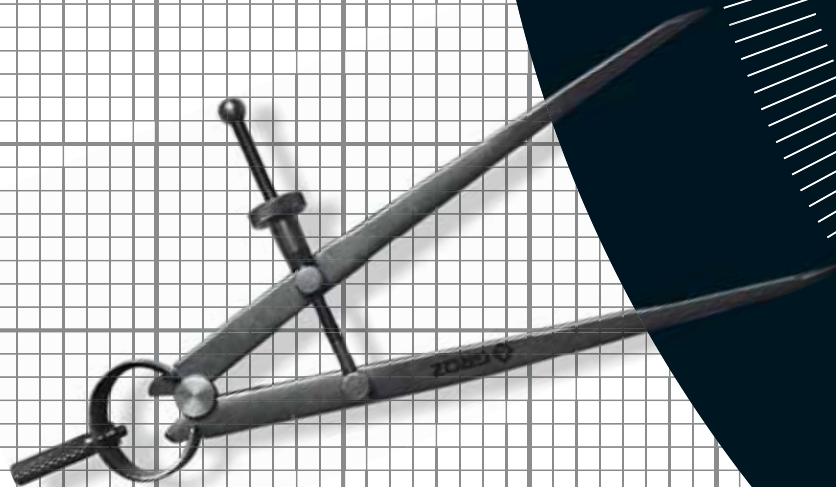
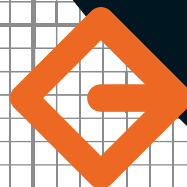


PRECISION ENGINEERING TOOLS

CA02



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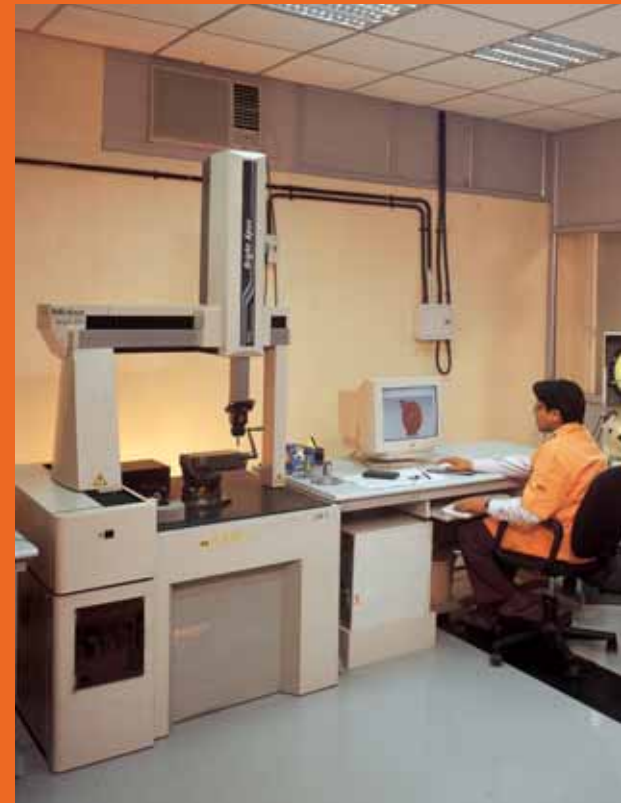


GROZ



WE HAVE WHAT IT TAKES TO EXCEED & EXCEL

The plant. The people. The passion



500,000 sq ft manufacturing | integrated research & development | advanced cnc machining | quality assurance

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 manufacturing environment in a 500,000 square foot plant.

If you demand quality, trust Groz.



www.groz-tools.com



Quality Assurance Statement

The satisfaction of all customers is the fundamental principle of the GROZ corporate philosophy.

GROZ stands committed to the quality of its products and service with the assurance of complete back-up support.

With a wide range of products, prompt service and vast experience, GROZ remains dedicated to the customer.





NEW! ADDITIONS

Dear Valued Customer,

It is my pleasure to present to you the new catalogue that covers our range of Precision Engineering Tools.

We have covered fair ground over the last few years and with our state-of-the art production facility, we can now do much more than before. You will see many technologically superior products as well as modifications to some of the earlier designs, in the following pages. Further, I assure you of the same top performance to which you are accustomed to from Groz.

We appreciate your business and value your loyalty & trust.

Warm Regards,

ANIL BAMMI
Managing Director

07
Straight
Edge
Squares



08
Straight &
Knife Edges



13
Multi-Use
Rule and
Gauge



17
Magnetic
Compass



22
Electronic
Edge Finders



31
Adjustable
Vee Block Set



31
Ball Bearing
Vee Block &
Clamp Sets



35
Pot
Magnets



37
Sine Bars



38
Sine Plates



46
Tweezers



49
Tap Wrenches -
Professional



68
Rotary
Head
Milling
Machine Vices



77
Rapid
Action
Drill Press Vices



1
Measuring and Marking Tools



- 06** Engineer's Precision Squares
- 07** Machinist's Squares
- 09** Jenny Caliper - Hermaphrodite Caliper
- 09** Wing Compass
- 10** Spring Calipers & Dividers
- 11** Spring Calipers & Dividers - Premium
- 12** Degree Protractor
- 12** Depth Gauge with Protractor
- 14** Depth and Angle Gauges
- 14** Bore Gauge (Taper Gauge)
- 15** Sheet Metal & Wire Gauges
- 15** Screw Cutting Gauge
- 16** Center Gauges
- 16** Center Square
- 18** Universal Surface Gauge
- 19** Dial Comparator Stands
- 20** Micrometer Stand
- 20** Engineer's Tool Sets
- 21** Edge & Center Finders
- 22** Electronic & Audible Edge Finder
- 23** Wiggler or Center Finder
- 23** Electronic Height Offset Gauge
- 24** Scribers

2
Set Up Tools



- 27** Tool Maker's Vee Block & Clamp Sets
- 26** Multipurpose Vee Block & Clamp Set
- 28** Ultimate Vee Block & Clamp Set
- 29** Vee Block & Clamp Set - Versatile
- 29** Adjustable Angle Block 0-60°
- 30** Magnetic Vee Blocks
- 32** Vee Blocks - Cast Iron
- 32** 4 Way Vee Blocks - Cast Iron
- 33** Magnetic Bases - Medium Duty
- 34** Magnetic Bases - High Power
- 35** Mini Magnetic Stands
- 36** Stepped Angle Plates
- 39** Surface Plates
- 40** Hand Scrapers
- 41** Parallel Clamps
- 41** Machinist's Jack

INSIDE

3

Machine Tool Accessories



- 43** Drill Chuck Arbors
- 44** Reduction Sleeves (Drill Sleeves)
- 45** Drill Drift Key
- 45** Slitting Saw Arbors
- 47** Lathe Centers - (Dead Centers)
- 48** Adjustable Tap & Reamer Wrenches - Bar Type
- 50** Micro Tap Guide
- 50** Die Holders - Shank Type
- 51** Die Stock Holders - Round Dies
- 52** Turning Tool Holders - American Pattern
- 53** Parting Off Tool Holders
- 53** Fly Cutter Holder Set
- 54** Knurling Tool Holders
- 55** Pin Chuck Set
- 56** Pin Vices
- 57** Lathe Carriers
- 57** Lathe Chuck Keys
- 58** Boring Bars
- 59** Boring Bars Square Holder
- 59** Draw Bar Hammer
- 60** Adjustable Hand Reamers
- 62** ToolBits and Cut Off Blades (Imperial Size)
- 61** Knurls - High Speed Steel
- 64** Wheel Dressers & Cutters - (Wheel Dressers)

4

Precision Vices

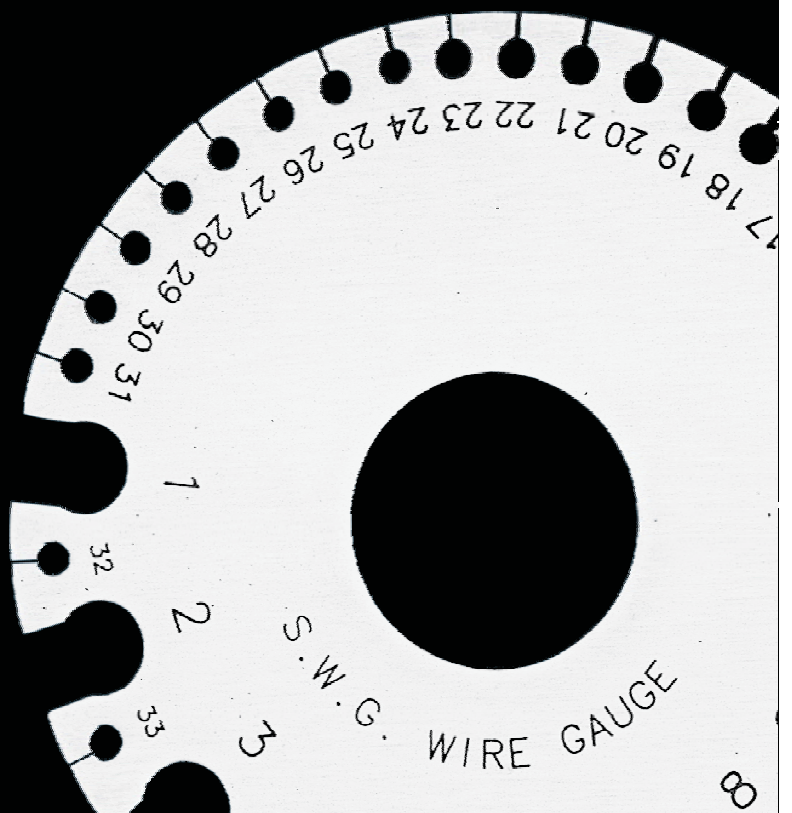


- 66** Toolmakers Steel Vices - Super Precision
- 67** Sine Vices - Super Precision
- 68** Rotary Milling Machine Head Vices
- 69** Milling Machine Vices - Super Precision
- 70** Angular Machine Vices - Super Precision
- 71** Three Way Tilting Vices - Super Precision
- 72** Universal Vices - Super Precision
- 73** Self Centering Vice - Super Precision
- 74** Replacement Jaws & Handles
- 75** Drill Press Vice - Heavy Duty
- 75** Drill Press Vice - Precision
- 76** Drill Press Vice - Ungrip

MEASURING & MARKING TOOLS

Engineer's Squares
Calipers & Dividers
Gauges
Comparator Stands
Edge & Center Finders
Scribers

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01 ENGINEER'S PRECISION SQUARES

SS-A

ESP Escuadras de precisión para ingeniero FR Équerres de précision DE Präzisions-Haarwinkel

Internal & External Squareness as per BS 939 Grade B

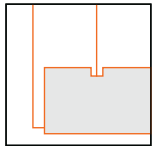
An excellent range of precision steel squares that are second to none

These are useful for setting up & checking jobs where extreme accuracy is required

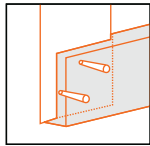
Hardened spring steel blades are permanently fixed to the stock by means of tapered self locking rivets which ensure complete rigidity

Both the blade and stock are precisely ground to ensure straightness and parallelism. Working edges of the blades are lapped which further enhances accuracy

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



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



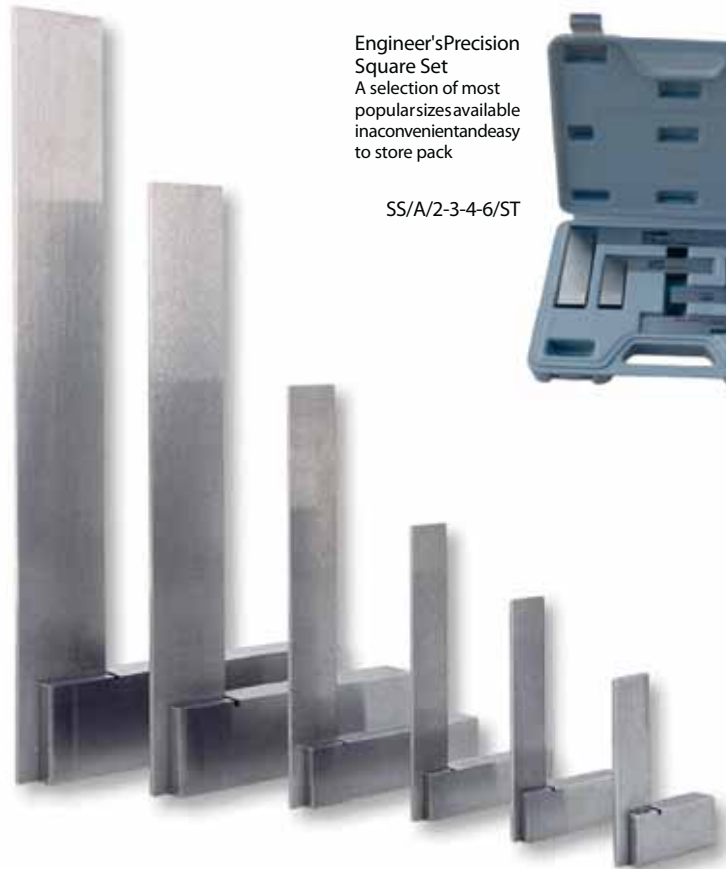
Use of tapered self locking rivets ensures perfect rigidity

Engineer's Precision Square Set

A selection of most popular sizes available in a convenient and easy to store pack



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

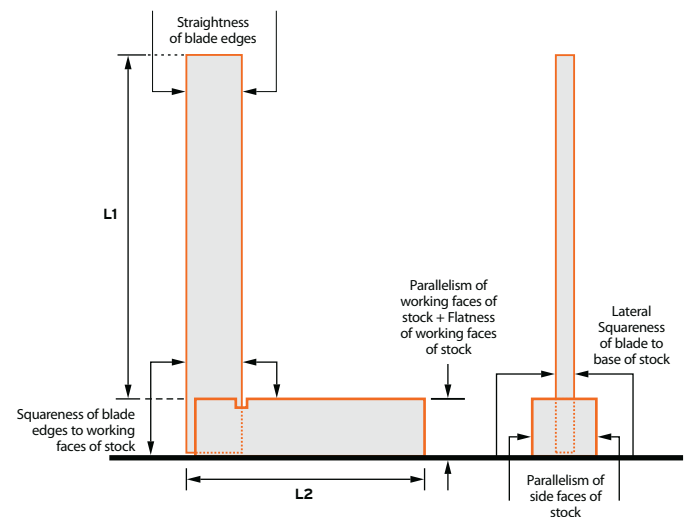
**Ordering Information**

| Cat. Nr. | Ordering 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) | |
|-----------|--------------|---|-----|--|-----|
| | | Inch | mm | Inch | mm |
| SS/A/2 | 01000 | 2 | 50 | 2 | 50 |
| SS/A/3 | 01001 | 3 | 75 | 2-3/8 | 60 |
| u SS/A/4 | 01002 | 4 | 100 | 3 | 75 |
| u SS/A/6 | 01003 | 6 | 150 | 4 | 100 |
| H SS/A/8 | 01004 | 8 | 200 | 5 | 125 |
| SS/A/9 | 01005 | 9 | 225 | 6-5/16 | 160 |
| H SS/A/10 | 01006 | 10 | 250 | 6-1/2 | 165 |
| SS/A/12 | 01007 | 12 | 300 | 8-9/32 | 210 |

| Sets | | |
|-----------------|--------------|---|
| Cat. Nr. | Ordering Nr. | Set Constituents |
| SS/A/2-3-4-6/ST | 01011 | One each of 2" (50 mm), 3" (75 mm), 4" (100 mm) & 6" (150 mm) Squares |
| u SS/A/2-4-6/ST | 01012 | One each of 2" (50 mm), 4" (100 mm) & 6" (150 mm) Squares |

u BESTSELLER

H MADE TO ORDER

**Technical Information**

| 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 | 0.00031 | 8 | 0.00016 | 4 | 0.00020 | 5 | 0.00098 | 25 | 0.00063 | 16 | 0.00492 | 125 |
| SS/A/3 | 0.00031 | 8 | 0.00016 | 4 | 0.00020 | 5 | 0.00098 | 25 | 0.00063 | 16 | 0.00492 | 125 |
| SS/A/4 | 0.00031 | 8 | 0.00023 | 6 | 0.00020 | 5 | 0.00098 | 25 | 0.00063 | 16 | 0.00984 | 250 |
| SS/A/6 | 0.00031 | 8 | 0.00023 | 6 | 0.00020 | 5 | 0.00196 | 50 | 0.00063 | 16 | 0.00984 | 250 |
| SS/A/8 | 0.00031 | 8 | 0.00031 | 8 | 0.00031 | 8 | 0.00196 | 50 | 0.00078 | 20 | 0.01476 | 375 |
| SS/A/9 | 0.00047 | 12 | 0.00031 | 8 | 0.00031 | 8 | 0.00196 | 50 | 0.00094 | 24 | 0.01476 | 375 |
| SS/A/10 | 0.00047 | 12 | 0.00031 | 8 | 0.00031 | 8 | 0.00196 | 50 | 0.00094 | 24 | 0.01476 | 375 |
| SS/A/12 | 0.00047 | 12 | 0.00031 | 8 | 0.00031 | 8 | 0.00196 | 50 | 0.00094 | 24 | 0.01476 | 375 |

02 STRAIGHT EDGE SQUARES

SS-SE

ESP Escuadras de precisión FR Équerres de précision DE Präzisions-Haarwin

An excellent range of workshop squares with straight edge

Made from selected tool steel, these are fully hardened and ground. Squares have accurate right angles on the inside and outside. Both the blade and stock are made from a single piece of steel which ensures straightness and parallelism

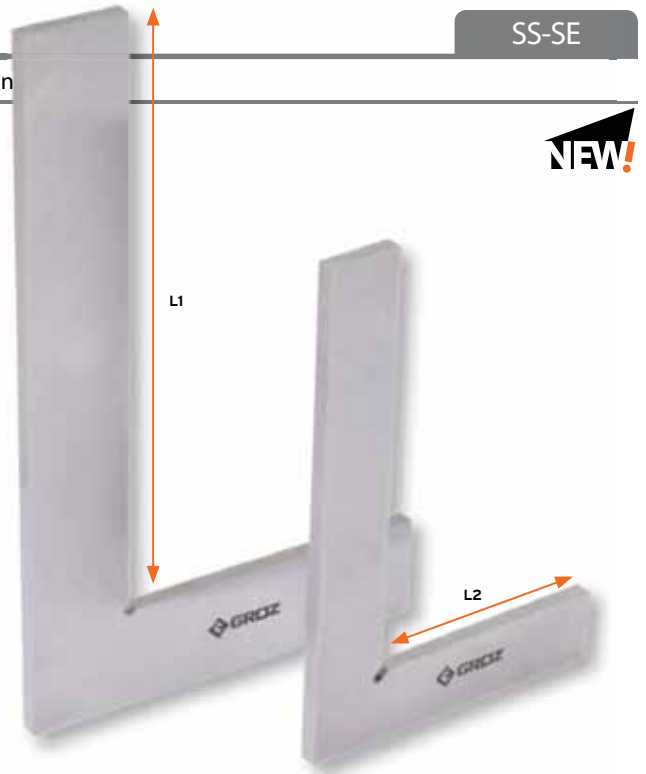
Groove on the inner corner of the stock helps in removing burrs and dirt

This range of squares comes in handy for setting up, checking machinery & in everyday workshop use

Ordering Information

| Cat. Nr. | Ordering Nr. | Blade Length (L1) (from inner edge of stock to end of blade) | | Stock Length (L2) (from edge of stock to inner edge of blade) | | Squareness of blade edges to working faces of stock | |
|-----------|--------------|---|-----|--|-----|---|---------|
| | | Inch | mm | Inch | mm | Inch | microns |
| u SS/SE/3 | 01130 | 3-1/8 | 80 | 2 | 50 | 0.0011 | 30 |
| u SS/SE/5 | 01131 | 5 | 125 | 3 | 75 | 0.0013 | 33 |
| u SS/SE/6 | 01132 | 6-3/4 | 170 | 4 | 100 | 0.0015 | 37 |
| SS/SE/8 | 01133 | 8-1/2 | 215 | 5-1/8 | 130 | 0.0016 | 42 |
| SS/SE/10 | 01134 | 10-1/2 | 265 | 6-3/8 | 162 | 0.0018 | 47 |

u BESTSELLER



NEW!

03 MACHINIST'S SQUARES

No. 011

ESP Escuadras de operario FR Équerres de mécanicien DE Maschinist Haarwinkel

An excellent range of general purpose steel squares

Whilst ideal for everyday workshop use, these are also suitable for woodworking applications

Made from selected steel with hardened blade, these squares have accurate right angles both on the inside and outside

Both the blade and stock are accurately ground which ensures straightness and parallelism

This range of squares comes in handy 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. | Ordering Nr. | Blade Length (from inner edge of stock to end of blade) | | Stock Length (from edge of stock to outer edge of blade) | | Squareness of blade edges to working faces of stock | |
|----------|--------------|---|-----|--|-----|---|-----|
| | | Inch | mm | Inch | mm | Inch | mm |
| SS/2 | 01100 | 2 | 50 | 2 | 50 | 0.0019 | 48 |
| SS/3 | 01101 | 3 | 75 | 2-3/8 | 60 | 0.0019 | 48 |
| u SS/4 | 01102 | 4 | 100 | 3 | 75 | 0.0019 | 48 |
| u SS/6 | 01103 | 6 | 150 | 4 | 100 | 0.0028 | 72 |
| SS/8 | 01104 | 8 | 200 | 5 | 125 | 0.0028 | 72 |
| SS/9 | 01105 | 9 | 225 | 6-9/32 | 160 | 0.0028 | 72 |
| SS/10 | 01106 | 10 | 250 | 6-1/2 | 165 | 0.0028 | 72 |
| SS/12 | 01107 | 12 | 300 | 8-1/4 | 210 | 0.0038 | 96 |
| F SS/18 | 01108 | 18 | 450 | 10 | 255 | 0.0057 | 144 |
| F SS/24 | 01109 | 23-1/2 | 600 | 13 | 330 | 0.0057 | 144 |

Sets

| Cat. Nr. | Ordering Nr. | Set Constituents |
|-----------------|--------------|--|
| u SS/2-3-4-6/ST | 01110 | One each of 2" (50 mm), 3" (75 mm), 4" (100 mm) & 6" (150 mm) Squares |
| SS/4-6-9-12/ST | 01111 | One each of 4" (100 mm), 6" (150 mm), 9" (225 mm) & 12" (300 mm) Squares |

u BESTSELLER F MADE TO ORDER



04 STRAIGHT & KNIFE EDGES

SE

KE

ESP Reglas de precisión FR Regles de précision DE Präzisions-Lineale

NEW!

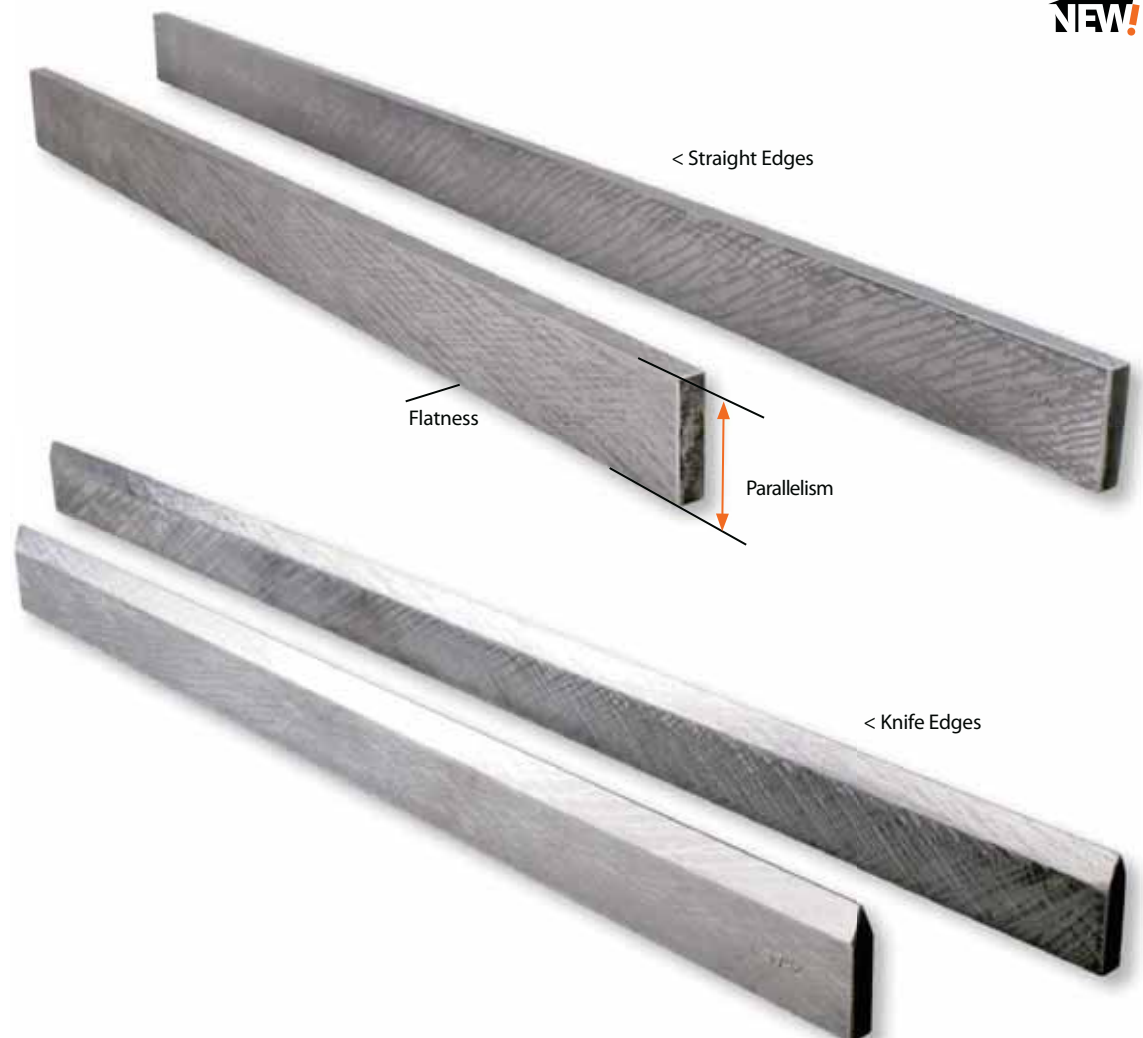
Manufactured from high quality spring steel, Straight & Knife Edges are fully ground and hand scraped for a perfectly flat surface. Hand scraping removes all the high points left from grinding making these an extremely accurate tool

The thickness and design permit these to retain shape & accuracy yet convenient to carry around

Used for drawing & scribing straight lines, checking straight surfaces for straightness, setting up machines such as planers etc. these are available in two types:

Straight Edges - These have flat edges on both sides

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



Ordering Information

| Cat.Nr. | Ordering Nr. | Cat.Nr. | Ordering Nr. | Length | | Width | | Thickness | |
|----------------|--------------|---------|--------------|-------------|------|---------|------|-----------|----|
| | | | | Inch | mm | Inch | mm | Inch | mm |
| Straight Edges | | | | Knife Edges | | | | | |
| u SE/12 | 02500 | KE/12 | 02550 | 12 | 300 | 1-13/32 | 36.0 | 5/16 | 8 |
| SE/18 | 02501 | KE/18 | 02551 | 18 | 450 | 1-13/32 | 36.0 | 5/16 | 8 |
| u SE/24 | 02502 | KE/24 | 02552 | 24 | 600 | 1-13/32 | 36.0 | 5/16 | 8 |
| SE/36 | 02503 | KE/36 | 02553 | 36 | 900 | 2-13/32 | 61.0 | 3/8 | 10 |
| u SE/48 | 02504 | KE/48 | 02554 | 48 | 1200 | 2-13/32 | 61.0 | 3/8 | 10 |
| SE/60 | 02505 | KE/60 | 02555 | 60 | 1500 | 3-5/32 | 80.0 | 3/8 | 10 |
| u SE/72 | 02506 | KE/72 | 02556 | 72 | 1800 | 3-5/32 | 80.0 | 3/8 | 10 |
| SE/96 | 02507 | KE/96 | 02557 | 96 | 2400 | 3-5/32 | 80.0 | 19/32 | 15 |
| SE/120 | 02508 | KE/120 | 02558 | 120 | 3000 | 3-1/4 | 83.0 | 19/32 | 15 |

u BESTSELLER

Technical Information

| Cat.Nr. | Flatness of Edges | Parallelism of Faces | | | |
|----------------|-------------------|----------------------|---------|---------|-----|
| | | Inch | Microns | | |
| Straight Edges | Knife Edges | 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 | 50 |
| SE/72 | KE/72 | 0.0015 | 38 | 0.0029 | 74 |
| SE/96 | KE/96 | 0.0018 | 45 | 0.0036 | 91 |
| SE/120 | KE/120 | 0.0021 | 54 | 0.0043 | 110 |



Straight Edge being used to check flatness of an engine block

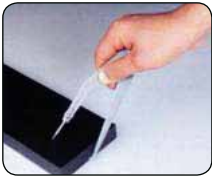
05 JENNY CALIPER – HERMAPHRODITE CALIPER

JC

ESP Compas de centrado FR "Jenny" Compas DE "Jenny" Spitzzirkel

Manufactured from selected steel, the legs are exceptionally rugged and well finished. The leg that holds the adjustable point is offset. The locating lug is incorporated in the straight leg

These are very useful in layout work for locating and testing centres, laying off distances from an edge etc. Working faces hardened to 58 HRC



A specific advantage of the Jenny Caliper is that it allows easy marking of arcs along the edge of workpiece

Ordering Information

| Cat. Nr. | Ordering Nr. | Size | |
|----------|--------------|------|-----|
| | | Inch | mm |
| JC/6 | 01540 | 6 | 150 |



Lug provides additional support to the leg

06 WING COMPASS

WC

ESP Compas FR Compas de Menuisier 1/4 circle DE Spitzzirkel

These rugged industrial grade compasses are manufactured from heavy gauge steel with an attractive black power coated finish. The tip is accurately ground. Heavy duty hinge and knurled nut help in convenient movement

Used for precisely scribing arcs and circles on projects and drawings

NEW!



Ordering Information

| Cat. Nr. | Ordering Nr. | Size | | Scribing Capacity | |
|----------|--------------|------|-----|-------------------|-----|
| | | Inch | mm | Inch | mm |
| WC/6 | 01550 | 6 | 150 | 8 | 200 |
| u WC/8 | 01551 | 8 | 200 | 10-1/2 | 265 |
| WC/16 | 01554 | 16 | 400 | 22 | 550 |

u BESTSELLER

07 SPRING CALIPERS & DIVIDERS

No. 014

ESP Calibradores & divisores muelle FR Compas et diviseurs Á ressort DE Feder-Spitzzirkel und Spitzzirkel

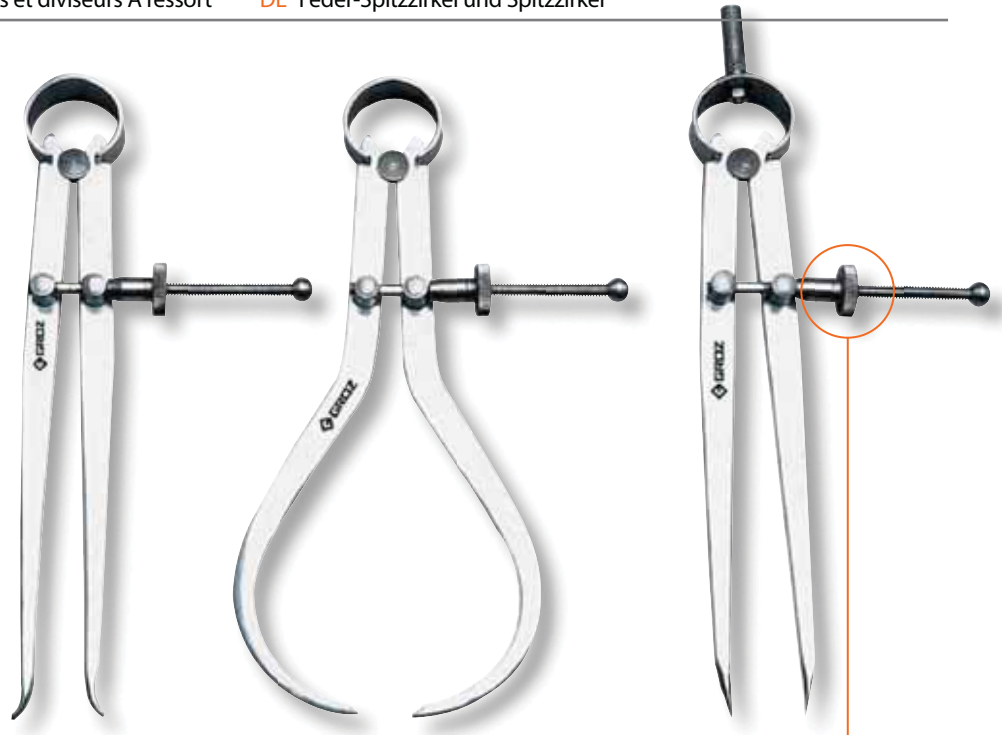
Calipers are one of the oldest type of comparison measuring tools. These are designed for taking comparative measurements and transferring the dimensions to a micrometer, precision rule etc.

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

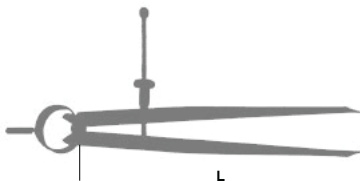
Adjustment is made by opening and closing of the legs by means of an adjusting nut

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



Quick Nut

"An Alternative to the solid adjusting nut, a split quick adjusting nut is also available which helps in making quick & positive adjustments. The threads of the nut firmly engage the screw at the slightest pressure of the leg. When the pressure is withdrawn, the nut releases itself sliding freely over the screw. This feature helps save time in opening and closing when a variety of measurements have to be taken consecutively



Ordering Information

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Size (L) | |
|-------------------------|--------------|------------------|--------------|----------|-----|
| | | | | Inch | mm |
| Solid Nut | | Quick Nut | | | |
| Inside Calipers | | | | | |
| ID/3 | 01400 | ID/Q/3 | 01430 | 3 | 75 |
| u ID/4 | 01401 | ID/Q/4 | 01431 | 4 | 100 |
| u ID/6 | 01402 | ID/Q/6 | 01432 | 6 | 150 |
| ID/8 | 01403 | ID/Q/8 | 01433 | 8 | 200 |
| ID/10 | 01404 | ID/Q/10 | 01434 | 10 | 250 |
| ID/12 | 01405 | ID/Q/12 | 01435 | 12 | 300 |
| Outside Calipers | | | | | |
| OD/3 | 01410 | OD/Q/3 | 01440 | 3 | 75 |
| u OD/4 | 01411 | OD/Q/4 | 01441 | 4 | 100 |
| u OD/6 | 01412 | OD/Q/6 | 01442 | 6 | 150 |
| OD/8 | 01413 | OD/Q/8 | 01443 | 8 | 200 |
| OD/10 | 01414 | OD/Q/10 | 01444 | 10 | 250 |
| OD/12 | 01415 | OD/Q/12 | 01445 | 12 | 300 |
| Spring Dividers | | | | | |
| DD/3 | 01420 | DD/Q/3 | 01450 | 3 | 75 |
| u DD/4 | 01421 | DD/Q/4 | 01451 | 4 | 100 |
| u DD/6 | 01422 | DD/Q/6 | 01452 | 6 | 150 |
| DD/8 | 01423 | DD/Q/8 | 01453 | 8 | 200 |
| DD/10 | 01424 | DD/Q/10 | 01454 | 10 | 250 |
| DD/12 | 01425 | DD/Q/12 | 01455 | 12 | 300 |

u BESTSELLER

CA 10



Inside Caliper in use to measure the internal diameter of a cylinder



Outside Caliper being used to inspect the external diameter of a machined component

08 SPRING CALIPERS & DIVIDERS – PREMIUM

No. 014P

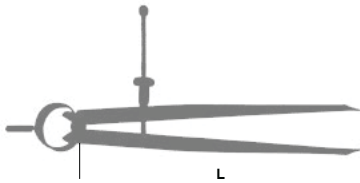
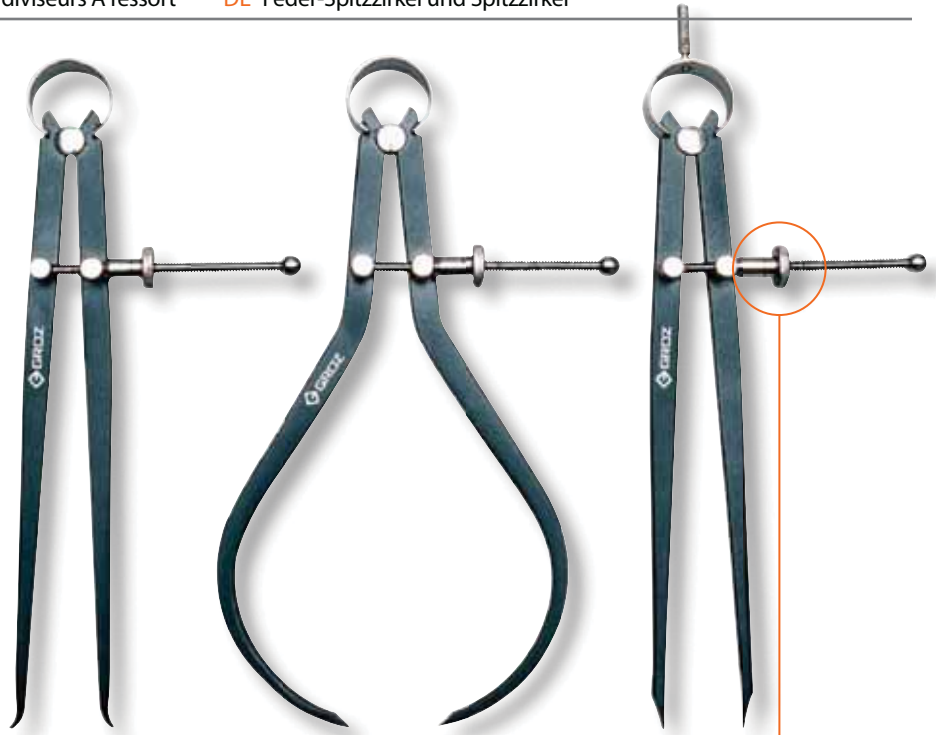
ESP Calibradores & divisores muelle FR Compas et diviseurs Á ressort DE Feder-Spitzzirkel und Spitzzirkel

This range of Calipers and Dividers are the finest tools of their type

Designed for reliable, accurate layout and measurement jobs, these are of immense use to toolmakers and all mechanics who require finer adjustment and better balance

Precision made to rigid standards throughout. Manufactured from high grade steel, the legs are machined to a smooth taper. Fulcrum stud has a large bearing surface preventing side deflection of legs. The finely machined solid nut runs smoothly to secure legs exactly to dimension

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



Ordering Information

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Size (L) | |
|-------------------------|--------------|---|--------------|----------|-----|
| | | | | Inch | mm |
| Solid Nut | | Quick Nut | | | |
| Inside Calipers | | | | | |
| ID/SP/3 | 01460 | ID/SP/Q/3 | 01560 | 3 | 75 |
| ID/SP/4 | 01461 | ID/SP/Q/4 | 01561 | 4 | 100 |
| u ID/SP/6 | 01462 | ID/SP/Q/6 | 01562 | 6 | 150 |
| u ID/SP/8 | 01463 | ID/SP/Q/8 | 01563 | 8 | 200 |
| ID/SP/10 | 01464 | ID/SP/Q/10 | 01564 | 10 | 250 |
| ID/SP/12 | 01465 | ID/SP/Q/12 | 01565 | 12 | 300 |
| Outside Calipers | | | | | |
| OD/SP/3 | 01470 | OD/SP/Q/3 | 01570 | 3 | 75 |
| OD/SP/4 | 01471 | OD/SP/Q/4 | 01571 | 4 | 100 |
| u OD/SP/6 | 01472 | OD/SP/Q/6 | 01572 | 6 | 150 |
| u OD/SP/8 | 01473 | OD/SP/Q/8 | 01573 | 8 | 200 |
| OD/SP/10 | 01474 | OD/SP/Q/10 | 01574 | 10 | 250 |
| OD/SP/12 | 01475 | OD/SP/Q/12 | 01575 | 12 | 300 |
| Spring Dividers | | | | | |
| DD/SP/3 | 01480 | DD/SP/Q/3 | 01580 | 3 | 75 |
| DD/SP/4 | 01481 | DD/SP/Q/4 | 01581 | 4 | 100 |
| u DD/SP/6 | 01482 | DD/SP/Q/6 | 01582 | 6 | 150 |
| u DD/SP/8 | 01483 | DD/SP/Q/8 | 01583 | 8 | 200 |
| DD/SP/10 | 01484 | DD/SP/Q/10 | 01584 | 10 | 250 |
| DD/SP/12 | 01485 | DD/SP/Q/12 | 01585 | 12 | 300 |
| Sets | | | | | |
| Cat. Nr | Ordering Nr. | Set Constituents | | | |
| CD/SP/6/ST | 01492 | A set of 1 each: 6" (150 mm) Inside and Outside Calipers and Spring Divider | | | |
| u CD/SP/8/ST | 01493 | A set of 1 each: 8" (200 mm) Inside and Outside Calipers and Spring Divider | | | |

u BESTSELLER

CA 11

Quick Nut
"An Alternative to the solid adjusting nut, a split quick adjusting nut is also available which helps in making quick & positive adjustments. The threads of the nut firmly engage the screw at the slightest pressure of the leg - when the pressure is withdrawn, the nut releases itself sliding freely over the screw. This feature helps save time in opening and closing when a variety of measurements have to be taken consecutively

CD/SP/6/ST
A set of one each :
6" (150mm) Inside &
Outside Calipers &
Springs Divider



09 DEGREE PROTRACTORS

DP-6

DP-R6

ESP Transportador de angulos FR Rapporteurs d` angles DE Winkelmesser

Manufactured from stainless steel, the Degree Protractor comes with a semi-circular or a rectangular head

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

The 6" (150 mm) blade has a graduation line on one end that permits accurate setting and reading of angles. The blade can be firmly set at the desired angle by means of a knurled nut

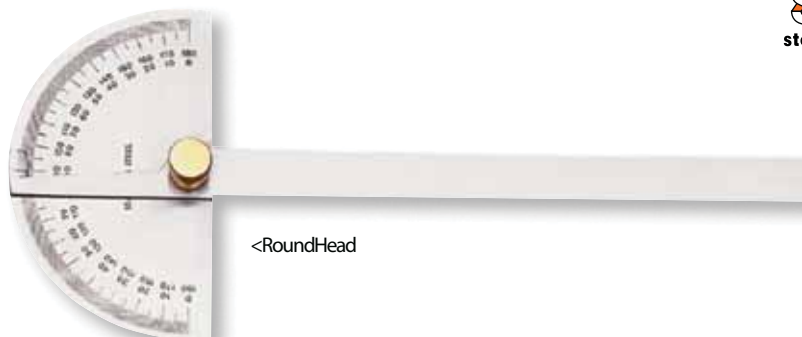
This is an ideal tool for machinists, draftsmen and mechanics for setting bevels, transferring angles, small squaring tasks, checking cutter clearances within limits etc.

The rectangular head provides additional convenience as it incorporates 4 working edges

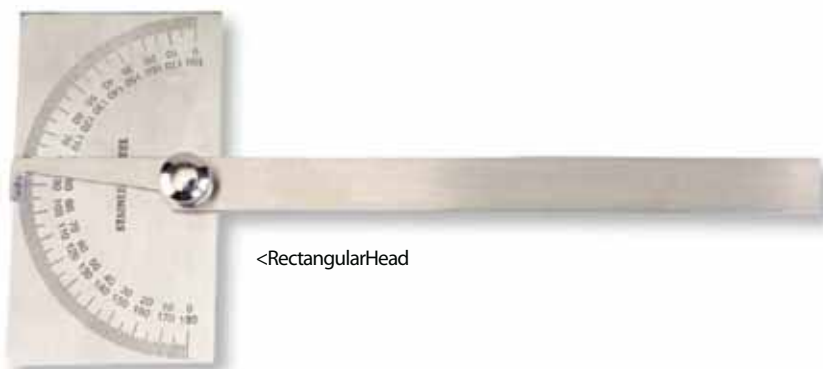
Angular Tolerance: $\pm 0.5^\circ$

Ordering Information

| Cat. Nr. | Ordering Nr. | Head |
|----------|--------------|-------------|
| DP/6 | 01220 | Round |
| DP/R/6 | 01224 | Rectangular |



<RoundHead



<RectangularHead



10 DEPTH GAUGE WITH PROTRACTOR

PDG-6

PDG-R6

ESP Calibrador de profundidad con transportador FR Rapporteur - Jauge DE Tiefe und Winkel-Lehre

A versatile tool, the Depth Gauge with Protractor allows for measurement of both angles and depths

Manufactured from stainless steel, the protractor head has permanent deep etched graduations, 0-180° in opposite directions, thus permitting reading an angle directly and also its supplement

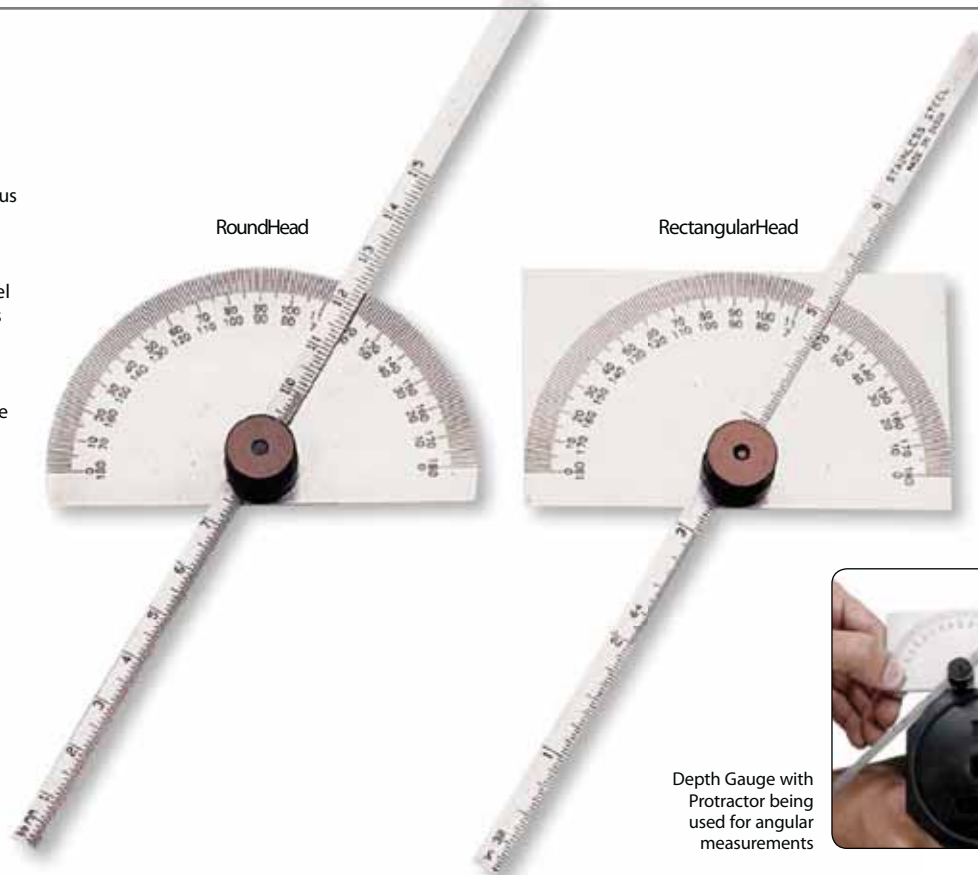
Depths are measured by a 6" (150 mm) steel rule. It is graduated in imperial dimensions on one side and metric on the other and can be set at any desired angle for use as a protractor and lengthwise when used as a depth gauge. A knurled thumbnut locks the rule in the desired position

The gauge has a flat surface on the back of the head permitting laying the tool flat upon the work. The rectangular head provides additional convenience as it incorporates 4 working edges

Angular Tolerance: $\pm 0.5^\circ$

Ordering Information

| Cat. Nr. | Ordering Nr. | Head |
|----------|--------------|-------------|
| PDG/6 | 01221 | Round |
| PDG/R/6 | 01225 | Rectangular |



RoundHead

RectangularHead



Depth Gauge with Protractor being used for angular measurements

11 MULTI-USE RULE AND GAUGE

RNG-4

ESP Múltiples uso Regla e Calibrador FR Multiple D'Usage Regle et J

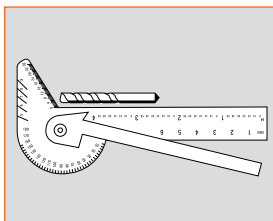
DE Mehrfache Gebrauch Regel und Lehre

A popular pocket-sized, 5 – in – 1 tool useful for a variety of applications

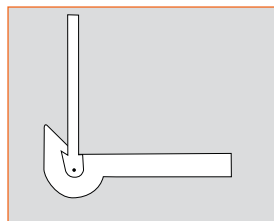
Can be used as:

- A Drill Point Gauge for checking 59° angle drill points
- A Protractor for measuring and laying out angles
- A Center Finder for locating centers on shafts and circles
- A 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

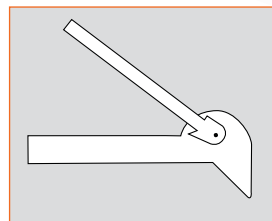
Manufactured from stainless steel, this multi use tool comes complete with a 4"(100 mm) rule with permanently etched graduations in 64ths and millimeters



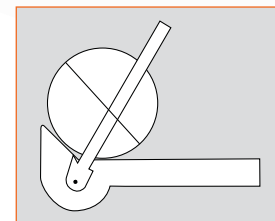
As a Drill Point Gauge



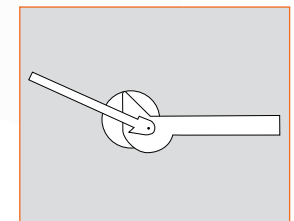
As a Square



As a Protractor



As a Center Finder



As a Circle Divider

Ordering Information

| Cat. Nr. | Ordering Nr. |
|----------|--------------|
| RNG/4 | 01240 |

12 DEPTH AND ANGLE GAUGES

DG

ESP Calibrador de profundidad con transportador FR Jauge de profondeur DE Tiefe und Winkel-Lehre

The ability to measure depths and angles is combined in this versatile tool

The head is made from selected steel and has an attractive black finish. It is graduated both left and right to 15°, 30°, 45° and the rule can be set to any of these angles

A 6" (150 mm) 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 | Ordering Nr. | Rule Length | |
|---------|--------------|-------------|-----|
| | | Inch | mm |
| u DG/6 | 01214 | 6 | 150 |
| DG/8 | 01215 | 8 | 200 |
| DG/9 | 01216 | 9 | 225 |
| DG/12 | 01217 | 12 | 300 |

u **BESTSELLER**

13 BORE GAUGE (TAPER GAUGE)

BG-115

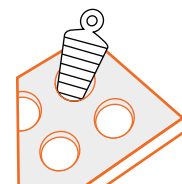
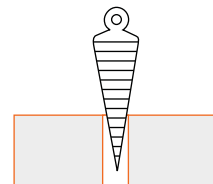
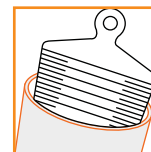
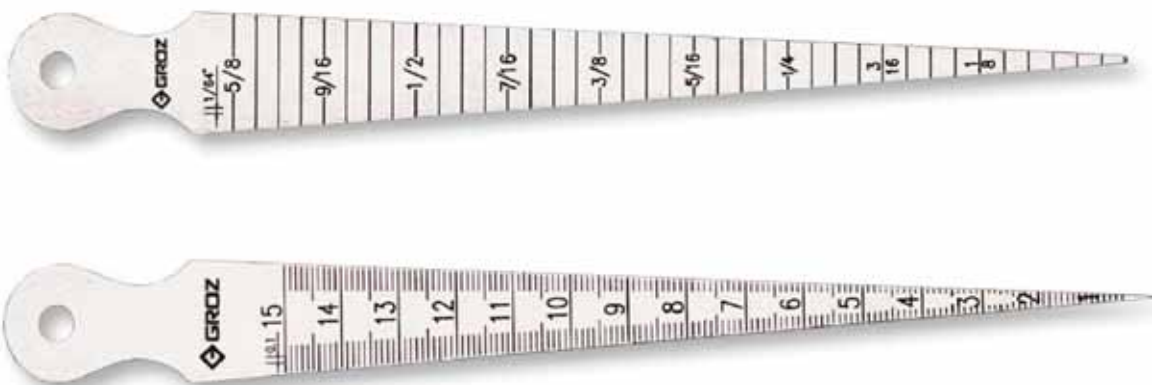
ESP Calibrador de diametros FR Jauge à trou conques en acier DE Bohrungslehre

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

SS
stainless
steel



Ordering Information

| Cat. Nr | Ordering Nr. | Range | | Least Count | |
|---------|--------------|----------|------|-------------|-----|
| | | Inch | mm | Inch | mm |
| BG/1-15 | 01200 | 1/32-5/8 | 1-15 | 1/64 | 0.1 |

14 SHEET METAL & WIRE GAUGES

WG

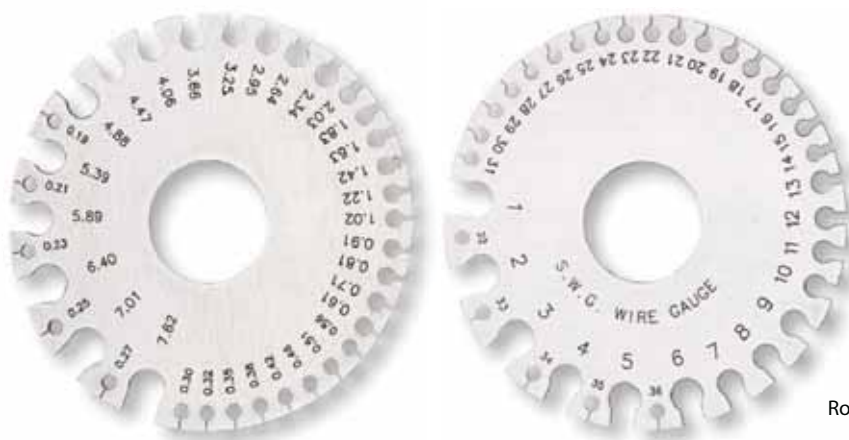
ESP Calibrador de alambres FR Jauge pour broche et feuille de métal DE Leitung Lehre

Made from heavy gauge hardened stainless steel, these are available in two versions — **Round & Rectangular**

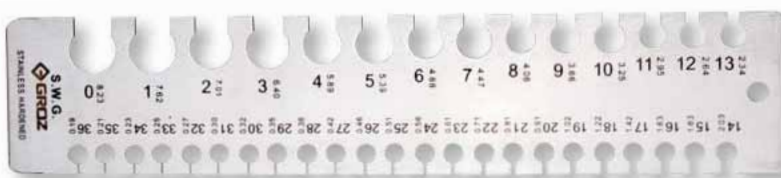
These gauges are designed for measuring steel wire, hot & cold rolled steel sheet etc & check sizes from 0 to 36 gauge

The round gauges have metric dimensions marked on one side and gauge markings on the other. The rectangular gauges have both metric and gauge markings on the same side

Accuracy : within 100 microns



Round



Rectangular

Ordering Information

| Cat. Nr | Ordering Nr. | Type |
|-----------|--------------|-------------|
| WG/R/6 | 01212 | Rectangular |
| u WG/RD/3 | 01213 | Round |

u **BESTSELLER**

15 SCREW CUTTING GAUGE

SCG

ESP Calibres para ángulo de cunas FR Calibres filet trapézoïdal DE Trapez-Gewindestahllehre

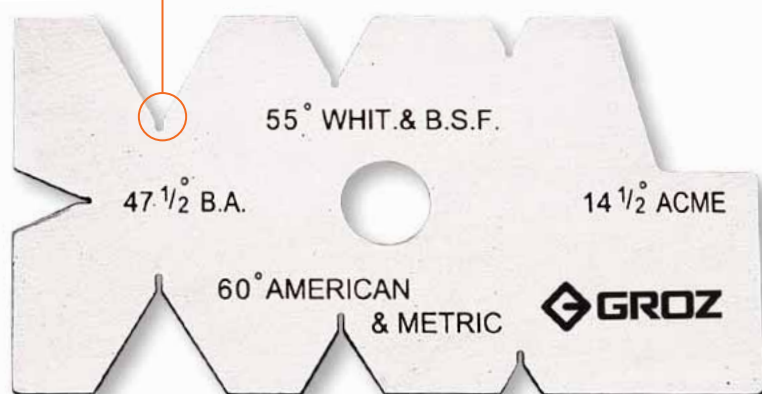
Manufactured from hardened and polished stainless steel, all gauge surfaces are accurately ground

It is most 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

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



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



Ordering Information

| Cat. Nr. | Ordering Nr. |
|----------|--------------|
| SCG/4714 | 01223 |

16 CENTER GAUGES

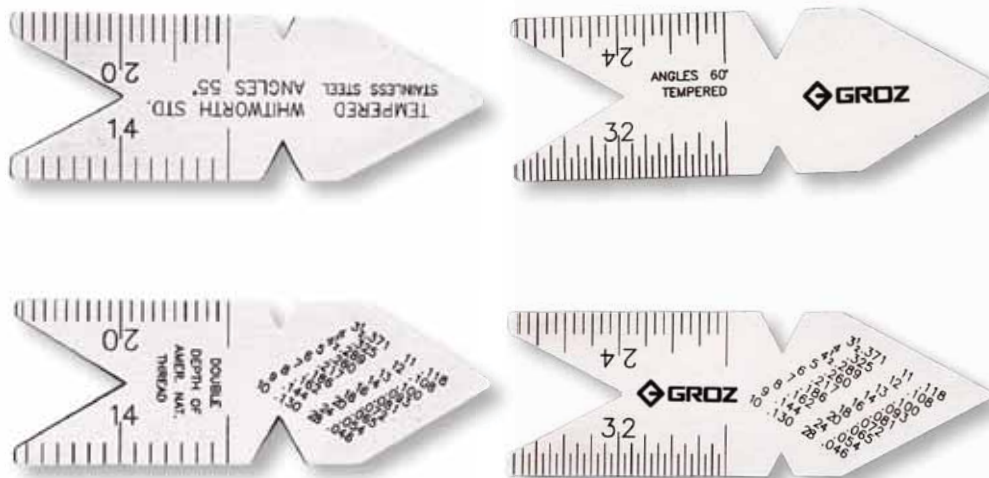
CG

ESP Plantilla de roscas FR Calibres de filetage DE Spitzgewindestahllehre

Manufactured from stainless steel, these small flat gauges have angles of 55° and 60°

Very useful for grinding and setting thread cutting tools, these may also be used for checking the pitch of threads through the permanently deep etched graduations in 14ths, 20ths, 24ths and 32nds of an inch

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



Ordering Information

| Cat. Nr. | Ordering Nr. | Type |
|----------|--------------|-------------------------------------|
| CG/55 | 01210 | 55° Whitworth (English Standard) |
| CG/60 | 01211 | 60° American National (US Standard) |

u BESTSELLER

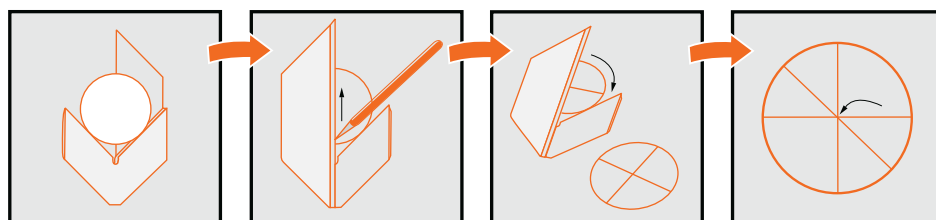
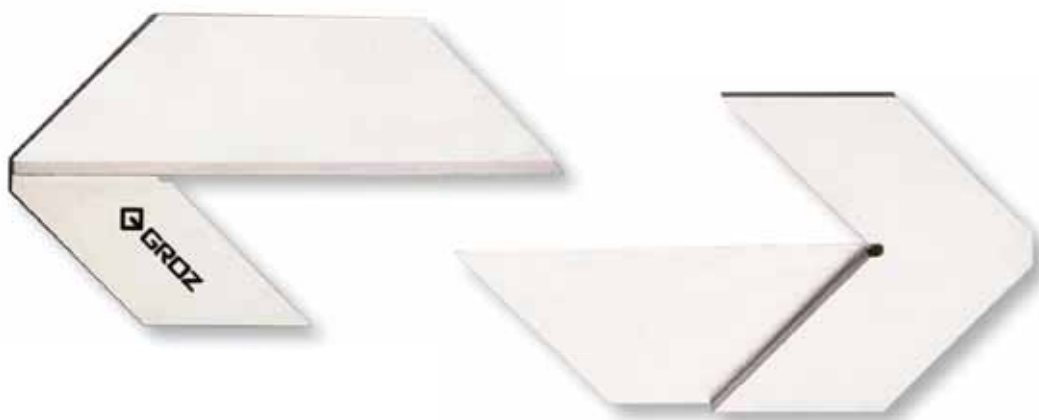
17 CENTER SQUARE

CS-1

CS-2

ESP Escuadra Centrador FR Équerres pour centrer DE Zentrierwinkel

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. The Knife edge is made from Spring Steel and is hardened 40 ± 5HRC and ground for extended life



Ordering Information

| Cat. Nr. | Ordering Nr. | Work Diameter | |
|----------|--------------|---------------|----|
| | | Inch | mm |
| CS/1 | 03521 | 1-1/2 | 38 |
| CS/2 | 03522 | 3 | 75 |

u BESTSELLER

To locate the center, position the Center Square Vee's onto the round stock near the end face of the stock

Scribe a line onto this end face, guided by the knife edge blade of the Center Square

Having done this, rotate the Center Square to two more positions, and scribe two additional lines

The perfect centering of the knife edges ensure that the three scribed lines meet at a common point of intersection. This is the center of the round stock/bar.

18 MAGNETIC COMPASS

MBP-01

ESP Brújula magnética FR Compas magnétique DE Kompaß Magnetisch

An extremely versatile tool that can be used as an **Angle Finder, Center Locator & a Levelling Gauge**

Tool is designed to give accurate reading of angles for full 360° via an extremely sensitive & balanced needle

The protractor body is encased in cast aluminium shell with legs made from cast iron. The 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 – round or flat for accurate measurement of angles

The Vee bases are precision ground and the center pin shows the middle point for locating centers on round objects. Can also be used for leveling work on workpieces

This tool has unlimited applications and can be used in:

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

Angle Accuracy: within $\pm 0.5^\circ$



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 | Ordering Nr. | Height | | Width | |
|---------|--------------|--------|-----|-------|-----|
| | | Inch | mm | Inch | mm |
| MBP/01 | 01690 | 5-5/16 | 135 | 4-3/4 | 121 |

19 UNIVERSAL SURFACE GAUGES

SG-047

SG-912

SG-1218

ESP Gramil torreta basculante

FR Trusquins de Mécanicien - Base prismatique

DE Oberflächenlehre

A basic tool for machinists and toolmakers, the Universal Surface Gauge is used for accurately scribing lines, transferring measurements or probing surfaces in inspection work. Design incorporates

- A fully hardened and ground base which serves as an accurate reference surface
- A machined Vee groove in the base allows the gauge to be used conveniently on curved surfaces
- A 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 gauge and also as a depth gauge.
- Two retractable pins allow the gauge to be located against the edge of a surface plate or T-slot for linear work
- A 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



SurfaceGaugebeingusedtoscribeahorizontal line parallel to the ground, on a workpiece



Ordering Information

| Cat. Nr | Ordering Nr. | Base Dimensions | | Spindle Length | | Scriber Length | |
|------------|--------------|-----------------|----------|----------------------------|----------------------------------|----------------|-----|
| | | Inch | mm | Inch | mm | Inch | mm |
| SG/4-7 | 03200 | 2-3/16 x 1-5/8 | 55 x 40 | 7" With extra 4" spindle | 175 mm with extra 100 mm spindle | 3 | 75 |
| u SG/9-12 | 03201 | 3-1/8 x 2-1/2 | 80 x 63 | 12" With extra 9" spindle | 300 mm with extra 225 mm spindle | 7 | 175 |
| l SG/12-18 | 03205 | 4 x 3-1/2 | 100 x 90 | 18" With extra 12" spindle | 450 mm with extra 300 mm spindle | 7-9/32 | 185 |

u BESTSELLER | NEW

20 DIAL COMPARATOR STANDS

DCS-12

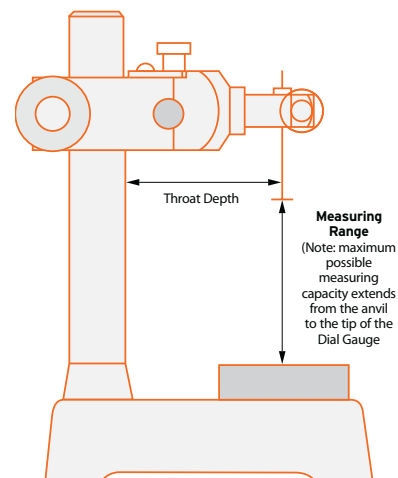
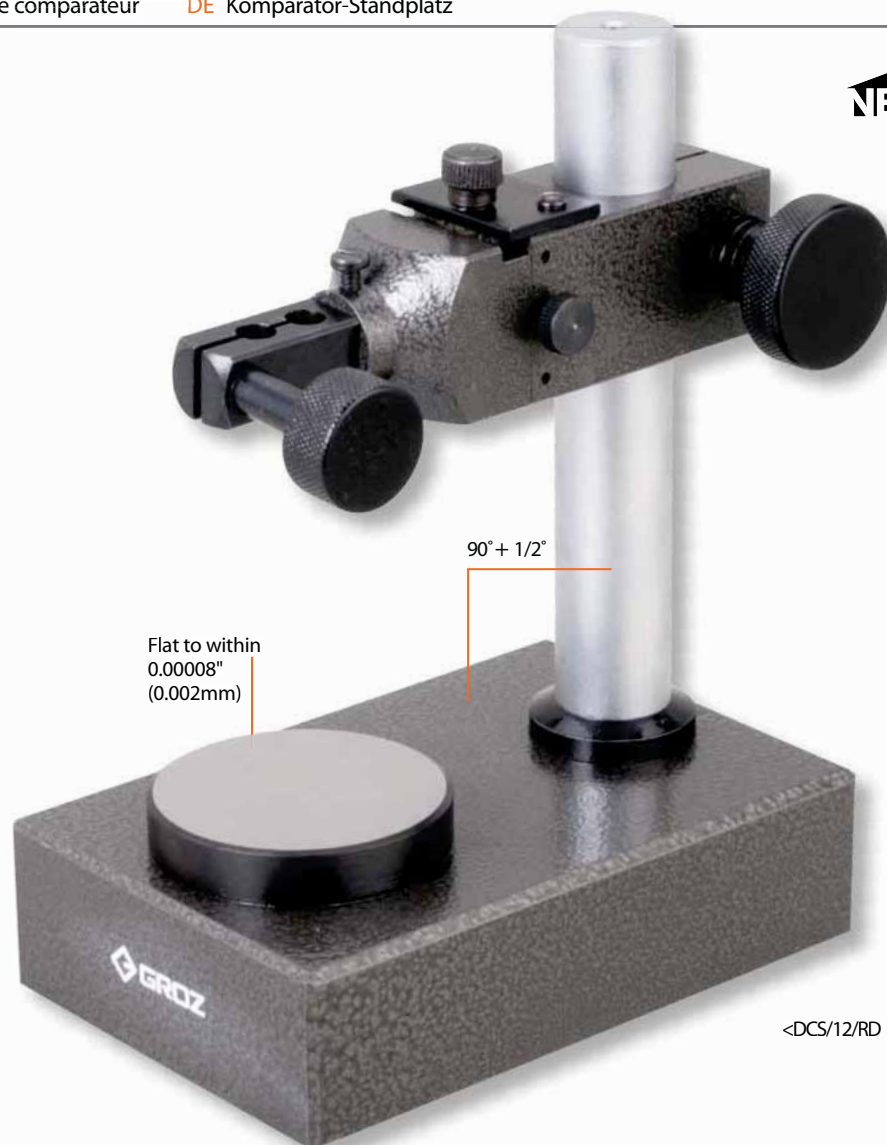
ESP Base soporte de control FR Table support de compareur DE Komparator-Standplatz

Compact and versatile Comparator Stands especially useful for fast and efficient dimensional inspection on production parts

The 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

NEW!



Ordering Information

| Cat.Nr | Ordering Nr. | Anvil type | Anvil Size | | Throat Depth | | Measuring Range | | Fine Adjustment | |
|-------------|--------------|------------------|------------|----|--------------|----|-----------------|-----|-----------------|----|
| | | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| DCS/12/RD | 01607 | Round | 2.3/8 | 60 | 3.1/4 | 83 | 4-3/4 | 120 | 1/8 | 3 |
| DCS/12/RD/S | 01608 | Round & serrated | 2.3/8 | 60 | 3.1/4 | 83 | 4-3/4 | 120 | 1/8 | 3 |
| DCS/12/SQ | 01609 | Square | 2.3/8 | 60 | 3.1/4 | 83 | 4-3/4 | 120 | 1/8 | 3 |

21 MICROMETER STAND

MCS-01

ESP Soporte para Micrometro FR Support de micromètres orientables DE Halter für Bügelmessschraube

An indispensable clamping device for precise and stable measurements, it is most useful to speed up production and quantity inspection jobs

The body is made of close-grained cast iron precisely machined to close accuracies. The swivel clamping pad is made from Aluminium which helps eliminate any damage to the measuring device

Both clamping and positioning of the micrometer is achieved using a single clamp

It is highly useful for sorting parts in batch inspection and for incoming inspection purposes



Ordering Information

| Cat. Nr | Ordering Nr. |
|---------|--------------|
| MCS/01 | 01610 |

22 ENGINEER'S TOOL SETS

ETS-1

ETS-2

ESP Juegos de herramientas para ingeniero FR Ensemble d' outils pour ingénieur DE Ingenieur Werkzeug-Satz

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

EST/2/ST >



EST/1/ST>

Ordering Information

| Cat. Nr | Ordering Nr. | Set Constituents |
|------------|--------------|--|
| ETS/1/ST | 03600 | Inside Caliper 4" (100 mm) (ID/4) Outside Caliper 4" (100 mm) (OD/4) Screw Cutting Gauge (SCG-4714) Steel Rule 6" (150 mm) (SR/6) Pocket Scriber 3-1/2" (89 mm) (MS/P/3) Center Punch – 5/32" (4 mm) CP/5-32 |
| u ETS/2/ST | 03601 | Engineer's Precision Square 4" (100 mm) (SS/A/4) Jenny Caliper 6" (150 mm) (JC/6) Steel Rule 6" (150 mm) (SR/6) Double Ended Scriber 7-1/2" (190 mm) (MS/7) Centre Punch – 5/32" (4 mm) (CP/5-32) Adjustable Tap & Reamer Wrench – DIN 1814 (ATWR/D-1) Spring Divider 4" (100 mm) (DD/4) |

u BESTSELLER

23 EDGE & CENTER FINDERS

ESP Localizador de bordes y centros

FR Pinule De centrage

DE Kantentaster, mechanisch

Edge & Center Finders are time saving positioning tools for use in jig boring, milling machines etc. These are used for accurately locating work edges, shoulders, grooves, center points & scribed lines

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

The diameter & concentricity are controlled to within 0.0002" (5 microns)

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



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



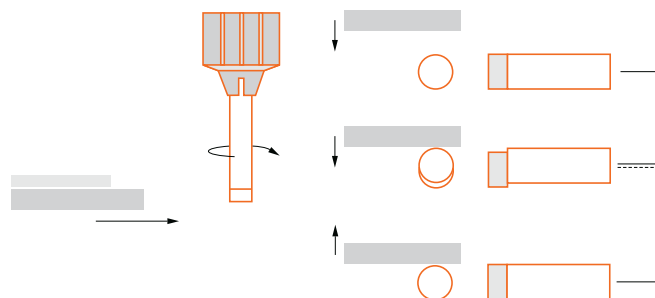
Edge Finder
Edge Finders accurately locate work edges, shoulders, grooves etc.



Ordering Information

| Cat. Nr. | Ordering Nr. | Tip Diameter | Shank Diameter |
|--|--------------|--|----------------|
| Center Finders | | | |
| EF/3 | 03502 | --- | 1/2" |
| EF/9 | 03509 | --- | 3/8" |
| Combination Edge & Center Finders | | | |
| u EF/6 | 03506 | 0.20" | 3/8" |
| EF/5 | 03504 | 0.20" | 1/2" |
| Edge Finders | | | |
| u EF/2M | 03501 | 10 mm | 10 mm |
| EF/12 | 03511 | 4 mm | 10 mm |
| u EF/13 | 03512 | 10 mm | 10 mm |
| u EF/1 | 03500 | 0.20" | 3/8" |
| u EF/4 | 03503 | 0.20" | 1/2" |
| EF/11 | 03510 | 3/8" | 3/8" |
| EF/8 | 03508 | 1/2" | 1/2" |
| Double Edge Finder | | | |
| EF/7 | 03507 | 0.20" | 1/2" |
| 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 | |
| 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 | |

u BESTSELLER



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

24 ELECTRONIC EDGE FINDER

EF/EC

ESP Localizador Electronico de bordes y centros FR Électronique Pinule De centrage DE Kantentaster

An easy, accurate & time saving tool for precisely locating work edges, shoulders, grooves etc. for use both on conventional & CNC machines

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

Edge finder lights instantly when the stylus touches the work edge. Designed with 6 equally spaced light ports for visibility from any angle

Reads off any electrically conductive metal

Cocentricity within: $\pm 0.0005"$ (± 0.013 mm)




Ordering Information

| Cat. Nr | Ordering Nr. | Shank Dia. | Cylindrical Head Dia. |
|---------------|--------------|------------|-----------------------|
| EF/EC/1-2/0.2 | 03540 | 1/2" | 0.20" |

25 ELECTRONIC & AUDIBLE EDGE FINDERS

EF/2D

ESP Localizador de bordes-Electronicoy Audible FR Pinule De centrage-Électronique et Audible DE Kantentaster-Elektronische und Vernehmbare

Designed for 2D aligning of component reference surfaces & edges, determining bore centres with reference to the centre of the machine spindles

Edge finder has an Industrial 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

The Audible version in addition to lighting up, also triggers alarm

All functional parts are hardened & accurately ground

Reads off any electrically conductive metal

Comes complete with batteries (12V Pencil)

Concentricity controlled to within $\pm 0.0004"$ (± 0.010 mm)




< EF/2D/1-2/0.2



< EF/2D/AD/1



< EF/2D/1

Ordering Information

| Cat. Nr | Ordering Nr. | Type | Shank Dia. | Ball Dia. |
|---------------|--------------|----------------------|------------|-----------|
| EF/2D/1-2/0.2 | 03538 | Electronic | 1/2" | 0.200" |
| EF/2D/1 | 03535 | Electronic | 3/4" | 0.400" |
| EF/2D/AD/1 | 03537 | Electronic & Audible | 3/4" | 0.400" |



Edge Finders being used to locate the edge of a job held in a milling vice

26 WIGGLER OR CENTER FINDER

WZ-6

ESP Localizador de centros FR Jeu de centreurs DE Mittelsucher

Wiggler/Center finder with its four interchangeable attachments is a versatile tool that finds application in many places

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

With needle point shank, working centers can be accurately located. Spring tension on the ball of the point permits guiding the point to true concentricity bringing perfect alignment between the work and machine spindle

Wiggler with Ball Contact is 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 is particularly useful in locating work in confined areas such as slots or shallow holes. Diameter of Disc. 0.1"

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



WigglerBody

Chuck

Needle point



Discontact



Ballcontact



Offsetindicatorholder



Needle Point shank being used to locate center on workpiece

Ordering Information

| Cat. Nr | Ordering Nr. | Description |
|----------|--------------|--|
| WCF/WZ-6 | 03520 | Center Finder complete with 4 attachments. |

27 ELECTRONIC HEIGHT OFFSET GAUGE

HOG

ESP Calibrador Electronico De Desviacion De Altura FR La Jauge Electronique D'offset De Hauteur DE Elektronische Höhen-Offsetlehre

A convenient, accurate and time saving tool for knowing the height offset of the work piece from the cutting tool

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

Hardened and precision ground body. 4 equally spaced light ports for visibility from any angle. Spring loaded probe safeguards against damage from overrun. Reads off any electrically conductive metal

Suitable for use both on conventional and CNC equipment

Gauge height controlled to within $\pm 0.0002"$ ($\pm 0.005\text{mm}$)

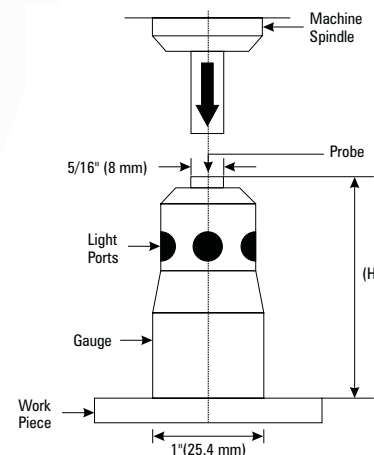
Body nominal dia: 1" (25.4mm)

Probe nominal dia: 5/16" (8mm)

Furnished with bulb, 3 numbers of 1.5V button cells and protective case



NEW!



Ordering Information

| Cat. Nr | Ordering Nr | Gauge Height (H) |
|---------|-------------|------------------|
| HOG/2 | 03560 | 2" |
| HOG/50 | 03561 | 50 mm |

28 SCRIBERS

ESP Aguja de trazar FR Pointe à tracer DE Reißnadel

Groz manufactures a comprehensive line of 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

NEW!

ALUMINIUM BODY SCRIBERS

MS/7/Al: Light weight double ended scriber with one straight point and the other bent at 90° making it convenient to use in confined spaces

MS/380A: Three Point Scriber. Finest quality scriber with aluminium body knurled for comfortable grip. Comes with 3 interchangeable threaded steel points: short straight, short bent & long bent which thread into the body

MS/380B: Two Point Scriber. With aluminium knurled body, this scriber consists of short straight and short 90° bent steel points which thread into the knurled body



Ordering Information

| Cat.Nr. | Ordering Nr. | Overall Length | |
|--------------------------------|--------------|----------------|-----------|
| | | Inch | mm |
| Aluminium Body Scribers | | | |
| MS/7-AL | 03222 | 8-13/32 | 215 |
| MS/380A | 03227 | 9 & 12 | 225 & 300 |
| MS/380B | 03228 | 8-1/2 | 216 |
| Steel Body Scribers | | | |
| MS/3/ST | 03220 | 9 & 12 | 225 & 300 |
| MS/4 | 03212 | 4-1/2 | 114 |
| MS/MG/6 | 03221 | 6 | 150 |
| MS/P/3 | 03214 | 3-1/2 | 89 |
| MS/ST/9 | 03215 | 7 | 175 |
| MSCP/6 | 03217 | 6-3/4 | 170 |
| MS/7 | 03210 | 7-1/2 | 190 |
| MS/H/8 | 03211 | 9-1/16 | 230 |
| MS/81 | 03224 | 6 | 152 |
| MS/83 | 03225 | 4-15/16 | 125 |
| MS/84 | 03226 | 5-5/16 | 135 |
| MS/85 | 03229 | 4-1/2 | 114 |

u BESTSELLER | NEW



STEEL BODY SCRIBERS

MS/3/ST: Steel body with 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

MS/MG/6: Tungsten carbide tip for marking on hard materials. Permanent magnet on the other end for picking up small metal parts

MS/P/3: Scriber with pocket clip. Scriber point is held by a knurled chuck and can be reversed when not in use preventing tearing of clothing when clipped on a pocket

MS/ST/9: Single ended heavy duty

MSCP/6: Double ended. Combining a needle point with a chisel end

MS/7: Double ended with one straight point and the other point bent at 90° making it ideal for use in confined spaces

MS/H/8: Double ended heavy duty with one straight point and the other bent at 90°. Ideal for heavy marking jobs in confined spaces, grooves etc.

NEW!

MS/81 & MS/83: Pocket Scribers with replaceable hardened and ground tool steel points. Point reverses into the knurled body for safety. Hex head cap prevents the scriber 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

SET-UP TOOLS

Vee Blocks
Magnets & Magnetic Bases
Angle Plates
Sine Bars & Sine Plates
Surface Plates
Scrapers
Parallel Clamps
Machinist Jack



www.groz-tools.com

29 TOOL MAKER'S VEE BLOCK & CLAMP SETS

No. 030

ESP Calzos en "V" FR Vés de précision DE Doppelprismenpaar mit Spannbo

Acc BS 3731 Grade 2

This range of Vee blocks are made from finely selected tool steel fully hardened to 55-60 HRC.

Manufactured and numbered in matched pairs, each pair has two 90° Vees of different capacities which are identical to the Vees of its matching block. The Vee's are ground central, parallel and square with the ends and sides.

These Vee Blocks are very useful for holding work securely during drilling, milling and grinding operations and also in layout and inspection work. Each pair of Vee Blocks comes complete with a pair of rigid and robust clamps.

Available in two types: Regular type and Non protruding clamp type. Top clamping design of the Non protruding clamp type allows the blocks to be used on the side faces in addition to the base.



Regular Vee Block set used as an inspection tool for checking run-outs



Non Protruding Clamp Type Vee Block used on side face for holding round bar in a grinding operation



Vee Blocks & Clamp Sets - Regular

Vee Blocks & Clamp Sets - Non Protruding Clamp type

Technical Information

Permissible Height difference between matched pairs
Parallelism and Squareness of Vee grooves with respect to all surfaces
Parallelism of opposite faces of Vee Blocks
Squareness of adjacent exterior faces of Vee Blocks
Flatness of Working Faces

Within 0.0002" (5 microns)
Within 0.0003" (8 microns)
Within 0.0003" (8 microns)
Within 0.0003" (8 microns)
Within 0.0002" (5 microns)

Ordering Information

| Cat. Nr | Ordering Nr. | Block Length | | Block Width | | Block Height | | Width of small Vee (V1) | | Width of large Vee (V2) | | Clamping Capacity | |
|--|--------------|--------------|-----|-------------|----|--------------|----|-------------------------|----|-------------------------|----|-------------------|----|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| Vee Blocks & Clamps - Regular Type | | | | | | | | | | | | | |
| u VB/T/30 | 03050 | 1-19/32 | 40 | 1-1/4 | 32 | 1-1/4 | 32 | 7/16 | 11 | 13/16 | 20 | 1 | 25 |
| u 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 |
| 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 |
| VB/T/60 | 03053 | 2-3/8 | 60 | 1-19/32 | 40 | 1-7/8 | 47 | 11/16 | 17 | 1 | 25 | 1-3/16 | 30 |
| u 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 |
| VB/T/80 | 03056 | 3-5/32 | 80 | 2-9/16 | 65 | 2-9/16 | 65 | 7/8 | 22 | 1-3/4 | 45 | 2 | 50 |
| VB/T/100 | 03057 | 4 | 100 | 3 | 75 | 3 | 75 | 1-3/16 | 30 | 2-5/32 | 55 | 3 | 75 |
| Vee Blocks & Clamps - Non Protruding Clamp Type | | | | | | | | | | | | | |
| VB/SP/R/T/70 | 03080 | 2-3/4 | 70 | 2-1/2 | 63 | 1-3/4 | 45 | 1 | 25 | 1-3/16 | 30 | 1-1/2 | 37 |
| VB/SP/R/T/125 | 03081 | 4-7/8 | 125 | 3-1/2 | 89 | 2-3/4 | 70 | 1-1/4 | 32 | 1-19/32 | 40 | 1-3/4 | 45 |

u BESTSELLER

30 MULTIPURPOSE VEE BLOCK & CLAMP SET

VB-MP

ESP Calzos en "V" FR Vés de précision DE Doppelprismenpaar mit Spannbügel

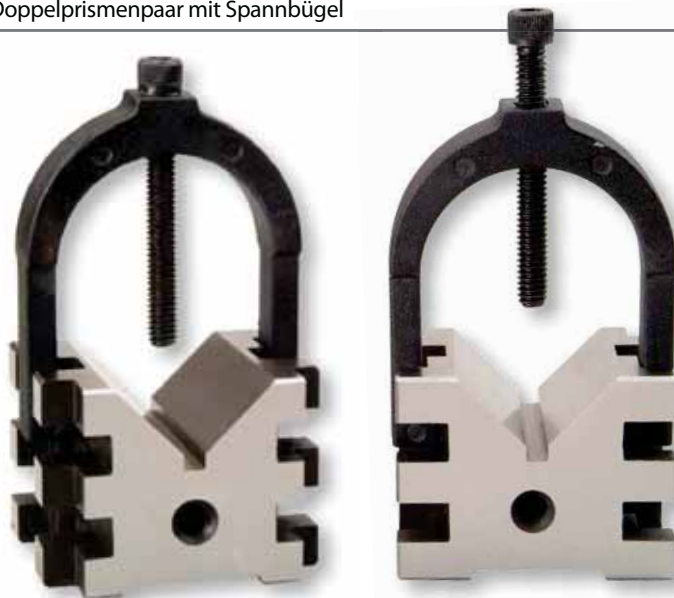
High Precision Multi Purpose Vee Blocks- ideal for use in layout work in tool rooms

Designed for holding square or round pieces with high accuracy

Blocks have stepped grooves that allow the clamps to be inserted without protrusion allowing blocks to be used on ends or sides in addition to the base

Blocks are hardened within 50-55 HRC. Matched pair of Vee Blocks are perfectly aligned with 90° Vee grooves ground central and parallel to the sides and base

Available as matched pairs complete with two clamps

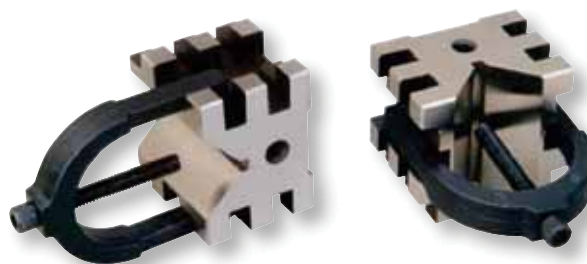


NEW!

Technical Information

Flatness of working surface
Permissible height difference between matched pairs
Parallelism and squareness of sides

Within 0.0002" (5 microns)
Within 0.0002" (5 microns)
Within 0.0004" (10 microns)



Ordering information

| Cat. Nr | Ordering Nr. | Block Length | | Block Width | | Block Height | | Clamping Capacity | |
|----------|--------------|--------------|----|-------------|----|--------------|----|-------------------|----|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| VB/MP/1P | 02920 | 2-3/8 | 60 | 2-3/4 | 70 | 2 | 50 | 2 | 50 |

31 ULTIMATE VEE BLOCK & CLAMP SET

S-48

ESP Calzos en "V" FR Vés de précision DE Doppelprismenpaar mit Spannbügel

Manufactured from selected steel, Vee Blocks are fully hardened and ground.

Following enhanced features incorporated in the design render greater versatility to this Vee Block set

- Capable of being used on base, on end and flat on either sides as the 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. | Ordering Nr. | Block Length | | Block Width | | Block Height | | Clamping Capacity | |
|----------|--------------|--------------|----|-------------|----|--------------|----|-------------------|----|
| | | 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 |

32 VEE BLOCK & CLAMP SET – VERSATILE

V-63

V-100

V-150

V-150XL

ESP Calzos en "V"

FR Vés de précision - "ULTIMATE"

DE Doppelprismenpaar mit Spannbügel

The "Versatile" Vee block is made from finely selected tool steel fully hardened to 55-60 HRC

The special design with 90° Vee angle provides a quick, accurate and positive means of holding workpieces for machining, grinding and in layout and inspection work

In addition to use on base, the Vee block can also be used on its side or end

The unit comes complete with a reversible swing away style clamp that clamps

against almost any shape of product

The three tapped hole positions in the Vee block for the clamp allows the clamp to be positioned at either end or at the centre of the Vee block

Tapped holes on the Vee block end allow mounting the block perpendicular to the face plate. Each unit comes complete with the basic block, reversible clamp and 2 clamp screws

Also available in matched pairs with 2 block, 2 clamps and 4 screws



Technical Information

Parallelism and Squareness of Vee Grooves with respect to the base
Matched Pair Tolerance

Within 0.0003" (8microns)
Within 0.0002" (5 microns)

Ordering information

| Cat. Nr | Ordering Nr. | Type | Block Length | | Block Width | | Block Height | | Clamping Capacity | |
|-------------------|--------------|--------|--------------|-----|-------------|-----|--------------|-----|-------------------|-----|
| | | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| VB/SP/V/63S | 03090 | Single | 2-1/2 | 63 | 2-1/2 | 63 | 2 | 50 | 1-5/8 | 41 |
| VB/SP/V/63P | 03091 | Pair | 2-1/2 | 63 | 2-1/2 | 63 | 2 | 50 | 1-5/8 | 41 |
| u VB/SP/V/100S | 03092 | Single | 4 | 100 | 3 | 75 | 3 | 75 | 2-1/4 | 57 |
| VB/SP/V/100P | 03093 | Pair | 4 | 100 | 3 | 75 | 3 | 75 | 2-1/4 | 57 |
| l VB/SP/V-150S | 03094 | Single | 6 | 150 | 6 | 150 | 4 | 100 | 4-3/8 | 111 |
| l VB/SP/V-150XL-S | 03096 | Single | 6 | 150 | 6 | 150 | 6 | 150 | 4-3/8 | 111 |

u BESTSELLER | NEW SIZE



Versatile Vee Block allows reversal of clamp to facilitate clamping of jobs with a smaller diameter or irregular form

33 ADJUSTABLE ANGLE BLOCK 0-60°

PAB-01

PAB-02

PAB-03

ESP Bloque angular ajustable 0-60°

FR Vés de montage orientation facile

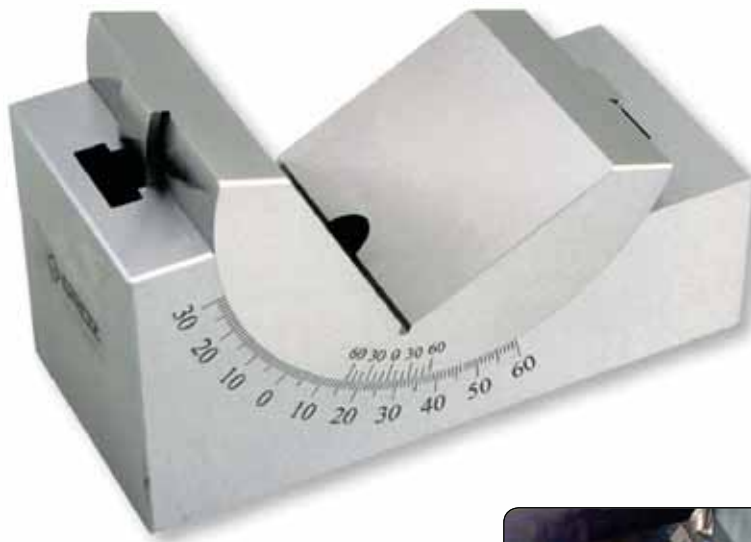
DE Doppelprismenpaar

Made from fully hardened 50-55 HRC and ground tool steel, these precision Adjustable Angle Blocks are useful for most drilling, milling and set up jobs where a particular angle to a reference face is required

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

Angle Accuracy: $\pm 10^\circ$

Squareness: 0.0004" (10 microns)



Ordering Information

| Cat. Nr | Ordering Nr. | Block Length | | Block Width | | Block Height | | Width of Vee | |
|------------|--------------|--------------|----|-------------|----|--------------|----|--------------|------|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| u PAB/01/A | 02100 | 3-3/4 | 95 | 1-3/4 | 45 | 2 | 50 | 1-29/32 | 48.5 |
| PAB/02/A | 02101 | 3-3/4 | 95 | 1-3/16 | 30 | 2 | 50 | 1-29/32 | 48.5 |
| PAB/03/A | 02103 | 3 | 75 | 1 | 25 | 1-11/32 | 34 | 1-5/32 | 29.5 |

u BESTSELLER

CA 29

AdjustableAngleBlock allows the job to held at any angle 0-60° for angular machining jobs



34 MAGNETIC VEE BLOCKS

MVB-3

MVB-4

MVB-5

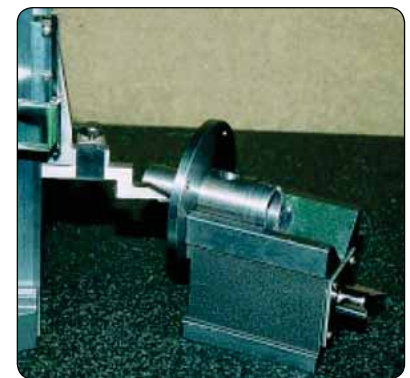
ESP Calzos Magnéticos en "V" FR Vés Magnétique DE Permanent -magnetischer Prismenblock

Designed for versatility and accuracy, these Vee Blocks are ideal for holding round or irregular shapes for scribing, grinding, measuring, machining and testing applications

These 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 rotary action control knob. This feature enables the Vee Block to hold both itself and the work on any flat ferrous surface including a permanent magnetic chuck (without energising the chuck). Brass knob ensures no interference with the magnetic field, unlike the conventionally used steel knobs.

Also available with hardened Vee's: 55-60 HRC for increased wear resistance

For applications requiring two Vee blocks matched and numbered pairs are available



Magnetic Vee Block security holds jobs for accurate marking

Technical Information

Permissible Height Difference between matched pairs
Squariness of Vee Grooves with respect to the base

Within 0.00015" (4 microns)
Within 0.00023" (6 microns)

Ordering Information

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Block Length | | Block width | | Block Height | | Width of Small Vee | | Width of Large Vee* | | Clamping Capacity | |
|----------|--------------|----------|--------------|--------------|-----|----------------|----|--------------|----|--------------------|------|---------------------|----|-------------------|------------|
| | | | | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| | | | | Regular | | Hardened Vee's | | | | | | | | | |
| MVB/3S | 02906 | MVB/3S/H | 02915 | 6 | 150 | 3 | 75 | 3-3/4 | 95 | 1 | 25 | 2-1/8 | 55 | 3/16 - 2-3/4 | 5.0 - 70.0 |
| MVB/3P | 02907 | MVB/3P/H | 02916 | 6 | 150 | 3 | 75 | 3-3/4 | 95 | 1 | 25 | 2-1/8 | 55 | 3/16 - 2-3/4 | 5.0 - 70.0 |
| MVB/4S | 02900 | MVB/4S/H | 02904 | 4 | 100 | 3 | 75 | 3-3/4 | 95 | 7/8 | 22.5 | 2-1/8 | 55 | 3/16 - 2-3/4 | 5.0 - 70.0 |
| MVB/4P | 02901 | MVB/4P/H | 02905 | 4 | 100 | 3 | 75 | 3-3/4 | 95 | 7/8 | 22.5 | 2-1/8 | 55 | 3/16 - 2-3/4 | 5.0 - 70.0 |
| MVB/5S | 02902 | MVB/5S/H | 02917 | 3-3/16 | 80 | 2-3/8 | 60 | 3-3/4 | 95 | 11/16 | 17.5 | 1-11/16 | 43 | 3/16 - 2-3/8 | 5.0 - 60.0 |
| MVB/5P | 02903 | MVB/5P/H | 02918 | 3-3/16 | 80 | 2-3/8 | 60 | 3-3/4 | 95 | 11/16 | 17.5 | 1-11/16 | 43 | 3/16 - 2-3/8 | 5.0 - 60.0 |

u BESTSELLER | NEW S - Single P - Pair * in hardened Vee Blocks width of Large Vee is slightly lower than that mentioned

35 ADJUSTABLE VEE BLOCK SET

AVB

ESP Calzos en "V" ajustable FR Vés de précision DE Doppelprismenpaar mit Spannbügel

Precision made tool performing all of the 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 making for quick inspection without having to use centers

Anvil supports up to 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, 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



Technical Information

Permissible height difference between matched pairs
Flatness of base

Within 0.001" (25 microns)
Within 0.0002" (5 microns)

Ordering information

| Cat. Nr | Ordering Nr. | Block Length | | Block Width | | Block Height | | Clamping Capacity | |
|---------|--------------|--------------|----|-------------|-----|--------------|----|-------------------|-------|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| AVB/1P | 02930 | 7/8 | 23 | 4 | 100 | 3 | 75 | 3/16-5 | 5-125 |

Adjustable Vee Block being used to check concentricity of different diameters on a stepped rod



36 BALL BEARING VEE BLOCK & CLAMP SETS

VB-BB

ESP Calzos en "V" FR Vés de précision DE Doppelprismenpaar mit Spannbügel

High precision Ball Bearing 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 otherwise possible using regular Vee Blocks. Design allows inspection of components from two angles by turning the spacer block 90°

Vee Block bases are made from cast iron and use hardened 60HRC wear resistant balls with sphericity controlled to within 0.000025" (0.6microns) on the small and medium sets and 0.00005" (1.27 microns) 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 to within $\pm 0.0002"$ ($\pm 0.005\text{mm}$)



Ordering Information

| Cat. Nr. | Ordering Nr. | Detail | Capacity Without Clamps | | | | Dia of Balls | Clamping Capacity | |
|-------------|--------------|-------------|-------------------------|------|---------|-----|--------------|-------------------|-----|
| | | | Minimum | | Maximum | | | Kgs | Lbs |
| | | | Inch | mm | Inch | mm | | | |
| VB/BB/1-2 | 02940 | Small Pair | 3/64 | 1.20 | 2-1/2 | 63 | 100 | 220 | |
| VB/BB/15-16 | 02941 | Medium Pair | 3/32 | 2.38 | 5 | 127 | 500 | 1100 | |
| VB/BB/1-1-2 | 02942 | Large Pair | 3/16 | 4.76 | 15 | 381 | 900 | 2000 | |

u BESTSELLER

Ball Bearing Vee Blocks with non-marring balls being used to check the roundness of a stepped rod



37 VEE BLOCKS – CAST IRON

No. 031

ESP Calzos en "V" - Hierro Colado FR Vés à 1 entaille DE Doppelprismenp-Paare

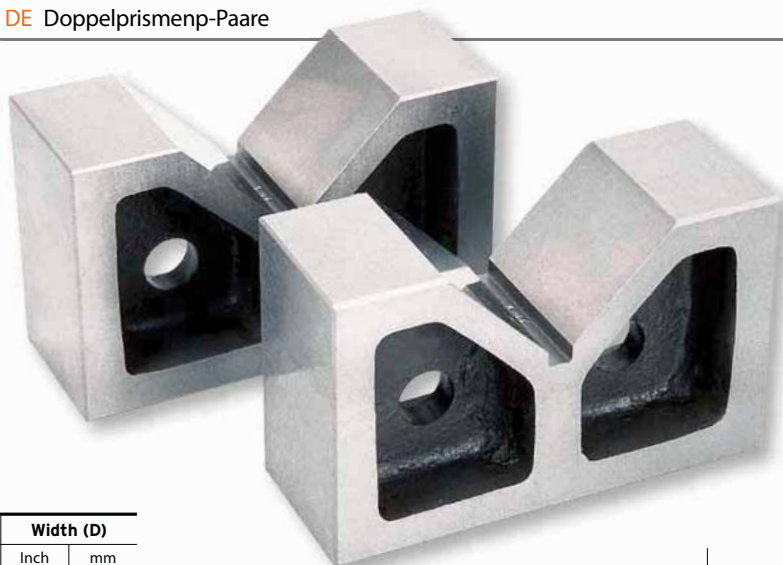
Made from close grained cast iron, these blocks are precisely ground and machined square and parallel

The Vee's are 90° centred in true

The blocks are manufactured and supplied in numbered pairs and come in handy for holding large jobs where clamping is not necessary

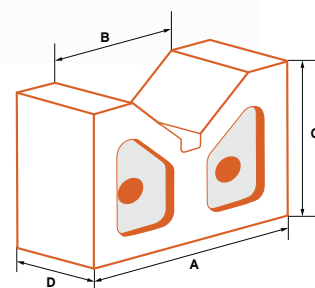
Technical Information

Squareness and Parallelism of Vee Groves with respect to base
Within 0.0012" (30 microns)

**Ordering Information**

| Cat. Nr. | Ordering Nr. | Length (A) | | Width of Vee (B) | | Height (C) | | Width (D) | |
|----------|--------------|------------|-----|------------------|-----|------------|-----|-----------|-----|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| VB/C/2 | 03107 | 2 | 50 | 1 | 22 | 1-1/4 | 32 | 1 | 24 |
| VB/C/3 | 03100 | 3 | 75 | 1-3/4 | 45 | 2-3/8 | 60 | 1-5/16 | 33 |
| u VB/C/4 | 03101 | 4 | 100 | 2-3/16 | 56 | 2-9/16 | 65 | 1-9/16 | 40 |
| VB/C/5 | 03102 | 5 | 125 | 2-7/16 | 62 | 3-1/8 | 78 | 2 | 50 |
| u VB/C/6 | 03103 | 6 | 150 | 3-1/16 | 78 | 3-1/2 | 88 | 2-7/16 | 62 |
| VB/C/7 | 03108 | 7 | 180 | 3-17/32 | 90 | 4-17/32 | 115 | 3 | 75 |
| VB/C/8 | 03104 | 8 | 200 | 4-1/2 | 113 | 5-1/2 | 140 | 4 | 100 |
| VB/C/10 | 03105 | 10 | 250 | 5 | 125 | 6-1/2 | 165 | 5 | 125 |
| VB/C/12 | 03106 | 12 | 300 | 5-1/8 | 128 | 8 | 200 | 6 | 150 |

u BESTSELLER | NEW SIZE



38 4 WAY VEE BLOCKS – CAST IRON

No. 031Q

ESP Calzos en "V" de 4 servicios - Hierro Colado FR Vés à 4 entailles DE Parallelstücke

Made from close grained cast iron, these Vee Blocks are precisely ground and machined square and parallel

Each Block incorporates 4 different sized Vee's thereby supporting a wide range of sizes. This enables a single block to be used as a workholding device for supporting different sized jobs

Manufactured and supplied in matched and numbered pairs, these are very useful for marking and checking of cylindrical parts

The larger sizes incorporate a cavity on either sides for convenient handling

Technical Information

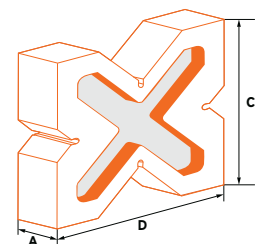
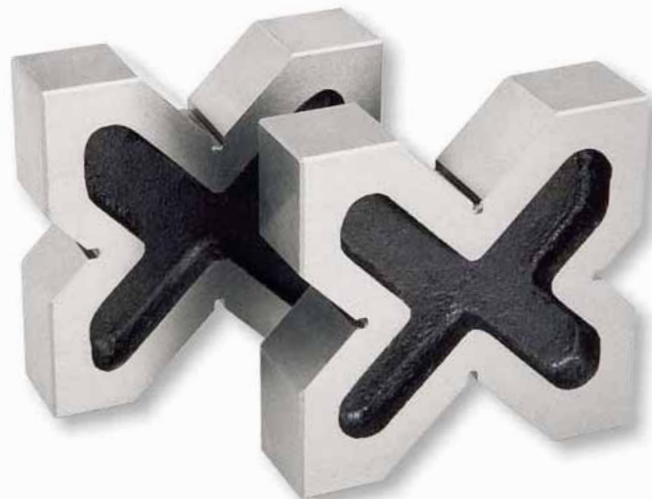
Squareness and Parallelism of Vee Groves with respect to base
Within 0.0012" (30 microns)

Ordering Information

| Cat. Nr. | Ordering Nr. | Length of Prism (A) | | Width (D) | | Height (C) | | Vee Capacity | |
|--------------------|--------------|---------------------|-----|-----------|-----|------------|-----|-----------------------------|--------------------|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm |
| u VB/QD/95-70-35 | 03110 | 1-3/8 | 35 | 3-3/4 | 95 | 2-3/4 | 70 | 3/4 x 1-3/16 x 1-9/16 x 2 | 20 x 30 x 40 x 50 |
| u VB/QD/100-100-30 | 03111 | 1-3/16 | 30 | 4 | 100 | 4 | 100 | 3/4 x 1-3/16 x 1-9/16 x 2 | 20 x 30 x 40 x 50 |
| u VB/QD/120-120-35 | 03112 | 1-3/8 | 35 | 4-3/4 | 120 | 4-3/4 | 120 | 1-3/16 x 1-9/16 x 2 x 2-3/8 | 30 x 40 x 50 x 60 |
| VB/QD/120-120-60 | 03113 | 2-3/8 | 60 | 4-3/4 | 120 | 4-3/4 | 120 | 1-3/16 x 1-9/16 x 2 x 2-3/8 | 30 x 40 x 50 x 60 |
| VB/QD/150-150-75 | 03114 | 3 | 75 | 6 | 150 | 6 | 150 | 1-9/16 x 2 x 2-3/8 x 2-3/4 | 40 x 50 x 60 x 70 |
| VB/QD/200-200-100 | 03115 | 4 | 100 | 8 | 200 | 8 | 200 | 2-3/8 x 2-3/4 x 3-5/32 x 4 | 60 x 70 x 80 x 100 |

u BESTSELLER

CA 32



39 MAGNETIC BASES – MEDIUM DUTY

MB-25

ESP Soporte Magnetico - Trabajo Mediano

FR Base Magnétique

DE Magnet-Messstativ

This range of magnetic bases is very useful for light to medium duty applications that require a magnetic pull of upto 40kg (88lbs)

Equipped with a convenient to use ON/OFF control knob, these can be readily located on any ferrous surface

Three precision ground magnetic surfaces allow these to be used horizontally, vertically or upside down. V Step holds base to arbors, shafts and chucks

Available with or without fine adjustment fitting

All magnetic bases are supplied without Dial Gauge



Ordering Information

| Cat. Nr. | Ordering Nr. | Type | Base Dimensions | | Overall height | | Spindle mounting thread spec. (female) |
|----------|--------------|------------------------------|-------------------|--------------|----------------|-----|--|
| | | | Inch | mm | Inch | mm | |
| MB/25 | 03400 | Standard | 1-3/4 x 1-7/8 x 2 | 45 x 48 x 50 | 9-11/16 | 245 | M8 x 1.25 |
| MB/25F | 03401 | With fine adjustment fitting | 1-3/4 x 1-7/8 x 2 | 45 x 48 x 50 | 9-11/16 | 245 | M8 x 1.25 |

40 MAGNETIC BASES – HIGH POWER

MB-31

MB-32

ESP Soporte Magnetico - Alta Potencia

FR Base Magnétique

DE Magnet-Messstativ

These magnetic bases equipped with powerful permanent magnets can be readily located on any ferrous surface and are ideal for all applications that require a magnetic pull of upto 60 kg (130lbs)

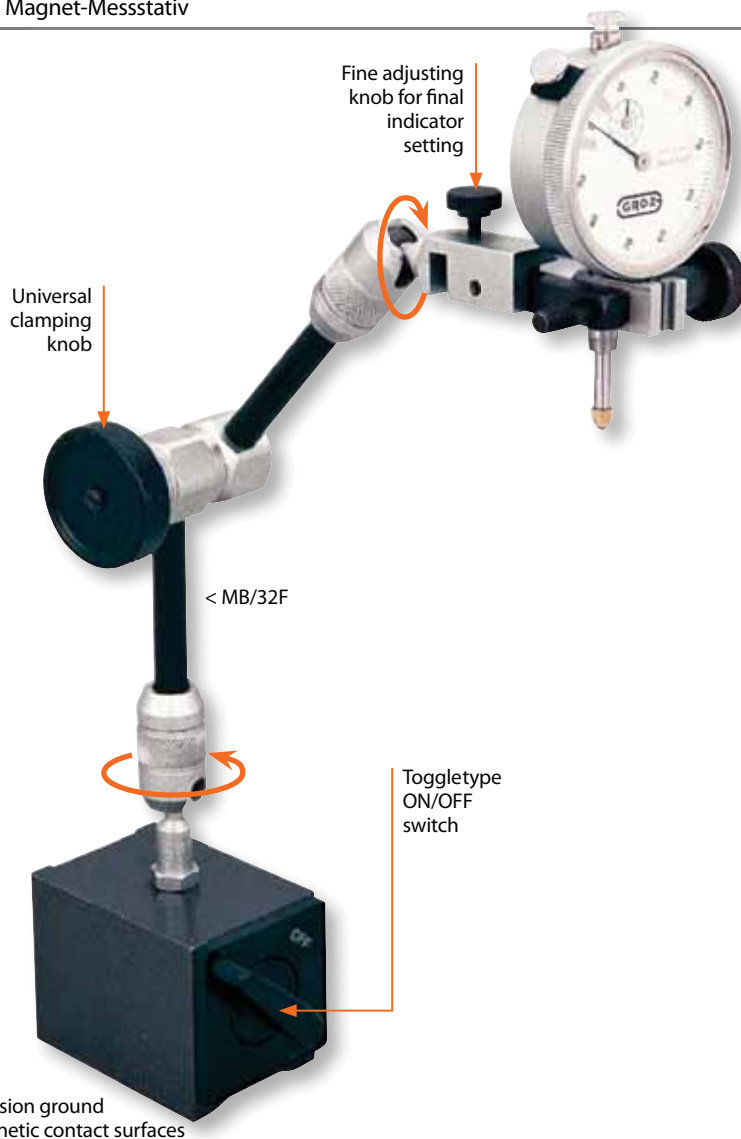
The base and one side are energised for attachment to flat surfaces. Vee groove in the base facilitates gripping on curved surfaces

Unique design allows Dial Indicator to be set at any required position and easily adjusted for use. The bases have an attractive grey hammertone finish, base post and gauge holding rod are chrome plated

All magnetic bases are supplied without a Dial Gauge



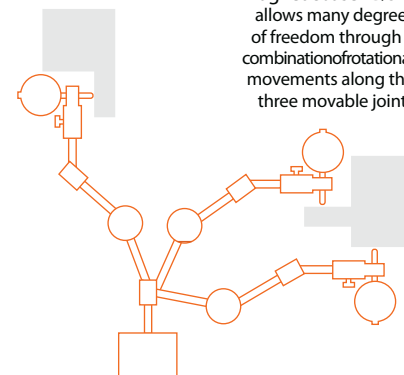
MB/31F>



< MB/32F

Precision ground magnetic contact surfaces

Magnetic base MB/32F allows many degrees of freedom through a combination of rotational movements along the three movable joints



Ordering Information

| Cat. Nr. | Ordering Nr. | Base Dimensions | | Overall height | | Spindle mounting thread spec. (female) |
|----------|--------------|--------------------|--------------|----------------|-----|--|
| | | Inch | mm | Inch | mm | |
| MB/31F | 03405 | 2 x 2-3/8 x 2-5/32 | 50 x 60 x 55 | 10-5/32 | 258 | M8 x 1.25 mm |
| MB/32F | 03406 | 2 x 2-3/8 x 2-5/32 | 50 x 60 x 55 | 14 | 350 | M8 x 1.25 mm |

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



41 POT MAGNETS

PMG

ESP Imanes FR Aimants DE Magneten

Pot Magnets are used for lifting holding & locating ferrous parts.

Aluminium, Nickel and Cobalt Steel alloy content makes them strong and permanent. Unique combination of strong magnet with nickel chrome plated insulating ring gives these magnets the superior holding power of larger ones.

The rear face of the magnet is provided with a tapped hole for attaching to fixtures and machines

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

NEW!



Ordering Information

| Cat.Nr. | Ordering Nr. | Diameter | | Height | | Thread Specs. | Magnetic Pull |
|------------|--------------|----------|----|--------|----|---------------|------------------|
| | | Inch | mm | Inch | mm | | |
| PMG/11-16 | 03432 | 11/16 | 18 | 5/8 | 16 | 1/4" x 20 TPI | 2.7 kg (6 lbs) |
| PMG/13-16 | 03434 | 13/16 | 20 | 3/4 | 19 | 1/4" x 20 TPI | 4.5 kg (10 lbs) |
| PMG/1-1-16 | 03433 | 1-1/16 | 28 | 1 | 25 | 1/4" x 20 TPI | 6 kg (13.2 lbs) |
| PMG/1-3-8 | 03435 | 1-3/8 | 35 | 1-3/16 | 30 | 1/4" x 20 TPI | 13 kg (28.6 lbs) |

BESTSELLER

42 MINI MAGNETIC STANDS

MMS

ESP Bases Magnética Miniatura FR Mini base magnétique DE Kleinmessst

This range of handy magnetic stands provide a simple & inexpensive way of holding dial indicators on any flat ferrous surface

To activate simply pull out the base from contact face

Available with or without fine adjustment fitting



MMS/1 >

MMS/DA/4>

Fine adjustment knob

MMS/DA/5>

Ordering Information

| Cat. Nr. | Ordering Nr. | Base Diameter | | Base Height | | Spindle Mounting Threads | Magnetic Pull (Approx.) |
|----------|--------------|---------------|----|-------------|----|--------------------------|-------------------------|
| | | Inch | mm | Inch | mm | | |
| MMS/1 | 03402 | 1-1/8 | 28 | 1 | 25 | M6 x 1 | 5 kg (11 lbs) |
| MMS/DA/4 | 03403 | 1-1/8 | 28 | 1 | 25 | M6 x 1 | 5 kg (11 lbs) |
| MMS/DA/5 | 03404 | 1-3/8 | 35 | 1-3/16 | 30 | M6 x 1 | 13 kg (28.6 lbs) |

43 STEPPED ANGLE PLATES

STP-3

STP-4

STP-6

ESP Base angular escalonda

FR Équerres de montage Etagée

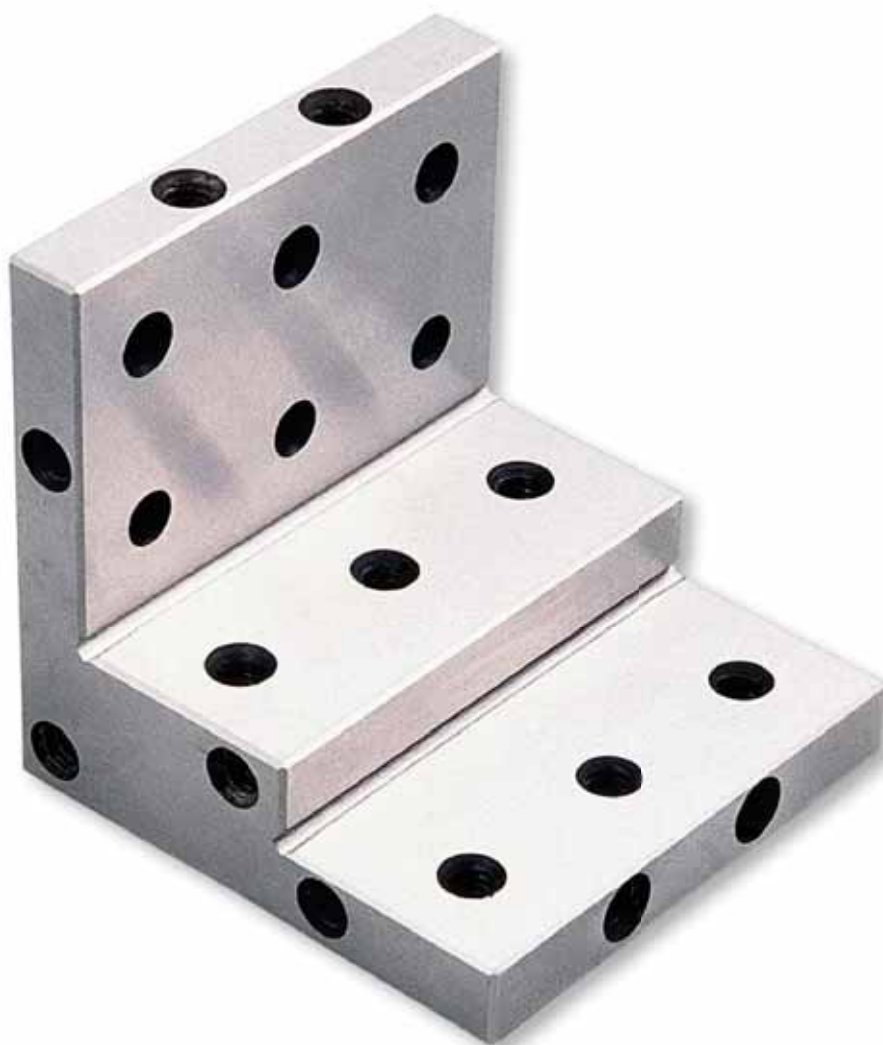
DE Getretene Winkelplatten

Manufactured from a single piece of hardened tool steel, these angle plates are precision 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

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

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



Technical Information

Flatness of working faces
Within 0.0002" (5 microns)

Squareness of exterior
faces over height
Within 0.0004" (10 microns)

Parallelism of opposite faces
& edges over their length
Within 0.0002" (5 microns)

Squareness of end faces with
respect to exterior faces as
measured over length
Within 0.0004" (10 microns)

Ordering Information

| Cat. Nr. | Ordering Nr. | Size | | Thread specs. of tapped holes |
|----------|--------------|-----------|-----------------|-------------------------------|
| | | Inch | mm | |
| STP/3 | 02400 | 3 x 3 x 3 | 75 x 75 x 75 | 1/4" BSW |
| STP/4 | 02401 | 4 x 4 x 4 | 100 x 100 x 100 | 5/16" BSW |
| STP/6 | 02402 | 6 x 6 x 6 | 150 x 150 x 150 | 3/8" BSW |

BESTSELLER | NEW SIZE

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



44 SINE BARS

SNB

ESP Barra Del Seno FR Règles Sinus DE Sinus - Lineale

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, these are 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

These are available in two types:

Sine Bars

Sine Bars - Magnetic with two magnets to ensure firm placement on ferrous surfaces

Sine Bar
Magnetic**NEW!**

SineBar

Ordering Information

| Cat Nr. | Ordering Nr. | Center to Center Distance | Diameter of Rollers | Center Distance Accuracy | Parallelism |
|-----------------------------|--------------|---------------------------|---------------------|--------------------------|-------------|
| Sine Bars | | | | | |
| SNB/2-1-2 | 02112 | 2-1/2" | 5/8" | ±0.0002" | 0.0001" |
| SNB/5/SPL | 02111 | 5" | 5/8" | ±0.0002" | 0.0001" |
| Sine Bars - Magnetic | | | | | |
| SNB/MG/2 | 02115 | 2" | 3/8" | ±0.0002" | 0.0001" |

45 SINE PLATES

SNPL

ESP Bases del seno FR Base-Sinus DE Sinus-base

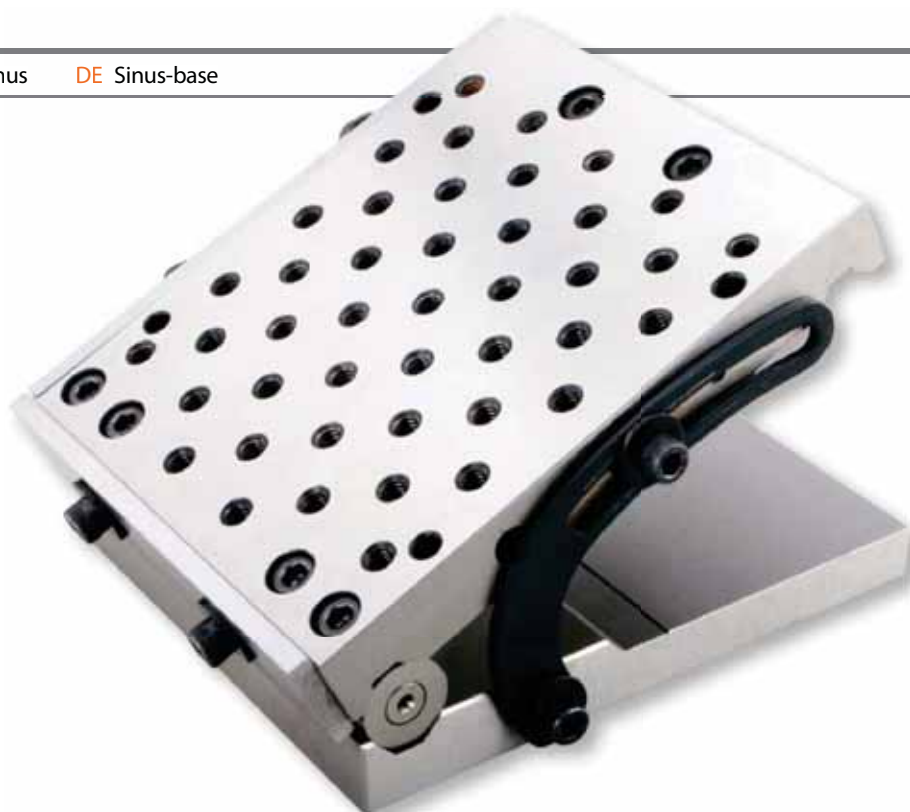
Sine Plates are used as bases to which Vices, Magnetic Chucks, Angle Plates and Vee Blocks can be conveniently bolted. These are used as an inspection tool and in machining, drilling or grinding jobs

Manufactured from tool steel these are accurately hardened 54 - 58 HRC and ground square and parallel

These are available in two types:

Standard Sine Plates**Compound Angle Sine Plates:**

Help in setting up angles front - to back or side-to-side and a combination for true compound angles



< Standard Sine Plate



Compound Angle Sine Plate >

Technical Information

Squareness and Parallelism
Center to Center Distance

Within 0.0004" (10 microns)
Within 0.0004" (10 microns)

Ordering Information

| Cat. Nr. | Ordering Nr. | Center to Center distance (Inch) | Sine System | Plate Dimensions | | | Tapped Holes |
|-----------------------------------|--------------|----------------------------------|-------------|------------------|--------------|---------------|--------------|
| | | | | Length (inch) | Width (inch) | Height (inch) | |
| Standard Sine Plates | | | | | | | |
| SNPL/3 | 02133 | 3 | 0 | 4 | 4 | 2 | 1/4" - 20 |
| SNPL/5 | 02120 | 5 | 1 | 6 | 6 | 2 | 1/4" - 20 |
| SNPL/5A | 02134 | 5 | 2 | 12 | 6 | 2-5/8 | 3/8" - 16 |
| SNPL/10A | 02131 | 10 | 2 | 12 | 12 | 2-5/8 | 3/8" - 16 |
| SNPL/10B | 02132 | 10 | 2 | 12 | 6 | 2-5/8 | 3/8" - 16 |
| Compound Angle Sine Plates | | | | | | | |
| SNPL/C/5 | 02121 | 5 & 5 | 1 | 6 | 6 | 3-1/8 | 1/4" - 20 |

u BESTSELLER

46 SURFACE PLATES

No. 026

ESP Marmol para trazador FR Marbre en fonte aciéré DE Oberflächenplatte

Acc BS 817 Grade 3

Manufactured from high quality close grained cast iron, these plates have thick solid top surfaces, strong heavy skirts and diagonal cross-ribbed webbing on the underside which results in high rigidity and minimum deflection

Linear measurements depend on an accurate reference surface from which final dimensions are taken

These hand scraped finished surface plates provide the reference plane for work in inspection and layout

High degree of flatness, overall quality and workmanship make them ideal bases for mounting of mechanical, electronic and optical gauging systems

**Technical Information**

Flatness Within 0.0008" (20 microns)

Ordering Information

| Cat. Nr. | Ordering Nr. | Length | | Width | | Overall Height (nominal) | |
|----------------|--------------|--------|-----|-------|-----|--------------------------|----|
| | | Inch | mm | Inch | mm | Inch | mm |
| SFP/200-200-50 | 02600 | 8 | 200 | 8 | 200 | 2 | 50 |
| SFP/250-250-50 | 02601 | 10 | 250 | 10 | 250 | 2 | 50 |
| SFP/300-300-55 | 02603 | 12 | 300 | 12 | 300 | 2-11/64 | 55 |
| SFP/400-400-55 | 02605 | 16 | 400 | 16 | 400 | 2-11/64 | 55 |
| SFP/450-450-65 | 02607 | 18 | 450 | 18 | 450 | 2-9/16 | 65 |
| SFP/300-200-50 | 02602 | 12 | 300 | 8 | 200 | 2 | 50 |
| SFP/400-300-50 | 02604 | 16 | 400 | 12 | 300 | 2 | 50 |
| SFP/500-400-50 | 02608 | 20 | 500 | 16 | 400 | 2 | 50 |
| SFP/600-400-50 | 02609 | 24 | 600 | 16 | 400 | 2 | 50 |
| SFP/450-300-50 | 02606 | 18 | 450 | 12 | 300 | 2 | 50 |
| SFP/600-450-65 | 02610 | 24 | 600 | 18 | 450 | 2-9/16 | 65 |
| SFP/600-600-85 | 02611 | 24 | 600 | 24 | 600 | 3-11/32 | 85 |



Diagonal cross-ribbed webbing on the underside for maximum rigidity & minimum deflection

47 HAND SCRAPERS

No. 146

ESP Rasqueteador FR Grattoir DE Ingenieur Schaber

This range of hand scrapers has been designed 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 these are 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:

**Triangular,
Half Round and
Flat**



Triangular



Triangular with grooved blade



Half Round



Flat

Ordering Information

| Cat. Nr. | Ordering Nr. | Length | | Type |
|-------------|--------------|--------|-----|-------------------------------|
| | | Inch | mm | |
| IES/F/3 | 14641 | 3 | 75 | Flat |
| IES/HR/3 | 14642 | 3 | 75 | Half Round |
| IES/T/3 | 14643 | 3 | 75 | Triangular |
| IES/T-3/SPL | 14609 | 3 | 75 | Triangular with grooved blade |
| u ES/F/4 | 14600 | 4 | 100 | Flat |
| u ES/HR/4 | 14601 | 4 | 100 | Half Round |
| ES/T/4 | 14602 | 4 | 100 | Triangular |
| ES/F/6 | 14603 | 6 | 150 | Flat |
| ES/HR/6 | 14604 | 6 | 150 | Half Round |
| u ES/T/6 | 14605 | 6 | 150 | Triangular |
| ES/F/8 | 14606 | 8 | 200 | Flat |
| ES/HR/8 | 14607 | 8 | 200 | Half Round |
| ES/T/8 | 14608 | 8 | 200 | Triangular |
| IES/F/10 | 14643 | 10 | 250 | Flat |
| IES/HR/10 | 14644 | 10 | 250 | Half Round |
| IES/T/10 | 14645 | 10 | 250 | Triangular |

u BESTSELLER | NEW SIZES

48 PARALLEL CLAMPS

No. 356

ESP Tornillo de apriete FR Presses À serrage parallèle DE Parallel-Schraubzwingen

Manufactured from case hardened steel 45 ± .5HRC. Parallel Clamps are designed for maximum strength and rigidity

All sizes are equipped with a spring clip

A retaining ring holds the loose jaw in alignment when the clamp is being opened or closed. The ends of the jaws are rounded to permit clamping under shoulders or in recesses

These clamps are extremely useful for holding work together in tapping, drilling and on various machine set ups



Ordering Information

| Cat. Nr. | Ordering Nr. | Capacity | | Jaw Length | |
|----------|--------------|----------|-----|------------|-----|
| | | Inch | mm | Inch | mm |
| u PC/1 | 35601 | 1-1/4 | 30 | 2 | 50 |
| u PC/2 | 35602 | 1-3/4 | 44 | 2-1/2 | 63 |
| u PC/3 | 35603 | 2-1/4 | 56 | 3 | 75 |
| u PC/4 | 35604 | 2-3/4 | 70 | 4 | 100 |
| PC/5 | 35605 | 3-1/2 | 88 | 5 | 125 |
| PC/6 | 35606 | 5 | 125 | 6 | 150 |
| PC/8 | 35608 | 6 | 150 | 8 | 200 |

u BESTSELLER



Parallel Clamps being used to hold a job for precisiondrilling operation

49 MACHINIST'S JACK

MJ-01

ESP Gato de operario FR Vérin de table DE Maschinist Jack

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

It finds application on drill presses, milling machines, planers etc. any place where leveling is necessary

Lifting capacity is approximately 1000 lbs (454 kgs)



Ordering Information

| Cat. Nr. | Ordering Nr. | Range | |
|----------|--------------|-------|----|
| | | Inch | mm |
| MJ/01 | 14100 | 1 | 25 |

MACHINE TOOL ACCESSORIES



Drill Chuck Arbors & Sleeves
Tweezers
Lathe Centers
Tap Wrenches & Die Stocks
Tool Holders
Boring Bars
Cutting Tools



www.groz-tools.com

50 DRILL CHUCK ARBORS

No. 076

No. 077

ESP Espigas de sujecion FR Arbres Porte - forets DE Kegeldorn

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

Groz manufactures the following types of Arbors:

- Jacobs Taper Arbors
- Taper Shank Arbors - DIN 238

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



JacobsTaperArbors

Taper Shank Arbors DIN238

| Arbor Type | Shank Mount | Chuck Mount |
|------------------------------|-------------|--------------|
| Jacobs Taper Arbors | Morse Taper | Jacobs Taper |
| Taper Shank Arbors - DIN 238 | Morse Taper | B Taper |

Jacobs Taper Arbors

| Cat. Nr. | Ordering Nr. | Morse Taper (MT) | Jacobs Taper (JT) |
|----------|--------------|------------------|-------------------|
| GAT/11 | 07600 | 1 | 1 |
| GAT/12 | 07601 | 1 | 2 |
| GAT/13 | 07602 | 1 | 3 |
| GAT/133 | 07603 | 1 | 33 |
| GAT/16 | 07604 | 1 | 6 |
| GAT/21 | 07605 | 2 | 1 |
| GAT/22 | 07606 | 2 | 2 |
| u GAT/23 | 07607 | 2 | 3 |
| GAT/24 | 07608 | 2 | 4 |
| GAT/25 | 07609 | 2 | 5 |
| u GAT/26 | 07610 | 2 | 6 |
| GAT/233 | 07612 | 2 | 33 |
| GAT/31 | 07613 | 3 | 1 |
| GAT/32 | 07614 | 3 | 2 |
| GAT/33 | 07615 | 3 | 3 |
| GAT/34 | 07616 | 3 | 4 |
| GAT/35 | 07617 | 3 | 5 |
| u GAT/36 | 07618 | 3 | 6 |
| GAT/333 | 07620 | 3 | 33 |
| GAT/42 | 07621 | 4 | 2 |
| GAT/43 | 07622 | 4 | 3 |
| GAT/44 | 07623 | 4 | 4 |
| GAT/45 | 07624 | 4 | 5 |
| GAT/46 | 07625 | 4 | 6 |
| GAT/52 | 07626 | 5 | 2 |
| GAT/53 | 07627 | 5 | 3 |
| GAT/54 | 07628 | 5 | 4 |

u BESTSELLER

Taper Shank Arbors - DIN 238

| Cat. Nr. | Ordering Nr. | B Taper | Morse Taper (MT) |
|-----------|--------------|---------|------------------|
| G/10/M1 | 07700 | B10 | 1 |
| G/10/M2 | 07701 | B10 | 2 |
| G/12/M1 | 07702 | B12 | 1 |
| G/12/M2 | 07703 | B12 | 2 |
| u G/12/M3 | 07704 | B12 | 3 |
| G/16/M1 | 07705 | B16 | 1 |
| u G/16/M2 | 07706 | B16 | 2 |
| u G/16/M3 | 07707 | B16 | 3 |
| G/16/M4 | 07708 | B16 | 4 |
| G/18/M1 | 07709 | B18 | 1 |
| G/18/M2 | 07710 | B18 | 2 |
| u G/18/M3 | 07711 | B18 | 3 |
| G/18/M4 | 07712 | B18 | 4 |
| G/22/M1 | 07713 | B22 | 1 |
| G/22/M2 | 07714 | B22 | 2 |
| G/22/M3 | 07715 | B22 | 3 |
| G/22/M4 | 07716 | B22 | 4 |
| G/24/M3 | 07717 | B24 | 3 |
| G/24/M4 | 07718 | B24 | 4 |
| G/24/M5 | 07719 | B24 | 5 |

u BESTSELLER

51 REDUCTION SLEEVES (DRILL SLEEVES)

No. 084

No. 085

ESP Casquillos reductores cono Morse FR Douilles de réduction DE Reduzierhülse

Acc DIN 2185

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

The cocentricity and taper angles are precisely controlled which allows perfect locking and concentric movement to the tool held. These are 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

**Ordering Information**

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Morse Taper (MT) | | Overall Length mm |
|-----------|--------------|----------------|--------------|------------------|--------|----------------------|
| | | | | Outside | Inside | |
| A Grade | | Workshop Grade | | Outside | Inside | mm |
| u DSA/2-1 | 08420 | DSW/2-1 | 08520 | 2 | 1 | 92 |
| DSA/3-1 | 08421 | DSW/3-1 | 08521 | 3 | 1 | 99 |
| u DSA/3-2 | 08423 | DSW/3-2 | 08523 | 3 | 2 | 112 |
| DSA/4-1 | 08422 | DSW/4-1 | 08522 | 4 | 1 | 124 |
| DSA/4-2 | 08424 | DSW/4-2 | 08524 | 4 | 2 | 124 |
| u DSA/4-3 | 08426 | DSW/4-3 | 08526 | 4 | 3 | 140 |
| DSA/5-1 | 08432 | DSW/5-1 | 08532 | 5 | 1 | 156 |
| DSA/5-2 | 08425 | DSW/5-2 | 08525 | 5 | 2 | 156 |
| DSA/5-3 | 08427 | DSW/5-3 | 08527 | 5 | 3 | 156 |
| DSA/5-4 | 08429 | DSW/5-4 | 08529 | 5 | 4 | 171 |
| DSA/6-2 | 08433 | DSW/6-2 | 08533 | 6 | 2 | 218 |
| DSA/6-3 | 08428 | DSW/6-3 | 08528 | 6 | 3 | 218 |
| DSA/6-4 | 08430 | DSW/6-4 | 08530 | 6 | 4 | 218 |
| DSA/6-5 | 08431 | DSW/6-5 | 08531 | 6 | 5 | 218 |

u **BESTSELLER**

Workshop Grade

**Technical Information**

| 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 |

52 DRILL DRIFT KEY

No. 086

ESP Extractor FR Chasse cône

DE Austreiber

Acc DIN 317

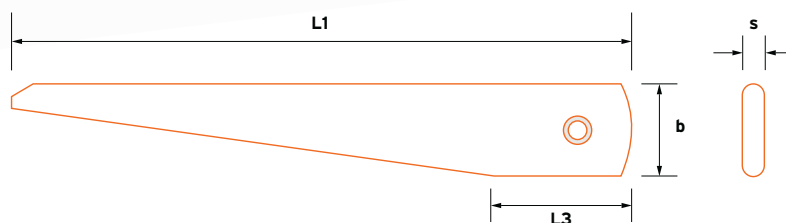
Drop forged from specially drawn medium carbon steel, these Drift keys are accurately hardened for increased resistance to wear

Used for conveniently removing taper shank drills and reamers from sleeves and sockets, these are blackened and have a premium shot blast finish with permanent marking of size for easy identification



Ordering Information

| Cat. Nr. | Ordering Nr. | Fits following Morse Taper | L1 | L3 | b | s |
|----------|--------------|----------------------------|-----|----|----|----|
| | | | mm | mm | mm | mm |
| DK/0 | 08600 | MT 0 | 90 | 18 | 12 | 3 |
| u DK/1-2 | 08601 | MT 1 & MT 2 | 140 | 25 | 20 | 5 |
| u DK/0-3 | 08602 | MT 3 | 190 | 40 | 25 | 7 |
| DK/0-4 | 08603 | MT 4 | 225 | 40 | 30 | 10 |
| DK/5-6 | 08605 | MT 5 & MT 6 | 265 | 56 | 35 | 15 |



u BESTSELLER

53 SLITTING SAW ARBORS

No. 088

ESP Soporte para sierra ranuradora FR Arbre pour scie Á refendre DE Dorn

Manufactured from quality steel, the Slitting Saw Arbors have a rust proof black oxide finish. These can be mounted easily onto a standard collet chuck or any other similar method of holding parallel shanks. A flat ground at the end – on SA/1 & SA/2 - ensures that the grub screw used to fix the shank in place does not raise burr and firmly locks the arbor in the fitting

The spring loaded mechanism readily accepts saw blades with varying diameters

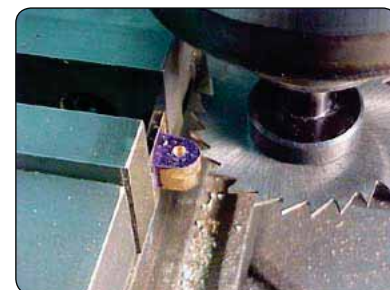
Supplied complete with an allen key



Ordering Information

| Cat. Nr. | Ordering Nr. | Shank Dia | | Overall Length | | Inside Hole Diameter |
|----------|--------------|-----------|------|----------------|-----|-----------------------------|
| | | Inch | mm | Inch | mm | |
| ISA/1 | 08804 | 1/2 | 12.7 | 3 | 76 | 3/8" only |
| u SA/2 | 08805 | 1/2 | 12.7 | 2-7/16 | 62 | 1/2", 5/8", 3/4", 7/8" & 1" |
| ISA/R8 | 08806 | R8 | — | 5 | 125 | 1/2", 5/8", 3/4", 7/8" & 1" |

u BESTSELLER | NEW SIZE



Slitting Saw Arbor being used for a slitting operation on a job being worked upon on a milling machine

54 TWEEZERS

No. 037

ESP Pinzas FR Brucelles DE Pinzette

Tweezers are used for picking up small objects that are not easily handled by hands

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

These are extensively used for servicing & repairs in electronics, computers, instruments, radio and other subminiature assemblies

Available in the following types:

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

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



NEW!

SS
stainless
steel

Ordering Information

| Cat.Nr | Ordering Nr | Length | | Point type | Material |
|-------------------------------|-------------|---|-----|------------------------------|------------------|
| | | Inch | mm | | |
| Industrial Tweezers | | | | | |
| TWZ/401XX | 03711 | 4-3/4 | 120 | Strong sharp | Non Magnetic S.S |
| TWZ/403 | 03702 | 6-1/8 | 155 | Blunt serrated | Magnetic S.S |
| TWZ/408 | 03701 | 4-3/4 | 120 | Sharp Bent | Magnetic S.S |
| TWZ/410 | 03703 | 4-3/4 | 120 | Narrow sharp | Magnetic S.S |
| TWZ/412 | 03705 | 6-1/2 | 165 | Blunt point with slide lock | Magnetic S.S |
| TWZ/413 | 03704 | 4-3/4 | 120 | Sharp | Magnetic S.S |
| Utility Tweezers | | | | | |
| TWZ/414 | 03706 | 6-1/2 | 165 | Blunt serrated(self closing) | Magnetic S.S |
| TWZ/415 | 03708 | 7 | 176 | Curved (teeth inside) | Magnetic S.S |
| TWZ/416 | 03713 | 4-9/16 | 116 | Spade | Magnetic S.S |
| TWZ/417 | 03707 | 6-3/4 | 172 | Long straight | Magnetic S.S |
| Swiss Pattern Tweezers | | | | | |
| TWZ/423-3C | 03709 | 4-13/32 | 112 | Very fine | Non Magnetic S.S |
| Boley Pattern Tweezers | | | | | |
| TWZ/401AA | 03712 | 5 | 127 | Strong sharp bevel | Non Magnetic S.S |
| 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 | | | |

55 LATHE CENTERS - (DEAD CENTERS)

No. 111

ESP Puntos Fijos FR Pointes fixes DE Feste Körnerspitzen

Acc DIN 806

Manufactured from high quality carbon steel, Dead Centers have a solid construction with no moving parts. Fully hardened for increased resistance to wear. Hardness of tip 60-63 HRC, these centers are accurately ground and have a TIR of $\pm 0.0001"$ (± 2.5 microns)

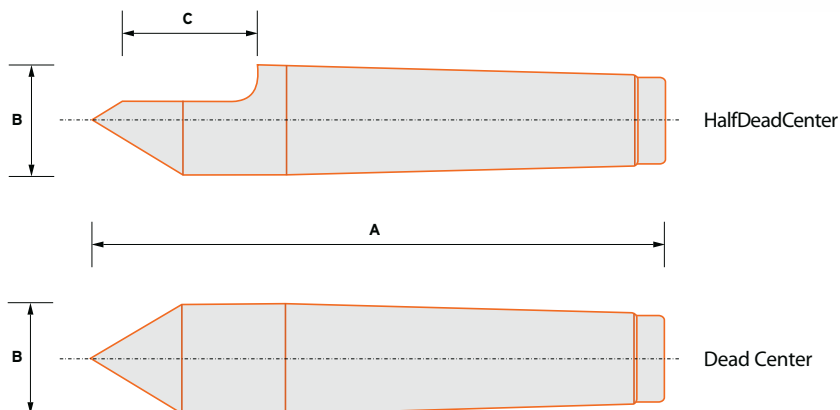
Available in two types — Full and Half Dead Centers. Half Dead Centers come with a full carbon steel construction or with Carbide tips. Full Dead Centers are additionally available with High Speed Steel tips

In centers with carbide/HSS tips, the tips are brazed into a close tolerance socket for maximum strength

Carbide tip centers are preferred in applications where the workpiece has a hardness close to or more than that of Carbon Steel Dead Centers. Carbide tip imparts durability and calls for less downtime for regrinding of point. High speed steel Dead Centers are especially useful in applications that involve shock



The included point angle is $60^\circ + 15' - 0''$



Ordering Information - Dead Centers

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Morse Taper | A | | B | |
|-----------------------|--------------|-------------------|--------------|---------------------|--------------|-------------|--------|-----|---------|------|
| | | | | | | | Inch | mm | Inch | mm |
| Carbide Tipped | | HSS Tipped | | Carbon Steel | | | | | | |
| DCT/1 | 11100 | DCTH/1 | 11120 | DCC/1 | 11140 | MT 1 | 3-3/16 | 80 | 1/2 | 12.2 |
| DCT/2 | 11101 | DCTH/2 | 11121 | DCC/2 | 11141 | MT 2 | 4 | 100 | 23/32 | 18 |
| DCT/3 | 11102 | DCTH/3 | 11122 | DCC/3 | 11142 | MT 3 | 5 | 125 | 31/32 | 24.1 |
| DCT/4 | 11103 | DCTH/4 | 11123 | DCC/4 | 11143 | MT 4 | 6-3/8 | 160 | 1-1/4 | 31.6 |
| DCT/5 | 11104 | DCTH/5 | 11124 | DCC/5 | 11144 | MT 5 | 8 | 200 | 1-25/32 | 44.7 |

Ordering Information - Half Dead Centers

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Morse Taper | A | | B | | C | |
|-----------------------|--------------|---------------------|--------------|-------------|--------|-----|---------|------|---------|----|
| | | | | | Inch | mm | Inch | mm | Inch | mm |
| Carbide Tipped | | Carbon Steel | | | | | | | | |
| DCT/1H | 11110 | DCC/1H | 11150 | MT 1 | 3-3/16 | 80 | 1/2 | 12.2 | 7/8 | 22 |
| DCT/2H | 11111 | DCC/2H | 11151 | MT 2 | 4 | 100 | 23/32 | 18 | 1-13/16 | 30 |
| DCT/3H | 11112 | DCC/3H | 11152 | MT 3 | 5 | 125 | 31/32 | 24.1 | 1-17/32 | 38 |
| DCT/4H | 11113 | DCC/4H | 11153 | MT 4 | 6-3/8 | 160 | 1-1/4 | 31.6 | 2 | 50 |
| DCT/5H | 11114 | DCC/5H | 11154 | MT 5 | 8 | 200 | 1-25/32 | 44.7 | 2-17/32 | 63 |

56 ADJUSTABLE TAP & REAMER WRENCHES—BAR TYPE

No. 092D

No. 092R

No. 092

ESP Giramachos ajustables FR Tourne - à - gauche DE Verstellbare Windeisen

The Straight handle design of these tap wrenches provides greater leverage, particularly useful when working with large diameter taps

These are manufactured in three types:

Type A : Acc DIN 1814 <No. 092D>

Type B : Professional <No. 092R>

Type C : Industrial <No. 092>

TYPE A – Acc DIN 1814 <No. 092D>

With zinc die cast body and hardened steel jaws, these have an exceptionally rugged construction. Chrome plated handles with knurled ends provide a comfortable non slip grip. Larger sizes have a cross hole drilled on one end for easy tightening using a tommy bar

TYPE B – Professional <No. 092R>

Professional quality tap wrenches with an all steel body, these provide a positive grip combined with the sensitivity required when tapping a blind hole. Jaws are hardened and tempered for increased resistance to wear. The wrench body is black powder coated with attractive chrome plated handles

TYPE C – Industrial <No. 092>

Extra heavy duty. Industrial Quality tap wrenches - virtually unbreakable. Nr. 0,00, 5 & 6 have a forged steel body. Nr. 7 & 8 are cast from S.G. Iron



<TypeA:AccDIN1814



<TypeB:Professional



<Type C: Industrial



SQUARE
SIZE



Ordering Information

| Cat. Nr. | Ordering Nr. | Length | | Jaw Holding Capacity | | | |
|---------------------|--------------|----------|-----|----------------------|-------------|--------------|--------|
| | | | | Square Size | | Tap Size | |
| | | Inch | mm | Inch | mm | Inch | mm |
| Acc DIN 1814 | | | | | | | |
| ATWR/D/0 | 09200 | 6.19/64 | 160 | 5/64 - 13/64 | 2-5 | 1/16 - 1/4 | M2-M6 |
| u ATWR/D/1 | 09201 | 7.5/64 | 180 | 5/64 - 1/4 | 2 - 6.3 | 1/16 - 5/16 | M2-M8 |
| u ATWR/D/2 | 09202 | 11 | 280 | 5/32 - 23/64 | 4 - 9 | 3/16 - 9/16 | M5-M14 |
| ATWR/D/3 | 09203 | 15 | 375 | 3/16 - 15/32 | 4.9 - 12 | 1/4 - 3/4 | M6-M18 |
| Professional | | | | | | | |
| ARWR/1/SPL | 09210 | 5 | 125 | 7/64 - 5/32 | 2.5 - 4 | 1/8 - 3/16 | M3-M5 |
| u ARWR/2/SPL | 09211 | 8.17/64 | 210 | 3/32 - 1/4 | 2.4 - 6.5 | 3/16 - 5/16 | M4-M8 |
| u ARWR/3/SPL | 09212 | 12.13/64 | 310 | 3/32 - 3/8 | 2.4 - 9.5 | 3/16 - 9/16 | M4-M14 |
| ARWR/44/SPL | 09213 | 16 | 400 | 7/32 - 5/8 | 5.6 - 16 | 7/16 - 1.1/8 | M7-M27 |
| Industrial | | | | | | | |
| u ARWR/SG/0 | 09221 | 8 | 200 | 3/32 - 1/2 | 2.5 - 12 | 1/8 - 3/8 | M1-M12 |
| ARWR/SG/00 | 09220 | 4.88 | 122 | 5/64 - 9/32 | 2 - 7.35 | 1/8 - 1/4 | M1-M6 |
| u ARWR/SG/5 | 09222 | 10.8 | 270 | 11/64 - 9/16 | 4.25 - 14.4 | 3/16 - 5/8 | M4-M16 |
| ARWR/SG/6 | 09223 | 14.8 | 370 | 11/64 - 11/16 | 4.25 - 17.7 | 3/16 - 7/8 | M4-M20 |
| ARWR/SG/7 | 09224 | 19.6 | 490 | 1/4 - 29/32 | 6.8 - 23.25 | 1/4 - 1.1/8 | M6-M30 |
| ARWR/SG/8 | 09225 | 29.6 | 740 | 3/8 - 1.13/32 | 9.2 - 36.0 | 1/2 - 1.3/4 | M9-M45 |

u BESTSELLER

NEW!



57 TAP WRENCHES – T HANDLE TYPE - PROFESSIONAL

ESP Giramachos en T FR Porte - tarauds En bout DE Werkzeughalter

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, these are available in two types:

Plain Tap Wrenches:

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

Also available with longer body for added leverage in hard to reach places

Reversible Ratchet Tap Wrenches:

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

Also available with longer body for added leverage in hard to reach places



PlainTapWrenches>



<RatchetType



Extra Long Tap Wrenches >

Ordering Information

| Cat. Nr. | Ordering Nr. | Body Length | | Cat Nr. | Ordering Nr. | Body Length | | Tap Capacity | | Square Size | |
|---------------------------|--------------|-------------|-----|-------------------|--------------|-------------|-----|---------------|-----------|---------------|------------|
| | | Inch | mm | | | Inch | mm | Inch | mm | Inch | mm |
| Plain Tap Wrenches | | | | | | | | | | | |
| Regular Length | | | | Extra Long | | | | | | | |
| TW/163 | 09360 | 2-1/4 | 57 | - | - | - | - | Nr. 0 – Nr. 8 | M1.6 – M4 | 5/64 – 1/8 | 2.0 – 3.15 |
| TW/164 | 09361 | 2-3/4 | 70 | TW/164L | 09365 | 9 | 225 | Nr. 0 – 1/4" | M1.6 – M6 | 5/64 – 13/64 | 2.0 – 5.0 |
| TW/166 | 09362 | 3-3/4 | 95 | TW/166L | 09366 | 9 | 225 | Nr. 12 – 1/2" | M6 – M12 | 13/64 – 17/64 | 5.0 – 7.0 |
| Ratchet Type | | | | | | | | | | | |
| Regular Length | | | | Extra Long | | | | | | | |
| TW/R/160 | 09370 | 2-3/4 | 70 | - | - | - | - | Nr. 0 – Nr.8 | M1.6 – M4 | 5/64 – 1/8 | 2.0 – 3.15 |
| TW/R/161 | 09371 | 3-1/2 | 88 | TW/R/161L | 09375 | 13 | 330 | Nr. 0 – 1/4" | M1.6 – M6 | 5/64 – 13/64 | 2.0 – 5.0 |
| TW/R/162 | 09372 | 4-1/4 | 106 | TW/R/162L | 09376 | 13 | 330 | Nr. 12 – 1/2" | M6 – M12 | 13/64 – 17/64 | 5.0 – 7.0 |

58 MICRO TAP GUIDE

TPG

ESP Instrumento de alineación Roscas de macho FR Outil d'alignement Tarau DE Ausrichtungswerkzeug Handgewindebohrer

Handy accessory for any machinist, the Micro Tap Guide ensures you start every tap or reamer straight with perfect alignment

It has a spring loaded & hardened 3/16" (4.76 mm) diameter point that can be reversed. The pointed end guides a tap or tap wrench directly as it fits into the hole on the end of tap / tap wrench. The reversed concave end is good for smaller taps which usually have a 60° taper ground at the end

The Micro Tap Guide has a fully hardened & ground 1/2" shank that can be chucked up in the lathe tailstock or the drill press

For use with # 10 – 1 Taps



NEW!

Ordering Information

| Cat.Nr. | Ordering Nr. |
|----------|--------------|
| TPG/10-1 | 09350 |



The concave end is good for smaller taps, which usually have a 60° taper ground at the end. This allows great support and alignment

59 DIE HOLDERS – SHANK TYPE

No. 091

ESP Porta Terrajas FR Porte - filières monobloc DE Schneideisenhalter

Ideal for short or medium run threading of shafts etc. these holders are most convenient for use on lathes, milling machines, tapping machines etc.

Manufactured from solid one piece steel, these have a rust proof black oxide finish. Main body is counterbored for chip clearance.

Concentricity of hole with respect to shank
± 0.002" (± 50 microns)



Ordering Information

| Cat. Nr. | Ordering Nr. | Shank Diameter | | Shank Length | | Suitable for Die Size |
|----------|--------------|----------------|------|--------------|----|-----------------------|
| | | Inch | mm | Inch | mm | |
| DH/13-16 | 09120 | 1/2 | 12.7 | 2 | 50 | 13/16 |
| DH/0-1 | 09121 | 1/2 | 12.7 | 2 | 50 | 1 |
| DH/1-1-2 | 09122 | 1/2 | 12.7 | 2 | 50 | 1-1/2 |



Die Holder holding a die being used for external thread cutting

60 DIE STOCK HOLDERS – ROUND DIES

ESP Porta Terrajas FR Porte - filières DE Schneideisenhalter

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

Die holders have a rugged construction with heavy duty set screws that hold the die firmly in place

These are manufactured in two types.

Type A – Acc DIN 225

These have steel bodies with chrome plated handles

Type B – Professional

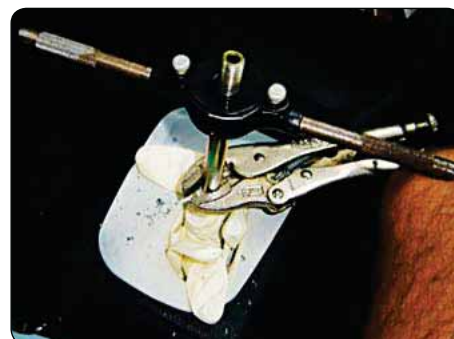
All steel construction with black powder coated body. Handles have knurled ends with ends in black powder coated finish



Ordering Information

| Cat. Nr. | Ordering Nr. | Suitable for Die Size | Length | |
|---------------------|--------------|-----------------------|---------|-----|
| | | | Inch | mm |
| Acc DIN 225 | | | | |
| DS/D/20-5 | 09100 | 20 x 5 mm | 8 | 200 |
| DS/D/20-7 | 09101 | 20 x 7 mm | 8 | 200 |
| u DS/D/25-9 | 09102 | 25 x 9 mm | 9 | 224 |
| u DS/D/30-11 | 09103 | 30 x 11 mm | 11 | 280 |
| DS/D/38-14 | 09104 | 38 x 14 mm | 12-3/8 | 315 |
| Professional | | | | |
| H DS/5-8 | 09127 | 5/8" | 5-1/2" | 140 |
| DS/13-16 | 09110 | 13/16" | 6-1/2" | 165 |
| u DS/0-1 | 09111 | 1" | 8-1/4" | 209 |
| DS/1-5-16 | 09112 | 1-5/16" | 10" | 250 |
| u DS/1-1-2 | 09113 | 1-1/2" | 12-3/8" | 315 |
| u DS/0-2 | 09114 | 2" | 15-3/8" | 390 |
| DS/2-1-2 | 09116 | 2-1/2" | 19 | 480 |
| DS/0-3 | 09117 | 3" | 22-1/2" | 570 |
| H DS/3-1-2 | 09118 | 3-1/2" | 29-3/4" | 755 |
| H DS/0-4 | 09119 | 4" | 33 | 840 |

u BESTSELLER H MADE TO ORDER



61 TURNING TOOL HOLDERS – AMERICAN PATTERN

TH

ESP Porta herramientas FR Porte - Outils DE Werkzeughalter

Manufactured from high grade steel, these toolholders are accurately machined and ground

Toolbits are held parallel and straight to the shank giving maximum support to the cutting edge. Set screws are made from heat treated alloy steel with hardened points for increased resistance to wear

These are available with straight shank, right handed or left handed offset shank. Each holder comes complete with an allen key but without toolbit



Ordering Information

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Holder Size | Tool Bit Size | For Lathes of Approx. Swing |
|----------------|--------------|-----------|--------------|------------|--------------|--------------------|---------------|-----------------------------|
| Straight Shank | | Left Hand | | Right Hand | | Inch | Inch | |
| TH/35 | 11300 | TH/3L | 11310 | TH/3R | 11320 | 5/16 x 3/4 x 4-1/2 | 3/16 | 7 to 10 |
| TH/45 | 11301 | TH/4L | 11311 | TH/4R | 11321 | 3/8 x 7/8 x 5 | 1/4 | 10 to 12 |
| TH/55 | 11302 | TH/5L | 11312 | TH/5R | 11322 | 1/2 x 1-1/8 x 6 | 5/16 | 14 to 16 |
| TH/65 | 11303 | TH/6L | 11313 | TH/6R | 11323 | 5/8 x 1-3/8 x 7 | 3/8 | 16 to 18 |
| TH/75 | 11304 | TH/7L | 11314 | TH/7R | 11324 | 3/4 x 1-5/8 x 8 | 7/16 | 18 to 20 |
| TH/85 | 11305 | TH/8L | 11315 | TH/8R | 11325 | 7/8 x 1-3/4 x 9 | 1/2 | 24 to 36 |

62 CUT OFF TOOL HOLDERS

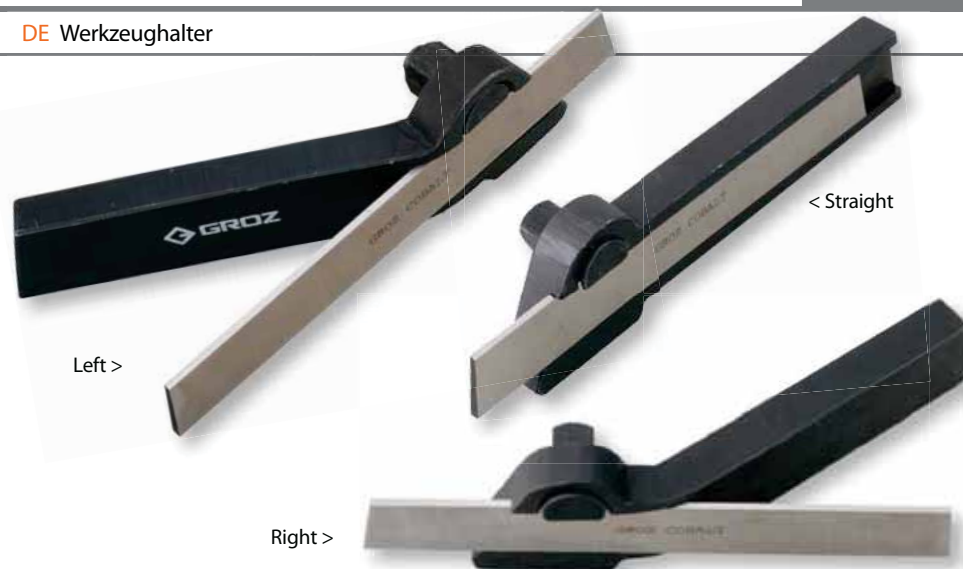
CT

ESP Porta herramientas FR Porte - Outils DE Werkzeughalter

Manufactured from high grade steel, machined and ground to precise tolerances, these cut off tool holders support the blade over a wide area thereby reducing the possibility of blade breakage

The locking device enables the blade to be held securely and also enables rapid assembly. Especially designed clamp plate provides both downward and sideways pressure along a large area of the top edge of the tool ensuring complete rigidity

These are available with straight shank, right handed or left handed offset shank. Supplied with key but without blade



Ordering Information

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Holder Size | | Blade Size | |
|-----------------|--------------|-------------|--------------|--------------|--------------|-----------------------|---------------------|--------------|--------------|
| | | | | | | Inch | mm | Inch | mm |
| Straight | | Left | | Right | | | | | |
| CT/05 | 11600 | CT/0L | 11610 | CT/0R | 11620 | 5/16 x 9/16 x 3-11/16 | 7.93 x 14.28 x 93.4 | 1/16 x 5/16 | 1.58 x 7.93 |
| CT/15 | 11601 | CT/1L | 11611 | CT/1R | 11621 | 5/16 x 3/4 x 4-1/2 | 7.93 x 19 x 114 | 3/32 x 1/2 | 2.38 x 12.7 |
| CT/25 | 11602 | CT/2L | 11612 | CT/2R | 11622 | 3/8 x 7/8 x 5 | 9 x 22 x 125 | 3/32 x 5/8 | 2.38 x 15.8 |
| CT/35 | 11603 | CT/3L | 11613 | CT/3R | 11623 | 1/2 x 1-1/8 x 6 | 13 x 28 x 150 | 1/8 x 3/4 | 3.17 x 19 |
| CT/45 | 11604 | CT/4L | 11614 | CT/4R | 11624 | 5/8 x 1-3/8 x 7 | 16 x 35 x 175 | 1/8 x 7/8 | 3.17 x 22.2 |
| CT/55 | 11605 | CT/5L | 11615 | CT/5R | 11625 | 3/4 x 1-5/8 x 8 | 19 x 41 x 200 | 3/16 x 1 | 4.76 x 25.4 |
| CT/65 | 11606 | CT/6L | 11616 | CT/6R | 11626 | 7/8 x 1-3/4 x 9 | 22 x 41 x 225 | 3/16 x 1-1/8 | 4.76 x 28.57 |

63 PARTING OFF TOOL HOLDERS

PT

ESP Porta herramientas FR Porte - Outils DE Werkzeughalter

With a single piece rigid construction, hardened 45± HRC the Parting off Tool Holder enables the blade to be held and gripped simply by a standard screw type tool post

It can be used in both front and rear tool posts and holds a bevel blade to ensure equal clearance is attained on either side of the bevel

The parting off tool holder is supplied without a blade



Ordering Information

| Cat. Nr. | Ordering Nr. | Blade Size | L | H | W | D |
|----------|--------------|------------|-------|--------|-------|------|
| | | Inch | Inch | Inch | Inch | Inch |
| PT/1 | 11631 | 1/2 x 3/32 | 2-3/4 | 13/16 | 1/2 | 1/2 |
| PT/2 | 11632 | 5/8 x 3/32 | 2-3/4 | 13/16 | 1/2 | 9/16 |
| PT/3 | 11633 | 3/4 x 1/8 | 3-3/8 | 1-1/16 | 11/16 | 3/4 |

64 FLY CUTTER HOLDER SET

FCH

ESP Porta herramientas FR Jeu de Porte - barreaux à surfer "FLYCUTTER" DE Werkzeughalter

Manufactured from selected steel, accurately hardened, this is an excellent tool for boring through holes or to a shoulder

The angle permits maximum sweep diameter with minimum tool projection and can machine upto 6" wide surface with a standard tool bit

Complete set consists of 3 fly cutters with shank fully counter balanced to ensure a smooth finish

Supplied without toolbits



Ordering Information

| Cat. Nr. | Ordering Nr. | No. of Holders | Shank Diameter | | Head Diameter | | Tool Bit Size |
|----------|--------------|----------------|----------------|------|---------------|------|---------------|
| | | | Inch | mm | Inch | mm | |
| FCH/01 | 11200 | 3 | 1/2 | 12.7 | 3/4 | 19 | 3/16 |
| | | | | | 1-1/8 | 28 | 1/4 |
| | | | | | 1-1/2 | 38 | 5/16 |
| FCH/2 | 11206 | 3 | 3/4 | 19 | 1-1/2 | 38 | 5/16 |
| | | | | | 2 | 50 | 5/16 |
| | | | | | 2-1/2 | 63.5 | 5/16 |

NEW SIZE

CA 53



Fly Cutter Holder with tool being used for face machining of a job on a vertical milling center

65 KNURLING TOOL HOLDERS

KT

ESP Porta moletas FR Porte - molettes DE Werkzeughalter

The rigid and robust construction of the Groz range of knurling tool holders makes them ideal for countless knurling applications

These are available in 3 types:

1. Knurling Tool Holders – 3 Pairs
2. Knurling Tool Holder – 1 Pair
3. Knurling Tool Holder – 1 Knurl

1. 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

2. 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

3. Knurling Tool Holder – 1 Knurl

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

1 knurl holder >

1 pairholder >

3 pair holder >

Ordering Information

| Cat. Nr. | Ordering Nr. | Holder Size | | Knurl Dimension | |
|---------------------------------------|--------------|---------------------|---------------|-------------------|------------------|
| | | 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 |
| 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 |
| 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 |
| 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 |
| Knurling Tool Holder - 1 Pair | | | | | |
| KT/2-1 | 11810 | 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 |
| 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 |
| 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 |
| 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 |
| KT/2-5 | 11814 | 4-1/2 x 1/2 x 1/2 | 114 x 13 x 13 | 3/4 x 3/8 x 1/4 | 19 x 9.5 x 6.35 |
| KT/2-5M | 11815 | — | 200 x 27 x 18 | — | 20 x 8 x 6 |
| 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 |
| 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 |
| 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 |

66 KNURLING TOOL HOLDER - QUICK ACTION

KT/Q

ESP Porta moletas - Acción Rápida

FR Porte - molettes à serrage rapide

DE Werkzeughalter

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

These come complete with 1 pair of Medium Diamond pattern Knurls



Ordering Information

| Cat. Nr. | Ordering Nr. | Holder Size | | | | Capacity (Min x Max) | | Knurl Dimensions | |
|----------|--------------|-------------|-----|-----------|---------|----------------------|-------------|------------------|-----------------|
| | | 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 |
| 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 108 | 3/4 x 3/8 x 1/4 | 19 x 9.5 x 6.35 |



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

67 PIN CHUCK SET

PCH-13

ESP Mini mandril - juego

FR Mandrins à pinces

DE Stift Klemme-Satz

The Pin Chuck is a very useful reducing chuck used for holding drills too small to be held by a regular chuck. It is gripped in the larger chuck already on the machine by means of the back shank

Supplied with three interchangeable collets for holding small drills in varying sizes



Chuck assembled with collet

Collets are available in three sizes

Screw on cap is used to hold and interchange collets

Ordering Information

| Cat. Nr. | Ordering Nr. | Collet Capacity | |
|----------|--------------|-----------------|-------|
| | | Inch | mm |
| | | PCH/1-3 | 08800 |

68 PIN VICES

No. 359

ESP Mini prensas tipo mandril FR Porte - outil à pinces DE Stift-Schraubstöcke

Pin vices are used for holding small taps, drills, reamers, scribers, wire, small files etc. These are available in following types:

Pin Vices – Regular

This range of Pin Vices have special tool steel jaws that provide for a firm grip. A straight smooth section on the handle allows these vices to be conveniently held in machine chucks for machining operations. The handles have a hole extending through the entire length which permit holding wires of any length or diameter upto the full size of the tool. These are available as individuals or as a set of 4

Master Pin Vice

A very useful vice, it finds application in model making and jewellery making industry. It has a single collet made of hardened steel, suitable for holding small drills, miniature tools etc. The opposite end has a large free wheeling swivel head

Pin Vice – Double Ended

This double ended pin vice has reversible collets at each end. The chuck at one end can hold work or tools of diameter 0- 0.031" and 0.093" - 0.125" (0 - 0.08 mm and 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 mm - 2.5 mm)

[NEW]**Adjustable Pin Vice**

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



Pin Vices Regular

Master Pin Vice

Pin Vice Double Ended

Adjustable Pin Vice-PV/93

Ordering Information

| Cat. Nr. | Ordering Nr. | Capacity | | Overall Length | | Body Diameter | | |
|--------------------------------|--------------|--|------------|----------------|-------|---------------|----|--|
| | | Inch | mm | Inch | mm | Inch | mm | |
| Pin Vices | | | | | | | | |
| PV/1 | 35901 | 0-3/64 | 0-1 | 3.25/64 | 85 | 13/64 | 5 | |
| PV/2 | 35902 | 1/32 - 1/16 | 0.75 - 1.5 | 3.15/32 | 87 | 15/64 | 6 | |
| PV/3 | 35903 | 1/16 - 1/8 | 1.5 - 3 | 3.33/64 | 88 | 9/32 | 7 | |
| PV/4 | 35904 | 1/8 - 11/64 | 3 - 4.5 | 4.3/32 | 102.5 | 5/16 | 8 | |
| PV/1-4/ST | 35900 | A set of one each of the above Pin Vices | | | | | | |
| Pin Vice - Double Ended | | | | | | | | |
| PVD/02 | 35910 | 0 - 1/8 | 0 - 3.2 | 4 | 100 | 3/8 | 9 | |
| Master Pin Vice | | | | | | | | |
| MPV/04 | 35911 | 0 - 1/8 | 0 - 3.2 | 3-21/32 | 92.5 | 3/8 | 9 | |
| Adjustable Pin Vice | | | | | | | | |
| PV/93 | 35913 | 3/16 - 1/4 | 1 - 6.4 | 6.7/8 | 175 | 1 | 25 | |

NEW SIZE

CA 56



PinVicebeingusedtoholdadrillforhand-drilling on an electronic component

69 LATHE CARRIERS

No. 139

ESP Mordazas para Torno FR Tocs de Tour queue coudée ou droite

Manufactured from high tensile, malleable cast iron, with an attractive grey hammertone finish, these are very useful for holding workpieces securely for smooth and even turning

Used in conjunction with a catch-plate, these act as a driving device while turning material between centres. A 'V' groove in the body helps clamping of round jobs

Ordering Information

| Cat. Nr. | Ordering Nr. | Cat. Nr. | Ordering Nr. | Holding Capacity | |
|---------------|--------------|------------|--------------|------------------|-----|
| | | | | Inch | mm |
| Straight Tail | | Bent Tail | | | |
| LC/S/1-4 | 13900 | LC/B/1-4 | 13920 | 1/4 | 6 |
| LC/S/3-8 | 13901 | LC/B/3-8 | 13921 | 3/8 | 10 |
| LC/S/1-2 | 13902 | LC/B/1-2 | 13922 | 1/2 | 13 |
| LC/S/3-4 | 13903 | LC/B/3-4 | 13923 | 3/4 | 20 |
| LC/S/0-1 | 13904 | LC/B/0-1 | 13924 | 1 | 25 |
| LC/S/1-1-4 | 13905 | LC/B/1-1-4 | 13925 | 1-1/4 | 30 |
| LC/S/1-1-2 | 13906 | LC/B/1-1-2 | 13926 | 1-1/2 | 40 |
| LC/S/1-3-4 | 13934 | LC/B/1-3-4 | 13935 | 1-3/4 | 45 |
| LC/S/0-2 | 13907 | LC/B/0-2 | 13927 | 2 | 50 |
| LC/S/2-1-2 | 13908 | LC/B/2-1-2 | 13928 | 2-1/2 | 63 |
| LC/S/0-3 | 13909 | LC/B/0-3 | 13929 | 3 | 75 |
| LC/S/3-1-2 | 13910 | LC/B/3-1-2 | 13930 | 3-1/2 | 90 |
| LC/S/0-4 | 13911 | LC/B/0-4 | 13931 | 4 | 100 |
| LC/S/0-5 | 13912 | LC/B/0-5 | 13932 | 5 | 125 |
| LC/S/0-6 | 13913 | LC/B/0-6 | 13933 | 6 | 150 |



Bent tail



Straight tail

70 LATHE CHUCK KEYS

LCK

ESP Llaves para mandril de torno FR Clés pour mandrin de tours DE Außenvierkant-Schlüssel

Manufactured from alloy steel, these keys are induction hardened for increased resistance to wear. These are available in both imperial and metric sizes



Ordering Information

| Cat. Nr. | Ordering Nr. | Capacity (Inch) | Metric Sizes | | Capacity (mm) |
|----------------|--------------|-----------------|--------------|--------------|---------------|
| | | | Cat. Nr. | Ordering Nr. | |
| Imperial Sizes | | | | | |
| LCK/1-4 | 13950 | 1/4 | LCK/6 | 13960 | 6 |
| LCK/5-16 | 13951 | 5/16 | LCK/8 | 13961 | 8 |
| LCK/3-8 | 13952 | 3/8 | LCK/9 | 13962 | 9 |
| LCK/7-16 | 13953 | 7/16 | LCK/10 | 13963 | 10 |
| LCK/1-2 | 13954 | 1/2 | LCK/12 | 13964 | 12 |
| LCK/9-16 | 13955 | 9/16 | LCK/14 | 13965 | 14 |
| LCK/5-8 | 13956 | 5/8 | LCK/16 | 13966 | 16 |
| LCK/11-16 | 13957 | 11/16 | LCK/17 | 13967 | 17 |

71 BORING BARS

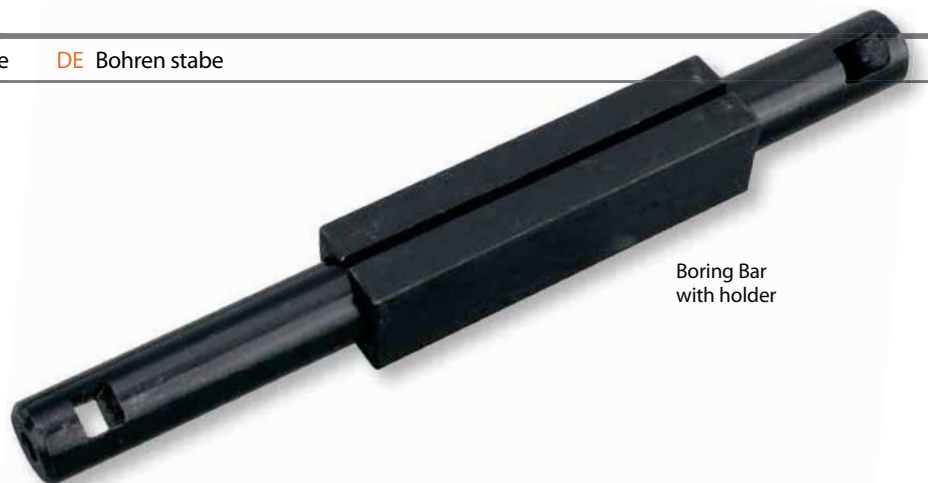
ESP Porta Buril de interiores FR Barres D' Alésage DE Bohren stabe

Manufactured from selected steel, these boring bars are accurately machined

Bars incorporate broached holes that accept standard high speed steel or carbide toolbits conveniently

A complete range of single ended or double ended boring bars are available with or without the holder

Bars are supplied with an allen-key but without toolbits



Boring Bar with holder



Single ended 90° boring bars, especially useful for shoulder cutting, undercuts, groove cutting etc.



Single ended 45° boring bars for deep boring applications

Ordering Information - Boring Bars with Holders

| Cat. Nr. | Ordering Nr. | Boring Bar Length | | Boring Bar Diameter | | Holder Length | | Square Size | | Tool Bit Size |
|----------|--------------|-------------------|-----|---------------------|-------|---------------|-----|-------------|------|---------------|
| | | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch |
| BB/1-8 | 13300 | 4-1/2 | 114 | 3/8 | 9.52 | 2-1/2 | 63 | 1/2 | 12.7 | 1/8 |
| BB/3-16 | 13301 | 5-1/4 | 133 | 7/16 | 11.11 | 2-1/2 | 63 | 5/8 | 15.8 | 3/16 |
| BB/1-4 | 13302 | 6-3/4 | 171 | 9/16 | 14.28 | 3 | 76 | 3/4 | 19 | 1/4 |
| BB/5-16 | 13303 | 9-1/4 | 235 | 3/4 | 19 | 3-3/4 | 95 | 1 | 25 | 5/16 |
| BB/3-8 | 13304 | 11-1/2 | 292 | 7/8 | 22.22 | 4-1/2 | 114 | 1-1/4 | 32 | 3/8 |
| BB/1-2 | 13305 | 14-1/2 | 368 | 1-1/4 | 31.75 | 5-1/4 | 133 | 1-1/2 | 38 | 1/2 |

Ordering Information - Boring Bars

| Cat. Nr. | Ordering Nr. | Type | Shank Diameter | | Length | | Tool Bit Size | | |
|----------------|--------------|---|----------------|------|--------|-------|---------------|--------|--|
| | | | Inch | mm | Inch | mm | Inch | Type | |
| BBR/3-8-6/SQ | 13213 | Double ended 45° and 90° | 3/8 | 9.5 | 6 | 152 | 1/8 | Square | |
| BBR/3-8-6/RD | 13212 | | 3/8 | 9.5 | 6 | 152 | 3/16 | Round | |
| BBR/1-2-9/3-16 | 13224 | | 1/2 | 12.7 | 9 | 228.5 | 3/16 | Square | |
| BBR/1-2-9/1-4 | 13225 | | 1/2 | 12.7 | 9 | 228.5 | 1/4 | Square | |
| BBR/9-16-9 | 13230 | | 9/16 | 14 | 9 | 228.5 | 3/16 | Square | |
| BBR/5-8-10 | 13244 | | 5/8 | 15.8 | 10 | 254 | 1/4 | Square | |
| BBR/3-4-12 | 13256 | | 3/4 | 19 | 12 | 305 | 1/4 | Square | |
| BBR/15-16-12 | 13260 | | 15/16 | 23.8 | 12 | 305 | 5/16 | Square | |
| BBR/1-12 | 13273 | | 1 | 25.4 | 12 | 305 | 5/16 | Square | |
| BBR/1-16 | 13272 | | 1 | 25.4 | 16 | 406 | 5/16 | Square | |
| BBR/1-1-4/16 | 13280 | | 1-1/4 | 31.5 | 16 | 406 | 1/2 | Square | |
| BBR/1-1-2/18 | 13290 | 1-1/2 | 38 | 18 | 457 | 1/2 | Square | | |
| BBR/5/ST | 13201 | Set of 5 Bars 3/8", 1/2", 5/8", 3/4" and 1" on a wooden stand | | | | | | | |
| BBR/3-8-3/45 | 13210 | Single ended 45° | 3/8 | 9.5 | 3 | 76 | 3/16 | Square | |
| BBR/1-2/4/45 | 13220 | | 1/2 | 12.7 | 4 | 102 | 3/16 | Square | |
| BBR/5-8/5/45 | 13240 | | 5/8 | 15.8 | 5 | 127 | 1/4 | Square | |
| BBR/3-4/5/45 | 13252 | | 3/4 | 19 | 5 | 127 | 1/4 | Square | |
| BBR/3-4/7/45 | 13254 | | 3/4 | 19 | 7 | 178 | 1/4 | Square | |
| BBR/1-8/45 | 13270 | | 1 | 25.4 | 8 | 203 | 5/16 | Square | |
| BBR/3-8/3/90 | 13211 | Single ended 90° | 3/8 | 9.5 | 3 | 76 | 3/16 | Square | |
| BBR/1-2/4/90 | 13221 | | 1/2 | 12.7 | 4 | 102 | 3/16 | Square | |
| BBR/5-8/5/90 | 13241 | | 5/8 | 15.8 | 5 | 127 | 1/4 | Square | |
| BBR/3-4/5/90 | 13253 | | 3/4 | 19 | 5 | 127 | 1/4 | Square | |
| BBR/3-4/7/90 | 13255 | | 3/4 | 19 | 7 | 178 | 1/4 | Square | |
| BBR/1-8/90 | 13271 | | 1 | 25.4 | 8 | 203 | 5/16 | Square | |

Double ended boring bar for holding toolbits at 45° and 90°



72 BORING BARS SQUARE HOLDER

BH

ESP Soporte cuadrado para porta buril de interiores FR Barres D'Alésage DE Bohren tool halter

Manufactured from selected steel, these are ideal for holding standard round boring bars in standard toolholders or toolposts



Ordering Information

| Cat. Nr | Ordering Nr. | Holder Size | | Suitable for bar size |
|---------|--------------|-------------------|--|-----------------------|
| | | Inch | | Inch |
| BH/3-8 | 13400 | 1/2 x 1/2 x 2-1/4 | | 3/8 |
| BH/1-2 | 13401 | 3/4 x 3/4 x 3 | | 1/2 |
| BH/5-8 | 13402 | 7/8 x 7/8 x 3-1/4 | | 5/8 |
| BH/3-4 | 13403 | 1 x 1 x 3-3/4 | | 3/4 |

73 DRAW BAR HAMMER

DBH

ESP Martillo FR Marteau DE Hammer

A dual purpose hammer with a solid Brass head on one side and a 3/4" socket on other

Soft blow brass hammer head is replaceable and is very useful for hammering soft materials, loosening of collets and spindle tapers

The socket end fits 3/4" bolts on vertical mills

The 10" long handle with a soft cushion grip provides convenient leverage

Replaceable Brass Head

3/4"Socket



DrawBarHammer-being used to loosen a nut on a pulley drive



Ordering Information

| Cat. Nr. | Ordering Nr. | Hammer Head Diameter | | Socket Size |
|----------|--------------|----------------------|------|-------------|
| | | Inch | mm | |
| DBH/3-4 | 32485 | 1-1/8 | 28.5 | 3/4" |

74 ADJUSTABLE HAND REAMERS

AHR

ESP Escariador manual ajustable HSS FR Alésoirs Lames réglables DE Adjustable Bohrwerkzeuge

The Groz range of Adjustable Hand Reamers are extremely useful precision tools for any engineering or auto-repair shop

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

These are ideal for use on steel or nonferrous metals

The 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

Cocentricity within : 30 microns

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.

HSS
high speed
steel

**Ordering Information**

| Cat. Nr. | Ordering Nr. | Type | Range | | Overall Length | |
|----------|--------------|------|------------------|---------------|----------------|-------|
| | | | Inch | mm | Inch | mm |
| AHR/5 | 11905 | H1 | 3/8 – 13/32 | 9.5 – 10.3 | 4-3/4 | 120.5 |
| AHR/6 | 11906 | H2 | 13/32 – 7/16 | 10.3 – 11.11 | 5 | 125 |
| AHR/7 | 11907 | H3 | 7/16 – 15/32 | 11.11 – 11.9 | 5-1/4 | 133 |
| AHR/8 | 11908 | H4 | 15/32 – 17/32 | 11.9 – 13.5 | 5-1/2 | 140 |
| AHR/9 | 11909 | H5 | 17/32 – 19/32 | 13.5 – 15 | 5-3/4 | 146 |
| AHR/10 | 11910 | H6 | 19/32 – 21/32 | 15 – 16.6 | 6-1/2 | 165 |
| AHR/11 | 11911 | H7 | 21/32 – 23/32 | 16.6 – 18.25 | 6-3/4 | 171 |
| AHR/12 | 11912 | H8 | 23/32 – 25/32 | 18.25 – 19.8 | 7 | 175 |
| AHR/13 | 11913 | H9 | 25/32 – 27/32 | 19.8 – 21.4 | 7-3/8 | 187 |
| AHR/14 | 11914 | H10 | 27/32 – 15/16 | 21.4 – 23.8 | 8 | 200 |
| AHR/15 | 11915 | H11 | 15/16 – 1-1/16 | 23.8 – 26.98 | 9 | 225 |
| AHR/16 | 11916 | H12 | 1-1/16 – 1-3/16 | 26.98 – 30.16 | 10 | 250 |
| AHR/17 | 11917 | H13 | 1-3/16 – 1-11/32 | 30.16 – 34.1 | 11 | 275 |
| AHR/18 | 11918 | H14 | 1-11/32 – 1-1/2 | 34.1 – 38.1 | 12 | 300 |
| AHR/19 | 11919 | H15 | 1-1/2 – 1-13/16 | 38.1 – 46 | 14 | 350 |
| AHR/20 | 11920 | H16 | 1-13/16 – 2-7/32 | 46 – 56.3 | 16 | 400 |

Sets

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

75 KNURLS – HIGH SPEED STEEL

ESP Moletas FR Molettes HSS DE Knolen

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

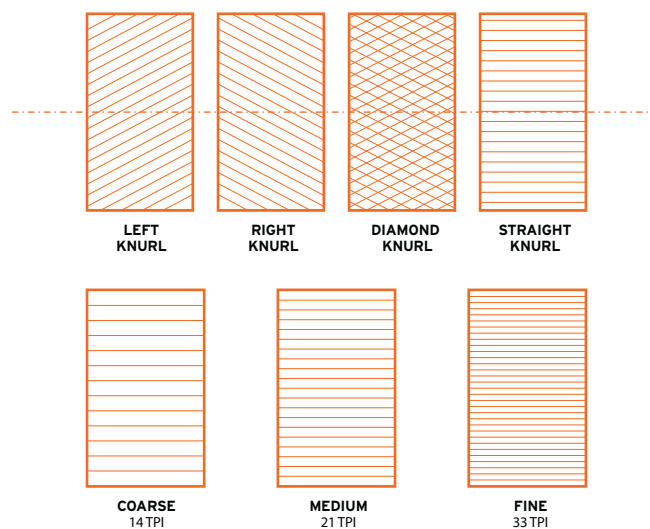
Left hand knurling is produced by right hand knurls and right hand knurling is produced by left hand knurls. Diamond knurling is produced by using right and left hand knurls in pairs



Ordering Information

| Knurl Size | Cat. & Ordering Nr. | 5/8" | 3/4" | 1" | 20 mm |
|----------------------------------|------------------------|--------|--------|--------|--------|
| 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 |

Knurls have rust inhibiting black oxide finish



Dimensional Table

| Knurl Size | Pitch (TPI) | Diameter | Face Width | Hole Diameter | Thickness |
|------------|----------------|----------|------------|---------------|-----------|
| 5/8" | 14, 21, 33 | 5/8" | 3/16" | 7/32" | 5/16" |
| 3/4" | 14, 21, 33 | 3/4" | 1/4" | 1/4" | 3/8" |
| 1" | 14, 21, 33 | 1" | 11/32" | 5/16" | 3/8" |
| 20 mm | 0.6, 1, 1.5 mm | 20 mm | 7 mm | 6 mm | 8 mm |

ESP Buriles y Cuchillas de corte

FR Barreaux traités & Lames à tronçonner

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 - Tool Bits - Imperial Sizes

| Cat Nr. Grade A | Ordering Nr. Grade A | Cat. Nr. Grade B | Ordering Nr. Grade B | Square Size | | Length | |
|-----------------|----------------------|------------------|----------------------|-------------|-------|--------|------|
| | | | | Inch | Inch | Inch | Inch |
| 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 | | |

Imperial Sizes

| Cat Nr. Grade A | Ordering Nr. Grade A | Cat. Nr. Grade B | Ordering Nr. Grade B | Square Size | | Length | |
|-----------------|----------------------|------------------|----------------------|-------------|-------|--------|------|
| | | | | Inch | Inch | Inch | Inch |
| 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 | | |



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

Ordering Information - Cut Off Blades

| Cat. Nr. Grade A | Ordering Nr. Grade A | Cat. Nr. Grade B | Ordering Nr. Grade B | Size | |
|---------------------|-------------------------|---------------------|-------------------------|---------------------|----------------------|
| | | | | Inch | mm |
| 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 - Toolbits - Metric Sizes

| Cat. Nr. Grade A | Ordering Nr. Grade A | Cat. Nr. Grade B | Ordering Nr. Grade B | Square Size | Length |
|---------------------|-------------------------|---------------------|-------------------------|-------------|--------|
| | | | | mm | mm |
| 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 |

Metric Sizes

| Cat. Nr. Grade A | Ordering Nr. Grade A | Cat. Nr. Grade B | Ordering Nr. Grade B | Square Size | Length |
|---------------------|-------------------------|---------------------|-------------------------|-------------|--------|
| | | | | mm | mm |
| 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 |

77 WHEEL DRESSERS & CUTTERS - (WHEEL DRESSERS)

WD

ESP Reafilador de muela abrasiva y cortadoras

FR Dresseur et couteaux à lame circulaire

DE Rad Scherblocke

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



<WheelDresserCutter

Ordering Information - Wheel Dressers

| Cat. Nr | Ordering Nr. | Size | Dresser wheel range | | Dresser Length | | Cutter Diameter | |
|---------|--------------|------|---------------------|-------------|----------------|-----|-----------------|----|
| | | | Inch | mm | Inch | mm | Inch | mm |
| WD/00 | 12070 | 0 | 20 | 500 | 10-3/16 | 255 | 1-1/4 | 32 |
| WD/01 | 12071 | 1 | 30 | 750 | 10-3/4 | 270 | 1-1/2 | 38 |
| WD/02 | 12072 | 2 | Large Sizes | Large Sizes | 12-3/4 | 320 | 2-3/8 | 60 |

Ordering Information - Wheel Dresser Cutters

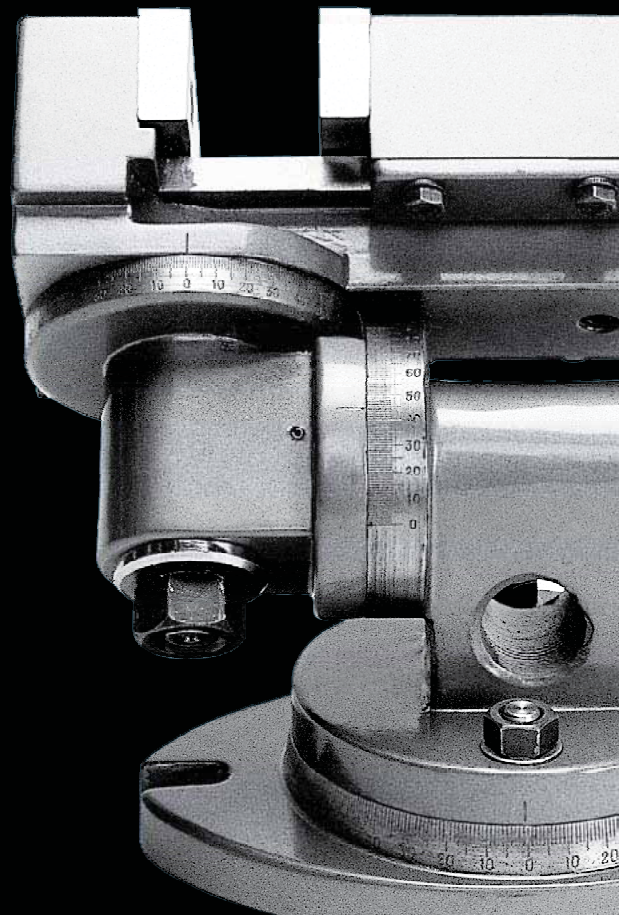
| Cat. Nr. | Ordering Nr. | Cutter Diameter | |
|----------|--------------|-----------------|----|
| | | Inch | mm |
| WDC/00 | 12080 | 1-1/4 | 32 |
| WDC/01 | 12081 | 1-1/2 | 38 |
| WDC/02 | 12082 | 2-3/8 | 60 |

Dressing the wheel of a Bench Grinder



PRECISION VICES

Toolmakers Vices
Sine Vices
Precision Machine Vices
Drill Press Vices



www.groz-tools.com

78 TOOLMAKERS STEEL VICES – SUPER PRECISION

TMV

ESP Etau de rectification FR Étau de rectifieur DE Präzisionsspanner

Manufactured from selected tool steel, these solid one piece vices are fully hardened (55-60 HRC) and tempered to ensure stability and durability

All vice surfaces are precision ground

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

Due to their outstanding accuracies, these vices are mainly used 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 are available in two models:

Screwless Type

The rapid positioning notches allow the vice to be locked in any position by means of an allen key provided with the vice

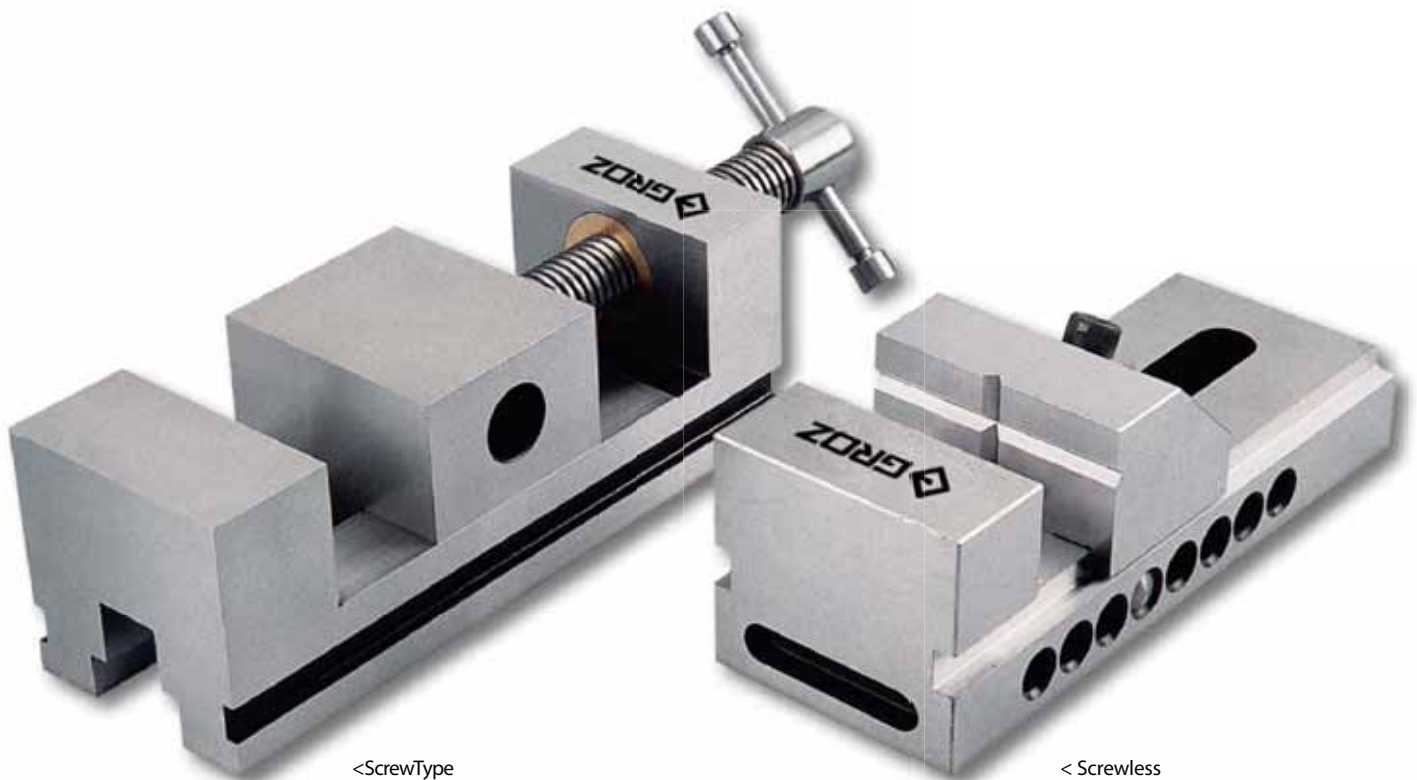
Vee grooves in the sliding jaw, both horizontal and vertical, facilitate holding of round jobs. Jaw

pressure on work piece is forward and downward for repeatable positioning and maximum holding power. These vices are particularly suitable for erosion work

Screw Type

Clamping and releasing is through a threaded spindle with precision cut square threads for smooth operation

Vice spindle moves in a specially designed gun metal bush which reduces wear thus enhancing life of the vice



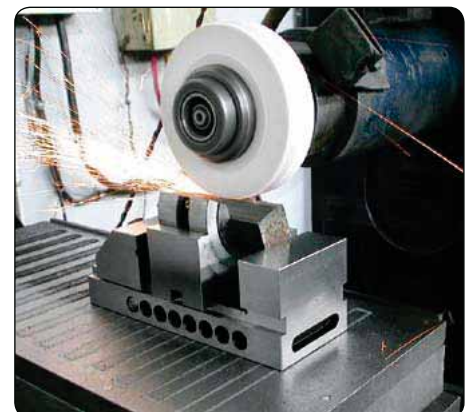
Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg. |
|-----------------------|--------------|-----------|----|-------------|-----|-----------|----|------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| Screwless Type | | | | | | | | |
| TMV/2 | 35200 | 2 | 50 | 3-17/32 | 90 | 1 | 25 | 1.800 |
| u TMV/23 | 35201 | 3 | 75 | 4-5/16 | 110 | 1-3/8 | 35 | 3.500 |
| Screw Type | | | | | | | | |
| TMV/ST/4 | 35205 | 2-3/4 | 70 | 3 | 75 | 1-9/16 | 40 | 4.900 |

u BESTSELLER

| Accuracies | Guaranteed | | Actual Average | |
|--|------------|--------|----------------|--------|
| | Inch | Micron | Inch | Micron |
| Flatness of bearing surface | 0.00031" | 8 | 0.00019" | 5 |
| Parallelism of slide face & top face to bottom face | 0.00031" | 8 | 0.00019" | 5 |
| Squareness of sides & slide faces | 0.00047" | 12 | 0.00031" | 8 |
| Parallelism of sides & slide ways | 0.00031" | 8 | 0.00019" | 5 |
| Squareness of fixed jaw back to bottom surface & sides | 0.00047" | 12 | 0.00031" | 8 |
| Parallelism of fixed jaw & length faces | 0.00031" | 8 | 0.00019" | 5 |
| Parallelism of jaw faces | 0.00031" | 8 | 0.00019" | 5 |
| Sliding jaw square to bottom face when vice is clamped | 0.00047" | 12 | 0.00031" | 8 |
| Sliding jaw face parallel when vice is clamped | 0.00031" | 8 | 0.00019" | 5 |

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



79 SINE VICES – SUPER PRECISION

SNV

ESP Mordaza de alta presión FR Étau sinus de précision DE Präzisions-Sinusspanner

Manufactured from selected tool steel, these solid Sine Vices are fully hardened (55-60 HRC) and tempered, mounted onto a precision hinged bottom plate. All the surfaces of the vice are precisely ground for extreme accuracy

These are very useful for manufacturing processes that require the highest standards of clamping accuracy at desired angles

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 two models:

Screw Type Screwless Type

Determining the height (h) of the Gauge Block to be used

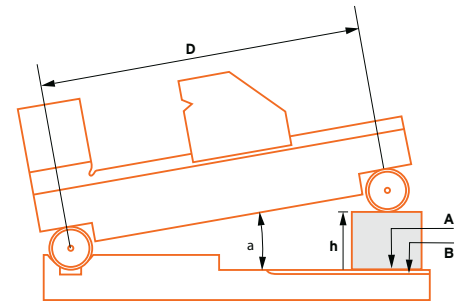
$$h = \sin a \times D \text{ for surface A}$$

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

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°



Ordering Information

| Cat. Nr. | Ordering Nr. | Type | Body Dimensions | Jaw Width | Jaw Opening | Jaw Depth | Minute angle step | Center to Center distance | Net Wt. each (Kg.) |
|----------|--------------|------------|-----------------------------|-----------|-------------|-----------|-------------------|---------------------------|--------------------|
| SNV/6 | 35215 | Screwless | 7.3/32" x 3.1/4" x 3.11/32" | 2-3/4" | 3-3/4" | 1-9/16" | 0.2" | 6" | 5.250 |
| SNV/150 | 35210 | Screwless | 180 x 82 x 85 mm | 70 mm | 95 mm | 40 mm | 5 mm | 150 mm | 5.250 |
| SNV/7 | 35216 | Screw type | 8" x 2.3/4" x 3.17/32" | 2-3/4" | 3" | 1-9/16" | 0.2" | 7" | 7.00 |
| SNV/175 | 35211 | Screw type | 200 x 70 x 90 mm | 70 mm | 75 mm | 40 mm | 5 mm | 175 mm | 7.00 |

| Accuracies | Guaranteed | | Actual Average | |
|---|------------|--------|----------------|--------|
| | Inch | Micron | Inch | Micron |
| Flatness of bearing surface | 0.00039" | 10 | 0.00019" | 5 |
| Parallelism of slide face & top face to bottom face | 0.00039" | 10 | 0.00019" | 5 |
| Squareness of sides & slide faces | 0.00047" | 12 | 0.00031" | 8 |
| Parallelism of sides & slide ways | 0.00031" | 8 | 0.00019" | 5 |
| Square ness of fixed jaw back to bottom surface & sides | 0.00047" | 12 | 0.00031" | 8 |
| Parallelism of fixed jaw & length faces | 0.00031" | 8 | 0.00019" | 5 |
| Parallelism of jaw faces | 0.00031" | 8 | 0.00019" | 5 |
| Sliding jaw square to bottom face when vice is clamped | 0.00047" | 12 | 0.00031" | 8 |
| Sliding jaw face parallel when vice is clamped | 0.00031" | 8 | 0.00019" | 5 |
| Center to Center distance | 0.00039" | 10 | 0.00019" | 5 |



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

80 ROTARY HEAD MILLING MACHINE VICES

RHV

ESP Mordaza de alta presión

FR Étaux de fraisage modulaire sur base tournante

DE Präzisions Maschinen-Schraubstöcke

High Precision Milling Machine Vice with a rotary fixed head

The rotary head has 4 faces each with a different jaw option: **Plain, Vertical V, Horizontal V & Prismatic**

Rotary head design eliminates the possibility of any inaccuracy, which may occur when jaws are replaced.

Jaws can be changed by simple rotation of the Rotary Head and fixed in position using 2 hex bolts

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

Vice jaws are made from fully hardened (55 ± 3 HRC) and ground tool steel

Use of high tensile grade 10.8 fasteners provides greater strength and rigidity. The 360° swivel base allows the vice to be set at any angle along the vertical axis

NEW!



<RotaryHeadViceshowingprismaticjaws

Accurately ground bearing surface. Flatness within 0.0012" (30 microns)

PlainJaw



VerticalV



HorizontalV



Prismatic



Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each |
|-----------|--------------|-----------|-----|-------------|-----|-----------|----|--------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| u RHV/100 | 35051 | 4 | 100 | 4 | 100 | 1-7/16 | 37 | 20.0 |
| RHV/120 | 35052 | 4-13/16 | 120 | 5 | 125 | 1-11/16 | 42 | 32.0 |
| RHV/150 | 35053 | 6 | 150 | 6 | 150 | 1-27/32 | 47 | 46.75 |

u BESTSELLER

81 MILLING MACHINE VICES – SUPER PRECISION

MMV-SP

ESP Mordaza de alta presión FR Étaux de fraissage DE Präzisions Maschinen-Schraubstöcke

The Milling Machine Vice is one of the most popular vices used in workshops, machine shops and shop floor. Apart from use in milling operations, it also finds application in jig boring, grinding and shaping jobs

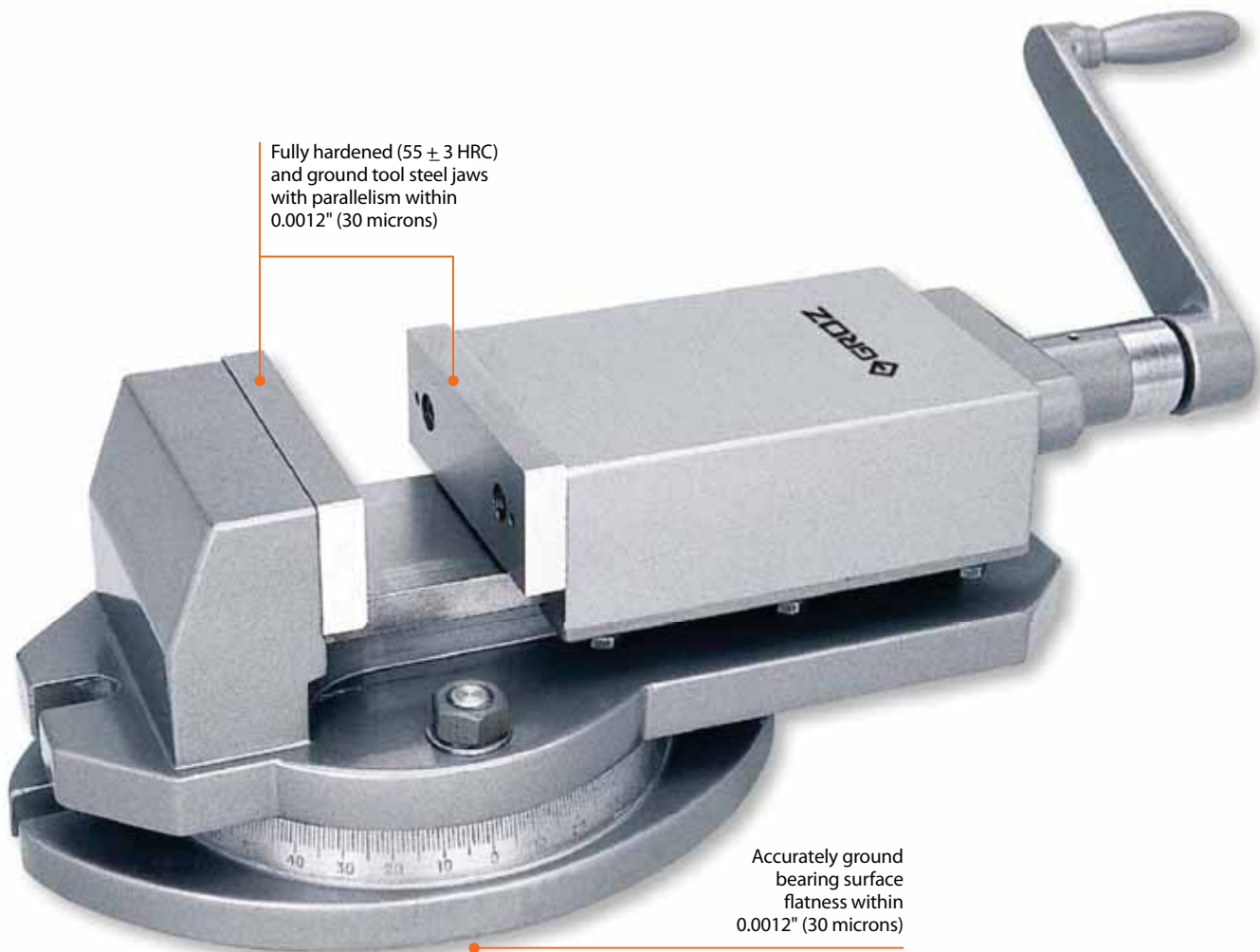
Manufactured from close grained hi-tensile seasoned cast iron, the vice body has a premium polychromatic finish which is scratch and rust proof

Vice jaws made from fully hardened and ground tool steel allow the workpiece to be held dead

square without use of any packing. This not only improves efficiency and life of jaws but also helps reduce strain on vice body

Usage of high tensile grade 10.8 fasteners provides greater strength and rigidity. The 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 allow for secure clamping of the vice on the machine table



Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg. |
|------------|--------------|-----------|-----|-------------|-----|-----------|----|------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| MMV/SP/50 | 35010 | 2 | 50 | 2 | 50 | 1 | 25 | 3.500 |
| MMV/SP/75 | 35014 | 3 | 75 | 3 | 75 | 1-11/32 | 34 | 8.500 |
| MMV/SP/100 | 35011 | 4 | 100 | 4 | 100 | 1-1/2 | 38 | 17.400 |
| MMV/SP/125 | 35013 | 5 | 125 | 5 | 125 | 1-3/4 | 45 | 27.75 |
| MMV/SP/150 | 35012 | 6 | 150 | 6 | 150 | 1-3/4 | 45 | 38.800 |
| MMV/SP/200 | 35016 | 8 | 200 | 8 | 200 | 2-9/32 | 58 | 84.00 |

u BESTSELLER | NEW SIZE



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

82 ANGULAR MACHINE VICES – SUPER PRECISION

AMV-SP

ESP Mordaza de alta presión FR Étaux orientables 90° DE Präzisions Maschinen-Schraubstöcke

Angular Machine Vices are ideal for applications wherein the workpiece 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. Additionally the fully graduated 360° swivel base allows the vice to be set at any angle along the vertical axis

These vices are manufactured from close grained hi tensile seasoned cast iron with fully hardened and ground tool steel jaws

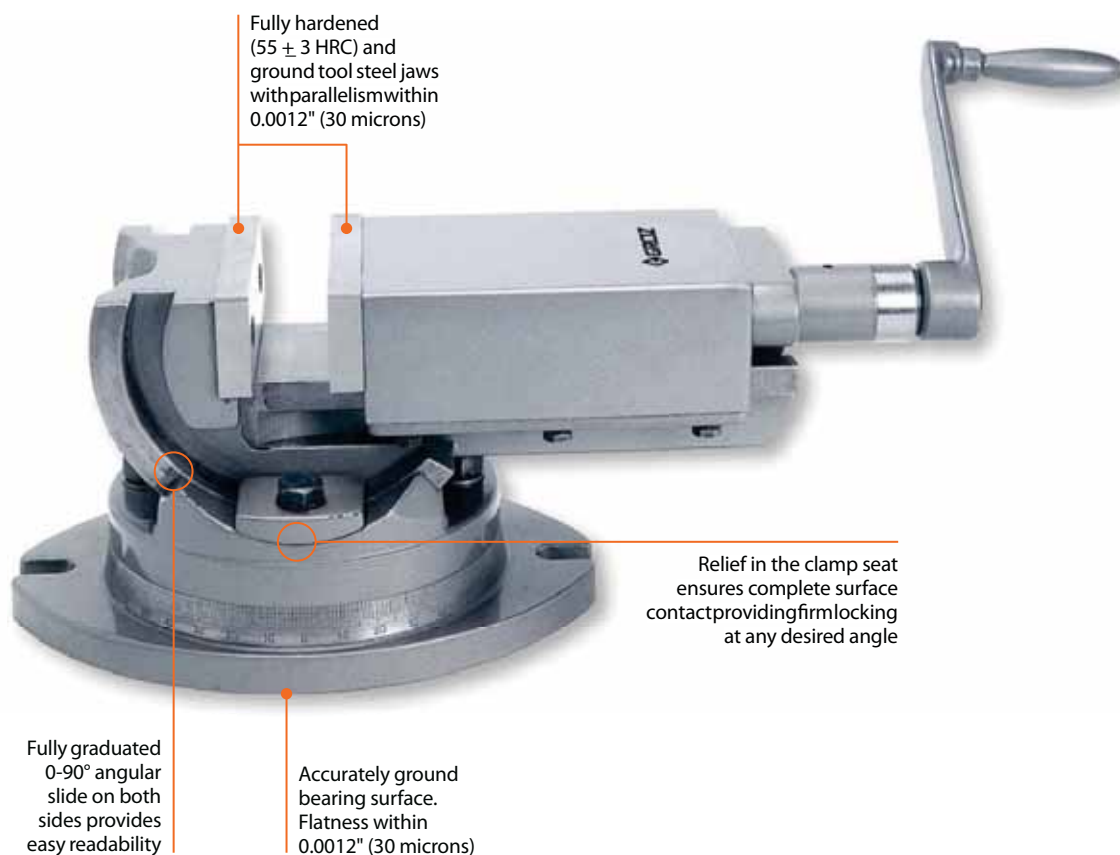
Ergonomically designed all steel handle allows for stress free operation. It is assembled on the spindle crank with a spring loaded mechanism providing positive grip

Use of hi tensile grade 10.8 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

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

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



Rotation along 360° swivel base

Rotation along 0-90° vertical scale

Combined rotation along both the horizontal and vertical axes

Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg |
|--------------|--------------|-----------|-----|-------------|-----|-----------|----|--------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| AMV/SP/50 | 35000 | 2 | 50 | 2 | 50 | 1 | 25 | 3.500 |
| AMV/SP/75 | 35001 | 3 | 75 | 3 | 75 | 1-5/16 | 34 | 9.350 |
| u AMV/SP/100 | 35002 | 4 | 100 | 4 | 100 | 1-1/2 | 38 | 17.000 |
| AMV/SP/125 | 35003 | 5 | 125 | 5 | 125 | 1-3/4 | 45 | 29.450 |
| u AMV/SP/150 | 35004 | 6 | 150 | 6 | 150 | 1-3/4 | 45 | 42.800 |
| l AMV/SP/200 | 35005 | 8 | 200 | 8 | 200 | 2-9/32 | 58 | 95.00 |

u BESTSELLER | NEW SIZE

CA 70



The Angular Machine Vice being used for 45° face milling

83 THREE WAY TILTING VICES – SUPER PRECISION

TLT-SP

ESP Mordaza de alta presión

FR Étaux de précision

DE Präzisions Maschinen-Schraubstöcke

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

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

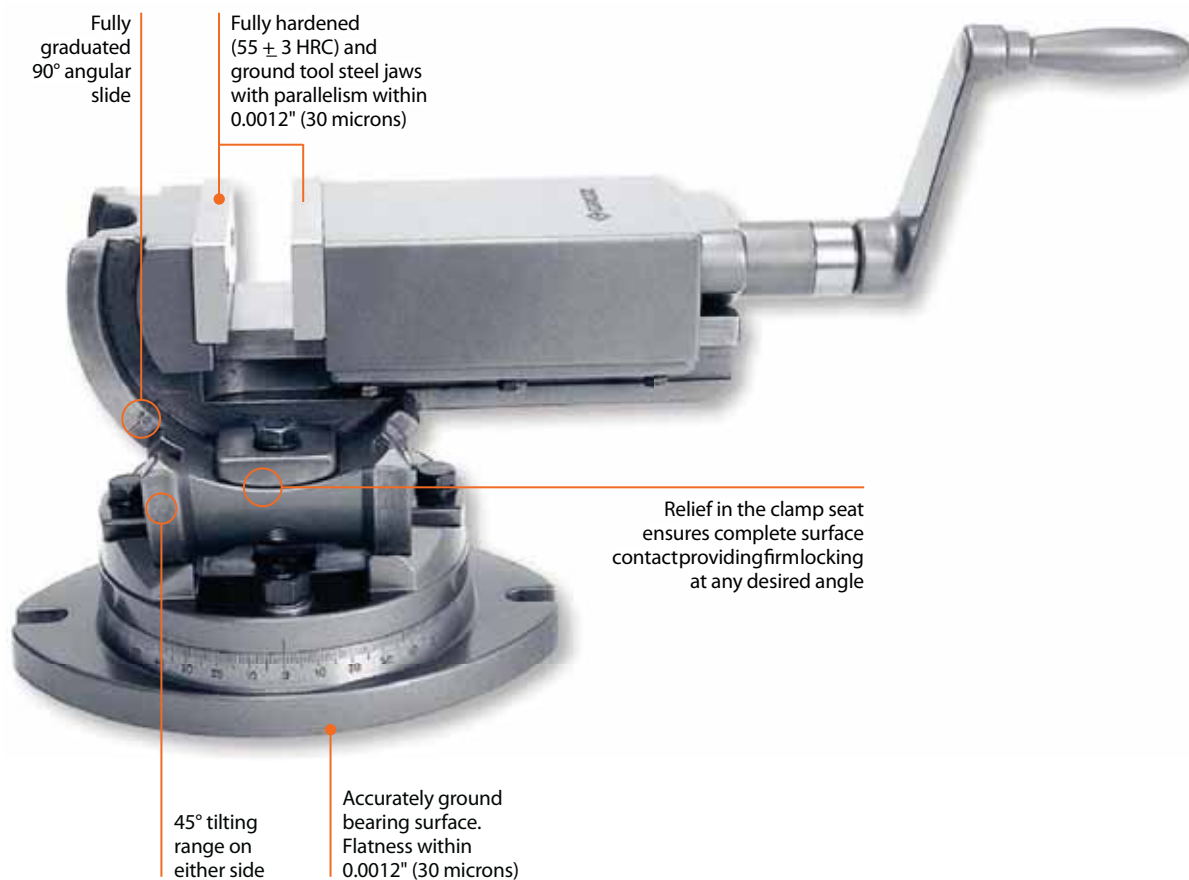
Manufactured from close grained hi-tensile seasoned cast iron with fully hardened and ground tool steel jaws with parallelism within 0.0012" (30 microns)

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

Use of hi-tensile grade 10.8 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

A milled slot in the vice base allows for accurate location of the vice 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. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg |
|--------------|--------------|-----------|-----|-------------|-----|-----------|----|--------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| TLT/SP/50 | 35020 | 2 | 50 | 2 | 50 | 1 | 25 | 4.000 |
| TLT/SP/75 | 35021 | 3 | 75 | 3 | 75 | 1.5/16 | 34 | 10.700 |
| u TLT/SP/100 | 35022 | 4 | 100 | 4 | 100 | 1-1/2 | 38 | 20.500 |
| TLT/SP/125 | 35026 | 5 | 125 | 5 | 125 | 1.3/4 | 45 | 36.000 |
| u TLT/SP/150 | 35027 | 6 | 150 | 6 | 150 | 1.3/4 | 45 | 54.000 |

u BESTSELLER

84 UNIVERSAL VICES – SUPER PRECISION

UV-SP

ESP Mordaza de alta presión FR Étaux orientable de précision DE Präzisions Maschinen-Schraubstöcke

The most versatile of all machine vices with all degrees of freedom, the Universal Vice allows the work piece to be set at any desired angle

Low height construction makes these useful on even the most complicated grinding jobs

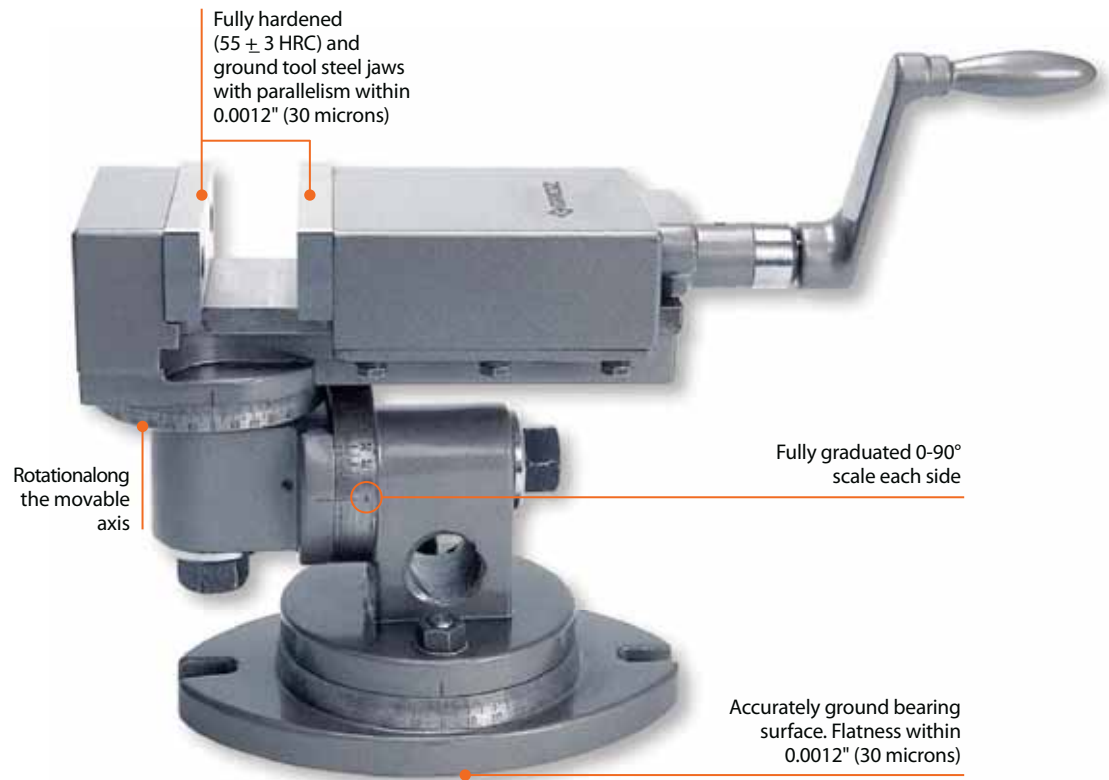
The vice has one fixed horizontal axis which allows the workpiece to be rotated at any angle along it. Fully graduated 360° swivel base allows complete rotation along the vertical axis. The third angular slide with a moving axis allows for any setting in the 3D plane

Manufactured from close grained hi-tensile seasoned cast iron with fully hardened and ground tool steel jaws, vices have a premium polychromatic finish

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

Use of hi tensile grade 10.8 fasteners provides strength and rigidity to these vices

A milled slot in the vice base allows for accurate location of the vice 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 swivel base

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. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg. |
|--------------|--------------|-----------|-----|-------------|-----|-----------|------|------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| UV//SP/50 | 35030 | 2 | 50 | 2 | 50 | 7/8 | 22.6 | 3.500 |
| u UV//SP/100 | 35031 | 4 | 100 | 4 | 100 | 1-1/4 | 32 | 13.400 |

u BESTSELLER

CA 72

Universal Vice being used for boring applications on a Vertical Milling Machine



85 SELF CENTERING VICES – SUPER PRECISION

SCV-SP

ESP Mordaza autocentrante alta presión FR Étau centreur de précision DE Zentrischspanner

The Self Centering vice allows for accurate centering of jobs, automatically. The vice is specially useful in applications where the same operation is to be performed on workpieces of varying sizes

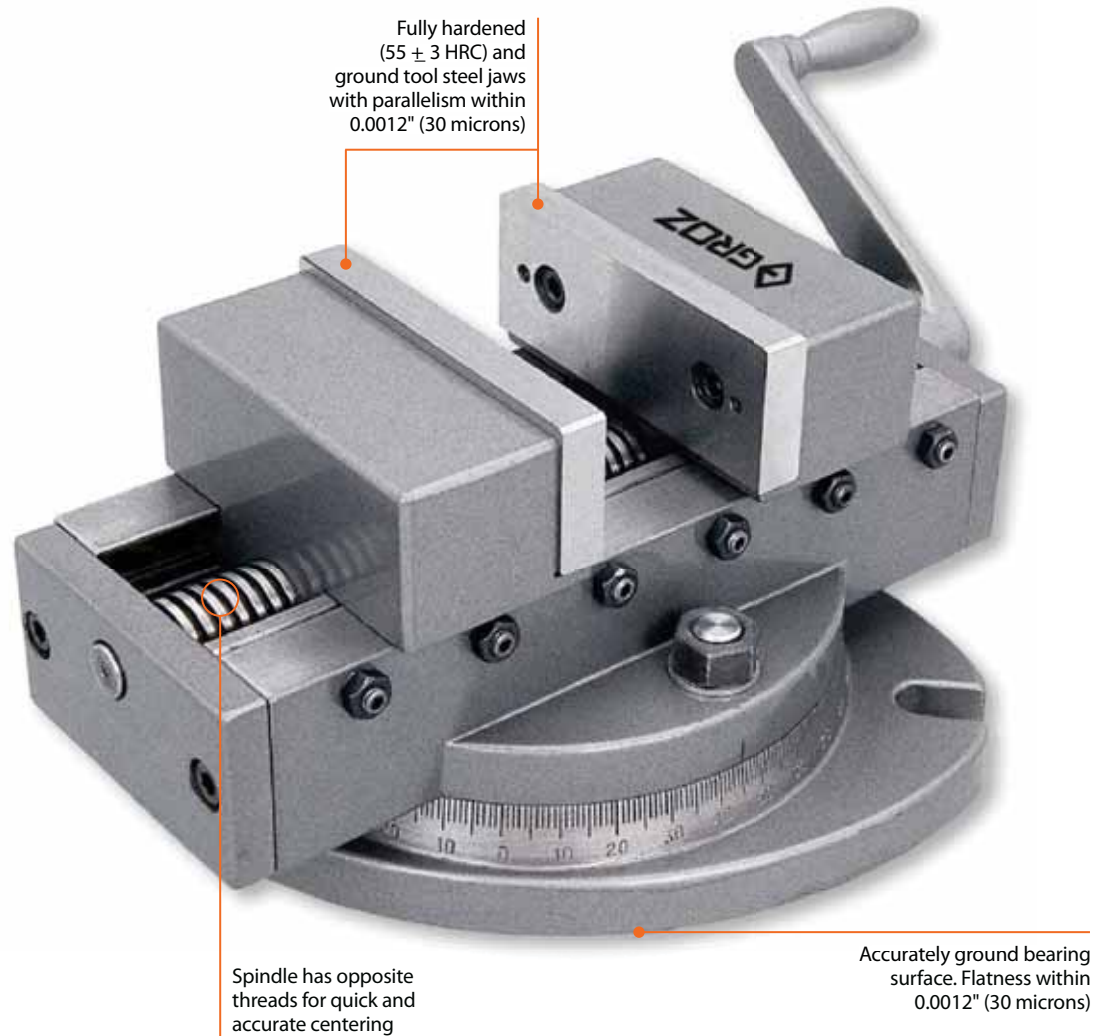
The special design allows accurate setting up of jobs with only a single machine setting. Centric clamping is particularly useful in milling, slot and groove cutting of all kinds

Manufactured from high tensile seasoned cast iron with fully hardened and ground tool steel jaws, the vice has opposite threads for quick and accurate centering. Rotation of the crank handle automatically adjusts workpiece to the center

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

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

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



Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg. |
|------------|--------------|-----------|-----|-------------|-----|-----------|----|------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| SCV/SP/100 | 35040 | 4 | 100 | 4 | 100 | 1-1/2 | 38 | 14.300 |
| SCV/SP/125 | 35044 | 5 | 125 | 5 | 125 | 1-3/4 | 45 | 26.00 |
| SCV/SP/150 | 35045 | 6 | 150 | 6 | 150 | 1-3/4 | 45 | 36.00 |

u BESTSELLER | NEW SIZE

CA 73



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

86 REPLACEMENT JAWS & HANDLES

ESP Bocas y Manilla de amarre

FR Manivelles & Mors

DE Spannbacke und Handkurbel für Maschinenschraubstöcke

Replacement Jaws

The Groz range of super precision vices comes fitted with hardened and ground tool steel jaws. Though the jaws are fully hardened, with repeated use, they may wear over time

Jaws are available as spares, and are easily fitted on to the vice. Upon reassembly, the jaws may require a finishing / grinding cut on the top surface for complete matching

Groz also offers special jaw pairs, with one of the jaws with both horizontal and vertical V grooves, for holding round jobs. The V grooves are precision ground to maintain high levels of accuracy

Replacement Handles

The vice handle is connected to the crank through a spring loaded ball, and can be detached easily. Due to its detachable nature, it may get misplaced or lost

Groz offers replacement handles which can be fitted with ease onto the crank



<Jaws with 'V' Grooves

< Plain Jaws

< Replacement Handles

Ordering Information

| Cat. Nr | Ordering Nr. | Suitable for Vice Series | | | | |
|--|--------------|--------------------------|-------------------------|-------------------------|-----------------|-------------------------|
| | | Milling Machine Vices | Angular machine Vices | Three Way Tilting Vices | Universal Vices | Self Centering Vice |
| Replacement Jaws – Plain | | | | | | |
| JAW/SP/50 | 35060 | MMV/SP/50 | AMV/SP/50 | TLT/SP/50 | --- | --- |
| JAW/SP/50/SPL | 35066 | --- | --- | --- | UV/SP/50 | --- |
| JAW/SP/75 | 35061 | MMV/SP/75 | AMV/SP/75 | TLT/SP/75 | --- | --- |
| JAW/SP/100 | 35062 | MMV/SP/100 | AMV/SP/100 | TLT/SP/100 | --- | SCV/SP/100 |
| JAW/SP/100/ SPL | 35063 | --- | --- | --- | UV/SP/100 | --- |
| JAW/SP/125 | 35064 | MMV/SP/125 | AMV/SP/125 | --- | --- | --- |
| JAW/SP/125/SPL | 35067 | --- | --- | TLT/SP/125 | --- | SCV/SP/125 |
| JAW/SP/150 | 35065 | MMV/SP/150 | AMV/SP/150 | --- | --- | --- |
| JAW/SP/150/SPL | 35068 | --- | --- | TLT/SP/150 | --- | SCV/SP/150 |
| JAW/SP/200/SPL | 35069 | MMV/SP/200 | AMV/SP/200 | --- | --- | --- |
| Replacement Jaws with "V" Grooves | | | | | | |
| JAW/SP/V/50 | 35070 | MMV/SP/50 | AMV/SP/50 | TLT/SP/50 | --- | --- |
| JAW/SP/V/50/SPL | 35077 | --- | --- | --- | UV/SP/50 | --- |
| JAW/SP/V/75 | 35071 | MMV/SP/75 | AMV/SP/75 | TLT/SP/75 | --- | --- |
| JAW/SP/V/100 | 35072 | MMV/SP/100 | AMV/SP/100 | TLT/SP/100 | --- | SCV/SP/100 |
| JAW/SP/V/100/SPL | 35073 | --- | --- | --- | UV/SP/100 | --- |
| JAW/SP/V/125 | 35074 | MMV/SP/125 | AMV/SP/125 | --- | --- | --- |
| JAW/SP/V/125/SPL | 35078 | --- | --- | TLT/SP/125 | --- | SCV/SP/125 |
| JAW/SP/V/150 | 35075 | MMV/SP/150 | AMV/SP/150 | --- | --- | --- |
| JAW/SP/V/150/SPL | 35079 | --- | --- | TLT/SP/150 | --- | SCV/SP/150 |
| JAW/SP/V/200 | 35076 | MMV/SP/200 | AMV/SP/200 | --- | --- | --- |
| Replacement Handles | | | | | | |
| HND/SP/50 | 35080 | MMV/SP/50 | AMV/SP/50 | TLT/SP/50 | --- | --- |
| HND/SP/50/SPL | 35086 | --- | --- | --- | UV/SP/50 | --- |
| HND/SP/75 | 35081 | MMV/SP/75 | AMV/SP/75 | TLT/SP/75 | --- | SCV/SP/100 |
| HND/SP/100 | 35082 | MMV/SP/100 | AMV/SP/100 | TLT/SP/100 | --- | --- |
| HND/SP/100/SPL | 35087 | --- | --- | --- | UV/SP/100 | --- |
| HND/SP/150 | 35083 | MMV/SP/125 & MMV/SP/150 | AMV/SP/125 & AMV/SP/150 | AMV/SP/125 & TLT/SP/150 | --- | --- |
| HND/SP/200 | 35085 | MMV/SP/200 | AMV/SP/200 | --- | --- | --- |
| HND/SP/SCV/150 | 35089 | --- | --- | --- | --- | SCV/SP/125 & SCV/SP/150 |

87 DRILL PRESS VICES – HEAVY DUTY

DPV

ESP Mordazas para taladro FR Étaux de perceuse DE Präzisions-Bohrmaschinen-Schraubstöcke

This ubiquitous Drill Vice is more than a fixture in any workshop. It is a necessity

These are specially designed for use by professionals who require a heavy vice

Manufactured from close grained cast iron, this vice offers a ground vice bed for smooth & consistent jaw movement

Jaws are hardened & ground with cross patterned 90° V-grooves in the stationary jaw facilitating holding of round jobs both horizontally & vertically

Rugged design makes these vices perfect for even the most difficult of drilling, tapping & reaming operations



Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg. |
|----------|--------------|-----------|-----|-------------|-----|-----------|----|------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| DPV/60 | 35102 | 2-1/2 | 63 | 2-3/4 | 70 | 1 | 25 | 2.40 |
| DPV/80 | 35100 | 3-3/16 | 80 | 3-1/2 | 88 | 1-3/32 | 28 | 4.00 |
| DPV/100 | 35101 | 4 | 100 | 4 | 100 | 1-3/8 | 35 | 7.70 |
| DPV/120 | 35103 | 4-3/4 | 120 | 6 | 150 | 1-21/32 | 42 | 13.50 |
| DPV/150 | 35104 | 6 | 150 | 6-11/16 | 170 | 2 | 50 | 22.50 |

u BESTSELLER | NEW SIZE

88 DRILL PRESS VICES – PRECISION

DPV-STD

ESP Mordazas para taladro FR Étaux de perceuse DE Präzisions-Bohrmaschinen-Schraubstöcke

Manufactured from graded cast iron, these drill vices have been designed for accuracy, making them ideal for engineering workshops and tool rooms

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

Horizontal & vertical V-grooves in the stationary jaw allows holding of round job securely

The base is slotted enabling the vice to be bolted to drill press tables, assisting in quick & accurate positioning



Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | | Net Wt. Each Kg. |
|-------------|--------------|-----------|-----|-------------|-----|-----------|----|------------------|
| | | Inch | mm | Inch | mm | Inch | mm | |
| DPV/STD-75 | 35110 | 3 | 75 | 2-3/4 | 70 | 1-3/16 | 30 | 2.70 |
| DPV/STD-100 | 35111 | 4 | 100 | 4 | 100 | 1-1/2 | 38 | 5.45 |
| DPV/STD-125 | 35112 | 5 | 125 | 5 | 125 | 1-7/8 | 48 | 11.00 |

u BESTSELLER

89 DRILL PRESS VICE – UNIGRIP

Series UG

ESP Mordazas para taladro FR Étau UNIGRIP á mors flottant DE Bohrmaschinen-Schraubstöcke

Manufactured from graded cast iron, these vices have a precision ground base and vice bed for smooth lateral movement of the movable jaw

Longitudinal and transversal prisms in the fixed jaw allow for firm gripping of round jobs of different sizes both horizontally and vertically. Special seat in jaws facilitates retaining of flat work pieces

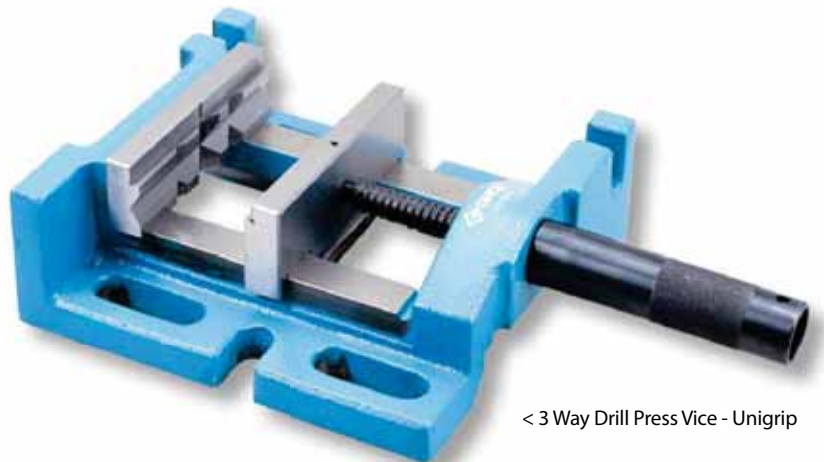
Vices are equipped with a convenient unigrip mechanism. Spindle moves inside the hollow hand grip allowing the vice to be used at a location away from the table edge. This feature increases the scope of application of this range of vices

3 Way Drill Press Vice

This vice is also available with 3 mounting options via 2 additional precisely ground surfaces: end face and side face. This allows for 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

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



< 3 Way Drill Press Vice - Unigrip



< Drill Press Vice - Unigrip

Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | |
|---|--------------|-----------|-----|-------------|-----|-----------|----|
| | | Inch | mm | Inch | mm | Inch | mm |
| Drill Press Vice - Unigrip | | | | | | | |
| DPV/UG/75 | 35120 | 3-3/16 | 80 | 2-3/4 | 75 | 1-3/16 | 30 |
| u DPV/UG/100 | 35121 | 4 | 100 | 3-5/8 | 92 | 1-3/16 | 30 |
| u DPV/UG/125 | 35122 | 4-23/32 | 120 | 4-3/8 | 110 | 1-3/8 | 35 |
| 3 Way Drill Press Vice - Unigrip | | | | | | | |
| DPV/UG/3/100 | 35125 | 4 | 100 | 3-1/2 | 88 | 1-3/16 | 30 |

u BESTSELLER

90 RAPID ACTION DRILL PRESS VICES

RAV

ESP Mordazas para taladro - Acción Rápida

FR Étaux de perceuse à serrage rapide

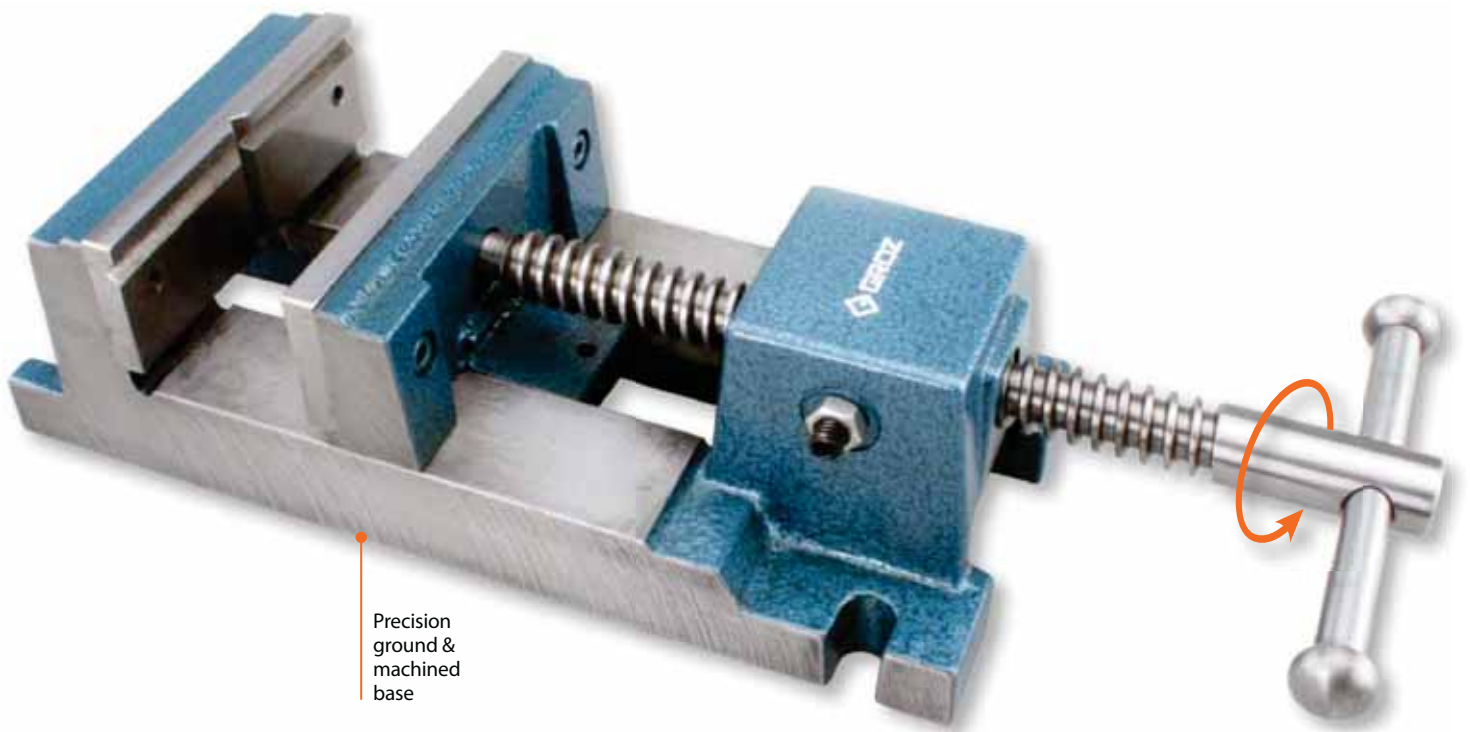
DE Schnellspann Bohrmaschinen-Schraubstöcke

Manufactured from graded cast iron for extra strength and increased durability

Precision machining of vice sides- at right angles to the base allows these vices to be used on sides in addition to being used on the base

Vices are equipped with a 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





Precision
ground &
machined
base

ThreeWayTiltingVicebeing used to hold a job at an angle for milling operation.



Ordering Information

| Cat. Nr. | Ordering Nr. | Jaw Width | | Jaw Opening | | Jaw Depth | |
|----------|--------------|-----------|-----|-------------|-----|-----------|----|
| | | Inch | mm | Inch | mm | Inch | mm |
| RAV/35 | 35130 | 3-1/2 | 89 | 3-13/16 | 97 | 1-3/4 | 44 |
| RAV/45 | 35131 | 4-1/2 | 113 | 4-3/4 | 120 | 1-7/8 | 45 |
| u RAV/60 | 35132 | 6 | 150 | 6-3/4 | 169 | 2-1/8 | 54 |

u BESTSELLER

ALPHABETICAL INDEX

| | Page | | Page | | Page |
|-------------------------------------|--------------|---|-------|--|-------|
| A | | | | | |
| Adjustable Angle Block 0-60 Degree | CA 29 | Depth & Angle Gauges | CA 14 | Spring Calipers & Dividers - Premium Squares | CA 11 |
| Adjustable Hand Reamers | CA 60 | Depth Gauge with Protractor | CA 12 | Center Square | CA 16 |
| Adjustable Tap & Reamer | | Electronic Height Offset | CA 23 | Engineer's Precision | CA 67 |
| Wrenches - Bar Type | CA 48 | Screw Cutting Gauge | CA 24 | Machinist's Straight Edge | CA 73 |
| Adjustable Vee Block Set | CA 31, CA 76 | Sheet Metal & Wire Gauges | CA 15 | Stepped Angle Plates | CA 36 |
| Angle Plates - Stepped | CA 36 | Universal Surface Gauge | CA 18 | Straight & Knife Edges | CA 8 |
| Arbors | | H | | Straight Edge Squares | CA 7 |
| Din 238 | CA 43 | Hand Scrapers | CA 40 | Surface Gauges, Universal | |
| Jacobs Taper Drill Chuck | CA 43 | J | | Surface Plates | CA 39 |
| Slitting Saw Aror | CA 45 | Jenny Caliper - Hermaphrodite Caliper | CA 9 | T | |
| B | | K | | Tap Wrenches, Bar Type | |
| Ball Bearing Vee Block & Clamp Sets | CA 31 | Knurls - High Speed Steel | CA 61 | Tap Wrenches- T Handle Type - Professional | CA 49 |
| Bore Gauge (Taper Gauge) | CA 14 | Knurling Tool Holders | CA 54 | Three Way Tilting Vices - Super Precision | CA 71 |
| Boring Bars | CA 58 | Knurling Tool Holders - Quick Action | CA 55 | Tool Bit and Cut Off Blades | CA 62 |
| Boring Bars Square Holder | CA 59 | L | | Tool Maker's Vee Block & Clamp Sets | CA 27 |
| C | | Lathe Carriers | CA 57 | Toolmakers Steel Vices - Super Precision | CA 66 |
| Calipers | | Lathe Centers - (Dead Centers) | CA 47 | Tool Holders | |
| Inside Calipers | CA 10 | Lathe Chuck Keys | CA 57 | Cut Off tool Holder | CA 52 |
| Outside Calipers | CA 10 | M | | Fly Cutter Holder Set | CA 53 |
| Jenny Calipers | CA 9 | Machinist's Jack | CA 41 | Knurling Tool Holders | CA 54 |
| Center Gauges | CA 16 | Machinist's Squares | CA 7 | Parting off Tool Holders | CA 53 |
| Center Squares | CA 16 | Magnets - Pot | CA 35 | Turning Tool Holders | CA 52 |
| Compass, Wing | CA 9 | Magnetic Bases - High Power | CA 34 | Tweezers | CA 46 |
| Cut Off Tool Holders | CA 52 | Magnetic Bases - Medium Duty | CA 33 | U | |
| D | | Magnetic Compass | CA 17 | Ultimate Vee Block & Clamp Set | CA 28 |
| Degree Protractors | CA 12 | Magnetic Vee Blocks | CA 30 | Universal Surface Gauges | CA 18 |
| Depth and Angle Gauges | CA 14 | Micro Tap Guide | CA 50 | Universal Vices - Super Precision | CA 72 |
| Depth Gauge with Protractors | CA 12 | Micrometer Stand | CA 20 | V | |
| Dial Comparator Stands | CA 19 | Milling Machine Vices - Super Precision | CA 69 | Vee Blocks | |
| Die Holders - Shank Type | CA 50 | Mini Magnetics Stands | CA 35 | 4 Way Vee Blocks - Cast Iron | CA 32 |
| Die Stock Holders - Round Types | CA 51 | Multipurpose Vee Block & Clamp Set | CA 28 | Adjustable Vee Block Set | CA 31 |
| Dividers, Spring | CA 10 | Multi-use Rule and Gauge | CA 13 | Ball Bearing Vee Block & Clamp Set | CA 31 |
| Dividers, Spring - Premium | CA 11 | P | | Magnetic Vee Blocks | CA 30 |
| Draw Bar Hammer | CA 59 | Parallel Clamps | CA 41 | Multi Purpose Vee Block & Clamp Set | CA 28 |
| Drill Chuck Arbors | CA 43 | Parting Off Tool Holders | CA 53 | Toolmaker's Vee Block & Clamp Set | CA 27 |
| Drill Chuck Arbors | CA 43 | Pin Chuck Set | CA 55 | Ultimate Vee Block & Clamp Set | CA 28 |
| Drill Drift Key | CA 45 | Pin Vices | CA 56 | Vee Block - Cast Iron | CA 32 |
| Drill Press Vices | | POT Magnets | CA 35 | Vee Block & Clamp Set - Versatile | CA 29 |
| Heavy Duty | CA 75 | R | | V | |
| Precision | CA 76 | Rapid Action Drill Press Vices | CA 77 | Vices | |
| Rapid Action | CA 77 | Reduction Sleeves (Drill Sleeves) | CA 44 | Angular Machine Vices, Super Precision | CA 70 |
| Unigrip | CA 75 | Replacement Jaws & Handles | CA 74 | Drill Press, Heavy Duty | CA 75 |
| Drill Sleeves (Reduction Sleeves) | CA 44 | Rotary Head Milling Machine Vice | CA 68 | Drill Press, Precision | CA 76 |
| E | | S | | Drill Press, Rapid Action | CA 77 |
| Edge & Center Finders | CA 21 | Scrapers | CA 40 | Drill Press, Unigrip | CA 75 |
| Electronic & Audible Edge Finders | CA 22 | Screw Cutting Gauge | CA 15 | Milling Machine Vices | CA 69 |
| Electronic Edge Finders | CA 22 | Scribers | CA 24 | Pin Vices | CA 56 |
| Electronic Height Offset Gauge | CA 23 | Self Centering Vices - Super Precision | CA 73 | Rotary Head Milling Machine Vices | CA 68 |
| Engineer's Precision Squares | CA 6 | Sheet Metal & Wire Gauges | CA 15 | Self Centering Vices | CA 73 |
| Engineer's Tools Sets | CA 20 | Sine Bars | CA 37 | Sine Vices | CA 67 |
| F | | Sine Plates | CA 38 | 3 Way Tilting Vices | CA 71 |
| Fly Cutter Holders Set | CA 53 | Sine Vices - Super Precision | CA 67 | Toolmakers Vices | CA 66 |
| G | | Slitting Saw Arbors | CA 45 | Universal Vices | CA 72 |
| Gauges | | Spring Calipers & Dividers | CA 10 | Replacement Jaws & Handles | CA 74 |
| Bore (Taper) Gauges | CA 14 | W | | W | |
| Center Gauge | CA 16 | Wheel Dressers & Cutters - (Wheel Dressers) | CA 64 | Wiggler or Center Finder | CA 23 |
| Degree Protractor | CA 12 | Wing Compass | CA 9 | | |

NUMERICAL INDEX

| Ordering Nr. | Page | Ordering Nr. | Page | Ordering Nr. | Page | Ordering Nr. | Page | Ordering Nr. | Page | Ordering Nr. | Page | | |
|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|-------|-------|
| 01000 | CA 6 | 01443 | CA 10 | 02401 | CA 36 | 03104 | CA 32 | 03705 | CA 46 | 08520 | CA 44 | 11103 | CA 47 |
| 01001 | CA 6 | 01444 | CA 10 | 02402 | CA 36 | 03105 | CA 32 | 03706 | CA 46 | 08521 | CA 44 | 11104 | CA 47 |
| 01002 | CA 6 | 01445 | CA 10 | 02500 | CA 8 | 03106 | CA 32 | 03707 | CA 46 | 08522 | CA 44 | 11110 | CA 47 |
| 01003 | CA 6 | 01450 | CA 10 | 02501 | CA 8 | 03107 | CA 32 | 03708 | CA 46 | 08523 | CA 44 | 11111 | CA 47 |
| 01004 | CA 6 | 01451 | CA 10 | 02502 | CA 8 | 03108 | CA 32 | 03709 | CA 46 | 08524 | CA 44 | 11112 | CA 47 |
| 01005 | CA 6 | 01452 | CA 10 | 02503 | CA 8 | 03110 | CA 32 | 03711 | CA 46 | 08525 | CA 44 | 11113 | CA 47 |
| 01006 | CA 6 | 01453 | CA 10 | 02504 | CA 8 | 03111 | CA 32 | 03712 | CA 46 | 08526 | CA 44 | 11114 | CA 47 |
| 01007 | CA 6 | 01454 | CA 10 | 02505 | CA 8 | 03112 | CA 32 | 03713 | CA 46 | 08527 | CA 44 | 11120 | CA 47 |
| 01011 | CA 6 | 01455 | CA 10 | 02506 | CA 8 | 03113 | CA 32 | 03720 | CA 46 | 08528 | CA 44 | 11121 | CA 47 |
| 01012 | CA 6 | 01460 | CA 11 | 02507 | CA 8 | 03114 | CA 32 | 07600 | CA 43 | 08529 | CA 44 | 11122 | CA 47 |
| 01100 | CA 7 | 01461 | CA 11 | 02508 | CA 8 | 03115 | CA 32 | 07602 | CA 43 | 08530 | CA 44 | 11123 | CA 47 |
| 01101 | CA 7 | 01462 | CA 11 | 02550 | CA 8 | 03200 | CA 18 | 07603 | CA 43 | 08531 | CA 44 | 11124 | CA 47 |
| 01102 | CA 7 | 01463 | CA 11 | 02551 | CA 8 | 03201 | CA 18 | 07604 | CA 43 | 08532 | CA 44 | 11140 | CA 47 |
| 01103 | CA 7 | 01464 | CA 11 | 02552 | CA 8 | 03205 | CA 18 | 07605 | CA 43 | 08533 | CA 44 | 11141 | CA 47 |
| 01104 | CA 7 | 01465 | CA 11 | 02553 | CA 8 | 03210 | CA 24 | 07606 | CA 43 | 08600 | CA 45 | 11142 | CA 47 |
| 01105 | CA 7 | 01470 | CA 11 | 02554 | CA 8 | 03211 | CA 24 | 07607 | CA 43 | 08601 | CA 45 | 11143 | CA 47 |
| 01106 | CA 7 | 01471 | CA 11 | 02555 | CA 8 | 03212 | CA 24 | 07608 | CA 43 | 08602 | CA 45 | 11144 | CA 47 |
| 01107 | CA 7 | 01472 | CA 11 | 02556 | CA 8 | 03214 | CA 24 | 07609 | CA 43 | 08603 | CA 45 | 11150 | CA 47 |
| 01108 | CA 7 | 01473 | CA 11 | 02557 | CA 8 | 03215 | CA 24 | 07610 | CA 43 | 08605 | CA 45 | 11151 | CA 47 |
| 01109 | CA 7 | 01474 | CA 11 | 02558 | CA 8 | 03217 | CA 24 | 07612 | CA 43 | 08800 | CA 55 | 11152 | CA 47 |
| 01110 | CA 7 | 01475 | CA 11 | 02600 | CA 39 | 03220 | CA 24 | 07613 | CA 43 | 08804 | CA 45 | 11153 | CA 47 |
| 01111 | CA 7 | 01480 | CA 11 | 02601 | CA 39 | 03221 | CA 24 | 07614 | CA 43 | 08805 | CA 45 | 11154 | CA 47 |
| 01130 | CA 7 | 01481 | CA 11 | 02602 | CA 39 | 03222 | CA 24 | 07615 | CA 43 | 08806 | CA 45 | 11200 | CA 53 |
| 01131 | CA 7 | 01482 | CA 11 | 02603 | CA 39 | 03224 | CA 24 | 07616 | CA 43 | 09100 | CA 51 | 11206 | CA 53 |
| 01132 | CA 7 | 01483 | CA 11 | 02604 | CA 39 | 03225 | CA 24 | 07617 | CA 43 | 09101 | CA 51 | 11300 | CA 52 |
| 01133 | CA 7 | 01484 | CA 11 | 02605 | CA 39 | 03226 | CA 24 | 07618 | CA 43 | 09102 | CA 51 | 11301 | CA 52 |
| 01134 | CA 7 | 01485 | CA 11 | 02606 | CA 39 | 03227 | CA 24 | 07620 | CA 43 | 09103 | CA 51 | 11302 | CA 52 |
| 01200 | CA 14 | 01492 | CA 11 | 02607 | CA 39 | 03228 | CA 24 | 07621 | CA 43 | 09104 | CA 51 | 11303 | CA 52 |
| 01210 | CA 16 | 01493 | CA 11 | 02608 | CA 39 | 03229 | CA 24 | 07622 | CA 43 | 09110 | CA 51 | 11304 | CA 52 |
| 01211 | CA 16 | 01540 | CA 9 | 02609 | CA 39 | 03400 | CA 33 | 07623 | CA 43 | 09111 | CA 51 | 11305 | CA 52 |
| 01212 | CA 15 | 01550 | CA 9 | 02610 | CA 39 | 03401 | CA 33 | 07624 | CA 43 | 09112 | CA 51 | 11310 | CA 52 |
| 01213 | CA 15 | 01551 | CA 9 | 02611 | CA 39 | 03402 | CA 35 | 07625 | CA 43 | 09113 | CA 51 | 11311 | CA 52 |
| 01214 | CA 14 | 01554 | CA 9 | 02900 | CA 30 | 03403 | CA 35 | 07626 | CA 43 | 09114 | CA 51 | 11312 | CA 52 |
| 01215 | CA 14 | 01560 | CA 11 | 02901 | CA 30 | 03404 | CA 35 | 07627 | CA 43 | 09116 | CA 51 | 11313 | CA 52 |
| 01216 | CA 14 | 01561 | CA 11 | 02902 | CA 30 | 03405 | CA 34 | 07628 | CA 43 | 09117 | CA 51 | 11314 | CA 52 |
| 01217 | CA 14 | 01562 | CA 11 | 02903 | CA 30 | 03406 | CA 34 | 07700 | CA 43 | 09118 | CA 51 | 11315 | CA 52 |
| 01220 | CA 12 | 01563 | CA 11 | 02904 | CA 30 | 03432 | CA 35 | 07701 | CA 43 | 09119 | CA 51 | 11320 | CA 52 |
| 01221 | CA 12 | 01564 | CA 11 | 02905 | CA 30 | 03433 | CA 35 | 07702 | CA 43 | 09120 | CA 50 | 11321 | CA 52 |
| 01223 | CA 15 | 01565 | CA 11 | 02906 | CA 30 | 03434 | CA 35 | 07703 | CA 43 | 09121 | CA 50 | 11322 | CA 52 |
| 01224 | CA 12 | 01570 | CA 11 | 02907 | CA 30 | 03435 | CA 35 | 07704 | CA 43 | 09122 | CA 50 | 11323 | CA 52 |
| 01225 | CA 12 | 01571 | CA 11 | 02910 | CA 28 | 03500 | CA 21 | 07705 | CA 43 | 09127 | CA 51 | 11324 | CA 52 |
| 01240 | CA 13 | 01572 | CA 11 | 02915 | CA 30 | 03501 | CA 21 | 07706 | CA 43 | 09200 | CA 48 | 11325 | CA 52 |
| 01400 | CA 10 | 01573 | CA 11 | 02916 | CA 30 | 03502 | CA 21 | 07707 | CA 43 | 09201 | CA 48 | 11600 | CA 52 |
| 01401 | CA 10 | 01574 | CA 11 | 02917 | CA 30 | 03503 | CA 21 | 07708 | CA 43 | 09202 | CA 48 | 11601 | CA 52 |
| 01402 | CA 10 | 01575 | CA 11 | 02918 | CA 30 | 03504 | CA 21 | 07709 | CA 43 | 09203 | CA 48 | 11602 | CA 52 |
| 01403 | CA 10 | 01580 | CA 11 | 02920 | CA 28 | 03506 | CA 21 | 07710 | CA 43 | 09210 | CA 48 | 11603 | CA 52 |
| 01404 | CA 10 | 01581 | CA 11 | 02930 | CA 31 | 03507 | CA 21 | 07711 | CA 43 | 09211 | CA 48 | 11604 | CA 52 |
| 01405 | CA 10 | 01582 | CA 11 | 02940 | CA 31 | 03508 | CA 21 | 07712 | CA 43 | 09212 | CA 48 | 11605 | CA 52 |
| 01410 | CA 10 | 01583 | CA 11 | 02941 | CA 31 | 03509 | CA 21 | 07713 | CA 43 | 09213 | CA 48 | 11606 | CA 52 |
| 01411 | CA 10 | 01584 | CA 11 | 02942 | CA 31 | 03510 | CA 21 | 07714 | CA 43 | 09220 | CA 48 | 11610 | CA 52 |
| 01412 | CA 10 | 01585 | CA 11 | 03000 | CA 27 | 03511 | CA 21 | 07715 | CA 43 | 09221 | CA 48 | 11611 | CA 52 |
| 01413 | CA 10 | 01607 | CA 19 | 03001 | CA 27 | 03512 | CA 21 | 07716 | CA 43 | 09222 | CA 48 | 11612 | CA 52 |
| 01414 | CA 10 | 01608 | CA 19 | 03002 | CA 27 | 03520 | CA 23 | 07717 | CA 43 | 09223 | CA 48 | 11613 | CA 52 |
| 01415 | CA 10 | 01609 | CA 19 | 03003 | CA 27 | 03521 | CA 16 | 07718 | CA 43 | 09224 | CA 48 | 11614 | CA 52 |
| 01420 | CA 10 | 01610 | CA 20 | 03004 | CA 27 | 03522 | CA 16 | 07719 | CA 43 | 09225 | CA 48 | 11615 | CA 52 |
| 01421 | CA 10 | 01690 | CA 17 | 03006 | CA 27 | 03535 | CA 22 | 08420 | CA 44 | 09350 | CA 50 | 11616 | CA 52 |
| 01422 | CA 10 | 02100 | CA 29 | 03007 | CA 27 | 03537 | CA 22 | 08421 | CA 44 | 09360 | CA 49 | 11620 | CA 52 |
| 01423 | CA 10 | 02101 | CA 29 | 03080 | CA 27 | 03538 | CA 22 | 08422 | CA 44 | 09361 | CA 49 | 11621 | CA 52 |
| 01424 | CA 10 | 02103 | CA 29 | 03081 | CA 27 | 03540 | CA 22 | 08423 | CA 44 | 09362 | CA 49 | 11622 | CA 52 |
| 01425 | CA 10 | 02111 | CA 37 | 03090 | CA 29 | 03550 | CA 21 | 08424 | CA 44 | 09365 | CA 49 | 11623 | CA 52 |
| 01430 | CA 10 | 02112 | CA 37 | 03091 | CA 29 | 03551 | CA 21 | 08425 | CA 44 | 09366 | CA 49 | 11624 | CA 52 |
| 01431 | CA 10 | 02115 | CA 37 | 03092 | CA 29 | 03560 | CA 23 | 08426 | CA 44 | 09370 | CA 49 | 11625 | CA 52 |
| 01432 | CA 10 | 02120 | CA 38 | 03093 | CA 29 | 03561 | CA 23 | 08427 | CA 44 | 09371 | CA 49 | 11626 | CA 52 |
| 01433 | CA 10 | 02121 | CA 38 | 03094 | CA 29 | 03600 | CA 20 | 08428 | CA 44 | 09372 | CA 49 | 11631 | CA 53 |
| 01434 | CA 10 | 02131 | CA 38 | 03096 | CA 29 | 03601 | CA 20 | 08429 | CA 44 | 09375 | CA 49 | 11632 | CA 53 |
| 01435 | CA 10 | 02132 | CA 38 | 03100 | CA 32 | 03701 | CA 46 | 08430 | CA 44 | 09376 | CA 49 | 11633 | CA 53 |
| 01440 | CA 10 | 02133 | CA 38 | 03101 | CA 32 | 03702 | CA 46 | 08431 | CA 44 | 11100 | CA 47 | 11700 | CA 54 |
| 01441 | CA 10 | 02134 | CA 38 | 03102 | CA 32 | 03703 | CA 46 | 08432 | CA 44 | 11101 | CA 47 | 11701 | CA 54 |
| 01442 | CA 10 | 02400 | CA 36 | 03103 | CA 32 | 03704 | CA 46 | 08433 | CA 44 | 11102 | CA 47 | 11702 | CA 54 |

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