



515-590

Bore Gage Zero Checker

SERIES 515

The Bore Gage Zero Checker allows easy zero adjustment of dial bore gages with ranges of 18mm (.7") through 400mm (16") using gage blocks.

SPECIFICATIONS

Order No.	Applicable range
515-590	18 - 400mm (.7" - 16")



Setting Rings

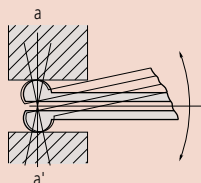
SERIES 177 — Accessories for Inside Micrometers, Holtest and Dial Bore Gages

FEATURES

- Used for quick and accurate setting of dial bore gages, Holtest and inside micrometers.
- If a setting ring of an optimal size is prepared, it can be used for calibration.

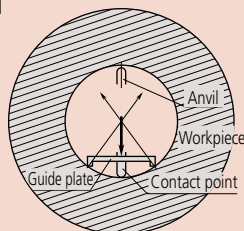
How to read the indicated value

Series 526



The 526 series has a gage head with high curvature. Alignment with the diameter (a-a') is achieved by rotating the gage head in the direction indicated by the arrow, and the reading is the maximum value read from the dial indicator.

Series 511



The 511 series provides a guide plate to align the setting ring diameter with the measurement axis of the bore gage.

Steel Setting Rings

177-205

177-139

177-146

177-147

177-300

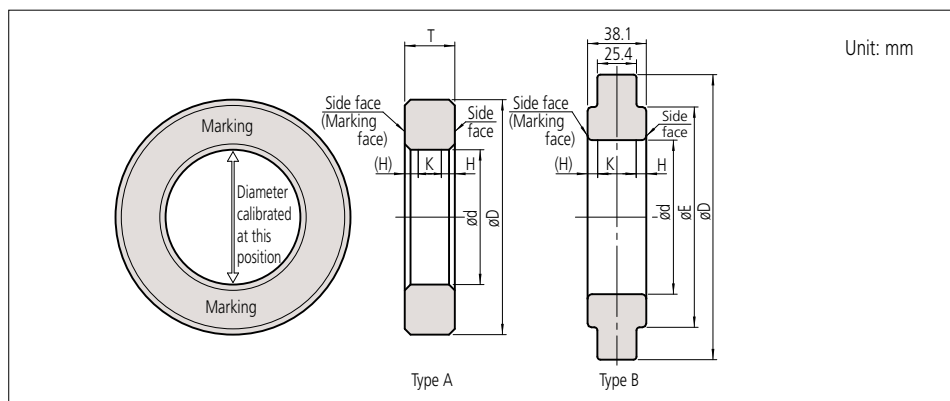
Ceramic Setting Rings

177-424

177-429

177-432

DIMENSIONS



SPECIFICATIONS

Steel Setting Rings

Metric										
Order No.	Nominal size øD	Dimensions (mm)			Type	Accuracy				
		øD	øE	T		Tolerance between the nominal size and the actual diameter (µm)	Uncertainty of marked diameter value (µm)*1	Roundness/ Cylindricity (µm)*2	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)
177-220	1mm	20	—	4	A	±10	±1.5	1	1.6	0.8
177-222	1.1mm	20	—	4	A	±10	±1.5	1	1.6	0.8
177-225	1.2mm	20	—	4	A	±10	±1.5	1	1.6	0.8
177-227	1.3mm	20	—	4	A	±10	±1.5	1	1.6	0.8
177-230	1.4mm	20	—	4	A	±10	±1.5	1	1.6	0.8
177-236	1.75mm	25	—	5	A	±10	±1.5	1	1.6	1.8
177-239	2mm	25	—	5	A	±10	±1.5	1	1.6	1.8
177-242	2.25mm	25	—	5	A	±10	±1.5	1	1.6	1.8
177-208	2.5mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-246	2.75mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-248	3mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-250	3.25mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-252	3.5mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-255	3.75mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-204	4mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-257	4.5mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-205	5mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-263	5.5mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-267	6mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-271	6.5mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-275	7mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-125	8mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-279	9mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-126	10mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-284	12mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-132	14mm	38	—	10	A	±10	±1.5	1	2.0	6.0

Inch										
Order No.	Nominal size ød	Dimensions (mm)			Type	Accuracy				
		øD	øE	T		Tolerance between the nominal size and the actual diameter (inch)	Uncertainty of marked diameter value (inch)* ¹	Roundness/ Cylindricity (inch)* ²	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)
177-209	.1"	25	—	7	A	±.0004"	±.00006"	.00004"	1.5	4.0
177-206	.16"	25	—	7	A	±.0004"	±.00006"	.00004"	1.5	4.0
177-207	.24"	25	—	7	A	±.0004"	±.00006"	.00004"	1.5	4.0
177-281	.275"	25	—	7	A	±.0004"	±.00006"	.00004"	1.8	3.4
177-179	.35"	32	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-283	.425"	32	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-180	.5"	32	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-181	.6"	38	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-182	.65"	45	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-183	.7"	45	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-287	.8"	45	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-184	1"	53	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-289	1.2"	71	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-185	1.4"	71	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-291	1.6"	71	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-186	1.8"	85	—	15	A	±.0004"	±.00006"	.00004"	3.5	8.0

Cera Setting Rings

Metric										
Order No.	Nominal size øD	Dimensions (mm)			Type	Accuracy				
		øD	øE	T		Tolerance between the nominal size and the actual diameter (µm)	Uncertainty of marked diameter value (µm)*1	Roundness/ Cylindricity (µm)*2	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)
177-418	4mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-420	6mm	25	—	7	A	±10	±1.5	1	1.7	3.6
177-423	8mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-424	10mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-425	12mm	32	—	10	A	±10	±1.5	1	2.0	6.0
177-427	16mm	45	—	10	A	±10	±1.5	1	2.0	6.0
177-429	20mm	45	—	10	A	±10	±1.5	1	2.0	6.0
177-430	25mm	53	—	15	A	±10	±1.5	1	3.2	8.6
177-431	30mm	71	—	15	A	±10	±1.5	1	3.2	8.6
177-432	35mm	71	—	15	A	±10	±1.5	1	3.2	8.6
177-433	40mm	71	—	15	A	±10	±1.5	1	3.2	8.6
177-434	45mm	85	—	15	A	±10	±1.5	1	3.2	8.6

*1 Actual diameter is marked in 0.001 mm increments.

*2 Cylindricity is defined as per JIS B 0621 definitions and designations of geometrical deviations, Section 4.4 "Cylindricity." Cylindricity is measured using three cross-sections between the top and bottom face of a ring, namely, close to the face near each sides and the center.

Order No.	Nominal size øD	Dimensions (mm)			Type	Accuracy				
		øD	øE	T		Tolerance between the nominal size and the actual diameter (µm)	Uncertainty of marked diameter value (µm)*1	Roundness/Cylindricity (µm)*2	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)
177-177	16mm	45	—	10	A	±10	±1.5	1	2.0	6.0
177-133	17mm	45	—	10	A	±10	±1.5	1	2.0	6.0
177-285	18mm	45	—	10	A	±10	±1.5	1	2.0	6.0
177-286	20mm	45	—	10	A	±10	±1.5	1	2.0	6.0
177-139	25mm	53	—	15	A	±10	±1.5	1	3.2	8.6
177-288	30mm	71	—	15	A	±10	±1.5	1	3.2	8.6
177-140	35mm	71	—	15	A	±10	±1.5	1	3.2	8.6
177-290	40mm	71	—	15	A	±10	±1.5	1	3.2	8.6
177-178	45mm	85	—	15	A	±10	±1.5	1	3.7	7.6
177-146	50mm	85	—	20	A	±20	±1.5	1	3.7	12.6
177-292	60mm	112	—	20	A	±20	±1.5	1	3.7	12.6
177-314	62mm	112	—	20	A	±20	±1.5	1.5	3.7	12.6
177-147	70mm	112	—	20	A	±20	±1.5	1.5	3.7	12.6
177-316	75mm	125	—	25	A	±20	±1.5	1.5	4.2	16.6
177-294	80mm	125	—	25	A	±20	±1.5	1.5	4.2	16.6
177-318	87mm	140	—	25	A	±20	±1.5	1.5	4.2	16.6
177-148	90mm	140	—	25	A	±20	±1.5	1.5	4.2	16.6
177-296	100mm	160	—	25	A	±20	±1.5	2	4.2	16.6
177-298	125mm	210	168	38.1 (25.4)	B	±20	±2.5	2	5.3	27.5
177-300	150mm	235	187		B	±20	±2.5	2	5.3	27.5
177-302	175mm	260	215		B	±20	±2.5	2.5	5.3	27.5
177-304	200mm	311	244		B	±20	±2.5	2.5	5.3	27.5
177-306	225mm	337	264		B	±20	±2.5	2.5	5.3	27.5
177-308	250mm	362	290		B	±20	±2.5	3	5.3	27.5
177-310	275mm	413	321		B	±20	±2.5	3	5.3	27.5
177-312	300mm	438	340		B	±20	±2.5	3	5.3	27.5

Order No.	Nominal size øD	Dimensions (mm)			Type	Accuracy				
		øD	øE	T		Tolerance between the nominal size and the actual diameter (inch)	Uncertainty of marked diameter value (inch)*1	Roundness/Cylindricity (inch)*2	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)
177-187	2"	85	—	20	A	±.0008"	±.00006"	.00004"	3.5	13.0
177-293	2.4"	112	—	20	A	±.0008"	±.00006"	.00004"	3.5	13.0
177-315	2.5"	112	—	20	A	±.0008"	±.00006"	.00006"	4.0	12.0
177-188	2.8"	112	—	20	A	±.0008"	±.00006"	.00006"	4.0	12.0
177-317	3"	125	—	25	A	±.0008"	±.00006"	.00006"	4.0	17.0
177-295	3.2"	125	—	25	A	±.0008"	±.00006"	.00006"	4.0	17.0
177-319	3.5"	140	—	25	A	±.0008"	±.00006"	.00006"	4.0	17.0
177-189	3.6"	140	—	25	A	±.0008"	±.00006"	.00006"	4.0	17.0
177-297	4"	160	—	25	A	±.0008"	±.00006"	.00008"	4.0	17.0
177-299	5"	210	168	38.1	B	±.0008"	±.00010"	.00008"	5.0	28.1
177-301	6"	235	187	38.1	B	±.0008"	±.00010"	.00008"	5.0	28.1
177-303	7"	260	215	38.1	B	±.0008"	±.00010"	.00010"	5.0	28.1
177-305	8"	311	244	38.1	B	±.0008"	±.00010"	.00010"	5.0	28.1
177-307	9"	337	264	38.1	B	±.0008"	±.00010"	.00010"	5.0	28.1
177-309	10"	362	290	38.1	B	±.0008"	±.00010"	.00012"	5.0	28.1
177-311	11"	413	321	38.1	B	±.0008"	±.00010"	.00012"	5.0	28.1
177-313	12"	438	340	38.1	B	±.0008"	±.00010"	.00012"	5.0	28.1

Inch										
Order No.	Nominal size øD	Dimensions (mm)		Type	Accuracy					
		øD	øE		T	Tolerance between the nominal size and the actual diameter (inch)	Uncertainty of marked diameter value (inch)*1	Roundness/ Cylindricity (inch)*2	Distance from the side face H (mm)	Size of warranted calibration surface K (mm)
177-518	.16"	25	—	7	A	±.0004"	±.00006"	.00004"	1.5	4.0
177-520	.24"	25	—	7	A	±.0004"	±.00006"	.00004"	1.5	4.0
177-522	.275"	25	—	7	A	±.0004"	±.00006"	.00004"	1.5	4.0
177-523	.35"	32	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-524	.425"	32	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-525	.5"	32	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-527	.65"	45	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-529	.8"	45	—	10	A	±.0004"	±.00006"	.00004"	1.8	6.4
177-530	1"	53	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-531	1.2"	71	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-532	1.4"	71	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-533	1.6"	71	—	15	A	±.0004"	±.00006"	.00004"	3.0	9.0
177-534	1.8"	85	—	15	A	±.0004"	±.00006"	.00004"	3.0	8.0