

Numeric Report

TREND REPORT

MESS-CC-TEP-0390/2025

Customer: HITACHI ASTEMO SILAO, S.A. DE C.V.
Equipment: Horno
Technician: Héctor U. Ortiz Santiago.

Run Start: 10:11:45 a. m.
Run End: 01:34:45 p. m.

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
10:11:45	1	22.57	22.62	22.56	22.58	22.58	22.51	22.90			
10:12:15	2	22.59	22.64	22.57	22.60	22.61	22.54	22.93			
10:12:45	3	22.62	22.67	22.61	22.64	22.66	22.72	22.63			
10:13:15	4	24.31	24.21	24.09	23.69	23.83	25.83	24.18			
10:13:45	5	25.47	25.07	25.09	24.53	24.70	26.63	25.03			
10:14:15	6	26.37	25.80	25.92	25.28	25.48	27.48	25.76			
10:14:45	7	27.59	26.84	27.05	26.17	26.47	29.01	26.77			
10:15:15	8	29.21	28.27	28.44	27.34	27.69	30.85	28.04			
10:15:45	9	30.85	29.71	29.91	28.57	29.00	32.69	29.34			
10:16:15	10	32.62	31.13	31.46	29.82	30.45	34.63	30.80			
10:16:45	11	34.23	32.69	33.00	31.11	31.79	36.34	32.15			
10:17:15	12	35.84	34.06	34.42	32.37	33.17	37.97	33.47			
10:17:45	13	37.37	35.55	35.87	33.73	34.51	39.60	34.81			
10:18:15	14	38.87	36.90	37.29	35.00	35.83	41.10	35.89			
10:18:45	15	40.25	38.23	38.61	36.22	37.18	42.66	37.07			
10:19:15	16	41.73	39.75	39.95	37.31	38.49	44.10	38.29			
10:19:45	17	43.15	41.14	41.28	38.41	39.66	45.48	39.49			
10:20:15	18	44.58	42.57	42.64	39.68	40.94	46.94	40.76			
10:20:45	19	45.95	44.02	43.90	40.95	42.25	48.36	42.01			
10:21:15	20	47.28	45.34	45.19	42.31	43.55	49.85	43.24			
10:21:45	21	48.71	46.63	46.50	43.33	44.77	51.22	44.84			
10:22:15	22	50.04	47.98	47.85	44.68	46.02	52.60	46.14			
10:22:45	23	51.42	49.30	49.20	45.84	47.44	54.14	48.30			
10:23:15	24	52.88	50.79	50.61	47.06	48.84	55.62	49.59			
10:23:45	25	54.20	52.09	51.91	48.32	50.01	57.07	51.14			
10:24:15	26	55.53	53.37	53.13	49.55	51.36	58.37	52.40			
10:24:45	27	56.99	54.81	54.51	50.91	52.64	59.90	53.76			
10:25:15	28	58.28	56.15	55.78	52.14	54.01	61.31	55.05			
10:25:45	29	59.66	57.52	57.11	53.52	55.31	62.76	56.43			
10:26:15	30	61.24	59.05	58.62	54.65	56.91	64.91	57.40			
10:26:45	31	63.94	61.50	60.99	56.61	58.92	68.10	59.68			
10:27:15	32	65.21	62.72	62.36	58.15	60.37	68.90	61.04			
10:27:45	33	66.17	63.78	63.40	59.38	61.77	69.71	62.02			
10:28:15	34	67.11	64.75	64.43	60.42	62.96	70.66	62.98			
10:28:45	35	68.11	65.86	65.51	61.48	63.89	71.68	64.07			
10:29:15	36	69.29	67.15	66.60	62.61	65.15	73.15	65.31			
10:29:45	37	70.51	68.36	67.83	64.01	66.29	74.57	66.58			
10:30:15	38	71.95	69.78	69.23	65.14	67.72	76.00	67.89			
10:30:45	39	73.15	70.91	70.42	66.24	68.88	77.15	69.00			
10:31:15	40	74.64	72.38	71.79	67.57	70.18	78.85	70.44			
10:31:45	41	75.97	73.72	72.98	68.83	71.44	80.10	71.60			
10:32:15	42	77.32	75.07	74.26	70.18	72.72	81.53	72.93			
10:32:45	43	78.67	76.48	75.66	71.65	73.99	82.95	74.23			
10:33:15	44	80.01	77.75	77.02	72.68	75.18	84.42	75.54			
10:33:45	45	81.35	79.11	78.28	73.91	76.62	85.81	76.56			
10:34:15	46	82.55	80.50	79.67	75.15	77.98	87.23	78.00			
10:34:45	47	84.08	81.94	81.00	76.57	79.25	88.74	79.11			
10:35:15	48	85.46	83.18	82.21	77.86	80.54	90.14	79.81			
10:35:45	49	86.80	84.54	83.54	79.10	81.82	91.51	81.56			
10:36:15	50	88.14	85.98	85.00	80.27	83.24	93.09	83.09			
10:36:45	51	89.52	87.30	86.28	81.62	84.53	94.36	84.66			
10:37:15	52	90.84	88.71	87.54	82.81	85.80	95.78	87.41			
10:37:45	53	92.23	90.04	88.84	83.89	87.15	97.19	87.67			
10:38:15	54	93.44	91.39	90.10	85.13	88.58	98.55	88.51			

Mess Servicios Metrológicos S. de R.L. de C.V. Acceso III, No. 16A, Nave 10, Parque Industrial Benito Juárez, Querétaro, Qro.

Para cualquier duda, comentario, sugerencia, felicitación o queja favor de llamar o comunicarse a los siguientes correos:
Tel. (442) 1 96 49 38, oscar@mess.com.mx marypaz.cruz@mess.com.mx calidad@mess.com.mx

CERTIFICADO DE CALIBRACIÓN
DIGITAL ORIGINAL
MESS SERVICIOS METROLÓGICOS



Laboratorio acreditado por PJLA con número de acreditación 56695 vigente hasta 2025-10-31 en cumplimiento a la norma ISO/IEC 17025:2017. "Requisitos generales para la competencia de laboratorios de ensayo y de calibración".

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Equipment: Horno
Technician: Héctor U. Ortiz Santiago.

Run Start: 10:25:00
Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
10:38:45	55	94.81	92.75	91.45	86.56	89.64	99.74	89.03			
10:39:15	56	96.09	93.94	92.67	87.95	90.96	101.35	90.12			
10:39:45	57	97.56	95.40	94.07	89.11	92.27	102.95	91.44			
10:40:15	58	98.75	96.51	95.22	90.48	93.70	104.01	92.50			
10:40:45	59	100.09	98.06	96.67	91.64	94.94	105.66	93.96			
10:41:15	60	101.35	99.46	97.84	92.86	96.26	106.92	95.12			
10:41:45	61	102.54	100.65	99.03	94.25	97.53	108.20	96.28			
10:42:15	62	103.95	102.07	100.41	95.49	98.94	109.73	97.66			
10:42:45	63	105.26	103.39	101.73	96.69	100.05	111.16	99.01			
10:43:15	64	106.79	104.93	103.07	97.69	101.60	112.66	100.20			
10:43:45	65	108.00	106.20	104.34	99.19	102.86	113.83	101.58			
10:44:15	66	109.44	107.46	105.59	100.39	104.19	115.44	102.79			
10:44:45	67	110.74	108.80	106.95	101.76	105.46	117.02	104.21			
10:45:15	68	112.06	110.24	108.16	102.92	106.86	118.21	105.21			
10:45:45	69	113.13	111.67	109.38	104.26	108.15	119.49	106.65			
10:46:15	70	114.52	112.89	110.70	105.57	109.63	120.94	108.10			
10:46:45	71	115.72	114.32	111.94	107.12	110.92	122.25	110.10			
10:47:15	72	117.12	115.56	113.12	108.42	112.22	123.74	111.49			
10:47:45	73	118.53	116.91	114.51	109.29	113.48	124.89	114.73			
10:48:15	74	118.66	116.92	114.70	109.99	114.00	124.02	114.71			
10:48:45	75	118.80	117.43	115.13	110.77	114.44	124.17	116.11			
10:49:15	76	118.92	117.73	115.39	111.47	114.89	123.96	116.26			
10:49:45	77	118.91	117.86	115.45	111.91	114.99	123.66	115.78			
10:50:15	78	118.89	117.90	115.55	112.11	115.12	123.41	116.15			
10:50:45	79	118.97	117.90	115.75	112.62	115.35	123.36	115.97			
10:51:15	80	119.05	118.08	115.73	112.70	115.49	123.18	115.31			
10:51:45	81	118.93	118.07	115.77	112.94	115.64	122.90	116.17			
10:52:15	82	119.03	118.10	115.92	113.35	115.59	122.89	116.61			
10:52:45	83	119.05	118.19	116.01	113.39	115.66	122.79	116.75			
10:53:15	84	119.01	118.27	116.12	113.76	115.84	122.77	116.50			
10:53:45	85	118.94	118.22	116.10	113.89	115.87	122.51	116.13			
10:54:15	86	118.91	118.29	116.11	114.10	115.96	122.42	115.62			
10:54:45	87	118.93	118.30	116.13	114.12	116.06	122.48	114.19			
10:55:15	88	118.97	118.34	116.24	114.27	116.15	122.42	113.68			
10:55:45	89	118.94	118.39	116.25	114.44	116.20	122.30	113.54			
10:56:15	90	118.97	118.41	116.30	114.54	116.22	122.26	113.72			
10:56:45	91	118.96	118.42	116.38	114.72	116.29	122.17	113.99			
10:57:15	92	118.96	118.44	116.48	114.79	116.35	122.22	114.34			
10:57:45	93	118.95	118.41	116.39	114.92	116.43	122.08	114.92			
10:58:15	94	119.11	118.55	116.49	114.91	116.43	122.10	115.26			
10:58:45	95	119.03	118.53	116.49	115.07	116.47	122.04	114.40			
10:59:15	96	118.91	118.52	116.42	115.09	116.43	121.94	112.31			
10:59:45	97	118.92	118.58	116.52	115.11	116.46	121.88	109.32			
11:00:15	98	118.96	118.56	116.55	115.18	116.49	121.86	108.25			
11:00:45	99	118.95	118.50	116.51	115.31	116.54	121.85	107.42			
11:01:15	100	118.97	118.60	116.52	115.36	116.49	121.83	106.79			
11:01:45	101	118.96	118.65	116.58	115.35	116.66	121.81	110.02			
11:02:15	102	118.93	118.60	116.60	115.44	116.66	121.70	115.26			
11:02:45	103	118.94	118.62	116.63	115.53	116.69	121.71	114.75			
11:03:15	104	119.09	118.73	116.72	115.64	116.73	121.77	114.98			
11:03:45	105	119.03	118.70	116.75	115.72	116.75	121.75	114.42			
11:04:15	106	119.00	118.69	116.81	115.82	116.84	121.75	113.44			
11:04:45	107	119.10	118.72	116.90	115.91	116.89	121.81	114.20			
11:05:15	108	119.04	118.70	116.89	115.95	116.93	121.71	115.50			

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Run Start: 10:25:00
Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
11:05:45	109	119.08	118.78	116.94	115.98	116.88	121.64	116.01			
11:06:15	110	119.02	118.72	116.88	115.98	116.84	121.60	116.60			
11:06:45	111	119.03	118.76	116.92	116.00	116.90	121.61	116.93			
11:07:15	112	119.05	118.75	116.89	116.07	116.96	121.61	117.04			
11:07:45	113	119.04	118.79	116.94	116.07	116.97	121.60	117.04			
11:08:15	114	119.04	118.73	116.94	116.14	117.02	121.63	116.95			
11:08:45	115	119.05	118.78	116.94	116.12	117.02	121.56	116.77			
11:09:15	116	119.03	118.75	116.90	116.18	117.06	121.53	116.58			
11:09:45	117	119.07	118.73	116.94	116.21	117.08	121.59	117.05			
11:10:15	118	119.07	118.80	116.95	116.31	117.13	121.55	117.14			
11:10:45	119	119.04	118.77	117.00	116.32	117.14	121.47	117.20			
11:11:15	120	119.03	118.78	117.02	116.29	117.09	121.50	117.03			
11:11:45	121	119.03	118.78	117.05	116.38	117.09	121.51	117.17			
11:12:15	122	119.04	118.82	117.06	116.41	117.09	121.49	117.08			
11:12:45	123	119.12	118.88	117.11	116.43	117.20	121.53	117.31			
11:13:15	124	119.12	118.91	117.08	116.43	117.22	121.56	117.22			
11:13:45	125	119.13	118.93	117.13	116.54	117.24	121.55	116.85			
11:14:15	126	119.12	118.92	117.11	116.53	117.23	121.43	117.22			
11:14:45	127	119.19	118.91	117.21	116.51	117.20	121.53	117.30			
11:15:15	128	119.10	118.88	117.18	116.51	117.23	121.39	117.23			
11:15:45	129	119.05	118.92	117.19	116.60	117.31	121.47	117.33			
11:16:15	130	119.06	118.91	117.20	116.57	117.33	121.45	117.26			
11:16:45	131	119.10	118.94	117.17	116.60	117.30	121.41	117.20			
11:17:15	132	119.07	118.89	117.15	116.59	117.25	121.41	117.05			
11:17:45	133	119.13	118.94	117.23	116.63	117.30	121.45	116.69			
11:18:15	134	119.11	118.94	117.22	116.67	117.37	121.39	116.82			
11:18:45	135	119.15	118.94	117.23	116.64	117.36	121.45	116.73			
11:19:15	136	119.13	118.92	117.28	116.71	117.42	121.43	116.63			
11:19:45	137	119.08	118.92	117.26	116.71	117.39	121.41	116.50			
11:20:15	138	119.17	118.93	117.30	116.70	117.34	121.40	116.29			
11:20:45	139	119.18	118.96	117.32	116.77	117.33	121.39	116.53			
11:21:15	140	119.16	118.93	117.31	116.74	117.41	121.36	117.16			
11:21:45	141	119.14	118.94	117.30	116.77	117.42	121.36	117.18			
11:22:15	142	119.17	118.94	117.28	116.79	117.42	121.33	116.69			
11:22:45	143	119.14	118.98	117.35	116.81	117.45	121.36	116.40			
11:23:15	144	119.15	118.94	117.34	116.88	117.51	121.37	116.96			
11:23:45	145	119.15	118.96	117.37	116.94	117.60	121.34	116.17			
11:24:15	146	119.14	119.03	117.38	116.86	117.52	121.36	116.85			
11:24:45	147	119.20	119.00	117.42	116.95	117.55	121.39	116.48			
11:25:15	148	119.22	119.03	117.42	117.03	117.64	121.36	116.98			
11:25:45	149	119.21	119.05	117.49	117.07	117.67	121.36	116.18			
11:26:15	150	119.20	119.09	117.54	117.03	117.69	121.37	116.73			
11:26:45	151	119.22	119.09	117.54	117.06	117.66	121.41	117.69			
11:27:15	152	119.27	119.08	117.56	117.11	117.67	121.37	114.94			
11:27:45	153	119.27	119.06	117.61	117.09	117.72	121.35	116.36			
11:28:15	154	119.27	119.07	117.58	117.04	117.74	121.34	116.08			
11:28:45	155	119.25	119.09	117.52	117.05	117.64	121.30	115.78			
11:29:15	156	118.74	118.55	117.06	116.81	117.37	119.93	109.28			
11:29:45	157	117.21	117.12	115.81	116.02	116.53	117.45	108.02			
11:30:15	158	114.78	114.80	113.73	114.56	115.03	113.57	103.41			
11:30:45	159	111.10	111.23	110.53	112.12	112.69	108.25	100.38			
11:31:15	160	106.93	107.48	106.82	109.24	109.77	102.87	97.11			
11:31:45	161	102.82	103.62	103.01	106.01	106.60	97.89	95.83			
11:32:15	162	98.75	99.79	99.27	102.57	103.43	93.23	92.28			

Mess Servicios Metrológicos S. de R.L. de C.V. Acceso III, No. 16A, Nave 10, Parque Industrial Benito Juárez, Querétaro, Qro.

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"La emisión de certificados de calibración/informes de medición o ensayo es de manera electrónica en cumplimiento de los estándares"

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Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
11:32:45	163	94.75	96.19	95.56	99.30	100.44	88.93	88.91			
11:33:15	164	91.05	92.71	92.13	96.01	96.99	84.83	85.68			
11:33:45	165	87.46	89.38	88.66	92.73	93.84	81.00	82.55			
11:34:15	166	83.98	85.88	85.32	89.50	90.63	77.32	79.47			
11:34:45	167	80.60	82.88	82.02	86.45	87.67	73.83	76.57			
11:35:15	168	77.32	79.67	78.82	83.35	84.63	70.44	73.70			
11:35:45	169	74.29	76.83	76.00	80.35	81.64	67.32	71.02			
11:36:15	170	71.24	73.86	73.07	77.39	78.57	64.38	68.35			
11:36:45	171	68.30	71.21	70.19	74.60	75.72	61.38	65.82			
11:37:15	172	65.42	68.52	67.53	71.83	72.91	58.68	63.54			
11:37:45	173	62.82	65.82	64.77	69.21	70.38	55.96	61.10			
11:38:15	174	60.15	63.29	62.12	66.77	67.88	53.35	58.83			
11:38:45	175	57.63	60.71	59.58	64.27	65.45	50.84	56.59			
11:39:15	176	55.08	58.16	57.15	61.55	62.96	48.38	54.41			
11:39:45	177	52.56	55.83	54.70	59.14	60.51	45.91	52.24			
11:40:15	178	50.16	53.40	52.27	56.61	57.73	43.54	50.06			
11:40:45	179	47.76	51.05	49.99	54.32	55.25	41.25	47.91			
11:41:15	180	45.43	48.64	47.73	52.01	53.14	38.98	45.92			
11:41:45	181	43.17	46.41	45.40	49.73	50.97	36.74	44.02			
11:42:15	182	40.94	44.26	43.25	47.42	48.60	34.58	42.06			
11:42:45	183	38.97	42.46	41.36	45.39	46.58	33.31	40.51			
11:43:15	184	38.23	41.59	40.43	44.08	45.18	33.53	39.86			
11:43:45	185	38.21	41.29	40.15	43.36	44.40	34.26	39.67			
11:44:15	186	38.43	41.18	40.19	42.93	43.97	34.95	39.70			
11:44:45	187	38.74	41.19	40.32	42.65	43.47	35.46	39.83			
11:45:15	188	38.84	41.03	40.33	42.52	43.12	35.94	39.79			
11:45:45	189	39.04	41.07	40.47	42.44	43.05	36.42	39.83			
11:46:15	190	39.14	40.98	40.48	42.27	42.93	36.66	39.90			
11:46:45	191	39.26	40.99	40.52	42.14	42.75	36.91	39.96			
11:47:15	192	39.42	41.00	40.61	42.07	42.50	37.24	40.07			
11:47:45	193	39.48	40.85	40.61	41.93	42.43	37.45	40.10			
11:48:15	194	39.65	40.94	40.69	41.88	42.37	37.69	40.17			
11:48:45	195	39.63	40.75	40.62	41.70	42.17	37.74	40.11			
11:49:15	196	37.81	38.86	38.98	40.48	40.83	33.60	38.00			
11:49:45	197	33.55	35.13	35.31	37.67	38.31	28.29	34.60			
11:50:15	198	30.05	31.93	32.17	34.90	35.80	24.67	31.67			
11:50:45	199	27.07	29.29	29.34	32.19	33.17	21.83	29.06			
11:51:15	200	24.52	26.99	26.78	29.86	30.69	19.32	26.70			
11:51:45	201	22.12	24.81	24.52	27.68	28.57	17.04	24.54			
11:52:15	202	19.89	22.57	22.33	25.43	26.30	14.94	22.47			
11:52:45	203	17.83	20.57	20.23	23.33	24.43	12.83	20.50			
11:53:15	204	15.87	18.73	18.29	21.39	22.36	10.89	18.16			
11:53:45	205	13.95	16.86	16.41	19.35	20.68	9.09	16.65			
11:54:15	206	12.06	15.01	14.61	17.48	18.54	7.24	14.94			
11:54:45	207	10.28	13.35	12.81	15.79	16.65	5.52	13.11			
11:55:15	208	8.57	11.50	11.16	14.07	15.05	3.86	11.52			
11:55:45	209	6.78	9.83	9.46	12.20	13.41	2.28	9.81			
11:56:15	210	5.11	8.12	7.74	10.46	11.44	0.67	8.37			
11:56:45	211	3.61	6.50	6.15	8.84	9.56	-0.89	7.16			
11:57:15	212	2.00	4.88	4.47	7.23	8.12	-2.42	5.23			
11:57:45	213	0.45	3.33	3.05	5.59	6.53	-3.94	3.30			
11:58:15	214	-1.20	1.77	1.49	4.13	4.80	-5.39	1.76			
11:58:45	215	-2.66	0.27	-0.03	2.60	3.28	-6.85	0.26			
11:59:15	216	-4.24	-1.24	-1.49	1.06	1.54	-8.33	-0.92			

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Numeric Report

TREND REPORT

MESS-CC-TEP-0390/2025

Customer: HITACHI ASTEMO SILAO, S.A. DE C.V.
Equipment: Horno
Technician: Héctor U. Ortiz Santiago.

Run Start: 10:25:00
Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
11:59:45	217	-5.65	-2.79	-2.92	-0.44	0.32	-9.74	-1.92			
12:00:15	218	-7.11	-4.32	-4.40	-1.92	-1.26	-11.17	-3.12			
12:00:45	219	-8.62	-5.72	-5.81	-3.32	-2.60	-12.64	-4.38			
12:01:15	220	-10.09	-7.11	-7.20	-4.72	-4.21	-14.07	-6.57			
12:01:45	221	-11.44	-8.50	-8.64	-6.14	-5.52	-15.37	-8.34			
12:02:15	222	-12.83	-9.96	-10.03	-7.57	-7.21	-16.73	-9.81			
12:02:45	223	-14.21	-11.24	-11.44	-9.08	-8.62	-18.06	-11.12			
12:03:15	224	-15.54	-12.64	-12.78	-10.44	-10.20	-19.36	-12.19			
12:03:45	225	-16.75	-13.91	-14.04	-11.86	-11.37	-20.56	-13.45			
12:04:15	226	-17.98	-15.28	-15.34	-13.17	-12.46	-21.76	-14.66			
12:04:45	227	-19.31	-16.57	-16.61	-14.43	-13.76	-23.00	-15.83			
12:05:15	228	-20.49	-17.72	-17.81	-15.79	-15.21	-24.17	-17.18			
12:05:45	229	-21.74	-18.92	-19.01	-17.01	-16.49	-25.29	-18.28			
12:06:15	230	-22.90	-20.26	-20.26	-18.10	-17.65	-26.40	-19.41			
12:06:45	231	-24.03	-21.37	-21.42	-19.35	-19.03	-27.46	-20.47			
12:07:15	232	-25.21	-22.59	-22.52	-20.48	-20.55	-28.60	-21.55			
12:07:45	233	-26.38	-23.75	-23.72	-21.82	-21.72	-29.69	-22.65			
12:08:15	234	-27.59	-24.90	-24.89	-22.96	-22.84	-30.75	-23.89			
12:08:45	235	-28.63	-26.06	-25.99	-24.15	-23.96	-31.79	-25.01			
12:09:15	236	-29.77	-27.17	-27.03	-25.15	-25.08	-32.86	-25.97			
12:09:45	237	-30.81	-28.28	-28.18	-26.39	-26.26	-33.86	-27.11			
12:10:15	238	-31.87	-29.49	-29.31	-27.56	-27.34	-34.89	-28.12			
12:10:45	239	-32.92	-30.56	-30.33	-28.54	-28.58	-35.93	-29.14			
12:11:15	240	-34.03	-31.59	-31.38	-29.70	-29.56	-36.95	-30.11			
12:11:45	241	-34.89	-32.65	-32.32	-30.71	-30.88	-37.87	-31.60			
12:12:15	242	-35.97	-33.71	-33.43	-31.73	-31.69	-38.91	-32.87			
12:12:45	243	-37.00	-34.73	-34.39	-32.78	-32.90	-39.82	-33.51			
12:13:15	244	-37.97	-35.71	-35.36	-33.74	-33.79	-40.75	-34.77			
12:13:45	245	-38.89	-36.68	-36.30	-34.78	-34.78	-41.63	-34.93			
12:14:15	246	-39.80	-37.62	-37.24	-35.69	-35.73	-42.55	-35.78			
12:14:45	247	-40.65	-38.52	-38.08	-36.63	-36.74	-43.12	-36.41			
12:15:15	248	-40.66	-38.63	-38.21	-36.95	-37.06	-42.60	-36.38			
12:15:45	249	-40.62	-38.62	-38.26	-37.09	-37.30	-42.34	-36.34			
12:16:15	250	-40.46	-38.72	-38.18	-37.28	-37.36	-42.06	-36.63			
12:16:45	251	-40.33	-38.69	-38.08	-37.27	-37.54	-41.77	-36.72			
12:17:15	252	-40.17	-38.66	-37.98	-37.33	-37.59	-41.60	-35.14			
12:17:45	253	-40.07	-38.72	-37.94	-37.29	-37.63	-41.46	-36.46			
12:18:15	254	-39.97	-38.70	-37.83	-37.37	-37.64	-41.20	-36.62			
12:18:45	255	-39.96	-38.75	-37.91	-37.33	-37.63	-41.12	-36.79			
12:19:15	256	-39.91	-38.75	-37.88	-37.24	-37.72	-41.04	-36.15			
12:19:45	257	-39.88	-38.79	-37.85	-37.24	-37.80	-41.00	-37.22			
12:20:15	258	-39.81	-38.77	-37.85	-37.19	-37.91	-40.95	-36.70			
12:20:45	259	-39.81	-38.83	-37.82	-37.38	-37.86	-40.87	-37.19			
12:21:15	260	-39.79	-38.88	-37.87	-37.42	-37.92	-40.80	-37.25			
12:21:45	261	-39.77	-38.92	-37.89	-37.34	-37.93	-40.81	-37.26			
12:22:15	262	-39.77	-38.95	-37.89	-37.47	-38.03	-40.82	-37.33			
12:22:45	263	-39.78	-38.94	-37.89	-37.45	-37.98	-40.71	-37.34			
12:23:15	264	-39.72	-38.94	-37.85	-37.52	-38.04	-40.73	-36.29			
12:23:45	265	-39.67	-39.01	-37.86	-37.66	-38.07	-40.70	-36.22			
12:24:15	266	-39.67	-39.03	-37.85	-37.64	-38.01	-40.64	-37.08			
12:24:45	267	-39.66	-38.98	-37.87	-37.51	-38.05	-40.62	-36.62			
12:25:15	268	-39.65	-39.02	-37.92	-37.58	-38.09	-40.56	-37.29			
12:25:45	269	-39.52	-38.93	-37.83	-37.37	-38.13	-40.44	-37.15			
12:26:15	270	-39.56	-38.96	-37.85	-37.53	-38.17	-40.46	-37.16			

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Tel. (442) 1 96 49 38, oscar@mess.com.mx marypaz.cruz@mess.com.mx calidad@mess.com.mx

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Numeric Report

TREND REPORT

MESS-CC-TEP-0390/2025

Customer: HITACHI ASTEMO SILAO, S.A. DE C.V.
Equipment: Horno
Technician: Héctor U. Ortiz Santiago.

Run Start: 10:25:00
Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
12:26:45	271	-39.55	-38.94	-37.78	-37.51	-38.10	-40.42	-35.26			
12:27:15	272	-39.53	-38.92	-37.78	-37.56	-38.13	-40.33	-37.24			
12:27:45	273	-39.50	-38.99	-37.81	-37.66	-38.19	-40.41	-37.24			
12:28:15	274	-39.47	-38.97	-37.84	-37.74	-38.22	-40.32	-37.23			
12:28:45	275	-39.45	-38.94	-37.90	-37.64	-38.27	-40.35	-34.81			
12:29:15	276	-39.45	-38.93	-37.87	-37.62	-38.27	-40.24	-36.76			
12:29:45	277	-39.49	-38.95	-37.91	-37.69	-38.29	-40.29	-36.25			
12:30:15	278	-39.47	-38.98	-37.87	-37.66	-38.24	-40.28	-36.82			
12:30:45	279	-39.47	-38.99	-37.89	-37.72	-38.24	-40.22	-37.33			
12:31:15	280	-39.50	-39.02	-37.96	-37.66	-38.31	-40.34	-37.37			
12:31:45	281	-39.45	-38.99	-37.92	-37.69	-38.33	-40.19	-37.26			
12:32:15	282	-39.47	-39.04	-37.93	-37.72	-38.32	-40.27	-37.34			
12:32:45	283	-39.44	-39.01	-37.92	-37.80	-38.32	-40.17	-37.30			
12:33:15	284	-39.39	-38.98	-37.91	-37.68	-38.34	-40.07	-37.27			
12:33:45	285	-39.40	-38.97	-37.85	-37.74	-38.32	-40.06	-37.22			
12:34:15	286	-39.43	-38.97	-37.86	-37.68	-38.30	-40.05	-37.30			
12:34:45	287	-39.40	-38.91	-37.83	-37.70	-38.28	-40.02	-36.87			
12:35:15	288	-39.43	-38.98	-37.85	-37.75	-38.26	-39.97	-36.76			
12:35:45	289	-39.44	-39.05	-37.87	-37.65	-38.28	-40.01	-36.99			
12:36:15	290	-39.40	-38.98	-37.82	-37.67	-38.25	-39.96	-37.24			
12:36:45	291	-39.40	-38.99	-37.83	-37.62	-38.24	-39.95	-37.04			
12:37:15	292	-39.38	-39.00	-37.83	-37.61	-38.28	-39.97	-37.22			
12:37:45	293	-39.44	-39.03	-37.87	-37.76	-38.33	-40.01	-37.37			
12:38:15	294	-39.41	-39.04	-37.89	-37.77	-38.28	-39.97	-37.34			
12:38:45	295	-39.44	-39.05	-37.94	-37.78	-38.32	-40.07	-37.14			
12:39:15	296	-39.45	-39.09	-37.96	-37.71	-38.37	-40.03	-37.15			
12:39:45	297	-39.43	-39.08	-37.92	-37.79	-38.37	-40.02	-37.79			
12:40:15	298	-39.43	-39.09	-37.97	-37.86	-38.45	-40.02	-37.39			
12:40:45	299	-39.48	-39.12	-37.99	-37.89	-38.48	-40.13	-37.90			
12:41:15	300	-39.48	-39.10	-38.01	-37.89	-38.42	-40.06	-37.34			
12:41:45	301	-39.45	-39.10	-38.03	-37.91	-38.48	-39.99	-37.30			
12:42:15	302	-39.46	-39.10	-38.02	-37.90	-38.48	-40.03	-37.32			
12:42:45	303	-39.41	-39.08	-38.03	-37.90	-38.44	-39.98	-37.19			
12:43:15	304	-39.49	-39.14	-38.09	-37.93	-38.46	-40.13	-36.40			
12:43:45	305	-39.45	-39.08	-38.02	-37.98	-38.49	-40.03	-37.20			
12:44:15	306	-39.44	-39.11	-38.04	-37.90	-38.53	-40.01	-37.04			
12:44:45	307	-39.44	-39.11	-38.02	-37.87	-38.46	-40.01	-37.01			
12:45:15	308	-39.48	-39.14	-38.04	-37.92	-38.46	-40.06	-37.19			
12:45:45	309	-39.49	-39.12	-38.06	-37.91	-38.49	-40.03	-37.32			
12:46:15	310	-39.49	-39.13	-38.10	-37.88	-38.43	-40.04	-37.04			
12:46:45	311	-39.50	-39.10	-38.10	-37.89	-38.50	-40.05	-37.56			
12:47:15	312	-39.45	-39.08	-38.06	-37.90	-38.45	-40.00	-37.58			
12:47:45	313	-39.47	-39.12	-38.07	-37.90	-38.47	-39.97	-37.49			
12:48:15	314	-39.39	-39.04	-38.05	-37.89	-38.45	-39.84	-37.13			
12:48:45	315	-39.38	-39.04	-38.02	-37.89	-38.46	-39.89	-37.84			
12:49:15	316	-39.44	-39.09	-38.08	-37.89	-38.45	-39.96	-36.90			
12:49:45	317	-39.43	-39.07	-38.08	-37.91	-38.48	-39.86	-37.04			
12:50:15	318	-39.46	-39.14	-38.10	-38.01	-38.56	-39.96	-37.06			
12:50:45	319	-39.45	-39.12	-38.09	-38.08	-38.53	-39.97	-36.91			
12:51:15	320	-39.43	-39.12	-38.10	-38.08	-38.52	-39.89	-37.00			
12:51:45	321	-39.45	-39.16	-38.15	-38.00	-38.55	-39.97	-36.64			
12:52:15	322	-39.44	-39.13	-38.11	-38.07	-38.53	-39.91	-37.23			
12:52:45	323	-39.42	-39.12	-38.12	-38.03	-38.61	-39.95	-37.26			
12:53:15	324	-39.45	-39.12	-38.16	-37.94	-38.61	-39.86	-37.07			
12:53:45	325	-39.43	-39.13	-38.15	-37.99	-38.57	-39.90	-36.29			
12:54:15	326	-39.40	-39.13	-38.10	-38.07	-38.55	-39.82	-37.01			
12:54:45	327	-39.39	-39.06	-38.06	-38.06	-38.53	-39.77	-36.99			
12:55:15	328	-39.40	-39.08	-38.08	-38.00	-38.49	-39.79	-37.00			
12:55:45	329	-39.39	-39.08	-38.06	-38.04	-38.53	-39.77	-36.72			

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Tel. (442) 1 96 49 38, oscar@mess.com.mx marypaz.cruz@mess.com.mx calidad@mess.com.mx

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Numeric Report

TREND REPORT

MESS-CC-TEP-0390/2025

Customer: HITACHI ASTEMO SILAO, S.A. DE C.V.
Equipment: Horno
Technician: Héctor U. Ortiz Santiago.

Run Start: 10:25:00
Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
12:56:15	330	-39.39	-39.09	-38.04	-38.03	-38.53	-39.73	-36.68			
12:56:45	331	-39.40	-39.07	-38.07	-38.03	-38.53	-39.77	-36.42			
12:57:15	332	-39.39	-39.05	-38.05	-37.94	-38.48	-39.70	-36.91			
12:57:45	333	-39.42	-39.12	-38.03	-37.99	-38.51	-39.80	-37.04			
12:58:15	334	-39.38	-39.08	-37.99	-38.00	-38.52	-39.76	-37.05			
12:58:45	335	-39.41	-39.11	-38.06	-37.97	-38.52	-39.79	-37.11			
12:59:15	336	-39.41	-39.12	-38.09	-38.04	-38.56	-39.81	-37.21			
12:59:45	337	-39.43	-39.14	-38.11	-38.06	-38.59	-39.88	-37.33			
13:00:15	338	-39.44	-39.13	-38.14	-38.02	-38.56	-39.85	-37.16			
13:00:45	339	-39.43	-39.15	-38.11	-38.10	-38.58	-39.89	-37.22			
13:01:15	340	-39.48	-39.17	-38.21	-38.09	-38.61	-39.93	-36.80			
13:01:45	341	-39.50	-39.20	-38.17	-38.11	-38.58	-39.95	-36.30			
13:02:15	342	-39.47	-39.16	-38.19	-38.04	-38.58	-39.87	-37.19			
13:02:45	343	-39.49	-39.18	-38.24	-38.11	-38.67	-39.91	-37.14			
13:03:15	344	-39.44	-39.12	-38.22	-38.12	-38.63	-39.80	-37.08			
13:03:45	345	-39.42	-39.12	-38.22	-38.12	-38.58	-39.82	-37.10			
13:04:15	346	-39.47	-39.15	-38.22	-38.15	-38.61	-39.86	-37.20			
13:04:45	347	-39.39	-39.13	-38.15	-38.11	-38.60	-39.80	-37.19			
13:05:15	348	-39.47	-39.17	-38.22	-38.16	-38.65	-39.87	-37.12			
13:05:45	349	-39.45	-39.16	-38.19	-38.09	-38.63	-39.84	-37.33			
13:06:15	350	-39.43	-39.14	-38.18	-38.09	-38.61	-39.82	-37.31			
13:06:45	351	-39.38	-39.09	-38.13	-38.06	-38.56	-39.79	-37.25			
13:07:15	352	-39.38	-39.12	-38.21	-38.07	-38.60	-39.82	-37.26			
13:07:45	353	-39.43	-39.14	-38.18	-38.05	-38.61	-39.83	-37.30			
13:08:15	354	-39.41	-39.12	-38.18	-38.09	-38.65	-39.82	-37.27			
13:08:45	355	-39.43	-39.14	-38.14	-38.10	-38.61	-39.80	-37.18			
13:09:15	356	-39.39	-39.13	-38.11	-38.09	-38.59	-39.79	-37.19			
13:09:45	357	-39.41	-39.13	-38.18	-38.10	-38.58	-39.81	-37.20			
13:10:15	358	-39.42	-39.14	-38.17	-38.10	-38.58	-39.79	-37.21			
13:10:45	359	-39.42	-39.13	-38.19	-38.11	-38.60	-39.78	-37.16			
13:11:15	360	-39.40	-39.13	-38.14	-38.11	-38.56	-39.80	-37.08			
13:11:45	361	-39.38	-39.14	-38.15	-38.15	-38.59	-39.74	-37.16			
13:12:15	362	-39.38	-39.14	-38.19	-38.19	-38.59	-39.72	-37.13			
13:12:45	363	-39.39	-39.13	-38.16	-38.16	-38.60	-39.69	-37.13			
13:13:15	364	-39.34	-39.10	-38.11	-38.14	-38.55	-39.61	-37.10			
13:13:45	365	-39.34	-39.09	-38.12	-38.09	-38.54	-39.68	-36.34			
13:14:15	366	-39.39	-39.12	-38.17	-38.10	-38.57	-39.67	-37.14			
13:14:45	367	-39.37	-39.11	-38.16	-38.09	-38.59	-39.66	-37.15			
13:15:15	368	-39.36	-39.10	-38.12	-38.08	-38.58	-39.62	-37.07			
13:15:45	369	-39.35	-39.08	-38.10	-38.12	-38.57	-39.66	-36.82			
13:16:15	370	-39.35	-39.07	-38.11	-38.10	-38.59	-39.62	-36.72			
13:16:45	371	-39.38	-39.08	-38.16	-38.15	-38.63	-39.63	-36.62			
13:17:15	372	-39.38	-39.11	-38.13	-38.15	-38.64	-39.58	-36.06			
13:17:45	373	-39.38	-39.08	-38.09	-38.14	-38.57	-39.56	-37.01			
13:18:15	374	-39.34	-39.08	-38.16	-38.13	-38.54	-39.57	-37.06			
13:18:45	375	-39.36	-39.12	-38.11	-38.17	-38.54	-39.55	-37.01			
13:19:15	376	-39.38	-39.12	-38.09	-38.13	-38.54	-39.62	-37.03			
13:19:45	377	-39.43	-39.15	-38.17	-38.14	-38.60	-39.72	-37.11			
13:20:15	378	-39.44	-39.19	-38.16	-38.22	-38.61	-39.68	-37.16			
13:20:45	379	-39.42	-39.19	-38.17	-38.20	-38.65	-39.75	-37.17			
13:21:15	380	-39.38	-39.15	-38.17	-38.25	-38.61	-39.68	-37.11			
13:21:45	381	-39.43	-39.19	-38.19	-38.28	-38.66	-39.74	-37.16			
13:22:15	382	-39.42	-39.16	-38.25	-38.25	-38.66	-39.79	-36.96			
13:22:45	383	-39.43	-39.14	-38.24	-38.24	-38.65	-39.65	-35.97			

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Numeric Report

TREND REPORT

MESS-CC-TEP-0390/2025

Customer: HITACHI ASTEMO SILAO, S.A. DE C.V.
Equipment: Horno
Technician: Héctor U. Ortiz Santiago.

Run Start: 10:25:00
Run End: 13:34:45

Time	Record #	Ch 201 (C)	Ch 202 (C)	Ch 203 (C)	Ch 204 (C)	Ch 205 (C)	Ch 206 (C)	Ch 207 (C)			
13:23:15	384	-39.36	-39.12	-38.24	-38.19	-38.65	-39.65	-36.63			
13:23:45	385	-39.39	-39.14	-38.25	-38.22	-38.66	-39.65	-37.01			
13:24:15	386	-39.4	-39.14	-38.2	-38.21	-38.69	-39.57	-36.93			
13:24:45	387	-39.31	-39.07	-38.16	-38.16	-38.62	-39.48	-36.92			
13:25:15	388	-39.32	-39.07	-38.13	-38.1	-38.66	-39.47	-36.53			
13:25:45	389	-39.33	-39.07	-38.14	-38.17	-38.64	-39.52	-36.51			
13:26:15	390	-39.31	-39.08	-38.17	-38.17	-38.62	-39.49	-36.70			
13:26:45	391	-39.36	-39.11	-38.18	-38.21	-38.65	-39.61	-36.80			
13:27:15	392	-39.35	-39.11	-38.18	-38.19	-38.67	-39.58	-34.56			
13:27:45	393	-39.39	-39.13	-38.22	-38.18	-38.69	-39.62	-34.00			
13:28:15	394	-39.37	-39.11	-38.22	-38.15	-38.68	-39.59	-37.02			
13:28:45	395	-39.37	-39.12	-38.15	-38.22	-38.66	-39.57	-29.21			
13:29:15	396	-39.39	-39.12	-38.15	-38.2	-38.65	-39.54	-29.31			
13:29:45	397	-39.35	-39.08	-38.15	-38.18	-38.63	-39.51	-23.98			
13:30:15	398	-39.38	-39.15	-38.19	-38.3	-38.7	-39.55	-21.69			
13:30:45	399	-39.41	-39.15	-38.2	-38.26	-38.73	-39.55	-27.35			
13:31:15	400	-39.42	-39.2	-38.28	-38.3	-38.75	-39.63	-22.59			
13:31:45	401	-39.36	-39.13	-38.2	-38.23	-38.71	-39.57	-23.27			
13:32:15	402	-39.48	-39.24	-38.27	-38.38	-38.76	-39.71	-25.20			
13:32:45	403	-39.48	-39.25	-38.33	-38.32	-38.78	-39.74	-24.40			
13:33:15	404	-39.45	-39.24	-38.34	-38.31	-38.78	-39.71	-24.59			
13:33:45	405	-39.44	-39.21	-38.32	-38.34	-38.74	-39.7	-24.36			
13:34:15	406	-39.47	-39.25	-38.36	-38.38	-38.81	-39.76	-24.64			
13:34:45	407	-39.46	-39.24	-38.32	-38.3	-38.75	-39.71	-24.16			

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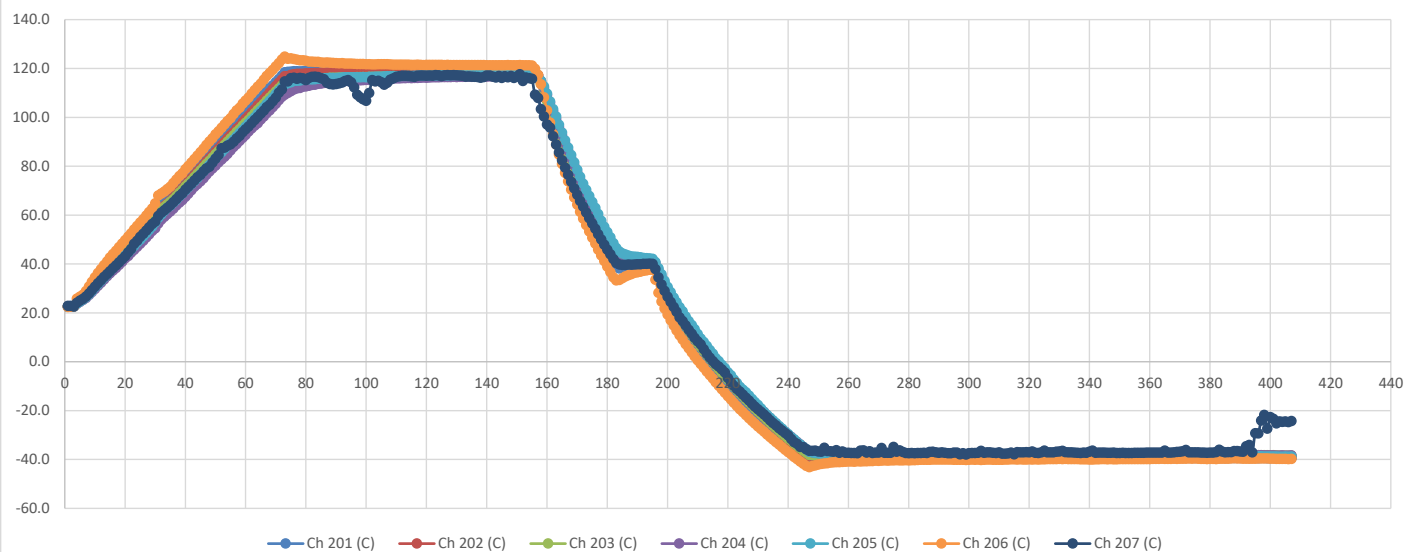
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Valor nominal (Nominal value)	Valor máximo registrado sin corrección (Maximum value recorded without correction)	Valor mínimo registrado sin corrección (Minimum value recorded without correction)	Corrección del valor por termopar utilizado (Value correction by thermocouple used)	Valor máximo registrado con corrección por termopar (Maximum value recorded with thermocouple correction)	Valor mínimo registrado con corrección por termopar (Minimum value recorded with thermocouple correction)	Incertidumbre de medida (Measurement uncertainty)
°C	°C	°C	°C	°C	°C	°C
120	121.64	115.98	0.46	122.10	115.52	2.74
-40	-36.29	-40.34	0.0022	-36.29	-40.34	0.91

Perfil Térmico



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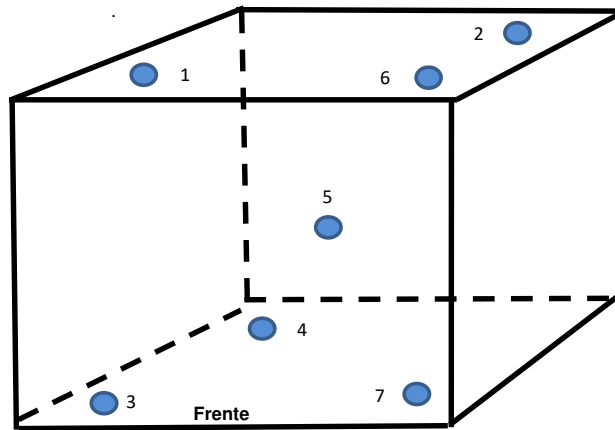
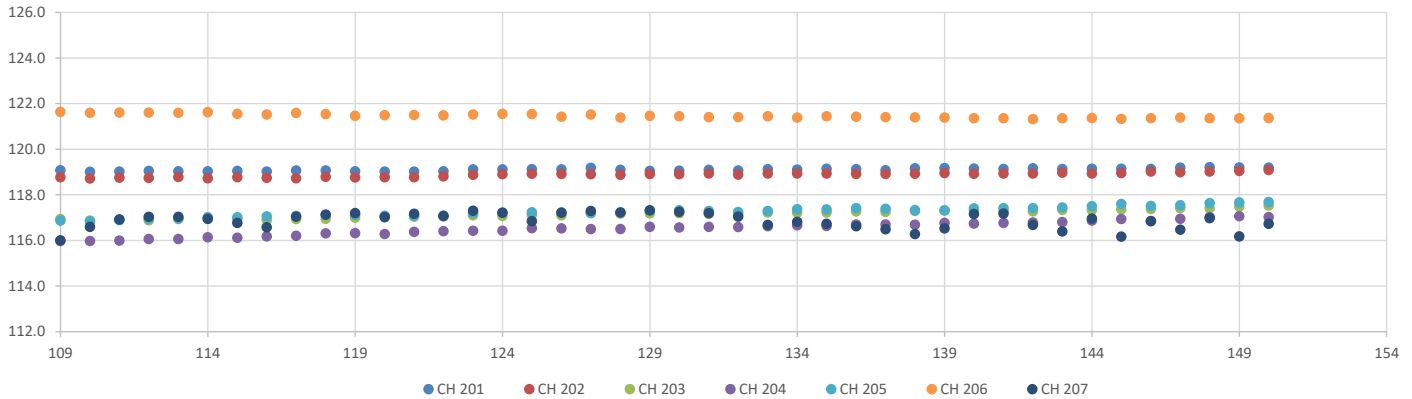


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Estabilidad termica 120°C



Condiciones del instrumento:
(Instrument conditions)

Sin comentarios.

Requerimientos del cliente:
(Customer requirements)

Instrumento evaluado en base a las especificaciones dadas por AMS 2750G pyrometric requirements for equipment used for the thermal processing. A prescripción del cliente, se documenta y aplica la siguiente declaración de conformidad.
La tolerancia que la norma define para este instrumento es (± 8 °C) considerando un horno de clase 3 con un volumen interno de 1 m³
La declaración de conformidad se aplica únicamente a los datos indicados en la(s) hoja(s) de resultados del presente certificado.
En esta declaración de conformidad; el laboratorio no considera adicionalmente el nivel de riesgo, debido a que la regla es prescrita por el cliente.
Estatus de calibración encontrado: Dentro de tolerancia.

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Observaciones generales (General observations)

- Es responsabilidad del usuario establecer la fecha de recalibración 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 recalibration 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 al menos 95 % aproximadamente.
(The expanded uncertainty is expressed by a coverage factor of $k=2$, which assures the confidence level of less than about 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)

- Tanto el valor máximo registrado como el valor mínimo registrado se obtienen del conjunto de datos colectados en el proceso de caracterización mientras el punto configurado en el medio se mantiene estable.
(Both the maximum recorded value and the minimum recorded value are obtained from the set of data collected in the characterization process while the point established in the middle remains stable.)
- La corrección por termopar utilizado es el valor numérico ponderado correspondiente al proceso de calibración de la tarjeta de adquisición de datos para cada canal en específico, se compensa como la diferencia de los valores obtenidos y el valor de corrección..
(The correction by thermocouple used is the weighted numerical value corresponding to the calibration process of the data acquisition card for each specific channel, it is compensated as the difference between the values obtained and the correction value.)
- El termopar identificado con el número 10 es colocado en la misma posición que el sensor interno de la cámara o medio a caracterizar..
(The thermocouple identified with the number 10 is placed in the same position as the internal sensor of the chamber or medium to be characterized.)

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