

Info

Gauge blocks – the reference for precision –

Parallel gauge blocks are supplied in accordance with **DIN EN ISO 3650** in the following calibration/tolerance classes:

1. **Calibration class -K-** for primary standard sets and test sets for determining the sizes of gauge blocks from low tolerance classes and of gauges, and for setting measuring instruments.
2. **Tolerance class -0-** for primary standard sets or benchmark sets for checking test sets.
3. **Tolerance class -1-** for test sets and working dimensions subject to particularly high demands (test department).
4. **Tolerance class -2-** for working dimensions.

The permissible deviations and tolerances are in accordance with DIN EN ISO 3650.

The reference temperature at which the gauge blocks represent the exact dimension within the permissible limits is 20°C/68°F.

Cemented carbide gauge blocks are primarily supplied in tolerance classes 0, 1 and 2.

The choice of the smallest sub-grade in a set depends on the set's intended use. If, for example, the set is to be used to check gauges, it is advisable to select a set which permits increments of a thousandth of a millimetre.

Please make use of our gauge block service.

We will check your gauge block sets in the shortest possible time. After the test you will receive a test report with a cost estimate for the gauge blocks to be replaced.



32001 - 32002

Metric parallel gauge block sets, steel and cemented carbide

ATORN®

Design

- The tolerance class of the parallel gauge blocks meets the requirements of **DIN EN ISO 3650**
- Delivery in a wooden case, **with traceable factory calibration certificate**

Note:

Gauge blocks made of special steel in calibration class -K-, solid carbide in other tolerance classes and set configurations, supplementary sets of metric parallel gauge blocks and DAkS reports deliverable on request.



32001 303

Set contents	Material	Tolerance class 0		Tolerance class 1	
		32001	...	32002	...
47 pieces	Steel	303		303	
87 pieces	Steel	304		304	
103 pieces	Steel	305		305	
47 pieces	Cemented carbide	402		402	
87 pieces	Carbide	403		403	

Set contents	Individual blocks mm	Number of pieces	Increments mm
47pcs	1.005	1	-
	1.01–1.20	20	0.01
	1.3–1.9	7	0.1
	1–9	9	1.0
	10–100	10	10
87pcs	1.001–1.009	9	0.001
	1.01–1.49	49	0.01
	0.5–9.5	19	0.5
	10–100	10	10.0
103pcs	1.005	1	-
	1.01–1.49	49	0.01
	0.5–24.5	49	0.5
	25–100	4	25.0

32004 - 32006

Metric parallel gauge block sets, special steel

Design

- Carefully selected, high-quality, alloyed **special steel**, aged, hardened and hand-lapped
- The **tolerance class** of the parallel gauge blocks meets the requirements of **DIN EN ISO 3650**
- In a storage box with fixed gauge block holder
- Supplied **with factory calibration certificate**



32004 - 32006

Set contents	Tolerance class 0		Tolerance class 1		Tolerance class 2	
	32004	...	32005	...	32006	...
32 pieces	101		101		101	
47 pieces	102		102		102	
87 pieces	103		103		103	
103 pieces	104		104		104	

Set contents	Individual blocks mm	Number of pieces	Increments mm
32pcs	1.005	1	-
	1.01–1.09	9	0.01
	1.1–1.9	9	0.1
	1–9	9	1.0
	10, 20, 30, 50	4	-
47pcs	1.005	1	-
	1.01–1.20	20	0.01
	1.3–1.9	7	0.1
	1–9	9	1.0
	10–100	10	10.0
87pcs	1.001–1.009	9	0.001
	1.01–1.49	49	0.01
	0.5–9.5	19	0.5
	10–100	10	10.0
103pcs	1.005	1	-
	1.01–1.49	49	0.01
	0.5–24.5	49	0.5
	25–100	4	25.0

Gauge blocks | Angle gauges

32007 - 32008 Parallel gauge block sets, ceramic

ATORN®

Design

- The tolerance class of the parallel gauge blocks meets the requirements of **DIN EN ISO 3650**
- Delivery in a wooden case, **with traceable factory calibration certificate**

Note:

Sets in other tolerance classes deliverable on request.

Set contents	Individual blocks mm	Number of pieces	Increments mm
47pcs	1.005	1	-
	1.01–1.20	20	0.01
	1.3–1.9	7	0.1
	1–9	9	1.0
	10–100	10	10.0
87pcs	1.001–1.009	9	0.001
	1.01–1.49	49	0.01
	0.5–9.5	19	0.5
	10–100	10	10



32007 202

Set contents	Tolerance class 0		Tolerance class 1	
	32007	...	32008	...
47 pieces		202		202
87 pieces		205		205

32026 - 32028 Parallel individual gauge blocks, special steel

Design

Cross-section dimensions:
Nominal dimension range under 0.3 mm = 20 x 9 mm, up to 10.1 mm = 30 x 9 mm, above 10.1 mm = 35 x 9 mm.

Note:

Nominal dimension of 125 mm and above supplied in a storage box. Metric individual gauge blocks in calibration/tolerance class DIN EN ISO 3650 K and **DKD test reports are deliverable on request.**

Applications

To supplement and replace damaged or worn gauge blocks.

Additional parallel individual gauge blocks made of cemented carbide and ceramic are deliverable on request.

Quality

Special steel.



32026 - 32028

Tolerance class	0	1	2			
Nominal dimension mm	32026	...	32027	...	32028	...
0.5	200		200		200	
0.6	201		195		195	
0.7	202		196		196	
0.8	203		197		197	
0.9	204		198		198	
1	205		201		201	
1.0005	206		199		199	
1.001	207		203		203	
1.002	208		204		204	
1.003	209		205		205	
1.004	210		206		206	
1.005	211		207		207	
1.006	212		208		208	
1.007	213		209		209	
1.008	214		210		210	
1.009	215		211		211	
1.01	216		212		212	
1.02	217		213		213	
1.03	218		214		214	
1.04	219		215		215	
1.05	220		216		216	
1.06	221		217		217	
1.07	222		218		218	
1.08	223		219		219	
1.09	224		220		220	
1.1	225		221		221	
1.11	226		222		222	
1.12	227		223		223	
1.13	228		224		224	
1.14	229		225		225	

Tolerance class	0	1	2			
Nominal dimension mm	32026	...	32027	...	32028	...
1.15	230	226	226			
1.16	231	227	227			
1.17	232	228	228			
1.18	233	229	229			
1.19	234	230	230			
1.2	235	231	231			
1.21	236	232	232			
1.22	237	233	233			
1.23	238	234	234			
1.24	239	235	235			
1.25	240	236	236			
1.26	241	237	237			
1.27	242	238	238			
1.28	243	239	239			
1.29	244	240	240			
1.3	245	241	241			
1.31	246	242	242			
1.32	247	243	243			
1.33	248	244	244			
1.34	249	245	245			
1.35	250	246	246			
1.36	251	247	247			
1.37	252	248	248			
1.38	253	249	249			
1.39	254	250	250			
1.4	255	251	251			
1.41	256	252	252			
1.42	257	253	253			
1.43	258	254	254			
1.44	259	255	255			

Continued

32026 - 32028

Parallel individual gauge blocks, special steel

Continued

Tolerance class	0	1	2
Nominal dimension mm	32026	32027	32028
1.45	260	256	256
1.46	261	257	257
1.47	262	258	258
1.48	263	259	259
1.49	264	260	260
1.5	265	261	261
1.6	266	262	262
1.7	267	263	263
1.8	268	264	264
1.9	269	265	265
2	270	266	266
2.5	271	267	267
3	272	268	268
3.5	273	269	269
4	274	270	270
4.5	275	271	271
5	276	272	272
5.5	277	273	273
6	278	274	274
6.5	279	275	275
7	280	276	276
7.5	281	277	277
8	282	278	278
8.5	283	279	279
9	284	280	280
9.5	285	281	281
10	286	282	282
10.5	287	283	283
11	288	284	284
11.5	289	285	285
12	290	286	286
12.5	291	287	287
13	292	288	288
13.5	293	289	289
14	294	290	290
14.5	295	291	291
15	296	292	292
15.5	297	293	293
16	298	294	294
16.5	299	295	295

Tolerance class	0	1	2
Nominal dimension mm	32026	32027	32028
17	300	296	296
17.5	301	297	297
18	302	298	298
18.5	303	299	299
19	304	300	300
19.5	305	301	301
20	306	302	302
20.5	307	303	303
21	308	304	304
21.5	309	305	305
22	310	306	306
22.5	311	307	307
23	312	308	308
23.5	313	309	309
24	314	310	310
24.5	315	311	311
25	316	312	312
30	317	313	313
40	318	314	314
50	319	315	315
60	320	316	316
70	321	317	317
75	322	318	318
80	323	319	319
90	324	320	320
100	325	321	321
125	326	322	322
150	327	323	323
175	328	324	324
200	329	325	325
250	330	326	326
300	331	327	327
400	332	329	329
500	333	331	331
600	334	332	332
700	335	333	333
800	336	334	334
900	337	335	335
1000	338	336	336

32035

Precision angle gauge set

Design

- 12 pieces

- Consisting of gauges with the following angles:
0.25° (15'), 0.5° (30'), 1°, 2°, 3°, 4°, 5°, 10°,
15°, 20°, 25°, 30°
- Tolerance +/- 30 arc seconds
- Supplied in a case

Applications

For fast generation of an angle.

Quality

Steel, hardened and ground.

32035



Set contents

32035

...

12 pieces

201

Calibration balls | Gauge blocks | Measuring force test device | Test gauge | Gauge block accessories | Optical flats

32036

Precision calibration ball set

Design

2 pieces each per nominal dimension, in a case.

Quality

Hardened special steel.



32036

Set contents	Measuring range mm	Increments mm	Error limit µm	32036	...
50 pieces	1-25	1	3		101

32040

Metric parallel gauge block sets (for vernier calipers)

Design

Calibration set for vernier calipers. Tolerance class 1. Selected, highly wear-resistant **special steel** which guarantees the best possible wear resistance and exceptionally long-term dimensional stability through special hardening processes. High measuring surface hardness of 820 HV 1. Expansion coefficient: 11.5 x 10⁻⁶ K⁻¹. **Supplied without vernier calipers and without a calibration certificate.** For calibration costs, see art. no. 30105 (individual gauge blocks).

Applications

For calibrating vernier calipers in accordance with VDI/VDE/DGQ 2618, sheet 8.

Note:

Other sizes for vernier calipers or increments deliverable on request. The gauges included in the sets are also deliverable separately. For test gauge, see art. no. 32060 201.



32040

Set contents	Nominal dimensions mm	For measuring range mm	32040	...
3 pieces	30/41.3/131.4	0-200		200
5 pieces	30/41.3/131.4/243.5/281.2	0-300		199
8 pieces	30/41.3/131.4/243.5/281.2/481.1/550/700	0-800		203

32050

Metric parallel gauge block sets (for micrometers)

Design

Calibration set for micrometers. Tolerance class 1. Selected, highly wear-resistant **special steel** which guarantees the best possible wear resistance and exceptionally long-term dimensional stability through special hardening processes. High measuring surface hardness of 820 HV 1. Expansion coefficient: 11.5 x 10⁻⁶ K⁻¹. **Supplied without a micrometer and without a calibration certificate.** For calibration costs, see cat. no. 30105 (individual gauge blocks).

Applications

For calibrating micrometers in accordance with VDI/VDE/DGQ 2618, sheet 5.



32050

Set contents	Nominal dimensions mm	For measuring range mm	32050	...
5 pieces	5.1/10.3/15/20.2/25	0-25		200
10 pieces	2.5/5.1/7.7/10.3/12.9/15/17.6/20.2/22.8/25	0-25		201
11 pieces	25/27.5/30.1/32.7/35.3/37.9/40/42.6/45.2/47.8/50	25-50		202
11 pieces	50/52.5/55.1/57.7/60.3/62.9/65/67.6/70.2/72.8/75	50-75		203
11 pieces	75/77.5/80.1/82.7/85.3/87.9/90/92.6/95.2/97.8/100	75-100		204
8 pieces	5.1/10.3/15/20.2/25/50/75/100	0-100		205

32055

Measuring force test device for micrometers

Design

Set consisting of:

Force measuring cell for micrometers from measuring range 0-25 mm, 3 screw-on extensions (25/50/75 mm) for micrometers up to measuring range 100 mm.

Supplied in a case.

Applications

For simple testing of the measuring force between the measuring surfaces (up to Ø 8 mm) of micrometers. The measuring force must be between 5 and 10 N in accordance with DIN 863 Part 1.

Note:

Calibration on request.



32055

	32055	...
		101

32060

Test gauge

Design

- Hardened, ground and lapped
- Production accuracy:
Outer $\varnothing$ $\pm 2 \mu\text{m}$,
Inner $\varnothing$ $\pm 2 \mu\text{m}$,
Height $\pm 10 \mu\text{m}$
- Supplied **without** a calibration certificate

Applications

For checking indicating vernier calipers (digital or dial display). The dimensional accuracy of the vernier calipers can be checked by means of the tips, the measuring jaws and the depth gauge. If deviations are detected, the zero point can be redefined by correcting the display.



32060



Outer $\varnothing$ mm	Inner $\varnothing$ mm	Height mm	32060	...
30	10	10		201

32068

Gauge block accessory set

Design

Set consisting of:

- 3 x adjustable gauge block holder
Size 0–50/0–100/0–200 mm,
 - 1 x gauge block holder base,
 - 3 x pair of measuring jaws with cylindrical attachment, 2/5/10 mm,
 - 1 x marking point,
 - 1 x centring point.
- Supplied in a solid wooden box.

Applications

The gauge block accessory set can be used to assemble high-precision control devices and gauges. It also protects the gauge blocks so that their accuracy is maintained.

32068



Set contents	32068	...
12 pieces		101

32097

Optical flats

Design

- Made of special glass
- Max. flatness deviation 0.125 μm

Applications

For testing the flatness of gauge blocks, measured objects, gauges, micrometers and all lapped and polished workpiece surfaces. Interference fringes show the deviations on the test piece. White or monochromatic light is required for observation.

Note:

Light box with monochromatic light deliverable on request.

32097 101

Design

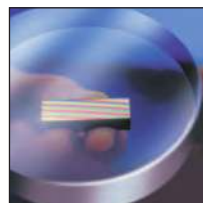
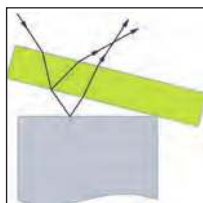
- Supplied in a wooden case

32097 202



Design

- 15 mm thick
- Supplied in a wooden case, including declaration of conformity



32097 101



32097 202

Diameter mm	32097	...
45		101
50		202

Limit plug gauges | Taper gauges | Snap gauges

32100

Limit plug gauges, DIN 2245 (bore gauges)

Design

- Hardened, annealed, ground and lapped
- Go and no-go plug gauge, fully cylindrical, on a handle

Tolerance range:

- ISO fit H7

Applications

For checking holes.

Quality

Gauge steel, hardened, 62 +/-2 HRC.

Note:

Other dimensions, tolerance ranges, qualities and designs (e.g. hard chromium plating, cemented carbide, coatings, extended gauging members or handles, vent holes, pilot attachments and as flat limit or check gauges) on request.

32100



Nominal dimension Ø mm	32100	...
1	106	
1.5	108	
2	110	
2.5	112	
3	114	
3.5	115	
4	116	
4.5	117	
5	118	
6	119	
7	120	
8	121	
9	122	
10	123	
11	124	

Nominal dimension Ø mm	32100	...
12	125	
13	126	
14	127	
15	128	
16	129	
17	130	
18	131	
19	132	
20	133	
21	134	
22	135	
23	136	
24	137	
25	138	
26	139	

Nominal dimension Ø mm	32100	...
27	140	
28	141	
30	142	
32	143	
33	144	
34	145	
35	146	
36	147	
38	149	
40	150	
42	151	
44	152	
45	153	
46	154	
47	155	

Nominal dimension Ø mm	32100	...
48	156	
50	157	
52	158	
55	159	
60	161	
62	162	
65	163	
68	164	
70	165	
75	167	
80	169	
85	171	
90	173	
100	177	

32150 - 32155

Taper gauges (morse tapers), DIN 229

Design

- Maximum precision
- Without lugs

Applications

For testing internal and external tapers.

32150



32155



Morse taper	Tapered plug gauges		Taper ring gauges	
	32150	...	32155	...
1		102		102
2		103		103
3		104		104
4		105		105

32201

Limited snap gauges, DIN 2230

Design

- Double-ended, forged
- Measuring surface hardened, annealed, ground and lapped
- Tolerance class: h 6

Applications

For testing shafts for various fits.

Quality

Die-forged.

Note:

Other dimensions and tolerances, one-sided limited snap gauges in forged version up to 214 mm, 214 mm and above in sheet steel, and gauges with hard chromium-plated or carbide-tipped measuring surfaces deliverable on request.

32201



Nominal dimension Ø mm	32201	...
3	111	
4	113	
5	115	
6	116	
7	117	
8	118	
10	120	
12	122	
14	124	
15	125	

Nominal dimension Ø mm	32201	...
16	126	
18	128	
19	129	
20	130	
22	132	
24	134	
25	135	
26	136	
28	138	
30	139	

Nominal dimension Ø mm	32201	...
32	140	
35	143	
40	147	
45	150	
46	151	
50	154	
55	156	
60	158	
65	160	
68	161	

Nominal dimension Ø mm	32201	...
70	162	
75	164	
80	166	
85	168	
90	170	
95	172	
100	174	

32340

Precision pointer snap gauges

ATORN®

Design

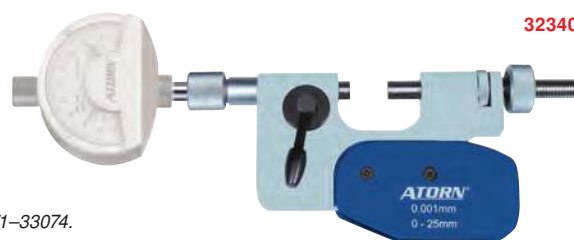
- Carbide-tipped measuring surfaces
- Flatness and parallelism deviations in accordance with DIN 863
- Anti-glare, brushed chromium-plated thimble and scale sleeve
- Spindle clamp
- Spring-mounted anvil
- Consistently repeatable measuring force
- Anvil raised via actuation lever
- Clamping shaft Ø 8 mm for precision pointers and dial gauges, and for electronic length measuring probes
- Supplied in a case, **without precision pointer**

Applications

Particularly suitable for efficient comparative measurement of serial parts.

Note:

Problem-free adjustment using parallel gauge blocks.
For precision pointer, see art. no. 33071–33074.



32340

Measuring range mm	Measuring surface Ø mm	Measurement path, movable anvil mm	32340	...
0 - 25	8	3		201
25 - 50	8	3		202
50 - 100	8	3		203

32341

Precision pointer snap gauge, MaraMeter 840 F

Mahr

Design

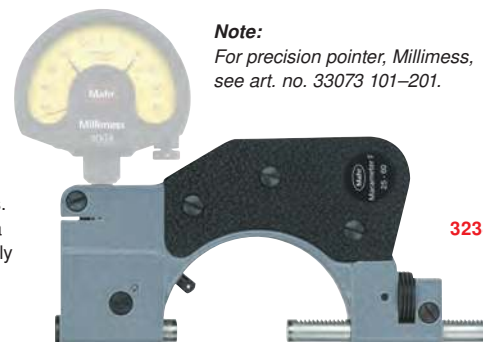
- Strong, forged steel handle with heat-insulating grips
- Long-guided measuring probe retractable via lift-off lever
- Measuring and counter probe made from stainless, hardened steel; carbide-tipped measuring surfaces
- Adjustable centring stop for adjustment to centre of measuring surface
- Precise adjustment of counter probe
- Built-in measuring force spring for a constant measuring force, so the measuring results do not depend on the user's sense of touch during the measurement
- Low wear due to contact-free insertion combined with carbide-tipped measuring surfaces

Scope of delivery:

- Face insert made of steel 903
- Operating instructions
- In a wooden box
- **Without display unit**

Applications

For cylindrical parts such as shafts, pins and shanks, for thickness and length measurements. Suitable for universal use. Each device covers a large range. Any dimension and fit can be quickly set within this range.



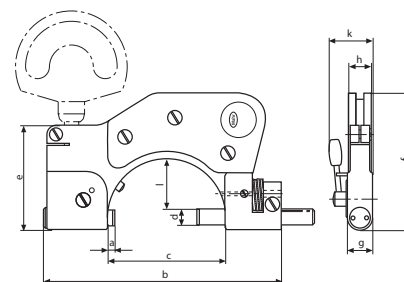
32341

Note:

For precision pointer, Millmess, see art. no. 33073 101–201.

Technical data:	32341 101	32341 102	32341 103	32341 104	32341 105
Measuring probe path mm:	2.0	2.0	2.5	2.5	2.5
Measuring force N:	7.5	7.5	7.5	9.0	9.0
Parallelism deviation µm:	1	2	2	2	2
Flatness deviation µm:	0.2	0.2	0.2	0.2	0.2
Repeatability fw µm:	0.5	0.5	1.0	1.0	1.0
Frame size:	1	2	3	4	5

Measuring range mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	k mm	l mm	32341	...
0-25	5.0	97	34	8	54	65	12	13	23	14		101
25-60	5.0	140	68	9	60	77	13	13	25	30		102
50-100	6.5	193	110	10	60	103	14	13	28	54		103
100-150	6.5	258	162	12	70	141	16	12	31	81		104
150-200	6.5	316	212	12	75	171	16	12	31	106		105



Thread gauges | Thread limit plug gauges

32410 - 32411 Thread gauge sets, HSS-E/TiN-coated

ATORN®

Design

7 pieces, in a wooden case.

Advantages of TiN coating:

- Improved corrosion resistance
- Surface hardness approx. 2500 Vickers
- Approx. 10 times the wear resistance of normal gauge steel
- Extremely well proven for gauging aggressive materials such as non-ferrous metals, high-pressure die casting alloys and stainless steels
- Longer calibration intervals
- Cost reduction

Applications

- For standard metric ISO thread in accordance with DIN 13.

Quality

HSS-E. Go side TiN-coated.

Note:

TiN-coated gauges, individual or in a set, in other dimensions, in all thread types, deliverable on request.

32410 101
Thread limit plug gauge set

32411 101
Thread go ring gauge set



32410



32411

		Limit plug gauges		Go ring gauges	
	Set contents	32410	...	32411	...
	Size M				
7 pieces	3/4/5/6/8/10/12		101		101

32413 Thread limit plug gauges, standard ISO thread, DIN 2280

Design

- Hardened and finely ground
- Right-hand thread
- In accordance with DIN 2280 for good and scrap
- Tolerance 6 H (M 1–M 1.4 tolerance 5 H)
- Go side with full thread profile (must screw into the test piece without the use of force)
- Scrap side with shortened thread flanks and only a few turns (must not screw in)

Applications

For standard metric ISO thread in accordance with DIN 13.

Quality

Best gauge steel.

Note:

Special gauges in all dimensions, tolerances and set combinations deliverable on request.



32413

Nominal Ø mm	32413	...
M 1	201	
M 1.2	202	
M 1.4	203	
M 1.6	204	
M 2	206	
M 2.5	208	
M 3	209	
M 3.5	210	
M 4	211	
M 5	213	
M 6	214	
M 7	215	
M 8	216	

Nominal Ø mm	32413	...
M 9	217	
M 10	218	
M 12	220	
M 14	221	
M 16	222	
M 18	223	
M 20	224	
M 22	225	
M 24	226	
M 27	227	
M 30	228	
M 33	229	
M 36	230	

32414 - 32415

Thread gauges, metric ISO thread, DIN 13



Design

- Measuring depth to 4 x D
- Right-hand thread
- Tolerance 6 H
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

- Testing of cylindrical female threads for compliance with the flank diameter and for form, pitch and angle deviations
- Measurement of thread depth using scale or vernier scale
- It must be possible to screw on the thread go plug gauge by hand without applying special force
- It must not be possible to screw on the thread no-go plug gauge by more than 2 turns by hand without applying special force

Note:

Thread gauge accuracy and thread depth can be checked with a single measuring device. Duration of the thread inspection cycle is reduced by 50%. Further nominal diameters, pitches, tolerance classes, left-hand threads or other thread types, thread limit gauges and thread limiting roller gauges for standard metric ISO threads are deliverable on request.

32414

Thread limit plug gauge with depth measurement (scale)

Design

- Scale reading accuracy 0.5 mm

32415

Thread limit plug gauge with depth measurement (vernier scale)

Design

- Vernier scale reading accuracy 0.1 mm



32414



32415

Nominal Ø mm	With scale	With vernier scale	
	32414	...	32415
M 3		101	101
M 4		102	102
M 5		103	103
M 6		104	104
M 8		105	105
M 10		106	106
M 12		107	107

Info

Digital thread limit plug gauge, MultiCheck

Advantages of using a

MultiCheck thread limit plug gauge

- Thread gauge accuracy and thread depth can be checked with a single tool
- Duration of a thread inspection cycle is reduced by 50%
- Thread depth is readable up to 4 x D
- Use of standard threaded plug gauges
- Plug gauges that are no longer dimensionally accurate are easy to replace
- Reliable reading of thread depth on measuring sleeve or digital display

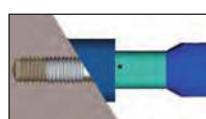


Deliverable on request.
Please contact us!

Additional adaptations for testing with MultiCheck.



Conical contact surface for special bore shoulders.



Angled contact surface sleeve for slanted bores.



Increased diameter for larger contact surfaces.



Diameter reduction for recessed bores.



Thread pin extensions for very deep bores.

Threaded ring gauges | Threaded plug gauges

32426 - 32428 Thread go and no-go ring gauges, metric ISO thread, DIN 13

32426

Thread go ring gauges

Design

- Right-hand thread
- Tolerance 6g (M 1–M 1.4 tolerance 6h)
- Construction dimensions in accordance with DIN 2285-1
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical male threads for compliance with the flank diameter and for form, pitch and angle deviations.

It must be possible to screw on the thread go ring gauge by hand without applying special force.

32428

Thread no-go ring gauges

Design

- Right-hand thread
- Tolerance 6g (M 1–M 1.4 tolerance 6h)
- Construction dimensions in accordance with DIN 2299-1
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical male threads for compliance with the flank diameter.

It must not be possible to screw on the thread no-go ring gauge by more than 2 turns by hand without applying special force.



Note:

Further nominal diameters, pitches, tolerance classes, left-hand threads or other thread types and thread limit gauges for standard metric ISO threads, fine metric ISO threads and thread limiting roller gauges deliverable on request.

Go ring gauges		No-go ring gauges	
Nominal Ø mm	32426	...	32428
M 1	201		201
M 1.2	202		202
M 1.4	203		203
M 1.6	204		204
M 2	206		206
M 2.5	208		208
M 3	209		209
M 3.5	210		210
M 4	211		211
M 4.5	212		212
M 5	213		213
M 6	214		214
M 7	215		215

Go ring gauges		No-go ring gauges	
Nominal Ø mm	32426	...	32428
M 8	216		216
M 9	217		217
M 10	218		218
M 12	220		220
M 14	221		221
M 16	222		222
M 18	223		223
M 20	224		224
M 22	225		225
M 24	226		226
M 27	227		227
M 30	228		228

32429 Thread limit plug gauges, fine metric ISO thread, DIN 13

Design

- Right-hand thread
- Tolerance 6H
- Construction dimensions in accordance with DIN 2280
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical female threads for compliance with the flank diameter and for form, pitch and angle deviations.

It must be possible to screw on the thread go plug gauge by hand without applying special force.

It must not be possible to screw on the thread no-go plug gauge by more than 2 turns by hand without applying special force.



Note:

Further nominal diameters, pitches, tolerance classes, left-hand threads or other thread types, thread limit gauges and thread limiting roller gauges for fine metric ISO threads are deliverable on request.

Nominal Ø mm	32429	...
M 5 x 0.50	101	
M 6 x 0.50	102	
M 6 x 0.75	103	
M 8 x 0.50	104	
M 8 x 0.75	105	
M 8 x 1.00	106	
M 10 x 0.50	107	
M 10 x 0.75	108	
M 10 x 1.00	109	
M 12 x 0.50	110	
M 12 x 1.00	111	
M 12 x 1.50	112	
M 14 x 1.00	113	
M 14 x 1.50	114	
M 16 x 1.00	116	
M 16 x 1.50	117	

Nominal Ø mm	32429	...
M 18 x 1.00	118	
M 18 x 1.50	119	
M 20 x 1.00	121	
M 20 x 1.50	122	
M 22 x 1.00	124	
M 22 x 1.50	125	
M 24 x 1.00	127	
M 24 x 1.50	128	
M 24 x 2.00	129	
M 25 x 1.50	130	
M 26 x 1.50	131	
M 27 x 1.50	132	
M 28 x 1.50	133	
M 30 x 1.50	134	
M 30 x 2.00	135	

32430**Thread go plug gauges, fine metric ISO thread, DIN 13****Design**

- Right-hand thread
- Tolerance 6H
- Construction dimensions in accordance with DIN 2281-1
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical female threads for compliance with the flank diameter and for form, pitch and angle deviations.

It must be possible to screw on the thread go plug gauge by hand without applying special force.

32430**Note:**

Further nominal diameters, pitches, tolerance classes, left-hand threads or other thread types, thread limit gauges and thread limiting roller gauges for fine metric ISO threads are deliverable on request.

Nominal Ø mm	32430	...
M 12 x 1.50		112
M 14 x 1.00		113
M 14 x 1.50		114
M 16 x 1.00		116
M 16 x 1.50		117
M 18 x 1.00		118
M 18 x 1.50		119
M 20 x 1.00		121
M 20 x 1.50		122
M 22 x 1.00		124
M 22 x 1.50		125
M 24 x 1.00		127
M 24 x 1.50		128
M 24 x 2.00		129
M 25 x 1.50		130
M 26 x 1.50		131
M 27 x 1.50		132
M 28 x 1.50		133
M 30 x 1.50		134
M 30 x 2.00		135
M 32 x 1.50		136
M 33 x 1.50		138
M 33 x 2.00		139
M 35 x 1.50		140
M 36 x 1.00		141
M 36 x 1.50		142
M 36 x 2.00		143
M 39 x 1.50		144
M 40 x 1.50		146
M 42 x 1.50		149

Nominal Ø mm	32430	...
M 42 x 2.00		150
M 42 x 3.00		151
M 45 x 1.50		152
M 45 x 2.00		153
M 48 x 1.50		154
M 48 x 2.00		155
M 50 x 1.50		157
M 50 x 2.00		158
M 52 x 1.50		159
M 52 x 2.00		160
M 55 x 2.00		162
M 56 x 1.50		163
M 56 x 2.00		164
M 56 x 4.00		165
M 58 x 2.00		167
M 60 x 1.50		168
M 60 x 2.00		169
M 64 x 1.50		171
M 64 x 2.00		172
M 65 x 1.50		173
M 65 x 2.00		174
M 68 x 2.00		176
M 70 x 1.50		177
M 70 x 2.00		178
M 76 x 2.00		182
M 80 x 1.50		183
M 80 x 2.00		184
M 85 x 2.00		186
M 90 x 2.00		189
M 90 x 3.00		190

Ring gauges | Thread gauges | Setting rings

32433 - 32434

Thread go and no-go ring gauges, fine metric ISO thread, DIN 13

32433

Thread go ring gauges

Design

- Right-hand thread
- Construction dimensions in accordance with DIN 2285-1
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical male threads for compliance with the flank diameter and for form, pitch and angle deviations.

It must be possible to screw on the thread go ring gauge by hand without applying special force.

32434

Thread no-go ring gauges

Design

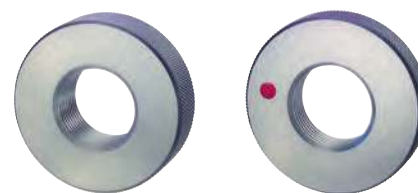
- Right-hand thread
- Construction dimensions in accordance with DIN 2299-1
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical male threads for compliance with the flank diameter.
It must not be possible to screw on the thread no-go ring gauge by more than 2 turns by hand without applying special force.

32433

32434



Note:

Further nominal diameters, pitches, tolerance classes, left-hand threads or other thread types, thread limit gauges and thread limiting roller gauges for fine metric ISO threads are deliverable on request, as well as the corresponding thread counter-plug gauges (minimum and wear test mandrels) for testing the threaded ring gauges.

Thread	Go ring gauges	No-go ring gauges
Nominal Ø mm	32433	32434
M 5 x 0.50	101	101
M 6 x 0.50	102	102
M 6 x 0.75	103	103
M 8 x 0.50	104	104
M 8 x 0.75	105	105
M 8 x 1.00	106	106
M 10 x 0.50	107	107
M 10 x 0.75	108	108
M 10 x 1.00	109	109
M 12 x 0.50	110	110
M 12 x 1.00	111	111
M 12 x 1.50	112	112
M 14 x 1.00	113	113
M 14 x 1.50	114	114
M 16 x 1.00	116	116
M 16 x 1.50	117	117
M 18 x 1.00	118	118
M 18 x 1.50	119	119
M 20 x 1.00	121	121
M 20 x 1.50	122	122
M 22 x 1.00	124	124
M 22 x 1.50	125	125
M 24 x 1.00	127	127
M 24 x 1.50	128	128
M 24 x 2.00	129	129
M 25 x 1.50	130	130
M 26 x 1.50	131	131
M 27 x 1.50	132	132
M 28 x 1.50	133	133
M 30 x 1.50	134	134
M 30 x 2.00	135	135
M 32 x 1.50	136	136
M 33 x 1.50	138	138
M 33 x 2.00	139	139
M 35 x 1.50	140	140
M 36 x 1.00	141	141

Thread	Go ring gauges	No-go ring gauges
Nominal Ø mm	32433	32434
M 36 x 1.50	142	142
M 36 x 2.00	143	143
M 39 x 1.50	144	144
M 40 x 1.50	146	146
M 42 x 1.50	149	149
M 42 x 2.00	150	150
M 42 x 3.00	151	151
M 45 x 1.50	152	152
M 45 x 2.00	153	153
M 48 x 1.50	154	154
M 48 x 2.00	155	155
M 50 x 1.50	157	157
M 50 x 2.00	158	158
M 52 x 1.50	159	159
M 52 x 2.00	160	160
M 55 x 2.00	162	162
M 56 x 1.50	163	163
M 56 x 2.00	164	164
M 56 x 4.00	165	165
M 58 x 2.00	167	167
M 60 x 1.50	168	168
M 60 x 2.00	169	169
M 64 x 1.50	171	171
M 64 x 2.00	172	172
M 65 x 1.50	173	173
M 65 x 2.00	174	174
M 68 x 2.00	176	176
M 70 x 1.50	177	177
M 70 x 2.00	178	178
M 76 x 2.00	182	182
M 80 x 1.50	183	183
M 80 x 2.00	184	184
M 85 x 2.00	186	186
M 90 x 2.00	189	189
M 90 x 3.00	190	190

Info

Special gauges in all dimensions, tolerances and set combinations deliverable on request.

Please contact us!



32442 - 32448

Thread gauges, Whitworth pipe thread, DIN EN ISO 228

32442 - 32444

Threaded plug gauges

Design

- Right-hand thread
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical female threads for compliance with the flank diameter and for form, pitch and angle deviations. It must be possible to screw on the thread go plug gauge by hand without applying special force. It must not be possible to screw on the thread no-go plug gauge by more than 2 turns by hand without applying special force.

32442

Thread limit plug gauges

- Construction dimensions in accordance with DIN 2280

32443

Thread go plug gauges

- Construction dimensions in accordance with DIN 2281-1

32444

Thread no-go plug gauges

- Construction dimensions in accordance with DIN 2283-2

32447 - 32448

Threaded ring gauges

Design

- Right-hand thread
- Tolerance class A
- Optimum surface quality and high hardness due to fine grinding and use of gauge steel

Applications

Testing of cylindrical male threads for compliance with the flank diameter and for form, pitch and angle deviations.

It must be possible to screw on the thread go ring gauge by hand without applying special force. It must not be possible to screw on the thread no-go ring gauge by more than 2 turns by hand without applying special force.

32447

Thread go ring gauges

- Construction dimensions in accordance with DIN 2285-1

32448

Thread no-go ring gauges

- Construction dimensions in accordance with DIN 2299-1



32442



32443



32444



32447



32448

Thread	Limit plug gauges	Go plug gauges	No-go plug gauges	Go ring gauges	No-go ring gauges
Nominal Ø inch	32442	...	32443	...	32444
G 1/8	101				101
G 1/4	102				102
G 3/8	103				103
G 1/2	104				104
G 5/8	105				105
G 3/4	106				106
G 1			108	108	108
G 1.1/4			110	110	110
G 1.1/2			111	111	111
G 2			112	112	112

32492

Setting rings, DIN 2250

Design

- In accordance with DIN 2250 -C-
- General use
- Hardened, annealed, ground and lapped

Applications

For testing thin-walled shafts and as setting gauges for measuring instruments.

Note:

For ease of handling, the large rings with a nominal dimension of 70 mm and above are supplied profiled. All nominal sizes not listed in the table, gauges with a numerical tolerance specification and go ring gauges are deliverable on request.



32492

Nominal Ø mm	32492	...
2	105	
2.5	107	
3	109	
4	111	
5	113	
6	114	
7	115	
8	116	
10	118	
12	120	
13	122	
14	123	
15	124	
16	125	
17	126	

Nominal Ø mm	32492	...
18	128	
19	129	
20	130	
22	132	
23	133	
24	134	
25	135	
26	136	
28	138	
30	139	
32	140	
33	141	
35	143	
36	144	
38	146	

Nominal Ø mm	32492	...
40	147	
42	148	
42.5	149	
45	150	
47	152	
48	153	
50	154	
55	156	
60	158	
62	159	
62.5	160	
70	162	
72	163	
75	164	
78	165	

Nominal Ø mm	32492	...
80	166	
87.5	168	
90	170	
100	172	
112.5	173	
125	174	
137.5	175	
162.5	199	
175	176	
187.5	177	
225	178	
275	180	

Measuring and test pins | Dial gauges

32643 - 32644

Measuring and test pin sets

ATORN®

Design

Hardened and tempered, ground and lapped.

Length:

- Up to 0.99 mm Ø = 40 mm
- From 1.00 mm Ø = 70 mm
- Based on DIN 2269

Labelling with Ø indication:

- From 1.5 mm Ø on the shank
- From 3 mm Ø on the front surface

Edge machining:

- Up to 0.99 mm Ø: both ends flat
- Up to 20.00 mm Ø: ends bevelled

The chamfer facilitates insertion into the hole and prevents damage to the edges.
Supplied in a storage box with Ø indication in white for each test pin.

Applications

For a wide variety of inspection and measuring tasks in control rooms, tool manufacture and mould making or in forming. For work on jig boring machines or coordinate milling machines. For measuring small and very small bores for both dimensional accuracy and straightness, and for measuring angularity, hole spacings, V-guides, profile depths, angles, guide surfaces and groove dimensions. For setting measuring instruments, e.g. micrometers or pointer gauges.

Quality

Gauge steel, aged, hardened (HRC 58–62).

Note:

Other set combinations, as well as individual dimensions, are deliverable on request.

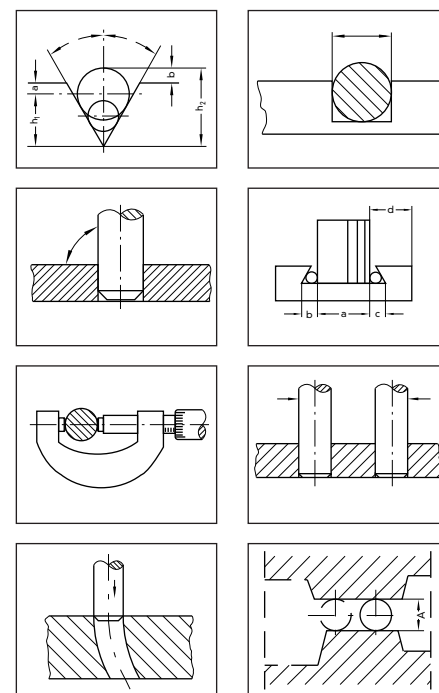
32643

Degree of accuracy 1, tolerance +/- 0.001 mm, roundness 0.5 µm.

32644

Degree of accuracy 2, tolerance +/- 0.002 mm, roundness 1.0 µm.

32643 - 32644



Ø range mm	Increments mm	Number of test pins	Degree of accuracy 1		Degree of accuracy 2	
			32643	...	32644	...
1.00–5.00	0.10	41		101		101
5.10–10.00	0.10	50		102		102
1.00–10.00	0.10	91		103		103
1.00–5.00	0.05	81		104		104
5.05–10.00	0.05	100		105		105
1.00–2.00	0.01	101		106		106
2.01–3.00	0.01	100		107		107
3.01–4.00	0.01	100		108		108
4.01–5.00	0.01	100		109		109
5.01–6.00	0.01	100		110		110
6.01–7.00	0.01	100		111		111
7.01–8.00	0.01	100		112		112
8.01–9.00	0.01	100		113		113
9.01–10.00	0.01	100		114		114
1.00–10.00	0.01	901		115		115

32649

Measuring and test pin holders

Applications

For easy production of individual go/no-go gauges by mounting two test pins in the holder for the upper and lower limit dimensions of a tolerance range.

Quality

Mounts made of die-cast zinc, brushed chromium-plated clamping screw.

32649

Holder size	Clamping range Ø mm	Holder length approx. mm	Clamping length approx. mm	32649	...
1	1.00–1.99	60	26		101
2	2.00–4.50	68	30		102
3	4.51–6.99	76	33		103
4	7.00–9.50	84	35		104
5	9.51–12.00	92	37		105

