

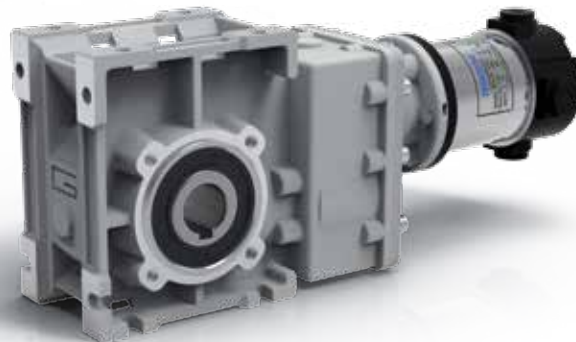
# NDCMB

NDCMB



## Коническо-цилиндрические мотор-редукторы

### Руководство по эксплуатации

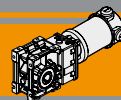


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Астана (7172)727-132  
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Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
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Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89  
Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Казань (843)206-01-48

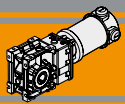
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Киров (8332)68-02-04  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
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Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93



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### Caratteristiche tecniche

### Technical features

Le caratteristiche principali dei motoriduttori CC ad assi ortogonali a magneti permanenti in neodimio NDCMB sono:

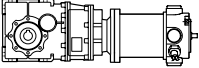
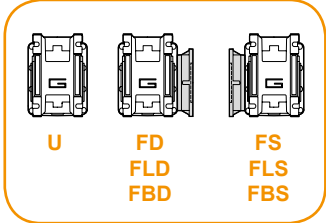
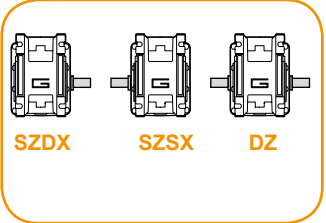
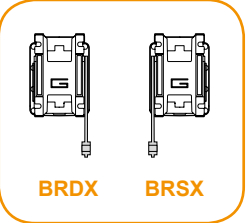
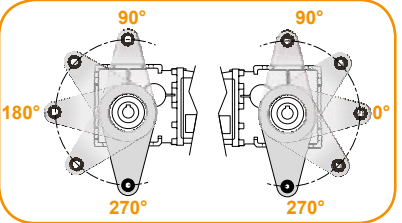
The main features of NDCMB neodymium permanent magnets DC helical bevel gearmotors range are:

- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder
- Potenze motore disponibili da 160 a 250W S2
- Magneti in Neodimio
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Ingranaggi sempre rettificati

- Low voltage power supply 12/24 Vdc
- Suitable for encoder assembly
- Motor power ratings available from 160 to 250W S2
- Neodymium magnets
- Die-cast aluminum housing
- Permanent synthetic oil long-life lubrication
- Ground helical gears

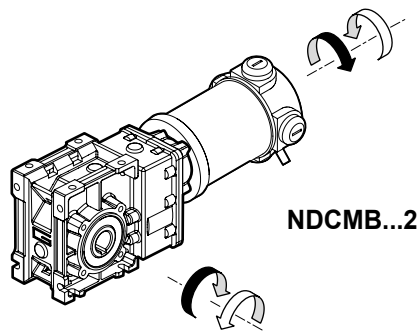
### Designazione

### Classification

| MOTORIDUTTORE / GEARMOTOR   |                    |                    |   |                              |  |                                     |   |                           |                                  |
|---|--------------------|--------------------|---|------------------------------|--|-------------------------------------|---|---------------------------|----------------------------------|
| NDCMB   | 120/402            |                    | U   | 9.2                          | D20  | SZDX                                | BRSX  | 90                        | 240                              |
| Tipo<br>Type  | Grandezza<br>Size  |                    | Versione<br>Riduttore<br>Gearbox Version  | Rapporto<br>Ratio            | Albero<br>di uscita<br>Output shaft  | Albero<br>di uscita<br>Output shaft | Braccio di<br>reazione<br>Torque arm  | Angolo<br>Angle           | Versione Motore<br>Motor Version |
|    | 120/402<br>120/502 | 180/402<br>180/502 | U<br>FD<br>FS<br>FLD<br>FLS<br>FBD<br>FBS   | Vedere tabella<br>See tables | Vedere tabella<br>See tables   | SZDX<br>SZSX<br>DZ                  | BRDX<br>BRSX  | 0°<br>90°<br>180°<br>270° | 120<br><br>240                   |
| Versione Riduttore<br>Gearbox Version   |                    |                    | Albero di uscita<br>Output shaft  |                              | Braccio di reazione<br>Torque arm  |                                     | Angolo<br>Angle   |                           |                                  |
|  |                    |                    |  |                              |  |                                     |  |                           |                                  |

### Sensi di rotazione

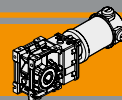
### Direction of rotation



### Simbologia

### Symbols

|                            |                                    |            |   |
|----------------------------|------------------------------------|------------|---|
| $n_1$ [min <sup>-1</sup> ] | Velocità in ingresso / Input speed | $M_2$ [Nm] | Coppia in uscita in funzione di $P_1$ / Output torque referred to $P_1$ |
| $n_2$ [min <sup>-1</sup> ] | Velocità in uscita / Output speed  | sf         | Fattore di servizio / Service factor                                    |
| i                          | Rapporto di riduzione / Ratio      | $A_2$ [N]  | Carico assiale ammissibile in uscita / Permitted output axial load      |
| $P_1$ [kW]                 | Potenza in entrata / Input power   | $R_2$ [N]  | Carico radiale ammissibile in uscita / Permitted output radial load     |



**Lubrificazione**

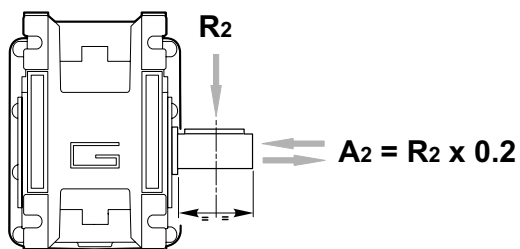
**Lubrication**

Tutti i riduttori nelle taglie 402 e 502 sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

*Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use sizes 402 and 502 in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*

**Carichi radiali**

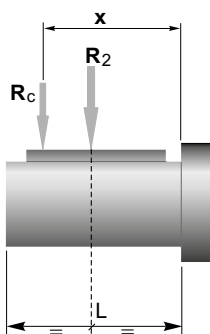
**Radial loads**



| n <sub>2</sub><br>[min <sup>-1</sup> ] | R <sub>2</sub> [N] |         |
|--|--------------------|---------|
|  | CMB 402            | CMB 502 |
| 400                                    | 905                | 1116    |
| 300                                    | 996                | 1228    |
| 200                                    | 1141               | 1406    |
| 170                                    | 1204               | 1484    |
| 140                                    | 1414               | 1743    |
| 100                                    | 1582               | 1949    |
| 90                                     | 1638               | 2019    |
| 60                                     | 2047               | 2490    |
| 40                                     | 2524               | 3029    |
| 30                                     | 2778               | 3334    |
| 20                                     | 3180               | 3816    |
| 15                                     | 3500               | 4200    |
| 10                                     | 3500               | 4200    |

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

*When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:*

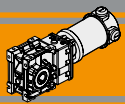


|                   | CMB 402 | CMB 502 |
|-------------------|---------|---------|
| a                 | 86      | 104     |
| b                 | 66      | 79      |
| R <sub>2MAX</sub> | 3500    | 4200    |

$$R_c = \frac{R_2 \cdot a}{(b + x)} \leq R_{2MAX}$$

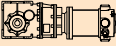
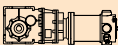
$$R \leq R_c$$

*a, b = valori riportati nella tabella  
a, b = values given in the table*



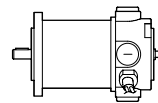
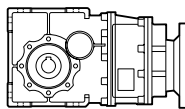
### Dati tecnici per servizio S2

### Technical data for S2 duty

| P <sub>1</sub><br>[W]     | n <sub>2</sub><br>[min <sup>-1</sup> ] | M <sub>2</sub><br>[Nm] | sf   | i     |  | Versione motore<br>Motor version | P <sub>1</sub><br>[W]     | n <sub>2</sub><br>[min <sup>-1</sup> ] | M <sub>2</sub><br>[Nm] | sf  | i     |  | Versione motore<br>Motor version |
|---------------------------|--|------------------------|------|-------|---|----------------------------------|---------------------------|--|------------------------|-----|-------|---|----------------------------------|
| <b>160</b>                |  |                        |      |       |   |                                  | <b>250</b>                |  |                        |     |       |   |                                  |
| (3000 min <sup>-1</sup> ) | <b>485</b>                             | 3.0                    | 10.5 | 6.18  | <b>120/402</b>  | 120/240                          | (3000 min <sup>-1</sup> ) | <b>485</b>                             | 4.6                    | 6.7 | 6.18  | <b>180/402</b>  | 120/240                          |
|                           | <b>401</b>                             | 3.6                    | 8.6  | 7.49  |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>326</b>                             | 4.4                    | 7.0  | 9.20  |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>254</b>                             | 5.7                    | 6.2  | 11.83 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>240</b>                             | 6.0                    | 5.9  | 12.48 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>202</b>                             | 7.1                    | 4.9  | 14.83 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>170</b>                             | 8.4                    | 4.1  | 17.63 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>161</b>                             | 8.9                    | 4.8  | 18.60 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>134</b>                             | 10.7                   | 4.0  | 22.33 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>125</b>                             | 11.4                   | 3.8  | 23.91 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>104</b>                             | 13.8                   | 3.7  | 28.89 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>97</b>                              | 14.8                   | 3.5  | 30.84 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>89</b>                              | 16.1                   | 3.2  | 33.57 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>84</b>                              | 17.1                   | 3.0  | 35.63 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>70</b>                              | 20.5                   | 2.5  | 42.75 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>54</b>                              | 26.5                   | 1.9  | 55.31 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>51</b>                              | 28.3                   | 1.8  | 59.06 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>47</b>                              | 30.8                   | 1.7  | 64.29 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>41</b>                              | 34.7                   | 1.5  | 72.50 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>70</b>                              | 20.5                   | 4.8  | 42.75 | <b>120/502</b>  | 120/240                          |                           | <b>134</b>                             | 16.7                   | 5.1 | 22.33 | <b>180/502</b>  | 120/240                          |
|                           | <b>54</b>                              | 26.5                   | 3.7  | 55.31 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>51</b>                              | 28.3                   | 3.5  | 59.06 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>47</b>                              | 30.8                   | 3.2  | 64.29 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           | <b>41</b>                              | 34.7                   | 2.8  | 72.50 |   |                                  |                           |  |                        |     |       |   |                                  |
|                           |  |                        |      |       |   |                                  |                           |  |                        |     |       |   |                                  |
|                           |  |                        |      |       |   |                                  |                           |  |                        |     |       |   |                                  |
|                           |  |                        |      |       |   |                                  |                           |  |                        |     |       |   |                                  |
|                           |  |                        |      |       |   |                                  |                           |  |                        |     |       |   |                                  |
|                           |  |                        |      |       |   |                                  |                           |  |                        |     |       |   |                                  |

### Motori applicabili

### Motor adapters

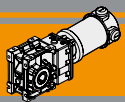


|     |     | ND                 |                    |
|-----|-----|--------------------|--------------------|
|     |     | 120.120<br>120.240 | 180.120<br>180.240 |
| CMB | 402 | 6.18 - 72.50       | 6.18 - 72.50       |
|     | 502 | 6.18 - 72.50       | 6.18 - 72.50       |

6.18 - 72.50

Rapporti di riduzione i  
Ratio i

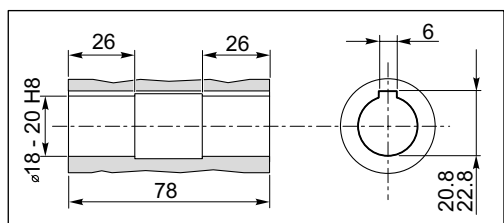
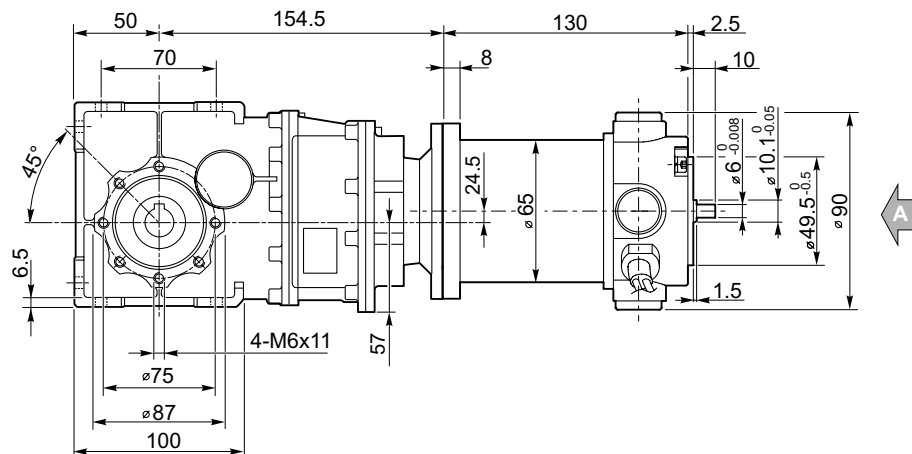




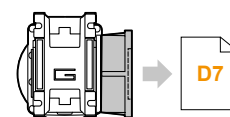
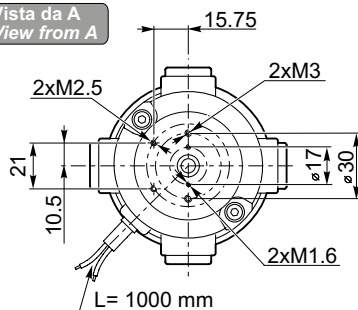
### Dimensioni

### Dimensions

#### NDCMB180/402 U



Vista da A  
View from A



D7

NDCMB180/402 F  
NDCMB180/402 FL  
NDCMB180/402 FB

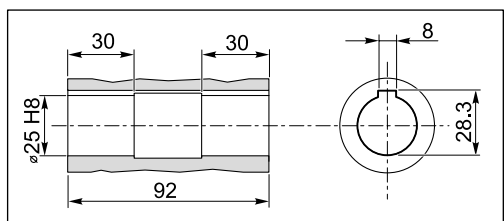
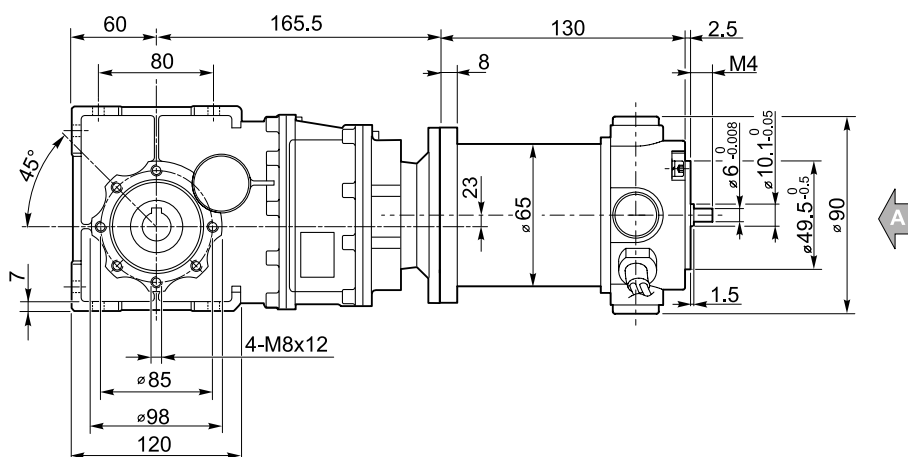
Freno / Brake

B9

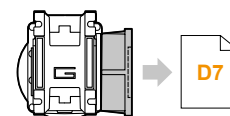
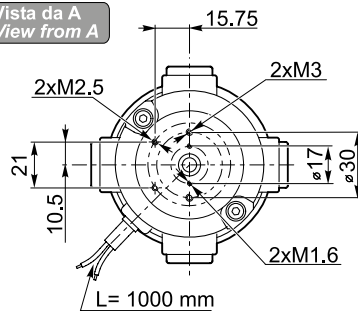
Encoder

B9

#### NDCMB180/502 U



Vista da A  
View from A



D7

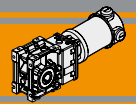
NDCMB180/502 F  
NDCMB180/502 FL  
NDCMB180/502 FB

Freno / Brake

B9

Encoder

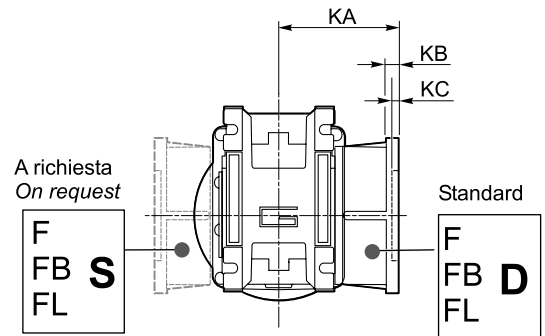
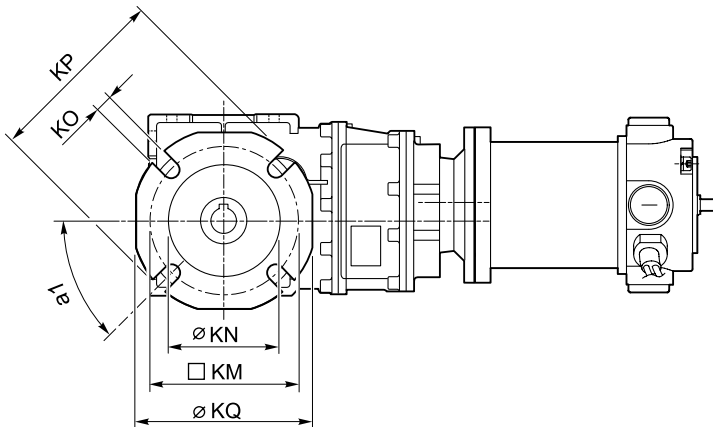
B9



**Dimensioni**

**Dimensions**

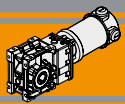
**NDCMB.../... F...** Flange uscita / Output flanges



**NDCMB**

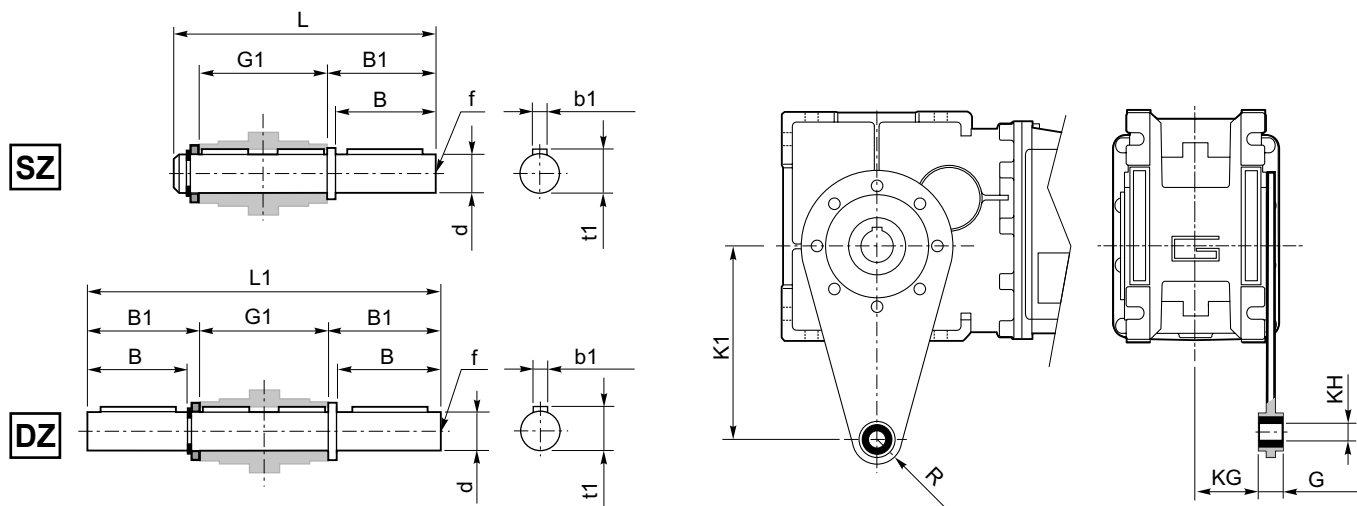
| Flange uscita / Output flanges |                |    |     |     |        |          |    |     |     |                |     |     |     |        |          |    |     |     |                |    |     |    |         |          |     |     |     |  |  |  |
|--------------------------------|----------------|----|-----|-----|--------|----------|----|-----|-----|----------------|-----|-----|-----|--------|----------|----|-----|-----|----------------|----|-----|----|---------|----------|-----|-----|-----|--|--|--|
| CMB                            | F              |    |     |     |        |          |    |     |     |                | FL  |     |     |        |          |    |     |     |                |    | FB  |    |         |          |     |     |     |  |  |  |
|                                | a <sub>1</sub> | KA | KB  | KC  | KM     | KN<br>H8 | KO | KP  | KQ  | a <sub>1</sub> | KA  | KB  | KC  | KM     | KN<br>H8 | KO | KP  | KQ  | a <sub>1</sub> | KA | KB  | KC | KM      | KN<br>H8 | KO  | KP  | KQ  |  |  |  |
| <b>402</b>                     | 45°            | 67 | 7.5 | 4.5 | 80-95  | 60       | 9  | 110 | 95  | 45°            | 97  | 7.5 | 4.5 | 80-95  | 60       | 9  | 110 | 95  | 45°            | 80 | 8.5 | 5  | 115-125 | 95       | 9.5 | 140 | 112 |  |  |  |
| <b>502</b>                     | 45°            | 90 | 9   | 5   | 90-110 | 70       | 11 | 125 | 110 | 45°            | 120 | 9   | 5   | 90-110 | 70       | 11 | 125 | 110 | 45°            | 89 | 9   | 5  | 130-145 | 110      | 9.5 | 160 | 132 |  |  |  |





### Accessori

### Accessories



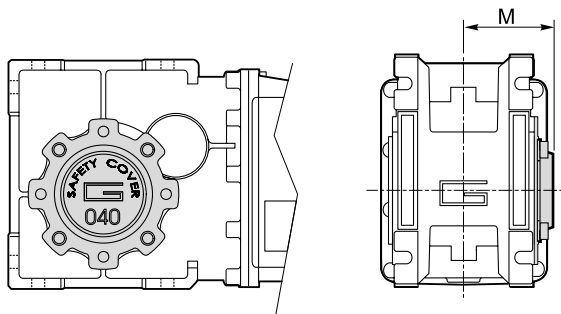
Albero lento / Output shaft

| CMB | d<br>h7 | B  | B1   | G1 | L   | L1  | f   | b1 | t1   |
|-----|---------|----|------|----|-----|-----|-----|----|------|
| 402 | 18      | 40 | 43   | 78 | 128 | 164 | M6  | 6  | 20.5 |
| 502 | 25      | 50 | 53.5 | 92 | 153 | 199 | M10 | 8  | 28   |

Braccio di reazione / Torque arm

| CMB | K1  | G  | KG | KH | R  |
|-----|-----|----|----|----|----|
| 402 | 100 | 14 | 31 | 10 | 18 |
| 502 | 100 | 14 | 38 | 10 | 18 |

### SC - Safety cover



| CMB | M    |
|-----|------|
| 402 | 54.5 |
| 502 | 62.5 |

|                                    |  |                                       |                                  |
|------------------------------------|--|---------------------------------------|----------------------------------|
| <b>Архангельск (8182)63-90-72</b>  | <b>Калининград (4012)72-03-81</b>      | <b>Нижний Новгород (831)429-08-12</b> | <b>Смоленск (4812)29-41-54</b>   |
| <b>Астана (7172)727-132</b>        | <b>Калуга (4842)92-23-67</b>           | <b>Новокузнецк (3843)20-46-81</b>     | <b>Сочи (862)225-72-31</b>       |
| <b>Белгород (4722)40-23-64</b>     | <b>Кемерово (3842)65-04-62</b>         | <b>Новосибирск (383)227-86-73</b>     | <b>Ставрополь (8652)20-65-13</b> |
| <b>Брянск (4832)59-03-52</b>       | <b>Киров (8332)68-02-04</b>            | <b>Орел (4862)44-53-42</b>            | <b>Тверь (4822)63-31-35</b>      |
| <b>Владивосток (423)249-28-31</b>  | <b>Краснодар (861)203-40-90</b>        | <b>Оренбург (3532)37-68-04</b>        | <b>Томск (3822)98-41-53</b>      |
| <b>Волгоград (844)278-03-48</b>    | <b>Красноярск (391)204-63-61</b>       | <b>Пенза (8412)22-31-16</b>           | <b>Тула (4872)74-02-29</b>       |
| <b>Вологда (8172)26-41-59</b>      | <b>Курск (4712)77-13-04</b>            | <b>Пермь (342)205-81-47</b>           | <b>Тюмень (3452)66-21-18</b>     |
| <b>Воронеж (473)204-51-73</b>      | <b>Липецк (4742)52-20-81</b>           | <b>Ростов-на-Дону (863)308-18-15</b>  | <b>Ульяновск (8422)24-23-59</b>  |
| <b>Екатеринбург (343)384-55-89</b> | <b>Магнитогорск (3519)55-03-13</b>     | <b>Рязань (4912)46-61-64</b>          | <b>Уфа (347)229-48-12</b>        |
| <b>Иваново (4932)77-34-06</b>      | <b>Москва (495)268-04-70</b>           | <b>Самара (846)206-03-16</b>          | <b>Челябинск (351)202-03-61</b>  |
| <b>Ижевск (3412)26-03-58</b>       | <b>Мурманск (8152)59-64-93</b>         | <b>Санкт-Петербург (812)309-46-40</b> | <b>Череповец (8202)49-02-64</b>  |
| <b>Казань (843)206-01-48</b>       | <b>Набережные Челны (8552)20-53-41</b> | <b>Саратов (845)249-38-78</b>         | <b>Ярославль (4852)69-52-93</b>  |

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