


# L BVL series Stainless steel shielded helical bevel gearboxes

*Riduttori a coppia conica schermati in acciaio inox*

Section **6**  
Sezione 6

This range is    certified



# FEATURES

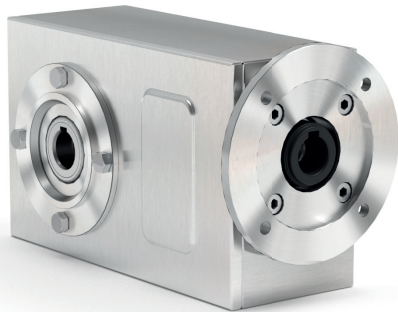
Caratteristiche

## BVL series

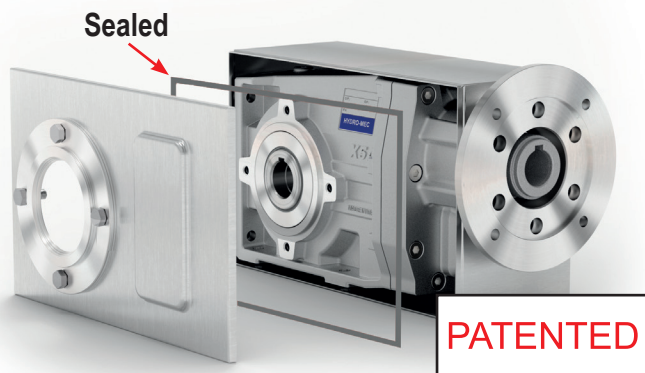
# Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

| Type<br>Tipo | Torque<br>Coppia | Center distance<br>Interasse | Input power<br>Potenza in entrata | Hollow output shaft<br>Albero cavo in uscita |
|--------------|------------------|------------------------------|-----------------------------------|--|
| X22L         | 50 Nm            | -                            | 0.12 ÷ 0.37 kW                    | ø20  |
| X32L         | 90 Nm            | -                            | 0.25 ÷ 1.5 kW                     | ø20  |
| X42L         | 150 Nm           | -                            | 0.25 ÷ 1.5 kW                     | ø25  |
| X52L         | 250 Nm           | -                            | 0.55 ÷ 3.0 kW                     | ø30  |
| X62L         | 410 Nm           | -                            | 0.75 ÷ 4.0 kW                     | ø35  |



This product is:



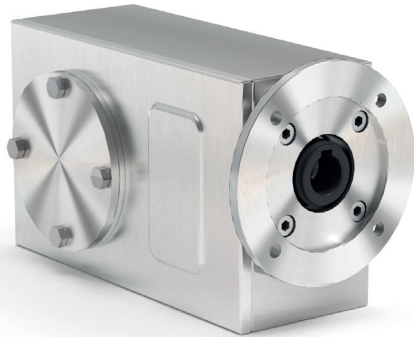
The "L" series is an already totally enclosed aluminum gearboxes, that is shielded and sealed by stainless steel 316L case.

La serie "L" è ottenuta da un riduttore in alluminio che viene incapsulato all'interno di un carter sigillato in inox 316L.

Output shaft is produced in AISI 316L.



Albero in uscita in AISI 316L.



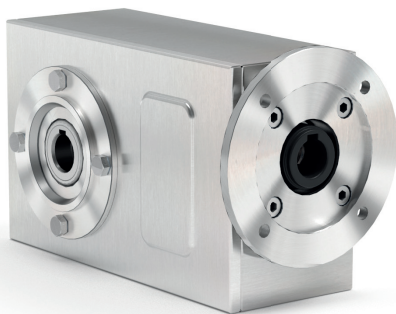
**Protection cap in AISI 316L.**

*Coperchietto di protezione in AISI 316L.*



**Fully modular IEC flanges and compact NEMA C motor flanges.**

*Flange IEC e NEMA completamente modulari.*



**Stainless steel 316L hollow output shaft.  
Viton seals with stainless steel 316L shield.**



*Albero cavo in uscita in acciaio inox AISI 316L. Anelli di tenuta in viton con schermo protettivo in acciaio inox AISI 316L.*

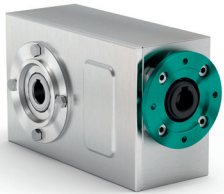
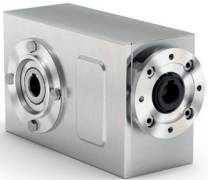
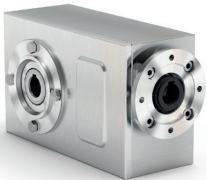
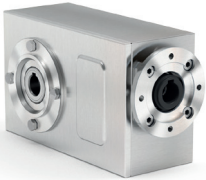


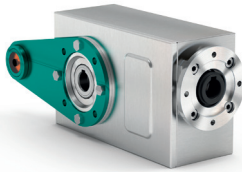

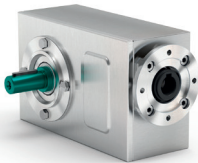
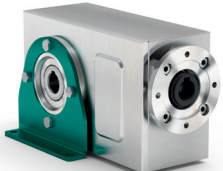



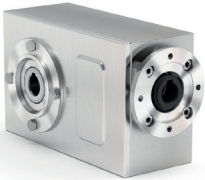
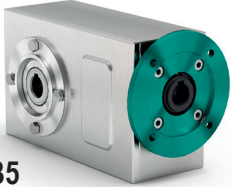

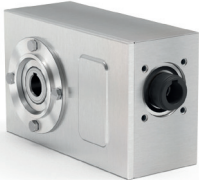
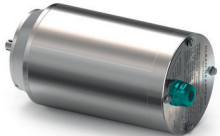
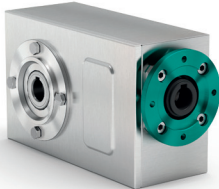

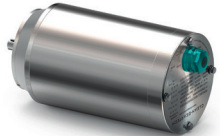
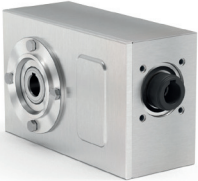


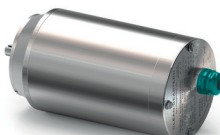

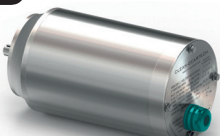



**Hardened and ground gears.**

*Ingranaggi temprati e rettificati.*

# How to order

Codifica

| <b>M</b>   | <b>X42L</b>  | <b>I</b>  | <b>7.29</b>  | <b>-C</b>   | <b>BR</b>   |
|--|--|---|--|---|---|
| Type<br><i>Tipo</i>  | Size<br><i>Grandezza</i>   | Hub<br><i>Mozzo</i>   | Ratio<br><i>Rapporto</i>   | Output shaft<br><i>Albero uscita</i>  | Type<br><i>Tipo</i>   |
| <p><b>P</b></p>    | <p><b>X22L</b><br/><b>X32L</b><br/><b>X42L</b><br/><b>X52L</b><br/><b>X62L</b></p> | <p><b>I</b><br/>Hollow output shaft<br/><i>Foro albero uscita</i></p>      | <p>See technical data table<br/><i>Vedi tabelle dati tecnici</i></p> | <p>Hollow output shaft<br/><i>Foro albero uscita</i></p>   | <p><b>FB</b><br/>Universal<br/><i>Forma base</i></p>               |
| <p><b>M</b></p>   |  | <p><b>A</b><br/>Single output shaft<br/><i>Albero uscita singolo</i></p>  |  | <p>X22L X32L<br/><b>-B</b> → <math>\varnothing 20</math><br/>X42L<br/><b>-C</b> → <math>\varnothing 25</math><br/>X52L<br/><b>-D</b> → <math>\varnothing 30</math><br/>X62L<br/><b>-E</b> → <math>\varnothing 35</math></p> | <p><b>BR</b><br/>Reaction arm<br/><i>Braccio di reazione</i></p>  |
| <p><b>B</b></p>  |  |   |  | <p>Single output shaft<br/><i>Albero uscita singolo</i></p>    | <p><b>PA</b></p>   |
|  |  |   |  | <p>X22L X32L<br/><b>-I</b> → <math>\varnothing 20</math><br/>X42L<br/><b>-L</b> → <math>\varnothing 25</math><br/>X52L<br/><b>-M</b> → <math>\varnothing 30</math><br/>X62L<br/><b>-N</b> → <math>\varnothing 35</math></p> | <p><b>PV</b></p>   |

| <b>N</b>   | <b>-T</b>  | <b>B3</b>  | <b>E</b>   | With Type M specify terminal box position<br><i>Con tipo M specificare posizione morsetti</i>     |
|--|--|--|--|---|
| Output flange<br><i>Flangia in uscita</i>  | Motor size<br><i>Grandezza motore</i>  | Mounting position<br><i>Posizione di montaggio</i>   | Input bore<br><i>Foro entrata</i>  | Terminal box position<br><i>Posizione morsetti</i>  |
| <b>N</b> Without flange<br><i>Senza flangia</i><br>  | <b>Flange</b><br><i>Flange</i><br><br><b>IEC B5</b><br><b>-D</b> -> 80 B5 (ø200)<br><b>-E</b> -> 90 B5 (ø200)   | <b>B3</b><br>   | <b>With coupling</b><br><i>Con giunto</i><br>                            | <b>A</b><br>   |
|  | <br><b>IEC B14</b><br><b>-P</b> -> 63 B14 (ø90)<br><b>-Q</b> -> 71 B14 (ø105)<br><b>-R</b> -> 80 B14 (ø120)<br><b>-T</b> -> 90 B14 (ø140)<br><b>-U</b> -> 100÷112 B14 (ø160) | <b>B6</b><br>   | <b>B</b> -> 11mm<br><b>C</b> -> 14mm<br><b>D</b> -> 19mm<br><b>E</b> -> 24mm<br><b>F</b> -> 28mm   | <b>B</b><br>   |
| <b>Without flange</b><br><i>Senza flangia</i><br><br><b>-M</b> With coupling<br><i>Con giunto</i><br> |  | <b>B7</b><br> | <b>0</b> Ready for input coupling<br><i>Predisposto per giunto</i><br> | <b>C</b><br>  |
|  |  | <b>B8</b><br> |  | <b>D</b><br> |
|  |  | <b>V5</b><br> |  |   |
|  |  | <b>V6</b><br> |  |   |
|  |  | <b>V8</b><br> |  |   |

# Useful formulas

Formule utili

## Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

## Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

## Radial loads - Carichi radiali

Radial load generated by external transmissions keyed onto input and/or output shafts.

Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.

$$F_{R[N]} = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_{R[N]} = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

**M:** Output torque - Momento torcente

**d:** Diam. of driving element - Diametro primitivo

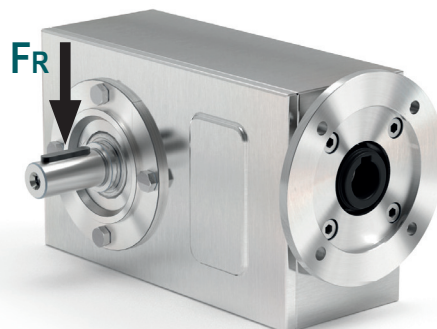
**f<sub>k</sub>:** Factor - Coefficiente di trasformazione

1.15: Gearwheels - Ingranaggi

1.25: Chain sprockets - Catena

1.75: Narrow v-belt pulley - Cinghia Trapezoidale

2.50: Flat-belt pulley - Cinghia piatta



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

# How to select a gearbox

Come selezionare un riduttore

## A Select required torque (according to service factor)

Seleziona la coppia desiderata (comprensiva del fattore di servizio)

## B Select output speed

Seleziona la velocità in uscita

## C Select gear ratio in the line corresponding to the chosen motor power

Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione

## D Select motor flange available (if requested)

Scegli la flangia disponibile (se richiesta)

Gear size  
Grandezza  
riduttore

C

Ratio  
Rapporto

Transmitted torque  
Momento torcente  
trasmesso

Nominal power  
Potenza nominale

Flange code  
Codice flangia

Input speed  
Velocità in entrata

X22L

50  
Nm



BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

The dynamic efficiency is **0.96** for all ratios

Input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output speed<br>$n_2$ [min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$ [kW] | Output torque<br>$M_{2M}$ [Nm] | Service factor<br>$f.s.$ | Nominal power<br>$P_{1R}$ [kW] | Nominal torque<br>$M_{2R}$ [Nm] | B5 motor flanges |   | B14 motor flanges |                 | Output shaft<br> | Ratio code<br> |
|--|--------------|------------------------------|--------------------------------|--------------------------|--------------------------------|---------------------------------|------------------|---|-------------------|-----------------|---|---|
|  |              |                              |                                |                          |                                |                                 | -                | - | -P<br>63          | -Q<br>71        |   |   |
| 290  | <b>4.83</b>  | 0.37                         | 12                             | 2.6                      | <b>0.95</b>                    | <b>30</b>                       |                  |   | C                 |                 | 289   | 01  |
| 189  | <b>7.40</b>  | 0.37                         | 18                             | 1.7                      | <b>0.62</b>                    | <b>30</b>                       |                  |   | C                 |                 | 287   | 02  |
| 146  | <b>9.58</b>  | 0.37                         | 23                             | 1.7                      | <b>0.64</b>                    | <b>40</b>                       |                  |   | C                 |                 | 199   | 03  |
| 128  | <b>10.98</b> | 0.37                         | 27                             | 1.7                      | <b>0.63</b>                    | <b>45</b>                       |                  |   | C                 |                 | 179   | 04  |
| 107  | <b>13.07</b> | 0.37                         | 32                             | 1.4                      | <b>0.53</b>                    | <b>45</b>                       |                  |   | C                 |                 | 159   | 05  |
| 95   | <b>14.66</b> | 0.37                         | 35                             | 1.3                      | <b>0.47</b>                    | <b>45</b>                       |                  |   | C                 | Standard<br>ø20 | 197   | 06  |
| 89   | <b>15.79</b> | 0.37                         | 38                             | 1.2                      | <b>0.44</b>                    | <b>45</b>                       |                  |   | C                 |                 | 139   | 07  |
| 83   | <b>16.81</b> | 0.37                         | 41                             | 1.1                      | <b>0.41</b>                    | <b>45</b>                       |                  |   | C                 |                 | 177   | 08  |
| 70   | <b>20.00</b> | 0.37                         | 48                             | 1.0                      | <b>0.37</b>                    | <b>48</b>                       |                  |   | C                 |                 | 157   | 09  |
| ...  | ...          | ...                          | ...                            | ...                      | ...                            | ...                             |                  |   | ...               |                 | ...   | ...   |

B Output speed  
Velocità in uscita

Motor power  
Potenza motore

Service factor  
Fattore di servizio

A Nominal torque  
Momento torcente  
nominale

Output shaft diam.  
Diametro albero uscita

Notes  
Note

### Type of load and starts per hour

Tipo di carico e avviamenti per ora

### Oper. hours per day

Ore di funz. giorn.

|  |                            | Oper. hours per day |      |      |
|--|----------------------------|---------------------|------|------|
|  |                            | 3h                  | 10h  | 24h  |
| Continuous or intermittent application with start / hour<br><i>Applicazione continua o intermittente con numero operazioni/ora</i> | Uniform - <i>Uniforme</i>  | 0.8                 | 1    | 1.25 |
|  | Moderate - <i>Moderato</i> | 1                   | 1.25 | 1.5  |
|  | Heavy - <i>Forte</i>       | 1.25                | 1.5  | 1.75 |
| Intermittent application with start / hour<br><i>Applicazione intermittente con numero operazioni/ora</i>                          | Uniform - <i>Uniforme</i>  | 1                   | 1.25 | 1.5  |
|  | Moderate - <i>Moderato</i> | 1.25                | 1.5  | 1.75 |
|  | Heavy - <i>Forte</i>       | 1.5                 | 1.75 | 2.15 |

D Motor flange available  
Flange disponibili


B) Mounting with reduction bushing  
*Montaggio con boccia di riduzione*

C) Motor flange holes position/terminal box position  
*Posizione fori flangia/basetta motore*

B) Available without reduction bushing  
*Disponibile anche senza boccia*

The dynamic efficiency is **0.96** for all ratios

Input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output speed<br>$n_2$ [min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$ [kW] | Output torque<br>$M_{2M}$ [Nm] | Service factor<br>$f_s$ | Nominal power<br>$P_{1R}$ [kW] | Nominal torque<br>$M_{2R}$ [Nm] | B5 motor flanges |   | B14 motor flanges |                 | Output shaft<br> | Ratio code |
|--|--------------|------------------------------|--------------------------------|-------------------------|--------------------------------|---------------------------------|------------------|---|-------------------|-----------------|---|------------|
|  |              |                              |                                |                         |                                |                                 | -                | - | -P<br>63          | -Q<br>71        |   |            |
| 290  | <b>4.83</b>  | 0.37                         | 12                             | 2.6                     | <b>0.95</b>                    | <b>30</b>                       |                  |   | C                 |                 | 289   | 01         |
| 189  | <b>7.40</b>  | 0.37                         | 18                             | 1.7                     | <b>0.62</b>                    | <b>30</b>                       |                  |   | C                 |                 | 287   | 02         |
| 146  | <b>9.58</b>  | 0.37                         | 23                             | 1.7                     | <b>0.64</b>                    | <b>40</b>                       |                  |   | C                 |                 | 199   | 03         |
| 128  | <b>10.98</b> | 0.37                         | 27                             | 1.7                     | <b>0.63</b>                    | <b>45</b>                       |                  |   | C                 |                 | 179   | 04         |
| 107  | <b>13.07</b> | 0.37                         | 32                             | 1.4                     | <b>0.53</b>                    | <b>45</b>                       |                  |   | C                 |                 | 159   | 05         |
| 95   | <b>14.66</b> | 0.37                         | 35                             | 1.3                     | <b>0.47</b>                    | <b>45</b>                       |                  |   | C                 |                 | 197   | 06         |
| 89   | <b>15.79</b> | 0.37                         | 38                             | 1.2                     | <b>0.44</b>                    | <b>45</b>                       |                  |   | C                 |                 | 139   | 07         |
| 83   | <b>16.81</b> | 0.37                         | 41                             | 1.1                     | <b>0.41</b>                    | <b>45</b>                       |                  |   | C                 |                 | 177   | 08         |
| 70   | <b>20.00</b> | 0.37                         | 48                             | 1.0                     | <b>0.37</b>                    | <b>48</b>                       |                  |   | C                 | Standard<br>ø20 | 157   | 09         |
| 64   | <b>21.93</b> | 0.37                         | 53                             | 0.9                     | <b>0.35</b>                    | <b>50</b>                       |                  |   | C                 |                 | 109   | 10         |
| 58   | <b>24.18</b> | 0.25                         | 39                             | 1.3                     | <b>0.32</b>                    | <b>50</b>                       |                  |   | C                 |                 | 137   | 11         |
| 48.2                                       | <b>29.04</b> | 0.25                         | 47                             | 1.1                     | <b>0.26</b>                    | <b>50</b>                       |                  |   | C                 |                 | 99  | 12         |
| 41.7                                       | <b>33.57</b> | 0.18                         | 42                             | 1.2                     | <b>0.23</b>                    | <b>50</b>                       |                  |   | C                 |                 | 107   | 13         |
| 36.2                                       | <b>38.67</b> | 0.18                         | 48                             | 1.0                     | <b>0.20</b>                    | <b>50</b>                       |                  |   | C                 |                 | 79  | 14         |
| 31.5                                       | <b>44.44</b> | 0.18                         | 55                             | 0.9                     | <b>0.17</b>                    | <b>50</b>                       |                  |   | C                 |                 | 97  | 15         |
| 23.7                                       | <b>59.18</b> | 0.12                         | 48                             | 1.0                     | <b>0.13</b>                    | <b>50</b>                       |                  |   | C                 |                 | 77  | 16         |
| 19.9                                       | <b>70.24</b> | 0.12                         | 57                             | 0.9                     | <b>0.11</b>                    | <b>50</b>                       |                  |   | C                 |                 | 67  | 17         |

Motor flanges available  
Flange motore disponibili

 B) Supplied with reduction bushing  
Fornito con bussola di riduzione

B) Available on request without reduction bushing  
Disponibile a richiesta senza bussola di riduzione

 C) Motor flange holes position  
Posizione fori flangia motore

## Lubrication

Lubrificazione

Always specify the mounting position  
Specificare sempre la posizione di montaggio

Unit X22L is supplied with synthetic oil to assure long life lubrication.  
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

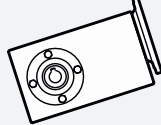
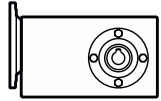
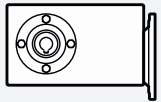
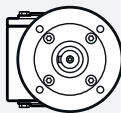
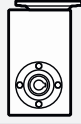
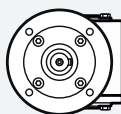
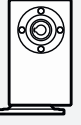
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X22L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

| Agip                  | Shell   | V8                    |  |
|-----------------------|---|-----------------------|---|
| Telium VSF 320        | Omala S4 WE 320   | On request<br>ASK     |   |
| B3                    |  | B8                    |  |
| Standard<br>0.25 LT   |   | On request<br>0.25 LT |   |
| B6                    |  | V5                    |  |
| On request<br>0.25 LT |   | On request<br>0.43 LT |   |
| B7                    |  | V6                    |  |
| On request<br>0.25 LT |   | On request<br>0.31 LT |   |

## Radial and axial loads

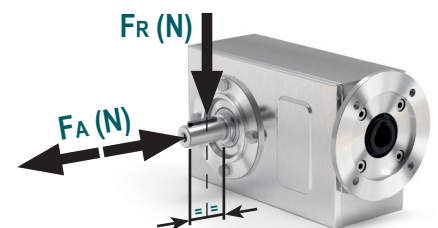
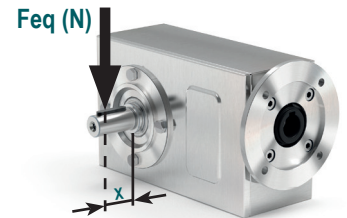
Carichi radiali e assiali

### Output shaft

Albero di uscita

| $n_2$ [min <sup>-1</sup> ] | $F_A$ [N] | $F_R$ [N] |
|----------------------------|-----------|-----------|
| 400                        | 360       | 1800      |
| 250                        | 380       | 1900      |
| 150                        | 420       | 2100      |
| 100                        | 440       | 2200      |
| 75                         | 440       | 2200      |
| 50                         | 440       | 2200      |
| 25                         | 440       | 2200      |
| 15                         | 440       | 2200      |

$$F_{eq} = F_R \cdot \frac{42}{X + 23}$$



Tab. 1

Tab. 2



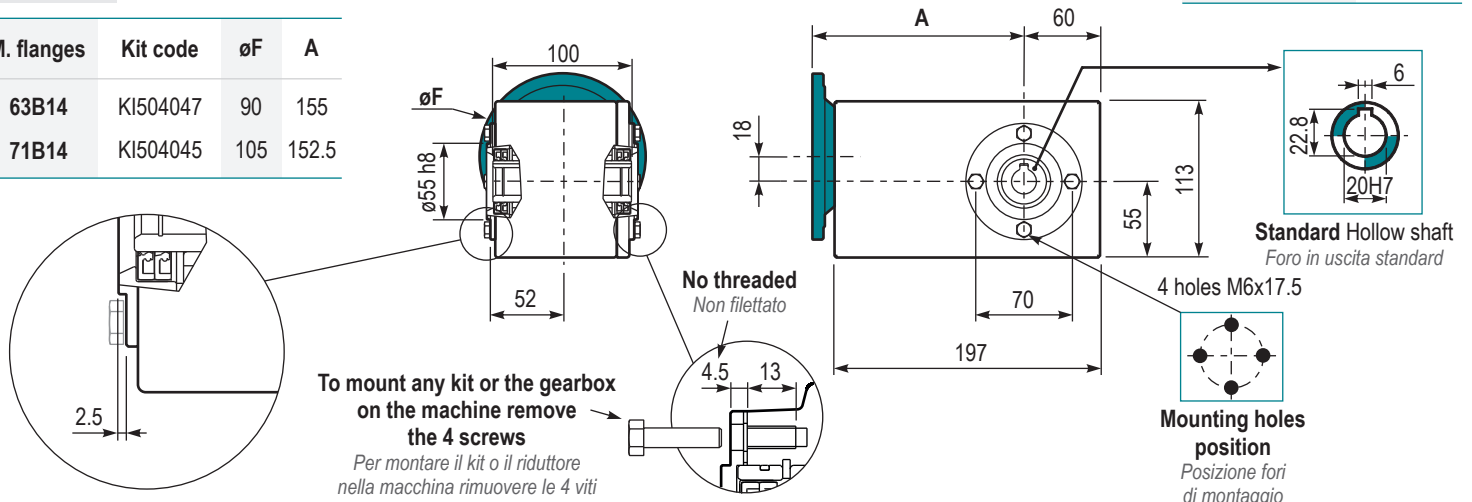
50  
Nm

X22L

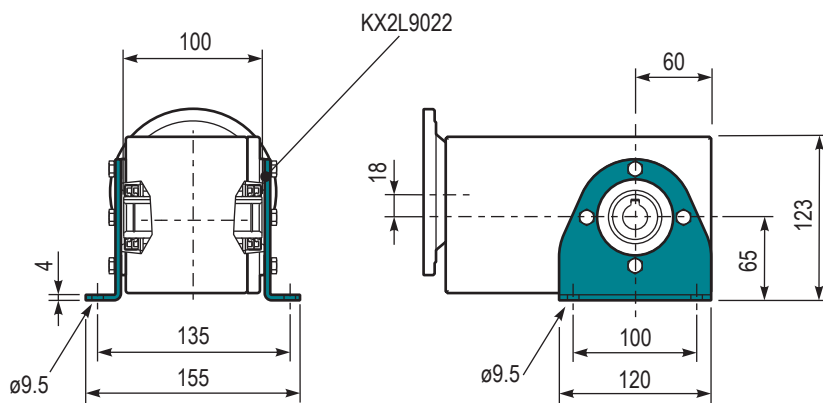
**P<sub>X22L</sub>...** Basic gearbox  
*Riduttore base*

| M. flanges | Kit code | øF  | A     |
|------------|----------|-----|-------|
| 63B14      | KI504047 | 90  | 155   |
| 71B14      | KI504045 | 105 | 152.5 |

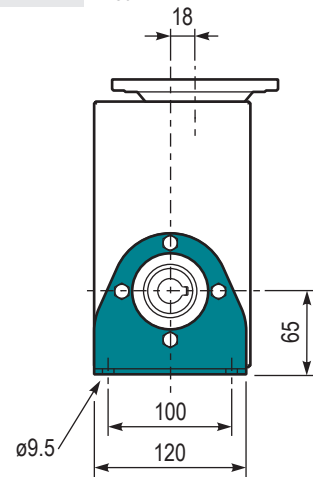
**Gearbox weight** 7.0 kg  
*Peso riduttore*



**PX22L PA..** Feet  
*Piedini*

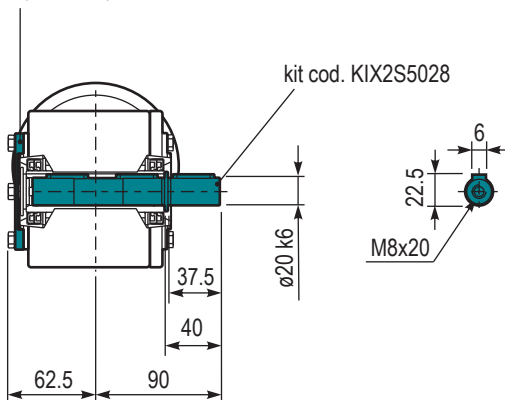


**PX22L PV..** Feet  
*Piedini*

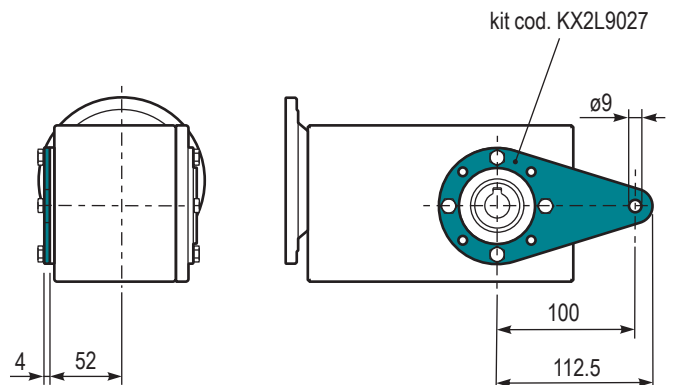


**PX22L A..** Single output shaft  
*Albero semplice in uscita*

cod. X2L0209  
**Protection cap ( on request )**  
*A richiesta coperchio di protezione*




**PX22L BR..** Reaction Arm  
*Braccio di reazione*



The dynamic efficiency is **0.96** for all ratios

Input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output speed<br>$n_2$ [min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$ [kW] | Output torque<br>$M_{2M}$ [Nm] | Service factor<br>$f_s$ | Nominal power<br>$P_{1R}$ [kW] | Nominal torque<br>$M_{2R}$ [Nm] | B5 motor flanges |   | B14 motor flanges |          |                 | Output shaft<br> | Ratio code |
|--|--------------|------------------------------|--------------------------------|-------------------------|--------------------------------|---------------------------------|------------------|---|-------------------|----------|-----------------|---|------------|
|  |              |                              |                                |                         |                                |                                 | -                | - | -Q<br>71          | -R<br>80 | -T<br>90        |   |            |
| 191  | <b>7.33</b>  | 1.5                          | 72                             | 1.0                     | <b>1.5</b>                     | <b>70</b>                       |                  |   | C                 | C        |                 | 289   | 01         |
| 125  | <b>11.22</b> | 1.1                          | 80                             | 1.1                     | <b>1.2</b>                     | <b>85</b>                       |                  |   | C                 | C        |                 | 287   | 02         |
| 106  | <b>13.26</b> | 1.1                          | 95                             | 0.9                     | <b>0.98</b>                    | <b>85</b>                       |                  |   | C                 | C        |                 | 199   | 03         |
| 91   | <b>15.37</b> | 1.1                          | 110                            | 0.8                     | <b>0.89</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 179   | 04         |
| 78   | <b>18.04</b> | 0.75                         | 89                             | 1.0                     | <b>0.76</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 159   | 05         |
| 69   | <b>20.30</b> | 0.75                         | 100                            | 0.9                     | <b>0.68</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 197   | 06         |
| 65   | <b>21.54</b> | 0.75                         | 106                            | 0.9                     | <b>0.64</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 139   | 07         |
| 59   | <b>23.53</b> | 0.55                         | 85                             | 1.1                     | <b>0.58</b>                    | <b>90</b>                       |                  |   | C                 | C        | Standard<br>ø20 | 177   | 08         |
| 51   | <b>27.62</b> | 0.55                         | 100                            | 0.9                     | <b>0.50</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 157   | 09         |
| 47.6                                       | <b>29.40</b> | 0.55                         | 106                            | 0.8                     | <b>0.47</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 109   | 10         |
| 42.5                                       | <b>32.97</b> | 0.37                         | 80                             | 1.1                     | <b>0.42</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 137   | 11         |
| 36.5                                       | <b>38.37</b> | 0.37                         | 93                             | 1.0                     | <b>0.36</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 99  | 12         |
| 31.1                                       | <b>45.00</b> | 0.25                         | 73                             | 1.2                     | <b>0.31</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 107   | 13         |
| 27.6                                       | <b>50.67</b> | 0.25                         | 83                             | 1.1                     | <b>0.27</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 79  | 14         |
| 23.8                                       | <b>58.73</b> | 0.25                         | 96                             | 0.9                     | <b>0.23</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 97  | 15         |
| 18.1                                       | <b>77.55</b> | 0.25*                        | 127                            | 0.7                     | <b>0.18</b>                    | <b>90</b>                       |                  |   | C                 | C        |                 | 77  | 16         |

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$

Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

Motor flanges available  
Flange motore disponibili

B) Supplied with reduction bushing  
Fornito con bussola di riduzione

B) Available on request without reduction bushing  
Disponibile a richiesta senza bussola di riduzione

C) Motor flange holes position  
Posizione fori flangia motore

## Lubrication

Lubrificazione

Always specify the mounting position

Specificare sempre la posizione di montaggio

Unit X32L is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

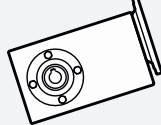
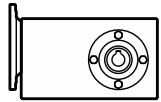
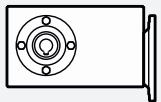
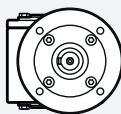
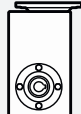
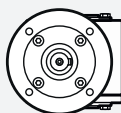
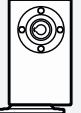
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X32L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

| Agip                  | Shell   | V8                    |  |
|-----------------------|---|-----------------------|---|
| Telium VSF 320        | Omala S4 WE 320   | On request<br>ASK     |   |
| B3                    |  | B8                    |  |
| Standard<br>0.40 LT   |   | On request<br>0.60 LT |   |
| B6                    |  | V5                    |  |
| On request<br>0.60 LT |   | On request<br>0.85 LT |   |
| B7                    |  | V6                    |  |
| On request<br>0.40 LT |   | On request<br>0.60 LT |   |

Tab. 1

## Radial and axial loads

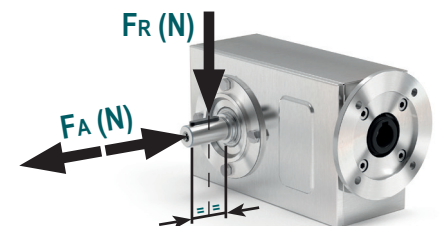
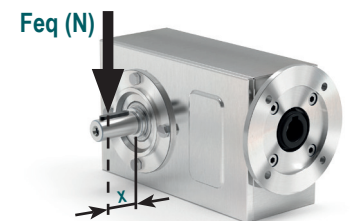
Carichi radiali e assiali

### Output shaft

Albero di uscita

| $n_2$ [min <sup>-1</sup> ] | $F_A$ [N] | $F_R$ [N] |
|----------------------------|-----------|-----------|
| 250                        | 400       | 2000      |
| 150                        | 450       | 2250      |
| 100                        | 500       | 2500      |
| 75                         | 560       | 2800      |
| 50                         | 560       | 2800      |
| 25                         | 560       | 2800      |
| 15                         | 560       | 2800      |

$$F_{eq} = F_R \cdot \frac{47.5}{X + 28.5}$$



Tab. 2

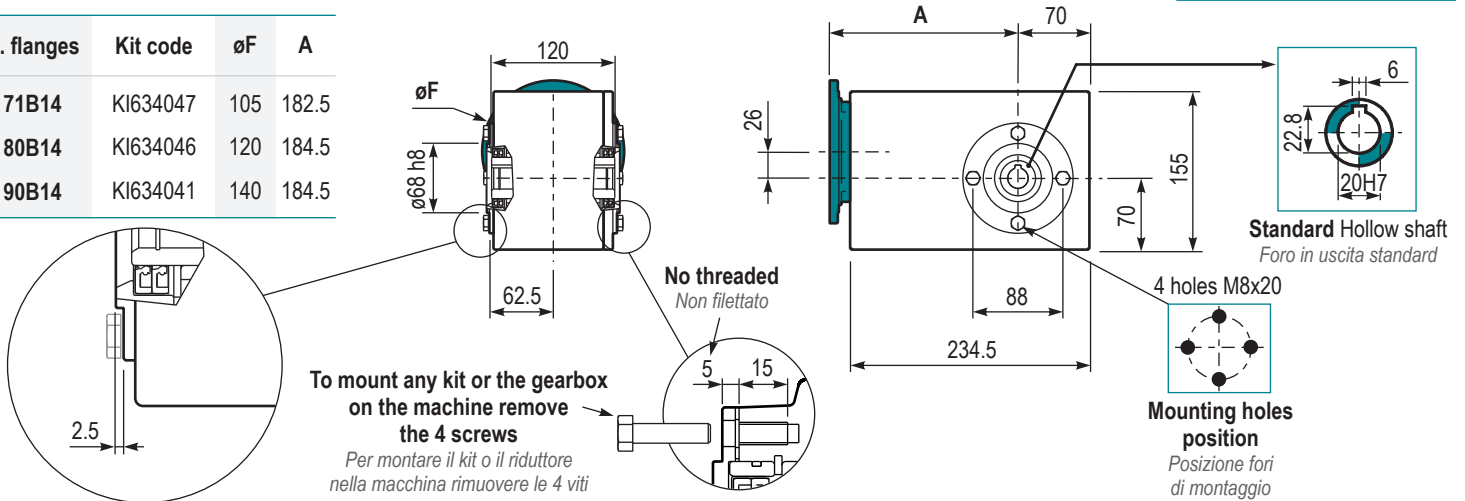
90  
Nm

X32L

**P<sub>X32L</sub>...** Basic gearbox  
*Riduttore base*

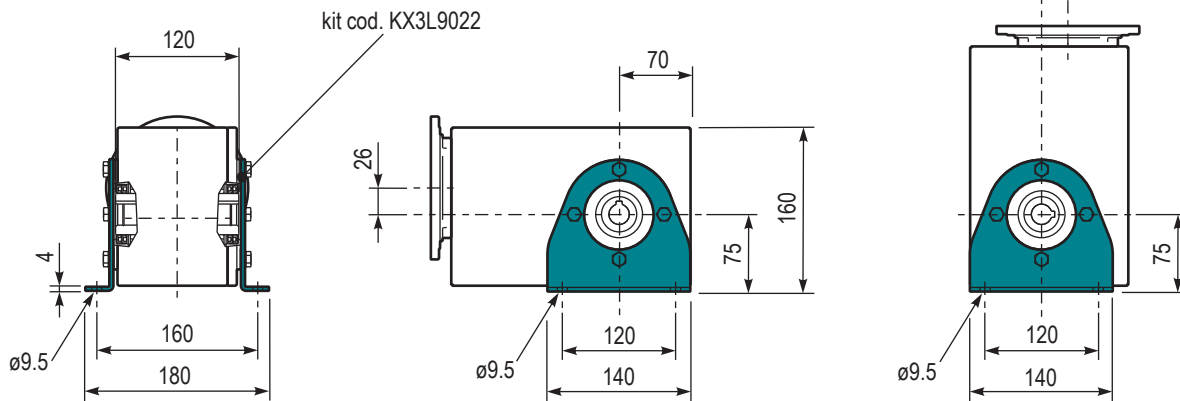
| M. flanges | Kit code | øF  | A     |
|------------|----------|-----|-------|
| 71B14      | KI634047 | 105 | 182.5 |
| 80B14      | KI634046 | 120 | 184.5 |
| 90B14      | KI634041 | 140 | 184.5 |

**Gearbox weight** 12.0 kg  
*Peso riduttore*



**PX32L PA..** Feet  
*Piedini*

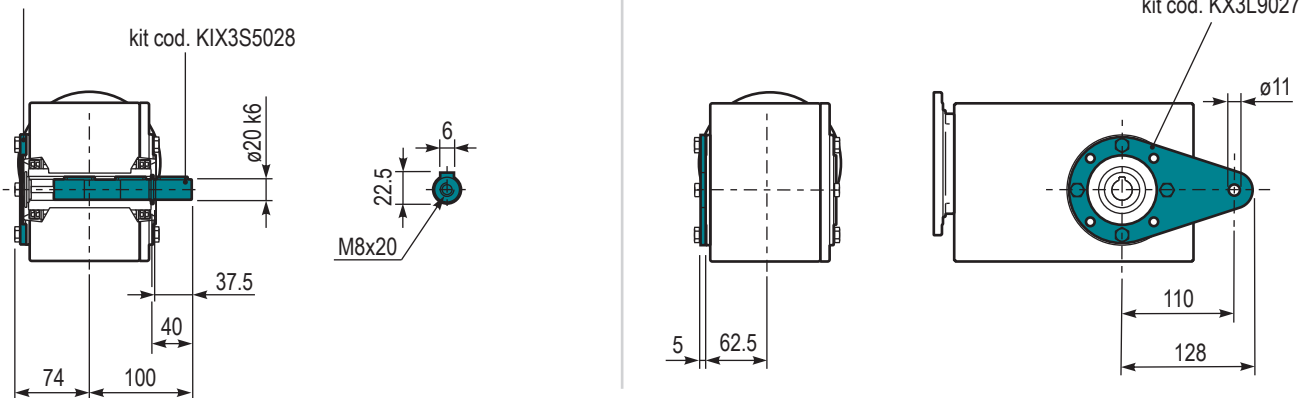
**PX32L PV..** Feet  
*Piedini*



**PX32L A..** Single output shaft  
*Albero semplice in uscita*

**PX32L BR..** Reaction Arm  
*Braccio di reazione*

cod. X3L0209  
**Protection cap ( on request )**  
*A richiesta coperchio di protezione*



# X42L

## 150 Nm


### BVL series

# Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

The dynamic efficiency is **0.96** for all ratios

Input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output speed<br>$n_2$ [min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$ [kW] | Output torque<br>$M_{2M}$ [Nm] | Service factor<br>$f_s$ | Nominal power<br>$P_{1R}$ [kW] | Nominal torque<br>$M_{2R}$ [Nm] | B5 motor flanges |   |   | B14 motor flanges |    |    | Output shaft<br> | Ratio code |
|--|--------------|------------------------------|--------------------------------|-------------------------|--------------------------------|---------------------------------|------------------|---|---|-------------------|----|----|---|------------|
|  |              |                              |                                |                         |                                |                                 | -                | - | - | -Q                | -R | -T |   |            |
| 192  | <b>7.29</b>  | 1.5                          | 71                             | 1.3                     | <b>2.0</b>                     | <b>95</b>                       | -                | - | - | 71                | 80 | 90 | 2811  | 01         |
| 125  | <b>11.20</b> | 1.5                          | 110                            | 1.4                     | <b>2.0</b>                     | <b>150</b>                      | -                | - | - | -                 | -  | -  | 288   | 02         |
| 106  | <b>13.18</b> | 1.5                          | 129                            | 1.2                     | <b>1.7</b>                     | <b>150</b>                      | -                | - | - | -                 | -  | -  | 1911  | 03         |
| 92   | <b>15.27</b> | 1.1                          | 109                            | 1.4                     | <b>1.5</b>                     | <b>150</b>                      | -                | - | - | -                 | -  | -  | 1711  | 04         |
| 78   | <b>17.93</b> | 1.1                          | 128                            | 1.2                     | <b>1.3</b>                     | <b>150</b>                      | -                | - | - | -                 | -  | -  | 1511  | 05         |
| 69   | <b>20.25</b> | 1.1                          | 145                            | 1.0                     | <b>1.1</b>                     | <b>150</b>                      | -                | - | - | -                 | -  | -  | 198   | 06         |
| 65   | <b>21.40</b> | 1.1                          | 153                            | 1.0                     | <b>1.1</b>                     | <b>150</b>                      | -                | - | - | -                 | -  | -  | 1311  | 07         |
| 60   | <b>23.47</b> | 0.75                         | 115                            | 1.3                     | <b>0.98</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 178   | 08         |
| 51   | <b>27.55</b> | 0.75                         | 135                            | 1.1                     | <b>0.83</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 158   | 09         |
| 47.9                                       | <b>29.21</b> | 0.75                         | 143                            | 1.0                     | <b>0.78</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 1011  | 10         |
| 42.6                                       | <b>32.88</b> | 0.75                         | 161                            | 0.9                     | <b>0.70</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 138   | 11         |
| 36.7                                       | <b>38.12</b> | 0.55                         | 138                            | 1.1                     | <b>0.60</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 911   | 12         |
| 31.2                                       | <b>44.89</b> | 0.55                         | 163                            | 0.9                     | <b>0.51</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 108   | 13         |
| 27.8                                       | <b>50.34</b> | 0.37                         | 122                            | 1.1                     | <b>0.40</b>                    | <b>131</b>                      | -                | - | - | -                 | -  | -  | 711   | 14         |
| 23.9                                       | <b>58.58</b> | 0.37                         | 142                            | 1.1                     | <b>0.39</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 98  | 15         |
| 18.1                                       | <b>77.36</b> | 0.25                         | 126                            | 1.2                     | <b>0.30</b>                    | <b>150</b>                      | -                | - | - | -                 | -  | -  | 78  | 16         |

Motor flanges available  
Flange motore disponibili

 B) Supplied with reduction bushing  
Fornito con bussola di riduzione

B) Available on request without reduction bushing  
Disponibile a richiesta senza bussola di riduzione

 C) Motor flange holes position  
Posizione fori flangia motore

## Lubrication

Lubrificazione

Always specify the mounting position  
Specificare sempre la posizione di montaggio

Unit X42L is supplied with synthetic oil to assure long life lubrication.  
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

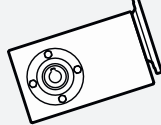
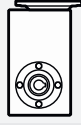
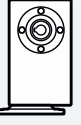
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X42L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

| Agip                  | Shell                 | V8                    |  |
|-----------------------|-----------------------|-----------------------|---|
| Telium VSF 320        | Omala S4 WE 320       | On request<br>ASK     |   |
| B3                    | B8                    | V5                    |  |
| Standard<br>0.60 LT   | Standard<br>0.70 LT   | On request<br>1.10 LT |   |
| B6                    | V6                    | V6                    |  |
| On request<br>0.75 LT | On request<br>0.60 LT | On request<br>0.60 LT |   |
| B7                    |                       |                       |   |
| On request<br>0.50 LT |                       |                       |   |

## Radial and axial loads

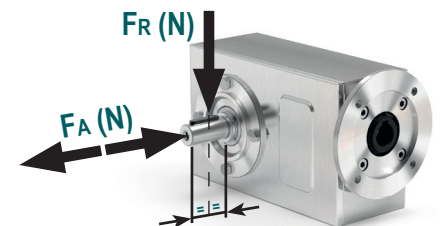
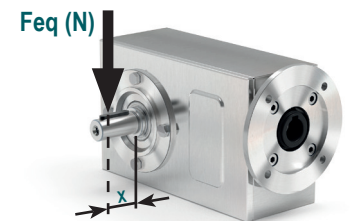
Carichi radiali e assiali

### Output shaft

Albero di uscita

| $n_2$ [min <sup>-1</sup> ] | $F_A$ [N] | $F_R$ [N] |
|----------------------------|-----------|-----------|
| 250                        | 500       | 2500      |
| 150                        | 600       | 3000      |
| 100                        | 700       | 3500      |
| 75                         | 800       | 4000      |
| 50                         | 960       | 4800      |
| 25                         | 960       | 4800      |
| 15                         | 960       | 4800      |

$$F_{eq} = F_R \cdot \frac{54}{X + 28}$$



Tab. 1

Tab. 2

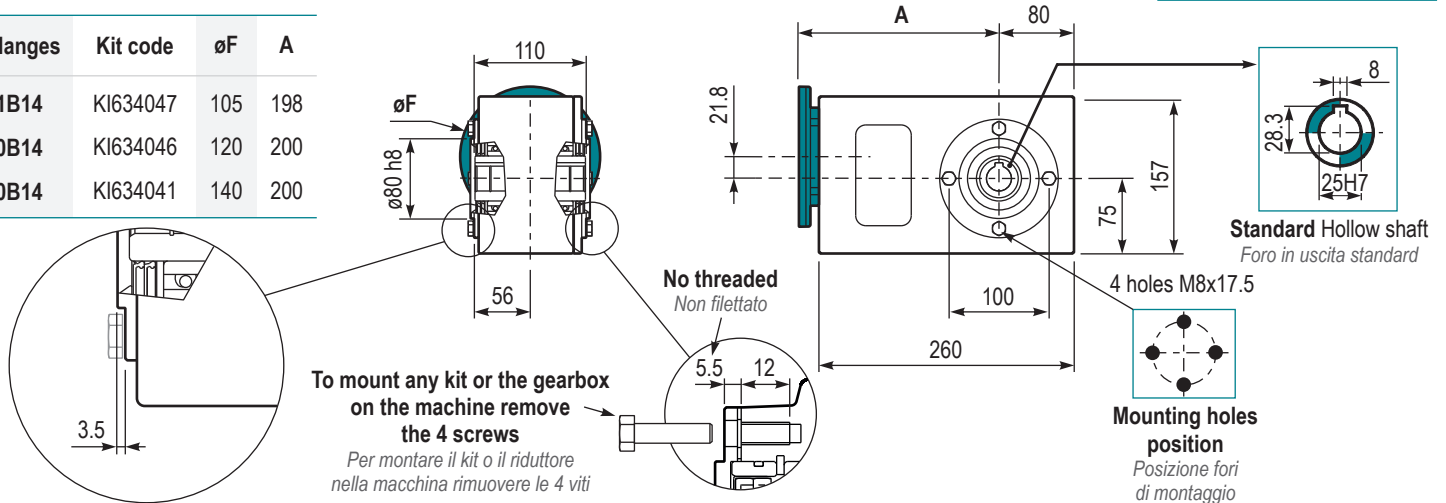
150  
Nm

X42L

**P<sub>X42L</sub>...** Basic gearbox  
*Riduttore base*

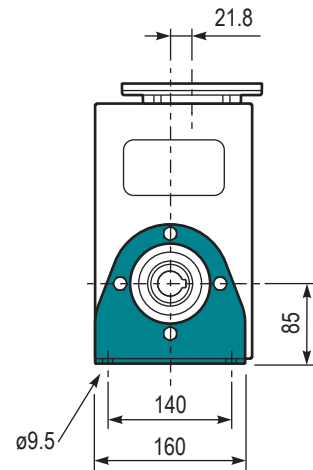
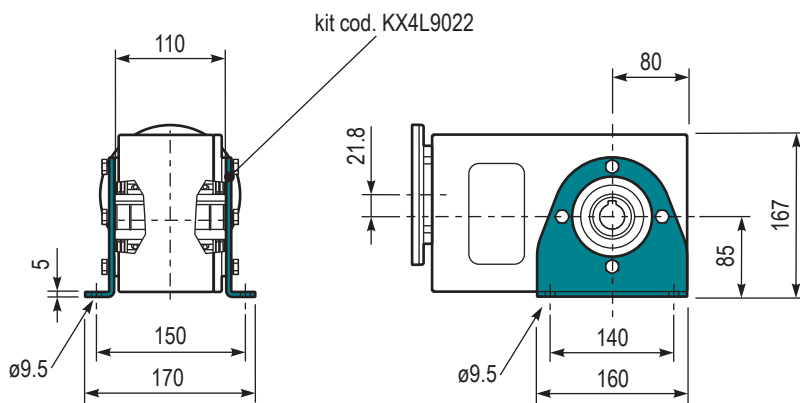
**Gearbox weight** 10.5 kg  
*Peso riduttore*

| M. flanges | Kit code | øF  | A   |
|------------|----------|-----|-----|
| 71B14      | KI634047 | 105 | 198 |
| 80B14      | KI634046 | 120 | 200 |
| 90B14      | KI634041 | 140 | 200 |



**PX42L PA..** Feet  
*Piedini*

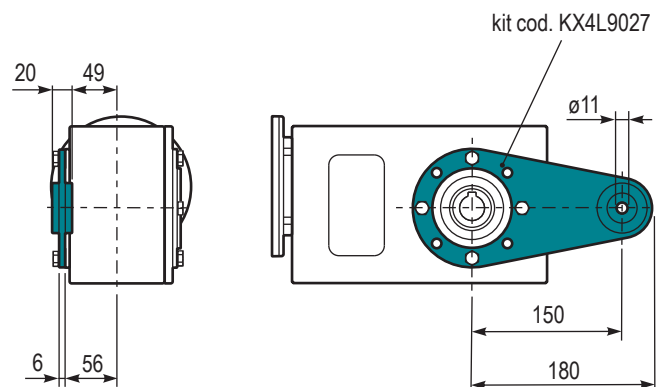
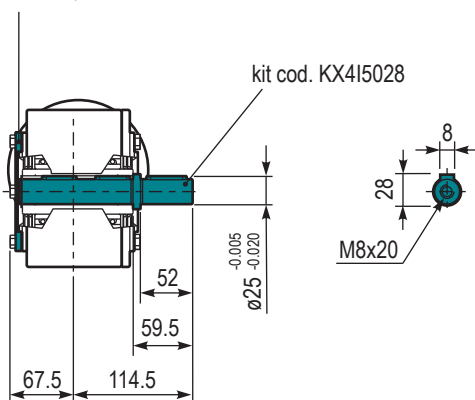
**PX42L PV..** Feet  
*Piedini*



**PX42L A..** Single output shaft  
*Albero semplice in uscita*

**PX42L BR..** Reaction Arm  
*Braccio di reazione*

cod. X4L0209  
**Protection cap ( on request )**  
*A richiesta coperchio di protezione*



# X52L

## 250 Nm




### BVL series

# Stainless steel shielded helical bevel gearboxes


Riduttori a coppia conica schermati in acciaio inox

The dynamic efficiency is **0.96** for all ratios

Input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output speed<br>$n_2$ [min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$ [kW] | Output torque<br>$M_{2M}$ [Nm] | Service factor<br>$f_s$ | Nominal power<br>$P_{1R}$ [kW] | Nominal torque<br>$M_{2R}$ [Nm] | B5 motor flanges |          | B14 motor flanges |  | Output shaft<br><br>Standard<br>ø30 | Ratio code<br> |
|--|--------------|------------------------------|--------------------------------|-------------------------|--------------------------------|---------------------------------|------------------|----------|-------------------|---|--|---|
|  |              |                              |                                |                         |                                |                                 | -D<br>80         | -E<br>90 | -U<br>100-112     |   |  |   |
| 232  | <b>6.03</b>  | 3                            | 116                            | 1.2                     | <b>3.4</b>                     | <b>135</b>                      |                  |          |                   | 3011  |  | 01  |
| 151  | <b>9.26</b>  | 3                            | 179                            | 0.9                     | <b>2.6</b>                     | <b>155</b>                      |                  |          |                   | 308   |  | 02  |
| 123  | <b>11.36</b> | 3                            | 219                            | 1.0                     | <b>3.1</b>                     | <b>230</b>                      |                  |          |                   | 2011  |  | 03  |
| 91   | <b>15.36</b> | 2.2                          | 218                            | 1.1                     | <b>2.5</b>                     | <b>250</b>                      |                  |          |                   | 1611  |  | 04  |
| 80   | <b>17.46</b> | 2.2                          | 248                            | 1.0                     | <b>2.2</b>                     | <b>250</b>                      |                  |          |                   | 208   |  | 05  |
| 70   | <b>19.97</b> | 2.2                          | 284                            | 0.9                     | <b>1.9</b>                     | <b>250</b>                      |                  |          |                   | 1311  |  | 06  |
| 59   | <b>23.60</b> | 1.5                          | 231                            | 1.1                     | <b>1.6</b>                     | <b>250</b>                      |                  |          |                   | 168   | Standard<br>ø30  | 07  |
| 57   | <b>24.45</b> | 1.5                          | 239                            | 1.0                     | <b>1.6</b>                     | <b>250</b>                      |                  |          |                   | 1111  |  | 08  |
| 45.6                                       | <b>30.69</b> | 1.1                          | 220                            | 1.1                     | <b>1.2</b>                     | <b>250</b>                      |                  |          |                   | 138   |  | 09  |
| 39.6                                       | <b>35.35</b> | 1.1                          | 253                            | 1.0                     | <b>1.1</b>                     | <b>250</b>                      |                  |          |                   | 811   |  | 10  |
| 37.3                                       | <b>37.57</b> | 1.1                          | 269                            | 0.9                     | <b>1.0</b>                     | <b>250</b>                      |                  |          |                   | 118   |  | 11  |
| 28.8                                       | <b>48.68</b> | 0.75                         | 239                            | 1.0                     | <b>0.78</b>                    | <b>250</b>                      |                  |          |                   | 611   |  | 12  |
| 25.8                                       | <b>54.33</b> | 0.75                         | 267                            | 0.9                     | <b>0.70</b>                    | <b>250</b>                      |                  |          |                   | 88  |  | 13  |
| 18.7                                       | <b>74.81</b> | 0.55                         | 271                            | 0.8                     | <b>0.43</b>                    | <b>210</b>                      |                  |          |                   | 68  |  | 14  |

Motor flanges available  
Flange motore disponibili

 B) Supplied with reduction bushing  
Fornito con Bussola di Riduzione

B) Available on request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

 C) Motor flange holes position  
Posizione Fori Flangia Motore

## Lubrication

Lubrificazione

Always specify the mounting position  
Specificare sempre la posizione di montaggio

Unit X52L is supplied with synthetic oil to assure long life lubrication.  
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

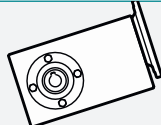
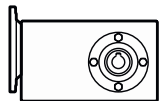
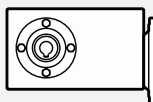
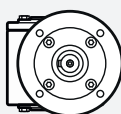
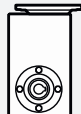
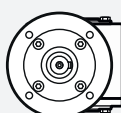
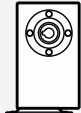
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X52L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

|                                    |   |                                    |   |
|------------------------------------|---|------------------------------------|---|
| <b>Agip</b><br>Telium VSF 320      | <b>Shell</b><br>Omala S4 WE 320   | <b>V8</b><br>On request<br>ASK     |  |
| <b>B3</b><br>Standard<br>0.90 LT   |  | <b>B8</b><br>On request<br>1.40 LT |  |
| <b>B6</b><br>On request<br>1.50 LT |  | <b>V5</b><br>On request<br>1.95 LT |  |
| <b>B7</b><br>On request<br>0.75 LT |  | <b>V6</b><br>On request<br>1.15 LT |  |

Tab. 1

## Radial and axial loads

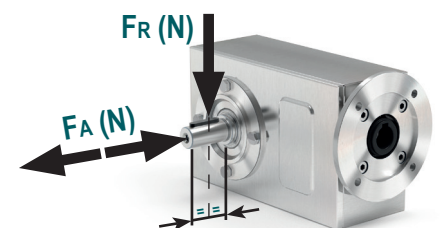
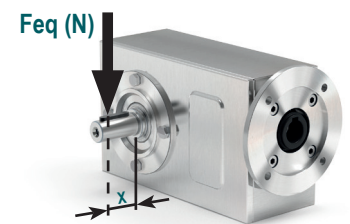
Carichi radiali e assiali

### Output shaft

Albero di uscita

| $n_2$ [min <sup>-1</sup> ] | $F_A$ [N] | $F_R$ [N] |
|----------------------------|-----------|-----------|
| 250                        | 600       | 3000      |
| 150                        | 700       | 3500      |
| 100                        | 800       | 4000      |
| 75                         | 820       | 4100      |
| 50                         | 960       | 4800      |
| 25                         | 1350      | 6750      |
| 15                         | 1660      | 8300      |

$$F_{eq} = F_R \cdot \frac{61.5}{X + 31}$$



Tab. 2

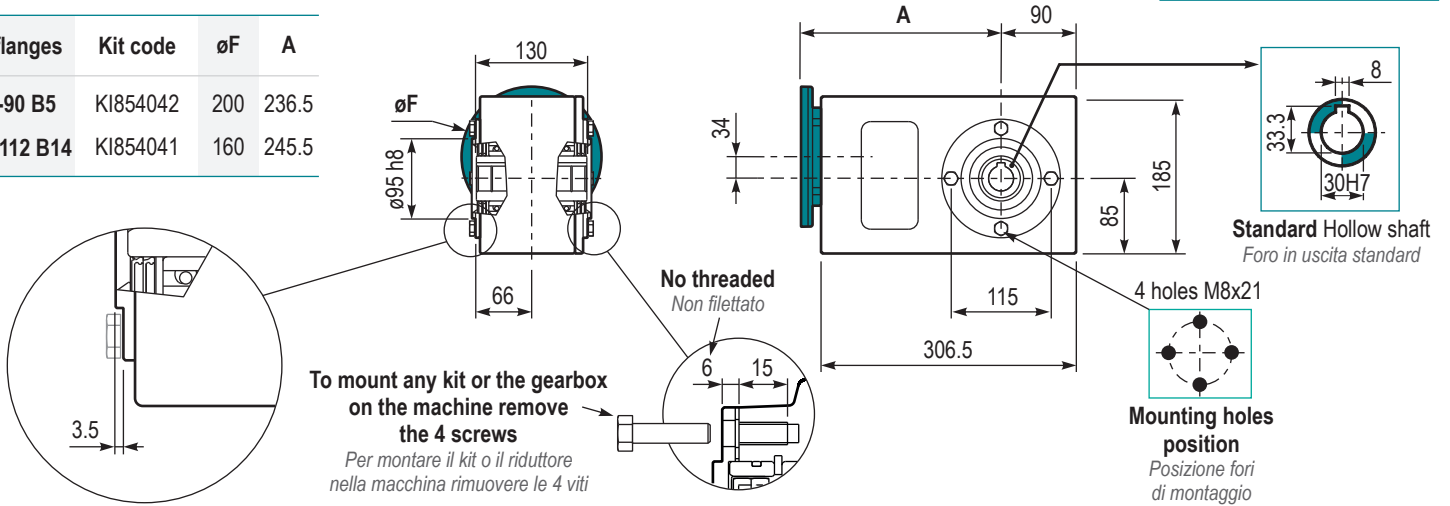
250  
Nm

X52L

**PX52L...** Basic gearbox  
*Riduttore base*

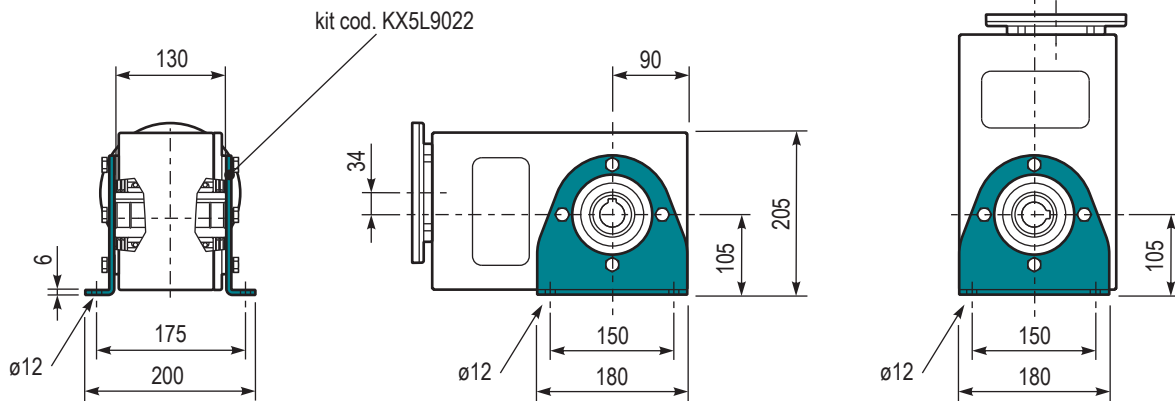
**Gearbox weight** 15.8 kg  
*Peso riduttore*

| M. flanges  | Kit code | øF  | A     |
|-------------|----------|-----|-------|
| 80-90 B5    | KI854042 | 200 | 236.5 |
| 100-112 B14 | KI854041 | 160 | 245.5 |



**PX52L PA..** Feet  
*Piedini*

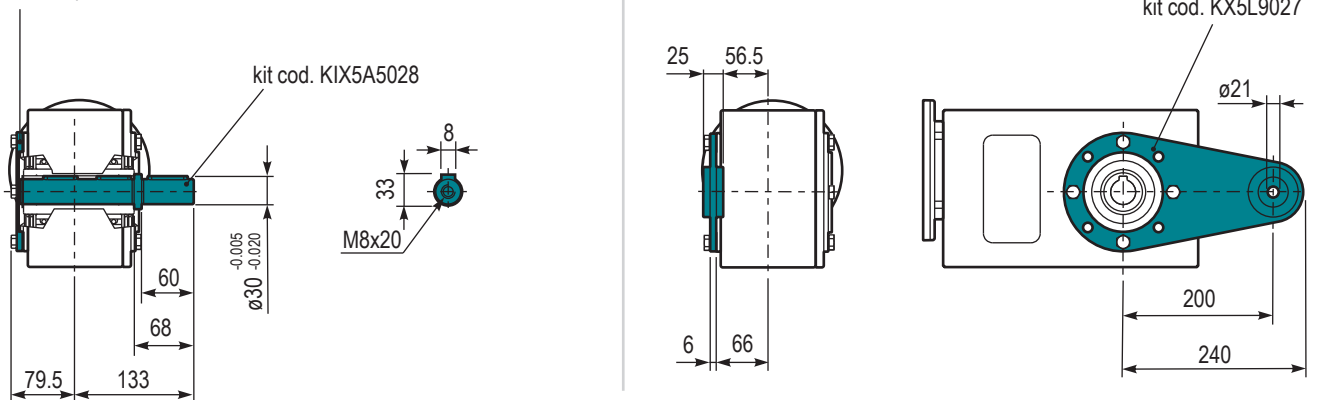
**PX52L PV..** Feet  
*Piedini*



**PX52L A..** Single output shaft  
*Albero semplice in uscita*

**PX52L BR..** Reaction Arm  
*Braccio di reazione*

cod. X5L0209  
**Protection cap (on request)**  
*A richiesta coperchio di protezione*



# X62L

## 410 Nm




### BVL series

# Stainless steel shielded helical bevel gearboxes


Riduttori a coppia conica schermati in acciaio inox

The dynamic efficiency is **0.96** for all ratios

Input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output speed<br>$n_2$ [min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$ [kW] | Output torque<br>$M_{2M}$ [Nm] | Service factor<br>$f_s$ | Nominal power<br>$P_{1R}$ [kW] | Nominal torque<br>$M_{2R}$ [Nm] | B5 motor flanges |          | B14 motor flanges |  | Output shaft<br><br>Standard<br>ø35 | Ratio code<br> |
|--|--------------|------------------------------|--------------------------------|-------------------------|--------------------------------|---------------------------------|------------------|----------|-------------------|---|--|---|
|  |              |                              |                                |                         |                                |                                 | -D<br>80         | -E<br>90 | -U<br>100-112     |   |  |   |
| 232  | <b>6.03</b>  | 4                            | 155                            | 1.6                     | <b>6.1</b>                     | <b>240</b>                      |                  |          |                   |   | 3011   | 01  |
| 151  | <b>9.26</b>  | 4                            | 238                            | 1.1                     | <b>4.5</b>                     | <b>270</b>                      |                  |          |                   |   | 308  | 02  |
| 123  | <b>11.36</b> | 4                            | 291                            | 1.2                     | <b>4.7</b>                     | <b>350</b>                      |                  |          |                   |   | 2011   | 03  |
| 91   | <b>15.36</b> | 4                            | 394                            | 1.0                     | <b>3.8</b>                     | <b>385</b>                      |                  |          |                   |   | 1611   | 04  |
| 80   | <b>17.46</b> | 4                            | 448                            | 0.9                     | <b>3.5</b>                     | <b>400</b>                      |                  |          |                   |   | 208  | 05  |
| 70   | <b>19.97</b> | 3                            | 386                            | 1.1                     | <b>3.1</b>                     | <b>410</b>                      |                  |          |                   |   | 1311   | 06  |
| 59   | <b>23.60</b> | 3                            | 456                            | 0.9                     | <b>2.7</b>                     | <b>410</b>                      |                  |          |                   |   | 168  | 07  |
| 57   | <b>24.45</b> | 3                            | 472                            | 0.9                     | <b>2.6</b>                     | <b>410</b>                      |                  |          |                   |   | 1111   | 08  |
| 45.6                                       | <b>30.69</b> | 2.2                          | 436                            | 0.9                     | <b>2.0</b>                     | <b>410</b>                      |                  |          |                   |   | 138  | 09  |
| 39.6                                       | <b>35.35</b> | 1.5                          | 346                            | 1.2                     | <b>1.8</b>                     | <b>410</b>                      |                  |          |                   |   | 811  | 10  |
| 37.3                                       | <b>37.57</b> | 1.5                          | 368                            | 1.1                     | <b>1.7</b>                     | <b>410</b>                      |                  |          |                   |   | 118  | 11  |
| 28.8                                       | <b>48.68</b> | 1.1                          | 348                            | 1.0                     | <b>1.1</b>                     | <b>365</b>                      |                  |          |                   |   | 611  | 12  |
| 25.8                                       | <b>54.33</b> | 1.1                          | 389                            | 1.1                     | <b>1.2</b>                     | <b>410</b>                      |                  |          |                   |   | 88   | 13  |
| 18.7                                       | <b>74.81</b> | 0.75                         | 367                            | 1.0                     | <b>0.73</b>                    | <b>360</b>                      |                  |          |                   |   | 68   | 14  |

Motor flanges available  
Flange motore disponibili

 B) Supplied with reduction bushing  
Fornito con Bussola di Riduzione

B) Available on request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

 C) Motor flange holes position  
Posizione Fori Flangia Motore

## Lubrication

Lubrificazione

Always specify the mounting position

Specificare sempre la posizione di montaggio

Unit X62L is supplied with synthetic oil to assure long life lubrication.  
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

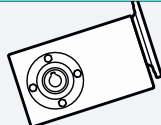
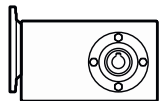
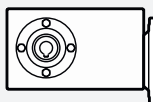
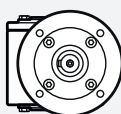
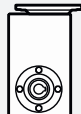
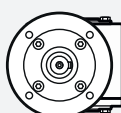
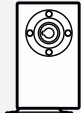
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X62L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

|                                    |   |                                    |   |
|------------------------------------|---|------------------------------------|---|
| <b>Agip</b><br>Telium VSF 320      | <b>Shell</b><br>Omala S4 WE 320   | <b>V8</b><br>On request<br>ASK     |  |
| <b>B3</b><br>Standard<br>1.25 LT   |  | <b>B8</b><br>On request<br>1.60 LT |  |
| <b>B6</b><br>On request<br>1.70 LT |  | <b>V5</b><br>On request<br>2.45 LT |  |
| <b>B7</b><br>On request<br>0.95 LT |  | <b>V6</b><br>On request<br>1.50 LT |  |

## Radial and axial loads

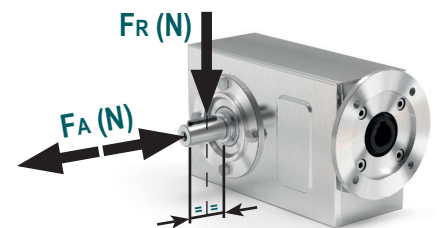
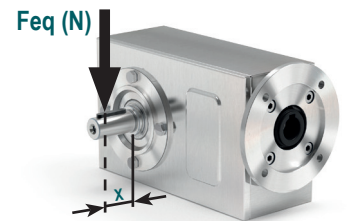
Carichi radiali e assiali

### Output shaft

Albero di uscita

| $n_2$ [min <sup>-1</sup> ] | $F_A$ [N] | $F_R$ [N] |
|----------------------------|-----------|-----------|
| 250                        | 600       | 3000      |
| 150                        | 700       | 3500      |
| 100                        | 780       | 3900      |
| 75                         | 890       | 4450      |
| 50                         | 1140      | 5700      |
| 25                         | 1330      | 6650      |
| 15                         | 1660      | 8300      |

$$F_{eq} = F_R \cdot \frac{69}{X + 39}$$



Tab. 1

Tab. 2



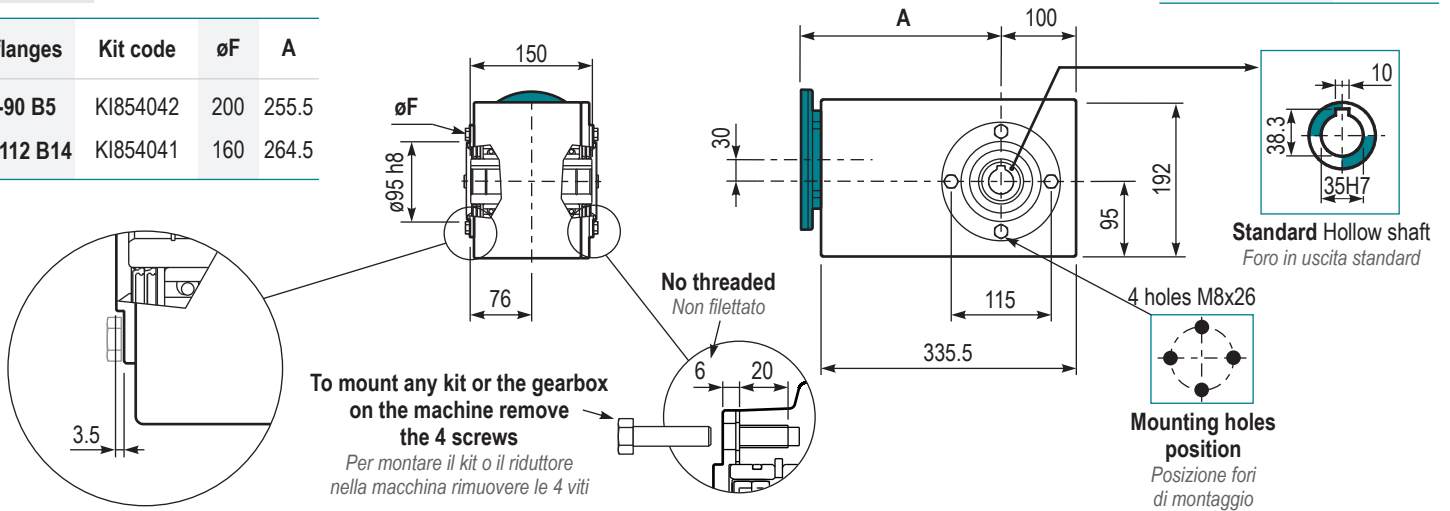
410  
Nm

X62L

**PX62L...** Basic gearbox  
*Riduttore base*

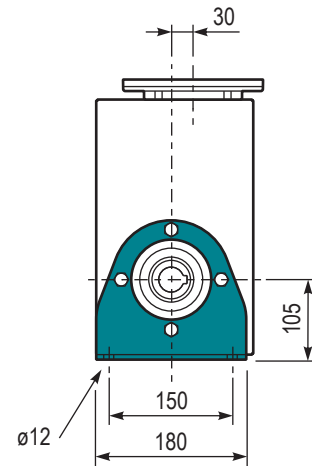
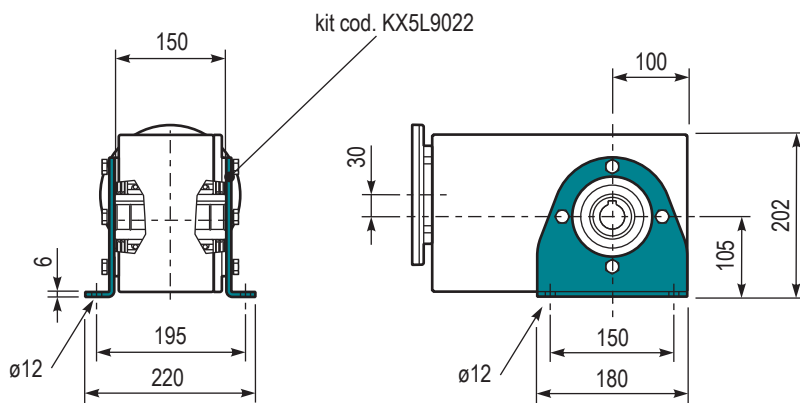
**Gearbox weight** 19.5 kg  
*Peso riduttore*

| M. flanges  | Kit code | øF  | A     |
|-------------|----------|-----|-------|
| 80-90 B5    | KI854042 | 200 | 255.5 |
| 100-112 B14 | KI854041 | 160 | 264.5 |



**PX62L PA..** Feet  
*Piedini*

**PX62L PV..** Feet  
*Piedini*



**PX62L A..** Single output shaft  
*Albero semplice in uscita*

**PX62L BR..** Reaction Arm  
*Braccio di reazione*

cod. X5L0209  
**Protection cap ( on request )**  
*A richiesta coperchio di protezione*

