

# DELTRONIC GAGE GUIDE

Individual gages are packaged in plastic hinge-lid boxes with "Certificate of Accuracy," foam pad and gage in plastic envelope. Gage size marked on end of box.



## DELTRONIC INCH AND METRIC CLASS 'X' PLUG GAGES



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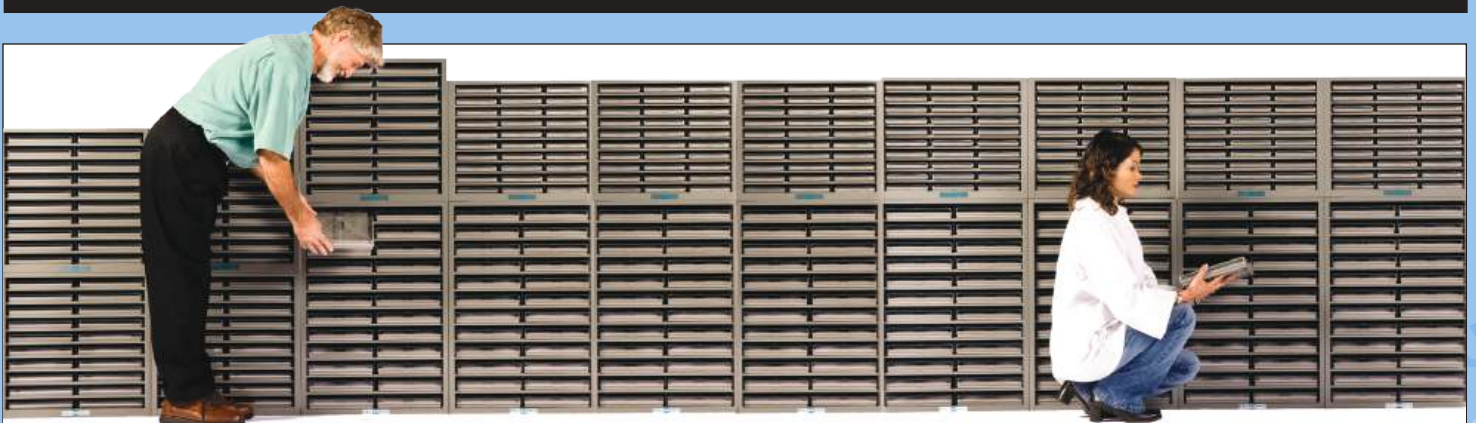
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## SAME-DAY-SHIPMENT

In Stock: 10,081 Inch sizes, every .0001" step, from .0040" thru 1.0120" and 10,240 Millimeter sizes, every .0025mm step, from 0.1 thru 25.70mm



## MASTER-REFERENCE CLASS X GAGE-LIBRARY

The most complete gage-reference in-plant availability ever offered as a standard product, the TP10081-L, carries the entire Deltronic range with every .0001" size from .0040" through 1.0120", a total of 10,081 in free steel Stor-Gage Cabinets.

## Quality Measurement Since 1955

# DELTRONIC Known-Size Masters



**Cylindricals with actual size certified to within 2 1/2 millionths (.000,002,5")**

**\$28<sup>00</sup>**  
PER  
GAGE\*

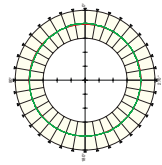
The Deltronic Metrology Laboratory now offers low cost master cylindrical standards with "known-size" diameters as calibrated to the nearest five millionths (.000,005") and roundness charted to the nearest millionth (.000,001"). Any .0001" step size from Deltronic's gage stocks in the range .0070" to 1.0120" is available with calibration.

Each Known-Size Master is supplied with a Certificate of Calibration showing the exact size near each end of the gage, plus a roundness calibration (polar chart) shown to the millionth by our Taylor-Hobson Talyrond 565H (see below). Known-Size gages can be used as setting masters to "zero" electronic comparators, supermikes, air gage rings, etc. Example of use: A half-inch Known-Size Master is selected for setting a comparative instrument. Its calibration

certificate shows the master's diameter to be .500,025". The electronic amplifier is set to zero plus 25 millionths, the actual size of the master, in order to read exactly zero when a part that is exactly a half-inch is measured on the comparator.

Diameter calibrations are accompanied by the NIST number assigned to our National Institute of Standards and Technology-calibrated master blocks.

\*For the Known-Size Masters service add just Twenty-Eight dollars (\$28.00) to gage prices listed on page 4. Shipment will be delayed one day. If you have priced setting masters or even Class "XXX" gages, you can fully appreciate the savings in this price for Known-Size Deltronics.



## DELTRONIC Certified Tolerances

### National Institute of Standards and Technology Calibrated Masters

Certificate of accuracy and traceability to the National Institute of Standards and Technology (NIST) is included with every Deltronic gaging product. This no-charge feature has its foundation in masters calibrated for us by the National Institute of Standards and Technology. In order to translate the Institute's measurements to the production of an accurate gaging product, there are three essential elements required. First, knowledgeable and experienced personnel; second, a suitable gage making/measuring environment; third, production and measuring equipment with inherent accuracy and resolution to satisfy the millionths requirements of our end products. Through many years of gage making experience Deltronic has evolved a "mix" of these essential elements to provide our customers with the maximum in consistent product quality at minimum cost.



#### ENVIRONMENT

The Metrology Laboratory maintains a "White Room" environment with limited access and a separate air temperature/filtration conditioning system, which maintains temperatures within two degrees Fahrenheit. This environment is provided for personnel and equipment required to calibrate working-master gages, which are cycled by comparison with NIST calibrated masters yearly or more often.

To maintain the integrity of this system of masters, both production inspection and finish lapping operations are performed at temperatures of 68 degrees plus or minus 2 degrees F, monitored with polar chart recordings.

#### GAGE MEASURING EQUIPMENT

To insure the conformance of production gages to NIST masters, the ultimate in inspection equipment is available and in constant use, not only in Deltronic's Metrology Laboratory, but in production and inspection departments as well.

**Roundness — (TAYLOR-HOBSON TALYROND 565H)** Permanent polar charts record roundness of Deltronic cylindrical gages and thread and gear wires to a resolution of one millionth. Similar machines are used by various government agencies, prime aerospace contractors and the finest metrology laboratories around the world.

**Hardness — (ROCKWELL HARDNESS TEST-ED)** "Wearability" is assured through constant surveillance of hardened blanks and production samplings to maintain Deltronic's guaranteed Rc 62-64 hardness.

#### Surface Finish — (TAYLOR HOBSON INTRA SURFACE FINISH MEASURING SYSTEM)

Surface Finishes are continually monitored with this system. With its automatic motors and computer control, this system has the sub-microinch resolution allowing us to measure the approximately one microinch surface finish to which all Deltronic Gages are lapped.

#### Diameter — (FEDERAL MILLIONTH RESOLUTION GAGE BLOCK COMPARATOR)

The millionth measurement capability of this electronic equipment is used for white room measurements of inch and metric cylindrical grand masters. Similar millionth measurement equipment is utilized throughout the lapping process to provide consistent determinations of exact diameters.





# DELTRONIC CLASS X Gage Features

+ 0.000,040" Minus Nothing  
+ 0.001mm Minus Nothing



## SINGLE TOLERANCE

Every Class "X" Deltronic gage throughout our entire range of sizes is made to the same size and roundness tolerances. Supplied with Certificate of Accuracy traceable to the National Institute of Standards and Technology.

Tolerance for	Size	Roundness
Inch Gages	+ 0.000,040" -0	0.000,020"
Metric Gages	+0.0010mm -0	0.0005mm

## SIZE ON EACH GAGE

This Self-identifying feature eliminates time spent in manually checking and re-checking gage sizes, reduces possibility of error.

## EXCLUSIVE RELIEF "HANDLE"

Enables use with or without handles to save time and cost, and improve grip under slippery or oily conditions.

## EXTRA LENGTH

Length varies with diameter from 1 7/8" to 3 1/2" to provide more useable gage surface.

## ABSOLUTE CONCENTRICITY

This concentricity of ends, plus extra length, is invaluable for layout and hole spacing measurement.

## PRECISION LAPPED

Each gage is lapped to approximately one microinch finish that creates a mirror-like surface with additional resistance to wear.

## HARDENED & COLD STABILIZED

Heat treated to a hardness of Rockwell "C" 62-64 and Cold Stabilized to minimize size and form variations throughout the exceptionally long life potential built into each Deltronic gage.

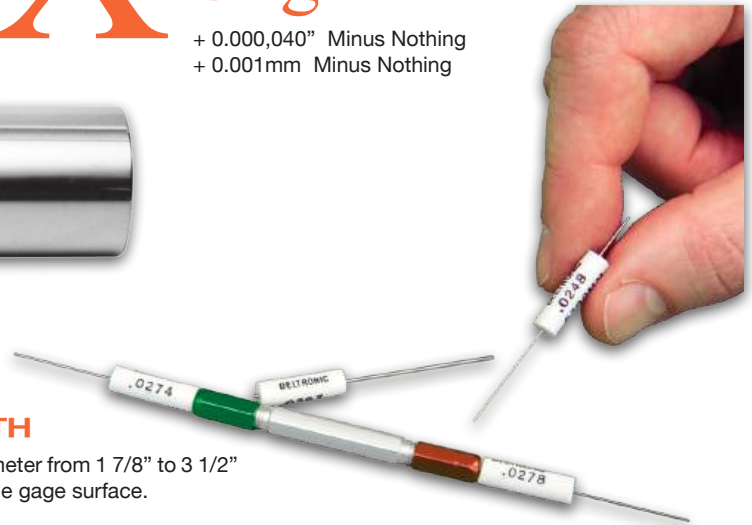
## TINY "X" GAGES WITH INSUL-GRIP

The insulator grip supplied free with Deltronic gage sizes .0070" thru .0589" is an original Deltronic concept that provides convenience in handling and control of small diameters.

The Insul-Grip prevents transfer of hand heat, acids and moisture in handling and provides instant, size-marked identification.

The Insul-Grip can be moved to any point on the gage or easily removed and replaced when using in AGD Handles.

Tiny "X" gages maintain the same Deltronic plus 40 millionths, minus nothing tolerance and are precision lapped, hardened and cold stabilized, and extra long for more useable gage surface (see features listed at left).



**DELTRONIC "X" GAGES IN COMBINATION COST 40% LESS THAN INDIVIDUALS AND PROVIDE TIME SAVING CONVENIENCE**



**Gage-Library Combinations** consist of a range of gage sets. Per gage cost is over 40% less than same gages purchased individually. Further benefits of convenience come from having libraries in your plant or inspection department. Steel cabinets are included with all Libraries to facilitate set tray storage. See pages 10 thru page 12.



**Gage Set Combinations** contain a range of gages in a tray that can be taken to the job or machine. They are available in increments and nominal sizes to suit your standard hole sizes and tolerance limits (i.e. tenths, half thousandths, thousandths or mm's.) See pages 7 thru page 9.

# DELTRONIC CLASS X Stock Gage Sizes






+ 0.000,040" Minus Nothing  
+ 0.001mm Minus Nothing

## Same-Day-Shipment

of more than 10,000 Inch and Metric Sizes Available in every .0001" step from .0040 thru 1.0120" and .0025mm step, from 0.1000mm through 25.7000mm



Individual gages are packaged in plastic hinge-lid boxes with "Certificate of Accuracy," foam pad and gage in plastic envelope. Gage size marked on end of box.

TOTAL QUANTITY PRICES				*Bulk Package Pricing			
Use total of all gages on order to price each size							
CLASS "X" GAGES	DIAMETER SIZE RANGES	LENGTH	ONE	2-4	5-9	10-UP	*50-UP
  Size marked Insul-Grips only sizes .0070" thru .0589"	.0040" - .0150" .1000mm - .3800mm	1 7/8" 47.62mm	34.00	33.00	32.00	31.00	30.00
	.0151" - .0247" .3825mm - .6275mm	1 7/8" 47.62mm	32.00	31.00	30.00	29.00	28.00
	.0248" - .1080" .6300mm - 2.7425mm	2 1/4" 57.15mm	26.00	25.00	24.00	23.00	22.00
 Sizes from .0040" thru .1800" do not have a center relief.	.1081" - .3872" 2.7450mm - 10.0350mm	2 1/2" 63.50mm	25.00	24.00	23.00	22.00	21.00
 .3873	.3873" - .6375" 10.0375mm - 16.1925mm	3" 76.20mm	28.00	27.00	26.00	25.00	24.00
 .6380	.6376" - .8370" 16.1950mm - 21.2575mm	3 1/2" 88.90mm	32.00	31.00	30.00	29.00	28.00
	.8371 - 1.0120" 21.2600mm - 25.7000mm	3 1/2" 88.90mm	34.00	33.00	32.00	31.00	30.00

\*BULK PACKAGING Minimum 10 of a size in plastic bags.  
50 gage minimum total bulk packaging order.

## GENERAL ORDER INFORMATION

### TOTAL-ORDER PRICES

Total all of the gages on your order (may be mixed sizes) to find the price of each size. **Example: if you have a total of more than ten gages on your order, use the price column under the heading "10-up"** to price each gage, according to size.

### HANDLING FEES

For orders less than \$80.00 and Will Calls, a \$10.00 Handling Fee will be applied.

### GO/NO-GO SELECTION

All class "X" Deltronics have one tolerance (+.000,040", minus nothing).

When ordering for critical hole checking (tenths tolerance) select a No-Go diameter .0001" smaller than usual.

Specify your Go Gage to take advantage of the maximum wear allowance. MIL-STD-120 allows 5-10% of total part tolerance as Go gage wear allowance (ordnance std. 5%). Deltronic's tenth step availability encourages selection of best Go size for maximum gage life. If hole is .2500", with a tolerance of +.001", minus nothing, add .0001" to Go size as wear allowance and order a .2501" Deltronic.

### \*BULK PACKAGING

To qualify for bulk packaging, the order must be for a minimum of ten gages of each size and include not less than 50 gages total. All the gages of one size are packaged together in clear plastic, with one certificate per size.

Bulk packaging is ideal for production inspection requirements where quantities of each gage size are needed but where there is no use for individual box packaging gage certification. The lower per-gage cost for bulk packaging is shown above.

In repetitive production gaging applications, it is usually possible to anticipate gage wear/life (i.e., the number of parts checked with the gage remaining in tolerance). At the end of the in-tolerance period, gages can be simply discarded and replaced with new members, thereby entirely bypassing the cost of cycle calibration. Here is a big potential additional savings in the use of these "Bulk Packaged" gages.

# DELTRONIC AGD Handles

Permanently stamp-marked to your specification.



TO ORDER HANDLES specify: 1. TWO BUSHING SIZES FOR EACH HANDLE (according to size of each gage. See bushing chart- page 6); 2. HANDLE NUMBER (2W, 4W etc., see handle chart).

HANDLE MARKING: \$5.00 extra per handle for up to 3 flats-GO SIZE, NO-GO SIZE, or your GAGE CONTROL CODE (up to 12 digits). (\$4.00 more for any additional copy)

## AGD 2-END HANDLES

INCH OR GOLD METRIC

Price of handle includes 2 bushings. Please specify sizes as bushings have limited range. See chart on page 6.

GAGE DIAMETER-RANGE			
SIZE	INCH	METRIC	PRICE
1W	.0 - .075	.0000mm - 1.9000mm	21.00
2W	.075 - .180	1.9100mm - 4.5700mm	21.00
3W	.180 - .281	4.5700mm - 7.1300mm	23.00
4W	.281 - .406	7.1300mm - 10.3100mm	24.00
5W	.406 - .510	10.3100mm - 12.9500mm	29.00
6W	.510 - .635	12.9500mm - 16.1000mm	34.00
7W	.635 - .760	16.1000mm - 19.3000mm	37.00
8W	.760 - 1.012	19.3100mm - 25.7000mm	43.00

## SPLIT/MATE GAGE HANDLES

### “CONVERTIBLE” SINGLE-END OR DOUBLE-END GAGE HANDLES

#### IMPROVED GAGE HANDLING AND PROTECTION

Split/Mate gage handles on individual gages provide the means, as well as the encouragement, for proper gage handling.

#### QUICK MAKE-UP OF GO/NO-GO COMBINATIONS

When GO/NO-GO combinations are selected from gages equipped with Split/Mate gage handles, the two sizes can be mated in a typical GO/NO-GO handle configuration in a fraction of the time required by conventional handles. This unusual flexibility can reduce the number of duplicate sizes needed where gages are otherwise locked-in to obsolete GO/NO-GO combinations in conventional handles.

Consider also that GO/NO-GO combinations in Split/Mate gage handles may be size labeled and sealed with Deltronic Tamper-Proof Calibration Labels to preserve their integrity on the job and to simplify calibration recycling.



#### PHYSICAL CONTROL/PROGRAMMING OF GAGE WEAR/CALIBRATION

The Split/Mate handles provide an unusually effective physical means of calibration programming each gage to reduce calibration costs, maintain accuracy-in-use and fully utilize the gage's useful-life potential.

Reversible plug gages, without handles, are subject to random use and wear of both ends. The physical presence of the Split/Mate gage handle on a gage makes it possible to limit use to one end, which can be effectively controlled by calibration cycling for guaranteed accuracy during use.

SPLIT/MATE HANDLE & BUSHING (specify RED or GREEN cap)			THREADED COUPLER PRICE
SIZE	RANGE	PRICE	
1W-SM	.000" - .075"	8.40	7.50
2W-SM	.075" - .180"	8.40	7.80
3W-SM	.180" - .281"	9.60	8.50
4W-SM	.281" - .406"	11.70	9.00
5W-SM	.406" - .510"	13.80	9.50
6W-SM	.510" - .635"	18.30	11.30
7W-SM	.635" - .760"	21.80	14.10
8W-SM	.760" - 1.012"	32.30	17.00

\*SPLIT/MATE HANDLES CANNOT BE MARKED

**BULK PACKAGING** Minimum 10 of a size in plastic bags, 50-gage minimum total bulk-package order.

# BUSHINGS: SIZE AND PRICE CHART

Note: 2 bushings are included in price of each AGD handle.

1 bushing is included in price of each Split/Mate handle.

(Be sure to specify bushing sizes needed with each handle ordered.)

INCH					METRIC			INCH					METRIC			INCH					METRIC		
Bushing		Size Range			Size Range			Bushing		Size Range			Size Range			Bushing		Size Range			Size Range		
Number	Above	Thru			Above	Thru		Number	Above	Thru			Above	Thru		Number	Above	Thru			Above	Thru	
1W	010	0	–	0.010	0	–	0.25	2W	082	0.075	–	0.082	1.91	–	2.08	3W	188	0.180	–	0.188	4.57	–	4.78
	015	0.010	–	0.015	0.25	–	0.38		089	0.082	–	0.089	2.08	–	2.26		196	0.188	–	0.196	4.78	–	4.98
	020	0.015	–	0.020	0.38	–	0.51		096	0.089	–	0.096	2.26	–	2.44		204	0.196	–	0.204	4.98	–	5.18
	025	0.020	–	0.025	0.51	–	0.64		103	0.096	–	0.103	2.44	–	2.62		212	0.204	–	0.212	5.18	–	5.38
	030	0.025	–	0.030	0.64	–	0.76		110	0.103	–	0.110	2.62	–	2.79		220	0.212	–	0.220	5.38	–	5.59
	035	0.030	–	0.035	0.76	–	0.89		117	0.110	–	0.117	2.79	–	2.97		228	0.220	–	0.228	5.59	–	5.79
	040	0.035	–	0.040	0.89	–	1.02		124	0.117	–	0.124	2.97	–	3.15		236	0.228	–	0.236	5.79	–	5.99
	045	0.040	–	0.045	1.02	–	1.14		131	0.124	–	0.131	3.15	–	3.33		244	0.236	–	0.244	5.99	–	6.20
	050	0.045	–	0.050	1.14	–	1.27		138	0.131	–	0.138	3.33	–	3.51		252	0.244	–	0.252	6.20	–	6.40
	055	0.050	–	0.055	1.27	–	1.40		145	0.138	–	0.145	3.51	–	3.68		261	0.252	–	0.261	6.40	–	6.63
060	0.055	–	0.060	1.40	–	1.52	152	0.145	–	0.152	3.68	–	3.86	271	0.261	–	0.271	6.63	–	6.88			
065	0.060	–	0.065	1.52	–	1.65	159	0.152	–	0.159	3.86	–	4.04	281	0.271	–	0.281	6.88	–	7.14			
070	0.065	–	0.070	1.65	–	1.78	166	0.159	–	0.166	4.04	–	4.22	PRICE OF ABOVE \$7.00									
075	0.070	–	0.075	1.78	–	1.91	173	0.166	–	0.173	4.22	–	4.39										
PRICE OF ABOVE \$7.00							180	0.173	–	0.180	4.39	–	4.57										
PRICE OF ABOVE \$7.00																							

INCH					METRIC					INCH					METRIC								
Bushing		Size Range			Size Range			Bushing		Size Range			Size Range			Bushing		Size Range			Size Range		
Number		Above	Thru		Above	Thru		Number		Above	Thru		Above	Thru		Number		Above	Thru		Above	Thru	
4W	291	0.281	–	0.291	7.14	–	7.39	5W	420	0.406	–	0.420	10.31	–	10.67	7W	656	0.635	–	0.656	16.13	–	16.66
	301	0.291	–	0.301	7.39	–	7.65		435	0.420	–	0.435	10.67	–	11.05		672	0.656	–	0.672	16.66	–	17.07
	311	0.301	–	0.311	7.65	–	7.90		450	0.435	–	0.450	11.05	–	11.43		688	0.672	–	0.688	17.07	–	17.48
	321	0.311	–	0.321	7.90	–	8.15		465	0.450	–	0.465	11.43	–	11.81		704	0.688	–	0.704	17.48	–	17.88
	331	0.321	–	0.331	8.15	–	8.41		480	0.465	–	0.480	11.81	–	12.19		719	0.704	–	0.719	17.88	–	18.26
	341	0.331	–	0.341	8.41	–	8.66		495	0.480	–	0.495	12.19	–	12.57		735	0.719	–	0.735	18.26	–	18.67
	351	0.341	–	0.351	8.66	–	8.92		510	0.495	–	0.510	12.57	–	12.95		750	0.735	–	0.750	18.67	–	19.05
	361	0.351	–	0.361	8.92	–	9.17		PRICE OF ABOVE \$8.00					760	0.750		–	0.760	19.05	–	19.30		
	371	0.361	–	0.371	9.17	–	9.42		PRICE OF ABOVE \$8.00					PRICE OF ABOVE \$8.00									
	382	0.371	–	0.382	9.42	–	9.70		6W	532	0.510	–	0.532	12.95	–		13.51	8W	781	0.760	–	0.781	19.30
394	0.382	–	0.394	9.70	–	10.01	547	0.532		–	0.547	13.51	–	13.89	812	0.781	–		0.812	19.84	–	20.62	
406	0.394	–	0.406	10.01	–	10.31	563	0.547		–	0.563	13.89	–	14.30	843	0.812	–		0.843	20.62	–	21.41	
PRICE OF ABOVE \$7.00					579	0.563	–	0.579		14.30	–	14.71	875	0.843	–	0.875	21.41		–	22.23			
					594	0.579	–	0.594		14.71	–	15.09	906	0.875	–	0.906	22.23		–	23.01			
					610	0.594	–	0.610		15.09	–	15.49	937	0.906	–	0.937	23.01		–	23.80			
					625	0.610	–	0.625		15.49	–	15.88	968	0.937	–	0.968	23.80		–	24.59			
					635	0.625	–	0.635	15.88	–	16.13	1000	0.968	–	1.012	24.59	–	25.70					
					PRICE OF ABOVE \$8.00					PRICE OF ABOVE \$8.00													



# DELTRONIC CLASS X Gage Sets

+ 0.000,040" Minus Nothing  
+ 0.001mm Minus Nothing

## SPECIAL SETS

Special Sets available as Standard! Drawing from our Inventory of over 10000 sizes, many thousands of inch sets can be made up to suit your needs, while still shipping Same-Day. Limited only by our gage range of 0.0040 to 1.0120", Class X Gage sets are available with popular increments of .001", .0005", .0001", only.  
Order by the set's nominal and Step Size (THS, HT, and TP) shown below.

## STANDARD STEPS

.001" steps – Page 8, see THS25 sets.  
.0005" steps – Page 8, see HT24 sets.  
.0001" steps – Page 8, see TP25 sets.

## SET NOMINAL



Illustrated: a TP25 Tenth set with a .2500" Nominal gage, center. 12 gages, left row, are in .0001" increments RANGING DOWNWARD from the Nominal size. Right row, 12 gages in .0001" increments RANGING UPWARD from the Nominal size

The Deltronic Class "X" Gage set is a unique combination of plug gages that has become a basic measuring tool (along with gage blocks, micrometers and indicators) for the metalworking industry.

Here's why —

## Exceptional Flexibility of Sets

The range of gages, in each set, offer hundreds of combinations for qualifying hole sizes in or around the nominal size. You can choose any combination of GO/NO-GO tolerances, or use the range to find the exact size of a hole.

They provide standards for zeroing comparators, setting snap gages, micrometer checking, hole center and layout determination, precision arbors for staging parts and/or checking runout of blanks. Many plants, in consideration of the virtually unlimited applications and low sets costs, have provided duplicate sets to each department concerned with cylindrical gaging requirements. In doing this, they have established, for all their Q.C., Prototype, Receiving and Production functions, a single, common, gage tolerance!

## Single, Certified Tolerance

All Deltronic Class "X" Gage sets contain a "Certificate of Accuracy" that unconditionally guarantees: (a) each gage to be within a size tolerance of plus .000,040", minus nothing; (b) surface finish approximately one microinch; (c) both ends concentric to one another; and (d) specifies NIST traceability through gage blocks calibrated directly by NIST.

## Wide Selection of Sets

Over 10,000 sets are available from Deltronic's stock of finished gages in every .0001" size from .0040" thru 1.0120". Hole sizes common to every segment of the metal working industry have dictated the nominal sizes of stock sets in increments of .001", .0005" and .0001" (i.e., in stock, .0001" increment sets nominals are every 64th fraction from 1/64 to 1", and all Letter and Number drill sizes). Sets with other nominals may be purchased, in these increments, at same prices as stock sets. These same stock sets in multiples covering a wide range of most-used sizes, are available in stock Gage-Libraries, which offer the low set prices plus free Stor-Gage metal cabinets.

## Dust/Rust Protective Case Has Detailed Markings

The broad center strip of each set case is marked for location of the nominal gage and the exact slot location of each gage by increments. Each size-marked gage is easily located and replaced to maintain the order of the set.

The clear plastic lid of each set is labeled to identify: Set Type (THS25, TP25, etc.); Nominal Gage Size; Increments (.001", .0005" or .0001"); and Limits of Range covered (smallest and largest sizes in set). The double label makes this information visible from both the front and top of the case.

## Immediate Availability

All gages and gage sets are stocked by Deltronic for Same-Day-Shipment. And to insure the day by day working integrity and availability of your set after purchase, Deltronic's same commitment to inventory and prompt shipment means we can supply immediate replacements for worn or damaged gages from stock.

## TP25 TENTH SETS



Consists of a center Nominal Gage, plus 12 gages in .0001" STEPS RANGING DOWNWARD from the nominal and 12 gages in .0001" STEPS RANGING UPWARD from the nominal.

### SUGGESTED USES

Tenth step Gage-Sets have virtually unlimited applications in various Q.C., prototype and production functions. They provide standards for zeroing comparators, setting snap gages, hole center and layout determination, micrometer checking, precision arbors for staging parts and/or checking runout of blanks, etc. Receiving Inspectors can "walk up," in tenth steps, to actual new hole sizes of plated or anodized parts.

## TP25 TENTH STEP (.0001") SETS

Sets may be ordered with any desired nominal size, as needed. The price of the set is shown in various ranges as listed below.

TP25 TENTH STEP (.0001" STEP) SETS		
Nominal Sizes From	Thru	Price
0.0052"	0.0150"	485.00
0.0151"	0.0247"	385.00
0.0248"	0.1080"	300.00
0.1081"	0.3872"	330.00
0.3873"	0.6375"	465.00
0.6376"	0.8370"	505.00
0.8371"	1.0108"	525.00

## THH25 THOUSANDTH SETS

Both THH25 sets and THS25 sets contain gages in .001" increments. However, the THH25 set Nominal falls on the half thousandth (i.e. .2445", .5245", etc.) and therefore, all sizes surrounding the Nominal fall on half thousands in .001" steps (i.e. .2245" Nominal set includes .2255", .2265", etc. RANGING UPWARD and .2235", .2225", etc. RANGING DOWNWARD).

### SUGGESTED USES

THH25 set were created to supplement THS25 sets, THH25 Gage-Libraries and other thousandth coverage you may now have. While the nominal and gages of THS Sets always end on the even thousandth, THH gages and nominals end on the half-thousandth (.0005"). THH coverage of every half-thousandth may be a must to upgrade hole-measuring capability in plants experiencing ever tighter tolerance specifications of piece part prints.

## THH25 (.001" STEP on half-thousandth) SETS

Nominal Sizes From	Thru	Price
0.0165"	0.0247"	385.00
0.0248"	0.1080"	300.00
0.1081"	0.3872"	330.00
0.3873"	0.6375"	465.00
0.6376"	0.8370"	505.00
0.8371"	0.9995"	525.00

## THS25 THOUSANDTH SETS

Sets contain a center Nominal gage plus 12 SIZES RANGING UPWARD in .001" steps above the Nominal, and 12 SIZES RANGING DOWNWARD in .001" steps below the Nominal. For example, see the THS25 with 1/4" Nominal, shown at left. Nominal determines set coverage, see partial list of Nominals below.

### SUGGESTED USES

The selection of sizes in a THS25 Gage-Set allows you to qualify actual finished size of a hole to the nearest even thousandth. The selection is ideal for accurate functional measurement of holes.

For Screw Machine Shops, General Machine Shops and Precision Sheet Metal Shops, an inventory of THS25 sets, covering common hole sizes, provide a comprehensive gage selection and accurate hole measuring capability at a low cost per gage.

## THS25 (.001" STEP) SETS

Nominal Sizes From	Thru	Price
0.0160"	0.0247"	385.00
0.0248"	0.1080"	300.00
0.1081"	0.3872"	330.00
0.3873"	0.6375"	465.00
0.6376"	0.8370"	505.00
0.8371"	1.0000"	525.00

## HT24 HALF-THOU-SETS

Sets consist of Nominal gage plus 23 gages in SIZES RANGING UPWARD from the nominal in .0005" steps. Nominal determines set coverage. See partial list of set Nominals below.

### SUGGESTED USES

Users of sets indicate that along with their ability to functionally measure holes to a .0005" resolution, the individual components can be used as setting masters to zero snap gages, indicator and electronic comparators, passometers, etc. at a cost far below expensive gage blocks.

Many shops, still working to thousandth tolerances have begun to order these HT24 sets as replacements for thousandth sizes in order to meet the growing need to inspect finer tolerances.

## HT24 (.0005" STEP) SETS

Nominal Sizes From	Thru	Price
0.0040"	0.0150"	466.00
0.0151"	0.0247"	370.00
0.0248"	0.1080"	288.00
0.1081"	0.3872"	317.00
0.3873"	0.6375"	446.00
0.6376"	0.8370"	485.00
0.8371"	1.0050"	504.00



# METRIC X

Tolerance: +.001mm Minus Nothing

## GAGE-SETS

**Metric gages now available in every .0025mm size, from 0.1000mm to 25.7000mm in 25-gage sets, or individually.**

**Special Sets** available as Standard! Drawing from our Inventory of over 10000 sizes, many thousands of metric sets can be made up to suit your needs, while still shipping Same-Day. Limited only by our gage range of .1000 to 25.7000mm, Metric X sets are available with popular increments of .0100mm, .0050mm, and .0025mm only. Order by the set's nominal and Step Size (HTM, THM, and PPM) shown below.

**STANDARD GAGE-SET** packaging consists of a Dust/Rust protection case that contains a labeling center strip to mark the location of the nominal gage and the exact slot location of each gage by increment. Each size-marked gage is easily located and replaced to maintain the order of the set. The clear plastic lid of each set is labeled to identity set type, nominal gage size, increments and limits of size range coverage. The double label makes this information visible from both the front and top of the case.

### HTM24 (.0050MM STEP) GAGE-SETS

HTM24 "Metric X" Gage-Sets consist of a nominal size gage plus 23 gages in SIZES RANGING UPWARD only from the nominal in .0050mm steps. Nominal determines set coverage.

HTM24 (.0050mm STEP) SETS		
Nominal Sizes From	Thru	Price
0.1000	0.3800	466.00
0.3825	0.6275	370.00
0.6300	2.7425	288.00
2.7450	10.0350	317.00
10.0375	16.1925	446.00
16.1950	21.2575	485.00
21.2600	25.5850	504.00

### PPM25 (.0025mm step) GAGE-SETS

PPM25 "Metric X" Gage-Sets contain a center nominal size gage plus 12 SIZES RANGING UPWARD in .0025mm steps above the nominal and 12 SIZES RANGING DOWNWARD in .0025mm steps below the nominal. Sets may be ordered with any desired nominal size, as needed. The price of the set is shown in various ranges as listed below. Nominal determines set coverage.

PPM25 (0.0025mm STEP) SETS		
Nominal Sizes From	Thru	Price
0.1300	0.3800	485.00
0.3825	0.6275	385.00
0.6300	2.7425	300.00
2.7450	10.0350	330.00
10.0375	16.1925	465.00
16.1950	21.2575	505.00
21.2600	25.6700	525.00

### THM25 (.0100mm step) GAGE-SETS

THM25 (.0100mm step) Gage-Sets contain a center nominal size gage plus 12 SIZES RANGING UPWARD in .0100mm steps above the nominal and 12 SIZES RANGING DOWNWARD in .0100mm steps below the nominal. Nominal determines set coverage.

THM25 (.0100mm STEP) SETS		
Nominal Sizes From	Thru	Price
0.2200	0.3800	485.00
0.3825	0.6275	385.00
0.6300	2.7425	300.00
2.7450	10.0350	330.00
10.0375	16.1925	465.00
16.1950	21.2575	505.00
21.2600	25.5800	525.00





The most complete gage-reference in-plant availability ever offered as a standard product, the TP10081-L, carries the entire Deltronic range of .0040" thru 1.0120" in steps of .0001", a total of 10,081 gages at \$176,812.00 including free steel Stor-Gage Cabinets: 5 small, 5 medium, 7 large.

### TP (.0001" step) MASTER-REFERENCE GAGE-LIBRARIES

Proven in concept, Master-Reference Gage-Libraries offer you an unlimited Class "X" gaging capability as an in-plant resource. Covering your particular range of hole sizes with every tenth (.0001") step, these single-tolerance gages anticipate every size and accuracy requirement.

A number of progressive, well-recognized companies have already installed Deltronic Master-Reference Gage-Libraries.

#### SUGGESTED USES

Typically, these Master-Reference Gage-Libraries are centrally located, in a standards or inspection facility. As the source of cylindrical gages for various departments within the plant, they eliminate the duplications and delays normally incurred in obtaining gages to satisfy many small orders for individual department requirements. They present a constant availability as cylindrical masters for setting various measuring tools to precise dimensions, checking a variety of hole sizes in prototype parts, hole spacing and layout work, etc.

### HT (.0005" step) GAGE-LIBRARIES

HT Half Thousands Gage-Libraries are available in .0005" increments in seven ranges within a size coverage of .0040" thru 1.0050". (See page 8 for description of gage arrangement in HT sets.)

#### SUGGESTED USES

When gaging requirements are for functional hole inspection, with tolerances in thousandths...qualification of rejects as to whether they can be reworked...immediately available cylindrical standards providing a master gage that is within 2 tenths of desired size for comparator settings, these Certified HT Gage-Libraries, composed of Class "X" Deltronics in .0005" increments, meet your requirements. Even for less exacting tolerances, the low Deltronic price will more than justify your investing in an HT Gage-Library to answer tomorrow's gaging problem, without production or inspection delays.

### STANDARD INCREMENT-RANGES

Seven comprehensive ranges of .0001" (tenth) increment gages satisfy a variety of typical requirements. Ranges begin with .0070" and end on popular fractions (1/8", 1/4", 3/8", etc.). Thus, if you are concerned with hole sizes of 1/8" or smaller, select the TP1193-L ranging from .0070" thru .1262", with every .0001" size gage (price, \$12,807.00 includes free steel Stor-Gage Cabinets). Each library provides 12 tenth steps beyond the end fraction for flexibility of measurement around that fraction.

TP1193-L (range .0070" thru .1262") 1,193 gages in .0001" steps.  
Stor-Gage Cabinets: 2 small **\$15,612.00**

TP2443-L (range .0070" thru .2512") 2,443 gages in .0001" steps.  
Stor-Gage Cabinets: 4 small **\$33,369.00**

TP3693-L (range .0070" thru .3762") 3,693 gages in .0001" steps.  
Stor-Gage Cabinets: 5 small **\$50,767.00**

TP4943-L (range .0070" thru .5012") 4,943 gages in .0001" steps.  
Stor-Gage Cabinets: 6 small, 3 medium **\$72,650.00**

TP7443-L (range .0070" thru .7512") 7,443 gages in .0001" steps.  
Stor-Gage Cabinets: 6 small, 5 medium, 2 large **\$121,720.00**

HT360-L (range .0260" thru .2055") 360 gages in .0005" steps.  
Stor-Gage Cabinet: 1 small **\$4,743.00**

HT720-L (range .0260" thru .3855") 720 gages in .0005" steps.  
Stor-Gage Cabinet: 1 small **\$9,324.00**

HT960-L (range .0260" thru .5055") 960 gages in .0005" steps.  
Stor-Gage Cabinets: 1 small, 1 medium **\$14,106.00**

HT1200-L (range .0260" thru .6255") 1,200 gages in .0005" steps.  
Stor-Gage Cabinets: 1 small, 1 medium **\$18,257.00**

HT1464-L (range .0260" thru .7575") 1,464 gages in .0005" steps.  
Stor-Gage Cabinets: 1 small, 1 medium, 1 large **\$25,090.00**

HT1968-L (range .0260" thru 1.0095") 1,968 gages in .0005" steps.  
Stor-Gage Cabinets: 1 small, 1 medium, 2 large **\$35,659.00**

## TPF FRACTIONAL (.0001" step) GAGE-LIBRARIES

TPF Libraries are composed of 25 gage sets, each with a center fractional nominal and 12 gages, in .0001" STEPS RANGING DOWNWARD from the fractional nominal and 12 STEPS RANGING UPWARD. (See TP25 sets, page 8.)

TPF400-L Library is composed of 400 gages with set nominals of 1/16". Library includes all 1/16" fractions (TP25 sets) from 1/16" thru 1". **\$7,992.00**

TPF800-L Library is composed of 800 gages with set nominals of 1/32". Library includes all 1/32" fractions (TP25 sets) from 1/32" thru 1". **\$15,954.00**

TPF1600-L Library is composed of 1,600 gages with set nominals in 64ths. Library includes all 64ths in fractional (TP25 sets) from 1/64" thru 1". **\$29,714.00**

### SUGGESTED USES

Good design engineering dictates hole sizes dimensioned for standard cutting tools. TPF Gage-Libraries tailor measuring capability around these dimensions which are, most often, fractional sizes. A review of workpiece drawings will provide a basis for selecting the TPF Gage-Library that best meets your needs. Applications are almost unlimited when "X" standards are available on your shelf; qualifying hole size to within a .0001", around fractional diameters, zeroing comparators, setting snap gages, precision arbors, hole layout and spacing, micrometer checking, etc.

## THS (.001" STEP) GAGE LIBRARIES WIDEST COVERAGE AT LOWEST PRICES

THS Gage-Libraries provide .001" step coverage by full thousandths (.030", .031", .032", etc.) the broadest coverage with the least number of gages.

983 gages cover the broadest THS range, from .030" thru 1.012".

Selective coverage is also offered. If, for example, your production is limited to holes under 1/2", a THS483-L Library offers 483 gages ranging from .030" thru .512" in every thousandth step.

### SUGGESTED USES

Low per gage cost, broad thousandths step coverage and Class "X" precision combine to make these Gage-Library combinations a natural choice for use as cylindrical setting standards. You will always have a cylindrical "master" within .0005" of a desired "zero" dimension. With the dial spread of an electronic amplifier or dial indicator, you can effectively zero and measure any cylindrical part within the range of the THS Gage-Library you purchase.

Direct functional hole measurement for screw machine production, precision sheet metal work, drilling applications and many other types of rough machining operations is ideally performed with "X" standards in these combinations.



THS358-L (range, .030" thru .387") 358 gages in .001" steps. Stor-Gage Cabinet: 1 small	<b>\$4,818.00</b>
THS483-L (range, .030" thru .512") 483 gages in .001" steps. Stor-Gage Cabinets: 1 small, 1 medium	<b>\$6,974.00</b>
THS608-L (range, .030" thru .637") 608 gages in .001" steps. Stor-Gage Cabinets: 1 small, 1 medium	<b>\$9,791.00</b>
THS733-L (range, .030" thru .762") 733 gages in .001" steps. Stor-Gage Cabinets: 1 small, 1 medium, 1 large	<b>\$13,394.00</b>
THS500-L (range, .513" thru 1.012") 500 gages in .001" steps. Stor-Gage Cabinet: 1 large	<b>\$11,298.00</b>
THS375-L (range .638" thru 1.012") 375 gages in .001" steps. Stor-Gage Cabinet: 1 large	<b>\$9,116.00</b>
THS983-L (range .030" thru 1.012") 983 gages in .001 steps. Stor-Gage Cabinets: 1 small, 1 medium, 1 large	<b>\$18,907.00</b>

ALL PRICES USD. FOB SANTA ANA, CA.



## “METRIC X” GAGE LIBRARIES

A really economical solution to an age-old problem. Deltronic Gage libraries are priced low – as low as \$9.00 per gage. That translates into many more gages for your budget dollars. Saves you much more over the individual unit price. From your choice of standard “Metric X” libraries to an almost unlimited selection of specials. That choice can range from .1000mm to 25.7000mm in .0100mm, .0200mm, .0500mm, .0050mm and .0025mm incremental steps.

### .0025mm Step “Metric X” Gage-Libraries

25PPM1920-L (range .2000mm thru 4.9975mm) 1,920 gages in .0025mm steps. Stor-Gage cabinets: 3 small ..... **\$25,158.00**

25PPM2016-L (range 5.0000mm thru 10.0375mm) 2,016 gages in .0025mm steps. Stor-Gage cabinets: 3 small, 1 medium..... **\$26,729.00**

### .0050mm Step “Metric X” Gage-Libraries

05PM960-L (range .2000mm thru 4.9950mm) 960 gages in .0050mm steps. Stor-Gage cabinets: 2 small ..... **\$12,767.00**

05PM1008-L (range 5.000mm thru 10.0350mm) 1008 gages in .0050mm steps. Stor-Gage cabinets: 1 small, 1 medium..... **\$13,629.00**

05PM1968-L (range .2000mm thru 10.0350mm) 1968 gages in .0050mm steps. Stor-Gage cabinets: 2 small, 1 medium..... **\$27,002.00**

### .0500mm Step “Metric X” Gage-Libraries

50PM499-L (range .5000mm thru 25.4000mm) 499 gages in .0500mm steps. Stor-Gage cabinet: 1 large ..... **\$10,327.00**

### .0100mm Step “Metric X” Gage-Libraries

10PM981-L (range .2000mm thru 10.0000mm) 981 gages in .0100mm steps. Stor-Gage cabinets: 2 small ..... **\$13,115.00**

10PM1539-L (range 10.0200mm thru 25.4000mm) 1,539 gages in .0100mm steps. Stor-Gage cabinets: 1 medium, 2 large..... **\$31,750.00**

10PM2521-L (range .2000mm thru 25.4000mm) 2,521 gages in .0100mm steps.  
Stor-Gage cabinets: 1 small, 2 medium, 2 large ..... **\$44,970.00**

### .0200mm Step “Metric X” Gage-Libraries

20PM491-L (range .2000mm thru 10.0000mm) 491 gages in .0200mm steps. Stor-Gage cabinet: 1 small..... **\$6,569.00**

20PM770-L (range 10.0200mm thru 25.4000mm) 770 gages in .0200mm steps. Stor-Gage cabinets: 1 medium, 1 large..... **\$16,767.00**

20PM1261-L (range .2000mm thru 25.4000mm)  
1,261 gages in .0200mm steps.  
Stor-Gage cabinets: 1 small, 1 medium, 1 large ..... **\$23,332.00**

## Special Gage Libraries Custom Assembled At No Extra Charge

From .0040” thru 1.0120”, Deltronic stocks every tenth size (every .0001”). Within this range, any combination of 500 or more gages is available as a Special Gage-Library. In increments of .001”, .0005” or .0001” your special Library can be quoted at the same low per-gage cost as standard Libraries, including set-cases and free Stor-Gage Cabinets.

### Free Cabinet With Library Purchase

Every standard and “special” Library purchase includes unique Stor-Gage cabinets. The cabinetry is custom made for Deltronic Gage Set packaging, providing an efficient facility for use and storage.

## Steel Stor-Gage Cabinet Dimensions and Prices When Purchased Separately

### SMALL

CAB30-S: Space for 30 Deltronic 25-gage set cases, small-size, for gages .0070” thru .3872”. Holds up to 750 gages. 21 1/16” W, 17 1/4” H, 6 3/4” D. Approx weight 31 lbs. .... **\$499.00**

### MEDIUM

CAB20-M: Space for 20 Deltronic 25-gage set cases, medium-size, for gages .3873” thru .6375”. (Also for gages .0040” thru .0069” which are held in screw-top plastic vials.) Holds up to 500 gages. 21 1/16” W, 20 3/8” H, 8 7/16” D. Approx weight 36 lbs. .... **\$799.00**

### LARGE

CAB24-L: Space for 24 Deltronic 25-gage set cases, large-size, for gages .6376” thru 1.0120”. Holds up to 600 gages. 21 1/16” W, 30 1/8” H, 14 1/16” D. Approx weight 60 lbs. .... **\$899.00**

# DELTRONIC Thread Wires

## CONFORM TO THREAD WIRE STANDARDS

Deltronic Thread Wires are certified to meet or exceed requirements of the ANSI/ASME B89.1.17, B1.2, B1.16, B1.5, B1.8 thread standard as well as Federal Spec. GGG-W-366b and meet anticipated ISO Standard as well.

## TOLERANCE

Commonality, three wires within each set are within 5 millionths (.000,005"), .00031mm of calibrated size; Set Diameter is within 20 millionths (.000,020"), .0005mm of "best" wire size and calibrated to the nearest 10 millionths (.000,010"), .00025mm of the exact size: Roundness is within 10 millionths (.000,010"), .00025mm; Surface Finish is better than 2 microinches AA, lapped; Hardness, Rc 62-64 stabilized; Straightness of the central 1/2 inch of the wire's length is within 10 millionths (.000,010"), .00025mm maximum deviation.

## THREAD WIRE 3-WIRE SETS

When ordering, specify "threads per inch"

THREADS PER INCH	NOMINAL DIAMETER	LENGTH	PRICE/SET
120	.00481	1 7/8"	134.00
100	.00577	1 7/8"	134.00
96	.00601	1 7/8"	134.00
90	.00642	1 7/8"	134.00
80	.00722	1 7/8"	134.00
72	.00802	1 7/8"	134.00
64	.00902	1 7/8"	134.00
56	.01031	1 7/8"	134.00
50	.01155	1 7/8"	134.00
48	.01203	1 7/8"	89.00
44	.01312	1 7/8"	89.00
40	.01443	1 7/8"	89.00
36	.01604	1 7/8"	89.00
32	.01804	1 7/8"	89.00
30	.01925	1 7/8"	89.00
28	.02062	1 7/8"	89.00
27	.02138	1 7/8"	89.00
26	.02221	1 7/8"	89.00
24	.02406	1 7/8"	89.00
22	.02624	2 1/4"	89.00
20	.02887	2 1/4"	89.00
18	.03208	2 1/4"	89.00
16	.03608	2 1/4"	89.00
14	.04124	2 1/4"	89.00
13	.04441	2 1/4"	89.00
12	.04811	2 1/4"	89.00
11 1/2	.05020	2 1/4"	89.00
11	.05249	2 1/4"	89.00
10	.05774	2 1/4"	89.00
9	.06415	2 1/4"	89.00
8	.07217	2 1/4"	89.00
7 1/2	.07698	2 1/4"	89.00
7	.08248	2 1/4"	89.00
6	.09623	2 1/4"	89.00
5 1/2	.10497	2 1/4"	128.00
5	.11547	2 1/2"	129.00
4 1/2	.12830	2 1/2"	129.00
4	.14434	2 1/2"	130.00
3 1/2	.16496	2 1/2"	130.00
3 1/4	.17765	2 1/2"	130.00
3	.19245	2 1/2"	130.00
2 3/4	.20995	2 1/2"	130.00
2	.28868	2 1/2"	134.00

## TW20-L LIBRARY \$2,180.00

Contains 20, 3-wire sets (sets 6 - 36 listed above, except 7 1/2 and 11 1/2 threads per inch) packaged in a Gage-Carry Case.

## TW34-L LIBRARY \$3,811.00

Contains 34, 3-wire sets (sets 4 - 80 listed above) packaged in a Gage-Carry Case.

## INCH AND METRIC



## WIRE SET PACKAGING

Each set of 3 wires is contained in a screw-top vial. The vial is packaged in a hinged-lid box which is labeled to show pitch and Calibrated Wire Size. The Calibrated Wire Size is also shown on the Certification of Accuracy contained in each set box.

## METRIC THREAD WIRE SIZES

PITCH (MM) (ORDER BY PITCH)	BEST WIRE SIZE		PRICE (PER SET)
	MM	INCH EQUIVALENT	
.20	.1155	.00455	134.00
.225	.1299	.00511	134.00
.25	.1443	.00568	134.00
.30	.1732	.00682	134.00
.35	.2021	.00796	134.00
.40	.2309	.00909	134.00
.45	.2598	.01023	134.00
.50	.2887	.01137	134.00
.55	.3175	.01250	134.00
.60	.3464	.01364	134.00
.70	.4041	.01591	134.00
.75	.4330	.01705	112.00
.80	.4619	.01818	112.00
.85	.4907	.01932	112.00
.90	.5196	.02046	112.00
1.00	.5774	.02273	89.00
1.25	.7217	.02841	89.00
1.50	.8660	.03410	89.00
1.75	1.0104	.03978	89.00
2.00	1.1547	.04546	89.00
2.50	1.4434	.05683	89.00
3.00	1.7321	.06819	89.00
3.50	2.0207	.07956	89.00
4.00	2.3094	.09092	89.00
4.50	2.5981	.10229	100.00
5.00	2.8868	.11365	130.00
5.50	3.1754	.12502	130.00
6.00	3.4641	.13638	130.00
7.00	4.0415	.15911	130.00
8.00	4.6188	.18184	130.00
9.00	5.1962	.20457	130.00
10.00	5.7735	.22730	130.00

## LIBRARIES

Deltronic Thread Wire Libraries assure in-plant availability of "best size" wires the moment you need them. These new Libraries encourage use of the correct three wire method for determining pitch diameter for close tolerance threaded parts and for certification of thread plug gages quickly.

Organized in a wooden Gage-Carry Case, Libraries are easily and safely transported.

## ACME AND BUTTRESS WIRES

Best Wire Sizes are in stock for 29° Acme and 7°/45° Buttress Thread Checking. Certification and tolerances match those of Deltronic's standard 60° thread wires.

These three wire sets are packaged in the vials within labeled boxes the same as all other Deltronic thread and gear wires.

ACME WIRES			BUTTRESS WIRES
PITCH	DIAMETER	3-WIRE SETS	3-wire sets are twice the price of ACME.
		PRICE/SET	
1	.51645"	148.00	
1 1/3	.38734"	148.00	
1 1/2	.34430"	148.00	
1 3/4	.29511"	148.00	
2	.25823"	148.00	
2 1/2	.20658"	148.00	
3	.17215"	148.00	
3 1/2	.14756"	118.00	
4	.12911"	118.00	
4 1/2	.11477"	118.00	
5	.10329"	118.00	
5 1/2	.09390"	118.00	
6	.08608"	118.00	
7	.07378"	118.00	
8	.06456"	118.00	
9	.05738"	118.00	
10	.05164"	118.00	
11	.04695"	118.00	
12	.04304"	118.00	
14	.03689"	118.00	
16	.03228"	118.00	
18	.02869"	118.00	
20	.02582"	118.00	

## TW23L ACME THREAD WIRE LIBRARY \$3,224.00

Contains 23, 3-Wire Sets (1-20 listed above)

Packaged in a wood Carry Case.



## METRIC THREAD-WIRE LIBRARY

## TW28M-L \$3,597.00

Contains 28, 3 Wire-Sets (.35mm-10.0mm, see standard sizes listed at left) packaged in a FREE wooden Gage-Carry Case.

## MASTER LIBRARIES

All Thread Wire Libraries are available as "Master Libraries" (i.e., used to calibrate "working" wire sets by simple comparison techniques). Master Libraries include only one wire per pitch, calibrated to the sixth (one millionth) decimal place and including traceability — NIST test number. Master Thread Wire Libraries include Gage-Carry Cases.

# Gear Wires

## GRADE A GEAR WIRE ACCURACY

All Deltronic gear wires conform to Federal Specifications GGG-W-366b for Grade A Master Gear Wires, and are guaranteed traceable to the National Institute of Standards and Technology.

**Diameter Tolerance:** plus or minus ten millionths of nominal "standard" diameters listed.

**Roundness:** 10 millionths per Standard GGG-W-366b for Grade A Master Wires.

**Surface Finish:** 1 Micro inch, lapped.

## WIRE SET PACKAGING

Each set of two wires is contained in a screw-top vial, the vial is packaged in a hinged-lid box which is labeled to show pitch, internal or external, and the nominal diameter of the wire (also shown on the Certificate of Accuracy contained in each set box).



### GEAR WIRE SETS

To Order Specify "Pitch" and "Internal" or "External"

Standard Pitches	Price	External (1.728")	Wire Length	Internal (1.44")	Wire Length
2	136.00	.864	3 1/2"	.720	3 1/2"
2 1/2	136.00	.6912	3 1/2"	.576	3"
3	136.00	.576	3"	.480	3"
4	136.00	.432	3"	.360	2 1/2"
5	96.00	.3456	2 1/2"	.288	2 1/2"
6	96.00	.288	2 1/2"	.240	2 1/2"
7	96.00	.24686	2 1/2"	.20571	2 1/2"
8	90.00	.216	2 1/2"	.180	2 1/2"
9	90.00	.192	2 1/2"	.160	2 1/2"
10	90.00	.1728	2 1/2"	.144	2 1/2"
11	90.00	.15709	2 1/2"	.13091	2 1/2"
12	90.00	.144	2 1/2"	.120	2 1/2"
14	82.00	.12343	2 1/2"	.10286	2 1/4"
16	82.00	.108	2 1/4"	.090	2 1/4"
18	82.00	.096	2 1/4"	.080	2 1/4"
20	82.00	.0864	2 1/4"	.072	2 1/4"
22	82.00	.07855	2 1/4"	.06545	2 1/4"
24	82.00	.072	2 1/4"	.060	2 1/4"
28	82.00	.06171	2 1/4"	.05143	2 1/4"
32	82.00	.054	2 1/4"	.045	2 1/4"
36	82.00	.048	2 1/4"	.040	2 1/4"
40	82.00	.0432	2 1/4"	.036	2 1/4"
48	82.00	.036	2 1/4"	.030	2 1/4"
64	82.00	.027	2 1/4"	.0225	1 7/8"
72	82.00	.024	1 7/8"	.020	1 7/8"
80	82.00	.0216	1 7/8"	.018	1 7/8"
96	82.00	.018	1 7/8"	.015	1 7/8"
100	111.00	.01728	1 7/8"	.0144	1 7/8"
120	115.00	.0144	1 7/8"	.012	1 7/8"
128	115.00	.0135	1 7/8"	.01125	1 7/8"
200	115.00	.00864	1 7/8"	.0072	1 7/8"

**GW 55-L Library** ..... **\$7,136.00**  
Includes 2 thru 200 pitch Internal and External wires listed above (less duplications) plus three Gage-Carry Cases.

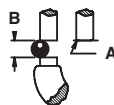
**GW 26-L Library** ..... **\$2,630.00**  
(Internal) Includes 2 thru 80 pitch wires for internal gear checking, plus one Gage-Carry Case.

**GWX 26-L Library** ..... **\$2,630.00**  
(External) Includes 2 thru 80 pitch wires for external gear checking, plus one Gage-Carry Case.

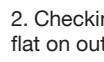
## DELTRONIC MICRO BALL SETS



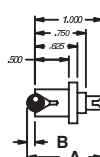
**Chrome alloy steel balls, plus/minus .0001" diameter, .000.025" sphericity.**



1. Checking micrometers at exact spot for wear as shown at "A" as Micro Balls are ground and lapped to a sphericity of .000,025".

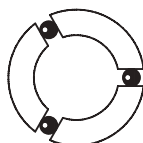
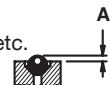


2. Checking wall thickness from inside curve to flat on outside end.



3. In turning and grinding, where shoulder locations with respect to each other or to a common end are held close (.001") it is imperative that depth of center drill be maintained. Select a Micro Ball that is tangent to a center and mike overall as "A" or indicate distance as "B."

4. Checking depth of valve seats, ways, slots, etc.



5. For boring of collets, select a set of Micro Balls the width of slots on collet. Coat Micro Balls with grease or vaseline before inserting. Close collet and bore.

**MODEL 900:** 1/16" to 1/2" in 1/32" steps. 3 of each size in pop-out case..... **\$89.60**

**MODEL 901:** 17/32" to 1" in 1/32" steps. 3 of each size in plastic case. .... **\$179.20**

**METRIC TOLERANCE:** Within 2 microns for size, 1 micron for sphericity.

**MATERIAL:** Chrome Steel.

**METRIC SET MB60:** Three balls of each mm size from 1mm thru 20mm included. (Total of 60 Metric Balls.) Clear lid for Gage-Set case protects from dust and rust. Labeling allows immediate identification of sizes in every slot..... **\$499.20**

## INDIVIDUAL MICRO-BALLS

INCH	METRIC	QTY 1-9	10 - Up*	Bulk Pkg**
Sizes 1/16"—1/2" in 1/32"	1mm—12mm in mm steps	\$9.80 ea	\$6.80 ea	\$6.00 ea
Sizes 17/32" — 1" in 1/32"	13mm—20mm in mm steps	\$14.60 ea	\$11.80 ea	\$10.60 ea

\*Assorted sizes for quantity price break are allowed.

\*\*Bulk packaged Micro Balls are not individually boxed; minimum quantity of 10 balls per size and 50 balls total are required.

## DELTRONIC CERT-LABELS

### PRESSURE-SENSITIVE SELF-DESTRUCT CERTIFICATION LABELS FOR CALIBRATION-MANAGEMENT CONTROL

Cert-Labels have many potential applications within existing systems for gage management and calibration cycle control. Cert-Labels can be used "to notify the user that their measuring equipment is within calibration and also when it is due for recalibration. The smaller ULS50 fits well on smaller hand tools like mikes and calipers.

### TAMPER-PROOF CERT-LABELS

Sheet of 50 ...\$2.00. (Minimum order 25 sheets)  
50 labels per sheet. 25 sheets per pack, \$50.00

### TAMPER-PROOF CERT-LABELS

Select from two sizes:  
ULS 50 1" x 1/2"  
ULS 100 1 1/2" x 7/8"



CALIBRATION CERT.	
INDENT _____	BY _____
DATE _____	SIZE _____
Reorder Tamper-Proof Labels #50 ULS 100	
www.DELTRONIC.com Santa Ana, CA	





## **Custom Parts Manufacturing** by Hi-Precision Grinding division of Deltronic

Hi-Precision Grinding does complete parts manufacturing for major companies throughout the United States, parts requiring turning, milling, grinding, or lapping to tolerances as close as 10 millionths.



**Send us your drawings for a quote.**

# DELTRONIC

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