

International Accreditation Service
CERTIFICATE OF ACCREDITATION

This is to signify that

DICK MUNNS COMPANY

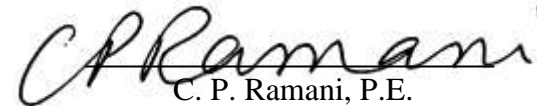
10572 CALLE LEE, UNIT 138
LOS ALAMITOS, CALIFORNIA 90720

Calibration Laboratory CL-122

has met the requirements of the IAS Accreditation Criteria for Calibration Laboratories (AC204), has demonstrated compliance with the ISO/IEC Standard 17025:2005, General requirements for the competence of testing and calibration laboratories, and has been accredited commencing June 19, 2013, for the calibration discipline(s) listed in the approved scope of accreditation. The laboratory meets IAS program requirements in the field of calibration.



Patrick V. McCullen
Vice President



C. P. Ramani, P.E.
President



Print Date: 08/23/2013

(see attached scope of accreditation for fields of calibration and accredited calibration methods)

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation.
See the IAS Accreditation Listings on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 364-8201.

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International Accreditation Service
SCOPE OF ACCREDITATION

Dick Munns Company CL-122

Dick Munns Company
 10572 Calle Lee, Unit 138
 Los Alamitos, CA 90720

Richard L. Munns
 Owner
 714-827-1215

MEASUREMENT AREA	RANGE & RESOLUTION	CALIBRATION & MEASUREMENT CAPABILITY ¹ (CMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
<i>Mechanical</i> Flow Rate by Volume (H₂O or Hydrocarbon)	0.002 to 1.0 gpm	0.168 % Reading	DMC Standard A-6
Turbine Meters	0.002 to 0.5 gpm	0.168 % Reading	DMC Standard A-7
PD Meters	0.2 to 1.0 gpm	0.158 % Reading	DMC Standard A-10
Mag Meters	0.3 to 5.0 gpm	0.158 % Reading	DMC Standard A-28
Rotometers	0.5 to 15 gpm	0.152 % Reading	DMC Standard A-33
Vortex Meters	5.0 to 25 gpm	0.158 % Reading	DMC Standard A-33
	5.0 to 50 gpm	0.151 % Reading	DMC Standard A-14
	10 to 100 gpm	0.150 % Reading	DMC Standard A-710
	>100 to 600 gpm	0.200 % Reading	DMC Standard A-710
Flow Rate by Mass Per Min	0 – 4000 grams(0 – 4kg)	0.1% Full Scale	DMC Standard A-322
	0 – 12000 grams(0 – 12kg)	0.23% Reading	DMC Standard A-70
	10 – 250 lbs	0.07% Reading	DMC Standard A-50
	100 – 1000 lbs	0.08% Full Scale	DMC Standard A-264

June 19, 2013
 Commencement Date



C. P. Ramani
 C. P. Ramani, P.E.
 President

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Flow Rate by Volume for Compressible Gas	0.005 – 0.090 A Lit per min	0.194% Reading	DMC Standard A-100
	0.060 – 1.2 A Lit per min	0.192% Reading	DMC Standard A-1
	0.200 – 12.0 A Lit per min	0.172% Reading	DMC Standard A-2
	12.1 – 25.0 A Lit per min	0.185% Reading	DMC Standard A-3
	0.200 – 10.0 A Cft per min	0.190% Reading	DMC Standard A-4
	10.0 – 25 .0 A Cft per min	0.199% Reading	DMC Standard A-4
	25.0 – 50.0 A Cft per min	0.225% Reading	DMC Standard A-4
	2.0 – 150.0 A Cft per min	0.186% Reading	DMC Standard A-5
	160 – 250.0 A Cft per min	0.192% Reading	DMC Standard A-5
250 – 1200 A Cft per min	0.212% Reading	DMC Standard A-5	
Flow Rate by Volume (Transfer Standard)	1 - 1800 cc per minute	0.8 % Reading	DMC Standard A-8 Max Machine
	0.003 - 2.64 gpm	0.8 % Reading	DMC Standard A-78
	0.020 - 9.25 gpm	0.8 % Reading	DMC Standard A-61
	0.150 - 26.4 gpm	0.8 % Reading	DMC Standard A-58
	0.500 - 50.0 gpm	0.8 % Reading	DMC Standard A-99
	0.500 - 100.0 gpm	0.8 % Reading	DMC Standard A-69
	10 - 600.0 gpm	0.8 % Reading	DMC Standard A-300 Turbine

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Flow Rate by Volume (Transfer Standard)	Secondary Air Flow		
	10-120 ACFM	0.38% Reading	DMC Standard A-297
	20-14000 FPM	0.50% Reading	DMC Standard A-197
Mass Velometer	50-8000 ACFM	0.20% Reading	DMC Standard A-220 (12"wind tunnel)
Vane Anemometer	50-8000 FPM	0.69% Reading	DMC Standard A-69 (12"wind tunnel)
Flow Rate by Mass Per Min	10 – 250 lbs	0.1 % Reading	DMC Standard A-50

¹ "Calibration and Measurement Capability" is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or of nearly ideal measuring instruments. Calibration and Measurement Capabilities are expressed as uncertainties at approximately the 95% level of confidence, usually using a coverage factor of $k=2$. The measurement uncertainty of a specific calibration performed by the laboratory may be greater than the least uncertainty due to the behavior of the customer's device, to the environment (if the calibration is performed in the field), and to influences from the circumstances of the specific calibration.

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