

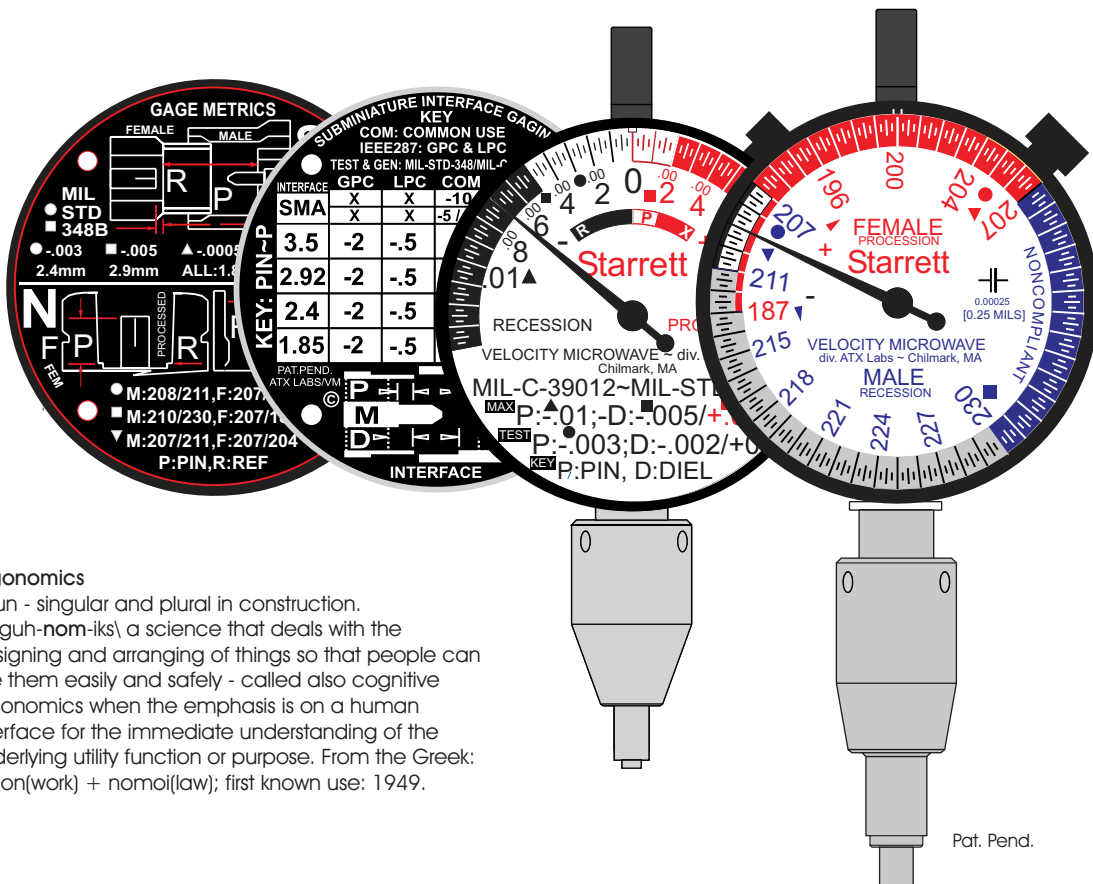
INTRODUCING ERGON

A MICROWAVE GAGE WITH ENHANCED HUMAN INTERFACE

The Ergon series of microwave connector gages is built on a best of breed, rock solid Starrett dial indicator featuring massive bridge for bearing support, hardened stainless steel gears and pinions for long trouble free life, hardened stainless steel stem, non-glare satin case finish, and positive grip bezel with unbreakable crystal and white non-reflecting eggshell finish.

The Ergon series features a single bushing/rack patent pending design for the measurement of both genders - and in the case of Type N connectors for the measurement of all Standards - without any change in instrument or master gage. Also featured is a novel, ergonomically rich human interface embedded permanently into the dial face for the immediate interpretation of compliance. On the rear of the instrument, for reference, is a custom metal plate with permanently inscribed compliance data related to IEEE287LPC and GPC, MIL-C-39012, and MIL-STD-348B as a further aid in compliance evaluation.

All Ergon gages are housed in a crush, water, and dust proof NK-7 resin case featuring all stainless hardware, an automatic pressure release valve, a Powerclaw latching system with soft grip handle and a die cut interior with accessories including USB pen drive.



ergonomics

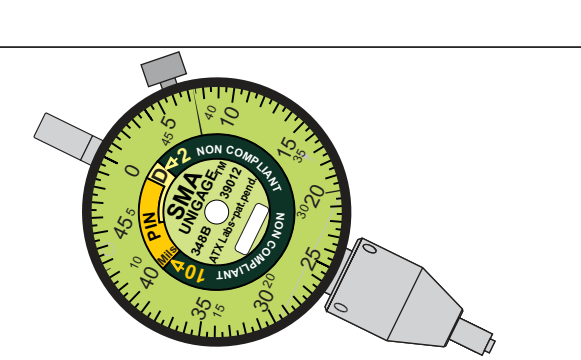
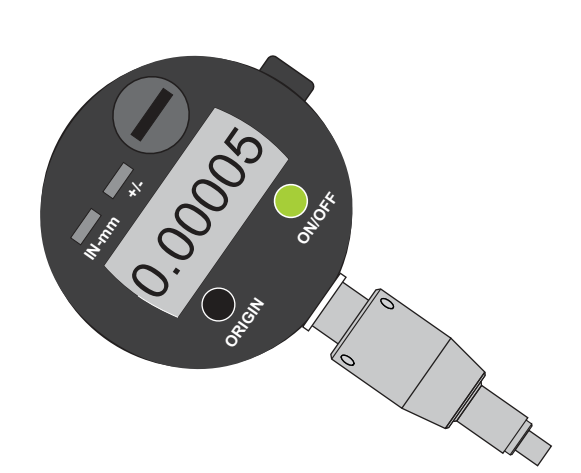
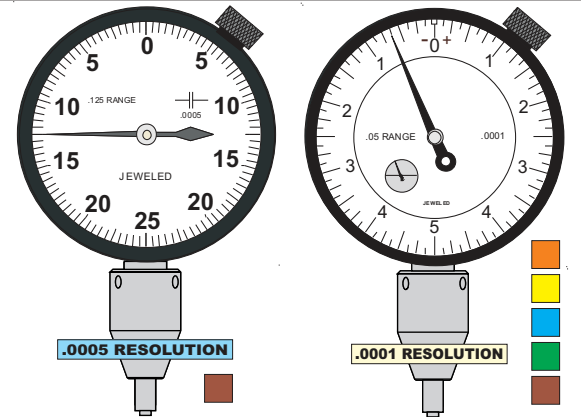
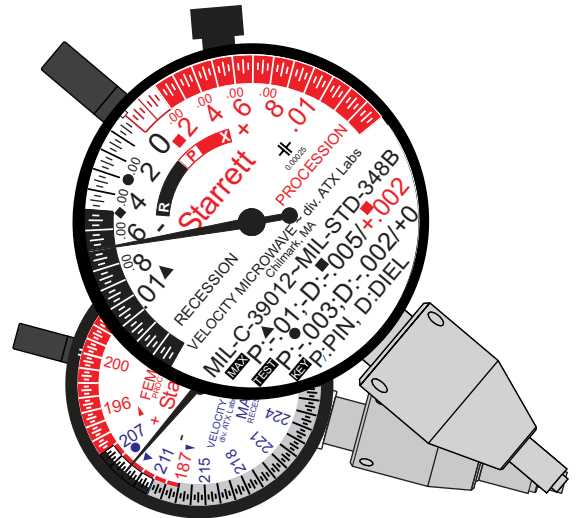
noun - singular and plural in construction.
 \Ur-guh-nom-iks\ a science that deals with the designing and arranging of things so that people can use them easily and safely - called also cognitive ergonomics when the emphasis is on a human interface for the immediate understanding of the underlying utility function or purpose. From the Greek: ergon(work) + nomoi(law); first known use: 1949.

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www.veclotmicrowave.com

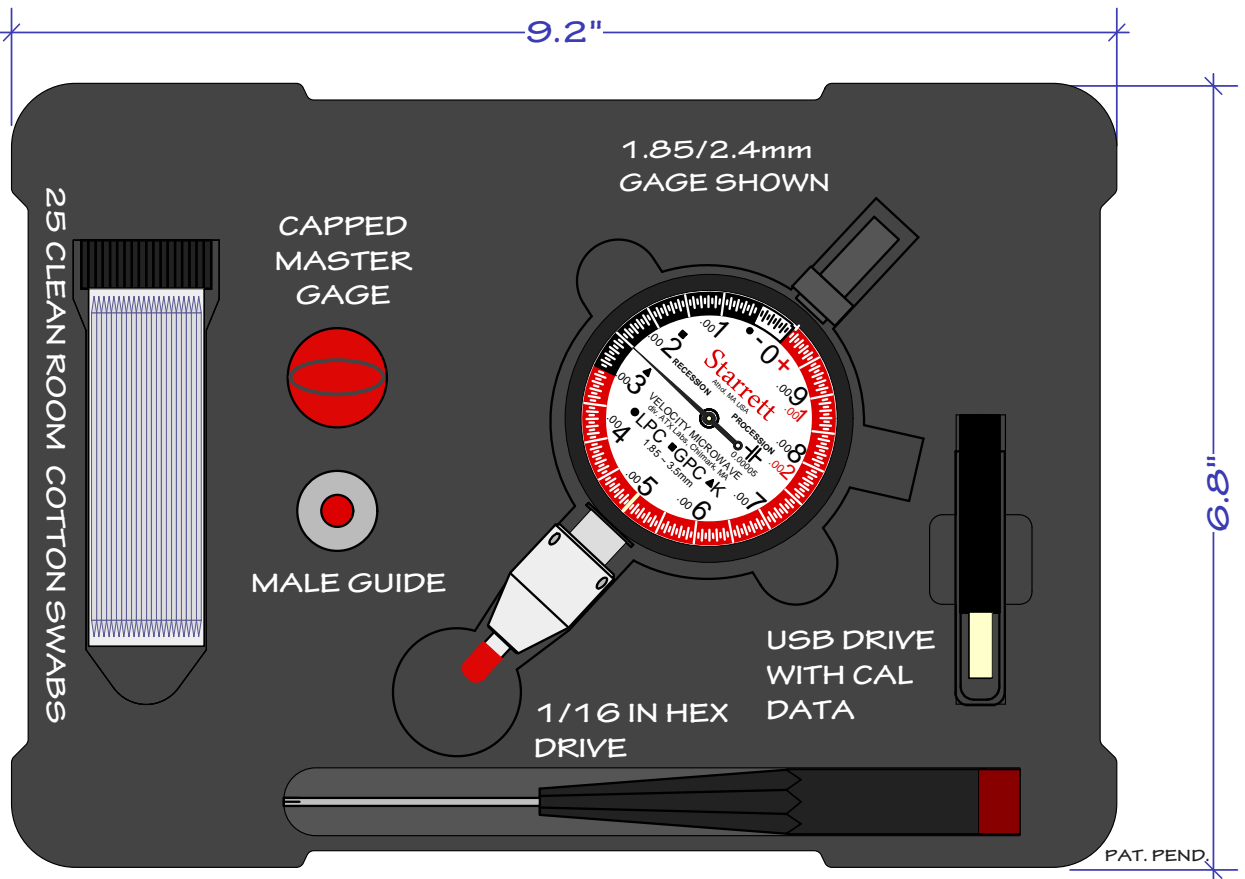
IEEE COLOR KEY: ■ N ■ SMA ■ 1.85 ■ 2.4 ■ 2.9 ■ 3.5

■ [1]	ERGON-SMA-P
■	ERGON-SMA-D
■	ERGON-TYPE N
■ ■	ERGON-2.92-3.5
■ ■	ERGON-1.85-2.4
■ [1]	LEGACY-SMA-P
.0005	
■	LEGACY-SMA-D
■ ■ [1]	LEGACY-2.92-3.5
.0001 ■	LEGACY-SMA-D [or P]
■ ■	LEGACY-1.85/2.4
■ [1]	DATUM-SMA-P
■	DATUM-SMA-D
■ ■	DATUM-2.92-3.5
■ ■	DATUM-1.85-2.4
■	DATUM-TYPE N
■ [1]	ELEMENT-SMA-P
■	ELEMENT-SMA-D
■	ELEMENT-TYPE N



[1] NOTE: SMA KITS COME IN EITHER PIN OR DIELECTRIC. TO MEASURE BOTH TWO KITS MUST BE ORDERED.

ERGN SUBMINIATURE FAMILY CONVERGANCE	
N	
SMA PIN	
SMA DIEL	
3.5	✓
K	✓
2.4	✓
1.85	✓



SUBMINIATURE GAGING KIT

OVERVIEW: PRECISION KIT FOR THE DIMENSIONAL GAGING OF MALE AND FEMALE MICROWAVE CONNECTORS. THE KIT EMPLOYS A SINGLE SPINDLE DESIGN TO SIMPLIFY GAGING OF BOTH GENDERS, THEREBY ELIMINATING THE TRADITIONAL REQUIREMENT FOR A SECOND GAGE AND/OR BUSHING IN ORDER TO GAGE THE OPPOSITE GENDER. ONE FLAT MASTER GAGE IS USED FOR ALL STANDARDS INCLUDING MIL-STD-348, MIL-C-39012 AND IEEE287, REDUCING COST AND ENHANCING EASE OF USE AND ACCURACY.

BENEFITS:

- ~ BUSHING GUIDE FIXTURE FOR MALE TO FEMALE BORE CONVERSION;
- ~ HIGH PERFORMANCE INDICATORS WITH AS MUCH AS 0.00005 INCH RESOLUTION;
- ~ CERTIFIED ACCURACY OF 0.0001;
- ~ SINGLE FLAT SURFACE MASTER GAGE FOR THE ELIMINATION OF FEATURE SIZE UNCERTAINTY;
- ~ EXPEDITED GAGING OF BOTH 1.85mm, 2.4mm, 2.92mm, 3.5mm MALE AND FEMALE CONNECTORS;
- ~ INCLUDED: ISO-17025 TRACEABLE CALIBRATION AND CERTIFICATION ;
- ~ INCLUDED: USB DRIVE WITH GAGE APPLICATION FOR DETERMINATION OF UNCERTAINTIES
- ~ INCLUDED: 25 LOW LINTING, STATIC FREE SWABS;
- ~ INCLUDED: CRM72 TOOL STEEL HEX DRIVER FOR EASY MAINTENANCE.
- ~ INSTRUMENT BACKS AND FASCIA WITH STANDARDS COMPLIANCE LIMITS.
- ~ INCLUDED: ONE WATER PROOF AND CRUSH PROOF NK-7 RESIN CASE WITH STAINLESS STEEL POWER CLAW
- ~ LATCHING SYSTEM AND VAPOR RELEASE VALVE MEASURING 10.2LX7.8WX4.5H IN. EXTERIOR DIMENSIONS.

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NOTE: A VERSION OF THESE KITS IS SUPPLIED WITH CERTAIN TPX CABLE ASSEMBLIES AS AN UPGRADE. SEE CABLE DATA SHEETS FOR DETAILS.

GENERAL SPECIFICATION

- ~SURFACE FINISH OF Ra4 - Ra16 ON WORKING SLIDABLE SURFACES.
- ~MASTER GAGE FINISH OF Ra 8 OR BETTER.
- ~PRECISION SWISS TURNED AND MILLED STAINLESS STEEL.
- ~CRITICAL TOLERANCES AS GOOD AS 0.0005.
- ~CERTIFIED DIAL ACCURACY RANGE OF 0.0005 TO +/- 0.0001 FOR SUBMINIATURE CONNECTOR FAMILIES.
- ~ALL STAINLESS COMPONENTS PASSIVATED PER ASTM-A967.
- ~DIAL FASCIA AND DIAL BACKS WITH STANDARDS DELINIATION.

WARRANTY

ALL YM MICROWAVE GAGES COME WITH A ONE YEAR WARRANTY ON THE INDICATOR AND A 10 YEAR WARRANTY ON ALL STAINLESS COMPONENTS.

PRECISION GAGE KITS

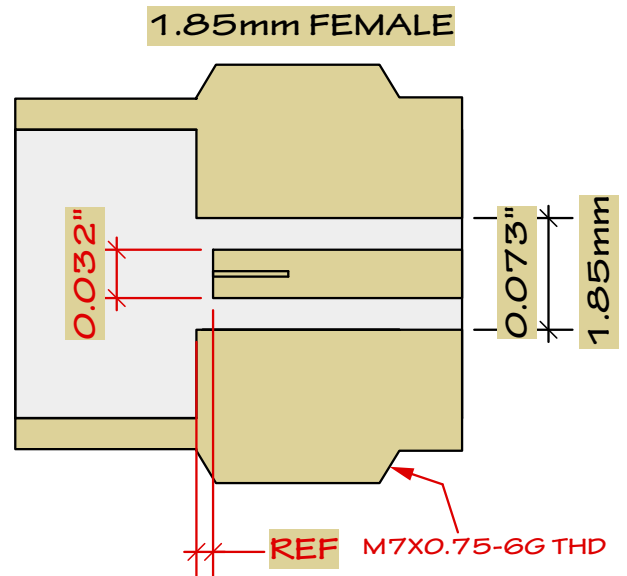
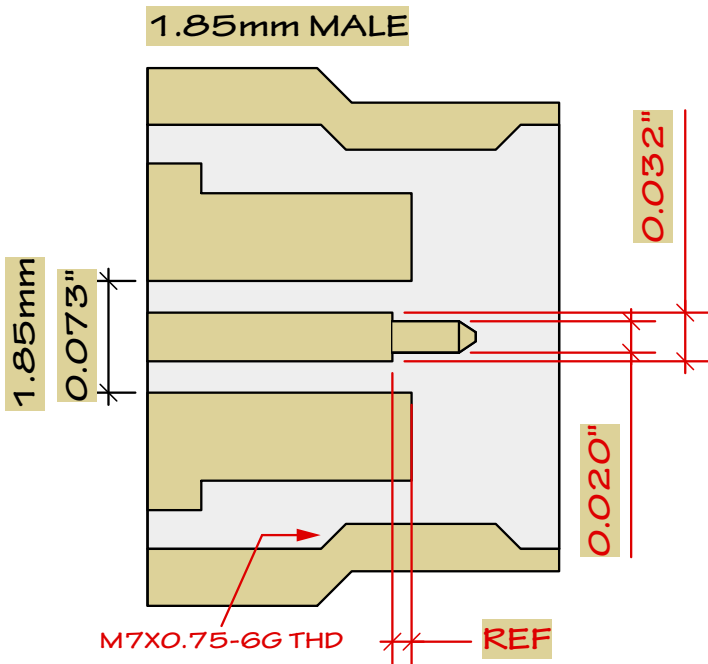
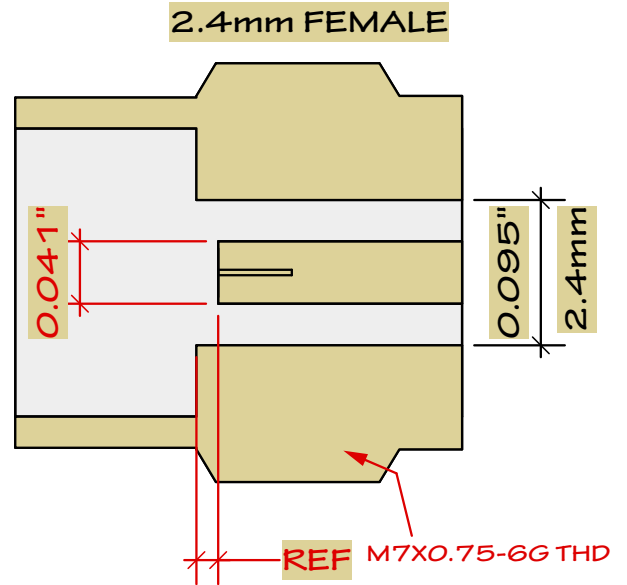
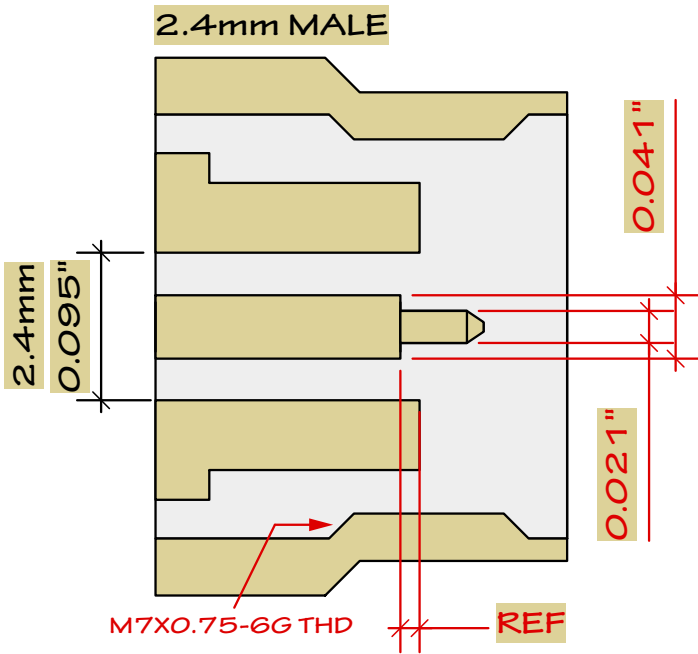
ERGN

1.85mm~2.4mm~2.92mm~3.5mm

MALE & FEMALE

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www.velocitymicrowave.com

1.85mm , 2.4mm INTERFACE



NOTES: [1] ALL PIN TO REFERENCE PLANE DIMENSIONS ARE IN RECESSON; [2] MIL-STD-348 CROSSES TO MIL-C-39012; [3] PROCESSION IS NONCONFORMING RELATIVE TO ALL STANDARDS.

COMMON PIN TO REFERENCE PLANE RECESSON

IEEE287LPC: -0.0005 MAX
IEEE287GPC: -0.002 MAX
MIL-STD-348B: -0.005 MAX
ORDINARY PRECISION: -0.003 MAX

PRECISION GAGE KITS

ERGON

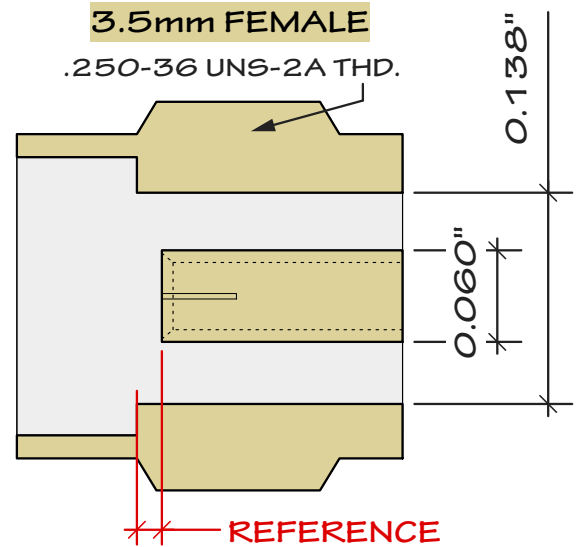
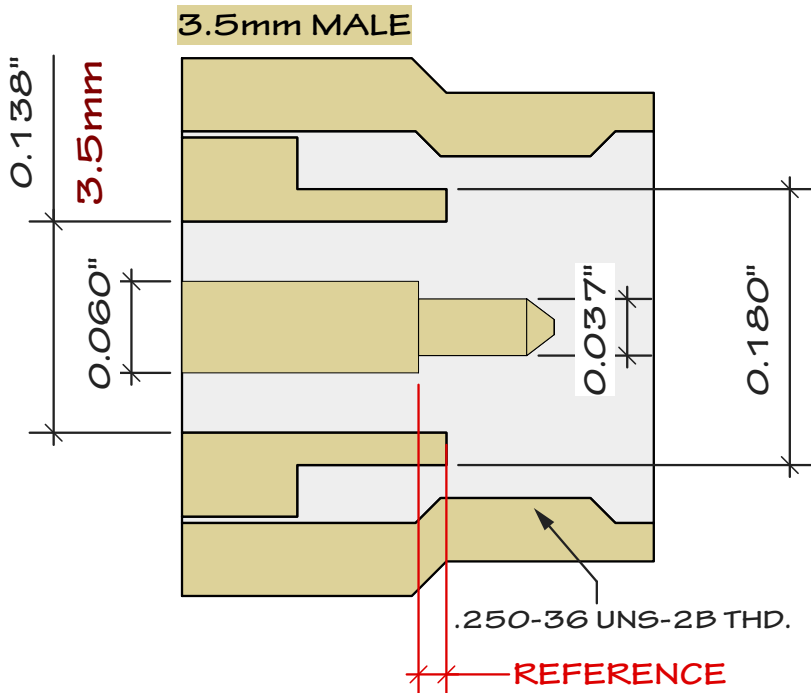
1.85mm~2.4mm~2.92mm~3.5mm

MALE & FEMALE

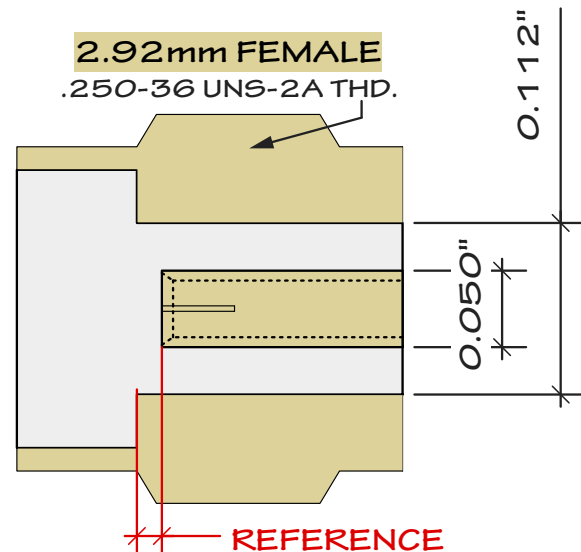
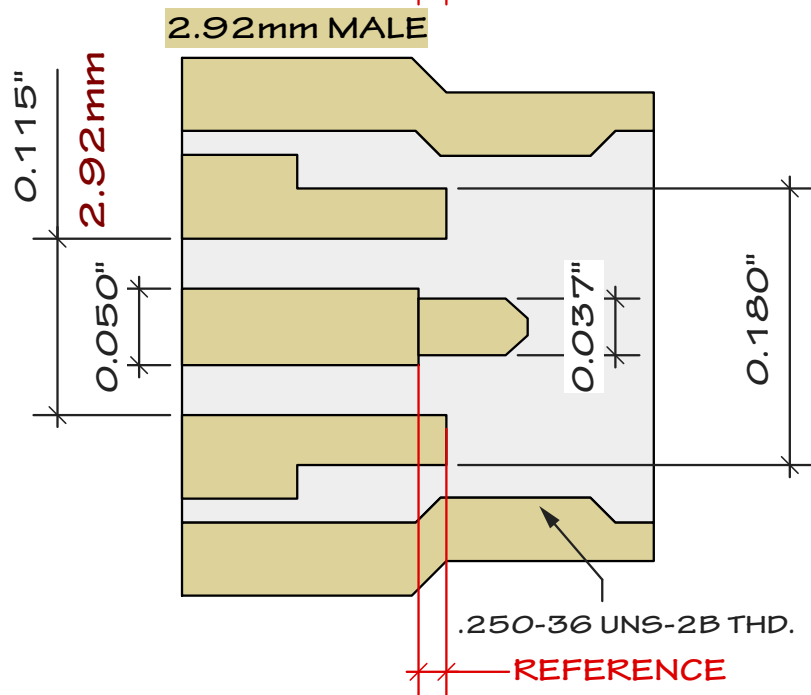
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2.92mm , 3.5mm INTERFACE



NOTE: 3.5mm AND 2.92mm ARE ELECTRICALLY AND MECHANICALLY COMPATIBLE.



NOTE: ALL OF THE ABOVE DIMENSIONS ARE NOMINAL; AS MACHINED, EACH INTERFACE WILL HAVE A TOLERANCE RELATIVE TO THE CORRESPONDING STANDARD.

NOTES: [1] ALL PIN TO REFERENCE PLANE DIMENSIONS ARE IN RECESSON; [2] MIL-STD-348 CROSSES TO MIL-C-39012; [3] PROCESSION IS NONCONFORMING RELATIVE TO ALL STANDARDS.

P.3

COMMON FEATURE/ REFERENCE PLANE RECESSON

IEEE287LPC: -0.0005 MAX
IEEE287GPC: -0.002 MAX
MIL-STD-348B: -0.005 MAX
ORDINARY PRECISION: -0.003 MAX

PRECISION GAGE KITS

ERGON

1.85mm~2.4mm~2.92mm~3.5mm

MALE & FEMALE

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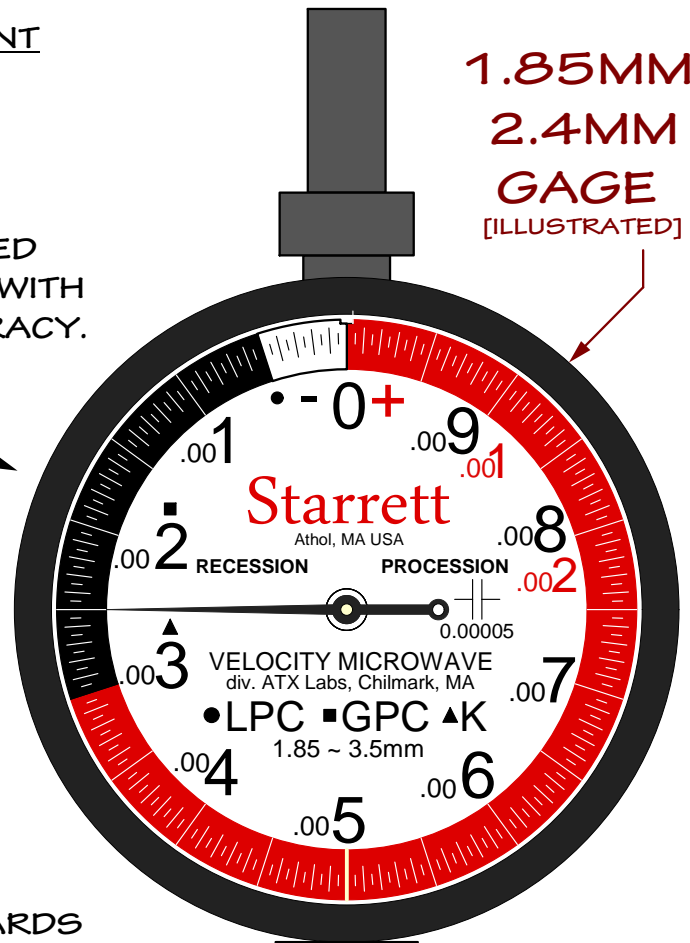
WHY THE VM PRECISION GAGE IS DIFFERENT

1. TAPERED BUSHING DESIGN FOR GREATER FEEL & VISIBILITY.

2. BEST OF BREED DIAL INDICATOR WITH $\pm .0001$ ACCURACY.

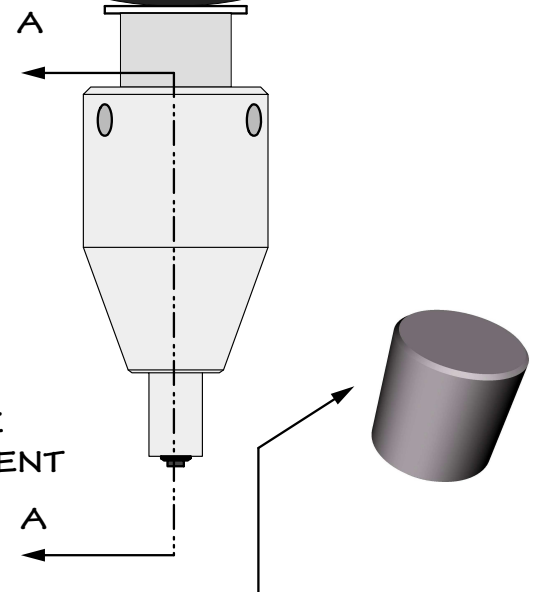
4. SINGLE GAGE FOR BOTH MALE AND FEMALE GENDERS WITH NO CHANGE-OVER OR RE-MASTERING REQUIREMENTS.

1.85MM
2.4MM
GAGE
[ILLUSTRATED]

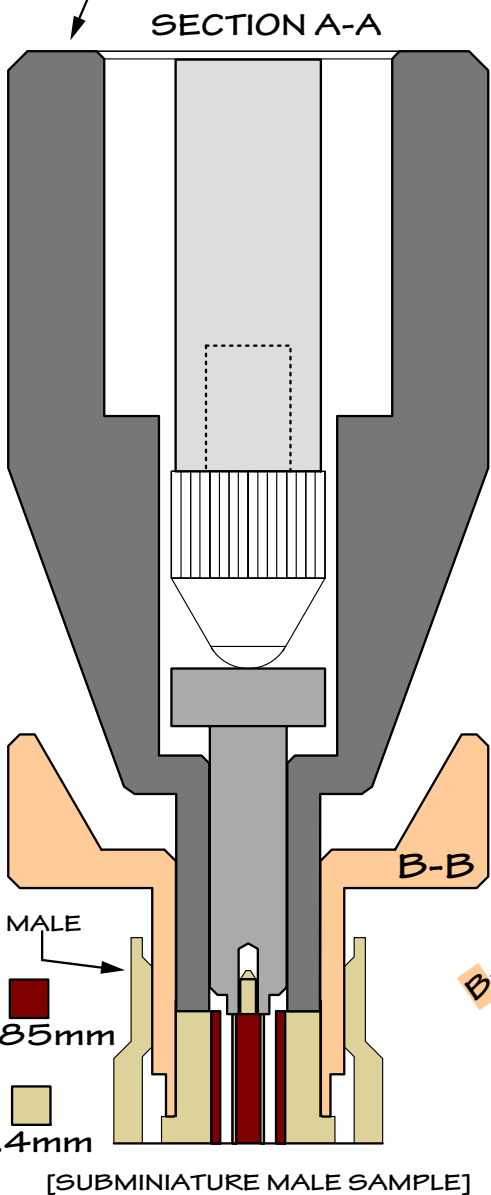


3. FULL STANDARDS GUIDE ON REAR OF INDICATOR & STANDARDS LEGEND ON FASCIA.

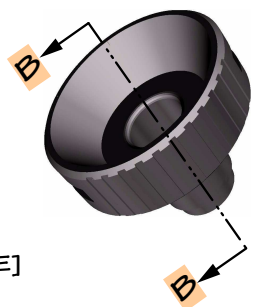
5. INCLUDED MALE BUSHING GUIDE TO REPLICATE FEMALE BORE FOR CONVENIENT MALE GAGING.



6. SINGLE FLAT MASTER FOR SIMPLIFIED ZERO SETTING.

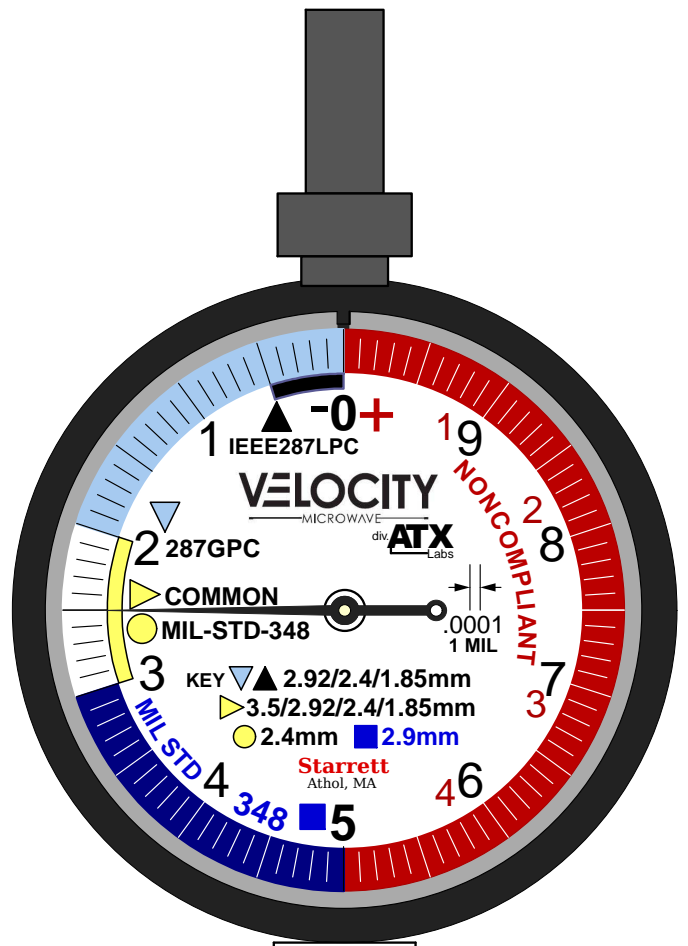
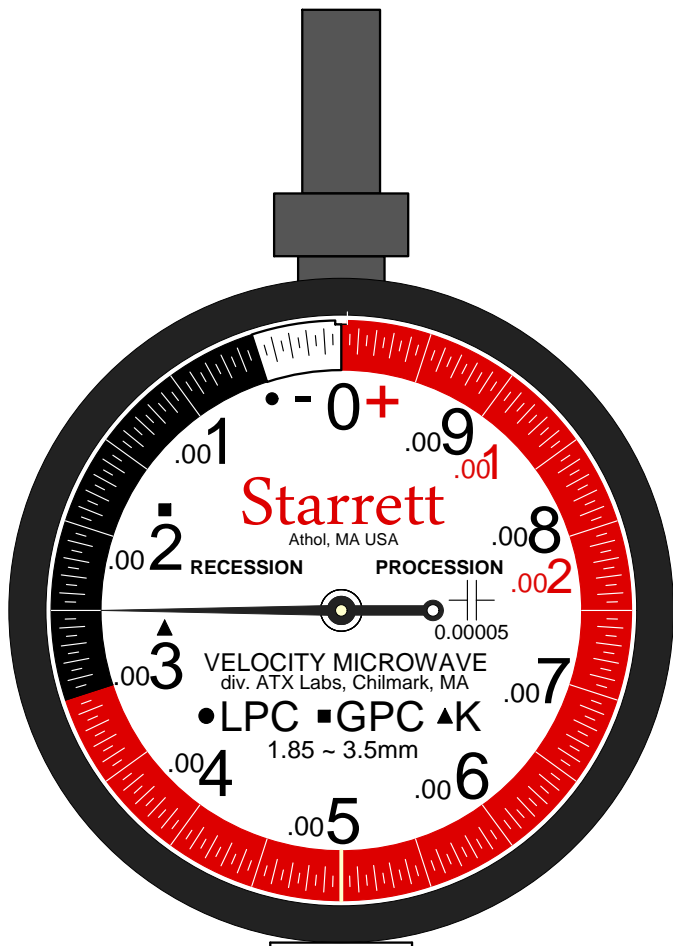


SECTIONAL VIEW MALE GUIDE



P.4

PRECISION GAGE KITS
ERGON
 1.85mm~2.4mm~2.92mm~3.5mm
MALE & FEMALE
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NOTE:
 THE VM DIAL FACE EMBEDS
 STANDARDS BOUNDARIES
 AS AN AID IN JUDGING
 COMPLIANCE RELATIVE TO
 VARIOUS STANDARDS LIKE
 IEEE287, MIL-C-39012, AND
 MIL-T-348A/B. THE GAGE
 BACK HAS ADDITIONAL
 STANDARDS GUIDANCE.

**1.85mm / 2.4mm
 GAGE**
 [.00005 RESOLUTION]

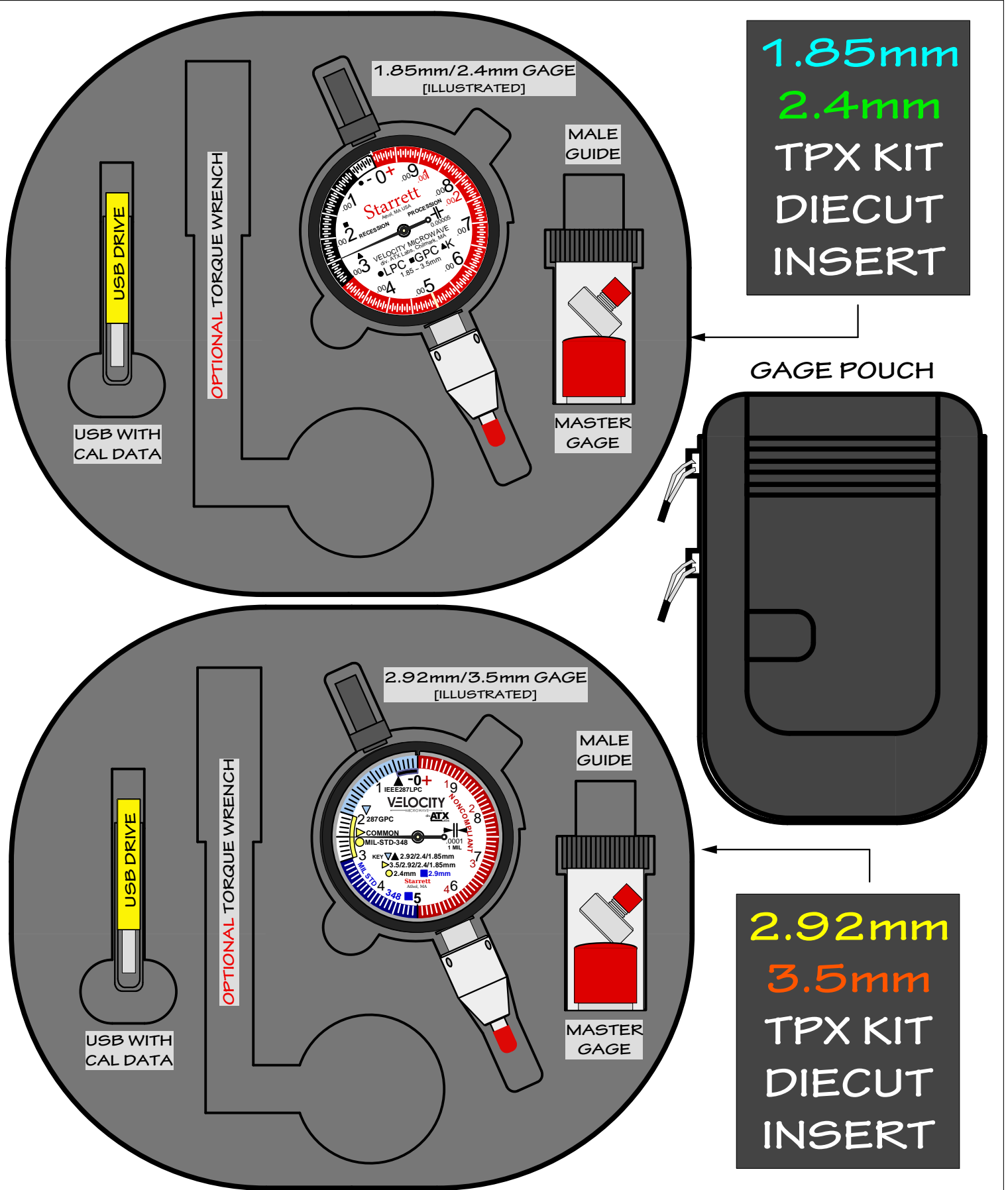
**2.92mm / 3.5mm
 GAGE**
 [.0001 RESOLUTION]

AIRLINE SUBMINIATURE
DIAL FACES

PRECISION GAGE KITS
ERGON
 1.85mm~2.4mm~2.92mm~3.5mm
 MALE & FEMALE
 Velocity Microwave ~ div. ATX Labs
 www.velocitymicrowave.com

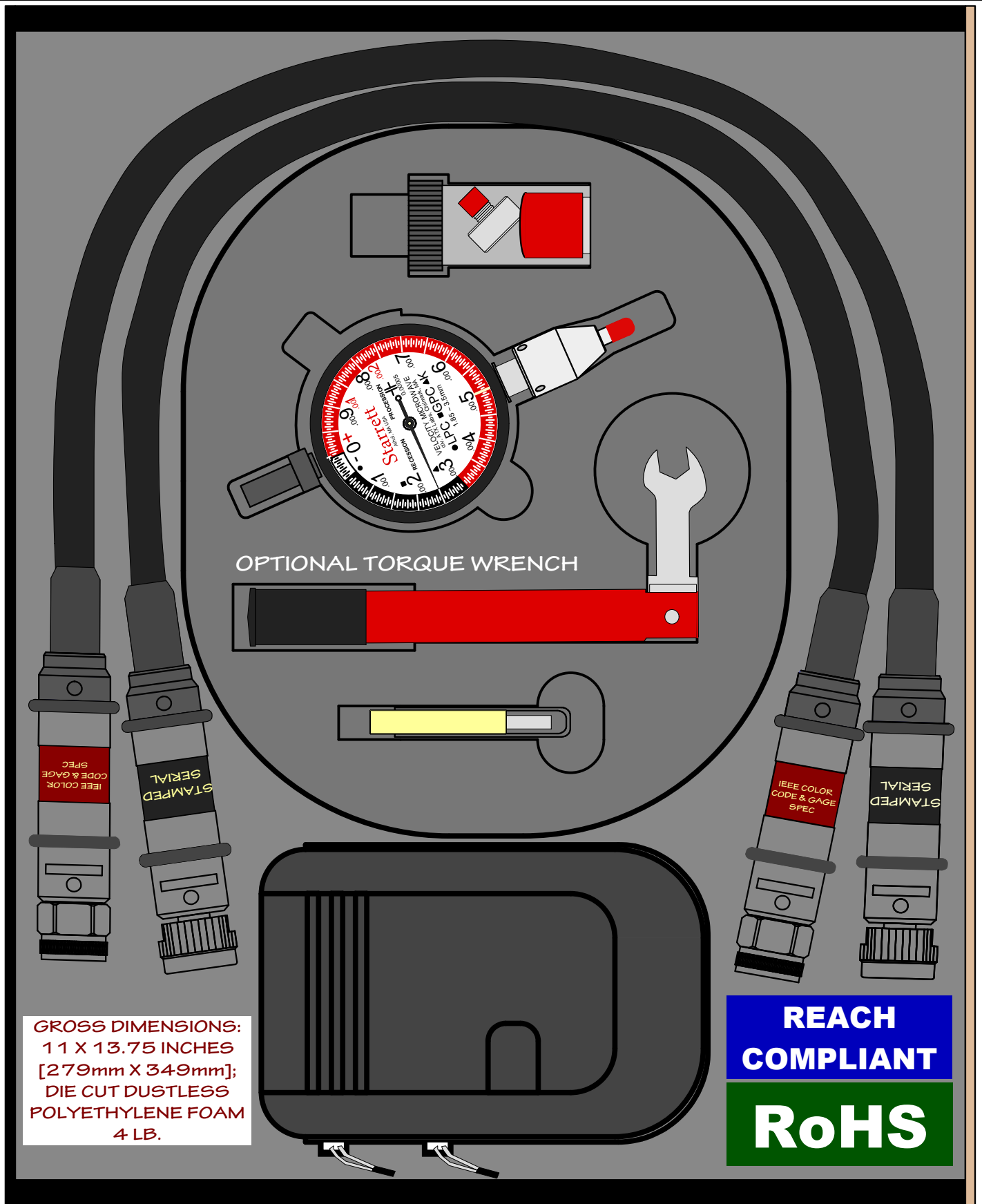
DATA SHEET SUPPLEMENT EMBEDDED ERGON GAGES

PRESENTATION AND PACKAGING
FOR TPX PORT EXTENSION KITS WITH
INCLUDED GAGE



EMBEDDED TPX GAGE KITS

VM GAGES CAN BE ADDED TO TPX TEST PORT EXTENSION CABLE KITS AS A COST EFFECTIVE OPTION RELATIVE TO SEPARATELY PACKAGED GAGES. EMBEDDED KITS CONTAIN THE CORE COMPONENTS OF THE STAND ALONE KITS INCLUDING THE GAGE FOR MEASURING RECESSON, MASTER GAGE, MALE GUIDE AND USB DRIVE CONTAINING A2LA CAL CERT AND DATA PLUS UNCERTAINTY APPLICATION. A SEPARATE CARRYING POUCH FOR THE GAGE IS ALSO PROVIDED.



GROSS DIMENSIONS:
 11 X 13.75 INCHES
 [279mm X 349mm];
 DIE CUT DUSTLESS
 POLYETHYLENE FOAM
 4 LB.

**REACH
 COMPLIANT**

RoHS

EMBEDDED TPX GAGE KITS

VM GAGES CAN BE ADDED TO TPX TEST PORT EXTENSION CABLE KITS AS A COST EFFECTIVE OPTION RELATIVE TO SEPARATELY PACKAGED GAGES. EMBEDDED KITS CONTAIN THE CORE COMPONENTS OF THE STAND ALONE KITS INCLUDING THE GAGE FOR MEASURING INTERFACE RECESSON, MASTER GAGE FOR ZERO REGISTRATION, MALE GUIDE FOR MALE GAGING AND USB DRIVE CONTAINING A2LA CAL CERT AND DATA PLUS UNCERTAINTY APPLICATION. A SEPARATE CARRYING POUCH FOR THE GAGE IS ALSO PROVIDED. [ILLUSTRATION SHOWN WITH 1.85mm/2.4mm GAGE AND OPTIONAL TORQUE WRENCH.]

— RoHS / REACH —

COMPLIANCE CERTIFICATION

Velocity Microwave (div. ATX Labs) RoHS Compliance Certification



Velocity Microwave [hereafter designated VM], a division of ATX Labs, certifies that all of the products manufactured under the Velocity Microwave brand are in compliance with EU Directive 2011/65EU on the use of certain substances employed in electrical, electronic, and microwave equipment that have been designated as hazardous.

Restricted Substance	Maximum Threshold Limit
Cadmium and its compounds	100 ppm (0.01 weight %)
Mercury and its compounds	1000 ppm (0.1 weight %)
Hexavalent chromium and its compounds	1000 ppm (0.1 weight %)
Lead and its compounds *	1000 ppm (0.1 weight %)
Polybrominated biphenyls (PBB)	1000 ppm (0.1 weight %)
Polybrominated diphenyl ethers (PBDE)	1000 ppm (0.1 weight %)
Decabromine diphenyl ether (DECA BDE)	1000 ppm (0.1 weight %)

* Except when allowed by the Directive. For example, 3500 ppm in steel, 4000 ppm in aluminum alloys and 40000 ppm in copper alloys.

VM Partial Materials List

The products in the following classes: **Labflex** cable assemblies; **Benchflex** cable assemblies; **Conexus** cable assemblies; **Conexus HD** cable assemblies; **Continuum** cable assemblies; **Vector** cable assemblies; **Ergon** interface gages and kits, **Legacy** interface gages and kits, **Element** interface gages and kits, **Datum** interface gages and kits; **VM repair** kits; VM connectors of species **SMA, 2.92mm (K); 3.5mm; 2.4mm; 1.85mm; Type N; TNC; APC-7** – contain some or all of the following materials – as well as materials not listed though nevertheless fully compliant with **EU Directive 2011/65EU**.

Material Class	Finish, Construction or Reference Standard
Alloy Steel	Copper Clad per ASTM B-501
Soft Copper	Silver plated per ASTM B-298
Copper foil	Silver plated per ASTM-B-298

Expanded PTFE	Type F6 per MIL-C-17 or ASTM D-14577		
FEP	Per ASTM D-2116, FQQ flammability test UL94		
(BLANK)			
Stainless Steel	Class AISI-303 UNS20200 SAE30303 – Per:		
	per AMS 5664U Type 1	ASTM A582 12	ASTM A262 10 Practice A/E
	AASTM E112 96	Federal Spec QQ-S-764B	DFARS 232.225.7009 10-4-11
	ASTM A484 13	DIN 50049/en10204 Type 3.1	ASTM 484 13
	Passivation per ASTM A967, AMS 2700, QQ-P-35		
PEI (Polyetherimide)	Resin certified to ASTM D 5205 PEI 0113		
Solder	SnAgCu: ~ 2.5% Silver, 0.9% copper, (100-2.5-0.9)% Tin balance; Typ.		
Aluminum	6061T6, anodized TYPES II & III per		
Polyolefin	Thin wall Heat shrinkable polyolefin MIL-DTL-23053/5 Class 1 & 3 UL224 corrosion and fire rated		
	Thick wall Heat shrinkable polyolefin MIL-DTL-23053/5 Class 1 & 3 UL224 corrosion and fire rated; encapsulating modified polyamide adhesive		
	Ultra thin wall Heat shrinkable polyolefin MIL-DTL-23053/5 Class 1 & 3 UL224 corrosion and fire rated		
Foam	Closed cell polyethylene, 2.3 lb – 4 lb. ASTM D 3575-93		
	Convuluted static dissipative <10e11 ohms polyurethane pink foam laminated to top and fitted in bottom; California 117 - Note: All Testing Done By ASTM D 3574Standard Rev. 1, 12-3-02		
Jacketing	Polyethylene terephthalate FMVSS302, UL94 flame resistance, ASTM G21 Fungus resistance		
Rubber	Oil resistant Buna N O-ring SAE J200 Durometer A70		
	High temperature Silicone SAE J200 Durometer A70		
	Steam Resistant EPDM SAE J200 Durometer A70		
Packaging	ESD shielding with lid closed; “Faraday Cage” effect restricting electrostatic charges to exterior; tested per FED-STD-101, Method 3005 for reducible sulfur		
Vinyl	Connector caps durometer of 75A, maximum temperature of 180° F. - assorted colors.		
	Vinyl substrate 30 mil (.08mm) magnetic mats and signage		
Pigments	Inkjet applied Orcal eco-solvent based inks UV protected		
Adhesives	Polyacrylate, Acrylate polymers permanent, transparent		
(BLANK)			

Velocity Microwave
(div. ATX Labs)
REACH Compliance Certification



Velocity Microwave is deeply committed to the European Union Regulation governing the Registration, Evaluation and Authorization of Chemical (**REACH EC Regulation Number 1907 / 2006**).

[I] Velocity Microwave further represents that it monitors both its internal manufacturing process, as well as that of components in its supply chain, to be free of any substance on the Candidate List of Substances of Very High Concern for Authorization (SVHC) – published in accordance with **Article 59(10) of the REACH Regulation** – and deemed authentic in only the following locus:

<https://echa.europa.eu/candidate-list-table>

[II] Velocity Microwave still further represents that no substances on the REACH SVHC Candidate list, per the above, shall be found in a concentration greater than 0.1% - by weight – in any of the products below in the list designated as **2016 PMVM**, manufactured by Velocity Microwave, or transferred through Velocity Microwave as a pass through agent by either inattention or design.

2016PMVM

Microwave Test and Measurement Cable Assemblies

Labflex microwave test cable assemblies commonly designated with the prefix LF; **Benchflex** microwave test cable assemblies commonly designated with the prefix BF; **Conexus** microwave test cable assemblies commonly designated with the prefix GP; **Conexus HD** microwave test cable assemblies commonly designated with the prefix GP and the subsequent designator HD; **Continuum** microwave test cable assemblies commonly designated with the prefix CN; **Vector** microwave test cable assemblies commonly designated with the prefix TPX; **Custom** Assemblies developed to meet specific customer requirement; **VM repair kits** deployed as field repair aids for the above microwave test cables.

Microwave Gaging Apparatus

Ergon microwave connector interface gages and kits containing ancillary components, **Legacy** microwave connector interface gages and kits containing ancillary components, **Datum** microwave connector interface gages and kits containing ancillary components; **Element** microwave connector interface gages and kits containing ancillary components; **Ancillary data port** connectors and devices for Datum Gage.

Microwave Connectors ~Subminiature and Larger Families

SMA microwave connector of the subminiature class; **2.92mm (K)** microwave connector of the subminiature class; **3.5mm** microwave connector of the subminiature class; **2.4mm** microwave connector of the subminiature class; **1.85mm** microwave connector of the subminiature class; **Type N** microwave connector of the 7mm class; **APC7 hermaphroditic** microwave connector of the 7mm class; **TNC** microwave connector.

Microwave Torquing Apparatus

8 in-lb Torque wrench with 5/16 dimension designated for use with subminiature microwave connectors; **12 in-lb Torque wrench** with 19mm dimension designated for use with 7mm of the Type N class microwave connectors; **12 in-lb Torque wrench** with 20 dimension designated for use with 7mm of the Type N class microwave connectors; **12 in-lb Torque wrench** with 19mm dimension designated for use with NMD class microwave connectors; **12 in-lb Torque wrench** with 20 dimension designated for use with NMD class microwave connectors; **8 in-lb Torque wrench** with 19mm dimension designated for use with NMD class microwave connectors; **8 in-lb Torque wrench** with 20 dimension designated for use with NMD class microwave connectors; **20 in-lb Torque wrench** with 5/16 dimension designated for use with subminiature microwave connectors as a repair and installation aid.

Velocity Microwave

[Div. ATX Labs]

Located at:

Production

151 Beach Road, Unit 1B
Vineyard Haven, MA 02568
Phone: 508-338-2333

Material Test & Development

9 Beechtree Road,
Chilmark, MA 02535
Phone: 508-645-7980

www.velocitymicrowave.com

NATIONAL & GLOBAL DISTRIBUTOR

Global Test Equipment
 1424 Centre Circle
 Downers Grove, IL 60515
www.4gte.com

US REPS

TERRITORY	REP	CONTACTS
North East: ME, NH, VT, MA, RI, CT	William Morin WLM Component Sales	Phone: 978-390-5545 billmorin@wlmcomponents.com www.wlmcomponents.com
New York	Pari Boloori dB Technical Sales, Inc.	Phone: 631-223-3037 info@dbtsales.com www.dbtsales.com
North East: PA, NJ, DE	Richard Whitman Centre Frequency Technical Marketing	Phone: 814-364-9367 whitman@cf-tm.com www.cf-tm.com
East: WV, VA, MD, DC	Adam Cohen Atlantic Tech Marketing	Phone: 410-218-5935 contact@atlantic-tech.com www.atlantic-tech.com
Southeast: FL Melbourne	Bill Travers Sunforce, Inc.	Phone: 607-760-9300 cell wtravers@sunforce.com www.sunforce.com
	Andy Haber Sunforce, Inc.	Phone: 321-722-1324 ahaber@sunforce.com www.sunforce.com
Southeast: FL Tampa	Pete Lopez Sunforce, Inc.	Phone: 813-638-1375 pete@sunforce.com www.sunforce.com
Southeast: AL, MS, W. TN	Bruce Hardy Sunforce, Inc.	Phone: 256-270-4338 bruce@sunforce.com www.sunforce.com
Southeast: NC, SC	Roger Livingston Sunforce, Inc.	Phone: 919-632-5668 cell roger@sunforce.com www.sunforce.com
Southeast: GA, E. TN	Nick Rice Sunforce, Inc.	Phone: 770-573-1960 nick@sunforce.com www.sunforce.com
Midwest and South: ND, SD, WI, NE, KS, MO, IA, TX, OK, AR, LA	Michael Longo Global Test Equipment	Phone: 630-678-0400 sales@4gte.com www.4gte.com

US REPS (CONTINUED)		
West: NV,WY,MT,ID	Jeff Cuthbertson Edge Consulting and Sales	Phone: 858-877-3650 jeff@edgeconsultingandsales.com www.edgeconsultingandsales.com
West: WA,OR	Bill Hall Edge Consulting and Sales	Phone: 425-820-6216 hall@edgeconsultingandsales.com www.edgeconsultingandsales.com
West: CA	Brad Fleury Edge Consulting and Sales	Phone: 562-397-2080 brad@edgeconsultingandsales.com www.edgeconsultingandsales.com
West: AZ,NM	Rob Trepa Edge Consulting and Sales	Phone: 480-225-7335 rob@edgeconsultingandsales.com www.edgeconsultingandsales.com
West: CO, UT	Dan Spohn Edge Consulting and Sales	Phone: 719-231-3925 dan@edgeconsultingandsales.com www.edgeconsultingandsales.com
INTERNATIONAL REPS		
Germany, Austria, Belgium, The Netherlands	Tactron Elektronik GmbH & Co.KG	Phone: 49 89 895569-0 Email: info@tactron.de Website: www.tactron.de
Israel	Segtro, LTD	Phone: 077-2003406 Email: info@segtro.com Website: www.segtr.com
India	Jyoti Electronics	Phone: 91 94265 11222 Email: jyoti@jyotimicrosystems.com Website: www.jyotimicrosystems.com
Asia: Japan, China, South Korea	Michael Longo Global Test Equipment Phone: 630-678-0400 sales@4gte.com www.4gte.com	
South America		