

## NEWSLETTER

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## Presidents Message

**Think Globally, Act Locally!**  
**If you want to go Fast, go alone, if you want to go Far, go Together!**

**A second very Important Partnership for our industry : EASA and Repamotor will work together to offer the best to our members**



**Dear EASA Members, Affiliates and Friends,**

After a first and very promising partnership with ELR in Sweden, We are very happy to announce a second important partnership for our industry in Europe with REPAMOTOR, the Danish Association for Motor Repair companies.

EASA and Repamotor have decided to join their forces, to work together, to offer to Danish companies involved in the Repair and Maintenance of Electric Motor systems and rotating machines the best of both

associations: Local NetworkResources and International Technical Support and References

- REPAMOTOR has 40 Members:
- Working with various Danish institutions and companies on important education and training program for our industry
- Permanent staff to organize local meetings and events

Like ELR, REPAMOTOR is going to represent EASA in Denmark and to sell EASA Membership and benefits in Denmark. EASA will also recommend to its Danish Members to also be REPAMOTOR Members.

I want to congratulate the President of Repamotor, Henrik Damgaard Hansen, Frank Johansen who was fully dedicated to that project by Repamotor, all Repamotor Board Members, our EASA Region 9 General Manager, Frederic Beghain and our Regional Director, Johan De Coster.

I am looking forward to meeting with our Danish Members along with all of our Members at the next conventions (EASA International : Toronto – 11 to 14th of June, 2016 and EASA Region 9 : Marseille – September 29th to October 1st of 2016).

Please do not forget to register for the next convention in Toronto and do not forget to identify your candidate for the very important EASA Region 9 Karsten Moholt Exceptional Achievement Award awarding young people, under the age of 30 within our industry who have demonstrated improvements within their company up and above expectations.

**All the Best, Mathis Menzel, President, EASA Europe and World Chapter**

## Contentious Corner

**Energy Efficiency and Reliability** are top priorities for all businesses. EASA Root Cause Failure Analysis Training is still one of the most attended course also by our industry customers.

Why does it take such a long time for some workshops to be EASA Accredited on Energy Efficiency and Reliability? What limits them to use that powerfull accreditation to differentiate them to their competitors?

Please let us know your thoughts and suggestions at [secretary@easa9.org](mailto:secretary@easa9.org)



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# Insulation Material Properties and Testing: How the Insulation System Works



EASA Webinar - Wednesday, April 27, 2016 - UK (6pm to 7pm) Europe (7pm to 8pm).

Instructor: Mike Howell, EASA Technical Support Specialist

Mike Howell joined the EASA staff in 2012 after working with rotating electrical machines for more than fifteen years. His experience includes redesigns, insulation system development, accelerated life testing, failure analysis and diagnostic testing. Howell has presented seminars and short courses on stator winding design for EPRI and others.

This webinar will cover:

- Insulation system versus insulation materials
- Stresses imposed on insulation systems
- Insulation system components / functions
- Typical testing of system components / functions

Registration & all details available on: <http://www.easa.com/education/events/webinar/wed-2016-04-27-1200/insulation-material-properties-and-testing-how>

Unable to attend on the day of the webinar? You can still take advantage of this training! A recording of the webinar will be made available to all registered companies for 30 days from the date of the webinar. You and your employees can watch it as many times as you want during this 30-day period.

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## What's New From Our Members

### Menzel Elektromotoren GmbH - Press Release

Special adaptation on a gigantic scale: 22 ton motor travels to Malaysia piece-meal

To View full article please visit: <https://www.menzel-elektromotoren.com/en/news/>



### Parsons Peebles Group - Press Release

Parsons Peebles Group, a Clyde Blowers Capital company, is pleased to announce the acquisition of the Reading headquartered, Taylor & Goodman Ltd.

To View full article please visit: <http://www.parsons-peebls.com/>

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## Dates for your Diary

**EASA European & World Chapter Spring Council Meeting** - 22nd April 2016 - Copenhagen

**One day Awareness of Repair and Overhaul Ex. Atmosphere Equip** - 9th of May 2016, Birmingham, England

**Explosive Atmosphere Equipment Training 3 days EX Equipment Users and Commercial & Sales Management** -

9th - 11th of May 2016 - Birmingham, England

**Full Course Operatives & RPs Repair and Overhaul Ex. Atmosphere Equip** - 9th - 13th of May 2016, Birmingham, England

**EASA International Convention** - 12th - 14th June 2016 - Toronto, Canada

**EASA European & World Chapter AGM & Convention** - 29th of September - 1st October 2016, Marseille

**3 Year Refresher Ex. Atmosphere Equip** - 21st & 22nd October 2015, Birmingham, England

Please contact EASA at [secretary@easa9.org](mailto:secretary@easa9.org) for any further information.

## What's New



### Siemens to cut around 2,500 Drives and Process jobs

Siemens has announced plans to cut around 2,500 jobs from its Large Drives and Process Solutions businesses worldwide, in response to the downturn in the oil and gas, metals and mining sectors.

At the same time, the company is planning to take on at least 25,000 people per year, for several years, to boost its transformation into a digital industrial company.

Read more at: [http://www.drivesncontrols.com/news/fullstory.php/aid/5063/Siemens\\_to\\_cut\\_around\\_2,500\\_Drives\\_and\\_Process\\_jobs.html#sthash.tvTfHlUo.lpjoOGW4.dpuf](http://www.drivesncontrols.com/news/fullstory.php/aid/5063/Siemens_to_cut_around_2,500_Drives_and_Process_jobs.html#sthash.tvTfHlUo.lpjoOGW4.dpuf)

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### Industrial Gearbox Market 2016 to grow at a CAGR of 5.41% during the period to 2020

Gearbox is a mechanical method to transfer energy from one device to another. It is located at the junction of power shaft and motor, and is commonly used for creating right angle change in direction. It is classified into precision and standard. Gearboxes mainly differ based on the construction and arrangement of the gears. Operational characteristics of gearboxes significantly differ based on these configurations.

Read more at: <http://www.openpr.com/news/328575/Industrial-Gearbox-Market-2016-to-grow-at-a-CAGR-of-5-41-during-the-period-to-2020.html>

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### US government offers up to \$25m for r&d on electric motors

The US Department of Energy is offering up to \$25m in funding over the next five years to help develop advanced technologies for energy-efficient electric motors. The Advanced Manufacturing Office (AMO), in the DoE's Office of Energy Efficiency and Renewable Energy, has identified four key areas of technology that it believes could improve the efficiency of motors and reduce their weights, while addressing the limitations of traditionally conductive metals and electrical steels.

Read more at: [http://www.drivesncontrols.com/news/fullstory.php/aid/5068/US\\_government\\_offers\\_up\\_to\\_\\$25m\\_for\\_r\\_d\\_on\\_electric\\_motors.html#sthash.wYqDvOTB.AymSZPIC.dpuf](http://www.drivesncontrols.com/news/fullstory.php/aid/5068/US_government_offers_up_to_$25m_for_r_d_on_electric_motors.html#sthash.wYqDvOTB.AymSZPIC.dpuf)

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### Variable-speed drive sales 'will hit \$25bn by 2020'

The global market for variable-speed drives (VSDs) will expand at a CAGR of almost 8% in the period to 2020, by when it will be worth \$25.3bn, according to a new report from Technavio. The analyst attributes the growth to the need to optimise manufacturing processes and to cut operating costs by monitoring energy consumption.

Read more at: [http://www.drivesncontrols.com/news/fullstory.php/aid/5064/Variable-speed\\_drive\\_sales\\_91will\\_hit\\_\\$25bn\\_by\\_2020\\_92.html#sthash.6UxM6ksp.f4SDISPC.dpuf](http://www.drivesncontrols.com/news/fullstory.php/aid/5064/Variable-speed_drive_sales_91will_hit_$25bn_by_2020_92.html#sthash.6UxM6ksp.f4SDISPC.dpuf)

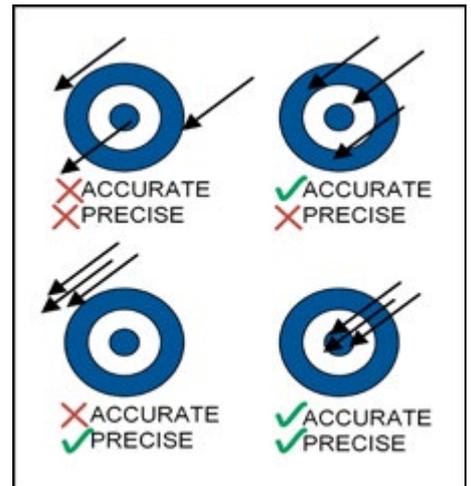
# A closer look at accuracy of measuring and test equipment

By Mike Howell EASA Technical Support Specialist

Inspection and testing are two of the most important activities performed by service centers. These activities involve the collection of two types of data: attribute data (go/no-go information) and variable data (measurement information). When collecting variable data or measurement information, service center technicians obtain data consisting of two components – the actual value of the measured dimension and the error associated with the measurement. The service center should be focused on minimizing measurement error such that the measurement values are as close to actual values as needed to properly evaluate the measured item.

## Accuracy and precision

Gauges or instruments used to perform measurements can be referred to as measuring & test equipment (M&TE). Measurement values determined by use of M&TE are a function of the true value as well as the M&TE accuracy and precision. The terms accuracy and precision are often demonstrated and differentiated graphically using an archery example as shown in Figure 1.



Precision refers to the degree of repeatability & reproducibility (R&R) in the measurement system. M&TE repeatability is the ability of a single technician to obtain the same measurement value multiple times using the same M&TE on the same measured item. M&TE reproducibility is the ability of multiple technicians to obtain the same measurement value using the same M&TE on the same measured item. The precision of M&TE is commonly assessed using R&R studies that will be the focus of the second part of this two-part series. Accuracy is the degree to which the measured value agrees with the true value. The accuracy of M&TE is assessed through calibration, which is the focus of this article.

## Calibration

Calibration is a term often misunderstood and misused. Simply put, calibration is nothing more than a comparison. Calibration quantifies the relationship between the readings of the M&TE (e.g., caliper, ammeter, thermometer, pressure gauge) and the relevant standard measurement units. The M&TE readings are compared to the values of a measurement standard under controlled and specified conditions. Properly establishing the necessary conditions and performing this comparison can be a complex process, depending on the nature of the subject M&TE and the accuracy required.

Calibration is formally defined by the Joint Committee for Guides in Metrology (JCGM) in the document JCGM 200:2012, "International vocabulary of metrology – Basic and general concepts and associated terms (VIM)." The definition provided in JCGM 200:2012 §2.39 is:

<p><b>Calibration:</b> operation that, under specified conditions, in a first step, establishes a relation between the quantity values with measurement uncertainties provided by measurement standards and corresponding indications with associated measurement uncertainties and, in a second step, uses this information to establish a relation for obtaining a measurement result from an indication.</p>
<p><b>Note 1:</b> A calibration may be expressed by a statement, calibration function, calibration diagram, calibration curve, or calibration table. In some cases, it may consist of an additive or multiplicative correction of the indication with associated measurement uncertainty.</p>
<p><b>Note 2:</b> Calibration should not be confused with adjustment of a measuring system, often mistakenly called "self-calibration," nor with verification of calibration.</p>

While this definition is fairly concise, it is not necessarily straight forward. For example, there are entire books written on measurement uncertainty alone. Therefore, it is impractical to provide an adequate interpretation of what implementing this definition entails in a brief document. However, some considerations taken into account are:

- Nominal value of the standard (e.g., dimension, voltage, temperature)
- Known uncertainty of the standard nominal value usually determined using statistical process control techniques
- Specified conditions (e.g., temperature, humidity, vibration) as applicable to the M&TE calibration requirements
- Comparison methods

# A closer look at accuracy of measuring and test equipment Continued

The definition tells us that if we have a standard and we know its uncertainty (e.g., gauge block of 1.00000+/-0.00001 units) then under specified conditions we can compare an indication or reading from our M&TE to the gauge block (see Figure 2). Using information gained from the comparison, we can determine whether our M&TE gives valid results and assign an associated uncertainty which is usually much larger than that of the standard.

**Note 1** tells us that the comparison can be documented in several forms, including curves or tables and that adjustment factors could be involved. For example, an M&TE might indicate a percentage of the value in question (e.g., current transformer).

**Note 2** emphasizes that calibration is not adjustment or verification of calibration. Adjustments are used to bring the indicated value of M&TE closer to the standard value. Of course not all M&TE can be adjusted (e.g., ruler, thermometer) even though they can certainly be calibrated. When M&TE cannot be adjusted to provide adequate indications throughout their range of use, they are usually given limited calibration status or removed from service. Verification of calibration is more of an audit function such as reviewing an affixed calibration sticker, equipment calibration log or calibration certificate.

## Subcontract calibration

Many service centers subcontract calibration of their M&TE to firms specializing in such services. When choosing subcontract calibration providers, it is worthwhile to consider laboratories accredited to ISO/IEC 17025 whose scope of accreditation is appropriate for the service center M&TE requiring calibration. These labs have been audited by an accreditation body to ensure that they are competent within the scope of their accreditation. For example, a lab may be accredited for temperature but not for voltage. This may not be a practical approach for all motor repair equipment, but in exception cases, the equipment manufacturer may have an adequate calibration service offering.



## In-house calibration

Where calibrations are intended to be performed in-house, the service center must maintain traceability and have the necessary environment, laboratory equipment and personnel skills. This can be a feasible and cost-effective approach for certain types of M&TE depending on the available standards and skills of existing service center personnel. Calibration program development typically involves the following activities:

- Evaluation of equipment capability
- Identification of calibration requirements
- Selection of standards
- Selection of calibration frequency and rules for adjusting the frequency
- Establishment of a recall system
- Implementation of a documentation and reporting system
- Evaluation of the calibration program through audit

## Calibration checks

In-house calibration checks are not considered calibrations and do not need to be treated as such. There are many checks for different types of M&TE that provide the operator with some added assurance that the M&TE is acceptable for use. These optional checks are performed in-between required calibrations at a frequency suitable to the service center. However, calibration is required any time an adjustment is necessary.

For example, an organization may have a practice such that 1-inch micrometers are checked for a zero indication when closed and a 1-inch indication using a working standard before use. This gives the operator a certain level of confidence that measurements taken between 0 and 1 inch will be accurate. Another example would be the use of ice-melting points and steam points with thermometers.

## What should be calibrated?

M&TE used for activities affecting quality should be controlled, calibrated at a specified frequency, and adjusted where necessary to maintain required accuracy limits. Aside from requirements imposed by customers, accreditation and regulatory bodies, it is up to each organization to determine the level of assurance they desire in the process and the test & inspection measurements they obtain utilizing their M&TE. Typically, the most reliable measurements are made by qualified technicians using calibrated M&TE in accordance with standard work instructions.

these reports are available in easa.com website at the following page: "A closer look at accuracy of measuring and test equipment" : <http://www.easa.com/resources/article/closer-look-accuracy-measuring-and-test-equipment>

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# Training Schedule

EASA Ex Training for the Repairs and Overhaul of Ex Equipment to IEC 60079-19 + Motor Energy Efficiency Requirements

Course No.	Type	Training Duration (days)	Training Dates	Trainer	Venue	Available places	EASA Member Price (*)	Non-Member Price (*)
1_IDA	One day Awareness of Repair and Overhaul Ex. Atmosphere Equip	1	9th of May 2016	John Allen	Birmingham, England	9	£215.00	£240.00
1-3DU	Explosive Atmosphere Equipment Training - 3 days EX Equipment Users and Commercial & Sales Management	3	9th to 11th of May 2016	John Allen	Birmingham, England	9	£840.00	£940.00
1-5DF	Full Course Operatives & RPs Repair and Overhaul Ex. Atmosphere Equip.	5	9th to 13th of May 2016	John Allen	Birmingham, England	9	£1,395.00	£1,562.00
2_2DR	3 Year Refresher Managers & RPs Repair and Overhaul Ex. Atmosphere Equip.	2	21st & 22nd October 2015	John Allen	Birmingham, England	9	£650.00	£728.00

(\*): Prices guaranteed if more than 6 participants. All Training registrations have to be finalized 3 weeks before all courses

**NOTE. WHERE THERE IS SPECIFIC SUFFICIENT DEMAND ADDITIONAL DATES & LOCATIONS CAN BE PROVIDED FOR ALL COURSES**

More details on: <http://www.easa9.org/training-2/ex-course-documents/>

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# Karsten Moholt Exceptional Achievement Award

## “Recognize and motivate your young professionals who have demonstrated improvement in your company”

The Karsten Moholt Exceptional Achievement Award is made annually in the memory of Karsten Moholt and Karsten Aleksander Moholt who are past Presidents and Regional Director of EASA European & World Chapter.

Their exceptional guidance and leadership of our Chapter is remembered by awarding young people, under the age of 30, within our industry who have demonstrated improvements within their company up and above expectations.

A financial contribution will be made by the Chapter to the winner of this award to visit other Member's facilities within our Chapter in order to extend their understanding of the industry and learn new ideas, methods and cultures.

### The rules of the scheme are as follows:

- A nominee for the award must be employed by a Member firm
- Only a Member firm can make a nomination
- A Member can make more than 1 but not exceeding 3 nominations per year
- Nominations must include specific reasons why the nominee is thought to be worthy of the award
- All nominations must be accompanied by 2 corroborating letters of recommendation from other than the nominating firm
- All nominations must be submitted to the Secretary no later than 1st July each year
- A committee consisting of the current President, Immediate Past President and a Member of the Moholt family will decide the winner
- The award will be presented at the annual AGM by a Member of the Moholt family

## Do you know of an Exceptional Member Individual?

If so, nominate them for the Karsten Moholt Exceptional Achievement Award

### Nominating Form

Nominee Name \_\_\_\_\_

Member Company \_\_\_\_\_

Address \_\_\_\_\_

Post Code \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

I make this nomination for the following reasons (attached additional information if necessary)

\_\_\_\_\_  
\_\_\_\_\_

\*All nominations shall automatically be re-entered into the pool of nominees for a period of 3 years after the nomination is received

Name of person making the nomination \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Post Code \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

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Forms Available at <http://www.easa9.org/karsten-moholt-award/>

All Form to be Returned by July 1st Please attach corroborating letters of recommendation

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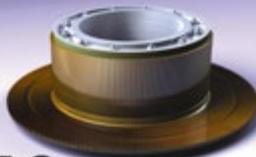
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## EASA REGION 9 NEWSLETTER

Contact Details: For information or to provide details for future Newsletters please contact our editor at [secretary@easa9.org](mailto:secretary@easa9.org)