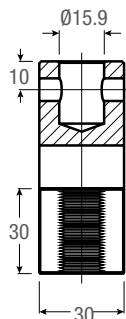
VISE-240KA-1



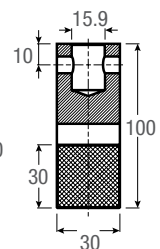
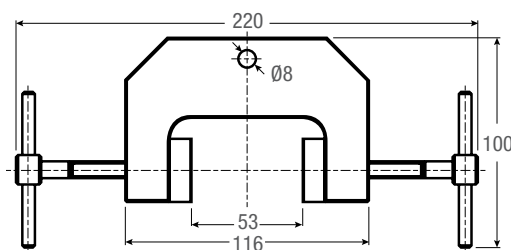
VISE-240KA-20-1



VISE-240KA-30-1



VISE-240KA-50-1



# VISE-ACTION FIXTURES

## 240K JAW SETS

### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 180°C)

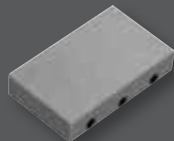
Jaw Sets						
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface		
		in	mm	in	mm	
JAW240K-B25	Smooth	0.4	10	1.18 x 1.18	30 x 30	
JAW240K-BR25	Rubber	0.3	8	1.18 x 1.18	30 x 30	
JAW240K-PY25	Serrated	0.4	10	1.18 x 1.18	30 x 30	
JAW240K-V2	V-Notch	0.08-0.35 $\phi$	2-9 $\phi$	1.18 x 1.18	30 x 30	
JAW240K-V9	V-Notch	0.1-0.35 $\phi$	3-9 $\phi$	1.18 x 1.18	30 x 30	
JAW240K-WV30	Wave	0.4	10	1.18 x 1.18	30 x 30	
JAW240K-D30	Diamond	0.4	10	1.18 x 1.18	30 x 30	
JAW240K-B50	Smooth	0.8	20	1.18 x 2.0	30 x 50	
JAW240K-BR50	Rubber	0.7	18	1.18 x 2.0	30 x 50	
JAW240K-PY50	Serrated	0.8	20	1.18 x 2.0	30 x 50	
JAW240K-WV50	Wave	0.8	20	1.18 x 2.0	30 x 50	
JAW240K-D50	Diamond	0.8	20	1.18 x 2.0	30 x 50	
JAW240K-B80	Smooth	1.2	30	1.18 x 3.2	30 x 80	
JAW240K-BR80	Rubber	1.1	28	1.18 x 3.2	30 x 80	
JAW240K-PY80	Serrated	1.2	30	1.18 x 3.2	30 x 80	
JAW240K-WV80	Wave	1.2	30	1.18 x 3.2	30 x 80	
JAW240K-D80	Diamond	1.2	30	1.18 x 3.2	30 x 80	
JAW240K-B100	Smooth	2	50	1.18 x 3.9	30 x 100	
JAW240K-BR100	Rubber	1.9	48	1.18 x 3.9	30 x 100	
JAW240K-PY100	Serrated	2	50	1.18 x 3.9	30 x 100	
JAW240K-WV100	Wave	2	50	1.18 x 3.9	30 x 100	
JAW240K-D100	Diamond	2	50	1.18 x 3.9	30 x 100	

## OPTIONAL CARRIER AND CARRIER SETS

### STEEL, HARDENED

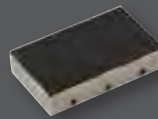
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick change jaw sets require both CARRIER-240K and CAR240K

Carrier Sets													
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width		KA-20-1		KA-30-1		KA-50-1		Supply (each)
			in	mm	in	mm	in	mm	in	mm	in	mm	
CARRIER-240K	Steel	-	-	-	-	-	-	-	-	-	-	-	4
CAR240K-B36	Steel	Smooth	1.2 x 1.2	30 x 30	0 - 0.3	0 - 8	0 - 0.7	0 - 18	0 - 1.1	0 - 28	0 - 1.9	0 - 48	4
CAR240K-BR36	Steel	Rubber	1.2 x 1.2	30 x 30	0 - 0.2	0 - 6	0 - 0.6	0 - 16	0 - 1	0 - 26	0 - 1.8	0 - 46	4
CAR240K-D36	Steel	Diamond	1.2 x 1.2	30 x 30	0 - 0.3	0 - 8	0 - 0.7	0 - 18	0 - 1.1	0 - 28	0 - 1.9	0 - 48	4
CAR240K-PY36	Steel	Serrated	1.2 x 1.2	30 x 30	0 - 0.3	0 - 8	0 - 0.7	0 - 18	0 - 1.1	0 - 28	0 - 1.9	0 - 48	4



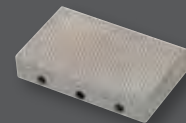
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



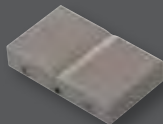
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



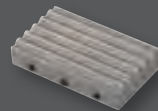
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



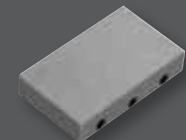
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated



# WISE-ACTION FIXTURES

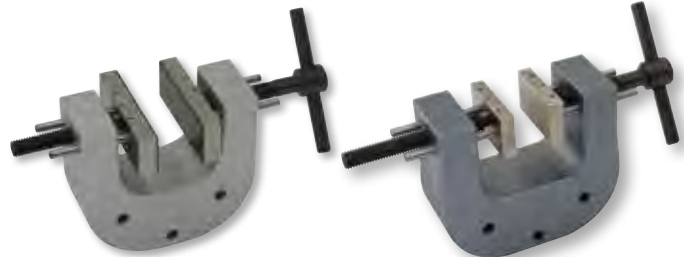
## 240G

ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures -76° to 356°F (-60° to 180°C)



VISE-240G-S100



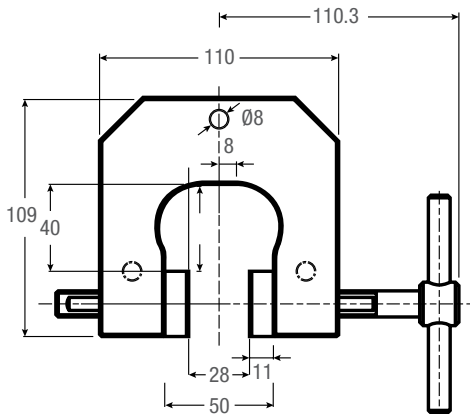
VISE-240G

VISE-240G-S50

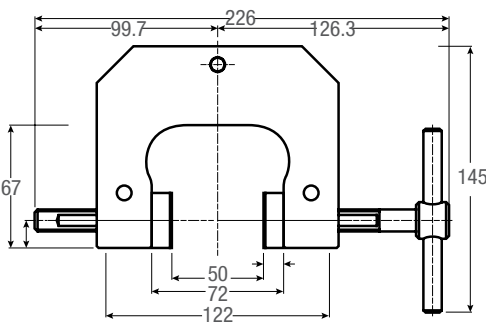
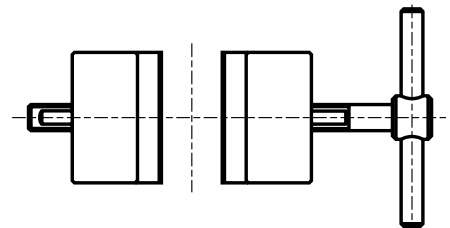
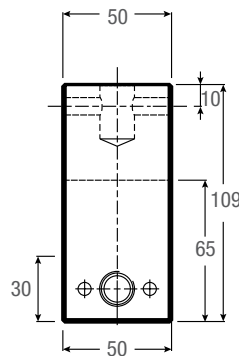
### Vise-Action Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
VISE-240G	5kN	500	1,124	No Jaws	0.9	24	Jaw Dependent		2.9	1.3	15.9	2
VISE-240G-S50	5kN	500	1,124	No Jaws	2.0	50	Jaw Dependent		2.9	1.3	15.9	2
VISE-240G-S100	5kN	500	1,124	No Jaws	4.0	100	Jaw Dependent		5.1	2.3	15.9	2

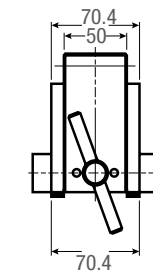
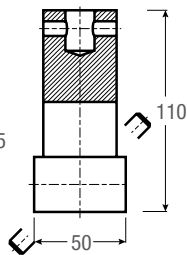
### DIMENSIONS



VISE-240G



VISE-240G-S50



VISE-240G-S100

# VISE-ACTION FIXTURES

## 240G JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 180°C)

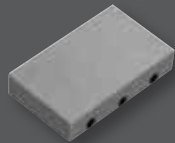
Jaw Sets									
Model No.	Jaw Face	Jaw Opening (Max)						Clamping Surface	
		VISE-240G-24		VISE-240G-50		VISE-240G-100		in	mm
		in	mm	in	mm	in	mm		
JAW240G-B50	Smooth	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-BR50	Rubber	0.87	22	1.89	48	-	-	1.18 x 2.0	30 x 50
JAW240G-PY50	Serrated	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-V2	V-Notch	0.08-0.94 $\phi$	2-24 $\phi$	0.08-1.97 $\phi$	2-50 $\phi$	-	-	1.18 x 2.0	30 x 50
JAW240G-V5	V-Notch	0.2-0.94 $\phi$	5-24 $\phi$	0.2-1.97 $\phi$	5-50 $\phi$	-	-	1.18 x 2.0	30 x 50
JAW240G-WV50	Wave	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-D50	Diamond	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-B80	Smooth	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-BR80	Rubber	0.95	24	1.81	46	0.3-3.9	8-98	1.18 x 3.2	30 x 80
JAW240G-PY80	Serrated	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-WV80	Wave	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-D80	Diamond	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-B100	Smooth	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100
JAW240G-BR100	Rubber	0.95	24	1.81	46	0.3-3.9	8-98	1.18 x 3.9	30 x 100
JAW240G-PY100	Serrated	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100
JAW240G-WV100	Wave	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100
JAW240G-D100	Diamond	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100

## OPTIONAL CARRIER AND CARRIER SETS

STEEL, HARDENED

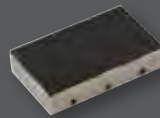
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick change jaw sets require both CARRIER-240G and CAR240G

Carrier Sets										
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width 240G		240G-S50		240G-S100	Supply (each)
			in	mm	in	mm	in	mm	mm	
CARRIER-240G	Steel	-	-	-	-	-	-	-	-	4
CAR240G-B50	Steel	Smooth	1.2 x 2.0	30 x 50	0 - 0.8	0 - 20	0 - 1.18	0 - 30	Not Compatible	4
CAR240G-BR50	Steel	Rubber	1.2 x 2.0	30 x 50	0 - 0.7	0 - 18	0 - 1.18	0 - 30	Not Compatible	4
CAR240G-D50	Steel	Diamond	1.2 x 2.0	30 x 50	0 - 0.8	0 - 20	0 - 1.18	0 - 30	Not Compatible	4
CAR240G-PY50	Steel	Serrated	1.2 x 2.0	30 x 50	0 - 0.8	0 - 20	0 - 1.18	0 - 30	Not Compatible	4



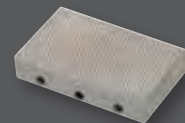
### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



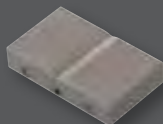
### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



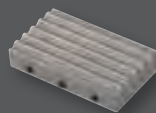
### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



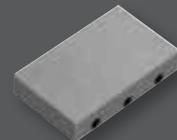
### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2mm
- Hardened steel
- Nickel-plated



### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

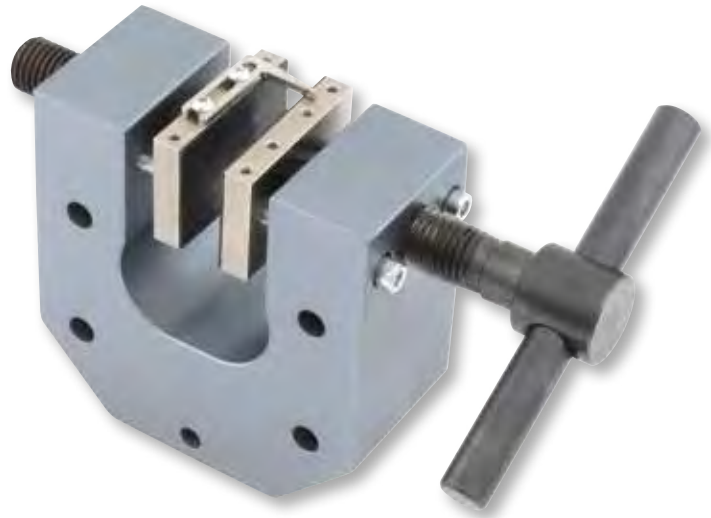
# WISE-ACTION FIXTURES

154

ALUMINUM, ANODIZED (WISE-154-10)

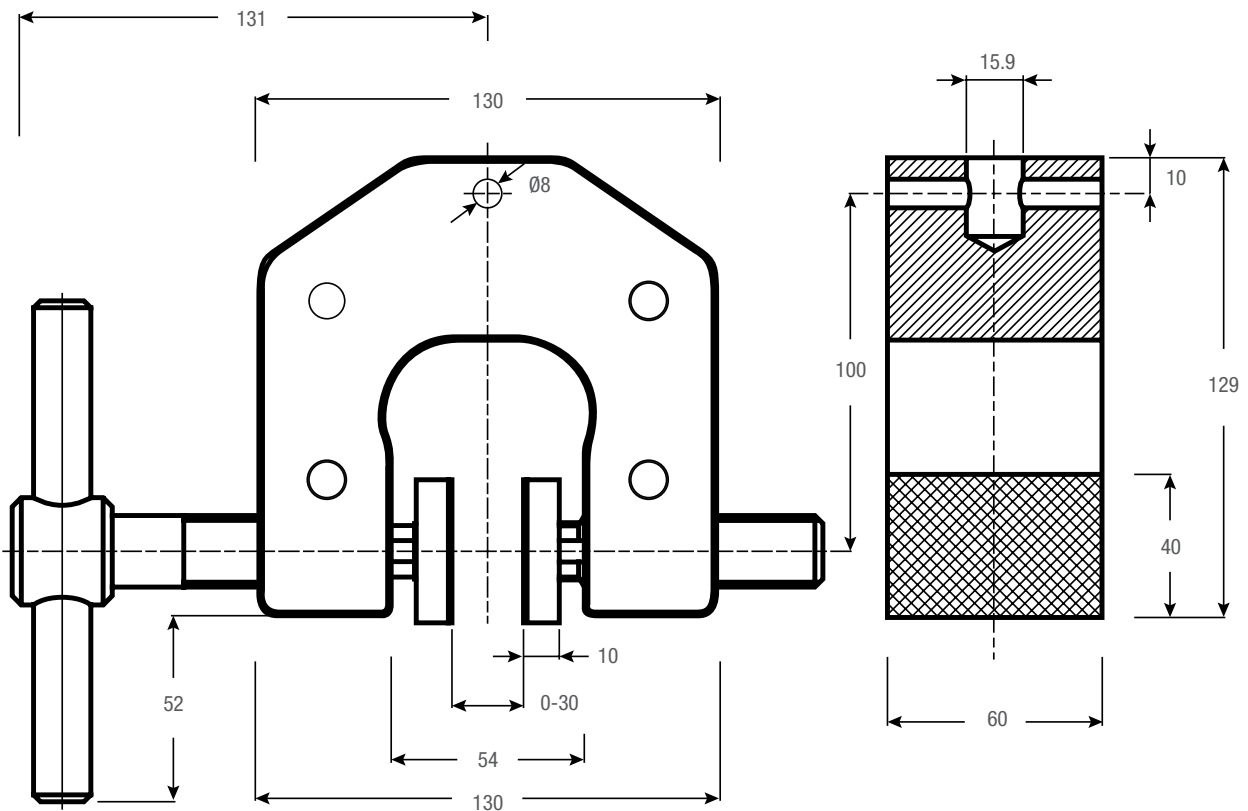
STEEL, MANGANESE PHOSPHATED (WISE-154-20)

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures
  - WISE-154A-10-1 32° to 356°F (0° to 180°C)
  - WISE-154S-20-1 32° to 662°F (0° to 350°C)



Vise-Action Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
WISE-154A-10-1	10K	1,000	2,200	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	5.3	2.4	15.9	2
WISE-154S-20-1	20K	2,000	4,400	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	11.0	5.0	15.9	2

## DIMENSIONS



## VISE-ACTION FIXTURES

### 154 JAW SETS

#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 180°C)

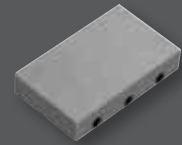
Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW154-B60	Smooth	1.34	34	1.6 x 2.4	40 x 60
JAW154-BR60	Rubber	1.26	32	1.6 x 2.4	40 x 60
JAW154-PT60	Serrated	1.34	34	1.6 x 2.4	40 x 60
JAW154-V4	V-Notch	0.16-0.47ø	4-12ø	1.6 x 2.4	40 x 60
JAW154-V6	V-Notch	0.24-1.34ø	6-34ø	1.6 x 2.4	40 x 60
JAW154-WV60	Wave	1.34	34	1.6 x 2.4	40 x 60
JAW154-D60	Diamond	1.34	34	1.6 x 2.4	40 x 60
JAW154-B100	Smooth	1.18	30	1.6 x 3.9	40 x 100
JAW154-BR100	Rubber	1.1	28	1.6 x 3.9	40 x 100
JAW154-PY100	Serrated	1.18	30	1.6 x 3.9	40 x 100
JAW154-WV100	Wave	1.18	30	1.6 x 3.9	40 x 100
JAW154-D100	Diamond	1.18	30	1.6 x 3.9	40 x 100

### OPTIONAL CARRIER AND CARRIER SETS

#### STEEL, HARDENED

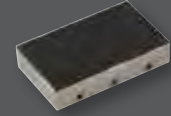
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick change jaw sets require both CARRIER-154 and CAR154

Carrier Sets							
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width		Supply (each)
			mm	in	mm	in	
CARRIER-154	Steel	-	-	-	-	-	4
CAR154-BR60	Steel	Rubber	40 x 60	1.5 x 2.3	0 - 22	0 - 0.8	4
CAR154-D60	Steel	Diamond	40 x 60	1.5 x 2.3	0 - 24	0 - 0.9	4
CAR154-PY60	Steel	Serrated	Clamp Height: 40	1.5	0 - 24	0 - 0.9	4
CAR154-V4	Steel	Vee-Type	Clamp Height: 40	1.5	4 - 24 ø	0.15 - .9	4
CAR154-B60	Steel	Smooth	40 x 60	1.5 x 2.3	0 - 22	0 - 0.8	4
CAR154-WV60	Steel	Wave	40 x 60	1.5 x 2.3	0 - 24	0 - 0.9	4
CARRIER-154-100	Steel	-	-	-	-	-	4
CAR154-B100	Steel	Smooth	50 x 100	1.9 x 3.9	0 - 16	0 - 0.6	4
CAR154-BR100	Steel	Rubber	50 x 100	1.9 x 3.9	0 - 14	0 - 0.5	4
CAR154-WV100	Steel	Wave	50 x 100	1.9 x 3.9	0 - 16	0 - 0.6	4
CAR154-D100	Steel	Diamond	50 x 100	1.9 x 3.9	0 - 16	0 - 0.6	4
CAR154-PY100	Steel	Serrated	50 x 100	1.9 x 3.9	0 - 16	0 - 0.6	4



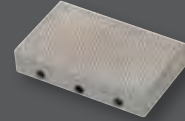
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



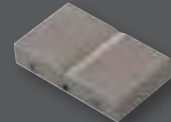
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



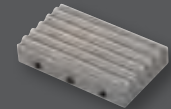
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



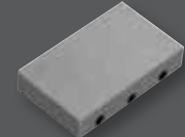
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated



**WEDGE-ACTION FIXTURES**



## WEDGE-ACTION FIXTURES

Wedge fixtures are self-tightening. Starrett offers a variety of different wedge-action fixtures with various face types for flat and round sample dimensions.

Wedge-action fixtures can be equipped with smooth, serrated, v-notch, diamond-coated and rubber surfaces.

Starrett can assist you in selecting the proper wedge-action fixture and jaw face set for your sample.

### OPERATION

Wedge-action test fixtures are designed for easy sample loading and alignment. These test fixtures apply an increasing pressure on the sample as the sample is pulled axially.

Starrett offers a variety of wedge-action test fixtures with different capacities. We also offer a wide assortment of grip faces including smooth, serrated, v-notch, diamond and rubber.

### TESTING STANDARDS

There are a variety of testing standards that can make use of a wedge-action test fixture. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.

Model No.	Load Capacity			Sample Width	Sample Thickness	Type
	N	KGF	LBF			
WEDGE-7S-1	5,000	500	1,100	10 mm	8 mm	Clevis
WEDGE-256S-1	10K	1,000	2,200	30 mm	8 mm	Clevis
WEDGE-243S-1	20K	2,000	4,400	Jaw Dependent	Jaw Dependent	Clevis
WEDGE-243S-50	50K	5,000	11,000	Jaw Dependent	Jaw Dependent	Clevis
WEDGE-527S-1	50K	5,000	11,000	80 mm	Jaw Dependent	Clevis



# WEDGE-ACTION FIXTURES

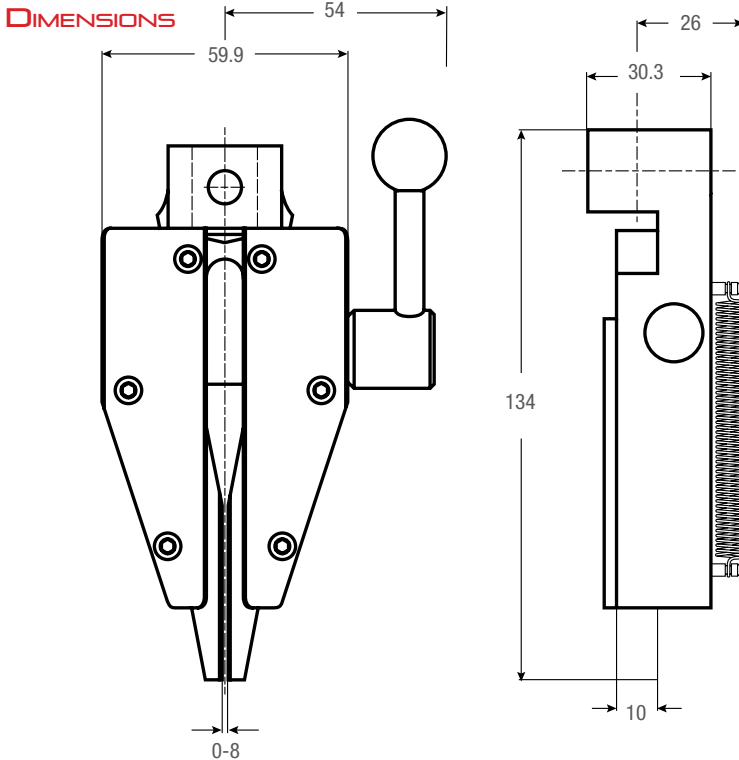
Wedge-action fixtures are ideal for production applications where fast and precise sampling loading is required. These fixtures help ensure proper sample alignment. As the applied load increases, the gripping force on the sample increases.

Some wedge-action grips can be equipped with various types of jaw faces making them ideal for flat or round samples. Jaw face sets include four jaw faces and are ordered separately unless otherwise noted.

## 7

### STEEL, NICKEL FINISH

- For general-purpose tensile testing applications
- For small diameter samples
- Has closed back
- Jaw faces must be ordered separately
- Operating Temperatures 32° to 266°F (0° to 130°C)




Wedge-Action Fixtures													
Model No.	Load Capacity			Base Plate	Jaw Face	Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
WEDGE-7S-1	5,000	500	1,100	Aluminum	No Jaws	0.39	10	0.31	8	1.98	0.9	15.9	2

## 7 JAW SETS

### STEEL, HARDENED

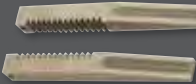
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW7-PV	Serrated	0.3	8	0.4 x 1.6	10 x 40
JAW7-V2	V-Notch	1.02	26	0.4 x 1.6	10 x 40



**SERRATED JAW**

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



**V-NOTCH JAW**

- For round samples
- 0.8mm tooth pitch
- Hardened steel 58HRC
- Nickel-plated

## WEDGE-ACTION FIXTURES

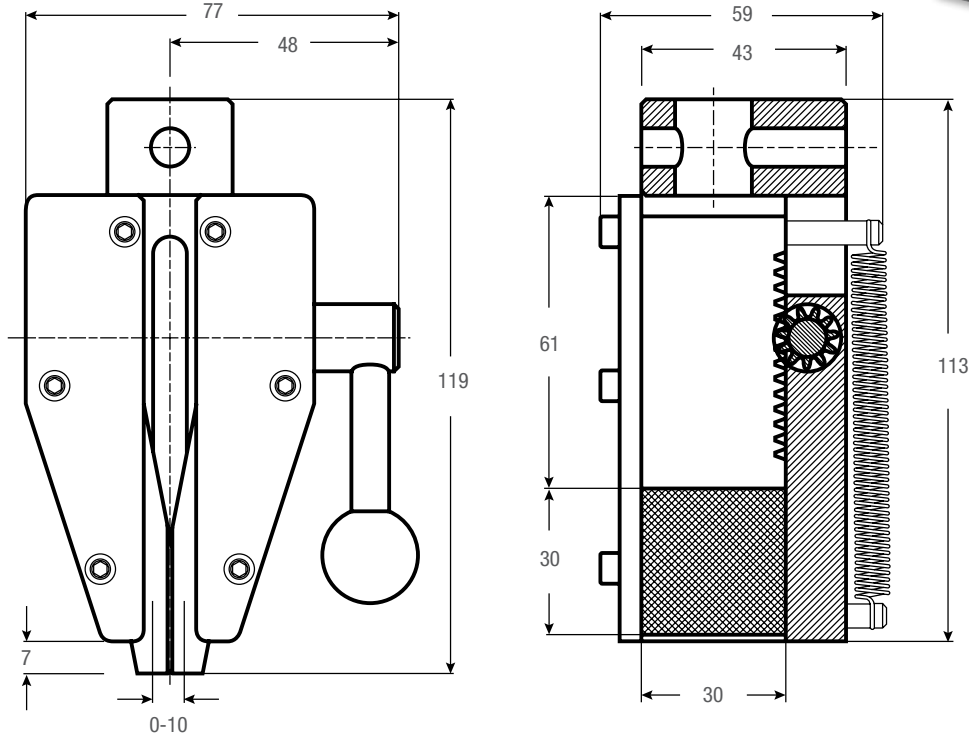
### 256

STEEL, PHOSPHATE FINISH

- For general-purpose tensile testing applications
- Has a closed back so sample is loaded from front side only
- Spring-loaded, lever operation
- Jaw faces must be ordered separately
- Operating Temperatures 32° to 266°F (0° to 130°C)



### DIMENSIONS



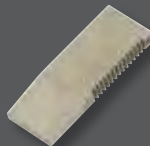
Wedge-Action Fixtures													
Model No.	Load Capacity			Base Plate	Jaw Face	Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type	Supply
	N	KGf	LBF			in	mm	in	mm	lbs	kg		
WEDGE-256S-1	10K	1,000	2,200	Aluminum	No Jaws	1.2	30	0.31	8	3.1	1.4	15.9	2

### 256 JAW SETS

STEEL, HARDENED

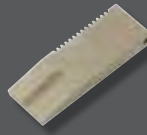
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW256-PY	Serrated	0.4	10	1.2 x 1.2	30 x 30
JAW256-V2	V-Notch	0.08-0.4 $\phi$	2-10 $\phi$	1.2 x 1.2	30 x 30
JAW256-D30	Diamond	0.4	10	1.2 x 1.2	30 x 30



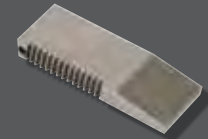
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



#### V-NOTCH JAW

- For round samples
- 1.2mm tooth pitch
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND JAW

- Hardened steel 58HRC
- Nickel-plated

# WEDGE-ACTION FIXTURES

## 243

STEEL, PHOSPHATE FINISH

- For general-purpose tensile testing applications
- Has a closed back so sample is loaded from front side only
- Spring-loaded, lever operation
- Jaw faces must be ordered separately
- Operating Temperatures 32° to 266°F (0° to 130°C)

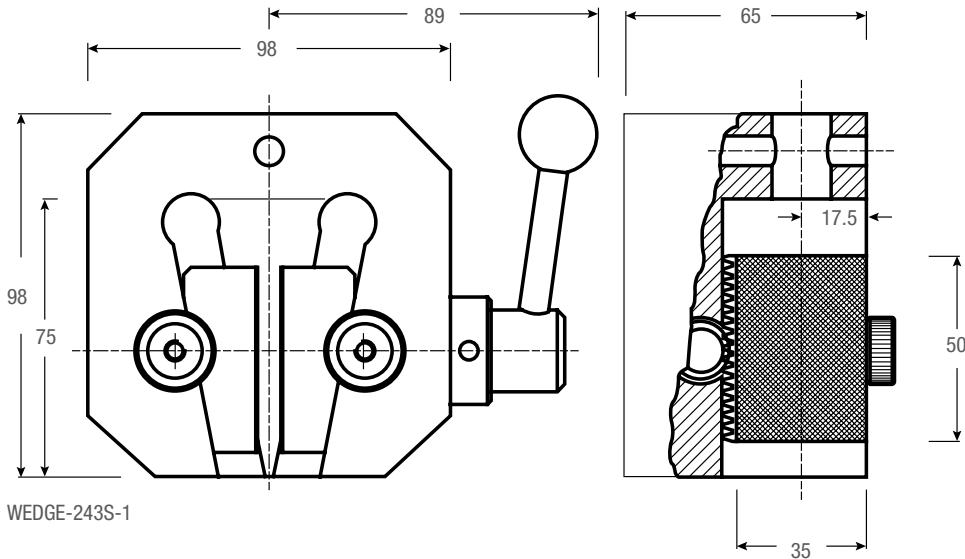


WEDGE-ACTION FIXTURES

### Wedge-Action Fixtures

Model No.	Load Capacity			Jaw Face	Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type mm	Supply
	N	KGf	LBF		in	mm	in	mm	lbs	kgs		
WEDGE-243S-1	20K	2,000	4,400	No Jaws	Jaw Dependent		Jaw Dependent		8.4	3.8	15.9	2
WEDGE-243S-50	50K	5,000	11,000	No Jaws	Jaw Dependent		Jaw Dependent		15.0	6.8	31.8	2

### DIMENSIONS



### 243 JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

### Jaw Sets

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW243-PY13	Serrated	0.5	13	1.97 x 1.4	50 x 35
JAW243-PY16	Serrated	0.6	16	1.97 x 1.4	50 x 35
JAW243-V3	V-Notch	0.01-0.5 $\phi$	3-13 $\phi$	1.97 height	50mm height
JAW243-V4	V-Notch	0.15-0.6 $\phi$	4-16	1.97 height	50mm height
JAW243-V10	V-Notch	0.39-0.8 $\phi$	10-20	1.97 height	50mm height

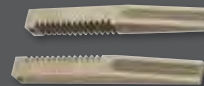
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



#### V-NOTCH JAW

- For round samples
- 1.2mm tooth pitch
- Hardened steel 58HRC
- Nickel-plated



## WEDGE-ACTION FIXTURES

### 527

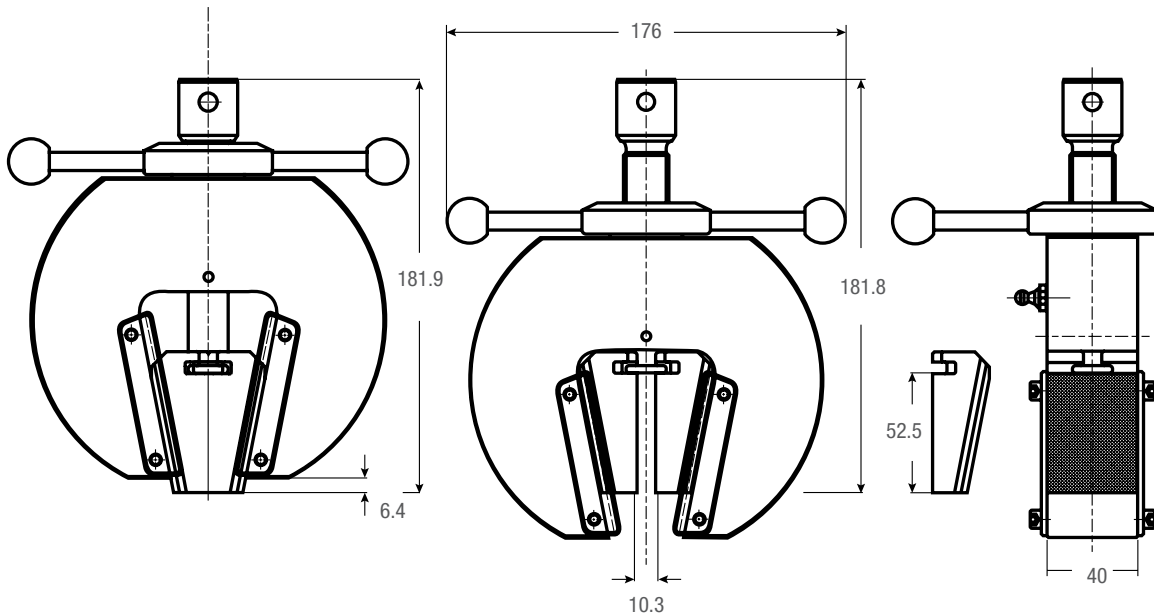
STEEL, PHOSPHATE FINISH

- For general-purpose tensile testing applications
- Capstan tightening
- Jaw faces must be ordered separately
- Operating Temperatures 32° to 266°F (0° to 130°C)



Wedge-Action Fixtures													
Model No.	Load Capacity			Sample Height (Max)		Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	in	mm	in	mm	lbs	kgs	mm	
WEDGE-527-80-NJ	50K	5,000	11,000	283	11.1	80	3.1	Jaw Dependent	17	37.5	31.8	2	2

### DIMENSIONS



### 527 JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
WEDGE527-JAW-P30	Serrated	0.4	10	2.6 x 3.2	66 x 80
WEDGE527-JAW-V17	V-notch	0.15-0.7 $\emptyset$	4-17 $\emptyset$	2.6 x 3.2	66 x 80
WEDGE527-JAW-V30	V-notch	0.6-1.2 $\emptyset$	16-30 $\emptyset$	2.6 x 3.2	66 x 80

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



#### V-NOTCH JAW

- For round samples
- 1.2mm tooth pitch
- Hardened steel 58HRC
- Nickel-plated







**ROPE AND BOLLARD FIXTURES**

## ROPE FIXTURES

Starrett rope fixtures are used for testing rope, cable, filament, yarns, etc.

These fixtures are used for tensile applications. Features include a guide roller that helps prevent breakage within the test fixture.

### OPERATION

Rope fixtures feature a design that helps ensure proper sample alignment and that promotes a correct sample break between the upper and lower test fixture. These fixtures feature a spool used to wrap the sample, The sample is typically wrapped around the spool 1-1/2 or 2 times depending on the strength of the material.

These rope fixtures let you position your material under test around a cylindrical spool so that force is applied directly in line with the load cell sensor.

### TESTING STANDARDS

There are a variety of testing standards for rope, filament, cords, fine wires and cables. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.



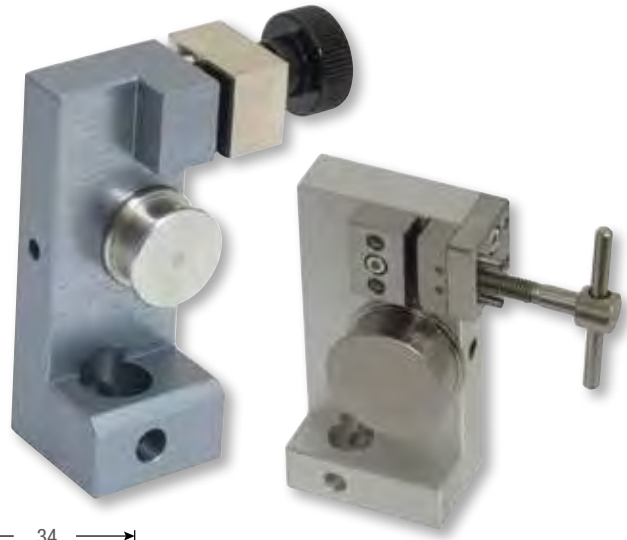
Rope Fixtures						
Model No.	Load Capacity			Jaw Face Type	Roller Diameter	Sample Diameter
	N	KGF	LBF			
ROPE-76-1A-1	1,000	100	225	Rubber	20 mm ø	2 mm ø
ROPE-76-1A-D	1,000	100	225	Diamond	20 mm ø	2 mm ø
ROPE-76-5A-1	5,000	500	1,100	Serrated	40 mm ø	5mm ø
ROPE-76-5A-D	5,000	500	1,100	Diamond	40 mm ø	5mm ø
ROPE-255-10-PY	10K	1,000	2,200	Serrated	26 mm ø	5mm ø
ROPE-255-10-D	10K	1,000	2,200	Diamond	26 mm ø	5mm ø
ROPE-76-20S-1	20K	2,000	4,500	Serrated	94 mm ø	9 mm ø
ROPE-170-50	50K	5,000	11,000	Serrated	162 mm ø	20 mm ø

# ROPE FIXTURES

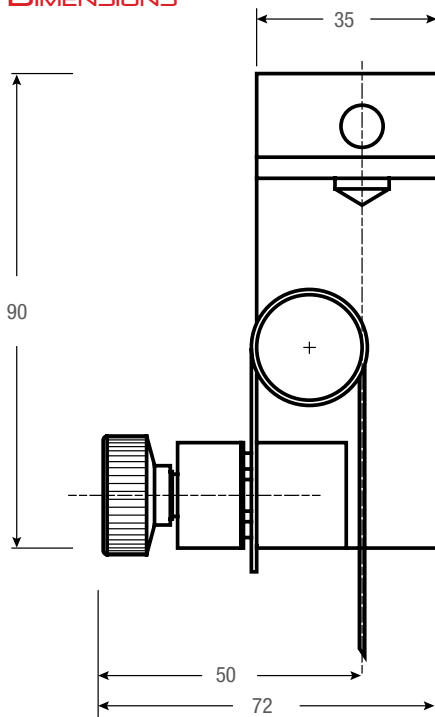
76

ALUMINUM, ANODIZED FINISH

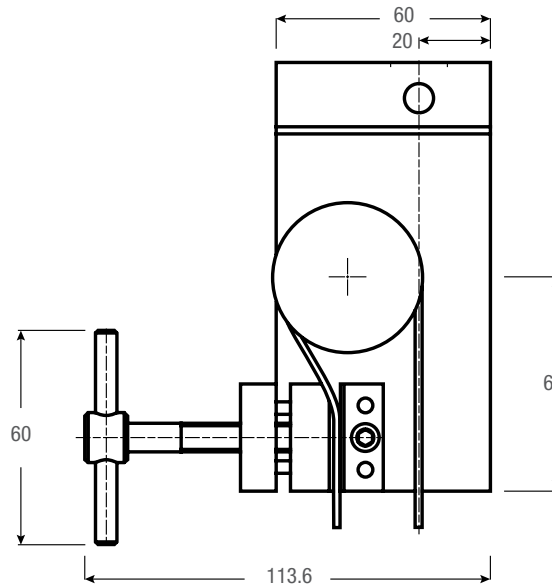
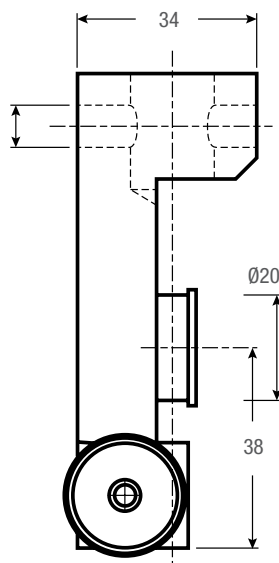
- For general-purpose tensile testing applications
- Use on small diameter wire, rope, filaments, thread, etc.
- Operating Temperatures
  - ROPE-76-1: 32° to 158°F (0° to 70°C)
  - ROPE-76-5: 32° to 356°F (0° to 180°C)



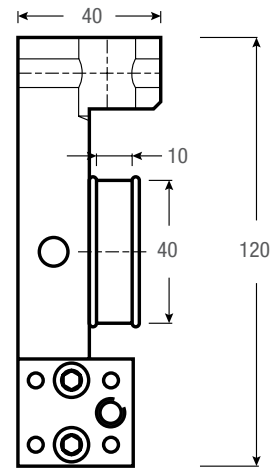
## DIMENSIONS



ROPE-76-1A-1



ROPE-76-5A-1



Rope Fixtures															
Model No.	Load Capacity			Jaw Face	Roller ø		Sample ø (Max)		Clamping Surface (h x w)		Weight (each)		Clevis Type	Supply	
	N	KGf	LBF		in	mm	in	mm	in	mm	lbs	kgs			
ROPE-76-1A-1	1,000	100	225	Rubber	0.8	20	0.08	2	0.8 x 0.4	20 x 10	0.7	0.3	15.9	2	
ROPE-76-1A-D	1,000	100	225	Diamond	0.8	20	0.08	2	0.8 x 0.4	20 x 10	0.7	0.3	15.9	2	
ROPE-76-5A-1	5,000	500	1,100	Serrated	1.6	40	0.2	5	1.2 x 0.5	30 x 12	2.0	0.9	15.9	2	
ROPE-76-5A-D	5,000	500	1,100	Diamond	1.6	40	0.2	5	1.2 x 0.5	30 x 12	2.0	0.9	15.9	2	

# ROPE FIXTURES

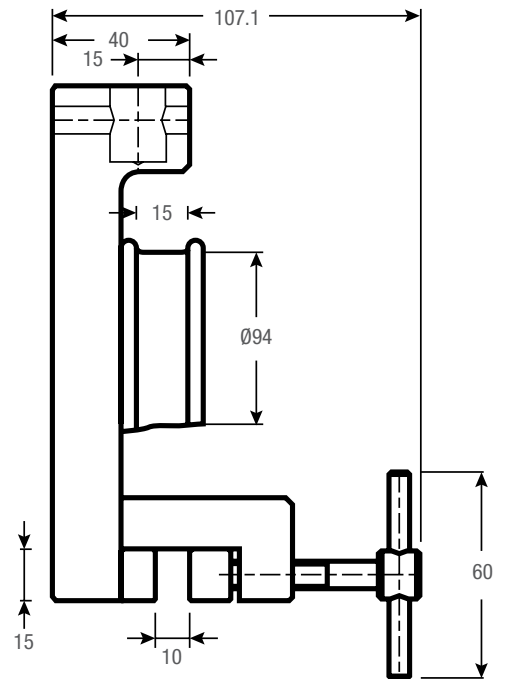
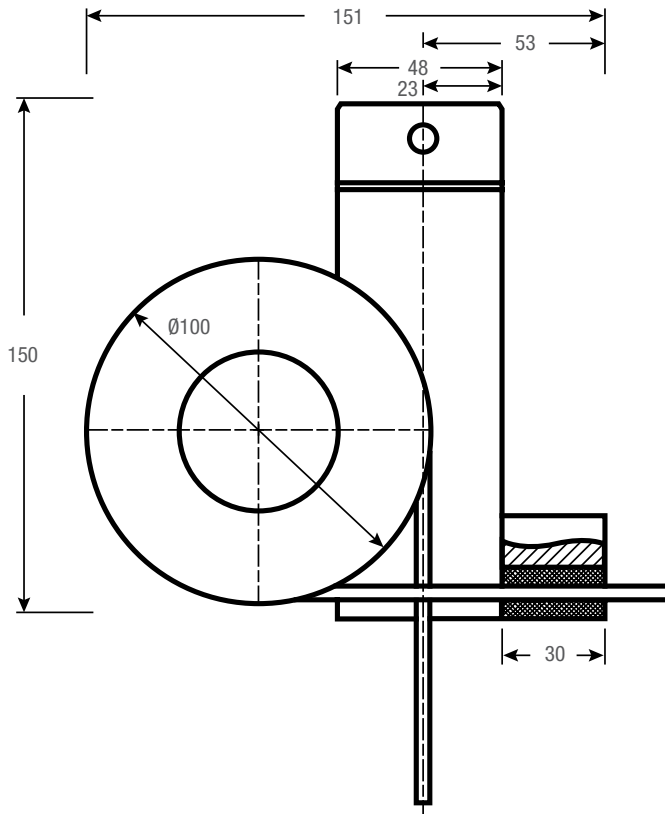
76

STEEL, NICKEL FINISH

- For general-purpose tensile testing applications up to 20kN
- Use on small diameter wire, rope, filaments, thread, etc.
- Operating Temperatures 32° to 356°F (0° to 180°C)



## DIMENSIONS



Rope Fixtures														
Model No.	Load Capacity			Jaw Face	Roller $\phi$		Sample $\phi$ (Max)		Clamping Surface (h x w)		Weight (each)		Clevis Type	Supply
	N	KGf	LBF		in	mm	in	mm	in	mm	lbs	kgs		
ROPE-76-20S-1	20K	2,000	4,500	Serrated	3.7	94	0.4	9	1.2 x	30 x 15	6.2	2.8	15.9	2

# ROPE FIXTURES

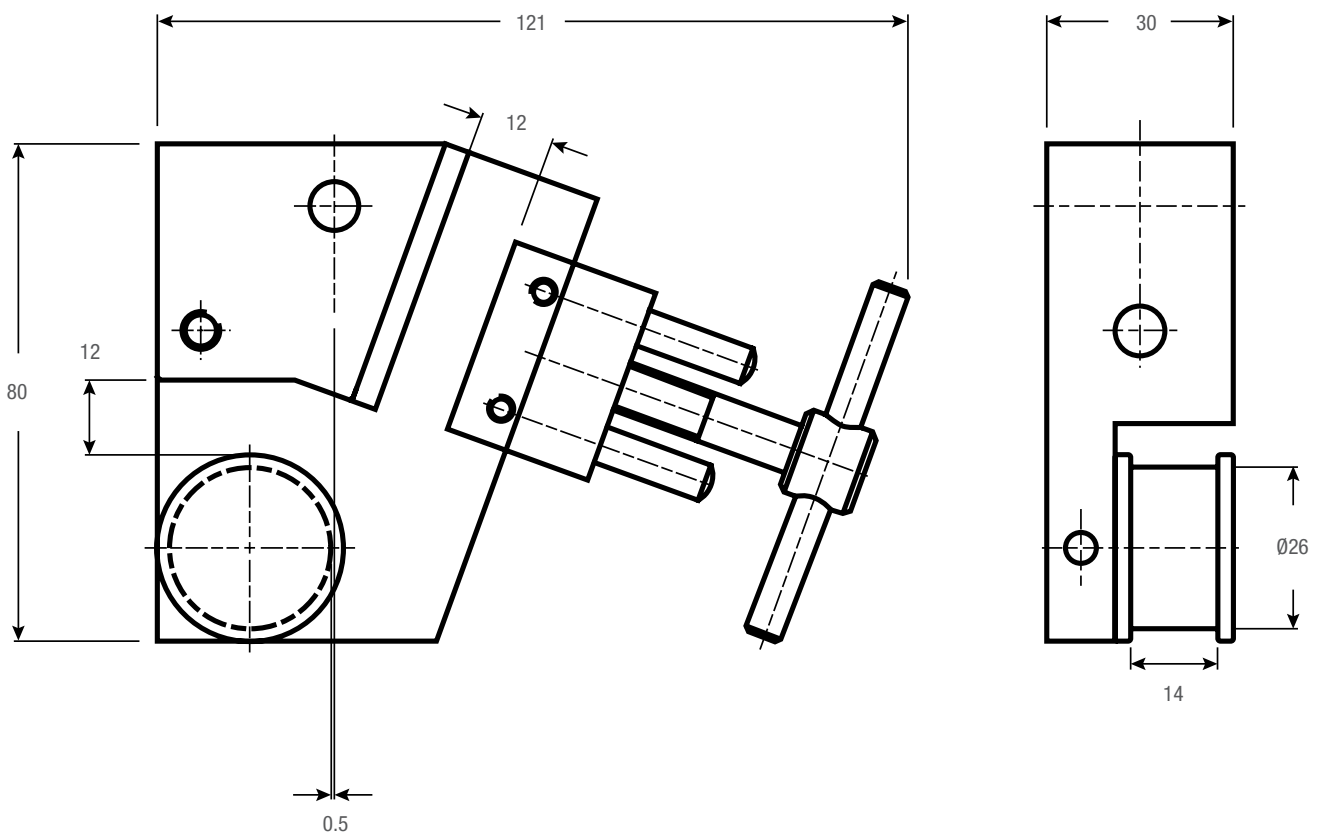
## 255

STEEL, NICKEL PLATED

- For general-purpose tensile testing applications
- Use on small diameter wire, rope, filaments, thread, etc.
- Operating Temperatures -94° to 662°F (-70° to 350°C)



### DIMENSIONS



#### Rope Fixtures

Model No.	Load Capacity			Jaw Face	Roller $\phi$		Sample $\phi$ (Max)		Clamping Surface (h x w)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	in	mm	lbs	kgs		
ROPE-255-10-PY	10K	1,000	2,200	Serrated	1.02	26	0.2	5	0.75 x 1.25	19 x 32	2.0	0.9	15.9	2
ROPE-255-10-D	10K	1,000	2,200	Diamond	1.02	26	0.2	5	0.75 x 1.25	19 x 32	2.0	0.9	15.9	2



# ROPE FIXTURES

170

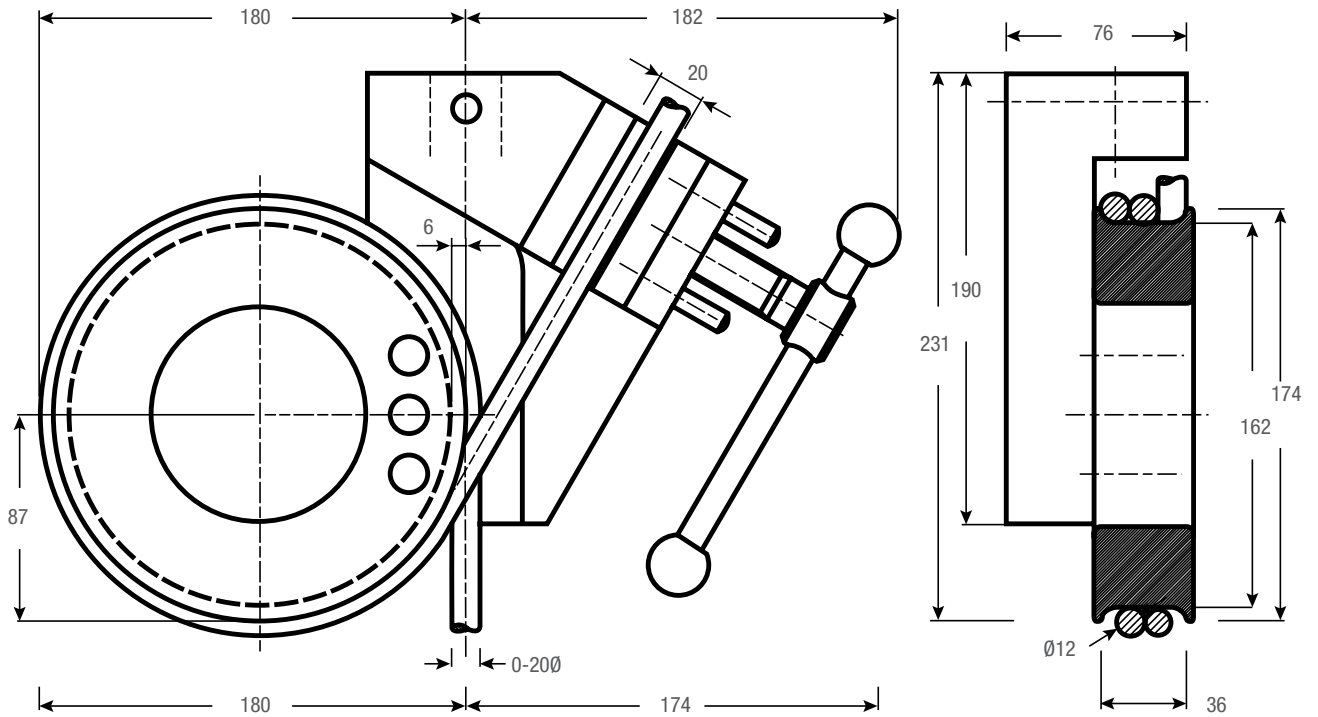
STEEL, NICKEL PLATED

- For general-purpose tensile testing applications
- Use on small diameter wire, rope, filaments, thread, etc.
- Operating Temperatures 32° to 662°F (0° to 130°C)



Rope Fixtures														
Model No.	Load Capacity			Jaw Face	Roller $\phi$		Sample $\phi$ (Max)		Clamping Surface (h x w)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	in	mm	lbs	kgs		
ROPE-170-50	50K	5,000	11,000	Serrated	6.4	162	0.8	20	2.75 x 1.2	70 x 30	30.6	13.9	15.9	2

## DIMENSIONS





# BUTTON FIXTURES

## BUTTON FIXTURES

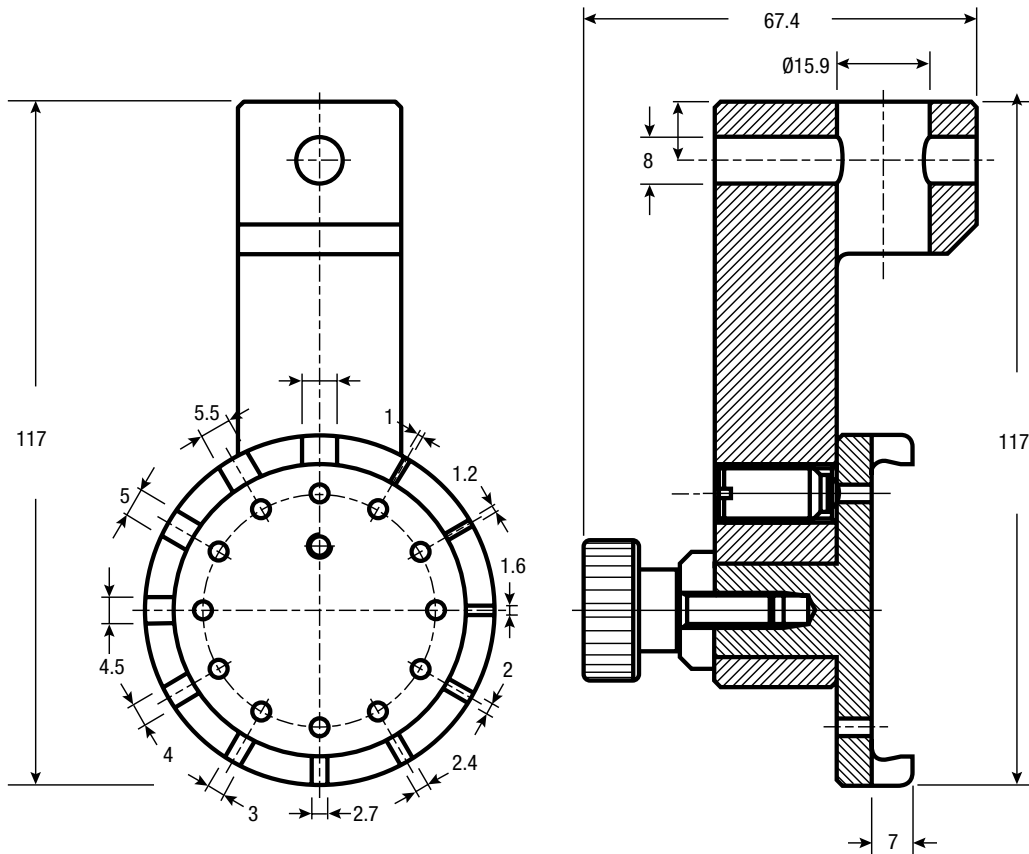
The 314 Button Fixture is designed to test the tensile strength of electrical connectors such as wire connectors that are crimped on to wires with diameters of 0.8mm, 1mm, 1.2mm, 1.6mm, 2mm, 2.4mm, 3mm, 3.2mm, 4mm, 4.8mm, 5mm and 6.4mm.

### OPERATION

Rotate the body of the BUTTON-314A-1 to quickly swap between different wire gages and crimp sizes. A second grip is required to hold the opposing end of the wire, popular options include ROPE or VISE series fixtures.



Button Fixture							
Part No.	Load Capacity			Material	Diameter (mmø)	Clevis Type (mm)	Supply Each
	N	KGF	LBF				
BUTTON-314A-1	5kN	500	1,124	Steel	1-6	15.9	1





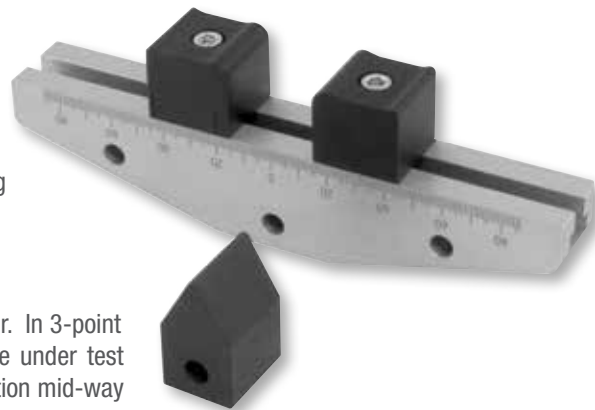


# FLEXURAL FIXTURES

## FLEXURAL FIXTURES

Flexural test fixtures are a relatively simple solution for determining the strength and deformation properties of materials such as wood and timber products.

Starrett can offer a variety of test fixtures and accessories for performing 3- and 4-point bend testing.



### OPERATION

A beam attaches to the force testing frame, typically using a clevis adapter. In 3-point bending tests, two anvils are arranged along the beam with the sample under test residing on top of the two anvils. Force is applied in a compression direction mid-way between the two anvils for a 3-point test.

Instead of a single anvil pressing the mid-section of the sample, two anvils may be used to press down on the sample for a 4-point test.

### TESTING STANDARDS

The following testing standards can be met using standard Starrett flexural testing fixtures:

- ASTM D143
- ASTM D1037
- ASTM D3037
- ISO 3133

Additional testing standards are supported. Contact your Starrett representative for more information.

## BEND 3

### ALUMINUM

- For general-purpose 3-point bend testing applications
- Active Span Length is 4-150mm
- Replaceable Top and Bottom Radii for 4- and 5-point applications
- Aluminum bar with anodized finish, Hardened Steel radii
- Operating Temperatures 32° to 158°F (0° to 70°C)

Bending Fixtures											
Model No.	Load Capacity			Upper Radius		Lower Radius		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF	in	mm	in	mm	lbs	kgs		
BEND-3-UR1-LR1	2,500	250	550	0.04	1.0	0.06 / 0.1	1.5 / 2.5	4.5	2.0	15.9	1
BEND-3-UR1-LR2	2,500	250	550	0.04	1.0	0.08 / 0.2	2.0 / 5.0	4.5	2.0	15.9	1
BEND-3-UR1-LR3	2,500	250	550	0.04	1.0	0.13 / 0.2	3.2 / 5.0	4.5	2.0	15.9	1
BEND-3-UR15-LR1	2,500	250	550	0.06	1.5	0.06 / 0.1	1.5 / 2.5	4.5	2.0	15.9	1
BEND-3-UR15-LR2	2,500	250	550	0.06	1.5	0.08 / 0.2	2.0 / 5.0	4.5	2.0	15.9	1
BEND-3-UR15-LR3	2,500	250	550	0.06	1.5	0.13 / 0.2	3.2 / 5.0	4.5	2.0	15.9	1
BEND-3-UR2-LR1	2,500	250	550	0.08	2.0	0.06 / 0.1	1.5 / 2.5	4.5	2.0	15.9	1
BEND-3-UR2-LR2	2,500	250	550	0.08	2.0	0.08 / 0.2	2.0 / 5.0	4.5	2.0	15.9	1
BEND-3-UR2-LR3	2,500	250	550	0.08	2.0	0.13 / 0.2	3.2 / 5.0	4.5	2.0	15.9	1
BEND-3-UR3-LR1	2,500	250	550	0.12	3.0	0.06 / 0.1	1.5 / 2.5	4.5	2.0	15.9	1
BEND-3-UR3-LR2	2,500	250	550	0.12	3.0	0.08 / 0.2	2.0 / 5.0	4.5	2.0	15.9	1
BEND-3-UR3-LR3	2,500	250	550	0.12	3.0	0.13 / 0.2	3.2 / 5.0	4.5	2.0	15.9	1
BEND-3-UR5-LR1	2,500	250	550	0.2	5.0	0.06 / 0.1	1.5 / 2.5	4.5	2.0	15.9	1
BEND-3-UR5-LR2	2,500	250	550	0.2	5.0	0.08 / 0.2	2.0 / 5.0	4.5	2.0	15.9	1
BEND-3-UR5-LR3	2,500	250	550	0.2	5.0	0.13 / 0.2	3.2 / 5.0	4.5	2.0	15.9	1



# FLEXURAL FIXTURES

## TOP ANVILS FOR BEND 3

### HARDENED STEEL RADII

- For general-purpose 3-point bend testing applications
- Operating Temperatures 32° to 158°F (0° to 70°C)



## BOTTOM SUPPORTS FOR BEND 3

### HARDENED STEEL RADII

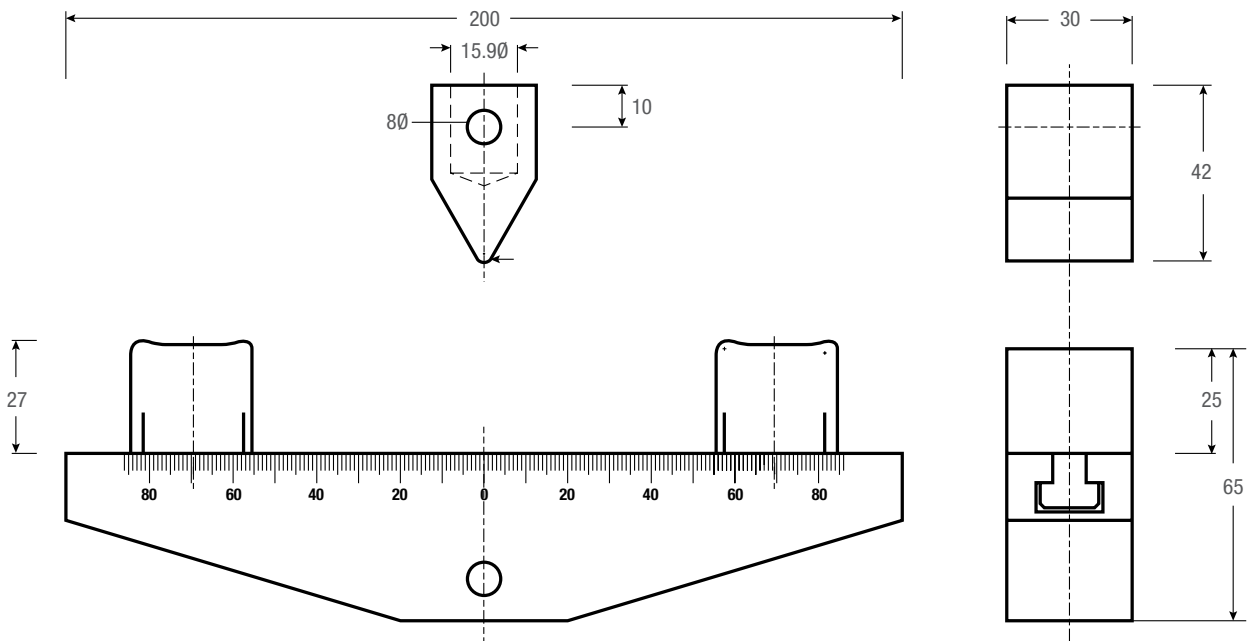
- For general-purpose 3-point bend testing applications
- Operating Temperatures 32° to 158°F (0° to 70°C)



Anvils for Bend - 3						
Model No.	Upper Radius		Weight (each)		Clevis Type mm	Supply
	in	mm	lbs	kgs		
ANVIL-10	0.04	1.0	0.5	0.2	15.9	1
ANVIL-15	0.06	1.5	0.5	0.2	15.9	1
ANVIL-20	0.08	2.0	0.5	0.2	15.9	1
ANVIL-32	0.1	3.2	0.5	0.2	15.9	1
ANVIL-50	0.2	5.0	0.5	0.2	15.9	1

Bottom Supports for Bend - 3						
Model No.	Lower Radius		Weight (each)		Clevis Type mm	Supply
	in	mm	lbs	kgs		
BASE-LR1	0.06 / 0.1	1.5 / 2.5	0.5	0.2	15.9	1
BASE-LR2	0.08 / 0.2	2.0 / 5.0	0.5	0.2	15.9	1
BASE-LR3	0.13 / 0.2	3.2 / 5.0	0.5	0.2	15.9	1

## DIMENSIONS





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PEEL FIXTURES

## PEEL FIXTURES

Starrett has a wide selection of test fixtures suitable for determining adhesive strength on a variety of components from adhesive tapes, thin film coatings, copper runners on electronic circuit boards and more.

### OPERATION

Peel testing fixtures come in a variety of styles that match the material under test. Some include a moving table connected to the test frame's crosshead using a cable mechanism. As the crosshead moves upwards, the cables pull the table laterally to maintain a required angle. This provides a measuring of bond strength.

Other test fixtures are application specific such as a climbing drum test fixture often used in paper and paper product adhesive testing.

### TESTING STANDARDS

The following testing standards can be met using standard Starrett peel testing fixtures:

- ASTM D1781
- DIN 53295
- DIN 53494
- ISO 10373

Additional testing standards are supported. Contact your Starrett representative for more information.



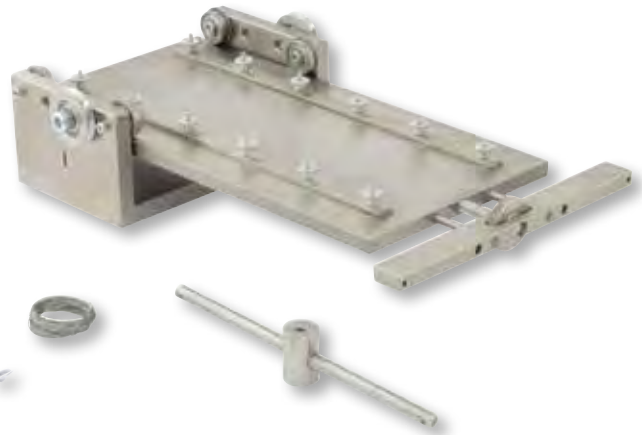
Peel Fixtures						
Model No.	Load Capacity			Adjustable Angle	Sample Width	Sample Length
	N	KGF	LBF			
PEEL-3-D53357B	4,000	400	900	No	60 mm	-
PEEL-3-D53357B-KL	4,000	400	900	No	90 mm	-
PEEL-3-IS06133L	4,000	400	900	No	152.4 mm	-
PEEL-50S-1	5,000	500	1,100	No	50 mm	250 mm
PEEL-50MS-1	5,000	500	1,100	Yes	50 mm	250 mm
PEEL-ASTM-D1781	5,000	500	1,100	No	80 mm	-
PEEL-104-DIN53494	7,000	700	1,570	No	30 mm	-
PEEL-105-D53289	10K	1,000	2,200	No	30 mm	-
PEEL-105-D3167	10K	1,000	2,200	No	25.4 mm	-
PEEL-192-25	10K	1,000	2,200	Yes	60mm	-
PEEL-192-22-2V	10K	1,000	2,200	No	58mm	-



# PEEL FIXTURES

Ideal for adhesive testing applications or general peel testing on films, paper, foils and more. Use for 90° peel and bond strength testing methods.

The sliding table ensures a steady movement and constant peel angle so that the peel point remains in the center.



## PEEL-50

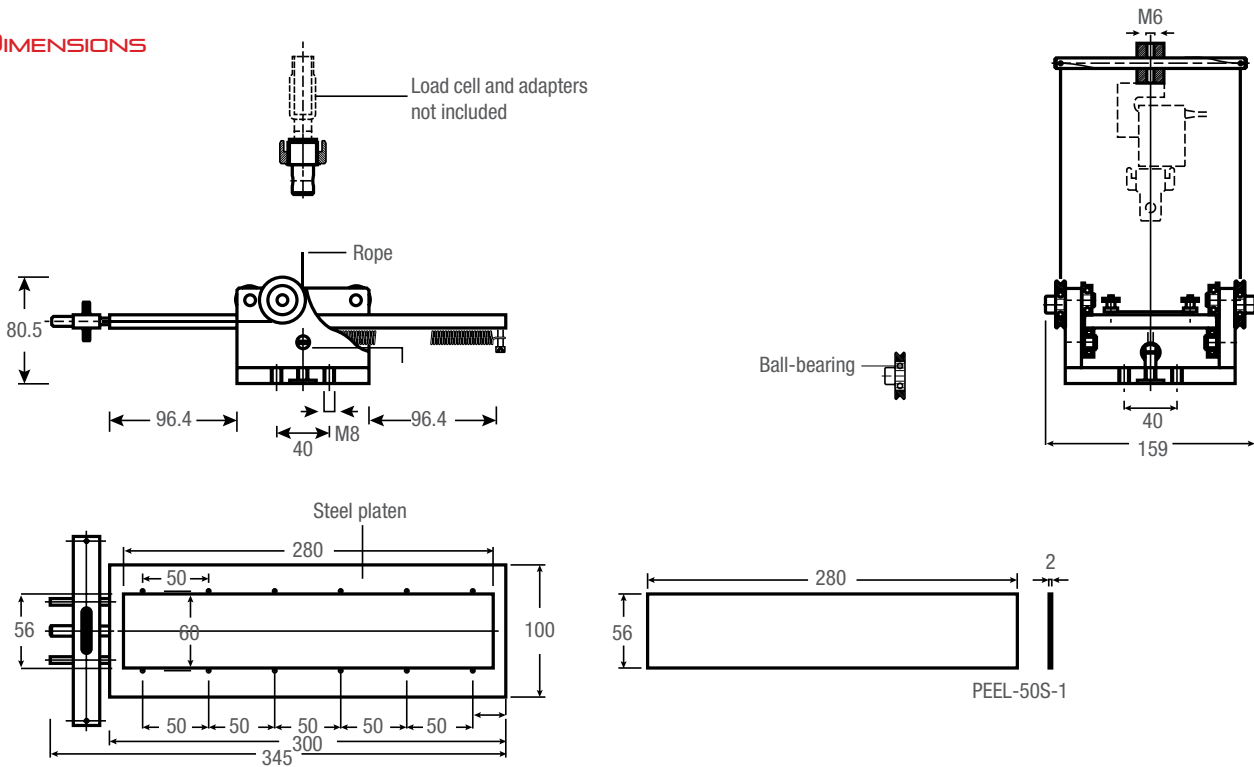
STEEL, NICKEL FINISH

- For general-purpose peel and adhesive bond testing applications
- Fixed and adjustable angle platforms
- Operating Temperatures 32° to 158°F (0° to 70°C)

Shown: PEEL-50MS-1 model with adjustable angle platform.

Peel Fixtures													
Model No.	Load Capacity			Adjustable Angle	Sample Width (Max)		Sample Length (Max)		Weight (each)		Clevis Type	Supply	
	N	KGf	LBF		in	mm	in	mm	lbs	kgs			
PEEL-50S-1	5,000	500	1,100	Fixed	1.97	50	9.84	250	12.1	5.5	15.9	1	
PEEL-50MS-1	5,000	500	1,100	0-30 deg	1.97	50	9.84	250	15.9	7.2	15.9	1	

## DIMENSIONS





## PEEL FIXTURES

The Climbing Drum fixture consists of a drum assembly, flexible loading straps mounted at the bottom of the stand, an upper self-closing clamp to grip the specimen and a drum clamp to hold the outer skin against the face of the drum.

During a test, the loading straps pull on the drum assembly, forcing it to rotate and climb along the length of the aluminum panel. This motion peels the outer skin away from the core structure. The peel force is measured indicating bond strength.

### CLIMBING DRUM

STEEL, NICKEL FINISH, ALUMINUM STRAPS

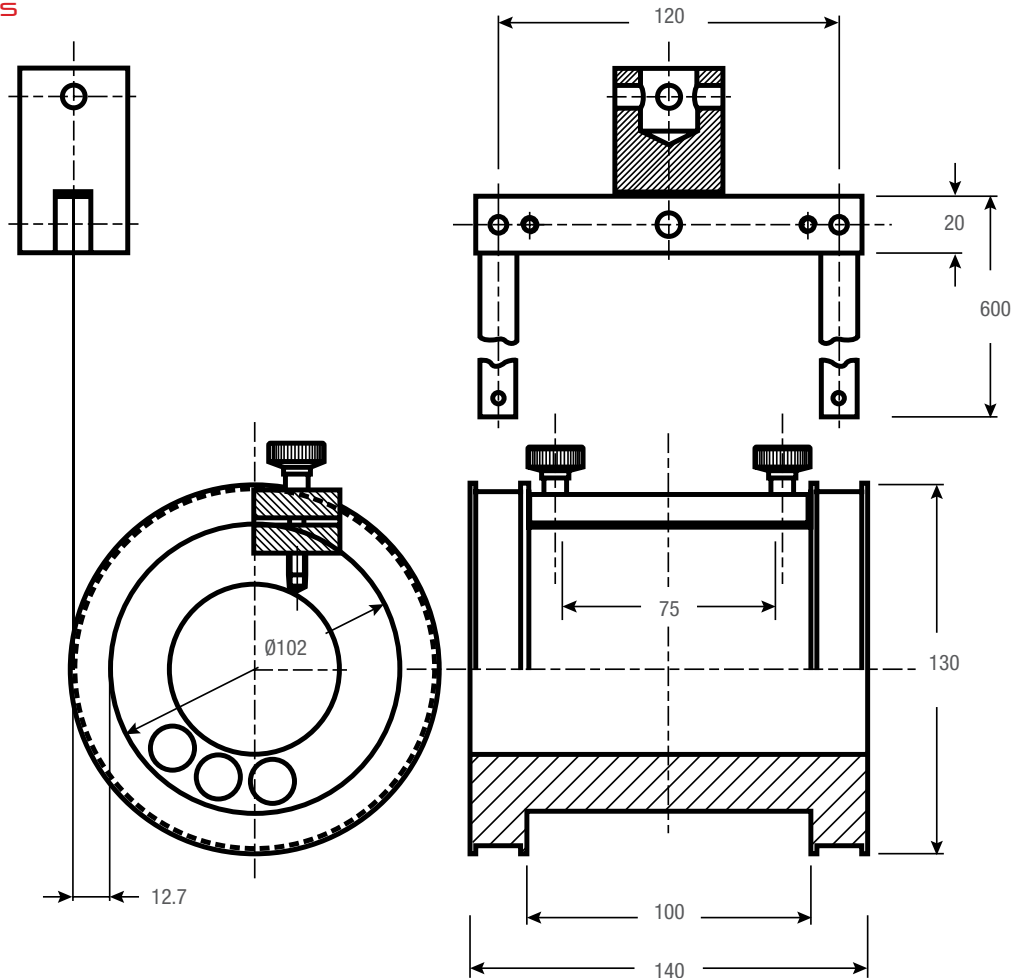
- Conforms to test methods ASTM-D1781 and DIN 53295
- Operating Temperatures 32° to 266°F (0° to 130°C)



Climbing Drum Peel Fixture

Model No.	Load Capacity			Drum Diameter		Sample Width (Max)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	in	mm	lbs	kgs		
PEEL-ASTM-D1781	5,000	500	1,100	4.02	102	3.15	80	6.6	3.0	15.9	1

### DIMENSIONS



# PEEL FIXTURES

104

STEEL, NICKEL FINISH

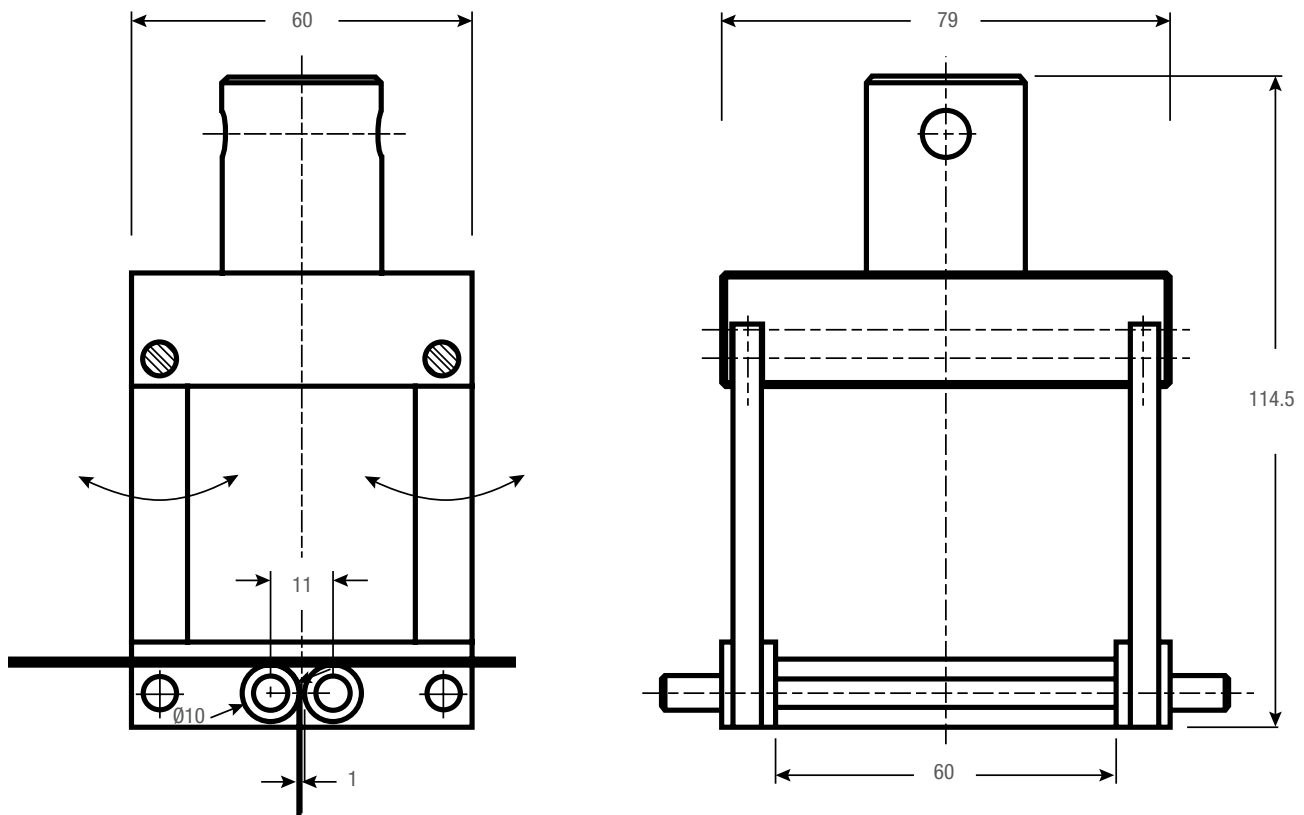
- Conforms to test methods DIN 53494, ISO 10373
- Operating Temperatures 32° to 266°F (0° to 130°C)



PEEL FIXTURES

Peel Fixture										
Model No.	Load Capacity			Sample Width (Max)		Weight (each)		Clevis Type mm	Supply	
	N	KGF	LBF	in	mm	lbs	kgs			
PEEL-104-DIN53494	7,000	700	1,570	1.2	30	2.2	1.0	15.9	1	

## DIMENSIONS



# PEEL FIXTURES

105

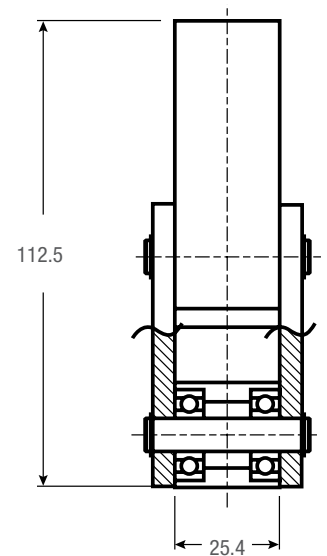
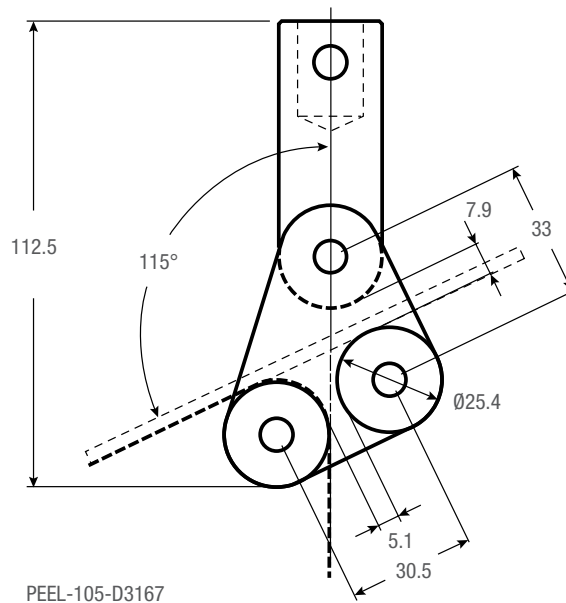
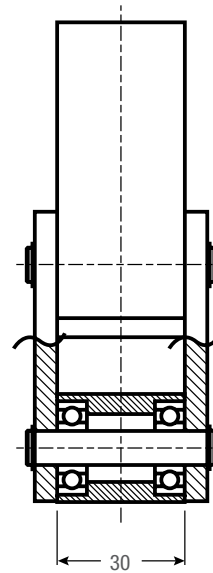
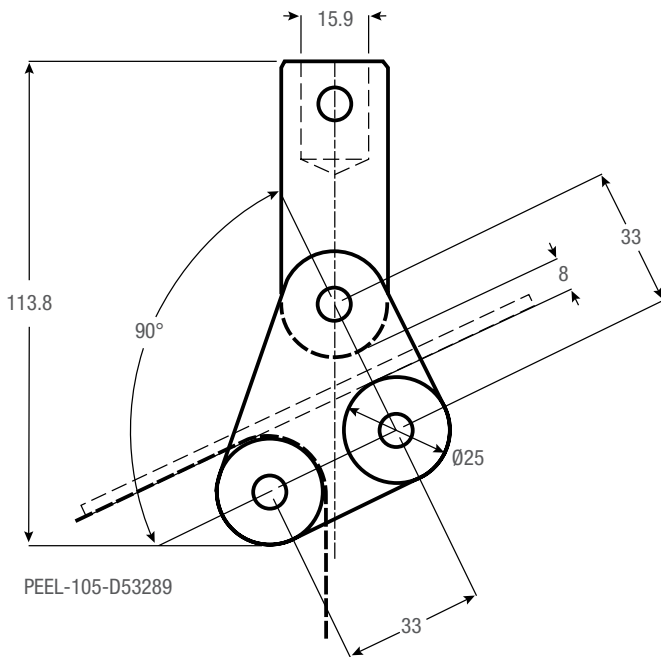
STEEL, NICKEL FINISH

- Conforms to test methods ASTM D3167, DIN 53289, ISO 4578
- Operating Temperatures 32° to 158°F (0° to 70°C)
- Additional lower grip is required



Peel Fixture											
Model No.	Load Capacity			Roller Diameter		Sample Width (Max)		Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	in	mm	lbs	kgs	mm	
PEEL-105-D53289	10K	1,000	2,200	0.98	25	1.2	30	1.3	0.6	15.9	1
PEEL-105-D3167	10K	1,000	2,200	1.0	25.4	1.0	25.4	1.5	0.7	15.9	1

## DIMENSIONS



# PEEL FIXTURES

## PEEL 3

### ALUMINUM, ANODIZED FINISH

- Used to test bond strength of tape, plastic, paper films, laminated release coatings
- 90-degree peel angle testing
- Conforms to DIN 53357B, ISO 6133
- Operating Temperatures 32° to 158°F (0° to 70°C)
- Additional lower grip is required

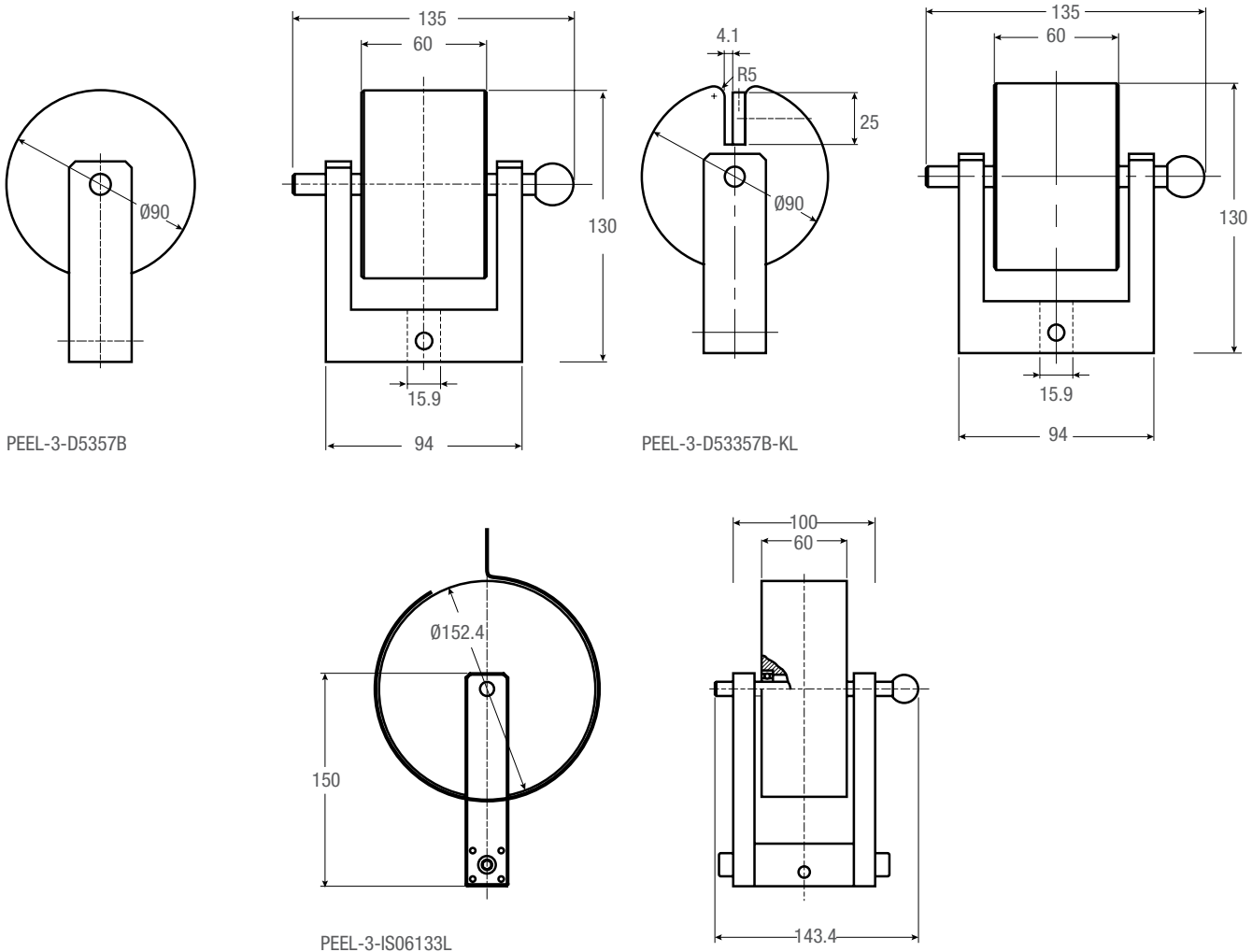


PEEL-3-D53357B-KL

PEEL-3-IS06133L

Peel Fixture Model No.	Load Capacity			Roller Diameter		Sample Width (Max)		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF	in	mm	in	mm	lbs	kgs		
PEEL-3-D53357B	4,000	400	900	3.5	90	2.4	60	4.4	2.0	15.9	1
PEEL-3-D53357B-KL	4,000	400	900	3.5	90	2.4	60	4.6	2.1	15.9	1
PEEL-3-IS06133L	4,000	400	900	6.0	152.4	2.4	60	7.3	3.3	15.9	1

### DIMENSIONS



PEEL-3-D5357B

PEEL-3-D53357B-KL

PEEL-3-IS06133L

# PEEL FIXTURES

192

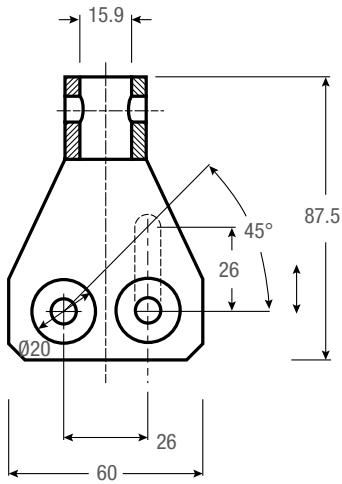
STEEL, NICKEL FINISH

- Conforms to test methods DIN 1464
- Adjustable cylinder angle 0-45° or width to 50mm
- Operating Temperatures 32° to 158°F (0° to 70°C)
- Additional lower grip is required

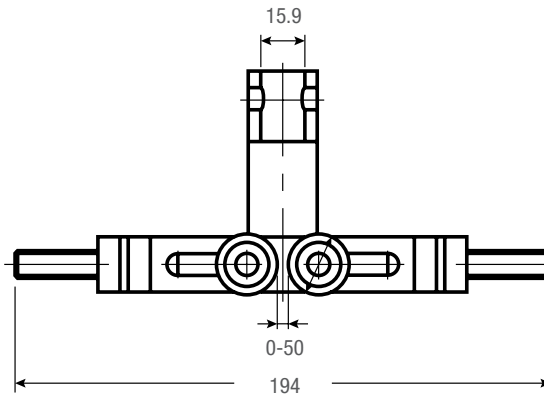
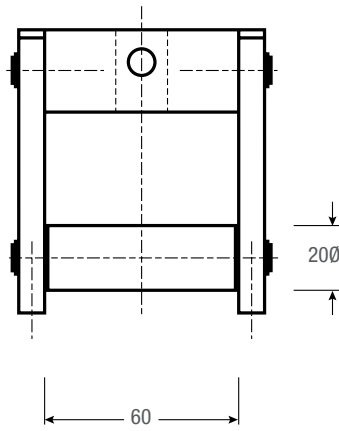


Peel Fixture													
Model No.	Load Capacity			Cylinder Type	Roller Diameter		Sample Width (Max)		Weight (each)		Clevis Type mm	Supply	
	N	KGF	LBF		in	mm	in	mm	lbs	kgs			
PEEL-192-25	10K	1,000	2,200	Adjusts 0-45°	0.98	25	2.4	60	2.2	1.0	15.9	1	
PEEL-192-22-2V	10K	1,000	2,200	Adjusts 0-50mm	0.87	22	2.3	58	3.6	1.65	15.9	1	

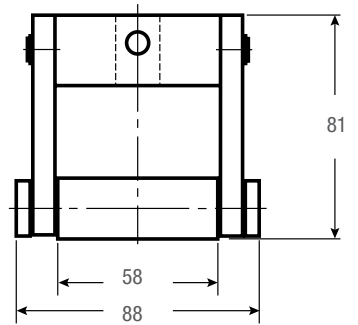
## DIMENSIONS



PEEL-192-25



PEEL-192-22v







**PNEUMATIC FIXTURES**

## PNEUMATIC FIXTURES

Starrett pneumatic test fixtures use pneumatic actuation to open and close the jaws on the test fixture. Single and dual actuation are available for most test fixtures. These fixtures may be controlled using a handswitch or foot switch and are ideal for high-volume testing application. Accessories including an air compressor, tubing, regulator and switches are available.

### OPERATION

Pneumatic-actuated test fixtures are ideal for high-volume testing. Air pressure is used to open and close the test fixture's jaws. The opening or closing of the jaws may be done using a foot switch kit or hand switch kit.

### TESTING STANDARDS

There are a variety of testing standards that can be used with pneumatic-actuated test fixtures. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.



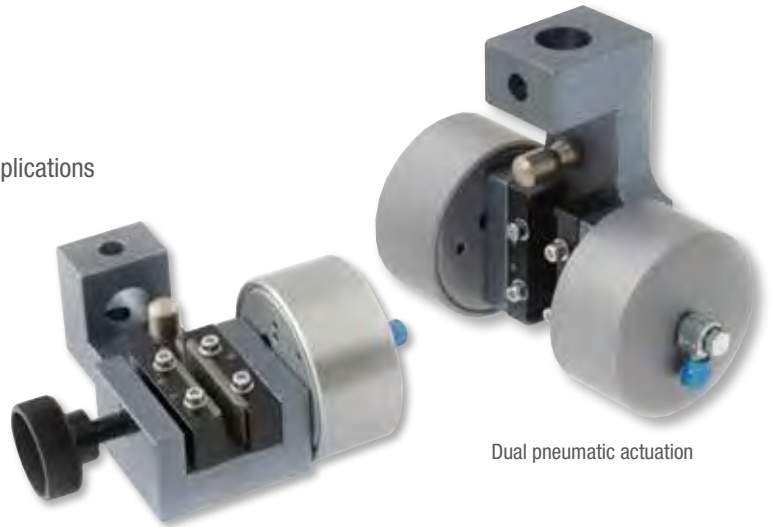
Model No.	Load Capacity			Actuation	Jaw Opening Max
	N	KGF	LBF		
PNEUM-9+K0	2.5kN	250	562	Single	Jaw Dependant
PNEUM-9+2K0	2.5kN	250	562	Dual	Jaw Dependant
PNEUM-140K+K0	100	10	22	Single	Jaw Dependant
PNEUM-140K+2K0	100	10	22	Dual	Jaw Dependant
PNEUM-94A-1	200	20	45	Single	Jaw Dependant
PNEUM-229A-1	1kN	100	225	Single	Jaw Dependant
PNEUM-56KA-1	1,200	120	270	Single	Jaw Dependant
PNEUM-56K2KA-1	1,200	120	270	Dual	Jaw Dependant
PNEUM-56GKA-1	2.5kN	250	562	Single	Jaw Dependant
PNEUM-56G2KA-1	2.5kN	250	562	Dual	Jaw Dependant
PNEUM-56GHKA-1	2.5kN	250	562	Single	Jaw Dependant
PNEUM-56GH2KA-1	2.5kN	250	562	Dual	Jaw Dependant
PNEUM-240KA-1	2.5kN	250	562	Single	10 mm
PNEUM-2402KA-1	2.5kN	250	562	Dual	10 mm
PNEUM-240KA-20-1	1kN	100	225	Single	20 mm
PNEUM-2402KA-20-1	1kN	100	225	Dual	20 mm
PNEUM-240KA-30-1	1kN	100	225	Single	30 mm
PNEUM-2402KA-30-1	1kN	100	225	Dual	30 mm
PNEUM-240KA-50-1	1kN	100	225	Single	50 mm
PNEUM-2402KA-50-1	1kN	100	225	Dual	50 mm
PNEUM-240G+K0	2,600	260	585	Single	Jaw Dependant
PNEUM-240G+2K0	2,600	260	585	Dual	Jaw Dependant
PNEUM-83A-1	7kN	700	1,575	Single	Jaw Dependant
PNEUM-108A-1	3,500	350	785	Single	Jaw Dependant
PNEUM-126A-1	30kN	3,000	6,750	Single	Jaw Dependant
PNEUM-149A-1	2.4kN	240	540	Dual	Jaw Dependant
PNEUM-232A-1	16kN	1,600	3,600	Single	Jaw Dependant
PNEUM-22-S60	2,000	200	450	Dual	Jaw Dependant
PNEU-13G	5kN	500	1,124	Single	3 mm
PNEU-13G+BD	5kN	500	1,124	Single	3 mm
PNEU-13K	200	20	45	Single	1 mm
PNEU-13K+BD	200	20	45	Single	1 mm
PNEU-13M	2kN	200	450	Single	2 mm
PNEU-13M-BD	2kN	200	450	Single	2 mm
PNEUM-501A-1	2,000	200	450	Dual	6mm

# PNEUMATIC FIXTURES

## 9P

### ALUMINUM, ANODIZED

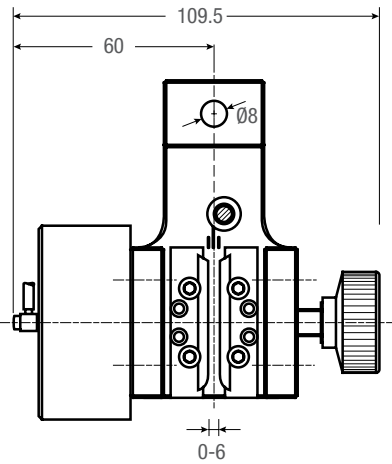
- Vise-action, general purpose test fixture for tensile applications
- Single and Dual actuation models
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)



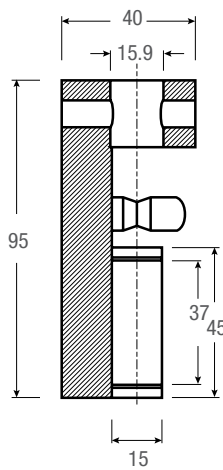
Dual pneumatic actuation

Pneumatic Fixtures													
Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGf	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-9+K0	2,500	250	562	Single	No Jaws	Jaw Dependent		Jaw Dependent		1.2	0.56	15.9	2
PNEUM-9+2K0	2,500	250	562	Dual	No Jaws	Jaw Dependent		Jaw Dependent		1.6	0.74	15.9	2

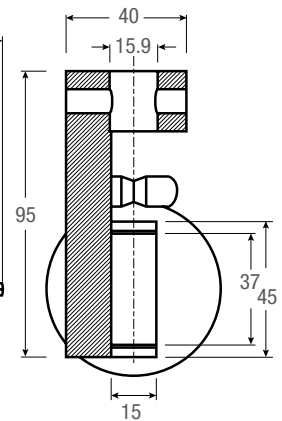
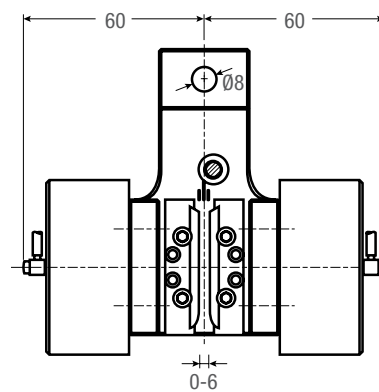
### DIMENSIONS



PNEUM-9+K0



PNEUM-9+2K0



### 9 JAW SETS

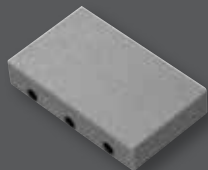
#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW9-B15	Smooth	0.2	6	1.5 x 0.6	37 x 15
JAW9-D15	Diamond	0.2	6	1.5 x 0.6	37 x 15

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- Nickel-plated

# PNEUMATIC FIXTURES

## 140P

ALUMINUM, ANODIZED

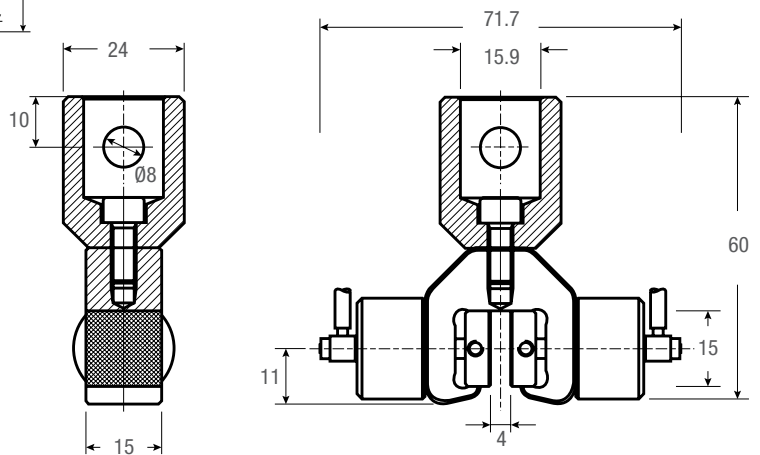
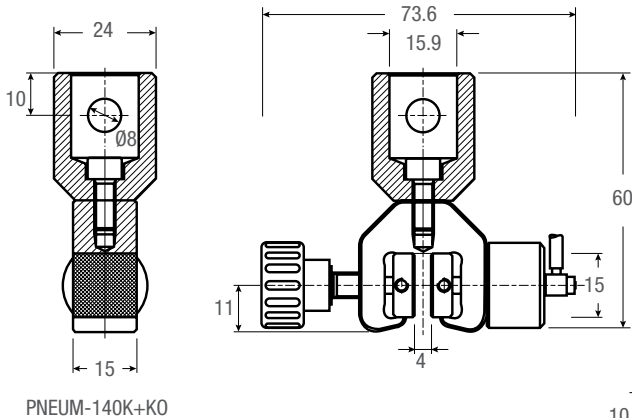
- Vise-action, general purpose test fixture for tensile applications
- Single and Dual actuation models
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGf	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-140K+KO	100	10	22	Single	No Jaws	Jaw Dependent		Jaw Dependent		1.6	0.73	15.9	2
PNEUM-140K+2KO	100	10	22	Dual	No Jaws	Jaw Dependent		Jaw Dependent		2.1	0.94	15.9	2

### DIMENSIONS

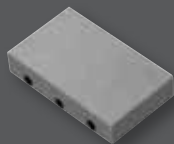


### 140 JAW SETS

STEEL, HARDENED

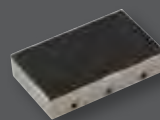
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets						
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface		
		in	mm	in	mm	
JAW140-B	Smooth	0.3	8	0.6 x 0.6	15 x 15	
JAW140-BR	Rubber	0.2	6	0.6 x 0.6	15 x 15	
JAW140-PV	Serrated	0.3	8	0.6 x 0.6	15 x 15	



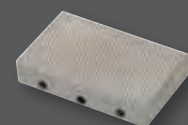
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

# PNEUMATIC FIXTURES

## 94P

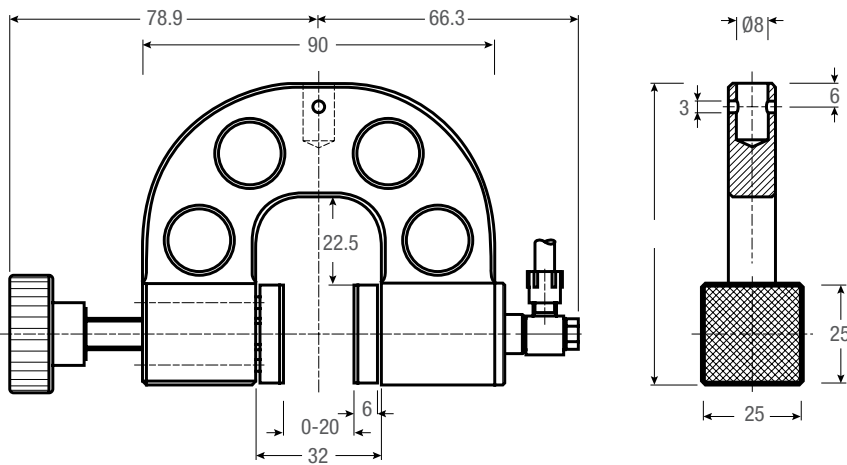
ALUMINUM, ANODIZED

- Vise-action, general purpose test fixture for tensile applications
- Single and Dual actuation models
- Operating Temperatures 32° to 158°F (0° to 70°C)



Pneumatic Fixtures													
Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGf	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-94A-1	200	20	45	Single	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	0.5	0.24	15.9	2

### DIMENSIONS



Note: Supplied with 15.9 clevis adapter

### 94 JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW94-B25	Smooth	0.8	20	0.98 x 0.98	25 x 25
JAW94-BR25	Rubber	0.7	18	0.98 x 0.98	25 x 25
JAW94-PY25	Serrated	0.8	20	0.98 x 0.98	25 x 25
JAW94-D25	Diamond	0.8	20	0.98 x 0.98	25 x 25
JAW94-B50	Smooth	0.8	20	0.98 x 1.97	25 x 50
JAW94-BR50	Rubber	0.7	18	0.98 x 1.97	25 x 50
JAW94-PY50	Serrated	0.8	20	0.98 x 1.97	25 x 50
JAW94-WV50	Wave	0.63	16	0.98 x 1.97	25 x 50
JAW94-D50	Diamond	0.8	20	0.98 x 1.97	25 x 50

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- Nickel-plated



# PNEUMATIC FIXTURES

## 229P

ALUMINUM, ANODIZED

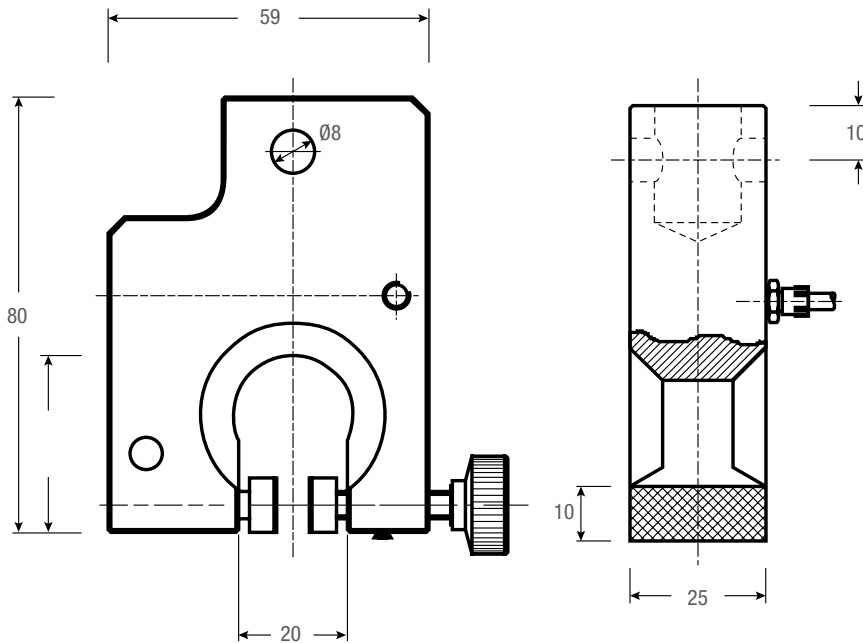
- Vise-action, general purpose test fixture for tensile applications
- Single and Dual actuation models
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-229A-1	1,000	100	225	Single	No Jaws	Jaw Dependent		Jaw Dependent		0.6	0.25	15.9	2

### DIMENSIONS



### 229 JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

### Jaw Sets

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW229-B25	Smooth	0.3	8	0.4 x 0.98	10 x 25
JAW229-BR25	Rubber	0.2	6	0.4 x 0.98	10 x 25
JAW229-PY25	Serrated	0.3	8	0.4 x 0.98	10 x 25
JAW229-D25	Diamond	0.3	8	0.4 x 0.98	10 x 25
JAW229-B50	Smooth	0.2	6	0.4 x 1.97	10 x 50
JAW229-BR50	Rubber	0.15	4	0.4 x 1.97	10 x 50
JAW229-PY50	Serrated	0.2	6	0.4 x 1.97	10 x 50
JAW229-D50	Diamond	0.2	6	0.4 x 1.97	10 x 50
JAW229-B100	Smooth	0.2	6	0.4 x 3.94	10 x 100
JAW229-BR100	Rubber	0.15	4	0.4 x 3.94	10 x 100
JAW229-PY100	Serrated	0.2	6	0.4 x 3.94	10 x 100
JAW229-D100	Diamond	0.2	6	0.98 x 1.97	10 x 100

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1 mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- Nickel-plated

# PNEUMATIC FIXTURES

## 56KP

ALUMINUM, ANODIZED

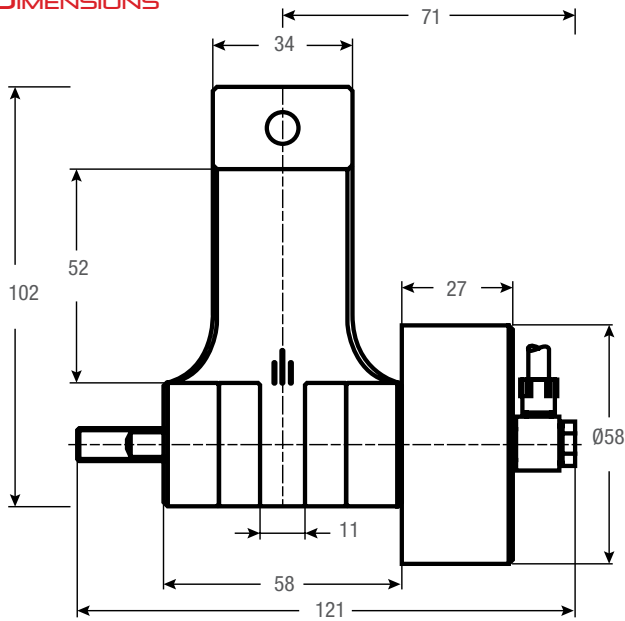
- For general-purpose tensile testing applications
- Dual-action tightening from both sides
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)



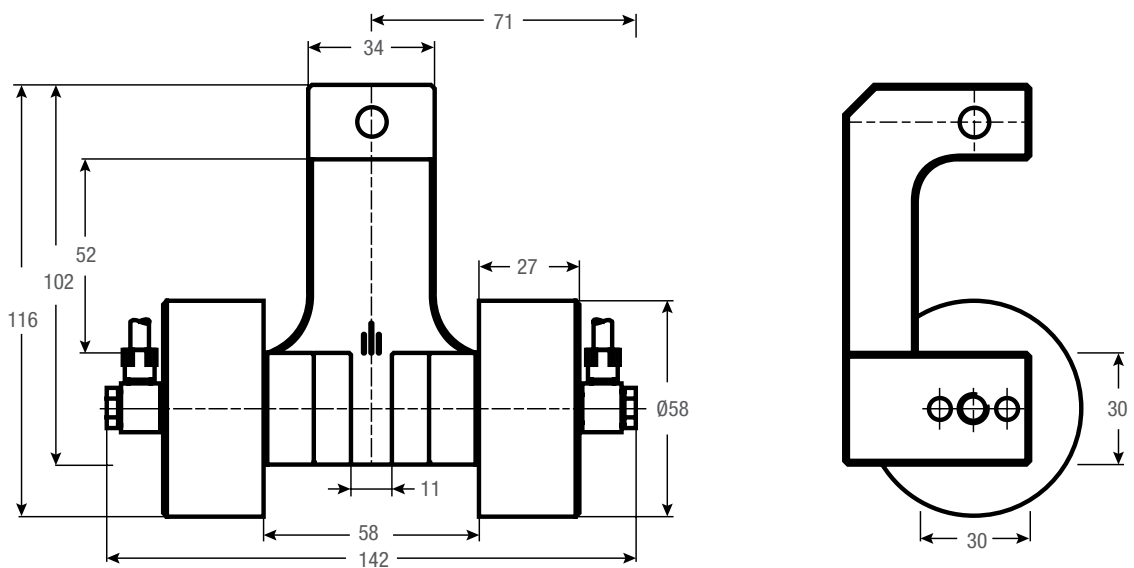
### Pneumatic Fixtures

Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-56KA-1	1,200	120	265	Single	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	2.2	1.0	15.9	2
PNEUM-56K2KA-1	1,200	120	265	Dual	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	3.1	1.4	15.9	2

### DIMENSIONS



PNEUM-56KA-1



PNEUM-56K2KA-1

## PNEUMATIC FIXTURES

### 56K JAW SETS

#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

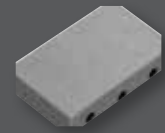
Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW56K-B30	Smooth	0.4	10	1.18 x 1.18	30 x 30
JAW56K-BR30	Rubber	0.2	8	1.18 x 1.18	30 x 30
JAW56K-PY30	Serrated	0.4	10	1.18 x 1.18	30 x 30
JAW56K-V2	V-notch	0.08-0.4 $\phi$	2-10 $\phi$	1.18 x 1.18	30 x 30
JAW56K-V3	V-notch	0.12-0.4 $\phi$	3-10 $\phi$	1.18 x 1.18	30 x 30
JAW56K-WV30	Wave	0.4	10	1.18 x 1.18	30 x 30
JAW56K-D30	Diamond	0.4	10	1.18 x 1.18	30 x 30

### OPTIONAL CARRIER AND CARRIER SETS

#### STEEL, HARDENED

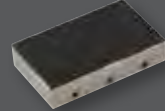
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick Change jaw sets requires both CARRIER-56K and CAR56K

Carrier Sets							
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width (h x w)		Supply each
			in	mm	in	mm	
CARRIER-56K	Steel	-	-	-	-	-	4
CAR56K-B36	Steel	Smooth	1.18 x 1.18	30 x 30	0 - 0.3	0 - 8	4
CAR56K-BR36	Steel	Rubber	1.18 x 1.18	30 x 30	0 - 0.2	0 - 6	4
CAR56K-D36	Steel	Diamond	1.18 x 1.18	30 x 30	0 - 0.3	0 - 8	4
CAR56K-PY36	Steel	Serrated	1.18 x 1.18	30 x 30	0 - 0.3	0 - 8	4



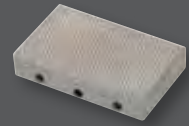
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



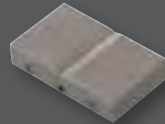
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



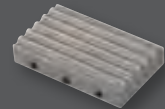
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



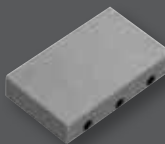
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

## 56GP

ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Dual-action tightening from both sides
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)

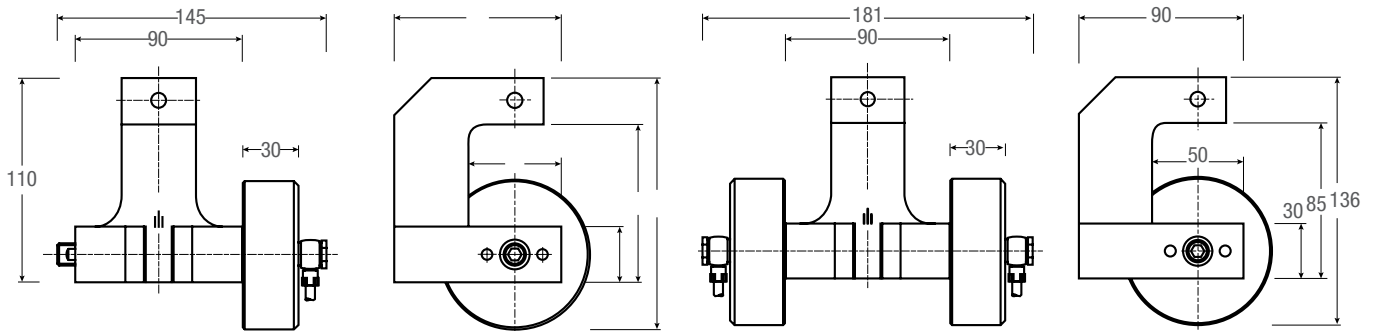


PNEUMATIC FIXTURES

### Pneumatic Fixtures

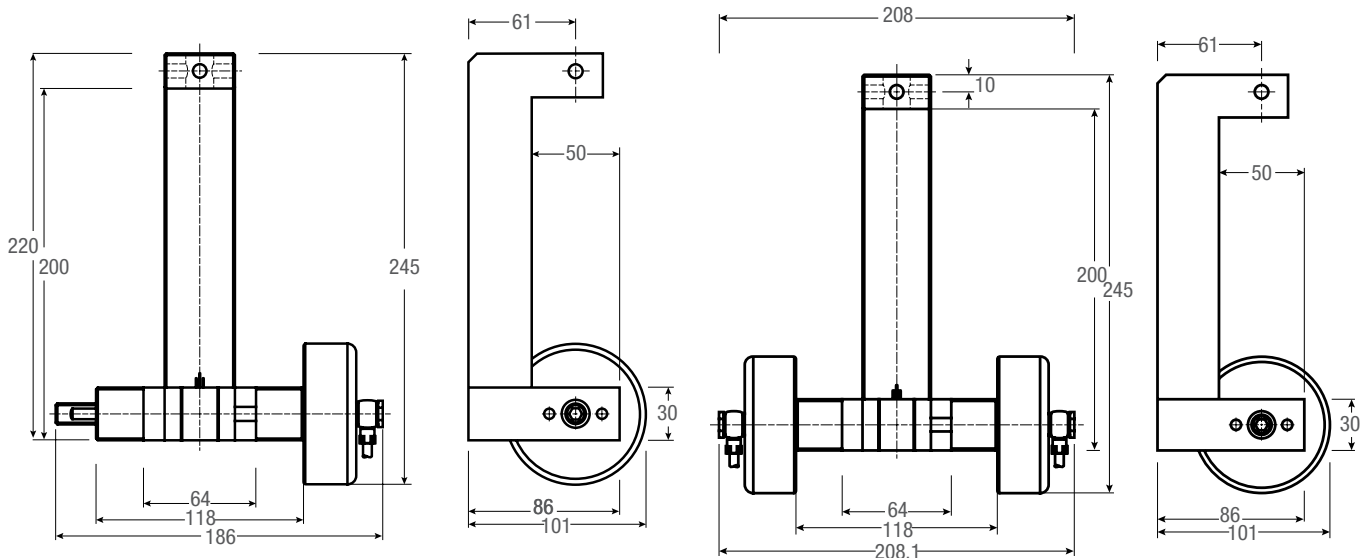
Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-56GKA-1	2,500	250	550	Single	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	1.5	15.9	2	
PNEUM-56G2KA-1	2,500	250	550	Dual	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	1.9	15.9	2	
PNEUM-56GHKA-1	2,500	250	550	Single	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	1.9	15.9	2	
PNEUM-56GH2KA-1	2,500	250	550	Dual	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	2.3	15.9	2	

### DIMENSIONS



PNEUM-56GKA-1

PNEUM-56G2KA-1



PNEUM-56GHKA-1

PNEUM-56GH2KA-1

## PNEUMATIC FIXTURES

### 56G JAW SETS

#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)

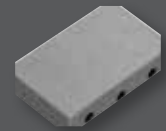
Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW56G-B30	Smooth	0.6	15	1.18 x 1.97	30 x 50
JAW56G-BR30	Rubber	0.5	13	1.18 x 1.97	30 x 50
JAW56G-PY30	Serrated	0.6	15	1.18 x 1.97	30 x 50
JAW56G-V2	V-Notch	0.08-0.6 $\phi$	2-15 $\phi$	1.18 x 1.97	30 x 50
JAW56G-V3	V-Notch	0.12-0.4 $\phi$	3-11 $\phi$	1.18 x 1.97	30 x 50
JAW56G-WV30	Wave	0.6	15	1.18 x 1.97	30 x 50
JAW56G-D30	Diamond	0.6	15	1.18 x 1.97	30 x 50

### OPTIONAL CARRIER AND CARRIER SETS

#### STEEL, HARDENED

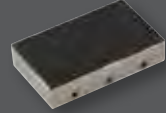
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick Change jaw sets require both CARRIER56K and CAR56K

Carrier Sets									
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width		Opening Width		Supply each
			in	mm	in (h x w)	mm (GA-1)	in (h x w)	mm (GHA-1)	
CARRIER-56G	Steel	-	-	-	-	-	-	-	4
CAR56G-B50	Steel	Smooth	1.18 x 1.97	30 x 50	0 - 0.2	0 - 5	0 - 1.3	0 - 34	4
CAR56G-BR50	Steel	Rubber	1.18 x 1.97	30 x 50	0 - 0.1	0 - 3	0 - 1.2	0 - 32	4
CAR56G-D50	Steel	Diamond	1.18 x 1.97	30 x 50	0 - 0.2	0 - 5	0 - 1.3	0 - 34	4
CAR56G-PY50	Steel	Serrated	1.18 x 1.97	30 x 50	0 - 0.2	0 - 5	0 - 1.3	0 - 34	4



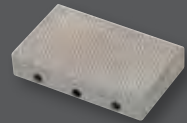
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



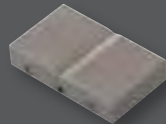
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



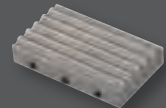
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



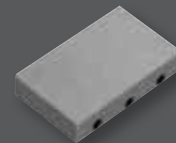
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated



# PNEUMATIC FIXTURES

## 240KP

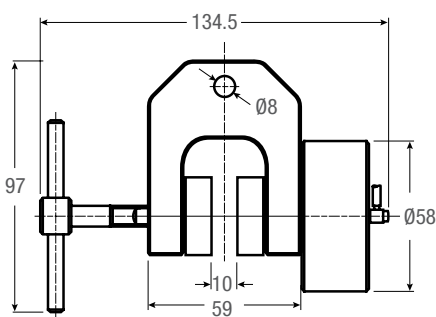
ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)

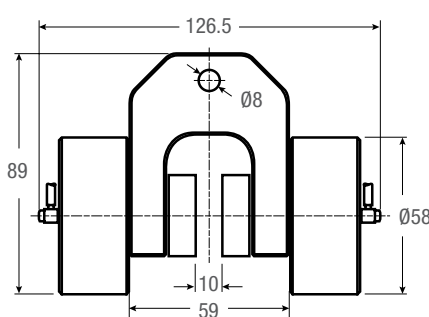
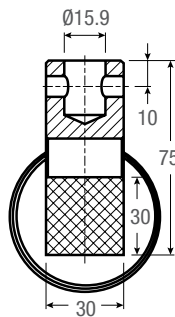


Pneumatic Fixtures													
Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	
	N	KGF	LBF			in	mm	in	mm	lbs	kgs	mm	Supply
PNEUM-240KA-1	2.5kN	250	562	Single	No Jaws	~.4	~10	Jaw Dependent	0.9	0.4	15.9	2	
PNEUM-2402KA-1	2.5kN	250	562	Dual	No Jaws	~.4	~10	Jaw Dependent	1.3	0.6	15.9	2	
PNEUM-240KA-20-1	1kN	100	225	Single	No Jaws	~.75	~20	Jaw Dependent	1.1	0.5	15.9	2	
PNEUM-2402KA-20-1	1kN	100	225	Dual	No Jaws	~.75	~20	Jaw Dependent	1.54	0.7	15.9	2	
PNEUM-240KA-30-1	1kN	100	225	Single	No Jaws	~1.2	~30	Jaw Dependent	1.2	0.54	15.9	2	
PNEUM-2402KA-30-1	1kN	100	225	Dual	No Jaws	~1.2	~30	Jaw Dependent	1.6	0.74	15.9	2	
PNEUM-240KA-50-1	1kN	100	225	Single	No Jaws	~2	~50	Jaw Dependent	1.8	0.8	15.9	2	
PNEUM-2402KA-50-1	1kN	100	225	Dual	No Jaws	~2	~50	Jaw Dependent	2.2	1.0	15.9	2	

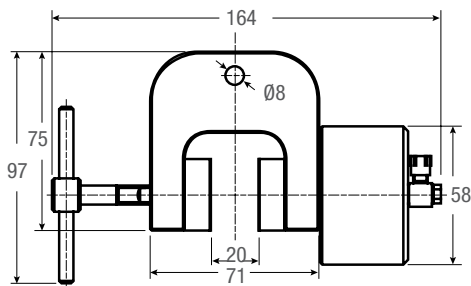
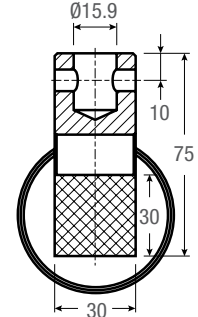
### DIMENSIONS



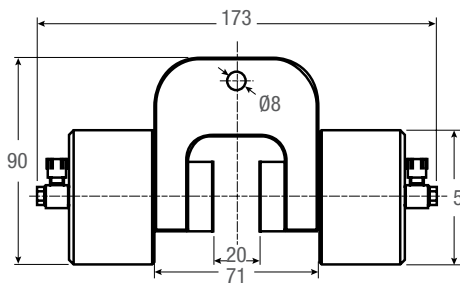
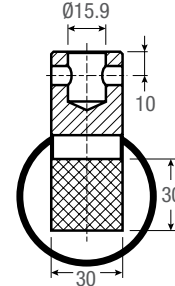
PNEUM-240KA-1



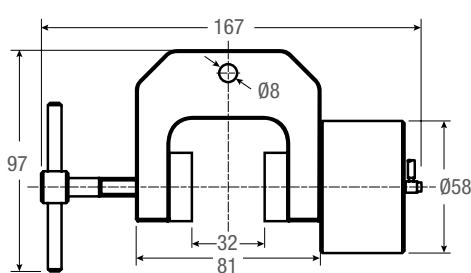
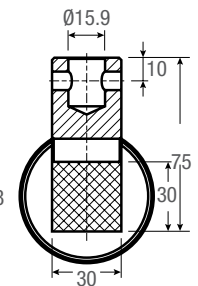
PNEUM-2402KA-1



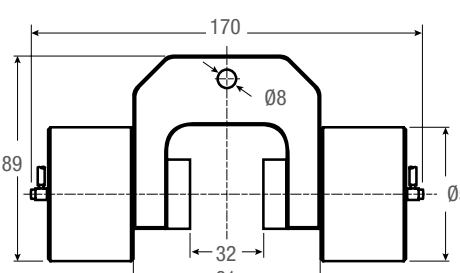
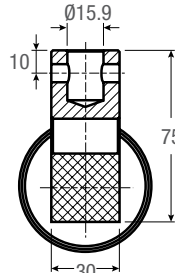
PNEUM-240KA-20-1



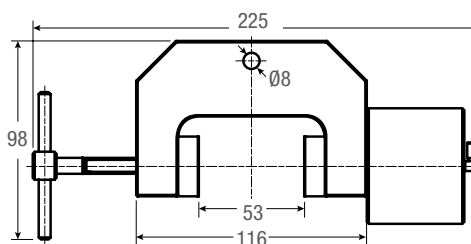
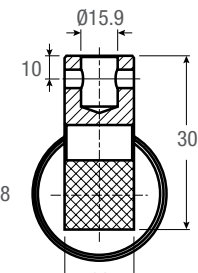
PNEUM-2402KA-20-1



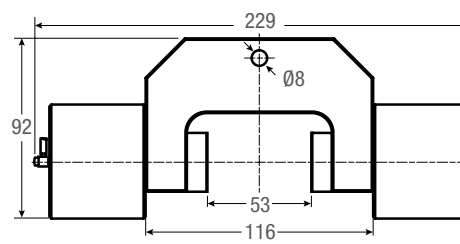
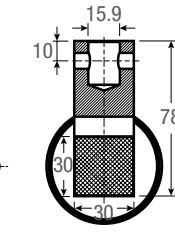
PNEUM-240KA-30-1



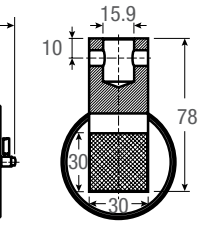
PNEUM-2402KA-30-1



PNEUM-240KA-50-1



PNEUM-2402KA-50-1



# PNEUMATIC FIXTURES

## 240K JAW SETS

### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 180°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW240K-B25	Smooth	0.4	10	1.18 x 1.18	30 x 30
JAW240K-BR25	Rubber	0.3	8	1.18 x 1.18	30 x 30
JAW240K-PY25	Serrated	0.4	10	1.18 x 1.18	30 x 30
JAW240K-V2	V-Notch	0.08-0.35ø	2-9ø	1.18 x 1.18	30 x 30
JAW240K-V9	V-Notch	0.1-0.35ø	3-9ø	1.18 x 1.18	30 x 30
JAW240K-WV30	Wave	0.4	10	1.18 x 1.18	30 x 30
JAW240K-D30	Diamond	0.4	10	1.18 x 1.18	30 x 30
JAW240K-B50	Smooth	0.8	20	1.18 x 2.0	30 x 50
JAW240K-BR50	Rubber	0.7	18	1.18 x 2.0	30 x 50
JAW240K-PY50	Serrated	0.8	20	1.18 x 2.0	30 x 50
JAW240K-WV50	Wave	0.8	20	1.18 x 2.0	30 x 50
JAW240K-D50	Diamond	0.8	20	1.18 x 2.0	30 x 50
JAW240K-B80	Smooth	1.2	30	1.18 x 3.2	30 x 80
JAW240K-BR80	Rubber	1.1	28	1.18 x 3.2	30 x 80
JAW240K-PY80	Serrated	1.2	30	1.18 x 3.2	30 x 80
JAW240K-WV80	Wave	1.2	30	1.18 x 3.2	30 x 80
JAW240K-D80	Diamond	1.2	30	1.18 x 3.2	30 x 80
JAW240K-B100	Smooth	2	50	1.18 x 3.9	30 x 100
JAW240K-BR100	Rubber	1.9	48	1.18 x 3.9	30 x 100
JAW240K-PY100	Serrated	2	50	1.18 x 3.9	30 x 100
JAW240K-WV100	Wave	2	50	1.18 x 3.9	30 x 100
JAW240K-D100	Diamond	2	50	1.18 x 3.9	30 x 100

## OPTIONAL CARRIER AND CARRIER SETS

### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick Change jsaw sets require both CARRIER56K and CAR56K

Carrier Sets													
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width (KA-1)		Opening Width (KA-20-1)		Opening Width (KA-30-1)		Opening Width (KA-50-1)		Supply each
			in	mm	in	mm	in	mm	in	mm	in	mm	
CARRIER-240K	Steel	-	-	-	-	-	-	-	-	-	-	-	4
CAR240K-B36	Steel	Smooth	1.2 x 1.2	30 x 30	0 - 0.3	0 - 8	0 - 0.7	0 - 18	0 - 1.1	0 - 28	0 - 1.9	0 - 48	4
CAR240K-BR36	Steel	Rubber	1.2 x 1.2	30 x 30	0 - 0.2	0 - 6	0 - 0.6	0 - 16	0 - 1	0 - 26	0 - 1.8	0 - 46	4
CAR240K-D36	Steel	Diamond	1.2 x 1.2	30 x 30	0 - 0.3	0 - 8	0 - 0.7	0 - 18	0 - 1.1	0 - 28	0 - 1.9	0 - 48	4
CAR240K-PY36	Steel	Serrated	1.2 x 1.2	30 x 30	0 - 0.3	0 - 8	0 - 0.7	0 - 18	0 - 1.1	0 - 28	0 - 1.9	0 - 48	4

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

## 240GP

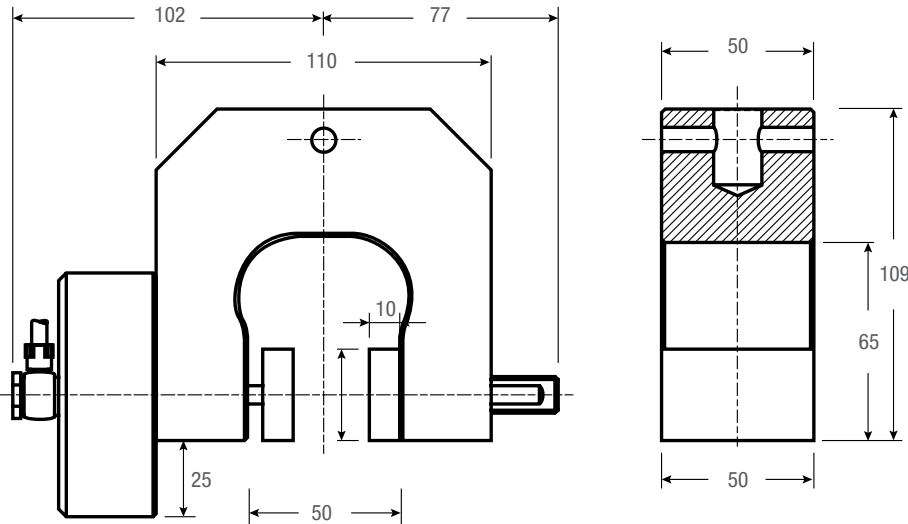
### ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)

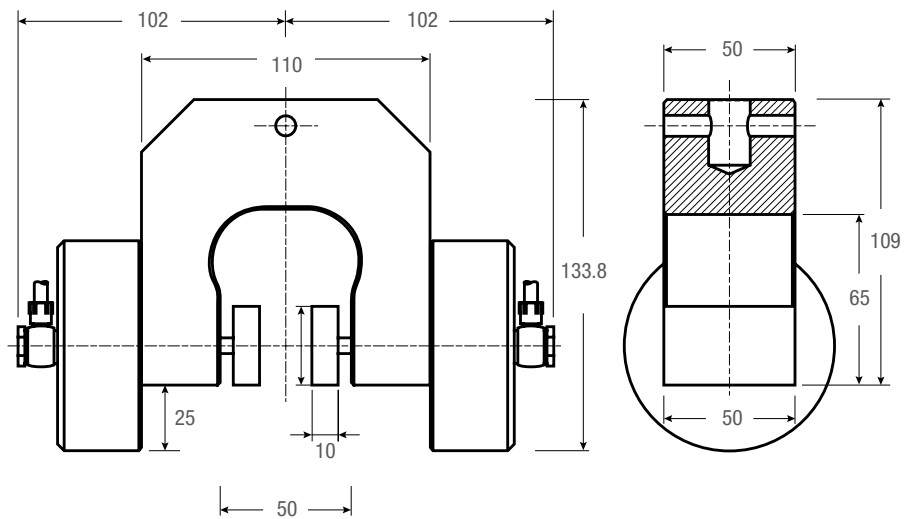


Pneumatic Fixtures													
Model No.	Load Capacity			Pneumatic Actuation	Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF			in	mm	in	mm	lbs	kgs		
PNEUM-240G+KO	2,600	260	585	Single	No Jaws	Jaw Dependent		Jaw Dependent		3.3	1.5	15.9	2
PNEUM-240G+2KO	2,600	260	585	Dual	No Jaws	Jaw Dependent		Jaw Dependent		5.1	2.3	15.9	2

### DIMENSIONS



PNEUM-240G+KO



PNEUM-240G+2KO

# PNEUMATIC FIXTURES

## 240G JAW SETS

### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 180°C)

Jaw Sets									
Model No.	Jaw Face	Jaw Opening (Max) VICE-240G-24		VICE-240G-50		VICE-240G-100		Clamping Surface	
		in	mm	in	mm	in	mm	in	mm
JAW240G-B50	Smooth	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-BR50	Rubber	0.87	22	1.89	48	-	-	1.18 x 2.0	30 x 50
JAW240G-PY50	Serrated	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-V2	V-Notch	0.08-0.94ø	2-24ø	0.08-1.97ø	2-50ø	-	-	1.18 x 2.0	30 x 50
JAW240G-V5	V-Notch	0.2-0.94ø	5-24ø	0.2-1.97ø	5-50ø	-	-	1.18 x 2.0	30 x 50
JAW240G-WV50	Wave	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-D50	Diamond	0.94	24	1.97	50	-	-	1.18 x 2.0	30 x 50
JAW240G-B80	Smooth	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-BR80	Rubber	0.95	24	1.81	46	0.3-3.9	8-98	1.18 x 3.2	30 x 80
JAW240G-PY80	Serrated	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-WV80	Wave	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-D80	Diamond	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.2	30 x 80
JAW240G-B100	Smooth	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100
JAW240G-BR100	Rubber	0.95	24	1.81	46	0.3-3.9	8-98	1.18 x 3.9	30 x 100
JAW240G-PY100	Serrated	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100
JAW240G-WV100	Wave	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100
JAW240G-D100	Diamond	1.02	26	1.89	48	0.4-4.0	10-100	1.18 x 3.9	30 x 100

## OPTIONAL CARRIER AND CARRIER SETS

### STEEL, HARDENED

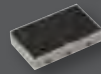
- Supplied four (4) jaws per set
- Operating Temperatures 32° to 266°F (0° to 130°C)
- Quick Change jaws sets require both CARRIER240K and CAR240K

Carrier Sets										
Model No.	Material	Face	Jaw Dimensions (h x w)		Opening Width (240G)		Opening Width (240G-S50)		Opening Width mm (240G-S100)	Supply each
			in	mm	in	mm	in	mm		
CARRIER-240G	Steel	-	-	-	-	-	-	-	-	4
CAR240G-B50	Steel	Smooth	1.2 x 2.0	30 x 50	0 - 0.8	0 - 20	0 - 1.18	0 - 30	Not Compatible	4
CAR240G-BR50	Steel	Rubber	1.2 x 2.0	30 x 50	0 - 0.7	0 - 18	0 - 1.18	0 - 30	Not Compatible	4
CAR240G-D50	Steel	Diamond	1.2 x 2.0	30 x 50	0 - 0.8	0 - 20	0 - 1.18	0 - 30	Not Compatible	4
CAR240G-PY50	Steel	Serrated	1.2 x 2.0	30 x 50	0 - 0.8	0 - 20	0 - 1.18	0 - 30	Not Compatible	4



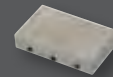
#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



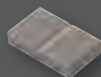
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



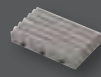
#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



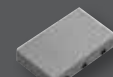
#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated



#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated



#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

## 83P

ALUMINUM, ANODIZED

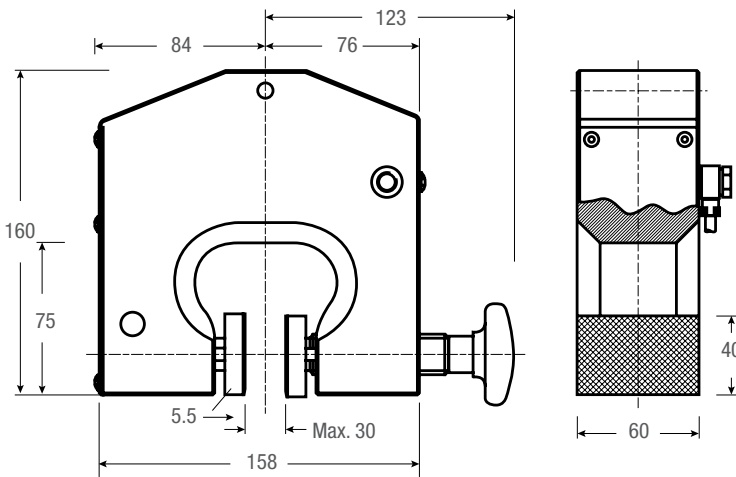
- For general-purpose tensile testing applications
- Order required jaw set separately
- 1/8" pneumatic thread connection
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
PNEUM-83A-1	7,000	700	1,570	No Jaws	Jaw Dependent	Jaw Dependent	Jaw Dependent	Jaw Dependent	7.1	3.2	15.9	2

### DIMENSIONS



### 83P JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 158°F (0° to 70°C)

#### Jaw Sets

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW83-B60	Smooth	0.4	10	1.6 x 2.4	40 x 60
JAW83-BR60	Rubber	0.3	8	1.6 x 2.4	40 x 60
JAW83-PY60	Serrated	0.4	10	1.6 x 2.4	40 x 60
JAW83-V4	V-Notch	0.16-0.47 $\phi$	4-12 $\phi$	1.6 x 2.4	40 x 60
JAW83-V6	V-Notch	0.2-1.18 $\phi$	6-30 $\phi$	1.6 x 2.4	40 x 60
JAW83-WV60	Wave	0.4	10	1.6 x 2.4	40 x 60
JAW83-D60	Diamond	0.4	10	1.6 x 2.4	40 x 60
JAW83-B100	Smooth	0.4	10	1.6 x 3.9	40 x 100
JAW83-BR100	Rubber	0.3	8	1.6 x 3.9	40 x 100
JAW83-PY100	Serrated	0.4	10	1.6 x 3.9	40 x 100
JAW83-WV100	Wave	0.4	10	1.6 x 3.9	40 x 100
JAW83-D100	Diamond	0.4	10	1.6 x 3.9	40 x 100

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

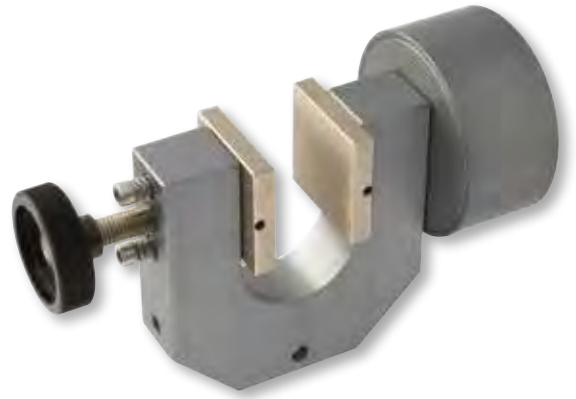


# PNEUMATIC FIXTURES

## 108P

ALUMINUM, ANODIZED

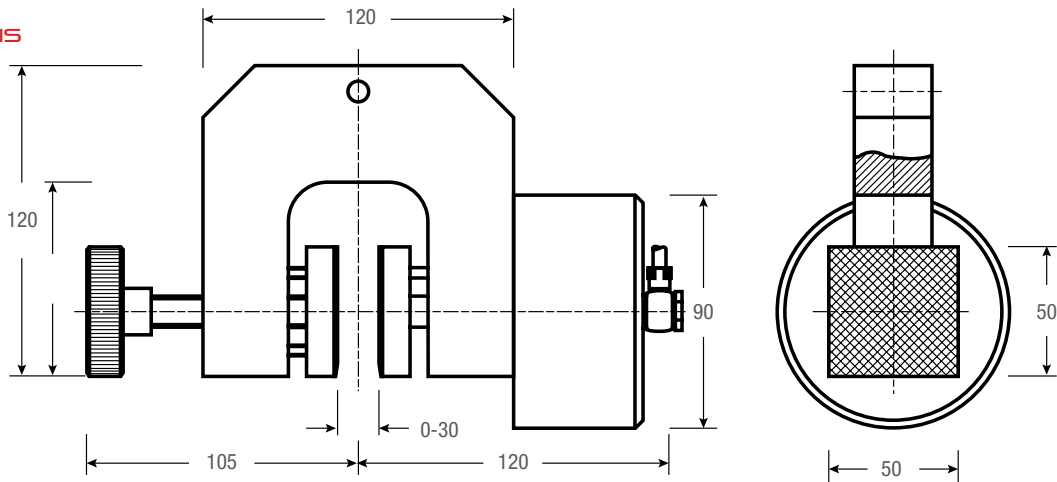
- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGf	LBF		in	mm	in	mm	lbs	kgs		
PNEUM-108A-1	3,500	350	785	No Jaws	Jaw Dependent		Jaw Dependent		2.9	1.3	15.9	2

### DIMENSIONS



### 108P JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 158°F (0° to 70°C)

### Jaw Sets

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW108-B60	Smooth	1.34	34	1.97 x 1.97	50 x 50
JAW108-BR60	Rubber	1.26	32	1.97 x 1.97	50 x 50
JAW108-PY60	Serrated	1.34	34	1.97 x 1.97	50 x 50
JAW108-V4	V-Notch	0.16-1.18 $\phi$	4-30 $\phi$	1.97 x 1.97	50 x 50
JAW108-WV60	Wave	1.34	34	1.97 x 1.97	50 x 50
JAW108-D60	Diamond	1.34	34	1.97 x 1.97	50 x 50
JAW108-B100	Smooth	1.34	34	1.97 x 3.9	50 x 100
JAW108-BR100	Rubber	1.26	32	1.97 x 3.9	50 x 100
JAW108-PY100	Serrated	1.34	34	1.97 x 3.9	50 x 100
JAW108-WV100	Wave	1.34	34	1.97 x 3.9	50 x 100
JAW108-D100	Diamond	1.34	34	1.97 x 3.9	50 x 100

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1 mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

## 126P

### ALUMINUM, ANODIZED

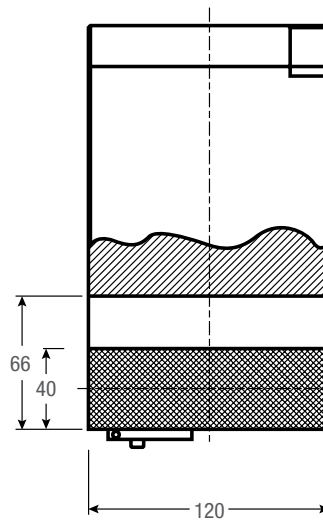
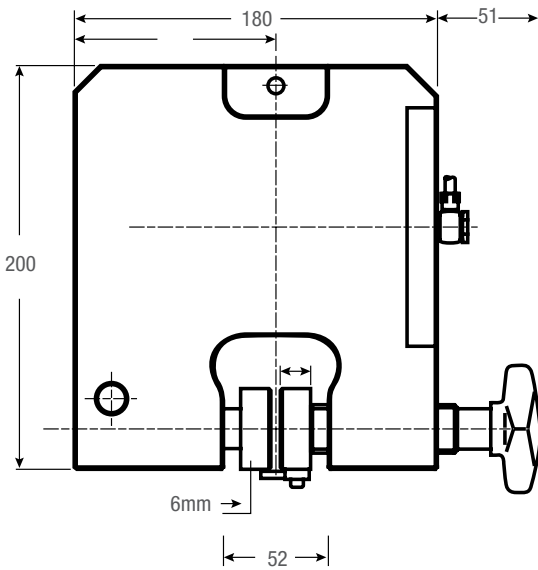
- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- 1/8" pneumatic thread connection
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGf	LBF		in	mm	in	mm	lbs	kgs		
PNEUM-126A-1	30K	3,000	6,700	No Jaws	Jaw Dependent		Jaw Dependent		22	10	15.9	2

### DIMENSIONS



### 126P JAW SETS

#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 158°F (0° to 70°C)

### Jaw Sets

Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW126-B120	Smooth	0.5	12	1.6 x 4.7	40 x 120
JAW126-BR120	Rubber	0.4	10	1.6 x 4.7	40 x 120
JAW126-PY120	Serrated	0.5	12	1.6 x 4.7	40 x 120
JAW126-V6	V-Notch	0.23-0.67 $\phi$	6-17 $\phi$	1.6 x 4.7	40 x 120
JAW126-WV120	Wave	0.5	12	1.6 x 4.7	40 x 120
JAW126-D120	Diamond	0.5	12	1.6 x 4.7	40 x 120

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

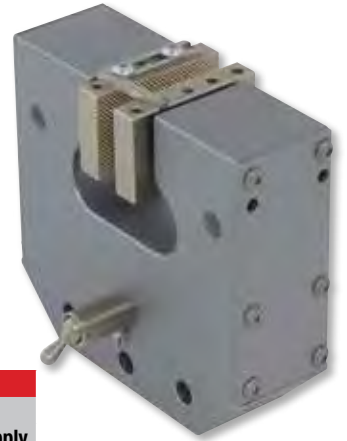
- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

149

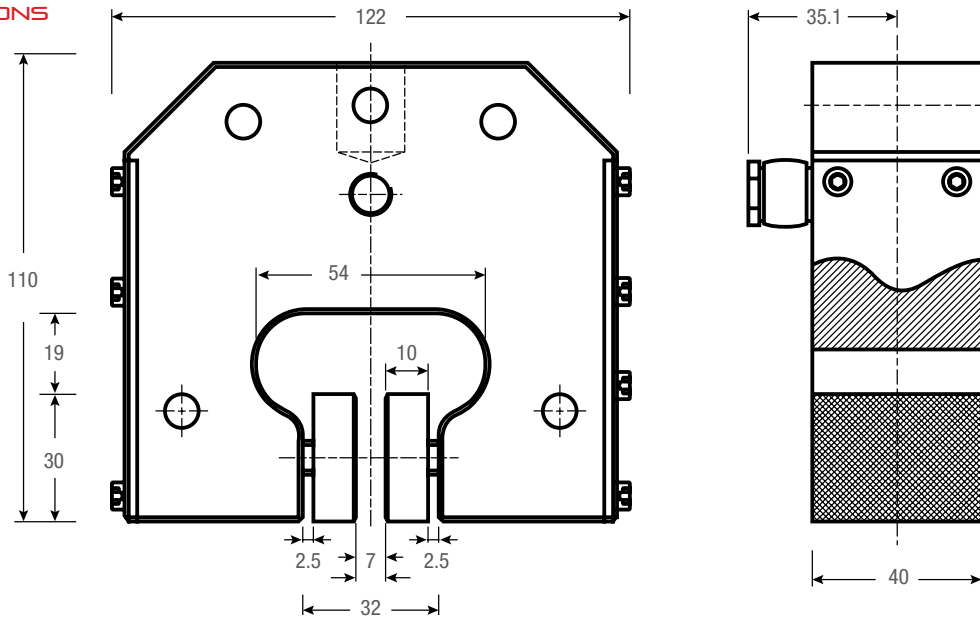
ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- 1/8" pneumatic thread connection
- Operating Temperatures 32° to 158°F (0° to 70°C)



Pneumatic Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGf	LBF		in	mm	in	mm	lbs	kgs		
PNEUM-149A-1	2,400	240	540	No Jaws	Jaw Dependent		Jaw Dependent		2.7	1.2	15.9	2

**DIMENSIONS**



**149 JAW SETS**

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 158°F (0° to 70°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW149-B50	Smooth	0.28	7	1.2 x 1.97	30 x 50
JAW149-BR50	Rubber	0.2	5	1.2 x 1.97	30 x 50
JAW149-PY50	Serrated	0.28	7	1.2 x 1.97	30 x 50
JAW149-V4	V-Notch	0.16-0.28 $\phi$	4-7 $\phi$	1.2 x 1.97	30 x 50
JAW149-WV50	Wave	0.28	7	1.2 x 1.97	30 x 50
JAW149-D50	Diamond	0.28	7	1.2 x 1.97	30 x 50

**SMOOTH JAW**

- Suitable for own further treatments
- Steel-blanks without coating

**RUBBER-COATED JAW**

- 1mm rubber coating (NBR)
- Nickel-plated

**SERRATED JAW**

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

**V-NOTCH JAW**

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

**WAVE JAW**

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

**DIAMOND-COATED JAW**

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

## 232

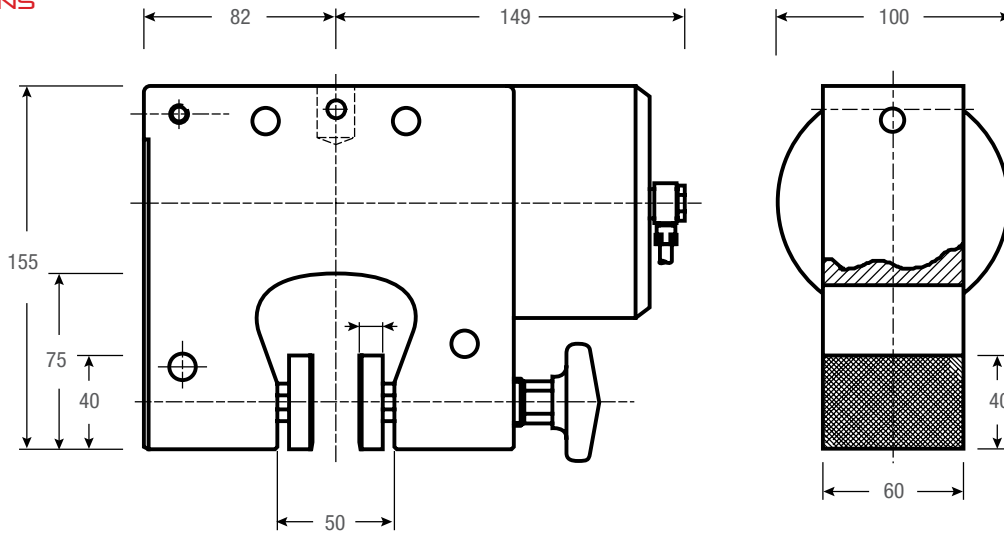
### ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)



Pneumatic Fixtures												
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGf	LBF		in	mm	in	mm	lbs	kgs		
PNEUM-232A-1	16K	1,600	3,600	No Jaws	Jaw Dependent		Jaw Dependent		10.0	4.5	15.9	2

### DIMENSIONS



### 232 JAW SETS

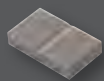
#### STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 158°F (0° to 70°C)

Jaw Sets					
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface	
		in	mm	in	mm
JAW232-B60	Smooth	0.4	10	1.6 x 2.4	40 x 60
JAW232-BR60	Rubber	0.4	10	1.6 x 2.4	40 x 60
JAW232-PY60	Serrated	0.4	10	1.6 x 2.4	40 x 60
JAW232-V4	V-Notch	0.16-0.47ø	4-12ø	1.6 x 2.4	40 x 60
JAW232-V6	V-Notch	0.24-1.18ø	6-30ø	1.6 x 2.4	40 x 60
JAW232-WV60	Wave	0.4	10	1.6 x 2.4	40 x 60
JAW232-D60	Diamond	0.4	10	1.6 x 2.4	40 x 60
JAW232-B100	Smooth	0.4	10	1.6 x 3.9	40 x 100
JAW232-BR100	Rubber	0.4	10	1.6 x 3.9	40 x 100
JAW232-PY100	Serrated	0.4	10	1.6 x 3.9	40 x 100
JAW232-WV100	Wave	0.4	10	1.6 x 3.9	40 x 100
JAW232-D100	Diamond	0.4	10	1.6 x 3.9	40 x 100

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating



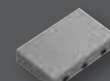
#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated



#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated



#### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

#### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

#### DIAMOND-COATED JAW

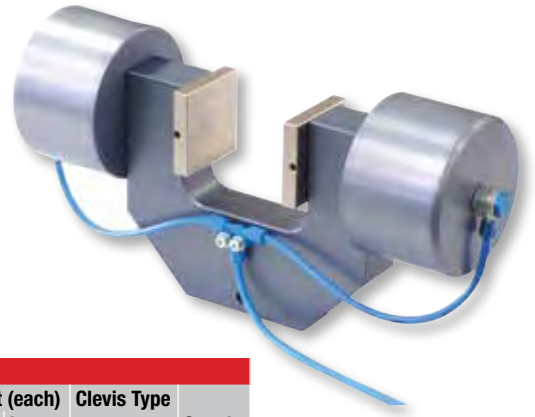
- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated

# PNEUMATIC FIXTURES

22

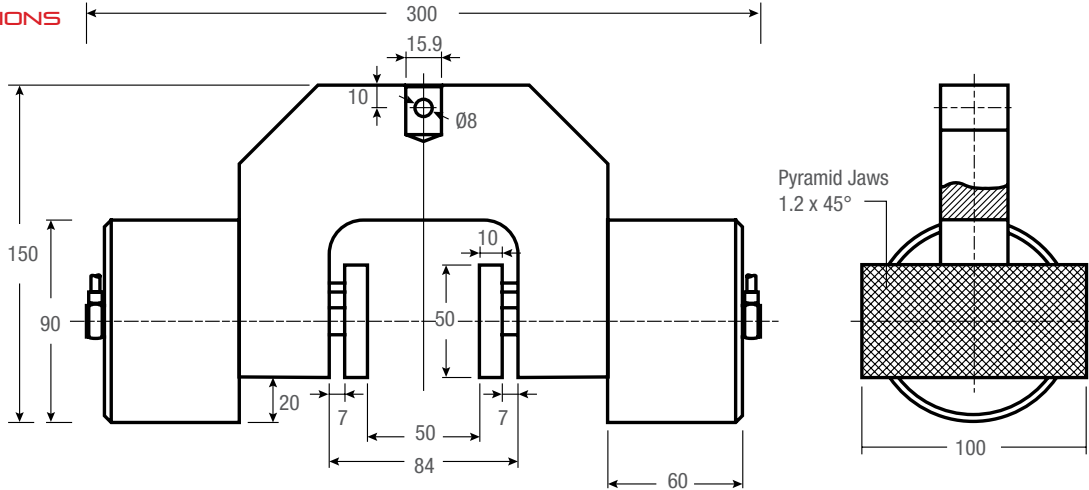
ALUMINUM, ANODIZED

- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)



Pneumatic Fixtures													
Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply	
	N	KGf	LBF		in	mm	in	mm	lbs	kgs			
PNEUM-22-S60	2,000	200	450	No Jaws	Jaw Dependent	Jaw Dependent			5.7	2.6	15.9	2	

## DIMENSIONS



## 22 JAW SETS

STEEL, HARDENED

- Supplied four (4) jaws per set
- Operating Temperatures 32° to 158°F (0° to 70°C)

Jaw Sets						
Model No.	Jaw Face	Jaw Opening (Max)		Clamping Surface		
		in	mm	in	mm	
JAW22-B50	Smooth	2.4	60	1.97 x 1.97	50 x 50	
JAW22-BR50	Rubber	2.4	60	1.97 x 1.97	50 x 50	
JAW22-PY50	Serrated	2.4	60	1.97 x 1.97	50 x 50	
JAW22-V4	V-Notch	0.16-1.18 $\phi$	4-30 $\phi$	1.97 x 1.97	50 x 50	
JAW22-WV50	Wave	2.4	60	1.97 x 1.97	50 x 50	
JAW22-D50	Diamond	2.4	60	1.97 x 1.97	50 x 50	
JAW22-B100	Smooth	2.4	60	0.97 x 3.9	50 x 100	
JAW22-BR100	Rubber	2.4	60	0.97 x 3.9	50 x 100	
JAW22-PY100	Serrated	2.4	60	0.97 x 3.9	50 x 100	
JAW22-WV100	Wave	2.4	60	0.97 x 3.9	50 x 100	
JAW22-D100	Diamond	2.4	60	0.97 x 3.9	50 x 100	

### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated

### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

### V-NOTCH JAW

- For all kinds of round samples
- Tooth pitch 1.2 mm
- Hardened steel
- Nickel-plated

### WAVE JAW

- For flexible materials
- Wave 5mm
- Hardened steel 58HRC
- Nickel-plated

### DIAMOND-COATED JAW

- Clamping surface coated with synthetic diamonds
- D91 (170/200 mesh)
- Nickel-plated



# PNEUMATIC FIXTURES

## 13

### ALUMINUM, ANODIZED

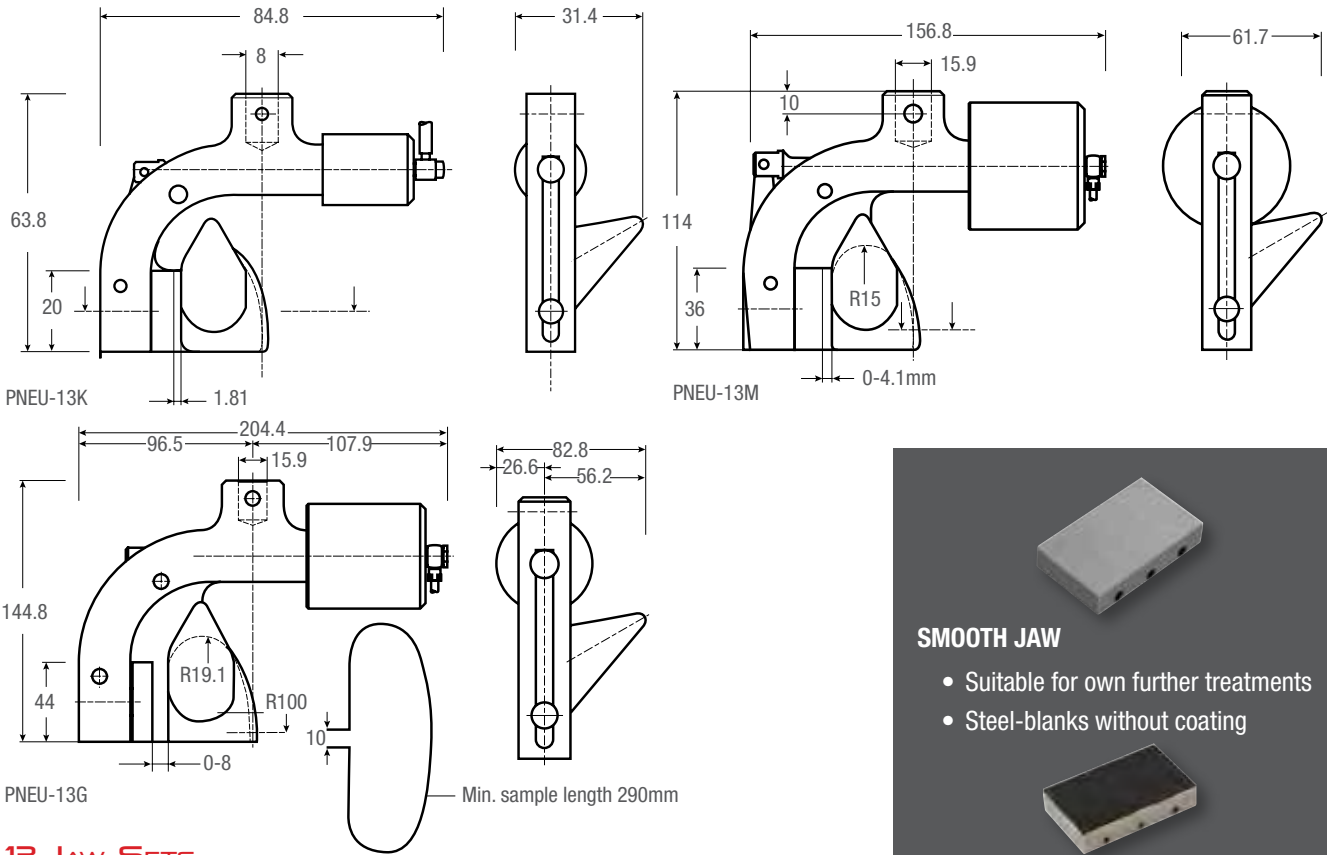
- For general-purpose tensile testing applications on fibers, wire, cord, fine wire, etc.
- Guide horn with centering groove
- Order required jaw set separately
- Operating Temperatures 32° to 176°F (0° to 80°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Material	Face	Jaw Dimensions (h x w) mm	Opening Width mm	Weight (each)		Supply each	Clevis Size mm
	N	KGF	LBF					lbs	kgs		
PNEU-13G	5kN	500	1124	Aluminum	Smooth	15 x 44	0 - 3	2.9	1.3	2	15.9
PNEU-13G+BD	5kN	500	1124	Aluminum	Diamond	15 x 44	0 - 3	2.9	1.3	2	15.9
PNEU-13K	200	20	45	Aluminum	Smooth	6 x 20	0 - 1	0.23	0.1	2	15.9
PNEU-13K+BD	200	20	45	Aluminum	Diamond	6 x 20	0 - 1	0.23	0.1	2	15.9
PNEU-13M	2kN	200	450	Steel	Smooth	12 x 36	0 - 2	1.3	0.6	2	15.9
PNEU-13M-BD	2kN	200	450	Steel	Diamond	12 x 36	0 - 2	1.3	0.6	2	15.9

### DIMENSIONS



### 13 JAW SETS

#### STEEL, HARDENED

- Supplied two (2) jaws per set
- Operating Temperatures 32° to 176°F (0° to 80°C)

### Jaw Sets

Model No.		Material	Face	Jaw Dimensions (h x w) mm	Opening Width mm	Supply each
JAW13G-B		Steel	Smooth	15 x 44	0 - 3	4
JAW13G-BR	Jaw face sets	Steel	Rubber	15 x 44	0 - 3	4
JAW13G-D	PNEUM-13G	Steel	Diamond	15 x 44	0 - 3	4
JAW13K-B		Steel	Smooth	6 x 20	0 - 1	4
JAW13K-BR	Jaw face sets	Steel	Rubber	6 x 20	0 - 1	4
JAW13K-D	PNEUM-13K	Steel	Diamond	6 x 20	0 - 1	4
JAW13M-B		Steel	Smooth	12 x 36	0 - 2	4
JAW13M-BR	Jaw face sets	Steel	Rubber	12 x 36	0 - 2	4
JAW13M-D	PNEUM-13M	Steel	Diamond	12 x 36	0 - 2	4

#### SMOOTH JAW

- Suitable for own further treatments
- Steel-blanks without coating

#### RUBBER-COATED JAW

- 1mm rubber coating (NBR)
- Nickel-plated

#### SERRATED JAW

- Pyramids 1.2 x 45°
- Hardened steel 58HRC
- Nickel-plated

# PNEUMATIC FIXTURES

## 501P

ALUMINUM, ANODIZED

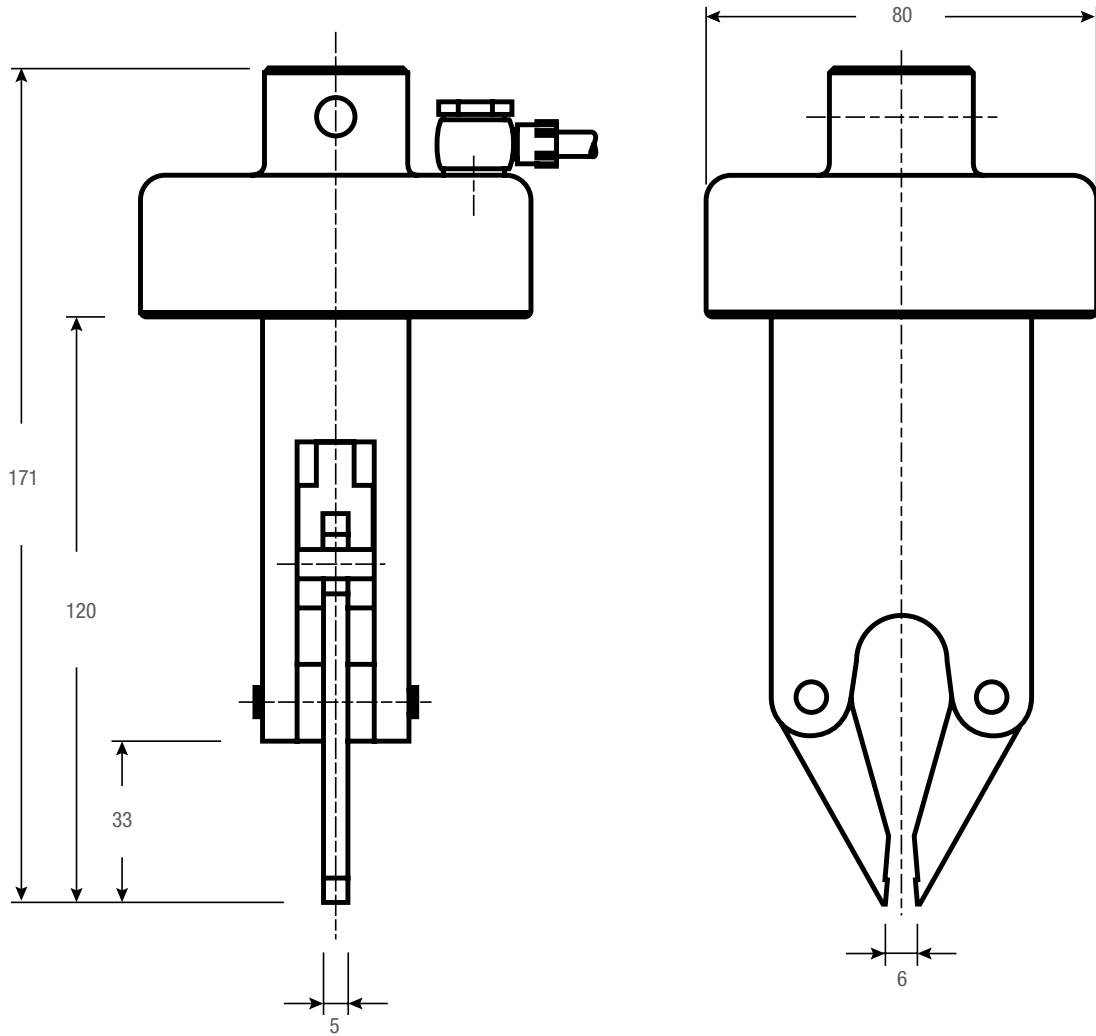
- For general-purpose tensile testing applications
- Self-aligning, self-tightening
- Order required jaw set separately
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Pneumatic Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
PNEUM-501A-1	2,000	200	450	Serrated	0.24	6	0.2 x 0.2	5 x 5	1.8	0.8	15.9	1

### DIMENSIONS



# PNEUMATIC FIXTURES

## ACCESSORIES

Pneumatic Accessories		
Model No.	Description	Supply
PNEUM-2051	Two (2ea) pneumatic foot switches, tubes and fittings, Non locking: The jaws of the grip open by pressing, the foot pedal and close after removing, the foot from the pedal. Includes 1 pair of pedals, tubes, and fittings	1
PNEUM-2052	Two (2ea) pneumatic foot switches, tubes and fittings, Locking function: The jaws open and remain, opened after removing the foot from the pedal. The jaws close by pressing one more time. Includes 1 pair of pedals, tubes, and fittings	1
PNEUM-205PR	Pressure regulator, To adjust air pressure 1-10 bar (14.5-145 psi), Optional for PNEUM-205-1 and PNEUM-205-2	1
PNEUM-2053	Pneumatic hand switches tubes and fittings, With locking function: Handle with 2 positions. The jaws close by pulling the handle and remain closed. The jaws open by pushing the handle back. Includes 1 unit, tubes, and fittings	1
PNEUM-205F	One (1ea) extra set fittings and tubes (1 Set is already included if you order PNEUM-205-1 or PNEUM-205-2 or PNEUM-205-3 )	1





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A Starrett spring test fixture is shown in a laboratory setting. The fixture is a tall, vertical, black metal structure with a central column. A coiled spring is mounted on a base within the column. The brand name "Starrett" is printed in red on a horizontal bar across the middle of the column. The base of the fixture is mounted on a dark grey cabinet. On the left side of the base, there is a red emergency stop button. On the right side, there is a control panel with a small display and a button. The background shows a laboratory with glass windows and various pieces of equipment.

Starrett

**SPRING TEST FIXTURES**



## SPRING TEST FIXTURES

Starrett offers custom solutions for testing compression and extension springs. These test fixtures ensure correct axial alignment and promote accurate testing and measurements of spring constants, initial tension, free length and more.

### OPERATION

Starrett can supply a variety of test fixtures for testing compression and extension springs. Generally, fixtures include hooks for extension springs and various forms of custom-made test fixtures for compression springs.



### TESTING STANDARDS

There are a variety of testing methods for springs and washers. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.

### SPRING

#### STEEL, NICKEL FINISH

- For general-purpose spring testing applications
- Springs are positioned over the center rod to ensure proper alignment during compression
- Operating Temperatures 32° to 158°F (0° to 70°C)

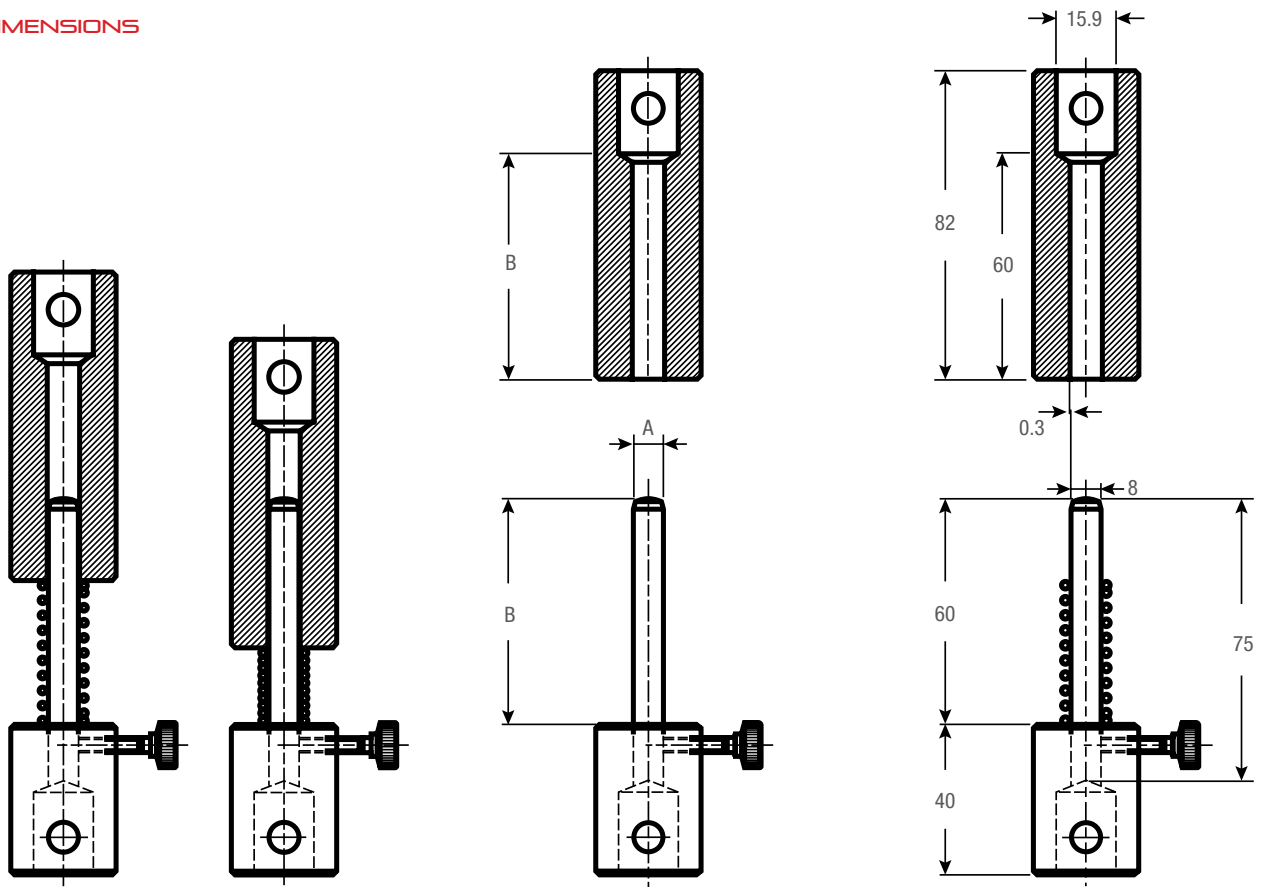


Shown: Custom made testing fixtures for compression springs having different free lengths.

Spring Fixtures												
Model No.	Load Capacity			Inside Diameter (A)		Outside Diameter (B)		Weight (each)		Clevis Type	Supply	
	N	KGF	LBF	in	mm	in	mm	lbs	kgs			
SPRING-[A]-[B]	100	10	22	A	A	B	B	TBD	TBD	15.9	1	

Note: This fixtures are custom made and based on the spring inside diameter. Please consult your Starrett representative.

### DIMENSIONS





# SYRINGE TEST FIXTURES

## SYRINGE TEST FIXTURES

These specialized test fixtures are designed to test medical syringes. The fixture secures the syringe tube while the plunger is moved in both compressive and tensile directions. Test fixtures are available for 5mL, 10mL and 20mL size syringes.

Other sizes available upon request. The fixture design makes loading and unloading the syringe quick and easy.

### SPRING

#### STEEL, NICKEL COATED

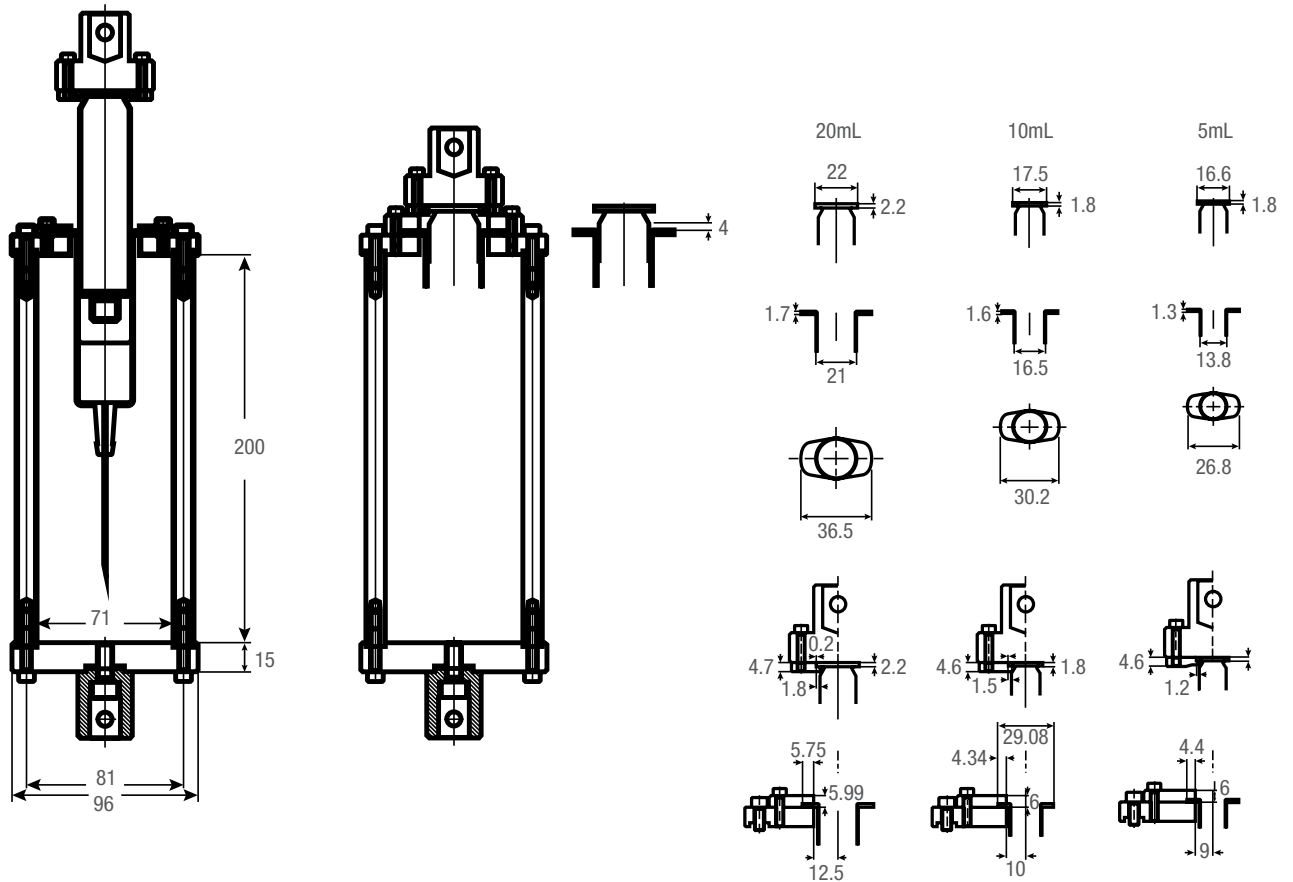
- For tensile and compression testing of medical syringes
- Includes three inserts: 5mL, 10mL and 20mL
- Operating Temperatures 32° to 158°F (0° to 70°C)



Syringe Fixtures													
Model No.	Load Capacity			Syringe Volume mL	Inside Cage Height		Cage Diameter (B)		Weight (each)		Clevis Type mm	Supply	
	N	KGf	LBF		in	mm	in	mm	lbs	kgs			
SYRINGE-727	250	25	56	5, 10, 20	7.8	200	3.78	96	6.5	3	15.9	1	

Note: Available on request, example fixture shown below.

### DIMENSIONS







# SCISSOR FIXTURES

## SCISSOR FIXTURES

Scissor test fixtures secure the sample with a pinching force. The rate of clamping force changes depending on the jaw opening width. These are ideal for high-volume testing applications and are self-aligning and self-tightening.

### OPERATION

Scissor test fixtures are self-tightening and self-aligning. The initial gripping force is supplied by spring tension. The clamping force to tensile force changes according to the jaw opening width. The larger the width, the more clamping force is applied.

### TESTING STANDARDS

There are a variety of testing standards that may be used with scissor test fixtures. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.

### 11

#### STEEL, STAINLESS

- For general-purpose tensile testing applications
- Spring tension tightening
- Jaw faces must be ordered separately
- Operating Temperatures -94° to 266°F (-70° to 130°C)

#### 11 JAW SETS

##### STEEL, HARDENED

- Supplied two (2) jaws per set
- Operating Temperatures -94° to 266°F (-70° to 130°C)



Scissor Fixtures - SCISSOR-11SS-5-1											
Model No.	Load Capacity			Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type	Supply
	N	KGf	LBF	in	mm	in	mm	lbs	kgs		
SCISSOR-11SS-5-1	5,000	500	1,100	1.97	50	0.75	19	2.6	1.2	15.9	2

Jaw Sets - SCISSOR-11SS-5-1						
Model No.	Jaw Face	Jaw Opening (max)		Clamping Surface		Supply
		in	mm	in	mm	
JAW11-5-B50	Smooth	0 - 0.75	0 - 19	0 - 0.79	20 x 50	4
JAW11-5-PY50	Serrated	0 - 0.75	0 - 19	0 - 0.79	20 x 50	4

Scissor Fixtures - SCISSOR-11-20A-1											
Model No.	Load Capacity			Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type	Supply
	N	KGf	LBF	in	mm	in	mm	lbs	kgs		
SCISSOR-11-20A-1	20K	2,000	4,400	1.97	50	Jaw Dependent		4.4	2.0	15.9	2

Jaw Sets - SCISSOR-11-20A-1						
Model No.	Jaw Face	Jaw Opening (max)		Clamping Surface		Supply
		in	mm	in	mm	
JAW11-20-B50	Smooth	0 - 1	0 - 25	0.98 x 1.97	25 x 50	4
JAW11-20-B100	Smooth	0 - 1	0 - 25	0.98 x 3.94	25 x 100	4
JAW11-20-PY50	Serrated	0 - 1	0 - 25	0.98 x 1.97	25 x 50	4
JAW11-20-PY100	Serrated	0 - 1	0 - 25	0.98 x 3.94	25 x 100	4
JAW11-20-RD50	Serrated	0 - 0.79	0 - 20	0.98 Ø x 2.05	25 Ø x 52	4
JAW11-20-VEE4	Vee-Type	0.16 - 0.24	4 - 16 Ø	Clamp Height: 0.98	Clamp Height: 25	4
JAW11-20-WV50	Wave	0 - 1	0 - 25	0.98 x 1.97	25 x 50	4
JAW11-20-WV100	Wave	0 - 1	0 - 25	0.98 x 3.94	25 x 100	4

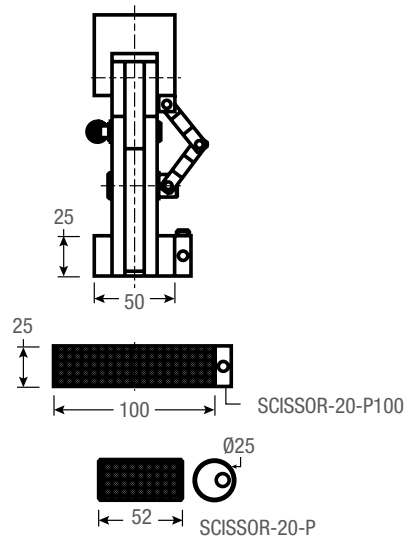
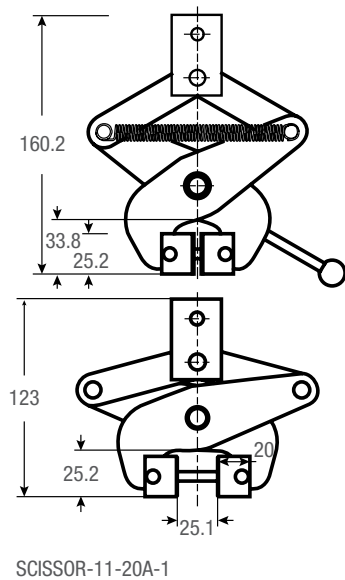
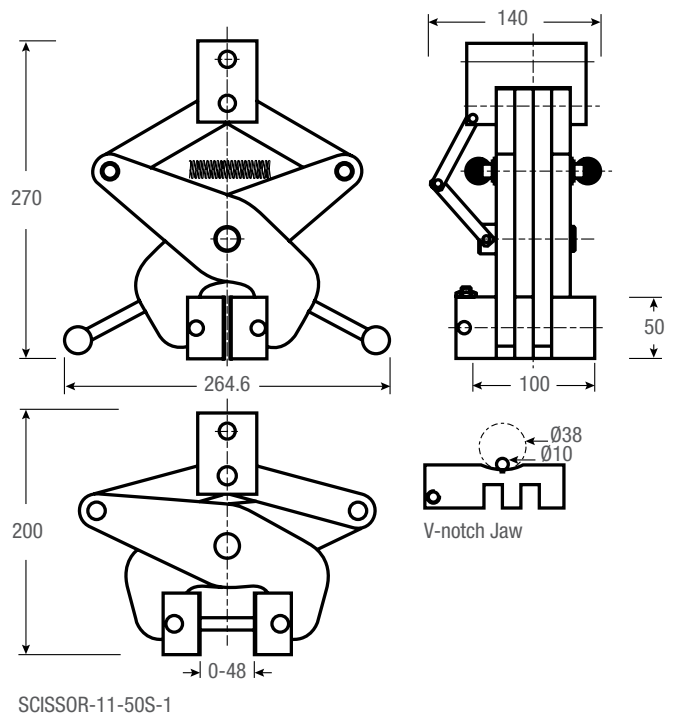
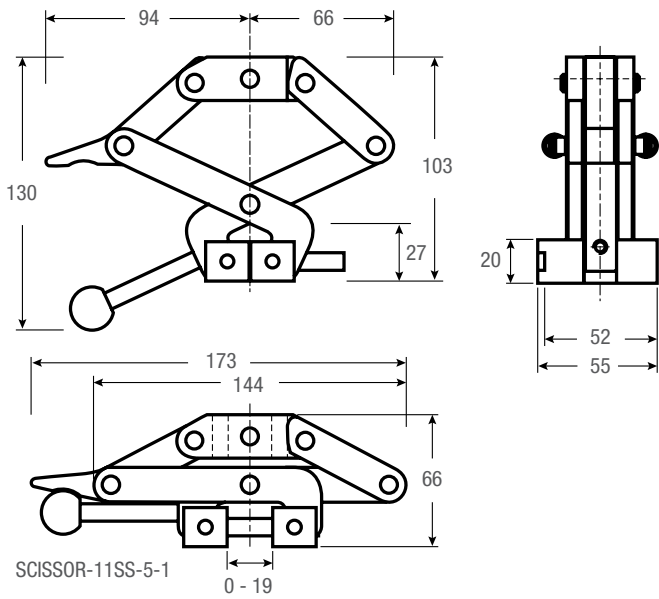
Scissor Fixtures - SCISSOR-11-50S-1											
Model No.	Load Capacity			Sample Width (Max)		Sample Thickness (Max)		Weight (each)		Clevis Type	Supply
	N	KGf	LBF	in	mm	in	mm	lbs	kgs		
SCISSOR-11-50S-1	50K	5,000	11,000	3.93	100	Jaw Dependent		20.1	9.1	15.9	2

Jaw Sets - SCISSOR-11-50S-1						
Model No.	Jaw Face	Jaw Opening (max)		Clamping Surface		Supply
		in	mm	in	mm	
JAW11-50-PY	Serrated	0 - 1.89	0 - 48	1.96 - 3.94	50 x 100	4
JAW11-50-V10	Vee-Type	0 - 1.89	0 - 48	0.39 - 1.89 Ø	10 - 48 Ø	4



# SCISSOR FIXTURES

## DIMENSIONS



# SCISSOR FIXTURES

230

STEEL

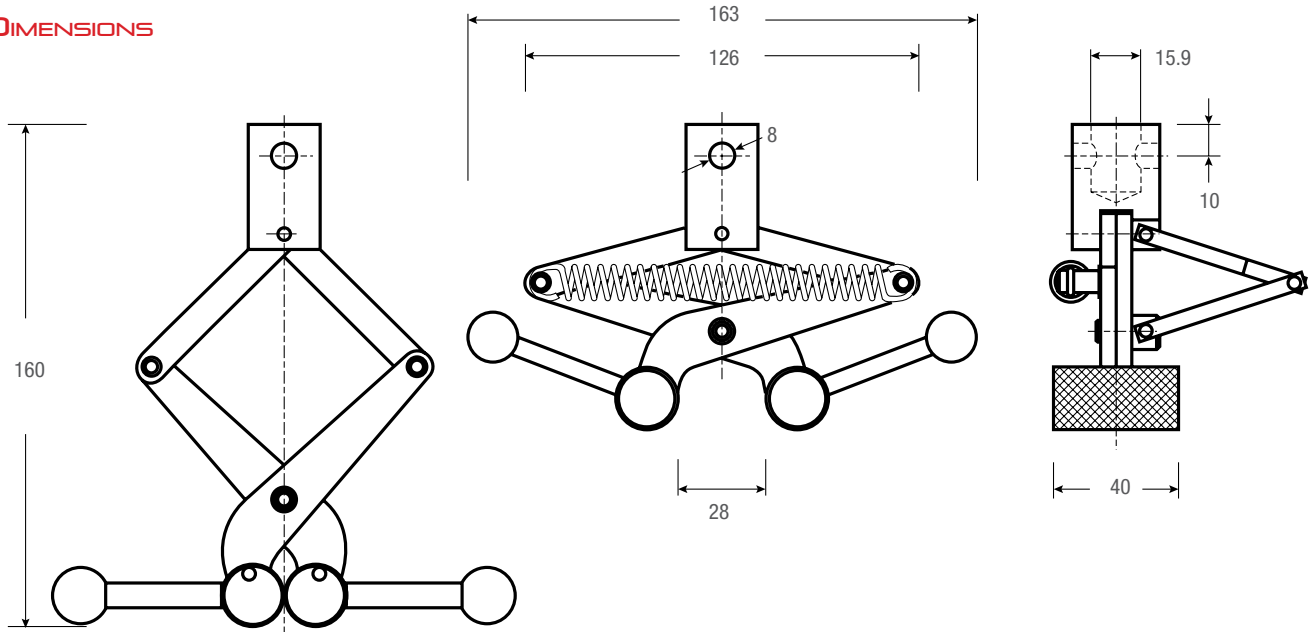
- For general-purpose tensile testing applications on soft material such as elastomer, plastic, rubber, bones, textiles, etc.
- 20 mm diameter cylindrical jaws
- Operating Temperatures 32° to 266°F (0° to 130°C)

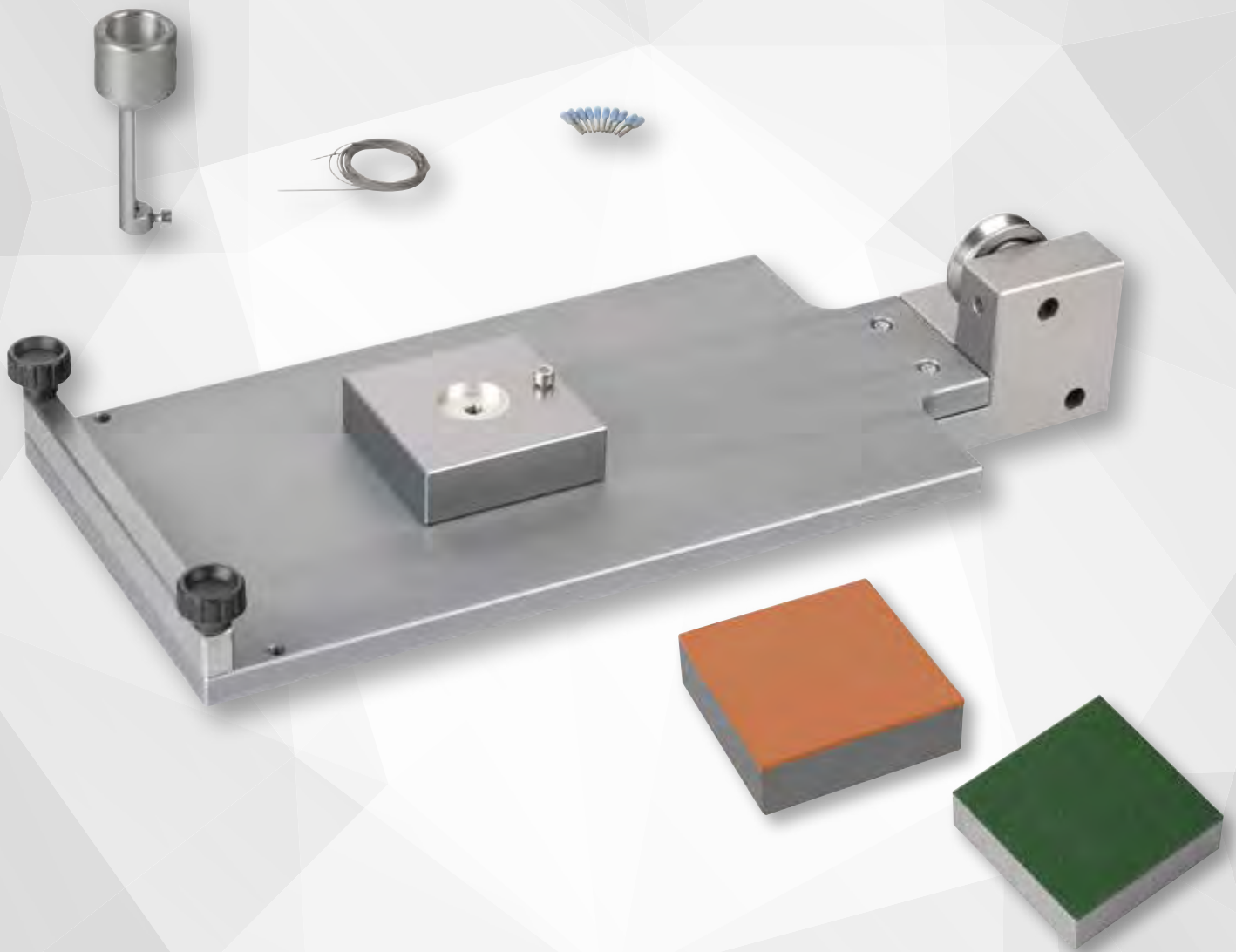


Scissor Fixtures

Model No.	Load Capacity			Jaw Face	Jaw Opening (Max)		Clamping Surface		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF		in	mm	in	mm	lbs	kgs		
SCISSOR-230S-1	2,000	200	450	Serrated	1.1	28	0.8	20	1.1	0.5	15.9	2

## DIMENSIONS





**COEFFICIENT OF FRICTION**

## COEFFICIENT OF FRICTION

These Starrett test fixtures conform to ASTM , TAPPI and ISO application standards for determining the coefficient of friction on films, substrates, ceramics and slip resistant finishes.

Test fixtures include all accessories based on the associated test method.

### OPERATION

Coefficient of friction may be measured with two different test fixtures. Both fixtures consist of a horizontal table with a moveable sled having a known mass (typically 200g). Both the table and the sled are covered with the sample under test. A cable connects to the sled and to the load cell sensor, which is attached to the test frame's crosshead. A pulley guides the cable movement ensuring that the force is measured axially.

The static friction is measured as the first maximum force. The kinetic or dynamic friction is measured as an average force between two points normally measured after the static friction point.

Coefficient of friction is the measured force divided by the mass of the sled used.

### TESTING STANDARDS

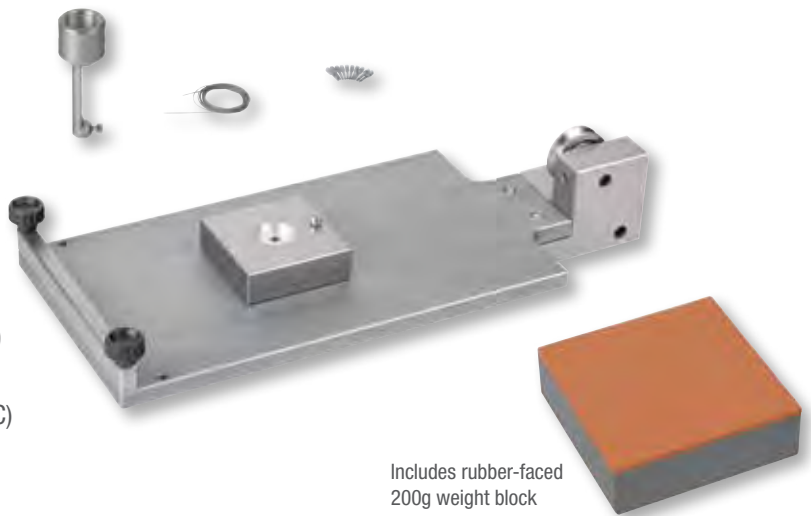
These testing standards may be used with Starrett COF test fixtures:

- ASTM D1894
- TAPPI T549
- ISO 8295
- DIN 55375

### COF-ASTM

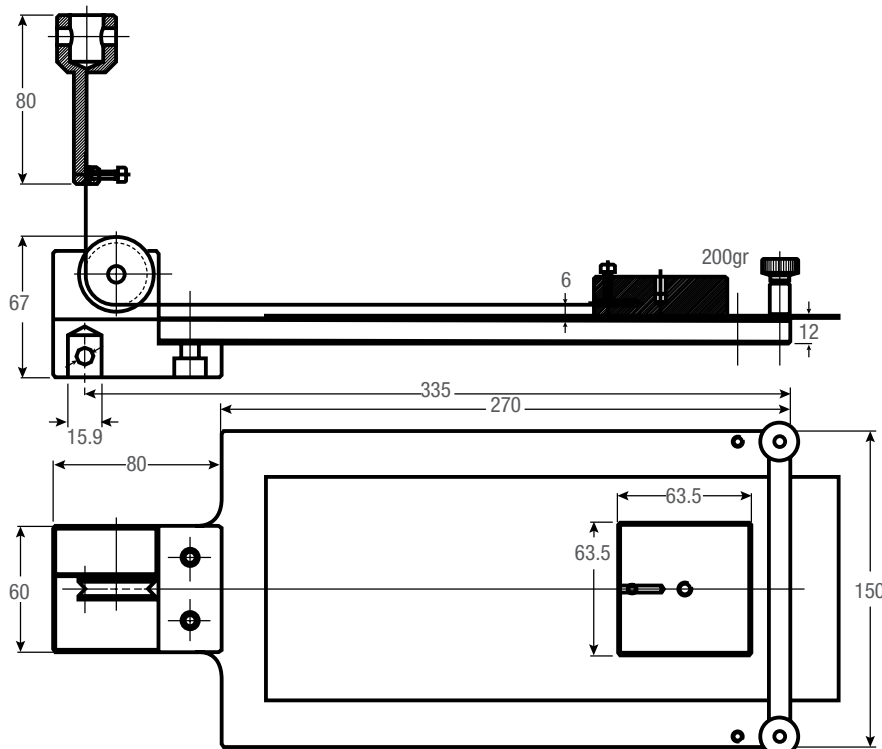
#### STEEL, NICKEL FINISH

- For COF testing per ASTM-D1894 or TAPPI-T549
- 200g rubber-faced sled mass
- Operating Temperatures 32° to 158°F (0° to 70°C)



Coefficient of Friction Fixture												
Model No.	Load Capacity			Sled Mass (grams)	Sled Surface Material	Platen Dimensions		Weight (each)		Clevis Type	Supply	
	N	KGf	LBF			in	mm	lbs	kgs			
COF62-1	500	50	110	200	Rubber	10.6 x 5.9	270 x 150	7.8	3.5	15.9	1	

### DIMENSIONS

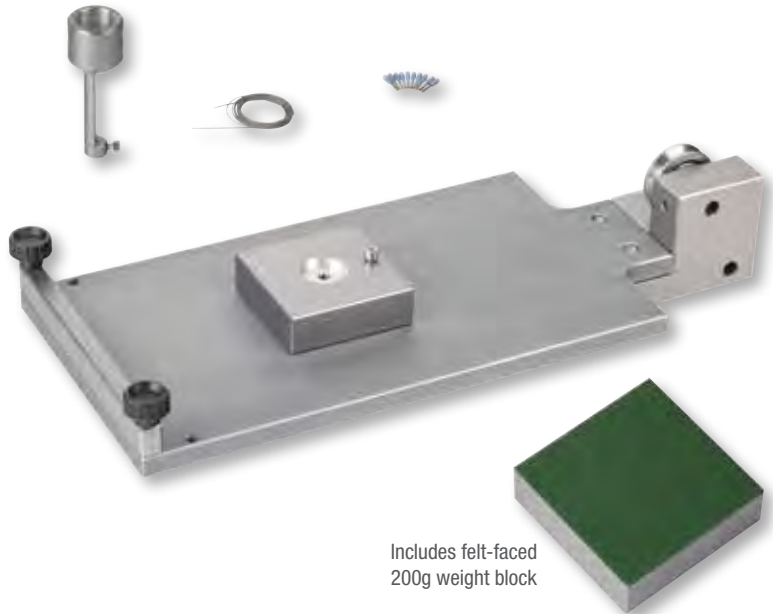


# COEFFICIENT OF FRICTION

## COF-ISO

STEEL, NICKEL FINISH

- For COF testing per ISO 8295 and DIN 53375
- 200g felt-faced sled mass
- Operating Temperatures 32° to 158°F (0° to 70°C)

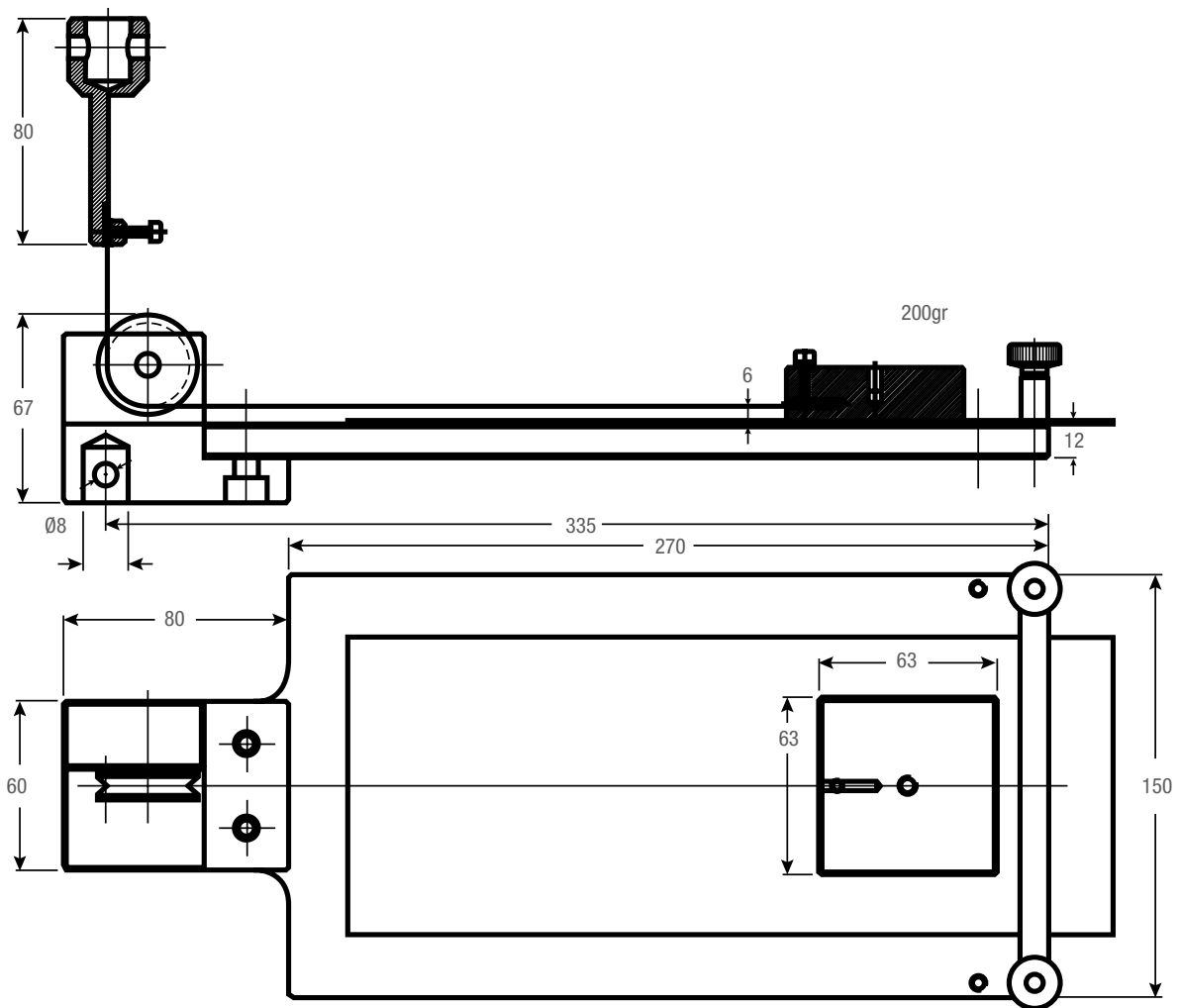


Includes felt-faced 200g weight block

### Coefficient of Friction Fixture

Model No.	Load Capacity			Sled Mass (grams)	Sled Surface Material	Platen Dimensions		Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF			in	mm	lbs	kgs		
COF62F-1	500	50	110	200	Felt	10.6 x 5.9	270 x 150	7.8	3.5	15.9	1

### DIMENSIONS





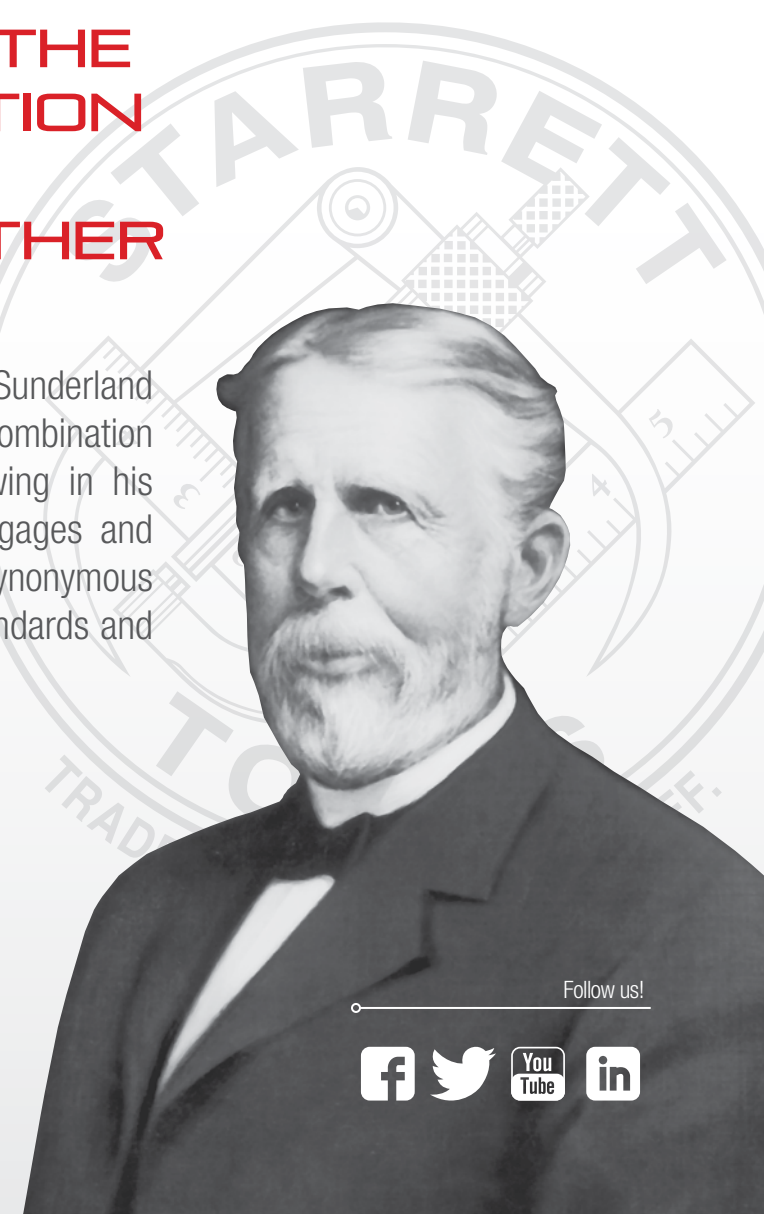


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**FOOD TEXTURE FIXTURES**

## FOOD TEXTURE ANALYSIS FIXTURES

Starrett can supply a variety of testing fixtures for food texture testing applications. Shear, brittleness, softness, crispness are all qualities that can be measured using Starrett test fixtures.

All fixtures are made of corrosion resistant and durable materials.

### OPERATION

Various food products are tested for properties such as shear strength, brittleness, crispness, ripeness and more. Using these test fixtures, users can assess the food product's characteristics relative to how food changes physical state during consumption- chewing, shearing, tearing.

### TESTING STANDARDS

There are a variety of testing standards for different types of food products from solid and semi-solid items to baked goods, meats, dairy products, confectioneries, pastas and more. Contact your Starrett representative for more information about your specific testing method and the available test fixtures.



Food Texture Fixtures						
Model No.	Load Capacity			Cell Size	No. of Blades	Blade Thickness
	N	KGF	LBF			
SHEAR-KRAMER-70	500	50	110	70 x 70	10	3 mm
SHEAR-KRAMER-120	500	50	110	120 x 120	9	5 mm
SHEAR-WB	2,000	200	450	-	1	1 mm

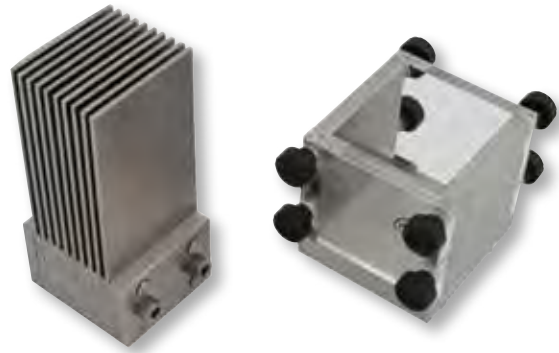
# FOOD TEXTURE ANALYSIS FIXTURES

These shear test fixtures are designed especially for determining food texture characteristics such as tenderness, toughness, etc. They mount to a 15.9mm clevis and are secured with a locking ring and grip pin.

## KRAMER SHEAR BLADE FIXTURE

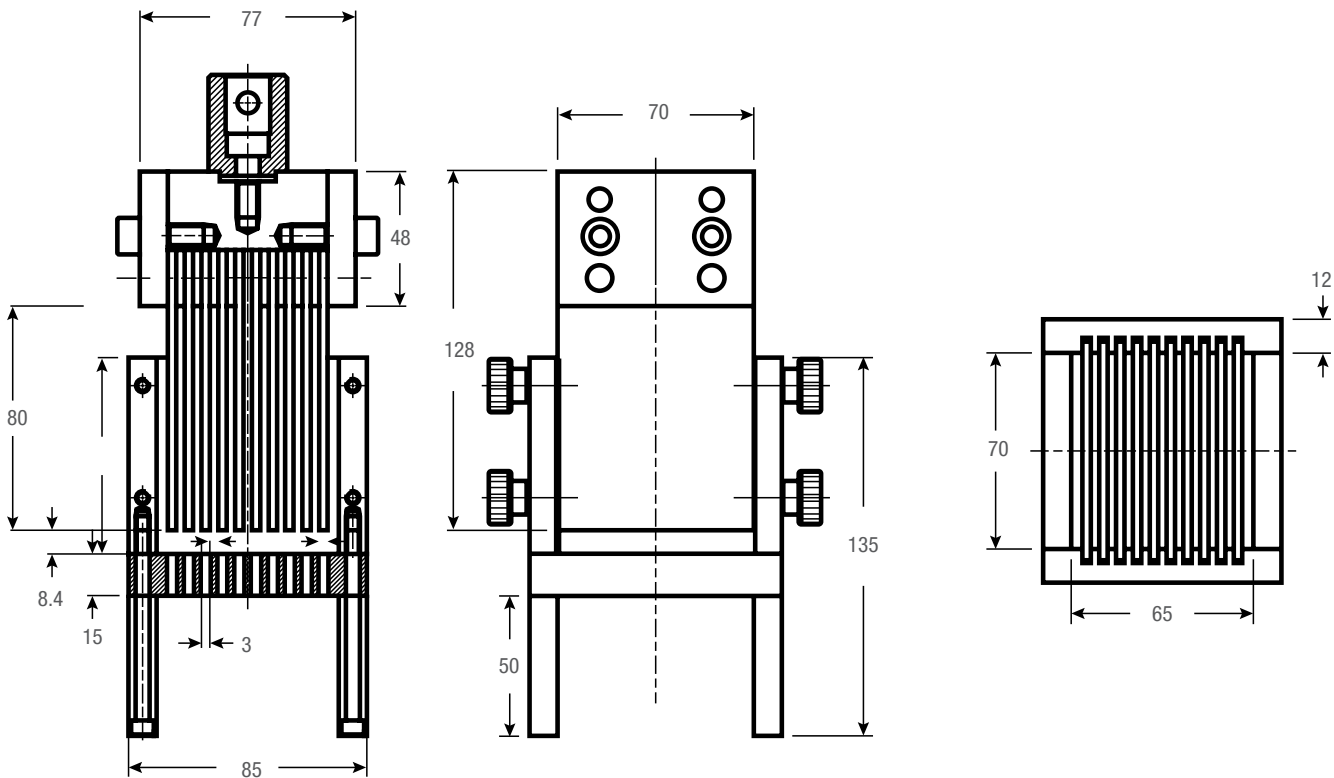
### STAINLESS STEEL

- For general-purpose compression applications on small fruits, vegetables, meats, etc.
- Stainless steel V2A blades and fixture for easy cleaning
- Operating Temperatures -112° to 356°F (-80° to 180°C)



Food Texture Fixtures												
Model No.	Load Capacity			Cell Size		Blade Thickness		No. of Blades	Weight (each)		Clevis Type mm	Supply
	N	KGF	LBF	in	mm	in	mm		lbs	kgs		
SHEAR-KRAMER-70	500	50	110	2.75 x 2.75	70 x 70	0.12	3	10	15.4	7.0	15.9	1

## DIMENSIONS





# FOOD TEXTURE ANALYSIS FIXTURES

## KRAMER SHEAR BLADE FIXTURE

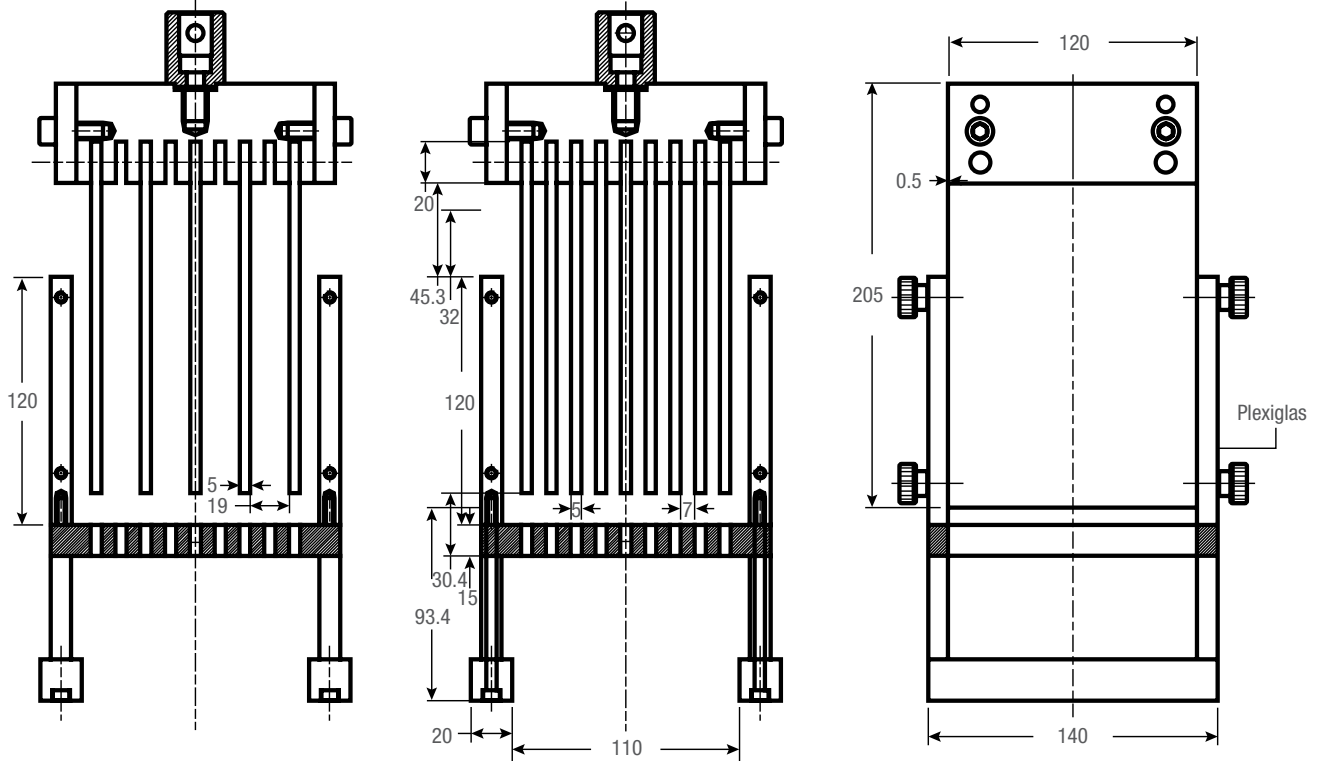
### STAINLESS STEEL

- For general-purpose compression applications on small fruits, vegetables, meats, etc.
- Stainless steel V2A blades and fixture for easy cleaning
- Operating Temperatures -112° to 356°F (-80° to 180°C)



Food Texture Fixtures												
Model No.	Load Capacity			Cell Size		Blade Thickness		No. of Blades	Weight (each)		Clevis Type	Supply
	N	KGF	LBF	in	mm	in	mm		lbs	kgs		
SHEAR-KRAMER-120	500	50	110	4.72 x 4.72	120 x 120	0.2	5	9	30.8	14.0	15.9	1

### DIMENSIONS





# FOOD TEXTURE ANALYSIS FIXTURES

## WARNER BRATZLER FIXTURE

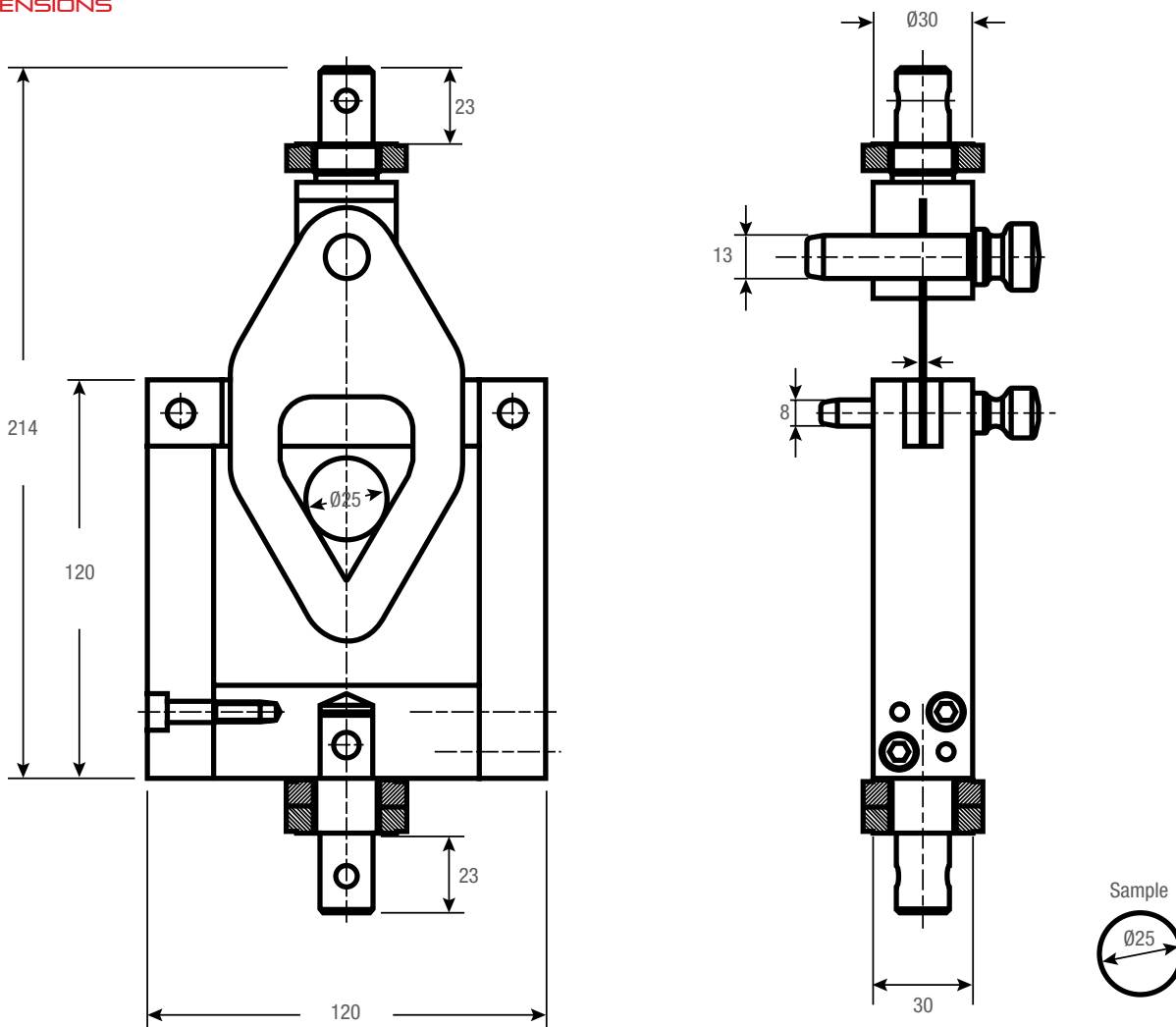
### STAINLESS STEEL

- For compression/shear applications on meats
- Stainless steel V2A blades and fixture for easy cleaning
- Operating Temperatures -112° to 356°F (-80° to 180°C)



Food Texture Fixtures										
Model No.	Load Capacity			Blade Thickness		No. of Blades	Weight (each)		Clevis Type mm	Supply
	N	KGf	LBF	in	mm		lbs	kgs		
SHEAR-WB	2,000	200	450	0.04	1	1	4.9	2.2	15.9	1

### DIMENSIONS





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**HOOK ADAPTERS**

## CLEVIS HOOKS

Clevis hooks feature a 15.9mm clevis for mounting to a standard Starrett clevis adapter. These hooks have a locking nut so you can rotate and position the hook for proper axial alignment. Hooks are available in a variety of sizes. Steel construction.

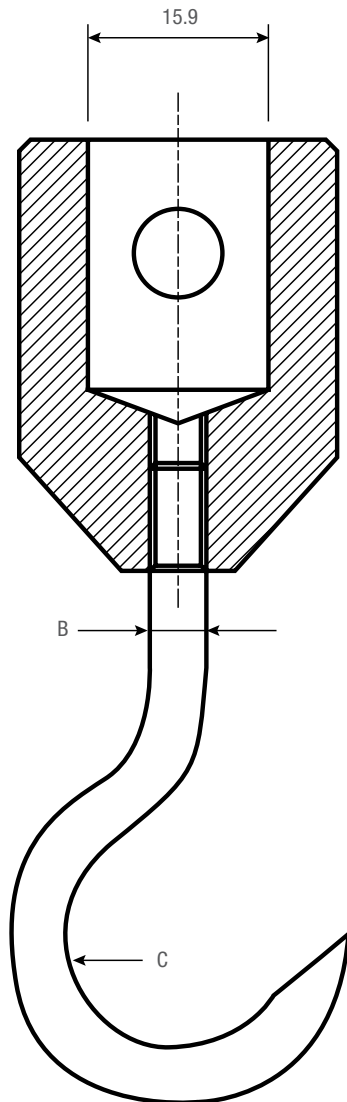
### CLEVIS HOOKS

STEEL, HARDENED

- For general-purpose tensile testing applications
- Fasten to 15.9mm clevis adapters
- Operating Temperatures 32° to 158°F (0° to 70°C)

Clevis Hooks												
Model No.	Load Capacity			Material	Hook Wire Ø "A"		Hook Length "B"		Hook Radius "C"		Supply each	Clevis Size mm
	N	KGF	LBF		mm	in	mm	in	mm			
HOOK-231-3	350	35	78	Steel	3	2.8	70	0.2	6	1	15.9	
HOOK-231-5	1kN	100	225	Steel	5	3.3	83	0.4	10	1	15.9	
HOOK-231-8	2.5kN	250	560	Steel	8	4.7	120	0.6	16	1	15.9	
HOOK-231-12	6kN	600	1,350	Steel	12	6.4	161.6	0.9	24	1	15.9	

### DIMENSIONS



HOOK-231-5



HOOK-231-8



HOOK-231-12

# THREADED HOOKS

## THREADED HOOKS

### ALUMINUM AND STAINLESS STEEL

- For general-purpose tensile testing applications
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



Threaded Hooks										
Model No.	Load Capacity			Material	Thread Size		Hook Length		Supply	
	N	KGF	LBF		Female	Male	in	mm		
MLX-HOOK-XS	50	5	10	Aluminum	M6 x 1 - 6H	-	1.57	40	1	
MLX-HOOK-S	500	50	100	Stainless Steel	-	M6 x 1 - 6g	1.73	44	1	
MLX-HOOK-M	1500	150	330	Stainless Steel	-	M6 x 1 - 6g	2.6	66	1	
MLX-HOOK-L	2500	250	500	Stainless Steel	-	M10 x 1.5-6g	3.9	99	1	
MLX-HOOK-XL	2500	250	500	Stainless Steel	-	M12 x 1.75-6g	3.94	100	1	

## THREADED HOOK SWIVEL ADAPTER

### STAINLESS STEEL

- Use with threaded hooks
- Allows for 360° hook rotation
- Operating Temperatures 32° to 158°F (0° to 70°C)



Swivel Adapters										
Model No.	Load Capacity			Thread Size Male Metric	Thread Size Female Metric	Material	Adapter Length (without hook)		Supply	
	N	KGF	LBF				in	mm		
MLX-SWIVEL	250	25	56	M6 x 1	M6 x 1-6H	Stainless	2.0	51	1	
MLX-SWIVEL-L	2,500	250	550	M10 x 1.5	M10 x 1.5-6H	Stainless	2.54	64.5	1	





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**CLEVIS ADAPTERS**

## CLEVIS ADAPTERS

Clevis adapters are used to secure most of the testing fixtures available for your Starrett systems.

Clevis adapters are available in two diameters: 15.9mm and 31.8mm. The 15.9mm adapters are the most commonly used and are designed for load capacities below 20kN. Loads over 20kN will typically use the 31.8mm clevis.

Special clevis adapters are available for use with Starrett force gages. These adapters thread on to the force gage shaft and allow clevis-style test fixtures to be utilized.



### CLEVIS ADAPTER SET

- Includes clevis, locking rings and grip pin
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)

Clevis Sets										
Model No.	Load Capacity			Thread Size Metric	Material	Diameter (Clevis)		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
SPK-CLEVIS-A	50	5	10	M6 x 1-6H	Aluminum	0.626	15.9	1.693	43	1
SPK-CLEVIS-S	1,500	150	330	M6 x 1-6H	Stainless	0.626	15.9	2.205	56	1
SPK-CLEVIS-L	2,500	250	562	M10 x 1.5-6H	Stainless	0.626	15.9	2.362	60	1
SPK-CLEVIS-XL	5,000	500	1,124	M12 x 1.75-6H	Stainless	0.626	15.9	2.362	60	1

### MALE CLEVIS ADAPTER

- Clevis only (no rings or pins)
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)

Clevis Adapters										
Model No.	Load Capacity			Thread Size Metric	Material	Diameter (Clevis)		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-CLEVIS-A-M6M	50	5	10	M6 x 1-6H	Aluminum	0.626	15.9	1.693	43	1
MLX-CLEVIS-S-M6M	1,500	150	330	M6 x 1-6H	Stainless	0.626	15.9	2.205	56	1
MLX-CLEVIS-L-M12M	2,500	250	562	M10 x 1.5-6H	Stainless	0.626	15.9	2.362	60	1
MLX-CLEVIS-X-M12M	5,000	500	1,124	M12 x 1.75-6H	Stainless	0.626	15.9	2.362	60	1



# CLEVIS ADAPTERS

## FEMALE CLEVIS ADAPTER

- Use with Force Gages
- Female Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Clevis Adapters - Force Gage

Model No.	Load Capacity			Thread Size Metric	Material	Diameter		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-CLEVIS-FA-M6	20	2	5	M6 x 1-6H	Aluminum	0.626	15.9	1.457	37	1
MLX-CLEVIS-FS-M6	1,500	150	330	M6 x 1-6H	Stainless	0.626	15.9	1.890	48	1
MLX-CLEVIS-FS-M10	2,500	250	550	M10 x 1.5-6H	Stainless	0.626	15.9	1.890	48	1

## LOCKING RINGS

- Use with Clevis Adapters
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Locking Rings

Model No.	Load Capacity			Thread Size Metric	Material	Diameter		Thickness		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-RING-A	50	5	10	M20	Aluminum	0.25	31.75	0.236	6.0	1
MLX-RING-S	50K	5,000	11,000	M24	Stainless	1.5	38.1	0.47	11.94	1

## GRIP PINS

- Use with Clevis Adapters
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



### Grip Pins

Model No.	Load Capacity			Length		Material	Diameter		Supply
	N	KGF	LBF	in	mm		in	mm	
MLX-PIN-A	50	5	10	2.756	70	Aluminum	0.311	7.9	1
MLX-PIN-S	50K	5,000	11,000	2.756	70	Stainless	0.311	7.9	1

## SPANNER WRENCH

- Use to tighten Stainless Steel Rings



### Spanner Wrench

Model No.	Length		Material	Supply
	in	mm		
L1-SPANNER	7.5	190	Steel	1

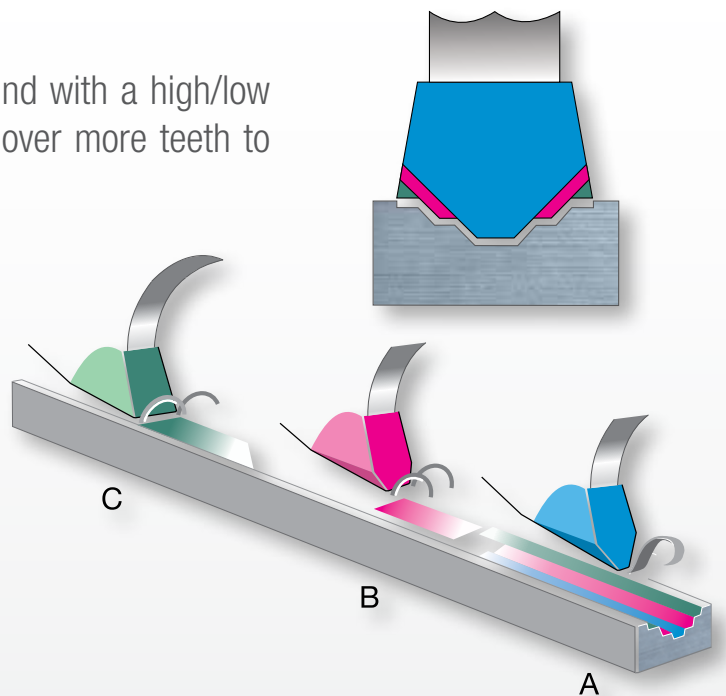


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**FORCE GAGE ADAPTERS**

## FORCE GAGE ADAPTERS

These adapters are supplied standard with Starrett force gages. They may also be used with thread adapters and various load cell sensors available from Starrett.

Gage adapters include flats, notches, chisels, points and rods.

### FLAT ADAPTERS

- For general-purpose compression testing applications
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)

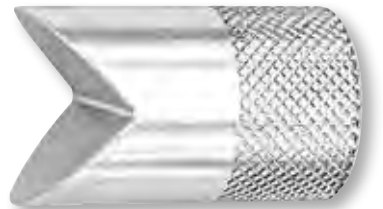
Flat Adapters										
Model No.	Load Capacity			Thread Size Metric	Material	Diameter (Flat)		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-FLAT-A	20	2	5	M6 x 1-6H	Aluminum	0.5	12	0.5	12	1
MLX-FLAT-S	1,500	150	330	M6 x 1-6H	Stainless	0.5	12	0.5	12	1
MLX-FLAT-L	2,500	250	550	M10 x 1.5-6H	Stainless	0.75	19	0.875	22	1
MLX-FLAT-XL	5,000	500	1,100	M12 x 1.75-6H	Stainless	0.75	19	0.875	22	1



### NOTCH ADAPTERS

- For general-purpose compression testing applications
- Threaded attachment, 90° notch
- Operating Temperatures 32° to 158°F (0° to 70°C)

V-Notch Adapters										
Model No.	Load Capacity			Thread Size Metric	Material	Diameter		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-NOTCH-A	20	2	5	M6 x 1-6H	Aluminum	0.375	9.5	0.625	15.9	1
MLX-NOTCH-S	1,500	150	330	M6 x 1-6H	Stainless	0.375	9.5	0.625	15.9	1
MLX-NOTCH-L	2,500	250	550	M10 x 1.5-6H	Stainless	0.625	15.9	1.125	28.6	1
MLX-NOTCH-XL	5,000	500	1,100	M12 x 1.75-6H	Stainless	0.625	15.9	1.125	28.6	1



### CHISEL ADAPTERS

- For general-purpose compression testing applications
- Threaded attachment, 60° chisel point
- Operating Temperatures 32° to 158°F (0° to 70°C)

Chisel Adapters										
Model No.	Load Capacity			Thread Size Metric	Material	Diameter		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-CHISEL-A	20	2	5	M6 x 1-6H	Aluminum	0.375	9.5	0.625	15.9	1
MLX-CHISEL-S	1,500	150	330	M6 x 1-6H	Stainless	0.375	9.5	0.625	15.9	1
MLX-CHISEL-L	2,500	250	550	M10 x 1.5-6H	Stainless	0.625	15.9	1.125	28.6	1
MLX-CHISEL-XL	5,000	500	1,100	M12 x 1.75-6H	Stainless	0.625	15.9	1.125	28.6	1



### POINT ADAPTERS

- For general-purpose compression testing applications
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)

Point Adapters										
Model No.	Load Capacity			Thread Size Metric	Material	Diameter		Length		Supply
	N	KGF	LBF			in	mm	in	mm	
MLX-POINT-A	20	2	5	M6 x 1-6H	Aluminum	0.375	9.5	0.625	15.9	1
MLX-POINT-S	1,500	150	330	M6 x 1-6H	Stainless	0.375	9.5	0.625	15.9	1
MLX-POINT-L	2,500	250	550	M10 x 1.5-6H	Stainless	0.625	15.9	1.125	28.6	1
MLX-POINT-XL	5,000	500	1,100	M12 x 1.75-6H	Stainless	0.625	15.9	1.125	28.6	1



## EXTENSION RODS

These threaded extension rods come in a variety of lengths and materials. Use to affix gage adapters or other forms of threaded test fixtures.

Rods can be threaded to a force gage or load cell sensor.

### EXTENSION RODS

- Provides for a longer testing length
- Threaded attachment, multiple lengths available
- Operating Temperatures 32° to 158°F (0° to 70°C)



Model No.	Load Capacity			Thread Size "A"	Thread Size "B"	Material	Length		Supply
	N	KGF	LBF	Metric	Metric		in	mm	
MLX-ROD-A1	50	5	10	M6 x 1-6H	M6 x 1-6g	Aluminum	1.0	25.4	1
MLX-ROD-A2	50	5	10	M6 x 1-6H	M6 x 1-6g	Aluminum	2.0	50.8	1
MLX-ROD-A6	50	5	10	M6 x 1-6H	M6 x 1-6g	Aluminum	6.0	152.4	1
MLX-ROD-S1	1,500	150	330	M6 x 1-6H	M6 x 1-6g	Stainless	1.0	25.4	1
MLX-ROD-S2	1,500	150	330	M6 x 1-6H	M6 x 1-6g	Stainless	2.0	50.8	1
MLX-ROD-S6	1,500	150	330	M6 x 1-6H	M6 x 1-6g	Stainless	6.0	152.4	1
MLX-ROD-L2	2,500	250	550	M10 x 1.5-6H	M10 x 1.5-6g	Stainless	2.0	50.8	1
MLX-ROD-L6	2,500	250	550	M10 x 1.5-6H	M10 x 1.5-6g	Stainless	6.0	152.4	1
MLX-ROD-XL6	5,000	500	1,100	M12 x 1.75-6H	M12 x 1.75-6g	Stainless	6.0	152.4	1

## FORCE GAGE ACCESSORY KITS

These force gage kits include a hook, flat, notch, chisel, point and rod.

### FORCE GAGE KITS

- Includes each force gage accessory by type
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



Model No.	Load Capacity			Force Gage Adapters						Supply
	N	KGF	LBF	Hook	Flat	Notch	Chisel	Point	Rod	
MLX-FG-A	50	5	10	MLX-HOOK-XS	MLX-FLAT-A	MLX-NOTCH-A	MLX-CHISEL-A	MLX-POINT-A	MLX-ROD-A6	1
MLX-FG-S	500	50	110	MLX-HOOK-S	MLX-FLAT-S	MLX-NOTCH-S	MLX-CHISEL-S	MLX-POINT-S	MLX-ROD-S6	1
MLX-FG-M	1,500	150	330	MLX-HOOK-M	MLX-FLAT-S	MLX-NOTCH-S	MLX-CHISEL-S	MLX-POINT-S	MLX-ROD-S6	1
MLX-FG-L	2,500	250	550	MLX-HOOK-L	MLX-FLAT-L	MLX-NOTCH-L	MLX-CHISEL-L	MLX-POINT-L	MLX-ROD-L6	1

## THREADED ADAPTERS

These threaded adapters are used to mate dissimilar threaded connectors. Included are couplers, male-to-male and male-to-female thread adapters.

### COUPLERS

- For mating two male threaded adapters
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



**Female to Female Threaded Couplers**

Model No.	Dimensions			Supply
	Length	Thread A	Thread B	
MLX-25037	0.75 in	#10-32 UNF-2B	1/4-28 UNF-2B	1
MLX-25038	0.75 in	#10-32 UNF-2B	M6 x 1-6H	1
MLX-25039	1.0 in	5/16-18 UNF-2B	M6 x 1-6H	1
MLX-25040	0.75 in	1/4-28 UNF-2B	M6 x 1-6H	1
MLX-25041	1.25 in	5/16-18 UNF-2B	M10 x 1.5-6H	1
MLX-25042	1.25 in	1/2-20 UNF-2B	M10 x 1.5-6H	1
MLX-25064	0.75 in	M6 x 1-6H	M6 x 1-6H	1
MLX-25065	1.25 in	M10 x 1.5-6H	M10 x 1.5-6H	1
MLX-25066	0.75 in	#10-32 UNF-2B	#10-32 UNF-2B	1
MLX-25067	0.75 in	1/4-28 UNF-2B	1/4-28 UNF-2B	1
MLX-25068	1.00 in	5/16-18 UNF-2B	5/16-18 UNF-2B	1
MLX-25069	1.25 in	1/2-20 UNF-2B	1/2-20 UNF-2B	1

### SET SCREWS

- For general thread adapters
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



**Set Screws**

Model No.	Dimensions			Supply
	Length	Thread		
MLX-51000195	20mm	M4 x 0.7		1
MLX-51000187	25mm	M6 x 1		1
MLX-51000188	25mm	M10 x 1.5		1
MLX-51000196	25mm	M12 x 1.75		1
MLX-51000545	1.00 in	#10-32		1
MLX-51000547	1.00 in	5/16-18		1
MLX-51000546	1.00 in	1/4-28		1
MLX-5100548	1.00 in	1/2-20		1

### FEMALE TO MALE THREAD ADAPTER

- Has one female and one male thread
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



**Female to Male Thread Adapters**

Model No.	Dimensions			Supply
	Length	Female Thread	Male Thread	
MLX-25043	0.75 in	#10-32 UNF-2B	M6 x 1-6g	1
MLX-25044	0.75 in	M6 x 1-6H	#10-32 UNF-2A	1
MLX-25045	0.75 in	1/4-28 UNF-2B	M6 x 1-6g	1
MLX-25046	0.75 in	M6 x 1-6H	1/4-28 UNF-2A	1
MLX-25047	1.00 in	5/16-18 UNC-2B	M6 x 1-6g	1
MLX-25048	0.875 in	M6 x 1-6H	5/16-18 UNC-2A	1
MLX-25049	1.125 in	5/16-18 UNC-2B	M10 x 1.5-6g	1
MLX-25050	1.25 in	M10 x 1.5-6H	5/16-18 UNC-2A	1
MLX-25051	1.25 in	1/2-2 UNF-2B	M10 x 1.5-6g	1
MLX-25052	1.25 in	M10 x 1.5-6H	1/2-20 UNF-2A	1

### MALE TO MALE THREAD ADAPTER

- Has two dissimilar male threads
- Threaded attachment
- Operating Temperatures 32° to 158°F (0° to 70°C)



**Male to Male Thread Adapter**

Model No.	Dimensions			Supply
	Length	Thread A	Thread B	
MLX-25053	0.75 in	M4 x 0.7-6g	M6 x 1-6g	1
MLX-25054	0.875 in	M10 x 1.5-6g	M6 x 1-6g	1
MLX-25055	0.75 in	#10-32 UNF-2A	1/4-28 UNF-2A	1
MLX-25056	0.875 in	#10-32 UNF-2A	5/16-18 UNC-2A	1
MLX-25057	0.875 in	5/16-18 UNC-2A	1/4-28 UNF-2A	1
MLX-25058	0.875 in	1/4-28 UNF-2A	1/2-20 UNF-2A	1
MLX-25059	1.00 in	5/16-18 UNC-2A	1/2-20 UNF-2A	1
MLX-25060	0.75 in	#10-32 UNF-2A	M6 x 1-6g	1
MLX-25061	0.75 in	1/4-28 UNF-2A	M6 x 1-6g	1
MLX-25062	1.00 in	5/16-18 UNC-2A	M10 x 1.5-6g	1
MLX-25063	1.00 in	1/2-20 UNF-2A	M10 x 1.5-6g	1





CABLES



## CABLES

Listed below are the cables used with all Starrett force gages and Lx systems.

Systems using L1, L2, S2, L2 Plus and L3 software interface and communicate with their associated computer using USB communications.

The DFG and DFC force gages use a USB cable for charging the internal lithium ion battery. The USB cable may also be used with communicating to a computer.

When the DFC force gage is used as a controller with the FMM test frames, communications between the DFC and the FMM using the L1-CONTROL cable.



### USB CABLES

- Interface cable between the Starrett test frame and the personal computer operating L1, L2, S2, L2 Plus and L3 software.
- Interface cable between Starrett force gage and a personal computer.
- Cable used for charging the Starrett force gage internal battery.

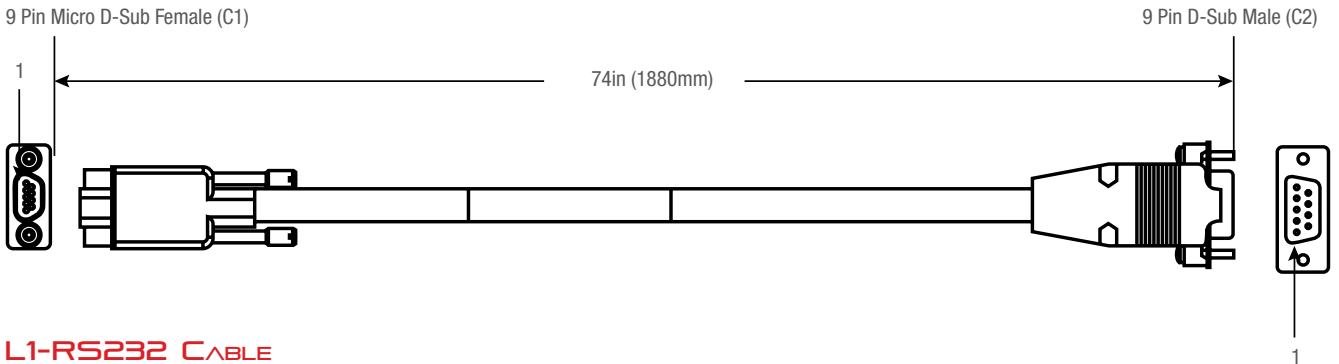
USB Cables							
Model No.	Interface Between Devices	Type	Connector		Length		Supply
			A	B	in	mm	
L1-USB	DFC and DFG Force Gage	USB 2.0	USB-A	USB-B Micro	36	915	1
12405-0	AIO PC to FMM, FMS, MMS, FMD and MMD Test Frames	USB 2.0	USB-A	USB-B	72	1,830	1

### L1-CONTROL CABLE

- Interface cable between the DFC force gage and the FMM test frame.
- Bi-directional control
- Charges the DFC force gage when connected to a powered FMM test frame.



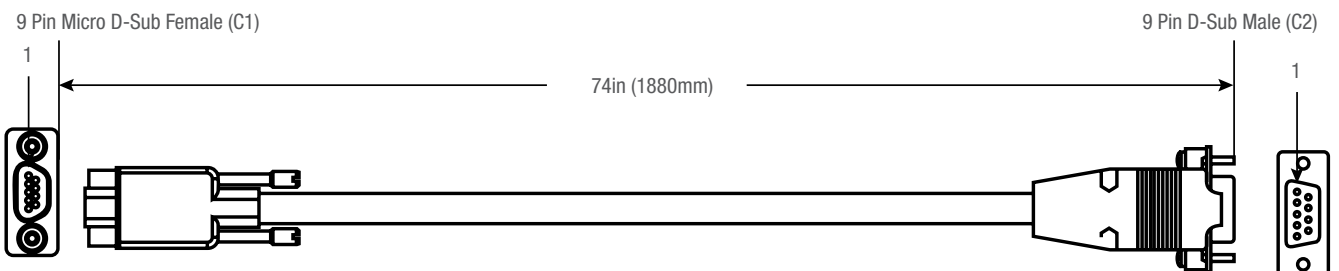
D-Sub Style Cables							
Model No.	Interface Between Devices	Type	Connector		Length		Supply
			A	B	in	mm	
L1-CONTROL	DFC Gage to FMM Test Frame	D-sub	9 Pin Female	9 Pin Male	74	1,880	1



### L1-RS232 CABLE

- Interface cable between the FMM test frame and a device using RS-232

D-Sub Style Cables							
Model No.	Interface Between Devices	Type	Connector		Length		Supply
			A	B	in	mm	
L1-RS232	FMM Test Frame to RS-232 Device	D-sub	9 Pin Female	9 Pin Female	74	1,880	1





**GAGE ADAPTER PLATES AND  
MOUNTING BLOCKS**

## ADAPTER PLATES

These adapter plates are used with non-Starrett digital force gages. They allow some competitive force gages to be used with Starrett test frames. Please consult with your Starrett representative before ordering to ensure these plates are compatible with your non-Starrett force gage.

### FORCE GAGE ADAPTER PLATES

- Includes mounting block
- Ensures proper alignment on a Starrett test frame

Gage Adapter Plates			
Model No.	Use with this brand Force Gage	Model Type	Supply
MLX-FG-CHAT	Chatillon	DFX, DFE, DFS, DFE2, DFS2	1
MLX-FG-IMAD	Imada	ZT, DS2	1
MLX-FG-MARK	Mark-10	Series 7, 5, 4	1
MLX-FG-MECM	Mecmesin	AFG, BFG	1
MLX-FG-SHIM	Shimpo	FG-7000, FGV-XY, FGE	1



Chatillon® adapter plate



Mark-10® adapter plate

## MOUNTING BLOCKS

These mounting blocks are used with the FMM model test frames. They are used with the BLC Load Cell sensors and the DFG and DFC force gages. The mounting blocks ensure correct alignment and proper axial positioning.

### MOUNTING BLOCKS

- For Starrett Force Gages and BLC Load Cells
- Ensures proper alignment on a Starrett FMM test frame
- Includes all mounting hardware



BLC adapter plate



DFG and DFC adapter plate

Mounting Blocks		
Model No.	Description	Supply
MLX-FG-BLOCK	Used to mount Starrett DFC or DFG Force Gage to FMM test frame	1
MLX-BLC-BLOCK	Used to mount any BLC Load Cell Sensors to the FMM test frame	1



**TESTER ACCESSORIES**



## TESTER ACCESSORIES

Starrett MTL and MTH test frames may be equipped with a digital scale for measuring distance/deflection.

Horizontal mounting legs are available that allow the MTL-110, MTL-330 or MTH-550 to be operated in a horizontal configuration.

Bench clips may be used with FMM, FMS, FMD, MMS and MMD test frames. These clips help secure the test frames permanently to their work surface.

### DIGITAL SCALE FOR MTL AND MTH FRAMES

- Includes mounting block
- Ensures proper alignment on a Starrett test frame



Digital Scale		
Model No.	Model Type	Supply
MTL-SCALE-110	MTL-110, MTL-330	1
MTL-SCALE-330	MTL-330	1
MTH-SCALE-550	MTH-550	1

### HORIZONTAL MOUNTING LEGS

- Use with MTL-110, MTL-330 or MTH-550
- Includes all mounting hardware



Horizontal Mounting Legs		
Model No.	Model Type	Supply
MLX-26030	MTL-110, MTL-330, MTH-550	1

### DIGITAL TEST FRAME BENCH CLIPS

- Use with FMM, FMS, FMD, MMS and MMD test frames
- Includes mounting hardware



Digital Test Frame Bench Clips		
Model No.	Model Type	Supply
L1-FMMCLIP	FMM	2
12745-0	FMS, FMD, MMS, MMD	1





**SPECIALTY PRODUCTS AND SERVICES**

## SPECIALTY PRODUCTS AND SERVICES

Starrett can supply custom test fixtures, specialty products and system integration services. We meet with our customers and review their requirements. Starrett then provides design concepts, price estimates and a project schedule.

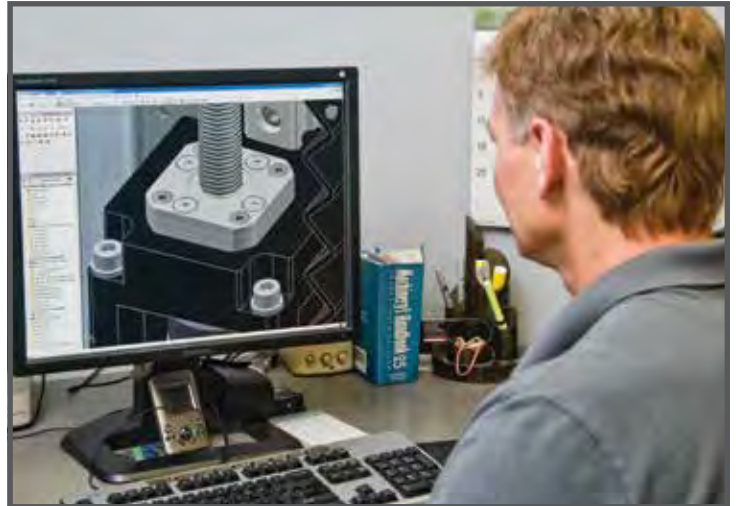
Starrett can provide everything from custom splinter shield for our test frames; custom test fixtures designed expressly for your products; and complete system integration services including testing automation services.

Ask you Starrett representative for more information on how we can help solve your measurement challenges.



Starrett manufactures custom splinter shields for both single and dual column test frames. Shields can be mechanically operated or supplied with electronic interlocks that prevent crosshead movement when the door is open.

Your Starrett representative will review your requirements for specialize accessories and fixtures. A conceptual design is created and verified against your requirements. Starrett can then manufacture and deliver your custom solution.



Starrett can engineer specialty test fixtures and accessories to your exact specifications. We can manufacture using any variety of materials with precise dimensions.



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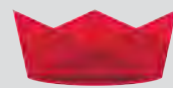
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