Robus: just born, but already big

At Hannovermesse the echo has been loud. The ones who saw it “live”, inside and outside, could not avoid to establishing how much it differs and excels above any other helical gearbox, both in the shape and in the substance. Once again, a Motive product that wonders. But how does a Motive-ated product bear?

First of all, our attention is addressed to the search for the unexpressed needs of the customer that, in most of cases, ressed in what he didn’t see yet. For instance, no one thought, before that Motive had shown it, that concepts like “ergonomics”, “aesthetics”, “modularity”, and even “aerodynamics” (just think about applications related to ventilation) could add value to a product like an electric motor or a mechanical gearbox. A product should not born simply to enlarge product range, but mainly to offer new advantages. So, for Robus as well, nobody asked us to make it so strong, so silent, easy to inspect, mountable in any position, or modularly interchangeable with most of other brands… but these were the unexpressed needs and the new advantages that we could create.

Distinguishing aspects, however, are there also in the traditional design principles, where we put together the same values either in motors or gearboxes. Just like we do with motors, also BOX and ROBUS, in fact, have been studied to facilitate all assembly operations in our workshop and the one of our customer, in order to be able to give a nearly prompt delivery (quite unusual in gearboxes market). Such aim is reached thanks to aspects like quality consistency of the parts, modularity, redundancy, abounding geometries, suitability to work in all conditions and positions, and, by including in the standard whatever is normally offered by others as an option to be asked (and paid) extra: concepts that are there in all of Motive products.

No matter which other brand you think about, if you put a motor and a gearbox together they remain a disomogeneous assembly of 2 parts; but if you put together a Motive gearbox and a Motive motor you first see what we call “the hand of the same artist” and later you discover that also the substance is common. Only with motive you find a real “gear-motor”.
**New efficiency classes**

Worldwide there are several classification systems of induction motors efficiencies.

In order to create a common system, IEC (International Electrotechnical Commission) issued in October 2008 the norm IEC 60034-30 “Rotating electrical machines – Part 30: Efficiency classes of single-speed, three-phase, cage-induction motors (IE-code)”

We are facing a new classification system of efficiency that in Europe replaces the CEMEP one (to be clear, the one of “Eff.1, Eff.2, ed Eff.3” motors) and that, furthermore, recalls a new measuring and calculation way of efficiency, the one of the norm IEC 60034-2-1 (Rotating electrical machines – Part 2-1: Standard methods for determining losses and efficiency from tests), of September 2007.

In Europe it’s a step ahead in the application of the Directive 2005/32/CE of 6 July 2005 “establishing a framework for the setting of ecodesign requirements for energy-using products”.

It’s based on such a normative and legislative picture that the general expectation is:

- From June 2011, the motors with efficiency lower than IE-2 will be forbidden
- From 2015, the minimum efficiency for motors from 7,5 to 375kW will be l’IE-3, and
- From 2017, the obligation of IE-3 will be extended to the motors from 0,75kW to 5,5kW

Showing only 50Hz values, this is the new classification:

<table>
<thead>
<tr>
<th>KW</th>
<th>Hp</th>
<th>IE-1 standard efficiency</th>
<th>IE-2 high efficiency</th>
<th>IE-3 premium efficiency</th>
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<tr>
<td></td>
<td></td>
<td>2 poles</td>
<td>4 poles</td>
<td>6 poles</td>
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The following chart tries to synthesize a comparison between yesterday and today.

<table>
<thead>
<tr>
<th>World</th>
<th>Europe (50Hz) CEMEP</th>
<th>USA (60Hz) Epact</th>
<th>Further classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE-3</td>
<td>Premium efficiency</td>
<td>Identical to NEMA Premium efficiency</td>
<td>AS in Australia</td>
</tr>
<tr>
<td>IE-2</td>
<td>High efficiency</td>
<td>Identical to NEMA energy efficiency / EPACT</td>
<td>NBR in Brazil</td>
</tr>
<tr>
<td>IE-1</td>
<td>Standard efficiency</td>
<td></td>
<td>BG/T in China</td>
</tr>
</tbody>
</table>

In our field, we list 3 main changes in Europe:

- The classification is now extended to 6 poles motors,
- The powers range is wider
- In a direct comparison between Eff.2” and “IE-1” or between “Eff.1” and “IE-2” , we find that the first, the CEMEP values, are higher, but this is also a consequence of the change in the measurement and calculation system of such values, that must now be made with the method of the new norm IEC 60034-2-1:2007.

Nevertheless, local legislations of some Countries inside and outside Europe (for instance, Israel or New Zealand), and the specific requirements of some associations, maintain often incentivized or even compulsory those motors called “eff.1” according to the CEMEP system.

What does Motive do in this scenario?

- The measuring and calculation system of Motive motors efficiency is already conform to the norm 60034-2-1:2007. That’s the one behind the data declared in the probative test-reports uploaded in motive web-site (each declared data, we remind it, is in fact supported, detailed and proven by such test reports)
- This, together with the fact that generally eff.2 Motive motors are often offering an efficiency abundantly above the min allowed level, permits to several eff.2 Motive motors to be already classifiable as IE-2. Before 2011, anyway, all those motors that do not yet reach IE-2 efficiency level will be improved.
- “Eff.1” motors are already available. We are improving our manufacturing lead time and, furthermore, the stock in prompt delivery is being increased more and more
- The test-reports and data truth of eff.1 motive motors has been certified by IMQ. The same, in fact, in September 2008 has firstly inspected and qualified our internal laboratory according to the norm IEC/ISO 17025, and then supervised the internal tests on a sampling list of eff.1 motors, including some 6 and 8 poles in order to enclose further values that, out of CEMEP classifications, were already established by some Countries laws.
and the gearboxes

Often we’ve been asked our point of view about the new REACH Regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals).

Based on such Regulation, under certain circumstances, also the oil contained in products has to be pre-registered, registered or notified to ECHA by producers or importers (see Article 7 of the REACH Regulation).

Such circumstances are:
- whether any of the substances in the article is intended to be released under normal or reasonably foreseeable conditions of use* and, if this is the case,
- whether the total amount of this specific substance imported within all those articles is one tonne or above / year.

*As a general rule, intended release relates to the function or quality of an article. The release of substances from articles is considered “intended” when it is essential for the end use function or “adds value” to the article.

That’s why, after the first rumours, REACH Regulation did not affect gearboxes manufacturers, distributors and customers.

Source: http://echa.europa.eu

BOX 130 and BOX150

In cast-iron body, also BOX130 and BOX150 have:

1. housing designed to maximize the structural resistance to deformation
2. wormshaft made in case hardened steel and ground machined,
3. worm wheel is in shell cast bronze, submitted to a running-in working period to improve the surface finishing and hardness.
4. 2 special shielded taper roller bearings mounted on the wormshaft
5. shielded autolubricated bearings on output shaft too
6. equipped with a full set of filler, level and breather plugs
7. thanks to 4+5+6, mountability in any position, with no need to specify it in the order
8. supplied with oil

Resin total sealing

Completely hermetical to give a solution in presence of very strong humidity environments (for instance, carwash systems), they also offer a lower heating thanks to the thermal dissipation capacity of such resin.

The ideal combination? The resined terminal box.
**delphi AT24 brake motors**

AT24 motors, with 24Vdc brake, have been made to work with those typical frequency inverters provided with a separate 24Vdc output power plug for the brake.

Compared to ATDC brake motors, they differ for the braking torque setting knob and for the brake intervention time and torque.

The main characteristics are anyway very similar:

- release lever
- PTO thermal protector (1 from type 63 to 100, 3 from 112 to 160)
- reinforced winding suitable for inverter supply
- tropicalized winding
- protection IP55
- protection IP56-IP66
- F Class insulation
- H class insulation
- braking torque setting knob
  - three-phase forced ventilation
  - other special executions (see www.motive.it)
- standard
- option

Dimensions and performance will be put in the next update of Delphi catalogue. In the meantime, you can find them in www.motive.it

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**customers reserved area has been updated and improved**

In March, the customers reserved area in [www.motive.it](http://www.motive.it), where you can see our stock, your net prices, and issue orders on-line, has been improved and updated.

In detail:

- The guided search is now including BOX accessories, Robus, Robus accessories, double polarity motors, single phase motors, new motors (Eff1, size 400, etc).
- The guided search has been simplified.
- Your net prices can be seen since the beginning.
- The result is often a small list of possible choices.

If you don’t remember your password, we’re at your disposal.
**Updated CD-ROM**

The CD has been updated

- We added Robus 3D video and the updated Delphi video
- BOX catalogue has been updated
- Those 2D and 3D technical drawings that can be downloaded from www.motive.it have been put in the CD too, for a faster picking

**Robus catalogue**

Robus catalogue is available in Italian, English, German, French, Spanish and Arabic

**new Robus 3D video**

Available in CD, and uploaded in motive.it, the new Robus 3D video is another way to know this innovative product

**Updated delphi video**

Available in the new CD, and uploaded in motive.it. To show all the improvements made during the last months to this product, the changes in the video have been many.

**2009 exhibitions**

After April success at Hannovermesse, we decided to be there at a further exhibition “SIMEI 2009” (Milan 24-28 Nov 2009):

**Robus advertisement**

It’s a self-advertising product, but first it must be seen.

So, you may have already found its advertisement in several technical magazines.

Such campaign covers the whole 2009