



Fecha de Calibración: 29/8/2022

Fecha de Emisión: 29/8/2022

Comercial Argentina S.R.L.
Teodoro L. Planas 855

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CERTIFICADO DE CALIBRACION N°: 188683

Cliente:	QUINPE S.R.L.	Equipo en uso:	REPARADO Y CALIBRADO
Instrumento:	DETECTOR ALTAIR 4XR (LEL, O2, CO, H2S) Grupo: 8 - (Portable Instrument)	Equipo nuevo:	NO
S/N:	E0-00233822-J21	Fabricante:	Mine Safety Appliances Company

Gas Patrón	Objetivo a Verificar	Incert. del Gas	Número de Lote	Mediciones			Incert. de la Medición	Rango	SN sensor
				1	2	3			
Acido Sulfhídrico (H2S) 20 ppm	20 ppm	10	BC415679	20	20	20	2,0817 ppm	0 - 200 ppm	
Metano (CH4) 1,45 %	58 % LEL	5	BC415679	58	58	58	2,9569 % LEL	0 - 100 %	
Monóxido de Carbono (CO) 60 ppm	60 ppm	5	BC415679	60	60	60	3,0551 ppm	0 - 2000 ppm	
Oxígeno (O2) 15 %	15 %	5	BC415679	15	15	15	0.9465 %	0 - 30 %	

ALARMAS

	Deficiency Alarm	Exposure Alarm	STEL Alar	TWA Alarm
Acido Sulfhídrico (H2S)	10 ppm	15 ppm	15 ppm	10 ppm
Metano (CH4)	10 %	20 %	-	-
Monóxido de Carbono (CO)	25 ppm	100 ppm	100 ppm	25 ppm
Oxígeno (O2)	19.5 %	23.0 %	-	-

Calibración: Contraste con gas patrón trazable a patrones de peso NIST

Condiciones ambientales de Calibración: Neuquen

Temperatura (°C) 19°C
Presión atmosférica (hPa): 1021 hPa
Humedad (%): 22 %

Procedimientos de Calibración: De acuerdo al manual de cada equipo

(*) Las especificaciones de tolerancia de medición se encuentran informadas en el manual del equipo.

"La calibración de los equipos, instrumentos y dispositivos utilizados, los métodos de análisis aplicados, y las acciones u omisiones son realizadas en forma exclusiva por personal de Comercial Argentina S.R.L. sin intervención de COMPAÑÍA MSA DE ARGENTINA S.A. quien no responderá por los mismos."

Límites en el uso: Indicados en el manual del equipo

Los resultados son válidos solamente para el equipo ensayado no siendo extensivos a cualquier otro.

La trazabilidad de los detectores MSA se realiza a través del número de serie

La reproducción de este documento sólo podrá hacerse íntegramente sin ninguna alteración.

Federico Carnevale
SERVICIO TÉCNICO
Comercial Argentina S.R.L.

Cantidad de hojas: 1

CERTIFICATE OF ANALYSIS

ISO 9001:2015 CERTIFIED
ISO 17034:2016 ACCREDITED
ISO/IEC 17025:2017 ACCREDITED

1202 E Sam Houston Parkway S.
Pasadena, TX 77503
Phone: (800) 548 2268 Fax: (713) 928 9961

PO Number: 4503044165

Manufactured For:

MSA Safety Sales, LLC

1000 Cranberry Woods Drive

Cranberry Township PA 16066

United States Of America

Work Order No: 36604400

Certification Date: 03-Feb-2022

Customer Part No: 10045035

Cylinder Size: 58DALS

Cylinder Content: 58 L (2 CU.FT.) @ 70 F (21 C) & 500 PSIG (3445Kpag)

Cylinder Lot No: 262062; 288 of 476 cylinders

Cylinder Serial Nos:

BC413407, BC414828, BC414900, BC415365, BC415371, BC415376, BC415377, BC415378, BC415379, BC415380, BC415382, BC415383, BC415386, BC415393, BC415395, BC415399, BC415401, BC415403, BC415404, BC415406, BC415407, BC415408, BC415412, BC415416, BC415421, BC415429, BC415430, BC415431, BC415433, BC415453, BC415458, BC415465, BC415467, BC415468, BC415473, BC415477, BC415479, BC415481, BC415488, BC415489, BC415491, BC415492, BC415494, BC415497, BC415498, BC415501, BC415504, BC415506, BC415507, BC415508, BC415515, BC415583, BC415585, BC415587, BC415590, BC415591, BC415592, BC415593, BC415594, BC415599, BC415601, BC415603, BC415605, BC415606, BC415607, BC415608, BC415614, BC415615, BC415616, BC415617, BC415619, BC415623, BC415627, BC415629, BC415633, BC415635, BC415636, BC415637, BC415638, BC415646, BC415647, BC415648, BC415650, BC415652, BC415655, BC415658, BC415660, BC415663, BC415672, BC415673, BC415676, BC415678, BC415679, BC415683, BC415688, BC415710, BC415712, BC415715, BC415717, BC415721, BC415723, BC415724, BC415726, BC415727, BC415759, BC415763, BC415771, BC415774, BC415778, BC415782, BC415784, BC415794, BC415801, BC415804, BC415807, BC415809, BC415810, BC415814, BC415815, BC415816, BC415818, BC415820, BC415821, BC415822, BC415823, BC415824, BC415826, BC415827, BC415828, BC415829, BC415831, BC415832, BC415834, BC415835, BC415836, BC415838, BC415844, BC415846, BC415847, BC415849, BC415855, BC415858, BC415861, BC415862, BC415870, BC415872, BC415873, BC415875, BC415878, BC415880, BC415881, BC415886, BC415888, BC415896, BC415897, BC415900, BC415908, BC415912, BC415913, BC415919, BC415920, BC415922, BC415927, BC415929, BC415930, BC415935, BC415938, BC415941, BC415949, BC415955, BC415956, BC415958, BC415963, BC415964, BC415965, BC415966, BC415968, BC415969, BC415970, BC415971, BC415975, BC415976, BC415980, BC415981, BC416002, BC416005, BC416010, BC416013, BC416014, BC416018, BC416040, BC416050, BC416127, BC416130, BC416133, BC416134, BC416137, BC416138, BC416163, BC416166, BC416170, BC416193, BC416240, BC416283, BC416507, BC416512, BC416513, BC416520, BC416534, BC416536, BC416540, BC416542, BC416543, BC416566, BC416568, BC416573, BC416574, BC416577, BC416588, BC416599, BC416606, BC416612, BC416613, BC416633, BC416634, BC416647, BC416661, BC416663, BC416664, BC416668, BC416671, BC416683, BC416688, BC416702, BC416703, BC416704, BC416706, BC416712, BC416717, BC416736, BC416750, BC416752, BC416790, BC416890, BC416911, BC416919, BC416921, BC416922, BC416926, BC416929, BC416936, BC416950, BC418495, BC418540, BC418541, BC418546, BC418553, BC418562, BC418564, BC418565, BC418570, BC418572, BC418578, BC418580, BC418590, BC418593, BC418594, BC418598, BC418602, BC418625, BC418628, BC418635, BC418639, BC418641, BC418643, BC418661, BC418669, BC418680, BC418685, BC418686, BC418721, BC418816, BC418825, BC418853, BC418858, BC418868, BC418877, BC418883

Cylinder Type: ISO 7866

Expiration Date: Jan 2024

Component	Nominal	Accuracy	Analytical Method
HYDROGEN SULFIDE	20 PPM (vol)	+/- 10%	Automated Electrochemical Sensor
CARBON MONOXIDE	60 PPM (vol)	+/- 5%	Horiba CO Analyzer VIA-510_97KP6EHE
PENTANE EQUIVALENT 58% LEL	(METHANE 1.45% vol)	+/- 5%	Mocon 9000 THC_0317DN0931