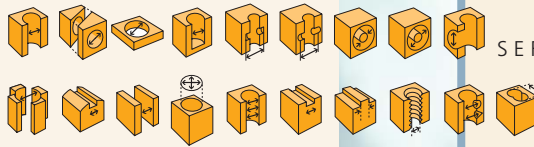


Indicating Plug Gauge OD

for measuring internal diameters, application range 2,5 - 1000 mm



SERIES 300-326

Assembly complete set: 1 measuring sleeve with two radially movable contact pins, offset by 180° + OD holder (see page 23) + indicating unit of choice.
Standard travel (meas. range): 0,2 mm
Standard design of the meas. sleeve: tool steel w. tungsten carbide meas. contacts

OD MEASURING SLEEVES, STANDARD

Sleeve-Ø [mm]	h [mm]	standard Art.-No.	h [mm]	for through bores Art.-No.	h [mm]	for blind bores Art.-No.
2,5 - 6	1,5	300 00000	6	300 00002	1	300 00001
6,1 - 12	2,5	301 00000	10	301 00002	1	301 00001
12,1 - 20	2,5	302 00000	10	302 00002	1	302 00001
20,1 - 30	3,5	303 00000	10	303 00002	1,2	303 00001
30,1 - 40	3,5	304 00000	10	304 00002	1,2	304 00001
40,1 - 60	3,5	305 00000	10	305 00002	1,2	305 00001
60,1 - 80	4,0	306 00000	10	306 00002	1,2	306 00001
80,1 - 100	4,0	307 00000	10	307 00002	1,2	307 00001
100,1 - 110	4,0	308 00000	10	308 00002	1,2	308 00001
110,1 - 120	4,0	309 00010	10	309 00012	1,2	309 00011
120,1 - 130	4,0	310 00010	10	310 00012	1,2	310 00011

Design from Ø 130 mm as cross sleeves or cross sleeves with runners;
ESU Setting master therefore see Series 125

OD CROSS SLEEVES [WITH RUNNERS]

Sleeve-Ø [mm]	h [mm]	cross sleeve w. runners Art.-No.	h [mm]	cross sleeve w. runners Art.-No.	h [mm]	cross sleeve Art.-No.
130,1 - 140	7	311 00001	18	311 00000	6	311 00002
140,1 - 150	7	312 00001	18	312 00000	6	312 00002
150,1 - 160	7	313 00001	18	313 00000	6	313 00002
160,1 - 170	7	314 00001	18	314 00000	6	314 00002
170,1 - 180	7	315 00001	18	315 00000	6	315 00002
180,1 - 190	7	316 00001	18	316 00000	6	316 00002
190,1 - 200	7	317 00001	18	317 00000	6	317 00002
200,1 - 300	7	318 00001	18	318 00000	6	318 00002

Please let us know the exact bore tolerance with your order:
Example: Meas. sleeve OD No. 304 00000 35 H7
Meas. sleeve OD No. 304 00000 35 + 0,15 - 0,01
Meas. sleeve OD No. 304 00000 34,990/35,005

OD MEASURING SLEEVES, HARDCHROMED

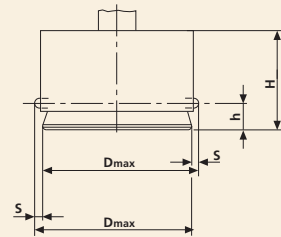
Sleeve-Ø [mm]	h [mm]	Standard Art.-No.	h [mm]	for through bores Art.-No.	h [mm]	for blind bores Art.-No.
2,5 - 6	1,5	300 00004	6	300 00009	1	300 00008
6,1 - 12	2,5	301 00004	10	301 00009	1	301 00008
12,1 - 20	2,5	302 00004	10	302 00009	1	302 00008
20,1 - 30	3,5	303 00004	10	303 00009	1,2	303 00008
30,1 - 40	3,5	304 00004	10	304 00009	1,2	304 00008
40,1 - 60	3,5	305 00004	10	305 00010	1,2	305 00009
60,1 - 80	4,0	306 00004	10	306 00015	1,2	306 00009
80,1 - 100	4,0	307 00004	10	307 00011	1,2	307 00010
100,1 - 110	4,0	308 00004	10	308 00016	1,2	308 00005
110,1 - 120	4,0	309 00004	10	309 00006	1,2	309 00005
120,1 - 130	4,0	310 00004	10	310 00006	1,2	310 00005
> 130		<i>on inquiry</i>				



Plug gauges OD for various bore diameters and in open design

Floating contacting principle:

- H: Sleeve length
- h: Front distance; distance of meas. axis to bottom of the bore
- D_{max}: maximum Ø to be measured
- s: Measuring range = 0,2 mm



OD Dimensions



Cross sleeve from Ø 130 mm for centring shoulders or measuring with depth stop



Cross sleeve with runners from Ø 130 mm for through and deep bores

Indicating Plug Gauge OD

Measuring sleeves in open design:

Measuring contacts with enlarged radii, to ensure filter effects with unpolished surfaces; tungsten carbide tipped, easy cleaning.

OD MEASURING SLEEVES IN OPEN DESIGN

Sleeve-Ø [mm]	h Standard [mm]	Art.-No.	h blind bores [mm]	Art.-No.
3 - 6	6	300 00007	-	-
6,1 - 12	10	301 00011	2	301 00012
12,1 - 20	10	302 00010	1,5	302 00011
20,1 - 30	10	303 00010	1,5	303 00011
30,1 - 40	10	304 00016	4	304 00019
40,1 - 60	10	305 00008	4	305 00011
60,1 - 80	10	306 00013	4	306 00016
80,1 - 100	10	307 00009	4	307 00012
> 100	10	on inquiry	4	on inquiry

SPECIAL DESIGNS ON INQUIRY:

- Contact pins and/or sleeve out of Delrin for scratch sensible, polished workpieces
- Deviating front distance „h“
- Meas. sleeves for automatic measuring
- Three-point design
- Contact pins ruby, ceramic or hard-chromed
- Two or more measuring axes
- Special sleeves for plane parallel distances
- Special profiles for extruders or for housings of toothed wheel pumps
- Blind bores design with h = 1 mm
- Extended meas. range up to 0,8 mm
- Ø > 130 mm in full round design

For technical details regarding the Series OD please look into our technical documentation 300 T

OD HOLDER

with thread connection M11 x 0,75 for direct connection to all OD meas. sleeves

OD HOLDER

Length [mm]	Art.-No.
50	320 00000
105	320 00001
235	320 00002
<i>greater length on inquiry</i>	
<i>Holder F, especially for electronic length meas. probes, w. fine adjustment, 110 mm long</i>	320 00004
<i>Strengthened holder w. tube Ø 18 mm, recommended for sleeve-Ø > 100 mm</i>	
105	320 00038
235	320 00039
<i>Holder with retraction, 70 mm long, recommended for blind bore sleeves</i>	320 00042

SERIES 300-326



OD measuring sleeve in open design

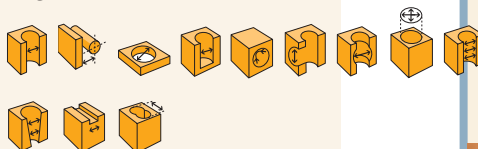


Holder F strengthened OD Holder, 235 mm long
Standard holder in lengths:
235,105,50 mm

SUBITO-Vario Precision Bore Measuring Instrument

SV/SVS

for measuring internal diameters, application range 6 - 800 mm



SERIES 122-124

Delivery SV: SUBITO Vario SV modular system consisting of one upper part and different measuring heads in Vario design; with fixed measuring pins, washers, in wooden box, w/o dial gauge.

SUBITO VARIO SV

Application range [mm]		Meas. pins steel Art.-No.	Meas. pins carbide Art.-No.
Type SV	Meas. heads SUBITO Vario		
6 - 18	6 - 10 10 - 18	-	122 00000
6 - 10	6 - 10	-	122 00001
10 - 18	10 - 18	-	122 00002
18 - 160	18 - 50 50 - 160	123 00000	123 00008
18 - 50	18 - 50	123 00001	123 00009
50 - 160	50 - 160	123 00002	123 00010
160 - 800	160 - 430 430 - 800	124 00000	124 00004
160 - 430	160 - 430	124 00001	124 00005
400 - 800	400 - 800	124 00002	124 00006



SUBITO Vario SV

Delivery SVS: as Series SV, but with a short upper part and additional measuring heads and slides for blind bores. As well as an angle piece 90° for difficult-to-reach bores and 2 measuring depth extensions 192 mm; in wooden box, w/o dial gauge.

SUBITO VARIO SVS

Application range [mm]		Meas. pins steel Art.-No.	Meas. pins carbide Art.-No.
Type SVS	Meas. heads		
	<i>SUBITO Vario</i>	18 - 50 50 - 160	
18 - 160	<i>blind bores</i>	20 - 50 50 - 140	123 00005 123 00013



SUBITO Vario System SVS

ACCESSORIES SV/SVS

Application range [mm]	Art.-No.
6 - 18 mm	
<i>screw-in meas. depth extension 250 mm long, tube-Ø 5 mm</i>	122 00005
<i>angle piece 90°</i>	122 00006
18 - 160 mm	
<i>screw-in meas. depth extension 192 mm long, tube-Ø 10 mm</i>	123 00007
<i>screw-in meas. depth extension 500 mm long, tube-Ø 10 mm</i>	123 00033
<i>screw-in meas. depth extension 750 mm long, tube-Ø 10 mm</i>	123 00034
<i>screw-in meas. depth extension 1000 mm long, tube-Ø 10 mm</i>	123 00035
<i>angle piece 90°, 83 mm long</i>	123 00006
160 - 800 mm	
<i>screw-in meas. depth extension 485 mm long, tube-Ø 24 mm</i>	124 00003
<i>screw-in meas. depth extension 1000 mm long, tube-Ø 24 mm</i>	124 00007

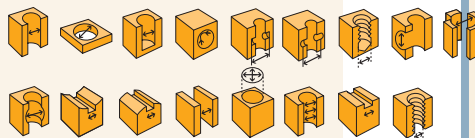


Measuring depth extension MTV for SV/SVS

OSIMESS Precision Bore Gauge

OS/OSH/OSS

for small diameters
from 1,0 - 20 mm



SERIES 625-628

STANDARD DESIGN OS COMPLETE SETS

Delivery: 1 Set of probes \varnothing 1 - 4 tungsten carbide, \varnothing 4,5 - 20 hardchromed, wedge-shaped meas. needle generally tungsten carbide; holder of your choice, in wooden box, w/o setting rings, w/o dial gauge.
Separate probes see pages 19 and 20

OSIMESS OS

Application range [mm]		no. of probes	Holder w/o retraction	Holder with retraction
nominal range	effective range			
1,0 - 4,0	0,95 - 4,2	-	<i>standard carb., see OSH</i>	
4,5 - 7,5	4,15 - 7,8	7	627 00200	627 00201
8,0 - 12,0	7,7 - 12,5	6	627 00300	627 00301
4,5 - 12,0	4,15 - 12,5	13	627 00000	627 00001
13,0 - 20,0	12,2 - 20,6	8	628 00000	628 00001



OSIMESS - probes overall view

DESIGN OSH COMPLETE SETS

Tungsten carbide tipped probes

OSIMESS OSH

Application range [mm]		no. of probes	Holder w/o retraction	Holder with retraction
nominal range	effective range			
1,0 - 1,4	0,95 - 1,55	5	626 00200	626 00201
1,75 - 4,0	1,5 - 4,2	10	626 00202	626 00203
1,0 - 4,0	0,95 - 4,2	15	626 00000	626 00001
4,5 - 7,5	4,15 - 7,8	7	627 00202	627 00203
8,0 - 12,0	7,7 - 12,5	6	627 00302	627 00303
4,5 - 12,0	4,15 - 12,5	13	627 00004	627 00005
13,0 - 20,0	12,2 - 20,6	8	628 00004	628 00005



OSIMESS probe blind bore design OSS (top)
OSIMESS probe standard design OS (bottom)

DESIGN OSS COMPLETE SETS

Probes for blind bores from \varnothing 1,75 mm.
Tungsten carbide probes up to \varnothing 4, hardchromed probes from \varnothing 4,5 mm.

OSIMESS OSS

Application range [mm]		no. of probes	Holder with retraction
nominal range	effective range		
1,75 - 4,0	1,5 - 4,2	10	626 00003
4,5 - 7,5	4,15 - 7,8	7	627 00204
8,0 - 12,0	7,7 - 12,5	6	627 00304
4,5 - 12,0	4,15 - 12,5	13	627 00003
13,0 - 20,0	12,2 - 20,6	8	628 00003



OSIMESS in wooden box

OSIMESS-HOLDER

Holder with retraction especially recommended for probes up to 4 mm, for blind bores probes and for the max. protection of the probes.

OSIMESS-HOLDER

Design	Art.-No.
Holder w/o retraction for 1,0 - 20,0 mm	625 00009
Holder with retraction for 1,0 - 20,0 mm	626 00010

SETTING RINGS

Set	Quantity	Art.-No.
1,0 - 1,4	5	626 00204
1,75 - 4,0	10	626 00205
1,0 - 4,0	15	626 00004
4,5 - 7,5	7	627 00205
8,0 - 12,0	6	627 00305
4,5 - 12,0	13	627 00006
13,0 - 20,0	8	628 00006

ACCESSORIES

	Meas. range [mm]	Art.-No.
Clamp with depth stop	1,0 - 4,0	626 00005
	4,5 - 9,0	627 00007
	10,0 - 20,0	628 00007
Angle piece 90°	1,0 - 20,0	625 00008
Measuring depth extension from Ø 10 mm	50 mm long	625 00101
	100 mm long	626 00102
	250 mm long	627 00103
OS-probe with special length for Ø < 10 mm	on inquiry	

OSIMESS-Spare parts

PROBES 1,0 - 4,0 MM

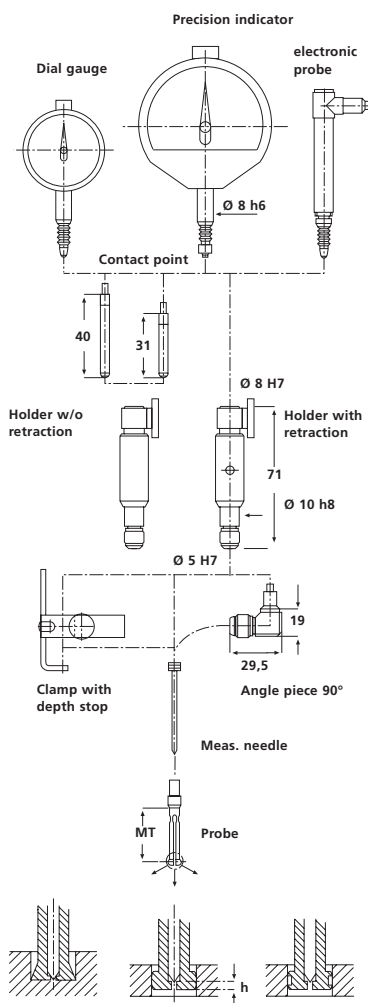
Nominal dimension [mm]	Meas. range [mm]	Probe OSH Art.-No.	Probe OSS Art.-No.	Setting ring Art.-No.
1,0	0,95 - 1,15	626 00012	-	626 00052
1,1	1,07 - 1,25	626 00013	-	626 00053
1,2	1,17 - 1,35	626 00014	-	626 00054
1,3	1,27 - 1,45	626 00015	-	626 00055
1,4	1,37 - 1,55	626 00016	-	626 00056
1,75	1,50 - 1,90	626 00017	626 00042	626 00057
2,0	1,80 - 2,20	626 00018	626 00043	626 00058
2,25	2,05 - 2,45	626 00019	626 00044	626 00059
2,5	2,30 - 2,70	626 00020	626 00045	626 00060
2,75	2,55 - 2,95	626 00021	626 00046	626 00061
3,0	2,80 - 3,20	626 00022	626 00047	626 00062
3,25	3,05 - 3,45	626 00023	626 00048	626 00063
3,5	3,30 - 3,70	626 00024	626 00049	626 00064
3,75	3,55 - 3,95	626 00025	626 00050	626 00065
4,0	3,80 - 4,20	626 00026	626 00051	626 00066

MEASURING NEEDLES

Measuring needles OSH/ OSS from Ø 1,75 mm	Art.-No.
1,0 - 1,4	626 00067
1,75 - 2,25	626 00068
2,5 - 4,0	626 00069
Wooden box for OSH and OSS 1,0 - 4,0	626 00072



Angle piece 90° with OSIMESS-holder



Assembly system OSIMESS

OSIMESS Precision Bore Gauge

OS

SERIES 625-628

PROBES 4,5 - 9,0 MM

Nom. dim. [mm]	Meas. range [mm]	Probe OS Art.-No.	Probe OSH Art.-No.	Probe OSS Art.-No.	Setting ring Art.-No.
4,5	4,15 - 4,80	627 00015	627 00063	627 00047	627 00079
5,0	4,70 - 5,30	627 00016	627 00064	627 00048	627 00080
5,5	5,20 - 5,80	627 00017	627 00065	627 00049	627 00081
6,0	5,70 - 6,30	627 00018	627 00066	627 00050	627 00082
6,5	6,20 - 6,80	627 00019	627 00067	627 00051	627 00083
7,0	6,70 - 7,30	627 00020	627 00068	627 00052	627 00084
7,5	7,20 - 7,80	627 00021	627 00069	627 00053	627 00085
8,0	7,70 - 8,30	627 00022	627 00070	627 00054	627 00086
8,5	8,20 - 8,80	627 00023	627 00071	627 00055	627 00087
9,0	8,70 - 9,30	627 00024	627 00072	627 00056	627 00088



Standard OSIMESS probe OS

MEASURING NEEDLES

	Art.-No.
4,5 9 mm OS - OSH	627 00095
4,5 9 mm OSS	627 00096
Wooden box OS - OSH - OSS 4,5 - 12,0	627 00097



Special probe OSF for keyway

PROBES 10,0 - 20,0 MM

Nom. dim. [mm]	Meas. range [mm]	Probe OS Art.-No.	Probe OSH Art.-No.	Probe OSS Art.-No.	Setting ring Art.-No.
10	9,2 - 10,5	627 00106	627 00112	627 00109	627 00090
11	10,2 - 11,5	627 00107	627 00113	627 00110	627 00092
12	11,2 - 12,5	627 00108	627 00114	627 00111	627 00094
13	12,2 - 13,5	628 00015	628 00039	628 00031	628 00047
14	13,4 - 14,7	628 00016	628 00040	628 00032	628 00048
15	14,4 - 15,7	628 00017	628 00041	628 00033	628 00049
16	15,4 - 16,7	628 00018	628 00042	628 00034	628 00050
17	16,4 - 17,7	628 00019	628 00043	628 00035	628 00051
18	17,4 - 18,7	628 00020	628 00044	628 00036	628 00052
19	18,4 - 19,7	628 00021	628 00045	628 00037	628 00053
20	19,4 - 20,7	628 00022	628 00046	628 00038	628 00054
> 20 - 40	Standard and for blind bores on inquiry				

MEASURING NEEDLES

	Art.-No.
10 - 20 OS - OSH	628 00055
10 - 20 OSS	628 00056
Wooden box OS - OSH - OSS 13,0 - 20,0	628 00057

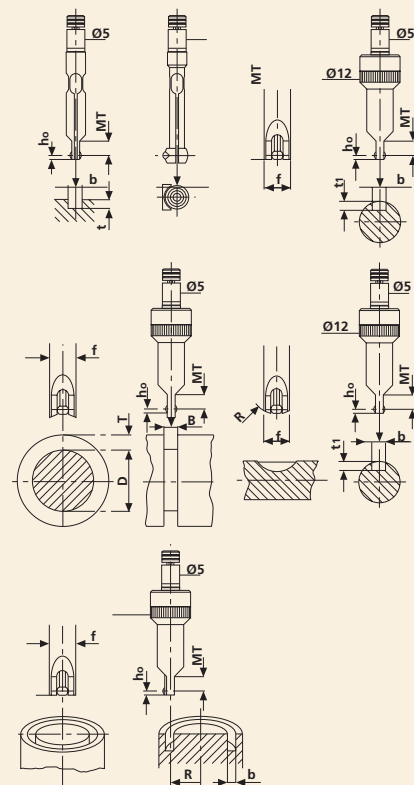
SPECIAL PROBES OSF FOR MEASURING GROOVES AND RECESSES

- Examples:
- OSF for plane-parallel distances, e.g. keyways
 - OSR convex for radial grooves, OSR concave for wood ruff keys
 - OSB for axial or special grooves

Please let us know the exact nominal dimension w. tolerance with your order. For OSR/ OSB please indicate additionally the radius.
 Example:
 Special probe OSF No. 626 00035 3,0 H7
 Probe OSF No. 626 00035 3 +0,15 / -0,01mm

OSIMESS OSF

Special probe OSF with nominal dimension [mm] between	Probe Art.-No.	Meas. needle Art.-No.
1,0 - 1,4	626 00027	626 00067
1,75 - 2,25	626 00032	626 00068
2,5 - 4,0	626 00035	626 00069
4,5 - 9,0	627 00031	627 00105
10,0 - 20,0	627 00042	628 00064



special probes OSIMESS OSF