A man wearing safety glasses is operating a lathe machine. The machine is green and has a blue dial with markings for 0.02mm, 0.01mm, and 0.05mm. The man is holding a tool that is cutting a piece of metal. The background is orange with horizontal lines. The GROZ logo is visible on the machine's vise.

 **GROZ**

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CA-03



Groz has always exceeded the expectations of tool manufacturers and users the world over. Groz carefully makes each tool under stringent quality control processes that are achieved in a hi-tech environment spread over 500,000 square feet



Total quality & control via advanced horizontal & vertical machining centres



Robotically armed & conveyORIZED double booth powder coating plant with a capacity of 15 million sq inches / month



Pressure die casting - PLC controlled semi automatic equipment



Multi-station Cold Forging Shop with equipment from NEDSCHROEF, Belgium, for manufacture of high volume automotive parts, sockets etc.



Multi-Spindle Turning Machines - Davenport for high volume production & concentricity



Design Center, with high end software & equipment to develop custom solutions

QUICK FACTS



YRS IN BUSINESS

45+



GLOBAL REACH

82 COUNTRIES



SELLING POINTS

750



SKU'S

12,000



EMPLOYEES

2,592



ENGINEERS

125

INSIDE

I

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01

MEASURING & MARKING TOOLS



Excellent range of general purpose steel squares

Made from selected steel with hardened blade

Accurate right angles both on the inside and outside

Accurate and precise grinding of both blade & stock ensures straightness and parallelism

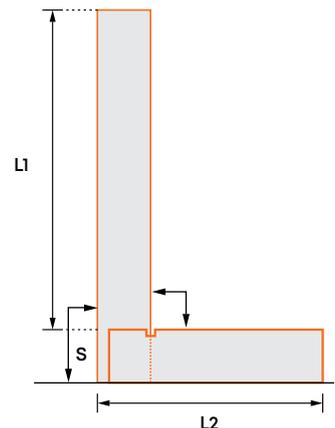
Suitable for setting up and checking machinery, checking Carpenter's squares or using as a try square when marking joints or testing faces & edges



ORDERING INFORMATION

CAT NR.	ORD NR.	BLADE LENGTH (L1) from inner edge of stock to end of blade		STOCK LENGTH (L2) from edge of stock to outer edge of blade		SQUARENESS OF BLADE (S) edges to working faces of stock		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
SS/2	01100	2	50	2	50	0.0019	48	200
SS/3	01101	3	75	2-3/8	60	0.0019	48	200
* SS/4	01102	4	100	3	75	0.0019	48	150
* SS/6	01103	6	150	4	100	0.0028	72	80
SS/8	01104	8	200	5	125	0.0028	72	25
SS/9	01105	9	225	6-9/32	160	0.0028	72	25
SS/10	01106	10	250	6-1/2	165	0.0028	72	15
SS/12	01107	12	300	8-1/4	210	0.0038	96	15
□ SS/18	01108	18	450	10	255	0.0057	144	5
□ SS/24	01109	23-1/2	600	13	330	0.0057	144	3
SETS								
* SS/2-3-4-6/ST	01110	One each of 2" (50 mm), 3" (75 mm), 4" (100 mm) & 6" (150 mm) Squares						25
SS/4-6-9-12/ST	01111	One each of 4" (100 mm), 6" (150 mm), 9" (225 mm) & 12" (300 mm) Squares						10

* Best Seller □ Made to order



Internal & External Squareness as per BS 939 Grade B*

Useful for setting up & checking jobs where extreme accuracy is required

Hardened spring steel blades permanently fixed to the stock by means of tapered self locking rivets which ensure complete rigidity

Blade and stock are precisely ground to ensure straightness and parallelism

Working edges of the blades are lapped for enhanced accuracy

Groove on the inner corner of the stock aids in the clearance of burr or dirt

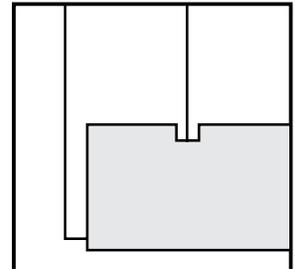
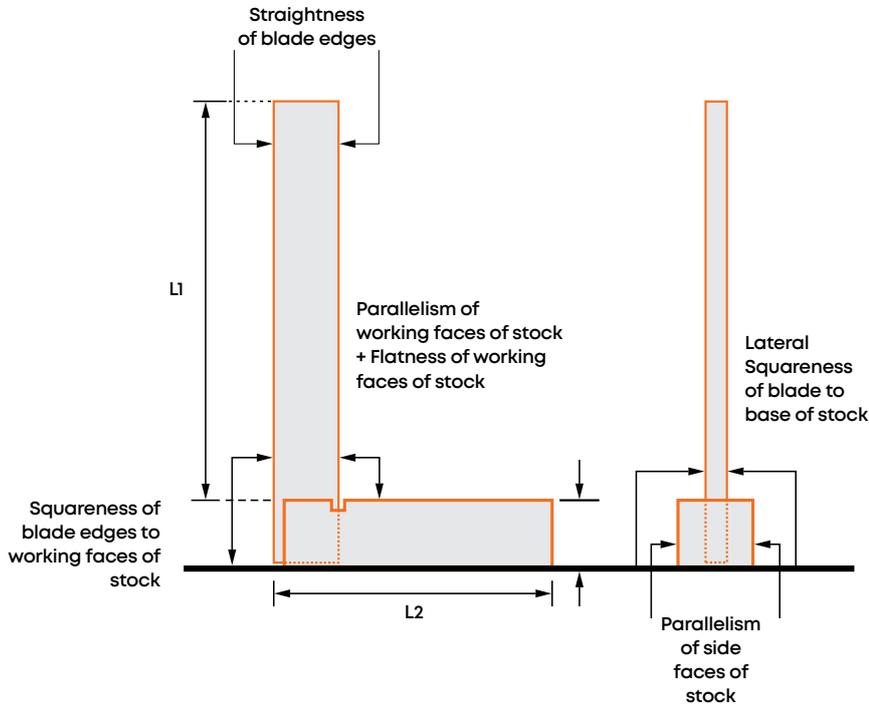


SPECIFICATIONS

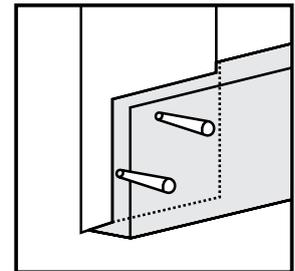
CAT NR.	STRAIGHTNESS OF BLADE EDGES		FLATNESS OF WORKING FACES OF STOCK		PARALLELISM OF WORKING FACES OF STOCK		PARALLELISM OF SIDE FACES OF STOCK		SQUARENESS OF BLADE EDGES TO WORKING FACES OF STOCK		LATERAL SQUARENESS OF BLADE TO BASE OF STOCK	
	(INCH)	(MICRONS)	(INCH)	(MICRONS)	(INCH)	(MICRONS)	(INCH)	(MICRONS)	(INCH)	(MICRONS)	(INCH)	(MICRONS)
SS/A/2	0.00039	10	0.00039	10	0.00020	5	0.0012	30	0.00063	16	0.0078	200
SS/A/3	0.00039	10	0.00039	10	0.00020	5	0.0012	30	0.00063	16	0.0078	200
* SS/A/4	0.00039	10	0.00039	10	0.00020	5	0.0012	30	0.00063	16	0.011	300
* SS/A/6	0.00039	10	0.00039	10	0.00020	5	0.00196	50	0.00063	16	0.011	300
□ SS/A/8	0.00059	15	0.00059	15	0.00031	8	0.00196	50	0.00078	20	0.015	400
SS/A/9	0.00059	15	0.00059	15	0.00031	8	0.00196	50	0.00094	24	0.015	400
□ SS/A/10	0.00059	15	0.00059	15	0.00031	8	0.00196	50	0.00094	24	0.015	400
SS/A/12	0.00059	15	0.00059	15	0.00031	8	0.00196	50	0.00094	24	0.015	400

* Best Seller □ Made to order

ACC.
BS 939*



The stock is grooved at inner corner for clearance for burr or dirt so that there is no interference with measuring accuracies



Use of tapered self locking rivets ensures perfect rigidity



SS/A/2-3-4-6/ST

Set of 2" (50 mm), 3" (75 mm), 4" (100 mm) & 6" (150 mm) squares in a convenient and easy to store blow moulded case

ORDERING INFORMATION

CAT NR.	ORD NR.	BLADE LENGTH L1 (FROM INNER EDGE OF STOCK TO END OF BLADE)		STOCK LENGTH L2 (FROM EDGE OF STOCK TO OUTER EDGE OF BLADE)		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	
SS/A/2	01000	2	50	2	50	200
SS/A/3	01001	3	75	2-3/8	60	200
* SS/A/4	01002	4	100	3	75	150
* SS/A/6	01003	6	150	4	100	80
SS/A/8	01004	8	200	5	125	25
SS/A/9	01005	9	225	6-5/16	160	25
SS/A/10	01006	10	250	6-1/2	165	15
SS/A/12	01007	12	300	8-9/32	210	15
SETS						
SS/A/2-3-4-6/ST	01011	One each of 2" (50 mm), 3" (75 mm), 4" (100 mm) & 6" (150 mm) Squares				25
* SS/A/2-4-6/ST	01012	One each of 2" (50 mm), 4" (100 mm) & 6" (150 mm) Squares				25

* Best Seller

Manufactured from high quality spring steel

Fully ground and hand scraped for a perfectly flat surface. Hand scraping removes all the high points left from grinding making these an extremely accurate tool

Thickness and design enables these to retain shape & accuracy

Used for drawing & scribing straight lines, checking surfaces for straightness, setting up machines such as planers, automotive applications with a gauge to inspect for distortion on engine blocks, cylinder heads, flywheels, and cam covers

Available in 2 models

- a. Straight Edges
 - These have flat edges on both sides
- b. Knife Edges
 - These are flat on one side and have a bevel on the other that provides an excellent visual line contact with the work piece



SPECIFICATIONS

STRAIGHT EDGES	KNIFE EDGES	FLATNESS OF EDGES		PARALLELISM OF FACES	
		(INCH)	(MICRONS)	(INCH)	(MICRONS)
SE/12	KE/12	0.00047	12	0.00094	24
SE/18	KE/18	0.00047	12	0.00094	24
SE/24	KE/24	0.00067	17	0.0013	33
SE/36	KE/36	0.00083	21	0.0016	40
SE/48	KE/48	0.0011	28	0.002	50
SE/60	KE/60	0.0011	28	0.002	60
SE/72	KE/72	0.0015	38	0.0029	74
SE/96	KE/96	0.0018	45	0.0036	92
SE/120	KE/120	0.0021	54	0.0043	110



Straight Edge being used to check flatness of an engine block

ORDERING INFORMATION

CAT NR.	ORD NR.	CAT NR.	ORD NR.	LENGTH		WIDTH		THICKNESS		BOX QTY.
STRAIGHT EDGES		KNIFE EDGES		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
* SE/12	02500	KE/12	02550	12	300	1-13/32	36.0	5/16	8	24
SE/18	02501	KE/18	02551	18	450	1-13/32	36.0	5/16	8	20
* SE/24	02502	KE/24	02552	24	600	1-13/32	36.0	5/16	8	12
SE/36	02503	KE/36	02553	36	900	2-13/32	61.0	3/8	10	6
* SE/48	02504	KE/48	02554	48	1200	2-13/32	61.0	3/8	10	6
SE/60	02505	KE/60	02555	60	1500	2-3/4	70.0	3/8	10	3
* SE/72	02506	KE/72	02556	72	1800	2-3/4	70.0	3/8	10	2
SE/96	02507	KE/96	02557	96	2400	2-3/4	70.0	17/32	14	1
SE/120	02508	KE/120	02558	120	3000	2-3/4	70.0	17/32	14	1

* Best Seller

Manufactured from selected steel

Leg that holds the adjustable point is offset. Locating lug is incorporated in the straight leg

Tip hardened 54-62 HRC

Very useful in layout work for locating and testing centres, laying off distances from an edge etc.



Jenny Caliper allows easy marking of arcs along the edge of workpiece

ORDERING INFORMATION

CAT NR.	ORD NR.	SIZE		BOX QTY.
		(INCH)	(MM)	
JC/6	01540	6	150	200

05

Spring Calipers & Dividers

ID	OD
	DD

Calipers are one of the oldest type of comparative measuring tools

Designed for taking comparative measurements and transferring the dimensions to a micrometer, precision rule etc.

Dividers are used for marking out circles on steel or transferring measurement from master templates

Manufactured from selected steel, calipers and dividers have a spring joint for precision settings

Legs pivot on a roller and are tensioned by bow spring. The fulcrum stud with a large bearing surface that prevents side deflection of legs

Adjustment is made by opening and closing of the legs by means of an adjusting nut

Divider points are hardened 50-55 HRC for increased wear resistance

Extra long sizes 14" (350 mm) - 24" (600 mm) can be made on order



ORDERING INFORMATION

CAT NR.	ORD NR.	SIZE (L)		BOX QTY.
		(INCH)	(MM)	
INSIDE CALIPERS				
ID/3	01400	3	75	200
* ID/4	01401	4	100	200
* ID/6	01402	6	150	100
ID/8	01403	8	200	90
ID/10	01404	10	250	60
ID/12	01405	12	300	60
OUTSIDE CALIPERS				
OD/3	01410	3	75	200
* OD/4	01411	4	100	200
* OD/6	01412	6	150	100
OD/8	01413	8	200	90
OD/10	01414	10	250	60
OD/12	01415	12	300	60
SPRING DIVIDERS				
DD/3	01420	3	75	200
* DD/4	01421	4	100	200
* DD/6	01422	6	150	100
DD/8	01423	8	200	90
DD/10	01424	10	250	60
DD/12	01425	12	300	60
SET				
◆ ID/OD/DD/6/ST	01495	A set of 1 each of 6" (150mm) Inside & Outside Calipers & 6" Spring Dividers		

* Best Seller ◆ New



Inside Caliper:
Used to measure the internal diameter of a cylinder

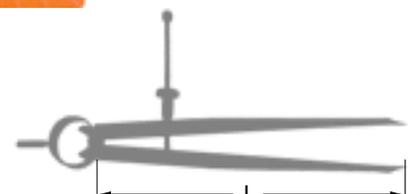


Outside Caliper:
Used to inspect the external diameter of a machined component



ID/OD/DD/6/ST

A set of one each :
6" (150 mm)
Inside & Outside Caliper &
Spring Divider

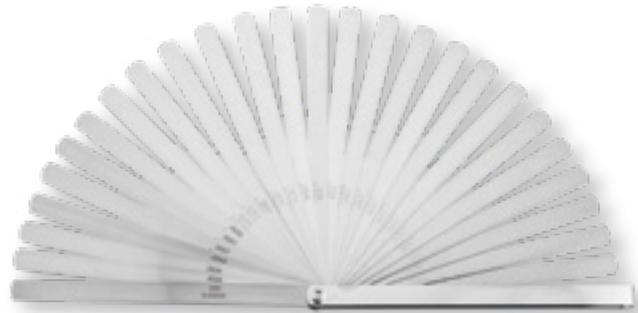


Feeler Gauges are used for adjusting & gauging spark plugs, distributor points, valve and bearing clearances or any other instance of measuring space between two points

Each leaf is marked with its thickness

Lock nut secures one or more leaves in position and each leaf is detachable

Complete with a protective holder that helps to preserve trueness of the leaf edges


FLG/29/200

FLG/20/150

FLG/13A/100

FLG/13/100

SR. NR.	FLG/13/100		FLG/13A/100		FLG/20/150		FLG/29/200	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM
1	-	0.05	0.0012	0.03	-	0.05	0.002	0.05
2	-	0.10	0.0016	0.04	-	0.10	0.0035	0.09
3	-	0.15	0.0020	0.05	-	0.15	0.0039	0.10
4	-	0.20	0.0024	0.06	-	0.20	0.0043	0.11
5	-	0.25	0.0028	0.07	-	0.25	0.0047	0.12
6	-	0.30	0.0031	0.08	-	0.30	0.0051	0.13
7	-	0.40	0.0035	0.09	-	0.35	0.0055	0.14
8	-	0.50	0.0039	0.10	-	0.40	0.0059	0.15
9	-	0.60	0.0047	0.12	-	0.45	0.0063	0.16
10	-	0.70	0.0055	0.14	-	0.50	0.0067	0.17
11	-	0.80	0.0059	0.15	-	0.55	0.0071	0.18
12	-	0.90	0.0079	0.20	-	0.60	0.0075	0.19
13	-	1.00	0.0118	0.30	-	0.65	0.0079	0.20
14					-	0.70	0.0098	0.25
15					-	0.75	0.0118	0.30
16					-	0.80	0.0138	0.35
17					-	0.85	0.0157	0.40
18					-	0.90	0.0177	0.45
19					-	0.95	0.0197	0.50
20					-	1.00	0.0216	0.55
21							0.0236	0.60
22							0.0256	0.65
23							0.0276	0.70
24							0.0295	0.75
25							0.0315	0.80
26							0.0335	0.85
27							0.0354	0.90
28							0.0374	0.95
29							0.0394	1.00

ORDERING INFORMATION

CAT NR.	ORD NR.	NO. OF LEAVES	RANGE		BLADE LENGTH		BOX QTY.
			(INCH)	(MM)	(INCH)	(MM)	
FLG/13/100	01251	13	-	0.05-1	4	100	200
◆ FLG/13A/100	01252	13	0.0012-0.0118	0.03-0.30	4	100	200
FLG/20/150	01250	20	-	0.05-1.00	6	150	200
◆ FLG/29/200	01253	29	0.0020-0.0394	0.05-1.00	8	200	200

◆ New

Radius gauges are used by tool & die-makers, machinist's & pattern makers for measuring external & internal radii

Leaves etched with dimensions in millimetres

Locking nut holds gauge in open or closed position

When not in use, the gauge can be rotated into the tools housing protecting the individual leaves

For external radii



RDG/17/1-7

For internal radii



RDG/16/7.5-15



RDG/15/15.5-25



ORDERING INFORMATION

CAT NR.	ORD NR.	NUMBER OF LEAVES	SIZES	BOX QTY.
			(MM)	
RDG/17/1-7	01260	17 Pairs	1.0, 1.25, 1.50, 1.75, 2.0, 2.25, 2.50, 2.75, 3.0, 3.50, 4.0, 4.5, 5.0, 5.50, 6.0, 6.50, 7.0	100
RDG/16/7.5-15	01261	16 Pairs	7.5, 8.0, 8.5, 9.0, 9.5, 10.0, 10.5, 11.0, 11.5, 12.0, 12.5, 13.0, 13.50, 14.0, 14.50, 15.0	100
RDG/15/15.5-25	01262	15 Pairs	15.50, 16.0, 16.50, 17.0, 17.50, 18.0, 18.50, 19.0, 19.50, 20.0, 21.0, 22.0, 23.0, 24.0, 25.0	100

08

Degree Protractors

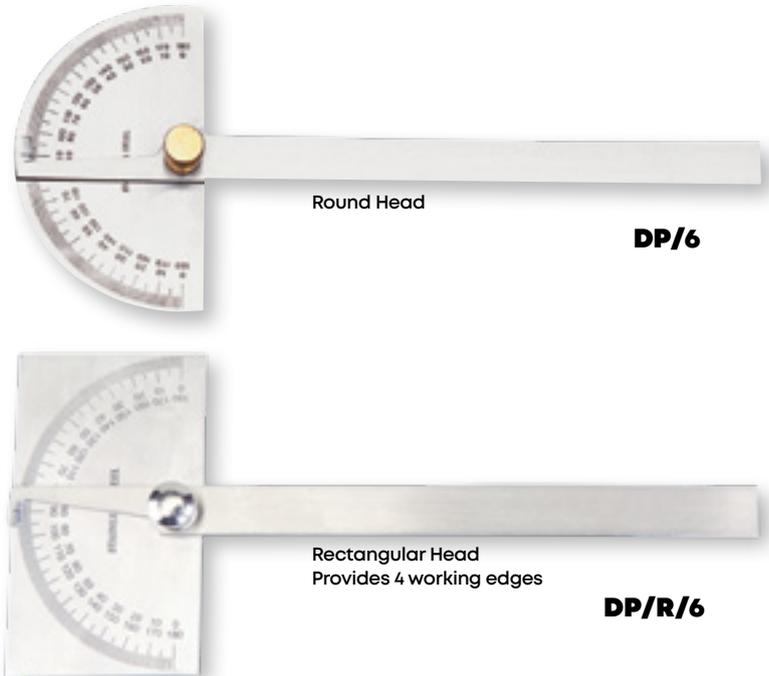
DP

Manufactured from stainless steel

Head has permanent deep etched graduations, 0 to 180° in opposite directions permitting reading an angle directly and also its supplement

Blade is set at the desired angle by adjusting knurled nut

Ideal tool for machinists, draftsmen and mechanics for setting bevels, transferring angles, small squaring tasks, checking cutter clearances within limits etc.



ORDERING INFORMATION

CAT NR.	ORD NR.	HEAD	BOX QTY.
DP/6	01220	Round	120
DP/R/6	01224	Rectangular	120

SPECIFICATIONS

ANGULAR TOLERANCE	± 0.05°
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09

Depth Gauge with Protractor

PDG

Depth Gauge with Protractor allows for measurement of both angles and depths

Manufactured from stainless steel

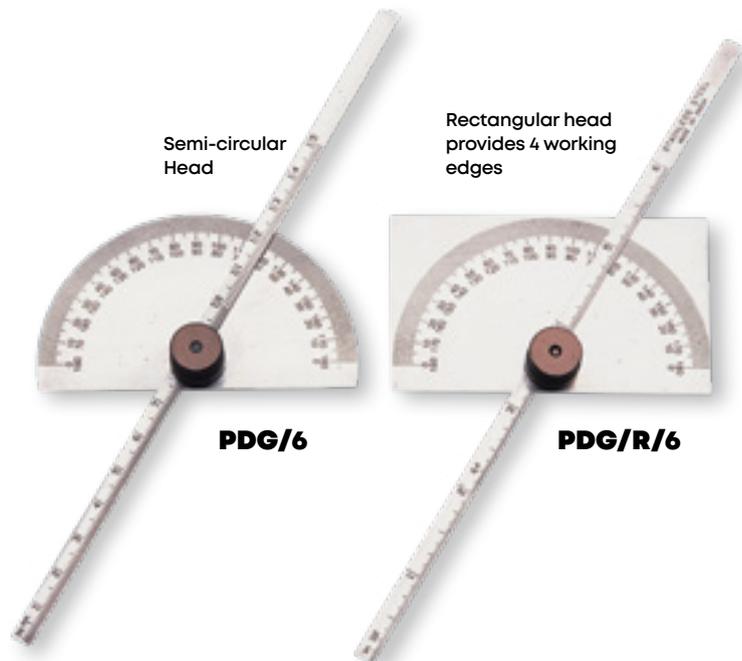
Protractor head has permanent deep etched graduations, 0-180° in opposite directions, permitting reading an angle directly

Depths are measured by a 6" (150 mm) steel rule

Graduated in both imperial and metric

Rule can be set at any desired angle for use as a protractor and lengthwise when used as a depth gauge

Knurled thumb nut to lock the rule in the desired position



ORDERING INFORMATION

CAT NR.	ORD NR.	HEAD	BOX QTY.
PDG/6	01221	Round	120
PDG/R/6	01225	Rectangular	120

SPECIFICATIONS

ANGULAR TOLERANCE	± 0.05°
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10

Multi-Use Rule And Gauge

RNG

A popular pocket-sized 5-in-1 tool, manufactured from stainless steel

Can be used as

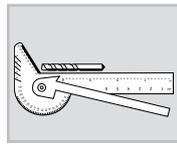
- Drill Point Gauge for checking 59° drill points
- Protractor for measuring and laying out angles
- Center Finder for locating centers on shafts and circles
- Circle Divider for dividing circles into sectors, polygons and polygrams (up to nine equal parts)
- Tap and Drill Table shows popular tap sizes and corresponding drills sizes for American National threads

Complete with a 4" (100 mm) rule with permanently etched graduations in 64ths and millimeter

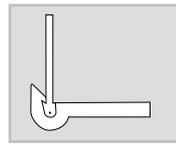


ORDERING INFORMATION

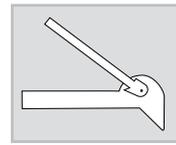
CAT NR.	ORD NR.	BOX QTY.
RNG/4	01240	150



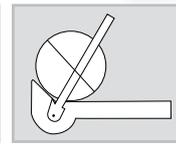
As a Drill Point Gage



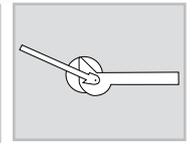
As a Square



As a Protractor



As a Center Finder



As a Circle Divider

11

Depth and Angle Gauge

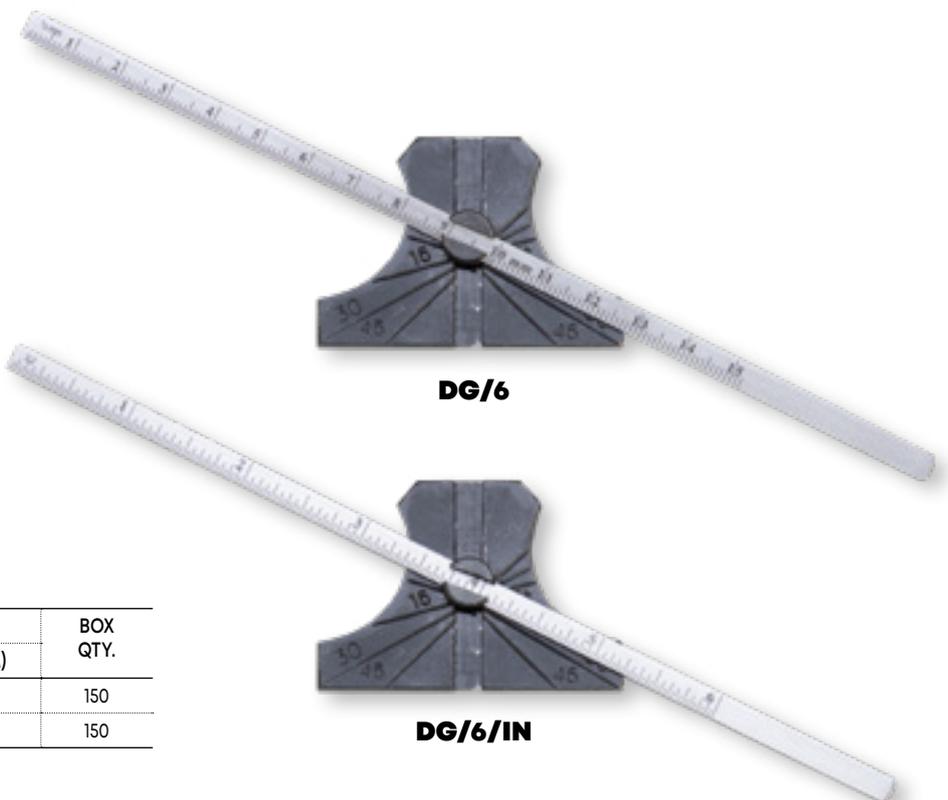
DG

Single tool to measure both depths & angles

Head manufactured from selected steel with rust inhibiting black oxide finish

Head is graduated both on left and right to 15°, 30° and 45°

Steel rule is fitted to the head and can be locked in final position for depth or angular measurements by a knurled nut



ORDERING INFORMATION

CAT NR.	ORD NR.	RULE LENGTH		BOX QTY.
		(INCH)	(MM)	
* DG/6	01214	-	150	150
◆ DG/6/IN	01227	6	-	150

* Best Seller ◆ New

12

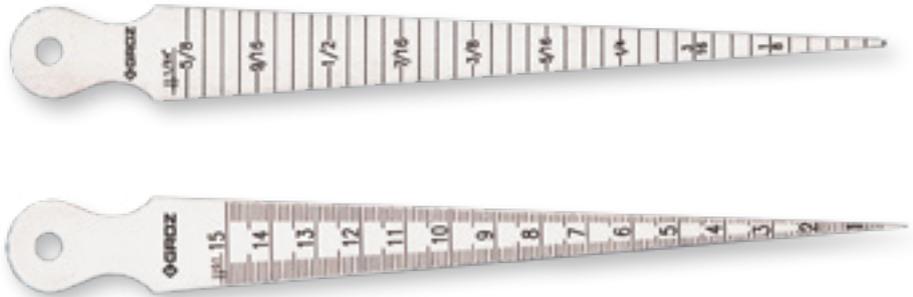
Bore Gauge (Taper Gauge)

BG

Manufactured from stainless steel with permanently engraved graduations

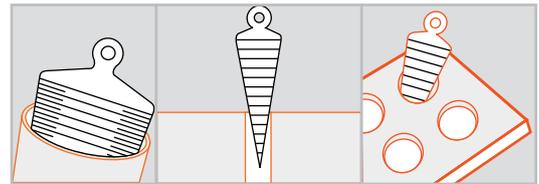
Accurate taper throughout the length of the gauge makes it a convenient tool for measuring diameters of small holes, slots etc.

With imperial graduations on one side & metric on the other, this is an ideal tool for die makers, machinists and on inspection floors



ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		LEAST COUNT		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	
BG/1-15	01200	1/32-5/8	1-15	1/64	0.1	200



13

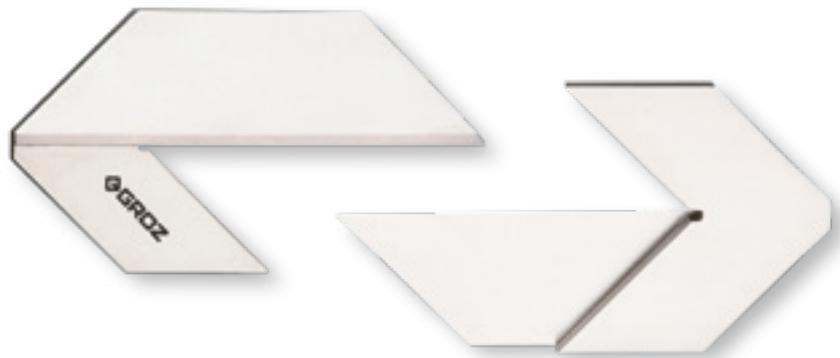
Center Square

CS

An extremely useful tool for the machinist on the lathe or the tool maker at the bench for locating centers of round stocks /parts quickly and easily

Knife edge is manufactured from spring steel

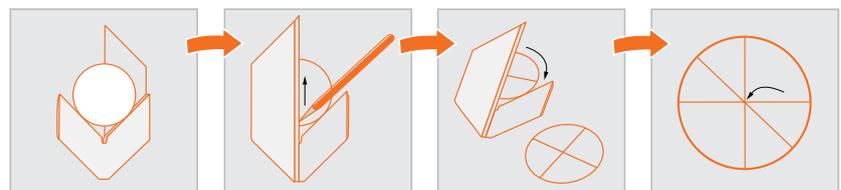
Hardened and precisely ground for extended life



ORDERING INFORMATION

CAT NR.	ORD NR.	WORK DIAMETER		BOX QTY.
		(INCH)	(MM)	
CS/1	03521	1-1/2	38	-
* CS/2	03522	3	75	50

* Best Seller



Position the Center Square Vee's on the round stock near the end face

Scribe a line on this end face, guided by the knife edge blade

Rotate the Center Square to two more positions, and scribe

Perfect centering of the knife edges ensure that the three scribed lines meet at a common point.

Made from heavy gauge hardened stainless steel

Designed for measuring steel wire, hot & cold rolled steel sheet etc. & check sizes from 0 to 36 gauge

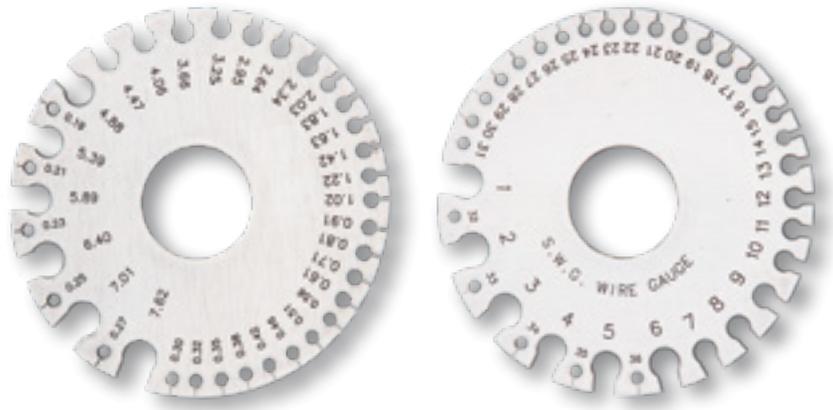
Available in two models

a. Round

Metric dimensions marked on one side and gauge markings on the other

b. Rectangular

Both metric and gauge markings on the same side



WG/RD/3

Accuracy: Within 100 microns

ORDERING INFORMATION

CAT NR.	ORD NR.	TYPE	BOX QTY.
* WG/RD/3	01213	Round	250
WG/R/6	01212	Rectangular	200

* Best Seller



WG/R/6

Manufactured from hardened and polished stainless steel

Gauge surfaces are accurately ground

Useful for checking tool angle while cutting threads in metal turning lathes. The angle on the thread cutting tool is checked on the V slots in the gauge



The gauge clearly indicates 55° for Whitworth and BSF Threads; 47-1/2° for BA Threads, 60° for Metric and American National Threads and 14-1/2° for Acme threads

Relief at the end of each slot enables proper seating of the cutting tool in the slot thus ensuring correct angle

ORDERING INFORMATION

CAT NR.	ORD NR.	BOX QTY.
SCG/4714	01223	250

Balanced Frame Design

Steel frame prevents flexing ensuring greater accuracy in measurement.

Non-wearing carbide tipped anvil & measuring faces ensure accurate measurements over a long period of time

Hardened spindle with precisely cut threads for smooth movement and high accuracy

Satin chrome thimble and barrel with convenient to read deep etched graduations in black

Ratchet stop for exact repetitive measurements

Quick & easy zero adjustment with spanner wrench

Supplied with master on all sizes except 0-25 mm / 0-1"

Available in 2 models

- a. Inch models
- b. Metric models

Anvil \varnothing 6.5 mm
 Carbide tipped anvil flat to within 0.6 μ



SPECIFICATIONS

RESOLUTION	0.0005"	0.01 MM
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ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE (INCH)	ACCURACY (INCH)	BOX QTY.
INCH MODELS				
MM/0-1	16112	0 - 1	± 0.0001	25
MM/1-2	16113	1 - 2	± 0.0001	25
MM/2-3	16114	2 - 3	± 0.0001	25
MM/3-4	16115	3 - 4	± 0.0001	25
MM/4-5	16116	4 - 5	± 0.0001	25
MM/5-6	16117	5 - 6	± 0.0001	25

CAT NR.	ORD NR.	RANGE (MM)	ACCURACY (MM)	BOX QTY.
METRIC MODELS				
* MM/0-25	16104	0 - 25	± 0.004	25
MM/25-50	16105	25 - 50	± 0.004	25
MM/50-75	16106	50 - 75	± 0.004	25
MM/75-100	16107	75 - 100	± 0.004	25
MM/100-125	16108	100 - 125	± 0.004	25
MM/125-150	16109	125 - 150	± 0.004	25

* Best Seller

Superior tool designed to measure, record & display dimensions

Dual mode measurement system - inches & mm

Balanced Frame Design

- Steel frame prevents flexing ensuring greater accuracy in measurement.
- Insulation at top and bottom end of the frame safeguards against data distortion due to thermal expansion

Extra large, high contrast LCD digital read out

Non – wearing carbide tipped anvil & measuring faces ensure accurate measurements over a long period of time

Zero setting at any position along the scale

Two Measuring Modes

- Absolute
- Incremental

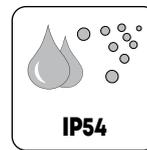
Ball Attachment

Each piece comes with a standard ball attachment that converts a regular micrometer into a pipe micrometer, enabling measurement of pipes, tubes, etc.

Supplied with master on all sizes except 0-25 mm / 0-1"

Integral data output interface to transfer data to PC / Laptop etc. Data cable not included

Comes complete with SR44 battery



MMED/1

Friction Thimble

IP54 Compliant:

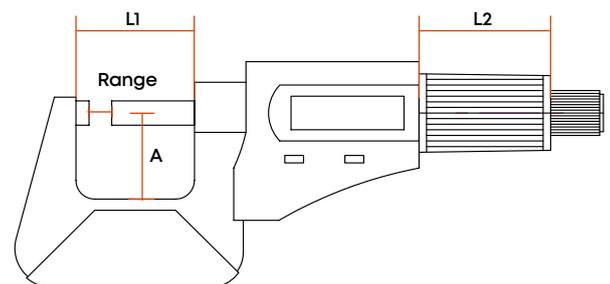
Dust in the external environment and water splash from any direction will not adversely affect the micrometer



Reading in mm



Reading in inch



SPECIFICATIONS

RESOLUTION	0.00005"	0.001 MM
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MMED/1/65

Ratchet Thimble

IP65 Compliant:

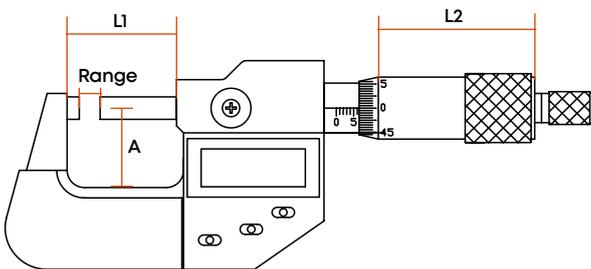
Ingress of dust and complete protection against water jet from any direction, will not adversely affect the micrometer



Reading in mm



Reading in inch



ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		ACCURACY		A		L1		L2		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
IP54 COMPLIANT												
MMED/1	16122	0 - 1	0 - 25	0.00016	± 0.004	0.89	22.60	1.10	28.00	1.34	34.00	20
MMED/2	16123	1 - 2	25 - 50	0.00016	± 0.004	1.25	31.75	2.09	53.00	1.34	34.00	20
IP65 COMPLIANT												
MMED/1/65	16124	0 - 1	0 - 25	0.0001	± 0.002	0.89	22.60	1.10	28.00	1.91	48.50	20

Metal Digital Calipers with **dual mode measurement system – inches & mm**

Deliver accurate readings of inside, outside, depth & step measurements

Rugged, stainless steel body with zinc die cast display chamber

Large high contrast LCD digital readout

Free wheeling thumb roller mechanism for smooth movement along the linear scale

Convenient to use locking screw to set calipers at any desired position

Measurement can be zero set at any position along the scale for incremental measurements

Extendable depth gauge for use in slots & small holes

In-built data output interface to transfer data to PC/ Laptop etc. Data cable not included



EDC/6



IP67*

*Valid for EDC/6/67

EDC/6/67

IP67 Compliant:

Ingress of dust and water splash will not adversely affect the caliper

Includes 3V lithium battery



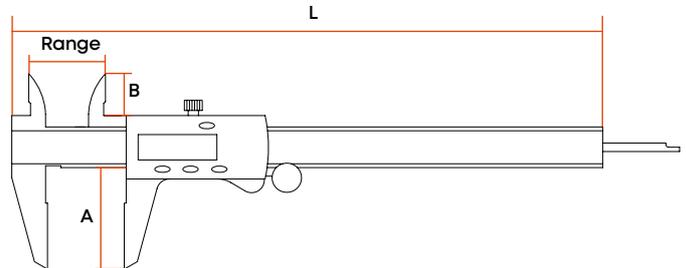
Reading in mm



Reading in inch

SPECIFICATIONS

RESOLUTION	0.0005"	0.01 MM
ACCURACY	± 0.001"	± 0.02 MM



ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		A		B		L		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
* EDC/6	16023	0 - 6	0 - 150	1.60	39.50	0.60	16.00	9.30	236.00	40
EDC/8	16024	0 - 8	0 - 200	2.00	50.00	0.76	19.50	11.25	286.00	30
EDC/12	16025	0 - 12	0 - 300	2.33	59.25	21.00	21.00	16.4	400.00	20
IP67 COMPLIANT										
EDC/6/67	16026	0 - 6	0 - 150	1.60	39.50	0.59	15.00	9.30	236.00	40

* Best Seller

Most popular Caliper design

Useful for inside, outside, depth & step measurements

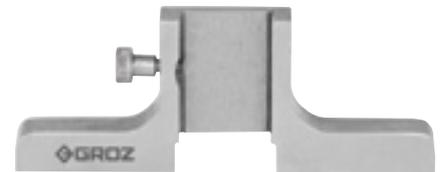
Hardened stainless steel body in satin chrome finish

Vernier scale etched with permanent black graduations for precise & convenient reading

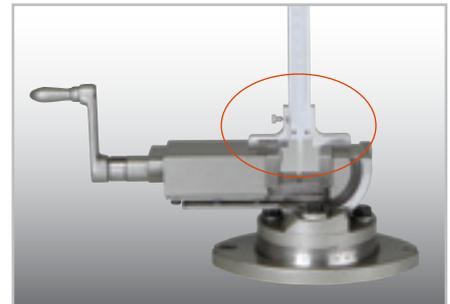
Convenient to use locking screw to set calipers at any desired position useful in applications requiring repetitive measurement

Free wheeling thumb roller mechanism for smooth movement along the linear scale

Extendable depth gauge for use in slots & small holes



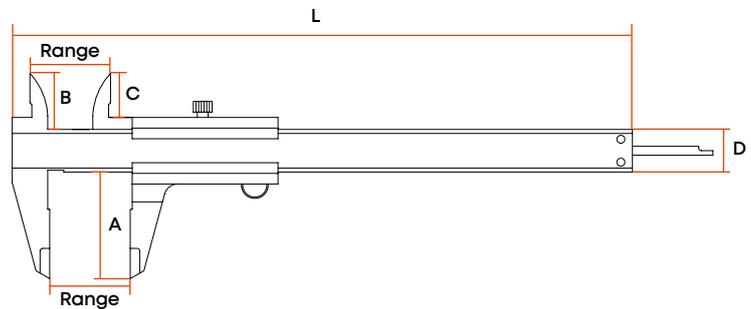
DBA/3 - Depth Base Attachment



Slide-on attachment connects to the depth end of the caliper providing a base for measuring holes

SPECIFICATIONS

RESOLUTION	0.001"	0.02 MM
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ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		ACCURACY (MM)	L (MM)	A (MM)	B (MM)	C (MM)	D (MM)	BOX QTY.
		(INCH)	(MM)							
* VNC/6	16043	0 - 6	0 - 150	± 0.02	229.00	40.00	20.00	15.00	16.00	30
VNC/8	16044	0 - 8	0 - 200	± 0.03	292.00	50.00	24.00	20.00	16.00	25
VNC/12	16045	0 - 12	0 - 300	± 0.04	405.00	61.50	26.00	20.00	20.00	20
DBA/3	16027	Depth Base Attachment - For use with VNC/6 & VNC/8								

* Best Seller

Hardened stainless steel construction in satin chrome finish

Suitable for inside, outside, depth & step measurements

Vernier scale etched with permanent black graduations allows precise & convenient reading

Covered rack prevents dirt & chips from entering the 'rack & gear' mechanism ensuring smooth operation

Convenient to use locking screw to set calipers at any desired position: Useful in applications requiring repetitive measurement

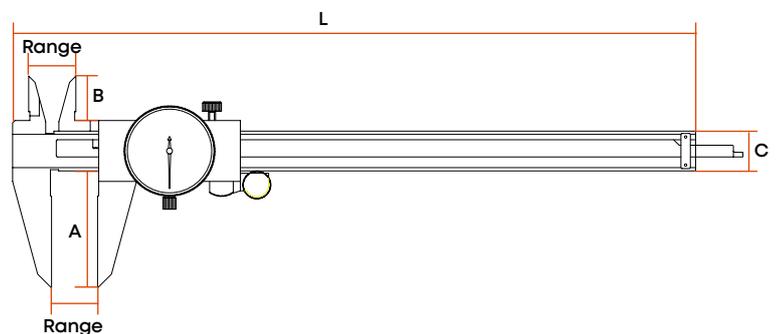
Free wheeling thumb roller mechanism for smooth movement along the linear scale

Dial gauge has an adjustable bezel for zero setting



SPECIFICATIONS

RESOLUTION	0.02 MM
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ORDERING INFORMATION

CAT. NR.	ORD NR.	RANGE	RANGE PER REVOLUTION	ACCURACY	A	B	C	L	BOX QTY.
		(MM)	(MM)	(MM)	(MM)	(MM)	(MM)	(MM)	
DLC/150	16062	0 - 150	2	± 0.02	39.40	16.00	16.00	236.00	25
DLC/200	16063	0 - 200	2	± 0.03	47.50	19.00	16.00	285.00	25
DLC/300	16064	0 - 300	2	± 0.04	62.00	21.00	20.00	410.00	20

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Digital Indicators

DGI

Robust construction

Suitable for both inch & metric measurements

Useful for absolute & tolerance measurement which allows for measure of upper & lower tolerances

Supplied with flat & lug back

Complete with CR 2032 : 3V battery

Available in 2 models

- a. Standard
- b. High Accuracy



ORDERING INFORMATION

CAT NR.	ORD NR.	DETAIL	RANGE		ACCURACY		RESOLUTION		BOX QTY.
			(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
DGI/1	16220	Standard	0 - 1/2	0 - 12.70	± 0.0008	± 0.02	0.0005	0.01	30
DGI/2	16221	High Accuracy	0 - 1/2	0 - 12.70	± 0.0002	± 0.005	0.00005	0.001	30

22

Dial Indicators

DLG

Mechanical dial indicator with bottom plunger

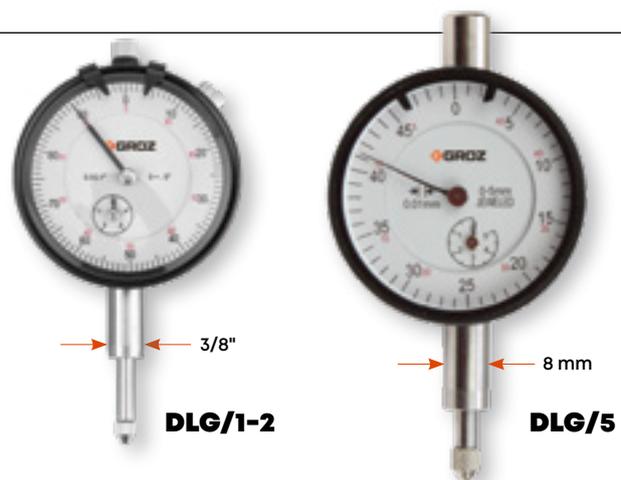
Furnished with lug-on center back

Each revolution is indicated by a revolution counter

Meets AGD specifications

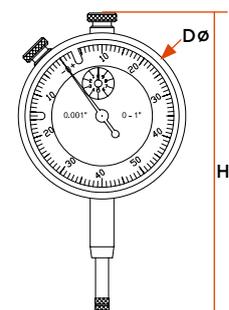
Available in 2 models

- a. Inch model - 3/8" dia. stem
- b. Metric model - 8 mm dia. stem



ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE	RANGE PER REVOLUTION	ACCURACY	RESOLUTION	DIAL READING	AGD	DIA (D)	HEIGHT (H)	BOX QTY.
INCH MODEL										
DLG/1-2	16204	0 - 1/2"	0.10"	± 0.002"	0.001"	0 - 100	2	2.28"	4.19"	25
DLG/0-1	16205	0 - 1"	0.10"	± 0.002"	0.001"	0 - 100	2	2.28"	4.67"	25
METRIC MODEL										
DLG/5	16202	0 - 5 mm	0.50 mm	± 0.03 mm	0.01 mm	0 - 50	1	42 mm	79 mm	25
DLG/10	16203	0 - 10 mm	1.00 mm	± 0.03 mm	0.01 mm	0 - 100	2	58 mm	110 mm	25



Designed for easy and accurate measurement of narrow and recessed areas and to probe surfaces that cannot be reached with a normal dial gauge

Useful both for alignment and for measurement purposes

Strong frame provides excellent rigidity and durability

Wide dial with clear to read graduations

One-piece bezel and crystal design with O-ring provides resistance to water and dust

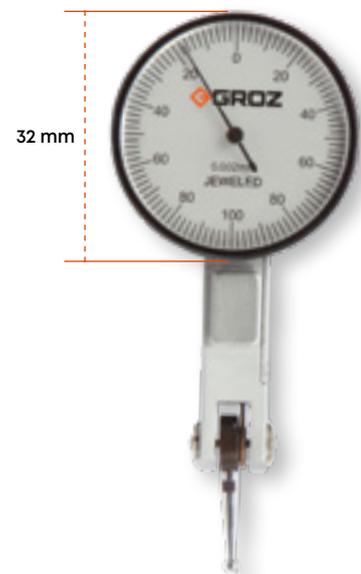
Standard carbide pointer and and contact point for reliable working in all environments

Available in 2 models

- a. Inch model
Includes 2 dovetail stems of dia 5/32" & 3/8"
- b. Metric model
Includes 2 dovetail stems of dia 6 mm & 8 mm



DTI/150
Inch Model



DTI/100M
Metric Model

ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE	ACCURACY	RESOLUTION	DIAL READING	BOX QTY.
INCH MODELS						
DTI/150	16242	0 - 0.03"	±0.0004"	0.0005"	0 - 15 - 0	25
METRIC MODELS						
DTI/40M	16240	0 - 0.80 mm	±0.008 mm	0.01 mm	0 - 40 - 0	25
DTI/100M	16241	0 - 0.20 mm	±0.003 mm	0.002 mm	0 - 100 - 0	25

Versatile solution for

- Height measurement
- Scribing & marking work-pieces
- Measuring run-out center distance

Single beam construction.

Hardened & ground base designed to eliminate vibration. Vertical bar is accurately positioned & perfectly perpendicular to the base

Large easy to read LCD display

Fine adjustment for accurate and precise positioning

Locking handle to hold slide in position

Can be zero set at any position along the vertical

Comes complete with

- Hardened & ground carbide tipped scriber
- Holder for 8 mm stem dial gauge

Dial gauge not included

SPECIFICATIONS

RESOLUTION	0.0005"	0.01 MM
ACCURACY	± 0.0015"	± 0.04 MM



ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		BOX QTY.
		(INCH)	(MM)	
DHG/12	01636	0 - 12	0 - 300	5

Designed for measuring depths of holes, slots and recesses during inspection of jigs, fixtures and die work

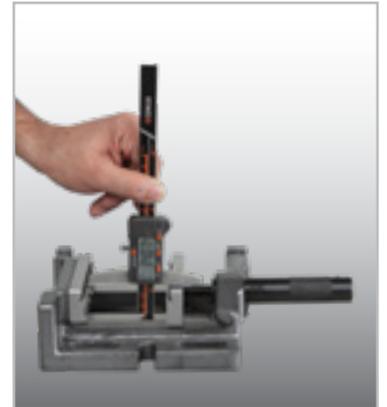
Dual mode measurement system - inches & mm

Free wheeling thumb roller mechanism for smooth movement along the linear scale

Convenient to use locking screw to set caliper at any desired position: Useful in applications requiring repetitive measurements

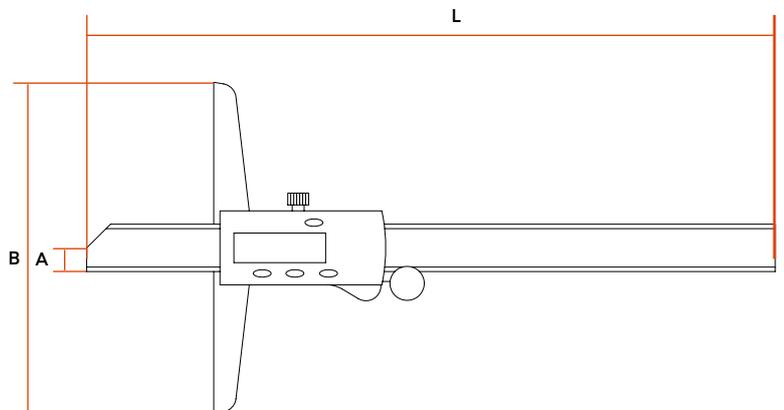
Measurement can be zero set at any position along the scale for incremental measurement
Large high contrast LCD digital readout

Integral data output interface to transfer data to PC/ Laptop. Data Cable not included



SPECIFICATIONS

RESOLUTION	0.0005"	0.01 MM
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ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		ACCURACY		A		B		L		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
DDG/6	16090	6	150	±0.001	±0.02	0.24	6.00	4	100.00	9.06	230.00	25
DDG/8	16091	8	200	±0.0015	±0.03	0.24	6.00	4	100.00	11.23	280.00	25
DDG/12	16092	12	300	±0.0015	±0.04	0.24	6.00	4	100.00	14.84	377.00	25

Designed for measuring depths of holes, slots & recesses and for inspecting jigs, fixtures and die work

Manufactured from hardened stainless steel

Vernier scale etched with permanent black graduations, for precise and convenient reading

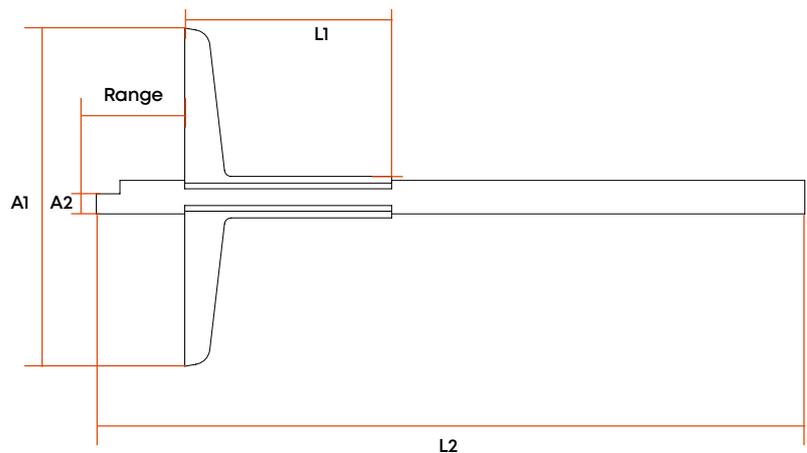
Free wheeling thumb screw for smooth movement along the linear scale

Convenient to use locking screw to set calipers at desired position: Useful in applications requiring repetitive measurements



SPECIFICATIONS

RESOLUTION	0.05 MM
ACCURACY	± 0.05 MM



ORDERING INFORMATION

CAT. NR.	ORD NR.	RANGE		A1 (MM)	A2 (MM)	L1 (MM)	L2 (MM)	BOX QTY.
		(INCH)	(MM)					
VDG/6	16080	6	150	100.00	6.00	61.50	225.00	25
VDG/8	16081	8	200	100.00	6.00	61.50	275.00	25
VDG/12	16082	12	300	100.00	6.00	61.50	373.00	20

An exceptional set which combines several tools: Try squares, miter, depth gauge, height gauge, marking gauge, level & a precision rule

Constructed from high quality cast iron

Comprises:

Square Head

- Highly versatile layout tool for scribing right angles & parallel lines
- Precisely ground 90° square face & a 45° miter face
- Used as a measuring tool that can work as a try square, miter, depth gauge, height gauge & a level

Center Head

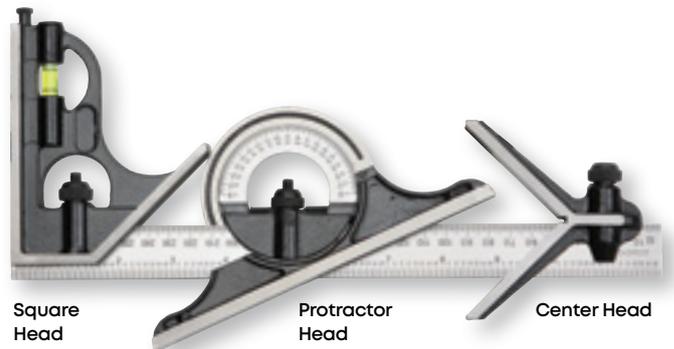
- Used for accurately locating center of a cylindrical or square work piece

Protractor Head

- Includes revolving turrets with direct reading double graduations from 0 to 180° in opposite directions.
- This permits accurate & quick direct reading of angles above or below the blade

Steel Rule

- Precision Steel Rule with shoulder on one side. Rule is 12" (300 mm) long x 1" (25 mm) wide x 2 mm thick
- Graduated with 0.50 mm & 32nds on one side & 1.0 mm & 64ths on the reverse side



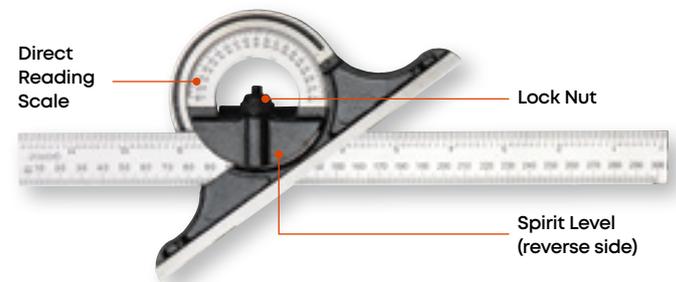
Square Head

Protractor Head

Center Head



Steel Rule



Steel Rule

Lock Bolt



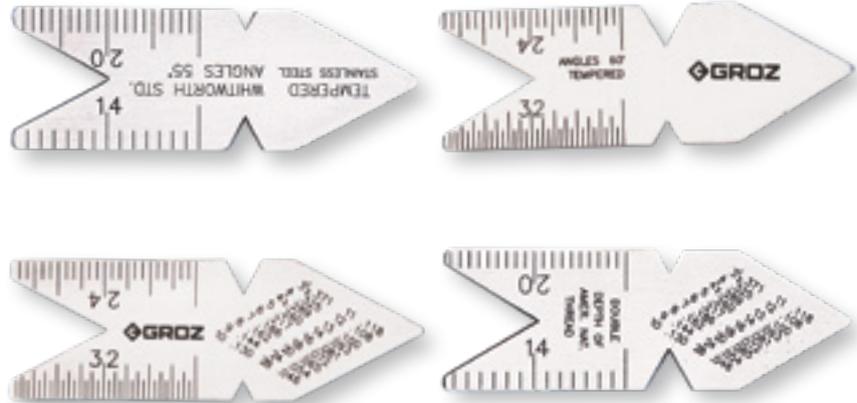
ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE	BOX QTY.
CSQ/12/4/ST	01070	4 pc Combination Square. Includes 12" (300 mm) Rule, Center Head, Protractor Head & Square Head	10

Manufactured from stainless steel

Very useful for grinding and setting thread cutting tools, checking the pitch of threads through the permanently deep etched graduations in 14^{ths}, 20^{ths}, 24^{ths} and 32^{nds} of an inch

These gauges meet the American National or US 60°, Whitworth or English 55° specifications



ORDERING INFORMATION

CAT NR.	ORD NR.	TYPE	BOX QTY.
CG/55	01210	55° Whitworth (English Standard)	200
* CG/60	01211	60° American National (US Standard)	200

* Best Seller

Electronic Edge Finder is an easy, accurate & time saving tool for precisely locating work edges, shoulders, grooves etc. for use both on conventional & CNC machines

Designed with 6 equally spaced light ports for visibility from any angle

Edge finder lights instantly when the stylus touches the work edge

Reads off any electrically conductive metal

Edge finder body is made from Aluminum, with a precisely ground cylindrical steel stylus, 6 light ports, LED & a 12V battery



ORDERING INFORMATION

CAT NR.	ORD NR.	SHANK DIA. (INCH)	CYLINDRICAL HEAD DIA. (INCH)	BOX QTY.
EF/EC/1-2/0.2	03540	1/2	0.20	200

SPECIFICATIONS

CONCENTRICITY	± 0.0005"
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Edge finders are designed for 2D aligning of component reference surfaces & edges, determining bore centres with reference to the centre of the machine spindles etc.

Robust & non wearing design, with the body made from hardened steel & a spring loaded highly accurate steel ball

On contact between the spherical tip the metal component, the unit lights up, thus identifying the point of reference

All functional parts are hardened & accurately ground

Reads off any electrically conductive metal

Comes complete with batteries (12V Pencil)

Available in 2 models

- a. Electronic Edge Finder**
Light up on contact
- b. Electronic & Audible Edge Finder**
Lights up with sound on contact


EF/2D/1-2/0.2

EF/2D/1

EF/2D/AD/1


ORDERING INFORMATION

CAT NR.	ORD NR.	TYPE	SHANK DIA.	BALL DIA.	BOX QTY.
			(INCH)	(INCH)	
EF/2D/1-2/0.2	03538	Electronic	1/2	0.200	100
EF/2D/1	03535	Electronic	3/4	0.400	100
EF/2D/AD/1	03537	Electronic & Audible	3/4	0.400	100

SPECIFICATIONS

CONCENTRICITY	± 0.0004"	± 0.010 MM
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Wiggler/Center finder with its four interchangeable attachments is a versatile tool with several applications

The attachments can be snapped onto the chuck without removing the collet nut and are clamped by a ball swivel joint which permits adjustment to an angular position

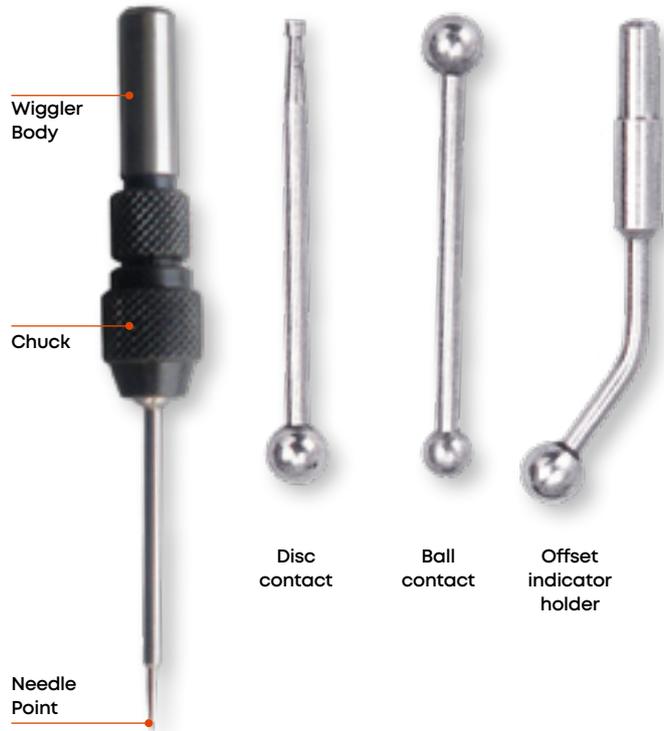
Needle Point Wiggler with Shank
Useful for locating working centers. Spring tension on the ball of the point permits guiding the point to true concentricity bringing perfect alignment between the work and machine spindle

Ball Contact
Useful in locating work by first bringing the ball contact against the work and then indexing it to the desired position relative to the spindle

Wiggler with Disc Contact
Useful in locating work in confined areas such as slots or shallow holes

Wiggler with Offset Indicator
Useful for checking run out or concentricity and in checking straightness or alignment of flat surfaces

Diameter of Disc
0.1"



Needle Point shank being used to locate center on workpiece



ORDERING INFORMATION

CAT NR.	ORD NR.	DESCRIPTION	BOX QTY.
WCF/WZ-6/SPL	03520	Center Finder complete with 4 attachments.	100

Edge & Center Finders are time saving positioning tools used for accurately locating work edges, shoulders, grooves, center points & scribed lines

Especially useful in jig boring, on milling machines etc.

Manufactured from precision ground tool steel, these are case hardened 45-48 HRC

Center Finder
The Center Finder will pick up cross lines to drill or bore holes



EF/3

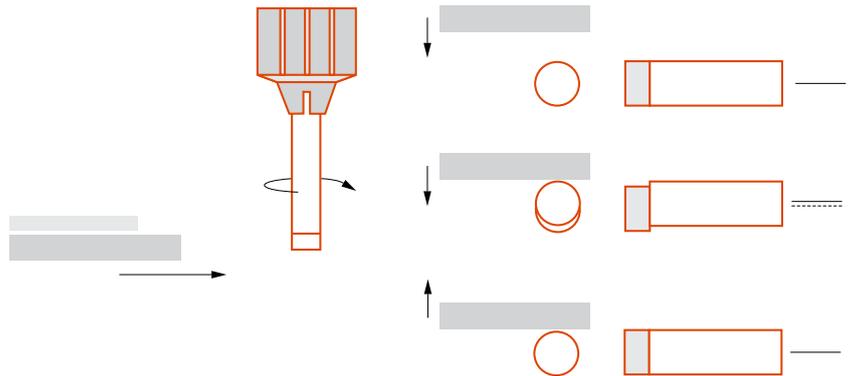
EF/9

Combination Edge & Center Finder
One tool serves two purposes. It will find centers and also locate work edges



EF/6

EF/5



Using Edge Finders

1. Hold the edge finder in a collet or chuck
2. Traverse work table to obtain contact between the rotating edge finder and the work
3. Contact will shift to a position concentric relative to the edge finder body
4. With very slight table adjustment, contact will move off center with a distinct wobble. Stop adjustment at this point and slide back table slightly to bring the edge finder back to concentricity
5. At this point, the center of the finder is exactly half the diameter of the contact from the work edge, thus allowing accurate location for other machining operations relative to the edge

Using Center Finders

1. For locating center points and scribed lines, the pointed contact is used by putting a pencil or rule against the center point and running it concentrically
2. The point of the center finder is brought down to the center point/ intersection of scribed lines and table adjusted so that when the tool just touches the work, the line up with the center point can be ascertained

Edge Finder

Edge Finders accurately locate work edges, shoulders grooves etc.

**ORDERING INFORMATION**

CAT NR.	ORD NR.	TIP DIAMETER	SHANK DIAMETER	BOX QTY.
CENTER FINDERS				
EF/3	03502	---	1/2"	400
EF/9	03509	---	3/8"	400
COMBINATION EDGE & CENTER FINDERS				
* EF/6	03506	0.20"	3/8"	400
EF/5	03504	0.20"	1/2"	400
EDGE FINDERS				
* EF/2M	03501	10 mm	10 mm	400
EF/12	03511	4 mm	10 mm	400
* EF/13	03512	10 mm	10 mm	400
* EF/1	03500	0.20"	3/8"	400
* EF/4	03503	0.20"	1/2"	400
EF/11	03510	3/8"	3/8"	400
EF/8	03508	1/2"	1/2"	400
DOUBLE EDGE FINDER				
EF/7	03507	0.20"	1/2"	400
SETS				
EF/1-5-7-8/ST	03550	A set of 4 Edge Finders and combination Edge and Center Finders containing one each of EF/1, EF/5, EF/7 & EF/8		400
EF/3-4-6-9/ST	03551	A set of 4 Edge & Center Finders containing one each of EF/3, EF/4, EF/6 & EF/9		400

* Best Seller

SPECIFICATIONS

ACCURACY DIAMETER	WITHIN 0.0002"	5 μ
ACCURACY CONCENTRICITY	WITHIN 0.0002"	5 μ

Convenient & accurate tool to gauge the height offset of work piece from cutting tool

Gauge lights up instantly when the cutting tool touches the probe on the gauge resting on the work piece

4 equally spaced light ports for visibility from any angle

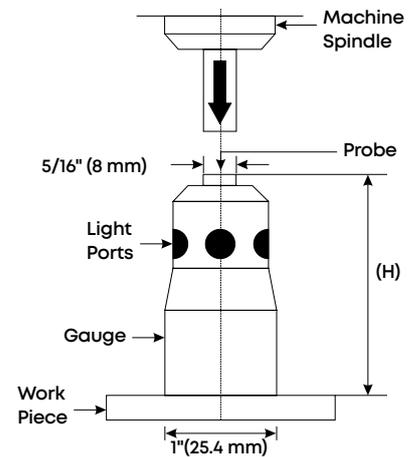
Hardened and precision ground body.

Spring loaded probe safeguards against damage from overrun

Reads off any electrically conductive metal

Suitable for use both on conventional and CNC equipment

Furnished with bulb, 2 numbers of 1.5V button cells and protective case



SPECIFICATIONS

GAUGE HEIGHT	WITHIN $\pm 0.0002''$	± 0.005 MM
BODY NOMINAL DIA.	1"	25.4 MM
PROBE NOMINAL DIA	-	7.990 -0.01

ORDERING INFORMATION

CAT NR.	ORD NR.	BOX QTY.
HOG/2	03560	100

An Angle Finder, Center Locator & a Levelling Gauge - all in one

Designed to give full 360° readings via an accurate and balanced needle

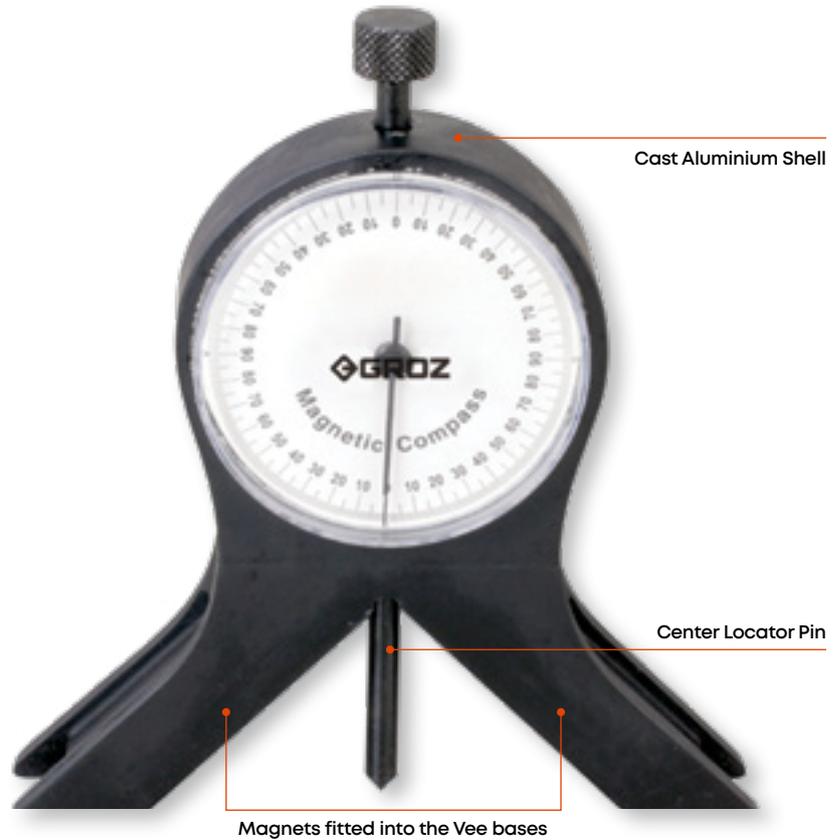
Protractor body is encased in cast aluminium shell with legs made from cast iron

Vee bases have inbuilt magnets that exert magnetic pull both within the Vee & across the bottom surface of the legs of the Vee. This allows the tool to attach instantly to any ferrous surface

Bases are precision ground and the center pin shows the middle point for locating centers on round objects

Suitable For Use In

- a. Tool Rooms & Machine Shops
 - For determining angles on shapers, milling machines, grinders etc.
 - For determining center of round stocks
 - For drilling operations
- b. Welding Shops
- c. Construction & Maintenance sites
- d. Auto & Truck shops, especially for checking angles of die lines



SPECIFICATIONS

ANGULAR ACCURACY	± 30'
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Magnetic Compass being used to:



Locate center on circumference at any desired angle to the ground



Check table alignment in the horizontal plane

ORDERING INFORMATION

CAT NR.	ORD NR.	HEIGHT		WIDTH		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	
MBP/01	01690	5-5/16	133	4-3/4	121	20

The Universal Surface Gauge is used for scribing lines transferring measurements probing surfaces in inspection

Fully hardened and ground base serves as an accurate reference surface

Machined Vee groove in the base allows the gauge to be used conveniently on curved surfaces

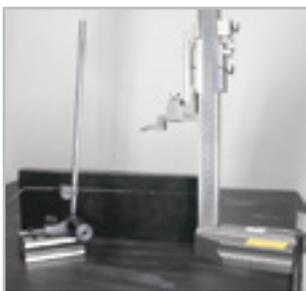
Vee groove at the front end allows the spindle to adjust to any angle above or below the base allowing it to be used as a height or depth gauge

Two retractable pins allow the gauge to be located against the edge of a surface plate or T-slot for linear work

1/4" (6.35 mm) hole in the spring loaded scriber holder allows a dial indicator to be attached conveniently making the gauge useful for checking flatness, parallelism, heights, depths etc.

Grooves on the side of the base allow for comfortable grip

Well tapered scriber for better sighting while working. The scriber tip is hardened to 55-60 HRC



Surface Gauge being used to scribe a horizontal line parallel to the ground, on a work piece

ORDERING INFORMATION

CAT NR.	ORD NR.	BASE DIMENSIONS		SPINDLE LENGTH	SCRIBER LENGTH		BOX QTY.
		(INCH)	(MM)		(INCH)	(MM)	
* SG/9-12	03201	3-1/8 x 2-1/2	80 x 63	12" (300 mm) with extra 9" (225 mm) spindle	7	175	15

* Best Seller

Comparator Stands are useful for fast and efficient dimensional inspection on production parts

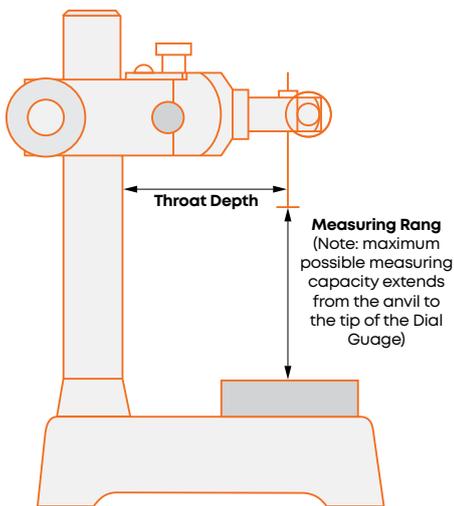
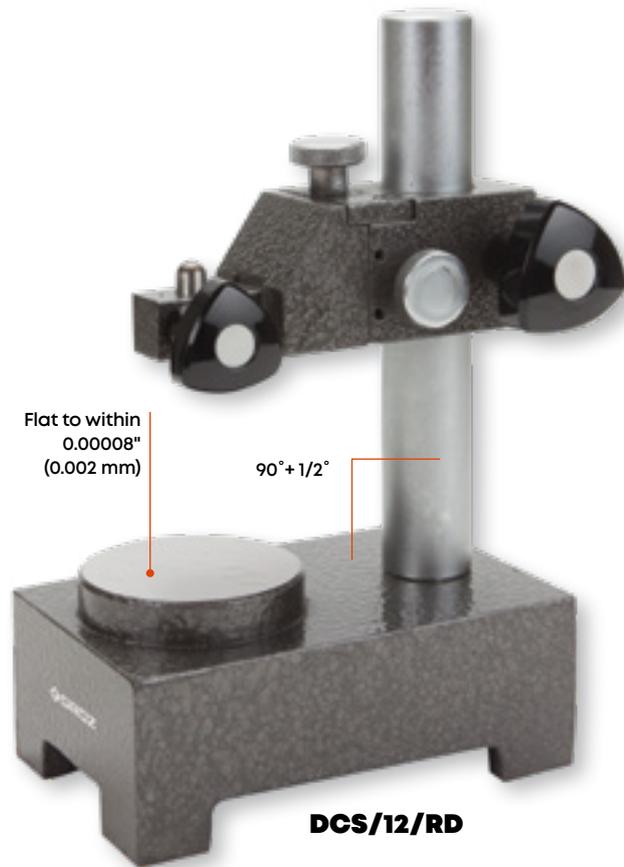
Stand comprises of a sturdy cast iron base precisely ground and machined providing a totally flat surface.

The anvil is hardened 55-58 HRC for greater wear resistance and lapped for high accuracy setting of jobs

The longitudinal slide can be adjusted to different positions using the knurled knob. It moves along the ground steel pillar at accurate right angles to the base

Fine adjustment feature for accurate setting of jobs

With 6 mm holder for secure holding of dial gauges



ORDERING INFORMATION

CAT NR.	ORD NR.	ANVIL TYPE	ANVIL SIZE		THROAT DEPTH		MEASURING RANGE		FINE ADJUSTMENT		BOX QTY.
			(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
DCS/12/RD	01607	Round	2-3/8	60	2-3/4	70	3	75	5/16	8	3
DCS/12/RD/S	01608	Round & Serrated	2-3/8	60	2-3/4	70	3	75	5/16	8	3
DCS/12/SQ	01609	Square	2-3/8	60	2-3/4	70	3	75	5/16	8	3

Manufactured from highest quality Black Granite with uniform texture and color

Inherently stable, non-magnetic and with minimal thermal expansion coefficient, Granite is most suitable for applications requiring very high levels of co-planarity, perpendicularity, parallelism, flatness, and straightness.

Rigid Granite base is free from burrs, pileups, rust, and deterioration over time thus providing high accuracy and stability


ORDERING INFORMATION

CAT NR.	ORD NR.	BASE SIZE		THROAT DEPTH		MEASURING RANGE		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
DCS/GN/10-6	01642	10 × 6	255 × 155	4	100	6	150	1
DCS/GN/12-8	01643	12 × 8	306 × 205	5	125	7-3/32	180	1

Lens made of clear optical glass, ground and polished to give sharp images with minimum eye fatigue

Light weight plastic body

Suitable for close inspection of detailed work

Ideal for watch repair, jewellery making, inspecting the edge of cutting tools etc.



ORDERING INFORMATION

CAT NR.	ORD NR.	MAGNIFICATION	BOX QTY.
EYL/2	02000	2x	600
EYL/3	02001	3x	500
EYL/3-5	02002	5x	300
EYL/4	02003	4x	300
EYL/4-5	02004	4.5x	300
EYL/5	02005	5x	300
EYL/10	02006	10x	250
SET			
EYL/2-5-10/ST	02020	Set of 3 with magnification 2x, 5x & 10x	200

Two sets of quality tools suitable for turning and allied trades and for fitting and general trades. These sets come in handy and useful for the apprentice and the established engineer alike

Each set of tools is fitted into a specially designed durable wallet with the contents detailed on the wallet

ORDERING INFORMATION

CAT NR.	ORD NR.	SET CONSTITUENTS	BOX QTY.
ETS/1/ST	03600	Inside Caliper 4" (100 mm) Outside Caliper 4" (100 mm) Screw Cutting Gauge Steel Rule 6" (150 mm) Pocket Scriber 3-1/2" (89 mm) Center Punch - 5/32" (4 mm)	25
* ETS/2/ST	03601	Engineer's Precision Square 4" (100 mm) Jenny Caliper 6" (150 mm) Steel Rule 6" (150 mm) Double Ended Scriber 7-1/2" (190 mm) Centre Punch - 5/32" (4 mm) Adjustable Tap & Reamer Wrench - DIN 1814 Spring Divider 4" (100 mm)	25

* Best Seller



EST/2/ST



EST/1/ST

Steel and aluminium body scribers for machinist's, engravers, mechanic's and craftsmen

Basic tool for scribing and marking, Scribers can be used on metal, glass, plastics and ceramics

Scriber points are hardened 55- 60 HRC

Scribers are finely tapered permitting better sighting during work



ORDERING INFORMATION

CAT NR.	ORD NR.	OVERALL LENGTH		BOX QTY.
		(INCH)	(MM)	
ALUMINIUM BODY SCRIBERS				
MS/7/AL	03222	8-13/32	215	400
MS/380A	03227	9 & 12	225 & 300	400
MS/380B	03228	8-1/2	216	400
STEEL BODY SCRIBERS				
MS/3/ST	03220	9 & 12	215 & 290	400
MS/4	03212	4-1/2	114	500
MS/MG/6	03221	6	144	400
MS/P/3	03214	3-1/2	110	500
MS/ST/9	03215	7	175	250
MSCP/6	03217	6-3/4	170	400
MS/7	03210	7-1/2	190	400
MS/H/8	03211	9-1/16	230	400
MS/81	03224	6	152	400
MS/83	03225	4-15/16	125	400
MS/84	03226	5-5/16	135	400
MS/85	03229	4-1/2	114	400

Aluminium Body Scribers

MS/7/AL Double Ended Scriber

Light weight with one straight point and the other bent at 90° making it convenient to use in confined spaces

MS/380A Three Point Scriber

Knurled aluminium body with 3 interchangeable threaded steel points: short straight, short bent & long bent which thread into the body

MS/380B Two Point Scriber

Aluminium knurled body with short straight and short 90° bent steel points which thread into the knurled body

Steel Body Scribers

MS/3/ST Steel Body Scriber With 3 Threaded Points

3 interchangeable threaded points; short straight, short bent and long bent. Very handy as different combinations can be used for different applications

MS/4 Single Ended Light Duty Scriber

**MS/MG/6**

Tungsten carbide tip
for marking on hard materials. Permanent magnet on the other end for picking up small metal parts. Comes with a pocket clip

MS/P/3

Scriber With Pocket Clip
Scriber point is held by knurled chuck & can be reversed when not in use, preventing tearing of clothing when clipped on pocket

MS/ST/9

Single Ended Heavy Duty Scriber

MSCP/6

Double Ended Scriber
Combining a needle point with a chisel end

MS/7

Double Ended Scriber
One straight point & other point bent at 90° making it ideal for use in confined spaces

MS/H/8

Double Ended Heavy Duty Scriber
One straight point and the other bent at 90°. Ideal for heavy marking jobs in confined spaces, grooves etc.

MS/81 & MS/83

Pocket Scribers
Replaceable hardened and ground tool steel points. Point reverses into the knurled body for safety. Hex head cap prevents the scribers from rolling down. Used for marking & scribing on steel, copper, brass and aluminium

MS/84

Replaceable Needle Point Scriber
With 4 extra needle points. Plated steel body with knurled handle and hex cap that prevents the scriber from rolling down. Spare needle points are stored in the handle under the cap. Used for marking & scribing on metal, glass, plastics & ceramics

MS/85

Single Point Scriber
Knurled steel body with hardened and tempered point

02

SETUP TOOLS



Manufactured from finely selected tool steel fully hardened to 45-62 HRC is numbered in matched pairs

Each pair has two 90° Vees of different capacities which are identical to the Vees of its matching block

Vee's are ground central, parallel and square with the ends and sides

Each pair of Vee Blocks comes with a pair of rigid clamps

Useful for holding work securely during drilling, milling and grinding operations and also in layout and inspection work



Used as an inspection tool for checking run-outs

SPECIFICATIONS

HEIGHT DIFFERENCE BETWEEN MATCHED PAIRS	WITHIN 0.0002"	5 μ
PARALLELISM AND SQUARENESS OF VEE GROOVES W.R.T. ALL SURFACES	WITHIN 0.0004"	12 μ
PARALLELISM OF OPPOSITE FACES OF VEE BLOCKS	WITHIN 0.0004"	12 μ
SQUARENESS OF ADJACENT EXTERIOR FACES OF VEE BLOCKS	WITHIN 0.0004"	12 μ
FLATNESS OF WORKING FACES	WITHIN 0.0004"	12 μ

ORDERING INFORMATION

CAT NR.	ORD NR.	BLOCK LENGTH		BLOCK WIDTH		BLOCK HEIGHT		WIDTH OF SMALL VEE (V1)		WIDTH OF LARGE VEE (V2)		CLAMPING CAPACITY		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
* VB/T/30	03050	1-19/32	40	1-1/4	32	1-1/4	32	7/16	11	13/16	20	1	25	30
* VB/T/35	03051	2	50	1-1/2	37	1-1/2	37	1/2	13	1-3/32	28	1-1/4	32	24
VB/T/45	03052	1-3/4	45	1-19/32	40	1-7/16	36	9/16	14	1-3/32	28	1-1/4	32	20
* VB/T/70	03054	2-3/4	70	1-3/4	45	1-7/16	37	11/16	17	1-5/16	33	1-1/2	37	15

* Best Seller

42

Multi-Purpose Vee Block & Clamp Set

VB-MP

Designed for holding square or round pieces with high accuracy, hardened within 50-55 HRC

Stepped grooves allows clamps to be inserted without protrusion, allowing blocks to be used on ends or sides

Matched pair are perfectly aligned with 90° Vee grooves ground central and parallel to the sides and base

Available as matched pairs complete with two clamps

SPECIFICATIONS

FLATNESS OF WORKING SURFACE	WITHIN 0.0004"	10 μ
HEIGHT DIFFERENCE BETWEEN MATCHED PAIRS	WITHIN 0.0004"	10 μ
PARALLELISM AND SQUARENESS OF SIDES	WITHIN 0.0004"	10 μ



ORDERING INFORMATION

CAT NR.	ORD NR.	BLOCK LENGTH		BLOCK WIDTH		BLOCK HEIGHT		CLAMPING CAPACITY		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
VB/MP/IP	02920	2-3/8	60	2-3/4	70	2	50	1-1/2	40	12

43

Ultimate Vee Block & Clamp Set

VB-S

Manufactured from selected steel, fully hardened and ground

Extremely versatile Vee Block Set with enhanced features

- Use on base, on end and flat on either sides. Clamp is within the outside width of the block
- Adjustable side screw with cap in the clamp supports the block and prevents tilting during drilling, milling or grinding operations
- Four 3/8" - 16 tapped holes, two in the base and one on each side allow attachment to an angle iron which can then be attached to a lathe face plate or held by a magnetic chuck



Groove at the stepped end, right angled to the base, provides a handy means for holding shouldered studs, round pins etc.



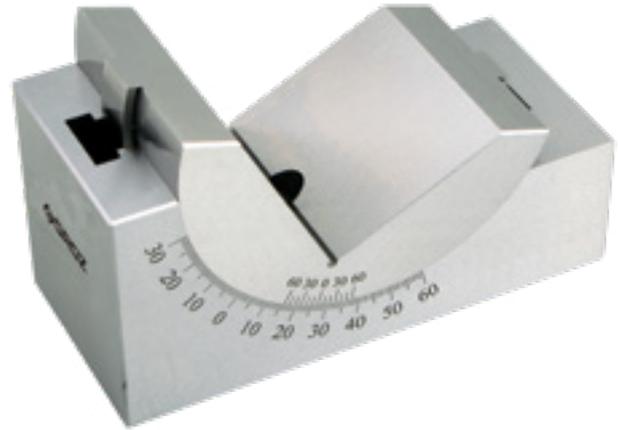
ORDERING INFORMATION

CAT NR.	ORD NR.	BLOCK LENGTH		BLOCK WIDTH		BLOCK HEIGHT		CLAMPING CAPACITY		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
VB/S/48	02910	3-19/32	90	1-7/8	48	1-7/8	48	1-5/16	33	25

Manufactured from finely selected tool steel, fully hardened 50-55 HRC & precision ground

Fully adjustable from 0-60° and can be set at any desired position by locking of the hex screw located in the base

Useful for most drilling, milling and set up jobs where a particular angle to a reference face is required


SPECIFICATIONS

SQUARENESS	0.0004"	10 μ
ANGLE ACCURACY	±10'	

ORDERING INFORMATION

CAT NR.	ORD NR.	BLOCK LENGTH		BLOCK WIDTH		BLOCK HEIGHT		WIDTH OF VEE		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
* PAB/01/A	02100	3-3/4	95	1-3/4	45	2	50	1-29/32	48.5	15
PAB/02/A	02101	3-3/4	95	1-3/16	30	2	50	1-29/32	48.5	15
PAB/03/A	02103	3	75	1	25	1-11/32	34	1-5/32	29.5	15

* Best Seller

Adjustable Angle Block allows the job to be held at any angle 0-60° for angular machining jobs



Manufactured from close grained cast iron, precisely ground and machined square and parallel

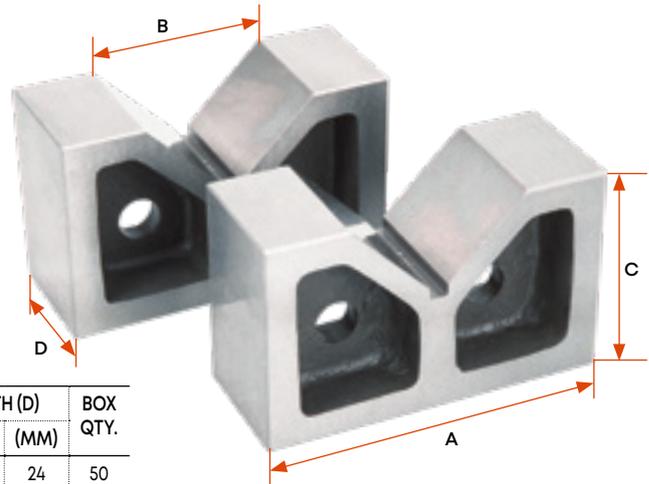
The Vee's are 90° centred in true

These blocks are ideal for holding large jobs where clamping is not necessary. Blocks are manufactured and supplied in numbered pairs

ORDERING INFORMATION

CAT NR.	ORD NR.	LENGTH (A)		WIDTH OF VEE (B)		HEIGHT (C)		WIDTH (D)		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
VB/C/2	03107	2	50	1	22	1-1/4	32	1	24	50
VB/C/3	03100	3	75	1-3/4	45	2-3/8	60	1-5/16	33	15
* VB/C/4	03101	4	100	2-3/16	56	2-9/16	65	1-9/16	40	12
VB/C/5	03102	5	125	2-7/16	62	3-1/8	78	2	50	6
* VB/C/6	03103	6	150	3-1/16	78	3-1/2	88	2-7/16	62	4
VB/C/7	03108	7	180	3-17/32	90	4-17/32	115	3	75	3
VB/C/8	03104	8	200	4-1/2	113	5-1/2	140	4	100	1
VB/C/10	03105	10	250	5	125	6-1/2	165	5	125	1
VB/C/12	03106	12	300	5-1/8	128	8	200	6	150	1

* Best Seller


SPECIFICATIONS

PARALLELISM OF VEE GROVES W.R.T. BASE	WITHIN 0.0020"	50 μ
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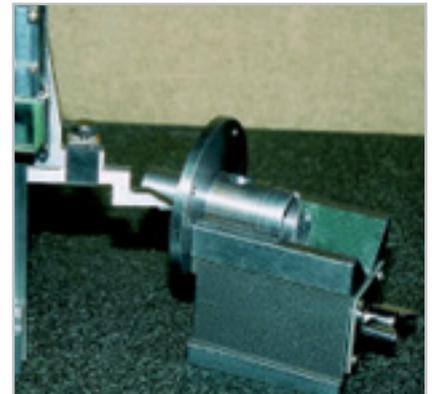
Ideal for holding round or irregular shapes for scribing, grinding, measuring, machining applications

Can be used either ways; up or standing on end

All Vee's and faces can be energised or de energised simultaneously by turning the knob

Can hold both itself and the work piece on flat ferrous surface including a permanent magnetic chuck

Brass knob ensures no interference with the magnetic field



Magnetic Vee Block security holds jobs for accurate marking

SPECIFICATIONS

HEIGHT DIFFERENCE BETWEEN MATCHED PAIRS	WITHIN 0.0004"	10 μ
SQUARENESS OF VEE GROOVES W.R.T BASE	WITHIN 0.0004"	90° ± 5'

ORDERING INFORMATION

CAT NR.	ORD NR.	DETAIL	BLOCK LENGTH		BLOCK WIDTH		BLOCK HEIGHT		WIDTH OF SMALL VEE		WIDTH OF LARGE VEE*		CLAMPING CAPACITY		MAGNETIC PULL (KG)	BOX QTY.
			(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
* MVB/4S	02900	Single	4	100	3	75	3-3/4	95	7/8	22	2-1/8	50	3/16 - 2-3/4	5.0 - 70.0	80	6
* MVB/4P	02901	Pair	4	100	3	75	3-3/4	95	7/8	22	2-1/8	50	3/16 - 2-3/4	5.0 - 70.0	80	3
MVB/5S	02902	Single	3-3/16	80	2-3/8	60	3-3/4	95	11/16	17.5	1-11/16	33	3/16 - 2-3/8	5.0 - 60.0	50	8
MVB/5P	02903	Pair	3-3/16	80	2-3/8	60	3-3/4	95	11/16	17-5	1-11/16	33	3/16 - 2-3/8	5.0 - 60.0	50	4

* Best Seller

Versatile, high precision tool performing variety of functions that would normally require usage of various shims, blocks or machinist's jacks.

Ideal for inspecting shafts and parts with multiple diameters

Anvil height on the block is easily adjustable to support shafts, bars of varying diameters for quick inspection without having to use centers

Anvil supports upto 450 kgs (1000 lbs)

Vibration lock (position lock) prevents creeping

Wide angle Vee accepts 3/16" (5mm) to 5" (125mm) diameters

Top flats ground parallel to the base can hold wide and flat parts

Narrow flats may be held on a parallel across the top

Total Rise of Vee - 1/2" (12mm). Dial graduated in increments of 0.001" (25 microns)

Sold as a set of 2 blocks in matched pairs



Used to check concentricity of different diameters on a stepped rod

SPECIFICATIONS

HEIGHT DIFFERENCE BETWEEN MATCHED PAIRS	WITHIN 0.001"	25 μ
FLATNESS OF BASE	WITHIN 0.0002"	5 μ

ORDERING INFORMATION

CAT NR.	ORD NR.	BLOCK LENGTH		BLOCK WIDTH		BLOCK HEIGHT		CLAMPING CAPACITY		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
AVB/IP	02930	7/8	23	3	78	2.6	67	0.29-2.3	5-125	10

High precision Vee Blocks are used to inspect & detect out of round conditions, defects and lobes without damage to both the parts being checked and the Vee Block itself

Ideal for use where inspection set-ups are not possible using regular Vee Blocks

Design allows inspection of components from two angles by turning the spacer block 90°

Vee Blocks bases are manufactured from cast iron

Fully Hardened (60 HRC) wear resistant balls with sphericity controlled within

- 0.000025" (0.6 μ) on the small and medium sets and 0.00005" (1.27 μ) on the large set.
- Balls are finished to 0.2 micro inches.

Supplied in matched pairs, complete with two clamps and one test ball.

Matched pairs are controlled within ±0.0002" (±0.005mm)



Ball bearing vee blocks with non-marring balls being used to check the roundness of a stepped rod

ORDERING INFORMATION

CAT NR.	ORD NR.	DETAIL	CAPACITY WITHOUT CLAMPS				DIA OF BALLS	CLAMPING CAPACITY		BOX QTY.
			MINIMUM		MAXIMUM			(KGS)	(LBS)	
			(INCH)	(MM)	(INCH)	(MM)				
* VB/BB/1-2	02940	Small Pair	3/64	1.20	2-1/2	63	1/2	100	220	20
VB/BB/15-16	02941	Medium Pair	3/32	2.38	5	127	15/16	500	1100	6
VB/BB/1-1-2	02942	Large Pair	3/16	4.76	15	381	1-1/2	900	2000	2

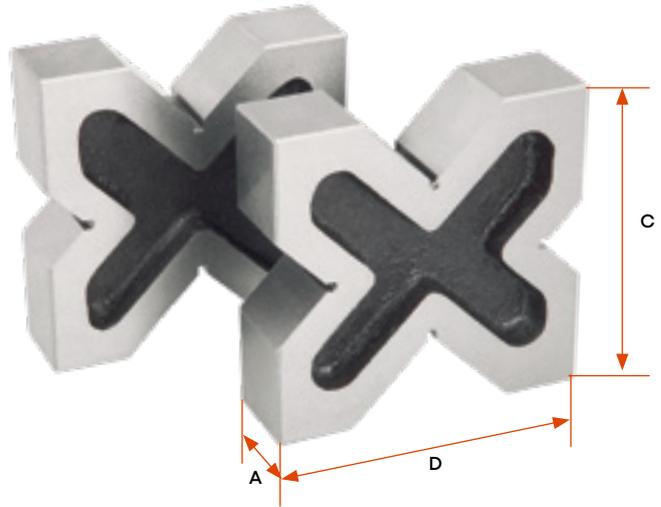
* Best Seller

Manufactured from cast iron, these are precisely ground and machined square and parallel

Each Block incorporates 4 Vee's enabling each block to be used as a workholding device for holding different sized jobs

Supplied in matched and numbered pairs, useful for marking of cylindrical parts

Larger sizes have a cavity on either sides



SPECIFICATIONS

SQUARENESS AND PARALLELISM OF VEE GROVES W.R.T. BASE	WITHIN 0.0015"	40 μ
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ORDERING INFORMATION

CAT NR.	ORD NR.	LENGTH OF PRISM (A)		WIDTH (D)		HEIGHT (C)		VEE CAPACITY		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
★ VB/QD/95-70-35	03110	1-3/8	35	3-3/4	95	2-3/4	70	3/4 × 1-3/16 × 1-9/16 × 2	20 × 30 × 40 × 50	10
★ VB/QD/100-100-30	03111	1-3/16	30	4	100	4	100	3/4 × 1-3/16 × 1-9/16 × 2	20 × 30 × 40 × 50	8
★ VB/QD/120-120-35	03112	1-3/8	35	4-3/4	120	4-3/4	120	1-3/16 × 1-9/16 × 2 × 2-3/8	30 × 40 × 50 × 60	5

★ Best Seller

Used for lifting, holding & locating ferrous parts. Aluminium, Nickel and Cobalt Steel alloy makes them strong and permanent

Unique combination of strong magnet with nickel chrome plated insulating ring gives them enhanced holding power

Rear face is provided with a tapped hole for attaching to fixtures and machines
Threaded: 1/4" × 20 TPI

Compact design with strong magnetic pull makes these ideal in all workshops, tool rooms etc.



ORDERING INFORMATION

CAT NR.	ORD NR.	DIAMETER		HEIGHT		MAGNETIC PULL		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(KG)	(LBS)	
PMG/11-16	03432	11/16	18	5/8	16	2.7	6	400
★ PMG/13-16	03434	13/16	20	3/4	19	4.5	10	400
★ PMG/1-1-16	03433	1-1/16	28	1	25	6	13.2	200
PMG/1-3-8	03435	1-3/8	35	1-3/16	30	13	28.6	120

★ Best Seller

Rigid and robust construction

Unique design allows dial indicator with both 3/8" and 8 mm stems as well as test indicators with dovetail clamping mechanism to be set at any desired position

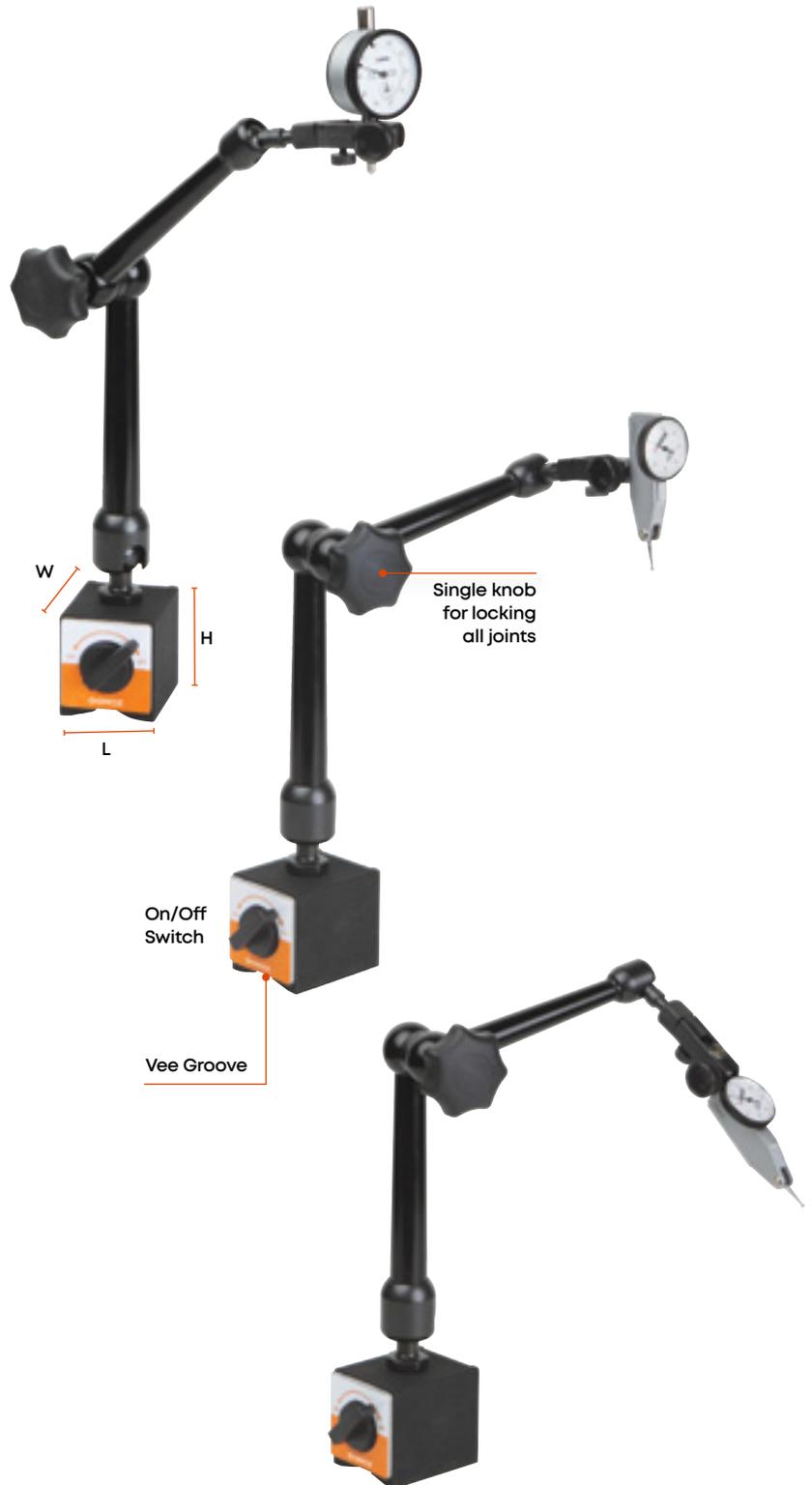
3 articulating joints lockable using a single knob

Base has a Vee groove that securely fastens on round ferrous jobs or machine table

Supplied without Dial Gauge

SPECIFICATIONS

WORKING ANGLE	150°
---------------	------



8 mm stem



3/8" stem

ORDERING INFORMATION

CAT NR.	ORD NR.	BASE DIMENSION (L x W x H)		ARM LENGTH		MAGNETIC PULL (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)		
MB/30	03420	1-3/16 x 1-9/16 x 1-3/8	30 x 40 x 35	7-3/32	180	30	50
MB/80	03421	2 x 2-3/8 x 2-3/16	50 x 60 x 55	11	280	80	20
MB/80L	03422	2 x 2-3/8 x 2-3/16	50 x 60 x 55	13-3/8	340	80	20

Magnetic bases equipped with powerful permanent magnets can be mounted on any ferrous surface

Ideal for all applications that require a magnetic pull of upto 60 kg (130lbs)

The base and one side are energised for attachment to flat surfaces

Vee groove in the base facilitates gripping on curved surfaces

Unique design allows dial indicator to be set at any required position and easily adjusted for use

Supplied without Dial Gauge

Fine adjusting knob for final indicator setting

Universal clamping knob



Toggle type ON/OFF switch

MB/32F

Precision ground magnetic contact surface allows many degrees of freedom through a combination of rotational movements along the three movable joints



MB/31F

ORDERING INFORMATION

CAT NR.	ORD NR.	BASE DIMENSIONS		OVERALL HEIGHT		SPINDLE MOUNTING THREAD SPEC. (FEMALE)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)		
MB/31F	03405	2 × 2-3/8 × 2-5/32	50 × 60 × 55	10-5/32	258	M8 × 1.25 mm	15
MB/32F	03406	2 × 2-3/8 × 2-5/32	50 × 60 × 55	14	350	M8 × 1.25 mm	15



Magnetic base with dial gauge being used to check run out of a job on a lathe machine

Manufactured from a single piece of hardened tool steel and precisely ground, square and parallel

A convenient step of 1-1/4" (32 mm) down from the top and a 1/2" (12 mm) seat for use with smaller work pieces

24 tapped holes for fastening to fixtures and clamping work to the angle plate

Indispensable device for accurate work in tool rooms and in small production jobs for checking flatness, squareness and parallelism



Stepped angle plate makes a convenient reference tool in machining operations as the tapped holes allow fixtures to be bolted conveniently

SPECIFICATIONS

FLATNESS OF WORKING FACES	WITHIN 0.0002"	5 μ
SQUARENESS OF EXTERIOR FACES OVER HEIGHT	WITHIN 0.0004"	10 μ
PARALLELISM OF OPPOSITE FACES & EDGES OVER THEIR LENGTH	WITHIN 0.0004"	10 μ
SQUARENESS OF END FACES WITH RESPECT TO EXTERIOR FACES AS MEASURED OVER LENGTH	WITHIN 0.0004"	10 μ

ORDERING INFORMATION

CAT NR.	ORD NR.	SIZE		THREAD SPECS. OF TAPPED HOLES	BOX QTY.
		(INCH)	(MM)		
STP/3	02400	3 × 3 × 3	75 × 75 × 75	1/4" BSW	20
* STP/4	02401	4 × 4 × 4	100 × 100 × 100	5/16" BSW	10
STP/6	02402	6 × 6 × 6	150 × 150 × 150	3/8" BSW	10

* Best Seller

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Sine Bars

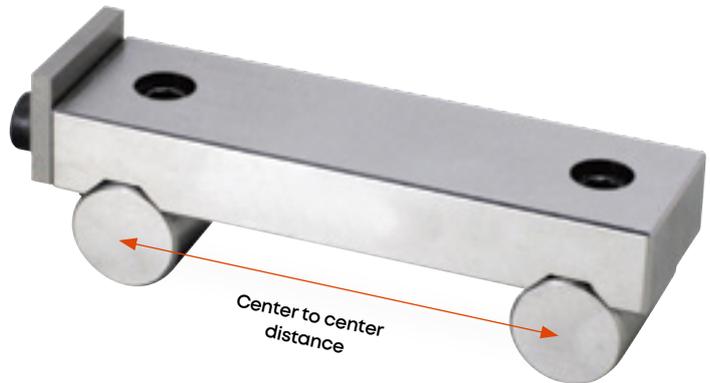
SNB

Sine Bars are used in conjunction with a gauge block or an adjustable parallel to attain the required height and to set up angles for layout and inspection purposes

Manufactured from tool steel

Precisely hardened 58-62 HRC and ground for extreme accuracy in use.

Edges are chamfered 0.5 x 45° for convenient handling and the supplied with a back plate



ORDERING INFORMATION

CAT NR.	ORD NR.	CENTER TO CENTER DISTANCE	DIAMETER OF ROLLERS	CENTER DISTANCE ACCURACY	PARALLELISM	BOX QTY.
		(INCH)	(INCH)	(INCH)	(INCH)	
SNB/2-1-2	02112	2-1/2	5/8	± 0.0008	0.0001	50
SNB/5/SPL	02111	5	5/8	± 0.0008	0.0001	50

55

Machinist's Jack

MJ

Manufactured from high grade cast steel, the Machinist Jack has a 1" adjustable screw and tilting swivel head

Suitable for use on drill presses, milling machines, planers etc. any place where leveling is necessary



ORDERING INFORMATION

CAT NR.	ORD NR.	RANGE		BOX QTY.
		(INCH)	(MM)	
MJ/01	14100	1	25	100

Hand Scrapers are used for removing high spots on machined surfaces for smooth and even surface on slideways, bearings, cast iron surface plates and precision marking out plates

Manufactured from selected steel.

Hardened 55-60HRC and lightly tempered for lasting durability

All sizes have round wooden handle for comfortable grip during use

These find a wide variety of applications in tool rooms for small engineering jobs

Available in 3 types:

- a. Triangular
- b. Half Round
- c. Flat



ORDERING INFORMATION

CAT NR.	ORD NR.	BLADE LENGTH		TYPE	BOX QTY.
		(INCH)	(MM)		
ES/F/3	14641	3	75	Flat	200
* ES/F/4	14600	4	100	Flat	200
ES/F/6	14603	6	150	Flat	100
ES/F/8	14606	8	200	Flat	100
ES/HR/3	14642	3	75	Half Round	200
* ES/HR/4	14601	4	100	Half Round	200
ES/HR/6	14604	6	150	Half Round	150
ES/HR/8	14607	8	200	Half Round	200
ES/T/3	14643	3	75	Triangular	200
ES/T/4	14602	4	100	Triangular	100
* ES/T/6	14605	6	150	Triangular	100
ES/T/8	14608	8	200	Triangular	100
ES/T-3/SPL	14609	3	75	Triangular with grooved blade	200

* Best Seller



Triangular



Triangular with grooved blade



Half Round



Flat



03

**MACHINE
TOOL
ACCESSORIES**

Square Toolbits and Cut Off Blades are available in two grades

Grade A: Cobalt Steel — High Speed Steel with 5% Cobalt

These are suitable for use on tougher materials and all heavy duty applications that require an increased depth of cut

Addition of cobalt gives optimum hardness and toughness thus improving the cutting performance

These are suitable for use on lathe machines, planers, shapers etc.

Grade B: High Speed Steel

These show exceptional results on mild steel, alloy steels and tool steel and are superior finishing tools useful in production processes



Toolbits have 15° composite angled ends. This helps minimize initial grinding

ORDERING INFORMATION - IMPERIAL SIZES

CAT NR.	ORD NR.	CAT NR.	ORD NR.	SQUARE SIZE	LENGTH
				(INCH)	(INCH)
GRADE A		GRADE B			
TB/0-1	12301	TB/H/0-1	12501	3/32	2-1/2
TB/0-2	12302	TB/H/0-2	12502	3/32	3
TB/0-3	12303	TB/H/0-3	12503	1/8	3
TB/0-4	12304	TB/H/0-4	12504	1/8	4
TB/0-5	12305	TB/H/0-5	12505	5/32	3
TB/0-6	12306	TB/H/0-6	12506	5/32	4
TB/0-7	12307	TB/H/0-7	12507	3/16	3
TB/0-8	12308	TB/H/0-8	12508	3/16	4
TB/0-9	12309	TB/H/0-9	12509	3/16	6
TB/0-10	12310	TB/H/0-10	12510	1/4	2
TB/0-11	12311	TB/H/0-11	12511	1/4	3
TB/0-12	12312	TB/H/0-12	12512	1/4	4
TB/0-13	12313	TB/H/0-13	12513	1/4	6
TB/0-14	12314	TB/H/0-14	12514	1/4	8
TB/0-15	12315	TB/H/0-15	12515	5/16	2
TB/0-16	12316	TB/H/0-16	12516	5/16	3
TB/0-17	12317	TB/H/0-17	12517	5/16	4
TB/0-18	12318	TB/H/0-18	12518	5/16	6
TB/0-19	12319	TB/H/0-19	12519	5/16	8
TB/0-20	12320	TB/H/0-20	12520	3/8	2
TB/0-21	12321	TB/H/0-21	12521	3/8	3
TB/0-22	12322	TB/H/0-22	12522	3/8	4
TB/0-23	12323	TB/H/0-23	12523	3/8	6
TB/0-24	12324	TB/H/0-24	12524	3/8	8

CAT NR.	ORD NR.	CAT NR.	ORD NR.	SQUARE SIZE	LENGTH
				(INCH)	(INCH)
GRADE A		GRADE B			
TB/0-25	12325	TB/H/0-25	12525	3/8	10
TB/0-26	12326	TB/H/0-26	12526	1/2	3
TB/0-27	12327	TB/H/0-27	12527	1/2	4
TB/0-28	12328	TB/H/0-28	12528	1/2	6
TB/0-29	12329	TB/H/0-29	12529	1/2	8
TB/0-30	12330	TB/H/0-30	12530	1/2	10
TB/0-31	12331	TB/H/0-31	12531	5/8	4
TB/0-32	12332	TB/H/0-32	12532	5/8	6
TB/0-33	12333	TB/H/0-33	12533	5/8	8
TB/0-34	12334	TB/H/0-34	12534	3/4	4
TB/0-35	12335	TB/H/0-35	12535	3/4	6
TB/0-36	12336	TB/H/0-36	12536	3/4	8
TB/0-37	12337	TB/H/0-37	12537	1	6
TB/0-38	12338	TB/H/0-38	12538	1	8
TB/0-39	12339	TB/H/0-39	12539	1/8	2-1/2
TB/0-40	12340	TB/H/0-40	12540	3/16	2-1/2
TB/0-41	12341	TB/H/0-41	12541	1/4	2-1/2
TB/0-42	12342	TB/H/0-42	12542	5/16	2-1/2
TB/0-43	12343	TB/H/0-43	12543	1/8	1-1/4
TB/0-44	12344	TB/H/0-44	12544	3/16	1-1/4
TB/0-45	12345	TB/H/0-45	12545	1/4	1-1/4
TB/0-46	12346	TB/H/0-46	12546	5/16	1-1/4
TB/0-47	12347	TB/H/0-47	12547	3/4	5
TB/0-48	12348	TB/H/0-48	12548	1	7

TB

COB

HSS
HIGH SPEED STEEL



Cut off Blades have accurately ground bevel section with clearance angle at cutting edge

ORDERING INFORMATION - CUTT OFF BLADES

CAT NR.	ORD NR.	CAT NR.	ORD NR.	SIZE	
				(INCH)	(MM)
GRADE A		GRADE B			
COB/0-1	12201	COB/H/0-1	12221	1/16 x 5/16 x 3-1/2	1.52 x 7.93 x 88.9
COB/0-2	12202	COB/H/0-2	12222	3/32 x 1/2 x 4	2.38 x 12.7 x 101.6
COB/0-3	12203	COB/H/0-3	12223	3/32 x 5/8 x 5	2.38 x 15.8 x 127
COB/0-4	12204	COB/H/0-4	12224	1/8 x 3/4 x 6	3.18 x 19.05 x 152.4
COB/0-5	12205	COB/H/0-5	12225	1/8 x 7/8 x 6	3.18 x 22.2 x 152.4
COB/0-6	12206	COB/H/0-6	12226	3/16 x 1 x 6	4.76 x 25.4 x 152.4
COB/0-7	12207	COB/H/0-7	12227	3/16 x 1-1/8 x 6	4.76 x 28.57 x 152.4

ORDERING INFORMATION - METRIC SIZES

CAT NR.	ORD NR.	CAT NR.	ORD NR.	SQUARE SIZE	LENGTH
				(INCH)	(INCH)
GRADE A		GRADE B			
TB/3-75M	12400	TB/H/3-75M	12600	3	75
TB/3-80M	12401	TB/H/3-80M	12601	3	80
TB/3-100M	12402	TB/H/3-100M	12602	3	100
TB/4-75M	12403	TB/H/4-75M	12603	4	75
TB/4-100M	12404	TB/H/4-100M	12604	4	100
TB/5-63M	12405	TB/H/5-63M	12605	5	63
TB/5-75M	12406	TB/H/5-75M	12606	5	75
TB/5-80M	12407	TB/H/5-80M	12607	5	80
TB/5-100M	12408	TB/H/5-100M	12608	5	100
TB/5-150M	12409	TB/H/5-150M	12609	5	150
TB/6-50M	12410	TB/H/6-50M	12610	6	50
TB/6-63M	12411	TB/H/6-63M	12611	6	63
TB/6-75M	12412	TB/H/6-75M	12612	6	75
TB/6-100M	12414	TB/H/6-100M	12614	6	100
TB/6-150M	12415	TB/H/6-150M	12615	6	150
TB/6-200M	12416	TB/H/6-200M	12616	6	200
TB/8-50M	12417	TB/H/8-50M	12617	8	50
TB/8-63M	12418	TB/H/8-63M	12618	8	63
TB/8-75M	12419	TB/H/8-75M	12619	8	75
TB/8-80M	12420	TB/H/8-80M	12620	8	80
TB/8-100M	12421	TB/H/8-100M	12621	8	100
TB/8-150M	12422	TB/H/8-150M	12622	8	150

CAT NR.	ORD NR.	CAT NR.	ORD NR.	SQUARE SIZE	LENGTH
				(INCH)	(INCH)
GRADE A		GRADE B			
TB/8-200M	12423	TB/H/8-200M	12623	8	200
TB/10-50M	12424	TB/H/10-50M	12624	10	50
TB/10-75M	12426	TB/H/10-75M	12626	10	75
TB/10-80M	12427	TB/H/10-80M	12627	10	80
TB/10-100M	12428	TB/H/10-100M	12628	10	100
TB/10-150M	12429	TB/H/10-150M	12629	10	150
TB/10-200M	12430	TB/H/10-200M	12630	10	200
TB/10-250M	12431	TB/H/10-250M	12631	10	250
TB/12-75M	12432	TB/H/12-75M	12632	12	75
TB/12-100M	12434	TB/H/12-100M	12634	12	100
TB/12-150M	12435	TB/H/12-150M	12635	12	150
TB/12-200M	12436	TB/H/12-200M	12636	12	200
TB/12-250M	12437	TB/H/12-250M	12637	12	250
TB/16-100M	12438	TB/H/16-100M	12638	16	100
TB/16-150M	12439	TB/H/16-150M	12639	16	150
TB/16-200M	12440	TB/H/16-200M	12640	16	200
TB/20-100M	12441	TB/H/20-100M	12641	20	100
TB/20-150M	12442	TB/H/20-150M	12642	20	150
TB/20-200M	12443	TB/H/20-200M	12643	20	200
TB/25-150M	12444	TB/H/25-150M	12644	25	150
TB/25-200M	12445	TB/H/25-200M	12645	25	200



Tweezers are used for picking up small objects

Manufactured from Stainless steel, Tweezers make use of two levers connected at one fixed end called the fulcrum with pincers at the other

Used for servicing & repairs in electronics, computers, instruments, radio and other subminiature assemblies



Industrial Tweezers

High quality tweezers for toolmakers, repairmen, electronic assemblers and other professionals

ORDERING INFORMATION

CAT NR.	ORD NR.	LENGTH		POINT TYPE	MATERIAL	BOX QTY.
		(INCH)	(MM)			
INDUSTRIAL TWEEZERS						
TWZ/401XX	03711	4-3/4	120	Strong sharp	Non Magnetic S.S	250
TWZ/403	03702	6-1/8	155	Blunt serrated	Magnetic S.S	250
TWZ/408	03701	4-3/4	120	Sharp Bent	Magnetic S.S	250
TWZ/410	03703	4-3/4	120	Narrow sharp	Magnetic S.S	250
TWZ/412	03705	6-1/2	165	Blunt point with slide lock	Magnetic S.S	250
TWZ/413	03704	4-3/4	120	Sharp	Magnetic S.S	250



Utility Tweezers

Used by mechanics, craftsmen and hobbyist's

Swiss Pattern Tweezers

Finest quality with hardened precision points these are especially useful for subminiature assemblies

Boley Pattern Tweezers

Fine quality tweezers for jewelers, watchmakers, instrument assemblers & craftspeople

ORDERING INFORMATION

CAT NR.	ORD NR.	LENGTH		POINT TYPE	MATERIAL	BOX QTY.
		(INCH)	(MM)			
UTILITY TWEEZERS						
TWZ/414	03706	6-1/2	165	Blunt serrated(self closing)	Magnetic S.S	250
TWZ/415	03708	7	176	Curved (teeth inside)	Magnetic S.S	250
TWZ/416	03713	4-9/16	116	Spade	Magnetic S.S	250
TWZ/417	03707	6-3/4	175	Long straight	Magnetic S.S	250
SWISS PATTERN TWEEZERS						
TWZ/423-3C	03709	4-13/32	115	Very fine	Non Magnetic S.S	200
BOLEY PATTERN TWEEZERS						
TWZ/401AA	03712	5	127	Strong sharp point	Non Magnetic S.S	200
SETS						
TWZ/ST-6	03720	6 pc Tweezer Set comprising one each of TWZ/401XX, TWZ/403, TWZ/412, TWZ/414, TWZ/415 & TWZ/417 packed to a vinyl pouch				50

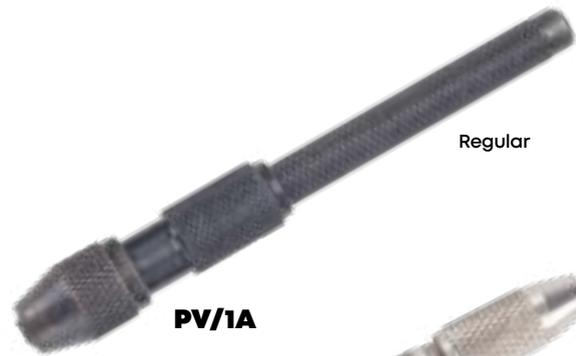


Pin vices are used for holding small taps, drills, reamers, scribes, wire, small Files etc.

These are available in 4 types:

Pin Vices - Regular

- Special tool steel jaws provide a firm grip
- Straight smooth section on the handle allows to be conveniently held in machine chucks for machining operations
- Handles have a hole extending through the entire length which permit holding wires of any length or diameter
- Available as individuals or as a set of 4

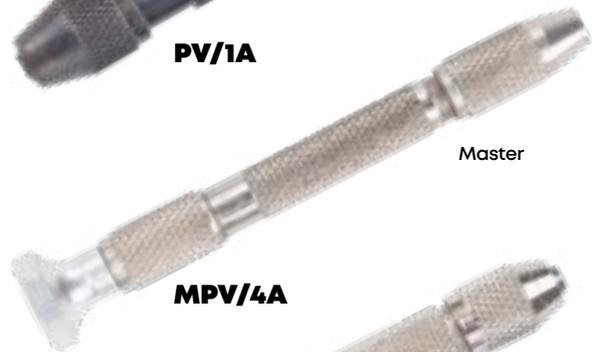


Regular

PV/1A

Master Pin Vice

- Ideal for use in model making and jewellery making industry
- Single collet made of hardened steel, suitable for holding small drills, miniature tools etc.
- The opposite end has a large free wheeling swivel head

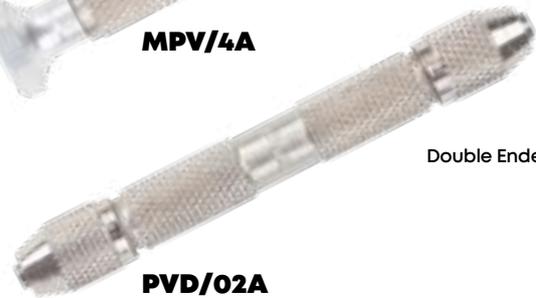


Master

MPV/4A

Pin Vice - Double Ended

- Double ended vice with reversible collets at each end
- Chuck at one end can hold work or tools of diameter 0 - 0.031" & 0.093 - 0.125" (0 - 0.08mm & 2.5 - 3.2 mm)
- The chuck at the opposite end holds work of diameter 0.031-0.062" and 0.062-0.093" (0.8-1.6 mm and 1.6-2.5 mm)



Double Ended

PVD/02A

Adjustable Pin Vice

- With a 3 jaw keyless steel chuck and a sturdy handle, this vice is ideal for holding small drills, burrs, wires, files, reamers etc.
- Very useful in electronic assembling, tool making, model making & for the hobbyist's



Adjustable

PV/93

ORDERING INFORMATION

CAT NR.	ORD NR.	CAPACITY		OVERALL LENGTH		BODY DIAMETER		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
REGULAR								
PV/1A	35890	0-0.055	0-1.4	3	78.00	3/16	4.90	500
PV/2A	35891	0.025-0.075	0.63-1.90	3 35/64	90.00	15/64	6.00	500
PV/3A	35892	0.040-0.125	1.14-3.20	3 15/16	100.00	15/64	6.00	500
PV/4A	35893	0.110-0.187	2.8-48	4 21/64	110.00	19/64	7.50	100
PV/1-4A/ST	35894	Set of 4 includes PV/1A, PV/2A, PV/3A & PV/4A						
MASTER PIN VICE								
MPV/4A	35914	0-1/8	0-3.2	3 35/64	90.00	21/64	8.40	500
PIN VICE - DOUBLE ENDED								
PVD/02A	35915	0-1/8	0-3.2	3 35/64	90.00	13/32	10.50	500
ADJUSTABLE PIN VICE								
PV/93	35913	3/16 - 1/4	1 - 6.4	6.7/8	175	1	25	100



Pin Vice being used to hold a drill for hand-drilling on an electronic component

Drill Chuck Arbors are used to mount a drill chuck or any other tool which has a female taper shank onto a machine such as a drilling machine which has a female taper shank socket in its workhead

Manufactured from selected case hardened Hi-Tensile Steel (20 MnCr5/SAE 8620), all arbors are case hardened 54-58 HRC for increased resistance to wear

Precision grinding to very close tolerance with concentricity controlled to within 0.0004" (10 microns) and accurately gauged self locking tapers ensure close tolerance fit

SPECIFICATIONS

ARBOR TYPE	SHANK MOUNT	CHUCK MOUNT
Jacobs Taper Arbors	Morse Taper	Jacobs Taper
Jacobs Taper Arbors - DIN 238	Morse Taper	B Taper

JACOBS TAPER ARBORS

CAT NR.	ORD NR.	MORSE TAPER (MT)	JACOBS TAPER (JT)	BOX QTY.
GAT/11	07600	1	1	100
GAT/12	07601	1	2	100
GAT/13	07602	1	3	100
GAT/133	07603	1	33	100
GAT/16	07604	1	6	100
GAT/21	07605	2	1	100
GAT/22	07606	2	2	100
GAT/23	07607	2	3	100
GAT/24	07608	2	4	100
GAT/25	07609	2	5	100
* GAT/26	07610	2	6	100
GAT/233	07612	2	33	100
GAT/31	07613	3	1	100
GAT/32	07614	3	2	100
GAT/33	07615	3	3	100
GAT/34	07616	3	4	75
GAT/35	07617	3	5	75
* GAT/36	07618	3	6	75
GAT/333	07620	3	33	50
GAT/42	07621	4	2	50
GAT/43	07622	4	3	50
GAT/44	07623	4	4	50
GAT/45	07624	4	5	50
GAT/46	07625	4	6	50
GAT/52	07626	5	2	50
GAT/53	07627	5	3	50
GAT/54	07628	5	4	50

* Best Seller



TAPER SHANK ARBORS - DIN 238

CAT NR.	ORD NR.	B TAPER	MORSE TAPER (MT)	BOX QTY.
G/10/M1	07700	B10	1	200
G/10/M2	07701	B10	2	200
G/12/M1	07702	B12	1	200
G/12/M2	07703	B12	2	200
* G/12/M3	07704	B12	3	100
G/16/M1	07705	B16	1	100
* G/16/M2	07706	B16	2	100
* G/16/M3	07707	B16	3	100
G/16/M4	07708	B16	4	75
* G/18/M1	07709	B18	1	100
G/18/M2	07710	B18	2	100
* G/18/M3	07711	B18	3	100
G/18/M4	07712	B18	4	75
G/22/M1	07713	B22	1	50
G/22/M2	07714	B22	2	50
G/22/M3	07715	B22	3	50
G/22/M4	07716	B22	4	50
G/24/M3	07717	B24	3	50
G/24/M4	07718	B24	4	50
G/24/M5	07719	B24	5	50

Drill Sleeves are used to adapt smaller morse taper shank tools to larger machine spindles

Concentricity and taper angles are precisely controlled for perfect locking and concentric movement to the tool held.

Available in two types:

A Grade (Hardened and Ground)

Manufactured from case hardened Hi-tensile steel (20 MnCr5/SAE 8620), these are fully hardened and are ground on the inside and outside

Workshop Grade

Manufactured from carbon steel, these are ground on the outside and have a reamed finish on the inside

Permanent marking of size on the tang ensures convenience in use



SPECIFICATIONS

SLEEVE TYPE	MATERIAL	SURFACE FINISH OF EXTERNAL TAPER	SURFACE FINISH OF INTERNAL TAPER	BODY HARDNESS	TANG HARDNESS
A Grade	Case Hardened Steel	Ground	Ground	54-58 HRC	54-58 HRC
Workshop Grade	Carbon Steel	Ground	Reamed	Unhard	54-58 HRC

ORDERING INFORMATION

CAT NR.	ORD NR.	CAT NR.	ORD NR.	MORSE TAPER (MT)		OVERALL LENGTH (MM)	BOX QTY.
				OUTSIDE	INSIDE		
A GRADE		WORKSHOP GRADE					
* DSA/2-1	08420	DSW/2-1	08520	2	1	92	100
DSA/3-1	08421	DSW/3-1	08521	3	1	99	100
* DSA/3-2	08423	DSW/3-2	08523	3	2	112	100
DSA/4-1	08422	DSW/4-1	08522	4	1	124	75
DSA/4-2	08424	DSW/4-2	08524	4	2	124	75
* DSA/4-3	08426	DSW/4-3	08526	4	3	140	50
DSA/5-1	08432	DSW/5-1	08532	5	1	156	50
DSA/5-2	08425	DSW/5-2	08525	5	2	156	50
DSA/5-3	08427	DSW/5-3	08527	5	3	156	50
DSA/5-4	08429	DSW/5-4	08529	5	4	171	50
DSA/6-2	08433	DSW/6-2	08533	6	2	218	25
DSA/6-3	08428	DSW/6-3	08528	6	3	218	25
DSA/6-4	08430	DSW/6-4	08530	6	4	218	25
DSA/6-5	08431	DSW/6-5	08531	6	5	218	25

* Best Seller

Industrial quality Tap Wrenches for the professional user

Designed to give the user the reach and leverage needed for accurate tapping, these are used for holding taps, drills, reamers & other small tools to be turned by hand

CNC machined to very close tolerances with self centering powder metallurgy hardened jaws & knurled chuck sleeve for positive grip

Available in 2 types

a. Regular

The smallest size TW/163 has a rigid T handle, whereas TW/164 & TW/166 have sliding T handles for greater leverage when working in tight spaces

b. Ratchet

Ratchet can be set for right or left hand operation or locked for non ratchet use. Self centering powder metallurgy hardened jaws and knurled chuck sleeve provide positive grip on taps, reamers and small tools Sliding T – Handle for fitting into tight spaces with greater leverage



ORDERING INFORMATION

CAT NR.	ORD NR.	BODY LENGTH		TAP CAPACITY		SQUARE SIZE		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
REGULAR								
TW/163	09360	2-1/4	57	Nr. 0 – Nr. 8	M1.6 – M4	5/64 – 1/8	2.0 – 3.15	200
TW/164	09361	2-3/4	70	Nr. 0 – 1/4"	M1.6 – M6	5/64 – 13/64	2.0 – 5.0	100
TW/166	09362	3-3/4	95	Nr. 12 – 1/2"	M6 – M12	13/64 – 17/64	5.0 – 7.0	50
RATCHET								
TW/R/160	09370	2-3/4	70	Nr. 0 – Nr.8	M1.6 – M4	5/64 – 1/8	2.0 – 3.15	50
TW/R/161	09371	3-1/2	88	Nr. 0 – 1/4"	M1.6 – M6	5/64 – 13/64	2.0 – 5.0	50
TW/R/162	09372	4-1/4	106	Nr. 12 – 1/2"	M6 – M12	13/64 – 17/64	5.0 – 7.0	50

Useful precision tools ideal for any engineering or auto-repair shop

Just 16 sizes cover diameters ranging from 3/8 - 2.7/32" (9.5 - 56.35 mm)

These are ideal for use on steel or nonferrous metals

Reamer blades are made from High Speed Steel, Accurately hardened 60-64 HRC and relief ground

Each adjustable reamer has a chamfer or lead on the front end of diameter 0.004 - 0.019" according to size, which helps to make a quick start in reaming operation

Reamers expand by loosening one adjusting nut and tightening the other



USING REAMERS

1. Remove only a small amount of metal approx 0.002" (0.05mm) per cut
2. It is better to use two small cuts rather than one large one as larger cuts can strain the reamer
3. When cutting soft material hone the cutting edge



ORDERING INFORMATION

CAT NR.	ORD NR.	TYPE	RANGE		OVERALL LENGTH		BOX QTY.
			(INCH)	(MM)	(INCH)	(MM)	
AHR/5	11905	H1	3/8 - 13/32	9.5 - 10.3	4-3/4	120	50
AHR/6	11906	H2	13/32 - 7/16	10.3 - 11.11	5	128	50
AHR/7	11907	H3	7/16 - 15/32	11.11 - 11.9	5-1/4	133	50
AHR/8	11908	H4	15/32 - 17/32	11.9 - 13.5	5-1/2	140	50
AHR/9	11909	H5	17/32 - 19/32	13.5 - 15	5-3/4	146	50
AHR/10	11910	H6	19/32 - 21/32	15.08 - 16.6	6-1/2	165	25
AHR/11	11911	H7	21/32 - 23/32	16.6 - 18.25	6-3/4	171	25
AHR/12	11912	H8	23/32 - 25/32	18.25 - 19.8	7	175	25
AHR/13	11913	H9	25/32 - 27/32	19.8 - 21.4	7-3/8	187	25
AHR/14	11914	H10	27/32 - 15/16	21.4 - 23.8	8	205	25
AHR/15	11915	H11	15/16 - 1-1/16	23.8 - 26.98	9	225	20
AHR/16	11916	H12	1-1/16 - 1-3/16	26.98 - 30.16	10	258	20
AHR/17	11917	H13	1-3/16 - 1-11/32	30.16 - 34.1	11	280	20
AHR/18	11918	H14	1-11/32 - 1-1/2	34.1 - 38.1	12	300	20
AHR/19	11919	H15	1-1/2 - 1-13/16	38.1 - 46	14	350	20
AHR/20	11920	H16	1-13/16 - 2-7/32	46 - 56.3	16	407	20

SETS

AHR/8/ST	11930	A set of 8 adjustable reamers from 15/32" - 1-1/16" (H4 - H11)					4
AHR/11/ST	11931	A set of 11 adjustable reamers from 15/32" - 1-1/2" (H4 - H14)					4

SPECIFICATIONS

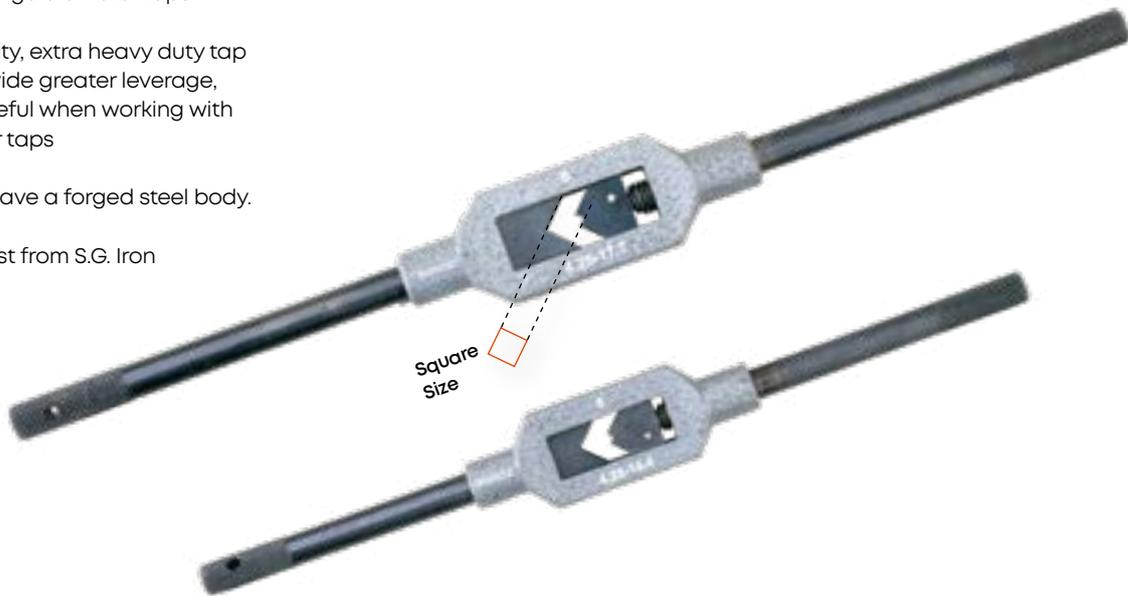
CONCENTRICITY	WITHIN 30µ
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Straight handle design tap wrenches provide greater leverage, useful when working with large diameter taps

Industrial quality, extra heavy duty tap wrenches provide greater leverage, particularly useful when working with large diameter taps

Nr. 0, 00, 5 & 6 have a forged steel body.

Nr. 7 & 8 are cast from S.G. Iron



ORDERING INFORMATION

CAT NR.	ORD NR.	LENGTH		JAW HOLDING CAPACITY				BOX QTY.
				SQUARE SIZE		TAP SIZE		
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
* ARWR/SG/0	09221	8	200	3/32 - 1/2	2.5 - 9.5	1/8 - 3/8	M1-M12	300
ARWR/SG/00	09220	5.22	133	5/64 - 9/32	2 - 7.35	1/8 - 1/4	M1-M6	200
* ARWR/SG/5	09222	10.8	270	11/64 - 7/16	4.25 - 11	3/16 - 5/8	M4-M16	100
ARWR/SG/6	09223	14.8	370	11/64 - 37/54	4.25 - 14.4	3/16 - 7/8	M4-M20	40
ARWR/SG/7	09224	19	485	1/4 - 23/32	6.8 - 18	1/4 - 1.1/8	M6-M30	20
ARWR/SG/8	09225	29.6	740	3/8 - 1.03/32	9.2 - 26.0	1/2 - 1.3/4	M9-M45	10

* Best Seller

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Die Stock Holders Round Dies

DS

Die holders are used for holding round dies, that are suitable for efficient and clean cutting of external threads

Rugged construction with heavy duty set screws that hold the die firmly in place

All steel construction with black powder coated body. Handles have knurled ends with ends in black powder coated finish



ORDERING INFORMATION

CAT NR.	ORD NR.	SUITABLE FOR DIE SIZE	LENGTH			BOX QTY.
			(INCH)	(INCH)	(MM)	
DS/13-16	09110	13/16	6-1/2	165	250	
* DS/0-1	09111	1	8-1/4	209	100	
DS/1-5-16	09112	1-5/16	10	250	80	
* DS/1-1-2	09113	1-1/2	12-3/8	315	60	
* DS/0-2	09114	2	15.5	395	40	
DS/2-1-2	09116	2-1/2	19	480	25	

* Best Seller



66

Knurling Tool Holder Quick Action

KT-Q

For use with manual lathes, these are designed to operate in a manner exerting no pressure on the lathe, compound, centres or feed screw. Knurling pressure is absorbed by the knurling tool itself

These are easier & faster to set up & produce clean & sharp knurling with no double tracking

Complete with 1 pair of Medium Diamond pattern Knurls



Knurling Tool Holder - being used for doing knurling on a job fitted onto a lathe machine



ORDERING INFORMATION

CAT NR.	ORD NR.	HOLDER SIZE				CAPACITY (MIN x MAX)		KNURL DIMENSIONS		BOX QTY.
		LENGTH		SHANK		(INCH)	(MM)	(INCH)	(MM)	
		(INCH)	(MM)	(INCH)	(MM)					
KT/Q/2-6	11850	6	150	5/8 x 1/2	16 x 13	1/16 x 2-1/4	1.6 x 57.15	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	20
KT/Q/2-8	11851	8-1/4	210	3/4 x 5/8	19 x 16	2-1/2 x 4-1/2	64 x 114	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	10

Rigid and robust construction

Ideal for countless knurling applications

These are available in 3 types:

a. Knurling Tool Holders (3 Pairs)

The revolving head is fitted with standard left and right pattern knurls in fine, medium and coarse pitch. Any pair can be brought to bear on the workpiece, thus 3 different knurling patterns are obtainable without changing the tool

b. Knurling Tool Holder (1 Pair)

A two knurl holder ideal for small knurling applications, it has a self adjusting pivot head which ensures that the knurl finds the centre line of the work exactly. It comes complete with one right and one left hand knurl

c. Knurling Tool Holder (1 Knurl)

Single knurl holders, these are useful for light duty applications. They come complete with one straight knurl

Knurling Tool Holder (3 Pairs)



Knurling Tool Holder (1 Pair)



Knurling Tool Holder (1 Knurl)



ORDERING INFORMATION

CAT NR.	ORD NR.	HOLDER SIZE		KNURL DIMENSION		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	
KNURLING TOOL HOLDER – 3 PAIRS						
KT/6-1	11700	7-1/2 x 1-3/8 x 5/8	190 x 35 x 16	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	20
KT/6-2	11701	6-1/2 x 1-1/8 x 1/2	165 x 28 x 13	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	30
KT/6-3	11702	5-1/2 x 7/8 x 3/8	142 x 22 x 10	5/8 x 5/16 x 7/32	16 x 8 x 5.5	30
KT/6-4	11703	5 x 3/4 x 5/16	127 x 19 x 8	5/8 x 5/16 x 7/32	16 x 8 x 5.5	30
KNURLING TOOL HOLDER – 1 PAIR						
KT/2-1	11810	7-1/2 x 1-3/8 x 5/8	185 x 35 x 16	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	30
KT/2-2	11811	6-1/2 x 1-1/8 x 1/2	165 x 28 x 13	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	30
KT/2-3	11812	5-1/2 x 7/8 x 3/8	142 x 22 x 10	5/8 x 5/16 x 7/32	16 x 8 x 5.5	30
KT/2-4	11813	5 x 3/4 x 5/16	127 x 19 x 8	5/8 x 5/16 x 7/32	16 x 8 x 5.5	50
KT/2-5	11814	4-1/2 x 1/2 x 1/2	134 x 13 x 13	3/4 x 3/8 x 1/4	19 x 9.5 x 6.35	50
KT/2-5M	11815	—	200 x 27 x 18	—	20 x 8 x 6	50
KNURLING TOOL HOLDER – 1 KNURL						
KT/0-1	11800	4 x 1/2 x 1/2	100 x 13 x 13	3/4 x 1/4 x 1/4	19 x 6.35 x 6.35	50
KT/0-2	11801	6 x 5/8 x 5/8	150 x 16 x 16	3/4 x 5/16 x 1/4	20 x 8 x 6	50
KT/0-3	11802	4 x 1/2 x 3/4	100 x 13 x 19	3/4 x 1/4 x 1/4	19 x 9.5 x 6.35	50



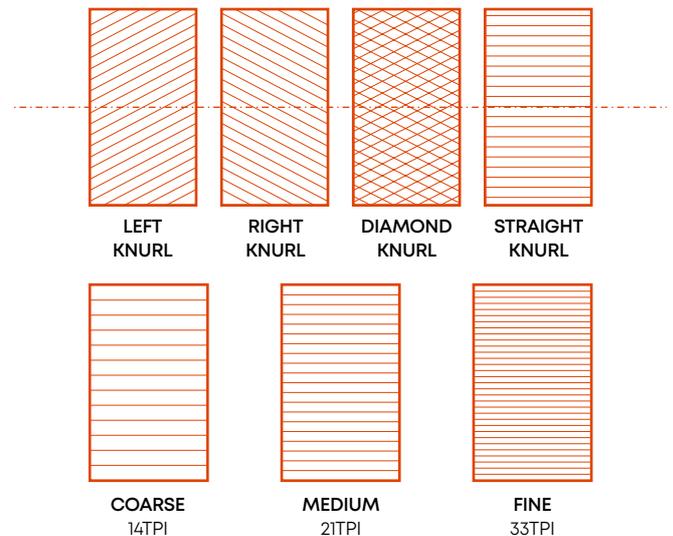
Manufactured from High Speed Steel, fully hardened to over 60 HRC knurls have perfectly formed short teeth. The faces are chamfered on both sides to produce burr-free work of uniform precision



Left hand knurling is produced by right hand knurls and right hand knurling is produced by left hand knurls. Diamond knurling is produced by using right and left hand knurls in pairs

ORDERING INFORMATION

KNURL SIZE	CAT. & ORDERING NR.	5/8"	3/4"	1"	20MM
COARSE PITCH KNURLS 14 TPI	COARSE LEFT				
	Cat. Nr.	K58/CL	K34/CL	K01/CL	K20/CL
	Ordering Nr.	12850	12950	13050	13150
	COARSE RIGHT				
	Cat. Nr.	K58/CR	K34/CR	K01/CR	K20/CR
	Ordering Nr.	12851	12951	13051	13151
	COARSE STRAIGHT				
	Cat. Nr.	K58/CS	K34/CS	K01/CS	K20/CS
	Ordering Nr.	12852	12952	13052	13152
	COARSE DIAMOND				
	Cat. Nr.	K58/CD	K34/CD	K01/CD	K20/CD
	Ordering Nr.	12853	12953	13053	13153
MEDIUM PITCH KNURLS 21 TPI	MEDIUM LEFT				
	Cat. Nr.	K58/ML	K34/ML	K01/ML	K20/ML
	Ordering Nr.	12800	12900	13000	13100
	MEDIUM RIGHT				
	Cat. Nr.	K58/MR	K34/MR	K01/MR	K20/MR
	Ordering Nr.	12801	12901	13001	13101
	MEDIUM STRAIGHT				
	Cat. Nr.	K58/MS	K34/MS	K01/MS	K20/MS
	Ordering Nr.	12802	12902	13002	13102
	MEDIUM DIAMOND				
	Cat. Nr.	K58/MD	K34/MD	K01/MD	K20/MD
	Ordering Nr.	12803	12903	13003	13103
FINE PITCH KNURLS 33 TPI	FINE LEFT				
	Cat. Nr.	K58/FL	K34/FL	K01/FL	K20/FL
	Ordering Nr.	12830	12930	13030	13130
	FINE RIGHT				
	Cat. Nr.	K58/FR	K34/FR	K01/FR	K20/FR
	Ordering Nr.	12831	12931	13031	13131
	FINE STRAIGHT				
	Cat. Nr.	K58/FS	K34/FS	K01/FS	K20/FS
	Ordering Nr.	12832	12932	13032	13132
	FINE DIAMOND				
	Cat. Nr.	K58/FD	K34/FD	K01/FD	K20/FD
	Ordering Nr.	12833	12933	13033	13133



DIMENSION TABLE

KNURL SIZE	5/8"	3/4"	1"	20 mm
PITCH (TPI)	14, 21, 33	14, 21, 33	14, 21, 33	0.6, 1, 1.5 mm
DIAMETER	5/8"	3/4"	1"	20 mm
FACE WIDTH	3/16"	1/4"	11/32"	7 mm
HOLE DIAMETER	7/32"	1/4"	5/16"	6 mm
THICKNESS	5/16"	3/8"	3/8"	8 mm

Wheel Dressers are designed for dressing, truing, sharpening and removing glaze from solid abrasive wheels. Body is powder coated.

Cast iron handle is ergonomically designed for comfortable grip

The cutters have star shaped teeth that expose new grains and provide a fresh unloaded surface on wheels.

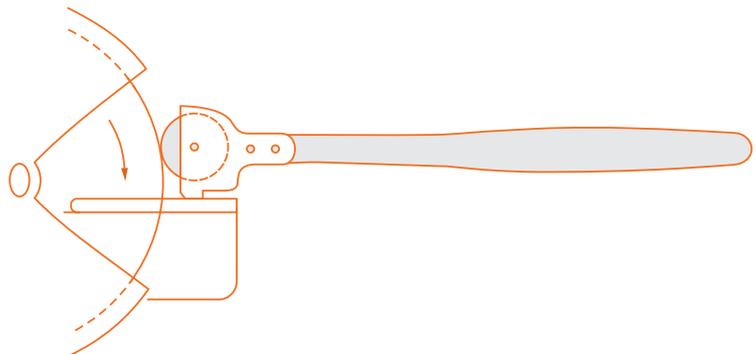
Cutters are also available as spares - set of 4



Wheel Dresser

Wheel Dresser Cutter

Dressing the wheel of a Bench Grinder



ORDERING INFORMATION - WHEEL DRESSERS

CAT NR.	ORD NR.	SIZE	DRESSER WHEEL RANGE		DRESSER LENGTH		CUTTER DIAMETER		BOX QTY.
			(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
WD/00	12070	0	20	500	10-3/16	255	1-1/4	32	25
WD/01	12071	1	30	750	10-3/4	270	1-1/2	38	20
WD/02	12072	2	Large Sizes	Large Sizes	12-3/4	320	2-3/8	60	10

ORDERING INFORMATION - WHEEL DRESSER CUTTERS

CAT NR.	ORD NR.	CUTTER DIAMETER		BOX QTY.
		(INCH)	(MM)	
WDC/00	12080	1-1/4	32	200
WDC/01	12081	1-1/2	38	200
WDC/02	12082	2-3/8	60	200



04

**PRECISION
VICES**

Single piece tool vice fully hardened (55-60 HRC) and tempered to ensure stability and durability

All surfaces are precision ground

Movable jaw is narrower than the base enabling vices to be used on either sides in addition to the base

Rapid positioning notches allow the vice to be locked in any position by a hex key provided with the vice

Vee grooves in the sliding jaw, both horizontal and vertical, facilitate holding of round jobs

Jaw pressure on work piece is forward and downward for repeatable positioning and maximum holding power

Ideal for use in tool manufacturing, on grinding & milling machines, in engraving & jig boring applications, for measurement and inspection work and in manufacturing processes that require highest standards of clamping accuracy. These vices are particularly suitable for erosion work



Toolmaker's Vice being used to hold a block of steel during grinding



SPECIFICATIONS

ACCURACIES	GUARANTEED		ACTUAL AVERAGE	
FLATNESS OF BEARING SURFACE	0.00031"	8 μ	0.00019"	5 μ
PARALLELISM OF SLIDE FACE & TOP FACE TO BOTTOM FACE	0.00031"	8 μ	0.00019"	5 μ
SQUARENESS OF SIDES & SLIDE FACES	0.00047"	12 μ	0.00031"	8 μ
PARALLELISM OF SIDES & SLIDE WAYS	0.00031"	8 μ	0.00019"	5 μ
SQUARENESS OF FIXED JAW BACK TO BOTTOM SURFACE & SIDES	0.00047"	12 μ	0.00031"	8 μ
PARALLELISM OF FIXED JAW & LENGTH FACES	0.00031"	8 μ	0.00019"	5 μ
PARALLELISM OF JAW FACES	0.00031"	8 μ	0.00019"	5 μ
SLIDING JAW SQUARE TO BOTTOM FACE WHEN VICE IS CLAMPED	0.00047"	12 μ	0.00031"	8 μ
SLIDING JAW FACE PARALLEL WHEN VICE IS CLAMPED	0.00031"	8 μ	0.00019"	5 μ

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
* TMV/23	35201	2-7/8	73	4-25/16	108	1-3/8	35	3.4	8

* Best Seller



Manufactured from selected tool steel these vices are fully hardened (55-60 HRC) and tempered

All surfaces are precisely ground

Ideal for use in manufacturing processes where highest standard of clamping accuracy at desired angle is required

A minute angle step of 0.2"/5 mm allows very small angles to be set with ease using standard gauge blocks

These are available in 2 models:

- a. **Screw Type: SNV/7**
- b. **Screwless Type: SNV/6**


SNV/7
SNV/6


Sine Vice being used to drill an angled hole on a machine wheel

SPECIFICATIONS

ACCURACIES	GUARANTEED		ACTUAL AVERAGE	
FLATNESS OF BEARING SURFACE	0.00039"	10 μ	0.00019"	5 μ
PARALLELISM OF SLIDE FACE & TOP FACE TO BOTTOM FACE	0.00039"	10 μ	0.00019"	5 μ
SQUARENESS OF SIDES & SLIDE FACES	0.00047"	12 μ	0.00031"	8 μ
PARALLELISM OF SIDES & SLIDE WAYS	0.00031"	8 μ	0.00019"	5 μ
SQUARENESS OF FIXED JAW BACK TO BOTTOM SURFACE & SIDES	0.00047"	12 μ	0.00031"	8 μ
PARALLELISM OF FIXED JAW & LENGTH FACES	0.00031"	8 μ	0.00019"	5 μ
PARALLELISM OF JAW FACES	0.00031"	8 μ	0.00019"	5 μ
SLIDING JAW SQUARE TO BOTTOM FACE WHEN VICE IS CLAMPED	0.00047"	12 μ	0.00031"	8 μ
SLIDING JAW FACE PARALLEL WHEN VICE IS CLAMPED	0.00031"	8 μ	0.00019"	5 μ
CENTER TO CENTER DISTANCE	0.00039"	10 μ	0.00019"	5 μ

ORDERING INFORMATION

CAT NR.	ORD NR.	TYPE	BODY DIMENSIONS	JAW WIDTH	JAW OPENING	JAW DEPTH	MINUTE ANGLE STEP	CENTER TO CENTER DISTANCE	NET WEIGHT	BOX QTY.
			(INCH)	(INCH)	(INCH)	(INCH)				
SNV/6	35215	Screwless	7-1/32 × 3-1/4 × 3-11/32	2-3/4	3-3/4	1-9/16	0.2	6	4.3	4
SNV/7	35216	Screw type	8 × 2-3/4 × 3-17/32	2-3/4	3	1-9/16	0.2	7	4.5	4

DETERMINING THE HEIGHT (H) OF THE GAUGE BLOCK TO BE USED

$$h = \sin \alpha \times D \text{ for surface A}$$

$$h = \sin \alpha \times D + 5 \text{ mm} / 0.2" \text{ for surface B}$$

eg: To determine height of gauge block for angle adjustment of 10°,

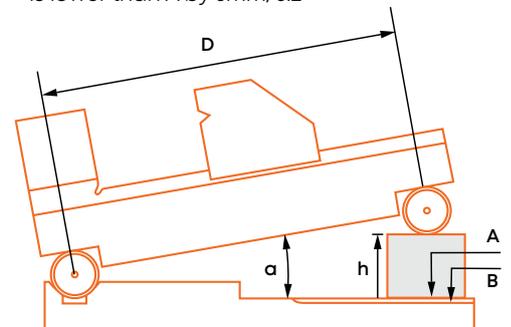
Given D = 150 mm:

$$h = \sin 10^\circ \times 150 = 26.04 \text{ mm}$$

Thus for setting on angle of 10°, a gauge block of height 26.04 mm is required

USING GAUGE BLOCKS

1. Pivot the Sine Vice upwards.
2. Insert gauge block between surface A & the headed dowel
3. Turn back screw so that Sine Vice is pressed against the gauge block & locked positively
4. When adjusting very small angles, place appropriate gauge blocks on surface B which is lower than A by 5mm/0.2"



Milling Machine Vice is amongst the most popular vice used in workshops, machine shops and shop floor

Useful for milling, jig boring, grinding & shaping applications

Manufactured from close grained hi-tensile seasoned cast iron, the vice body has a scratch & rust proof premium polychromatic finish

Vice jaws made from fully hardened and ground tool steel allow the work piece to be held dead square without use of any packing. This improves efficiency and life of jaws and also helps reduce strain on vice body

High tensile fasteners provide greater strength and rigidity

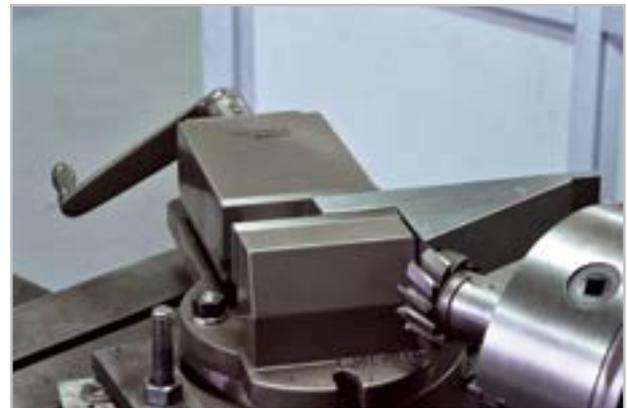
360° swivel base allows the vice to be set at any angle along the vertical axis

Vice base has a milled slot which helps in accurate location of the vice on the machine table using rectangular locating nuts

"Hold Down" slots for secure clamping of the vice on the machine table



Accurately ground bearing surface flatness within 0.0012" (30 microns)



Milling machine vice being used to hold a job for milling operation

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
MMV/SP/50	35010	2	50	2	50	1	25	3.5	6
MMV/SP/75	35014	3	75	3	75	1-11/32	34	8.5	2
* MMV/SP/100	35011	4	100	4	100	1-1/2	38	18	1
MMV/SP/125	35013	5	125	5	125	1-3/4	45	27.7	1
* MMV/SP/150	35012	6	150	6	150	1-3/4	45	35	1

* Best Seller



Ideal for applications wherein the work piece requires machining at an angle

Angular adjustment is achieved via the angular slide that can be set to any desired angle 45° on either sides.

Fully graduated 360° swivel base allows the vice to be set at any angle along the vertical axis

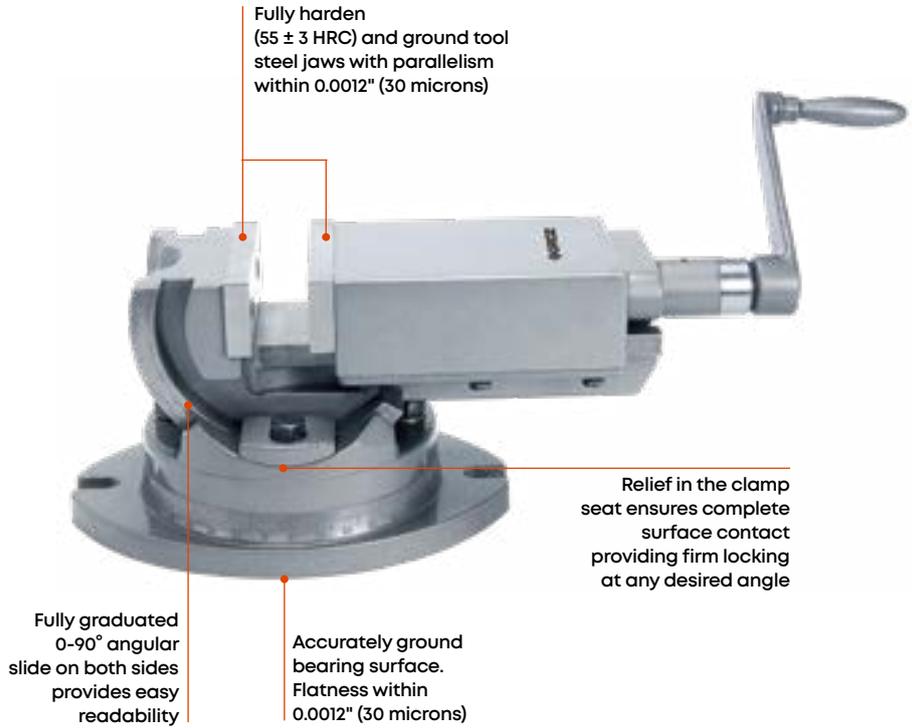
Manufactured from close grained hi-tensile seasoned cast iron with fully hardened and ground tool steel jaws

Ergonomically designed all steel handle for stress free operation. Assembled on the spindle crank with a spring loaded mechanism providing positive grip

Fasteners provides strength and rigidity to these vices

Relief in clamp seat ensures complete surface contact as against a line contact between the "Hold Down" clamp and movable slide, thereby providing firm locking at any desired angle

Milled slot in the vice base helps in accurate location of the vice on the machine table using rectangular locating nuts



Rotation along 360° swivel base



Rotation along 0-90° vertical scale



Combined rotation along both the horizontal and vertical axes

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
AMV/SP/50	35000	2	50	2	50	1	25	3.5	6
AMV/SP/75	35001	3	75	3	75	1-5/16	34	9.5	4
* AMV/SP/100	35002	4	100	4	100	1-1/2	38	17.0	1
AMV/SP/125	35003	5	125	5	125	1-3/4	45	29.4	1
* AMV/SP/150	35004	6	150	6	150	1-3/4	45	35.5	1

* Best Seller



The Angular Machine Vice being used for 45° face milling

Versatile machine vices with all degrees of freedom allows the work piece to be set at any desired angle

Low height construction makes these useful on complicated grinding jobs

One fixed horizontal axis which allows the work piece to be rotated at any angle

Fully graduated 360° swivel base for complete rotation on the vertical axis

Third angular slide with moving axis allows for any setting in the 3D plane

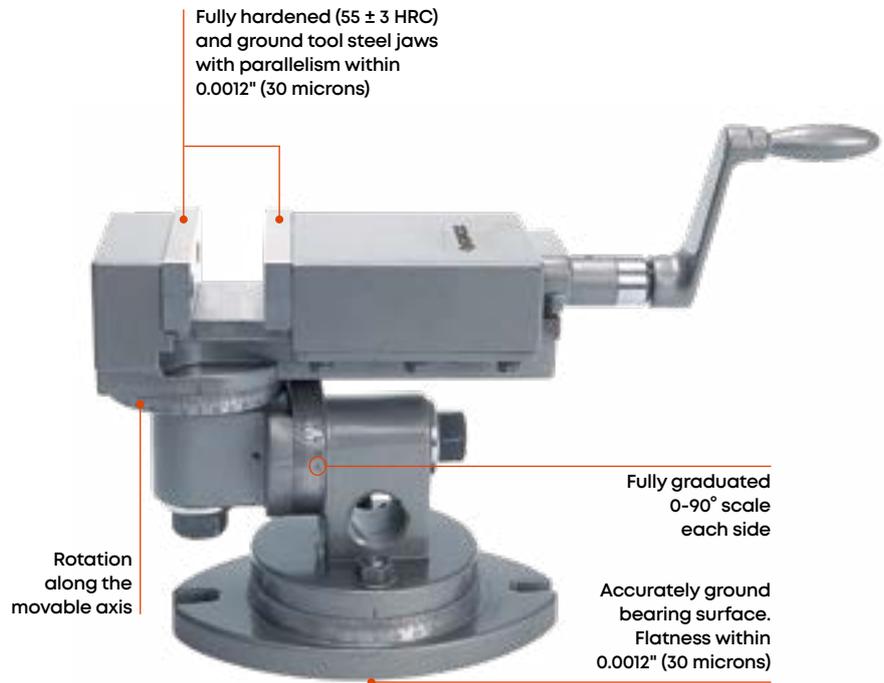
Manufactured from close grained hi-tensile seasoned cast iron with fully hardened and ground tool steel jaws

Ergonomically designed all steel handle assembled on the spindle crank with a spring loaded mechanism providing positive grip

Fasteners provides strength and rigidity

Milled slot in base allows for accurate location on the machine table using rectangular locating nuts

"Hold Down" slots allow for secure clamping of the vice on the work table



Rotation along the movable axis parallel to the axis of the swivel base



Rotation along the axis perpendicular to the axis of the swivel base



A combination of settings along the 3 axes produces the desired compound angle



A typical case of the Universal vice set perpendicular to the base by rotation along the movable scale

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
UV/SP/50	35030	2	50	2	50	7/8	22.6	3.5	6
UV/SP/100	35031	4	100	4	80	1-1/4	32	13.4	1

Tilting vices provide for 3 axis setting of the work piece in special milling, drilling, grinding, and jig boring applications

Vices have 2 angular slides to set the work piece at desired angle — 45° tilting range on either sides and 90° vertical indexing. 360° swivel base for rotation along the vertical axis

Manufactured from close grained hi-tensile seasoned cast iron with fully hardened and ground tool steel jaws

Ergonomically designed all steel handle assembled on the spindle crank with a spring loaded mechanism providing positive grip

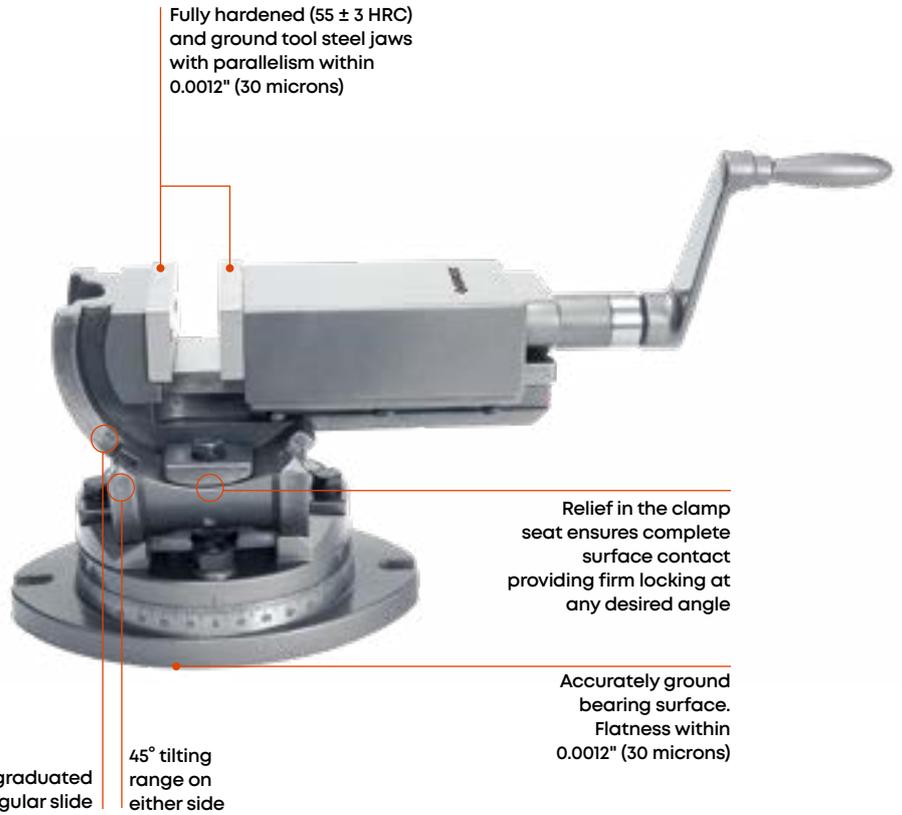
Handle is assembled on the spindle crank with a spring loaded mechanism providing positive grip

Fasteners for strength and rigidity

Relief in clamp seat for complete surface contact between the "Hold Down" clamp and movable slide, providing firm locking

Milled slot in base allows for accurate location on the machine table using rectangular locating nuts

"Hold Down" slots allow for secure clamping of the vice on the work table



Movement along the first angular slide, 0-90°



Movement along the tilting scale, 0-45°



Rotation along the swivel base



A combination of settings along the 3 scales

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
TLT/SP/50	35020	2	50	2	50	1	25	4.0	6
TLT/SP/75	35021	3	75	3	75	1-5/16	34	10.7	2
★ TLT/SP/100	35022	4	100	4	100	1-1/2	38	20.5	1
TLT/SP/125	35026	5	125	5	125	1-3/4	45	36.0	1
★ TLT/SP/150	35027	6	150	6	150	1-3/4	45	45.0	1

★ Best Seller

Self Centering vice allows for accurate centering of jobs, automatically

Vice is specially useful in applications where the same operation is to be performed on work pieces of varying sizes

Special design allows accurate setting up of jobs with only a single machine setting. Centric clamping is particularly useful in milling, slot and groove cutting

Manufactured from high tensile seasoned cast iron.

Fully hardened and ground tool steel jaws,

Vice has opposite threads for quick and accurate centering. Rotation of the crank handle automatically adjusts work piece to the center

Fully graduated 360° swivel base allows the vice to be set at any angle along the vertical axis

Milled slot in the vice base for accurate location of the vice on the machine table using rectangular locating nuts

"Hold Down" slots for secure clamping of the vice on the work table



Self Centering Vice being used to mill key ways in the center of the casting

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
* SCV/SP/100	35040	4	100	4	100	1-1/2	38	14.3	1

* Best Seller

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Drill Press Vices

DPV-STD

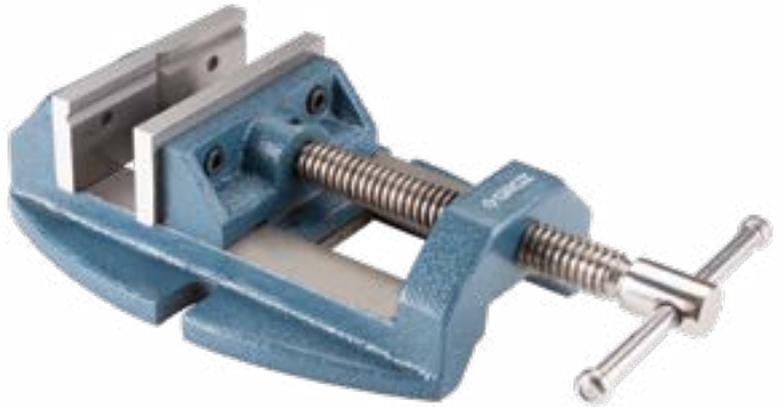
Designed for precise & accurate drilling these vices are ideal for engineering workshops & tool rooms

Manufactured from graded cast iron for extra strength & durability

The base and slides are precision ground for stability and accurate operation

Horizontal & vertical V-grooves in the stationary jaw for holding of round jobs securely

Slotted base enables vice to be bolted to drill press tables, assisting in quick & accurate positioning



ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		NET WEIGHT (KG)	BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)		
DPV/STD-75	35110	3	75	2-3/4	70	1-3/16	30	2.70	6
* DPV/STD-100	35111	4	100	4	100	1-1/2	38	4.70	4
DPV/STD-125	35112	5	125	5	125	1-7/8	48	11.50	3

* Best Seller

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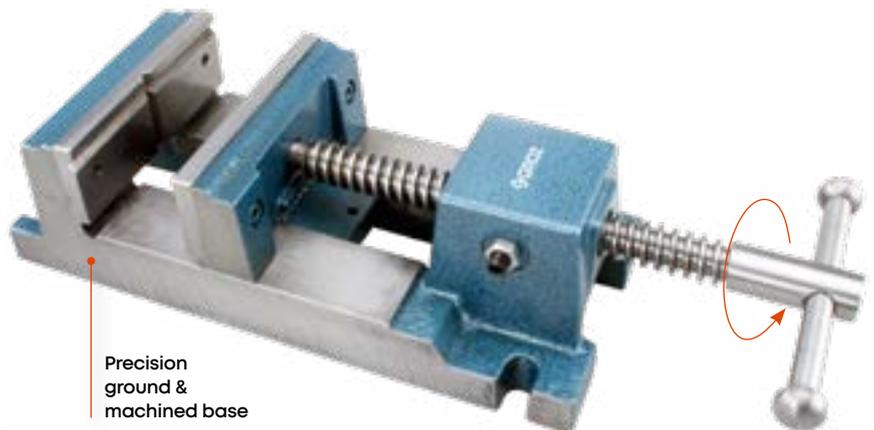
Rapid Action Drill Press Vice

RAV

Manufactured from graded cast iron for extra strength and durability

Precision ground base

Precision ground vice sides at accurate right angles to base makes these vices usable on sides too



Precision ground & machined base

Rapid action mechanism – A simple half turn of the spindle in anti-clockwise direction activates the mechanism- A very useful feature in repetitive work situations for holding different size jobs

ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
* RAV/60	35132	6	150	6-3/4	169	2-1/8	54	2

* Best Seller

Low profile & compact vices are suitable for use with drill stands, bench drills and drill presses in metal and woodworking applications

Graded cast iron construction with precision ground base and vice bed

Fixed jaw with 3 longitudinal and 1 transversal prisms for firm gripping of round stock both horizontally and vertically

Special seat in jaws for clamping of low height work pieces

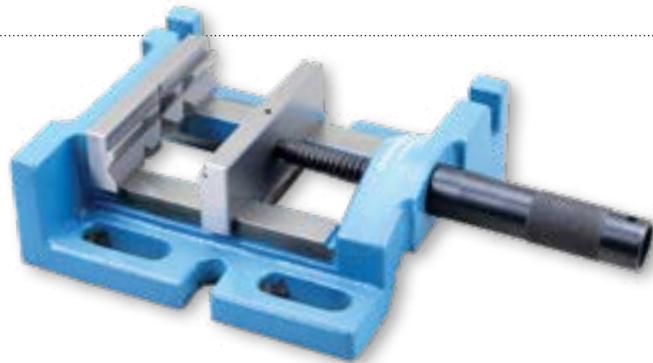
Spindle moves inside the hollow hand grip making the vice usable on any position across the table

Elongated clamping slots for rapid adjustment of the vice on the work table help save time



3 Way Drill Press Vice

3 mounting options useful drilling along all axes with a single setting of the job and holding of long workpieces which are cumbersome and difficult to manage in regular vices

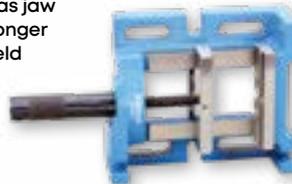


3 MOUNTING OPTIONS

Precisely ground base and vice bed



Fully ground side face allows for right angle machining with the same jaw setting. The jaw width acts as jaw height facilitating longer workpieces to be held



Fully ground end face allows for right angle machining with the same machine setting



ORDERING INFORMATION

CAT NR.	ORD NR.	JAW WIDTH		JAW OPENING		JAW DEPTH		BOX QTY.
		(INCH)	(MM)	(INCH)	(MM)	(INCH)	(MM)	
DRILL PRESS VICES - UNIGRIP								
DPV/UG/75	35120	3-3/16	80	2-3/4	70	1-3/16	30	6
* DPV/UG/100	35121	4	100	3-5/8	92	1-3/16	30	4
* DPV/UG/125	35122	5	120	4-3/8	110	1-3/8	35	3
3 WAY DRILL PRESS VICE - UNIGRIP								
DPV/UG/3/100	35125	4	100	3-1/2	88	1-3/16	30	4

* Best Seller

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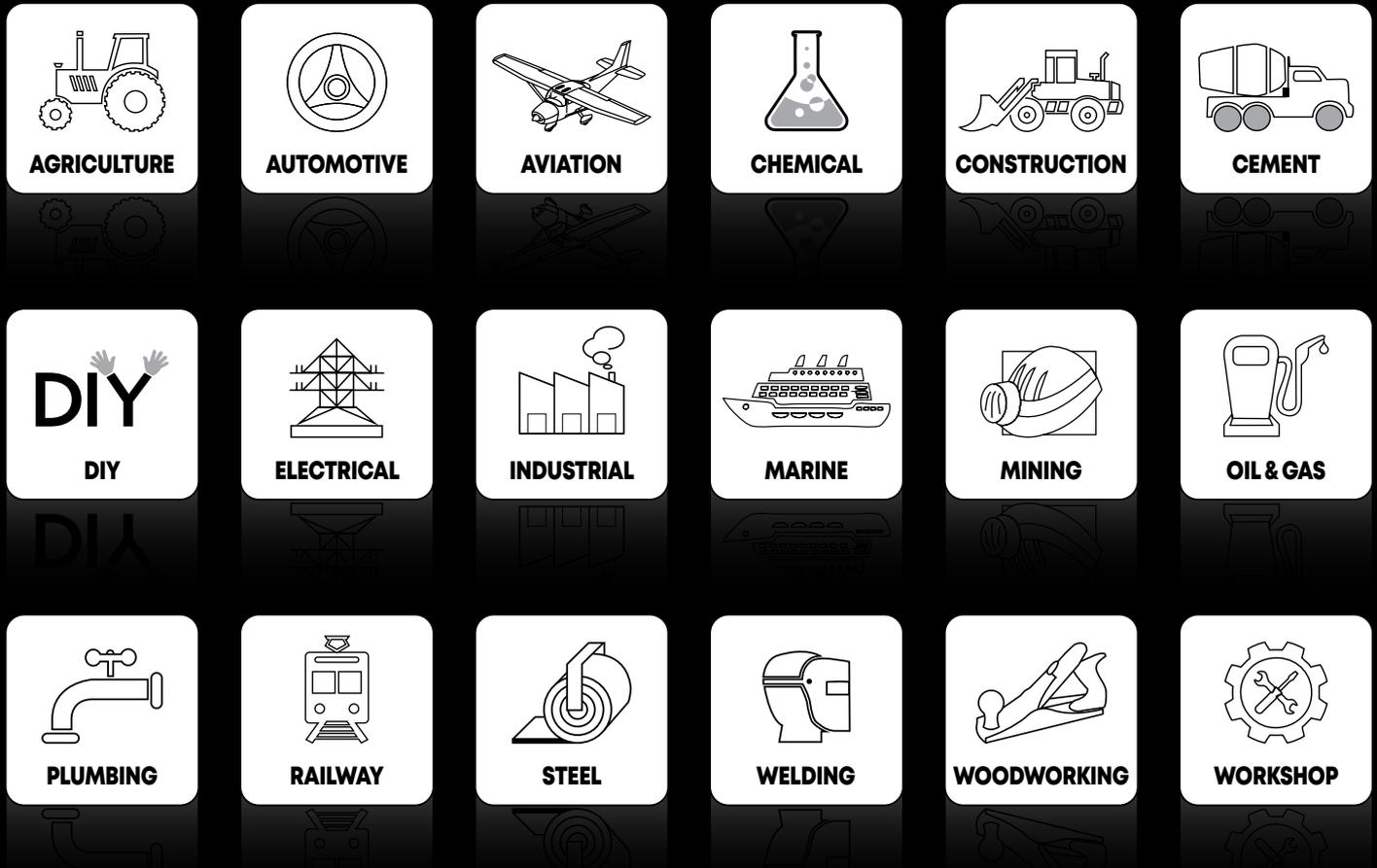
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12320	54	12434	54	12600	54	12931	66	16091	24	35893	58	01420	8
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