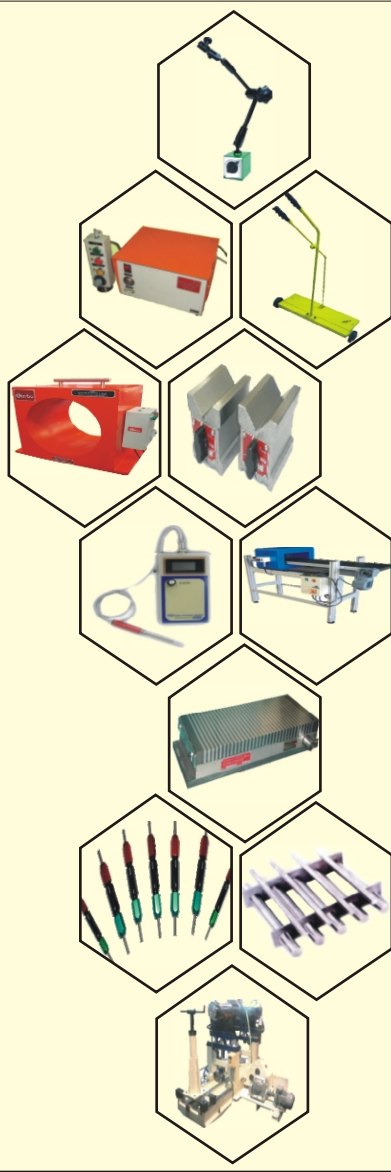
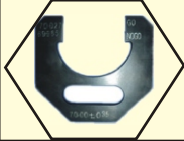
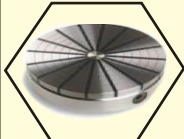




Since 1969



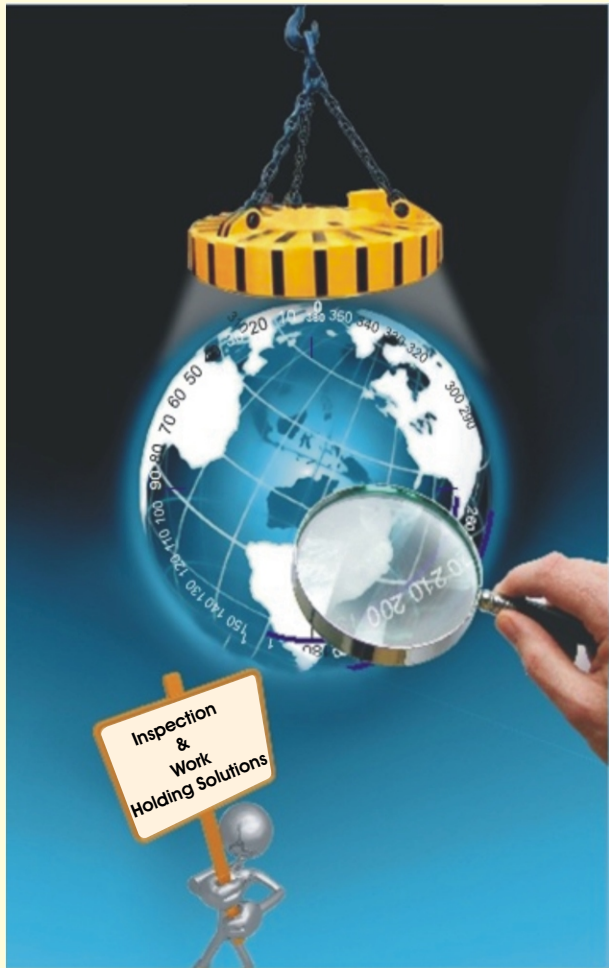
Since 1969

VASALS ENGINEERING INDUSTRIES

No. 33, First Floor, Goverdhan Garden
Next to J.C. Industrial Area, Yelachenahalli, Kankapura Main Road
Bangalore-560 062, Phone : 080-65902736, 26664522
Fax : 080-26665701, Email : vasals@yahoo.com,
vasalsengg@gmail.com, Website : www.vasals.com



Serving Industries over 45 years



VASALS ENGINEERING INDUSTRIES

Magnetising, Demagnetising, Special Purpose Machine,
Gauges, Magnetic Devices, Measuring Instruments,
Fixtures and Fabrication.



CALIBRATION LABORATORY



Established in 1969, **Vasals** is one of the leading company to undertake Sales / Service and Calibration of Measuring Instruments, Magnetic devices and Gauges.

Vasals undertakes **Sales / Service / Calibration / Inspection** of all types of **Linear Mechanical Measuring Instruments / Gauges** and **Tool Room Aids** like Vernier Calipers / Dial / Digital, Micrometers, Internal / External, Dial Indicators, Lever Type / Plunger Type, Millimess, Supramess, Vernier Depth Gauges, Vernier Height Gauges, Height Masters, Gauges (All types), Surface Plates, Angle Plates, Mandrels, V Blocks, Sine Tables, Profile Projectors, Pressure Gauges, Extensometers etc.,

The **Service Center and Calibration Laboratory** is handled by professionally qualified people with Traceable Master Equipment's at Standard Environmental conditions.

Vasals also undertakes third party inspection.



NABL Accreditation in the field of Mechanical / Torque as per Standard, ISO/IEC 17025.

We are in this line of activity for the past 45 years serving Small, Medium and Multinational Companies.

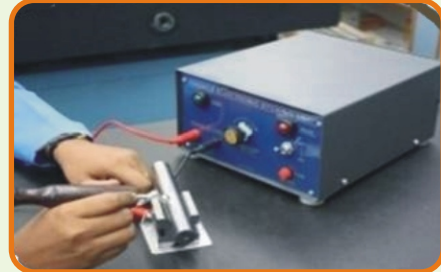
Manufacturing Activities

Vasals also into Manufacturing activities of Special Purpose Machines for example Run Out Checking Machine, Squareness Checking Machine, Scale Calibrator, Lapping Machine, Magnetic Separators, Suspended Magnets, Jigs & fixtures and automation systems, Machine tools accessories, fabrication, Gear Checking, Customised Work Holding Devices, Pulsating Demagnetisers, Conveyor Assembly for Demagnetisers, Customised Magnetisers etc.

Vasals is committed to Good Professional Practice, Product and Service Quality, To meet Customers Requirements.

Vasals has representatives and Collection Centers in **Chennai, Coimbatore, Hosur, Mysore, Pune** areas.

Electronic Etching Unit



What is Etching?

A device for marking on all Ferrous and Non Ferrous (Conductivity Metals) By instant, permanent electro-etching process. Best for Hardened & Ground Surfaces.

Features:

You can write on any conductivity metals without any ink. Harder the metal better the Etching with electronic regulator to suit different depth of Etching.

Specification:

Input-230 Main Volts AC, Duty-continuous, Permanent Marking, Supplied with special writing pins, Safety features with earthing, fuse, light indicators for mains and load.

How to use?

Just plug in and switch on the Etching unit 230 Volts Mains AC, Select the regulator, Keep the component on the earth plate. Start writing by given electric pencil on the component. Increase or decrease the regulator for required etching.

Application:

For Tools, Punches, Dies, Machine Tools, Components, Cutting Tools, Jigs and Fixtures, Gauges or Measuring Instruments, Rejected Components for identification, numbering of dissembled details to facilitate assembly.

DIFFERENCE:

- ★ No force while etching
- ★ No strain in writing
- ★ No ink or acid required
- ★ Instant etching
- ★ Writing Pins can be replaced / Sharpened
- ★ No restrictions on style and size
- ★ All electrical safety provided like over load fuse, earthing etc.
- ★ Supplied with carry bag for easy movement.

A MUST FOR ALL ENGINEERING TOOL ROOMS, Manufacturing Industries etc .,



VASALS has a solution and product for each and every demagnetizing issues.

VASALS is the first Company in INDIA to develop and solve many **Demagnetising** related issues to many Industries in Automobiles Manufacturing Industries, Tool Rooms, assembly plants, food processing industries, Pharmaceutical, assembly to Inspection and many more.

Having a expert team of Mechanical,Electrical, Electronics background, Our Research and Development team has been successful in giving a solution and the best possible Machine to the customer to meet the specified requirement.

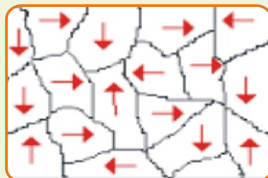
VASALS has developed many **Demagnetisers** like, **Pulsating Demagnetisers, Platen Type Demagnetisers, Tunnel Type Demagnetisers, Hand Held Demagnetisers, On Line Demagnetisers, Off Line Demagnetisers, Demag with Belt Conveyor, Hi-Frequency 'c' types Demagnetisers, Co-Axial Coil Demagnetisers, A.C. Demagnetisers, D.C Demagnetisers, and Many more.**

We have successfully developed for the following components / items.

Chassis, Crankshafts, Axel beam, all types of Bearings, Valve seating rings, Gauges, all types of Gears, Plungers, Tools and Dies, Automobile components and many more.



BEFORE DEMAGNETISING



AFTER DEMAGNETISING

CONTACT US FOR ALL YOUR DEMAGNETISING ISSUES .



Micro Controlled Based Demagnetiser



Demagnetiser with chute



Platen Demagnetiser



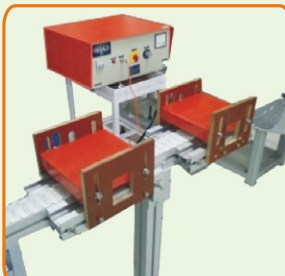
Hi - Frequency Demagnetiser



Aperture Demagnetiser



Adjustable Demagnetiser



Twin Demagnetiser

Pulsating Demagnetisers



PULSATING DEMAGNETISER WITH CONVEYOR (Best suited for bearing industries)

VASALS presents Very high precision and Effective **VASALS ELECTRONIC PULSATING DEMAGNETISERS** from INDIA Bangalore.

Vasals has developed and proven in many factories in India, This Electronic Pulsating Demagnetiser is very high precision & effective for use in the manufacture of industrial components, Usually many components/Products need to be magnetised for a specific process and then to be demagnetised before being put into actual use, Otherwise, they are likely to gather metal particle dirt, or suffer from the effects of magnetism. The magnetism is needed to be removed either totally, or at least to a minimum acceptable level of the residual magnetism. Reverse pulses applied to remove the residual magnetism. Standard Demagnetisers themselves consume a lot of energy in the above process, and still do not

deliver the product demagnetised to a satisfactory level.

The research work done by **Vasals** team, In this area **Vasals** has resulted in achieving an excellent quality of minimum residual magnetism after Demagnetisation.

The average energy consumption is only 130 watts, as compared to that many times by others manufacturers (2 kW or more). So, the consumption is 25 to 35 times less. Thanks to the above Power saving technology and widely accepted by many Industries,

Vasals Demagnetisers pay back for themselves in a few years. The Demagnetising values repeatability is the highest, with almost zero maintenance.

Vasals Pulsating Demagnetisers can be supplied for in - line operation and On - line where the flow continues. These are highly reliable and durable products, and have started reaching Many factories in India and proved in many Industries. There are several models to cover small components to very large.

THE APPLICATIONS ARE UNLIMITED.

For Example: The Manufacture of Ball-Bearings; Roller-Bearings; Taper-Roller Bearings; Inner and Outer Rings, Camshafts; Wheel Hubs; Driven Shafts; Flywheels; Child Parts, Crankshafts, Connecting Rods; Valves; Injectors (assembled) or Injector-Parts; Piston-Pins; Piston-Rings, Pinions, Spindles, Gears etc.

Different Types of Demagnetisers



Hi Frequency Tunnel



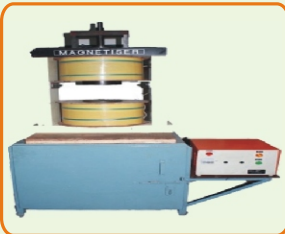
Long Hand Held



Tunnel Demagnetiser with Conveyor



Pulsating Demagnetiser For Rolling Channel



Magnetiser for Magnet Manufacturers



Magnetiser for Automobile Industry



On line Demagnetiser with Conveyor



Pulse Tunnel Demag System for Large Size



Hand Held Demagnetiser for on job Demagnetising

Different Types of Conveyors



Magnetic Separators / Floaters



Used for creating gap between thin sheets and hence removing sheets one by one easily from stacks.

They induce similar pole force to each plate in a stack, there by creating repelling forces in consecutive plates, causing for separation.

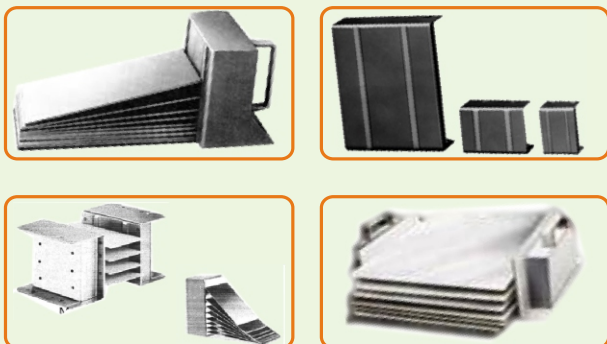
Can separate oil stuck sheets or heavily piled-up sheets with less efforts & less time.

Any size and shape of sheets can be separated by using number of floaters at certain interval.

Automation in the above set is possible.

Compact design with strong magnetic field. Can be attached to machine or tighten to table.

For better results - used in pair.



Special Sizes on Request

Magnetic Grills



MAGNETIC GRILLS?

- ★ Over 30 years of expertise in design and manufacturing of Permanent and Electro Perm Magnetic Systems.
- ★ Magnet Grills are available with more than 10000 Gauss for operating temperature up to 200°C.
- ★ Customized design and very reasonably priced.
- ★ Easy to clean and no maintenance required.
- ★ Installation of these Magnetic grills improves product quality thereby enhances product value and helps in meeting FDA and other government / Customer regulations on iron contamination levels.
- ★ Services such as magnetic Inspection of Values / repairs facilities are available.

(Recondition of all Magnetic devices are under taken)

Profile Projectors



Horizontal Machine



Vertical Machine

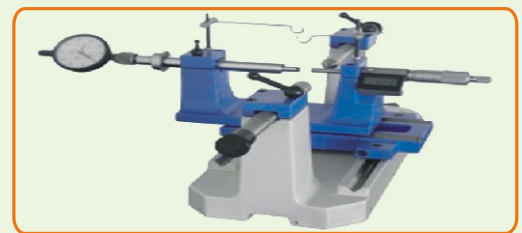


For Reverse Engineering
And Calibration with Software

Inspection Equipments



Granite Angle Square up to 1000mm



Floating Carriage Micrometers



High Accuracy Spirit Levels



Residual Gauss meter and Field Meters in
Gauss / A/cm unit of measurement

Sheet Metal Lifters

VASALS Electro Permanent Magnetic Lifter is used for lifting, loading, unloading of sheet metals, heavy casting, pipes, round jobs, etc.

1: 3 times safety factor of the recommended load to the test load ensures use at optimal working conditions even with substantial air gaps and surface conditions.

Cold device as it does not require power continuously, except for few seconds for activation and deactivation.

Robust design. Compact and economic design, strong magnetic pull, total work safety. Simple and easy operation with pendant with Mag On and Demag On facility. No damage on job during operation. Supplied with third party test report for lifting. All standard electrical and electronics used.

Tested for Waterproof, Slipping Force, Lifting, Demagnetization etc.



Magnetic Lifter
for Ferrous scraps



Electro Magnetic
Lifters



EPM Sheet Metal Lifters



Battery
Operated Lifter



Battery operated
EPM Lifter

Suspended Magnets



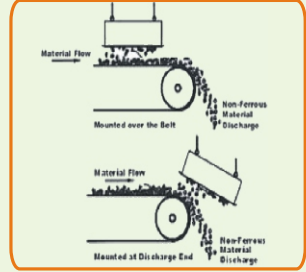
Suspended Magnets
for Scrap Yards



Suspended Magnets for
Mining Industries



Suspended Magnets for Cement Plants



Special Purpose Machines



Magnetiser for
Electronic Industry

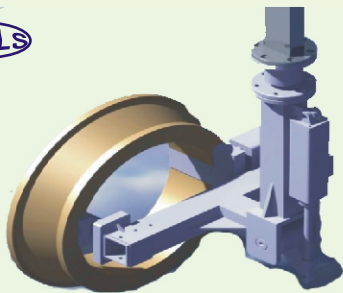
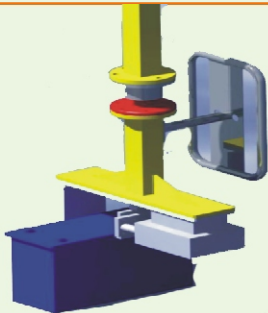
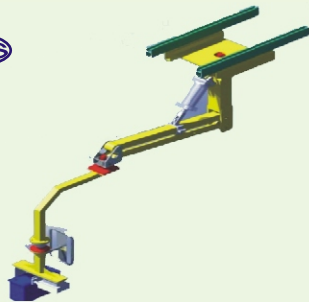


Washing Machines
for Components



Fabrication of Stands /
Tables with Levelling Adjustment.

Pneumatic Material Handling Systems



Pneumatic Manipulators For
Pick And Place Application.
(Zero Gravity)

Hoppers and Feeders



Hoppers in Brass



Stainless Steel Boilers



Hoppers & Feeders for
Pharmaceutical Plants



Magnetic Separator
for Food Industries

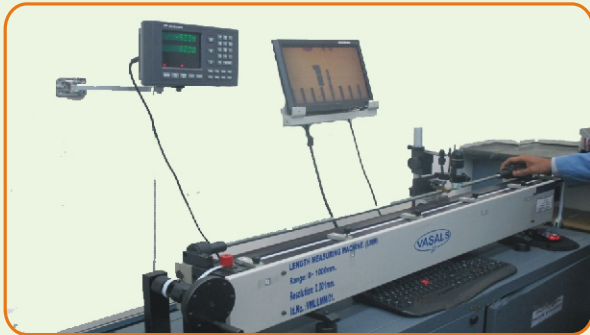


Stainless Steel Hoppers
with SS 316 L Material



Hopper & Feeders
for Agriculture Plants

Special Purpose Machines



Length Measuring Machine



Special Purpose Machines



Magnetic Floor Sweepers



Heavy Duty Magnetic Floor Sweepers
Special Sizes on request

Special Purpose Machines



EMRC (Electrical, Mechanical, Run Out checking Machine)

Used for checking Run out for Gear Pinions of Diameter 50 to 1000mm with the following features.

- ★ **High precision Roller Bearing V Blocks are Perfectly matched to have run out of $\pm 0.002\text{mm}$, when checked on Surface Plates as well as on pedestals when placed 2 meters apart.**
- ★ **The flatness of the bed is within 0.05mm for the entire length of 2.5 Meter as per DIN 8630 Std.**
- ★ **The total static weight capacity of the E.M.R.C set up is upto 10 Tons. Or More.**
- ★ **The Base frame material is of Cast Iron (FG - 260 Grade) Pedestals supporting the Roller bearing V Blocks is M.S.Fabricated, stress relieved, adequately sized and designed to support the weight of the jobs.**
- ★ **The drive Motor with reducer gearbox is less than 5 RPM.**
- ★ **The swing over the bed is 2 meters.**
- ★ **Dial Indicators (Contact or Non contact types) to suite the requirements.**
- ★ **Chain and Sprocket arrangements are made for Horizontal movement of pedestals on the bed.**
- ★ **Vertical Jacking systems for Vertical Alignment and a linear scale for measurement of height is provided.**
- ★ **Arrangement for varying belt tension is provided.**
- ★ **Clamping arrangements of Roller Bearing V Blocks on the Pedestal are provided.**
- ★ **This Machine is Customized can be redesigned and modified to suite customers requirements.**
- ★ **GEAR MESHING RIG FOR CHECKING MESH OF MATING GEARS Can also be Manufactured.**

Magnetic "V" Blocks



- Karbo Magnetic 'V' blocks are manufactured using high power magnets.
- Uniform & strong magnetic pull
- Hardness of V is 60 ± 2 HRC on all sides
- Easy operating On / Off
- Accuracy for flatness, squareness and parallelism within 0.005mm
- Supplied in a perfectly matched pair

Sl.No.	Size in mm	Range (mm)
1	40L x 40W x 50H (2")	3 ~ 25 mm
2	75L x 56W x 75H (3")	5 ~ 40 mm
3	100L x 70W x 95H (4")	5 ~ 65 mm
4	150L x 75W x 100H (6")	5 ~ 70 mm
5	200L x 125W x 150H (8")	10 ~ 140 mm

Carbide Tipped Magnetic "V" Blocks



- Karbo Carbide tipped Magnetic V blocks are manufactured using high power magnets and high wear resistant carbide tips.
- Uniform & strong magnetic pull
- Carbide tipped only on top "V"
- Easy operating On / Off
- Accuracy for flatness, squareness and parallelism within 0.005mm
- Supplied in a perfectly matched pair.

Sl.No.	Size in mm	Range(mm)
1	75L x 56W x 75H (3")	5 ~ 65 mm
2	100L x 70W x 95H (4")	5 ~ 40 mm
3	150L x 75W x 100H (6")	5 ~ 70 mm

Roller Bearing "V" Blocks



- Karbo Roller Bearing "V" Blocks used for checking, loading, heavy & odd shaped jobs.
- Angle of rollers is 90 degree
- High quality Bearing are used and can be replaced.
- Supplied in a perfectly matched pair
- Load 1 ton and above

Sl.No.	Size in mm	Range (mm)
1	150L x 60W x 100H	3 ~ 55 mm
2	150L x 80W x 100H	25 ~ 70 mm
3	230L x 100W x 150H	70 ~ 200 mm

Special sizes available on request

Hardened & Ground "V" Blocks



- Karbo Non Magnetic V blocks used for supporting of shafts, blocks during Inspection / machine etc.,
- Supplied with clamps
- Accuracy for flatness, squareness and parallelism within 0.005mm
- Hardness of V is 60 ± 2 HRC
- Supplied in a perfectly matched pair

Sl.No.	Size in mm	Range (mm)
1	25L x 20W x 20H	3 ~ 20 mm
2	50L x 40W x 40H	5 ~ 30 mm
3	80L x 63W x 63H	7 ~ 63 mm
4	100L x 80W x 80H	7 ~ 80 mm
5	50L x 40W x 40H	5 ~ 40 mm
6	60L x 50W x 50H	5 ~ 50 mm
7	60L x 80W x 80H	7 ~ 80 mm
8	60L x 100W x 100H	8 ~ 100 mm
9	70L x 140W x 140H	9 ~ 80 mm
10	150L x 200W x 200H	10 ~ 200 mm
11	200L x 200W x 200H	10 ~ 200 mm
12	300L x 300W x 300H	10 ~ 300 mm

Elongated "V" Blocks



- Karbo elongated V blocks used for Grinding, light milling, Drilling, & inspection of Round & Square Jobs.
- Accuracy as per IS - 4960 - 1968.
- Hardness 60 to 2 HRC
- Supplied with clamps.

Sl.No.	Size in mm (mm)
1	160L x 50W x 35H
2	200L x 63W x 50H
3	300L x 100W x 63H
4	100L x 40W x 30H
5	200L x 70W x 50H
6	300L x 100W x 65H

Leak Proof Magnetic "V" Blocks



- Karbo Magnet V blocks are manufactured using high power magnet
- Hardness of V is 60 ± 2 HRC on all sides
- Accuracy for flatness, squareness and parallelism within 0.005mm
- Supplied in a perfectly matched pair
- Specially used in EDM, sparking machine etc.

Sl.No.	Size in mm	Range (mm)
1	150L x 60W x 100H	3 ~ 55 mm
2	150L x 80W x 100H	25 ~ 70 mm
3	230L x 100W x 150H	70 ~ 200 mm

Special sizes available on request

Magnetic Rectangular Blocks



Sl.No.	Size in mm
1	75L x 56W x 60H
2	100L x 70W x 70H
3	150L x 70W x 85H
4	25L x 25W x 25H

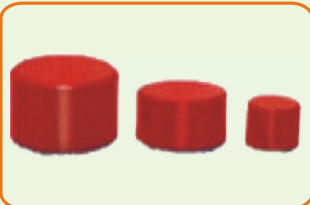
- Karbo Magnetic Rectangular Blocks are manufactured using high power magnets.
- Easy operating On / Off
- Accuracy for flatness , squareness and parallelism within 0.005mm also used for right angle grinding.
- Supplied in a perfectly matched pair.

Pot Magnets



Sl.No.	Size in mm
1	Ø 12 x 15H M6 Tapping
2	Ø 18 x 16H M6 Tapping
3	Ø 22 x 20H M6 Tapping
4	Ø 27 x 25H M8 Tapping
5	Ø 35 x 30H M8 Tapping

Button Magnets



Sl.No.	Size in mm
1	Ø 12 x 10H
2	Ø 15 x 12H
3	Ø 20 x 15H
4	Ø 25 x 20H

Permanent Magnetic Lifters



Sl.No.	Size in mm	Capacity
1	85L x 60W x 75H	100 Kg
2	170L x 85W x 105H	200 Kg
3	170L x 85W x 105H	250 Kg
4	230L x 85W x 105H	300 Kg
5	230L x 85W x 105H	450 Kg
6	290L x 90W x 125H	600 Kg
7	320L x 120W x 150H	700 Kg
8	365L x 150W x 180H	1000 Kg
9	480L x 150W x 180H	1500 Kg
10	485L x 210W x 240H	2000 Kg

Approximate size

- Karbo Magnetic Lifters Used For Lifting And Handling of Steel Plates, Heavy Block & Castings
- 1.3 Safety factor ensures working conditions even with air gaps and surface conditions. Operated By Lever On /Off, Spring Loaded Safety Lock Provided.
- Suitable For Flat, Round Jobs and odd shaped jobs.
- No Damage On Job During Operation
- Also Available "In Electro Magnetic Models
- Also sheet metal lifters are available.

Special sizes available on request

Permanent Electro Magnetic Holders



ELECTRO MAGNETIC HOLDER :

Used for automation of press machine, robots pick and place etc.,

PERMANENT ELECTROMAGNETIC HOLDER:

Used for automation of press machine, robots , pick and place etc.,

It is cold device as power supply is require only to on and off , no continuous power supply is required permanent magnetic holder - imbedded in mould to

hold various work places , locations etc.,

ELECTRO MAGNETIC HOLDER

Used in automated manufacturing industries , as the magnetic lifter , can be turned on and off or increased or decreased by electrical control unit with pendent / remote operation to be installed additionally

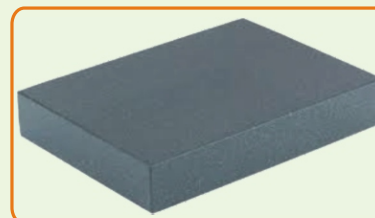
These holder can be used for a wide range of operations such as material feed for automation operation press , prevention of deflection for shearing material , and various automation processes , as well as the holding device of industrial robots, pick and place , operations etc.,

Special cables that have specially high durability against bending and vibration are used. Electrical control unit can be used for turning on and off the magnetic force with demagnetization and for remote on / off control can be interfaced with PLC. Usable for continuous opertion, finished by plating.

All standard electrical and electronics used.

Dimension in mm	Max.Holding power	Hole Dimension in mm		
		M1	M2	M3
10 x 30	8N(0.8Kg)	M4 x0.7	-	-
20 x 40	28N(2.8Kg)	Depth 6		
30 x 40	180N(18Kg)	M6 x 1.0	4 Depth 2	10
40 x 40	400N(40Kg)	Depth 12	4 Depth 3	15
50 x 50	600N(60Kg)	M8 x 1.125	5 Depth 4	18
60 x 60	1100N(110Kg)	Depth 15		
70 x 60	1500N(150Kg)	M10 x 1.5	6 Depth 6	20
80 x 60	2000N(200Kg)			
90 x 60	3300N(330Kg)			

Granite Surface Plates

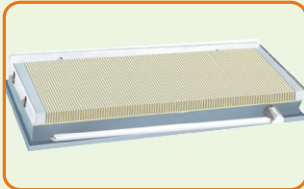


Sl.No.	Size in mm
1	300 x 300
2	400 x 400
3	630 x 400
4	630 x 630
5	1000 x 630
6	1000 x 1000
7	1000 x 1600

- Karbo surface plate are made from closed grained granite stone
- Handle are providing for lifting
- Accuracy as per "IS"
- Supplied with calibration report
- Stands available on request

Special sizes available on request

Permanent Magnetic Chuck . Micro fine pitch (Transverse pole)



Sl.No.	Size in mm
1	150L x 100W x 70H
2	200L x 100W x 70H
3	250L x 150W x 70H
4	300L x 150W x 70H
5	450L x 150W x 70H
6	450L x 200W x 70H
7	600L x 200W x 70H

- Karbo magnetic chuck used in surface grinding machine , spark erosion machine etc
- Manufactured using very powerful magnets
- Easy operated On - Off
- Suitable to hold thin & small jobs
- Micro fine pitch 1 + 0.5 mm

Permanent Magnetic Chuck High Power (CLOSE POLE, Double Assembly)



Pole (9.9mm) Transverse Pole

Sl.No.	Size in mm
1	150L x 100W x 70H
2	200L x 100W x 70H
3	250L x 150W x 70H
4	300L x 150W x 70H
5	300L x 200W x 70H
6	350L x 150W x 70H
7	400L x 150W x 70H
8	450L x 150W x 70H
9	450L x 200W x 70H
10	500L x 200W x 70H
11	600L x 200W x 70H

- Karbo magnetic chuck used in surface grinding machine , spark erosion machine etc
- Manufactured using very powerful magnets
- Easy operated On - Off

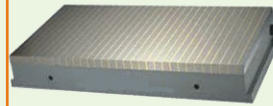
Permanent Plate Type Separator



Sl.No.	Size in mm
1	125L x 175W x 35H

Special sizes available on request

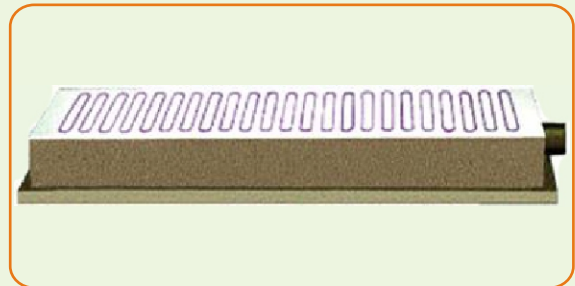
Electro Magnetic Rectangular Chuck (Standard Model / Multi Coil Model)



Heavy Duty fine pitch (Pole 4 + 1 mm)

Sl.No.	Size in mm
1	450L x 150W x 100H
2	500L x 200W x 100H
3	600L x 200W x 100H
4	600L x 250W x 100H
5	600L x 300W x 100H
6	750L x 250W x 100H
7	750L x 300W x 100H
8	1000L x 250W x 110H
9	1000L x 300W x 110H
10	1500L x 250W x 110H
11	1500L x 300W x 110H
12	1500L x 400W x 110H

- Karbo Electro magnetic chuck used in surface grinding machine , milling machine
- Mag-d-mag unit with variable control unit allows to demagnetize the residual magnetism and allows the jobs to be removed scratch free variable supply enables to very power supply to electro magnetic chuck which helps in alignment & removing of heavy & thin jobs
- Tested for slipping force , water proof etc.,
- Longitudinal poles are available on request
- All standard electrical accessories used.



Standard Model (Pole Gap 15 mm)

Sl.No.	Size in mm
1	450L x 150W x 100H
2	500L x 200W x 70H
3	250L x 150W x 70H
4	300L x 150W x 70H
5	300L x 200W x 70H
6	350L x 150W x 70H
7	400L x 150W x 70H
8	450L x 150W x 70H
9	450L x 200W x 70H
10	500L x 200W x 70H
11	600L x 200W x 70H

Special sizes available on request

Permanent Round Magnetic Chuck (14 mm Pole)



- Karbo magnetic chuck used in surface grinding machine, spark erosion machine etc
- Manufactured using very powerful magnets
- Easy operated On - Off

Sl.No.	Size in mm
1	Ø 100 x 60H
2	Ø 150 x 60H
3	Ø 175 x 60H
4	Ø 200 x 60H
5	Ø 225 x 65H
6	Ø 250 x 70H
7	Ø 300 x 70H
8	Ø 375 x 70H
9	Ø 400 x 70H
10	Ø 450 x 70H

Permanent Round Magnetic Chuck (Radial Pole)



Sl.No.	Size in mm
1	Ø 200 x 65 mm Ht.
2	Ø 250 x 65 mm Ht.
3	Ø 300 x 65 mm Ht.
4	Ø 375 x 65 mm Ht.
5	Ø 400 x 65 mm Ht.

Permanent Magnetic Chuck High Power (Close Pole)



14 mm Pole

- Karbo magnetic chuck used in surface grinding machine, spark erosion machine etc
- Manufactured using very powerful magnets
- Easy operated On - Off

Hand Type Separator



Special sizes available on request

Permanent Magnetic Chuck High Power (CLOSE POLE, Double Assembly)



Pole (6x6mm)

- Karbo magnetic chuck used in surface grinding machine , spark erosion machine etc
- Manufactured using very powerful magnets Easy operated On - Off

Sl.No.	Size in mm
1	150L x 100W x 70H
2	200L x 100W x 70H
3	250L x 150W x 70H
4	300L x 150W x 70H
5	450L x 150W x 70H
6	450L x 200W x 70H
7	500L x 200W x 70H
8	600L x 200W x 70H
9	600L x 200W x 70H

Electro Perm Magnetic Chuck



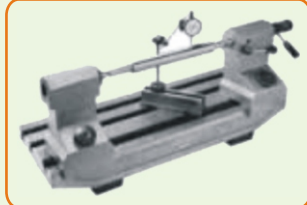
- Karbo Electro Perm Magnetic Chucks used as work holding device for all types of milling machines.
- Suitable for light milling (for VMC and HMC)
- Economical for operation and maintenance.
- Cold Device as it does not require power continuously except for few seconds for activation & deactivation.
- All standard accessories used.
- Tested for water proof , slipping force , demagnetization etc.,

Sl.No.	Size in mm
1	500L x 200W x 80H
2	600L x 200W x 80H
3	600L x 250W x 80H
4	600L x 300W x 80H
5	600L x 400W x 80H
6	750L x 250W x 90H
7	750L x 300W x 90H
8	1000L x 300W x 90H

Special sizes available on request

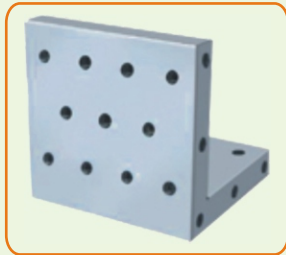
Precision Bench Centers

- Karbo Precision Bench Center are made from closed grained iron casting.
- Working Face / Reference Face are hand scraped
- All Accuracy as per "IS"



Sl.No.	specifications	
	Admit Between Center	Height of Center
1	300	125
2	500	125
3	500	160
4	500	200
5	750	160
6	750	200
7	1000	160

Hardened & Ground Precision Angle Plates



- Karbo Angle Plates are made from single piece high quality steel
- Accuracy for squareness, flatness & parallelism within 0.005mm
- Hardness 60±2HRC
- M6 & M8 Tapped Holes are provided for clamping

Sl.No.	Size in mm
1	115 x 150 x 150
2	150 x 150 x 150
3	150 x 150 x 225
4	150 x 225 x 300

Suspended Permanent / Electro Magnets

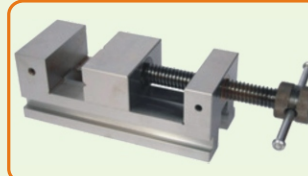


- Karbo Suspended Magnet used as magnetic separator
- Used in conveyor assembly
- Assembled using very powerful magnets.
- Ferrous Particle can be separated at distance of 5 ~10 feet

Sl.No.	Size in mm
1	300 x 300
2	400 x 400
3	600 x 600
4	1000 x 1000

Special sizes available on request

Hardened & Ground Precision Grinding Vice (Screw Type)



- Karbo Precision Grinding vice used for holding jobs, grinding / light machining etc.,
- Made from high quality steel.
- Accuracy for squareness / flatness / parallelism with 0.005mm.
- Hardness 60±2HRC

Sl.No.	Size in mm	Jaw Opening mm
1	150L x 50W x 60H	0 ~ 75
2	175L x 60W x 55H	0 ~ 80
3	190L x 75W x 65H	0 ~ 85
4	210L x 95W x 75H	0 ~ 100

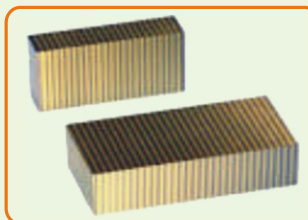
Hardened & Ground Precision Grinding Vice



- Karbo Precision Grinding vice used for holding jobs, grinding / light machining etc.,
- Made from high quality steel.
- Accuracy for squareness / flatness / parallelism with 0.005mm.
- Hardness 60±2HRC

Sl.No.	Size in mm	Jaw Opening mm
1	150L x 50W x 60H	0 ~ 75
2	180L x 60W x 70H	0 ~ 90
3	200L x 75W x 80H	0 ~ 100
4	233L x 95W x 95H	0 ~ 130

Transfer Blocks (Rectangular Type)

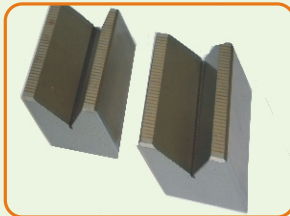


- Karbo Transfer blocks used as a necessary on magnetic chuck to hold thin, odd shaped components
- It's a device to extend the magnetic flux from magnetic chuck
- Supplied in a matched pair.
- Easy operated On - Off

Sl.No.	Size in mm
1	50W x 30H x 100L
2	50W x 75H x 75L
3	50W x 30H x 75L
4	60W x 30H x 75L
5	70W x 30H x 75L
6	80W x 25H x 120L
7	60W x 25H x 120L
8	50W x 50H x 100L

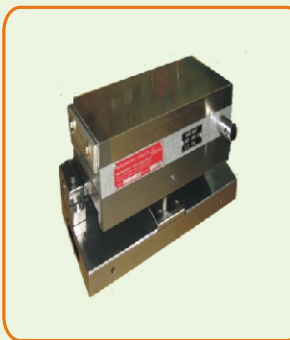
Special sizes available on request

Transfer Blocks (V Type)



Sl.No.	Size in mm
1	60W x 60H x 45L
2	100W x 60H x 45L
3	75W x 65H x 35L
4	100W x 65H x 35L
5	60W x 60H x 45L
6	125W x 60H x 50L

Magnetic Sine Tables



- Karbo Precision Magnetic Sine Table used for measurement, setting of angles.
- Made from high quality steel.
- Hardness 60HRC.
- Accuracy for squareness / flatness / parallelism with 0.005mm
- Angular accuracy with in 5 Seconds.
- Also available in compound models

Sl.No.	Size in mm	CD mm	Inclination
1	150L x 120W x 105H	70 mm	0 ~ 45°
2	250L x 150W x 105H	100mm	0 ~ 45°
3	300L x 150W x 105H	100mm	0 ~ 45°
4	450L x 150W x 105H	100mm	0 ~ 45°
5	400L x 200W x 105H	150mm	0 ~ 45°

Precision Sine Vice



- Karbo Precision Sine Vice used for measurement, setting of angles, grinding etc.,
- Made from high quality steel
- Hardness 60 HRC
- Accuracy for squareness / flatness / parallelism with 0.005 mm
- Angular accuracy with in 5 seconds

Sl.No.	Size in mm	Jaw Opening	CD mm
1	190L x 65W x 85H	80	100
2	235L x 75W x 100H	100	150
3	260L x 95W x 100H	125	150
4	290L x 120W x 125H	145	200
5	310L x 140W x 145H	160	200

Special sizes available on request

Sine Tables



- Karbo Precision Sine Bar used for measurement setting of angles.
- Made from high quality steel.
- Hardness 60±2HRC.
- Accuracy for squareness / flatness / parallelism with 0.005 mm.
- Angular accuracy within 5 seconds.
- M6 & M8 tapped holes for easy clamping.
- Also available in magnetic models
- Acc as per IS : 5239 - 1970

Sl.No.	Size in mm	CD mm	Inclination
1	150L x 120W x 105H	70 mm	0 ~ 45°
2	250L x 150W x 105H	100mm	0 ~ 45°
3	300L x 150W x 105H	100mm	0 ~ 45°
4	450L x 150W x 105H	100mm	0 ~ 45°

Sine Bars



- Karbo Precision Sine Bar used for measurement setting of angles
- Made from high quality steel.
- Hardness 60±2HRC
- Accuracy as per IS : 5259 - 1987

Sl.No.	Size in mm	CD mm
1	130L x 20W x 40H	100
2	230L x 30W x 40H	200
3	345L x 40W x 50H	300

Magnetic Sticks



Special sizes available on request

- Used for removing ferrous particles from blind holes, tapping holes, etc.
- Very powerful magnets used, Stainless steel body
- Magnet is 25mm from one end only.

Sl.No.	Size in mm
1	3 x 150L
2	5 x 150L
3	6 x 150L
4	8 x 150L
5	10 x 150L
6	12 x 150L
7	14 x 150L
8	15 x 150L
9	16 x 150L
10	18 x 150L

Special sizes available on request

Demagnetizers



Sl.No.	Size in mm
1	50 x 100 x 100
2	100 x 100 x 100
3	100 x 200 x 200
4	200 x 200 x 200
5	300 x 300 x 300

- Karbo Tunnel Type Demagnetizer are used for removing residual magnetism.
- Continuous operation.
- Works on single phase / two phase.
- Fibre glass body.
- All standard accessories used.

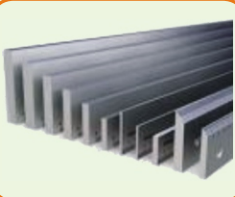


- Karbo Demagnetizer are used for removing residual magnetism.
- Operates on Single Phase 230 Volts A.C. supply.
- Hylam top allows scratch free of the components
- Pedal switch for safety



Sl.No.	Size in mm
1	150 x 100
2	150 x 150
3	150 x 225
4	150 x 300
5	300 x 300
6	450 x 450

Steel Straight Edges



Sl.No.	Size in mm
1	100L x 15H x 5T
2	160L x 20H x 8T
3	300L x 35H x 12T
4	500L x 50H x 15T
5	800L x 80H x 20T
6	1000L x 100H x 20T

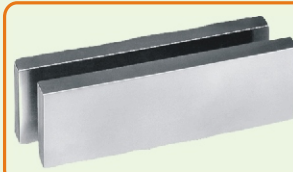
Different Types Of Magnetic Bases



Special sizes available on request

Parallel Blocks

Sl.No.	Size in mm
1	100 L x 10 W x 5 H
2	100 L x 12 W x 5 H
3	100 L x 15 W x 5 H
4	100 L x 20 W x 5 H
5	150 L x 10 W x 6 H
6	150 L x 12 W x 6 H
7	150 L x 15 W x 6 H
8	150 L x 20 W x 6 H
9	150 L x 10 W x 10 H
10	150 L x 12 W x 10 H
11	150 L x 15 W x 10 H
12	150 L x 20 W x 10 H
13	150 L x 15 W x 15 H
14	150 L x 20 W x 15 H
15	150 L x 25 W x 15 H
16	150 L x 30 W x 15 H
17	200 L x 20 W x 15 H
18	200 L x 25 W x 15 H
19	200 L x 30 W x 20 H
20	200 L x 40 W x 20 H
21	200 L x 20 W x 25 H
22	200 L x 30 W x 25 H
23	200 L x 40 W x 25 H
24	200 L x 50 W x 25 H
25	250 L x 15 W x 20 H
26	250 L x 20 W x 20 H
27	250 L x 25 W x 20 H
28	250 L x 30 W x 20 H
29	250 L x 40 W x 25 H
30	250 L x 50 W x 25 H
31	250 L x 50 W x 30 H
32	250 L x 60 W x 30 H
33	300 L x 25 W x 25 H
34	300 L x 30 W x 25 H
35	300 L x 40 W x 25 H
36	300 L x 50 W x 25 H
37	300 L x 40 W x 35 H
38	300 L x 50 W x 35 H
39	300 L x 60 W x 35 H
40	350 L x 70 W x 35 H
41	350 L x 30 W x 40 H
42	350 L x 40 W x 40 H
43	350 L x 50 W x 40 H
44	350 L x 70 W x 40 H
45	400 L x 50 W x 50 H
46	400 L x 60 W x 50 H
47	400 L x 75 W x 50 H
48	400 L x 100 W x 50 H
49	450 L x 50 W x 50 H
50	450 L x 60 W x 50 H
51	450 L x 75 W x 50 H
52	450 L x 100 W x 50 H



- Used for accurate support for job.
- Made from high quality steel.
- Hardness 60 ñ 2 HRC
- Accuracy for squarness / flatness / parallelism with 0.005 mm

Special sizes available on request

Control Unit For Electro Magnetic Chucks



- Control Unit for electro magnetic chucks & electro perm magnetic chucks.
- Micro controller base circuit with pendant.
- Demagnetization with 10 ~15seconds.
- Removing the jobs scratch free after grinding
- Current capacity from 2 ~ 10 Amps.
- Micro controller to increase and decrease the power of the chuck suitable for different jobs.
- Battery backup can be provided on request.
- All standards electrical and electronic parts used with safety features.

Special control unit with Demag facility can be manufactured on request

Try - Square (Flat Edge Without Stock)



Sl.No.	Size in mm
1	50L x 30H x 4T (2")
2	75L x 50H x 4.5T (3")
3	100L x 70H x 5T (4")
4	150L x 100H x 6T (6")
5	200L x 140H x 7T (8")
6	250L x 165H x 8T (10")
7	300L x 200H x 8T (12")
8	400L x 250H x 10T (16")

Bevelled Edge Try - Square



Sl.No.	Size in mm
1	50L x 35H x 4T (2")
2	75L x 50H x 4.5T (3")
3	100L x 70H x 5T (4")
4	150L x 100H x 6T (6")
5	200L x 140H x 7T (8")
6	250L x 165H x 8T (10")
7	300L x 200H x 8T (12")
8	400L x 250H x 10T (16")

Special sizes available on request

Gauges



Plain Plug Gauge



Plain Ring Gauge



Thread Plug Gauge



Thread Ring Gauge

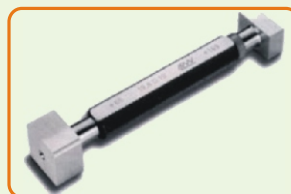
Types: Metric Unified, G series, BSW, BSF, BA, BSCY, NPT, NPTF, ACME, NGT, ISO-7R, Taper 1: 8 BSPT, PF, PT, ANPT, BUTRESS, TRAPEZOIDAL etc.

Types: 1 mm to 300 mm

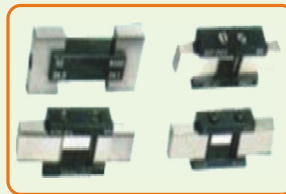
VASALS also manufactures special Thread Plug Gauges to customer requirements.



Taper Plug & Ring Gauge



Square Plug Gauge



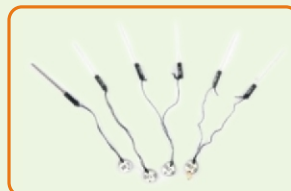
Width Gauge



Snap Gauge



Hexagon Plug Gauges



Thread Measuring Wires

Special sizes available on request

Measuring Pins



Application : Measuring Pins for Checking Bores , Centre, Distance, Groove Dimensions, Inspection of Micrometers, Gear Measurements etc.,

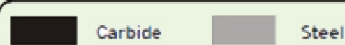
Features :

- ◆ Manufacture as per ISI Standard
- ◆ Measuring pins are manufactured from high quality steel
- ◆ Hardened, ground & lapped
- ◆ Measuring pins are available in standard steps of 0.01 , 0.02 , 0.05, 0.10 mm
- ◆ Length of measuring pins upto 1.49 mm dia is 40 mm & above 1.50 mm dia is 50 mm
- ◆ Measuring pins of 70mm in length available form 1.00 to 10.00 mm dia on requests
- ◆ Sizes available from 0.5 ~ 20 mm.

Specifications

Range In mm	Steps In mm	No. Of Pins	Range in mm	Steps in mm	No. Of Pins
0.50 ~ 1.00	0.01	51	8.51 ~ 10.00	0.01	150
1.01 ~ 2.00	0.01	100	9.01 ~ 10.00	0.01	100
1.01 ~ 2.50	0.01	150	10.01 ~ 11.00	0.01	100
2.01 ~ 3.00	0.01	100	11.01 ~ 12.00	0.01	100
2.51 ~ 4.00	0.01	150	12.01 ~ 13.00	0.01	100
3.01 ~ 4.00	0.01	100	13.01 ~ 14.00	0.01	100
4.01 ~ 5.00	0.01	100	14.01 ~ 15.00	0.01	100
4.01 ~ 5.50	0.01	150	15.01 ~ 16.00	0.01	100
5.01 ~ 6.01	0.01	100	16.01 ~ 16.75	0.01	75
5.51 ~ 7.00	0.01	150	16.76 ~ 17.50	0.01	75
6.01 ~ 7.00	0.01	100	17.51 ~ 18.25	0.01	75
7.01 ~ 8.00	0.01	100	18.26 ~ 19.00	0.01	75
7.01 ~ 8.50	0.01	150	19.01 ~ 19.50	0.01	50
8.01 ~ 9.00	0.01	100	19.51 ~ 20.00	0.01	50
0.50 ~ 1.00	0.02	26	7.02 ~ 10.00	0.02	150
0.50 ~ 3.00	0.02	126	10.02 ~ 12.00	0.02	100
1.02 ~ 3.00	0.02	100	12.02 ~ 14.00	0.02	100
1.02 ~ 4.00	0.02	151	14.02 ~ 16.00	0.02	100
3.02 ~ 5.00	0.02	100	16.02 ~ 17.50	0.02	75
3.02 ~ 7.00	0.02	200	17.52 ~ 19.00	0.02	75
4.02 ~ 7.00	0.02	150	19.02 ~ 20.00	0.02	50
5.02 ~ 7.00	0.02	100	--	--	--
0.50 ~ 2.00	0.05	31	7.05 ~ 12.00	0.05	100
0.50 ~ 4.00	0.05	71	8.05 ~ 12.00	0.05	80
0.50 ~ 7.00	0.05	131	12.05 ~ 16.00	0.05	80
2.05 ~ 7.00	0.05	100	16.05 ~ 18.00	0.05	40
4.05 ~ 8.00	0.05	80	18.05 ~ 20.00	0.05	40
0.50 ~ 12.00	0.1	116	12.10 ~ 20.00	0.1	80

Material



Special sizes available request

Gauge Blocks (slip Gauge)



Assorted Gauge Block



Tailor Made Gauges

Specifications

Type of Set	Size 'mm'	Steps 'mm'	Qty.	Total Qty.
M122 /1	2.0005	0.001	1	122 Nos.
	2.001, 2.002,.....2.009	0.001	9	
	2.01, 2.02,.....2.49	0.01	49	
	2.5, 2.7, 2.8, 2.9	0.1	4	
	0.5, 1,.....24.5	0.5	49	
M121/1	25, 30, 40, 50, 60, 75, 80, 90, 100	10	10	121 Nos.
	2.001, 2.002,.....2.009	0.001	9	
	2.01, 2.02,.....2.49	0.01	49	
	2.5, 2.7, 2.8, 2.9	0.1	4	
	0.5, 1,.....24.5	0.5	49	
M112/1	25, 30, 40, 50, 60, 75, 80, 90, 100	10	10	112 Nos.
	1.001, 1.002,.....1.009	0.001	9	
	1.01, 1.02,.....1.49	0.01	49	
	0.5, 1,.....24.5	0.5	49	
	25, 50, 75, 100	25	4	
M103/1	1.0005	0.001	1	103 Nos.
	1.001, 1.002,.....1.009	0.001	9	
	1.01, 1.02,.....1.49	0.01	49	
	0.5, 1,.....24.5	0.5	49	
	25, 50, 75, 100	25	4	
M89/1	1.0005	0.001	1	89 Nos.
	1.001, 1.002,.....1.009	0.001	9	
	1.01, 1.02,.....1.49	0.01	49	
	0.5, 1,.....24.5	0.5	19	
	10, 20,.....100	10	10	
M87/1	1.001, 1.002,.....1.009	0.001	9	87 Nos.
	1.01, 1.02,.....1.009	0.01	49	
	0.5, 1,.....24.5	0.5	19	
	10, 20,.....100	10	10	
	1.005	1	1	
M83/1	1.01, 1.02,.....1.49	0.01	49	83 Nos.
	1.5, 1.7, 1.8, 1.9	0.1	4	
	0.5, 1,.....24.5	0.5	19	
	10, 20,.....100	10	10	
	1.005	1	1	
M47/1	1.01, 1.02,.....1.09	0.01	9	47 Nos.
	1.1, 1.2,.....1.90	0.1	9	
	1.2,.....24	1	24	
	25, 50, 75, 100	25	4	
	1.001, 1.002,.....1.009	0.001	9	
M45/1	1.01, 1.02,.....1.09	0.01	9	45 Nos.
	1.1, 1.2,.....1.90	0.1	9	
	1.2,.....24	1	24	
	10, 20,.....100	10	10	
	1.005	1	1	
M32/1	1.01, 1.02,.....1.09	0.01	9	32 Nos.
	1.1, 1.2,.....1.90	0.1	9	
	1.2,.....24	1	24	
	2.001, 2.002,.....2.009	0.001	9	
	2.01, 2.02,.....2.49	0.01	49	
M32/1	25, 30, 40, 50, 60, 75, 80, 90, 100	10	10	32 Nos.
	2.01, 2.02,.....2.49	0.01	49	
	2.5, 2.7, 2.8, 2.9	0.1	4	
	0.5, 1,.....24.5	0.5	49	
	25, 30, 40, 50, 60, 75, 80, 90, 100	10	10	
M32/1	2.001, 2.002,.....2.009	0.001	9	32 Nos.
	2.01, 2.02,.....2.49	0.01	49	
	2.5, 2.7, 2.8, 2.9	0.1	4	
	0.5, 1,.....24.5	0.5	49	
	25, 30, 40, 50, 60, 75, 80, 90, 100	10	10	

Material



Special sizes available request

Measuring Instruments



Digimatic Micrometer



Interchangeable Anvil Micrometer



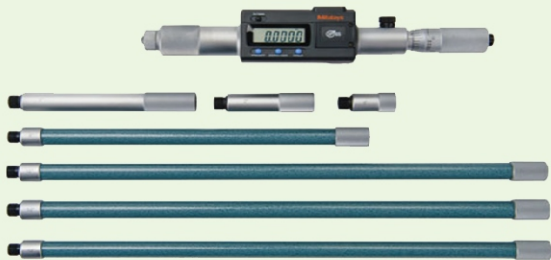
Lever Dial Gauge



Plunger Dial Gauge



Digital Vernier Caliper



Stick Micrometer

Mitutoyo **YAMAYO**

Pictures and Logos Belongs to their
Respective Manufactures

VASALS
Since 1969

Measuring Instruments



Dial Thickness Gauge



3 Point Micrometer



Bore Gauge (With Dial)



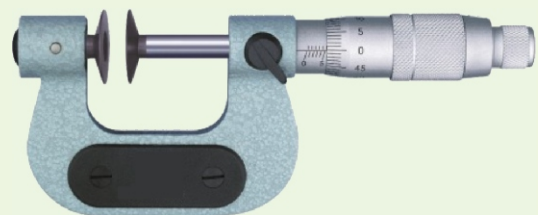
Digital Height Gauge



Digital Plunger Dial Gauge



Internal Dial Caliper



Flange Micrometer

←INSIZE→

KANN

Pictures and Logos Belongs to their
Respective Manufactures

Training & Seminars



- ★ ISO 9000 Quality Standards
- ★ ISO / IEC 17025 : 2005
- ★ Six Sigma Overview
- ★ Uncertainty of Measurements
- ★ Statistical quality control and Six Sigma Techniques
- ★ Dimensional Measurements and metrology
- ★ Calibration requirement & dimensional calibration procedure
- ★ Measurement System Analysis
- ★ Fundamental good practice of measuring Instruments
- ★ Product design and development.
- ★ Preventive Maintenance of Instruments
- ★ We can also conduct training for different topics on request
- ★ Project reports and industrial Consultation.

Special Topics on Request

Calibration Laboratory



Manufacturing Unit



Recognitions Received

