

INTERNAL MEASURING INSTRUMENTS

SYLVAC offers a large range of internal measuring instruments made up of interchangeable 2 or 3 points mechanical heads and of electronic units with digital display, integrated in the micrometer bodies or in pistol grips guaranteeing a sure and fast measurement.

The measuring range goes from 2 to 300mm in the Xtreme type and from 1 to 310mm in the Ultima type. Special executions are manufactured on request.

Sylvac inductive measuring system (patented)

Data output

Power supply: Lithium battery 3V, Type CR 2032

Operational temperature: +5 to +40°C

mm/inch conversion

Repeatability: $\leq 2 \mu\text{m}$



Bore gauges

Xtreme

DESCRIPTION

- Great measuring range (2 - 300 mm)
- Blind bore measurement from 2 to 6 mm and from 12.5 mm
- Fixed anvils
- UKAS certificate included with all rings
- UKAS certificate included with each instrument
- Manufactured according to DIN863
- Memorization of 3 ring gauges values
- Water and coolant resistant, protection rating IP65 according to IEC 60529
- Programmable by PC
- Battery life: 3'300 hours continuous
- S_Connect Power: RS232 / USB / Digimatic / Wireless

X_Treme XTD



X_Treme XTH



IP65

USB

RS232

WiFi

POWER

Bore gauges

Xtreme

TECHNICAL SPECIFICATIONS INDIVIDUAL INSTRUMENTS XTD

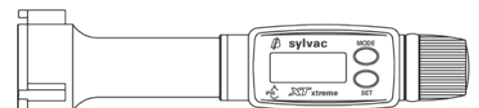
	950.1006	950.1007	950.1008	950.1009	950.1010	950.1011	950.1012	950.1013
Meas. range mm	2-2.5	2.5-3	3-4	4-5	5-6	6-8	8-10	10-12.5
Type	XTD1	XTD2	XTD3	XTD4	XTD5	XTD6	XTD8	XTD10
Depth	9	9	12	18	18	58	58	58
Max. Error μm	4	4	4	4	4	4	4	4
Ø Incl. ring mm	2.5	2.5	4.0	4.0	5.0	8.0	8.0	12.5

	950.1014	950.1015	950.1016	950.1017	950.1018	950.1019	950.1020	950.1021
Meas. range mm	12.5-16	16-20	20-25	25-35	35-50	50-65	65-80	80-100
Type	XTD12.5	XTD16	XTD20	XTD25	XTD35	XTD50	XTD65	XTD80
Depth	62	62	66	66	80	80	80	100
Max. Error μm	4	4	4	4	4	5	5	5
Ø Incl. ring mm	12.5	20.0	20.0	35.0	35.0	65.0	65.0	80.0

	950.1022	950.1023	950.1024	950.1025	950.1026	950.1027	950.1028	950.1029
Meas. range mm	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300
Type	XTD100	XTD125	XTD150	XTD175	XTD200	XTD225	XTD250	XTD275
Depth	115	115	115	115	118	118	118	118
Max. Error μm	6	6	7	7	8	8	9	9
Ø Incl. ring mm	125.0	125.0	175.0	175.0	225.0	225.0	275.0	275.0

TECHNICAL SPECIFICATIONS INSTRUMENTS SETS SXTD

	951.1102	951.1103	951.1104	951.1105	951.1106	951.1107	951.1108	951.1109
Meas. range mm	2-6	6-10	10-20	20-50	50-100	100-150	150-200	100-200
Type	SXTD1	SXTD3	SXTD4	SXTD5	SXTD6	SXTD7	SXTD8	SXTD9
Number of heads	5	2	3	3	3	2	2	4
Numb. of rings μm	3	1	2	2	2	1	1	2
Meas. Force mm	8N	7N	15N	21N	28N	32N	32N	32N



Bore gauges

Xtreme

TECHNICAL SPECIFICATIONS INDIVIDUAL INSTRUMENTS XTH

	954.1006	954.1007	954.1008	954.1009	954.1010	954.1011	954.1012	954.1013
Meas. range mm	2-2.5	2.5-3	3-4	4-5	5-6	6-8	8-10	10-12.5
Type	XTH1	XTH2	XTH3	XTH4	XTH5	XTH6	XTH8	XTH10
Depth	9	9	12	18	18	58	58	58
Max. Error μm	4	4	4	4	4	4	4	4
$\varnothing$ Incl. ring mm	2.5	2.5	4.0	4.0	5.0	8.0	8.0	12.5

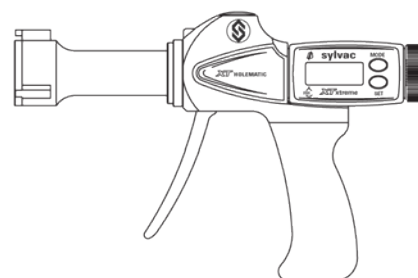
	954.1014	954.1015	954.1016	954.1017	954.1018	954.1019	954.1020	954.1021
Meas. range mm	12.5-16	16-20	20-25	25-35	35-50	50-65	65-80	80-100
Type	XTH12.5	XTH16	XTH20	XTH25	XTH35	XTH50	XTH65	XTH80
Depth	62	62	66	66	80	80	80	85
Max. Error μm	4	4	4	4	4	5	5	5
$\varnothing$ Incl. ring mm	12.5	20.0	20.0	35.0	35.0	65.0	65.0	80.0

	954.1022	954.1023	954.1024	954.1025	954.1026	954.1027	954.1028	954.1029
Meas. range mm	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300
Type	XTH100	XTH125	XTH150	XTH175	XTH200	XTH225	XTH250	XTH275
Depth	100	100	100	100	100	103	103	103
Max. Error μm	6	6	7	7	8	8	9	9
$\varnothing$ Incl. ring mm	125.0	125.0	175.0	175.0	225.0	225.0	275.0	275.0

TECHNICAL SPECIFICATIONS INSTRUMENTS SETS SXTH

	955.1102	955.1103	955.1104	955.1105	955.1106
Meas. range mm	2-6	6-10	10-20	20-50	50-100
Type	SXTH1	SXTH3	SXTH4	SXTH5	SXTH6
Number of heads	5	2	3	3	3
Number of rings	3	1	2	2	2
Measuring Force	4N	9N	9N	19N	19N

	955.1107	955.1108	955.1114	955.1115	955.1116
Meas. range mm	100-150	150-200	6-20	20-100	100-200
Type	SXTH7	SXTH8	SXTH10	SXTH11	SXTH12
Number of heads	2	2	5	6	4
Number of rings	1	1	3	4	2
Measuring Force	22N	22N	9N	19N	22N



Bore gauges

Xtreme

BASIC INSTRUMENT XTD AND XTH INDIVIDUAL

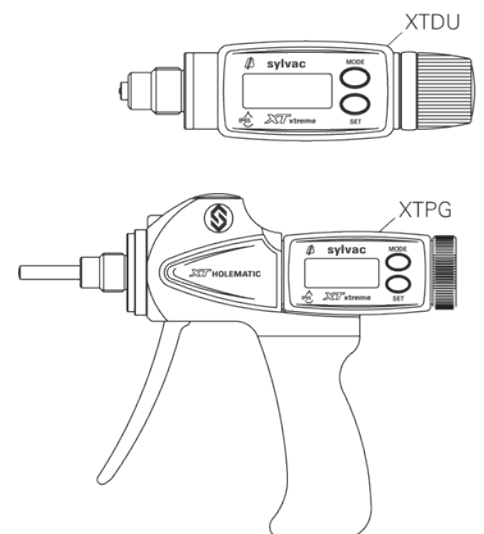
- Instrument according to technical specifications
- Wooden box (XTD : from 150 mm = 2 box; XTH : from 200 mm = 2 box) ¹⁾
- Rings according to technical specifications + UKAS certificate
- 1 x digital display XTDU or XTPG
- Lithium battery CR2302 included
- Manual
- Calibration certificate

¹⁾ Fumigated compatible ISPM 15 and NIMP 15

TECHNICAL SPECIFICATIONS ELECTRONIC UNITS XTDU AND XTPG

XTDU	951.3001	951.3002	951.3003	951.3004	951.3005	951.3006
Meas. range mm	2-6	6-10	10-20	20-50	50-100	100-300
Type	XTDU2	XTDU6	XTDU10	XTDU20	XTDU50	XTDU100
Thread	1/4"x 40 TPI	M5 x 0.5	5/16"x 40 TPI	5/8"x 24 TPI	5/8"x 24 TPI	5/8"x 24 TPI

XTPG	955.3001	955.3002	955.3003	955.3004
Meas. range mm	2-6	6-20	20-100	100-300
Type	XTPG1	XTPG2	XTPG3	XTPG4
Thread	1/4"x 40 TPI	5/16"x 40 TPI	5/8"x 24 TPI	5/8"x 24 TPI

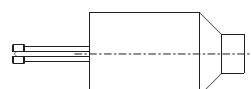


Bore gauges

Xtreme

TECHNICAL SPECIFICATIONS MEASURING HEADS XTHD

	953.2496	953.2497	953.2498	953.2499	953.2500
Meas. range mm	2-2.5	2.5-3	3-4	4-5	5-6
Type	XTHD1	XTHD2	XTHD3	XTHD4	XTHD5
Execution	2 points / ST	2 points / ST	2 points / ST	2 points / ST	2 points / ST



2 points head

	953.2501	953.2502	953.2503	953.2504	953.2505
Meas. range mm	6-8	8-10	10-12.5	12.5-16	16-20
Type	XTHD6	XTHD8	XTHD10	XTHD12.5	XTHD16
Execution	3 points / ST	3 points / ST	3 points / ST	3 points / TC	3 points / TC

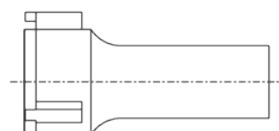
	953.2506	953.2507	953.2508	953.2509	953.2510
Meas. range mm	20-25	25-35	35-50	50-65	65-80
Type	XTHD20	XTHD25	XTHD35	XTHD50	XTHD65
Execution	3 points / TC	3 points / TC	3 points / TC	3 points / TC	3 points / TC

	953.2511	953.2512	953.2513	953.2514	953.2515
Meas. range mm	80-100	100-125	125-150	150-175	175-200
Type	XTHD80	XTHD100	XTHD125	XTHD150	XTHD175
Execution	3 points / TC	3 points / TC	3 points / TC	3 points / TC	3 points / TC

	953.2516	953.2517	953.2518	953.2519
Meas. range mm	200-225	225-250	250-275	275-300
Type	XTHD200	XTHD225	XTHD250	XTHD275
Execution	3 points / TC	3 points / TC	3 points / TC	3 points / TC

ST = steel
TC = tungsten carbide

All heads are compatible with the HTX and XTH



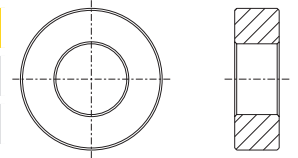
3 points head

Bore gauges

Xtreme

TECHNICAL SPECIFICATIONS SETTING RINGS XTR

		953.2598	953.2599	953.2600	953.2601	953.2602	953.2603
Size	mm	2.5	4	5	8	12.5	20
Type		XTR2.5	XTR4	XTR5	XTR8	XTR12.5	XTR20



		953.2604	953.2605	953.2606	953.2607	953.2608	953.2609	953.2610
Size	mm	35	65	80	125	175	225	275
Type		XTR35	XTR65	XTR80	XTR125	XTR175	XTR225	XTR275

TECHNICAL SPECIFICATIONS EXTENSIONS SX

		953.2001	953.2002	953.2003	953.2004	953.2005
Meas. range	mm	6-10	10-12.5	12.5-20	20-50	50-300
Type		SX200	SX400	SX500	SX1	SX4
Length	mm	63	76	100	150	150



Other accessories

		953.2010	953.2011
Meas. range	mm	2-50	2-6
Description		Stand	Depth stop

APPLICATIONS



Pistol measuring system



Measuring with ratchet XTD system



Measuring with pistol XTH system

High accuracy internal measurement **Ultima**

DESCRIPTION

- Measuring range from 2 to 310 mm
- Resolution up to 0.0001 mm
- Mechanical repeatability : 1 μ m from 2 to 210 mm and 2 μ m from 210 to 310 mm
- Robust construction designed for use by inspection and machine shop
- UKAS certificate supplied with each head
- UKAS certificate supplied with each setting ring.
- Rings manufactured according to DIN 2250 part 2 (standard)
- Blind bore measuring from 12 to 310 mm
- Compatible with all Sylvac digital display D50S, D80S, D100S, D200S
- Special heads on request (threads, grooves, splines, slot width, etc...)



High accuracy internal measurement Ultima

TECHNICAL SPECIFICATIONS OF MEASURING HEADS

		960.1006	960.1007	960.1008	960.1009	960.1010	960.1011	960.1012	960.1013
Meas. range	mm	2.0-2.5	2.5-3	3-4	4-5	5-6	6-8	8-10	10-12
Ring Ø	mm	2.5	2.5	4	5	5	8	8	12
Depth	mm	9	9	12	18	18	60	60	61
Max. Error	µm	1	1	1	1	1	1	1	1

		960.1014	960.1015	960.1016	960.1017	960.1018	960.1019	960.1020	960.1021
Meas. range	mm	12-14	14-17	17-20	20-24	24-28	28-32	32-38	38-44
Ring Ø	mm	12	17	17	24	24	32	32	44
Depth	mm	61	61	61	69	69	69	72	72
Max. Error	µm	1	1	1	1	1	1	1	1

		960.1022	960.1023	960.1024	960.1025	960.1026	960.1027	960.1028	960.1029
Meas. range	mm	44-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120
Ring Ø	mm	44	60	60	80	80	100	100	120
Depth	mm	72	80	80	80	80	80	80	80
Max. Error	µm	1	1	1.5	1.5	1.5	1.5	1.5	1.5

		960.1030	960.1031	960.1032	960.1033	960.1034	960.1035	960.1036	960.1037
Meas. range	mm	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200
Ring Ø	mm	120	140	140	160	160	180	180	200
Depth	mm	80	80	80	80	80	80	80	80
Max. Error	µm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

		960.1038	960.1039	960.1040	960.1041	960.1042	960.1043	960.1044	960.1045
Meas. range	mm	200-210	210-220	220-230	230-240	240-250	250-260	260-270	270-280
Ring Ø	mm	200	220	220	240	240	260	260	280
Depth	mm	80	80	2.5	80	80	80	80	80
Max. Error	µm	1.5	2	2	2	2	2	2	2

		960.1046	960.1047	960.1048
Meas. range	mm	280-290	290-300	300-310
Ring Ø	mm	280	300	300
Depth	mm	80	80	80
Max. Error	µm	2	2	2

High accuracy internal measurement Ultima

TECHNICAL SPECIFICATIONS SETS

	961.1102	961.1103	961.1104
Meas. range mm	2-6	6-10	10-20
Number of rings	3	1	2

	961.1107	961.1108	961.1109	961.1110
Meas. range mm	6-20	20-50	50-100	20-100
Number of rings	3	3	3	6

BASIC INSTRUMENT

Individual

- Instrument according to technical specifications (handle with integrated probe + head)
- Setting rings according to technical specifications
- Wooden box ¹⁾
- Manual

Sets

- Instrument according to technical specifications (handle with integrated probe + head)
- Setting rings according to technical specifications
- Digital display D50S (804.1050)
- Wooden box ¹⁾
- Manual

¹⁾ Fumigated compatible ISPM 15 and NIMP 15

TECHNICAL SPECIFICATIONS HANDLES

	961.3001	961.3002	961.3003	961.3004
Meas. range mm	2-6	6-20	20-100	100-310

Capacitive probe included

TECHNICAL SPECIFICATIONS EXTENSIONS

	961.2001	961.2002	961.2003	961.2004	961.2005	961.2006	961.2007
Meas. range mm	6-10	10-12	12-20	20-50	50-310	20-50	50-310
Length mm	63	75	100	50	50	150	150

High accuracy internal measurement Ultima

APPLICATIONS



Data output thru RS232



Two Ultima gauges connected with one unit
Sylvac D50S only



Adjustable depths stop (on request)



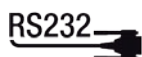
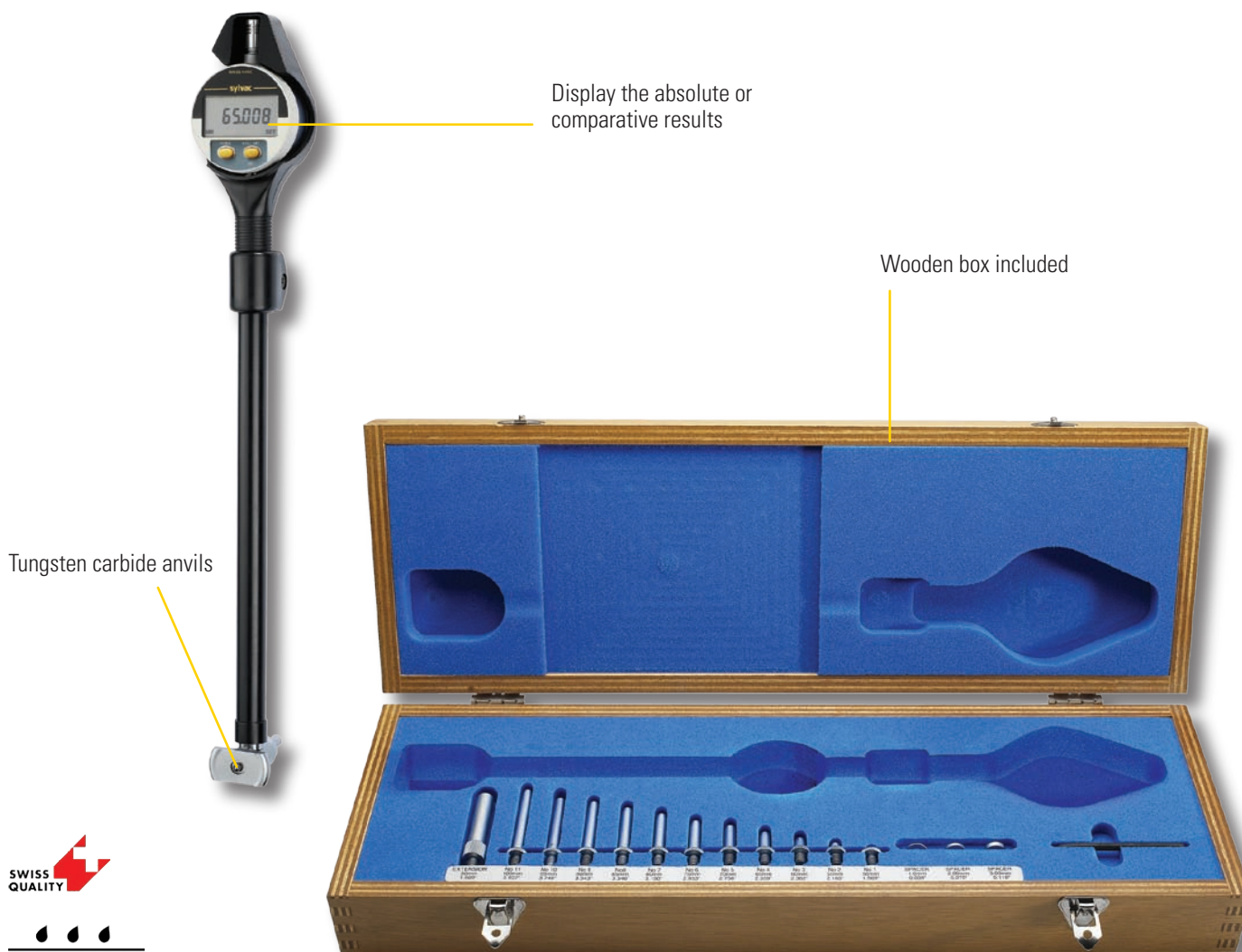
Set including 6 measuring heads, 3 master rings, 1 D50S, the handle and his probe, charging unit

Digital cylindrical bore gauges

CBG

DESCRIPTION

- Measuring range 12.5 - 600 mm
- 3- point centering, 2-point measurement
- Fast simple checking for bore size, ovality, taper...
- Thermally insulated for extra stability
- Light and handy



Digital cylindrical bore gauges

CBG

TECHNICAL SPECIFICATIONS

		956.2001	956.2002	956.2003	956.2004	956.2005
Measuring range	mm	12.5-22	22-50	50-150	150-300	150-600
Rod		7	6	11	---	---
Adjustable rod		---	---	---	6	6
Extension		1	2	1	1	1
Washer		---	---	3	---	---
Standard depth	mm	150	150	250	380	380
Other measuring depths on request	mm	75,300	75,300,450, 600,760,910	75,450,600 760,910	600,760,910	600,760,910
Repeatability	µm	2				
S_Connect : Opto		USB / RS232 / Digimatic / Wireless				
Programmable by PC		●				
Min / max / delta values		●				
PRESET recall on memorized min/max values ¹⁾		●				

¹⁾ Master value

BASIC INSTRUMENT

- Instrument according to technical specifications
- Anvils or adjustable anvils according to technical specifications
- Extensions and washers according to technical specifications
- Lithium battery CR2302 included
- Wooden box ²⁾

²⁾ Fumigated compatible ISPM 15 and NIMP 15

Bore gauges

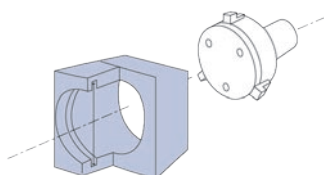
other applications

DESCRIPTION

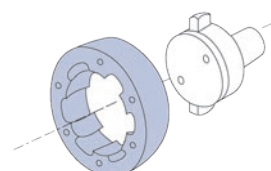
In spite of the fact that our range of interior measuring instruments is more complete, all the applications cannot be covered by the standard series. The illustrations below express the possibilities of special applications which we can carry out.

For instance, below some pictures of special applications :

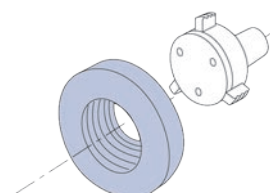
Grooves measurement



2-points head with spherical anvils



Threads measuring head



Threads measurement with ball anvils

