



	<p>Tool repair service</p>	<p>00-2</p>		<p>Calibration of thread gauges</p>	<p>00-16</p>
	<p>Regrinding service</p>	<p>00-5</p>		<p>Calibration of plain gauges</p>	<p>00-17</p>
	<p>Coating service</p>	<p>00-8</p>		<p>Calibration of appliances</p>	<p>00-19</p>
<p><b>INFO</b></p>	<p>ISO 9000 ff test equipment monitoring service</p>	<p>00-9</p>		<p>Calibration of stationary measuring equipment</p>	<p>00-21</p>
	<p>Calibration of indicating measuring instruments</p>	<p>00-10</p>		<p>Test equipment monitoring software</p>	<p>00-21</p>
	<p>Calibration of gauge blocks</p>	<p>00-14</p>			
	<p>Calibration of material measures</p>	<p>00-14</p>			

## Tool repair service

- State-of-the-art reconditioning of damaged machining tools with indexable insert seats
- We guarantee the tolerances, geometrical shapes and wear resistance specified by the original tool manufacturer for standard tools, and also for drawing-based special tools
- Measurement logs on request (measurement logs are only useful from a technical perspective if all insert seats have been repaired or reconditioned, as otherwise the tolerances of the tool cannot be fully guaranteed)
- Reduces tooling costs during production, cost of refurbishment is only approx. 50 % of the new price
- Short delivery times
- Many years of experience with more than 750,000 refurbished insert seats
- Unless otherwise specified, all prices are unit prices per tool, irrespective of how many insert seats are damaged e.g. in a milling head.
- Please send the tools free of charge to our address
- The equipment will be returned on payment of the costs incurred.



### The before and after effect



### Special tools

We also offer our Tool Repair Service for all special tools or machining tools with indexable insert seats which are not included in this list. Please send us the tools, including their exact specifications and drawings, as well as the necessary original spare parts such as indexable inserts, support plates, clamping screws etc. for at least one insert seat. You will then receive our estimate of costs immediately.



#### Repair of clamp-type tool holders

Shank width mm	With 1 insert seat		With 2 insert seats	
	art.no.	€	art.no.	€
≤ 20 x 20	<b>040101 0020</b>	<b>26,90</b>	<b>040103 0020</b>	<b>41,-</b>
≤ 25 x 25	040101 0025	<b>31,80</b>	040103 0025	<b>48,-</b>
≤ 32 x 25	040101 0032	<b>35,60</b>	040103 0032	<b>53,50</b>
≤ 32 x 32	040101 0033	<b>46,60</b>	040103 0033	<b>64,50</b>
≤ 40 x 40	040101 0040	<b>47,-</b>	040103 0040	<b>71,-</b>
≤ 50 x 50	040101 0050	<b>83,50</b>	040103 0050	<b>125,-</b>
≤ 63 x 63	040101 0063	<b>110,-</b>	040103 0063	<b>164,-</b>
	0101		0101	



#### Repair of boring bars

for bore hole Ø mm	With 1 insert seat		With 2 insert seats	
	art.no.	€	art.no.	€
≤ 16	<b>040105 0016</b>	<b>44,10</b>	<b>040107 0016</b>	<b>64,50</b>
≤ 20	040105 0020	<b>54,50</b>	040107 0020	<b>80,50</b>
≤ 25	040105 0025	<b>55,50</b>	040107 0025	<b>81,50</b>
≤ 32	040105 0032	<b>64,50</b>	040107 0032	<b>96,50</b>
≤ 40	040105 0040	<b>107,-</b>	040107 0040	<b>161,-</b>
≤ 50	040105 0050	<b>135,-</b>	040107 0050	<b>205,-</b>
≤ 60	040105 0060	<b>135,-</b>	040107 0060	<b>205,-</b>
	0101		0101	



#### Repair of internal thread and grooving tool holders

for bore hole Ø mm	art.no.	€
≤ 16	<b>040110 0016</b>	<b>46,-</b>
≤ 20	040110 0020	<b>57,-</b>
≤ 25	040110 0025	<b>58,-</b>
≤ 32	040110 0032	<b>68,-</b>
≤ 40	040110 0040	<b>113,-</b>
≤ 50	040110 0050	<b>142,-</b>
≤ 60	040110 0060	<b>142,-</b>
	0101	



#### Repair of outside and inside grooving tool holders and cutting tool holders, planar grooving tool holders and copying holders

Shank width mm	art.no.	€
≤ 20	<b>040115 0020</b>	<b>39,-</b>
≤ 25	040115 0025	<b>39,-</b>
≤ 32	040115 0032	<b>50,-</b>
≤ 40	040115 0040	<b>57,-</b>
	0101	

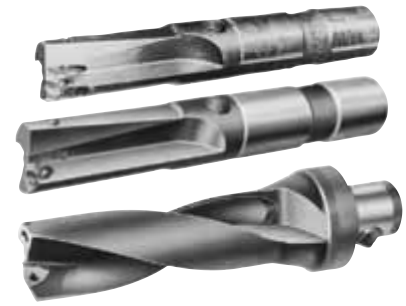
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**Repair of tangs on Morse tapers**

- Taper can be finished on request

Shank	art.no.	€
MT 2	<b>040501 0002</b>	<b>35,50</b>
MT 3	040501 0003	58,-
MT 4	040501 0004	88,-
MT 5	040501 0005	124,-
MT 6	040501 0006	220,-

0101

**Repair of indexable insert stub drills and step drills up to 2 bore diameters**

for bore hole Ø mm	Standard art.no.	€	Step drills art.no.	€
≤ 20	<b>040505 0020</b>	<b>122,-</b>	<b>040507 0020</b>	<b>182,-</b>
≤ 30	040505 0030	145,-	040507 0030	215,-
≤ 36	040505 0036	178,-	040507 0036	270,-
≤ 41	040505 0041	196,-	040507 0041	295,-
≤ 48	040505 0048	220,-	040507 0048	335,-
≤ 60	040505 0060	250,-	040507 0060	370,-
> 60	040505 0099	310,-	040507 0099	465,-

0101

0101

**Repair of installation tools**

Design	art.no.	€
Short clamping mount	<b>040510 0001</b>	<b>45,-</b>
Knife-head cartridges	040510 0002	33,20
T-Max drilling cartridges, internal	040510 0003	59,-
T-Max drilling cartridges, external	040510 0004	66,-
Wheelset turning tools	040510 0005	78,-

0101

**Repair of attachment tools such as the „Block Tool“ system**

Design	art.no.	€
External turning	<b>040515 0001</b>	<b>60,50</b>
External cutting of grooves and threads	040515 0002	70,-
Internal turning	040515 0003	78,-
Internal cutting of grooves and threads	040515 0004	88,50

0101

**Repair of variable boring bar heads**

for bore hole Ø mm	With 1 insert seat art.no.	€	With 2 insert seats art.no.	€
≤ 30	<b>040520 0030</b>	<b>51,50</b>	<b>040522 0030</b>	<b>102,-</b>
≤ 37	040520 0037	64,50	040522 0037	129,-
≤ 44	040520 0044	76,50	040522 0044	152,-
≤ 54	040520 0054	79,50	040522 0054	158,-
≤ 66	040520 0066	91,-	040522 0066	182,-
≤ 83	040520 0083	101,-	040522 0083	205,-
≤ 103	040520 0103	110,-	040522 0103	220,-
≤ 120	040520 0120	122,-	040522 0120	240,-
≤ 140	040520 0140	124,-	040522 0140	250,-
≤ 225	040520 0225	131,-	040522 0225	265,-

0101

0101

**Repair of replaceable boring bar heads**

for bore hole Ø mm	With 1 insert seat art.no.	€	With 2 insert seats art.no.	€
≤ 32	<b>040525 0032</b>	<b>67,-</b>	<b>040527 0032</b>	<b>101,-</b>
≤ 40	040525 0040	70,50	040527 0040	105,-
≤ 50	040525 0050	86,50	040527 0050	128,-
≤ 63	040525 0063	106,-	040527 0063	158,-
≤ 80	040525 0080	146,-	040527 0080	220,-

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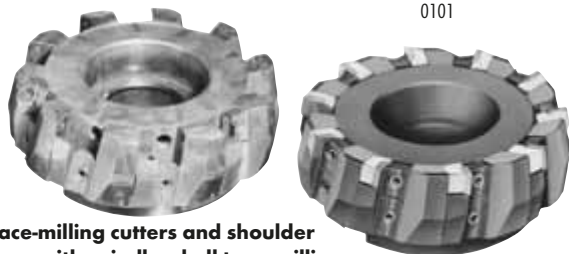
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### Repair of end milling cutters

Ø mm	Chip chambers	art.no.	€
≤ 16	1	041001 0161	54,50
≤ 20	2	041001 0202	80,50
≤ 25	2	041001 0252	91,50
≤ 32	2	041001 0322	95,50
≤ 40	2	041001 0402	113,-
≤ 40	3	041001 0403	118,-
≤ 50	3	041001 0503	135,-
≤ 20	4	041001 0204	94,50
≤ 25	4	041001 0254	107,-
≤ 32	4	041001 0324	117,-
≤ 40	4	041001 0404	127,-
≤ 50	4	041001 0504	175,-

0101



### Repair of face-milling cutters and shoulder milling cutters with spindle, shell-type milling cutters and milling heads

- Additional charge for fine serration + 50 %

Ø mm	Insert seats max.	art.no.	€
50	5	041020 0050	126,-
63	6	041020 0063	155,-
80	8	041020 0080	183,-
100	9	041020 0100	200,-
125	11	041020 0125	225,-
160	15	041020 0160	270,-
200	19	041020 0200	305,-
250	24	041020 0250	425,-
315	29	041020 0315	539,-
350	35	041020 0350	649,-
400	40	041020 0400	799,-
500	45	041020 0500	959,-

0101



### Repair of disc milling cutters, irrespective of the number of insert seats

Ø mm	art.no.	€
50	041025 0050	143,-
80	041025 0080	193,-
100	041025 0100	260,-
125	041025 0125	325,-
160	041025 0160	365,-
200	041025 0200	410,-
250	041025 0250	450,-
315	041025 0315	519,-

0101

### Repair of radius and ball-nose cutters

Ø mm	art.no.	€
≤ 20	041005 0020	144,-
≤ 25	041005 0025	163,-
≤ 32	041005 0032	188,-
≤ 40	041005 0040	235,-
≤ 50	041005 0050	280,-

0101



### Repair of porcupine milling cutters with mounting shank or locating bore

Holding fixtures	Ø mm	Chip chambers	art.no.	€
Shank	≤ 20	2	041010 0202	160,-
Shank	25	2	041010 0252	190,-
Shank	32	2	041010 0322	235,-
Shank	≤ 25	4	041010 0254	220,-
Shank	32	4	041010 0324	265,-
Shank	40	4	041010 0404	300,-
Shank	50	4	041010 0504	310,-
Shank	63	4	041010 0634	549,-
Shank	≤ 50	6	041010 0506	519,-
Shank	63	6	041010 0636	549,-
Shank	80	6	041010 0806	599,-
Shank	≤ 100	8	041010 1008	719,-
Shank	125	10	041010 1251	949,-
Bore	≤ 50	4	041010 1504	300,-
Bore	63	4	041010 1634	340,-
Bore	≤ 80	6	041010 1806	380,-
Bore	≤ 100	8	041010 1108	599,-
Bore	≤ 125	10	041010 1252	719,-

0101



### Repair of interchangeable front pieces for porcupine milling cutters

for external Ø mm	art.no.	€
50	041015 0050	146,-
63	041015 0063	177,-
80	041015 0080	210,-
100	041015 0100	230,-
125	041015 0125	290,-

0101

## Resharpener and coating service

**INFO**

### The procedure



#### Requesting your resharpener box

To ensure the safe transit of your tools, we provide our resharpener box free of charge. You can request this from our Service Team:

Phone number: 02102 - 4400 - 3300

Fax number: 02102 - 4400 - 220

E-mail: [service@sartorius-werkzeuge.de](mailto:service@sartorius-werkzeuge.de)



#### Free collection

Free, next-working-day collection of your tools within Germany with our resharpener boxes (eco-friendly reusable packaging). Your tools are securely delivered within 24 hours. Alternatively you can send your tools via a parcel service of your choice to:

SARTORIUS Werkzeuge GmbH & Co. KG  
Resharpener service  
Harkortstraße 54  
40880 Ratingen, Germany



#### Receipt of your tools

We test the type, size and efficiency of the tools. Tools that cannot be resharpened shall be returned with the rest of the tools.



#### Machining

- Resharpener
- Coating
- Quality control
- Measurement log (optional)

The production areas are divided as follows:

- CNC grinding technology - shank tools
- CNC grinding technology - saw blades
- CNC grinding technology - drills
- Special tools and HM saw blades
- Surface grinding technology
- Grinding rings
- Coating technology



#### Delivery

Your tools will be returned to you after a machining time of 10 working days resharpened, coated and measured (optional).

## Regrinding service

- Restoration of the original grinding, with new coating on request
- Fast processing, short waiting times
- Resharpener of other tools available on request
- The prices specified are a guide only
- **Additional costs are calculated based on outlay: e.g. regrinding of sets, extra-long milling cutters, trimming and re-facing**



### HSS twist drill

Ø mm	Grinding €
Up to 6	1,13
Up to 8	1,47
Up to 10	1,92
Up to 12	2,59
Up to 14	3,49
Up to 16	4,28
Up to 20	6,75
Up to 25	10,95
Up to 35	13,50
Up to 45	19,90
Up to 60	27,30
Up to 70	40,20
Up to 100	59,-

0102



### Solid carbide twist drill

Ø mm	Grinding €
Up to 6	4,85
Up to 8	6,40
Up to 10	8,-
Up to 12	9,60
Up to 14	11,25
Up to 16	12,85
Up to 18	14,45
Up to 20	16,-
Up to 22	17,60
Up to 25	20,10

0102



### HSS / solid carbide end milling cutter

Ø mm	Short €
Up to 6	7,20
Up to 10	8,-
Up to 15	10,60
Up to 20	13,40
Up to 25	17,50
Up to 30	20,20
Up to 35	24,-
Up to 40	29,-
Up to 50	35,40
Up to 65	55,-
Up to 80	85,-

0102



### HSS NC spotting drill / deburring countersink

Ø mm	Grinding €
Up to 10	4,06
Up to 12	4,40
Up to 16	4,73
Up to 20	7,80
Up to 25	12,60

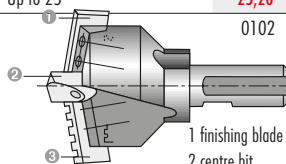
0102



### Solid carbide NC spotting drill / deburring countersink

Ø mm	Grinding €
Up to 10	8,25
Up to 12	8,80
Up to 16	9,35
Up to 20	15,40
Up to 25	25,20

0102



### SARA-DRILL cutting edge

- One finishing blade and one roughing blade per set, see illustration

Ø mm	€
Up to 100	17,50
Up to 150	21,30
Up to 200	24,70
Up to 270	32,50

0102

### SARA-DRILL centre bit

- See illustration

Ø mm	€
12	6,50
20	7,70

0102



### HSS / solid carbide radius cutter

Ø mm	Short €
Up to 6	15,30
Up to 10	16,10
Up to 15	19,20
Up to 20	22,90
Up to 25	27,70
Up to 30	33,10
Up to 35	37,30
Up to 40	45,20
Up to 50	47,60
Up to 65	71,50
Up to 80	127,-

0102



### HSS disc milling cutter

Ø mm	Up to 12 mm wide €	Up to 20 mm wide €	From 20 mm wide €
Up to 50	10,05	12,50	22,-
Up to 65	12,40	15,40	24,90
Up to 80	15,60	19,50	27,80
Up to 110	19,50	24,50	31,20
Up to 125	21,40	26,70	36,10
Up to 150	23,10	29,-	38,90
Up to 200	26,70	33,50	48,70
Up to 250	30,40	41,40	59,50
Up to 300	41,40	51,50	64,50
Up to 350	52,50	65,50	81,50

0102

0102

0102



### (Solid) carbide disc milling cutter

Ø mm	Up to 12 mm wide €	Up to 20 mm wide €	From 20 mm wide €
Up to 50	14,10	17,50	30,70
Up to 65	17,40	21,50	34,70
Up to 80	21,90	27,30	38,90
Up to 110	27,30	34,10	43,70
Up to 125	30,-	37,40	50,50
Up to 150	32,50	40,60	54,50
Up to 200	37,40	46,80	68,-
Up to 250	42,60	58,-	83,-
Up to 300	58,-	72,-	90,50
Up to 350	73,-	91,50	114,-

0102

0102

0102



### HSS plain milling cutter and shell end mill

Ø mm	Grinding €
Up to 40	13,95
Up to 50	16,30
Up to 65	19,40
Up to 75	23,40
Up to 90	26,10
Up to 110	30,70
Up to 125	34,70
Up to 150	41,80
Up to 200	51,-

0102

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**(Solid) carbide plain milling cutter and shell end mill**

Ø mm	Grinding €
Up to 40	19,50
Up to 50	22,70
Up to 65	27,-
Up to 75	32,70
Up to 90	36,60
Up to 110	42,80
Up to 125	48,50
Up to 150	58,50
Up to 200	71,50

0102

**(Solid) carbide step drill**

Ø mm	Grinding €
Up to 10	11,25
Up to 20	18,90
Up to 30	24,50
Up to 40	31,60
Up to 50	40,60
Up to 60	55,-
Up to 70	71,-

0102

**HSS countersink and deburring countersink**

Ø mm	Grinding €
Up to 10	4,28
Up to 16	5,20
Up to 21	5,75
Up to 26	7,90
Up to 35	9,25
Up to 45	11,85
Up to 60	14,65
Up to 70	17,60
Up to 80	21,-
Up to 100	24,50

0102

**(Solid) carbide countersink and deburring countersink**

Ø mm	Grinding €
Up to 10	8,45
Up to 16	10,25
Up to 21	11,40
Up to 26	15,70
Up to 35	18,40
Up to 45	23,60
Up to 60	29,40
Up to 70	35,20
Up to 80	42,30
Up to 100	48,80

0102

**HSS hand reamers**

Ø mm	Grinding €
Up to 10	3,83
Up to 15	6,55
Up to 20	8,45
Up to 25	10,50
Up to 30	12,40
Up to 35	14,30
Up to 40	17,80
Up to 45	19,90
Up to 50	23,90
Up to 60	29,-
Up to 80	38,50
Up to 100	49,20

0102

**Solid carbide reamers**

Ø mm	Grinding €
Up to 10	5,75
Up to 15	9,80
Up to 20	12,60
Up to 25	15,70
Up to 30	18,50
Up to 35	21,40
Up to 40	26,60
Up to 45	29,80
Up to 50	35,70
Up to 60	43,30
Up to 80	57,50
Up to 100	73,50

0102

**HSS hand tap and machine tap**

Ø mm	Grinding €
Up to 10	2,82
Up to 15	4,73
Up to 20	7,-
Up to 25	10,25
Up to 30	13,95
Up to 40	18,60
Up to 50	23,-
Up to 60	27,70
Up to 70	34,30

0102

**Solid carbide machine tap**

Ø mm	Grinding €
Up to 10	4,28
Up to 15	7,-
Up to 20	10,50
Up to 25	15,30
Up to 30	21,-
Up to 40	27,90
Up to 50	34,50
Up to 60	41,70
Up to 70	51,50

0102

**HSS centre punch centring points**

Shank	Fixed pointed tip €	Live pointed tip €
MT 2	10,60	13,85
MT 3	15,30	19,90
MT 4	20,40	26,50
MT 5	32,20	41,90
MT 6	58,50	76,-

0102

0102

**Carbide centre punch centring point**

Shank	Fixed pointed tip €	Live pointed tip €
MT 2	16,10	32,20
MT 3	23,20	46,40
MT 4	30,70	61,50
MT 5	44,70	89,50
MT 6	80,-	160,-

0102

0102

**HSS metal circular saw blades**

Ø mm	Grinding €
Up to 75	5,30
Up to 110	6,20
Up to 150	7,-
Up to 175	7,80
Up to 200	8,90
Up to 250	10,35
Up to 275	12,30
Up to 300	13,50
Up to 325	14,65
Up to 350	16,80
Up to 400	19,20
Up to 500	22,50

0102

**Solid carbide circular saw blades**

Ø mm	Grinding €
Up to 50	17,80
Up to 65	23,40
Up to 80	34,80
Up to 100	42,90
Up to 125	69,50
Up to 150	82,50
Up to 160	98,50
Up to 200	179,-

0102

## Coating service

- Coating and recoating to maintain or improve the performance of machining tools
- Small layer thicknesses in the  $\mu$  range provide significantly better wear protection
- Fast processing, short waiting times
- Other types of coating and coatings for other tools available on request

### Shank tool

Ø mm	TiN €	TiCN art.no.€	TiAlN €	CrN / Multi Cut €	Ultra+ €	Ultra-Si €
Up to 6	2,-	2,-	2,42	2,42	3,05	3,26
Up to 10	2,73	3,15	3,47	3,47	4,31	4,83
Up to 12	3,26	3,68	3,99	3,99	4,94	5,45
Up to 14	3,78	4,10	4,52	4,52	5,55	6,20
Up to 16	5,25	5,45	6,10	6,10	7,55	8,30
Up to 18	7,75	8,70	9,65	9,65	12,10	13,25
Up to 20	7,75	9,35	10,30	10,30	12,80	14,20
Up to 25	12,70	13,75	14,70	14,70	18,40	20,30
Up to 30	16,20	19,30	22,10	22,10	27,60	
Up to 40	22,30	28,-	33,90	33,90	42,40	
Up to 50	30,90	42,10	43,20	43,20	51,-	
Up to 60		46,20	49,90			
	0102	0102	0102	0102	0102	0102

### Countersink

Ø mm	TiN €	TiCN €	TiAlN €	CrN / Multi Cut €	Ultra+ €
Up to 6	2,10	2,52	2,84	2,84	3,68
Up to 8	2,84	3,26	3,78	3,78	4,83
Up to 10	4,20	4,94	5,80	5,80	7,15
Up to 15	6,30	7,45	8,70	8,70	10,80
Up to 18	7,65	9,15	10,60	10,60	13,25
Up to 20	8,30	9,85	11,55	11,55	14,50
Up to 25	9,05	10,70	12,60	12,60	15,80
Up to 31	9,65	11,55	13,55	13,55	16,90
Up to 36	10,30	12,40	14,40	14,40	18,-
Up to 41	11,05	13,15	15,30	15,30	19,20
Up to 48	12,50	14,90	17,30	17,30	21,60
Up to 51	16,60	20,-	23,20	23,20	29,-
	0102	0102	0102	0102	0102

### Disc milling cutter

Ø mm	TiN €	TiCN €	TiAlN €	CrN / Multi Cut €	Ultra+ €
Up to 50	9,15	10,80	12,60	12,60	15,90
Up to 80	16,30	19,40	22,70	22,70	28,40
Up to 100	20,80	24,90	29,-	29,-	36,20
Up to 125	25,70	30,80	35,90	35,90	44,90
Up to 150	30,60	36,50	42,60	42,60	53,-
Up to 180	35,50	42,60	49,80	49,80	62,-
Up to 210	40,30	48,40	56,50	56,50	70,50
Up to 250	45,-	54,-	63,-	63,-	79,-
	0102	0102	0102	0102	0102

### SARA-DRILL cutting edge

- Per set

Ø mm	TiN €
Up to 60	4,75
Up to 85	5,35
Up to 110	10,30
Up to 150	11,85
Up to 200	14,20
Up to 270	18,80
	0102



### Shell end mill

Ø mm	TiN €	TiCN €	TiAlN €	CrN / Multi Cut €	Ultra+ €
Up to 30	6,85	7,90	8,95	8,95	11,15
Up to 40	9,35	10,50	11,55	11,55	14,40
Up to 50	13,55	15,30	17,20	17,20	21,50
Up to 63	16,10	18,80	21,50	21,50	26,80
Up to 80	24,80	29,20	33,50	33,50	41,90
Up to 100	35,10	39,90	44,70	44,70	56,-
Up to 125	49,20	61,-	73,-	73,-	91,-
Up to 150	58,-	72,-	86,50	86,50	108,-
	0102	0102	0102	0102	0102

### Indexable inserts

Number	TiN €	TiCN €	TiAlN €	CrN / Multi Cut €	Ultra+ €	Ultra-Si €
Price per unit	2,10	2,10	2,10	2,10	2,63	3,05
From 10 units	1,37	1,37	1,37	1,37	1,68	1,89
From 50 units	1,05	1,05	1,05	1,05	1,37	1,58
From 100 units	0,84	0,84	0,84	0,84	0,95	1,16
	0102	0102	0102	0102	0102	0102

### Saw blade

Ø mm	TiN €	TiCN €	TiAlN €	CrN / Multi Cut €	Ultra+ €
Up to 50	6,50	7,45	8,80	8,80	11,05
Up to 60	7,75	8,95	10,60	10,60	13,25
Up to 70	9,05	10,50	12,40	12,40	15,40
Up to 80	10,30	11,95	14,05	14,05	17,60
Up to 90	11,65	13,45	15,90	15,90	19,80
Up to 100	12,90	14,90	17,60	17,60	22,10
Up to 125	16,20	18,60	22,10	22,10	27,50
Up to 150	19,30	22,40	26,50	26,50	33,-
Up to 200	25,70	29,80	35,20	35,20	44,-
Up to 250	32,10	37,20	44,-	44,-	55,-
Up to 275	35,40	41,-	48,40	48,40	62,-
Up to 300	38,50	44,60	52,50	52,50	66,-
Up to 350	44,90	52,-	61,50	61,50	77,-
Up to 400	51,50	59,50	70,50	70,50	88,-
Up to 450	58,-	67,-	79,-	79,-	99,-
	0102	0102	0102	0102	0102





## ISO 9000 ff test equipment monitoring service

INFO



# Exova

## METECH



The Exova METECH calibration laboratory at SARTORIUS Werkzeuge is a calibration centre recognised by "Deutsche Akkreditierungsstelle GmbH" for dimensional measurements (length measurement equipment, diameter, thread) according to DIN EN ISO/IEC 17025:2005.

**One contact – everything from a single source**

We offer you extensive advice on monitoring test equipment and calibrating all physical quantities and units.

We can repair and service test equipment on request, and we even calibrate stationary test equipment on-site too. Significant, internationally recognised test certificates and a short throughput time round off our range of services for you.

**DAkkS calibration services for the following elements:**

- Sliding callipers
- Outside micrometers
- Inside micrometers
- Dial indicators
- Indicating callipers
- Dial test indicators
- Setting gauges for outside micrometers
- Thread ring gauges
- Thread plug gauges
- Limit plug gauges
- Ring gauges
- Electrical measured variables
- Temperature
- Pressure
- Time and frequency

**We calibrate the following test equipment:**

- Length
- Diameter
- Thread
- Electrical engineering
- Mass
- Torque
- Force
- Temperature
- Humidity
- Lighting / brightness
- Pressure
- Gas flows
- Conductivity
- pH

Electrical engineering	Miscellaneous parameters
Multimeters / current pliers	mOhm up to Gohm
Insulation testers	
VDE testers	Up to 5,000 V
Oscilloscopes / recorders	All types & manufacturers
Process calibrators	U, I, R, temperature
Revolution counters	Optical / mechanical
Mains adapters	mW up to kW
Power analysers	Multi-phase output
High voltage	Up to 40 kV
Decade resistors	
LCR measuring instruments	
Audio analysers	Distortion factor
Function generators, counters	Frequency, amplitude Up to 26.5 GHz
Mass	Up to 100 t
Scales / pallet scales / laboratory and precision scales	0 - 300 kg / 2 t, also higher loads on request
Crane scales	Up to 100 tonnes
Torque	Up to 3,000 Nm
Torque wrenches / torque screwdrivers / torque testers	
Torque multipliers	
Force	Up to 1,000 kN
Load cells / dynamometers	
Force sensors / tensile force	
Temperature	-80 °C up to 1,200 °C
PT100 / thermocouple	
Temperature measuring instruments	
Display units (electr. simulated)	-200 °C up to 1,800 °C
Temp. calibrators	
Furnaces / climate cabinets	
Infrared measuring instruments / pyrometers	
Humidity, conductivity and pH	
Hygrographs / moisture sensors	
Climate cabinets / furnaces	
Conductivity / pH	
Lighting / brightness	Up to 6 klx / up to 12 mW/cm <sup>2</sup>
Luxmeters / UV measuring instruments	
Brightness	20°, 60°, 85°
Pressure	0.2 bar up to 2,500 bar
Pressure gauges / manometers	Air, nitrogen, water, oil
Pressure sensors / vacuum	(Pressure-dependent)



Preparation	Calibration	Post-processing service	Complete service
<ul style="list-style-type: none"> <li>• Cleaning</li> <li>• Demagnetising</li> <li>• Light reworking</li> <li>• Tempering</li> </ul>	<ul style="list-style-type: none"> <li>• Adjusting test equipment</li> <li>• Calibration according to VDI/VDE/DGQ 2618 guidelines and DKD and the company's internal regulations</li> <li>• With inspection plate on request</li> </ul>	<ul style="list-style-type: none"> <li>• Preservation</li> <li>• Hot-dipping</li> <li>• Packaging</li> </ul>	<ul style="list-style-type: none"> <li>• Repair on request</li> <li>• Marking on request</li> </ul>

## Calibration of indicating measuring instruments

### calipers and depth bars according to DIN 862

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 9.1 and Sheet 9.2

#### • DAkks/DKD testing possible up to a measurement range of 1000 mm

Measurement range mm	art.no.	€
Up to 200	070101 0001	7,50
Up to 300	070101 0002	14,-
Up to 500	070101 0003	19,-
Up to 1000	070101 0004	42,50
Up to 2000	070101 0005	62,-
Up to 3000	070101 0006	135,-

### Height meters and marking-out instruments

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 9.3

Measurement range mm	art.no.	€
Up to 300	070110 0001	27,-
Up to 600	070110 0002	39,50
Up to 1000	070110 0003	53,50

### Height meters

- Testing and documentation according to VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) 2617 or the manufacturer's instructions,
- e.g. MITUTOYO-Linear-Height, Microhite, Trimos, Digimahr, Mauser
- **Please note:** The original probe is required for calibration!

Measurement range mm	art.no.	€
Up to 300	070115 0001	219,-
Up to 600	070115 0002	249,-
Up to 1000	070115 0003	315,-

### Height micrometers

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 10.6

Measurement range mm	art.no.	€
Up to 300	070120 0001	158,-
Up to 600	070120 0002	260,-
Up to 1000	070120 0003	445,-

### Indicating caliper

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 11.2

#### • DAkks/DKD testing possible

Design	art.no.	€
All	070125 0001	15,-

### Lever dial indicators

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 11.3

#### • DAkks/DKD testing possible

Design	art.no.	€
All	070130 0001	14,25

### Dial indicators with analogue or digital readings, 0.01 or 0.001 mm

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 11.1

#### • DAkks/DKD testing possible

Measuring span mm	art.no.	€
10	070140 0001	11,50
12.7	070140 0002	14,20
30	070140 0004	17,20
50.8	070140 0005	23,-
100	070140 0007	28,-



Continued on next page >>>

**Outside micrometers with spindle adjusting range up to 25 mm**

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 10.1
- In the case of outside micrometers with replaceable inserts according to DIN 863, Form D16, the calibration of inserts is charged separately.
- **DAkks/DKD testing possible**

Measurement range mm	art.no.	€
Up to 25	070501 0001	13,-
Up to 100	070501 0011	15,-
Up to 200	070501 0002	18,-
Up to 300	070501 0013	23,-
Up to 400	070501 0014	25,50
Up to 600	070501 0015	29,50
Up to 1000	070501 0004	46,50
Up to 1500	070501 0005	109,-
Up to 2000	070501 0006	159,-

0103

**Replaceable inserts for outside micrometers according to DIN 863, type D16**

- Including finishing service

Nominal dimension mm	art.no.	€
All dimensions	070501 1001	11,-

0103

**Service  
inklusive****Setting gauges for outside micrometers**

- Testing and documentation according to DIN 863, tolerance zone: js 2, company standard
- Including finishing service
- **DAkks/DKD testing up to a nominal dimension of 900 mm possible**

Nominal dimension mm	art.no.	€
Up to 100	070505 0010	6,50
Up to 200	070505 0001	8,-
Up to 300	070505 0011	13,-
Up to 500	070505 0002	17,-
Up to 1000	070505 0003	36,-
Up to 2000	070505 0004	70,50
Up to 3000	070505 0005	120,-

0103

**Service  
inklusive****60° or 55° setting gauges for thread micrometers**

- Testing and documentation of the tip distance and the slope angles of V-blocks and tapers
- Including finishing service

Nominal dimension mm	art.no.	€
Up to 100	070510 0001	30,-
Up to 200	070510 0002	36,-
Up to 300	070510 0003	51,50
Up to 400	070510 0004	61,50

0103

**Service  
inklusive****Inside micrometers with two-point contacts according to DIN 863, Part 4, types A1 and A2**

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 10.7
- Spindle adjusting range up to 25 mm
- Testing of inside micrometers > 3000 mm on request
- For versions with extensions, testing of the extensions will be charged separately (see order No. 070535...)
- **DAkks/DKD testing possible up to a measurement range of 1000 mm**

Measurement range mm	art.no.	€
Up to 200	070520 0001	23,50
Up to 400	070520 0011	28,-
Up to 600	070520 0012	34,50
Up to 1000	070520 0003	63,90
Up to 2000	070520 0004	105,-
Up to 3000	070520 0005	167,-

0103



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### Inside micrometers with three-point contacts according to DIN 863, Part 4, types C1 and C2, and three-point internal precision instruments such as MITUTOYO-BOREMATIC or similar

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 10.8
- Spindle adjusting range up to 25 mm

Measurement range mm	art.no.	€
Up to 50	070525 0001	18,-
Up to 100	070525 0002	24,-
Up to 150	070525 0003	28,-
Up to 200	070525 0004	32,-
Up to 250	070525 0005	43,-
Up to 300	070525 0006	50,-

0103

### Depth micrometers according to DIN 863, Part 2

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 10.5
- Spindle adjusting range up to 25 mm
- For versions with replaceable inserts, testing of the inserts is charged separately (see order no. 070535....)

Design	art.no.	€
All	070530 0001	20,-

0103

### Extensions for inside and depth micrometers

- Testing and documentation according to DIN 863, Part 2 or Part 4

Nominal dimension mm	art.no.	€
Up to 200	070535 0001	12,-
Up to 500	070535 0002	22,-
Up to 1000	070535 0003	38,-
Up to 2000	070535 0004	69,50
Up to 3000	070535 0005	122,-

0103

### Built-in micrometers with analogue or digital readings

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 10.4

Measurement range mm	art.no.	€
0 to 25	070550 0001	19,-
0 to 50	070550 0002	35,-

0103

### Gap gauges with dial indicators or indicating calipers

- Testing and documentation of measuring surface parallelism according to the manufacturer's instructions
- Adjusting range up to 25 mm
- Testing costs for the indicating measuring instrument are charged separately

Design	art.no.	€
All	070560 0001	36,-

0103

### Indicating caliper micrometer gauge according to DIN 863, Part 3

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 10.3

Measurement range mm	art.no.	€
Up to 25	070565 0001	29,-
Up to 100	070565 0002	32,-
Up to 150	070565 0003	45,-

0103

### External or internal fast display calipers

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, internal, part 13.1; external, part 12.1/13.1

Design	art.no.	€
All	071001 0001	20,-

0103

### Quick-acting thickness gauge

- Testing and documentation in accordance with the manufacturer's instructions
- Testing costs for the indicating measuring instrument are charged separately

Design	art.no.	€
All	071010 0001	16,-

0103



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**Internal precision instruments with dial indicators or indicating calipers**

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 13.2
- Testing costs for the indicating measuring instrument are charged separately

Measurement range mm	art.no.	€
Up to 20	<b>071015 0001</b>	<b>22,-</b>
Up to 100	071015 0002	27,-
Up to 160	071015 0003	30,-
Up to 290	071015 0004	36,-
Up to 510	071015 0005	43,10
Up to 800	071015 0006	54,50

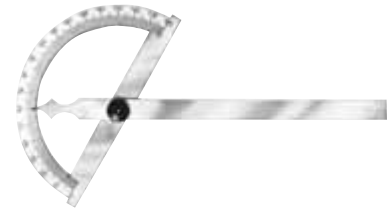
0103

**Graduator with division scale**

- Testing and documentation of simple goniometers without Vernier scale according to the manufacturer's instructions

Design	art.no.	€
All	<b>071501 0001</b>	<b>23,-</b>

0103

**Goniometer with mechanical, optical or digital readings**

- All designs with Vernier scale, dial indicator, optical or digital readings
- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 7.2

Design	art.no.	€
All	<b>071505 0001</b>	<b>39,50</b>

0103

**Inclinometers, horizontal – spirit levels**

- Testing and documentation according to DIN 877
- Other designs and accuracies on request

Sensitivity mm/m	art.no.	€
Up to 0.02	<b>071515 0001</b>	<b>47,20</b>
> 0.02 to 0.05	071515 0002	39,-
> 0.05 to 0.10	071515 0003	35,90
> 0.10 to 0.40	071515 0004	25,60

0103

**Inclinometers, horizontal and vertical – frame spirit levels**

- Testing and documentation according to DIN 877
- Other designs and accuracies on request

Sensitivity mm/m	art.no.	€
Up to 0.02	<b>071520 0001</b>	<b>65,50</b>
> 0.02 to 0.05	071520 0002	54,50
> 0.05 to 0.10	071520 0003	50,-
> 0.10 to 0.40	071520 0004	34,90

0103

**Roughness meters, portable design**

- Testing and documentation in accordance with DKD directives
- Testing of stationary surface roughness testers at the installation site on request

Design	Device calibration art.no.	€
One probe	<b>072001 0001</b>	<b>112,-</b>
Two buttons	072001 0002	153,-

0103

**Roughness or groove standards for surface roughness testing equipment**

- Testing and documentation in accordance with DKD directives

Design	Standard calibration art.no.	€
All	<b>072005 0001</b>	<b>77,-</b>

0103



## Calibration of gauge blocks

- Depending on user requirements, we offer three different scopes of testing for gauge blocks:

### • Scope of test A

Testing of slip properties via an optical flat, determination and documentation of the centre deviation relative to the nominal dimension, the  $f_0$  and  $f_u$  deviations, the  $f_s$  deviation span, and specification of the degree of accuracy in accordance with DIN EN ISO 3650 or VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 3.1

### • Scope of test B

Testing and documentation corresponds to A but without slip property testing

### • Scope of test C

Testing and documentation of the centre deviation

### • DAkkS/DKD calibration

Please contact us regarding prices for calibration of gauge blocks with DAkkS/DKD calibration certificate

- If the order **does not stipulate the scope of testing** we shall test as follows:

**New gauge blocks: Test B**

**Recalibration: Test A**

### In accordance with DIN EN ISO 3650, acc. 0, 1 or 2

- Steel, carbide or ceramic
- Individual gauge blocks > 1000 mm, available on request
- Including finishing service

Service  
inklusive

Nominal dimension mm	Test A		Test B		Test C	
	art.no.	€	art.no.	€	art.no.	€
Up to 100	073001 0001	8,-	073005 0001	7,50	073010 0001	5,30
Up to 200	073001 0002	24,-	073005 0002	21,-	073010 0002	18,50
Up to 300	073001 0003	37,-	073005 0003	31,-	073010 0003	25,-
Up to 400	073001 0004	49,50	073005 0004	42,-	073010 0004	34,-
Up to 500	073001 0005	63,-	073005 0005	53,-	073010 0005	43,-
Up to 600	073001 0006	76,-	073005 0006	63,-	073010 0006	51,-
Up to 700	073001 0007	89,-	073005 0007	75,-	073010 0007	60,-
Up to 800	073001 0008	102,-	073005 0008	85,-	073010 0008	69,-
Up to 900	073001 0009	116,-	073005 0009	97,-	073010 0009	77,-
Up to 1000	073001 0010	129,-	073005 0010	109,-	073010 0010	86,-
	0103		0103		0103	



### Gauge block sets in accordance with DIN EN ISO 3650, acc. 0, 1 or 2

- Steel, carbide or ceramic
- Other set combinations or accuracies available on request
- Including finishing service

Service  
inklusive

Contents	Test A		Test B		Test C	
	art.no.	€	art.no.	€	art.no.	€
32-pcs.	073040 0001	202,-	073045 0001	170,-	073050 0001	135,50
47-pcs.	073040 0002	291,-	073045 0002	243,-	073050 0002	195,-
87-pcs.	073040 0003	514,-	073045 0003	432,-	073050 0003	349,-
103-pcs.	073040 0004	576,-	073045 0004	485,-	073050 0004	389,-
	0103		0103		0103	



## Calibration of material measures

### Steel step gauges

- Testing and documentation in accordance with DAkkS/DKD directives
- Including finishing service

Service  
inklusive

Measurement range mm	art.no.	€
Up to 300	073501 0001	315,-
Up to 450	073501 0002	360,-
Up to 600	073501 0003	390,-
Up to 1000	073501 0004	490,-
Up to 1500	073501 0005	629,-
	0103	

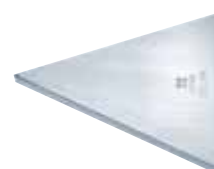


### Steel angle gauge blocks

- Testing of the measuring surfaces and documentation of the angular deviation from the nominal angle
- Including finishing service

Service  
inklusive

End angle tolerance	art.no.	€
± 2''	073550 0001	45,10
± 10''	073550 0002	24,10
	0103	



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**Setting ring gauges for measuring instruments**

- Testing and documentation of the diameter on three levels staggered by 90° in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.1
- Setting ring gauges with constructional dimensions other than those specified in DIN 2250 are tested according to tolerance dimensions of the manufacturer.
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAKKS/DKD testing (option 3) up to a measurement range of 100 mm possible**

**Service  
inklusive**

Nominal dimension mm	art.no.	€
Up to 50	074001 0002	16,-
Up to 100	074001 0003	19,-
Up to 150	074001 0004	22,-
Up to 200	074001 0005	24,-
Up to 250	074001 0006	29,-
Up to 300	074001 0007	31,-

0103

**Setting ring gauges for measuring instruments, enhanced testing**

- Testing and documentation of the diameter in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 4.1, including geometrical variation according to DIN 2250.
- With nominal dimensions < 3 mm, the cylindrical shape cannot be checked using a cylinder form testing instrument.
- With nominal dimensions > 150 mm, a form testing instrument is used to determine out-of-roundness rather than the cylindrical deviation (see DIN 2250).
- Nominal dimensions > 300 mm available on request
- Additional charge for documentation with graphical representation: EUR 8.00
- Including finishing service

**Service  
inklusive**

Nominal dimension mm	Enhanced calibration art.no.	€
3 to 50	074005 0001	29,-
Up to 100	074005 0002	36,-
Up to 150	074005 0003	49,20
Up to 200	074005 0004	55,50
Up to 250	074005 0005	66,50
Up to 300	074005 0006	77,-

0103

**Test pins according to DIN 2269 up to a nominal dimension of 20 mm**

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 4.2
- On request: Testing with extended documentation also comprises documentation of out-of-roundness errors and the geometrical deviation of the cylinder surface line
- Test pins with nominal dimension > 20 mm: see go plug gauges, art.no. 075510...

Accuracy mm	art.no.	€
0	074010 0001	3,50
1	074010 0002	3,10
2	074010 0003	2,60

0103

**Replaceable thread measuring inserts for outside micrometers**

- Testing and documentation of the slope angles of V-blocks and tapers
- Price for each prism/cone pair
- Including finishing service

**Service  
inklusive**

Design	art.no.	€
For pitch diameter testing	074030 0001	25,-
For core diameter measurement	074030 0002	37,-

0103

**Test measuring rods according to DIN 865**

- Testing and documentation according to DIN 865

Nominal dimension mm	art.no.	€
Up to 500	074501 0001	31,80
Up to 1000	074501 0002	65,50
Up to 2000	074501 0003	132,-
Up to 3000	074501 0004	198,-

0103

**Plotting scale according to DIN 866**

- Testing and documentation according to DIN 866

Nominal dimension mm	art.no.	€
Up to 500	074505 0001	26,70
Up to 1000	074505 0002	52,50
Up to 2000	074505 0003	105,-
Up to 3000	074505 0004	159,-

0103



## Calibration of thread gauges

- The prices for the thread gauges listed below apply to single pitch threads. For threads with multiple pitches, the basic price for single pitch threads must be multiplied by the number of pitches.
- For enhanced documentation of the thread geometry (profile testing), an additional EUR 18.00 will be charged for go and no-go thread ring gauges and for go and no-go thread plug gauges.
- For thread plug gauges, an additional fee of EUR 36.00 will be charged.

### Go thread gauges, no-go plug gauges and adjusting mandrels

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.8
- Determination of the simple pitch diameter (repetitive calibration)
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAkKS/DKD testing (option 1) up to a measurement range of 100 mm possible**

Service  
inklusive

Nominal dimension mm	art.no.	€
Up to 20	075001 0001	9,80
Up to 60	075001 0002	13,-
Up to 100	075001 0003	16,50
Up to 150	075001 0004	22,50
Up to 200	075001 0005	25,-
Up to 250	075001 0006	29,-
Up to 300	075001 0007	41,-



### Thread plug gauges

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.8
- Determination of the simple pitch diameter (repetitive calibration)
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAkKS/DKD testing (option 1) up to a measurement range of 100 mm possible**

Service  
inklusive

Nominal dimension mm	art.no.	€
Up to 20	075015 0001	15,-
Up to 60	075015 0002	18,50
Up to 100	075015 0003	22,-
Up to 150	075015 0004	27,-
Up to 200	075015 0005	29,-
Up to 250	075015 0006	32,-
Up to 300	075015 0007	37,-



### Thread go or no-go ring gauges and setting ring gauges

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.9
- Determination of the simple pitch diameter (repetitive calibration)
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAkKS/DKD testing (option 1) up to a measurement range of 100 mm possible**

Service  
inklusive

Nominal dimension mm	art.no.	€
1.0 to 2.9	075020 0001	20,50
Up to 20	075020 0002	14,-
Up to 60	075020 0003	17,50
Up to 100	075020 0004	21,-
Up to 150	075020 0005	27,-
Up to 200	075020 0006	31,-
Up to 250	075020 0007	35,-
Up to 300	075020 0008	41,-



### Conical thread plug gauges and thread ring gauges

- Testing in compliance with national or international standards and documentation of the pitch diameter in the measuring plane and the pitch diameter - taper angle or the pitch diameter - taper deviation
- Nominal dimensions > 100 mm, available on request
- Including finishing service

Service  
inklusive

Nominal dimension mm	Plug gauge		Ring gauge	
	art.no.	€	art.no.	€
Up to 20	075050 0001	33,80	075060 0001	46,10
Up to 40	075050 0002	42,-	075060 0002	50,-
Up to 60	075050 0003	47,20	075060 0003	53,50
Up to 80	075050 0004	53,50	075060 0004	57,50
Up to 100	075050 0005	60,50	075060 0005	61,50



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## Calibration of plain gauges

### Limit plug gauges or threshold flat plug gauges

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.1
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAkks/DKD testing (option 3) up to a measurement range of 100 mm possible**

Service  
inklusive

Nominal dimension mm	Limit plug gauge		Threshold flat plug gauge	
	art.no.	€	art.no.	€
Up to 20	075501 0010	9,95	075505 0010	9,50
Up to 60	075501 0011	12,-	075505 0011	11,50
Up to 100	075501 0002	16,-	075505 0002	16,-
Up to 150			075505 0003	19,-
Up to 200			075505 0004	23,-
Up to 250			075505 0005	27,-
Up to 300			075505 0006	31,-

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### Go or no-go plug gauges, fully cylindrical or flat design

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.1
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAkks/DKD testing (option 3) up to a measurement range of 100 mm possible**

Service  
inklusive

Nominal dimension mm	art.no.		€	
Up to 20	075510 0010		9,-	
Up to 60	075510 0011		11,-	
Up to 100	075510 0002		13,50	
Up to 150	075510 0003		15,50	
Up to 200	075510 0004		20,-	
Up to 250	075510 0005		23,-	
Up to 300	075510 0006		26,50	

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### Go or no-go ring gauges

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, Sheet 4.1
- Nominal dimensions > 300 mm, available on request
- Including finishing service
- **DAkks/DKD testing (option 3) up to a measuring range of 100 mm possible**

Service  
inklusive

Nominal dimension mm	art.no.		€	
0.4 to 2	075520 0001		16,90	
Up to 50	075520 0002		16,50	
Up to 100	075520 0003		18,50	
Up to 150	075520 0004		20,-	
Up to 200	075520 0005		23,-	
Up to 250	075520 0006		26,-	
Up to 300	075520 0007		28,50	

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### Go or no-go gap gauges

- Testing in compliance with VDI/VDE/DGQ 2618, part 4.7 and documentation of the working or intrinsic dimension.
- For gap gauges with a nominal dimension of < 200 mm, the working dimension is determined; for a nominal dimension of > 200 mm, the intrinsic dimension is determined.
- Nominal dimensions > 400 mm, available on request
- Including finishing service

Service  
inklusive

Nominal dimension mm	art.no.		€	
Up to 50	075530 0001		12,-	
Up to 100	075530 0002		14,-	
Up to 150	075530 0003		16,-	
Up to 200	075530 0004		20,-	
Up to 250	075530 0005		22,-	
Up to 300	075530 0006		23,60	
Up to 350	075530 0007		26,70	
Up to 400	075530 0008		29,20	

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**Limit gap gauges**

- Testing in compliance with VDI/VDE/DGQ 2618, part 4.7 and documentation of the working or intrinsic dimension.
- For gap gauges with a nominal dimension of < 200 mm, the working dimension is determined and for a nominal dimension of > 200 mm, the intrinsic dimension is determined.
- Nominal dimensions > 500 mm, available on request
- Including finishing service

**Service  
inklusive**

Nominal dimension mm	art.no.	€
Up to 50	<b>075540 0001</b>	<b>14,50</b>
Up to 100	075540 0002	17,-
Up to 150	075540 0003	18,50
Up to 200	075540 0004	24,-
Up to 250	075540 0005	28,-
Up to 300	075540 0006	31,80
Up to 350	075540 0007	34,90
Up to 400	075540 0008	37,90
Up to 500	075540 0009	46,10

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**Taper plug gauges or taper ring gauges**

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 4.12
- Nominal dimension = largest diameter of the taper plug gauge or taper ring gauge
- Nominal dimensions > 100 mm available on request
- Including finishing service

**Service  
inklusive**

Nominal dimension mm	Taper plug gauge		Taper ring gauge	
	art.no.	€	art.no.	€
Up to 25	<b>075570 0001</b>	<b>27,70</b>	<b>075575 0001</b>	<b>32,80</b>
Up to 50	075570 0002	32,80	075575 0002	37,90
Up to 75	075570 0003	36,90	075575 0003	45,10
Up to 100	075570 0004	42,-	075575 0004	50,-

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**Feeler gauge sets according to DIN 2275**

- Only in calibratable design
- Testing and documentation according to DIN 2275

Design	art.no.	€
13 sheets	<b>075550 0001</b>	<b>18,-</b>
20 sheets	075550 0002	28,-

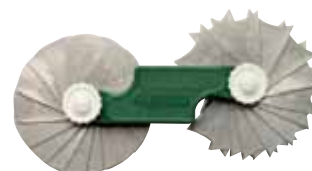
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**Sets of radius gauges for inside and outside radii**

- Only in calibratable design
- Testing and documentation in accordance with the manufacturer's instructions

Design	art.no.	€
Up to max. 17 radii sizes = 34-pcs.	<b>075555 0001</b>	<b>61,50</b>

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**Thread pitch gauges**

- Only in calibratable design
- Testing and documentation in accordance with the manufacturer's instructions

Design	art.no.	€
24 sheets	<b>075560 0001</b>	<b>33,30</b>
52 leaves	075560 0002	66,50

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## Calibration of appliances

### Flat rulers

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 18

Nominal dimension mm	art.no.	€
Up to 200	076001 0001	12,-
Up to 500	076001 0002	22,-
Up to 1000	076001 0003	33,-
Up to 2000	076001 0004	66,50
Up to 3000	076001 0005	97,-

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### Spring tape measure with steel strip

- Documentation of comparison with a calibrated plotting scale according to DIN 866 over the entire tape length, tolerances according to EC class II or the manufacturer's data
- Calibration with documentation of the deviation at defined test steps available on request

Nominal dimension mm	art.no.	€
Up to 2000	076003 0002	8,20
Up to 3000	076003 0003	13,35
Up to 5000	076003 0005	15,40
Up to 10,000	076003 0010	16,40
Up to 25,000	076003 0025	22,-
Up to 30,000	076003 0030	32,80

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### Straightedges according to DIN 874, part 2

- Testing and documentation in compliance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 19

Nominal dimension mm	art.no.	€
Up to 300	076005 0001	11,-
Up to 500	076005 0002	17,90
Up to 1000	076005 0003	24,60

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### Bevel edge squares according to DIN 875, acc. 00

- Testing and documentation of the maximum deviation in planarity, perpendicularity and parallelism in accordance with VDI/VDE/DGQ 2618, part 22
- Nominal dimension = length of the largest leg
- Other dimensions on request

Nominal dimension mm	art.no.	€
Up to 200	076501 0001	15,-
Up to 500	076501 0002	34,-

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### Framing and wide try squares according to DIN 875, acc. 0, 1 or 2

- Testing and documentation of the maximum deviation in planarity, perpendicularity and parallelism in accordance with VDI/VDE/DGQ 2618, part 22
- Nominal dimension = length of the largest leg

Nominal dimension mm	art.no.	€
Up to 200	076510 0001	15,-
Up to 500	076510 0002	34,-
Up to 1000	076510 0003	38,-
Up to 1500	076510 0004	58,50

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### Centring angle

- Only in calibratable design
- Testing and documentation in accordance with the manufacturer's instructions

Design	art.no.	€
All	076550 0001	21,-

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**Coplanar glass targets**

- Testing of flatness, parallelism and thickness, and documentation in accordance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 17

Ø mm	art.no.	€
Up to 100	<b>077001</b> 0001	<b>19,-</b>

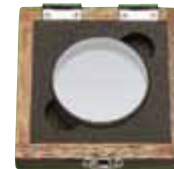
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**Optical flats**

- Testing of flatness and documentation in accordance with VDI (Association of German Engineers) / VDE (Association for Electrical, Electronic & Information Technologies) / DGQ (German Society for Quality) 2618, part 17

Ø mm	art.no.	€
Up to 60	<b>077005</b> 0001	<b>17,-</b>

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**caliper jaws for gauge blocks**

- Testing and documentation in compliance with BS 888:1950

Design	art.no.	€
All	<b>077010</b> 0001	<b>10,-</b>

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**Dial indicator testing equipment**

- Testing and documentation in accordance with the manufacturer's instructions
- Adjusting range up to 30 mm

Design	art.no.	€
All	<b>077015</b> 0001	<b>129,-</b>

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**Sine bars according to DIN 2273**

- Testing and documentation according to DIN 2273 or according to the manufacturer's instructions

Design	art.no.	€
All	<b>077020</b> 0001	<b>95,-</b>

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**Steel, hard stone or ceramic testing columns**

- Testing and documentation in accordance with the manufacturer's instructions

Nominal dimension mm	art.no.	€
Up to 200	<b>077501</b> 0001	<b>59,50</b>
Up to 300	077501 0002	<b>76,-</b>
Up to 400	077501 0003	<b>94,50</b>
Up to 500	077501 0004	<b>122,-</b>
Up to 600	077501 0005	<b>139,-</b>
Up to 1000	077501 0006	<b>210,-</b>

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**Torque wrench according to DIN EN ISO 6789**

- Other versions available on request

Torque N-m	art.no.	€
0.5 - 400	<b>079310</b> 0001	<b>31,50</b>
>400 - 1000	079310 0002	<b>42,-</b>

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**Engraving of identification numbers on measuring equipment****Attaching the inspection plate**

- For attaching inspection plates, please specify the month and year of the next calibration in the order; otherwise a recalibration period of 12 months is assumed.

Designation	art.no.	€
Engraving	<b>079001</b> 0001	<b>4,90</b>
Inspection plate	079001 0013	<b>1,-</b>

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## Calibration of stationary measuring equipment

INFO

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Fixed measuring equipment such as measuring microscopes, measuring projectors or dual- or triple-coordinate-measuring systems with manual or CNC control are subject, as is all other measuring equipment, to periodic monitoring and calibration.

For this measuring equipment we also offer our calibration services at the installation site

Please request an offer.



## Testing and measurement instrument management

INFO

### MIO™ - METECH Instrument Organizer

#### Testing and measurement instrument management

Testing and measurement instrument management are very important parts of any quality management system. Your testing and measurement instruments must be recorded in a traceable way in a management system, and it must be possible to obtain sufficient and verifiable information about your testing and measurement instruments from this management system at any time.

SARTORIUS Werkzeuge and Exova METECH offer you this option with the web-based MIO™ testing and measurement instrument management system. MIO™ (METECH Instrument Organizer) covers all the requirements of the relevant regulations and standards for monitoring your measurement instruments.

#### MIO™ advantages

The MIO™ web-based testing and measurement instrument management system makes it possible for you to monitor, track and manage all of your testing and measurement instruments with hardly any effort on your part.

MIO™ provides you with the following advantages:

- web-based access over any internet connection
- no installation of software on your computers
- archiving of data and calibration certificates on external servers, no burden on your infrastructure
- meets all requirements of ISO 9001, ISO 1012, ISO 17025 and other QM systems
- automatic reminders for measuring instruments that are due to be checked
- colour representation of calibration status
- calibration certificates directly assigned to the device as a PDF
- any document from the history can be viewed immediately
- various management options regarding allocation of information such as cost centre, place of use, etc.
- various filter options to limit the selection
- data maintenance for calibration by Exova METECH

ID	Instrument	Location	Brand	Manufacturer	Model	Calibration Date	Next Calibration	Status	Subcategory	Notes
400001	High Precision	Germany	STP 100 T	STP	100 T	2017-01-15	2018-01-15	OK	Calibration	
400002	Measuring Projector	Germany	MP 100	MP 100	100	2017-01-15	2018-01-15	OK	Calibration	
400003	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400004	Measuring Microscope	Germany	MM 100	MM 100	100	2017-01-15	2018-01-15	OK	Calibration	
400005	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400006	Measuring Projector	Germany	MP 100	MP 100	100	2017-01-15	2018-01-15	OK	Calibration	
400007	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400008	Measuring Microscope	Germany	MM 100	MM 100	100	2017-01-15	2018-01-15	OK	Calibration	
400009	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400010	Measuring Projector	Germany	MP 100	MP 100	100	2017-01-15	2018-01-15	OK	Calibration	
400011	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400012	Measuring Microscope	Germany	MM 100	MM 100	100	2017-01-15	2018-01-15	OK	Calibration	
400013	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400014	Measuring Projector	Germany	MP 100	MP 100	100	2017-01-15	2018-01-15	OK	Calibration	
400015	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400016	Measuring Microscope	Germany	MM 100	MM 100	100	2017-01-15	2018-01-15	OK	Calibration	
400017	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400018	Measuring Projector	Germany	MP 100	MP 100	100	2017-01-15	2018-01-15	OK	Calibration	
400019	Coordinate Measuring Machine	Germany	3D-MC 100	3D-MC 100	100	2017-01-15	2018-01-15	OK	Calibration	
400020	Measuring Microscope	Germany	MM 100	MM 100	100	2017-01-15	2018-01-15	OK	Calibration	