• ROTATING NUT TR20/60 GROUP WITH 1:2 RATIO PAIRED BEVEL GEARS

– The **R/DXR/AB+PMS/LXR/CC1:2 ... (R)(L)** Group is a manoeuvring element fundamental for linear movements using a trapezoidal screw where there is a necessity for drive transmission directly on the mobile body or machine carriage, with the trapezoidal screw constrained at both ends and unable to turn upon itself.

The choice of 1:2 ratio paired bevel gears is normally done done to halve the movement speed achieved with the 1:1 ratio detailed in the tables on pages 259-261, with the possibility of using a smaller electric motor on the worm gearmotor of about 50% less Kw that uses electricity but still able to move the same dynamic load. Technically, when choosing, please remember that a good rule for worm reduction units, if possible, is not to use more than 1400 rpm in entry.

– **The Group is composed of trapezoidal screw with fixed supports and mobile Platform having a bronze rotating nut and 1:2 ratio paired bevel gears that are screwed and pinned.** The flange nut rotates inside the steel support by means of two axial bearings regulated by rings with locking rosette to sustain the push of the load. Housed in the support the nut is guided by bronze/steel contact and as it is well lubricated it guarantees precise radial rotation around the screw over time (see exploded diagram on page 249).

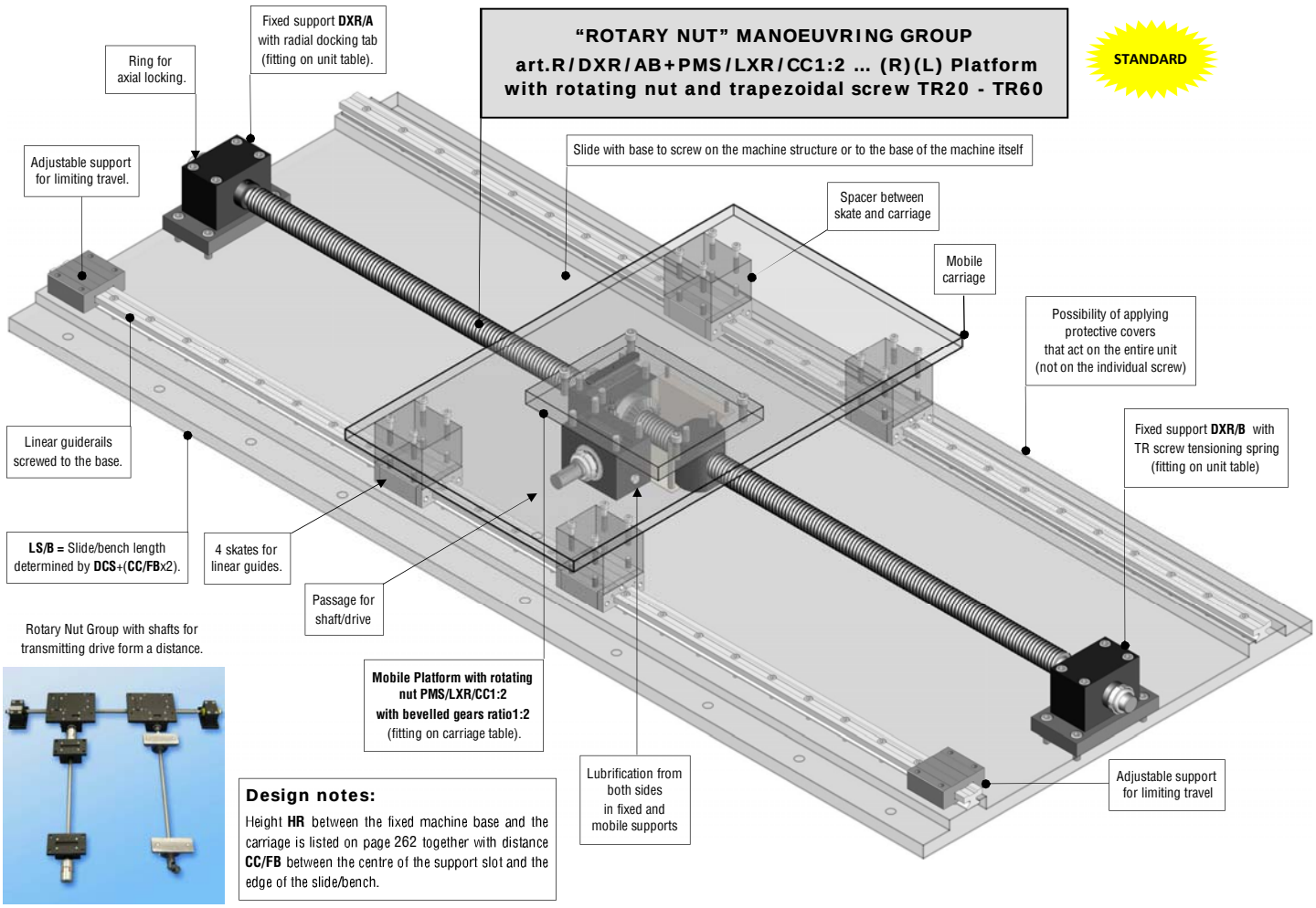
– The internal trapezoidal profile of the nut, made with ISO tolerance as is the screw, allows perfect scrolling of the nut in that the rotating parts, including those in contact with the screw profile, are lubricated by a single central lubricator that can be positioned on either side of the support (see lubricants on pages 306-309). The trapezoidal screw, fixed and without any rotation, is constrained at the two ends by **supports DXR/A** and **DXR/B** where the first has the load bearing function and the second allows the tensioning of the screw itself.

When choosing the dimensions of the Group with rotating nut and relative trapezoidal screw, with maximum speeds and vertical dynamic loads, together with type of gearmotor, the same data calculated for the system with rotating screw applies as shown in tables **RN3** and **RN4** on pages 259-261 on which are also described the feasible comparisons between dynamic load in vertical use and dynamic load in horizontal translation. . A special version can be made on request, for horizontal movements when there is a need for **axial play adjustment** and where we can produce a special rotary nut that is longer and on which we fit a mechanical system that allows for extremely easy adjustment. For the rotating nut system lifting vertically/obliquely, again made specially on request, **solution "Safety" with safety nut** is foreseen, and therefore in cases of possible risk of injury or damage caused by the thread profile breaking it is important that during the equipment, or machinery, design stage that these risks are considered and accident prevention solutions be applied to the "standard" system or alternatively use the above mentioned "Safety" nut. Please find on page 233 the technical description of the "Safety" application together with the possibility of using the special nut, above mentioned above, for **axial play adjustment for horizontal use**. Il Our technical office is available for evaluating, advising and carrying out solutions for every individual technical application.

– **The guarantees of functionality and safety are determined by the proper use of the group together with perfect fitting on the machinery with the tabs inserted and the engraved arrows facing the same direction and, if used for vertical/oblique movements, they must face downwards.**

All the Rotary Nut Groups can be purchased pre-assembled, with the Supports inserted on the trapezoidal screw, in such that for mounting on the Manoeuvring Unit no dismantling is required.

- **Indicative diagram of Manoeuvring Unit using "Rotary nut" Group with paired bevel gears ratio 1:2 with possibility of manual or motorised drive directly on the mobile Platform or at a distance. With a single Manoeuvring Unit it is possible to use more carriages together limiting their travel with independent movements.**
- **The same mobile Platform art.PMS/LXR/CC1:2 shown below with shaft input on the left, can be changed to put the shaft on the right by dismantling the base and re-screwing the components on the other side of the Base itself forming the right version art. PMD/LXR/CC1:2 and relative Manoeuvring Group art.R/DXR/AB+PMD/LXR/CC1:2...(R)(L) - (see page 235).**



Group with right threaded components available from stock; with left threaded components made to order.

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- **TRAPEZOIDAL SCREW MANOEUVRING GROUP mod. "ROTARY NUT"- art.R/DXR/AB+PMS/LXR/CC1:2 .. (R)(L) series 20/60**
- **Trapezoidal screw with maximum length of 100 times its diameter, with predisposition for Rotary nut supports and accessories.**

COMPOSITION OF GROUP WITH THE RELATIVE SUPPORTS:

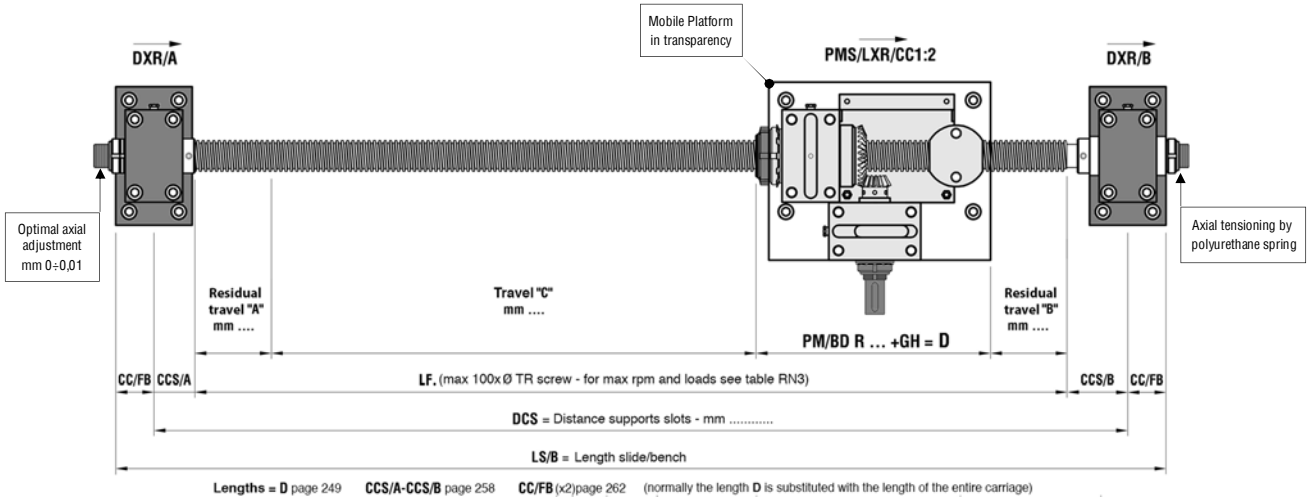
- **Trapezoidal screw** (type and length to be defined)
- **art.DXR/A** Fixed steel support with radial coking tab.
- **art.DXR/B** Fixed steel support with tensioning spring.

Mobile Platform **art.PMS/LXR/CC1:2** assembled with:

- **LXR/CC1:2** support with rotating nut and paired bevelled gears.
- **DXA/R** support with shaft for drive transmission.
- **PM/BD R** Supports base for mobile Platform.

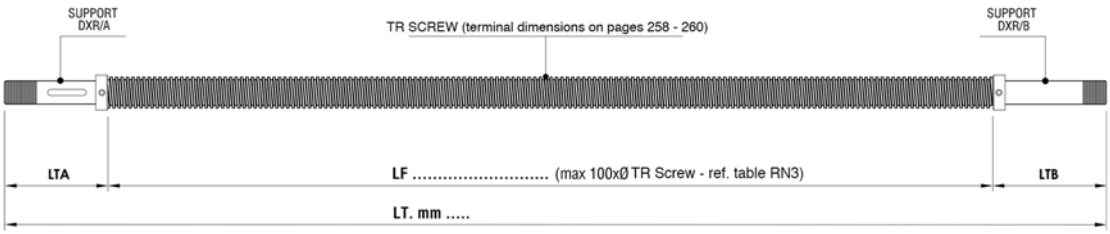
Fitting diagram of the Group on the slide "Rotary nut Application RN" see page 264.

STANDARD



– **As already mentioned on the facing page the above mobile Platform PMS/LXR/CC1:2 with drive input on the left, can become PMD/LXR/CC1:2 with drive input on the right in respect of the rotating nut, dismantling and re-assembling the components on the other side of the base itself, work that normally takes plave at our factory, at assembly, always assuming that the products is ordered correctly, (see page 235).**

- **TRAPEZOIDAL SCREW DESIGN made from our IF threaded bar and predisposed for Rotary Nut supports.**



– **For sizing the Manoeuvring Group screw and consequent gearmotor, consult our tables TRN3/RN4 on pages 258 -261 with subsequent compilation of this page quoting the Group in the points indicating "Travel A – Travel B – Travel C" together with the Questionnaire found on pages 64-65.**
– **Please send everything to our technical department for optimizing. For the dimensions of single supports and spare parts please see the following pages.**

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