

AUTOMATION and METROLOGY INC.

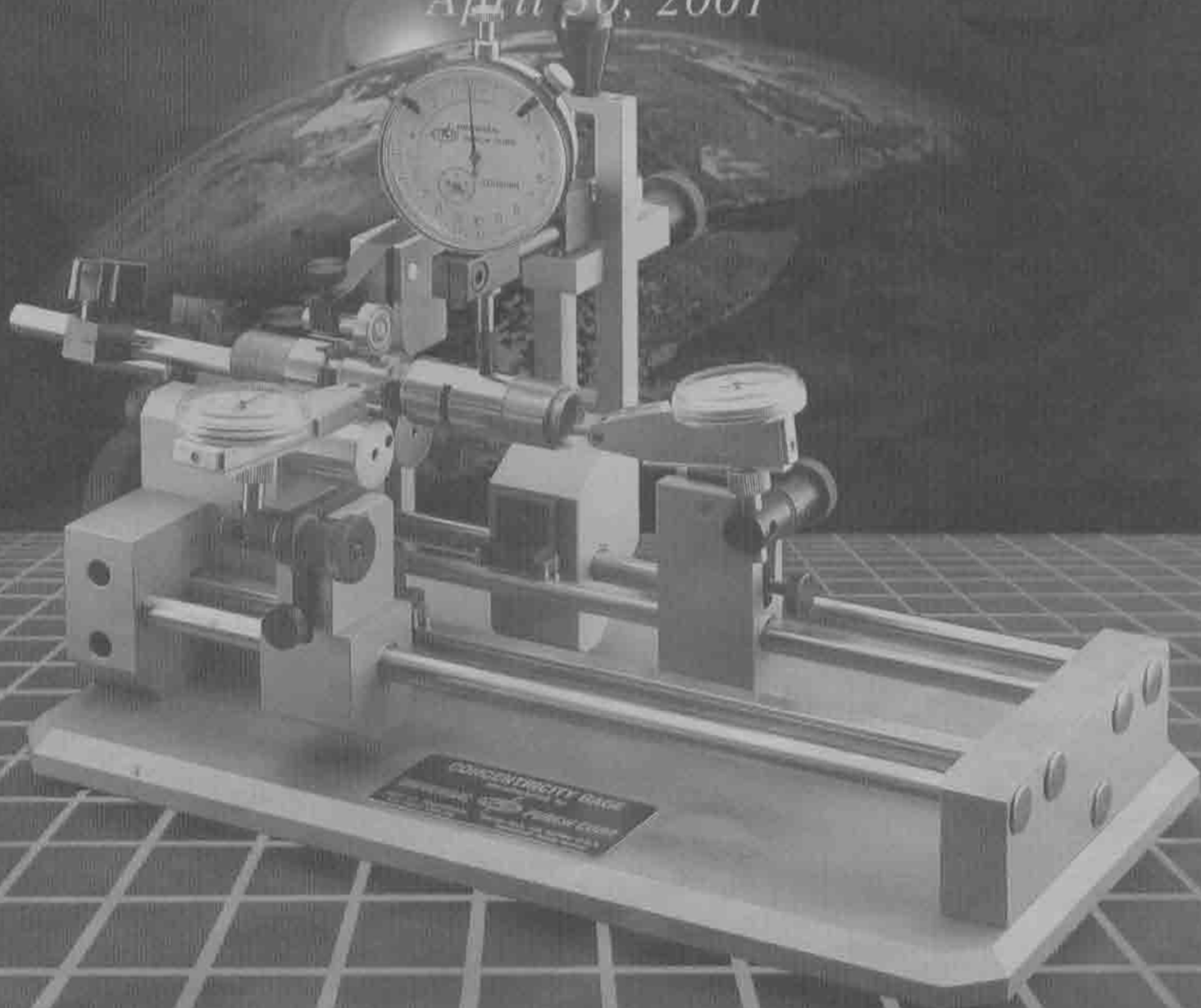
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130 Liberty Street Painesville, Ohio 44077
(440) 354-6436 Fax (440) 639-9983

- Digital Readouts
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“Improving Industry Through Technology”

UNIVERSAL CONCENTRICITY GAGING SYSTEMS

PRICE LIST
April 30, 2001



THE MODERN WAY TO INCREASE GAGING EFFICIENCY

GAGE SELECTION (SPECIFY STANDARD OF PRECISION MODEL)

Part No.	Description	Unit Prices
A-10	Basic Gage; One Standard Carrier, 8"/203mm Base	\$ 700.00 ea.
B-10	Basic Extended Gage; Standard Carrier	810.00
B-20	Basic Extended Gage; Standard Carrier	925.00
B-40	Basic Extended Gage; Standard Carrier	1,385.00
E-10	Eccentric Checker Gage; Vertical Roller Carrier	975.00
E-20	Eccentric Checker Gage; Vertical Roller Carrier	1,110.00
E-40	Eccentric Checker Gage; Vertical Roller Carrier	1,575.00
F-10	Recess Fastener Checker Gage	995.00
F-20	Recess Fastener Checker Gage	1,335.00
G-10	Side Checker Gage; Side Carrier	810.00
G-20	Side Checker Gage; Side Carrier	925.00
G-40	Side Checker Gage; Side Carrier	1,385.00
H-10	Shaft Checker Gage; Vertical Carrier	1,330.00
H-20	Shaft Checker Gage; Vertical Carrier	1,385.00
HL-10	Shaft Checker Gage; Vertical Carrier	1,615.00
HL-20	Shaft Checker Gage; Vertical Carrier	1,675.00
JSLP-10	Comparator Gage Thin Low Profile	450.00
JLP-10	Comparator Gage Low Profile	450.00
J-10	Comparator or Surface Plate Gage	460.00
J-20	Comparator or Surface Plate Gage	560.00
J-40	Comparator or Surface Plate Gage	825.00
K1-10	Dual Indicator Gage; Side Carrier & Standard Carrier	1,100.00
K1-20	Dual Indicator Gage; Side Carrier & Standard Carrier	1,350.00
K1-40	Dual Indicator Gage; Side Carrier & Standard Carrier	1,730.00
K2-10	Dual Indicator Gage; Standard Carrier & Vertical Carrier	1,100.00
K2-20	Dual Indicator Gage; Standard Carrier & Vertical Carrier	1,350.00
K2-40	Dual Indicator Gage; Standard Carrier & Vertical Carrier	1,730.00
KK1-10	Triple Indicator Checker Gage; Standard Carrier & Two Side Carriers	1,575.00
KK1-20	Triple Indicator Checker Gage; Standard Carrier & Two Side Carriers	1,995.00
KK1-40	Triple Indicator Checker Gage; Standard Carrier & Two Side Carriers	2,730.00
KK2-10	Triple Indicator Checker Gage; Standard Carrier, Side Carrier & Vertical Carrier	1,575.00
KK2-20	Triple Indicator Checker Gage; Standard Carrier, Side Carrier & Vertical Carrier	1,995.00
KK2-40	Triple Indicator Checker Gage; Standard Carrier, Side Carrier & Vertical Carrier	2,730.00
LG-10	Lazer Gage Manual, 1"/25mm Base	795.00
LG-20	Lazer Gage Manual 2"/50mm Base	855.00
LGM-10	Lazer Gage Motorized, 1"/25mm Base	1,295.00
LGM-20	Lazer Gage Motorized, 2"/50mm Base	1,355.00

The Concentricity Gaging System is comprised of (3) three main components: 1) first select the gage model, 2) select the main rollers, 3) select an indicator and/or indicators. The Concentricity gages are manufactured and assembled into two classifications that are calibrated and directly traceable to (N.I.S.T.) The Standard black models are guaranteed maximum .0002" (0.005mm) TIR. The Precision gold models are hand fitted-guaranteed maximum .000070" (0.0017mm) TIR. Add \$250.00 to base price for precision class. Calibration Certificate are provided on all Precision gages. Recalibration Certification \$40.00ea. For N.I.S.T. Calibrated Masters with certs \$150.00ea.

MAIN ROLLER SELECTION (ADD TO BASE PRICE)

Part No.	Description	Unit Prices
110-10FP	Full Plain Rollers Set (Model -10)	\$ 200.00 ea.
120-20FP	Full Plain Rollers Set (Model -20)	250.00
140-40FP	Full Plain Rollers Set (Model -40)	300.00
110-10HP	Half Plain Rollers Set (Model -10)	230.00
120-20HP	Half Plain Rollers Set (Model -20)	280.00
140-40HP	Half Plain Rollers Set (Model -40)	390.00
110-10QP	Quarter Plain Rollers Set (Model -10)	230.00
120-20QP	Quarter Plain Rollers Set (Model -20)	280.00
140-40QP	Quarter Plain Rollers Set (Model -40)	390.00
110-10FZ	Full Plain Zero Rollers Set (Model -10)	270.00
110-10HZ	Half Plain Zero Rollers Set (Model -10)	290.00
110-10QZ	Quarter Plain Zero Rollers Set (Model -10)	290.00
110-10TZ	Extra Thin Zero Rollers Set (Model -10)	330.00
110-10HS	Full Plain Short Rollers Set 1/2"/12mm Long (Model H -10,-20)	190.00
120-20HL	Full Plain Short Rollers Set 3/4"/19mm Long (Model H -10,-20)	195.00
120-25HL	Full Plain Short Rollers Set 1"/25mm Long (Model H -10,-20)	200.00

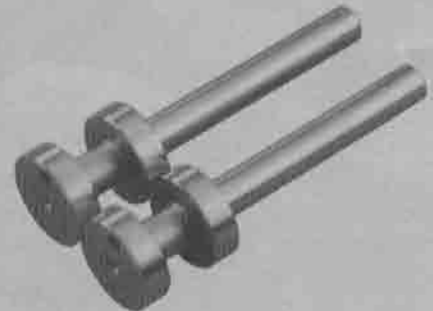
Special Rollers and Thread Style Rollers are Priced On Request



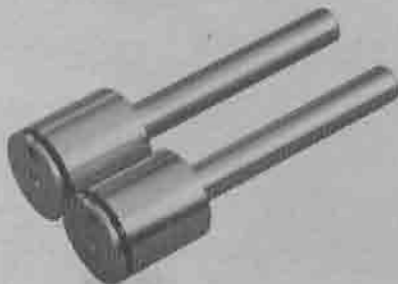
FULL PLAIN STYLE



HALF PLAIN STYLE



QUARTER PLAIN STYLE



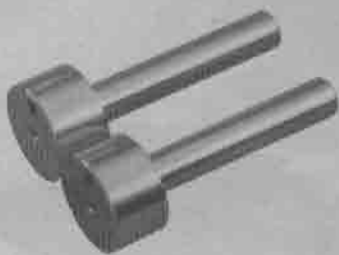
FULL PLAIN ZERO STYLE



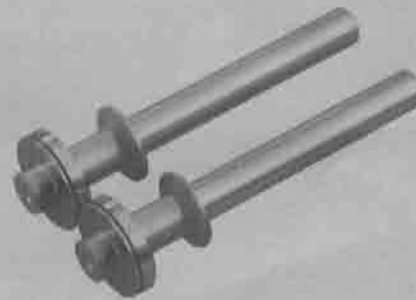
HALF PLAIN ZERO STYLE



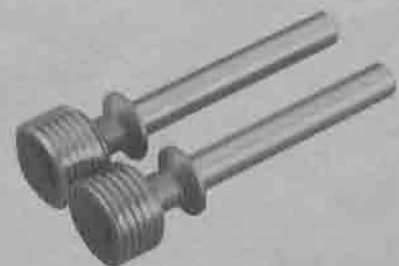
QUARTER PLAIN ZERO STYLE



FULL PLAIN SHORT STYLE
(MODELS H & HL ONLY)



EXTRA THIN ZERO STYLE



THREAD STYLE ROLLS

TOP ROLLER SELECTION (ONE INCLUDED WITH GAGE)

Part No.	Description	Unit Prices
140-10	Top Roller for (Model -10) 3/8" x 1/8" (9,5 x 3,2)	\$ 20.00 ea.
150-10	Top Roller for (Model -10) 1/2" x 3/16" (12,7 x 4,8)	20.00
160-10	Top Roller for (Model -10) 5/8" x 3/16" (15,8 x 4,8) Standard -10	23.00
170-10/20	Top Roller for (Models -10/-20) 3/4" x 9/32" (19 x 7,1) Standard -20	25.00
180-10/20	Top Roller for (Models -10/-20) 1" x 1/2" (25 x 12,7)	30.00
190-10/20	Top Roller for (Models -10/-20) 3/4" x 5/16" (25 x 7,9)	50.00
200-10/20	Top Roller for (Models -10/-20) 3/4" x 5/8" (25 x 15,8)	50.00
210-40	Top Roller for (Model -40) 5/8" x 1/2" (15,8 x 12,7)	55.00
220-40	Top Roller for (Model -40) 3/4" x 5/8" (19 x 15,8)	65.00
230-40	Top Roller for (Model -40) 1" x 5/8" (25 x 15,8) Standard -40.	75.00



SPECIAL TOP ROLLERS

240-10/20	Floating Pitch Top Roller for (Model-10,-20) (-## Specify Pitch When Ordering)	\$ 150.00 ea.
250-10/20	"Vee" Top Roller for (Model -10,-20) Used with Mandrel System	95.00
260-10	Zero Style Top Roller for (Model -10) used with Zero Roller Sets	85.00
261-10	Extra Thin Top Roller for (Model -10) used with Extra Thin Main Zero Roller Sets	95.00

MOTORIZED DRIVE SYSTEMS

270-08	Fixed Speed Motor Assembly, 8"/203mm Length Base Plate, (Models -10) 10rpm	\$ 500.00 ea.
270-10	Fixed Speed Motor Assembly, 10"/254mm Length Base Plate, (Models -10) 10rpm	520.00
270-15	Fixed Speed Motor Assembly, 15"/381mm Length Base Plate, (Models -10) 10rpm	550.00
270-17	Fixed Speed Motor Assembly, 17"/432mm Length Base Plate, (Model -20) 10rpm	570.00
270-19	Fixed Speed Motor Assembly, 19"/482mm Length Base Plate, (Model -40) 12rpm	600.00
275-10	Stepping Motor Assembly (Model -10) Driver and PLC Devices Required, No Wiring Hook Up.	449.00
275-20	Stepping Motor Assembly (Model -20) Driver and PLC Devices Required, No Wiring Hook Up.	499.00
275-40	Stepping Motor Assembly (Model -40) Driver and PLC Devices Required, No Wiring Hook Up.	599.00
285-00	Variable Speed 0-10rpm Drive (Add To Above Fixed Speed Pricing)	150.00
285-00	If Transformer required for 220V,50/62 Hz, 85 watts.	45.00

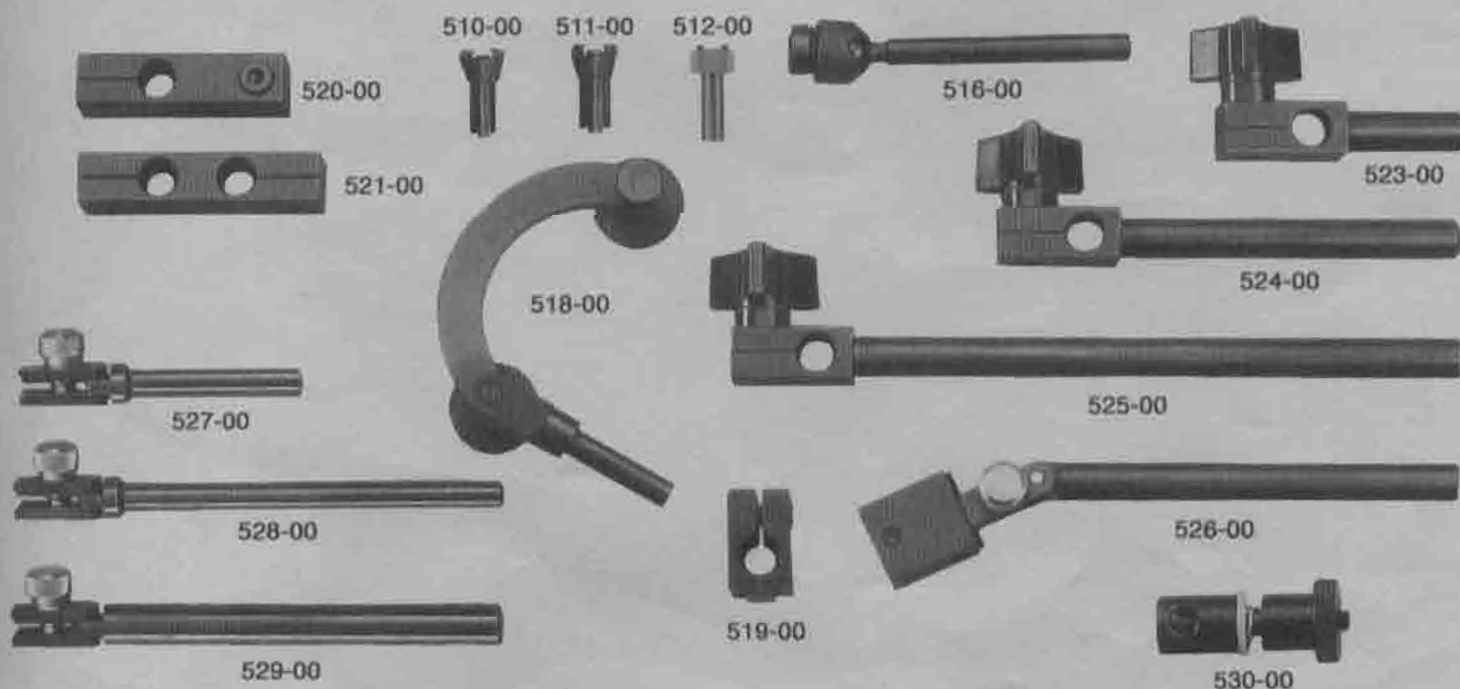
Where applications require hands-free for rotation, Universal has several motorized accessories that adapt to all the gage models. Motorized installation includes; new base, on/off switch harness, forward/reverse switch, fixed speed gearbox, and motor. Variable speed controlled motors includes new base, on/off switch and forward/reverse switch add to base price.

ATTACHMENTS FOR MODEL H & HL

Part No.	Description	Unit Prices
409-00	Support Roller Assembly	\$350.00 ea.
410-00	Horizontal Indicator Carrier Assembly	300.00
411-00	Front Horizontal Indicator Carrier Assembly	300.00
412-00	Vertical Indicator Carrier	325.00
413-00	Vertical Roller Checker Carrier with Fine Adjustment	595.00
414-00	Vertical Roller Checker Carrier	425.00
415-00	Checking Floating Diameter Attachment	630.00
424-00	Front Stop Post Assembly	190.00
425-00	Fixed Carbide Balls Support	225.00
426-00	Wide End Roller Support	235.00
427-00	End Roller Support	220.00
437-00	End Indicator Carrier Assembly	500.00
442-00	Back Stop Assembly	90.00
443-00	Front Part Pusher Assembly	325.00

INDICATOR MOUNTS

510-00	Indicator Dovetail Extension $\phi 5/32"$ x $1/2"$ (4mm x 20mm)	\$22.00 ea.
511-00	Indicator Dovetail Extension $\phi 1/4"$ x $13/16"$ (6,3mm x 20mm)	27.00
512-00	Indicator Dovetail Stem $\phi 1/4"$ x L= $3/4"$	20.00
516-00	Universal Extension Extension Holder $1/4"$ x $2-1/2"$ (6,3mm x 63mm)	36.50
517-00	Adapter Reducer Bushing $\phi 3/8"$ to $\phi 8$ mm size	15.00
518-00	Half "C" Extension Holder $\phi 1/4"$ x $4"$ (6,3mm x 102mm)	98.50
519-00	Indicator Dovetail Mount $\phi 3/8"$ (9,5mm)	60.00
520-00	Perpendicular Bracket Clamp $\phi 3/8"$ (9,5mm)	45.00
521-00	Parallel Bracket Clamp $\phi 3/8"$ (9,5mm)	45.00
523-00	Right Angle Attachment $\phi 3/8"$ (9,5mm) x L= $1-1/2"$ (40mm)	40.50
524-00	Right Angle Attachment $\phi 3/8"$ (9,5mm) x L= $3-1/2"$ (89mm)	47.50
525-00	Right Angle Attachment $\phi 3/8"$ (9,5mm) x L= $6"$ (152mm)	53.00
526-00	Combination Indicator Swivel Support and Dovetail Bracket	105.00
527-00	Indicator Swivel Support $\phi 1/4"$ (6,3mm) x L= $1-1/2"$ (40mm)	48.00
528-00	Indicator Swivel Support $\phi 1/4"$ (6,3mm) x L= $3-1/2"$ (89mm)	47.00
529-00	Indicator Swivel Support $\phi 3/8"$ (9,5mm) x L= $3-1/2"$ (89mm)	45.00
530-00	Indicator Swivel Clamp (Model -10)	35.00
531-00	Indicator Swivel Clamp (Model -20)	40.00
532-00	Indicator Swivel Clamp (Model -40)	45.00



MECHANICAL DIAL TEST INDICATORS

Part No.	Description	Unit Prices
530-000	Universal Dial Test Indicator .03" range, .0005" graduation, horizontal type	\$85.00 ea.
531-000	Universal Dial Test Indicator 0,8mm range, 0,01mm graduation, horizontal type	85.00
513-282	Mitutoyo "Quick-Set" Test Indicator .03" Range, .0005" Grad, Parallel Type (Added Vee Slot)	175.00
513-402	Mitutoyo "Quick-Set" Test Indicator .03" Range, .0005" Grad, Horizontal Type	99.40
513-403	Mitutoyo "Quick-Set" Test Indicator .008" Range, .0001" Grad, Horizontal Type	127.75
513-406	Mitutoyo "Combitest" Test Indicator .03"/0,7mm Range, .0005"/0.01mm Grad, Horizontal Type	115.35
513-412	Mitutoyo "Quick-Set" Test Indicator .03" Range, .0005" Grad, Horizontal Type (Long Probe)	141.00
513-414	Mitutoyo "Quick-Set" Test Indicator 0,8mm Range, 0,01mm Grad, Horizontal Type	122.60
513-404	Mitutoyo "Quick-Set" Test Indicator 0,8mm Range, 0,01mm Grad, Horizontal Type	100.45
513-405	Mitutoyo "Quick-Set" Test Indicator 0,2mm Range, 0,003mm Grad, Horizontal Type	111.25
513-406	Mitutoyo "Quick-Set" Test Indicator .03"/0,7mm Range, .0005"/0.01mm Grad, Horizontal Type	115.35
513-984	Mitutoyo "Quick-Set" Test Indicator 0,8mm Range, 0,01mm Grad, Parallel Type (Added Vee Slot)	175.00
599-7021-3	Brown & Sharpe .030" Range, .0005" Grad, 0-15-0 Reading, Parallel Type	220.90
599-7022-3	Brown & Sharpe .008" Range, .00005" Grad, 0-4-0 Reading, Parallel Type	248.40
599-7023-3	Brown & Sharpe .008" Range, .0001" Grad, 0-4-0 Reading, Horizontal Type	196.90
599-7031-3	Brown & Sharpe .030" Range, .0005" Grad, 0-15-0 Reading, Horizontal Type	155.80
599-7031-5	Brown & Sharpe .030" Range, .0005" Grad, 0-15-0 Reading, Horizontal Type (Black face)	129.30
599-7031-13	Brown & Sharpe 0,8mm Range, 0,01mm Grad, 0-01-0 Reading, Horizontal Type	155.80
599-7033-3	Brown & Sharpe .008" Range, .00005" Grad, 0-4-0 Reading, Horizontal Type	196.90
599-7033-5	Brown & Sharpe .008" Range, .00005" Grad, 0-4-0 Reading, Horizontal Type (Black face)	164.40
599-7033-13	Brown & Sharpe 0,2mm Range, 0,002mm Grad, 0-0-1-0 Reading, Horizontal Type	196.90
599-7035-3	Brown & Sharpe .020" Range, .0005" Grad, 0-10-0 Reading, Horizontal Type (Long Probe)	208.20
599-7035-5	Brown & Sharpe .020" Range, .0005" Grad, 0-10-0 Reading, Horizontal Type (Black face)	185.00
18.10012	Tesa 0,8mm Range, 0,02mm Grad, 0-0,1-0 Reading, Horizontal Type (Long Probe)	228.41
18.10011	Tesa 0,8mm Range, 0,01mm Grad, 0-4-0 Reading, Parallel Type	201.80
18.10013	Tesa 0,2mm Range, 0,002mm Grad, 0-100-0 Reading, Parallel Type	239.50
74.111372	Tesa .0001" Range, 0.16" Grad, 0-4-0 Reading, Horizontal Type	245.30
74.111965	Tesa .0005" Range, 0.060" Grad, 0-15-0 Reading, Horizontal Type Long Stylus Lg.	268.70
74.111368	Tesa 0,4mm Range, 0,002mm Grad, 0-10-0 Reading, Horizontal Type	245.30



74.111372



513-984



599-7032-5



513-402



513-406



513-104



513-204



599-7022-3



530-000



513-402

MECHANICAL DIAL INDICATORS

Part No.	Description	Unit Prices
600-000	Universal Dial Indicator .50" Range, .0001" Grad., 0-5-0 Dial, Group 2	\$95.00 ea.
601-000	Universal Dial Indicator 12,0mm Range, 0,002mm Grad., 0-10-0 Dial, Group 2	95.00
602-000	Universal Dial Indicator .50" Range, .001" Grad., 0-100 Dial, Group 2	65.00
603-000	Universal Dial Indicator 10,0mm Range, 0,01mm Grad., 0-100 Dial, Group 2	65.00
2411F	Mitutoyo .25" Range, .001" Grad., 0-50-0 Dial, Group 1	75.70
1045F	Mitutoyo 5.0mm Range, 0,01mm Grad., 0-50-0 Dial, Group 1	74.70
2417F	Mitutoyo 1" Range, .001" Grad., 0-50-0 Dial, Group 2	91.20
2776F	Mitutoyo 1" Range, .0005" Grad., 0-50 Dial, Group 2	105.05
2121-71	Mitutoyo 1,25mm Range, 0,005mm Grad., 0-25-0 Dial, Group 2	154.50
2047-01	Mitutoyo 10mm Range, 0,01mm Grad., 0-50-0 Dial, Group 2	66.45
2050-01	Mitutoyo 2050-01 20mm Range, 0,01mm Grad., 0-100 Dial, Group 2	99.95
14.83012	Brown & Sharpe .5" Travel, .0005" Reading, 0-20-0 Grad. Group 2	96.60
14.83018	Brown & Sharpe .5" Travel, .001" Reading, 0-50-0 Grad. Group 2	86.50
14.83011	Brown & Sharpe 2" Travel, .0001" Reading, 0-5-0 Grad. Group 2	105.10
14.83016	Brown & Sharpe 1" Travel, .0005" Reading, 0-50 Grad. Group 2	98.10
14.83022	Brown & Sharpe 1" Travel, .001" Reading, 0-100 Grad. Group 2	77.10

DIGITAL DIAL INDICATORS

575-123	Mitutoyo IDU Digimatic 1"/25mm range, .0005"/0,01mm graduation, SPC output	\$153.00 ea.
543-683	Mitutoyo IDS Digimatic .5"/12mm range, .0005"/0,01mm graduation, SPC output	130.00
543-252	Mitutoyo IDC Digimatic .5"/12mm range, .00005"/0,001mm graduation, SPC output, Preset	305.00
543-253	Mitutoyo IDC Digimatic .5"/12mm range, .0001"/0,01mm graduation, SPC output, Preset	305.00
543-452	Mitutoyo IDC Digimatic 1.0"/25mm range, .00005"/0,001mm graduation, SPC output, Preset	406.85
543-453	Mitutoyo IDC Digimatic 1.0"/25mm range, .00005"/0,001mm graduation, SPC output, Preset	406.85
543-552	Mitutoyo IDF Digimatic 1.0"/25mm range, .00005"/0,001mm graduation, SPC output, Preset, TIR	450.00
LG2110	CDI Digital Indicator 1"/30mm range, .0001"/0,0025mm graduation, DC, high/low hold, SPC, TIR output	395.00
LG2600	CDI Digital Indicator .6"/15mm range, .0001"/0,0025mm graduation, DC, high/low hold, SPC, TIR output	375.00
LG3110	CDI Digital Indicator 1"/30mm range, .00005"/0,0012mm graduation, DC, high/low hold, SPC, TIR output	425.00
LG3600	CDI Digital Indicator .6"/15mm range, .00005"/0,0012mm graduation, DC, high/low hold, SPC, TIR output	405.00
820-000	Federal μ max μ m, digital range .080"/2,0mm, resolution .00005"/0,001mm, Analog Display, Preset & SPC	235.00
830-000	Federal μ max μ m XL, digital range .5"/12,7mm, resolution .00005"/0,001mm, Analog Display, Preset & SPC	305.00
840-000	Federal μ max μ m XL, digital range 1"/24,0mm, resolution .00005"/0,001mm, Analog Display, Preset & SPC	389.00

EDI-2012



LG2110



19.30104



EG-225



EDI-11111



601-000



600-000



543-252



ELECTRONIC SPC/TIR DIGITAL /ANALOG AMPLIFIERS / PRINTERS

Part No.	Description	Unit Prices
519-402A	Mitutoyo Analog MuChecker, range $\pm 0.15''/500\mu\text{m}$ graduation, $.0005''/10\mu\text{m}$, single input probe	\$1,318.40 ea.
519-412A	Mitutoyo Digital MuChecker, range $\pm .08''/\pm 2\mu\text{m}$, graduation, $.00005''/0.001\text{mm}$ dual input	2,430.80
44.30008	TESATRONIC TT10 Pocket Amplifier AC/DC powered, range $\pm 0.25''/\pm 500\mu\text{m}$, graduation, $0.1\mu\text{m}$, SPC	1,270.40
44.90003	TESATRONIC TT20 Amplifier AC/DC powered, range $\pm 5000\mu\text{m}$ to $\pm 5\mu\text{m}$, graduation, $0.1\mu\text{m}$, no SPC	1,617.00
44.90004	TESATRONIC TT60 Amplifier AC/DC powered, range $\pm 5000\mu\text{m}$ to $\pm 5\mu\text{m}$, graduation, $0.1\mu\text{m}$, TIR SPC	1,952.20
EDM-832-W1	Federal Electronic Amplifier 117V 50/60 Hz, range $\pm 1''/\pm 2.0\text{mm}$, graduation, $0.1\mu\text{m}$, TIR,	1,510.00
EDM-832-W2	Federal Electronic Amplifier 220V 50/60 Hz, range $\pm 1''/\pm 2.0\text{mm}$, graduation, $0.1\mu\text{m}$, TIR,	1,510.00
64.90000	Printer SPC TESA Printer calculates a wide range of statistical values, powered 115vac - 7.3vdc	382.70
599-1011	RS232 Impact printer, serial interface, basic economical printer, powered 115vac - 7.3vdc	329.90

ELECTRONIC GAGE HEADS & PROBES

519-321	Mitutoyo Gage Lever Head Type, Range $\pm 0.20''/\pm 0.5\text{mm}$, measuring force 0.2N	\$332.00 ea.
519-322	Mitutoyo Gage Lever Head Type, Range $\pm 0.20''/\pm 0.5\text{mm}$, measuring force 0.02N	553.00
519-899	Mitutoyo Gage Lever Head Type, Range $\pm 0.47''/\pm 1.2\text{mm}$, measuring force 0.2N	561.00
519-332	Mitutoyo Gage Cartridge Head Type, Range $\pm 0.20''/\pm 0.5\text{mm}$, measuring force 0.25N	301.00
519-890	Mitutoyo Gage Cartridge Head Type, Range $\pm 0.59''/\pm 1.5\text{mm}$, measuring force 0.6N	317.00
599-988	Brown & Sharpe Lever Head Type Gage Head, Range $\pm 0.12''/\pm 0.03\text{mm}$, M force 0.1N	780.00
599-982-10	Brown & Sharpe Electronic Probe, Measuring Range $\pm 0.20''/\pm 0.5\text{mm}$, adjustable force .01/.2N	602.00
32.30019	Brown & Sharpe TESA Universal Probe, Retract .060/1.52mm measuring range $\pm 0.30''/1.00\text{mm}$	795.00
32.30028	Brown & Sharpe TESA Universal Probe, Retract .060/1.52mm measuring range $\pm 0.30''/1.00\text{mm}$	835.00
Note: Additional Holder and Contact Probe Accessories Quoted on specific applications.		
EHE-2050	Federal Electronic Lever Gage Head Range $\pm .010''/0.25\text{mm}$ measuring force 4 gms.	758.00
EHE-3050	Federal Electronic Lever Gage Head Range $\pm .010''/0.25\text{mm}$ measuring force 4.2 gms.	363.00
EHE-2102	Federal Electronic Cartridge Gage Head Range $\pm 0.40''/1.00\text{mm}$ measuring force 4 gms.	411.00

SPECIAL THREAD MANDRELS, COLLETS AND EXPANDING ARBORS

5000-**	External Twist Tite Thread Mandrels #10 (4mm) to 3/4"(20mm) Specify - Thread Size.	\$1,295.00 ea.
5001-**	External Twist Tite Thread Mandrels 13/16"(22mm) to 1-1/16"(27mm) Specify - Thread Size.	1,495.00
5002-**	Internal Twist Tite Thread Mandrels #10 (4mm) to 3/4"(20mm) Specify - Thread Size.	1,295.00
5003-**	Internal Twist Tite Thread Mandrels 13/16"(22mm) to 1-1/16"(27mm) Specify - Thread Size.	1,495.00
5004-**	Internal Tapered Thread Mandrels #10 (4mm) to 3/4"(20mm) Specify - Thread Size.	695.00
5005-**	Internal Tapered Thread Mandrels 13/16"(22mm) to 1-1/16"(27mm) Specify - Thread Size.	795.00
5006-**	Internal Twist Tite Collet Mandrels #10 (4mm) to 3/4"(20mm) Specify -Size.	795.00
5007-**	Internal Twist Tite Collet Mandrels 13/16"(22mm) to 1-1/16"(27mm) Specify -Size.	995.00
5008-**	Internal Expanding I.D. Mandrels #10 (4mm) to 3/4"(20mm) Specify -Size.	595.00
5009-**	Internal Expanding I.D. Mandrels 13/16"(22mm) to 1-1/16"(27mm) Specify -Size.	795.00
5010-00	Cylindrical Shank Collet Holders Size Range 0.5 to 10mm Specify Collet Size	195.00
5011-10	10 Piece Collet Set With Wooden Box 1-0.5 / 2-1 / 3-2 / 4-3 / 5-4 / 6-5 / 7-6 / 8-7 / 9-8 / 10-9	495.00
5012-**	Individual Collets 1-0.5 / 2-1 / 3-2 / 4-3 / 5-4 / 6-5 / 7-6 / 8-7 / 9-8 / 10-9	39.00

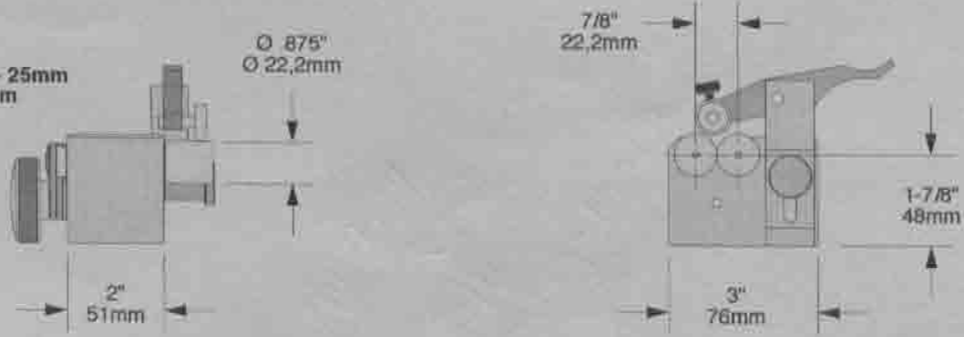


GAGE CAPACITY / GENERAL DATA

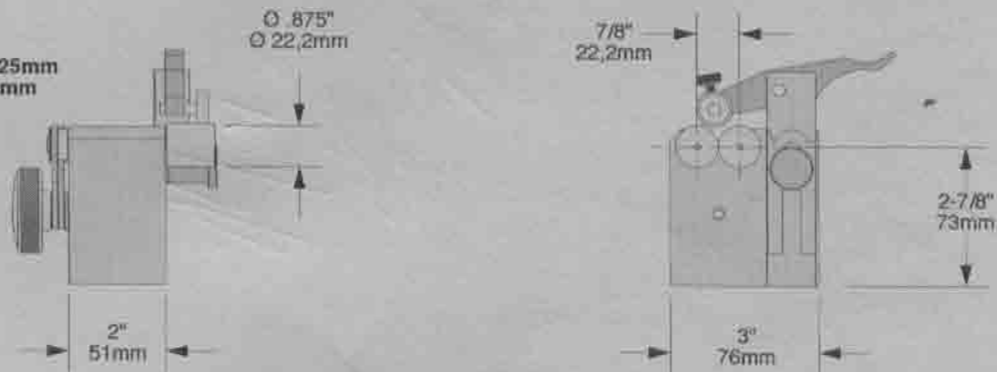
MODEL TYPE General Data	A-10 Min / Max	B-10 Min / Max	B-20 Min / Max	B-40 Min / Max	E-10 Min / Max	E-20 Min / Max	E-40 Min / Max	F-10 Min / Max	F-20 Min / Max
Part Diameter:	.12" - 1" 3,2-25mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.75" - 4" 20-102mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.75" - 4" 20-102mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm
Part Length:	.06" - 3" 1,5-76mm	.06" - 4" 1,5-102mm	.18" - 6" 4,7-152mm	.25" - 8" 6,3-203mm	.18" - 4" 4,7-102mm	.18" - 6" 4,7-152mm	.25" - 8" 6,3-203mm	.18" - 4" 4,7-102mm	.18" - 6" 4,7-152mm
Gage Length:	8.5" 216mm	10.5" 267mm	12.5" 318mm	14.5" 368mm	10.5" 267mm	12.5" 318mm	14.5" 368mm	10.5" 267mm	12.5" 318mm
Gage Width:	4.5" 114mm	4.5" 114mm	4.5" 114mm	6" 152mm	4.5" 114mm	4.5" 114mm	6" 152mm	4.5" 114mm	4.5" 114mm
Gage Height:	6" appx. 152mm	6" appx. 152mm	6" appx. 152mm	8" appx. 203mm	6" appx. 152mm	6" appx. 152mm	8" appx. 203mm	6" appx. 152mm	6" appx. 152mm
Shipping Weight:	4.5 lb 2.0 kg	4.9 lb 2.2 kg	6.4 lb 2.9 kg	11.2 lb 5.1 kg	4.9 lb 2.2 kg	6.4 lb 2.9 kg	11.2 lb 5.1 kg	4.9 lb 2.2 kg	6.4 lb 2.9 kg
MODEL TYPE General Data	G1,G2-10 Min / Max	G1,G2-20 Min / Max	G1,G2-40 Min / Max	H-10 Min / Max	H-20 Min / Max	HL-10 Min / Max	HL-20 Min / Max	JSLP,J-10 Min / Max	J-20 Min / Max
Part Diameter:	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.75" - 4" 20-104mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm
Part Length:	.18" - 4" 4,7-102mm	.18" - 6" 4,7-152mm	.25" - 8" 6,3-203mm	.18" - 12" 4,7-305mm	.18" - 12" 4,7-305mm	.18" - 30" 4,7-762mm	.18" - 30" 4,7-762mm	.06" - 4" 1,5-102mm	.18" - 6" 4,7-152mm
Gage Length:	10.5" 267mm	12.5" 318mm	14.5" 368mm	12.5" 318mm	12.5" 318mm	24.5" 622mm	24.5" 622mm	6" 152mm	7" 178mm
Gage Width:	4.5" 114mm	4.5" 114mm	6" 152mm	5.5" 140mm	5.5" 140mm	5.5" 140mm	5.5" 140mm	4.5" 114mm	5" 127mm
Gage Height:	6" appx. 152mm	6" appx. 152mm	8" appx. 203mm	9" appx. 229mm	9" appx. 229mm	9" appx. 229mm	9" appx. 229mm	5-1/2" appx. 140mm	5-1/2" appx. 140mm
Shipping Weight:	4.9 lb 2.2 kg	6.4 lb 2.9 kg	11.2 lb 5.1 kg	7.5 lb 3.4 kg	8.5 lb 3.9 kg	24.5 lb 11.1 kg	26.5 lb 12 kg	3.5 lb 1.6 kg	4.4 lb 2.0 kg
MODEL TYPE General Data	J-40 Min / Max	K1,K2-10 Min / Max	K1,K2-20 Min / Max	K1,K2-40 Min / Max	KK1,KK2-10 Min / Max	KK1,KK2-20 Min / Max	KK1,KK2-40 Min / Max	LG,LGM-10 Min / Max	LG,LGM-20 Min / Max
Part Diameter:	.75" - 4" 20-102mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.75" - 4" 20-102mm	.12" - 1" 3,2-25mm	.37" - 2" 10-50mm	.75" - 4" 20-102mm	.01" - .75" 0,3-19mm	3/8" - 2" 10-50mm
Part Length:	.25" - 8" 6,3-203mm	.18" - 4" 4,7-102mm	.18" - 6" 4,7-152mm	.25" - 8" 6,8-203mm	.18" - 4" 4,7-102mm	.18" - 6" 4,7-152mm	.25" - 8" 6,8-203mm	.18" - 6" 4,7-152mm	.18" - 6" 4,7-152mm
Gage Length:	8.5" 216mm	12.5" 318mm	12.5" 318mm	14.5" 368mm	10.5" 267mm	12.5" 318mm	14.5" 368mm	2" 51mm	6" 152mm
Gage Width:	6.5" 165mm	6.5" 165mm	6.5" 165mm	8" 203mm	4.5" 114mm	6.5" 165mm	8" 203mm	2.5" 64mm	4" 102mm
Gage Height:	9" apx. 229mm	6" appx. 152mm	6" appx. 152mm	8" appx. 203mm	6" appx. 152mm	6" appx. 152mm	8" appx. 203mm	3" appx. 76mm	3" appx. 76mm
Shipping Weight:	9.2 lb 4.2 kg	11.5 lb 5.2 kg	14.8 lb 6.8 kg	18.5 lb 8.4 kg	4.9 lb 2.2 kg	14.8 lb 6.8 kg	18.5 lb 8.4 kg	3.5 lb 1.6 kg	4.4 lb 2.0 kg

MAIN BLOCK INFORMATION

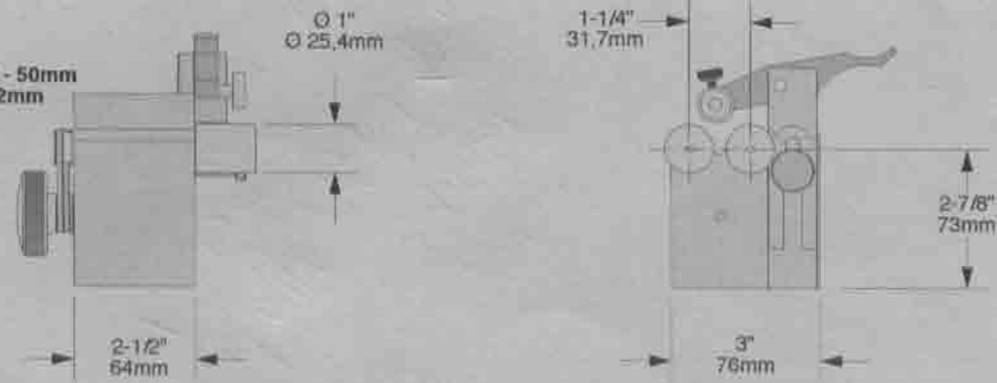
Block Size: -10LP
Gage Capacities:
Diameter: 1/8" - 1" / 3 - 25mm
Length: up to 3" / 76mm



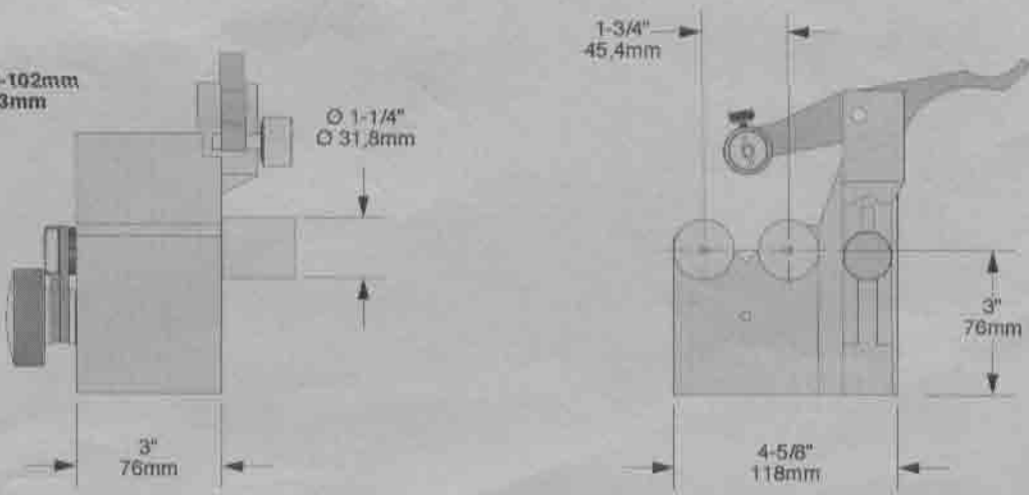
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Gage Capacities:
Diameter: 1/8" - 1" / 3 - 25mm
Length: up to 4" / 102mm



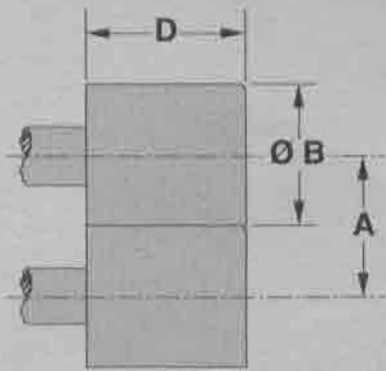
Block Size: -20
Gage Capacities:
Diameter: 3/8" - 2" / 10 - 50mm
Length: up to 6" / 152mm



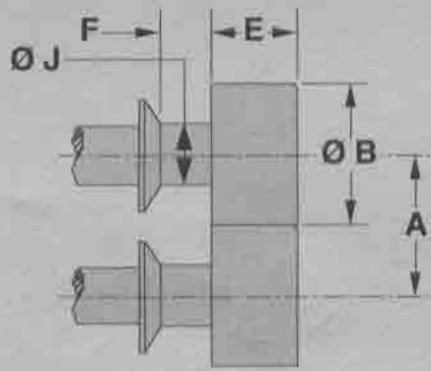
Block Size: -40
Gage Capacities:
Diameter: 3/4" - 4" / 20 - 102mm
Length: up to 8" / 203mm



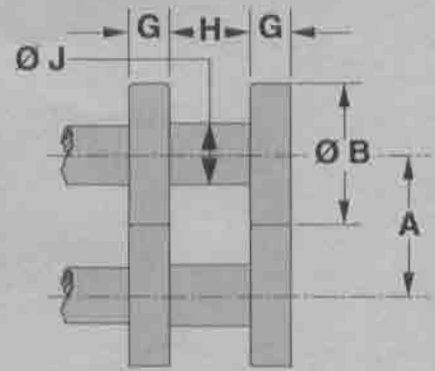
MAIN ROLLER INFORMATION



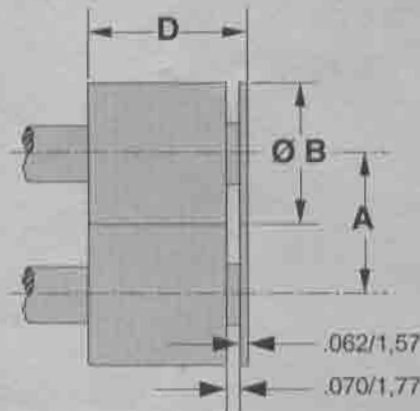
Full Plain Rollers
(Gage Models -10,-20-40)



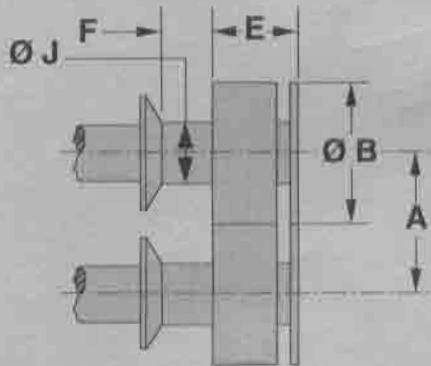
Half Plain Rollers
(Gage Models -10,-20,-40)



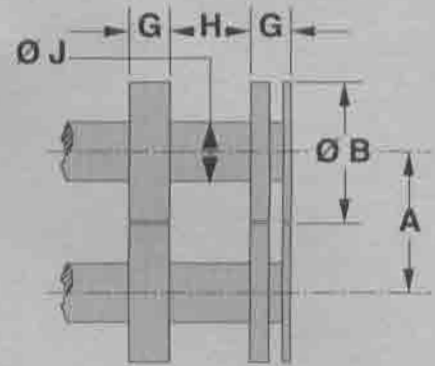
Quarter Plain Rollers
Gage Models -10,-20,-40)



Full Zero Rollers
(Gage Model -10)



Half Zero Rollers
(Gage Model -10)

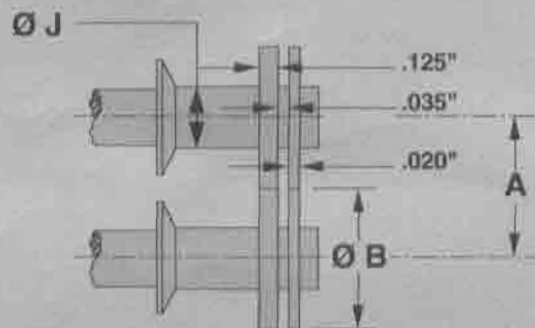


Quarter Zero Rollers
(Gage Model -10)

ORDERING INFORMATION
1 X X - X X

- Gage Size
- P = Plain
 - Z = Zero
 - F = Full
 - H = Half
 - Q = Quarter
 - T = Thin

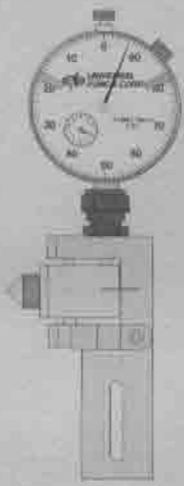
Example: P/N 120-HP
Model-20 Gage Size
Half Plain Rollers



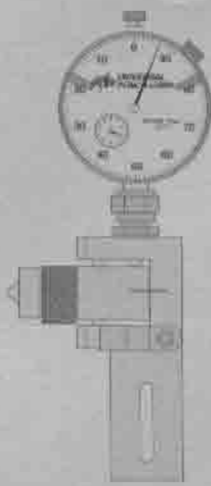
Thin Zero Rollers
(Gage Model -10)

Gage Model	A inch mm	Ø B inch mm	D inch mm	E inch mm	F inch mm	G inch mm	H inch mm	J inch mm
-10	.875/22,22	.875/22,22	1.00/25,40	.555/14,09	.320/ 8,12	.255/6,47	.490/12,44	.375/ 9,52
-20	1.250/31,75	1.000/25,40	1.25/28,57	.625/15,87	.500/12,70	.313/7,95	.625/15,87	.375/ 9,52
-40	1.750/44,45	1.250/31,75	1.50/38,10	.750/19,05	.553/14,04	.375/9,52	.750/19,05	.473/11,09

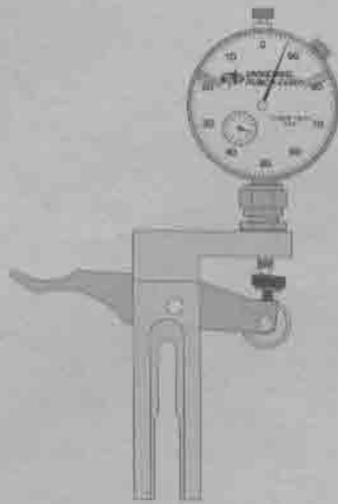
ATTACHMENTS / ACCESSORIES



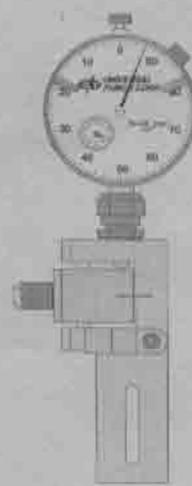
300-00



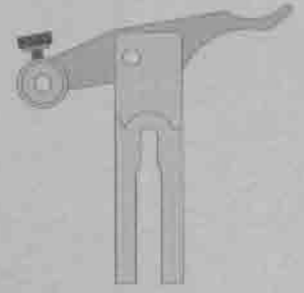
301-00



302-00



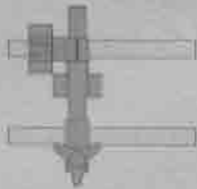
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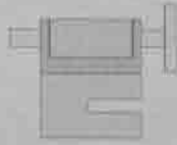
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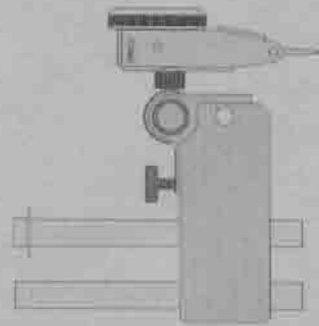
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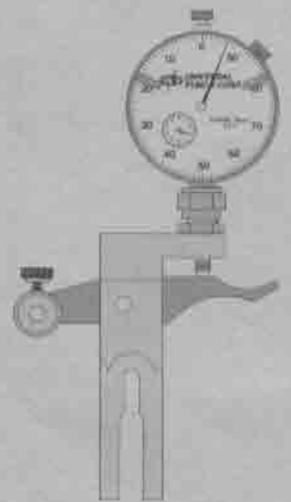
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315-00



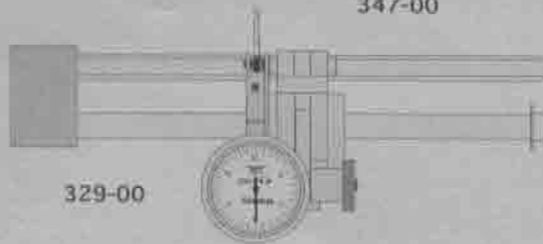
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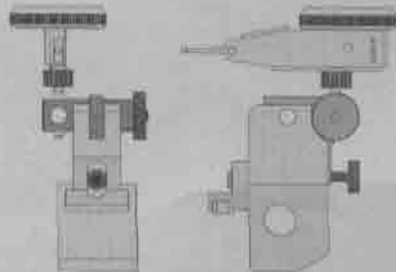
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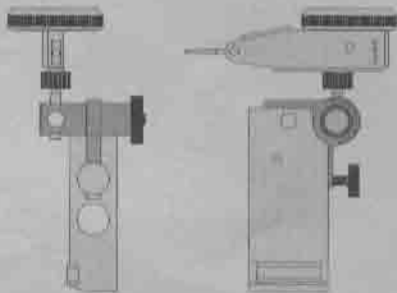
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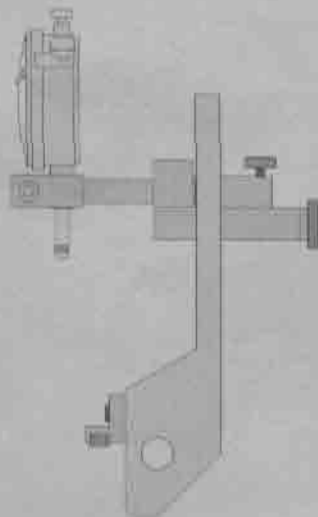
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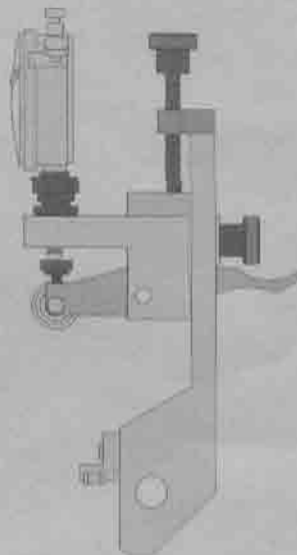
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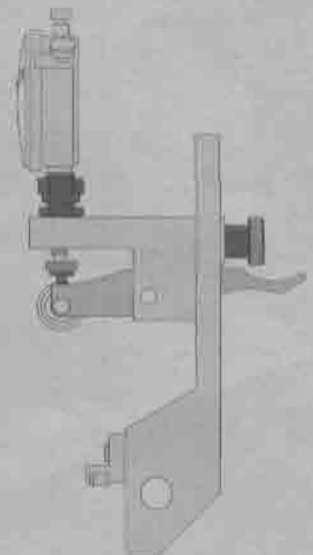
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349-00

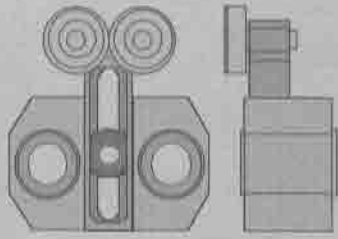


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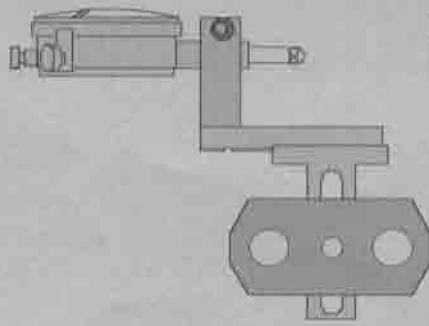


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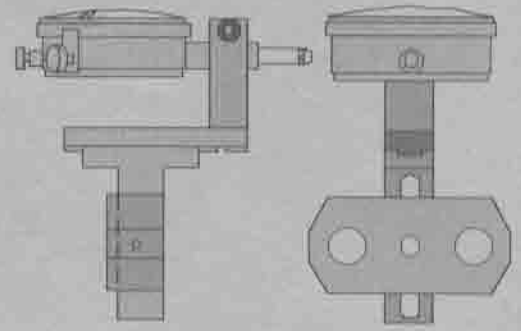
ATTACHMENTS / ACCESSORIES FOR MODEL H & HL



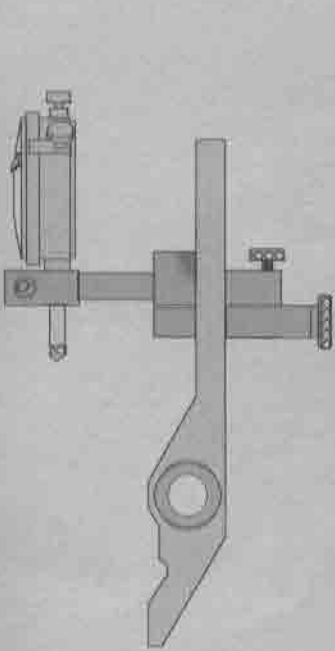
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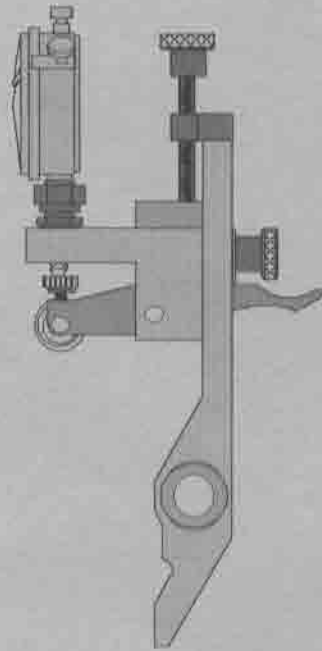
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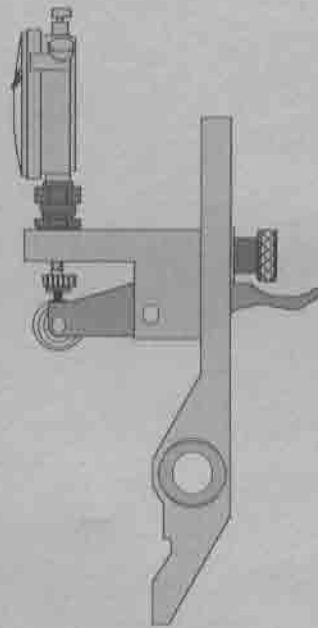
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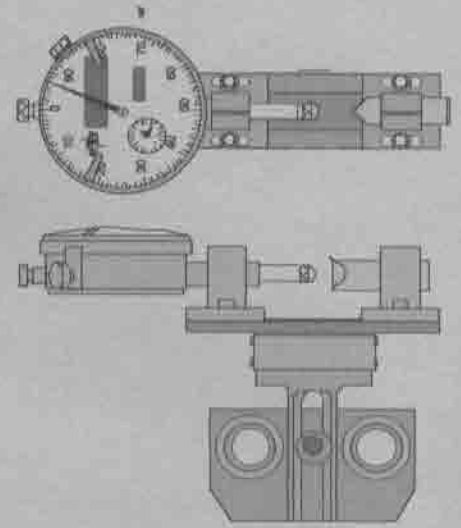
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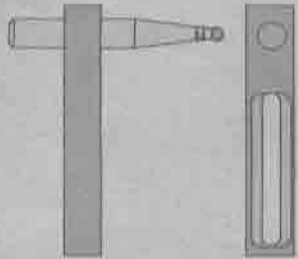
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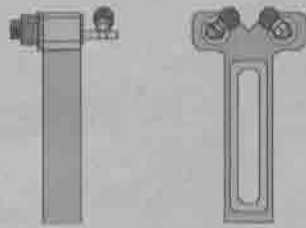
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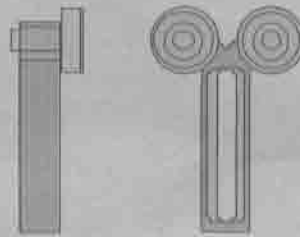
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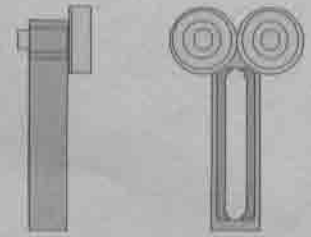
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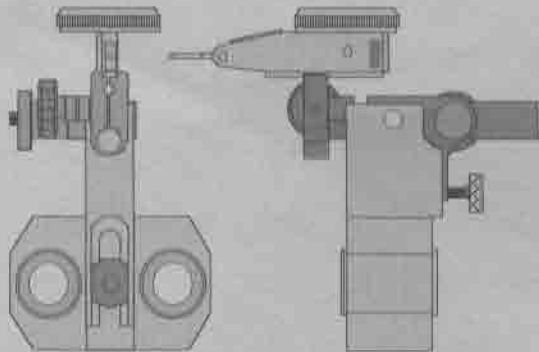
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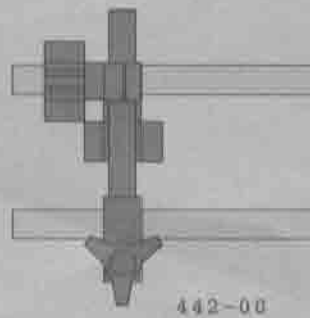
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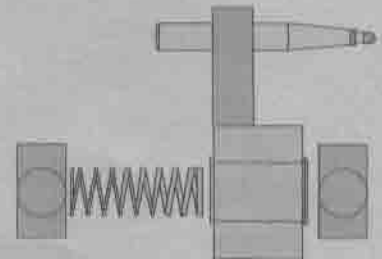
427-00



437-00



442-00



443-00