

## **Section 3** Contents



Description	Group	Page
Axis Gauging	302	226
Bevel Protractors	330	237
Binoculars	318	232 - 233
Bore Gauges	315	230
Calipers & Thickness Gauges - Dial	330	239
Digital	331	240 - 241
Vernier	330	238
Combination Sets	330	237
Digital Indicators & Micrometers	331	242
Dial Gauges	300	224 - 225
Engineer's Levels & Squares	340	253
Eye Loupes & Magnifiers	316	230 - 231
Gauge Blocks	338	252
Granite Vee Blocks, Squares & Surface Plates	306	228
Hardness Testers	303	227
Height Gauges	330	236
Magnetic Bases & Comparator Stands	333	243 - 245
Micrometers	335	246 - 251
Microscopes	318	235
Refractometers	336	252
Screw Gauges	360	253
Steel Parallels	372	255
Steel Vee Blocks, Squares & Surface Plates	370	254
Stopwatches & Counters	314	229
Thermometers	312	229
Thickness Gauges	330	236

# Precision & Laboratory Equipment

Section 3
Product Groups
300 - 372



#### **GROUP** 300 DIAL GAUGES

OXFORD Easy Read Dial Gauges
Plunaer Type 58mm (21/4") Diameter Dial Matt finish chromed housings and black oxidised limit hands. Shockproof

mechanism. Fitted with 1/4" inside diameter stem. Manufactured to BS 907.





#### Spares to suit Oxford **Plunger Type Gauges**

Description	Order Code <b>KEN-301</b>
Anvil - mm	-9400K

Graduation	Travel	Reading	each	OXD-300
0.001"	0.5"	0 - 50 - 0	440g	-8100K
0.01mm	5mm	0 - 50 - 0	350g	-7850K
0.01mm	10mm	0 - 100	440g	-8500K
0.01mm	25mm	0 - 100	440g	-8520K

# KENNEDY Smile Dial Dial Gauges QUALITY INDUSTRIAL TOOLING Plunger Type

58mm (21/4") Diameter Dial Matt finish chromed housings and black oxidised limit hands. Jewelled. and  $\frac{5}{16}$ " diameter stem. Fitted with  $\frac{1}{4}$ " inside diameter centre back lug

and 5/16" diameter stem. Manufactured to BS 907.





#### **Spares to suit Kennedy Plunger Type Gauges**

Description	Order Code KEN-301
Anvil - mm	-9400K

Graduation	Travel	Reading	Weight each	Order Code KEN-300
0.01mm	10mm	0 - 100	440g	-5000K

## **KENNEDY** Easy Read Dial Gauges QUALITY INDUSTRIAL TOOLING Plunger Type

58mm (21/4") **Diameter Dial** 

20

300-850

Whitehand will

Easy Read Dial Gauges and DTI's are designed for countless applications and available in two basic styles. With shockproof mechanisms and clear, 'Easy Read' dial for zero setting. All models are operational in both directions.

Supplied in fitted cases with accessories storage space.

Matt finish chromed housings and black oxidised limit hands. Fitted with 1/4" inside diameter centre back lug and 5/16" diameter stem. Manufactured to **BS 907**.

**58mm** Diameter

amilian

20

30

#### **Spares to suit Kennedy Plunger Type Gauges**

Description	KEN-301
Anvil - mm	-9400K

Graduation	Travel	Reading	Weight each	Order Code KEN-300
0.001"	0.5"	0 - 50 - 0	440g	-7100K
0.001"	0.5"	0 - 100	440g	-7110K
0.0005"	0.5"	0 - 25 - 0	440g	-7120K
0.001"	1.0"	0 - 100	440g	-7160K
0.0005"	1.0"	0 - 50	440g	-7170K
0.01mm	10mm	0 - 100	440g	-7500K
0.01mm	25mm	0 - 100	440g	-7520K

# OXFORD Easy Read Dial Gauge Plunaer Type

58mm (21/4") Diameter Dial 6 Jewel

Matt finish chromed housings and black oxidised limit hands. Shockproof mechanism. Fitted with 1/4" inside diameter stem.

Manufactured to BS 907.







Order Code

Reading

0-40-0

**KEN-398** 

Reading

0-15-0

1/4" Spigot - 6mm Stem -0340K

1/4" Spigot - 8mm Stem -0350K

Travel

0.03

Graduation

0.0005"

Description

Graduation

0.01mm

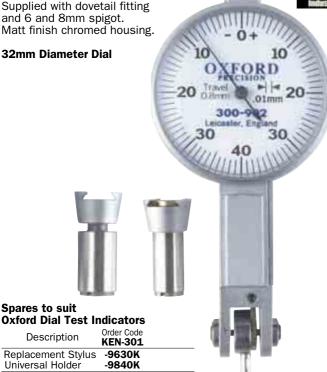
1/4" Spigot - 6mm Stem -0340K

1/4" Spigot - 8mm Stem **-0350K** 

Travel

0.8mm





# 11/4" Dial Diameter 0005in Spares to suit Oxford Dial Test Indicators Description **KEN-301** Replacement Stylus -9630K Universal Holder -9840K Description

Weight

each

**OXD-300** 

-9010K

Weight

each

170g

Order Code OXD-300

-9020K

## **KENNEDY** Easy Read Anti-magnetic QUALITY INDUSTRIAL TOOLING Dial Test Indicators

Lever Type - Dual Reading 43mm (1<sup>11/</sup>16") Diameter Dial

Matt finish chromed housing and black oxidised limit hands. Supplied with dovetail fitting

and 1/4" spigot. Jewelled. Manufactured to BS2795.



#### Spares to suit **Kennedy Dial Test Indicators**

Order Code KEN-301 Description Replacement Stylus -9420K Order Code

Description **KEN-398** 1/4" Spigot - 6mm Stem -0340K 1/4" Spigot - 8mm Stem **-0350K** 

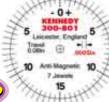
Weight Order Code **KEN-300** Graduation Travel Reading each 0.0005 0.3 0-25-0 180g -4000K 30-0-30 0.01mm 0.6mm

#### **Lever Type**

Supplied with dovetail fitting and 6 and 8mm spigot. Matt finish chromed

housing. Jewelled.

#### 32mm (11/4") **Diameter Dial**





#### Spares to suit . Kennedy Dial Test Indicators

Order Code KEN-301 Description Replacement Stylus -9630K

	Order Code KEN-398
<sup>1</sup> / <sub>4</sub> " Spigot - 6mm Stem <sup>1</sup> / <sub>4</sub> " Spigot - 8mm Stem	

Graduation	Travel	Reading	Weight each	Order Code KEN-300
0.0005"	0.03"	0-15-0	170g	-8010K
0.01mm	0.8mm	0-40-0	170g	-8020K

#### 41mm (15/8") **Diameter Dial Jewelled**





#### Spares to suit **Kennedy Dial Test Indicators**

Order Code KEN-301 Description Replacement Stylus -9630K Description **KEN-398** 1/4" Spigot - 6mm Stem -0340K 1/4" Spigot - 8mm Stem -0350K

Graduation	Travel	Reading	weight each	Order Code KEN-300
0.002mm	0.2mm	0-10-0	190g	-8040K

## 302 AXIS GAUGING

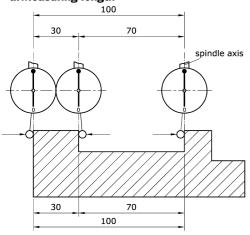
## KENNEDY 3D Axis Gauging

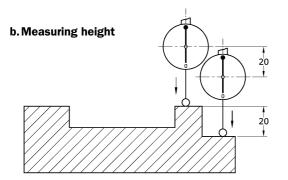
The New Generation of NC axis gauging equipment, for quick, accurate setting of all three axes (X, Y, Z) by analogue differential indicator. Suitable for all machine tools with CNC, NC or DRO and also for EDM/spark erosion tools - the stylus is electrically insulated from the spindle. Universal - one tool measures length, height, diameter and centre. The synchronous single needle allows greater needle displacement before reaching '12 o'clock'. A positive reading is given regardless of direction of axis movement. No calculations and no 'trial and error' involved. Increases production and efficiency, reduces job time and operator

requirement. The stylus is designed to break on a 'nominal fracture' before the workpiece or tester can be damaged. Three plug in styli types can be changed in seconds without the use of special tools. Pre-adjusted to a concentricity of 0.01mm maximum.

Indicator diameter: 50mm.
Clamping shank diameter: 20mm.

#### a. Measuring length

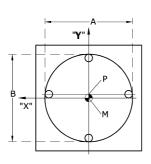




## c. Establishing true centre and diameter of bores.

Insert stylus roughly in centre of bore, measure distance A and divide by 2 (P). Measure distance B in Y direction, across point P and divide by 2.

Result: true centre point (M). Repeat measuring of distance A.



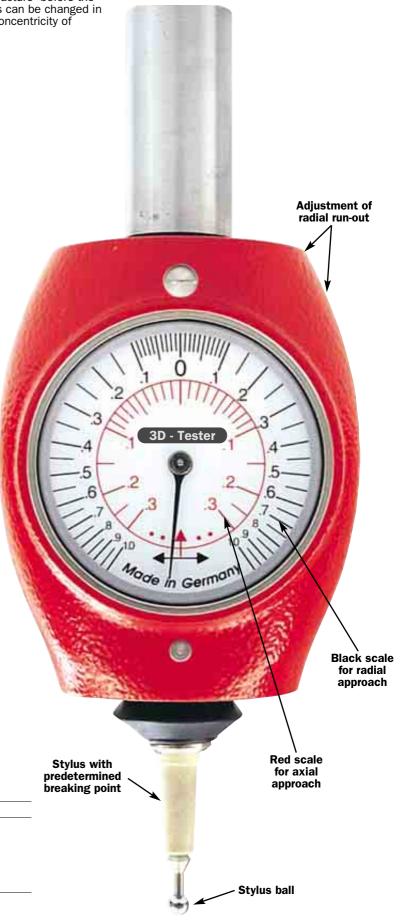
#### **3D Axis Gauge**

Indicator	Effective	Shank	Weight	Order Code	
Dia.	Length	Dia.	each	KEN-302	
50mm	125mm	20mm	89g	-2000K	

#### Stylii

Conical precision plug-in mechanism. Insulated, no electrical conductivity. Designed-in nominal fracture point.

Type	Length mm	Anvil Dia.	Weight each	Order Code KEN-302	
Short	33	3.0	3g	-2030K	
Standard	46	4.0	5g	-2050K	
Long	72	6.0	10g	-2100K	



## OXFORD Hardness PRECISION Testers

#### **Rockwell Hardness Tester** Model 150R

For testing the hardness of hard alloys, quenched and unquenched steels, using steel ball or diamond penetrators to measure Rockwell A, B & C units of measurement. Manufactured in accordance with BS 891: 1962 & IS 3804: 1966.

**Measuring ranges:** 20-88HRA (Test force: 588.4N/60kgf), 20-100HRB (Test force: 980.7N/100kgf), 20-70HRC (Test force: 1471N/150kgf).

Max height of test piece: 80mm with screw protective jacket,

170mm without.

Depth of throat: 135mm.

Dimensions: 466 x 238 x 630mm.



Model Number	Weight each	Order Code OXD-303	
150R	65kg	-1000K	

#### **Anvils, Indentors & Test Blocks**

To suit Oxford hardness tester.









Description	Size	Order Code OXD-303	
Large Flat Anvil	150mm	-9100K	
Small Flat Anvil	58mm	-9110K	
V-Notch Anvil	-	-9120K	
Diamond Indentor	ø1.588mm	-9150K	
Steel Ball Bearing Indentor	ø1.588mm	-9160K	
Rockwell Std. Test Block	80 HRA	-9200K	
Rockwell Std. Test Block	85 HRB	-9210K	
Rockwell Std. Test Block	60 HRC	-9220K	
Rockwell Std. Test Block	35 HRC	-9230K	
Rockwell Std. Test Block	20 HRC	-9240K	

## **GROUP**

## **306** GRANITE VEE BLOCKS, SQUARES & SURFACE PLATES

## OXFORD Oxford Granite

Precision granite products are manufactured to the highest quality standards to provide an accurate surface from which final measurements can be taken. More dimensionally stable than steel or cast iron, with a low thermal expansion co-efficient. Does not burr, is corrosion free and easy to maintain.

#### **Straight Edges**

Used for checking surfaces for straightness, drawing and scribing straight lines. Manufactured to BS5204 : Part 2 : Grade A. Supplied with calibration certificate.



LxWxH	Weight each	Order Code OXD-306	
630 x 100 x 35mm	7kg	-6020K	
1000 x 160 x 50mm	10kg	-6040K	

#### **Parallels**



LxWxH	Weight each	Order Code OXD-306	Price/Pr
160 x 25 x 16mm	0.55kg	-3020K	
250 x 40 x 25mm	1.83kg	-3040K	
400 x 63 x 40mm	6.97kg	-3060K	

#### **Vee Blocks**



LxWxH	Weight each	Order Code OXD-306	Price/Pr
62 x 62 x 62mm	2.0kg	-7020K	

#### **Surface Plates**

Accurate bases which are used for mounting sensitive measuring, mechanical and electronic equipment. Manufactured to **BS817**.

Supplied with calibration certificate.





#### **Grade 1 - Inspection Grade**

LxWxH	Weight each	Order Code OXD-306	
400 x 250 x 70mm	27kg	-4020K	-
630 x 400 x 100mm	90kg	-4040K	
800 x 500 x 100mm	140kg	-4060K	
800 x 500 x Stand	20kg	-4100K	

#### **Squares**

90°. For measuring and inspecting squareness, parallelism and alignment. Manufactured to BS939: 1977 Grade A for flatness, straightness and squareness of working faces. Supplied with **UKAS** certificate.



LxWxH	Weight each	Order Code OXD-306	
250 x 160mm	2.26kg	-5060K	

## **EDISON** Infrared Laser Thermometer

A high resolution infrared laser thermometer suitable for a wide range of industrial applications, HVAC and automotive diagnostics. The laser targeting enables accurate readings by guiding the user to the optimum measuring distance. Ideally suited for work in confined spaces and where accuracy is required such as on circuit boards, air-con units or in engine compartments. Simply aim at the target object, pull the trigger mechanism and read the current surface temperature from the LCD display.

If necessary the laser can be activated via the laser button for more accurate targetting. Temperature is displayed on back-lit LCD display and features hold function for ease of use

**Measurement range:** -20C to 537C. **Accuracy:** -20C to 50C /- 2.5C 51C to 537C /-

(Reading x 1% 1C)

D/S ratio: 12:1. Emissivity: 0.95. Celsius/Fahrenheit display selection.

Back light display. Power source: 9V battery

Average/maximum/minimum/maximum-minimum

mode selection. **Complies with:** 

EN61326:1997/A1:1998/A2:2001/A3:2003 **Dimensions (L x W x H):** 162 x 56 x 190mm

Nett weight: 270g

Description EDI-312 Infrared Thermometer -4000K







#### RUTLAND INSPORT

#### Multi Function Digital Stopwatch - Standard

Water and shock resistant design. Supplied with nylon neck cord.

#### **Specification:**

1/100 second precision with split times. Calendar and time display 12hr or 24hr format. Daily alarm. Hourly chime. Supplied complete with 1.5V battery.



RTL-314

-3020K



## Multi Function Digital Stopwatch - Professional

Water and shock resistant design, slim line contour case fits comfortably in the hand. Supplied with nylon neck cord.

#### Specification:

1/100 second precision with split times. Calendar and time display 12hr or 24hr format. Fastest, slowest and average lap calculation. Daily alarm. Hourly chime. Supplied complete with 1.5V battery

> RTL-314 -3040K

Recommended for fixed applications.

# OXFORD Mechanical Stroke Coun

## Stroke Counter

Five digit mid-range mechanical stroke counter. Tough plastic case. Excellent value.

Overall length: 80mm. Height: 30mm.



Spindle Rotation OXD-314 -6100K Right Hand

## **Chrome Tally Counters**

Four digit (0-9999) metal body mechanical counters with push button actuator and reset button. Sturdy chrome plated steel construction.

Hand Tally comfortably fits in the palm of your hand, audible click, finger ring and recommended for applications



Order Code OXD-314 Description Hand Tally -5500K Desk Tally

#### Electronic Tally Counter - Up

Electronic tally counter counts up to 9999. Four-digit LCD with large push-buttons. High-impact construction with comfortable rubber keys. Optional audible counting indicator. Battery

MYZLA

included. **Dimensions** W x D x H: 30 x 15 x 60mm.



Model No	Туре	Weight each	Order Code OXD-314	
	Up only Up/Down	17g 17g	-5820K -5830K	

## 315/316 BORE GAUGES/EYE LOUPES & MAGNIFIERS

#### OXFORD Dial Indicating Bore Gauges **Bore Gauges**

#### 29mm 11/8" Dial Diameter

Suitable for rapid, accurate measurement of size, concentricity, wear, taper, etc., in a wide range of bores. For workshop and inspection use. All models have one fixed and one moving anvil and a self-adjusting centre shoe.

A 'datum point' can be set by using a setting ring of a known diameter or a micrometer. 'Zero' the gauge to this datum point by rotating the bezel to align 'zero' with the indicator.

To check a bore is within tolerance, the limit hands can be fixed as required. All anvils are spring loaded to expand into the bore.

For accurate reading ensure the stem of the gauge is parallel to the axis of the bore.

This can be checked by 'rocking' the gauge back and forth until the smallest diameter is found. All models have interchangeable anvils to cover a range of bore sizes.

Dial

57mm

23/16

Weight

each

0.58kg 0.95kg

1.28kg

0.53kg

0.90kg

1.20kg



-5102K

### **Folding Pocket Magnifiers**

Graduation

0.01mm

Depth

200

240

240

0.0005

Although deriving its name from the textile industry it is also suitable for inspecting paper, photographs, printed documents etc. Self-standing to free your hands. Folds flat when not in use. Black powder coated body. The original 'Linen tester'.

#### **15mm Diameter**

Type

Metric

Range

18-35

35-50

0.7-1.5

2.0-6.0

Inch

15mm diameter glass lens. 7x magnification. 1" working distance. 1/2" square field. Inch graduation.  $^{1/8}$ " divisions.



#### **30mm Diameter**

30mm diameter glass lens. 6x magnification. 38mm ( $1^{1/2}$ ") working distance. 25mm (1") square field. Metric and inch graduations. 1mm and 1/8" divisions.



Diameter	Order Code OXD-316	
15mm	-1600K	
30mm	-1620K	

#### **Magnifying Loupes**

Suitable for precision engineers, instrument makers, watch repairers, jewellers etc.

-1100K

Provides sharp images with minimum distortion. Three separate lenses bonded together to form one compound lens. Chrome plated finish. Complete with leather case.



50 - 160mm

#### **Doublet**

21mm diameter double lenses bonded together to form one compound lens.



#### Type Magnification **OXD-316** Triplet 10x -1500K Double

### **LED Light Magnifier**

10x magnification, 5mm diameter LED light. 30mm diameter integral 2x optical glass lens. Powered by 3x AAA batteries (not suppled). LED last around 40,000 hours under normal use. Battery life = 40/50 hours under continuous use. Compared to a conventional bulb the LED diode lives up to

1000 times longer with 90% less power consumption. Complete with plastic case with belt loop.



Order Code OXD-316 Diameter 30mm -2010K

Laboratory E

## OXFORD Bench

## **Magnifiers**

89mm (3½") diameter lens. 2x magnification. Chrome plated brass frame. 180mm flexible hose length permits viewing at any angle. Suitable for viewing work

requiring high precision, reading, sewing, quality control, hobbies etc.

#### With Clamp

Black powder coated clamp provides stability and convenience. Portable and easy to clip onto a bench or table. Clamping capacity: 55mm.



Туре	Order Code OXD-316	
Clamp	-1100K	
Stand	-1120K	

LED Head Loupe

#### **Hand Magnifier**

Available in 2x, 3x and 4x deluxe high power magnifications. 2x, 3x have chromeplated brass frame and bakelite handle. 4x deluxe has a gilt-effect frame and

hardwood handle. Suitable for reading, stamp and coin collection, product examination, etc.





Illuminated Bench Magnifier - Adjustable Arm Type

Illuminated bench magnifier fitted with long life high efficiency 22W circular fluorescent daylight tube which provides perfect colour matching, low heat emission

and greater eye comfort.

Suitable for the workplace, hobbies or for people with limited vision.

- 127mm (5") diameter lens
- 3x magnification.
- 1143mm (45") arm length.
- 180° arm adjustment.
- 160° lamp adjustment.



## **Illuminated Magnifier**

Order Code
OXD-316 127mm -1030K

## LED Head Loupe with removable LED light and interchangeable lenses

This head loupe has a detachable LED light which can be removed to provide an independent source of light that has two magnets for attaching to steel objects. It can be worn with spectacles and has an adjustable headband for greater comfort and integral visor to cut out ambient light. It comes with four interchangeable lenses

supplied with their own storage case. The lenses stay firmly in position when raised or lowered, leaving both hands free to work. Suitable for electrical service and assembly, model making and other applications where both hands are required to carry out finely detailed work.



-2560K

## Illuminated Adjustable Stand Magnifier

With the lens tilted, small hand-held objects can be worked on or inspected. When the lens is parallel to the work surface anything laid beneath is in focus. Fitted with a long life high efficiency 22W circular daylight tube which provides perfect colour matching, low heat emission and greater eye comfort. Suitable for the workplace, hobbies or for people with limited vision.

- 127mm (5") diameter lens.
- 3x magnification.
- Fully adjustable



#### **GROUP** 318 BINOCULARS



for improved image clarity and sharpness. To allow use with spectacles the soft rubber eye cups fold down. Accurate focusing of the binoculars is controlled by fingertip movement of the central focusing wheel. Integral neck strap eyelets and tripod mounting threaded recess point. Supplied complete with neck strap and

cleaning cloth. Suitable for camping/hiking, outdoor spectator sports, nature viewing, theatre. Lead- and arsenic-free glass.

CR1025R Diopter **10** x measurement

Order Code RTL-318 Magnification Number CR1025R 10 x 25 -1620K

## **RUTLAND** Ultra Compact Binoculars Binoculars

The ultra compact design makes them ideal for use when storage space is at a premium. The high quality porro prism coated lenses are housed in a tough polyurethane body which is comfortable to hold. The diopter adjustment is easy to use and improves the image clarity and sharpness. Simple yet accurate focusing is achieved using fingertip contol of the central focusing wheel. Supplied complete with case,



Product Magnification Number RTL-318 8 x 21 -1660K CP0821



#### **Traditional Style Binoculars**

Magnification

8 x 21

Number

CR0821

Order Code RTL-318

-1120K

The high quality porro prisms and UV protecting ruby coated ocular lenses are housed in a polyurethane body coated in a shock absorbing high grip rubber armour. Diopter adjustment for improved image clarity and sharpness. To allow use with spectacles the soft rubber eye cups fold down. Accurate focusing of the binoculars is controlled by fingertip movement of the central focusing wheel. Integral neck strap eyelets and tripod mounting threaded recess point. Supplied complete with lens cap, case, neck strap, and cleaning cloth. Suitable for camping/hiking, outdoor spectator sports, nature viewing. Lead- and arsenic-free glass.

Number

CR1025

Order Code RTL-318

-1230K

Magnification

10 x 25



Product

Number

TP1050

Magnification

10 x 50

RTL-318

Laboratory

## ITT AND Traditional Binoculars 7 x 50

#### Model TP0750

High quality lenses. Ocular objective lens caps. Diopter adjustment ring with index. Neck strap eyelets underneath. Central focusing wheel, tripod mounting with thread cover. Comfortable ergonomic



(VV X TI X D)
176 x 191 x 82mm
900g

Product	Magnification x	Order Code
Number	Lens Diameter	RTL-318
TDOZEO	7 v E0	12701/

#### Traditional Binoculars 10 x 42

#### Model TP1042

These Rutland Pro binoculars have a powerful 10 x magnification using a Porro prism, a 6° wide angle of view and a 42mm objective lens. These binoculars are powerful, yet have a narrow pupil distance making them ideal for the smaller user. The outer casing of the binoculars is designed for your comfort and covered with a protective rubber coating, to prevent damage from the occasional bump that may occur whilst in use. The point of focus is smoothly controlled with the central focusing wheel.

#### **Includes**

Weight:

Lens caps, case, neck strap, and cleaning cloth.



Field of view at 1000m: 105m Exit pupil: 4.2mm **Focusing method:** Manual Closest focusing distance: 4m  $(W \times H \times D)$ **Dimensions:** 

110 x 168 x 65mm 775g

_	_	
Product Number	Magnification x Lens Diameter	Order Code RTL-318
TP1042	10 x 42	-1600K

#### Traditional Binoculars 10 x 60

#### Model TP1060

Ruby coated high quality precision lenses. Double diopter adjustment ring with index. Neck strap eyelets. Ocular lens caps. Central focusing wheel, tripod mounting thread cover. Objective lens caps. Rubber armoured ergonomically designed grip. Tripod mounting point.



6mm

Manual

еуе сир

**Dimensions:**  $(W \times H \times D)$ 200 x 200 x 85mm

Closest focusing distance: 10m

Weight: 1175g Product Magnification x

Order Code ens Diameter RTL-318 -1400K TP1060 10 x 60

## Spotting Scope 18-36 x 50

Model SS3650

Exit pupil:

Focusing method:



Prism type: Porro **Magnification:** 18 - 36x **Objective lens:** 50mm 26 - 43° Angle of view: Field of view at 1000m: 23 - 38m

Exit pupil: Focusing method: **Dimensions:** 

1.5 - 4mm Manual  $(W \times H \times D)$ 380 x 360 x 330mm 1190g

Weight:

Product Magnification x Number Lens Diameter RTL-318 -3100K SS3650 18-36 x 50

## 318 MICROSCOPES

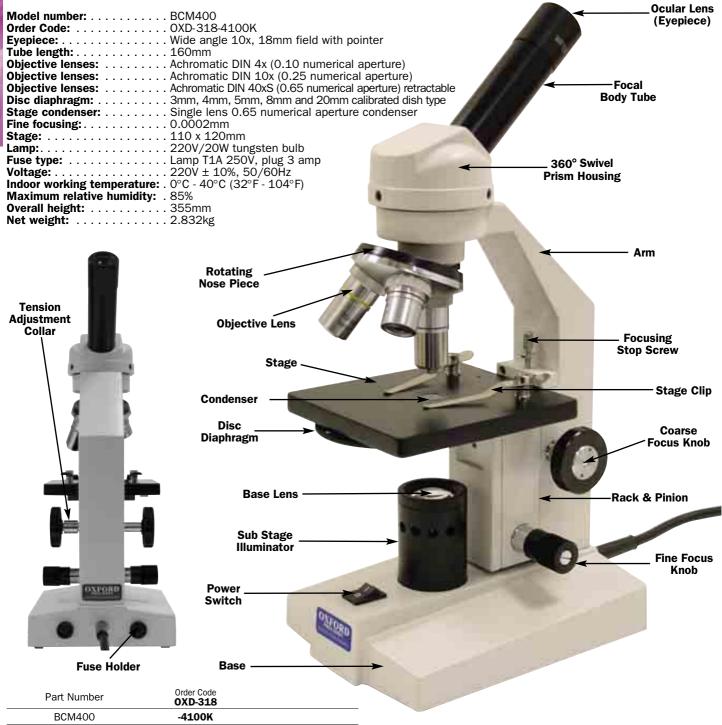
# OXFORD Biological Compound Microscope



#### **BCM400**

Constructed to high optical and mechanical standards, the Oxford Biological Compound Microscope produces a clear and well defined two dimensional image.

- Designed for clinical examination and teaching demonstrations in laboratories, scientific research, colleges and the medical field.
- An ideal instrument for biological, bacteriological, pathological and pharmaceutical research.
- High quality prism providing a magnification of up to 400x.
- Fully coated optical system for improved light transmission and overall image quality.
- Objective lenses are of DIN standard, colour coded and click into position.
- Eyepiece with pointer.
- Monocular head which is inclined at 45° and can be rotated 360°.
- Separate fine and coarse focus by rack and pinion with a built-in slip clutch and tension adjustment.
- Built in illuminator with a blue filter and a built in condenser lens ensuring optimal light effect for comfortable and clear viewing.
- Large die cast acid and reagent proof stage.





Description Order Code OXD-398

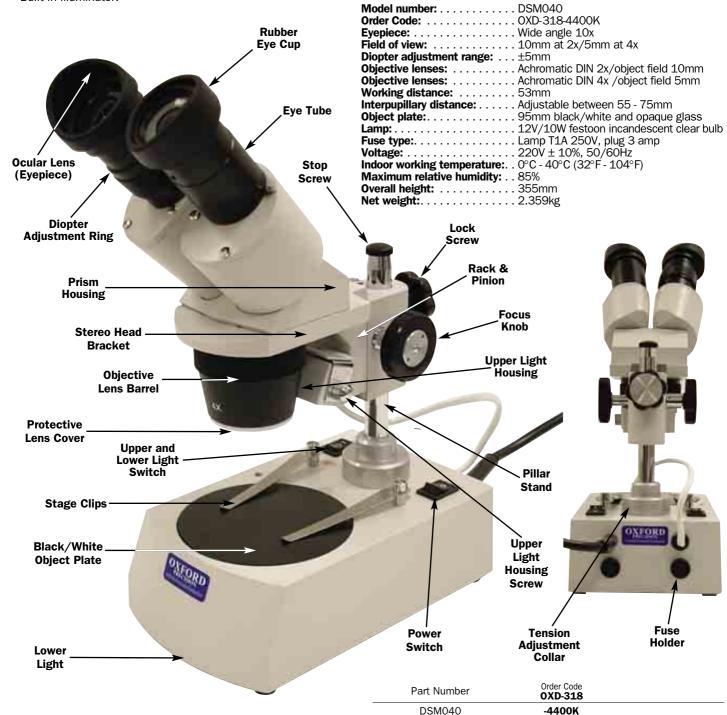
Slide -5330K



anlandanlandanlandanlandanlandanlandanlandanland**anlandanland**anlandanlandanlandanlandanlandanlandanlandanlanda

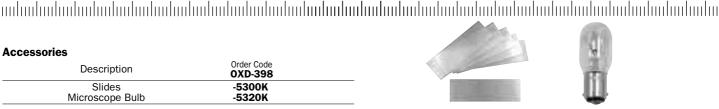
Constructed to high optical and mechanical standards, the Oxford Dissecting Stereo Microscope produces a clear and well defined three dimensional image.

- Designed for clinical examination and teaching demonstrations in laboratories, scientific research, colleges and the medical field.
- Provides true colour.
- High quality prism providing a magnification of up to 40x.
- Fully coated optical system for improved light transmission and overall image quality.
- Objective lenses are of DIN standard and click into position.
- Rubber eyecups and a diopter adjustment ring for clear and comfortable viewing.
- Rack and pinion focusing with built in slip clutch system.
- A choice of either upper or lower illumination or both.
- Pillar mounted body rotates 360° and can be removed and mounted on machine tools or laboratory apparatus.
- Binocular head which is inclined at 45°.
- · Built in illuminator.



**Accessories** 

Description OXD-398 Slides -5300K Microscope Bulb -5320K





#### OXFORD Dual Counter PRECISION Height Gauge **Height Gauges**

Used in conjunction with a granite or metal surface plate, the Oxford dual counter height gauge will give you the accuracy you need when laying out work prior to machining. The height gauge can also be used in much the same way as a caliper to help you determine the dimensions of a workpiece.

- · Designed for accurate marking out and taking precise measurements.
- Measuring head positioned on sturdy twin columns providing highly repeatable height measurements and stability.
- Easy reading with dual directional negative and positive reading mechanical digital counters.
- Rotating dial face.
- Independently set the counters, to zero at any position. Large feed wheel for rapid and precise adjustment.
- Tungsten carbide tipped scriber for accurate marking out.
- Manufactured from durable stainless steel.



Reading Inch: 0.001"/0.1" Metric: 0.01mm/1mm



ht	Order Code	

Range	Product Number	Range/ Rev	Weight each	Order Code OXD-330
12"	DHG000	0.1in	4.25kg	-3120K
24"	DHG000	0.1in	10kg	-3240K
300mm	DHG000	1mm	4.25kg	-3620K
600mm	DHG000	1mm	10kg	-3740K





#### **Leg Type Dial Calipers**

Leg type dial calipers used for measuring diameters and narrow grooves in hard to reach places.

Internal specifications: range: 55 - 75mm, graduation: .01mm, groove depth: 8mm, groove width: 3mm, maximum reach: 100mm.

**External specifications:** range: 0 - 20mm, graduation: 0.01mm, groove depth: 6mm, groove width: 3mm, throat depth: 60mm.

Туре	Groove	Reach/	Weight	Order Code
	Depth	Depth	each	OXD-330
External	6mm	60mm		-0600K
Internal	8mm	100mm		-0750K

#### **Dial Thickness Gauge**

For quickly measuring the thickness of paper, film, leather, rubber etc. The spindle is moved using the thumb lever. With adjustable bezel. Measuring faces are made of high grade tool steel, hardened, ground and lapped for accuracy. Thumb lever raises spindle to allow for workpiece insertion.

**Specifications:** Range: 0 - 10mm. Graduations: 0.01mm. Throat depth: 30mm.



Туре	Groove Depth	Reach/ Depth	Weight each	Order Code OXD-330	
External	6mm	60mm	236g	-0100K	

# KENNEDY Pocket Type QUALITY INDUSTRIAL TOOLING Dial Thickness Gauges

Designed for carrying convenience. Lightweight - metric only 68g and inch 98g. Supplied in leather wallet.

Spindle diameter: 6mm flat. Anvil diameter: 6.5mm flat.

Conversion chart printed on back of gauge.





Accuracy: +/-0.02mm

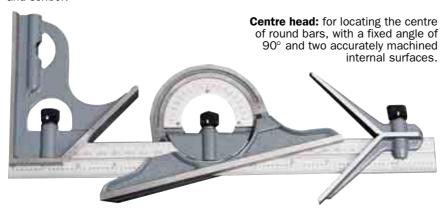
Range	Graduation	Throat	Weight each	Order Code KEN-330
0-10mm	0.01mm	19mm	136g	-4020K

## KENNEDY Combination QUALITY INDUSTRIAL TOOLING Set

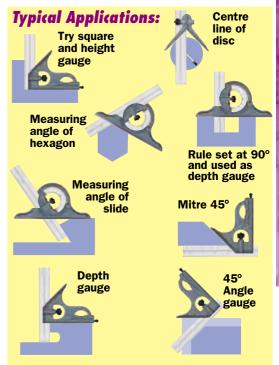
Multi-function, can be used as a square, mitre, depth and height gauge. Each set consists of rule, square head, centre head, and protractor.

**Square head:** with accurate machined faces, fixed angles of 45° and 90°, built-in spirit level, adjusting nut and scriber.

**Protractor head:** for measuring angles up to 180°, graduated to 1° with one machined face, three knurled securing/adjusting nuts and built-in spirit level.



**Rule:** 300mm/12" hardened stainless steel, metric and inch measurements with graduations in 0.5mm and  $\frac{1}{64}$ ".



Order Code KEN-330

-3070K

3080K

-3090K

#### **Combination Sets & Rules**

Туре	Weight each	Order Code KEN-330	
Combi set with 300mm/12" rule	890g	-3040K	
Replacement 300mm/12" rule	110g	-3120K	
Optional 600mm/24" rule	220g	-3240K	

#### **How to Read a Universal Bevel Protractor**

Whole numbers of degrees can be read by simply taking readings with the zero line on the vernier. Where this line coincides with a line on the main scale, an exact number of whole degrees is indicated. The vernier on a bevel protractor enables readings to be taken to five minutes or  $^{1\!\!/}_{12}$  of a degree. One division on the vernier is this amount shorter than the two divisions on the main scale.

If the zero line on the vernier does not coincide exactly with a line on the main scale, it is necessary to find the vernier line which does coincide with a main scale line;



and this indicates the number of five minutes or  $^{1/}_{12}$  of a degree to be added to the whole of degrees. To take a reading, therefore, note the number of whole degrees, and then count in the same direction, the number of divisions on the vernier scale form the zero line to the first line on the vernier scale that coincides with a

line on the main scale. As each of these is five minutes, multiply by five and the number of minutes to be added to the whole number of degrees will be indicated.



## OXFORD Vernier PRECISION Bevel Protractor

Description

Protractor Head Graduated 0 -  $180^{\circ}$ 

Square Head, Level & Scriber

Centre Head with Lock Nut

#### **106UF**

Suitable for measuring and marking out angles.
Fully hardened and ground stainless steel. Bevelled blade ends.
Scale plate is graduated 0 - 90° - 0, in both directions through 360°.
Magnifying lens for easy reading of vernier scale to 5 minutes of degree (½12th of a degree).

Weight

each

320g 190g

490







 Blade
 Weight
 Order Code

 Size
 each
 **0XD-330** 

 150mm
 -9050K