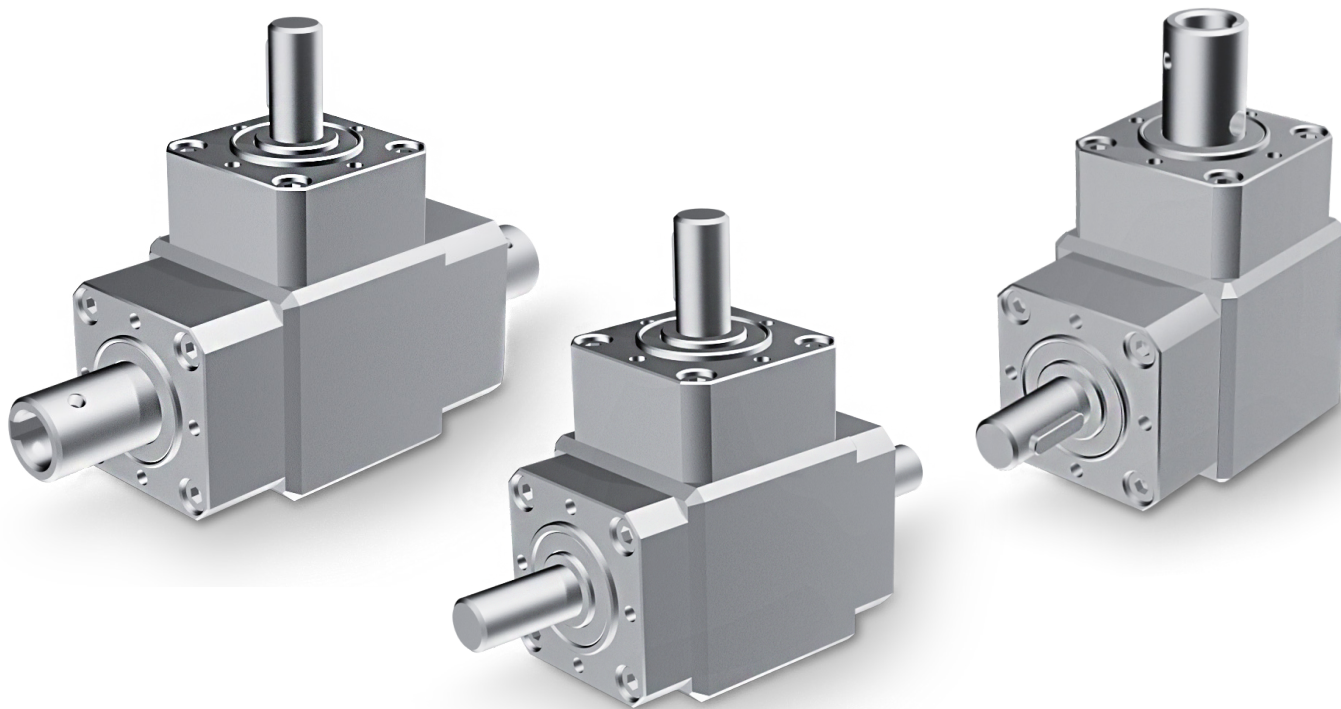




- Ideale per uso motorizzato in continuo, al massimo dell'efficienza, senza perdita di potenza.
- La configurazione dei componenti assicura una gestione costante dei carichi con funzionamento fluido e senza interruzioni.
- Lubrificazione a bagno d'olio per un nr. di giro superiore a 200 rpm; a grasso per un nr. di giro inferiore a 200 rpm.
- Rapporti di trasmissione disponibili: **1:1 - 1:2 - 2:1** (disponibile nelle versioni «A» - «B» - «C»); (**Tab. 3**).
- Corpo in alluminio, anodizzato; alberi in acciaio inox AISI 303.
- Massima coppia trasmissibile **45 Nm (Tab. 10)**; carico radiale - carico assiale (**Tab. 11**).
- Modelli (**Tab. 1**):
  - Versione «A» con 2 uscite; peso 1050 g.
  - Versione «B» con 3 uscite; peso 1300 g.
  - Versione «C» (rotazione contraria) con 3 uscite; peso 1350 g.
  - Versione «D» con 3 uscite, 2 ad albero cavo passante; peso 1200 g.
- Alberi standard: **M** = maschio **Ø14CH5** / **F** = femmina **Ø14CH5 (Tab. 9)**.

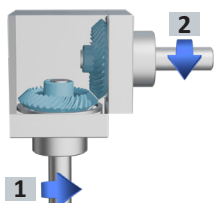
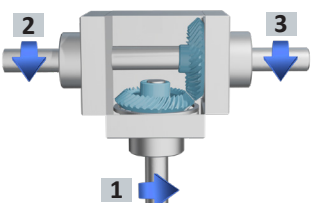
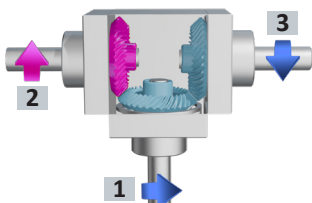
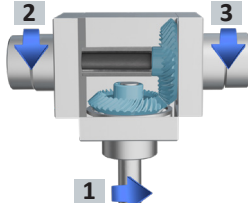
Disponibile a richiesta:

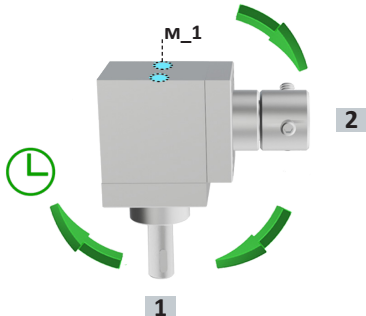
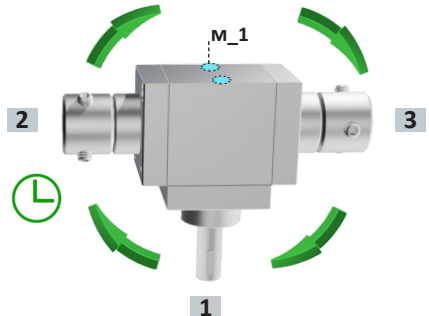
- Alberi: maschio **M** = **Ø20CH6**.
- Configurazioni personalizzate.

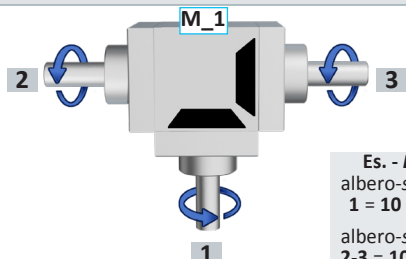
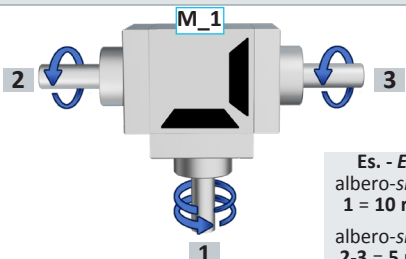
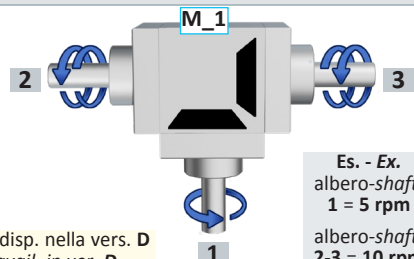
- *Ideal for continuous motorized use at maximum efficiency, without any loss of power.*
- *The component configuration ensures handling of constant loads with smooth, and uninterrupted operation.*
- *Oil bath lubrication for speeds above 200 rpm; grease lubrication for speeds below 200 rpm.*
- *Available transmission ratios: 1:1 - 1:2 - 2:1 (available in versions «A» - «B» - «C»); (Tab. 3).*
- *Aluminium case, anodised; AISI 303 stainless steel shafts.*
- *Max. transmissible torque 45 Nm (Tab. 10); radial load kg - axial load (Tab. 11).*
- *Models (Tab. 1):*
  - *Version «A» with 2 outputs; weight 1050 g.*
  - *Version «B» with 3 outputs; weight 1300 g.*
  - *Version «C» (opposite rotation) with 3 outputs; weight 1350 g.*
  - *Version «D» with 3 outputs, 2 through hollow shafts; weight 1200 g.*
- *Standard shafts: M = male Ø14CH5 / F = female Ø14CH5 (Tab. 9).*

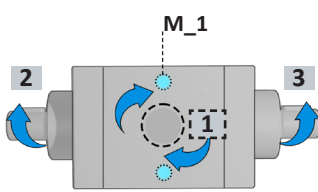
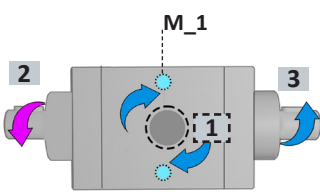
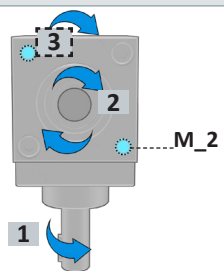
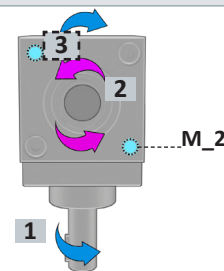
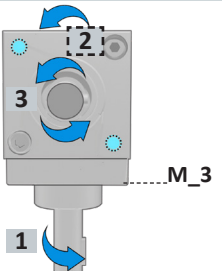
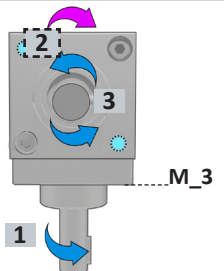
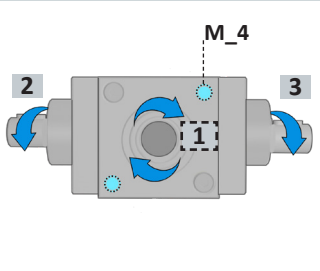
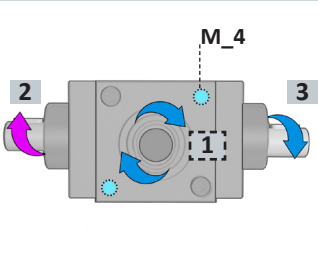
Available on request:

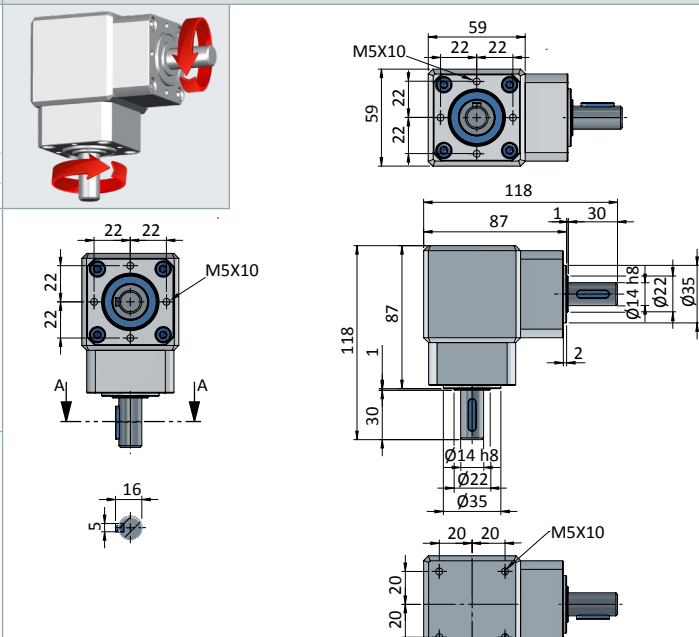
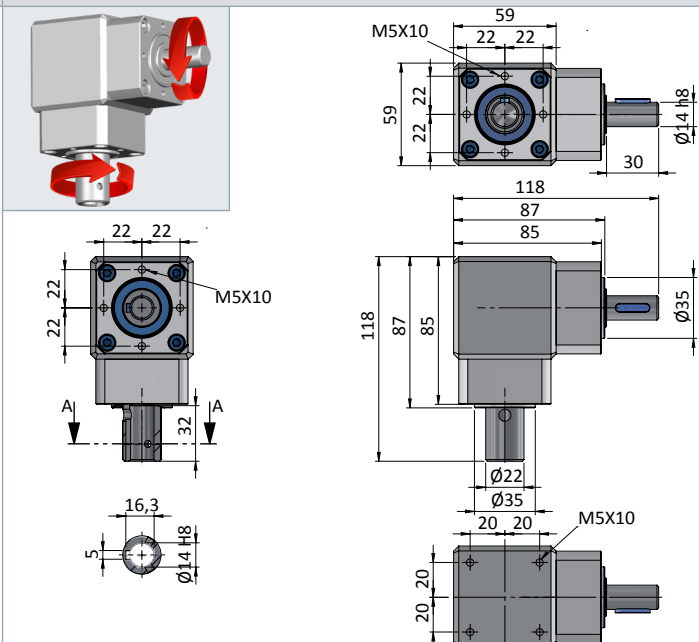
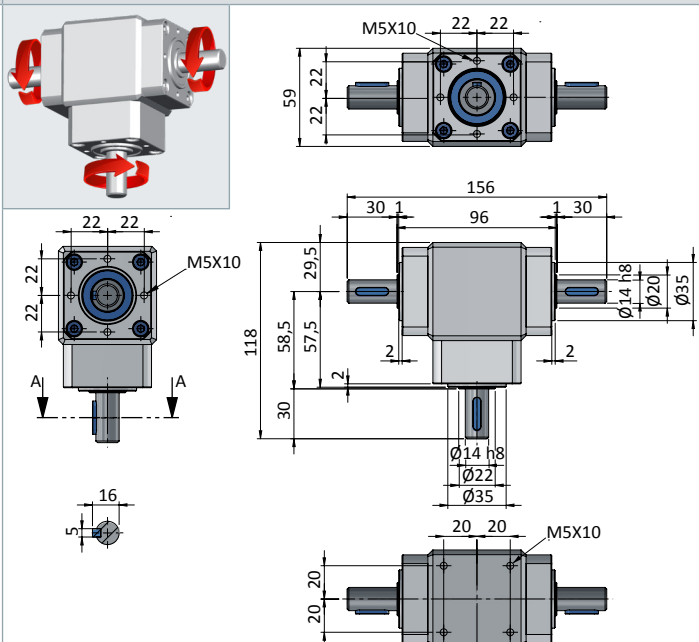
- *Shafts: M = male / female Ø20CH6.*
- *Custom configurations.*

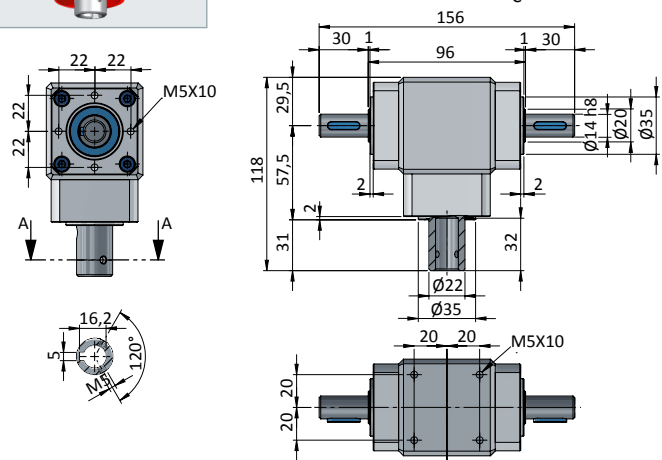
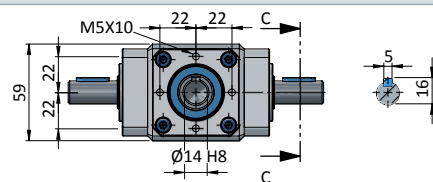
| FORMA COSTRUTTIVA E SENSO DI ROTAZIONE - CONFIGURATION AND DIRECTION OF ROTATION  |                                                                                   |                                                                                    |                                                                                     | Tab. 1 |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|
| «A»                                                                               | «B»                                                                               | «C»                                                                                | «D»                                                                                 |        |
|  |  |  |  |        |
| 2 uscite, rotazione concorde<br>2 outputs, same rotation direction                | 3 uscite, rotazione concorde<br>3 outputs, same rotation direction                | 3 uscite, 1 con rotazione discorde<br>3 outputs, 1 with opposite rotation          | 3 uscite, 2 cave, rot. concorde<br>3 outputs, 2 hollow shafts, same rot.            |        |

| IDENTIFICAZIONE ALBERI E RIFERIMENTI - SHAFT IDENTIFICATION AND REFERENCES       |                                                                                    | Tab. 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Esempio - Example                                                                | Esempio - Example                                                                  | <p><b>L'albero 1</b> è sempre raffigurato dalla parte opposta dei fori di fissaggio <b>M_1</b>, è il riferimento per:<br/><b>forma costruttiva, senso di rotazione e rapporto di trasmissione.</b><br/>Per convenzione <b>l'albero 1</b>, è rappresentato con rotazione in senso orario, gli altri seguono il senso orario.</p> <p><b>Shaft 1</b> is always shown on the side opposite the <b>M_1</b> fixing bores and is the reference for:<br/><b>configuration, direction of rotation, gear ratio.</b><br/>By convention, <b>Shaft 1</b> is shown rotating clockwise, the others follow the clockwise direction.</p> |
|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

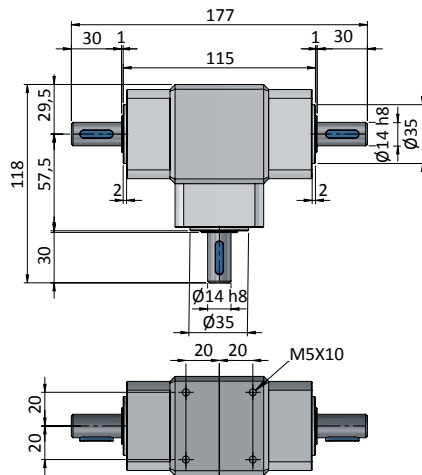
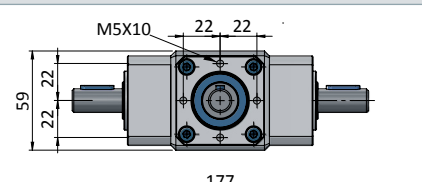
| RAPPORTI DI TRASMISSIONE DISPONIBILI - AVAILABLE TRANSMISSION RATIOS                                                                                                    |                                                                                                                                                                         |                                                                                                                                                                           | Tab. 3                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Il rapporto fa riferimento all'albero 1, opposto ai fori <b>M_1</b> - The ratio refers to shaft 1, opposite the <b>M_1</b> fixing bores.                                |                                                                                                                                                                         |                                                                                                                                                                           |                                                 |
| Rapporto - Ratio 1/1                                                                                                                                                    | Rapporto - Ratio 1/2                                                                                                                                                    | Rapporto - Ratio 2/1                                                                                                                                                      |                                                 |
|  <p>Es. - Ex.<br/>albero-shaft:<br/>1 = 10 rpm<br/>albero-shaft:<br/>2-3 = 10 rpm</p> |  <p>Es. - Ex.<br/>albero-shaft:<br/>1 = 10 rpm<br/>albero-shaft:<br/>2-3 = 5 rpm</p> |  <p>Es. - Ex.<br/>albero-shaft:<br/>1 = 5 rpm<br/>albero-shaft:<br/>2-3 = 10 rpm</p> | non disp. nella vers. D<br>not avail. in ver. D |

| POSIZIONI DI FISSAGGIO M_ - M_ FIXING POSITIONS                                                                                                                                                                                                                                                               |                                                                                     |                                                                                      |                                                                                       | Tab. 4 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------|
| L'albero 1 di riferimento, per convenzione, è rappresentato con rotazione oraria; il corpo viene ruotato di 90° rispetto alla posizione precedente.<br><b>Shaft 1</b> shaft 1 remains the reference and is conventionally shown rotating clockwise; the housing is rotated by 90° from the previous position. |                                                                                     |                                                                                      |                                                                                       |        |
| M_1 = vista dall'alto - top view                                                                                                                                                                                                                                                                              |                                                                                     | M_2 = vista laterale destra - right side view                                        |                                                                                       |        |
| 0°                                                                                                                                                                                                                                                                                                            |                                                                                     | 90°                                                                                  |                                                                                       |        |
|                                                                                                                                                                                                                             |  |  |  |        |
| rotazione concorde - same rotation                                                                                                                                                                                                                                                                            | rotazione discorde - opposite rotation                                              | rotazione concorde - same rotation                                                   | rotazione discorde - opposite rotation                                                |        |
| + 90° ↑                                                                                                                                                                                                                                                                                                       |                                                                                     | + 90° ↓                                                                              |                                                                                       |        |
| M_3 = vista laterale sinistra - left side view                                                                                                                                                                                                                                                                |                                                                                     | M_4 = vista dal basso - bottom view                                                  |                                                                                       |        |
| 270°                                                                                                                                                                                                                                                                                                          |                                                                                     | 180°                                                                                 |                                                                                       |        |
|                                                                                                                                                                                                                            |  |  |  |        |
| rotazione concorde - same rotation                                                                                                                                                                                                                                                                            | rotazione discorde - opposite rotation                                              | rotazione concorde - same rotation                                                   | rotazione discorde - opposite rotation                                                |        |

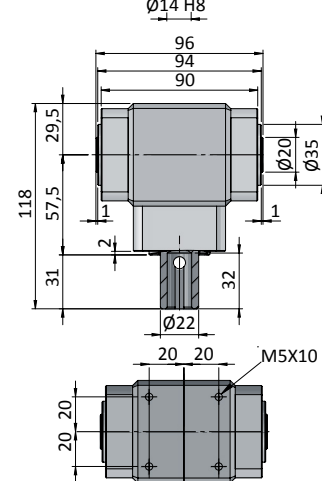
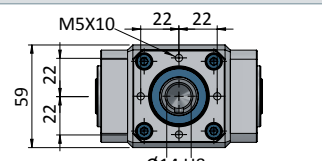
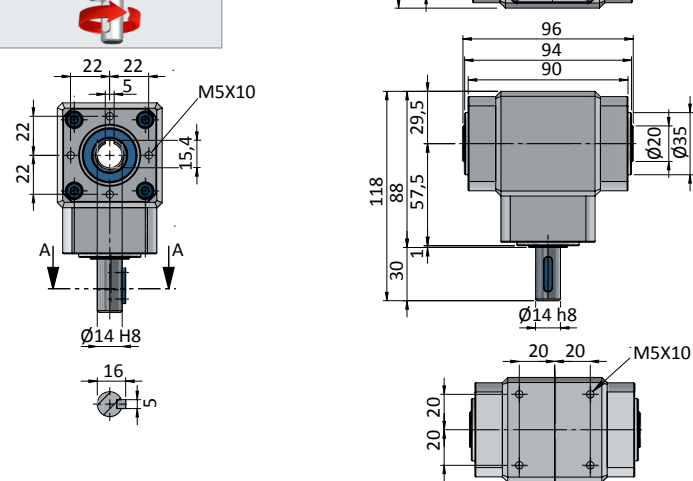
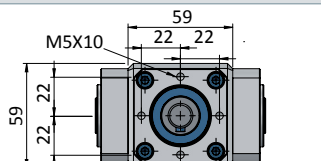
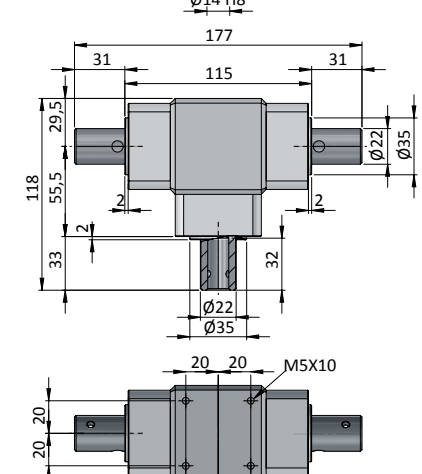
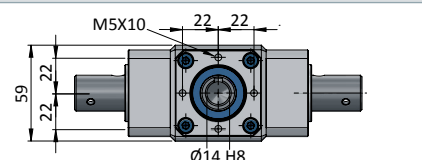
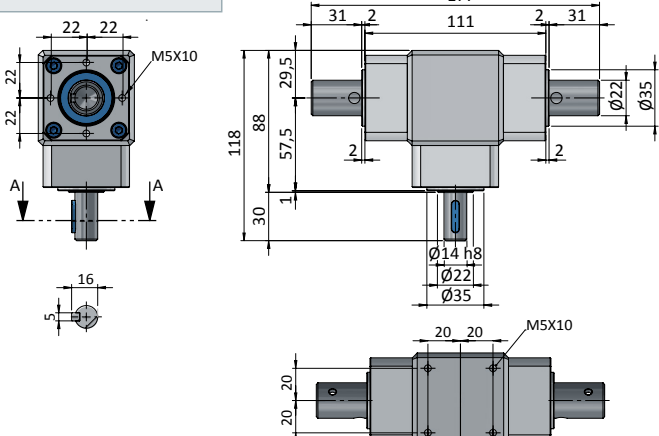
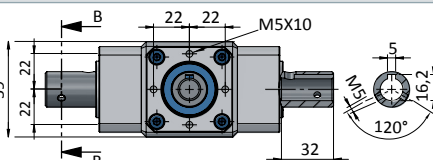
**VERSIONE - VERSION** «A» M-M**VERSIONE - VERSION** 《A》 F-M**VERSIONE - VERSION** 《B》 **M-M-M**

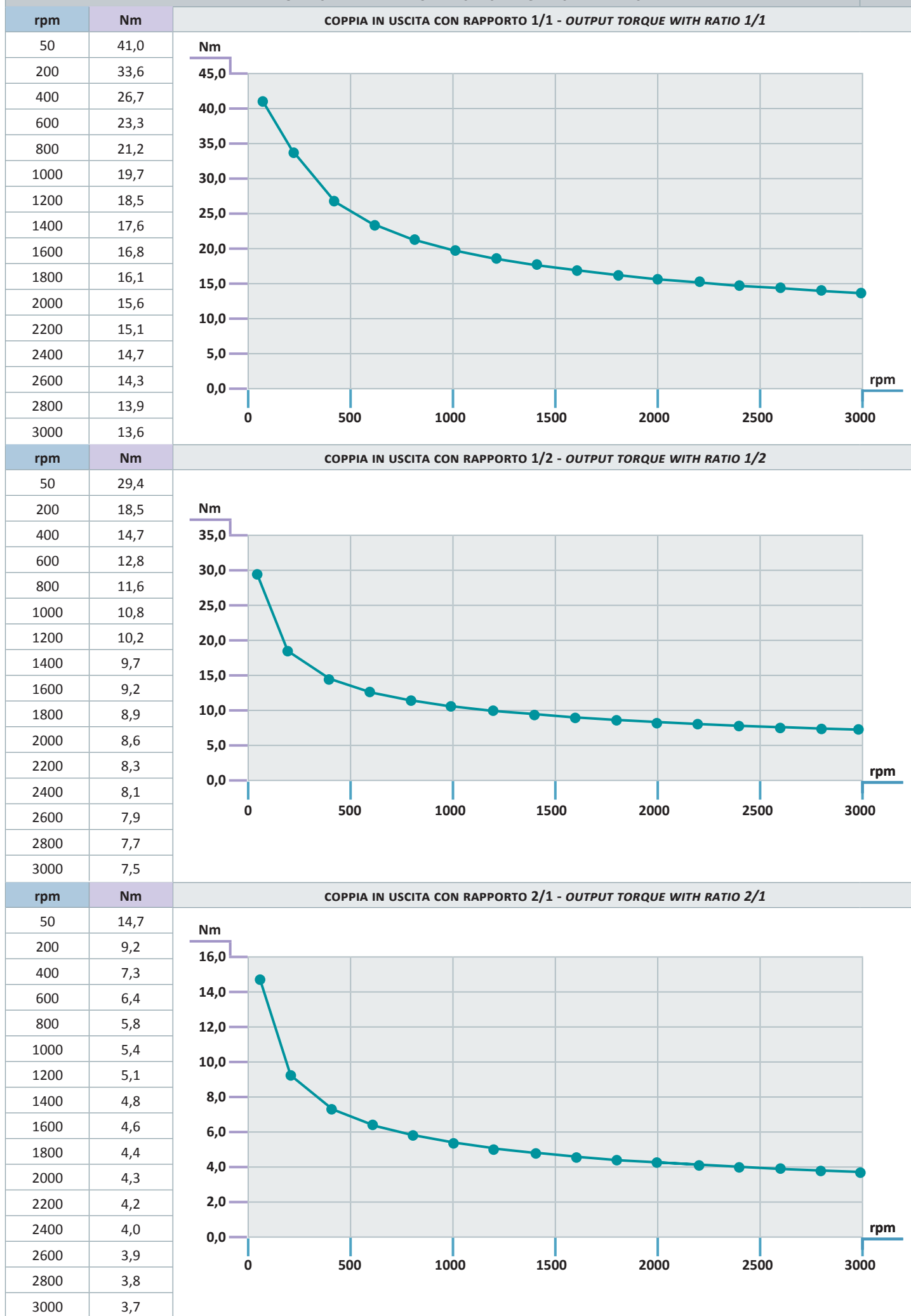


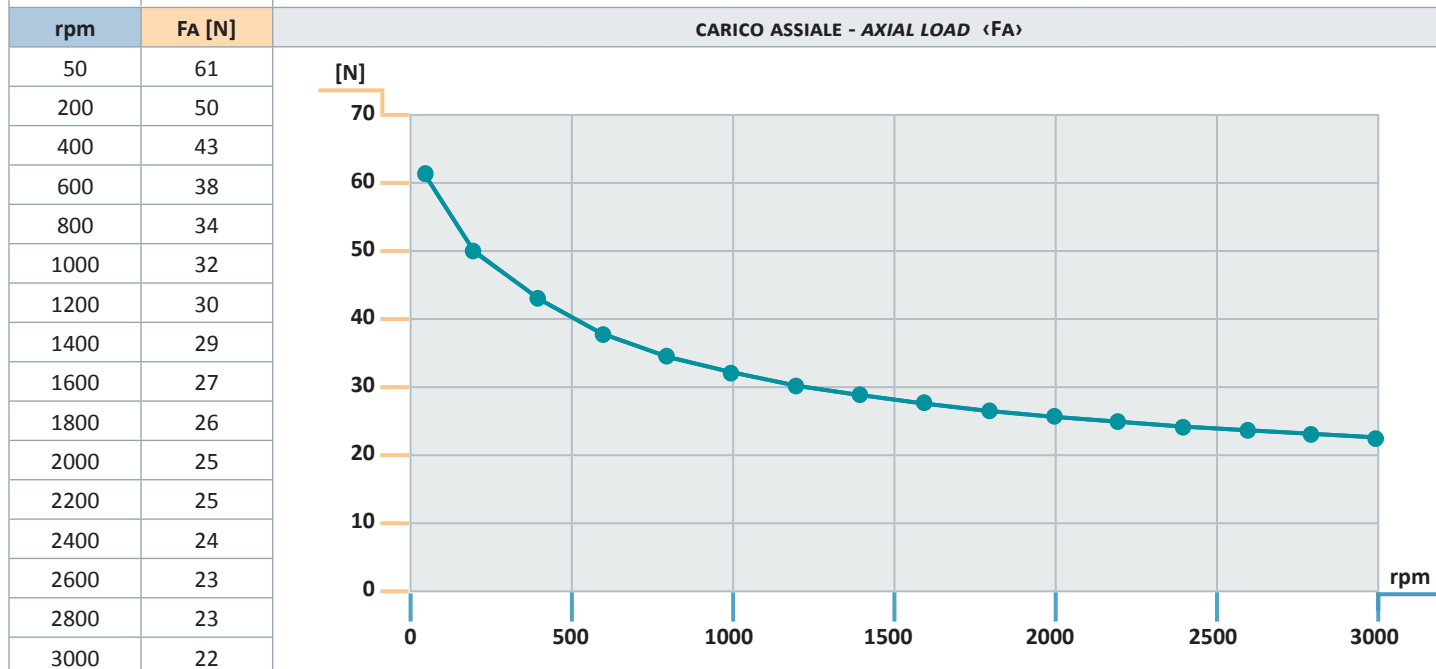
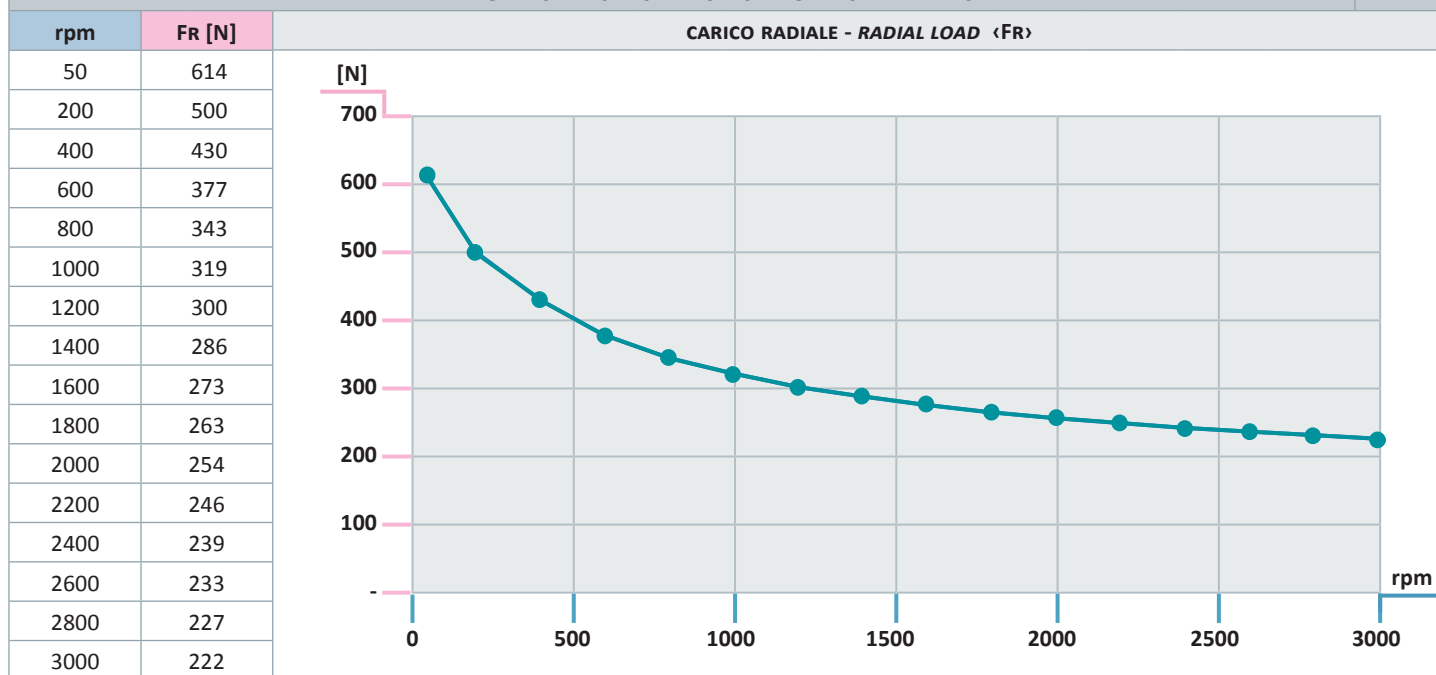
A 3D rendering of a three-axis gimbal. It consists of a central cube with three smaller cubes attached to its faces. Each of these three outer cubes has a horizontal shaft extending from its center. Red curved arrows around each shaft indicate the direction of rotation for each axis.



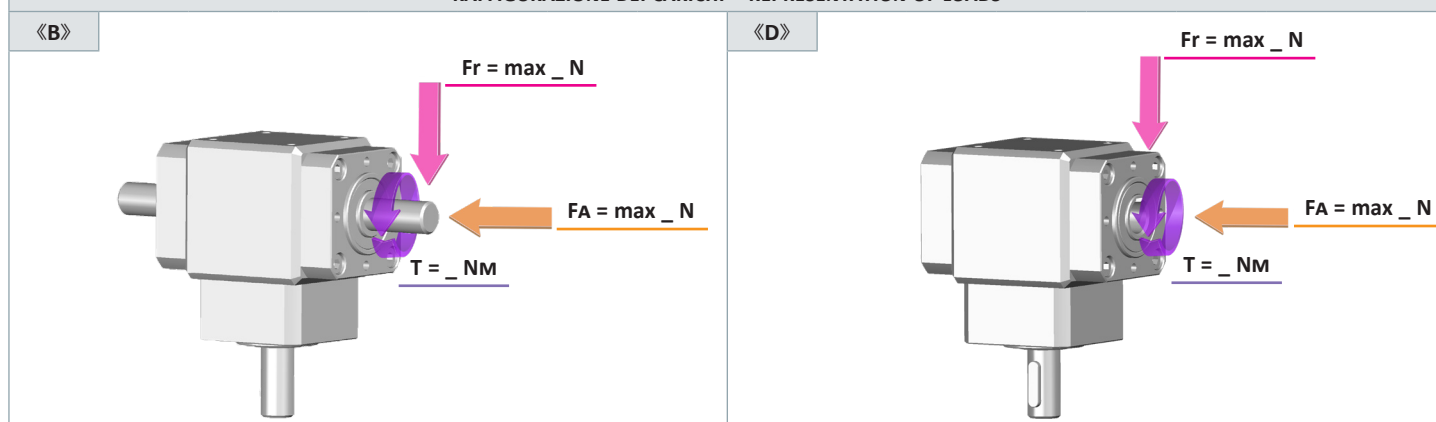
A 3D CAD model of a three-axis gimbal system. It consists of a central motor housing with three orthogonal output shafts. Each shaft is equipped with a red arrow indicating the direction of rotation, showing independent movement along all three axes.







## RAFFIGURAZIONE DEI CARICHI - REPRESENTATION OF LOADS



- Il rendimento di trasmissione del rinvio è del 90%.

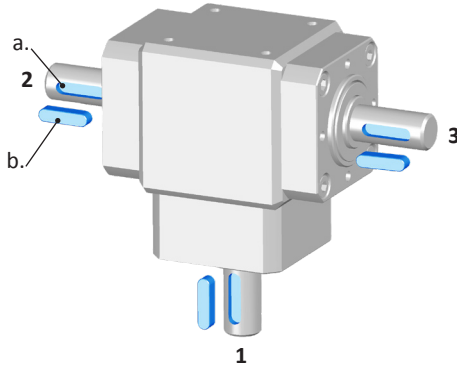
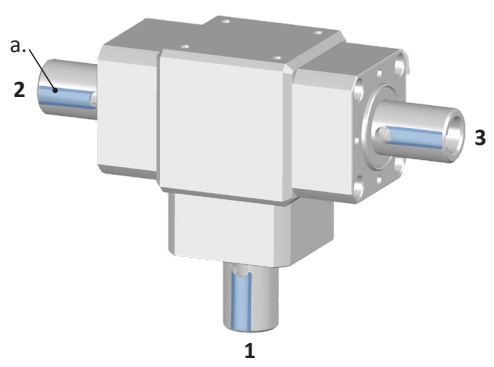
- I grafici rappresentano i carichi radiali e assiali massimi applicabili sull'albero del rinvio.

**N.B.** un carico radiale (es. tiro di cinghia) è applicabile solo sull'albero lungo delle versioni «B» e «D»; in caso contrario, prevedere un supporto.

- The transmission efficiency of the gearbox is 90%.

- The charts represent the maximum radial and axial loads applicable to the gearbox shaft.

**Note:** a radial load (ex. belt tension) can only be applied to the long shaft of the «B» and «D» versions; otherwise, a support must be provided.

| rapporto - ratio           | gradi - degrees ° | «B»                                                                               | «C»                                                                                 |
|----------------------------|-------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1/1                        | ± 10°             |  |  |
| 1/2                        | ± 5,5°            |                                                                                   |                                                                                     |
| 2/1                        | ± 5,5°            |                                                                                   |                                                                                     |
|                            |                   |                                                                                   |                                                                                     |
| a. sede di chiave - keyway |                   |                                                                                   |                                                                                     |
| b. linguetta - key         |                   |                                                                                   |                                                                                     |

Le sedi di chiave sugli alberi non sono mai perfettamente in fase, ad eccezione degli alberi 2 e 3 nelle versioni «B» e «D».

The keyways on the shafts are never perfectly in phase, except for shaft 2 and 3 in versions «B» and «D».

| INDICAZIONI PRATICHE                                                                                                                                                                                                                                                                                                                            | GUIDELINES                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCELTA DEL RINVIO                                                                                                                                                                                                                                                                                                                               | SELECTION OF THE GEARBOX                                                                                                                                                                                                                                                                                         |
| <p>Per un corretto dimensionamento è necessario individuare: la <b>potenza</b>, il <b>momento torcente</b> e la <b>velocità di rotazione</b>.</p> <p>Consigliamo di consultare anche le tabelle e i dati tecnici riportati nelle "Informazioni generali" (pag. 4 - 7).</p> <p>Per abbreviazioni e sigle consultare il "glossario" (pag. 7).</p> | <p>For correct sizing it is necessary to identify: the <b>power</b>, the <b>torque</b> and the <b>rotation speed</b>.</p> <p>We advise to consult also the tables, and the technical data shown in the "General Information" (p. 4 - 7).</p> <p>For abbreviations and acronyms consult the "glossary" (p. 7)</p> |
| INSTALLAZIONE                                                                                                                                                                                                                                                                                                                                   | INSTALLATION                                                                                                                                                                                                                                                                                                     |
| <p>Assicurarsi del corretto allineamento degli assi per evitare sovraccarichi, surriscaldamenti e usura prematura dei cuscinetti. I rinvii, grazie alla loro forma costruttiva, possono essere installati in qualsiasi posizione.</p>                                                                                                           | <p>Ensure proper alignment of the shafts to avoid overloading, overheating, and premature wear of the bearings.</p> <p>The gearboxes, thanks to their construction design, can be installed in any position.</p>                                                                                                 |
| MESSA IN FUNZIONE                                                                                                                                                                                                                                                                                                                               | START-UP                                                                                                                                                                                                                                                                                                         |
| <p>Dopo un breve test pre-consegna, il rinvio richiede alcune ore di rodaggio per raggiungere il massimo rendimento.</p> <p>Si consiglia un carico graduale fino al massimo entro 20-30 ore di funzionamento. Le temperature iniziali saranno più alte durante il rodaggio.</p>                                                                 | <p>After a brief pre-delivery test, the gearbox requires several hours of running to reach maximum efficiency.</p> <p>A gradual increase in load is recommended, reaching full load within 20-30 hours of operation. Initial temperatures will be higher during the break-in period.</p>                         |
| MANUTENZIONE PERIODICA                                                                                                                                                                                                                                                                                                                          | PERIODIC MAINTENANCE                                                                                                                                                                                                                                                                                             |
| <p>I nostri rinvii sono esenti da manutenzione, è consigliato, tuttavia, controllare periodicamente eventuali perdite di lubrificante.</p> <p>La sostituzione del rinvio dipende dalle condizioni operative, con una durata stimata di 10.000 ore in condizioni normali.</p>                                                                    | <p>Our gearboxes are maintenance-free; however, it is advisable to periodically check for any lubricant leaks.</p> <p>The replacement of the gearbox depends on operating conditions, with an estimated lifespan of 10,000 hours under normal conditions.</p>                                                    |
| STOCCAGGIO                                                                                                                                                                                                                                                                                                                                      | STORAGE                                                                                                                                                                                                                                                                                                          |
| <p>Durante lo stoccaggio in magazzino, proteggere i rinvii da polveri e ambienti corrosivi. Raccomandiamo di ruotare periodicamente i rinvii per assicurare un'adeguata lubrificazione delle parti interne e delle guarnizioni.</p>                                                                                                             | <p>During warehouse storage, protect the gearboxes from dust and corrosive environments. We recommend periodically rotating the gearboxes to ensure proper lubrication of internal parts and seals.</p>                                                                                                          |
| GARANZIA                                                                                                                                                                                                                                                                                                                                        | WARRANTY                                                                                                                                                                                                                                                                                                         |
| <p>La garanzia è valida solo se tutte le istruzioni indicate nel catalogo vengono rispettate.</p>                                                                                                                                                                                                                                               | <p>The warranty is valid only if all instructions provided in the catalog are strictly followed.</p>                                                                                                                                                                                                             |

