

Resultados de la calibración
(Results of calibration)

Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
1	5.000 00	5.003 14	0.000 69
2	5.020 00	5.022 00	0.000 61
3	5.040 00	5.041 90	0.000 61
4	5.060 00	5.060 99	0.000 58
5	5.080 00	5.081 35	0.000 62
6	5.100 00	5.100 17	0.000 61
7	5.120 00	5.121 57	0.000 60
8	5.140 00	5.142 10	0.000 61
9	5.160 00	5.162 50	0.000 62
10	5.180 00	5.182 19	0.000 67
11	5.200 00	5.201 79	0.000 60
12	5.220 00	5.221 95	0.000 62
13	5.240 00	5.242 29	0.000 62
14	5.260 00	5.261 19	0.000 63
15	5.280 00	5.281 40	0.000 61
16	5.300 00	5.302 89	0.000 59
17	5.320 00	5.321 70	0.000 59
18	5.340 00	5.342 45	0.000 60
19	5.360 00	5.362 60	0.000 63
20	5.380 00	5.382 49	0.000 61
21	5.400 00	5.402 50	0.000 61
22	5.420 00	5.421 00	0.000 59
23	5.440 00	5.441 89	0.000 74
24	5.460 00	5.462 02	0.000 60
25	5.480 00	5.480 49	0.000 75
26	5.500 00	5.501 47	0.000 74
27	5.520 00	5.521 54	0.000 66
28	5.540 00	5.539 75	0.000 65
29	5.560 00	5.560 32	0.000 68
30	5.580 00	5.580 80	0.000 63
31	5.600 00	5.602 57	0.000 66
32	5.620 00	5.621 54	0.000 67
33	5.640 00	5.641 27	0.000 62
34	5.660 00	5.661 29	0.000 63
35	5.680 00	5.681 00	0.000 63

Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
36	5.700 00	5.701 24	0.000 63
37	5.720 00	5.720 73	0.000 61
38	5.740 00	5.740 83	0.000 62
39	5.760 00	5.761 12	0.000 71
40	5.780 00	5.780 40	0.000 66
41	5.800 00	5.800 98	0.000 66
42	5.820 00	5.820 02	0.000 76
43	5.840 00	5.840 47	0.000 62
44	5.860 00	5.860 77	0.000 63
45	5.880 00	5.882 13	0.000 63
46	5.900 00	5.901 50	0.000 65
47	5.920 00	5.922 13	0.000 65
48	5.940 00	5.940 68	0.000 60
49	5.960 00	5.960 72	0.000 62
50	5.980 00	5.980 03	0.000 61
51	6.000 00	6.001 40	0.000 64
52	6.020 00	6.022 17	0.000 63
53	6.040 00	6.041 45	0.000 61
54	6.060 00	6.059 83	0.000 65
55	6.080 00	6.080 77	0.000 65
56	6.100 00	6.100 63	0.000 63
57	6.120 00	6.120 82	0.000 60
58	6.140 00	6.139 55	0.000 72
59	6.160 00	6.161 00	0.000 61
60	6.180 00	6.180 35	0.000 61
61	6.200 00	6.202 07	0.000 72
62	6.220 00	6.220 77	0.000 70
63	6.240 00	6.240 50	0.000 67
64	6.260 00	6.259 78	0.000 62
65	6.280 00	6.280 77	0.000 62
66	6.300 00	6.300 70	0.000 66
67	6.320 00	6.320 65	0.000 61
68	6.340 00	6.342 23	0.000 62
69	6.360 00	6.362 08	0.000 63
70	6.380 00	6.382 60	0.000 61

Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
71	6.400 00	6.401 42	0.000 69
72	6.420 00	6.421 40	0.000 68
73	6.440 00	6.441 63	0.000 80
74	6.460 00	6.462 52	0.000 63
75	6.480 00	6.482 43	0.000 59
76	6.500 00	6.502 63	0.000 72
77	6.520 00	6.522 73	0.000 60
78	6.540 00	6.543 10	0.000 62
79	6.560 00	6.562 43	0.000 61
80	6.580 00	6.582 75	0.000 61
81	6.600 00	6.602 80	0.000 68
82	6.620 00	6.621 45	0.000 62
83	6.640 00	6.642 60	0.000 84
84	6.660 00	6.662 53	0.000 65
85	6.680 00	6.682 20	0.000 63
86	6.700 00	6.702 00	0.000 60
87	6.720 00	6.722 32	0.000 69
88	6.740 00	6.742 43	0.000 65
89	6.760 00	6.762 12	0.000 59
90	6.780 00	6.782 48	0.000 64
91	6.800 00	6.802 97	0.000 61
92	6.820 00	6.823 20	0.000 60
93	6.840 00	6.841 87	0.000 60
94	6.860 00	6.861 73	0.000 61
95	6.880 00	6.881 02	0.000 61
96	6.900 00	6.902 03	0.000 58
97	6.920 00	6.921 63	0.000 58
98	6.940 00	6.940 90	0.000 61
99	6.960 00	6.960 02	0.000 69
100	6.980 00	6.981 15	0.000 59
101	7.000 00	7.002 88	0.000 69
102	7.020 00	7.021 62	0.000 61
103	7.040 00	7.042 80	0.000 80
104	7.060 00	7.060 63	0.000 61
105	7.080 00	7.081 68	0.000 65

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106	7.100 00	7.101 22	0.000 59
107	7.120 00	7.121 43	0.000 60
108	7.140 00	7.139 72	0.000 63
109	7.160 00	7.161 78	0.000 67
110	7.180 00	7.182 00	0.000 61
111	7.200 00	7.200 95	0.000 69
112	7.220 00	7.221 20	0.000 61
113	7.240 00	7.241 62	0.000 60
114	7.260 00	7.261 33	0.000 64
115	7.280 00	7.281 32	0.000 58
116	7.300 00	7.299 17	0.000 73
117	7.320 00	7.319 88	0.000 61
118	7.340 00	7.340 88	0.000 63
119	7.360 00	7.361 70	0.000 81
120	7.380 00	7.381 25	0.000 74
121	7.400 00	7.401 32	0.000 64
122	7.420 00	7.421 85	0.000 62
123	7.440 00	7.441 03	0.000 59
124	7.460 00	7.461 85	0.000 64
125	7.480 00	7.482 75	0.000 67
126	7.500 00	7.501 13	0.000 67
127	7.520 00	7.521 53	0.000 59
128	7.540 00	7.541 88	0.000 66
129	7.560 00	7.561 12	0.000 64
130	7.580 00	7.581 83	0.000 64
131	7.600 00	7.600 97	0.000 63
132	7.620 00	7.622 27	0.000 59
133	7.640 00	7.642 37	0.000 96
134	7.660 00	7.662 12	0.000 63
135	7.680 00	7.681 52	0.000 62
136	7.700 00	7.702 75	0.000 61
137	7.720 00	7.721 97	0.000 61
138	7.740 00	7.741 60	0.000 60
139	7.760 00	7.761 08	0.000 61
140	7.780 00	7.781 88	0.000 60

Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
141	7.800 00	7.801 68	0.000 60
142	7.820 00	7.822 53	0.000 62
143	7.840 00	7.842 71	0.000 59
144	7.860 00	7.861 33	0.000 59
145	7.880 00	7.880 01	0.000 59
146	7.900 00	7.903 15	0.000 64
147	7.920 00	7.921 56	0.000 63
148	7.940 00	7.942 08	0.000 59
149	7.960 00	7.962 05	0.000 67
150	7.980 00	7.981 98	0.000 62
151	8.000 00	8.002 26	0.000 61
152	8.020 00	8.022 65	0.000 64
153	8.040 00	8.042 05	0.000 60
154	8.060 00	8.062 11	0.000 71
155	8.080 00	8.082 06	0.000 65
156	8.100 00	8.102 26	0.000 59
157	8.120 00	8.122 23	0.000 72
158	8.140 00	8.142 93	0.000 63
159	8.160 00	8.162 26	0.000 60
160	8.180 00	8.182 36	0.000 60
161	8.200 00	8.201 83	0.000 68
162	8.220 00	8.221 51	0.000 61
163	8.240 00	8.242 13	0.000 67
164	8.260 00	8.261 98	0.000 62
165	8.280 00	8.281 96	0.000 68
166	8.300 00	8.302 11	0.000 69
167	8.320 00	8.322 55	0.000 63
168	8.340 00	8.341 50	0.000 61
169	8.360 00	8.361 70	0.000 61
170	8.380 00	8.382 38	0.000 65
171	8.400 00	8.403 08	0.000 59
172	8.420 00	8.421 96	0.000 63
173	8.440 00	8.441 21	0.000 64
174	8.460 00	8.460 55	0.000 64
175	8.480 00	8.482 61	0.000 63

Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
176	8.500 00	8.503 28	0.000 62
177	8.520 00	8.522 86	0.000 62
178	8.540 00	8.542 61	0.000 60
179	8.560 00	8.560 23	0.000 62
180	8.580 00	8.581 43	0.000 59
181	8.600 00	8.601 15	0.000 60
182	8.620 00	8.622 36	0.000 66
183	8.640 00	8.640 03	0.000 65
184	8.660 00	8.662 01	0.000 63
185	8.680 00	8.682 31	0.000 61
186	8.700 00	8.701 95	0.000 70
187	8.720 00	8.721 36	0.000 62
188	8.740 00	8.740 95	0.000 66
189	8.760 00	8.761 68	0.000 69
190	8.780 00	8.781 61	0.000 60
191	8.800 00	8.800 26	0.000 64
192	8.820 00	8.822 93	0.000 70
193	8.840 00	8.842 26	0.000 67
194	8.860 00	8.860 08	0.000 60
195	8.880 00	8.881 60	0.000 61
196	8.900 00	8.900 76	0.000 59
197	8.920 00	8.921 53	0.000 61
198	8.940 00	8.941 68	0.000 65
199	8.960 00	8.960 88	0.000 61
200	8.980 00	8.980 73	0.000 62
201	9.000 00	9.001 01	0.000 61
202	9.020 00	9.021 23	0.000 99
203	9.040 00	9.040 56	0.000 66
204	9.060 00	9.061 25	0.000 67
205	9.080 00	9.081 51	0.000 64
206	9.100 00	9.101 45	0.000 66
207	9.120 00	9.123 35	0.000 63
208	9.140 00	9.143 13	0.000 65
209	9.160 00	9.162 85	0.000 65
210	9.180 00	9.182 33	0.000 63

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Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
211	9.200 00	9.202 98	0.000 64
212	9.220 00	9.222 98	0.000 66
213	9.240 00	9.240 16	0.000 59
214	9.260 00	9.262 31	0.000 65
215	9.280 00	9.281 46	0.000 65
216	9.300 00	9.301 55	0.000 62
217	9.320 00	9.322 98	0.000 59
218	9.340 00	9.343 18	0.000 60
219	9.360 00	9.361 61	0.000 66
220	9.380 00	9.381 25	0.000 60
221	9.400 00	9.402 36	0.000 62
222	9.420 00	9.422 88	0.000 64
223	9.440 00	9.441 28	0.000 62
224	9.460 00	9.461 80	0.000 78
225	9.480 00	9.482 26	0.000 61
226	9.500 00	9.502 58	0.000 60
227	9.520 00	9.522 05	0.000 62
228	9.540 00	9.543 11	0.000 61
229	9.560 00	9.562 75	0.000 63
230	9.580 00	9.582 28	0.000 65

Posición (Position)	Diámetro nominal (Nominal diameter) mm	Diámetro medido (Measured diameter) mm	U (k=2) mm
231	9.600 00	9.602 56	0.000 59
232	9.620 00	9.623 30	0.000 59
233	9.640 00	9.641 55	0.000 62
234	9.660 00	9.662 55	0.000 64
235	9.680 00	9.682 81	0.000 66
236	9.700 00	9.700 25	0.000 63
237	9.720 00	9.720 98	0.000 62
238	9.740 00	9.740 93	0.000 64
239	9.760 00	9.760 01	0.000 73
240	9.780 00	9.780 86	0.000 59
241	9.800 00	9.802 00	0.000 69
242	9.820 00	9.822 01	0.000 63
243	9.840 00	9.842 98	0.000 68
244	9.860 00	9.861 36	0.000 67
245	9.880 00	9.881 45	0.000 69
246	9.900 00	9.901 66	0.000 67
247	9.920 00	9.923 50	0.000 61
248	9.940 00	9.941 86	0.000 65
249	9.960 00	9.961 66	0.000 66
250	9.980 00	9.981 31	0.000 67

Condiciones del instrumento:
(Instrument conditions)

Sin comentarios.

Requerimientos del cliente:
(Customer requirements)

A requerimiento del cliente se incluye el número de orden de compra: **10006054**

Observaciones generales

(General observations)

- Es responsabilidad del usuario establecer la proxima fecha de calibración del equipo. El tiempo y validez de los resultados informados en este documento depende de las características propias del equipo, de las condiciones de operación y de las buenas practicas de uso y cuidado.
(It is the responsibility of the user to set the next calibration date of his/her equipment. The time and validity of the results reported in this document depends on the characteristics of the equipment, the operating conditions and good use and care practices)

- El uso de los resultados de la calibración queda a consideración del usuario.
(The use of calibration results is the responsibility of the user)

- Los resultados y niveles de incertidumbres declarados en este certificado de calibración corresponden exclusivamente al instrumento descrito en la hoja 1.
(The results and uncertainty levels declared in this calibration certificate correspond exclusively to the instrument described in sheet 1)

- Los resultados que se presentan en este certificado tienen trazabilidad a patrones nacionales.
(The results presented in this certificate have traceability to national standards)

- La incertidumbre expandida se expresa con un factor de cobertura de $k=2$, que asegura un nivel de confianza de aproximadamente 95 %.
(The expanded uncertainty is expressed with a coverage factor of $k = 2$, which ensures a confidence level of approximately 95%).

- La incertidumbre de medida fue estimada según la NMX-CH-140-IMNC-2002 "Guía para la expresión de la incertidumbre en las mediciones".
(The uncertainty of the measurement was estimated according to the NMX-CH-140-IMNC-2002 "Guide for the expression of uncertainty in the measurements")

Descripción del método:

(Description of method)

- La calibración consiste en la medición directa del IBC empleando la máquina de medición uniaxial.
(The calibration consists of the direct measurement of the IBC using the uniaxial measuring machine)

- La calibración consiste en realizar cinco mediciones en los tres planos según la posición X, y cinco mediciones en los tres planos según la posición Y.
(The calibration consists of making five measurements in the three planes according to the X position, and five measurements in the three planes according to the Y position)

- El diámetro medido es el promedio de cinco mediciones. El diámetro corregido es el promedio de las cinco mediciones tomando en cuenta la deformación por la fuerza de medición, principios basados en la Norma de referencia.
(The measured diameter is the average of five measurements. The corrected diameter is the average of the five measurements taking into account the deformation by the measurement force, principles based on the Reference Standard)

- Cuando el equipo se calibra en sistema inglés tomar en cuenta las siguientes referencias: 1 pulgada = 1 in (símbolo)= 1 inches (traducción).
(When the equipment is calibrated in the English system, take into account the following references: 1 inch = 1 in (symbol) = 1 inches (translation))

- Cuando el equipo se calibra en sistema inglés tomar en cuenta el siguiente factor de conversión 1 pulgada = 25.4 mm.
(When the equipment is calibrated in the English system, take into account the following conversion factor 1 inch = 25.4 mm)

- Calibración realizada en referencia al estándar: ASME B 89.1.5-1998 Measurement of plain external diameters for use a master disc or cylindrical plus gages. / ASME B 89.1.17-2001 Measurements of threads measuring wires.
(Calibration in reference to the standard ASME B 89.1.5-1998 Measurement of plain external diameters for use a master disc or cylindrical plus gages. / ASME B 89.1.17-2001 Measurements of threads measuring wires.)