

# ISOMOVE



ATTUATORI LINEARI MECCANICI DI PRECISIONE PER ALTA DINAMICA  
PRECISION MECHANICAL LINEAR ACTUATORS FOR HIGH DYNAMICS

**SEFEC**  
COMPONENTI CONTROLLI SISTEMI DI MOTO

ISOMOVE-E the evolution  
ISOMOVE-E the evolution

## AVVERTENZE - RESPONSABILITÀ

- **L'ATTUATORE MECCANICO LINEARE ISOMOVE È UN COMPONENTE DI MACCHINA, ESSO STESSO NON SVOLGE ALCUNA FUNZIONE PROPRIA AUTONOMAMENTE, PERTANTO NON È DA CONSIDERARSI NÉ QUASI-MACCHINA NÉ MACCHINA.**

Esso deve essere integrato all'interno di una macchina o di una quasi-macchina nel rispetto delle Normative, delle Direttive e delle Leggi in vigore nel Paese del costruttore della macchina/impianto, a carico e cura di quest'ultimo.

- I contenuti del presente documento e di tutte le informazioni correlate fornite da SETEC S.p.A. e/o SERVOSYSTEM s.r.l. e dai Distributori autorizzati costituiscono opzioni di prodotti che dovranno essere analizzati dai Clienti/Utenti terzi esterni dotati di competenze tecniche.
- Il Cliente/Utente, attraverso suoi processi di analisi e verifica, si assume la responsabilità assoluta per la scelta finale del componente/sottosistema e si adopera per garantire che vengano soddisfatti tutti i requisiti dell'applicazione in oggetto relativamente a prestazioni richieste, attività di manutenzione, resistenze strutturali, corretta installazione e sicurezze della stessa.
- Il Cliente/Utente ha l'obbligo di fornire tutte le informazioni relative all'applicazione in oggetto a SETEC S.p.A., alle sue consociate ed ai suoi Distributori autorizzati e di attenersi agli standard di settore; inoltre deve seguire le informazioni fornite da SETEC S.p.A., dalle sue consociate e dai suoi Distributori autorizzati attraverso questo od altri documenti inerenti forniti.
- Il Cliente/Utente ha la responsabilità di verificare che tali informazioni e specifiche tecniche di prodotto siano corrette e quindi accettabili per la sua applicazione.
- **IL GRUPPO SETEC SI RISERVA IL DIRITTO DI APPORTARE AL PRESENTE DOCUMENTO TUTTE LE MODIFICHE CHE SI RENDERANNO NECESSARIE SENZA ALCUN PREAVVISO E NON SI ASSUME NESSUNA RESPONSABILITÀ PER ERRATA INTERPRETAZIONE DELLO STESSO.**

## WARNINGS - LIABILITIES

- **THE MECHANICAL LINEAR ACTUATOR ISOMOVE IS A PURE MACHINE COMPONENT, IT DOESN'T CARRY OUT ANY FUNCTION AUTONOMOUSLY, THUS IT IS NOT A MACHINE OR A HEMI-MACHINE ITSELF.**

The actuator must be integrated into the machine or into the hemi-machine according to the Standards, the Directives and the Laws of the Country to whom the Manufacturer of the machine belongs. The Manufacturer must do it at its expenses and with great care.

- All the contents of this catalogue and all the separate information related to it supplied by SETEC S.p.A. and/or SERVOSYSTEM s.r.l. and by the Authorized Distributors are only possible options of products which will then have to be analysed very carefully by the Customers/Users with a deep technical knowledge.
- The Customer/User, through his analysis and check processes, is entirely liable for his final selection of the component/sub-assembly. He will act in order to have all the service requirements of the application met, considering the requested performances, the needed maintenance activities, the structural resistance of the parts of the machine connected to the actuator. He will take care about the proper installation of the actuator itself and of the safety devices related to it.
- The Customer/User is obliged to provide SETEC / SERVOSYSTEM / ANY AUTHORIZED DISTRIBUTOR with all the important and decisive information about the application under analysis and must respect all the Standards of his market. Furthermore the Customer/User must properly follow all the information supplied by SETEC / SERVOSYSTEM / ANY AUTHORIZED DISTRIBUTOR by this or other related documents.
- The Customer/User is liable for checking that all the supplied information and the technical specification of the products herein included are valid for his machine.
- **SETEC GROUP RESERVES THE RIGHT TO MAKE ALL THE NECESSARY CHANGES/MODIFICATIONS TO THIS DOCUMENT WITHOUT ANY NOTICE. SETEC GROUP WILL NOT BE LIABLE FOR ANY WRONG UNDERSTANDING BY THE CUSTOMER/USER.**



# ISOMOVE - E: L'evoluzione

## ISOMOVE - E: The evolution

## Presentazione generale

## General description

Il GRUPPO SETEC da OLTRE 40 ANNI progetta e produce una ampia gamma di attuatori lineari industriali elettromeccanici per tutti i settori dell'industria e dell'automazione in generale.

Decine di migliaia di nostri attuatori, sia STANDARD che SPECIALI sono installati sul campo, nei più svariati settori applicativi:

- SIDERURGIA
- LEGNO
- MARMO
- PIETRA
- PACKAGING
- STAMPA
- CONVERTING
- MACCHINE UTENSILI
- VETRO
- TUBO
- FILO METALLICO
- PLASTICA
- SALDATURA
- ROBOTICA
- SOLARE
- HANDLING

Gli attuatori lineari meccanici di precisione per alta dinamica ISOMOVE-E costituiscono la naturale EVOLUZIONE della prima serie, in produzione ormai da più di 20 ANNI, beneficiando quindi di tutta l'esperienza progettuale, produttiva ed applicativa su tutti i principali mercati mondiali ed in tutti i settori industriali più importanti della costruzione di macchine ed impianti.

SETEC GROUP has been designing and manufacturing for MORE THAN 40 YEARS a wide range of industrial electromechanical linear actuators for all industry and automation markets.

Many thousands of our actuators, both STANDARD and SPECIAL ones, are working in the many different industrial sectors:

- STEEL
- WOOD
- MARBLE
- STONE
- PACKAGING
- PRINTING
- CONVERTING
- MACHINE TOOLS
- GLASS
- PIPING
- METAL WIRE
- PLASTICS
- WELDING
- ROBOTICS
- SOLAR PANELS
- HANDLING

Precision mechanical linear actuators for high dynamics ISOMOVE-E are the natural EVOLUTION of the first series, produced for more than 20 YEARS; they thus have the great benefit of our long experience in conceiving, manufacturing and using them worldwide in the most demanding machine builders sectors.

La particolare cura realizzativa dei particolari fondamentali per garantire tolleranze dimensionali, di forma e di posizione molto strette e le soluzioni progettuali adottate per ottenere un assieme con linearità e concentricità degli elementi in movimento molto buone fanno sì che essi sono il miglior prodotto per le applicazioni di automazione dove sono richieste ALTE DINAMICHE ed ELEVATE PRECISIONI.

I nostri PRINCIPALI VANTAGGI sono:

- TENSIONAMENTO CINGHIA REGOLABILE
- ELEVATA PERSONALIZZAZIONE possibile
- ELEVATA DENSITÀ DI FORZE
- GRANDI VELOCITÀ LINEARI
- COMPORTAMENTO per ALTA DINAMICA
- ELEVATA PRECISIONE
- FUNZIONAMENTO IN SERVIZIO CONTINUO
- ELEVATA RIGIDEZZA ASSIALE
- CONTROLLABILITÀ tramite SERVOAZIONAMENTI
- PROGRAMMABILITÀ tramite PLC / CONTROLLI ASSE
- NUMEROSE VERSIONI STANDARD disponibili

We take extreme care to make all the parts in order to get very tight dimensional, position and form tolerances.

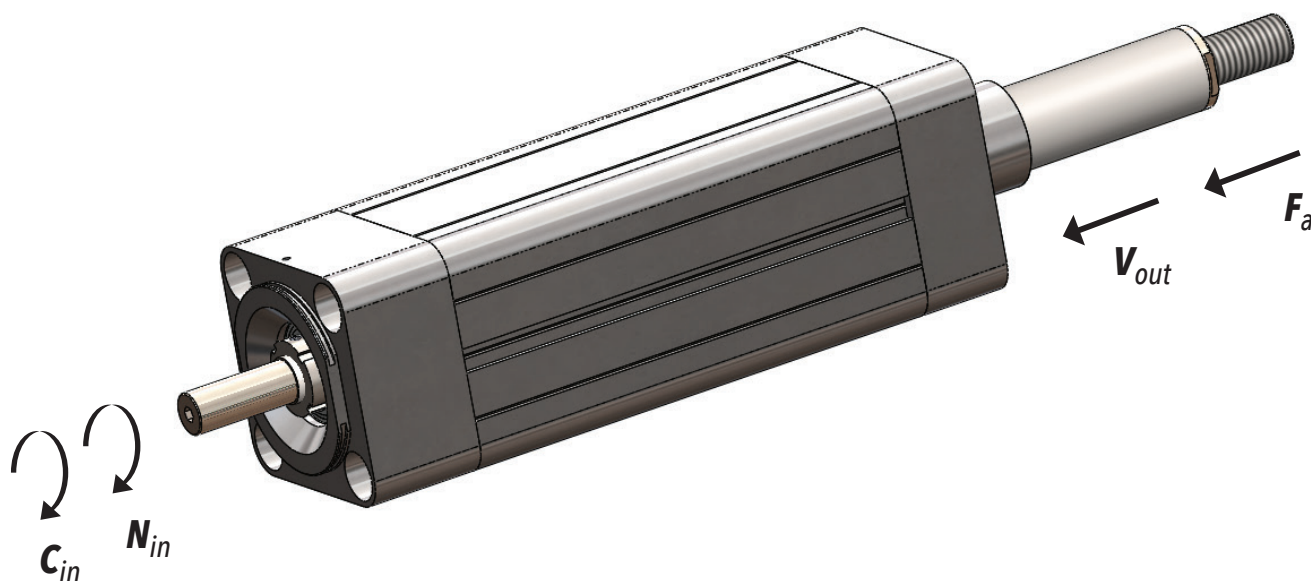
All this together with innovative design solutions allow us to reach very good linearity and concentricity values of the assembled unit moving parts, thus obtaining the best product for HIGH DYNAMICS and HIGH ACCURACIES in automation applications.

Our MAIN ADVANTAGES are:

- ADJUSTABLE BELT TENSIONING
- HIGH CUSTOMIZATION possible
- HIGH FORCE DENSITY
- HIGH OUTPUT LINEAR SPEED
- SUITABLE for HIGH DYNAMICS BEHAVIOUR
- HIGH ACCURACY
- CONTINUOUS DUTY CYCLE possible
- HIGH AXIAL STIFFNESS
- CONTROLLABILITY by SERVODRIVES
- PROGRAMMABLE by PLC / AXIS CONTROLS
- MANY STANDARD VERSIONS AVAILABLE

Il nuovo elemento costitutivo dell'attuatore è il MODULO BASE:

The first new element of the actuator is the BASIC MODULE:

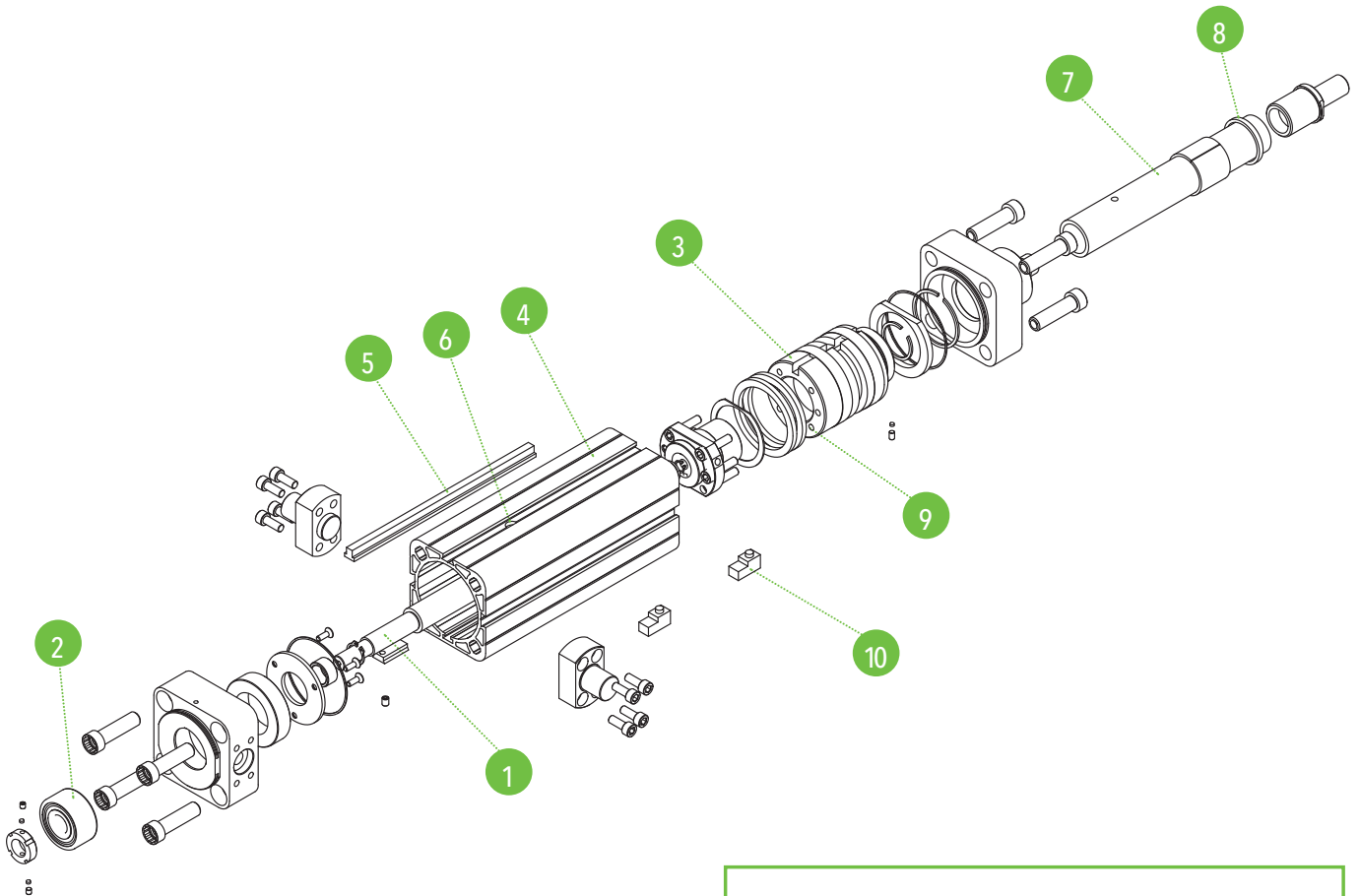


**MODULO BASE**  
**BASIC MODULE**



I particolari costitutivi fondamentali del  
MODULO BASE sono:

BASIC MODULE main parts are as follows:



- |    |                     |                      |
|----|---------------------|----------------------|
| 1  | vite a sfere        | ballscrew            |
| 2  | cuscinetto a sfera  | ballbearing          |
| 3  | pistone             | piston               |
| 4  | camicia             | outer profile        |
| 5  | asta antirotazione  | antirotation device  |
| 6  | foro lubrificazione | lubrication hole     |
| 7  | stelo cromato       | chrome push/pull rod |
| 8  | guarnizione         | seal                 |
| 9  | magnete             | magnet               |
| 10 | sensore reed        | reed sensor          |

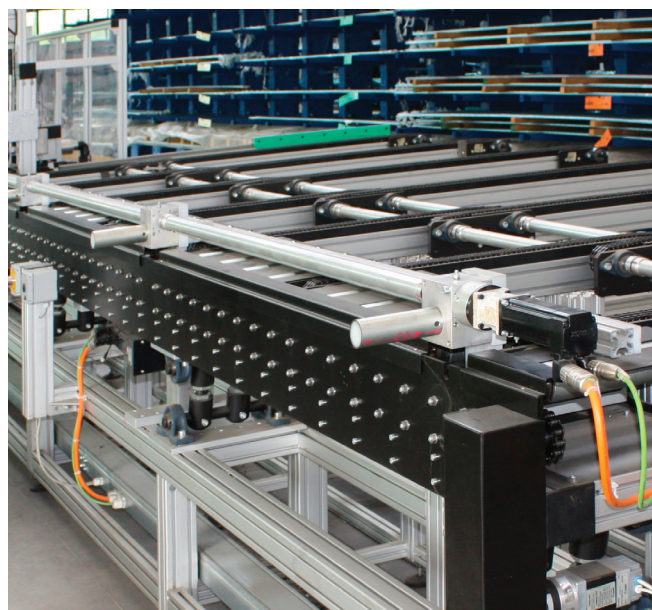
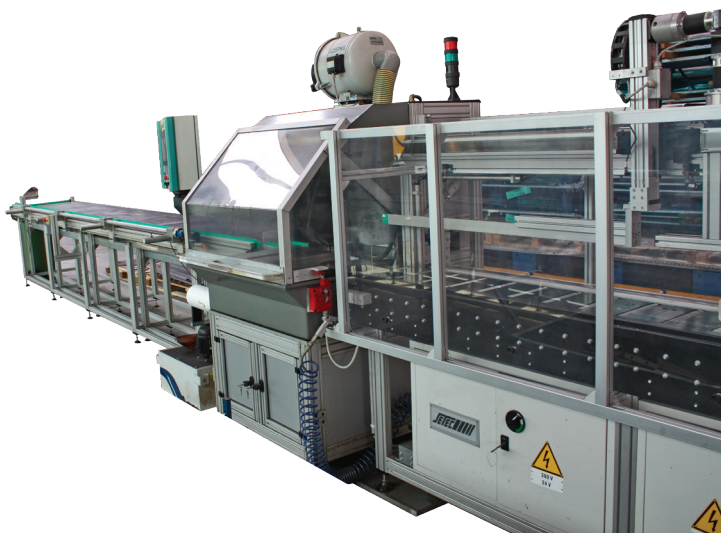
Per costruire, misurare e testare i nostri prodotti ci avvaliamo delle tecnologie più moderne e delle macchine ed attrezzature più sofisticate, spesso ricorrendo a soluzioni da noi progettate e costruite per avere esattamente quello che serve per garantire le migliori prestazioni:

We use the most modern technologies and the most sophisticated machines and equipments, often making them by ourselves to have exactly what is needed.

By all this we can make, measure and test all our products:

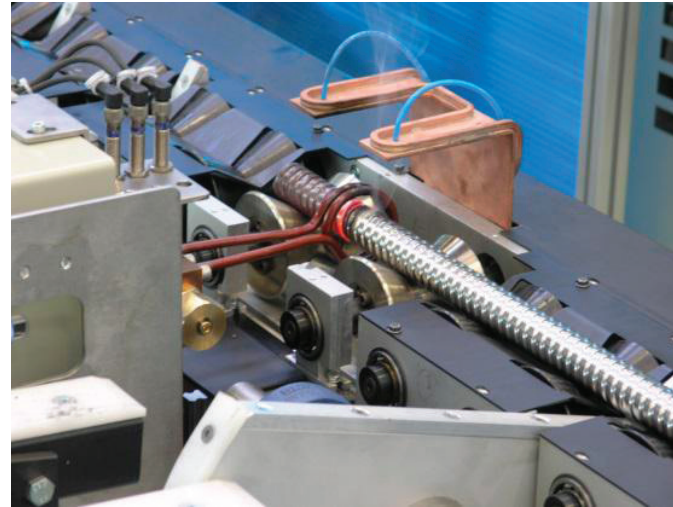
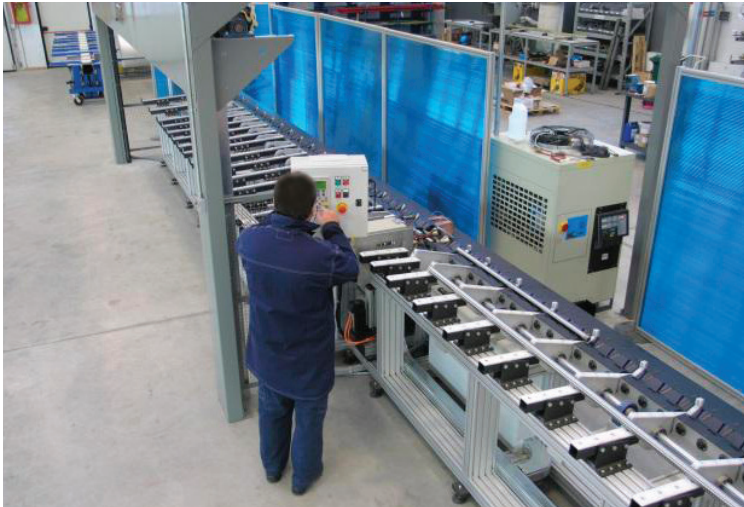


Stock semilavorati / Raw materials warehouse



Linea automatica taglio di precisione viti/cromati / Chrome tubes/screws precision cutting automated machine





Rinvenimento ad induzione terminali / Journal ends induction annealing

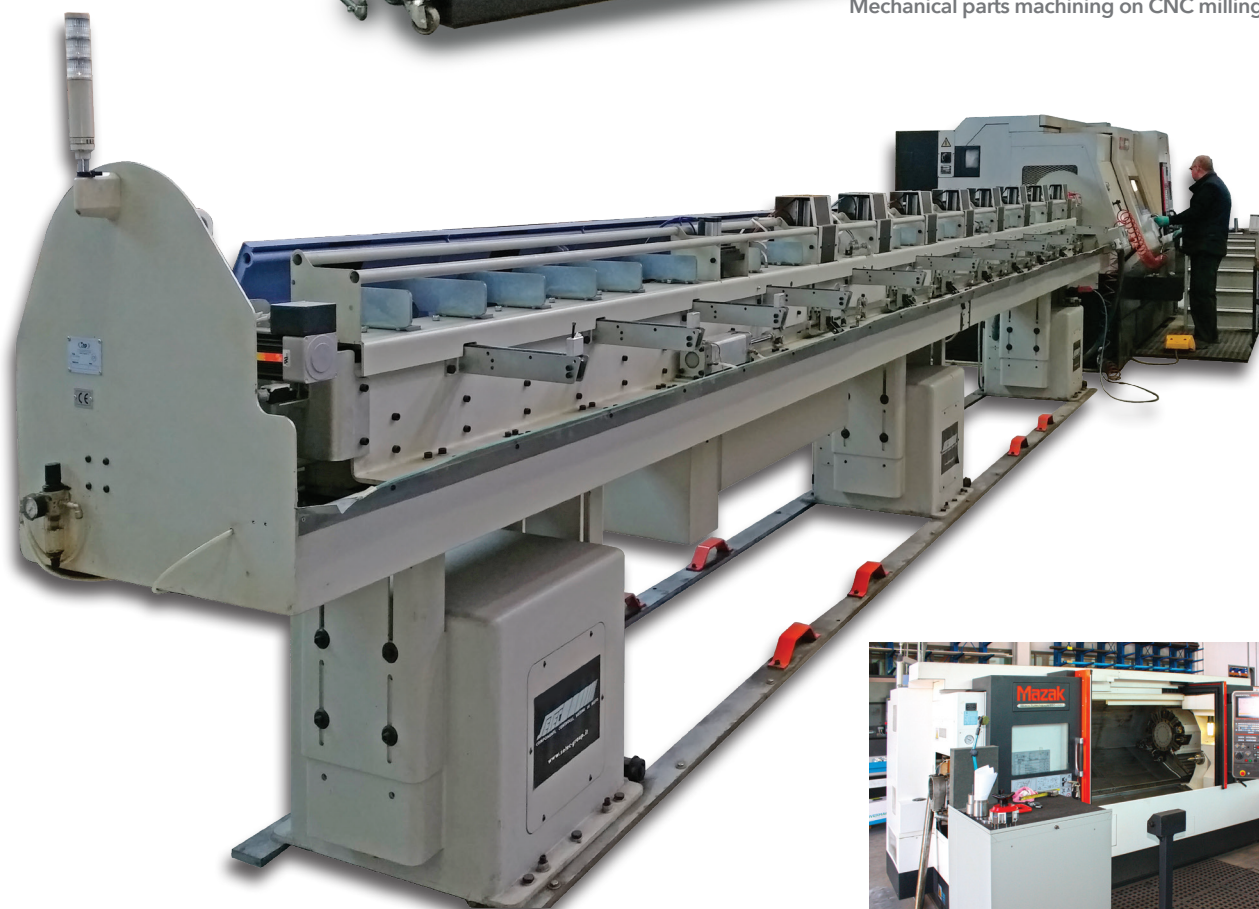


Raddrizzatura di precisione / Precision straightening





Lavorazione particolari su centro CNC /  
Mechanical parts machining on CNC milling machine



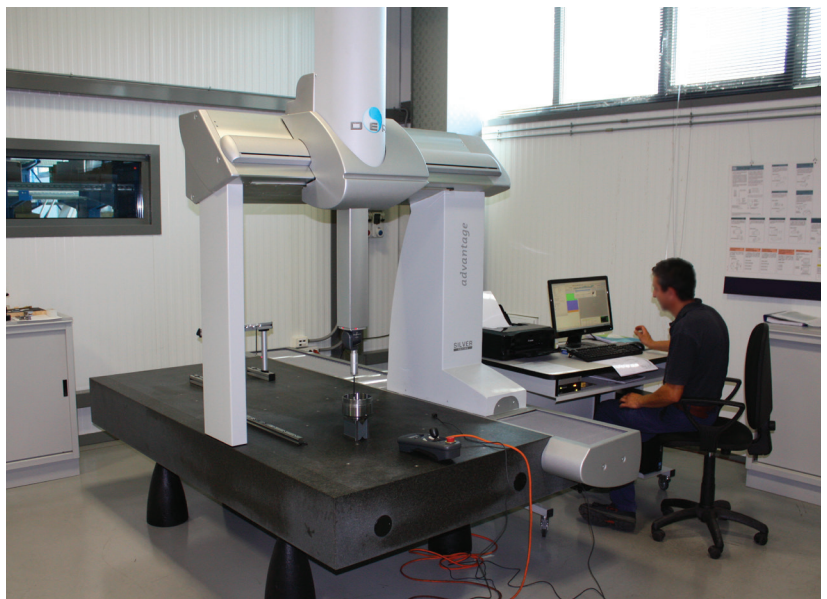
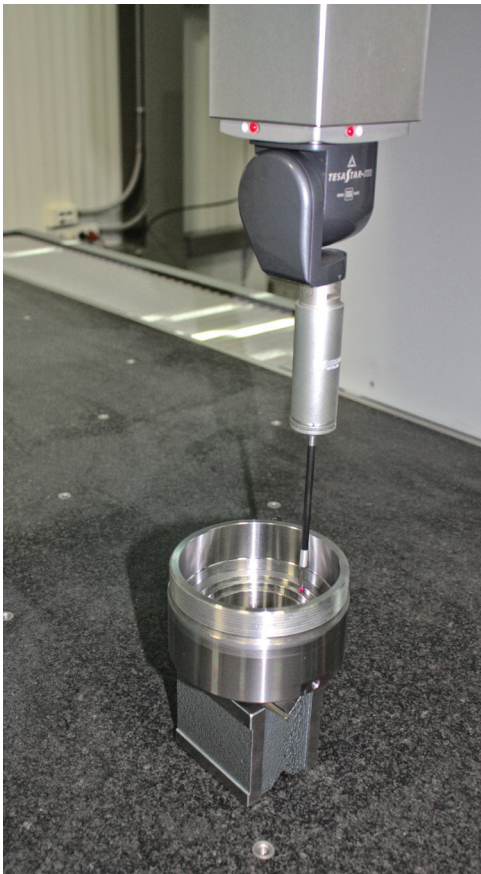
Lavorazione terminali viti / tubi cromati /  
Chrome tubes/screws journal ends machinings







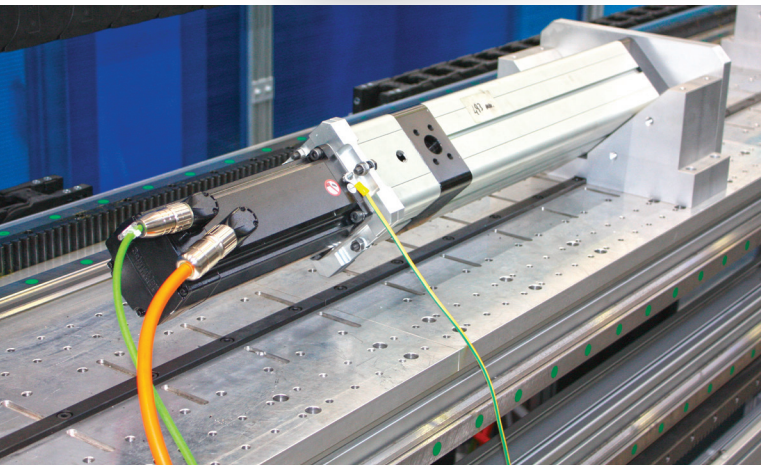
Sala metrologica /  
Measurement room







Controllo precarico assieme vite - madrevite /  
Ball screw preload torque measurement bench



Area test / Testing area







Magazzino automatico /  
Automated warehouse

Area test / Testing area

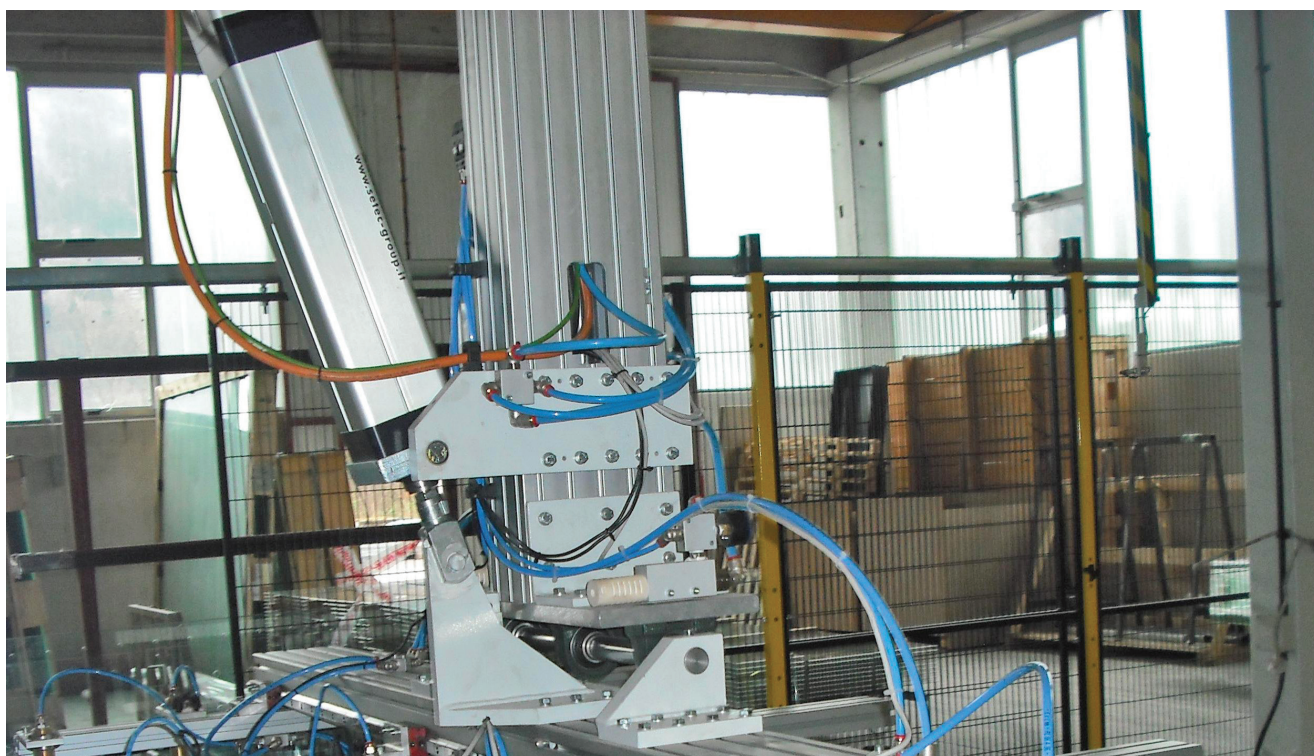




## Campi di impiego

### Field of applications

#### MANIPOLAZIONE / HANDLING



Ribaltatore lastre in vetro / Glass panel tilter

#### SIMULATORI / SIMULATORS



Simulatore di volo / Flight simulator





## Campi di impiego

## Field of applications

### PLASTICA / PLASTICS



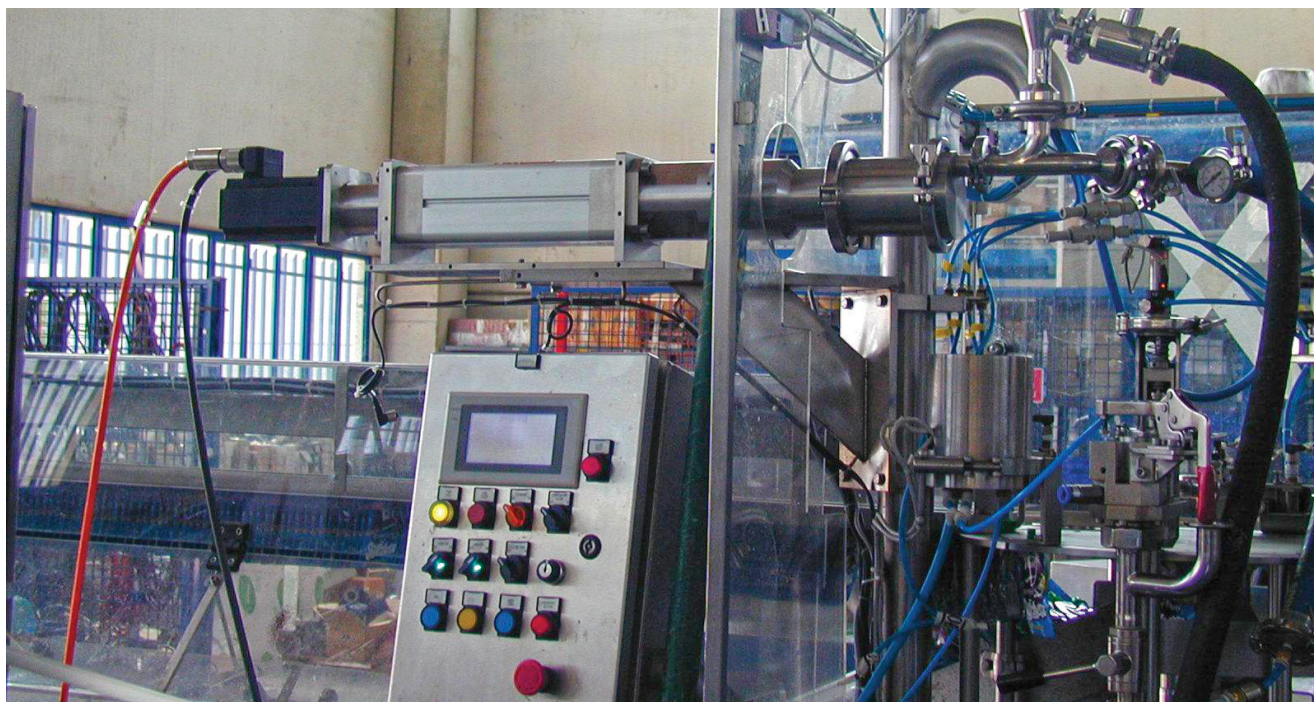
Macchine soffiaggio plastica / Blow moulding machines



## Campi di impiego

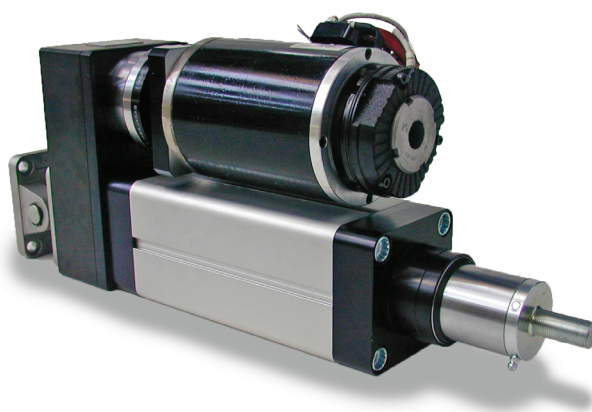
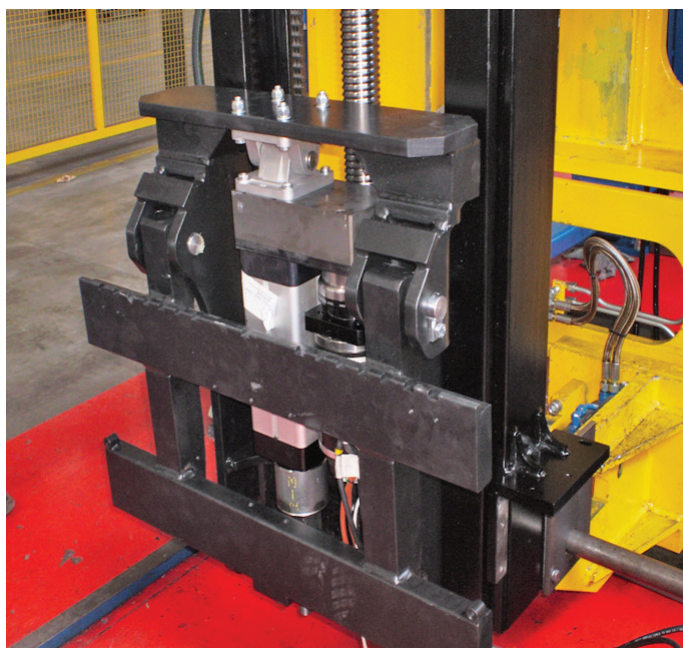
## Field of applications

### ALIMENTARI / BEVERAGE



Macchina riempimento con dosatrice volumetrica / Filling machines by metering volumetric system

### LOGISTICA / LOGISTICS



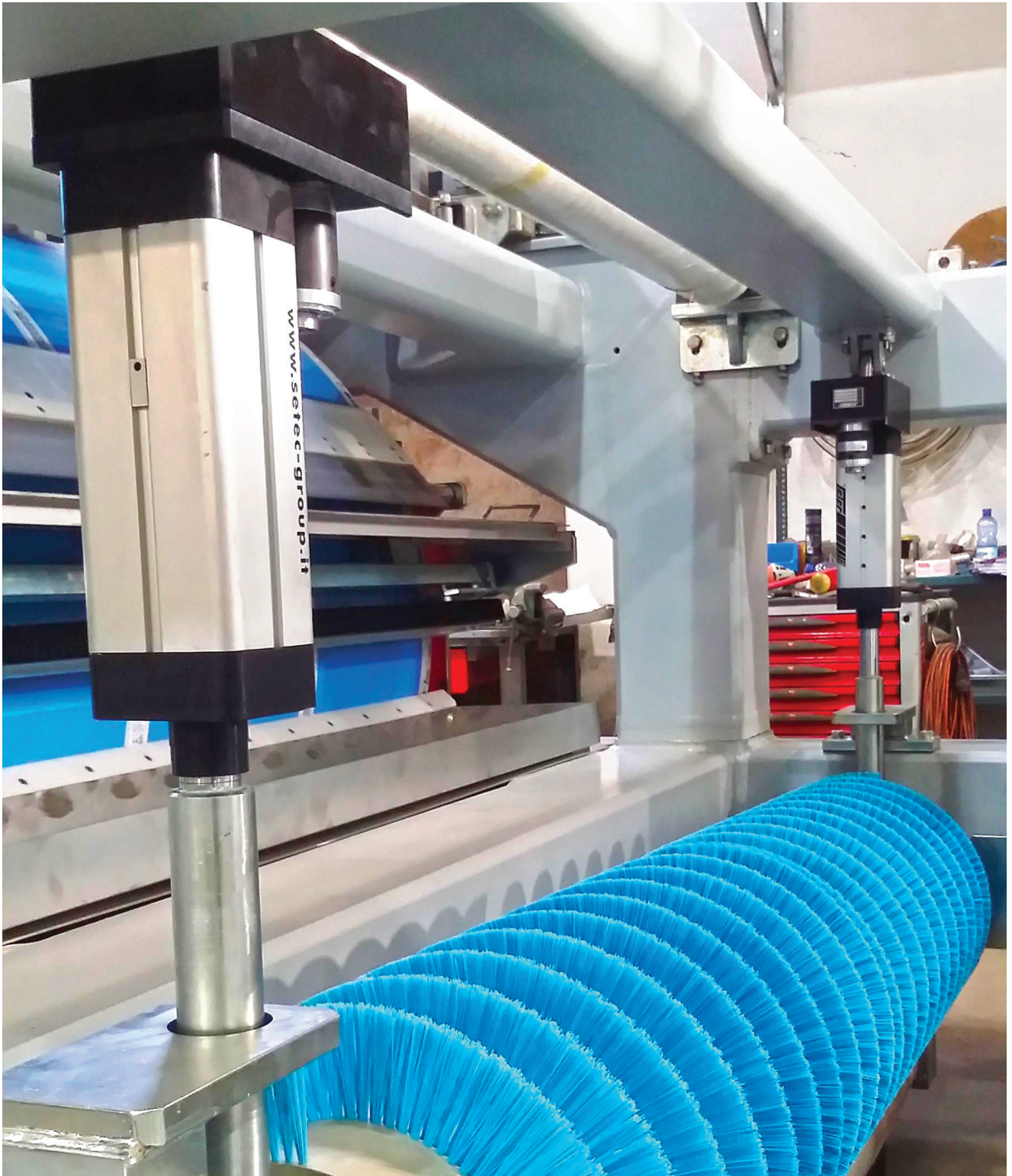
Carrello elevatore automatico /  
Automated forklift truck



## Campi di impiego

## Field of applications

### SISTEMI DI TRASPORTO / MATERIAL HANDLING



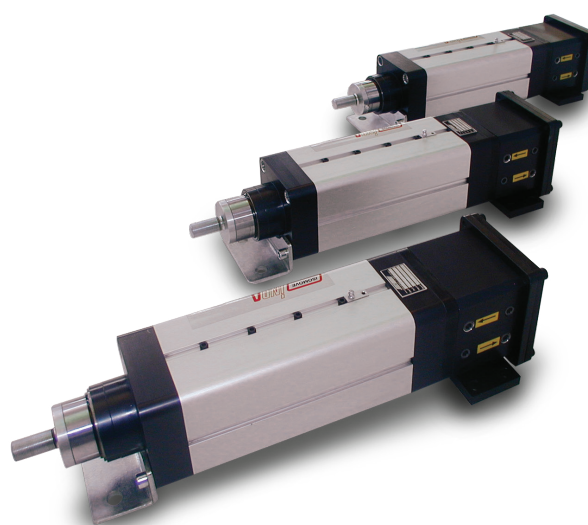
Sistema di tensionamento nastro / Band tensioning system



## Campi di impiego

### Field of applications

#### IMBALLAGGIO / PACKAGING



Incartonatrice /  
Corrugated board packaging machine

#### SOLLEVAMENTO / LIFTING



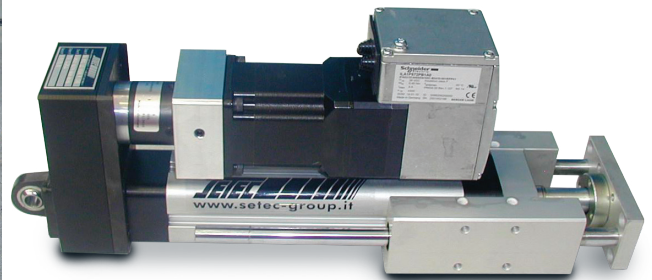
Sistemi di  
sollevamento /  
Lifting equipments



## Campi di impiego

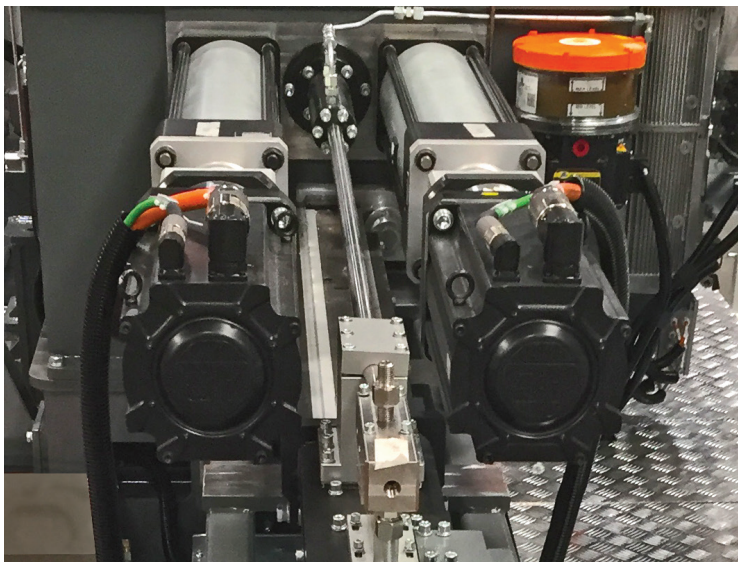
## Field of applications

### VEICOLI / MOBILE



Azionamento freno veicoli senza uomo a bordo /  
Brake driving of unmanned vehicle

### CONVERTING / CONVERTING



Macchina converting  
sistema taglia bobine /  
Converting machinery  
roller cutter system





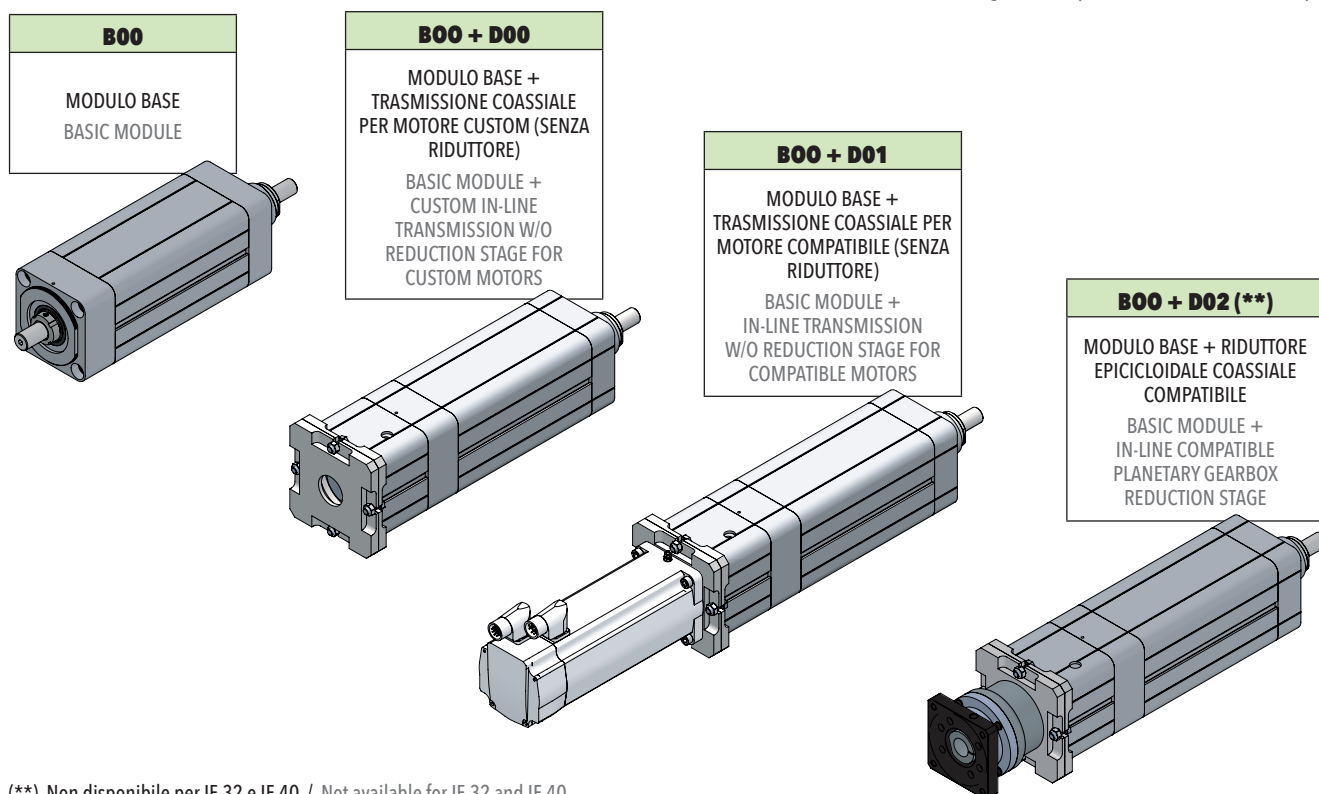
## Sinottico

## Overview

## IE 32 ÷ IE 100 XL

GRANDEZZA / SIZES			IE 32		IE 40		IE 50			IE 63		
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	4	12	4	12	5	10	16	5	10	20
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	3000	2000	3000	2000	4500	4500	4000	7500	7500	7500
<b>V<sub>out,max</sub></b>	VELOCITÀ MASSIMA IN USCITA MAX OUTPUT SPEED	[mm/sec]	200	600	200	600	250	500	800	250	500	1000
<b>N<sub>in,max</sub></b>	VELOCITÀ MASSIMA ROTAZIONE VITE A RICIRCOLO MAX BALLSCREW ROTATING INPUT SPEED	[rpm]	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD* MAX STANDARD STROKE*	[mm]	500	500	500	500	700	700	700	800	800	800
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	1	2	1	2	1	2	2,5	1	2	3

\* Per corse superiori, contattare il nostro servizio tecnico.  
For longer strokes please contact our technical dept.



(\*\*) Non disponibile per IE 32 e IE 40 / Not available for IE 32 and IE 40

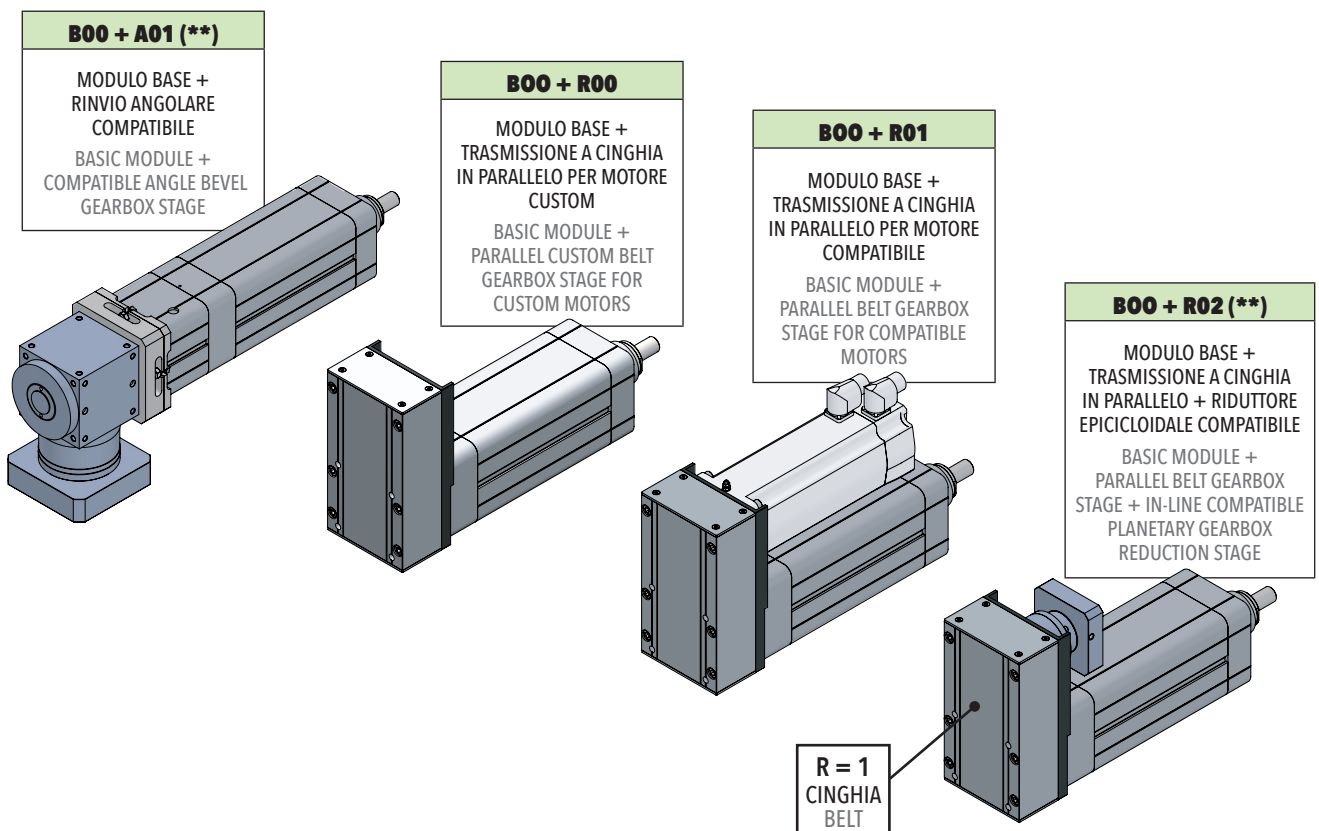
Sinottico

Overview

IE 32 ÷ IE 100 XL

IE 80			IE 80HL			IE 100				IE 100HL				IE100XL
5	10	25	5	10	32	5	10	20	32	5	10	20	40	10
12000	12000	12000	21000	25000	18000	21000	25000	30000	16000	23000 23000*	30000 41000*	30000 40000*	30000 40000*	52000
250	500	1250	250	500	1600	250	500	1000	1600	208	416	833	1660	333
3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	2496	2496	2496	2490	1998
1000	1000	1000	1000	1000	1000	1100	1100	1100	1100	1100	1100	1100	1100	1000
1	2	4	1	2	5	1	2	3	5	1	2	3	6	2

\* Versione con tiranti / Tension rods version





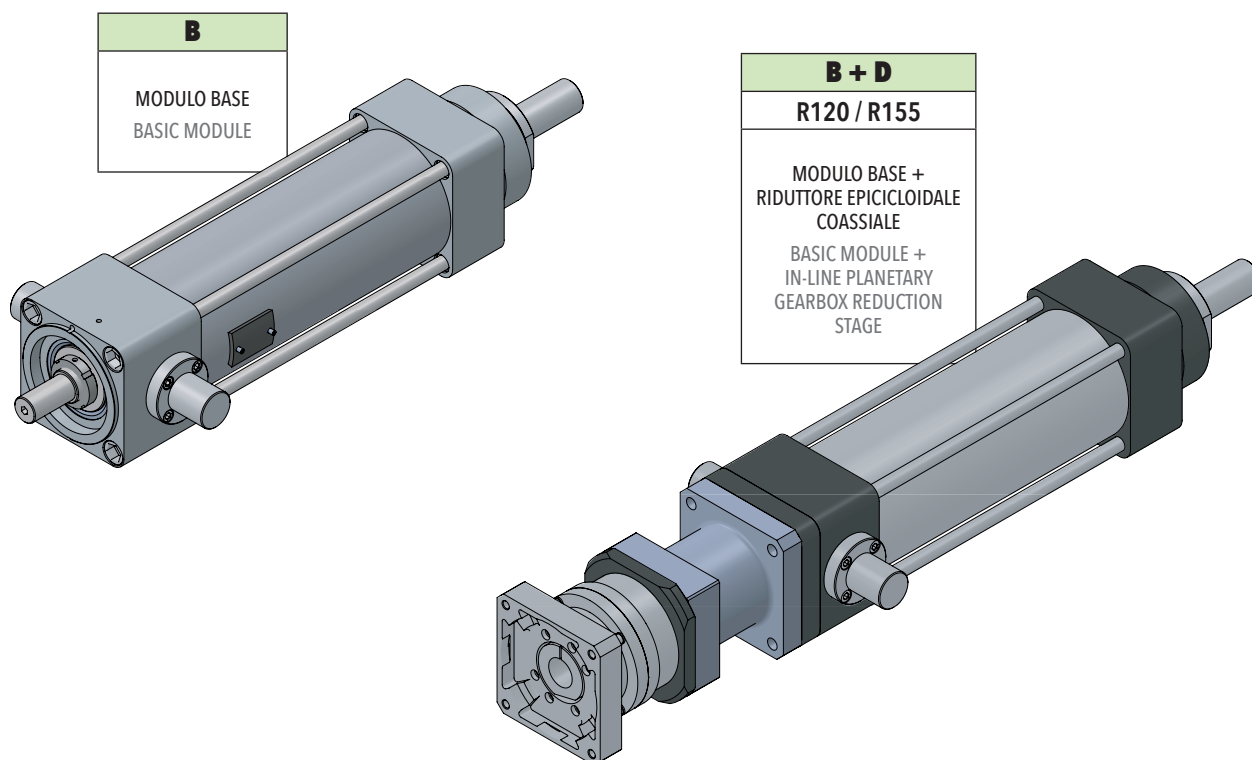
## Sinottico

## Overview

## IE 125 / IE 160

GRANDEZZA / SIZES			IE 125		IE 160	
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	10	20	10	20
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	80000	80000	100000	120000
<b>V<sub>out,max</sub></b>	VELOCITÀ MASSIMA IN USCITA MAX OUTPUT SPEED	[mm/sec]	265	667	208	417
<b>N<sub>in,max</sub></b>	VELOCITÀ MASSIMA ROTAZIONE VITE A RICIRCOLO MAX BALLSCREW ROTATING INPUT SPEED	[rpm]	1590	2000	1248	1251
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD* MAX STANDARD STROKE*	[mm]	1200	1200	1600	1600
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	2	3	2	3

\* Per corse superiori, contattare il nostro servizio tecnico.  
For longer strokes please contact our technical dpt.



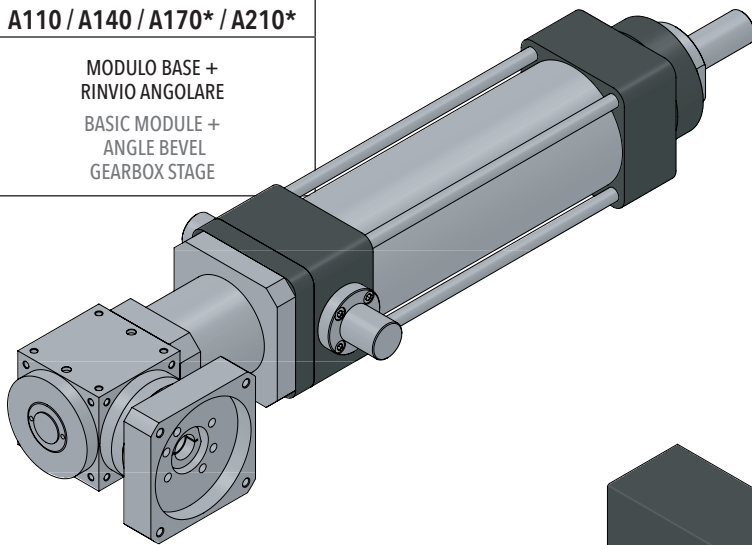


Sinottico

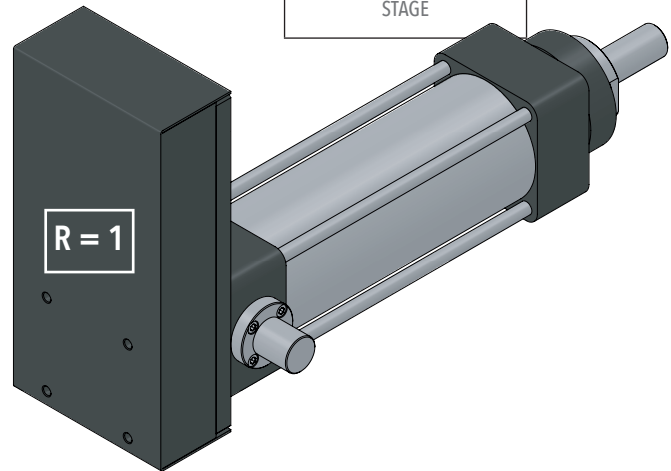
Overview

IE 125 / IE 160

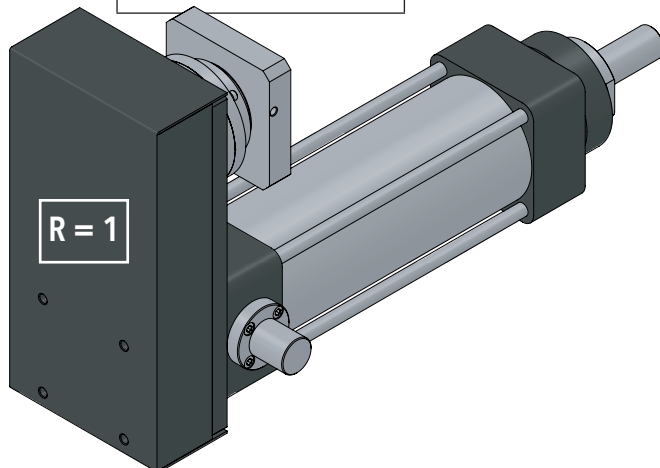
<b>B + A</b>
<b>A110 / A140 / A170* / A210*</b>
MODULO BASE + RINVIO ANGOLARE BASIC MODULE + ANGLE BEVEL GEARBOX STAGE



<b>B + R</b>
<b>R00</b>
MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM BASIC MODULE + PARALLEL FOR CUSTOM MOTORS BELT GEARBOX STAGE



<b>B + R</b>
<b>R120 / R155*</b>
MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO + RIDUTTORE EPICICLOIDALE BASIC MODULE + PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE



\* Solo per IE 160 / Only for IE 160.

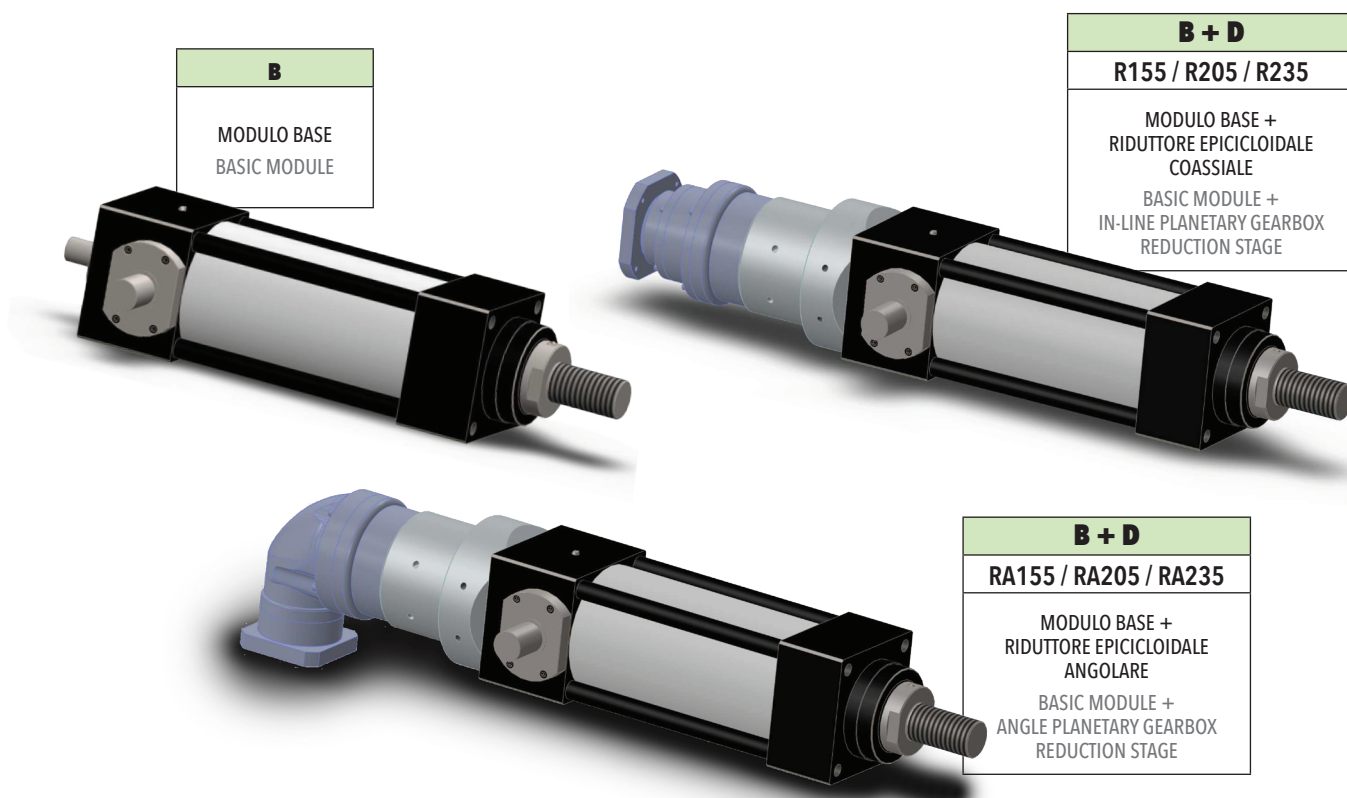
## Sinottico

## Overview

## IE 240

GRANDEZZA / SIZES			IE 240
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	25
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	350000
<b>V<sub>out,max</sub></b>	VELOCITÀ MASSIMA IN USCITA MAX OUTPUT SPEED	[mm/sec]	417
<b>N<sub>in,max</sub></b>	VELOCITÀ MASSIMA ROTAZIONE VITE A RICIRCOLO MAX BALLSCREW ROTATING INPUT SPEED	[rpm]	1000
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD* MAX STANDARD STROKE*	[mm]	1000
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	3

\* Per corse superiori, contattare il nostro servizio tecnico.  
For longer strokes please contact our technical dpt.





## 1. Informazioni tecniche per il calcolo Technical information for calculations

1.1	Forza assiale e velocità equivalenti / Equivalent axial force and equivalent linear speed .....	pg. 26
1.2	Capacità dinamica modulo base e durata statistica attuatore / Basic module dynamic load rating and Isomove statistical lifetime .....	pg. 27
1.3	Forza reale risultante massima ammissibile in dinamica ed in statica / Max admissible actual resultant force in dynamic and static use .....	pg. 29
1.4	Coppia in ingresso al modulo base / Torque at basic module input shaft .....	pg. 29
1.5	Coppia motore $C_m$ / Motor torque $C_m$ .....	pg. 30
1.6	Velocità lineare in uscita $V_{out}$ / Output linear speed $V_{out}$ .....	pg. 32

## 2. Sigla di ordinazione Ordering identification

2.1	Sigla di ordinazione da grandezza 32 a grandezza 100 XL / 32 to 100 XL Sizes Ordering identification .....	pg. 34
2.2	Sigla di ordinazione da grandezza 125 a grandezza 240 / 125 to 240 Sizes Ordering identification .....	pg. 36

## 3. Grandezze da 32 a 100 XL 32 to 100 XL Sizes

3.1	IE 32	
3.1.1	<i>Caratteristiche tecniche / Technical features</i> .....	pg. 38
3.1.2	<i>Calcolo durata / Lifetime calculation</i> .....	pg. 38
3.1.3	<i>Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft</i> .....	pg. 39
3.1.4	<i>Calcolo coppia motore / Motor torque calculation</i> .....	pg. 39
3.1.5	<i>Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)</i> .....	pg. 40
3.1.6	<i>Caratteristiche dimensionali / Overall dimensions</i> .....	pg. 41
3.1.7	<i>Accessori / Accessories</i> .....	pg. 43
3.2	IE 40	
3.2.1	<i>Caratteristiche tecniche / Technical features</i> .....	pg. 44
3.2.2	<i>Calcolo durata / Lifetime calculation</i> .....	pg. 44
3.2.3	<i>Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft</i> .....	pg. 45
3.2.4	<i>Calcolo coppia motore / Motor torque calculation</i> .....	pg. 45
3.2.5	<i>Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)</i> .....	pg. 46
3.2.6	<i>Caratteristiche dimensionali / Overall dimensions</i> .....	pg. 47
3.2.7	<i>Accessori / Accessories</i> .....	pg. 49

<b>3.3</b>	<b>IE 50</b>	
3.3.1	Caratteristiche tecniche / Technical features	pg. 50
3.3.2	Calcolo durata / Lifetime calculation	pg. 52
3.3.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft	pg. 52
3.3.4	Calcolo coppia motore / Motor torque calculation	pg. 53
3.3.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)	pg. 54
3.3.6	Caratteristiche dimensionali / Overall dimensions	pg. 56
3.3.7	Accessori / Accessories	pg. 61
<b>3.4</b>	<b>IE 63</b>	
3.4.1	Caratteristiche tecniche / Technical features	pg. 62
3.4.2	Calcolo durata / Lifetime calculation	pg. 64
3.4.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft	pg. 64
3.4.4	Calcolo coppia motore / Motor torque calculation	pg. 65
3.4.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)	pg. 66
3.4.6	Caratteristiche dimensionali / Overall dimensions	pg. 68
3.4.7	Accessori / Accessories	pg. 73
<b>3.5</b>	<b>IE 80</b>	
3.5.1	Caratteristiche tecniche / Technical features	pg. 74
3.5.2	Calcolo durata / Lifetime calculation	pg. 76
3.5.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft	pg. 76
3.5.4	Calcolo coppia motore / Motor torque calculation	pg. 77
3.5.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)	pg. 78
3.5.6	Caratteristiche dimensionali / Overall dimensions	pg. 80
3.5.7	Accessori / Accessories	pg. 85
<b>3.6</b>	<b>IE 80 HL</b>	
3.6.1	Caratteristiche tecniche / Technical features	pg. 86
3.6.2	Calcolo durata / Lifetime calculation	pg. 88
3.6.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft	pg. 88
3.6.4	Calcolo coppia motore / Motor torque calculation	pg. 89
3.6.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)	pg. 90
3.6.6	Caratteristiche dimensionali / Overall dimensions	pg. 92
3.6.7	Accessori / Accessories	pg. 97
<b>3.7</b>	<b>IE 100</b>	
3.7.1	Caratteristiche tecniche / Technical features	pg. 98
3.7.2	Calcolo durata / Lifetime calculation	pg. 100
3.7.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft	pg. 100
3.7.4	Calcolo coppia motore / Motor torque calculation	pg. 101
3.7.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)	pg. 102
3.7.6	Caratteristiche dimensionali / Overall dimensions	pg. 104
3.7.7	Accessori / Accessories	pg. 109



<b>3.8IE 100 HL</b>	
3.8.1	<i>Caratteristiche tecniche / Technical features</i> ..... pg. 110
3.8.2	<i>Calcolo durata / Lifetime calculation</i> ..... pg. 114
3.8.3	<i>Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft</i> ..... pg. 114
3.8.4	<i>Calcolo coppia motore / Motor torque calculation</i> ..... pg. 115
3.8.5	<i>Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)</i> ..... pg. 116
3.8.6	<i>Caratteristiche dimensionali / Overall dimensions</i> ..... pg. 118
3.8.7	<i>Accessori / Accessories</i> ..... pg. 123
<b>3.9IE 100 XL</b>	
3.9.1	<i>Caratteristiche tecniche / Technical features</i> ..... pg. 124
3.9.2	<i>Calcolo durata / Lifetime calculation</i> ..... pg. 126
3.9.3	<i>Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft</i> ..... pg. 126
3.9.4	<i>Calcolo coppia motore / Motor torque calculation</i> ..... pg. 127
3.9.5	<i>Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type)</i> ..... pg. 128
3.9.6	<i>Caratteristiche dimensionali / Overall dimensions</i> ..... pg. 130
3.9.7	<i>Accessori / Accessories</i> ..... pg. 135
<b>3.10 ACCESSORI DA IE 32 A IE 100 XL / ACCESSORIES FROM IE 32 TO IE 100 XL SIZES</b>	
3.10.1	<i>FS: Forcella Stelo / Rod Fork</i> pg. 136
3.10.2	<i>SS: Snodo Sferico / Swivel Joint</i> ..... pg. 137
3.10.3	<i>FV: Flangia Frontale / Front Flange</i> ..... pg. 138
3.10.4	<i>PV: Piedino Verticale / Angle Foot</i> ..... pg. 139
3.10.5	<i>CF: Cerniera Femmina / Rear Female Clevis with Pin</i> ..... pg. 140
3.10.6	<i>KO: Controcerniera Orizzontale / Square Horizontal Counterclevis</i> ..... pg. 141
3.10.7	<i>KM: Controcerniera Maschio / Male Clevis</i> ..... pg. 142
3.10.8	<i>KS: Controcerniera Sferica / Male Clevis with Spherical Knuckle</i> ..... pg. 143
3.10.9	<i>PE: Perni Oscillanti / Pivoting Pins</i> ..... pg. 144
<b>3.11 UNITÀ DI GUIDA / GUIDING UNIT</b>	
3.11.1	<i>Tipo "H" / "H" type</i> ..... pg. 145
3.11.2	<i>Tipo "U" / "U" type</i> ..... pg. 146
3.11.3	<i>Codice di ordinazione / Designation code</i> ..... pg. 146

## 4.

### 4.1. Categorie Motori / Riduttori / Rinvii angolari compatibili (32÷100XL) Compatible Motors / Planetary gearboxes / Angle bevel gearboxes categories (32 ÷ 100XL Sizes)

4.1	<b>MOTORI / MOTORS</b> ..... pg. 148
4.2	<b>RIDUTTORI / PLANETARY GEARBOXES</b> ..... pg. 149
4.3	<b>RINVII ANGOLARI / ANGLE BEVEL GEARBOXES</b> ..... pg. 150

## 5. Grandezze 125 / 160 / 240 125 / 160 / 240 Sizes

### 5.1 IE 125

5.1.1	Caratteristiche tecniche / Technical features .....	pg. 152
5.1.2	Calcolo durata / Lifetime calculation.....	pg. 154
5.1.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft.....	pg. 154
5.1.4	Calcolo coppia motore / Motor torque calculation .....	pg. 155
5.1.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type) .....	pg. 156
5.1.6	Caratteristiche dimensionali / Overall dimensions .....	pg. 157

### 5.2 IE 160

5.2.1	Caratteristiche tecniche / Technical features .....	pg. 162
5.2.2	Calcolo durata / Lifetime calculation.....	pg. 164
5.2.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft.....	pg. 164
5.2.4	Calcolo coppia motore / Motor torque calculation .....	pg. 165
5.2.5	Potenza in ingresso alla trasmissione a cinghia (versione R) / Mechanical input power at belt gear stage (R type) .....	pg. 166
5.2.6	Caratteristiche dimensionali / Overall dimensions .....	pg. 168

### 5.3 IE 240

5.3.1	Caratteristiche tecniche / Technical features .....	pg. 174
5.3.2	Calcolo durata / Lifetime calculation.....	pg. 175
5.3.3	Calcolo coppia in ingresso al modulo base / Torque calculation at basic module input shaft.....	pg. 175
5.3.4	Calcolo coppia motore / Motor torque calculation .....	pg. 176
5.3.5	Caratteristiche dimensionali / Overall dimensions .....	pg. 177

## 6. Schede tecniche Riduttori / Rinvii angolari Planetary gearboxes / Angle bevel gearboxes datasheets

6.1	SCHEDA TECNICA RIDUTTORI / PLANETARY GEARBOXES DATASHEETS .....	pg. 182
6.2	SCHEDA TECNICA RINVII ANGOLARI / ANGLE BEVEL GEARBOXES DATASHEETS .....	pg. 184

## 7. Note tecniche generali General technical information

7.1	EXTRACORSA (CORSA DI SICUREZZA) / EXTRA-STROKE (SAFETY STROKE) .....	pg. 186
7.2	MONTAGGIO CON ATTUATORE BASCULANTE / INSTALLATION WITH TILTING ACTUATOR .....	pg. 186
7.3	GRADO PROTEZIONE IP / IP PROTECTION RATE .....	pg. 187
7.4	LUBRIFICAZIONE / LUBRICATION .....	pg. 187
7.5	POSIZIONE DI MONTAGGIO / MOUNTING POSITION .....	pg. 187
7.6	REVERSIBILITÀ / REVERSIBILITY .....	pg. 187
7.7	CAPACITÀ DI FATTORE DI SERVIZIO / DUTY CYCLE RATING .....	pg. 188
7.8	COLLEGAMENTO RIDUTTORE/RIVIO A MODULO BASE / TORQUE TRANSMISSION ELEMENT BETWEEN PLANETARY / ANGLE BEVEL GEARBOX AND BASIC MODULE .....	pg. 188



1.

## Informazioni tecniche per il calcolo

Technical information  
for calculations

## 1.1

Forza assiale e velocità equivalenti  
Equivalent axial force and equivalent linear speed

**L'attuatore ISOMOVE è progettato e costruito per essere sollecitato solo ed esclusivamente da forze esterne assiali (dirette lungo il suo asse longitudinale).**

Qualunque forza esterna radiale (ortogonale all'asse dell'attuatore) è vietata e compromette il corretto funzionamento dello stesso. In questo caso decade ogni forma di garanzia.

Nel seguito quando parleremo di forza in generale intenderemo un carico puramente assiale.

Per effettuare la scelta corretta dell'attuatore si deve determinare la massima forza esterna reale risultante agente  $F_{a,max}$ .

**Essa è la somma vettoriale di tutte le forze esterne agenti (forza di lavoro, forza di attrito, forza inerziale, forza peso, forze altre varie) nella condizione di lavoro più gravosa.**

Tale condizione, così come i valori massimi di ciascun tipo di forza, deve esserci comunicata dal cliente.

Nella realtà applicativa le forze hanno un andamento nel tempo (grafico di forza) variabile e di conseguenza la forza esterna reale risultante  $F_a$  ha anch'essa un andamento variabile nel tempo:

$$F_a = f(t)$$

Per calcolare la durata statistica dell'attuatore, determinata dai suoi elementi volventi (cuscinetti e vite a ricircolo), dobbiamo calcolare la forza esterna media equivalente  $F_{eq}$  dal grafico di forza esterna reale risultante ed ancor prima la velocità lineare media equivalente  $V_{eq}$  dal profilo di moto reale del ciclo considerato.

Essi sono i valori equivalenti ai reali, ai fini del calcolo di durata statistica dell'attuatore, con probabilità pari al 90%. Essi sono definiti nel modo seguente:

**ISOMOVE actuator has been conceived and is built to be loaded by purely external axial forces (i.e. whose axis is exactly actuator's axis).**

Any external radial force (orthogonal to the actuator's axis) is not allowed because it jeopardizes its proper working. In this case there is no warranty on the product.

In the next pages we will generally write force meaning that it is a purely axial force.

To make actuator's proper choice you must first determine the max external actual resultant force acting on the actuator  $F_{a,max}$ .

**It is the vectorial sum of all external acting forces (working force, friction force, inertial force, weight force and all other possible forces) in the worst possible condition.**

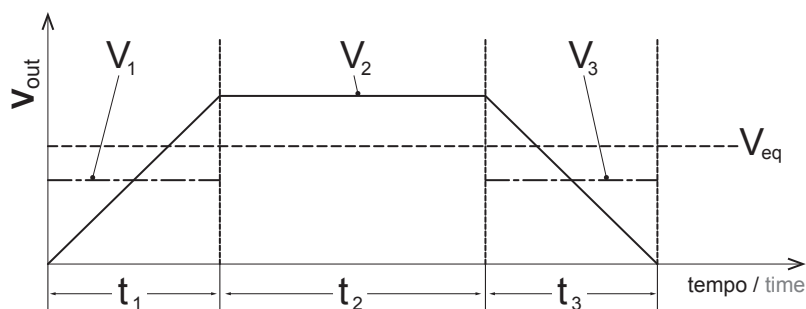
This specific condition, as well as all the max values of each kind of force, must be communicated to SETEC GROUP in a clear way by the Customer/User.

In real applications forces vary during time (force graph) thus also the resultant external actual force  $F_a$  vary during time:

$$F_a = f(t)$$

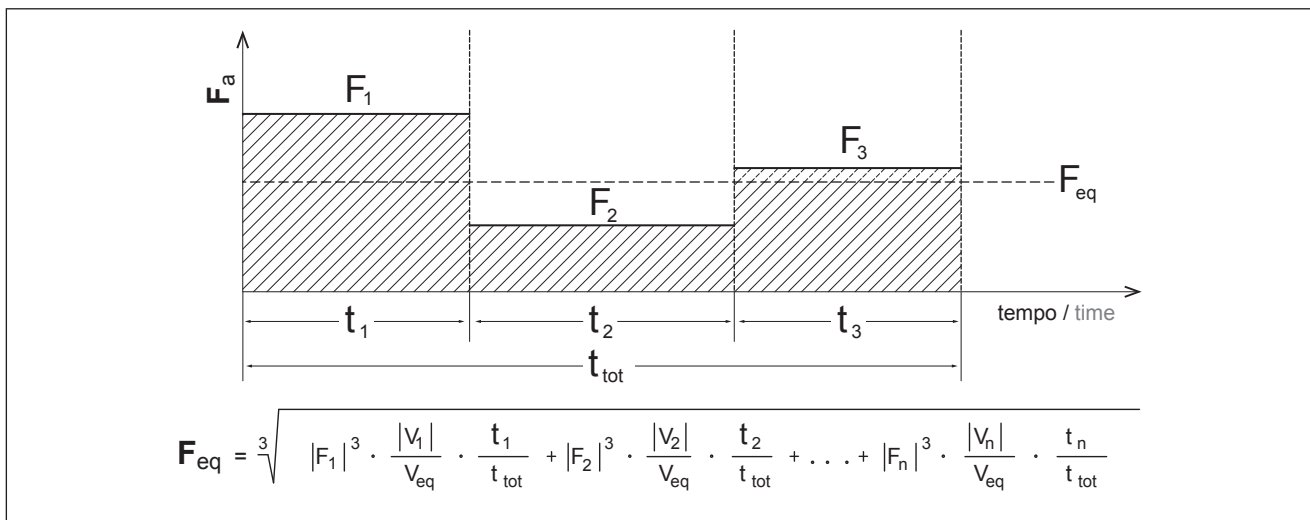
To calculate the statistical lifetime of the actuator at 90% probability, which depends on its rolling elements (bearings and ballscrews) we must first determine 2 equivalent values of the actual force  $F_a$  and of the actual output linear speed  $V_{out}$ :  $F_{eq}$  and  $V_{eq}$ .

They are calculated with the following formulas:



$$V_{eq} = \frac{1}{t_{tot}} \cdot \left( |V_1| \cdot t_1 + |V_2| \cdot t_2 + \dots + |V_n| \cdot t_n \right)$$





Nel tratto lineare crescente/decescente il valore medio è la media aritmetica del valore minimo e massimo.

In the linear increasing/decreasing values (force or speed) the mean value is the arithmetical mean between the minimum and the maximum value of the line section considered.

## 1.2 Capacità dinamica modulo base e durata statistica attuatore Basic module dynamic load rating and Isomove statistical lifetime

Il parametro costruttivo del modulo base che caratterizza la durata statistica con probabilità al 90% dell'attuatore completo (modulo base + trasmissione eventuale) è la

CAPACITÀ DI CARICO DINAMICO **C<sub>am</sub>**

Esso è il valore di forza equivalente **F<sub>eq</sub>**, costante nel tempo, agente sull'attuatore, che determina una durata statistica pari ad 1 MILIONE DI GIRI della vite e dei supporti. Nel catalogo, in seguito, nelle sezioni relative a ciascuna grandezza, riportiamo nelle formule di durata il valore di questo parametro per ciascuna versione di modulo base. Esso è il valore numerico minore tra supporti e vite a sfere, quindi il più cautelativo.

La DURATA STATISTICA al 90% di PROBABILITÀ è calcolata nel modo seguente:

The characteristic constructive figure which determines the 90% probability lifetime of the complete actuator (basic module + transmission stage) is the

DYNAMIC LOAD RATING **C<sub>am</sub>**

It is the equivalent force **F<sub>eq</sub>** value, constant in time, acting on the actuator and determining a statistical lifetime of 1 MILLION TURNS of its rolling elements.

In the following sections dedicated to each single actuator size we indicate in the lifetime formulas this value for each specific type.

Of course it is the minimum value between bearings and ballscrews, thus a conservative one.

90% PROBABILITY LIFETIME is calculated as follows:

$$L_{10} = \left[ \frac{C_{am}}{F_{eq}} \right]^3 \cdot 10^6 \quad \text{[milioni di giri]}$$

Che espressa in corsa dell'asta traslante diventa:

In terms of stroke:

$$L_{10,Km} = \left[ \frac{C_{am}}{F_{eq}} \right]^3 \cdot P \quad \text{[Km]} \quad P = \text{passo vite / ballscrew pitch} \quad \text{[mm]}$$

I valori ricavati dalle formule precedenti sono puramente indicativi e sono validi nelle seguenti condizioni di esercizio:

- assenza di urti e vibrazioni
- lubrificazione dell'attuatore secondo ns. indicazioni
- montaggio con allineamenti di precisione
- assenza di carichi radiali
- temperatura ambiente compresa tra i -20°C e +70°C
- assenza di aggressivi chimici e di grandi depositi di polveri sull'attuatore
- funzionamento sempre per una corsa minima di lubrificazione adeguata

**Esso rimane un valore statistico, ossia vero per il 90% di una quantità statisticamente rilevante di attuatori tutti uguali operanti in condizioni identiche; utile per avere un ordine di grandezza. Non può essere considerato un valore impegnativo e vincolante per il GRUPPO SETEC.**

NOTA: quanto sopra è valido solo ed esclusivamente nel caso gli elementi di trasmissione siano gli "STANDARD SETEC GROUP DISPONIBILI" contenuti in questo catalogo. Qualora la trasmissione fosse a cura e carico del cliente quanto sopra non è più vero.

Al fine di facilitare il calcolo, nei paragrafi relativi ad ogni grandezza e versione sono riportate le formule specifiche della durata  $L_{10,Km}$  dove inserire il solo valore  $F_{eq}$ :

Results of those above formulas are valid only if the actuator is used in the following operating conditions:

- no shocks and no vibrations
- respect of lubrication rules
- installation of the actuator with proper alignment tolerances
- no radial loads
- environmental temperature between -20° and + 70°C
- nor chemical products on/into the actuator neither big dust deposit on it
- always working with the minimum lubrication stroke

**Lifetime value result is anyway a statistical value, thus true at 90% probability, for a relevant batch of all-the-same actuators operating in identical conditions. It is the of use only to have an idea of quantity and not an exact value. Thus it cannot be binding for SETEC GROUP.**

TO BE NOTICED: all what above written is valid only in case the many available transmission stages are exactly the "AVAILABLE STANDARD SETEC GROUP" ones included in this catalogues. If Customer/User wants to use a something different from that all what above indicated will not be true anymore.

To make calculation easier, in each actuator size paragraph you can find the adapted specific formulas for  $L_{10,Km}$  calculation, where you just put in the  $F_{eq}$  value:

ESEMPIO:

EXAMPLE:

CALCOLO CALCULATION	$L_{10,Km}$	[Km]
<b>IE 32</b> <b>P = 4 mm</b>	$L_{10,Km} = \left[ \frac{3370}{F_{eq}} \right]^3 \cdot 4$	$F_{eq} = [N]$
<b>IE 32</b> <b>P = 12 mm</b>	$L_{10,Km} = \left[ \frac{2200}{F_{eq}} \right]^3 \cdot 12$	$F_{eq} = [N]$



## 1.3 Forza reale risultante massima ammissibile in dinamica ed in statica Max admissible actual resultant force in dynamic and static use

Ciascuna grandezza e versione di attuatore è caratterizzata da 2 valori di forza da non superare mai:

Each actuator type has 2 characteristic force values never to exceed:

### ATTUATORE IN MOVIMENTO

$F_d$  = carico massimo dinamico applicabile.

È il valore di forza reale risultante massimo applicabile in movimento, ovvero in condizioni dinamiche.

### ACTUATOR DURING MOTION

$F_d$  = max admissible dynamic load.

It is the max admissible load that can act on the actuator during motion.

$$F_{a,max} \leq F_d$$

### ATTUATORE FERMO

$F_{st}$  = carico massimo statico applicabile

È il valore di forza reale risultante massimo applicabile in assenza di movimento, ovvero in condizioni statiche.

### IDLE ACTUATOR

$F_{st}$  = max admissible static load

It is the max admissible load that can act on the actuator without motion.

$$F_{a,max} \leq F_{st}$$

## 1.4 Coppia in ingresso al modulo base Torque at basic module input shaft

La coppia in ingresso al MODULO BASE  $C_{in}$  viene convertita in forza assiale in uscita  $F_a$  all'asta traslante dello stesso.

Essa è legata alla forza assiale in uscita dalla seguente relazione generale:

Input torque at BASIC MODULE shaft  $C_{in}$  is converted in output axial force  $F_a$  at its rod.

Formula linking those two figures is as follows:

$$C_{in} = \left[ \frac{F_a \cdot P}{5652} \right]$$

$P$  = passo vite / ballscrew pitch [mm]  
 $F_a$  = forza esterna reale risultante (forza da erogare) / external actual resultant force (to deliver) [N]

Per il modulo base standard si considera un rendimento meccanico pari a 0,90.

Basic module's MECHANICAL EFFICIENCY is 0,90.

Nelle tabelle relative ad ogni grandezza e versione è riportato il valore di coppia massima in ingresso al modulo base  $C_{in,max}$ , ovvero il massimo valore di coppia fornibile al modulo base, da non superare mai, corrispondente al valore che genera una forza pari al carico massimo dinamico applicabile  $F_d$ .

In each type's datasheet you will find the max admissible value of input torque at basic module shaft, never to exceed,  $C_{in,max}$ .

This torque value generates  $F_a = F_d$ .

Al fine di facilitare il calcolo, nei paragrafi relativi ad ogni grandezza e versione sono riportate le formule specifiche per calcolare la coppia in ingresso al modulo base  $C_{in}$ , inserendo il valore di  $F_a$ :

To make calculations easier in each model paragraph you will find the formula to get  $C_{in}$ , given a value of  $F_a$ :

ESEMPIO:

EXAMPLE:

CALCOLO CALCULATION	$C_{in}$	[Nm]
<b>IE 32</b> $P = 4 \text{ mm}$	$C_{in} = \left[ \frac{F_a \cdot 4}{5652} \right]$	$F_a = [\text{N}]$
<b>IE 32</b> $P = 12 \text{ mm}$	$C_{in} = \left[ \frac{F_a \cdot 12}{5652} \right]$	$F_a = [\text{N}]$

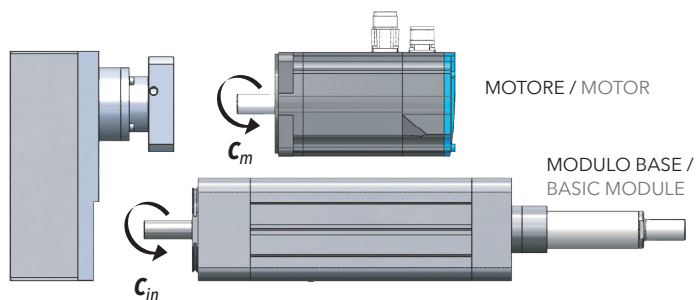
## 1.5

### Coppia motore $C_m$ Motor torque $C_m$

È la coppia che deve erogare il motore all'ingresso all'attuatore, ovvero in ingresso alla trasmissione dell'Isomove per erogare la forza  $F_a$  necessaria.

It is the torque the motor has to provide to the actuator, i.e. at the trasmission stage input, to deliver the requested  $F_a$ .

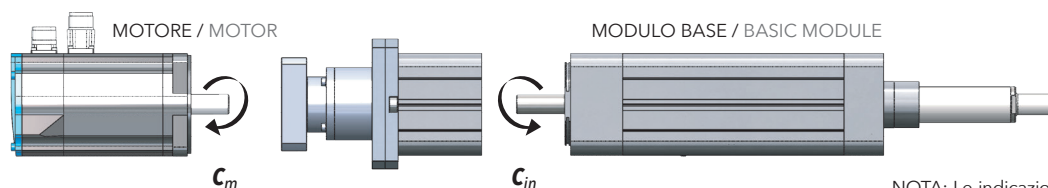
#### PARALLELO / PARALLEL TYPE



NOTA: Le indicazioni dei versi di rotazione sono indicativi.

TO BE NOTICED: Verses are just an indication.

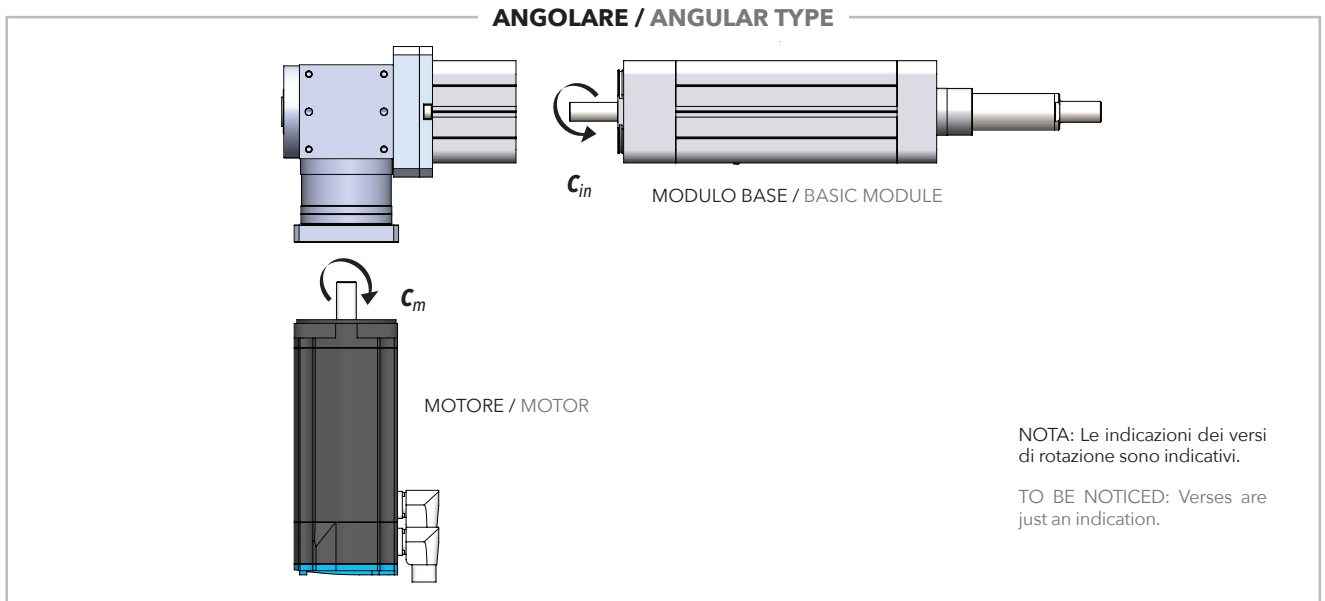
#### COASSIALE / IN-LINE TYPE



NOTA: Le indicazioni dei versi di rotazione sono indicativi.

TO BE NOTICED: Verses are just an indication.





NOTA: Le formule seguenti non tengono in conto le inerzie proprie dell'attuatore, quindi i valori ottenuti saranno inferiori ai reali. Per un calcolo che le includa contattare il nostro ufficio tecnico.

REMARK: The following formulas do not take into account the inertias of the actuator, thus the calculated values are lower than actual ones. To get the actual values please take contact with our technical dept.

A seconda del tipo di trasmissione essa è definita nel modo seguente:

According to the types the motor torque is defined as follows:

**CASO 1 / CASE 1**

<b>ISOMOVE B00 + D00 / D01</b>	
<p><b>MODULO BASE / MODULO BASE + TRASMISSIONE COASSIALE SENZA RIDUZIONE</b></p> <p>In questo caso la coppia motore coincide con la coppia in ingresso al modulo base:</p>	<p><b>BASIC MODULE / BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE</b></p> <p>In this case the motor torque is the input torque at basic module shaft:</p>
$C_m = C_{in} \quad [Nm]$	

**CASO 2 / CASE 2**

<b>ISOMOVE B00 + D02 / A01</b>	
<p><b>MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE / MODULO BASE + RINVIO ANGOLARE</b></p> <p>In questo caso la coppia motore è legata alla coppia in ingresso al modulo base dalla relazione seguente:</p>	<p><b>BASIC MODULE + IN-LINE PLANETARY GEARBOX / BASIC MODULE + ANGLE BEVEL GEARBOX STAGE</b></p> <p>In this case the motor torque is related to the input torque at basic module shaft as follows:</p>
$C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$	
<p><math>R</math> = rapporto di riduzione riduttore/rinvio angolare / planetary/angle bevel gearbox reduction ratio</p> <p><math>\eta</math> = rendimento meccanico del riduttore/rinvio / planetary/angle bevel gearbox mechanical efficiency = 0,90</p> <p><math>C_s</math> = coppia a vuoto assorbita dal riduttore/rinvio / planetary/angle bevel gearbox idle torque [Nm]</p>	

## CASO 3 / CASE 3

## ISOMOVE B00 + R00 / R01

## MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO

In questo caso la coppia motore è legata alla coppia in ingresso al modulo base dalla relazione seguente:

$$C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [\text{Nm}]$$

## BASIC MODULE + PARALLEL BELT GEARBOX STAGE

In this case the motor torque is related to the input torque at basic module shaft as follows:

- $R$  = rapporto di riduzione trasmissione a cinghia, disponibili R=1 oppure R=2 / belt gearbox reduction ratio, available R=1 or R=2
- $\eta$  = rendimento meccanico trasmissione a cinghia = 0,90 / belt gear stage mechanical efficiency

## CASO 4 / CASE 4

## ISOMOVE B00 + R02

## MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO R=1 + RIDUTTORE

In questo caso la coppia motore è legata alla coppia in ingresso al modulo base dalla relazione seguente:

$$C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [\text{Nm}]$$

## BASIC MODULE + PARALLEL BELT GEARBOX STAGE R=1 + IN-LINE PLANETARY GEARBOX REDUCTION STAGE

In this case the motor torque is related to the input torque at basic module shaft as follows:

- $R$  = rapporto di riduzione riduttore / planetary gearbox reduction ratio
- $\eta$  = rendimento meccanico totale (cinghia + epicicloidale) / (planetary gearbox + belt gear) total mechanical efficiency = 0,81
- $C_s$  = coppia a vuoto assorbita dal riduttore / planetary gearbox idle torque

Nelle tabelle relative ad ogni grandezza e versione è riportato il valore di coppia massima motore in ingresso all'attuatore  $C_{m,max}$ , ovvero il massimo valore di coppia fornibile all'attuatore dal motore, da non superare mai, corrispondente al valore che genera una forza pari al carico massimo dinamico applicabile  $C_d$ .

In each type datasheet you will find the max admissible value of motor torque  $C_{m,max}$  at actuator's input.

Never exceed it.  
 $C_{m,max}$  generates  $C_d$ .

## 1.6

Velocità lineare in uscita  $V_{out}$   
Output linear speed  $V_{out}$ 

La velocità assiale dell'asta traslante dell'attuatore  $V_{out}$  è legata alla velocità angolare di ingresso all'attuatore  $N_{out}$  dalla seguente relazione:

$$V_{out} = \left[ \frac{N_{mot} \cdot P}{60 \cdot R} \right] \quad [\text{mm/s}]$$

Actuator's rod output linear speed  $V_{out}$  is related to input motor speed  $N_{out}$  as follows:

- $P$  = passo vite / ballscrew pitch [mm]
- $N_{mot}$  = velocità angolare del motore (in ingresso all'attuatore) / rotational motor speed (at actuator's input) [rpm]
- $R$  = rapporto di riduzione tra motore e modulo base (è il rapporto di riduzione dello stadio di riduzione dell'attuatore) / reduction ratio between motor and basic module (it is the total reduction gear of the ISOMOVE)

Nelle tabelle relative ad ogni grandezza e versione è riportato il valore di velocità angolare massima ammissibile  $N_{in,max}$  in ingresso al modulo base, da non superare mai, corrispondente al valore che genera una velocità assiale dell'asta traslante massima  $V_{out,max}$ .

In each type datasheet you will find the max admissible input speed at the basic module shaft  $N_{in,max}$  never to exceed, which delivers the max admissible output linear speed of the rod  $V_{out,max}$ .



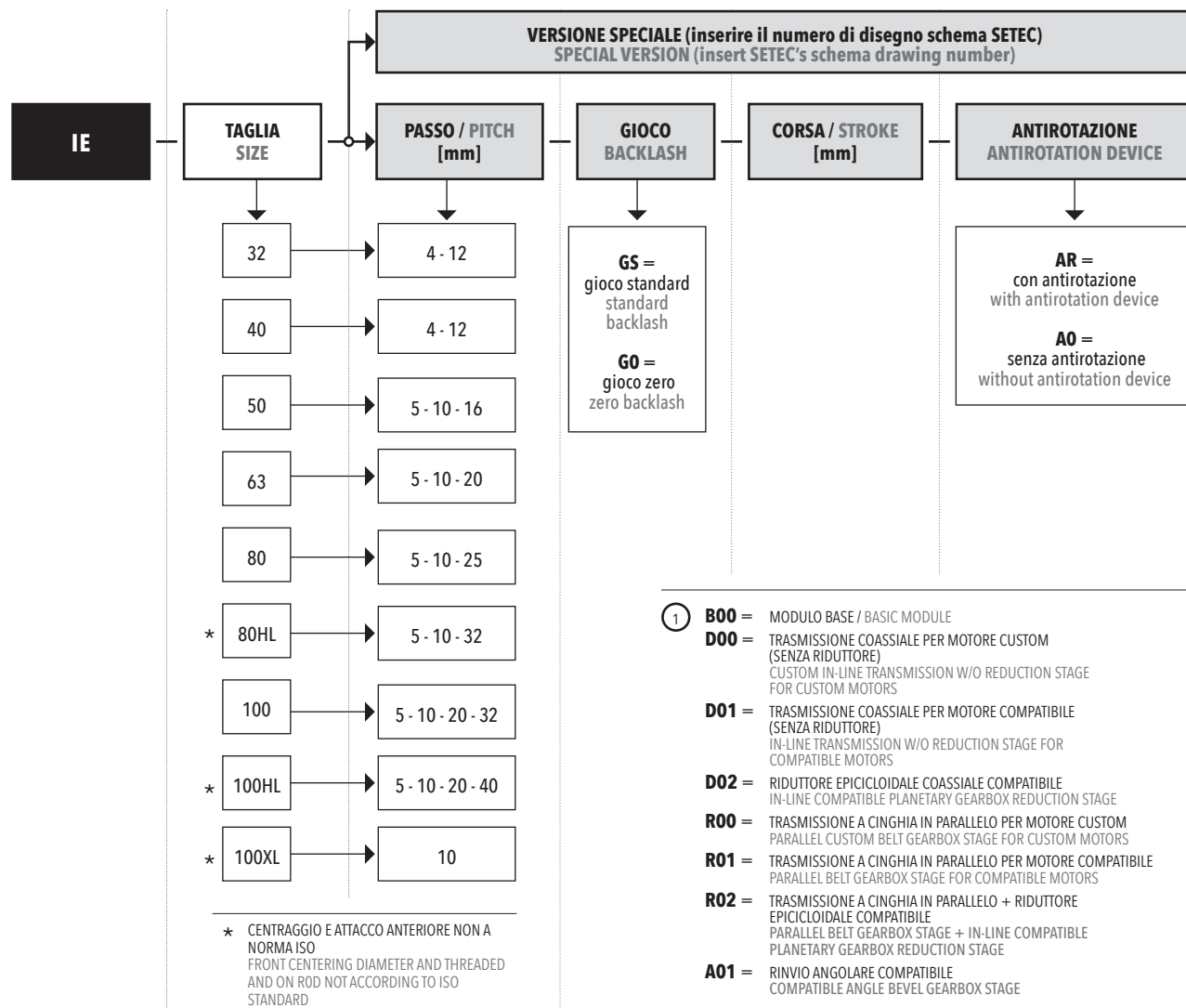
2.

Sigla di ordinazione

Ordering identification

2.1

Grandezze da 32 a 100XL  
From 32 to 100XL type



- ① **B00** = MODULO BASE / BASIC MODULE
- D00** = TRASMISSIONE COASSIALE PER MOTORE CUSTOM (SENZA RIDUTTORE)  
CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR CUSTOM MOTORS
- D01** = TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE (SENZA RIDUTTORE)  
IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR COMPATIBLE MOTORS
- D02** = RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE
- R00** = TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM  
PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS
- R01** = TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE  
PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS
- R02** = TRASMISSIONE A CINGHIA IN PARALLELO + RIDUTTORE EPICICLOIDALE COMPATIBILE  
PARALLEL BELT GEARBOX STAGE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE
- A01** = RINVIO ANGOLARE COMPATIBILE  
COMPATIBLE ANGLE BEVEL GEARBOX STAGE

- ② PER LE DIMENSIONI DEI MOTORI VEDERE CAPITOLO 4  
FOR MOTOR DIMENSIONS SEE CHAPTER 4
- ③ PER LE DIMENSIONI DEI RIDUTTORI VEDERE CAPITOLO 4  
FOR PLANETARY GEARBOX DIMENSIONS SEE CHAPTER 4
- ④ PER LE DIMENSIONI DEI RINVII ANGOLARI VEDERE CAPITOLO 4  
FOR ANGLE BEVEL GEARBOX DIMENSIONS SEE CHAPTER 4

Esempi di designazione prodotto STANDARD:

IE	63	5	GS	360	A0
IE	50	5	GS	250	AR
IE	100HL	10	GS	450	A0
IE	80	10	GO	500	AR

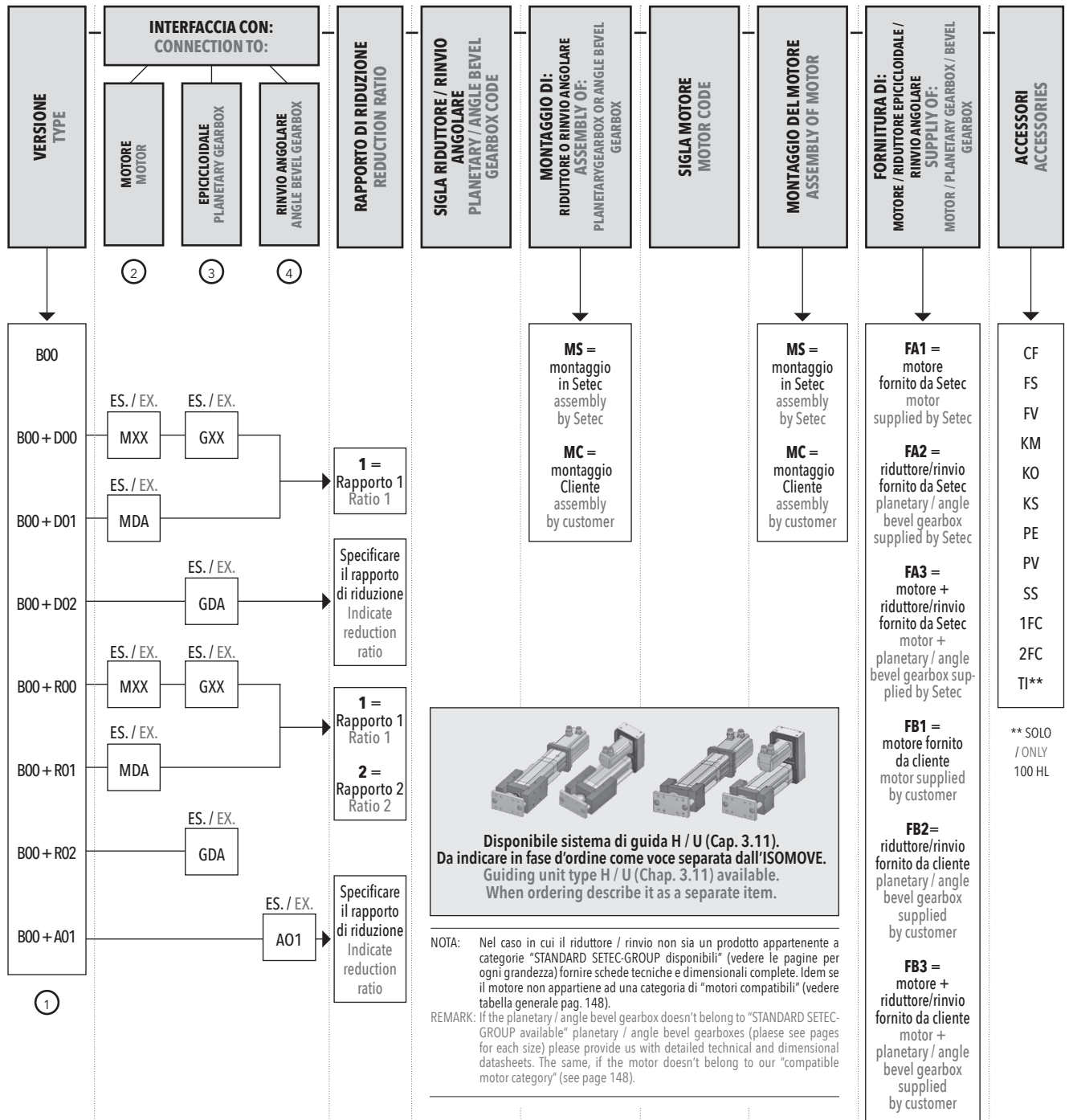
STANDARD product designation examples:

Esempio di designazione prodotto SPECIALE:

IE	32	I-E032-XXXX-XXX-XXXX-REVXX			
----	----	----------------------------	--	--	--

SPECIAL product designation example:

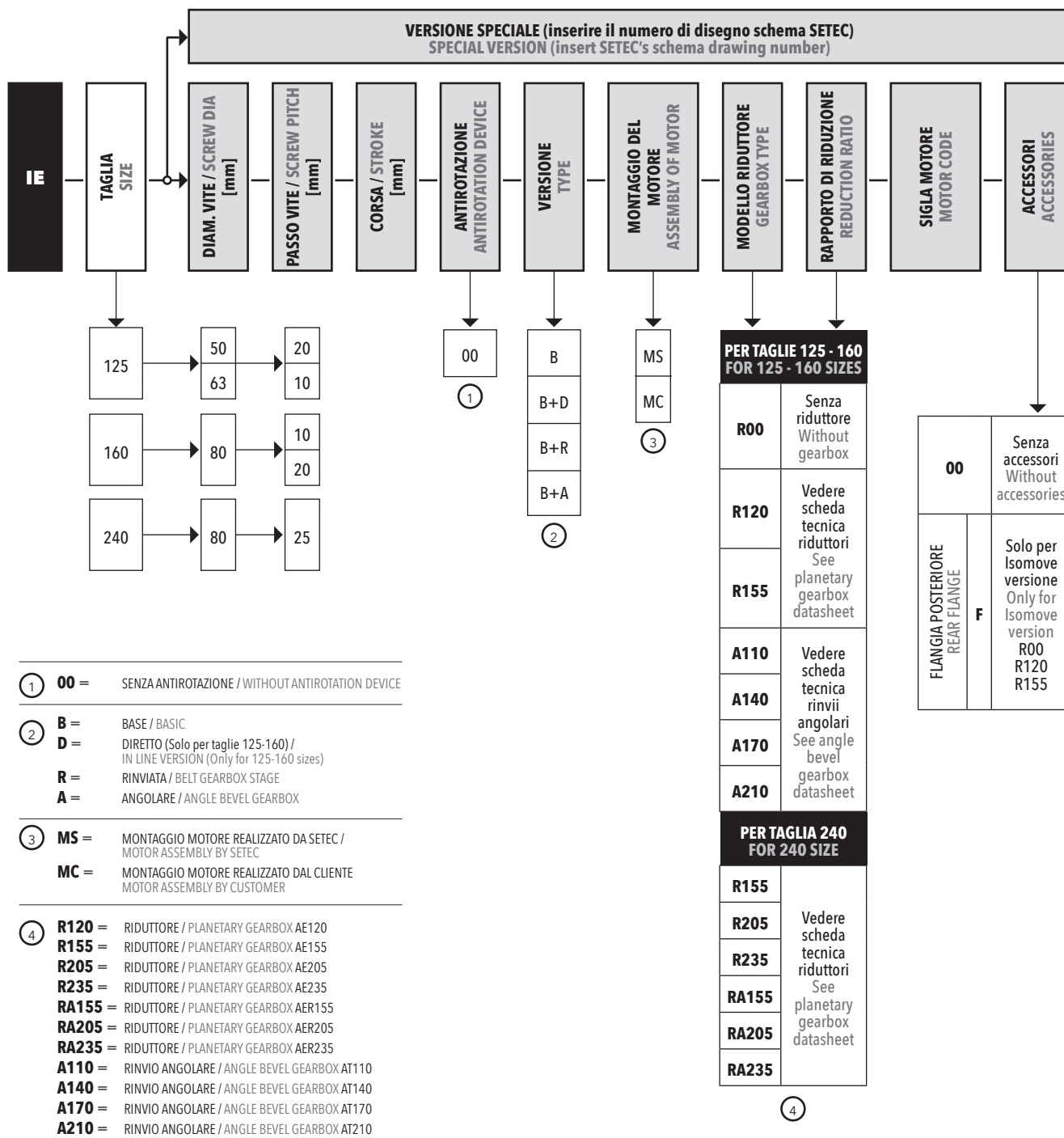




B00 + D02	GCA	10	LP070	MC	1FK7022	MC	FB3	FV
B00 + D01	MCC	1			MCS09	MS	FA1	
B00 + A01	ADA	3	ATB110	MS	BMH1003P	MC	FA2+FB1	
B00 + R02	GDA	5	AE090	MS	BSH703P	MS	FA2+FB1	FS-PE

2.2

Grandezze 125 - 160 - 240  
125 - 160 - 240 type



Esempio di designazione prodotto STANDARD:

STANDARD product designation example:

**IE** - **125** - **63** - **10** - **300** - **00** - **B+A** - **MC** - **A110** - **4** - **BSH1004P** - **00**

Esempio di designazione prodotto SPECIALE:

SPECIAL product designation example:

**IE** - **125** - **I-E125-XXXX - XXX - XXXX - REVXX**

# 3.

## Grandezze da 32 a 100XL

### 32 to 100XL Sizes

IE 32	pg. 38
IE 40	pg. 44
IE 50	pg. 50
IE 63	pg. 62
IE 80	pg. 74
IE 80HL	pg. 86
IE 100	pg. 98
IE 100HL	pg. 110
IE 100XL	pg. 124
Accessori / Accessories	pg. 136



## 3.1

## IE 32

## 3.1.1 Caratteristiche tecniche

## 3.1.1 Technical features

ISOMOVE IE 32			4	12
<b>P</b>	PASSO VITE / SCREW LEAD	[mm]	4	12
<b>D</b>	DIAMETRO VITE / SCREW DIAMETER	[mm]	12	12
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	3000*	2000*
<b>C<sub>in,max</sub></b>	PER AVERE TO GET $F_a = F_d$	[Nm]	2,1	4,2
<b>C<sub>m,max</sub></b>	"CASO 1" / "CASE 1": B00 + D00/D01	[Nm]	2,1	4,2
	"CASO 3" / "CASE 3": B00 + R00/R01	[Nm]	2,3	4,6
			disponibile R=1 available R=1	
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD	[N]	3400	3400
<b>V<sub>out,max</sub></b> <b>N<sub>in,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED	[mm/sec] [rpm]	200 / 3000	600 / 3000
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA / MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	1	2
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD / MAX STANDARD STROKE	[mm]	500**	500**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE	[Kg]	1,2 / 0,3	1,2 / 0,3
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY	[mm]	0,02	0,02
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA / "0" BACKLASH BALLSCREW ASSEMBLY		NON DISPONIBILE / NOT AVAILABLE	
<b>L<sub>10,Km</sub></b>	DURATA / LIFETIME	[Km]	VEDI TABELLA / SEE TABLE	
	VERSIONI DISPONIBILI / AVAILABLE TYPES		D00/D01/R00/R01	D00/D01/R00/R01
	ACCESSORI DISPONIBILI / AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)	

\* Per le versioni R00/R01 controllare con il grafico di pagina 40. / For R00/R01 types please check graph at page 40.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.

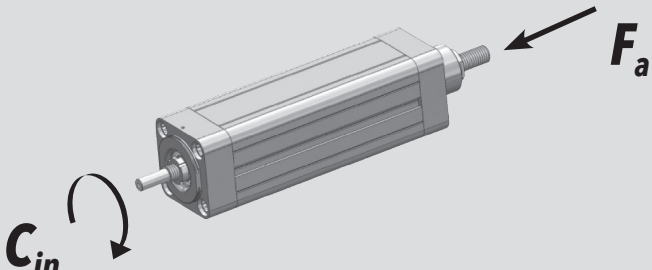
## 3.1.2 Calcolo durata

## 3.1.2 Lifetime calculation

<b>IE 32</b> <b>P = 4 mm</b>	$L_{10,Km} = \left[ \frac{3370}{F_{eq}} \right]^3 \cdot 4$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 32</b> <b>P = 12 mm</b>	$L_{10,Km} = \left[ \frac{2200}{F_{eq}} \right]^3 \cdot 12$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

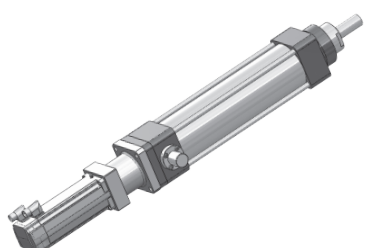
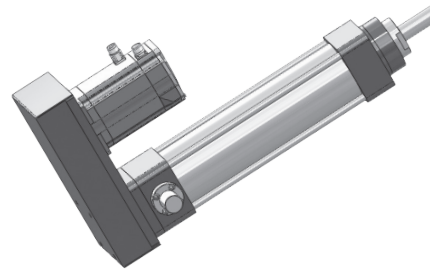
### 3.1.3 Calcolo coppia in ingresso al modulo base

### 3.1.3 Torque calculation at basic module input shaft

		
<p><b>IE 32</b> <b>P = 4 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 4}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 32</b> <b>P = 12 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 12}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>

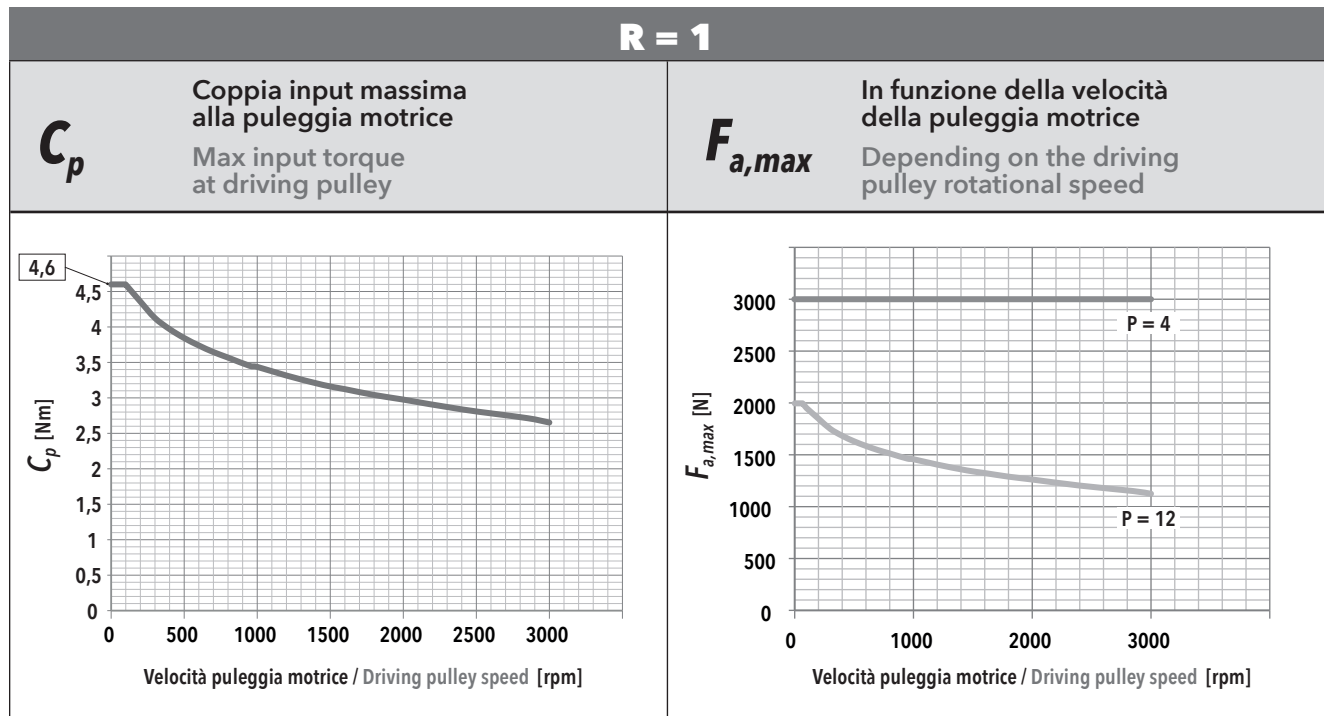
### 3.1.4 Calcolo coppia motore

### 3.1.4 Motor torque calculation

<p>CASO / CASE <b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p> 	$C_m = C_{in} \quad [Nm]$
<p>CASO / CASE <b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p> 	$C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 belt gearbox reduction ratio, available R=1 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>

**3.1.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**3.1.5 Mechanical input power at belt gear stage (R type)**



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 32 - PASSO / PITCH 4					
$F_a$ [N]		$V_{out}$ [mm/s]			
		20	80	140	200
3000	$F_r$ [N]	140	141	142	143
	$f_t$ [Hz]	328	329	330	331
2700	$F_r$ [N]	127	127	127	129
	$f_t$ [Hz]	312	312	313	314
2400	$F_r$ [N]	112	112	113	114
	$f_t$ [Hz]	293	294	295	296
2100	$F_r$ [N]	98	99	100	101
	$f_t$ [Hz]	276	276	277	278
1800	$F_r$ [N]	84	85	86	87
	$f_t$ [Hz]	253	254	256	258
1500	$F_r$ [N]	70	70	71	73
	$f_t$ [Hz]	232	233	234	236
1200	$F_r$ [N]	57	57	58	58
	$f_t$ [Hz]	209	209	210	212
900	$F_r$ [N]	41	42	43	44
	$f_t$ [Hz]	179	180	182	184
600	$F_r$ [N]	28	28	29	30
	$f_t$ [Hz]	147	148	149	152
300	$F_r$ [N]	13	14	15	16
	$f_t$ [Hz]	101	105	108	111

IE 32 - PASSO / PITCH 12					
$F_a$ [N]		$V_{out}$ [mm/s]			
		60	240	420	600
2000	$F_r$ [N]	282			
	$f_t$ [Hz]	465			
1800	$F_r$ [N]	253			
	$f_t$ [Hz]	441			
1600	$F_r$ [N]	225	226		
	$f_t$ [Hz]	416	416		
1400	$F_r$ [N]	197	197		
	$f_t$ [Hz]	389	389		
1200	$F_r$ [N]	169	169	170	
	$f_t$ [Hz]	360	360	361	
1000	$F_r$ [N]	141	141	142	143
	$f_t$ [Hz]	329	329	330	331
800	$F_r$ [N]	113	113	114	115
	$f_t$ [Hz]	294	294	295	297
600	$F_r$ [N]	85	85	86	87
	$f_t$ [Hz]	255	255	256	258
400	$F_r$ [N]	56	57	57	59
	$f_t$ [Hz]	208	209	210	212
200	$F_r$ [N]	28	29	29	30
	$f_t$ [Hz]	147	148	150	153

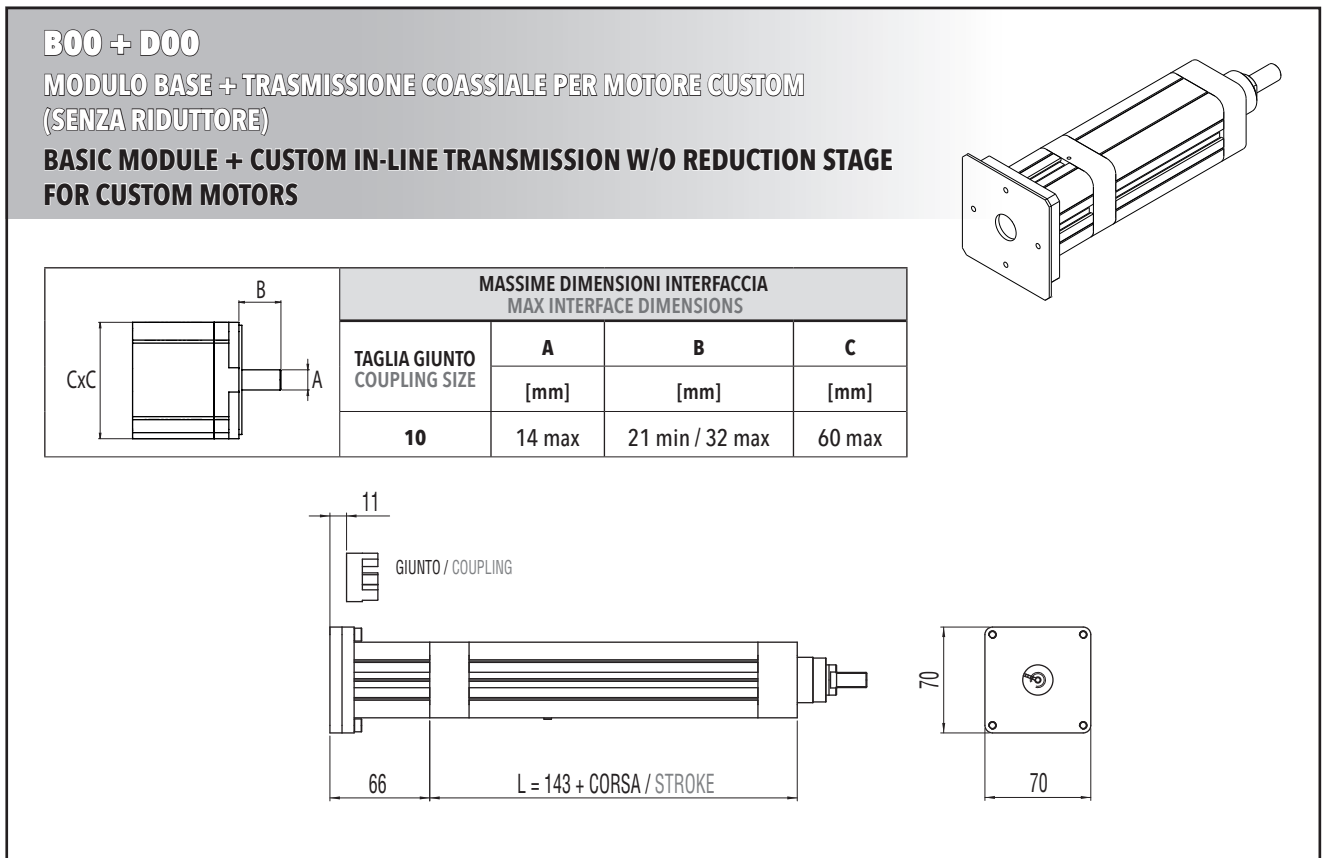
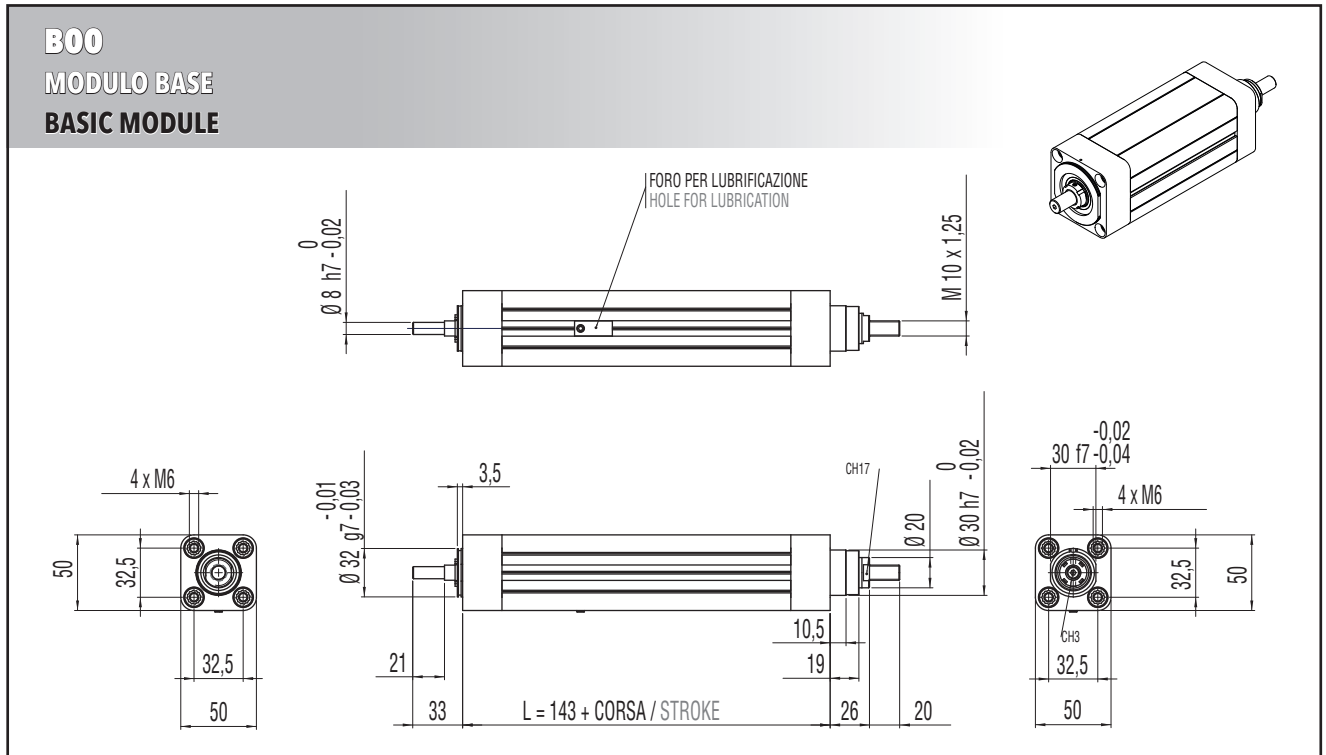


### 3.1.6 Caratteristiche dimensionali

### 3.1.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

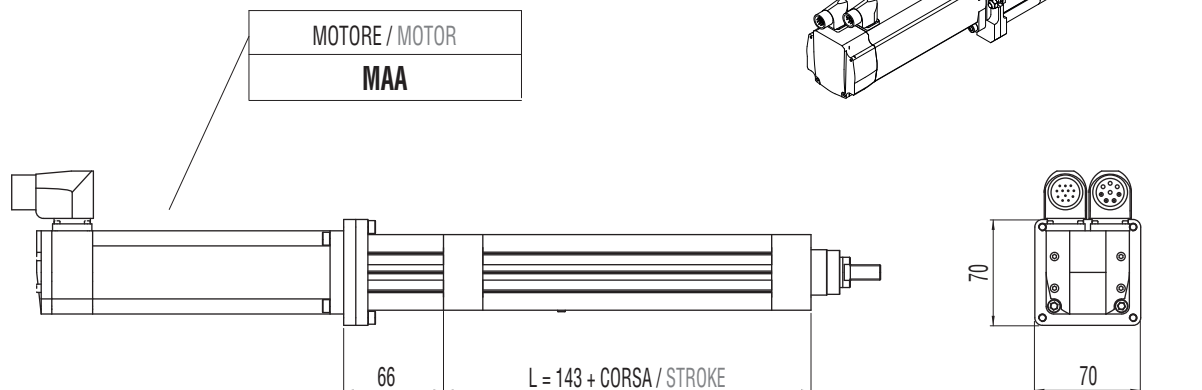
REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.



**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

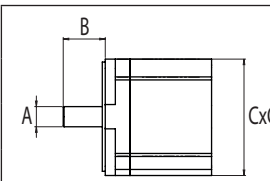
**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**



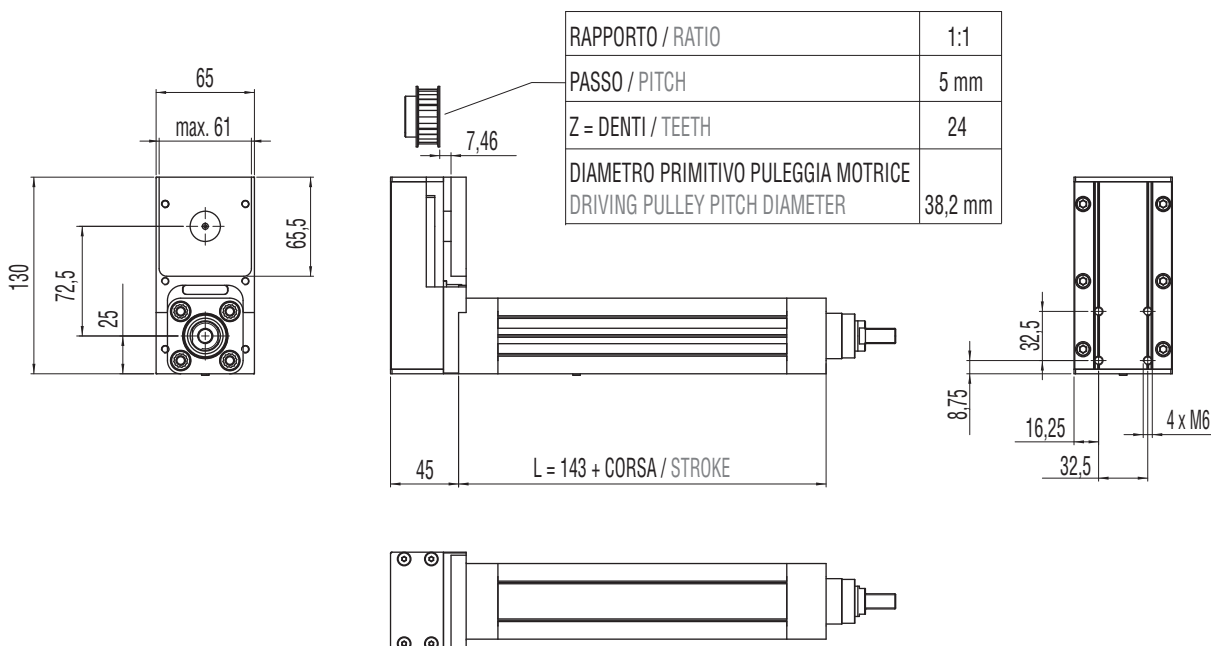
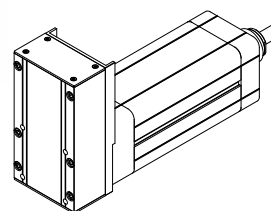
**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

**BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS**



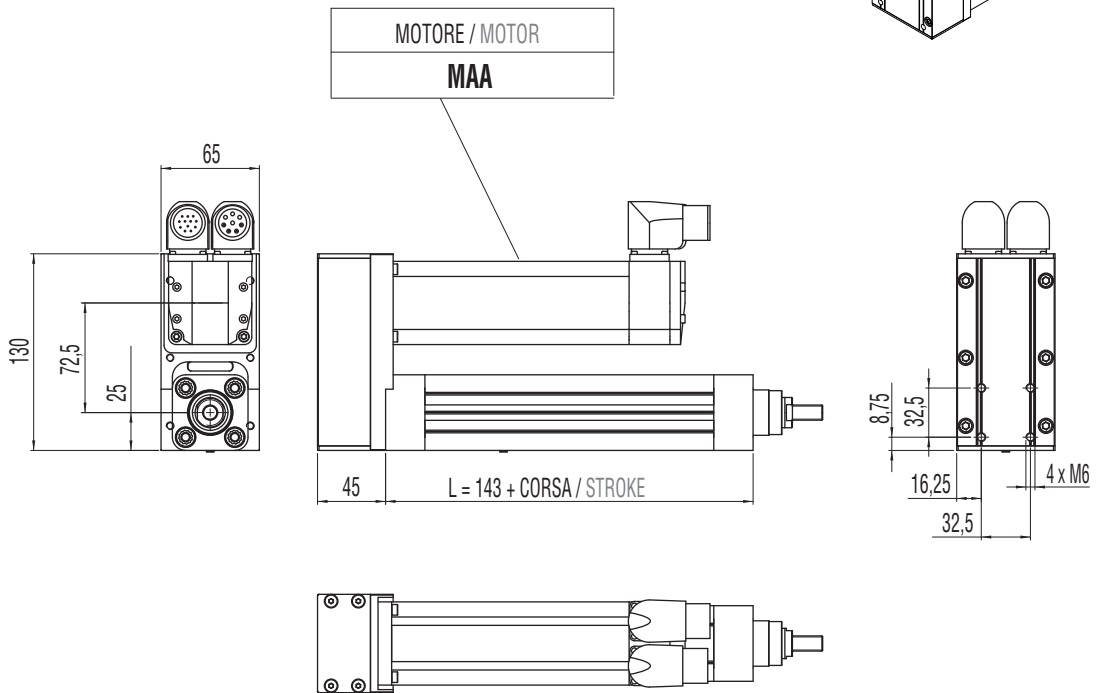
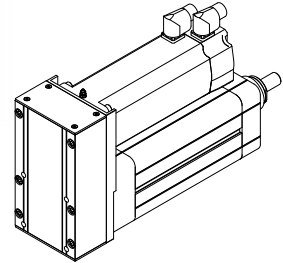
MASSIME DIMENSIONI INTERFACCIA MAX INTERFACE DIMENSIONS			
	A	B	C
	[mm]	[mm]	[mm]
<b>R=1:1</b>	14 max	24 min / 42 max	60 max



**B00 + R01**

**MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE**

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS**



**3.1.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.1.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).



## 3.2

## IE 40

## 3.2.1 Caratteristiche tecniche

## 3.2.1 Technical features

ISOMOVE IE 40			4	12
<b>P</b>	PASSO VITE / SCREW LEAD	[mm]	4	12
<b>D</b>	DIAMETRO VITE / SCREW DIAMETER	[mm]	12	12
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	3000*	2000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET	[Nm]	2,1	4,2
<b>C<sub>m,max</sub></b>	"CASO 1" / "CASE 1": B00 + D00/D01	[Nm]	2,1	4,2
	"CASO 3" / "CASE 3": B00 + R00/R01	[Nm]	2,3	4,6
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD	[N]	3400	3400
<b>V<sub>out,max</sub></b> <b>N<sub>in,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED	[mm/sec] [rpm]	200 / 3000	600 / 3000
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA / MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	1	2
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD / MAX STANDARD STROKE	[mm]	500**	500**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE	[Kg]	1,2 / 0,3	1,2 / 0,3
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY	[mm]	0,02	0,02
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA / "0" BACKLASH BALLSCREW ASSEMBLY		NON DISPONIBILE / NOT AVAILABLE	
<b>L<sub>10,Km</sub></b>	DURATA / LIFETIME	[Km]	VEDI TABELLA / SEE TABLE	
	VERSIONI DISPONIBILI / AVAILABLE TYPES		D00/D01/R00/R01	D00/D01/R00/R01
	ACCESSORI DISPONIBILI / AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)	

\* Per le versioni R00/R01 controllare con il grafico di pagina 46. / For R00/R01 types please check graph at page 46.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.

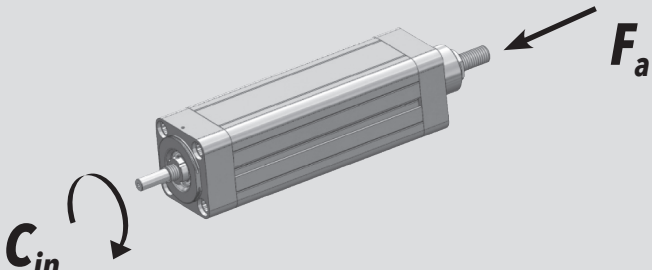
## 3.2.2 Calcolo durata

## 3.2.2 Lifetime calculation

<b>IE 40</b> <b>P = 4 mm</b>	$L_{10,Km} = \left[ \frac{3370}{F_{eq}} \right]^3 \cdot 4$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 40</b> <b>P = 12 mm</b>	$L_{10,Km} = \left[ \frac{2200}{F_{eq}} \right]^3 \cdot 12$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

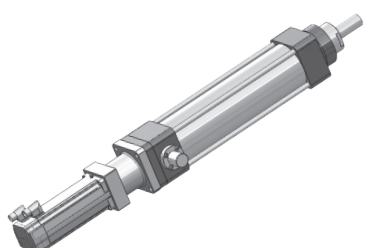
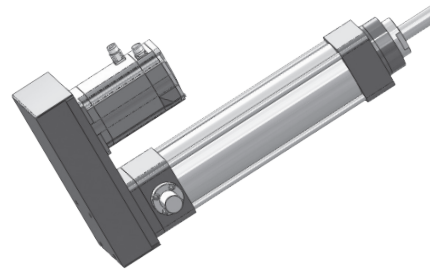
**3.2.3 Calcolo coppia in ingresso al modulo base**

**3.2.3 Torque calculation at basic module input shaft**

		
<p><b>IE 40</b> <b>P = 4 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 4}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 40</b> <b>P = 12 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 12}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>

**3.2.4 Calcolo coppia motore**

**3.2.4 Motor torque calculation**

<p>CASO / CASE <b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p> 	$C_m = C_{in}$ <p>[Nm]</p>
<p>CASO / CASE <b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p> 	$C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right]$ <p>[Nm]</p> <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 belt gearbox reduction ratio, available R=1 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>

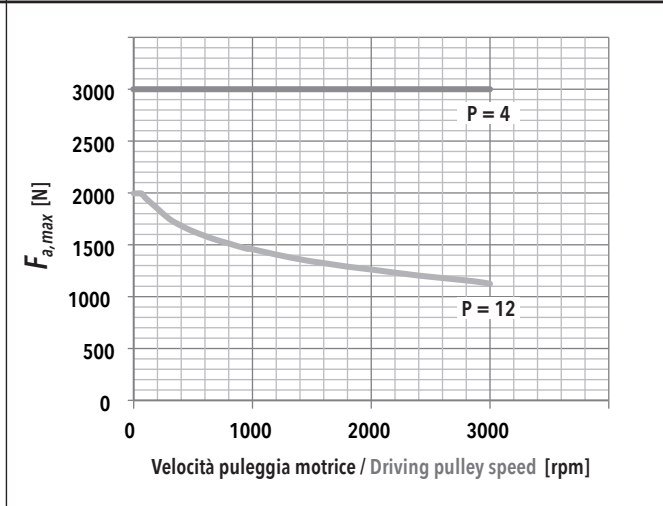
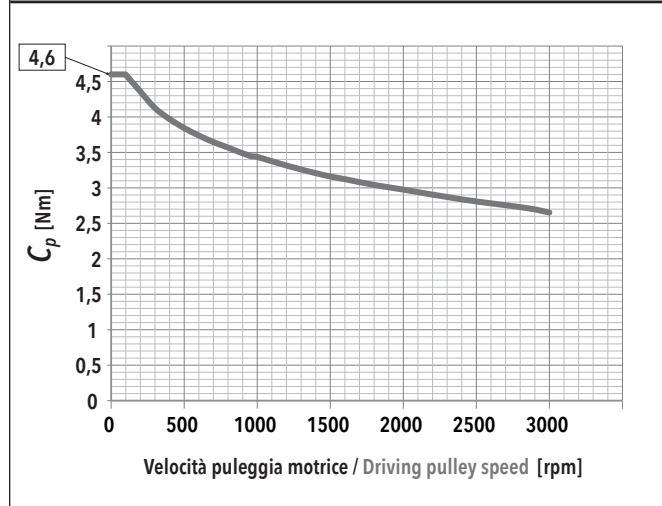
**3.2.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**3.2.5 Mechanical input power at belt gear stage (R type)**

**R = 1**

**$C_p$**  Coppia input massima alla puleggia motrice  
Max input torque at driving pulley

**$F_{a,max}$**  In funzione della velocità della puleggia motrice  
Depending on the driving pulley rotational speed



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 40 - PASSO / PITCH 4					
$F_a$ [N]		$V_{out}$ [mm/s]			
		20	80	140	200
3000	$F_r$ [N]	140	141	142	143
	$f_t$ [Hz]	328	329	330	331
2700	$F_r$ [N]	127	127	127	129
	$f_t$ [Hz]	312	312	313	314
2400	$F_r$ [N]	112	112	113	114
	$f_t$ [Hz]	293	294	295	296
2100	$F_r$ [N]	98	99	100	101
	$f_t$ [Hz]	276	276	277	278
1800	$F_r$ [N]	84	85	86	87
	$f_t$ [Hz]	253	254	256	258
1500	$F_r$ [N]	70	70	71	73
	$f_t$ [Hz]	232	233	234	236
1200	$F_r$ [N]	57	57	58	58
	$f_t$ [Hz]	209	209	210	212
900	$F_r$ [N]	41	42	43	44
	$f_t$ [Hz]	179	180	182	184
600	$F_r$ [N]	28	28	29	30
	$f_t$ [Hz]	147	148	149	152
300	$F_r$ [N]	13	14	15	16
	$f_t$ [Hz]	101	105	108	111

IE 40 - PASSO / PITCH 12					
$F_a$ [N]		$V_{out}$ [mm/s]			
		60	240	420	600
2000	$F_r$ [N]	282			
	$f_t$ [Hz]	465			
1800	$F_r$ [N]	253			
	$f_t$ [Hz]	441			
1600	$F_r$ [N]	225	226		
	$f_t$ [Hz]	416	416		
1400	$F_r$ [N]	197	197		
	$f_t$ [Hz]	389	389		
1200	$F_r$ [N]	169	169	170	
	$f_t$ [Hz]	360	360	361	
1000	$F_r$ [N]	141	141	142	143
	$f_t$ [Hz]	329	329	330	331
800	$F_r$ [N]	113	113	114	115
	$f_t$ [Hz]	294	294	295	297
600	$F_r$ [N]	85	85	86	87
	$f_t$ [Hz]	255	255	256	258
400	$F_r$ [N]	56	57	57	59
	$f_t$ [Hz]	208	209	210	212
200	$F_r$ [N]	28	29	29	30
	$f_t$ [Hz]	147	148	150	153

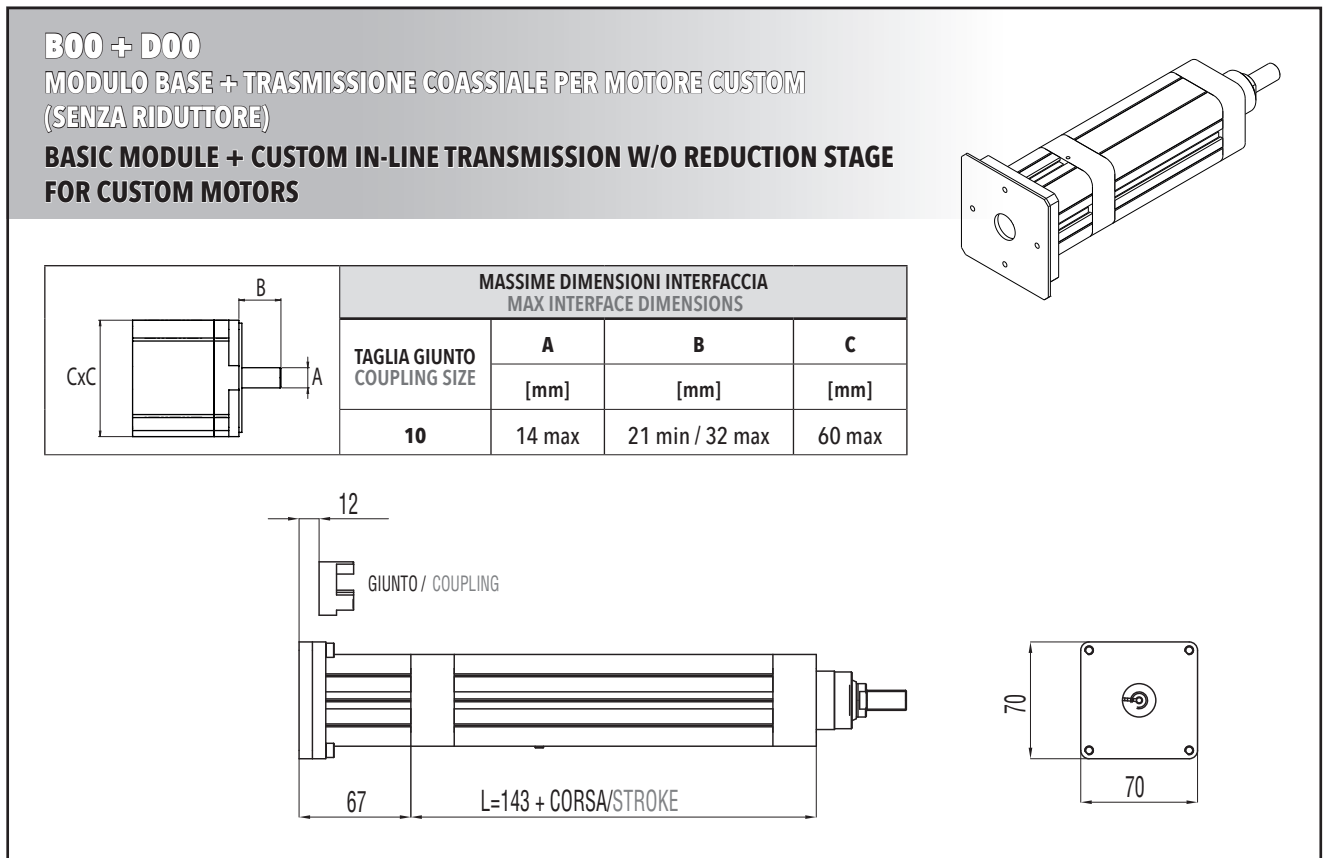
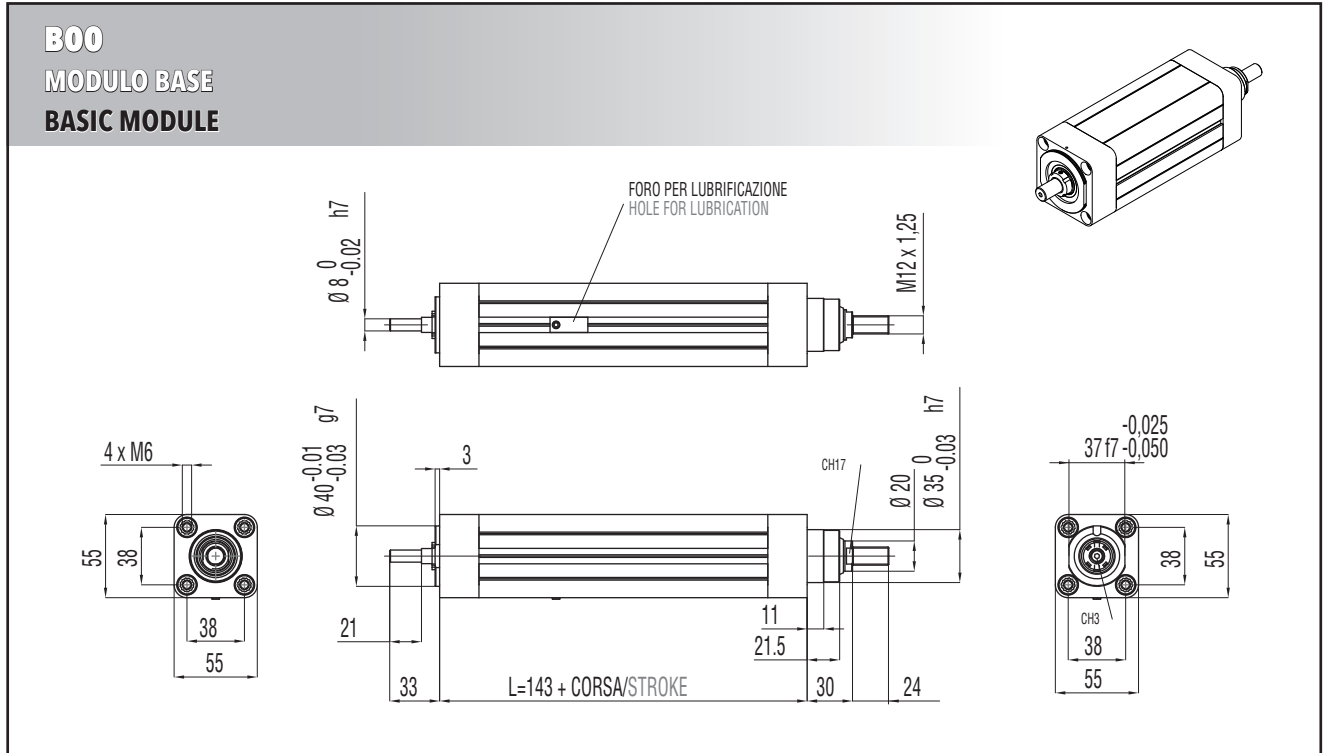


### 3.2.6 Caratteristiche dimensionali

### 3.2.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

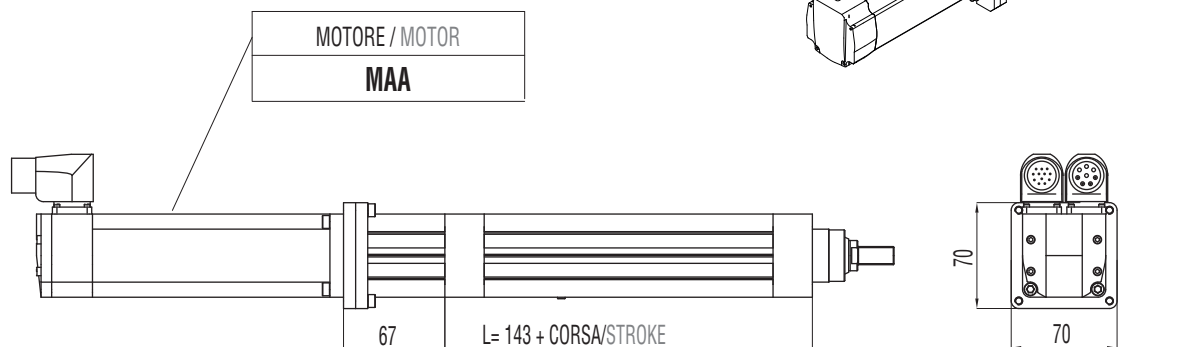
REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.



## B00 + D01

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS

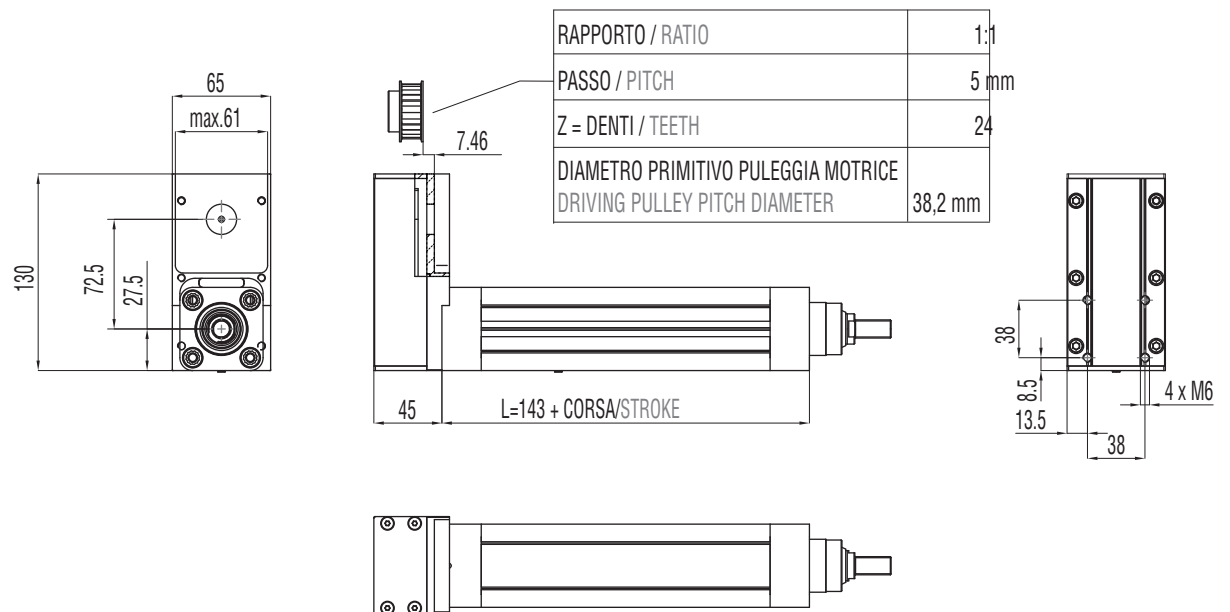


## B00 + R00

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS

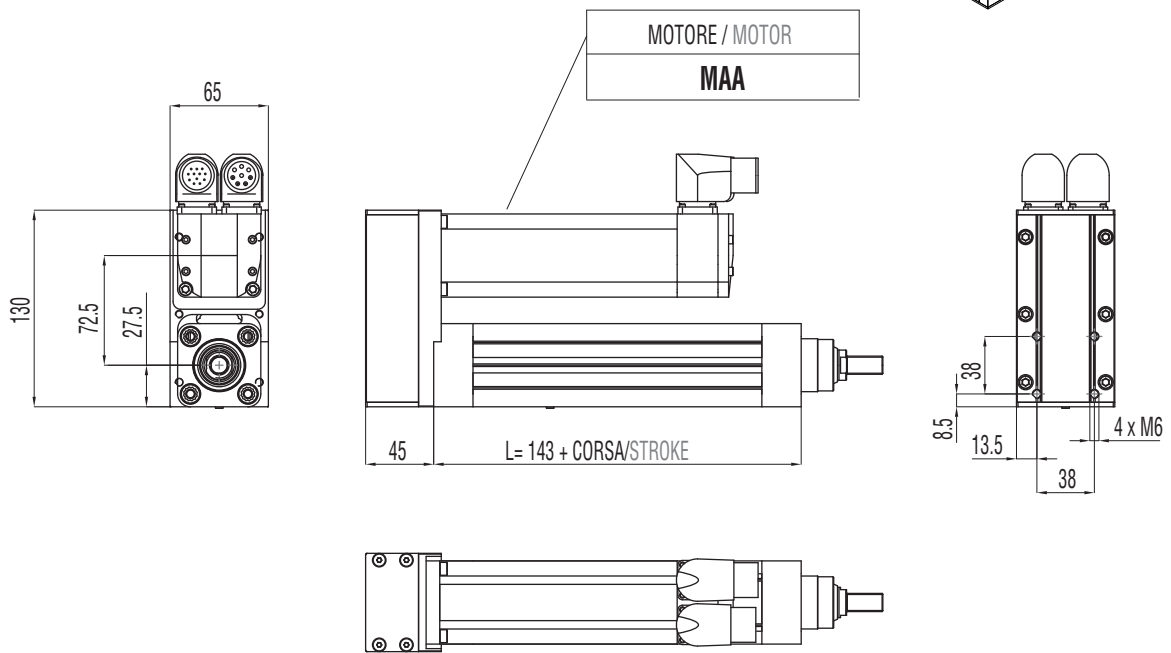
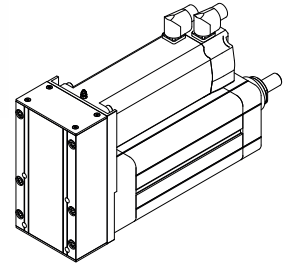
	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A	B	C
	[mm]	[mm]	[mm]
R=1:1	14 max	24 min / 42 max	60 max



**B00 + R01**

**MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE**

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS**



**3.2.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.2.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).



## 3.3

## IE 50

## 3.3.1 Caratteristiche tecniche

## 3.3.1 Technical features

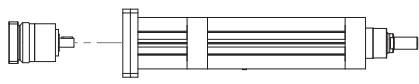
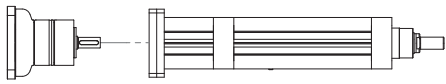
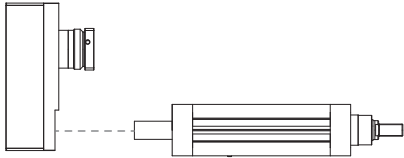
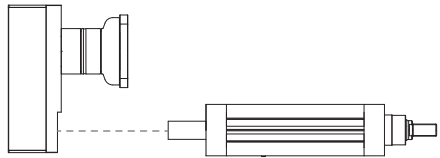

ISOMOVE IE 50		5	10	16
<b>P</b>	PASSO VITE SCREW LEAD [mm]	5	10	16
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	16	16	16
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	4500*	4500*	4000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	3,9	7,9	11,3
	"CASO 1" / "CASE 1": B00 + D00/D01 [Nm]	3,9	7,9	11,3
	"CASO 2" / "CASE 2": B00 + D02/A01 [Nm]	$\left[ \frac{4,3}{R} \right] + C_s$	$\left[ \frac{8,7}{R} \right] + C_s$	$\left[ \frac{12,5}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio		
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01 [Nm]	$\frac{4,3}{R}$	$\frac{8,7}{R}$	$\frac{12,5}{R}$
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)		
	"CASO 4" / "CASE 4": B00 + R02 [Nm]	$\frac{4,7}{R}$	$\frac{9,6}{R}$	$\frac{13,8}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio		
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	4500	4500	4500
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	250 / 3000	500 / 3000	800 / 3000
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]			
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	1	2	2,5
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	700**	700**	700**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE [Kg]	1,5 / 0,5	1,5 / 0,5	1,5 / 0,5
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY [mm]	0,04	0,07	0,07
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	DISPONIBILE / AVAILABLE		
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME [Km]	VEDI TABELLA / SEE TABLE pg. 52		

\* Per le versioni R00/R01 controllare con i grafici delle pagine 54/55. / For R00/R01 types please check graph at page 54/55.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dept.

ISOMOVE IE 50		5	10	16
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01		
$F_{a,p}$	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX	[N]	AE050/4500 PGII-060/4500	AE050/4500 PGII-060/4500 AE050/4500 PGII-060/4500
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX	[N]	ATB065/4500	ATB065/4500 ATB065/4500
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)		

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

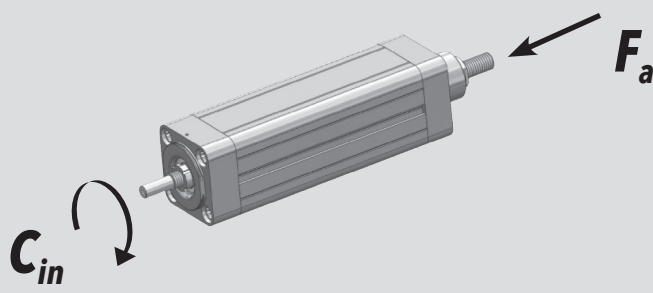
<p>TRASMISSIONE COASSIALE CON RIDUTTORE</p> <p>IN-LINE PLANETARY GEARBOX STAGE</p>	 <p><b>AE050</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-060</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE PARALLELA CON RIDUTTORE</p> <p>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p>	 <p><b>AE050</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-060</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE ANGOLARE CON RINVIO</p> <p>ANGLE BEVEL GEARBOX STAGE</p>	 <p><b>ATB065</b></p> <p>MODULO BASE BASIC MODULE</p>	

## 3.3.2 Calcolo durata

## 3.3.2 Lifetime calculation

<b>IE 50</b> <b>P = 5 mm</b>	$L_{10,Km} = \left[ \frac{6640}{F_{eq}} \right]^3 \cdot 5$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 50</b> <b>P = 10 mm</b>	$L_{10,Km} = \left[ \frac{6670}{F_{eq}} \right]^3 \cdot 10$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 50</b> <b>P = 16 mm</b>	$L_{10,Km} = \left[ \frac{4430}{F_{eq}} \right]^3 \cdot 16$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

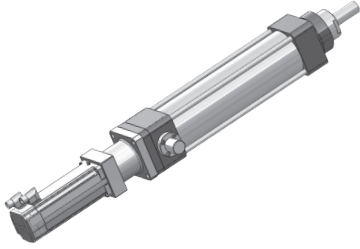
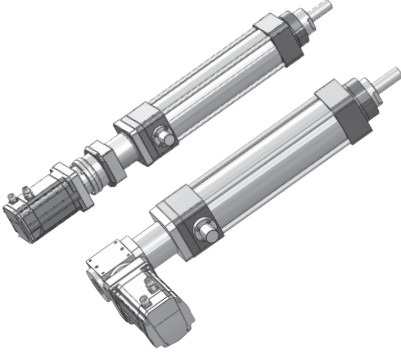
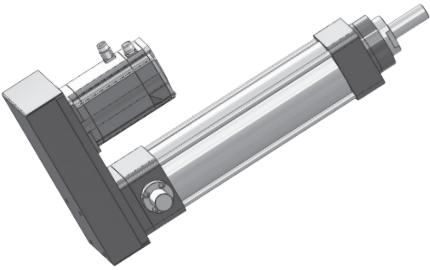
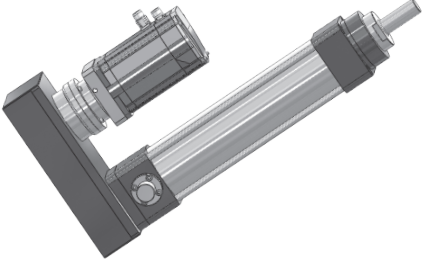
3.3.3 Calcolo coppia in ingresso  
al modulo base3.3.3 Torque calculation at basic  
module input shaft

		
<b>IE 50</b> <b>P = 5 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 5}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 50</b> <b>P = 10 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 50</b> <b>P = 16 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 16}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$



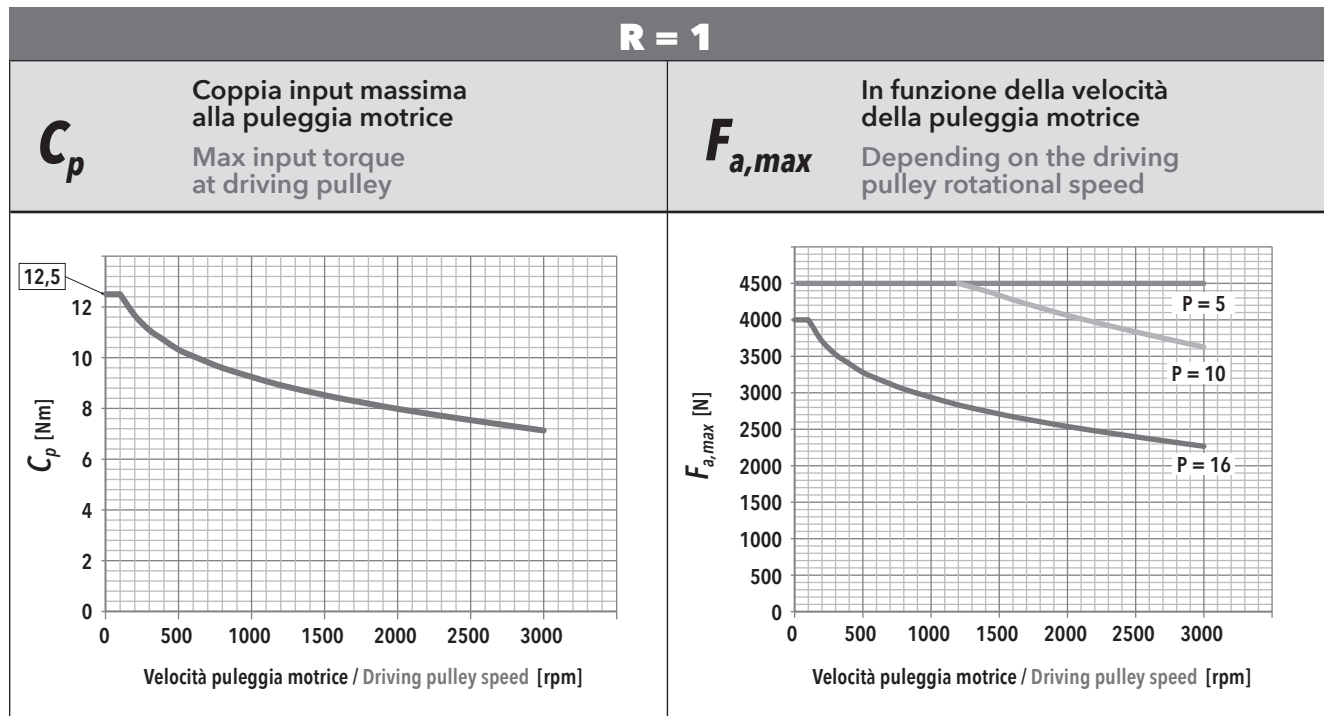
3.3.4 Calcolo coppia motore

3.3.4 Motor torque calculation

<p>CASO / CASE <b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE <b>2</b></p>	<p><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>4</b></p>	<p><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,81</p>

3.3.5 Potenza in ingresso alla trasmissione a cinghia (versione R)

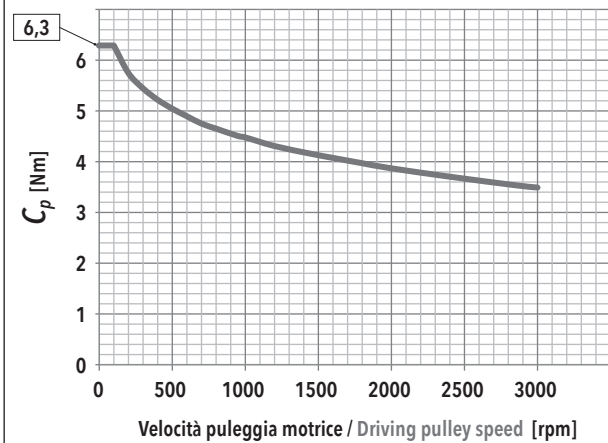
3.3.5 Mechanical input power at belt gear stage (R type)



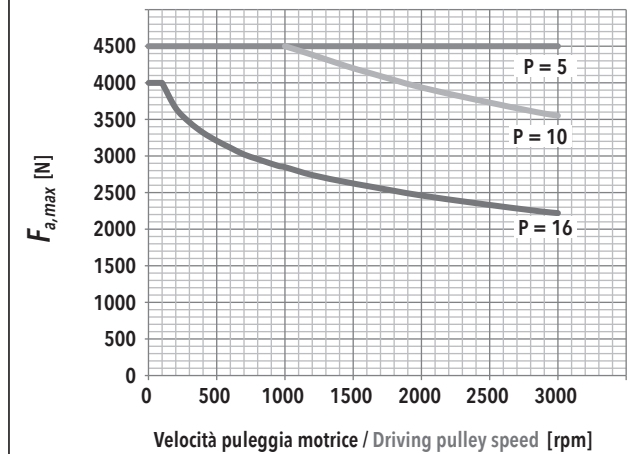
IE 50 - PASSO / PITCH 5						IE 50 - PASSO / PITCH 10						IE 50 - PASSO / PITCH 16					
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		25	100	175	250			50	200	350	500			80	320	560	800
4500	$F_r$ [N]	211	212	214	217	4500	$F_r$ [N]	422				4000	$F_r$ [N]	601			
	$f_t$ [Hz]	226	227	228	229		$f_t$ [Hz]	320					$f_t$ [Hz]	382			
4050	$F_r$ [N]	190	191	193	196	4050	$F_r$ [N]	380	381			3600	$F_r$ [N]	541	542		
	$f_t$ [Hz]	215	215	216	218		$f_t$ [Hz]	304	304				$f_t$ [Hz]	362	362		
3600	$F_r$ [N]	169	170	172	175	3600	$F_r$ [N]	338	339	341		3200	$F_r$ [N]	481	482		
	$f_t$ [Hz]	202	203	204	206		$f_t$ [Hz]	286	287	287			$f_t$ [Hz]	341	342		
3150	$F_r$ [N]	148	149	151	154	3150	$F_r$ [N]	296	297	299	301	2800	$F_r$ [N]	421	421	423	
	$f_t$ [Hz]	189	190	191	193		$f_t$ [Hz]	268	268	269	270		$f_t$ [Hz]	319	320	320	
2700	$F_r$ [N]	127	128	130	133	2700	$F_r$ [N]	254	254	256	259	2400	$F_r$ [N]	361	361	363	366
	$f_t$ [Hz]	175	176	177	179		$f_t$ [Hz]	248	248	249	251		$f_t$ [Hz]	296	296	297	298
2250	$F_r$ [N]	106	107	108	111	2250	$F_r$ [N]	211	212	214	217	2000	$F_r$ [N]	300	301	303	306
	$f_t$ [Hz]	160	161	162	164		$f_t$ [Hz]	226	227	228	229		$f_t$ [Hz]	270	270	271	272
1800	$F_r$ [N]	85	85	87	90	1800	$F_r$ [N]	169	170	172	175	1600	$F_r$ [N]	240	241	243	246
	$f_t$ [Hz]	143	144	145	148		$f_t$ [Hz]	202	203	204	206		$f_t$ [Hz]	241	242	243	244
1350	$F_r$ [N]	63	64	66	69	1350	$F_r$ [N]	127	128	130	133	1200	$F_r$ [N]	180	181	183	186
	$f_t$ [Hz]	124	125	127	129		$f_t$ [Hz]	175	176	177	179		$f_t$ [Hz]	209	210	211	212
900	$F_r$ [N]	42	43	45	48	900	$F_r$ [N]	85	85	87	90	800	$F_r$ [N]	120	121	123	126
	$f_t$ [Hz]	101	102	105	108		$f_t$ [Hz]	143	144	145	148		$f_t$ [Hz]	171	171	173	175
450	$F_r$ [N]	21	22	24	27	450	$F_r$ [N]	42	43	45	48	400	$F_r$ [N]	60	61	63	66
	$f_t$ [Hz]	72	73	76	81		$f_t$ [Hz]	101	102	105	108		$f_t$ [Hz]	121	122	123	126

**R = 2**

**$C_p$**  Coppia input massima alla puleggia motrice  
Max input torque at driving pulley



**$F_{a,max}$**  In funzione della velocità della puleggia motrice  
Depending on the driving pulley rotational speed



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 50 - PASSO / PITCH 5					IE 50 - PASSO / PITCH 10					IE 50 - PASSO / PITCH 16							
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		12,5	50	87,5	125			25	100	175	250			40	160	280	400
4500	$F_r$ [N]	182	182	183	184	4500	$F_r$ [N]	364	364			4000	$F_r$ [N]				
	$f_t$ [Hz]	200	200	200	201		$f_t$ [Hz]	283	283				$f_t$ [Hz]				
4050	$F_r$ [N]	164	164	165	166	4050	$F_r$ [N]	328	328	329		3600	$F_r$ [N]				
	$f_t$ [Hz]	190	190	190	191		$f_t$ [Hz]	268	268	268			$f_t$ [Hz]				
3600	$F_r$ [N]	146	146	147	148	3600	$F_r$ [N]	291	291	292	293	3200	$F_r$ [N]	414			
	$f_t$ [Hz]	179	179	179	180		$f_t$ [Hz]	253	253	254	254		$f_t$ [Hz]	301			
3150	$F_r$ [N]	127	128	129	130	3150	$F_r$ [N]	255	255	256	257	2800	$F_r$ [N]	363	363		
	$f_t$ [Hz]	167	167	168	169		$f_t$ [Hz]	236	236	237	237		$f_t$ [Hz]	282	282		
2700	$F_r$ [N]	109	109	110	111	2700	$F_r$ [N]	218	218	219	221	2400	$F_r$ [N]	311	311	312	
	$f_t$ [Hz]	155	155	156	156		$f_t$ [Hz]	219	219	220	220		$f_t$ [Hz]	261	261	262	
2250	$F_r$ [N]	91	92	92	93	2250	$F_r$ [N]	182	182	184	184	2000	$F_r$ [N]	259	259	261	261
	$f_t$ [Hz]	141	141	142	143		$f_t$ [Hz]	200	200	201	201		$f_t$ [Hz]	238	238	239	239
1800	$F_r$ [N]	73	73	74	75	1800	$F_r$ [N]	146	147	148	148	1600	$F_r$ [N]	207	207	209	209
	$f_t$ [Hz]	126	127	127	128		$f_t$ [Hz]	179	179	180	180		$f_t$ [Hz]	213	214	214	214
1350	$F_r$ [N]	55	55	56	57	1350	$F_r$ [N]	109	110	111	111	1200	$F_r$ [N]	155	155	157	157
	$f_t$ [Hz]	109	110	111	112		$f_t$ [Hz]	155	154	156	156		$f_t$ [Hz]	185	185	186	186
900	$F_r$ [N]	36	37	37	38	900	$F_r$ [N]	73	73	75	75	800	$F_r$ [N]	104	105	106	106
	$f_t$ [Hz]	89	89	90	92		$f_t$ [Hz]	126	126	128	128		$f_t$ [Hz]	151	151	152	152
450	$F_r$ [N]	18	19	20	20	450	$F_r$ [N]	36	36	37	38	400	$F_r$ [N]	52	53	54	54
	$f_t$ [Hz]	63	64	65	67		$f_t$ [Hz]	89	89	90	92		$f_t$ [Hz]	107	108	109	109



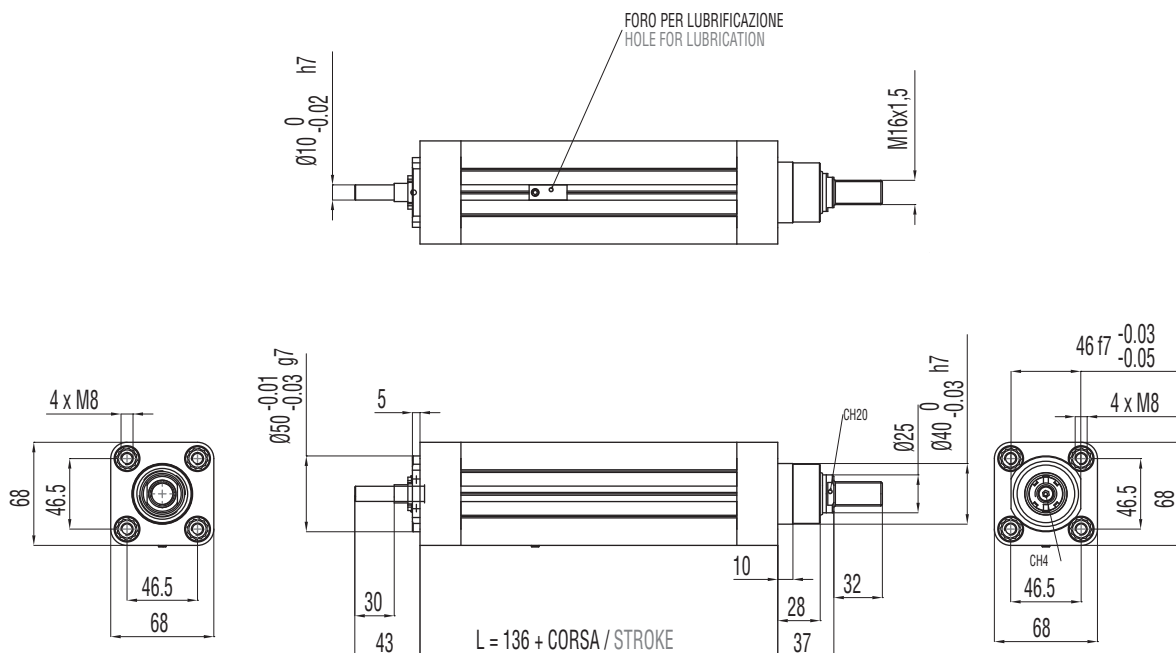
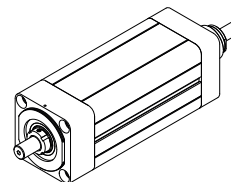
### 3.3.6 Caratteristiche dimensionali

### 3.3.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

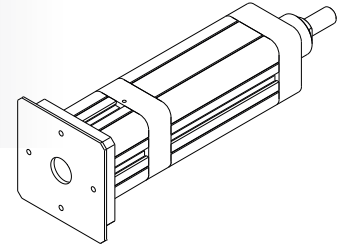
**B00**  
**MODULO BASE**  
**BASIC MODULE**

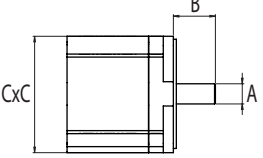


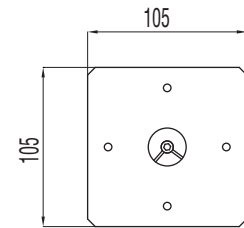
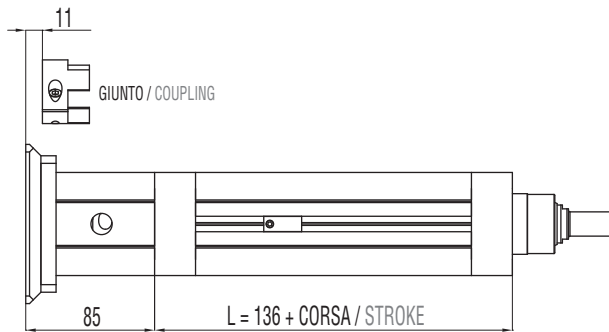
**B00 + D00**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

**BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS**



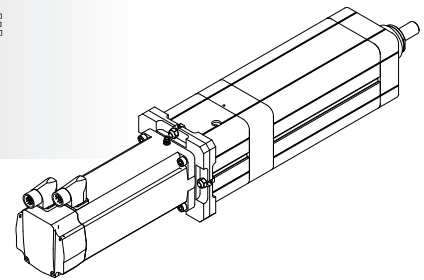
	MASSIME DIMENSIONI INTERFACCIA MAX INTERFACE DIMENSIONS			
	TAGLIA GIUNTO COUPLING SIZE	A [mm]	B [mm]	C [mm]
	20	22 max	28 min / 40 max	100 max



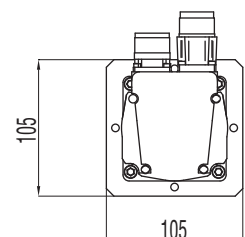
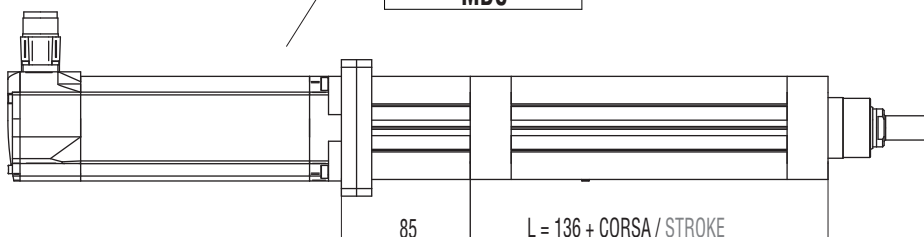
**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**



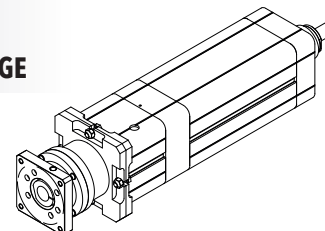
- |            |
|------------|
| MOTORE     |
| MOTOR      |
| <b>MCA</b> |
| <b>MCB</b> |
| <b>MCC</b> |
| <b>MCD</b> |
| <b>MDA</b> |
| <b>MDB</b> |
| <b>MDC</b> |



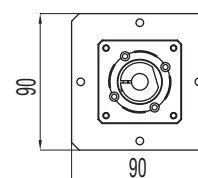
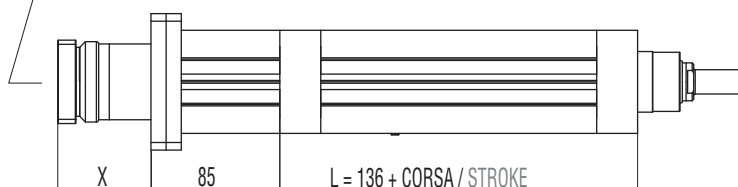
**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



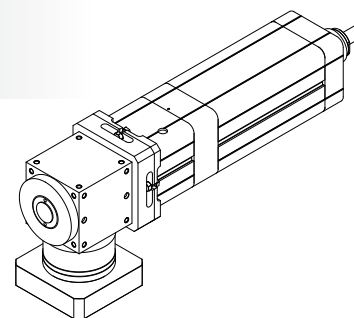
RIDUTTORE  
PLANETARY GEARBOX  
**GBA**  
**GBB**



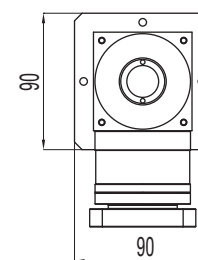
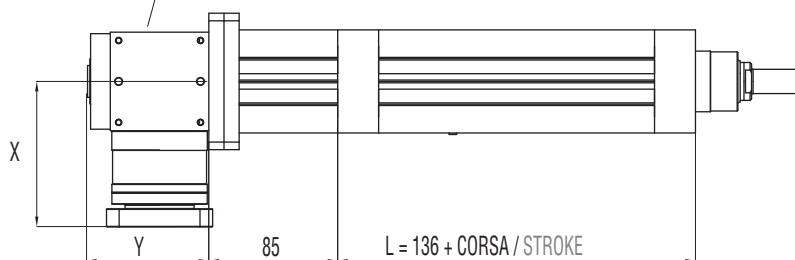
**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**



RINVIO  
BEVEL GEARBOX  
**AAA**

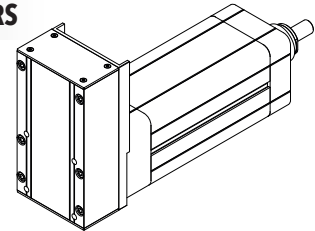




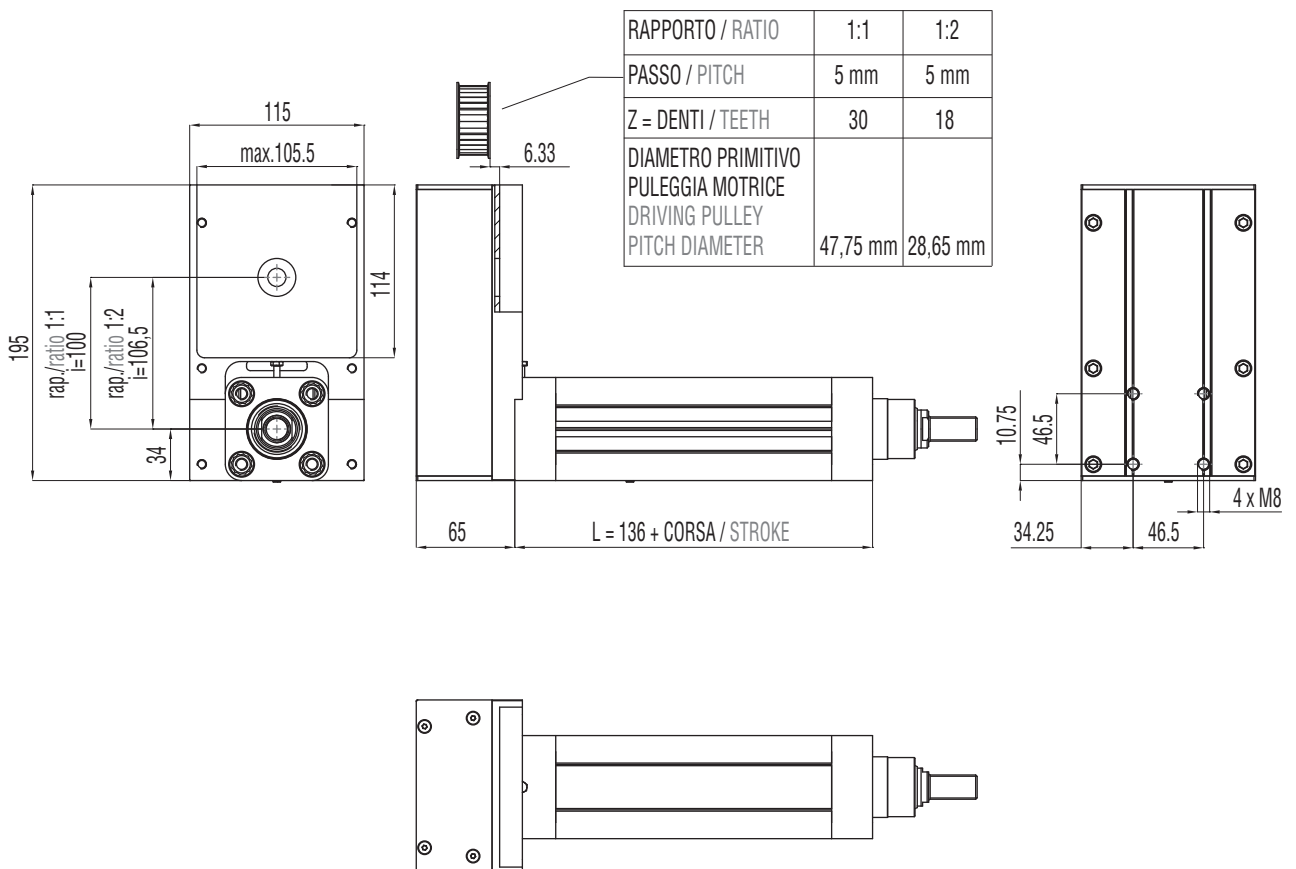
**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS



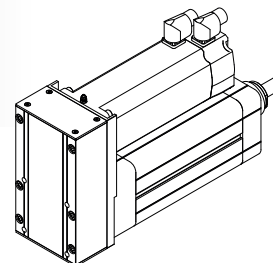
	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A	B	C
	[mm]	[mm]	[mm]
<b>R=1:1</b>	16 max	28 min / 42 max	100 max
<b>R=1:2</b>	13 max	30 min / 40 max	100 max



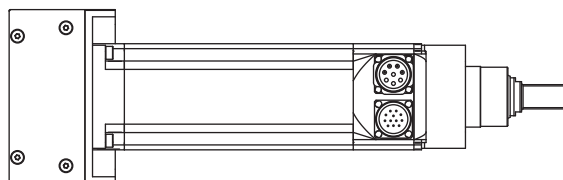
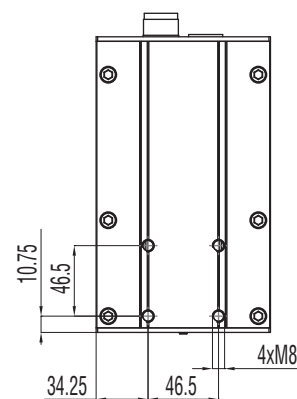
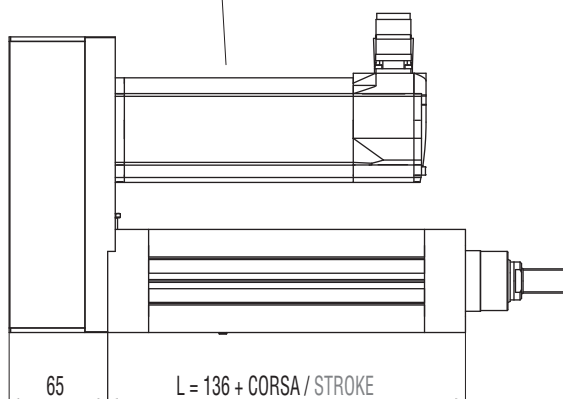
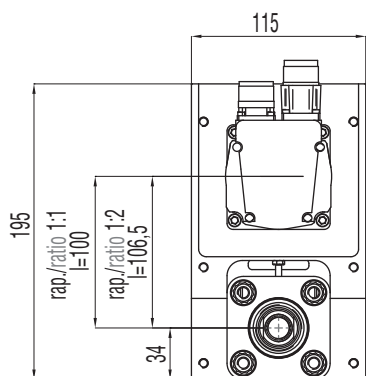
**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS



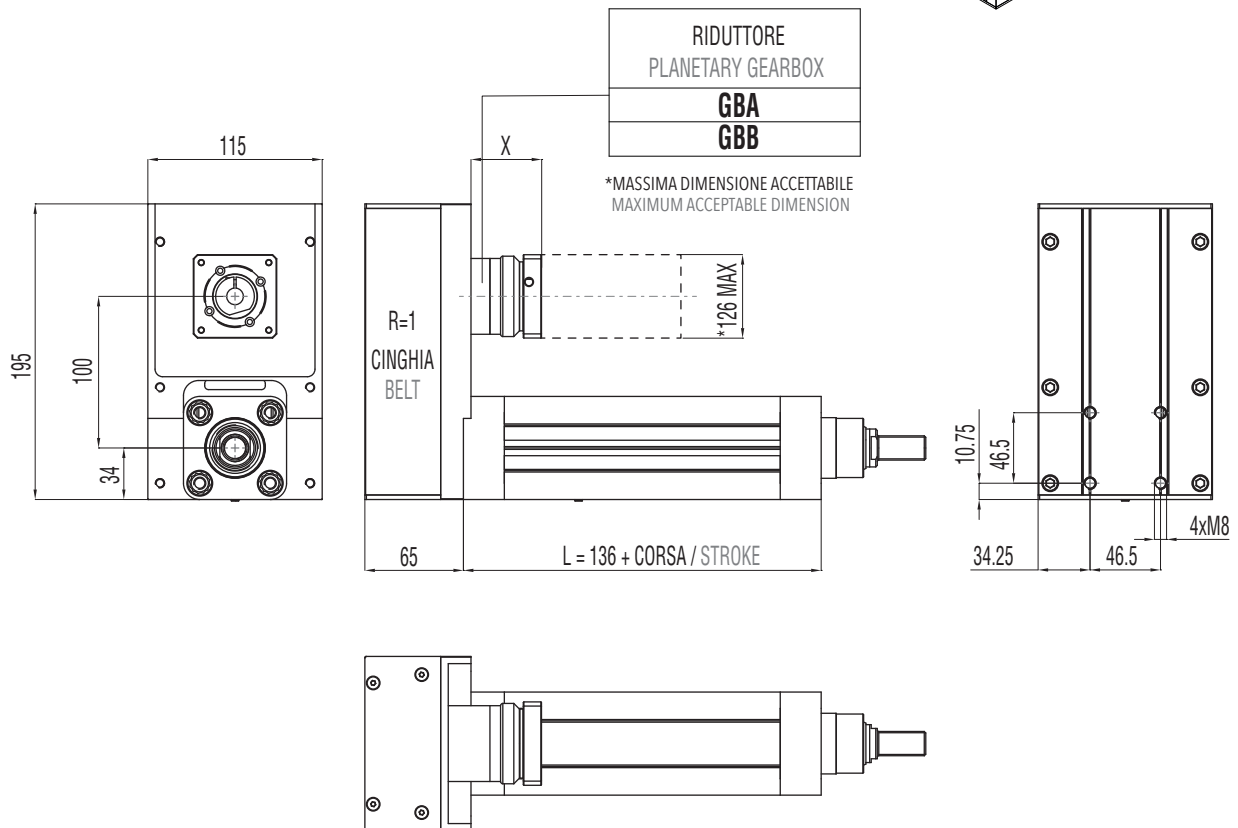
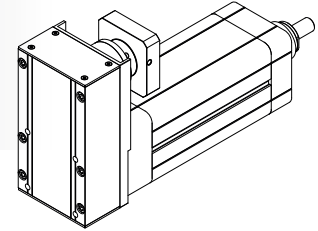
MOTORE
MOTOR
MCA
MCB
MCC
MCD
MDA
MDB
MDC



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.3.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.3.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

## 3.4

## IE 63

## 3.4.1 Caratteristiche tecniche

## 3.4.1 Technical features

ISOMOVE IE 63		5	10	20
<b>P</b>	PASSO VITE SCREW LEAD [mm]	5	10	20
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	20	20	20
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	7500*	7500*	7500*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	6,6	12,2	26,5
	"CASO 1" / "CASE 1": B00 + D00/D01 [Nm]	6,6	12,2	26,5
	"CASO 2" / "CASE 2": B00 + D02/A01 [Nm]	$\left[ \frac{7,3}{R} \right] + C_s$	$\left[ \frac{13,5}{R} \right] + C_s$	$\left[ \frac{29,4}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio		
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01 [Nm]	$\frac{7,3}{R}$	$\frac{13,5}{R}$	$\frac{29,4}{R}$
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)		
	"CASO 4" / "CASE 4": B00 + R02 [Nm]	$\frac{8,1}{R}$	$\frac{15}{R}$	$\frac{32,6}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio		
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	7500	7500	7500
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	250/3000	500/3000	1000/3000
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]			
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	1	2	3
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	800**	800**	800**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE [Kg]	2,6 / 0,8	2,6 / 0,8	2,6 / 0,8
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY [mm]	0,06	0,02	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	DISPONIBILE / AVAILABLE		
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME [Km]	VEDI TABELLA / SEE TABLE pag. 64		

\* Per le versioni R00/R01 controllare con i grafici delle pagine 66/67. / For R00/R01 types please check graph at pages 66/67.



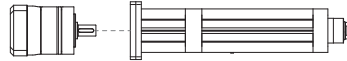




\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.



ISOMOVE IE 63		5	10	20
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01		
$F_{a,p}$	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX [N]	AE070/7500 PGII-060/7500 PGII-080/7500	AE070/7500 PGII-060/7500 PGII-080/7500	AE070/7500 PGII-060/5700*** PGII-080/7500
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX [N]	ATB075/7500	ATB075/4500	ATB065/7500
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)		

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

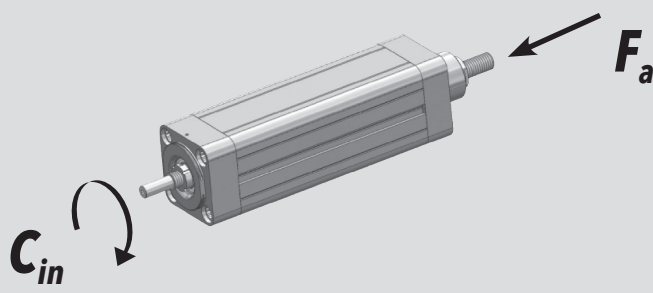
<p>TRASMISSIONE COASSIALE CON RIDUTTORE</p> <p>IN-LINE PLANETARY GEARBOX STAGE</p>	 <p><b>AE070</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-060</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-080</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE PARALLELA CON RIDUTTORE</p> <p>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p>	 <p><b>AE070</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-060</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-080</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE ANGOLARE CON RINVIO</p> <p>ANGLE BEVEL GEARBOX STAGE</p>	 <p><b>ATB075</b></p> <p>MODULO BASE BASIC MODULE</p>		

## 3.4.2 Calcolo durata

## 3.4.2 Lifetime calculation

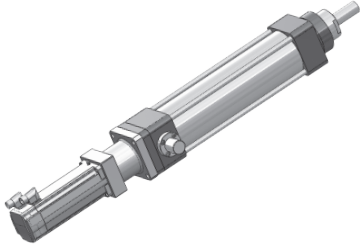
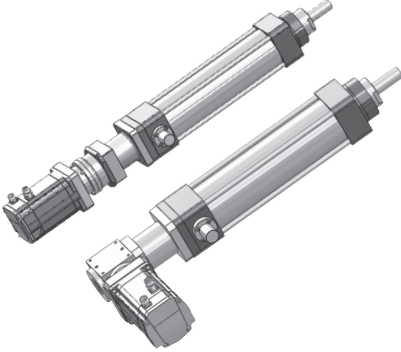
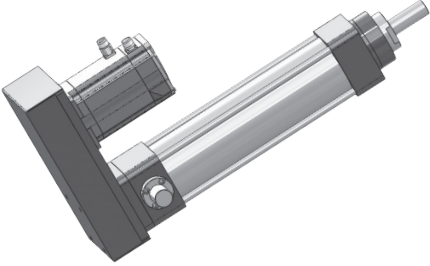
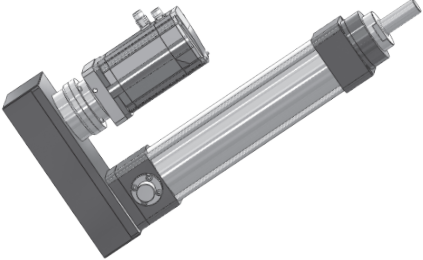
<b>IE 63</b> <b>P = 5 mm</b>	$L_{10,Km} = \left[ \frac{12100}{F_{eq}} \right]^3 \cdot 5$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 63</b> <b>P = 10 mm</b>	$L_{10,Km} = \left[ \frac{9910}{F_{eq}} \right]^3 \cdot 10$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 63</b> <b>P = 20 mm</b>	$L_{10,Km} = \left[ \frac{14700}{F_{eq}} \right]^3 \cdot 20$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

3.4.3 Calcolo coppia in ingresso  
al modulo base3.4.3 Torque calculation at basic  
module input shaft

		
<b>IE 63</b> <b>P = 5 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 5}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 63</b> <b>P = 10 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 63</b> <b>P = 20 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 20}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$

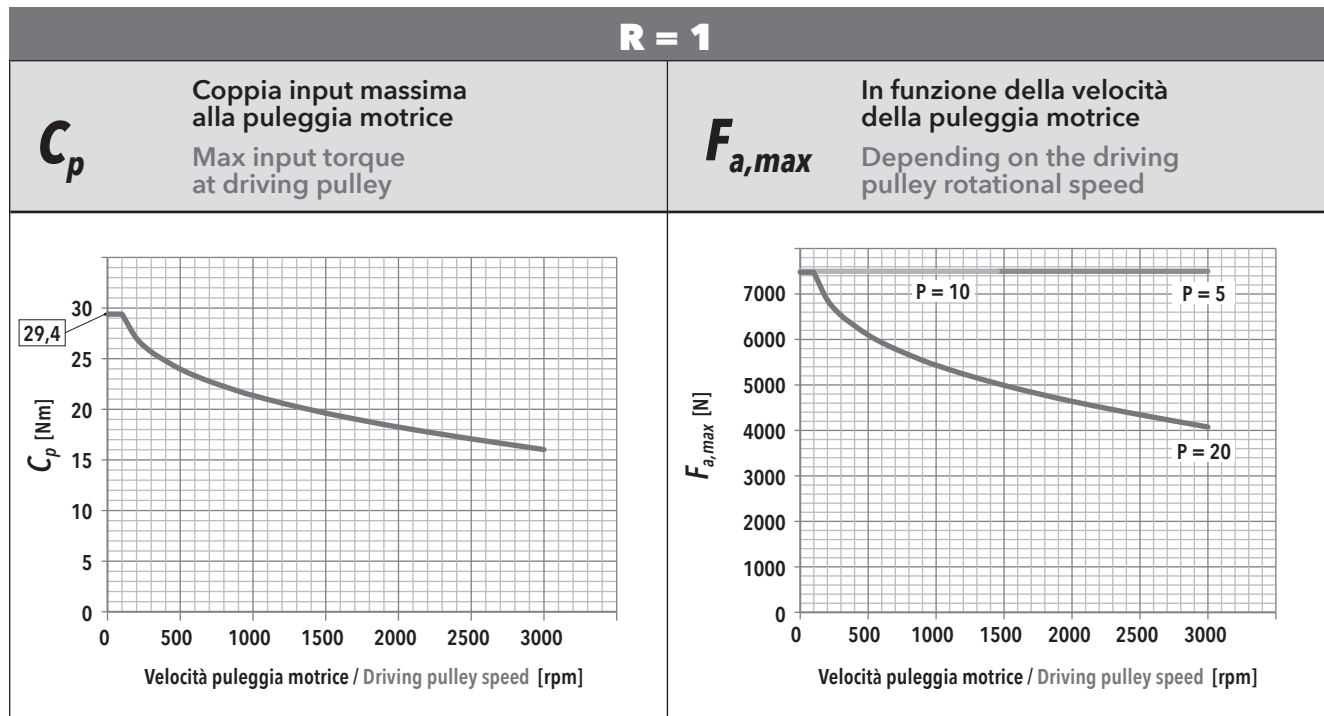
3.4.4 Calcolo coppia motore

3.4.4 Motor torque calculation

<p>CASO / CASE</p> <p><b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE</p> <p><b>2</b></p>	<p><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>4</b></p>	<p><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,81</p>

**3.4.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**3.4.5 Mechanical input power at belt gear stage (R type)**

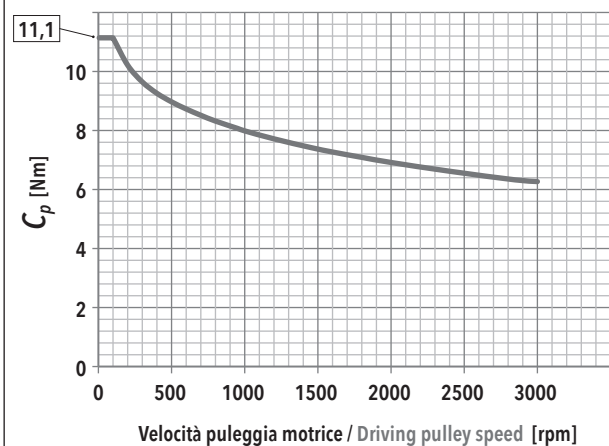


IE 63 - PASSO / PITCH 5					IE 63 - PASSO / PITCH 10					IE 63 - PASSO / PITCH 20							
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		25	100	175	250			50	200	350	500			100	400	700	1000
7500	$F_r$ [N]	264	267	272	281	7500	$F_r$ [N]	528	531	537	545	7500	$F_r$ [N]				
	$f_t$ [Hz]	196	197	199	202		$f_t$ [Hz]	277	278	279	282		$f_t$ [Hz]				
6750	$F_r$ [N]	238	240	246	255	6750	$F_r$ [N]	475	478	484	492	6750	$F_r$ [N]	951			
	$f_t$ [Hz]	186	187	189	192		$f_t$ [Hz]	263	264	265	268		$f_t$ [Hz]	372			
6000	$F_r$ [N]	211	214	220	228	6000	$F_r$ [N]	423	425	431	440	6000	$F_r$ [N]	845	846		
	$f_t$ [Hz]	175	176	179	182		$f_t$ [Hz]	248	249	250	253		$f_t$ [Hz]	350	351		
5250	$F_r$ [N]	185	188	193	202	5250	$F_r$ [N]	370	372	378	387	5250	$F_r$ [N]	739	742	748	
	$f_t$ [Hz]	164	165	168	171		$f_t$ [Hz]	232	233	234	237		$f_t$ [Hz]	328	328	330	
4500	$F_r$ [N]	159	161	167	176	4500	$F_r$ [N]	317	320	325	334	4500	$F_r$ [N]	634	636	642	651
	$f_t$ [Hz]	152	153	156	160		$f_t$ [Hz]	215	216	217	220		$f_t$ [Hz]	304	304	305	308
3750	$F_r$ [N]	132	135	140	149	3750	$F_r$ [N]	264	267	272	281	3750	$F_r$ [N]	528	531	537	545
	$f_t$ [Hz]	139	140	143	147		$f_t$ [Hz]	196	197	199	202		$f_t$ [Hz]	277	278	279	282
3000	$F_r$ [N]	106	108	114	123	3000	$F_r$ [N]	211	214	220	228	3000	$F_r$ [N]	423	425	431	440
	$f_t$ [Hz]	124	125	129	134		$f_t$ [Hz]	175	176	179	182		$f_t$ [Hz]	248	249	250	253
2250	$F_r$ [N]	79	82	88	96	2250	$F_r$ [N]	159	161	167	176	2250	$F_r$ [N]	317	320	325	334
	$f_t$ [Hz]	107	109	113	118		$f_t$ [Hz]	152	153	156	160		$f_t$ [Hz]	215	216	217	220
1500	$F_r$ [N]	53	56	61	70	1500	$F_r$ [N]	106	108	114	123	1500	$F_r$ [N]	211	214	220	228
	$f_t$ [Hz]	88	90	94	101		$f_t$ [Hz]	124	125	129	134		$f_t$ [Hz]	175	176	179	182
750	$F_r$ [N]	27	29	35	44	750	$F_r$ [N]	53	56	61	70	750	$F_r$ [N]	106	108	114	123
	$f_t$ [Hz]	62	65	71	80		$f_t$ [Hz]	88	90	94	101		$f_t$ [Hz]	124	125	129	134

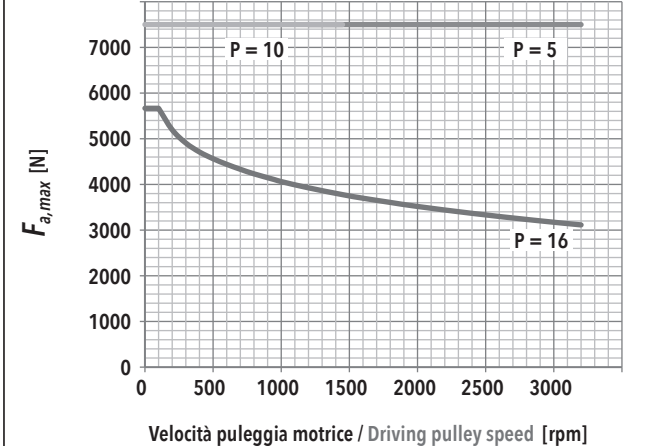


**R = 2**

**$C_p$**  Coppia input massima alla puleggia motrice  
Max input torque at driving pulley



**$F_{a,max}$**  In funzione della velocità della puleggia motrice  
Depending on the driving pulley rotational speed



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di Cin  
Radial force on driving pulley as a function of Cin

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 63 - PASSO / PITCH 5					IE 63 - PASSO / PITCH 10					IE 63 - PASSO / PITCH 20							
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		12,5	50	87,5	125			25	100	175	250			50	200	350	500
7500	$F_r$ [N]	272	273	275	276	7500	$F_r$ [N]	544	545			7500	$F_r$ [N]				
	$f_t$ [Hz]	205	205	207	207		$f_t$ [Hz]	291	291				$f_t$ [Hz]				
6750	$F_r$ [N]	245	246	248	249	6750	$F_r$ [N]	490	490	492		6750	$F_r$ [N]				
	$f_t$ [Hz]	195	195	197	197		$f_t$ [Hz]	276	276	276			$f_t$ [Hz]				
6000	$F_r$ [N]	218	219	220	222	6000	$F_r$ [N]	435	436	438	439	6000	$F_r$ [N]				
	$f_t$ [Hz]	184	184	186	186		$f_t$ [Hz]	260	261	261	261		$f_t$ [Hz]				
5250	$F_r$ [N]	190	192	194	195	5250	$F_r$ [N]	381	382	384	385	5250	$F_r$ [N]				
	$f_t$ [Hz]	172	172	173	174		$f_t$ [Hz]	243	243	244	244		$f_t$ [Hz]				
4500	$F_r$ [N]	163	164	166	167	4500	$F_r$ [N]	326	328	330	331	4500	$F_r$ [N]	653			
	$f_t$ [Hz]	159	160	160	161		$f_t$ [Hz]	225	226	227	227		$f_t$ [Hz]	318			
3750	$F_r$ [N]	136	137	138	140	3750	$F_r$ [N]	272	273	274	276	3750	$F_r$ [N]	544	545		
	$f_t$ [Hz]	145	145	146	148		$f_t$ [Hz]	205	205	206	207		$f_t$ [Hz]	291	291		
3000	$F_r$ [N]	109	110	112	113	3000	$F_r$ [N]	218	218	219	222	3000	$F_r$ [N]	435	436	437	439
	$f_t$ [Hz]	130	130	132	132		$f_t$ [Hz]	184	184	186	186		$f_t$ [Hz]	260	260	260	261
2250	$F_r$ [N]	82	83	84	86	2250	$F_r$ [N]	163	164	165	167	2250	$F_r$ [N]	326	327	328	331
	$f_t$ [Hz]	113	114	115	115		$f_t$ [Hz]	159	159	160	161		$f_t$ [Hz]	225	226	227	227
1500	$F_r$ [N]	54	56	58	59	1500	$F_r$ [N]	109	110	112	113	1500	$F_r$ [N]	218	219	220	222
	$f_t$ [Hz]	92	93	95	95		$f_t$ [Hz]	130	131	132	132		$f_t$ [Hz]	184	185	186	186
750	$F_r$ [N]	27	28	30	31	750	$F_r$ [N]	54	55	58	59	750	$F_r$ [N]	109	110	112	113
	$f_t$ [Hz]	65	66	68	70		$f_t$ [Hz]	92	93	94	95		$f_t$ [Hz]	130	131	132	132

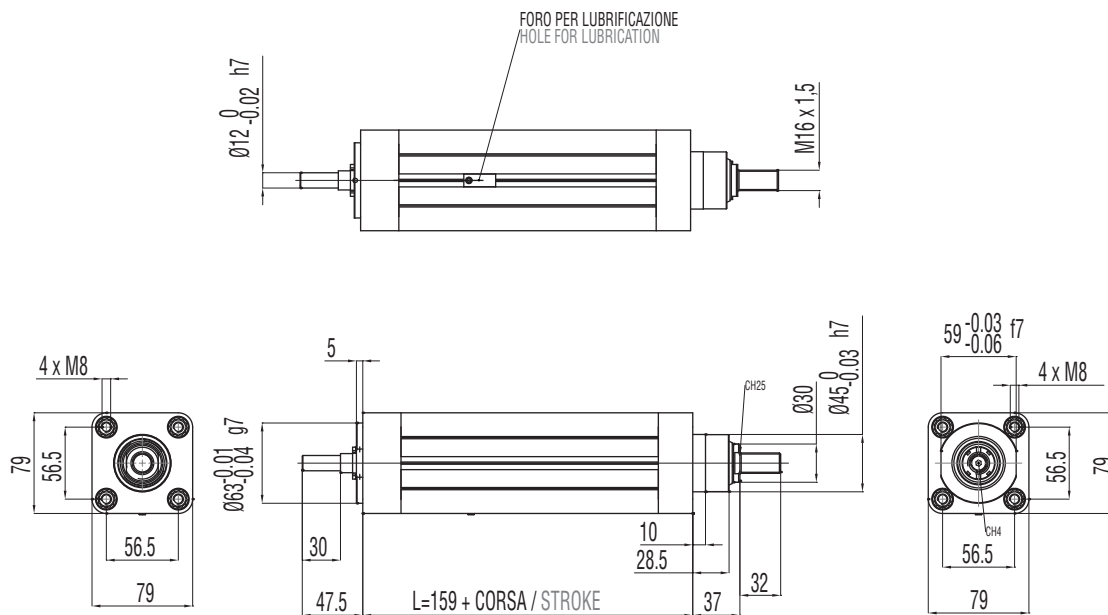
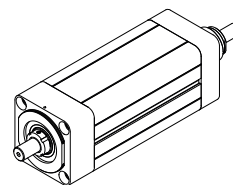
3.4.6 Caratteristiche dimensionali

3.4.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

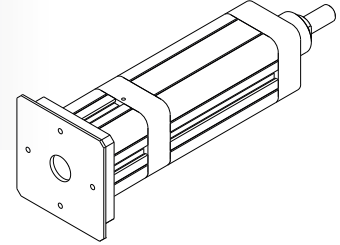
**B00**  
**MODULO BASE**  
**BASIC MODULE**

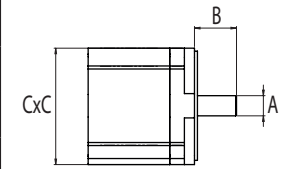


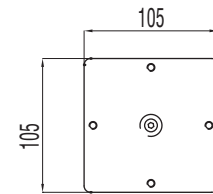
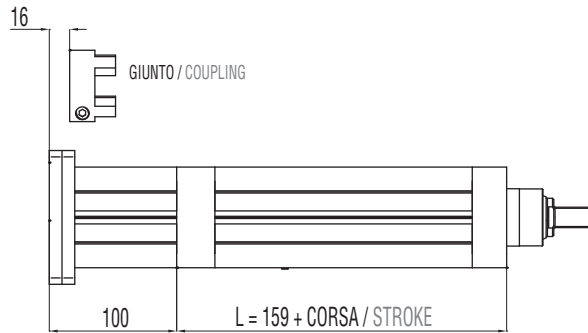
**B00 + D00**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

**BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS**



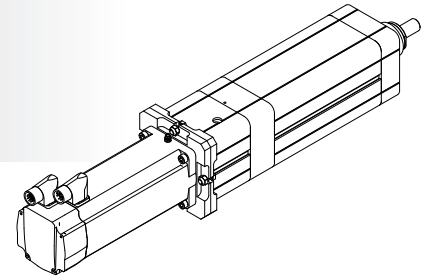
	MASSIME DIMENSIONI INTERFACCIA MAX INTERFACE DIMENSIONS			
	TAGLIA GIUNTO COUPLING SIZE	A [mm]	B [mm]	C [mm]
	<b>60</b>	30 max	28 min / 42 max	100 max



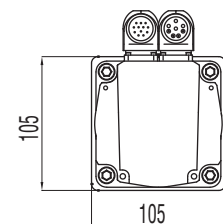
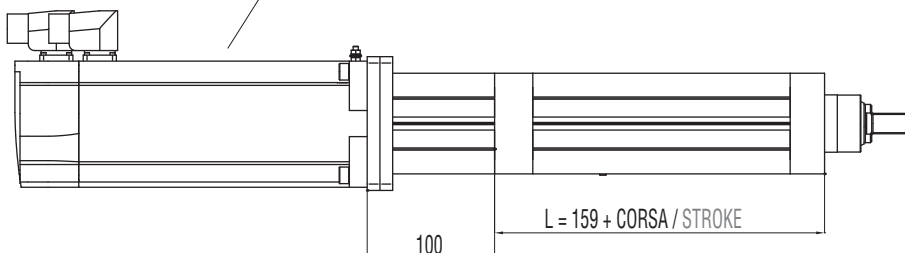
**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**



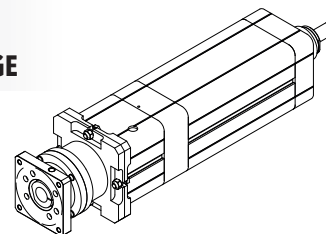
- |                 |
|-----------------|
| MOTORE<br>MOTOR |
| <b>MDA</b>      |
| <b>MDB</b>      |
| <b>MDC</b>      |
| <b>MEA</b>      |



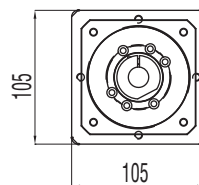
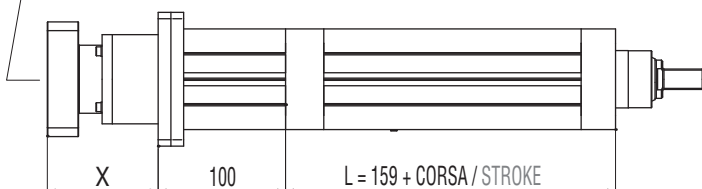
**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



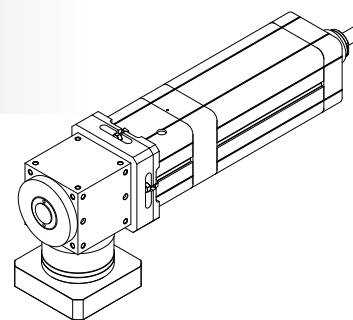
RIDUTTORE PLANETARY GEARBOX
<b>GBA</b>
<b>GBB</b>
<b>GCB</b>



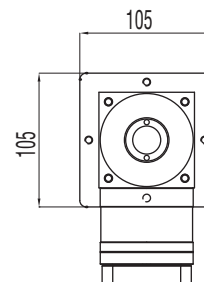
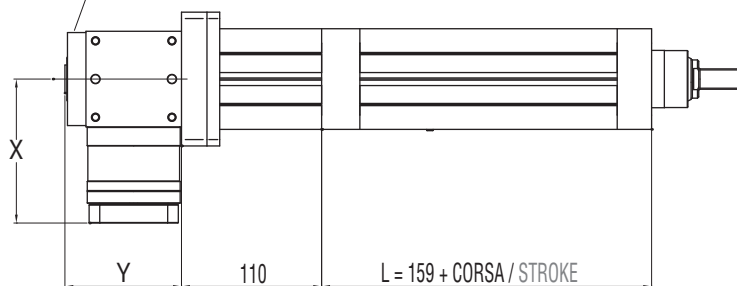
**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**



RINVIO BEVEL GEARBOX
<b>ABA</b>

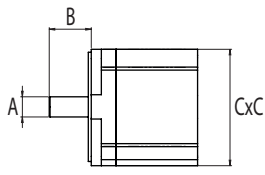


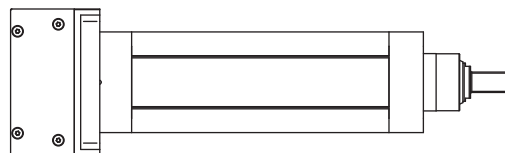
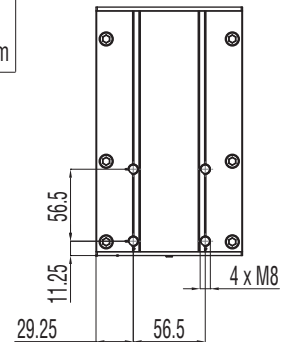
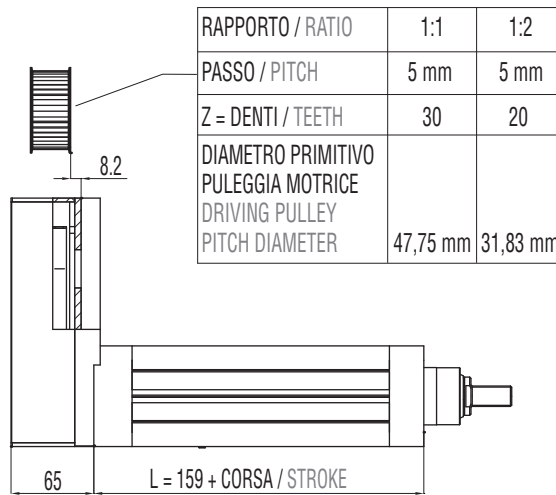
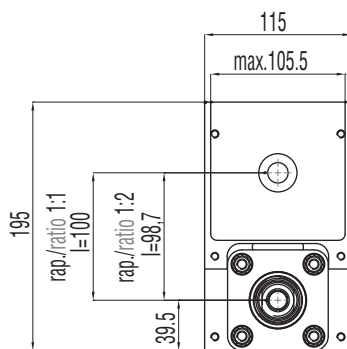
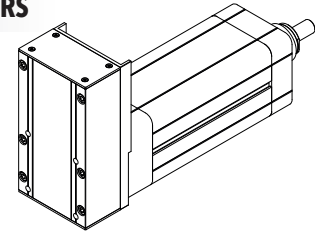


**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS

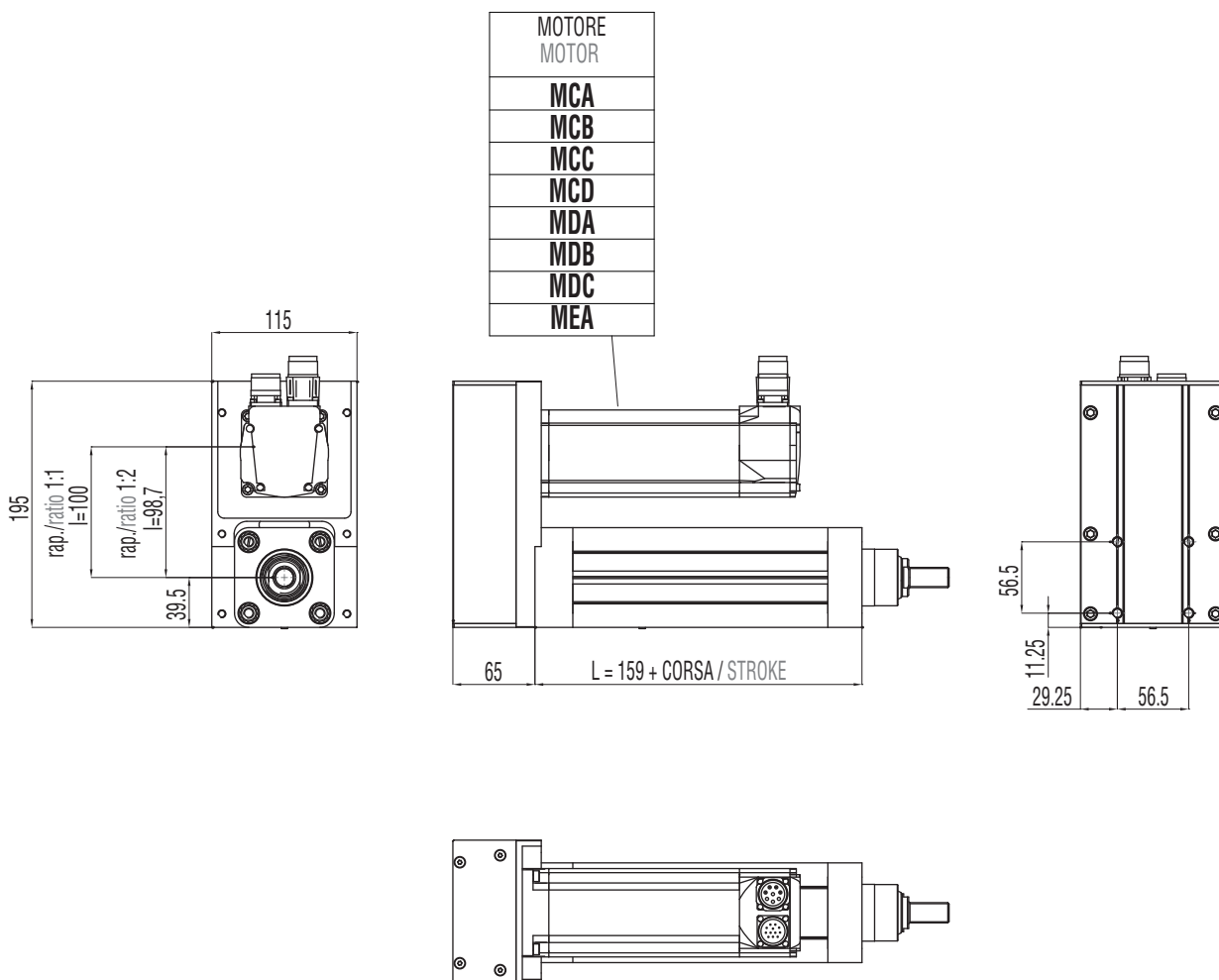
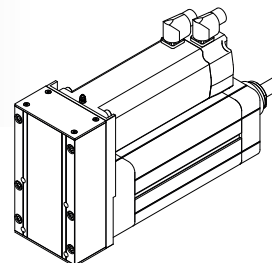
	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A [mm]	B [mm]	C [mm]
R=1:1	16 max	28 min / 42 max	100 max
R=1:2	14 max	30 min / 40 max	100 max



**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

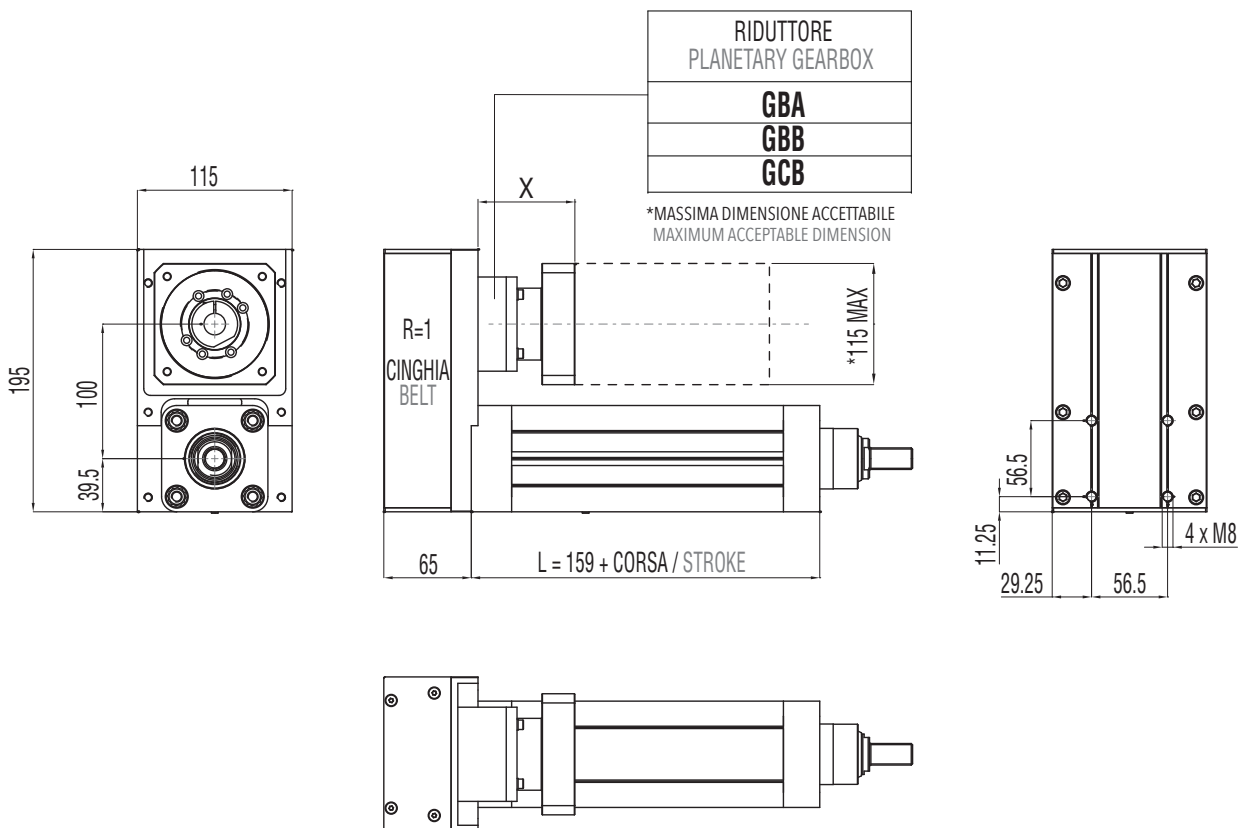
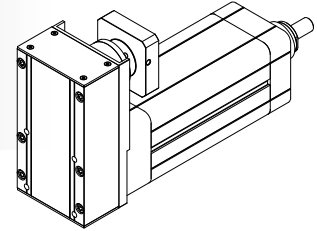
BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.4.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.4.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

## 3.5

## IE 80

## 3.5.1 Caratteristiche tecniche

## 3.5.1 Technical features

ISOMOVE IE 80		5	10	25
<b>P</b>	PASSO VITE SCREW LEAD [mm]	5	10	25
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	25	25	25
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	12000*	12000*	12000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	10,6	21,3	53
	"CASO 1" / "CASE 1": B00 + D00/D01 [Nm]	10,6	21,3	53
	"CASO 2" / "CASE 2": B00 + D02/A01 [Nm]	$\left[ \frac{11,7}{R} \right] + C_s$	$\left[ \frac{23,6}{R} \right] + C_s$	$\left[ \frac{58,8}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio		
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01 [Nm]	$\frac{11,7}{R}$	$\frac{23,6}{R}$	$\frac{58,8}{R}$
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)		
	"CASO 4" / "CASE 4": B00 + R02 [Nm]	$\frac{13}{R}$	$\frac{26,2}{R}$	$\frac{65,3}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio		
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	12000	12000	12000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	250/3000	500/3000	1250/3000
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]			
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	1	2	4
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	1000**	1000**	1000**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE [Kg]	3,4 / 1,2	3,4 / 1,2	3,4 / 1,2
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY [mm]	0,06	0,06	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	DISPONIBILE / AVAILABLE		
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME [Km]	VEDI TABELLA / SEE TABLE pg. 76		

\* Per le versioni R00/R01 controllare con i grafici delle pagine 78/79. / For R00/R01 types please check graph at pages 78/79.

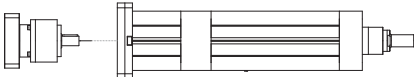
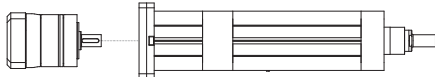
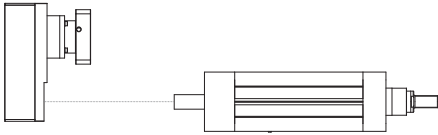
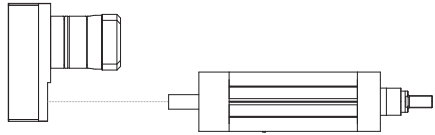
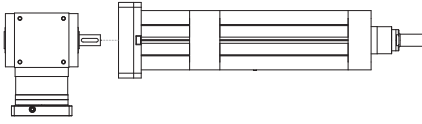
\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dept.



ISOMOVE IE 80		5	10	25	
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01			
$F_{a,p}$	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX	[N]	AE070/12000 PGII-080/12000	AE070/12000 PGII-080/12000	AE070/7000 *** PGII-080/12000
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX	[N]	ATB090/12000	ATB090/12000	ATB090/5800 ***
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)			

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<p>TRASMISSIONE COASSIALE CON RIDUTTORE</p> <p>IN-LINE PLANETARY GEARBOX STAGE</p>	 <p><b>AE070</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-080</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE PARALLELA CON RIDUTTORE</p> <p>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p>	 <p><b>AE070</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>PGII-080</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE ANGOLARE CON RINVIO</p> <p>ANGLE BEVEL GEARBOX STAGE</p>	 <p><b>ATB090</b></p> <p>MODULO BASE BASIC MODULE</p>	

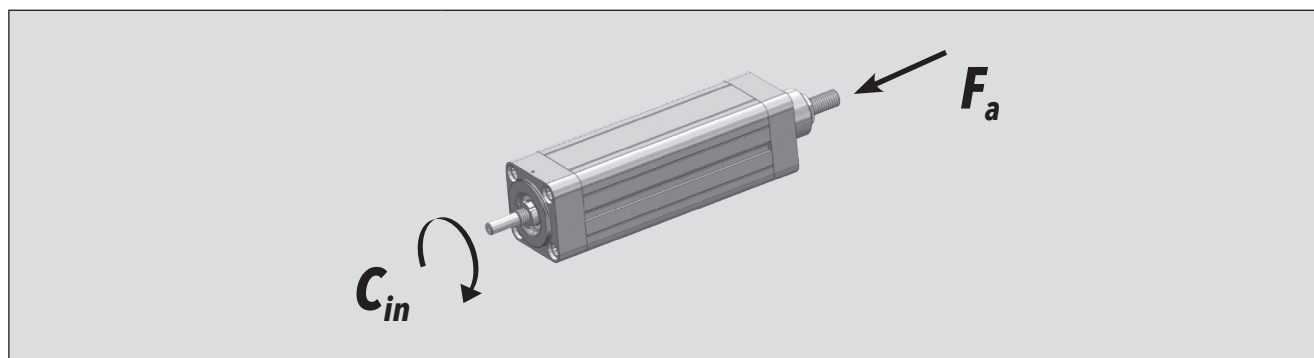
3.5.2 Calcolo durata

3.5.2 Lifetime calculation

<p><b>IE 80</b> <b>P = 5 mm</b></p>	$L_{10,Km} = \left[ \frac{13700}{F_{eq}} \right]^3 \cdot 5$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>
<p><b>IE 80</b> <b>P = 10 mm</b></p>	$L_{10,Km} = \left[ \frac{25200}{F_{eq}} \right]^3 \cdot 10$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>
<p><b>IE 80</b> <b>P = 25 mm</b></p>	$L_{10,Km} = \left[ \frac{16700}{F_{eq}} \right]^3 \cdot 25$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>

3.5.3 Calcolo coppia in ingresso al modulo base

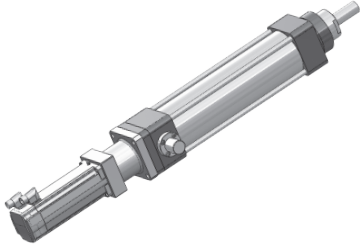
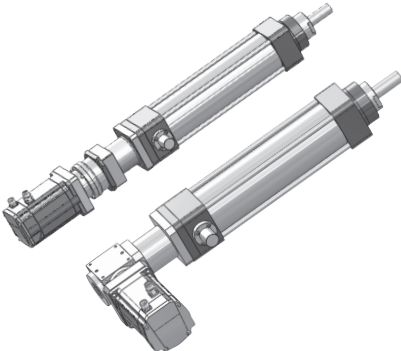
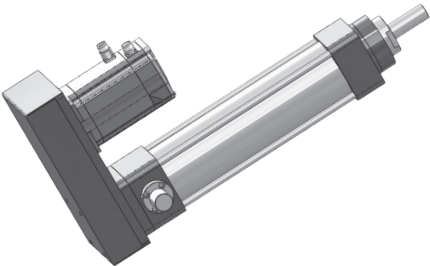
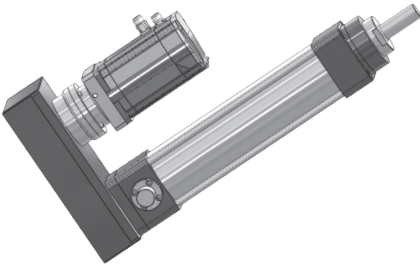
3.5.3 Torque calculation at basic module input shaft



<p><b>IE 80</b> <b>P = 5 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 5}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 80</b> <b>P = 10 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 80</b> <b>P = 25 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 25}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>

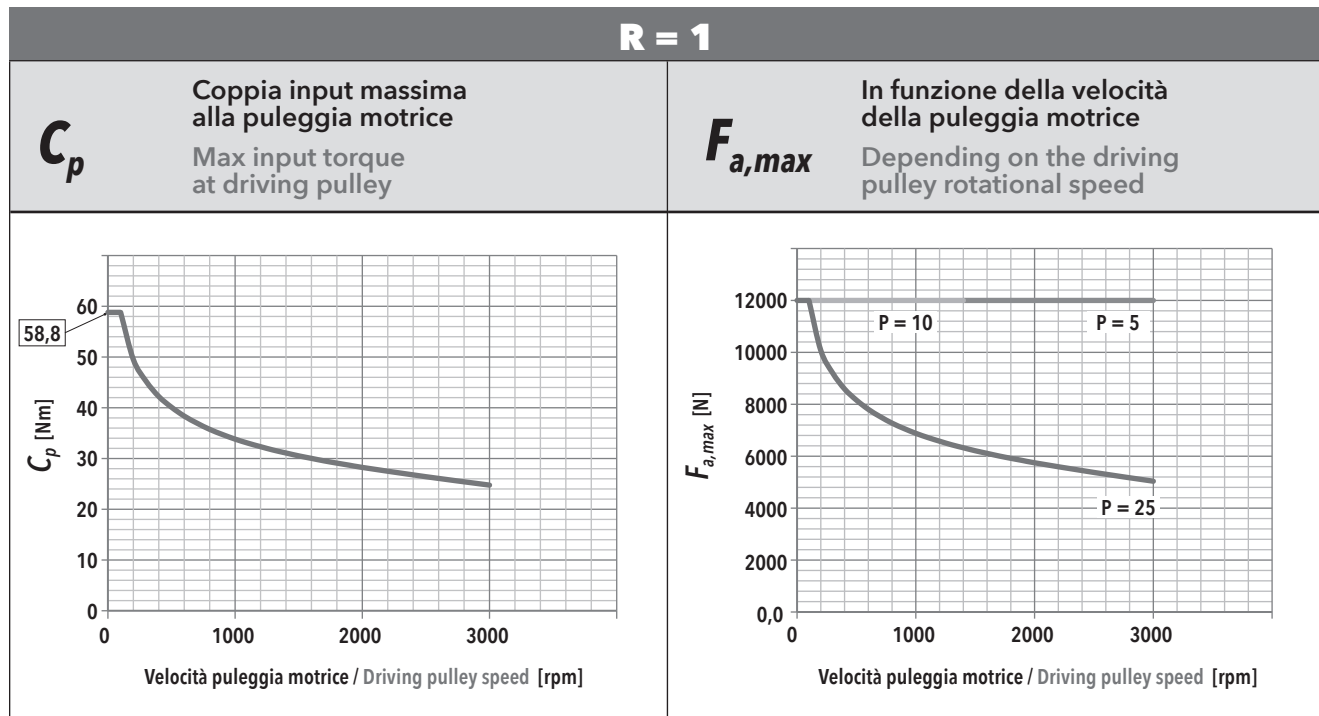
3.5.4 Calcolo coppia motore

3.5.4 Motor torque calculation

<p>CASO / CASE</p> <p><b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE</p> <p><b>2</b></p>	<p><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>4</b></p>	<p><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,81</p>

**3.5.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**3.5.5 Mechanical input power at belt gear stage (R type)**



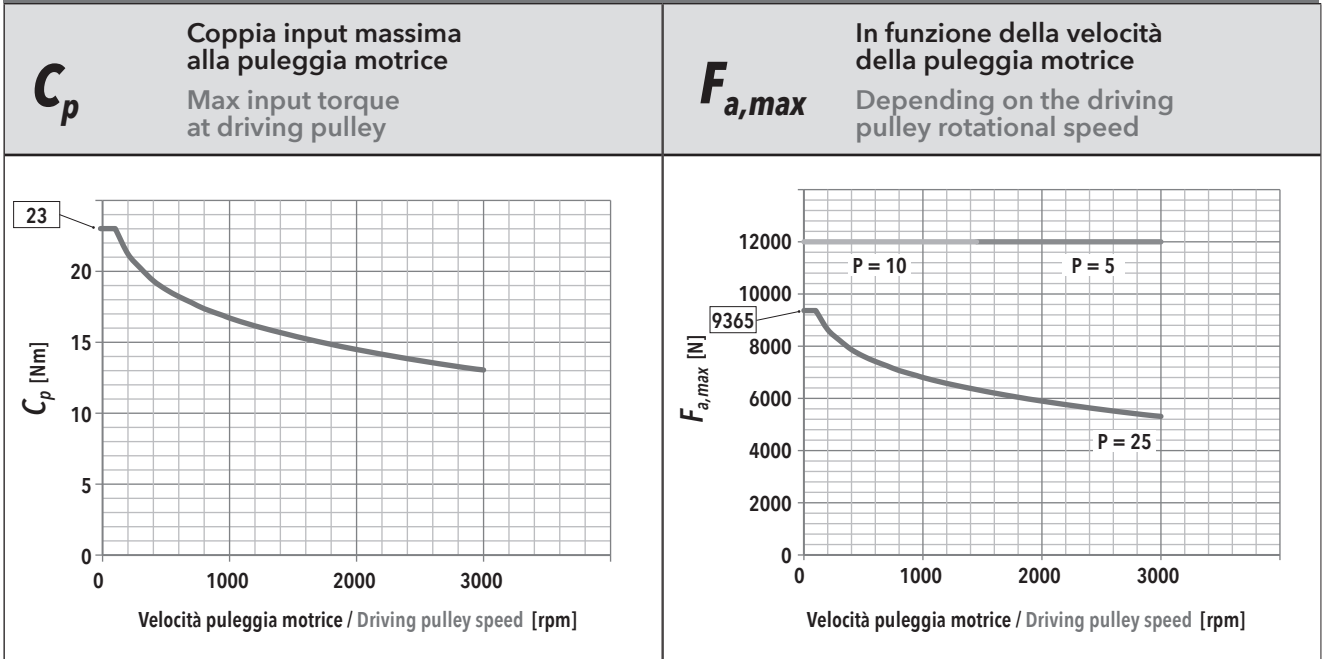
**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 80 - PASSO / PITCH 5					IE 80 - PASSO / PITCH 10					IE 80 - PASSO / PITCH 25							
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		25	100	175	250			50	200	350	500			125	500	870	1250
12000	$F_r$ [N]	353	360	376	402	12000	$F_r$ [N]	705	712	728	754	12000	$F_r$ [N]				
	$f_t$ [Hz]	156	157	160	174		$f_t$ [Hz]	223	225	226	230		$f_t$ [Hz]				
10800	$F_r$ [N]	317	325	341	366	10800	$F_r$ [N]	634	642	658	683	10800	$F_r$ [N]				
	$f_t$ [Hz]	148	150	152	156		$f_t$ [Hz]	212	215	218	220		$f_t$ [Hz]				
9600	$F_r$ [N]	282	290	306	331	9600	$F_r$ [N]	564	571	588	613	9600	$F_r$ [N]	1409			
	$f_t$ [Hz]	138	141	145	147		$f_t$ [Hz]	199	200	202	205		$f_t$ [Hz]	315			
8400	$F_r$ [N]	247	254	271	296	8400	$F_r$ [N]	493	495	517	542	8400	$F_r$ [N]	1233			
	$f_t$ [Hz]	132	135	138	140		$f_t$ [Hz]	190	191	193	195		$f_t$ [Hz]	295			
7200	$F_r$ [N]	212	219	236	261	7200	$F_r$ [N]	423	430	447	472	7200	$F_r$ [N]	1057	1064		
	$f_t$ [Hz]	128	130	133	135		$f_t$ [Hz]	174	175	178	180		$f_t$ [Hz]	273	275		
6000	$F_r$ [N]	177	184	200	226	6000	$F_r$ [N]	353	360	376	402	6000	$F_r$ [N]	881	888		
	$f_t$ [Hz]	118	120	122	125		$f_t$ [Hz]	164	165	168	170		$f_t$ [Hz]	248	250		
4800	$F_r$ [N]	141	149	165	190	4800	$F_r$ [N]	282	290	306	331	4800	$F_r$ [N]	705	712	728	754
	$f_t$ [Hz]	105	108	108	110		$f_t$ [Hz]	144	146	148	150		$f_t$ [Hz]	220	222	225	226
3600	$F_r$ [N]	106	114	130	155	3600	$F_r$ [N]	212	219	236	261	3600	$F_r$ [N]	529	536	552	578
	$f_t$ [Hz]	95	96	98	100		$f_t$ [Hz]	130	132	133	135		$f_t$ [Hz]	194	195	196	198
2400	$F_r$ [N]	71	78	95	120	2400	$F_r$ [N]	141	149	165	190	2400	$F_r$ [N]	353	360	376	402
	$f_t$ [Hz]	80	82	84	85		$f_t$ [Hz]	109	110	113	115		$f_t$ [Hz]	160	161	163	165
1200	$F_r$ [N]	36	43	59	85	1200	$F_r$ [N]	71	78	95	120	1200	$F_r$ [N]	177	184	200	226
	$f_t$ [Hz]	64	65	68	70		$f_t$ [Hz]	84	85	88	90		$f_t$ [Hz]	118	120	122	125



**R = 2**



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 80 - PASSO / PITCH 5					IE 80 - PASSO / PITCH 10					IE 80 - PASSO / PITCH 25								
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				
		12,5	50	87,5	125			25	100	175	250			62,5	250	438	625	
12000	$F_r$ [N]	363	365	367	369	12000	$F_r$ [N]	726	728	730	732	12000	$F_r$ [N]					
	$f_t$ [Hz]	193	194	195	195		$f_t$ [Hz]	274	274	274	275		$f_t$ [Hz]					
10800	$F_r$ [N]	327	329	331	333	10800	$F_r$ [N]	653	656	658	659	10800	$F_r$ [N]					
	$f_t$ [Hz]	184	184	185	185		$f_t$ [Hz]	260	260	261	261		$f_t$ [Hz]					
9600	$F_r$ [N]	290	292	295	296	9600	$F_r$ [N]	581	582	585	587	9600	$F_r$ [N]					
	$f_t$ [Hz]	173	173	175	175		$f_t$ [Hz]	245	245	246	246		$f_t$ [Hz]					
8400	$F_r$ [N]	254	256	258	260	8400	$F_r$ [N]	508	510	512	514	8400	$F_r$ [N]	1270				
	$f_t$ [Hz]	162	162	164	164		$f_t$ [Hz]	229	229	230	230		$f_t$ [Hz]	362				
7200	$F_r$ [N]	218	220	222	224	7200	$F_r$ [N]	436	438	440	442	7200	$F_r$ [N]	1089	1090			
	$f_t$ [Hz]	150	151	152	152		$f_t$ [Hz]	212	212	213	213		$f_t$ [Hz]	335	335			
6000	$F_r$ [N]	182	185	197	188	6000	$F_r$ [N]	363	365	367	369	6000	$F_r$ [N]	907	908	910		
	$f_t$ [Hz]	137	137	138	139		$f_t$ [Hz]	193	194	195	195		$f_t$ [Hz]	306	306	306		
4800	$F_r$ [N]	145	147	150	151	4800	$F_r$ [N]	290	292	294	296	4800	$F_r$ [N]	726	728	730	732	
	$f_t$ [Hz]	122	123	124	125		$f_t$ [Hz]	173	173	174	175		$f_t$ [Hz]	274	274	275	275	
3600	$F_r$ [N]	109	111	112	115	3600	$F_r$ [N]	218	220	221	224	3600	$F_r$ [N]	544	546	548	551	
	$f_t$ [Hz]	106	107	108	109		$f_t$ [Hz]	150	150	152	152		$f_t$ [Hz]	237	237	238	238	
2400	$F_r$ [N]	73	75	78	79	2400	$F_r$ [N]	145	147	150	151	2400	$F_r$ [N]	363	365	368	369	
	$f_t$ [Hz]	87	88	89	90		$f_t$ [Hz]	122	123	124	125		$f_t$ [Hz]	193	193	195	195	
1200	$F_r$ [N]	36	37	39	42	1200	$F_r$ [N]	73	73	79	79	1200	$F_r$ [N]	182	184	186	188	
	$f_t$ [Hz]	61	63	65	66		$f_t$ [Hz]	87	88	89	90		$f_t$ [Hz]	137	137	139	139	

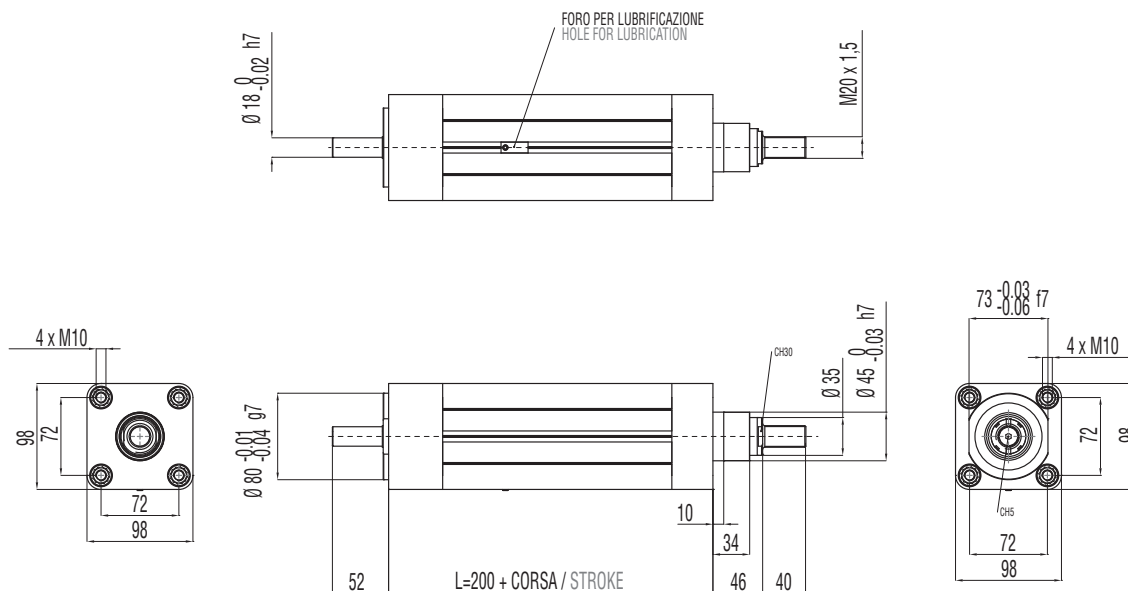
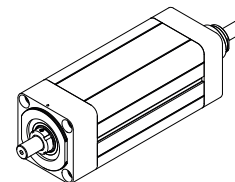
### 3.5.6 Caratteristiche dimensionali

### 3.5.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

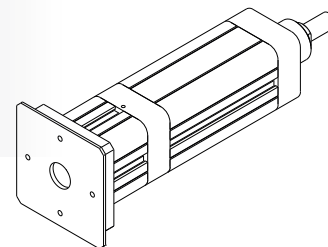
**B00**  
MODULO BASE  
BASIC MODULE



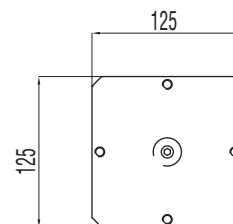
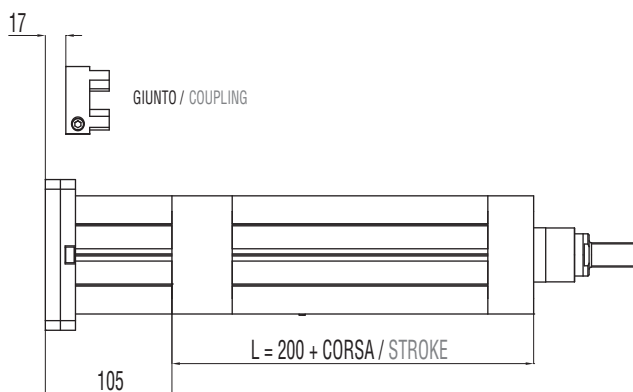
**B00 + D00**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

**BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS**



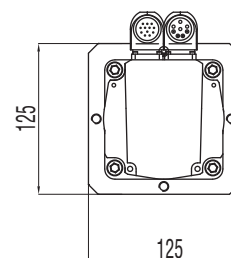
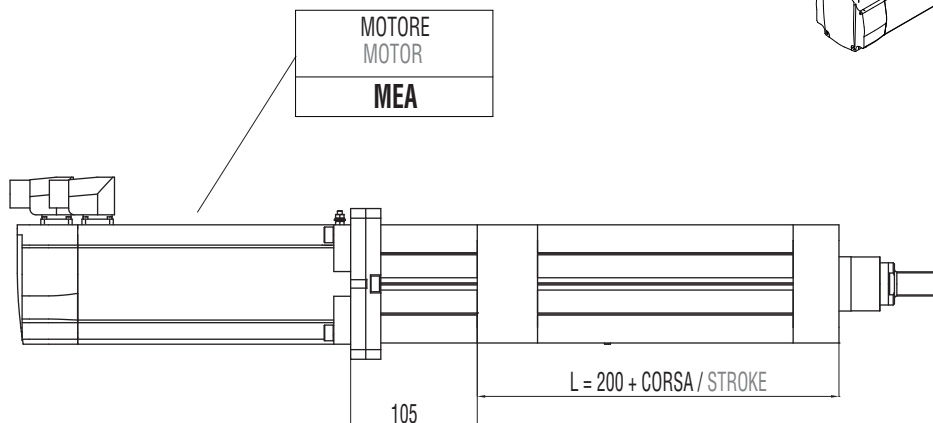
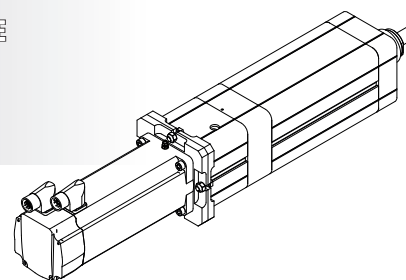
	MASSIME DIMENSIONI INTERFACCIA MAX INTERFACE DIMENSIONS			
	TAGLIA GIUNTO COUPLING SIZE	A	B	C
	[mm]	[mm]	[mm]	
<b>60</b>	26 max	42 min / 50 max	110 max	



**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

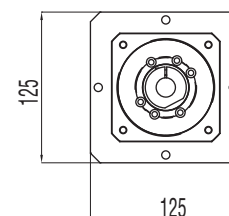
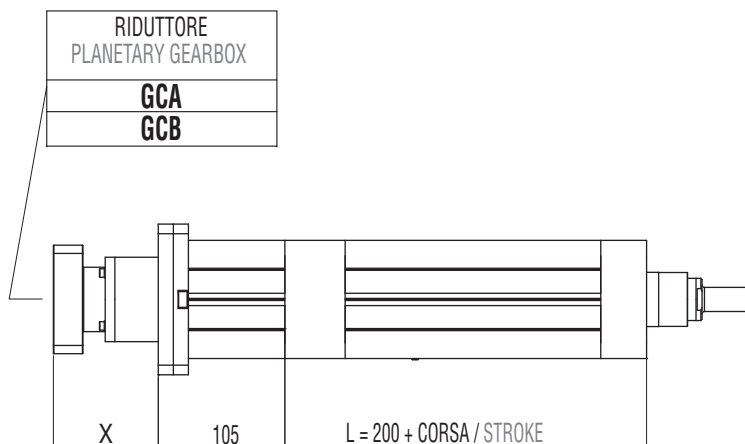
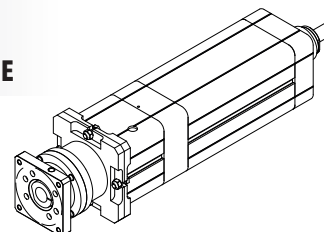
**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**



**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

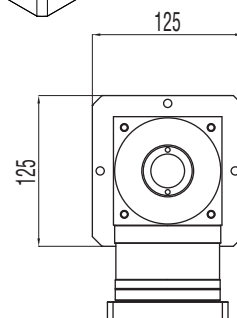
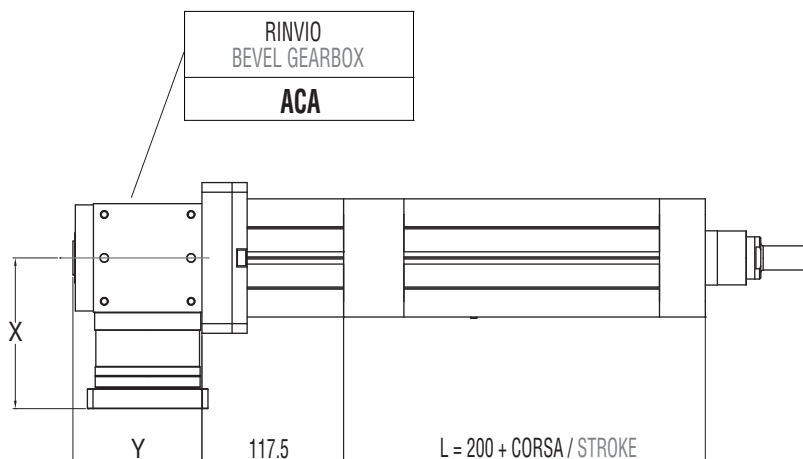
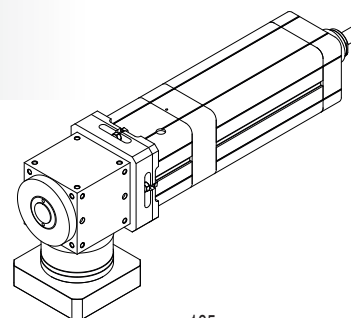
**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**

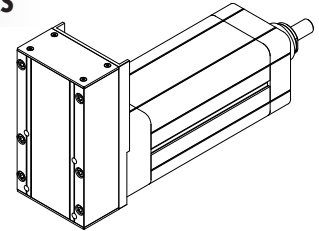




**B00 + R00**

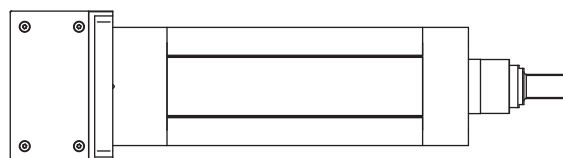
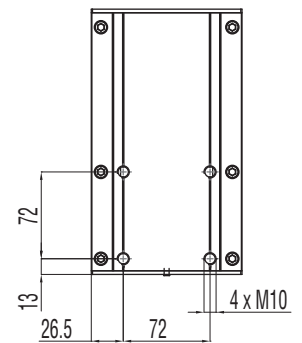
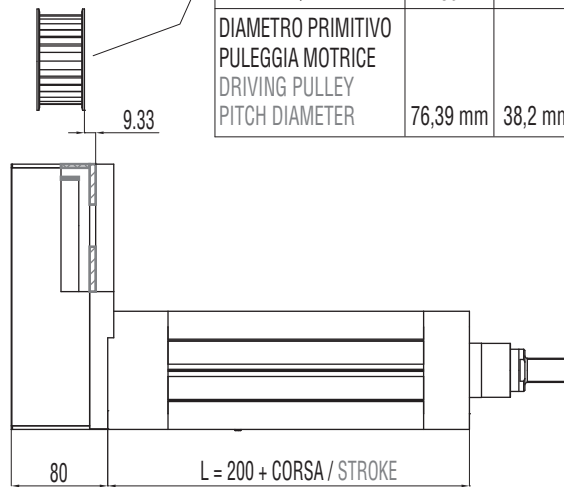
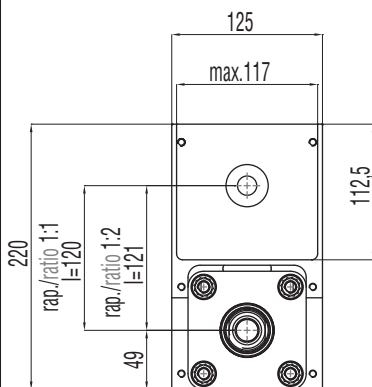
MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS



	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A [mm]	B [mm]	C [mm]
R=1:1	24 max	42 min / 58 max	110 max
R=1:2	19 max	36 min / 50 max	110 max

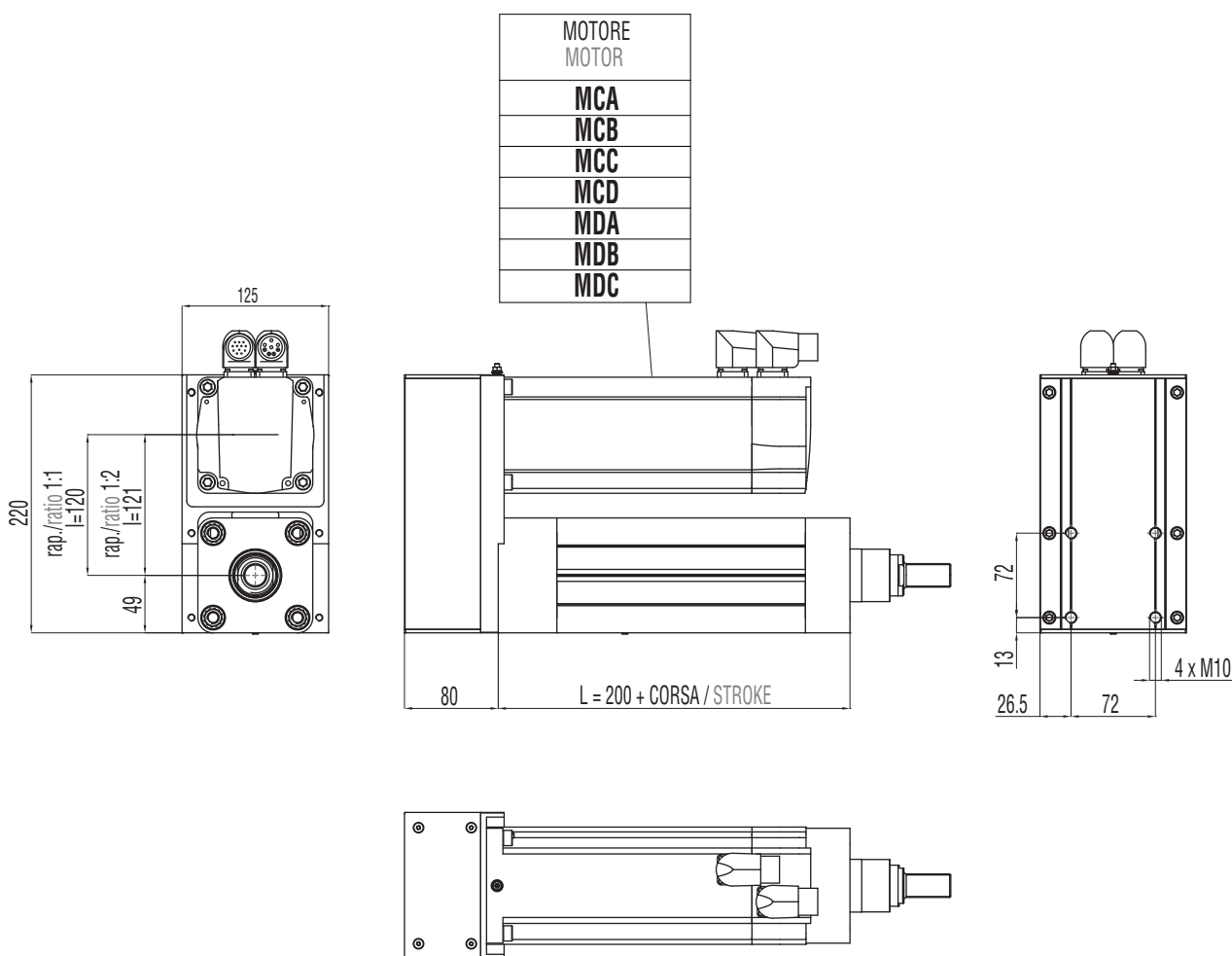
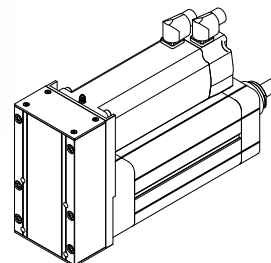
RAPPORTO / RATIO	1:1	1:2
PASSO / PITCH	8 mm	5 mm
Z = DENTI / TEETH	30	24
DIAMETRO PRIMITIVO PULEGGIA MOTRICE DRIVING PULLEY PITCH DIAMETER	76,39 mm	38,2 mm



**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

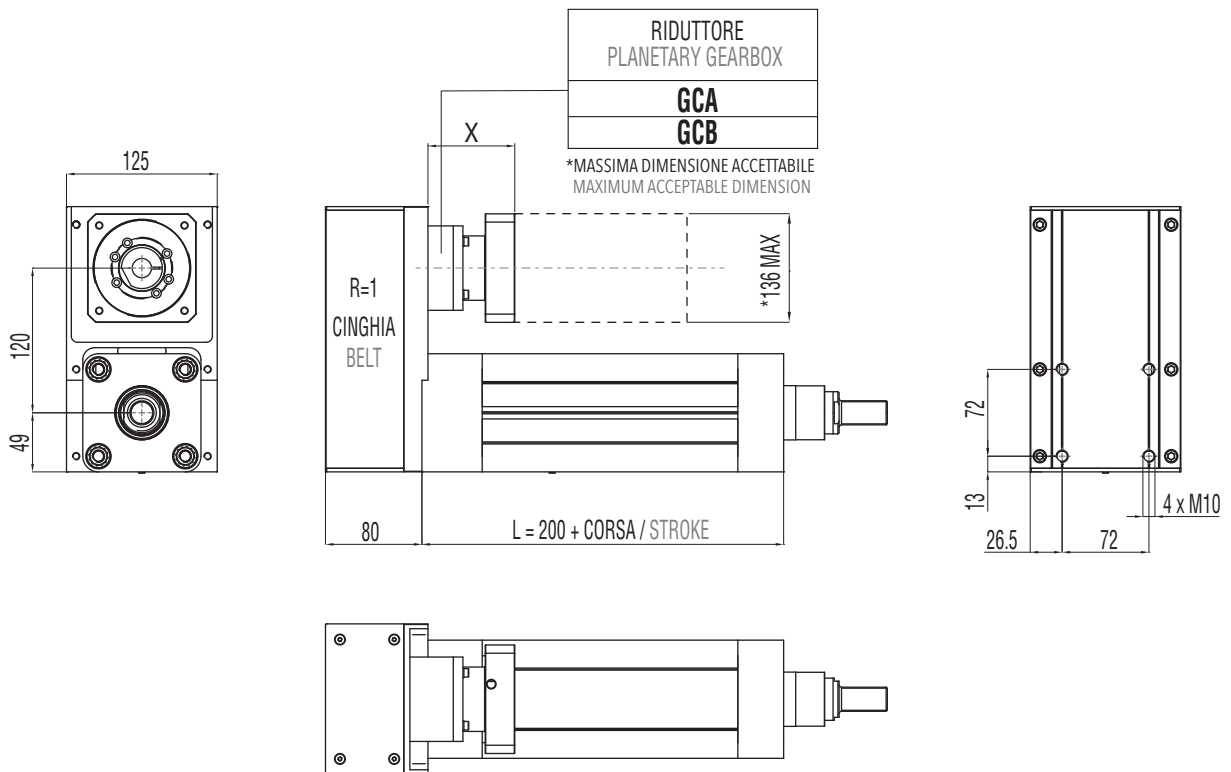
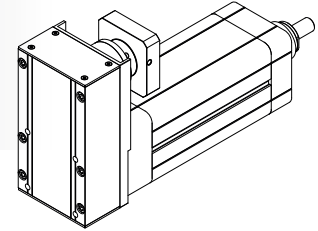
**BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS**



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.5.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.5.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

## 3.6

## IE 80 HL

## 3.6.1 Caratteristiche tecniche

## 3.6.1 Technical features

ISOMOVE IE 80 HL		5	10	32
<b>P</b>	PASSO VITE SCREW LEAD [mm]	5	10	32
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	32	32	32
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	21000*	25000*	18000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	18,5	44,3	101,9
	"CASO 1" / "CASE 1": B00 + D00/D01 [Nm]	18,5	44,3	101,9
	"CASO 2" / "CASE 2": B00 + D02/A01 [Nm]	$\left[ \frac{20,5}{R} \right] + C_s$	$\left[ \frac{49,2}{R} \right] + C_s$	$\left[ \frac{113,2}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio		
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01 [Nm]	$\frac{20,5}{R}$	$\frac{49,2}{R}$	$\frac{113,2}{R}$
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)		
	"CASO 4" / "CASE 4": B00 + R02 [Nm]	$\frac{22,7}{R}$	$\frac{54,6}{R}$	$\frac{125,7}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio		
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	30000	30000	30000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	250/3000	500/3000	1600/3000
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]			
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	1	2	5
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	1000**	1000**	1000**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE [Kg]	5,6 / 1,8	5,6 / 1,8	5,6 / 1,8
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY mm	0,06	0,06	0,02
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	DISPONIBILE / AVAILABLE		
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME Km	VEDI TABELLA / SEE TABLE pg. 88		

\* Per le versioni R00/R01 controllare con i grafici delle pagine 90/91. / For R00/R01 types please check graph at pages 90/91.




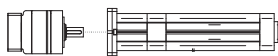
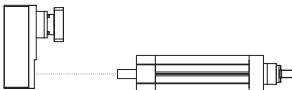
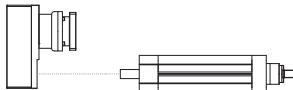
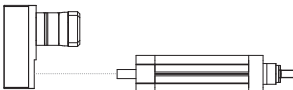

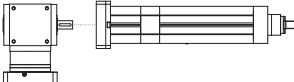
\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dept.



<b>ISOMOVE IE 80 HL</b>		<b>5</b>	<b>10</b>	<b>32</b>
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01		
<b>F<sub>a,p</sub></b>	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX [N]	AE070/21000 AE090/21000 PGII-080/21000 PGII-120/21000	AE070/18000 AE090/25000 PGII-080/25000 PGII-120/25000	AE070/5500 *** AE090/13800*** PGII-080/8900 *** PGII-120/18000
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX [N]	ATB090/21000 ATB110/21000	ATB090/21000 ATB110/25000	ATB090/4500 *** ATB110/11600 ***
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)		

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<p>TRASMISSIONE COASSIALE CON RIDUTTORE IN-LINE PLANETARY GEARBOX STAGE</p>	 <b>AE070</b> MODULO BASE BASIC MODULE	 <b>AE090</b> MODULO BASE BASIC MODULE
	 <b>PGII-080</b> MODULO BASE BASIC MODULE	 <b>PGII-120</b> MODULO BASE BASIC MODULE
<p>TRASMISSIONE PARALLELA CON RIDUTTORE PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p>	 <b>AE070</b> MODULO BASE BASIC MODULE	 <b>AE090</b> MODULO BASE BASIC MODULE
	 <b>PGII-080</b> MODULO BASE BASIC MODULE	
<p>TRASMISSIONE ANGOLARE CON RINVIO ANGLE BEVEL GEARBOX STAGE</p>	 <b>ATB090</b> MODULO BASE BASIC MODULE	 <b>ATB110</b> MODULO BASE BASIC MODULE

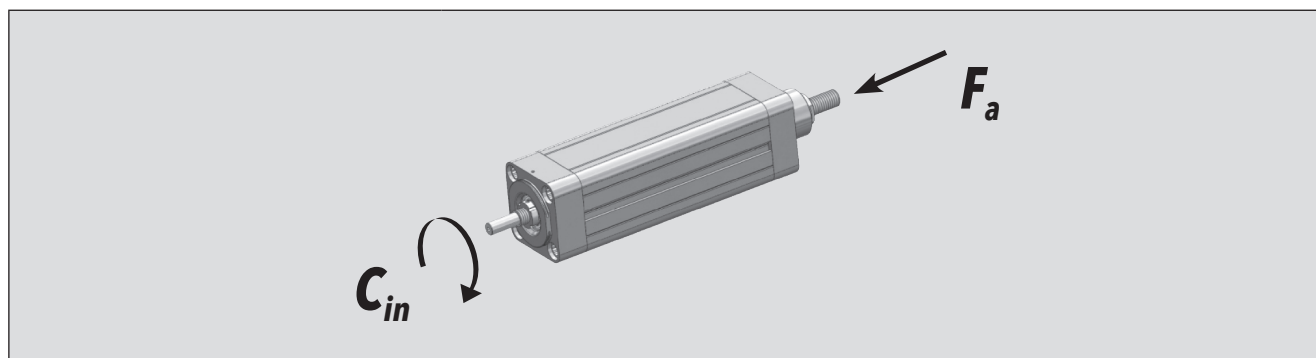
3.6.2 Calcolo durata

3.6.2 Lifetime calculation

<p><b>IE 80 HL</b> <b>P = 5 mm</b></p>	$L_{10,Km} = \left[ \frac{23900}{F_{eq}} \right]^3 \cdot 5$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>
<p><b>IE 80 HL</b> <b>P = 10 mm</b></p>	$L_{10,Km} = \left[ \frac{31500}{F_{eq}} \right]^3 \cdot 10$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>
<p><b>IE 80 HL</b> <b>P = 32 mm</b></p>	$L_{10,Km} = \left[ \frac{20600}{F_{eq}} \right]^3 \cdot 32$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>

3.6.3 Calcolo coppia in ingresso al modulo base

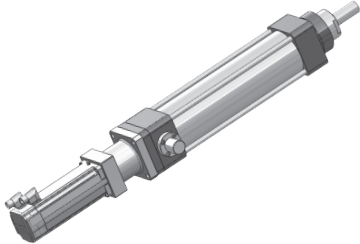
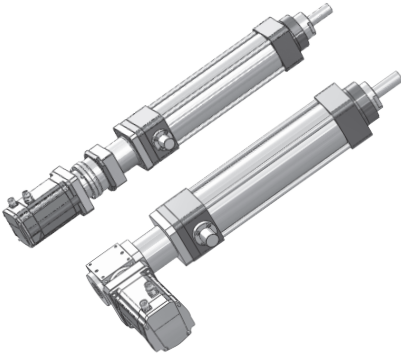
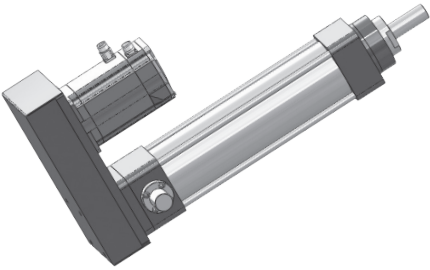
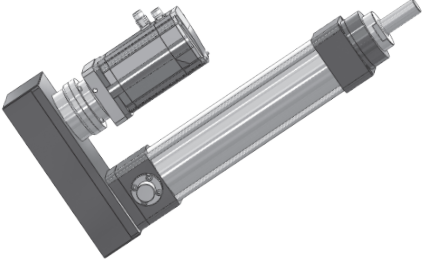
3.6.3 Torque calculation at basic module input shaft



<p><b>IE 80 HL</b> <b>P = 5 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 5}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 80 HL</b> <b>P = 10 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 80 HL</b> <b>P = 32 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 32}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>

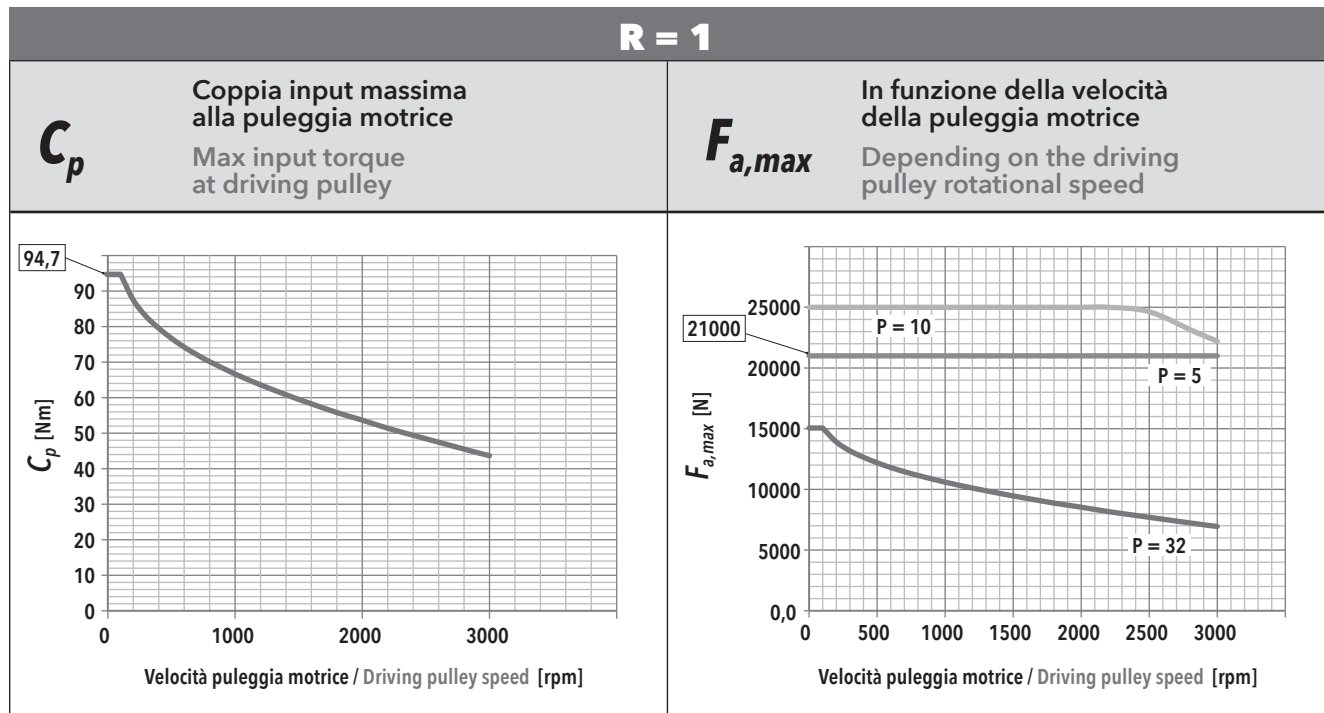
3.6.4 Calcolo coppia motore

3.6.4 Motor torque calculation

<p>CASO / CASE <b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE <b>2</b></p>	<p><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>4</b></p>	<p><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,81</p>

3.6.5 Potenza in ingresso alla trasmissione a cinghia (versione R)

3.6.5 Mechanical input power at belt gear stage (R type)



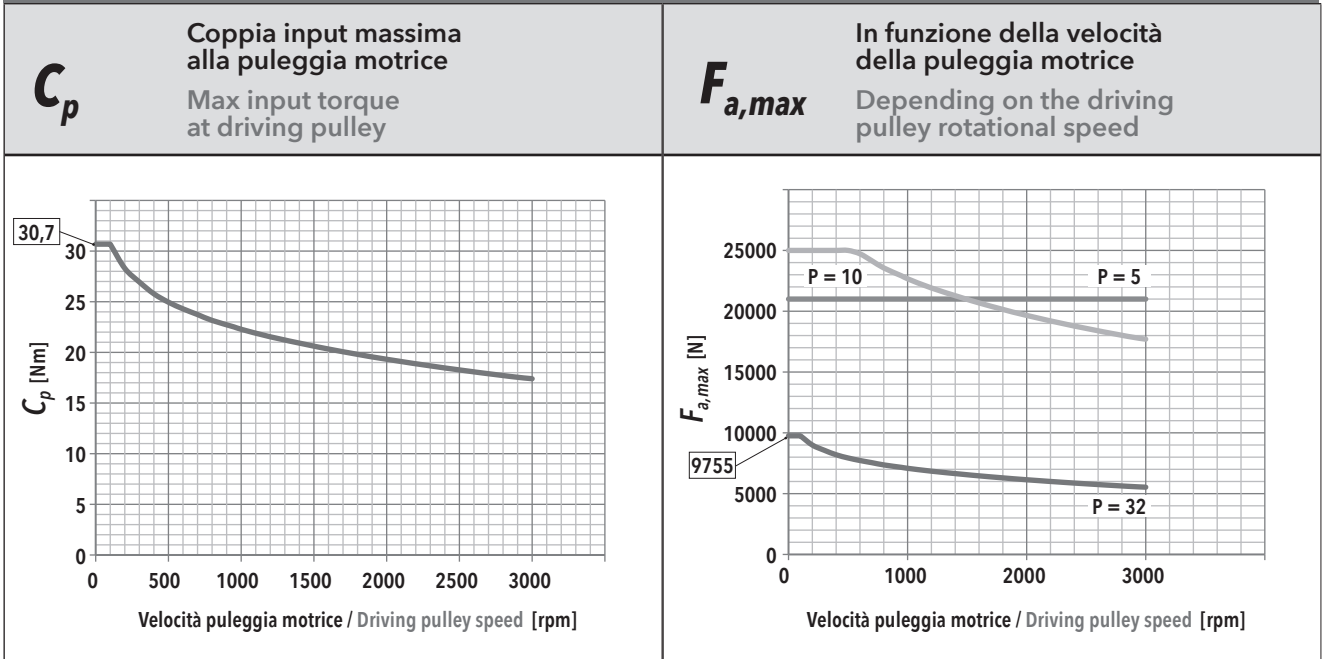
**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 80 HL - PASSO / PITCH 5					IE 80 HL - PASSO / PITCH 10					IE 80 HL - PASSO / PITCH 32							
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		25	100	175	250			50	200	350	500			160	640	1120	1600
21000	$F_r$ [N]	616	622	634	652	25000	$F_r$ [N]	1467	1469	1473		18000	$F_r$ [N]				
	$f_t$ [Hz]	207	208	210	213		$f_t$ [Hz]	320	320	320			$f_t$ [Hz]				
18900	$F_r$ [N]	555	560	572	590	22500	$F_r$ [N]	1321	1322	1326	1356	16200	$F_r$ [N]				
	$f_t$ [Hz]	197	198	200	203		$f_t$ [Hz]	303	304	304	307		$f_t$ [Hz]				
16800	$F_r$ [N]	493	499	510	529	20000	$F_r$ [N]	1174	1176	1179	1209	14400	$F_r$ [N]				
	$f_t$ [Hz]	185	186	189	192		$f_t$ [Hz]	286	286	287	290		$f_t$ [Hz]				
14700	$F_r$ [N]	432	437	449	467	17500	$F_r$ [N]	1027	1029	1033	1063	12600	$F_r$ [N]	2366			
	$f_t$ [Hz]	173	175	177	180		$f_t$ [Hz]	268	268	268	272		$f_t$ [Hz]	406			
12600	$F_r$ [N]	370	375	387	406	15000	$F_r$ [N]	881	882	886	916	10800	$F_r$ [N]	2028	2034		
	$f_t$ [Hz]	161	162	164	168		$f_t$ [Hz]	248	248	249	253		$f_t$ [Hz]	376	377		
10500	$F_r$ [N]	308	314	326	344	12500	$F_r$ [N]	734	736	739	769	9000	$F_r$ [N]	1690	1696	1707	
	$f_t$ [Hz]	147	148	151	155		$f_t$ [Hz]	226	226	227	232		$f_t$ [Hz]	343	344	345	
8400	$F_r$ [N]	247	252	264	282	10000	$F_r$ [N]	587	589	593	623	7200	$F_r$ [N]	1352	1358	1369	1388
	$f_t$ [Hz]	131	133	136	140		$f_t$ [Hz]	202	203	203	208		$f_t$ [Hz]	307	308	309	311
6300	$F_r$ [N]	185	191	202	221	7500	$F_r$ [N]	440	442	446	476	5400	$F_r$ [N]	1050	1020	1031	1050
	$f_t$ [Hz]	114	115	119	124		$f_t$ [Hz]	175	176	176	182		$f_t$ [Hz]	271	267	268	271
4200	$F_r$ [N]	124	129	141	159	5000	$F_r$ [N]	294	296	299	329	3600	$F_r$ [N]	676	682	694	712
	$f_t$ [Hz]	93	95	99	105		$f_t$ [Hz]	143	144	144	152		$f_t$ [Hz]	217	218	220	223
2100	$F_r$ [N]	62	67	79	97	2500	$F_r$ [N]	147	149	152	183	1800	$F_r$ [N]	676	682	694	712
	$f_t$ [Hz]	66	69	74	82		$f_t$ [Hz]	101	102	103	113		$f_t$ [Hz]	217	218	220	223



**R = 2**



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di Cin  
Radial force on driving pulley as a function of Cin

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 80 HL - PASSO / PITCH 5					IE 80 HL - PASSO / PITCH 10					IE 80 HL - PASSO / PITCH 32							
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		12,5	50	87,5	125			25	100	175	250			80	320	560	800
21000	$F_r$ [N]	635	637	638	641	25000	$F_r$ [N]	1512				18000	$F_r$ [N]				
	$f_t$ [Hz]	256	256	257	257		$f_t$ [Hz]	395					$f_t$ [Hz]				
18900	$F_r$ [N]	572	574	576	578	22500	$F_r$ [N]	1361	1362			16200	$F_r$ [N]				
	$f_t$ [Hz]	243	243	244	244		$f_t$ [Hz]	375	375				$f_t$ [Hz]				
16800	$F_r$ [N]	508	510	512	514	20000	$F_r$ [N]	1210	1211	1213		14400	$F_r$ [N]				
	$f_t$ [Hz]	229	229	230	230		$f_t$ [Hz]	353	353	354			$f_t$ [Hz]				
14700	$F_r$ [N]	445	448	450	451	17500	$F_r$ [N]	1059	1061	1063	1065	12600	$F_r$ [N]				
	$f_t$ [Hz]	214	214	216	216		$f_t$ [Hz]	330	330	331	331		$f_t$ [Hz]				
12600	$F_r$ [N]	381	384	386	387	15000	$F_r$ [N]	907	910	911	913	10800	$F_r$ [N]				
	$f_t$ [Hz]	198	198	200	200		$f_t$ [Hz]	306	306	307	307		$f_t$ [Hz]				
10500	$F_r$ [N]	318	320	322	324	12500	$F_r$ [N]	756	758	760	762	9000	$F_r$ [N]	1742			
	$f_t$ [Hz]	181	181	182	183		$f_t$ [Hz]	279	279	280	280		$f_t$ [Hz]	424			
8400	$F_r$ [N]	254	254	260	260	10000	$F_r$ [N]	605	608	610	611	7200	$F_r$ [N]	1394	1395		
	$f_t$ [Hz]	162	162	164	164		$f_t$ [Hz]	250	250	251	251		$f_t$ [Hz]	379	379		
6300	$F_r$ [N]	191	194	196	197	7500	$F_r$ [N]	454	456	458	460	5400	$F_r$ [N]	1045	1046	1048	
	$f_t$ [Hz]	140	140	142	142		$f_t$ [Hz]	216	216	218	218		$f_t$ [Hz]	328	328	329	
4200	$F_r$ [N]	127	130	131	133	5000	$F_r$ [N]	303	306	307	309	3600	$F_r$ [N]	697	698	700	703
	$f_t$ [Hz]	114	114	117	117		$f_t$ [Hz]	177	177	178	178		$f_t$ [Hz]	268	268	269	269
2100	$F_r$ [N]	64	66	68	70	2500	$F_r$ [N]	151	153	155	157	1800	$F_r$ [N]	348	350	352	355
	$f_t$ [Hz]	81	81	85	85		$f_t$ [Hz]	125	125	127	127		$f_t$ [Hz]	190	190	191	191

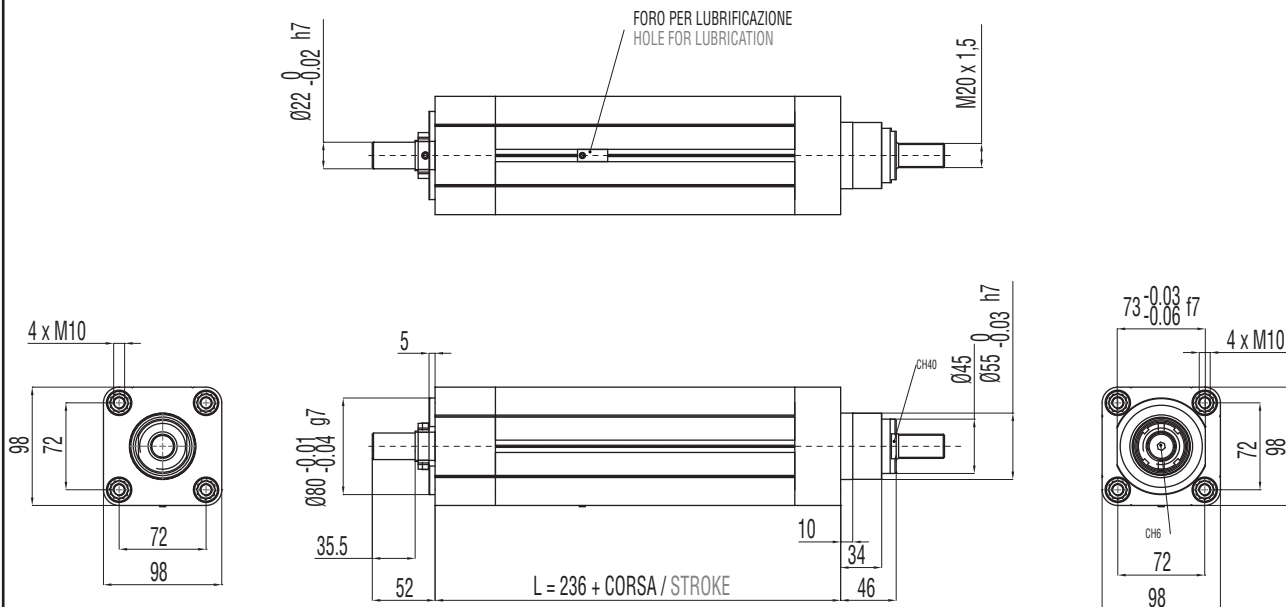
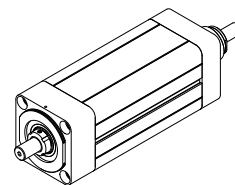
### 3.6.6 Caratteristiche dimensionali

### 3.6.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvi al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

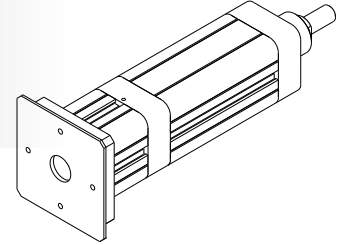
**B00**  
MODULO BASE  
BASIC MODULE



**B00 + D00**

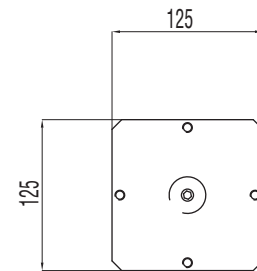
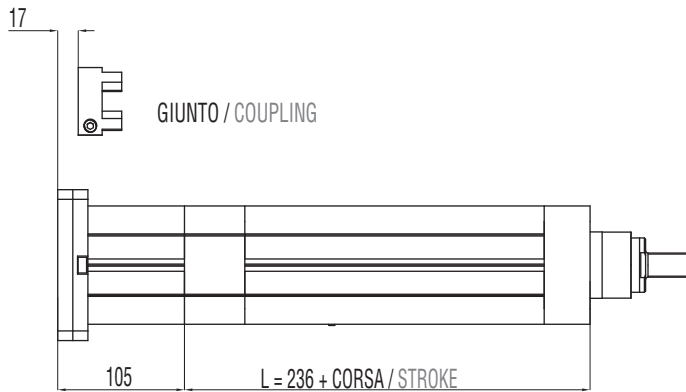
MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

**BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS**



CxC	B	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS			
		TAGLIA GIUNTO COUPLING SIZE	A [mm]	B [mm]	C [mm]
		60	30 max	28 min / 50 max	110 max

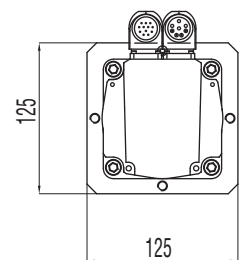
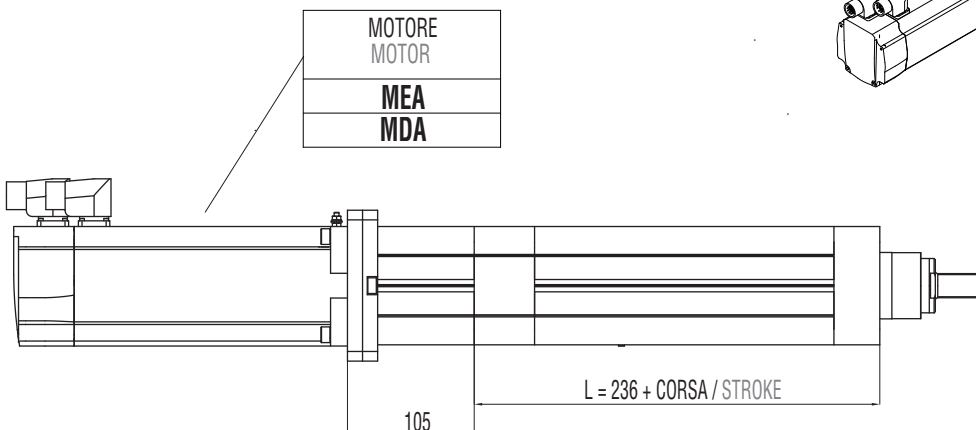
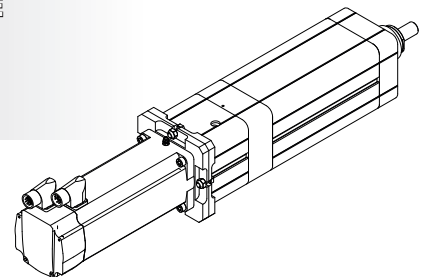
NOTA: Massima coppia in ingresso al giunto pari a 75 Nm.  
REMARK: Max admissible input torque at coupling = 75 Nm.



**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

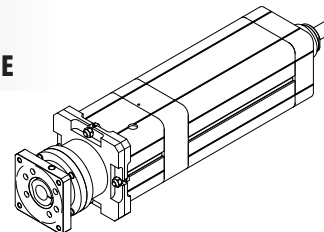
**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**



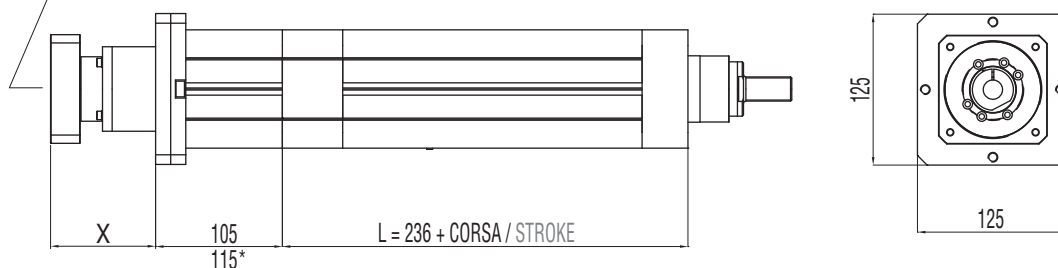
**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



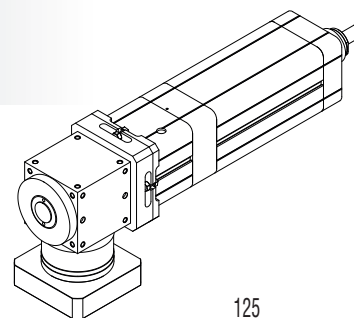
RIDUTTORE PLANETARY GEARBOX
<b>GCA</b>
<b>GDA</b>
<b>GCB</b>
<b>GEB*</b>



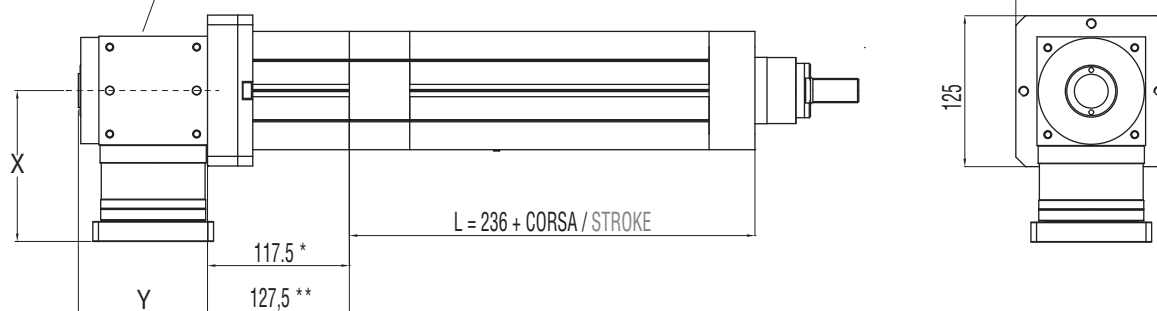
**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**



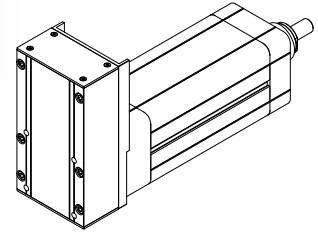
RINVIO ANGOLARE ANGLE BEVEL GEARBOX
<b>ACA*</b>
<b>ADA**</b>



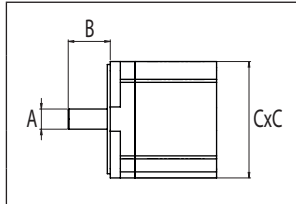
**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

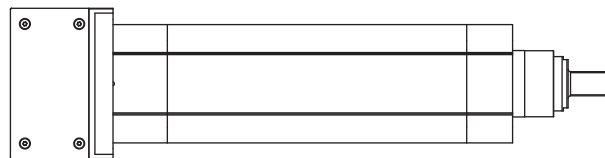
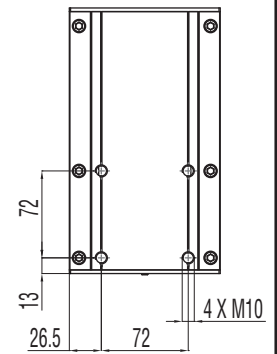
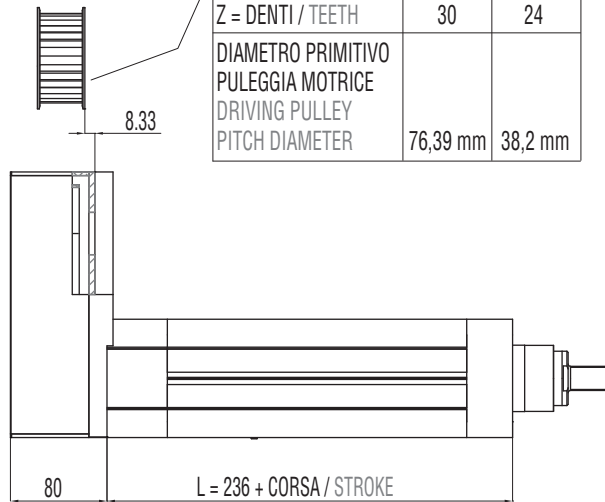
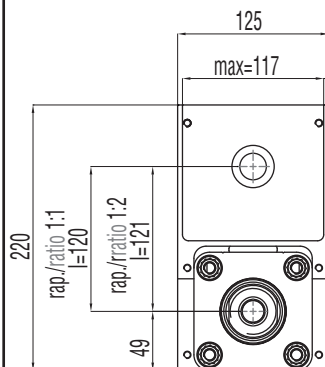
BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS



	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A	B	C
	[mm]	[mm]	[mm]
<b>R=1:1</b>	24 max	42 min / 58 max	110 max
<b>R=1:2</b>	19 max	36 min / 50 max	110 max



RAPPORTO / RATIO	1:1	1:2
PASSO / PITCH	8 mm	5 mm
Z = DENTI / TEETH	30	24
DIAMETRO PRIMITIVO PULEGGIA MOTRICE DRIVING PULLEY PITCH DIAMETER	76,39 mm	38,2 mm

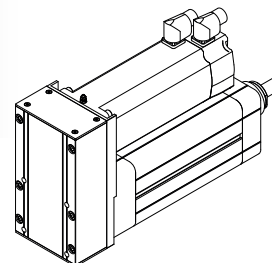




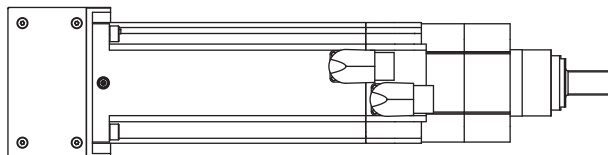
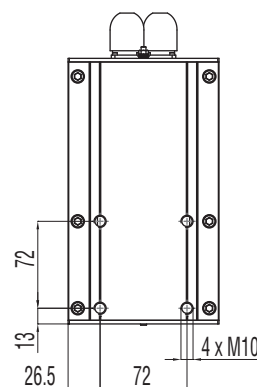
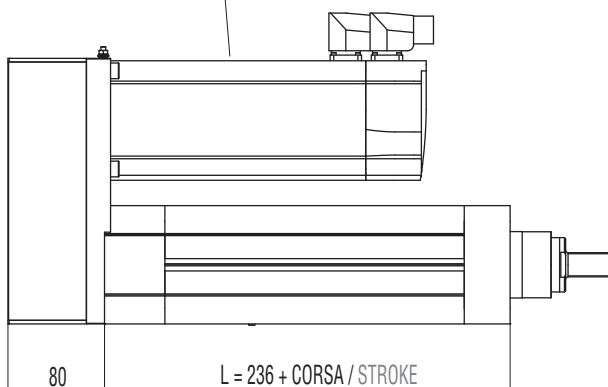
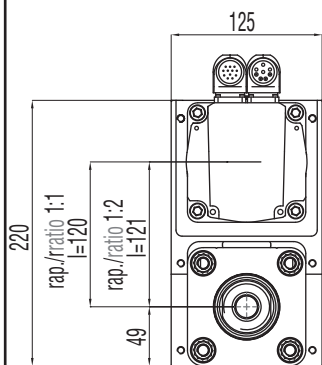
**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS



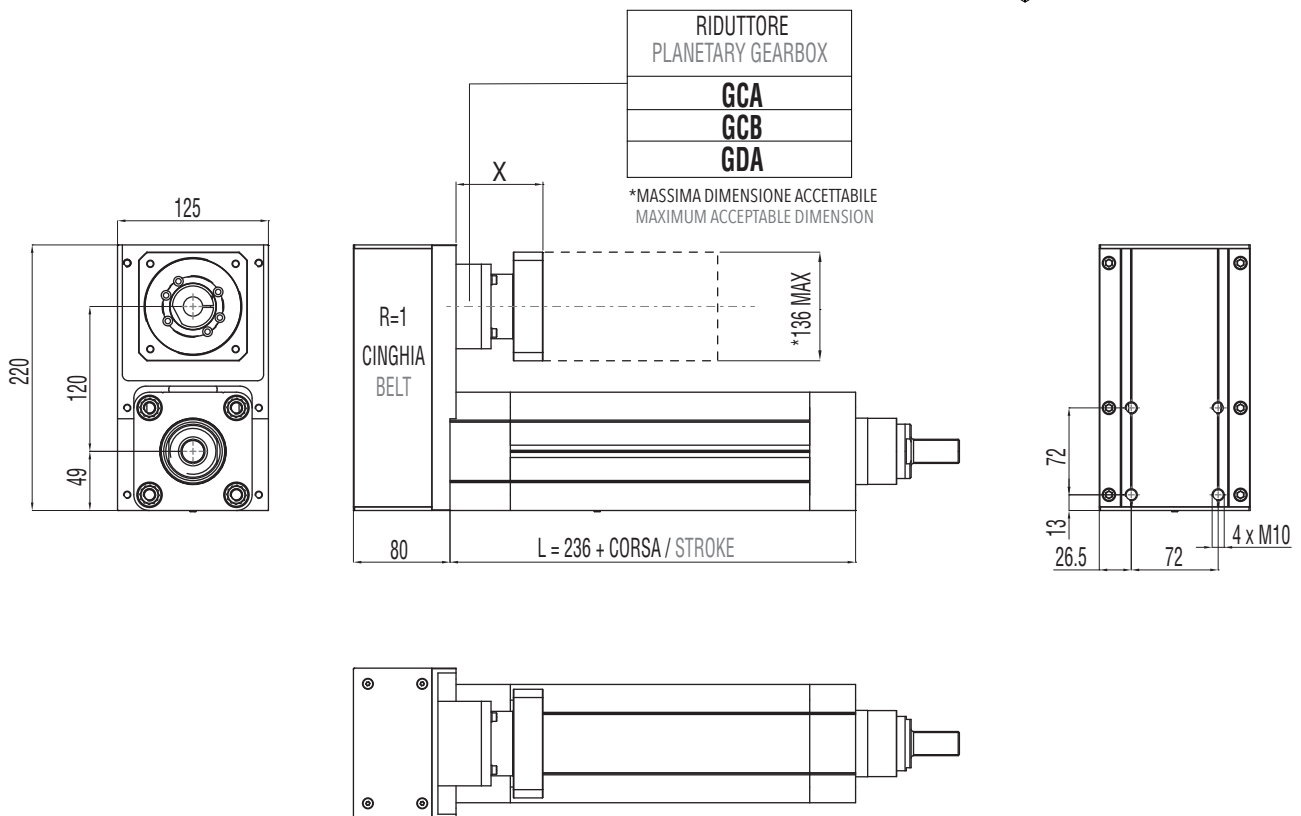
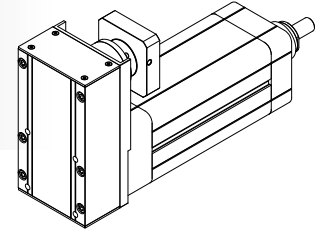
MOTORE MOTOR
<b>MCA</b>
<b>MCB</b>
<b>MCC</b>
<b>MCD</b>
<b>MDA</b>
<b>MDB</b>
<b>MDC</b>



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.6.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.6.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

## 3.7

## IE 100

## 3.7.1 Caratteristiche tecniche

## 3.7.1 Technical features

ISOMOVE IE 100		5	10	20	32
<b>P</b>	PASSO VITE SCREW LEAD [mm]	5	10	20	32
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	32	32	32	32
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	21000*	25000*	30000*	16000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	18,5	44,3	106	90,5
	"CASO 1" / "CASE 1": B00 + D00/D01 [Nm]	18,5	44,3	106	90,5
	"CASO 2" / "CASE 2": B00 + D02/A01 [Nm]	$\left[ \frac{20,5}{R} \right] + C_s$	$\left[ \frac{49,2}{R} \right] + C_s$	$\left[ \frac{117}{R} \right] + C_s$	$\left[ \frac{100}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio			
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01 [Nm]	$\frac{20,5}{R}$	$\frac{49,2}{R}$	$\frac{117}{R}$	$\frac{100}{R}$
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)			
	"CASO 4" / "CASE 4": B00 + R02 [Nm]	$\frac{22,7}{R}$	$\frac{54,6}{R}$	$\frac{130}{R}$	$\frac{111}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio			
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	30000	30000	30000	30000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	250/3000	500/3000	1000/3000	1600/3000
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]	250/3000	500/3000	1000/3000	1600/3000
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	1	2	3	5
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	1100**	1100**	1100**	1100**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA [Kg] BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE	7,1 / 2,3	7,1 / 2,3	7,1 / 2,3	7,1 / 2,3
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY mm	0,06	0,06	0,06	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	DISPONIBILE / AVAILABLE			
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME Km	VEDI TABELLA / SEE TABLE pg. 100			






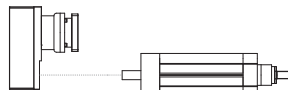

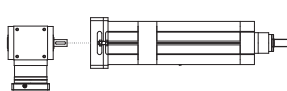
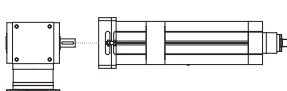
\* Per le versioni R00/R01 controllare con i grafici delle pagine 102/103. / For R00/R01 types please check graph at pages 102/103.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dept.

ISOMOVE IE 100		5	10	20	32
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01			
<b>F<sub>a,p</sub></b>	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX [N]	AE070/21000 AE090/21000 PGII-080/21000 PGII-120/21000	AE070/18000 AE090/25000 PGII-080/25000 PGII-120/25000	AE070/8800 *** AE090/21900*** PGII-080/14300 *** PGII-120/30000	AE070/8800 *** AE090/21900*** PGII-080/14300 *** PGII-120/30000
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX [N]	ATB090/21000 ATB110/21000	ATB090/21000*** ATB110/25000	ATB090/4500 *** ATB110/11600 ***	ATB090/4500 *** ATB110/11600 ***
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)			

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<p>TRASMISSIONE COASSIALE CON RIDUTTORE IN-LINE PLANETARY GEARBOX STAGE</p>	 <b>AE070</b> MODULO BASE BASIC MODULE	 <b>AE090</b> MODULO BASE BASIC MODULE	 <b>PGII-080</b> MODULO BASE BASIC MODULE	 <b>PGII-120</b> MODULO BASE BASIC MODULE
<p>TRASMISSIONE PARALLELA CON RIDUTTORE PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p>	 <b>AE070</b> MODULO BASE BASIC MODULE	 <b>AE090</b> MODULO BASE BASIC MODULE	 <b>PGII-080</b> MODULO BASE BASIC MODULE	
<p>TRASMISSIONE ANGOLARE CON RINVIO ANGLE BEVEL GEARBOX STAGE</p>	 <b>ATB090</b> MODULO BASE BASIC MODULE	 <b>ATB110</b> MODULO BASE BASIC MODULE		

3.7.2 Calcolo durata

3.7.2 Lifetime calculation

<b>IE 100</b> <b>P = 5 mm</b>	$L_{10,Km} = \left[ \frac{23900}{F_{eq}} \right]^3 \cdot 5$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 100</b> <b>P = 10 mm</b>	$L_{10,Km} = \left[ \frac{31500}{F_{eq}} \right]^3 \cdot 10$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 100</b> <b>P = 20 mm</b>	$L_{10,Km} = \left[ \frac{39300}{F_{eq}} \right]^3 \cdot 20$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 100</b> <b>P = 32 mm</b>	$L_{10,Km} = \left[ \frac{18200}{F_{eq}} \right]^3 \cdot 32$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

3.7.3 Calcolo coppia in ingresso al modulo base

3.7.3 Torque calculation at basic module input shaft

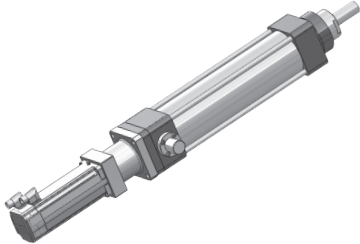
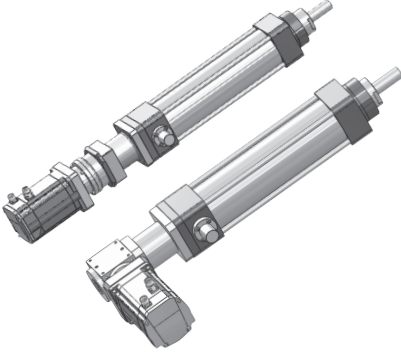
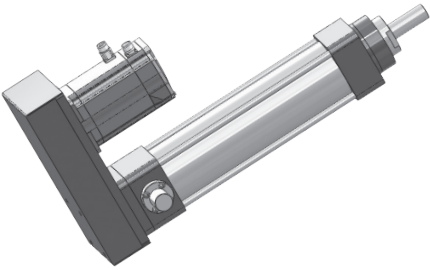
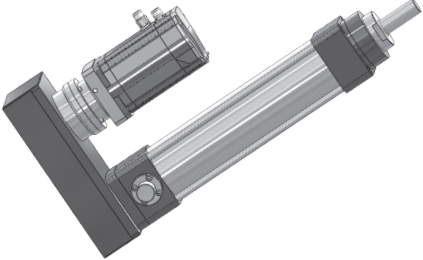
The diagram shows a 3D perspective view of the IE 100 actuator. A curved arrow labeled  $C_{in}$  indicates the input torque at the front shaft. A straight arrow labeled  $F_a$  points towards the rear shaft, representing the axial force.

<b>IE 100</b> <b>P = 5 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 5}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 100</b> <b>P = 10 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 100</b> <b>P = 20 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 20}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 100</b> <b>P = 32 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 32}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$



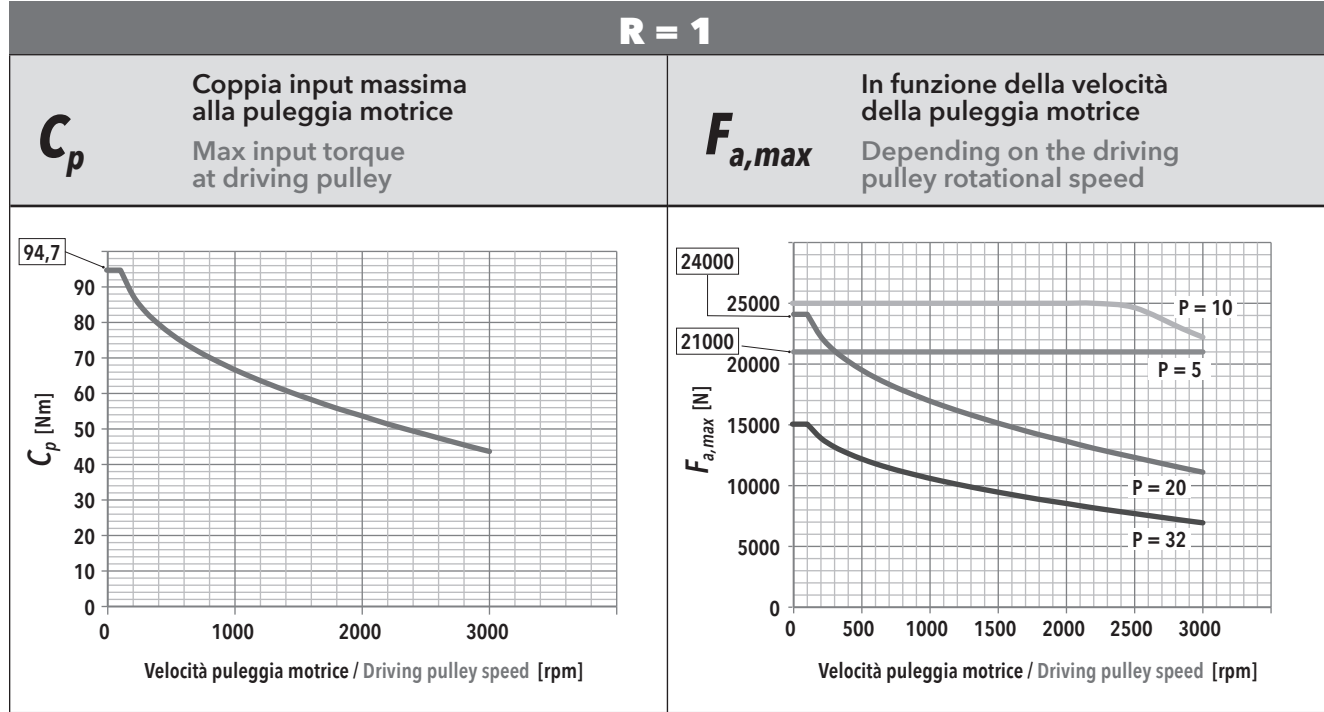
3.7.4 Calcolo coppia motore

3.7.4 Motor torque calculation

<p>CASO / CASE <b>1</b></p>	<p style="text-align: center;"><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE <b>2</b></p>	<p style="text-align: center;"><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>3</b></p>	<p style="text-align: center;"><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>4</b></p>	<p style="text-align: center;"><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,81</p>

3.7.5 Potenza in ingresso alla trasmissione a cinghia (versione R)

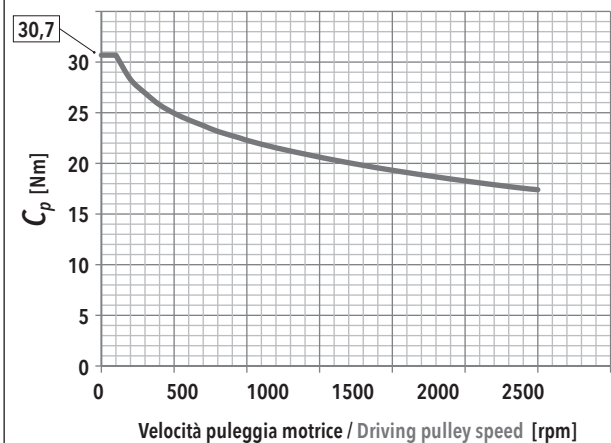
3.7.5 Mechanical input power at belt gear stage (R type)



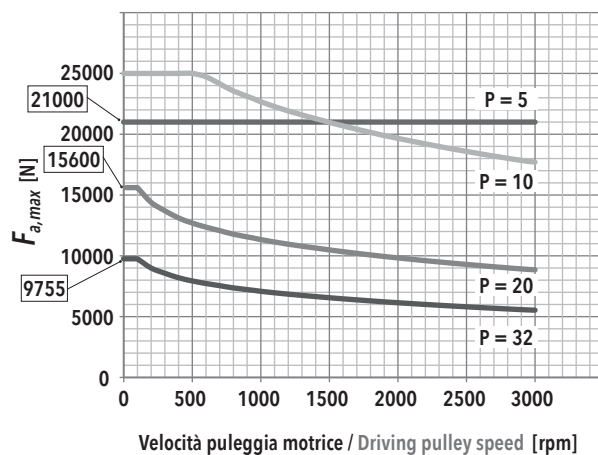
IE 100 - PASSO / PITCH 5					IE 100 - PASSO / PITCH 10					IE 100 - PASSO / PITCH 20					IE 100 - PASSO / PITCH 32								
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		25	100	175	250			50	200	350	500			100	400	700	1000			160	640	1120	1600
21000	$F_r$ [N]	616	622	634	652	25000	$F_r$ [N]	1467	1469	1473	30000	$F_r$ [N]					16000	$F_r$ [N]					
	$f_t$ [Hz]	207	208	210	213		$f_t$ [Hz]	320	320	320		$f_t$ [Hz]								$f_t$ [Hz]			
18900	$F_r$ [N]	555	560	572	590	22500	$F_r$ [N]	1321	1322	1326	1356	27000	$F_r$ [N]					14400	$F_r$ [N]				
	$f_t$ [Hz]	197	198	200	203		$f_t$ [Hz]	303	304	304	307		$f_t$ [Hz]								$F_r$ [N]	2404	
16800	$F_r$ [N]	493	499	510	529	20000	$F_r$ [N]	1174	1176	1179	1209	24000	$F_r$ [N]					12800	$F_r$ [N]				
	$f_t$ [Hz]	185	186	189	192		$f_t$ [Hz]	286	286	287	290		$f_t$ [Hz]								$f_t$ [Hz]	409	
14700	$F_r$ [N]	432	437	449	467	17500	$F_r$ [N]	1027	1029	1033	1063	21000	$F_r$ [N]	2465				11200	$F_r$ [N]	2103			
	$f_t$ [Hz]	173	175	177	180		$f_t$ [Hz]	268	268	268	272		$f_t$ [Hz]	415							$f_t$ [Hz]	383	
12600	$F_r$ [N]	370	375	387	406	15000	$F_r$ [N]	881	882	886	916	18000	$F_r$ [N]	2113	2118			9600	$F_r$ [N]	1803	1808		
	$f_t$ [Hz]	161	162	164	168		$f_t$ [Hz]	248	248	249	253		$f_t$ [Hz]	384	384						$f_t$ [Hz]	355	355
10500	$F_r$ [N]	308	314	326	344	12500	$F_r$ [N]	734	736	739	769	15000	$F_r$ [N]	1761	1766	1768		8000	$F_r$ [N]	1502	1508	1520	
	$f_t$ [Hz]	147	148	151	155		$f_t$ [Hz]	226	226	227	232		$f_t$ [Hz]	350	351	351					$f_t$ [Hz]	324	324
8400	$F_r$ [N]	247	252	264	282	10000	$F_r$ [N]	587	589	593	623	12000	$F_r$ [N]	1409	1414	1416	1444	6400	$F_r$ [N]	1202	1207	1219	1238
	$f_t$ [Hz]	131	133	136	140		$f_t$ [Hz]	202	203	203	208		$f_t$ [Hz]	313	314	314	317				$f_t$ [Hz]	289	290
6300	$F_r$ [N]	185	191	202	221	7500	$F_r$ [N]	440	442	446	476	9000	$F_r$ [N]	1057	1062	1064	1092	4800	$F_r$ [N]	902	907	919	937
	$f_t$ [Hz]	114	115	119	124		$f_t$ [Hz]	175	176	176	182		$f_t$ [Hz]	271	272	272	276				$f_t$ [Hz]	251	251
4200	$F_r$ [N]	124	129	141	159	5000	$F_r$ [N]	294	296	299	329	6000	$F_r$ [N]	704	710	712	740	3200	$F_r$ [N]	601	607	618	637
	$f_t$ [Hz]	93	95	99	105		$f_t$ [Hz]	143	144	144	152		$f_t$ [Hz]	222	222	223	227				$f_t$ [Hz]	205	206
2100	$F_r$ [N]	62	67	79	97	2500	$F_r$ [N]	147	149	152	183	3000	$F_r$ [N]	352	358	360	388	1600	$F_r$ [N]	301	306	318	336
	$f_t$ [Hz]	66	69	74	82		$f_t$ [Hz]	101	102	103	113		$f_t$ [Hz]	157	158	158	164				$f_t$ [Hz]	145	146

**R = 2**

**$C_p$**  Coppia input massima alla puleggia motrice  
Max input torque at driving pulley



**$F_{a,max}$**  In funzione della velocità della puleggia motrice  
Depending on the driving pulley rotational speed



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di Cin  
Radial force on driving pulley as a function of Cin

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 100 - PASSO / PITCH 5					
$F_a$ [N]		$V_{out}$ [mm/s]			
		12,5	50	87,5	125
21000	$F_r$ [N]	635	637	638	641
	$f_t$ [Hz]	256	256	257	257
18900	$F_r$ [N]	572	574	576	578
	$f_t$ [Hz]	243	243	244	244
16800	$F_r$ [N]	508	510	512	514
	$f_t$ [Hz]	229	229	230	230
14700	$F_r$ [N]	445	448	450	451
	$f_t$ [Hz]	214	214	216	216
12600	$F_r$ [N]	381	384	386	387
	$f_t$ [Hz]	198	198	200	200
10500	$F_r$ [N]	318	320	322	324
	$f_t$ [Hz]	181	181	182	183
8400	$F_r$ [N]	254	254	260	260
	$f_t$ [Hz]	162	162	164	164
6300	$F_r$ [N]	191	194	196	197
	$f_t$ [Hz]	140	140	142	142
4200	$F_r$ [N]	127	130	131	133
	$f_t$ [Hz]	114	114	117	117
2100	$F_r$ [N]	64	66	68	70
	$f_t$ [Hz]	81	81	85	85

IE 100 - PASSO / PITCH 10					
$F_a$ [N]		$V_{out}$ [mm/s]			
		25	100	175	250
25000	$F_r$ [N]	1512			
	$f_t$ [Hz]	395			
22500	$F_r$ [N]	1361	1362		
	$f_t$ [Hz]	375	375		
20000	$F_r$ [N]	1210	1211	1213	
	$f_t$ [Hz]	353	353	354	
17500	$F_r$ [N]	1059	1061	1063	1065
	$f_t$ [Hz]	330	330	331	331
15000	$F_r$ [N]	907	910	911	913
	$f_t$ [Hz]	306	306	307	307
12500	$F_r$ [N]	756	758	760	762
	$f_t$ [Hz]	279	279	280	280
10000	$F_r$ [N]	605	608	610	611
	$f_t$ [Hz]	250	250	251	251
7500	$F_r$ [N]	454	456	458	460
	$f_t$ [Hz]	216	216	218	218
5000	$F_r$ [N]	303	306	307	309
	$f_t$ [Hz]	177	177	178	178
2500	$F_r$ [N]	151	153	155	157
	$f_t$ [Hz]	125	125	127	127

IE 100 - PASSO / PITCH 20					
$F_a$ [N]		$V_{out}$ [mm/s]			
		50	200	350	500
30000	$F_r$ [N]				
	$f_t$ [Hz]				
27000	$F_r$ [N]				
	$f_t$ [Hz]				
24000	$F_r$ [N]				
	$f_t$ [Hz]				
21000	$F_r$ [N]				
	$f_t$ [Hz]				
18000	$F_r$ [N]				
	$f_t$ [Hz]				
15000	$F_r$ [N]				
	$f_t$ [Hz]				
12000	$F_r$ [N]	1452			
	$f_t$ [Hz]	387			
9000	$F_r$ [N]	1089	1090	1092	
	$f_t$ [Hz]	335	335	336	
6000	$F_r$ [N]	726	727	729	732
	$f_t$ [Hz]	274	274	274	275
3000	$F_r$ [N]	363	364	366	369
	$f_t$ [Hz]	193	194	194	195

IE 100 - PASSO / PITCH 32					
$F_a$ [N]		$V_{out}$ [mm/s]			
		80	320	560	800
16000	$F_r$ [N]				
	$f_t$ [Hz]				
14400	$F_r$ [N]				
	$f_t$ [Hz]				
12800	$F_r$ [N]				
	$f_t$ [Hz]				
11200	$F_r$ [N]				
	$f_t$ [Hz]				
9600	$F_r$ [N]				
	$f_t$ [Hz]				
8000	$F_r$ [N]		1549		
	$f_t$ [Hz]		400		
6400	$F_r$ [N]		1239	1240	
	$f_t$ [Hz]		357	358	
4800	$F_r$ [N]	929	930	932	935
	$f_t$ [Hz]	310	310	310	311
3200	$F_r$ [N]	619	620	622	626
	$f_t$ [Hz]	253	253	253	254
1600	$F_r$ [N]	310	311	313	316
	$f_t$ [Hz]	179	179	180	180

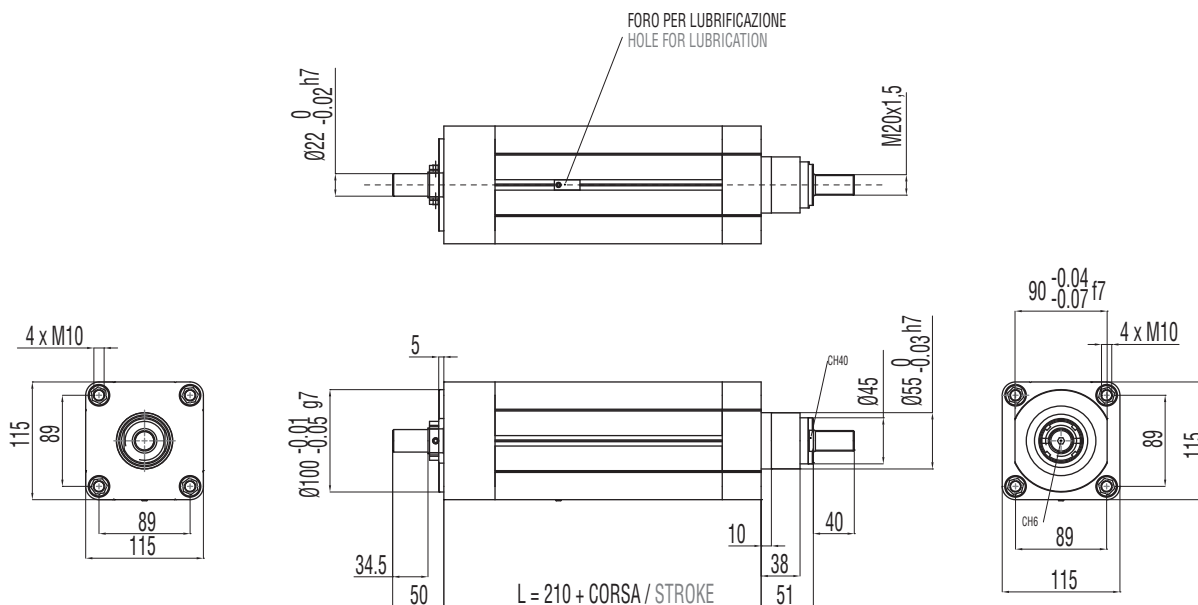
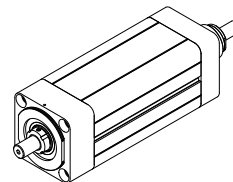
3.7.6 Caratteristiche dimensionali

3.7.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

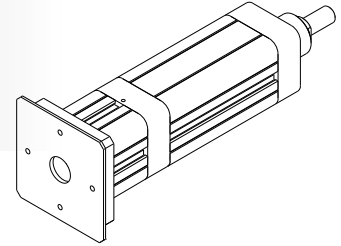
**B00**  
MODULO BASE  
BASIC MODULE



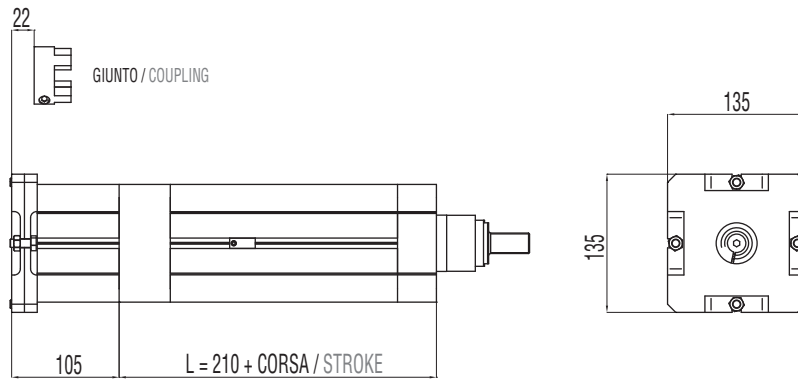
**B00 + D00**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

**BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS**



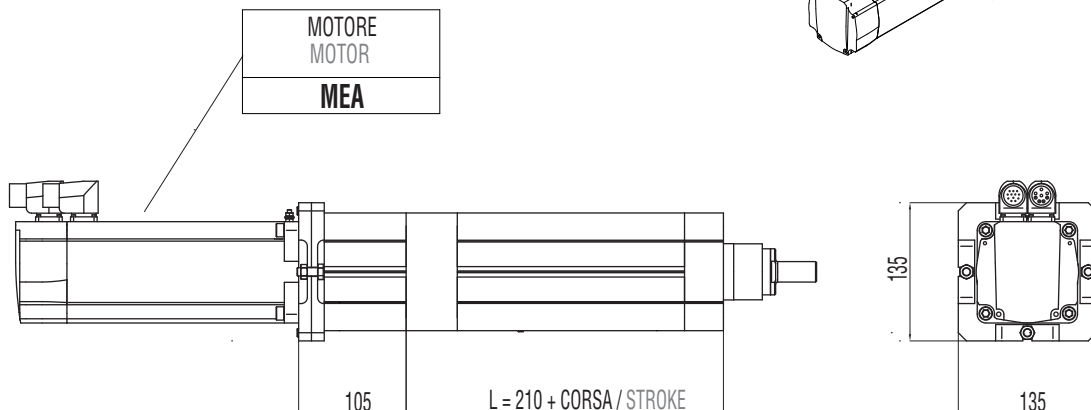
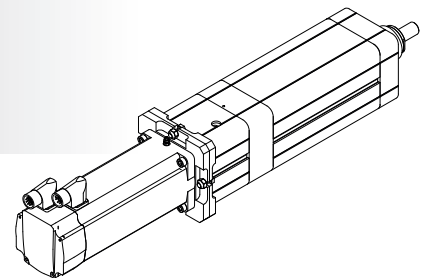
Cx C	B	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
		TAGLIA GIUNTO COUPLING SIZE	A	B
		[mm]	[mm]	[mm]
<b>150</b>		30 max	40 min / 52 max	130 max



**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**

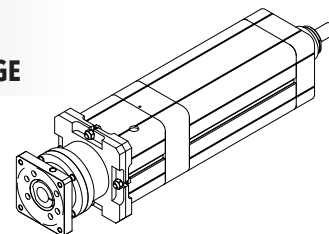




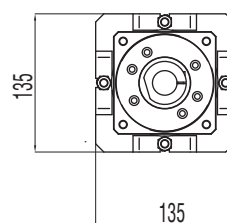
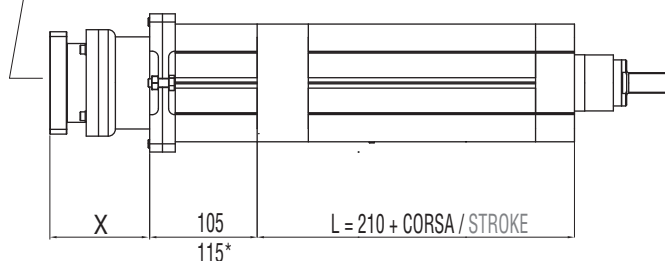
**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



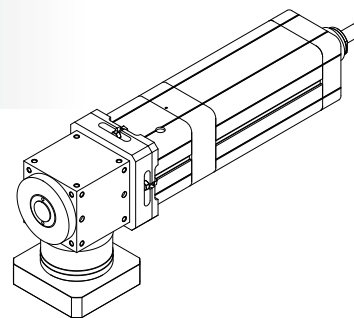
RIDUTTORE PLANETARY GEARBOX
<b>GCA</b>
<b>GDA</b>
<b>GCB</b>
<b>GEB*</b>



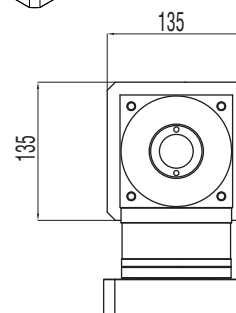
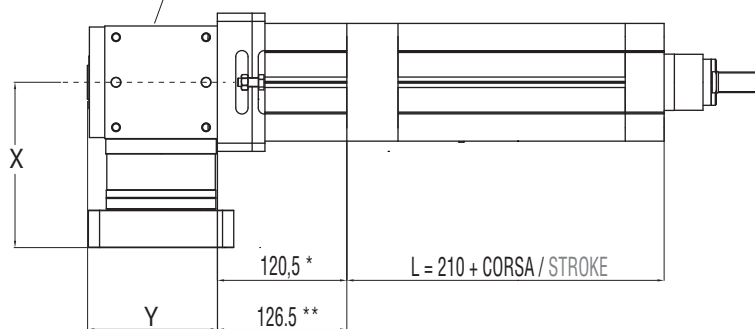
**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**



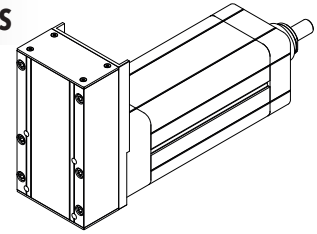
RINVIO ANGOLARE ANGLE BEVEL GEARBOX
<b>ACA*</b>
<b>ADA**</b>



**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS



	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A [mm]	B [mm]	C [mm]
R=1:1	24 max	42 min / 58 max	110 max
R=1:2	19 max	36 min / 50 max	110 max

RAPPORTO / RATIO	1:1	1:2
PASSO / PITCH	8 mm	5 mm
Z = DENTI / TEETH	30	24
DIAMETRO PRIMITIVO PULEGGIA MOTRICE DRIVING PULLEY PITCH DIAMETER	76,39 mm	38,2 mm

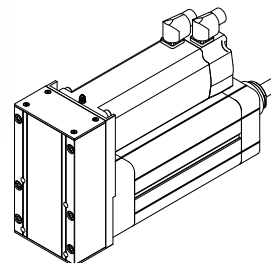
Technical drawing details:

- Front view: Total height 230, base height 57.5, top section height 125 (max. 117), and a lower section height of 106.5.
- Side view: Base width 80, total length L = 210 + CORSA / STROKE, and a detail dimension of 6.33.
- Detail view: Shows a 4 x M10 mounting pattern with dimensions 13, 18, and 89.

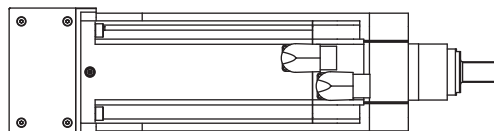
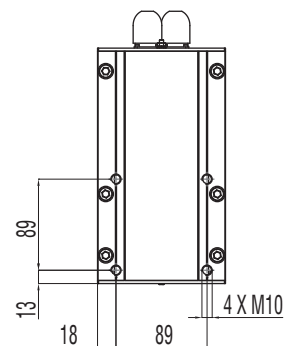
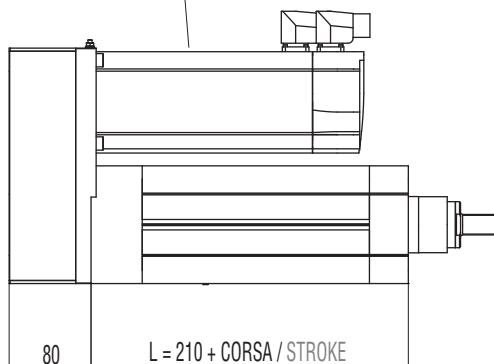
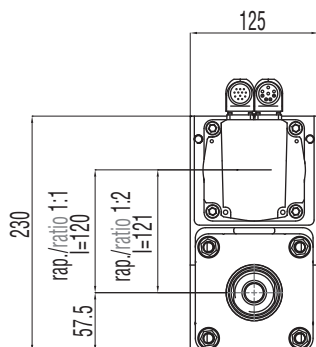
**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS



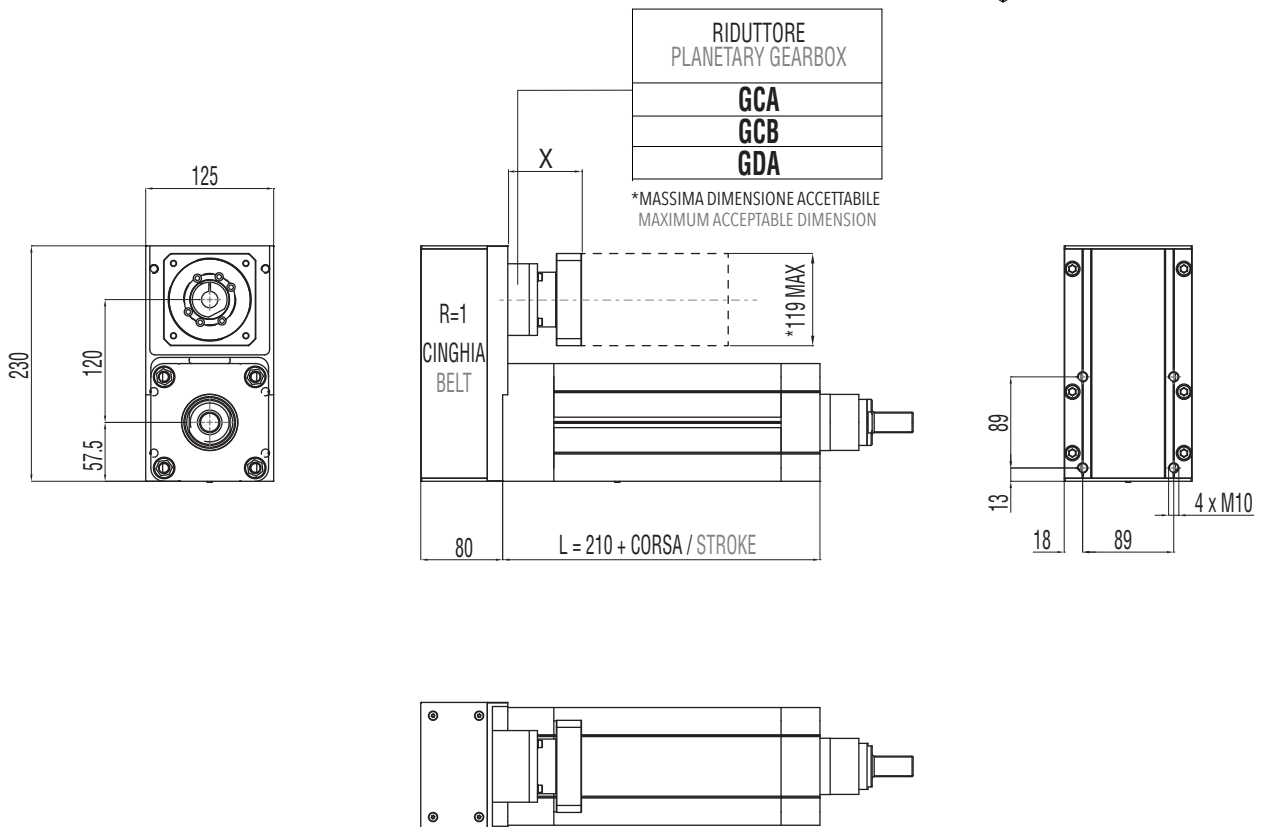
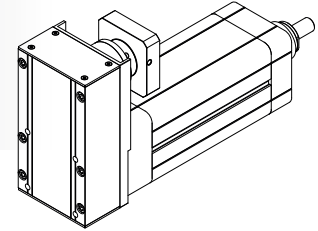
MOTORE MOTOR
<b>MEA</b>
<b>MCA</b>
<b>MCB</b>
<b>MCC</b>
<b>MCD</b>
<b>MDA</b>
<b>MDB</b>
<b>MDC</b>



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.7.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.7.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

## 3.8

## IE 100 HL

## 3.8.1 Caratteristiche tecniche

## 3.8.1 Technical features

ISOMOVE IE 100 HL SENZA TIRANTI ISOMOVE IE 100 HL W/O TENSION RODS			5	10	20	40
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	5	10	20	40
<b>D</b>	DIAMETRO VITE SCREW DIAMETER	[mm]	40	40	40	40
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	23000*	30000*	30000*	30000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET	[Nm]	20,3	53	106	212
	"CASO 1" / "CASE 1": B00 + D00/D01	[Nm]	20,3	53	106	212
	"CASO 2" / "CASE 2": B00 + D02/A01	[Nm]	$\left[ \frac{22,5}{R} \right] + C_s$	$\left[ \frac{58,8}{R} \right] + C_s$	$\left[ \frac{117,7}{R} \right] + C_s$	$\left[ \frac{235,5}{R} \right] + C_s$
			R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio			
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01	[Nm]	$\frac{22,5}{R}$	$\frac{58,8}{R}$	$\frac{117,7}{R}$	$\frac{235,5}{R}$
			R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)			
	"CASO 4" / "CASE 4": B00 + R02	[Nm]	$\frac{25}{R}$	$\frac{65,3}{R}$	$\frac{130,7}{R}$	$\frac{261,6}{R}$
			R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio			
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD	[N]	30000	30000	30000	30000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS	[mm/sec]	208/2496	416/2496	833/2496	1660/2490
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED	[rpm]				
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	1	2	3	6
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE	[mm]	1100**	1100**	1100**	1100**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE	[Kg]	9,3 / 2,9	9,3 / 2,9	9,3 / 2,9	9,3 / 2,9
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY	mm	0,06	0,06	0,06	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY		DISPONIBILE / AVAILABLE			
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME	Km	VEDI TABELLA / SEE TABLE pg. 114			

\* Per le versioni R00/R01 controllare con i grafici delle pagine 116/117. / For R00/R01 types please check graph at pages 116/117.



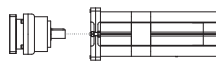
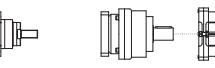
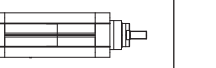






\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dept.



<b>ISOMOVE IE 100 HL SENZA TIRANTI</b> <b>ISOMOVE IE 100 HL W/O TENSION RODS</b>		<b>5</b>	<b>10</b>	<b>20</b>	<b>40</b>
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01			
<b>F<sub>a,p</sub></b>	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX [N]	AE070/23000 AE090/23000 AE120/23000 PGII-080/23000 PGII-120/23000	AE070/21750*** AE090/30000 AE120/30000 PGII-080/28000*** PGII-120/30000	AE070/8800*** AE090/21900*** AE120/30000 PGII-080/14300*** PGII-120/30000	AE070/4400*** AE090/11000*** AE120/23000*** PGII-080/7150*** PGII-120/16500
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX [N]	ATB090/23000 ATB110/23000 ATB140/23000	ATB090/18650*** ATB110/30000 ATB140/30000	ATB090/9350*** ATB110/18630*** ATB140/20000***	ATB090/4390*** ATB110/18630*** ATB140/21540***
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)			

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<b>TRASMISSIONE COASSIALE CON RIDUTTORE</b>  <b>IN-LINE PLANETARY GEARBOX STAGE</b>	 <b>AE070</b>	 <b>AE090</b>	 <b>AE120</b>	 <b>PGII-080</b>	 <b>PGII-120</b>	
	MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE	
<b>TRASMISSIONE PARALLELA CON RIDUTTORE</b>  <b>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</b>	 <b>AE070</b>	 <b>AE090</b>	 <b>PGII-080</b>			
	MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE	
<b>TRASMISSIONE ANGOLARE CON RINVIO</b>  <b>ANGLE BEVEL GEARBOX STAGE</b>	 <b>ATB090</b>	 <b>ATB110</b>	 <b>ATB140</b>			
	MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE	

ISOMOVE IE 100 HL CON TIRANTI ISOMOVE IE 100 HL WITH TENSION RODS			5	10	20	40
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	5	10	20	40
<b>D</b>	DIAMETRO VITE SCREW DIAMETER	[mm]	40	40	40	40
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	23000*	41000*	40000*	40000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET	[Nm]	20,3	72,5	142	283
	"CASO 1" / "CASE 1": B00 + D00/D01	[Nm]	20,3	72,5	142	283
	"CASO 2" / "CASE 2": B00 + D02/A01	[Nm]	$\left[ \frac{22,5}{R} \right] + C_s$	$\left[ \frac{80,5}{R} \right] + C_s$	$\left[ \frac{117,7}{R} \right] + C_s$	$\left[ \frac{235,5}{R} \right] + C_s$
			R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio			
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01	[Nm]	$\frac{22,5}{R}$	$\frac{80,5}{R}$	$\frac{117,7}{R}$	$\frac{235,5}{R}$
			R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)			
	"CASO 4" / "CASE 4": B00 + R02	[Nm]	$\frac{25}{R}$	$\frac{89}{R}$	$\frac{130,7}{R}$	$\frac{261,6}{R}$
			R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio			
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD	[N]	41000	41000	40000	40000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS	[mm/sec]	208/2496	416/2496	833/2496	1660/2490
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED	[rpm]				
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	1	2	3	6
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE	[mm]	1100**	1100**	1100**	1100**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE	[Kg]	9,6 / 4,2	9,6 / 4,2	9,6 / 4,2	9,6 / 4,2
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY	mm	0,06	0,06	0,06	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY		DISPONIBILE / AVAILABLE			
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME	Km	VEDI TABELLA / SEE TABLE pg. 114			



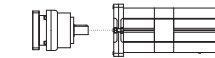




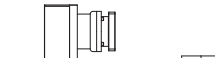


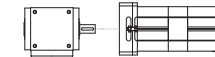
\* Per le versioni R00/R01 controllare con i grafici delle pagine 116/117. / For R00/R01 types please check graph at pages 116/117.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.

<b>ISOMOVE IE 100 HL CON TIRANTI</b> <b>ISOMOVE IE 100 HL WITH TENSION RODS</b>		<b>5</b>	<b>10</b>	<b>20</b>	<b>40</b>
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01			
<b>F<sub>a,p</sub></b>	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX [N]	AE070/23000 AE090/23000 AE120/23000 PGII-080/23000 PGII-120/23000	AE070/21750*** AE090/30000 AE120/30000 PGII-080/28000*** PGII-120/30000	AE070/8800*** AE090/21900*** AE120/30000 PGII-080/14300*** PGII-120/30000	AE070/4400*** AE090/11000*** AE120/23000*** PGII-080/7150*** PGII-120/16500
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX [N]	ATB090/23000 ATB110/23000 ATB140/23000	ATB090/18650*** ATB110/30000 ATB140/30000	ATB090/9350*** ATB110/18630*** ATB140/20000***	ATB090/4390*** ATB110/18630*** ATB140/21540***
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 134)			

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

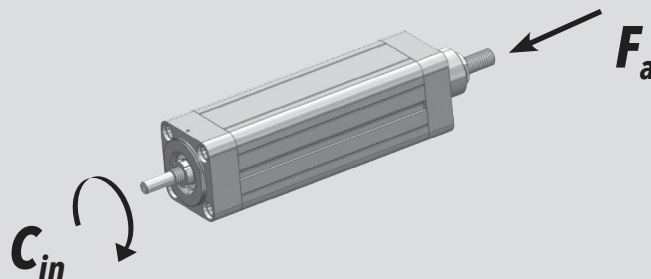
**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<b>TRASMISSIONE COASSIALE CON RIDUTTORE</b>  <b>IN-LINE PLANETARY GEARBOX STAGE</b>	 <b>AE070</b>	 <b>AE090</b>	 <b>AE120</b>	 <b>PGII-080</b>	 <b>PGII-120</b>
	MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE
<b>TRASMISSIONE PARALLELA CON RIDUTTORE</b>  <b>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</b>	 <b>AE070</b>	 <b>AE090</b>	 <b>PGII-080</b>		
	MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE
<b>TRASMISSIONE ANGOLARE CON RINVIO</b>  <b>ANGLE BEVEL GEARBOX STAGE</b>	 <b>ATB090</b>	 <b>ATB110</b>	 <b>ATB140</b>		
	MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE		MODULO BASE BASIC MODULE

## 3.8.2 Calcolo durata

## 3.8.2 Lifetime calculation

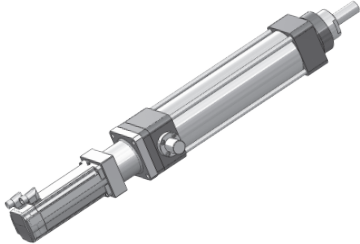
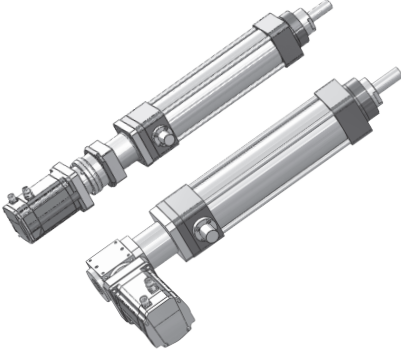
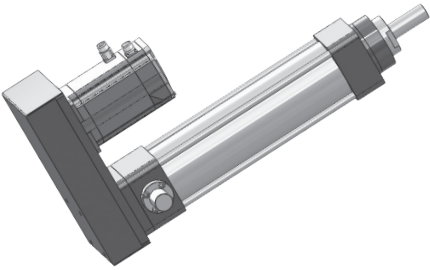
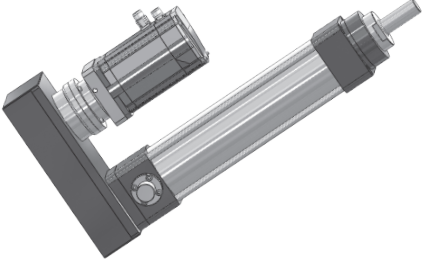
<b>IE 100 HL</b> <b>P = 5 mm</b>	$L_{10,Km} = \left[ \frac{25900}{F_{eq}} \right]^3 \cdot 5$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 100 HL</b> <b>P = 10 mm</b>	$L_{10,Km} = \left[ \frac{59200}{F_{eq}} \right]^3 \cdot 10$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 100 HL</b> <b>P = 20 mm</b>	$L_{10,Km} = \left[ \frac{59200}{F_{eq}} \right]^3 \cdot 20$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 100 HL</b> <b>P = 40 mm</b>	$L_{10,Km} = \left[ \frac{59200}{F_{eq}} \right]^3 \cdot 40$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

3.8.3 Calcolo coppia in ingresso  
al modulo base3.8.3 Torque calculation at basic  
module input shaft

<b>IE 100 HL</b> <b>P = 5 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 5}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 100 HL</b> <b>P = 10 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 100 HL</b> <b>P = 20 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 20}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 100 HL</b> <b>P = 40 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 40}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$

3.8.4 Calcolo coppia motore

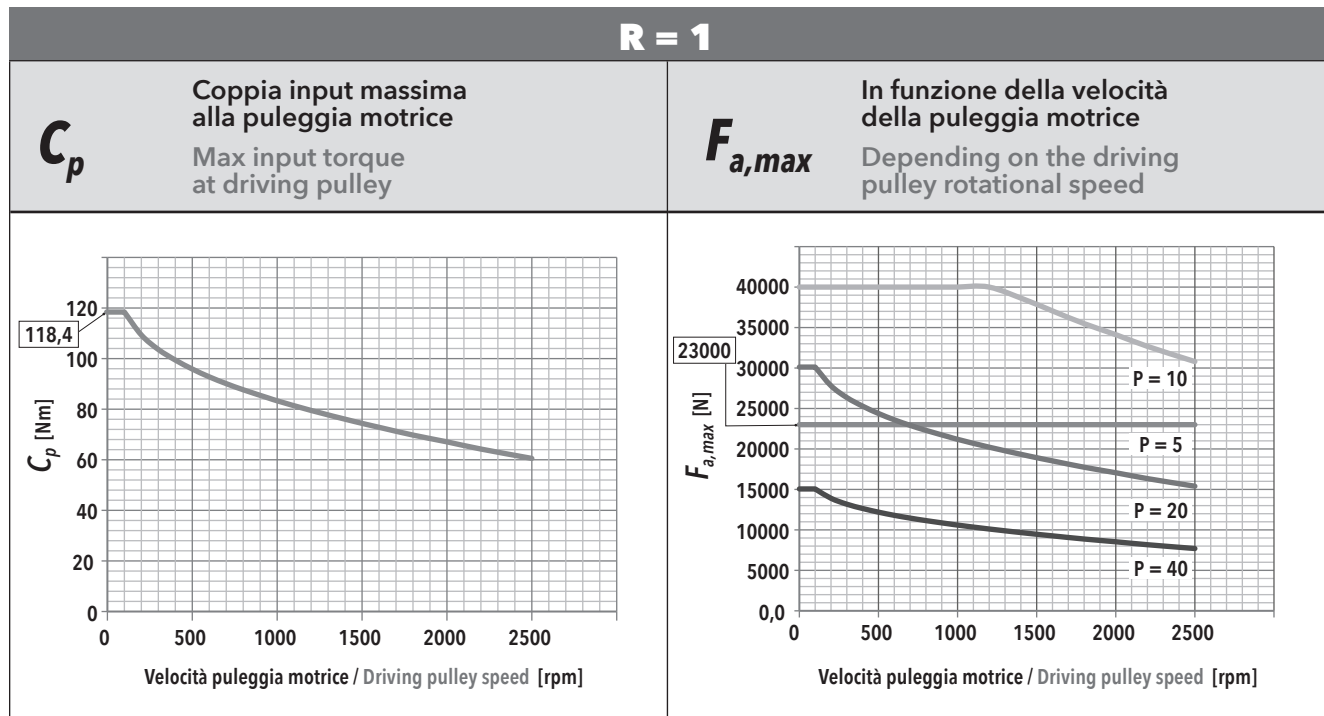
3.8.4 Motor torque calculation

<p>CASO / CASE <b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE <b>2</b></p>	<p><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><i>R</i> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><i>R</i> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>4</b></p>	<p><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><i>R</i> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <i>η</i> = rendimento meccanico / mechanical efficiency = 0,81</p>



3.8.5 Potenza in ingresso alla trasmissione a cinghia (versione R)

3.8.5 Mechanical input power at belt gear stage (R type)



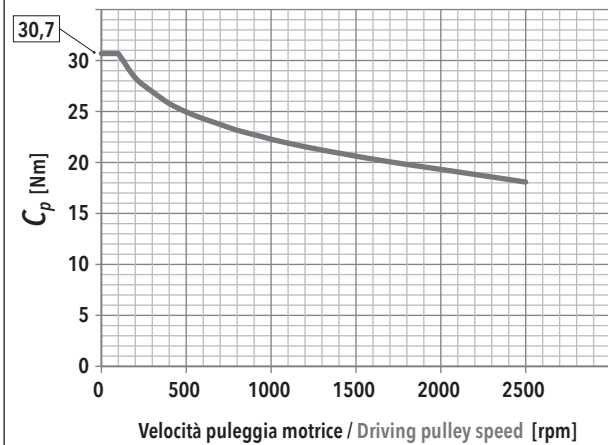
**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

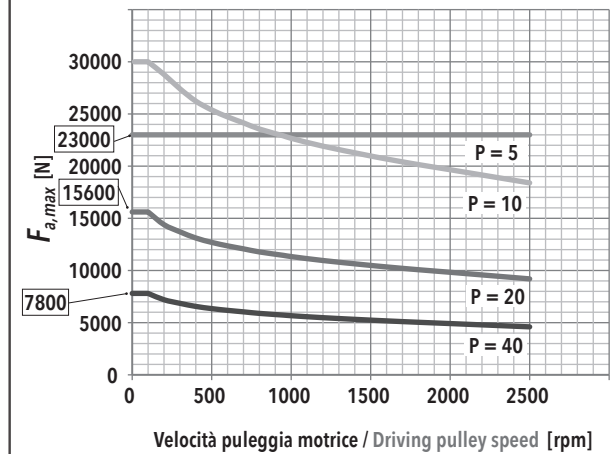
IE 100 HL - PASSO / PITCH 5						IE 100 HL - PASSO / PITCH 10						IE 100 HL - PASSO / PITCH 20						IE 100 HL - PASSO / PITCH 40					
$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]				$F_a$ [N]		$V_{out}$ [mm/s]			
		20,8	83,2	145,6	208			41,6	166,4	291,2	416			83	333	583	833			166	664	1162	1660
23000	$F_r$ [N]	675	679	687	700	41000	$F_r$ [N]	2406	2410			40000	$F_r$ [N]					40000	$F_r$ [N]				
	$f_t$ [Hz]	217	218	219	221		$f_t$ [Hz]	410	410				$f_t$ [Hz]							$f_t$ [Hz]			
20700	$F_r$ [N]	608	611	619	632	36900	$F_r$ [N]	2165	2169	2177		36000	$F_r$ [N]					36000	$F_r$ [N]				
	$f_t$ [Hz]	206	206	208	210		$f_t$ [Hz]	389	389	390			$f_t$ [Hz]							$f_t$ [Hz]			
18400	$F_r$ [N]	540	544	552	565	32800	$F_r$ [N]	1925	1929	1937	1949	32000	$F_r$ [N]					32000	$F_r$ [N]				
	$f_t$ [Hz]	194	195	196	198		$f_t$ [Hz]	366	367	367	369		$f_t$ [Hz]							$f_t$ [Hz]			
16100	$F_r$ [N]	473	476	485	497	28700	$F_r$ [N]	1684	1688	1696	1709	28000	$F_r$ [N]					28000	$F_r$ [N]				
	$f_t$ [Hz]	182	182	184	186		$f_t$ [Hz]	343	343	344	345		$f_t$ [Hz]							$f_t$ [Hz]			
13800	$F_r$ [N]	405	409	417	430	24600	$F_r$ [N]	1444	1447	1456	1468	24000	$F_r$ [N]	2817				24000	$F_r$ [N]				
	$f_t$ [Hz]	168	169	171	173		$f_t$ [Hz]	317	318	319	320		$f_t$ [Hz]	443						$f_t$ [Hz]			
11500	$F_r$ [N]	338	341	350	362	20500	$F_r$ [N]	1203	1207	1215	1228	20000	$F_r$ [N]	2347	2351			20000	$F_r$ [N]				
	$f_t$ [Hz]	153	154	156	159		$f_t$ [Hz]	290	290	291	293		$f_t$ [Hz]	405	405				$f_t$ [Hz]				
9200	$F_r$ [N]	270	274	282	295	16400	$F_r$ [N]	963	966	974	987	16000	$F_r$ [N]	1878	1882	1890		16000	$F_r$ [N]				
	$f_t$ [Hz]	137	138	140	143		$f_t$ [Hz]	259	260	261	262		$f_t$ [Hz]	362	362	363			$f_t$ [Hz]				
6900	$F_r$ [N]	203	206	215	227	12300	$F_r$ [N]	722	726	734	747	12000	$F_r$ [N]	1408	1412	1420	1433	12000	$F_r$ [N]	2817			
	$f_t$ [Hz]	119	120	122	126		$f_t$ [Hz]	224	225	226	228		$f_t$ [Hz]	313	314	315	316		$f_t$ [Hz]	443			
4600	$F_r$ [N]	135	139	147	160	8200	$F_r$ [N]	481	485	493	506	8000	$F_r$ [N]	939	943	951	964	8000	$F_r$ [N]	1878	1882	1890	
	$f_t$ [Hz]	97	98	101	106		$f_t$ [Hz]	183	184	185	188		$f_t$ [Hz]	256	256	257	259		$f_t$ [Hz]	362	362	363	
2300	$F_r$ [N]	68	71	80	92	4100	$F_r$ [N]	241	245	253	265	4000	$F_r$ [N]	470	473	482	494	4000	$F_r$ [N]	939	943	951	964
	$f_t$ [Hz]	69	71	75	80		$f_t$ [Hz]	130	131	133	136		$f_t$ [Hz]	181	182	183	186		$f_t$ [Hz]	256	256	257	259

**R = 2**

**$C_p$**  Coppia input massima alla puleggia motrice  
Max input torque at driving pulley



**$F_{a,max}$**  In funzione della velocità della puleggia motrice  
Depending on the driving pulley rotational speed



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di Cin  
Radial force on driving pulley as a function of Cin

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 100 HL - PASSO / PITCH 5					
$F_a$ [N]		$V_{out}$ [mm/s]			
		10,4	41,6	72,8	104
23000	$F_r$ [N]	696	696	700	700
	$f_t$ [Hz]	268	268	269	269
20700	$F_r$ [N]	626	626	630	630
	$f_t$ [Hz]	254	254	255	255
18400	$F_r$ [N]	557	557	561	561
	$f_t$ [Hz]	240	240	240	240
16100	$F_r$ [N]	487	487	491	491
	$f_t$ [Hz]	224	224	225	225
13800	$F_r$ [N]	417	417	422	422
	$f_t$ [Hz]	207	207	208	208
11500	$F_r$ [N]	348	348	352	352
	$f_t$ [Hz]	189	189	191	191
9200	$F_r$ [N]	278	278	282	282
	$f_t$ [Hz]	169	169	171	171
6900	$F_r$ [N]	209	209	213	213
	$f_t$ [Hz]	147	147	148	148
4600	$F_r$ [N]	139	139	143	143
	$f_t$ [Hz]	120	120	122	122
2300	$F_r$ [N]	70	70	74	74
	$f_t$ [Hz]	85	85	87	87

IE 100 HL - PASSO / PITCH 10					
$F_a$ [N]		$V_{out}$ [mm/s]			
		20,8	83,2	145,6	208
41000	$F_r$ [N]				
	$f_t$ [Hz]				
36900	$F_r$ [N]				
	$f_t$ [Hz]				
32800	$F_r$ [N]				
	$f_t$ [Hz]				
28700	$F_r$ [N]				
	$f_t$ [Hz]				
24600	$F_r$ [N]	1488			
	$f_t$ [Hz]	392			
20500	$F_r$ [N]	1240	1241	1242	
	$f_t$ [Hz]	358	358	358	
16400	$F_r$ [N]	992	993	994	996
	$f_t$ [Hz]	320	320	320	320
12300	$F_r$ [N]	744	744	748	748
	$f_t$ [Hz]	277	277	278	278
8200	$F_r$ [N]	496	496	500	500
	$f_t$ [Hz]	226	227	227	227
4100	$F_r$ [N]	248	248	252	252
	$f_t$ [Hz]	160	160	161	161

IE 100 HL - PASSO / PITCH 20					
$F_a$ [N]		$V_{out}$ [mm/s]			
		41	166	291	416
40000	$F_r$ [N]				
	$f_t$ [Hz]				
36000	$F_r$ [N]				
	$f_t$ [Hz]				
32000	$F_r$ [N]				
	$f_t$ [Hz]				
28000	$F_r$ [N]				
	$f_t$ [Hz]				
24000	$F_r$ [N]				
	$f_t$ [Hz]				
20000	$F_r$ [N]				
	$f_t$ [Hz]				
16000	$F_r$ [N]				
	$f_t$ [Hz]				
12000	$F_r$ [N]	1452			
	$f_t$ [Hz]	387			
8000	$F_r$ [N]	968	969	970	
	$f_t$ [Hz]	316	316	316	
4000	$F_r$ [N]	484	485	486	488
	$f_t$ [Hz]	223	224	224	224

IE 100 HL - PASSO / PITCH 40					
$F_a$ [N]		$V_{out}$ [mm/s]			
		83	332	581	830
40000	$F_r$ [N]				
	$f_t$ [Hz]				
36000	$F_r$ [N]				
	$f_t$ [Hz]				
32000	$F_r$ [N]				
	$f_t$ [Hz]				
28000	$F_r$ [N]				
	$f_t$ [Hz]				
24000	$F_r$ [N]				
	$f_t$ [Hz]				
20000	$F_r$ [N]				
	$f_t$ [Hz]				
16000	$F_r$ [N]				
	$f_t$ [Hz]				
12000	$F_r$ [N]				
	$f_t$ [Hz]				
8000	$F_r$ [N]				
	$f_t$ [Hz]				
4000	$F_r$ [N]	968	969	970	972
	$f_t$ [Hz]	316	316	316	317

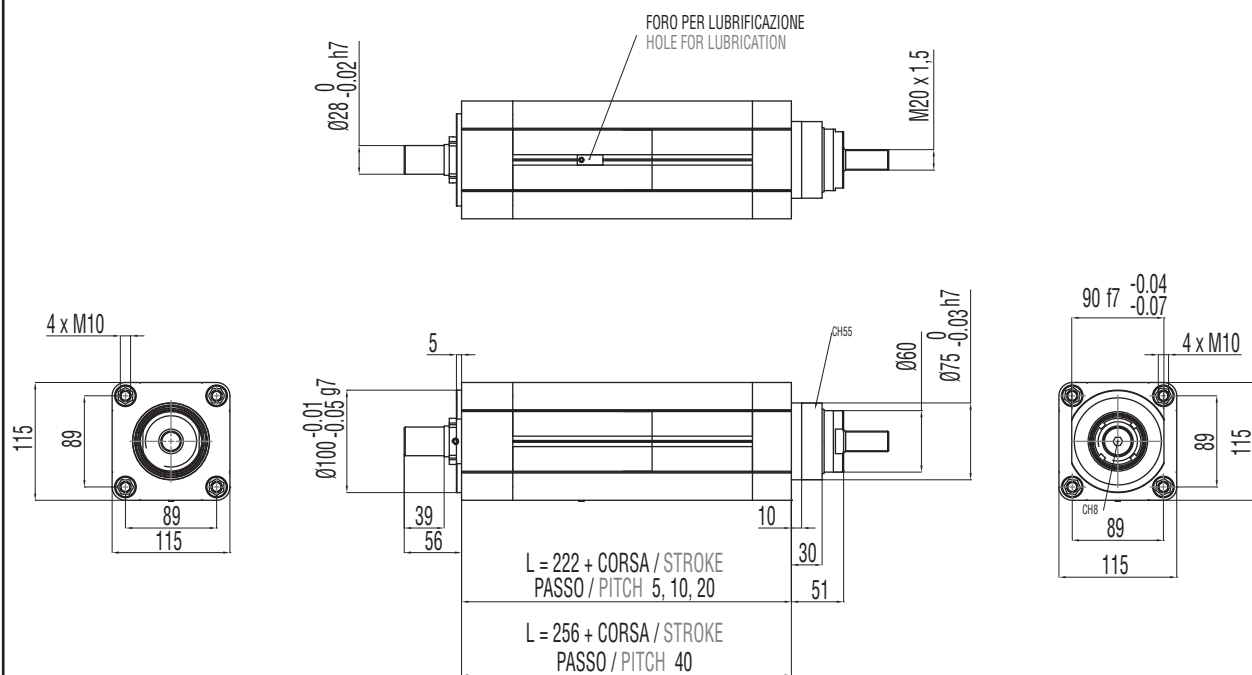
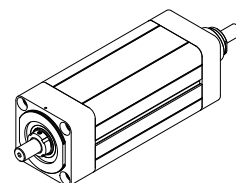
3.8.6 Caratteristiche dimensionali

3.8.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvii al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

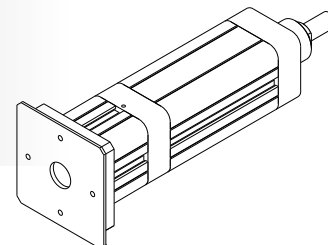
**B00**  
MODULO BASE  
BASIC MODULE



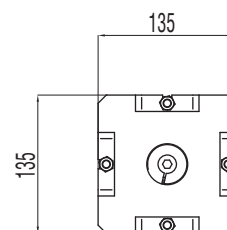
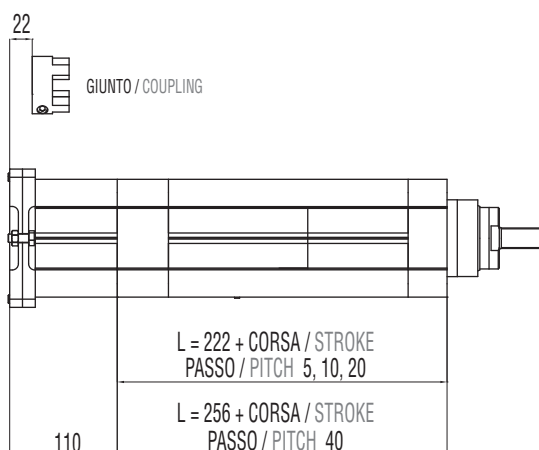
**B00 + D00**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS



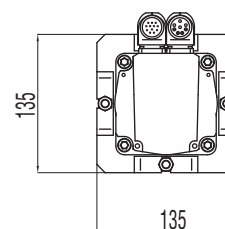
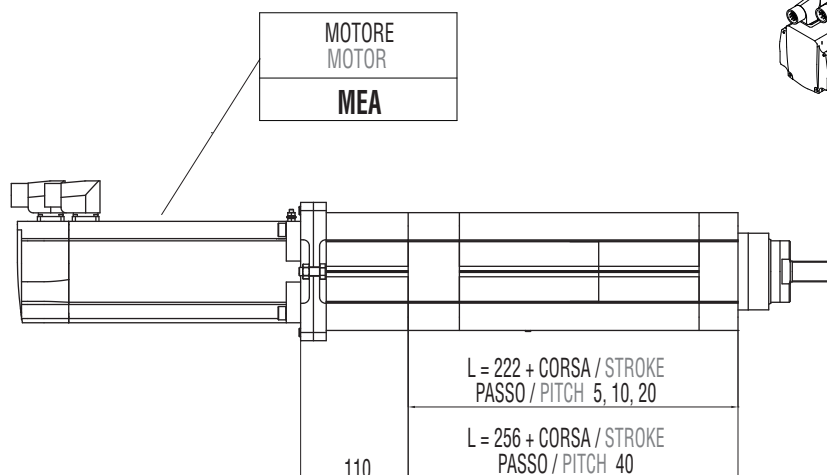
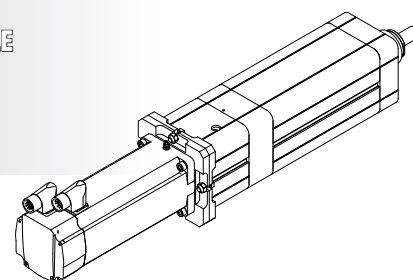
	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS			
	TAGLIA GIUNTO COUPLING SIZE	A [mm]	B [mm]	C [mm]
	150	30 max	40 min / 52 max	130 max



**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

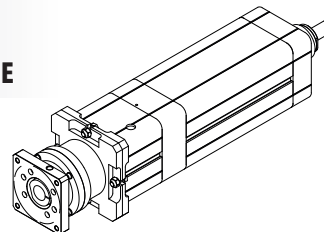
BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS



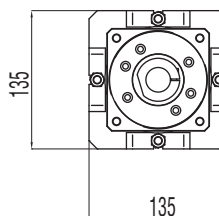
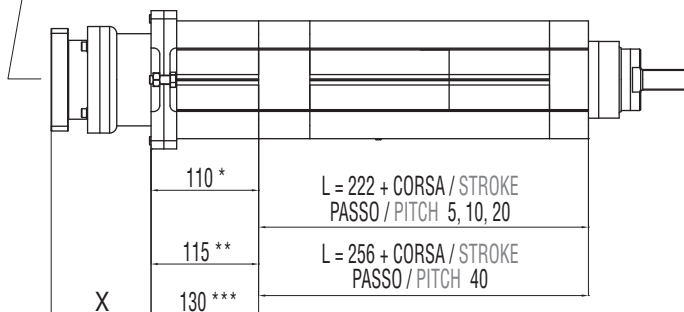
**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



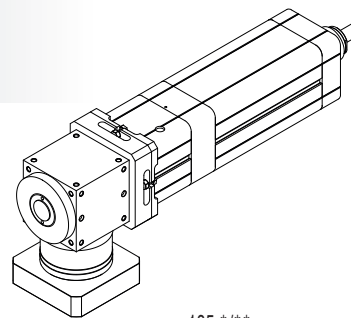
RIDUTTORE / PLANETARY GEARBOX
<b>GCA*</b>
<b>GDA**</b>
<b>GEA***</b>
<b>GCB*</b>
<b>GEB**</b>



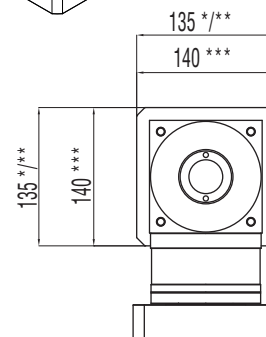
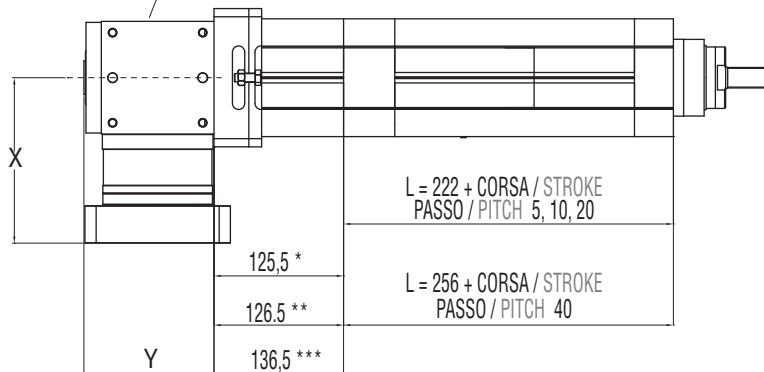
**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**



RINVIO ANGOLARE ANGLE BEVEL GEARBOX
<b>ACA*</b>
<b>ADA**</b>
<b>AEA***</b>

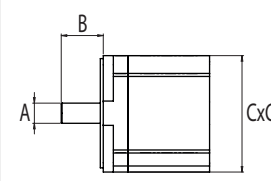




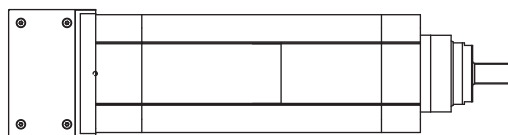
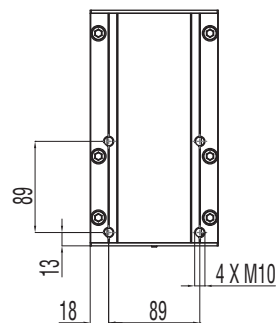
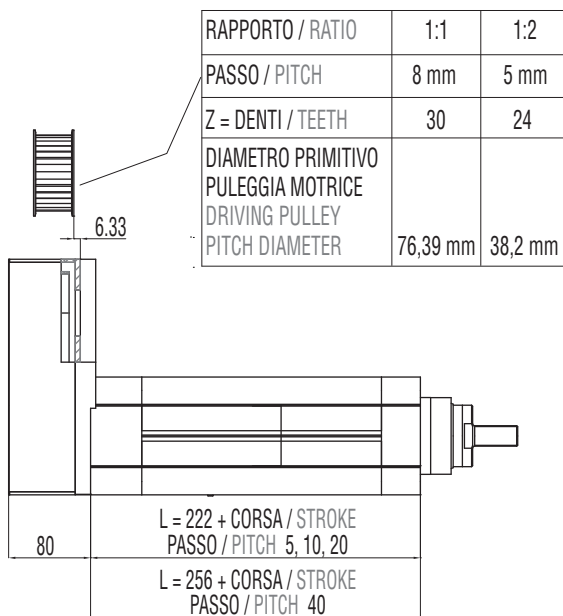
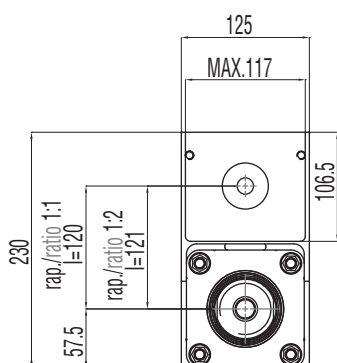
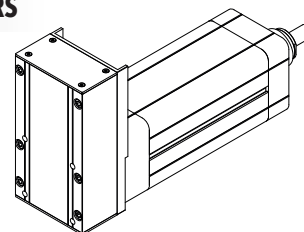
**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS



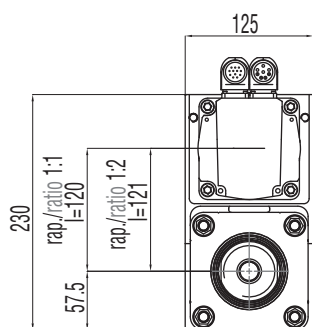
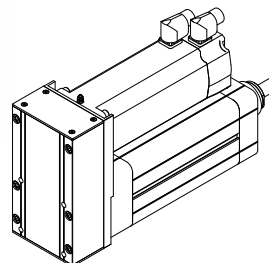
DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS			
	A	B	C
	[mm]	[mm]	[mm]
<b>R=1:1</b>	24 max	42 min / 58 max	110 max
<b>R=1:2</b>	19 max	36 min / 50 max	110 max



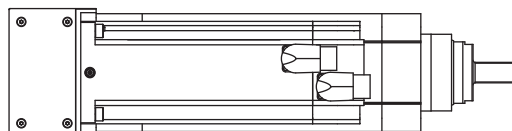
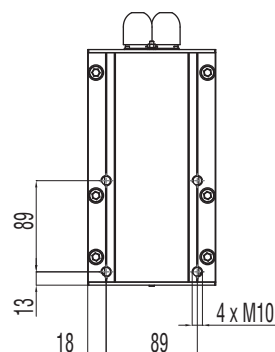
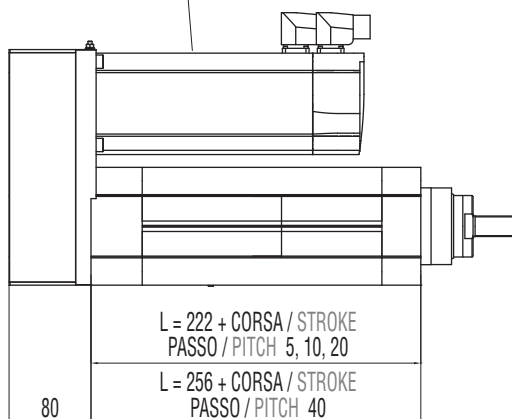
**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS



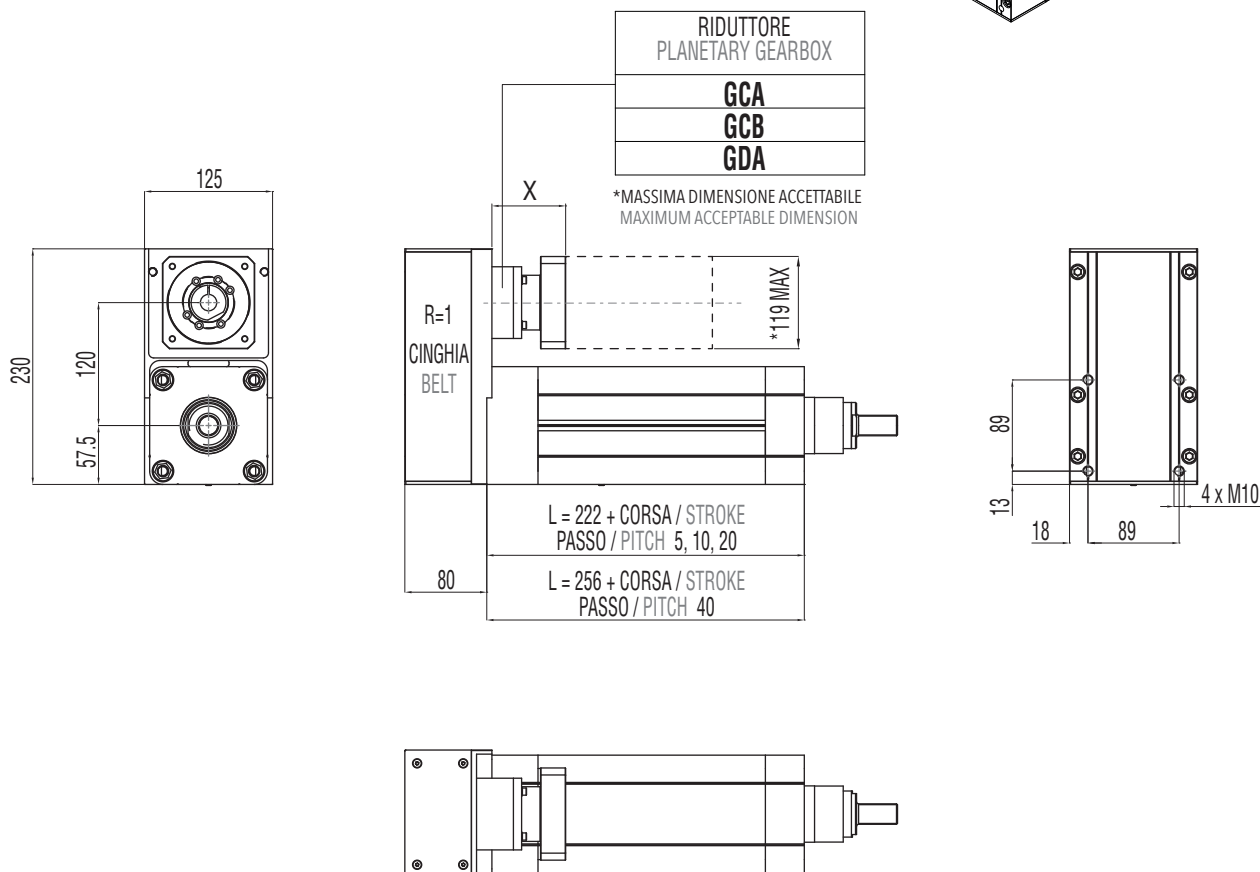
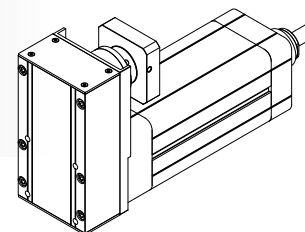
MOTORE MOTOR
<b>MEA</b>
<b>MCA</b>
<b>MCB</b>
<b>MCC</b>
<b>MCD</b>
<b>MDA</b>
<b>MDB</b>
<b>MDC</b>



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.8.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.8.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

## 3.9

## IE 100 XL

## 3.9.1 Caratteristiche tecniche

## 3.9.1 Technical features

ISOMOVE IE 100 XL CON TIRANTI ISOMOVE IE 100 XL WITH TENSION RODS			10
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	10
<b>D</b>	DIAMETRO VITE SCREW DIAMETER	[mm]	50
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	52000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET	[Nm]	92
	"CASO 1" / "CASE 1": B00 + D00/D01	[Nm]	92
	"CASO 2" / "CASE 2": B00 + D02/A01	[Nm]	$\left[ \frac{102,2}{R} \right] + C_s$ R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B00 + R00/R01	[Nm]	$\frac{102,2}{R}$ R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1 oppure R=2) R = belt gearbox reduction ratio (available R=1 or R=2)
	"CASO 4" / "CASE 4": B00 + R02	[Nm]	$\frac{113,5}{R}$ R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD	[N]	52000*
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS	[mm/sec]	333/1998
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED	[rpm]	
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION	[m/sec <sup>2</sup> ]	2
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE	[mm]	1100**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE	[Kg]	11,6 / 4,8
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY	mm	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY		DISPONIBILE / AVAILABLE
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME	Km	VEDI TABELLA / SEE TABLE pg. 126












\* Per le versioni R00/R01 controllare con i grafici delle pagine 128/129. / For R00/R01 types please check graph at pages 128/129.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.

<b>ISOMOVE IE 100 XL CON TIRANTI</b> <b>ISOMOVE IE 100 XL WITH TENSION RODS</b>		<b>10</b>
VERSIONI DISPONIBILI AVAILABLE TYPES		D00 / D01 / D02 / R00 / R01 / R02 / A01
<b>F<sub>a,p</sub></b>	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX [N]	AE070/17600*** AE090/43960*** AE120/52000 PGII-080/28575*** PGII-120/52000
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX [N]	ATB090/17600*** ATB0110/37400*** ATB0140/52000
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		VEDI PARAGRAFO / SEE PARAGRAPH 3.10 (pg. 136)

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<b>TRASMISSIONE COASSIALE CON RIDUTTORE</b>  <b>IN-LINE PLANETARY GEARBOX STAGE</b>	 <b>AE070</b> MODULO BASE BASIC MODULE	 <b>AE090</b> MODULO BASE BASIC MODULE	 <b>AE120</b> MODULO BASE BASIC MODULE
	 <b>PGII-080</b> MODULO BASE BASIC MODULE	 <b>PGII-120</b> MODULO BASE BASIC MODULE	
<b>TRASMISSIONE PARALLELA CON RIDUTTORE</b>  <b>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</b>	 <b>AE070</b> MODULO BASE BASIC MODULE	 <b>AE090</b> MODULO BASE BASIC MODULE	 <b>PGII-080</b> MODULO BASE BASIC MODULE
<b>TRASMISSIONE ANGOLARE CON RINVIO</b>  <b>ANGLE BEVEL GEARBOX STAGE</b>	 <b>ATB090</b> MODULO BASE BASIC MODULE	 <b>ATB110</b> MODULO BASE BASIC MODULE	 <b>ATB140</b> MODULO BASE BASIC MODULE

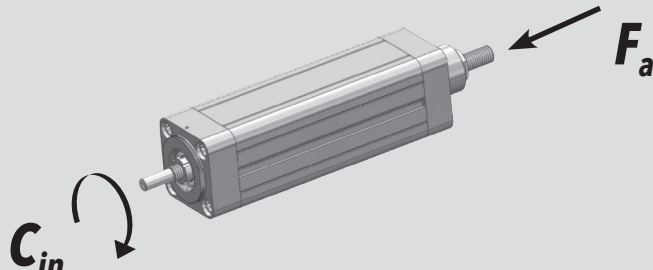


## 3.9.2 Calcolo durata

## 3.9.2 Lifetime calculation

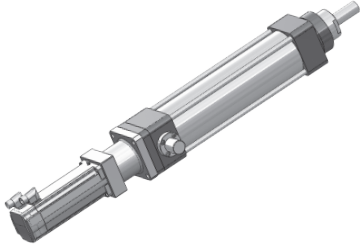
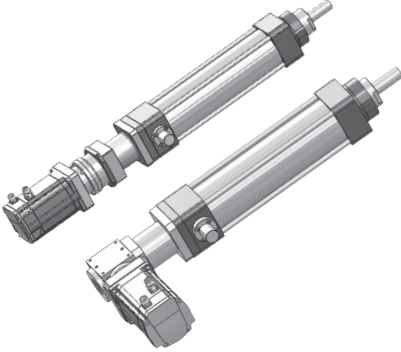
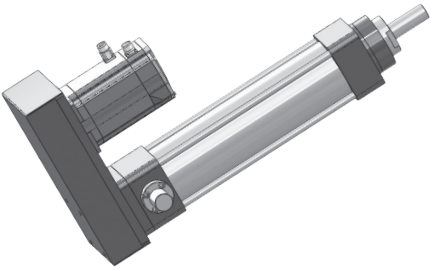
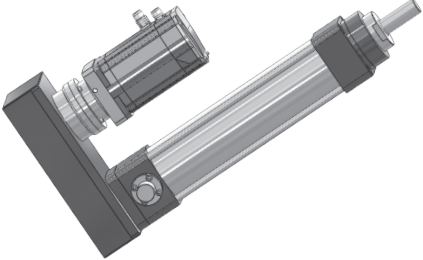
<p><b>IE 100 XL</b> <b>P = 10 mm</b></p>	$L_{10,Km} = \left[ \frac{79300}{F_{eq}} \right]^3 \cdot 10$ <p style="text-align: right;"><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>
--	--

3.9.3 Calcolo coppia in ingresso  
al modulo base3.9.3 Torque calculation at basic  
module input shaft

 <p>The diagram shows a perspective view of a motor module. A curved arrow labeled <math>C_{in}</math> indicates the input torque at the front shaft. A straight arrow labeled <math>F_a</math> points towards the rear shaft, representing the axial force.</p>	
<p><b>IE 100 XL</b> <b>P = 10 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$ <p style="text-align: right;"><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>

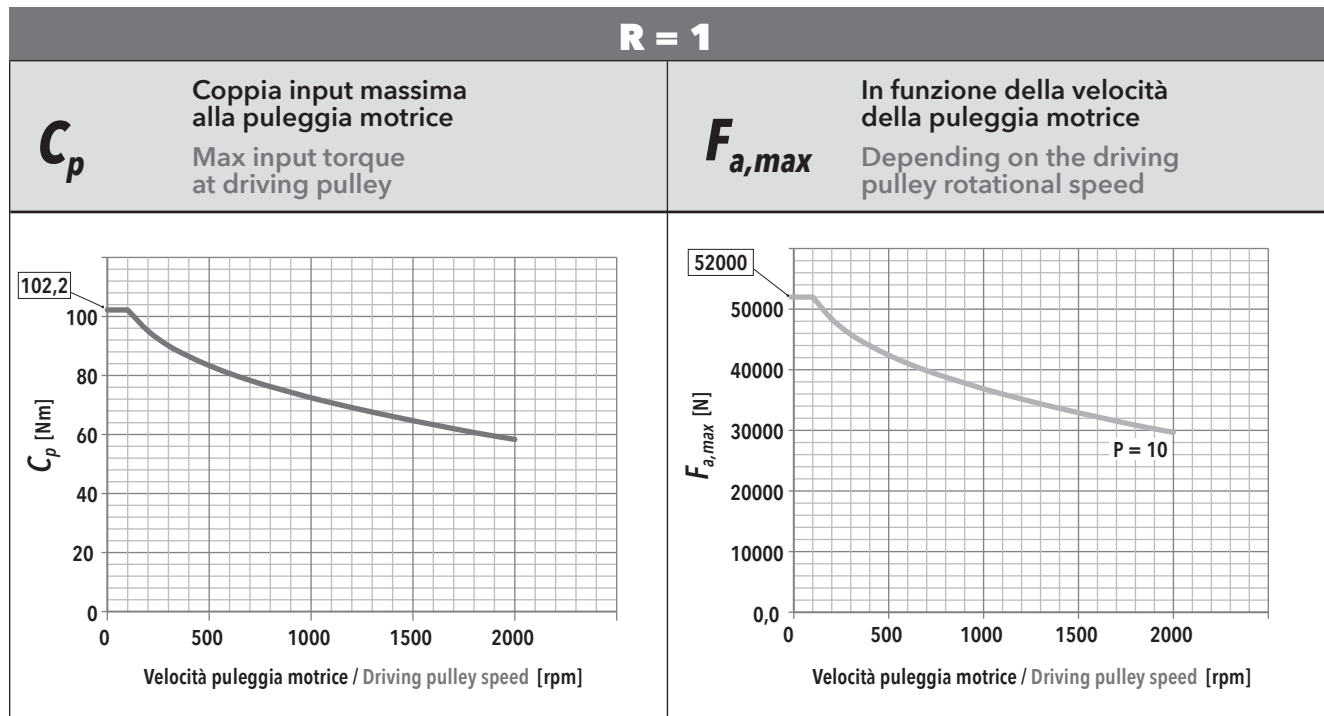
3.9.4 Calcolo coppia motore

3.9.4 Motor torque calculation

<p>CASO / CASE</p> <p><b>1</b></p>	<p><b>ISOMOVE B00 + D00 / D01</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE</p> <p><b>2</b></p>	<p><b>ISOMOVE B00 + D02 / A01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>3</b></p>	<p><b>ISOMOVE B00 + R00 / R01</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><math>R</math> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 o R=2 belt gearbox reduction ratio, available R=1 or R=2 <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>4</b></p>	<p><b>ISOMOVE B00 + R02</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><math>R</math> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <math>\eta</math> = rendimento meccanico / mechanical efficiency = 0,81</p>

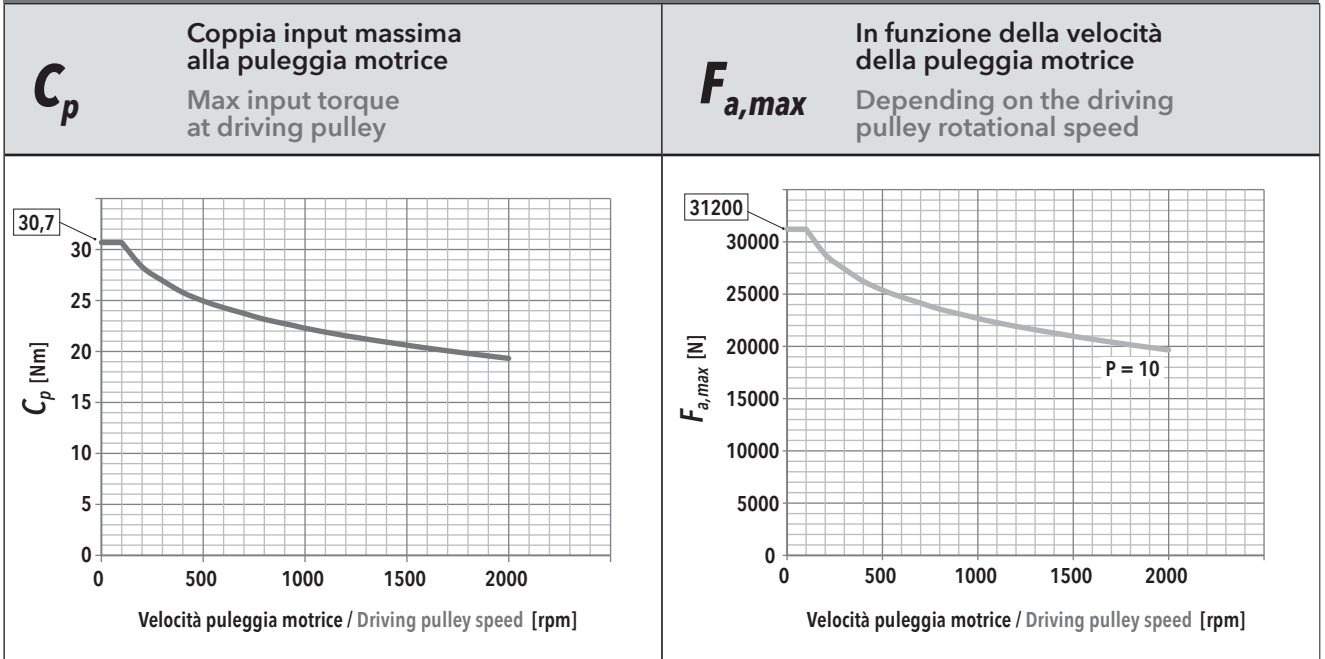
**3.9.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**3.9.5 Mechanical input power at belt gear stage (R type)**



<p><b><math>F_r</math></b> Forza radiale su asse puleggia motrice in funzione di <math>C_{in}</math> Radial force on driving pulley as a function of <math>C_{in}</math></p>	<p><b><math>f_t</math></b> Frequenza di vibrazione della cinghia per il tensionamento (al montaggio) Vibration frequency of the belt for its tensioning (during assembly)</p>
<b>IE 100 XL - PASSO / PITCH 10</b>	
<b><math>F_a</math> [N]</b>	<b><math>V_{out}</math> [mm/s]</b>
	33      133      233      333
52000	$F_r$ [N]    3051
	$f_t$ [Hz]    461
46800	$F_r$ [N]    2746
	$f_t$ [Hz]    438
41600	$F_r$ [N]    2441    2443
	$f_t$ [Hz]    413    413
36400	$F_r$ [N]    2136    2138
	$f_t$ [Hz]    386    386
31200	$F_r$ [N]    1831    1833    1838
	$f_t$ [Hz]    357    357    358
26000	$F_r$ [N]    1526    1528    1533    1541
	$f_t$ [Hz]    326    326    327    328
20800	$F_r$ [N]    1221    1223    1228    1236
	$f_t$ [Hz]    292    292    293    294
15600	$F_r$ [N]    916    918    923    931
	$f_t$ [Hz]    253    253    254    255
10400	$F_r$ [N]    610    613    618    626
	$f_t$ [Hz]    206    207    208    209
5200	$F_r$ [N]    309    311    317    325
	$f_t$ [Hz]    147    147    149    150

**R = 2**



**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

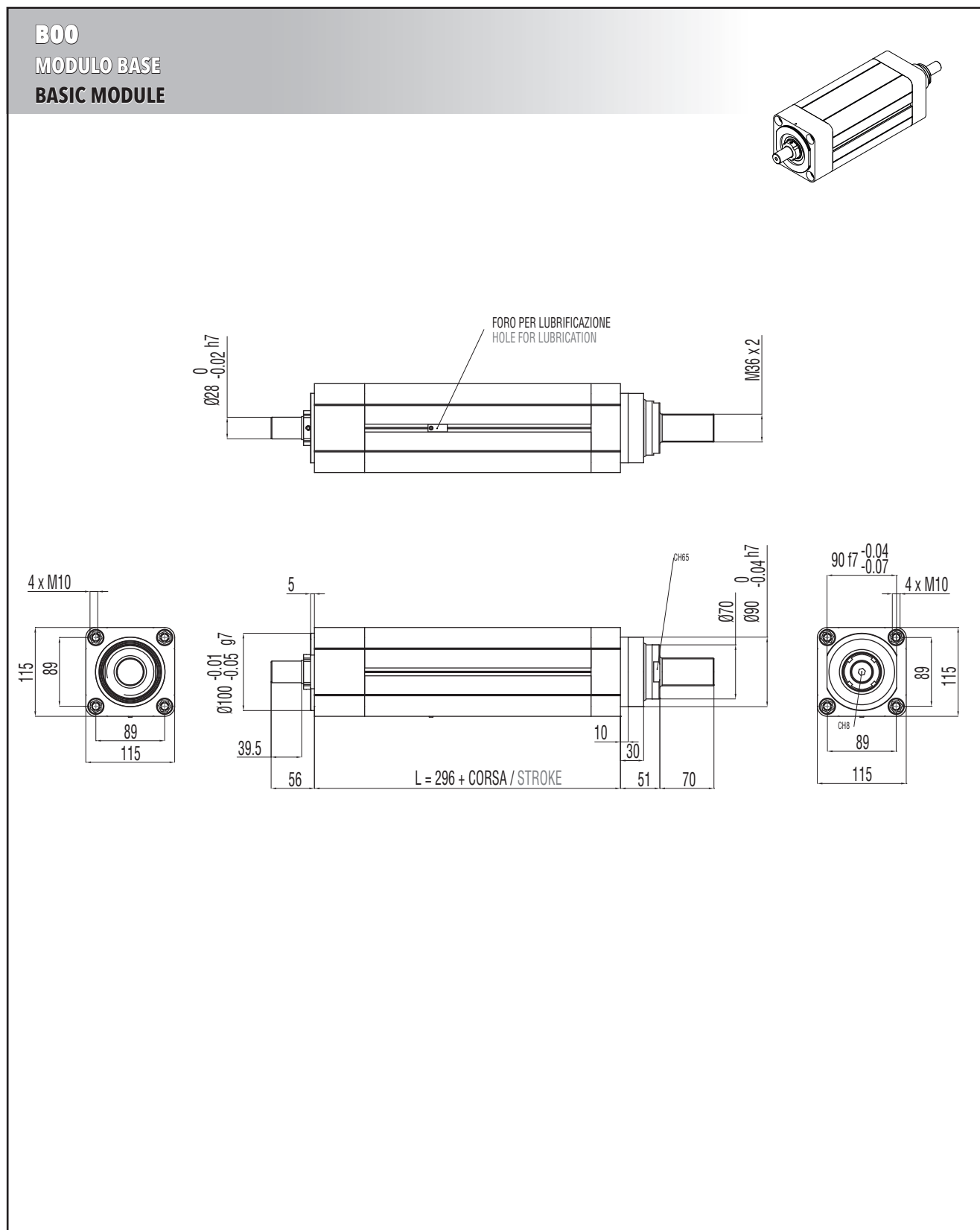
IE 100 XL - PASSO / PITCH 10					
$F_a$ [N]		$V_{out}$ [mm/s]			
		16,6	66,4	116,2	166
52000	$F_r$ [N]				
	$f_t$ [Hz]				
46800	$F_r$ [N]				
	$f_t$ [Hz]				
41600	$F_r$ [N]				
	$f_t$ [Hz]				
36400	$F_r$ [N]				
	$f_t$ [Hz]				
31200	$F_r$ [N]				
	$f_t$ [Hz]				
26000	$F_r$ [N]	1573			
	$f_t$ [Hz]	403			
20800	$F_r$ [N]	1258	1259	1260	
	$f_t$ [Hz]	360	360	360	
15600	$F_r$ [N]	944	944	946	946
	$f_t$ [Hz]	312	312	312	312
10400	$F_r$ [N]	629	630	631	632
	$f_t$ [Hz]	255	255	255	255
5200	$F_r$ [N]	315	315	317	317
	$f_t$ [Hz]	180	180	181	181

### 3.9.6 Caratteristiche dimensionali

### 3.9.6 Overall dimensions

NOTA: Dati categorie motori / riduttori / rinvi al capitolo 4.

REMARK: Motors / Planetary / Angle bevel gearbox categories data at chapter 4.

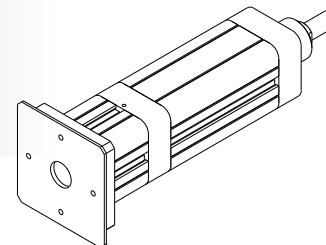




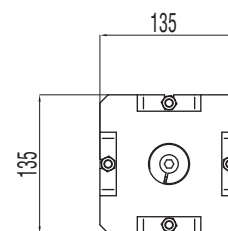
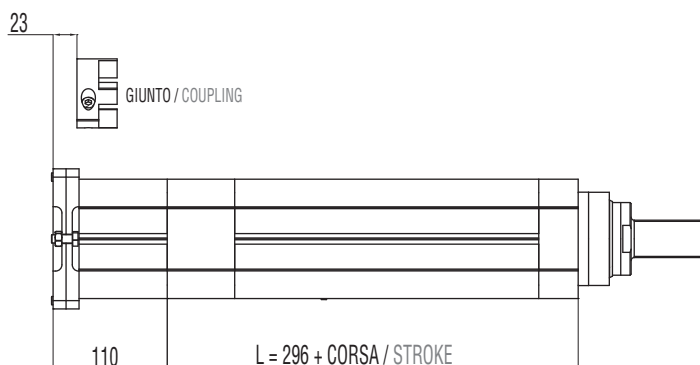
**B00 + D00**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE CUSTOM  
(SENZA RIDUTTORE)

**BASIC MODULE + CUSTOM IN-LINE TRANSMISSION W/O REDUCTION STAGE  
FOR CUSTOM MOTORS**



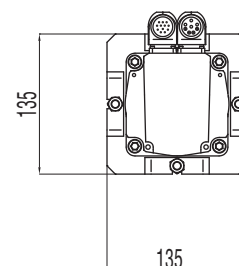
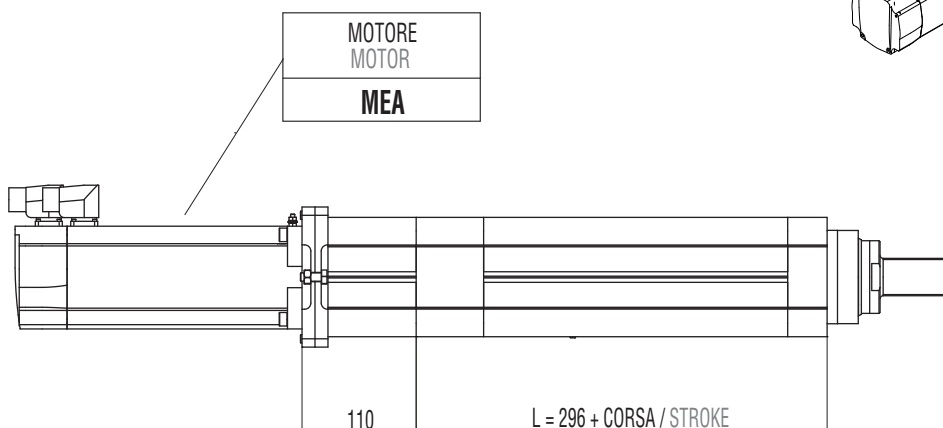
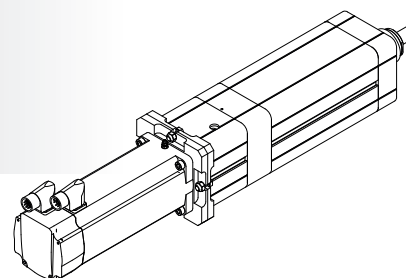
CxC	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	TAGLIA GIUNTO COUPLING SIZE	A [mm]	B [mm]
150	30 max	40 min / 52 max	130 max



**B00 + D01**

MODULO BASE + TRASMISSIONE COASSIALE PER MOTORE COMPATIBILE  
(SENZA RIDUTTORE)

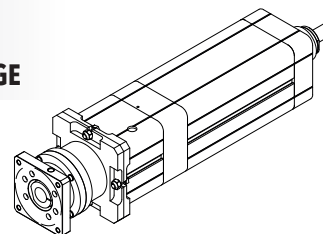
**BASIC MODULE + IN-LINE TRANSMISSION W/O REDUCTION STAGE FOR  
COMPATIBLE MOTORS**



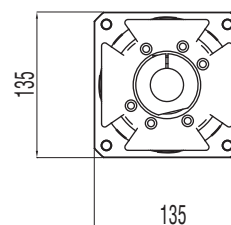
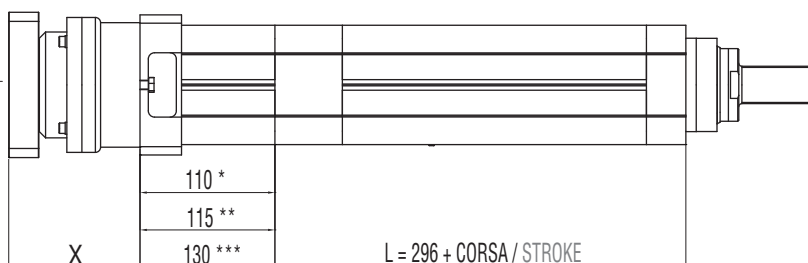
**B00 + D02**

MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE COMPATIBILE

**BASIC MODULE + IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



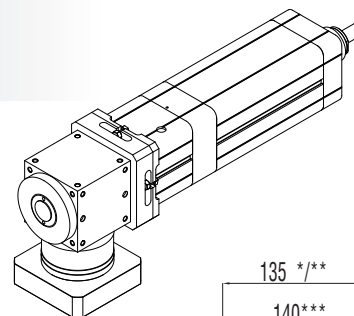
RIDUTTORE / PLANETARY GEARBOX
<b>GCA*</b>
<b>GDA**</b>
<b>GEA***</b>
<b>GCB*</b>
<b>GEB**</b>



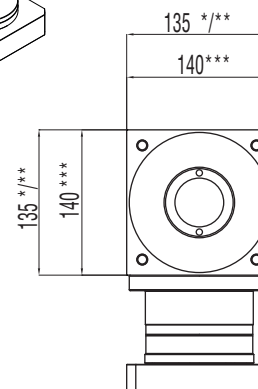
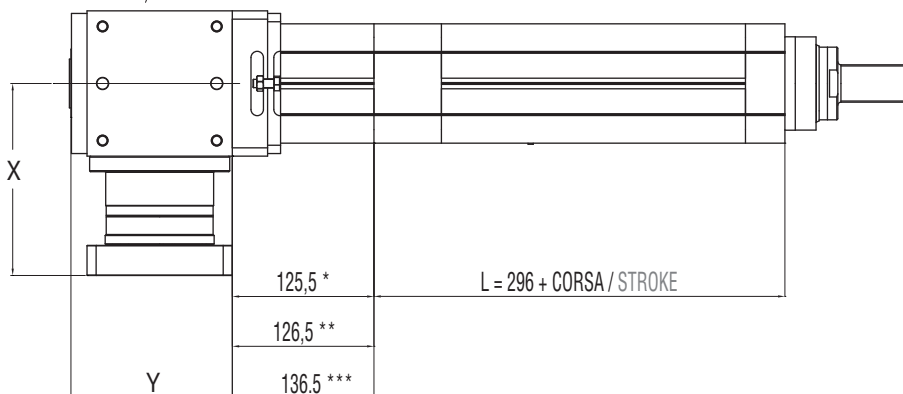
**B00 + A01**

MODULO BASE + RINVIO ANGOLARE COMPATIBILE

**BASIC MODULE + COMPATIBLE ANGLE BEVEL GEARBOX STAGE**



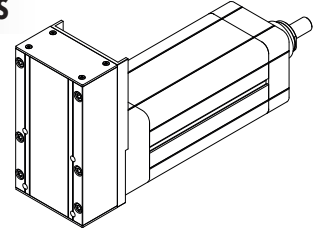
RINVIO ANGOLARE ANGLE BEVEL GEARBOX
<b>ACA*</b>
<b>ADA**</b>
<b>AEA***</b>



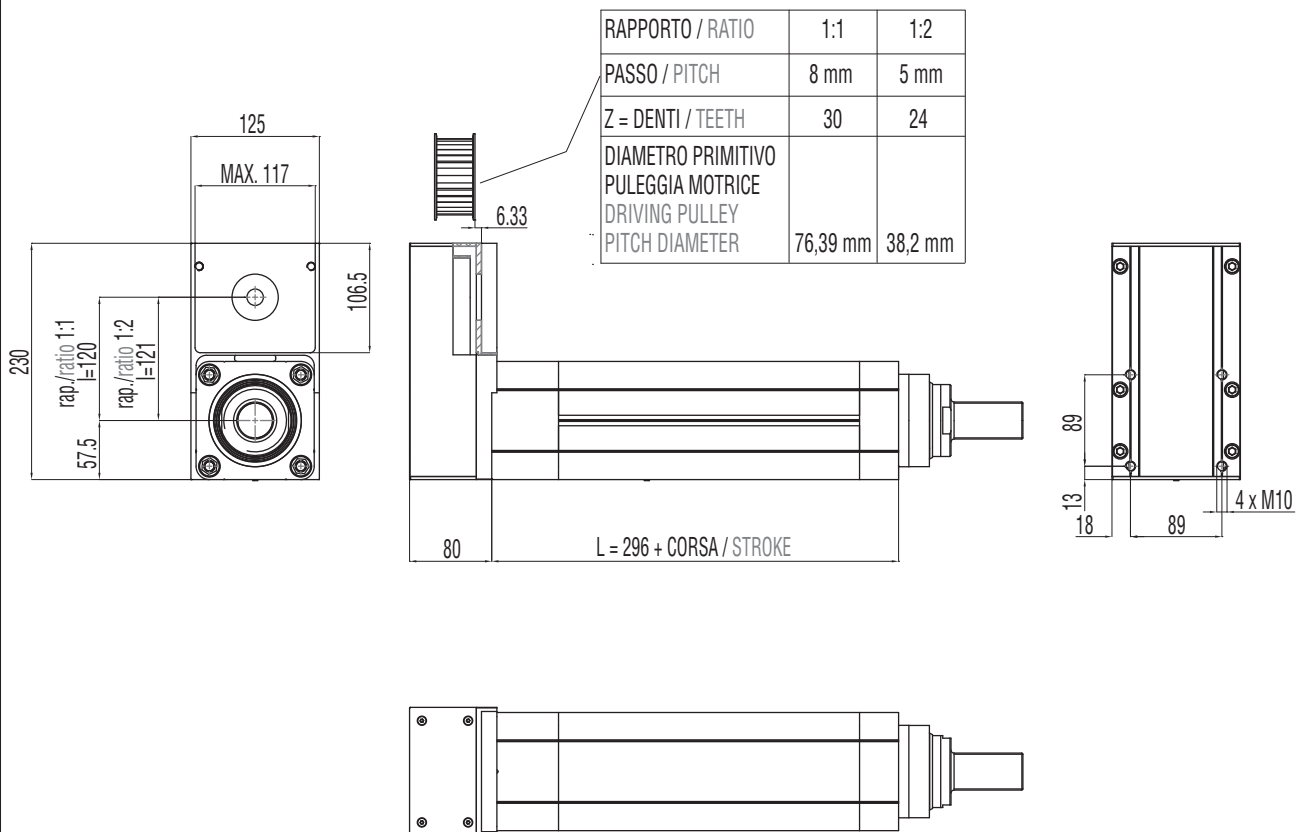
**B00 + R00**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE CUSTOM

BASIC MODULE + PARALLEL CUSTOM BELT GEARBOX STAGE FOR CUSTOM MOTORS



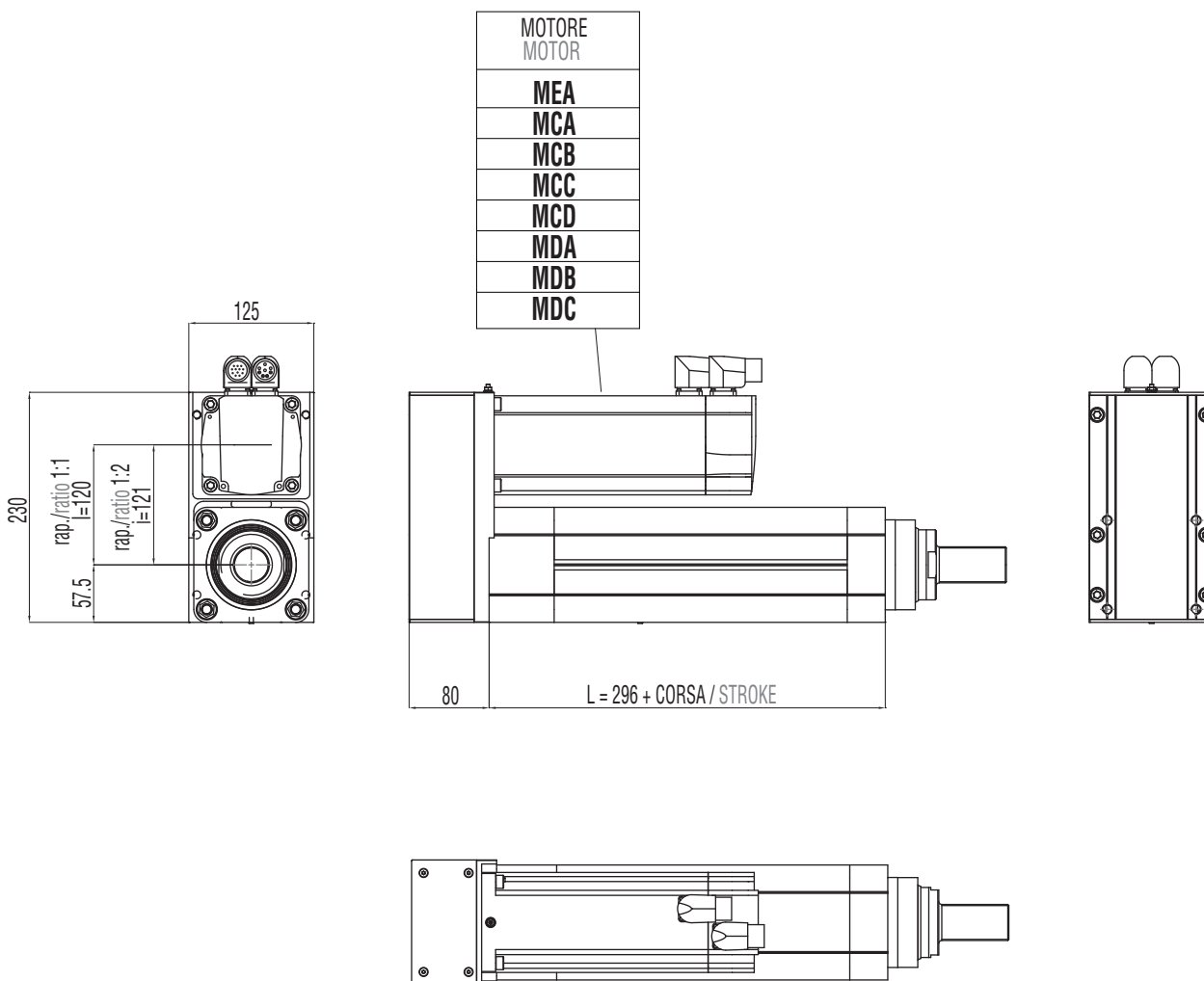
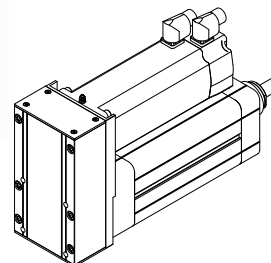
	DIMENSIONI LIMITI INTERFACCIA MAX INTERFACE DIMENSIONS		
	A	B	C
	[mm]	[mm]	[mm]
<b>R=1:1</b>	24 max	42 min / 58 max	110 max
<b>R=1:2</b>	19 max	36 min / 50 max	110 max



**B00 + R01**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO PER MOTORE COMPATIBILE

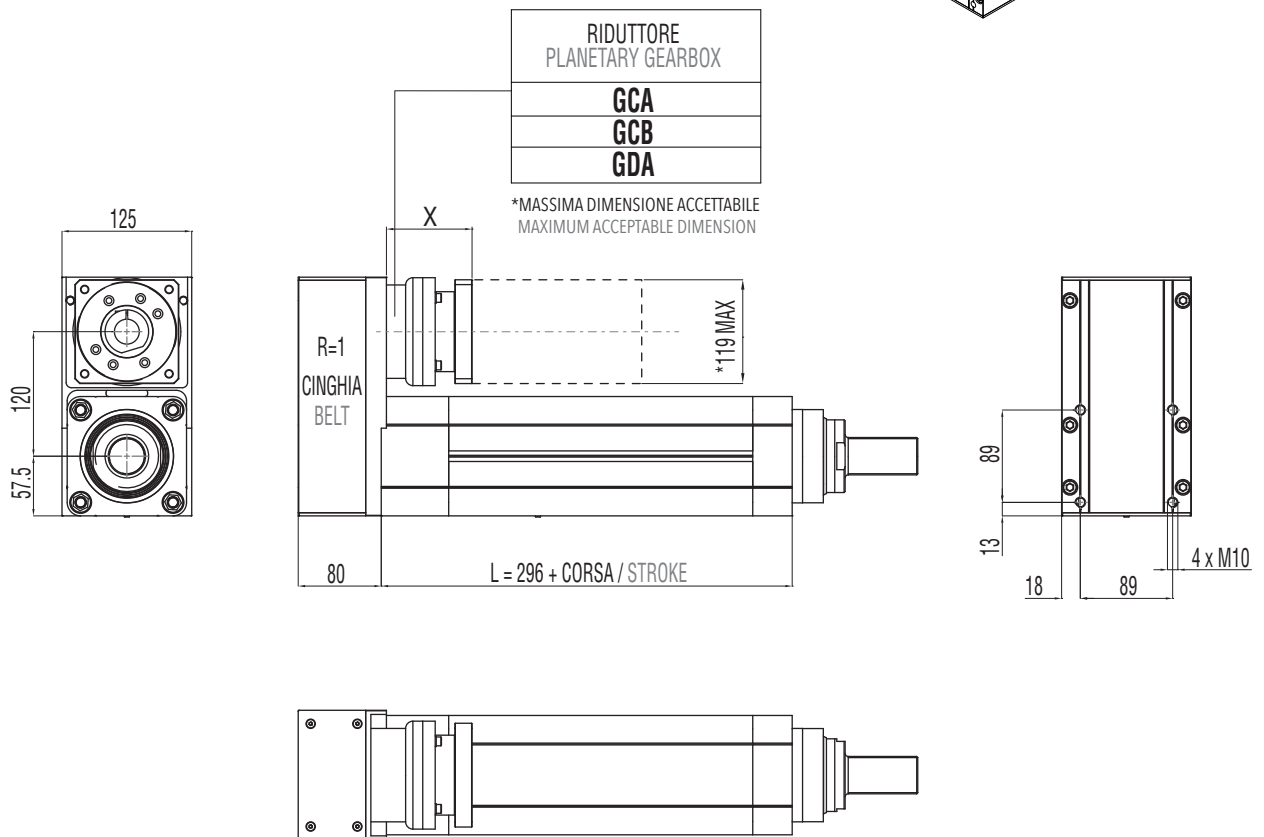
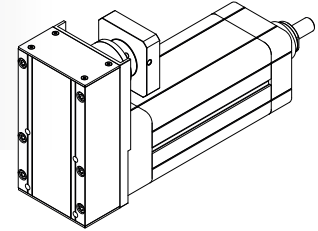
BASIC MODULE + PARALLEL BELT GEARBOX STAGE FOR COMPATIBLE MOTORS



**B00 + R02**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO +  
RIDUTTORE EPICICLOIDALE COMPATIBILE

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE +  
IN-LINE COMPATIBLE PLANETARY GEARBOX REDUCTION STAGE**



**3.9.7 Accessori disponibili**

Per le tabelle e i disegni tecnici degli accessori disponibili fare riferimento al paragrafo 3.10 (da pag. 136).

**3.9.7 Available accessories**

For tables and drawings please refer to paragraph 3.10 (from page 136).

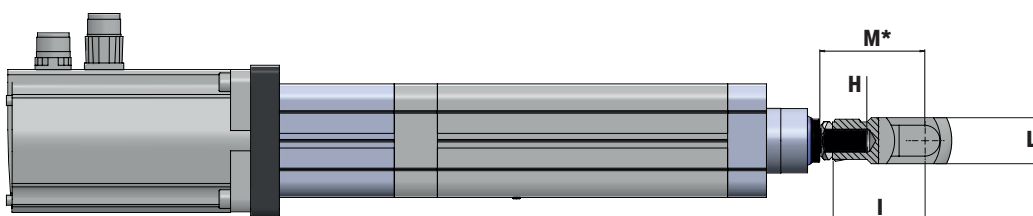
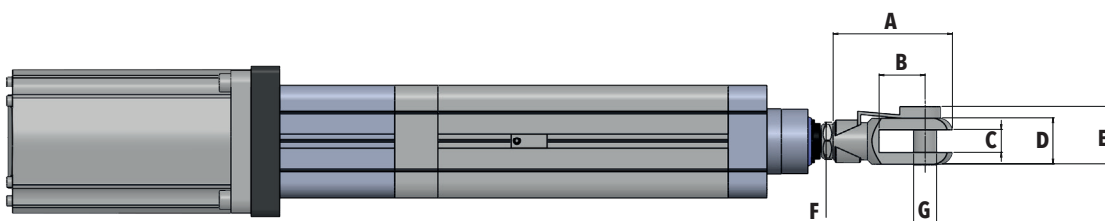
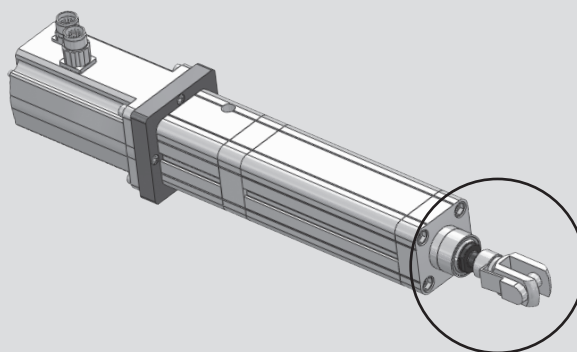


3.10

Accessori da grandezze IE 32 a IE 100 XL  
Accessories from IE 32 to IE 100 XL sizes

3.10.1

**FS** Forcella Stelo  
Rod Fork

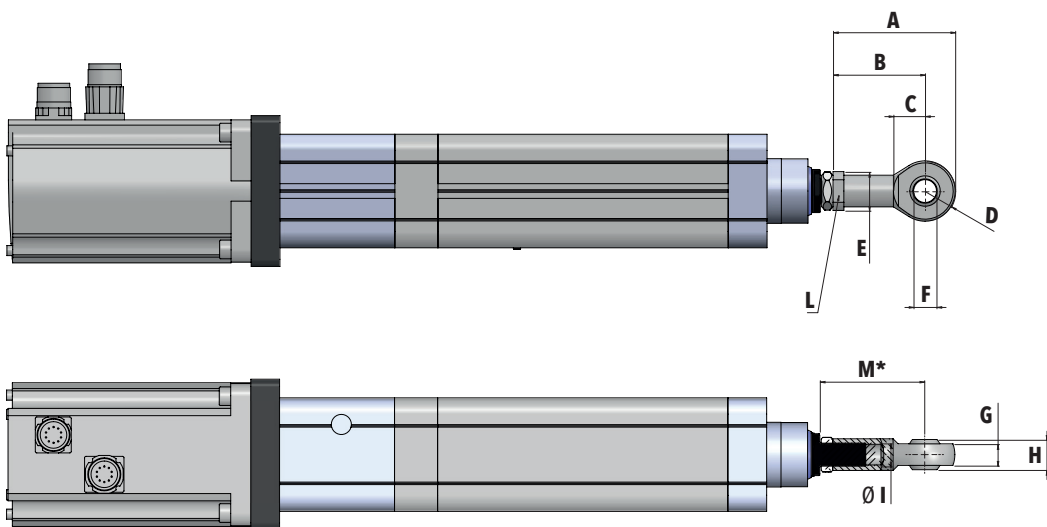
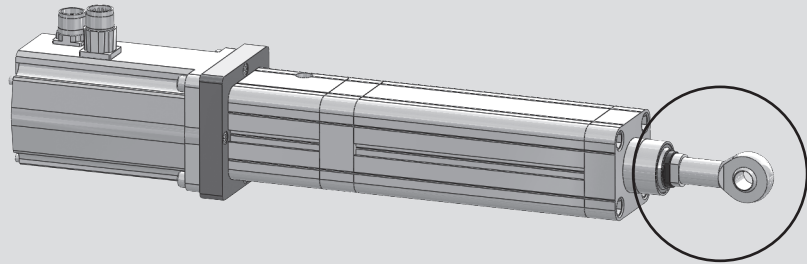


\*QUOTA MINIMA, REGOLAZIONE A CARICO DEL CLIENTE  
MINIMUM DIMENSION, REGULATION MADE BY THE CUSTOMER

TAGLIA / SIZES	A	B	C	D	E	F	G	H	I	L	M
32	52	20	10	20	26	Ø 18	Ø 10 h 8	M10 x 1.25	40	20	48
40	62	24	12	24	32	Ø 20	Ø 12 h 8	M12 x 1.25	48	24	57
50	83	32	16	32	40	Ø 26	Ø 16 h 8	M16 x 1.5	64	32	74
63	83	32	16	32	40	Ø 26	Ø 16 h 8	M16 x 1.5	64	32	74
80	105	40	20	40	48	Ø 34	Ø 20 h 8	M20 x 1.5	80	40	92
80HL	105	40	20	40	48	Ø 34	Ø 20 h 8	M20 x 1.5	80	40	92
100	105	40	20	40	48	Ø 34	Ø 20 h 8	M20 x 1.5	80	40	92
100HL	105	40	20	40	48	Ø 34	Ø 20 h 8	M20 x 1.5	80	40	92
100XL	188	72	35	70	83	Ø 60	Ø 35 h 8	M36 x 2	144	70	162

3.10.2

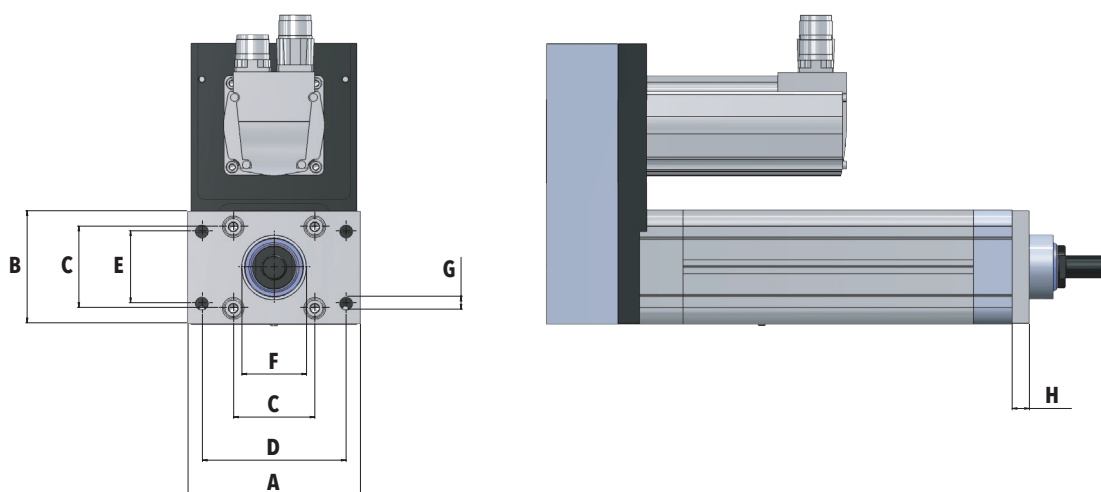
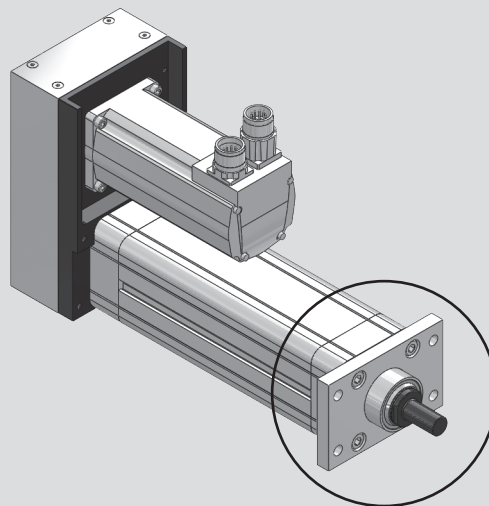
**SS** Snodo Sferico  
Swivel Joint



\*QUOTA MINIMA, REGOLAZIONE A CARICO DEL CLIENTE  
MINIMUM DIMENSION, REGULATION MADE BY THE CUSTOMER

TAGLIA / SIZES	A	B	C	D	E	F	G	H	I	L	M
32	57	43	15	14	Ø 19	Ø 10 H 7	10.5	14	M10 x 1.25	CH17	51
40	66	50	16	16	Ø 22	Ø 12 H 7	12	16	M12 x 1.25	CH19	59
50	85	64	22	21	Ø 27	Ø 16 H 7	15	21	M16 x 1.5	CH22	74
63	85	64	22	21	Ø 27	Ø 16 H 7	15	21	M16 x 1.5	CH22	74
80	102	77	26	25	Ø 34	Ø 20 H 7	18	25	M20 x 1.5	CH30	89
80HL	102	77	26	25	Ø 34	Ø 20 H 7	18	25	M20 x 1.5	CH30	89
100	102	77	26	25	Ø 34	Ø 20 H 7	18	25	M20 x 1.5	CH30	89
100HL	102	77	26	25	Ø 34	Ø 20 H 7	18	25	M20 x 1.5	CH30	89
100XL	165	125	41	40	Ø 58	Ø 35 H 7	28	43	M36 x 2	CH50	143

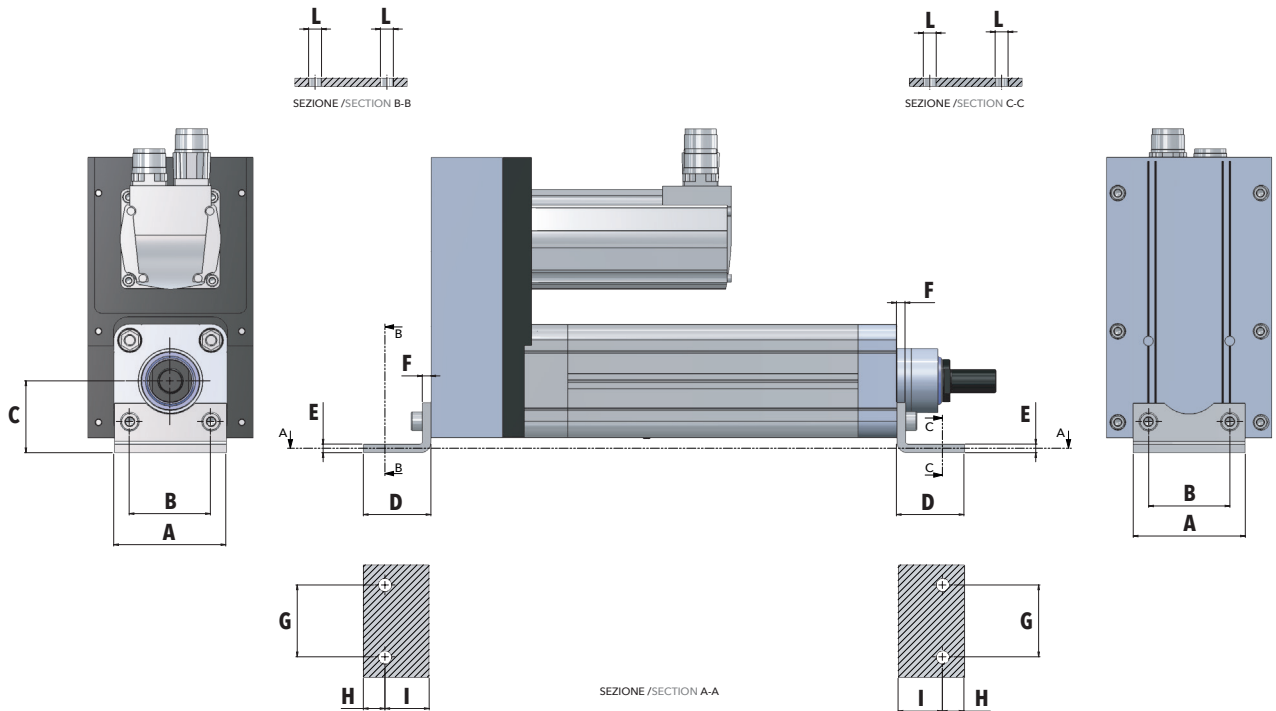
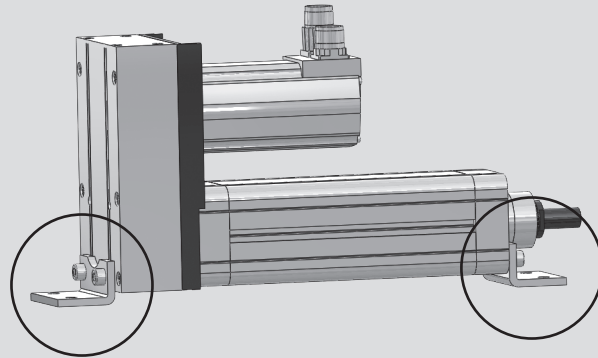
## 3.10.3

**FV** Flangia Frontale  
Front Flange

TAGLIA / SIZES	A	B	C	D	E	F	G	H
32	80	50	32,5	64	32	Ø 30 H7	4 x Ø 7	10
40	90	55	38	72	36	Ø 35 H7	4 x Ø 9	10
50	110	66	46,5	90	45	Ø 40 H7	4 x Ø 9	12
63	120	78	56,5	100	50	Ø 45 H7	4 x Ø 9	12
80	153	98	72	126	63	Ø 45 H7	4 x Ø 12	16
80HL	153	98	72	126	63	Ø 55 H7	4 x Ø 12	16
100	178	115	89	150	75	Ø 55 H7	4 x Ø 14	16
100HL	178	115	89	150	75	Ø 75 H7	4 x Ø 14	16
100XL	178	115	89	150	75	Ø 90 H7	4 x Ø 14	16

3.10.4

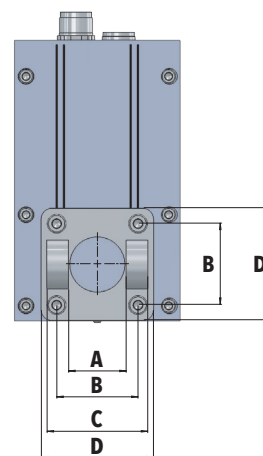
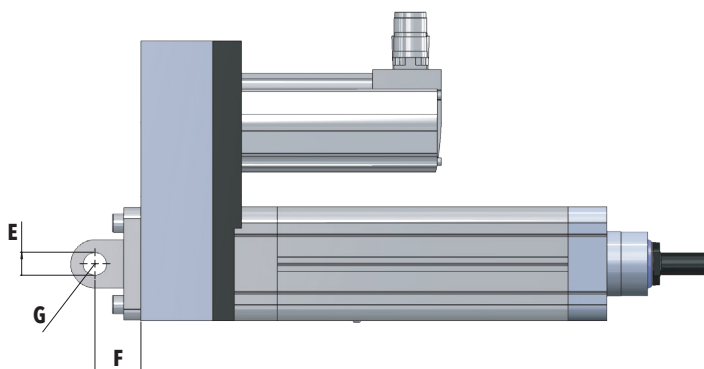
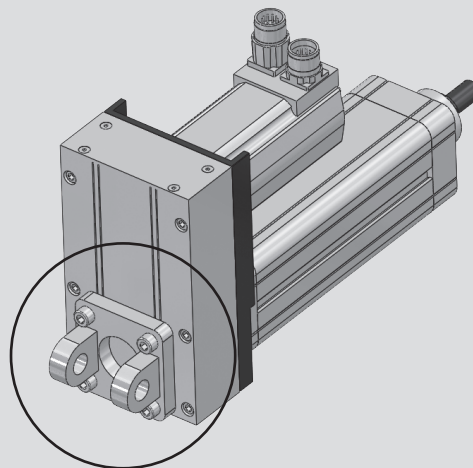
**PV** Piedino Verticale  
Angle Foot



TAGLIA / SIZES	A	B	C	D	E	F	G	H	I	L
32	47	32,5	32	35	5	5	32	11	24	Ø 7
40	54	38	36	43	5	5	36	15	28	Ø 9
50	66	46,5	45	47	6	6	45	15	32	Ø 9
63	78	56,5	50	47	6	6	50	15	32	Ø 9
80	98	72	63	61	7	7	63	20	41	Ø 12
80HL	98	72	63	61	7	7	63	20	41	Ø 12
100	115	89	71	66	7	7	75	25	41	Ø 14
100HL	115	89	71	66	7	7	75	25	41	Ø 14
100XL	115	89	71	66	7	7	75	25	41	Ø 14

3.10.5

**CF** Cerniera Femmina  
Rear Female Clevis with Pin

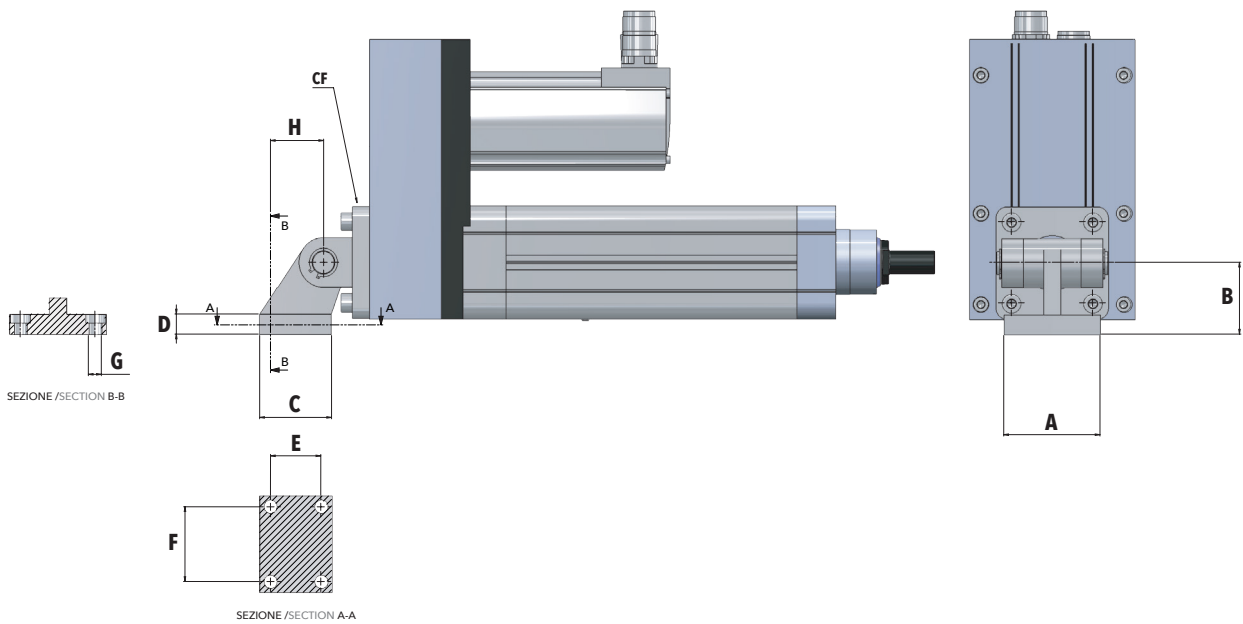
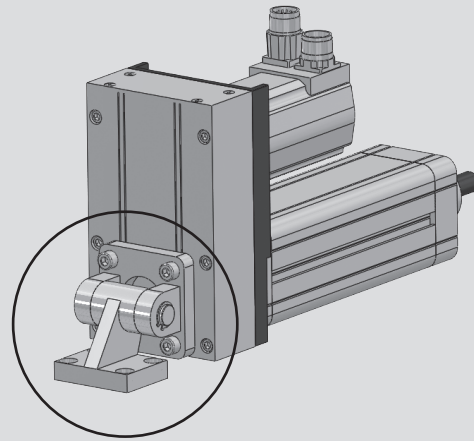


TAGLIA / SIZES	A	B	C	D	E	F	G
32	26	32,5	45	47	Ø 10 H9	22	11
40	28	38	52	54	Ø 12 H9	25	13
50	32	46,5	60	66	Ø 12 H9	27	13
63	40	56,5	70	78	Ø 16 H9	32	17
80	50	72	90	98	Ø 16 H9	36	17
80HL	50	72	90	98	Ø 16 H9	36	17
100	60	89	110	115	Ø 20 H9	41	21
100HL	60	89	110	115	Ø 20 H9	41	21
100XL	60	89	110	115	Ø 20 H9	41	21



3.10.6

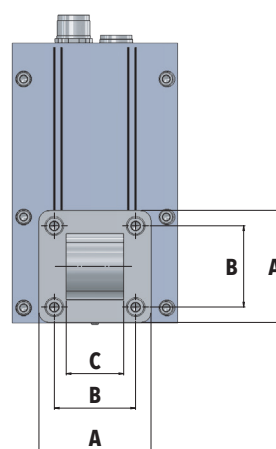
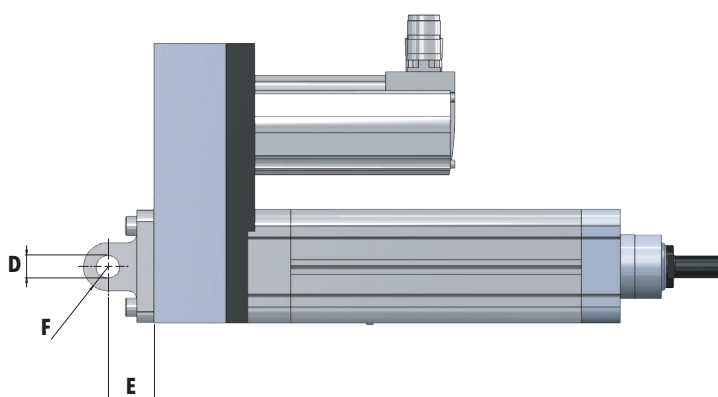
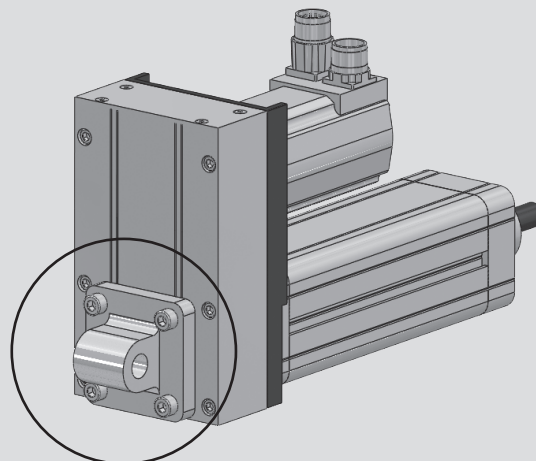
**KO** Controcerniera Orizzontale  
Square Horizontal Counterclevis



TAGLIA / SIZES	A	B	C	D	E	F	G	H
32	51	32	31	8	18	38	Ø 6,6	21
40	54	36	35	10	22	41	Ø 6,6	24
50	65	45	45	12	30	50	Ø 9	33
63	67	50	50	14	35	52	Ø 9	37
80	86	63	60	14	40	66	Ø 11	47
80HL	86	63	60	14	40	66	Ø 11	47
100	96	71	70	17	50	76	Ø 11	55
100HL	96	71	70	17	50	76	Ø 11	55
100XL	96	71	70	17	50	76	Ø 11	55

3.10.7

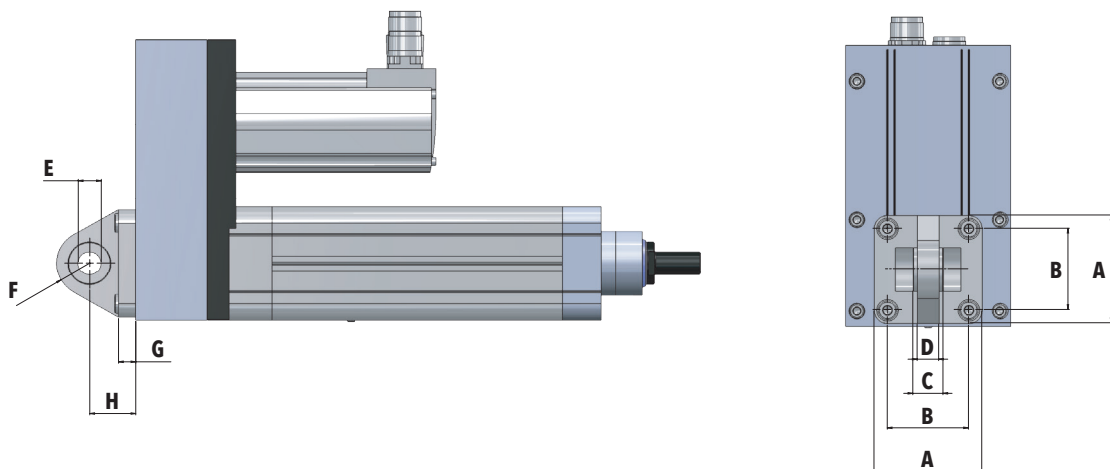
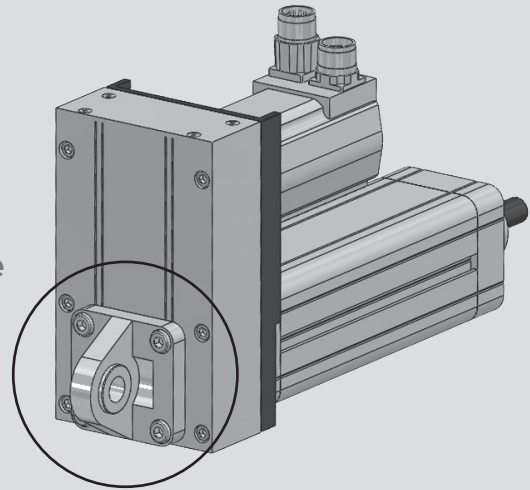
**KM** Controcerniera Maschio  
Male Clevis



TAGLIA / SIZES	A	B	C	D	E	F
32	47	32,5	26	∅ 10 H7	22	11
40	54	38	28	∅ 12 H7	25	13
50	66	46,5	32	∅ 12 H7	27	13
63	78	56,5	40	∅ 16 H7	32	17
80	98	72	50	∅ 16 H7	36	17
80HL	98	72	50	∅ 16 H7	36	17
100	115	89	60	∅ 20 H7	41	21
100HL	115	89	60	∅ 20 H7	41	21
100XL	115	89	60	∅ 20 H7	41	21

3.10.8

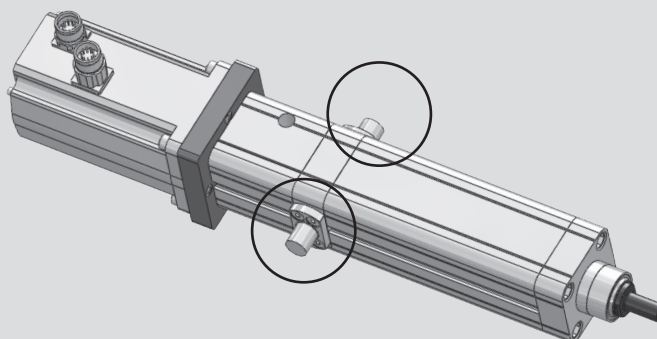
**KS** Controcerniera Sferica  
Male Clevis with Spherical Knuckle



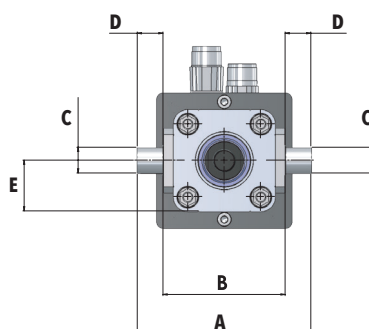
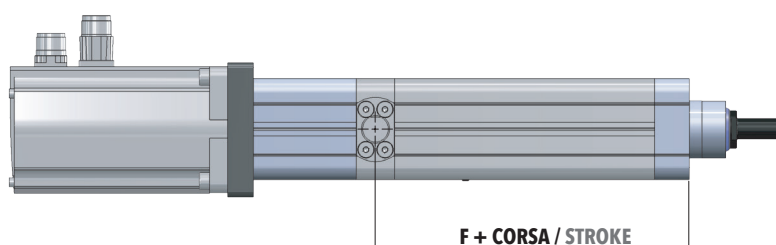
TAGLIA / SIZES	A	B	C	D	E	F	G	H
32	45	32,5	14	10,5	Ø 10 H7	15	10	22
40	55	38	16	12	Ø 12 H7	18	10	25
50	65	46,5	21	15	Ø 16 H7	20	10	27
63	75	56,5	21	15	Ø 16 H7	23	12	32
80	95	72	25	18	Ø 20 H7	27	14	36
80HL	95	72	25	18	Ø 20 H7	27	14	36
100	115	89	25	18	Ø 20 H7	30	16	41
100HL	115	89	25	18	Ø 20 H7	30	16	41
100XL	115	89	25	18	Ø 20 H7	30	16	41

3.10.9

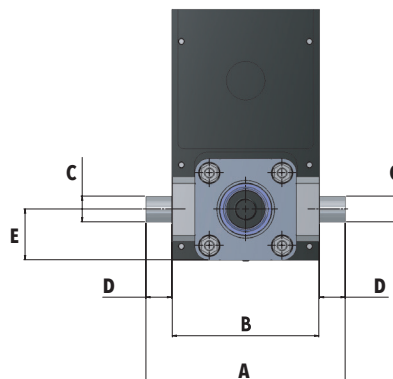
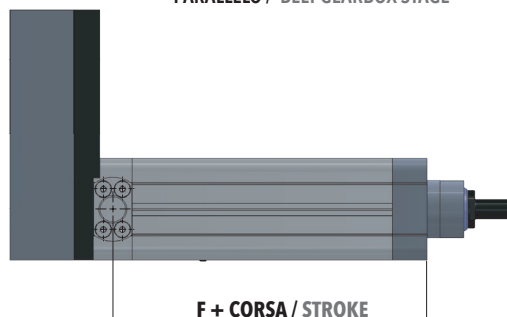
**PE** Perni Oscillanti  
Pivoting Pins



COASSIALE / IN-LINE VERSION



PARALLELO / BELT GEARBOX STAGE



TAGLIA / SIZES	A	A	B	B	C	D	E	F
	COASSIALE IN-LINE VERSION	PARALLELO BELT GEARBOX STAGE	COASSIALE IN-LINE VERSION	PARALLELO BELT GEARBOX STAGE				
32	91	91	67	67	Ø 12 g7	12	25	130
40	96	96	72	72	Ø 12 g7	12	27,5	130
50	120	147	88	115	Ø 16 g7	16	34	122,5
63	135	155	95	115	Ø 20 g7	20	39,5	144
80	169	169	129	129	Ø 20 g7	20	49	175
80HL	169	169	129	129	Ø 20 g7	20	49	211
100	190	190	140	140	Ø 25 g7	25	57,5	185
100HL*	190	190	140	140	Ø 25 g7	25	57,5	197
100HL**	190	190	140	140	Ø 25 g7	25	57,5	231
100XL	190	190	140	140	Ø 25 g7	25	57,5	263,5

\* Vite Ø 40 con passo 5, 10, 20 / Ballscrew Ø 40 with pitch 5, 10, 20

\*\* Vite Ø 40 con passo 40 / Ballscrew Ø 40 with pitch 40

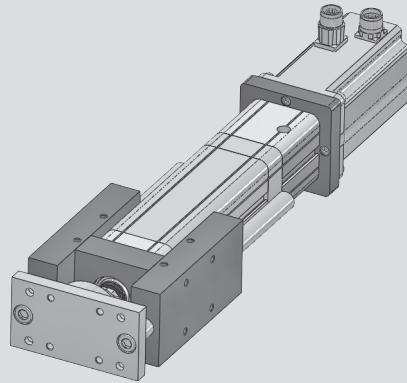
3.11

Sistemi di guida  
Guiding unit

3.11.1

Tipo "H"  
"H" Type

COASSIALE / IN-LINE VERSION



PARALLELO / BELT GEARBOX STAGE

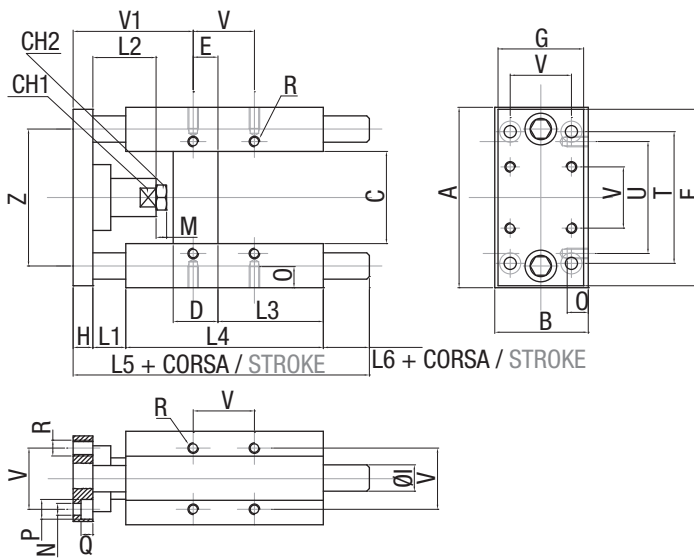
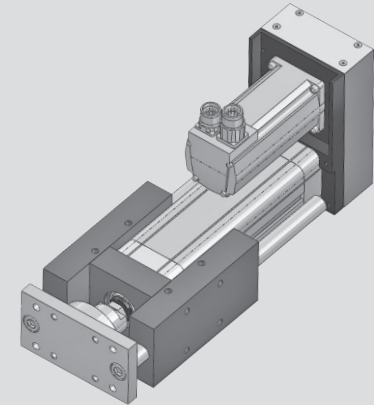


TABELLA PESI / WEIGHT

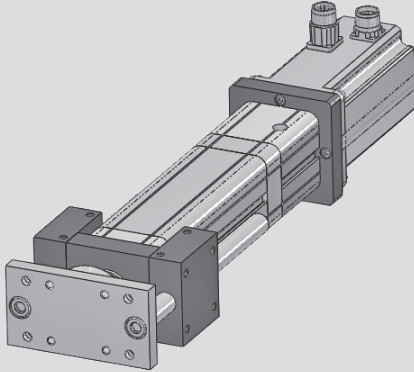
TAGLIA SIZES	PESO CORSA WEIGHT STROKE	PESO ogni 100 mm di CORSA WEIGHT a 100 mm STROKE
Ø [mm]	[kg]	[kg]
32	1,3	0,18
40	2,4	0,31
50	3,5	0,48
63	4,6	0,48
80 80 HL	8,4	0,77
100 100 HL 100 XL	11,8	0,77

TABELLA DIMENSIONALE / OVERALL DIMENSION

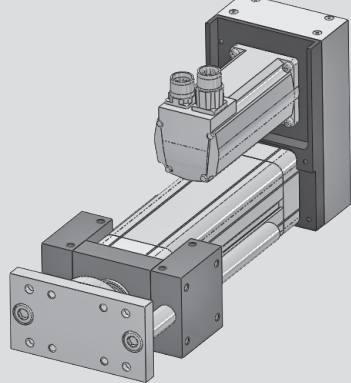
TAGLIA SIZES	GIUNTO LUNGO LONG COUPLING																				GIUNTO CORTO SHORT COUPLING											
	A	B	C	CH1	CH2	D	E	F	G	H	I	L1	L2	L3	L4	L5	L6	M	N	O	P	Q	R	T	U	V	V1	Z	L1	L2	L6	V
Ø [mm]	[mm]																															
32	97	49	51	15	17	24	4,3	93	45	12	12	25	42	75	125	187	25	6	6,6	12	11	6,5	M6	78	61	32,5	82,7	74	3	19	47	60,7
40	115	58	58	15	19	28	11	112	55	12	16	25	42	80	140	207	30	7	6,6	12	11	6,5	M6	84	69	38	86	87	3	24	52	64
50	137	70	70	20	24	34	18,8	134	65	15	20	25	50	78	148	223	35	8	9	16	15	9	M8	100	85	46,5	92	104	3	27	57	70
63	152	85	85	20	24	34	15,3	147	80	15	20	25	50	106	178	243	25	8	9	16	15	9	M8	105	100	56,5	96,7	119	3	27	47	74,7
80 80 HL	189	105	105	26	30	50	25	180	100	20	25	25	50	111	195	267	27	9	11	20	18	11	M10	130	130	72	104	148	3	27	49	82
100 100 HL 100 XL	213	130	131	26	30	55	30	206	120	20	25	25	50	128	218	290	27	9	11	20	18	11	M10	150	150	89	105	173	3	27	49	83

3.11.2

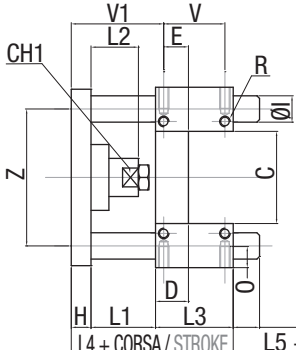
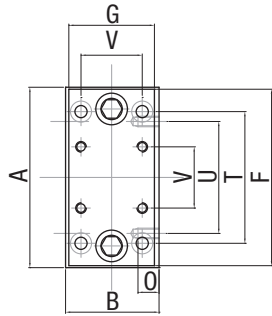
COASSIALE / IN-LINE VERSION



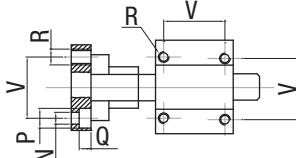
PARALLELO / BELT GEARBOX STAGE



**Tipo "U"**  
"U" Type

L4 + CORSA / STROKE      L5 + CORSA / STROKE



**TABELLA DIMENSIONALE / OVERALL DIMENSION**

TAGLIA SIZES	GIUNTO LUNGO / LONG COUPLING																								
	A	B	C	CH	D	E	F	G	H	I	L1	L2	L3	L4	L5	N	O	P	Q	R	T	U	V	V1	Z
Ø [mm]	[mm]																								
32	97	49	51	15	17	9,25	93	45	12	12	42	25	48	102	18	6,6	12	11	6,5	M6	78	61	32,5	61,75	74
40	115	58	58,2	15	21	11	112	55	12	16	43	25	58	113	17	6,6	12	11	6,5	M6	84	69	38	65	87
50	137	70	70,2	20	25	18,8	134	65	15	20	49	29	59	123	20	9	16	15	8,5	M8	100	85	46,5	70,2	104
63	152	85	85,2	20	25	15,3	147	80	15	20	49	29	76	140	21	9	16	15	9	M8	105	100	56,5	73,7	119

3.11.3 Codice di ordinazione

3.11.3 Designation code

VERSIONE TYPE	ALESAGGIO CILINDRO BORE CYLINDER	CORSA / STROKE [mm]	CARATTERISTICHE SPECIALI SPECIAL FEATURES
SUGM Unità tipo "H" con manicotti a ricircolo di sfere Guiding unit type "H" with vall sleeves	32 40 50 63 80 / 80 HL 100 / 100 HL / 100 XL		
SUGB Unità tipo "H" con bussole sinterizzate autolubrificanti Guiding unit type "H" with self lubricating sintered bronze			
SUGU Unità tipo "U" con bussole sinterizzate autolubrificanti Guiding unit type "U" with self lubricating sintered bronze			

**ESEMPIO / EXAMPLE**

SUGB	-	63	-	200	-	-
------	---	----	---	-----	---	---



# 4.

## Categorie Motori/Riduttori/Rinvii angolari compatibili (32 ÷ 100XL)

Compatible Motors/ Planetary  
gearboxes/Angle bevel gearboxes  
categories (32 ÷ 100XL Sizes)

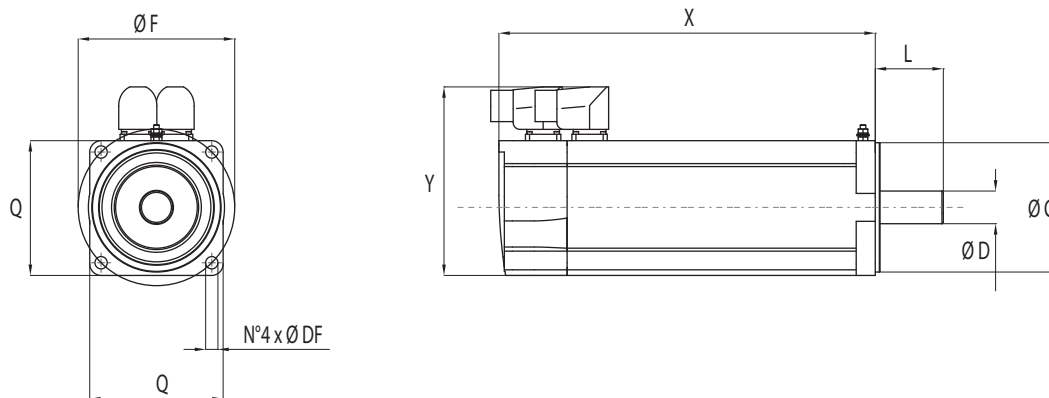
Motori / Motors pg. 148

Riduttori / Planetary gearboxes pg. 149

Rinvii angolari / Angle bevel gearboxes pg. 150

## 4.1

## Motori Motors



MOTORE MOTOR	D	L	C	F	DF	Q*	X**	Y**
MAA	9	20	40	63	5,5	55		
MBA	11	23	60	75	5,5	70		
MBB	11	23	60	90	5,8	75		
MBC	11	30	50	70	4,5	60		
MCA	14	30	60	75	5,5	70		
MCB	14	30	60	90	5,8	75		
MCC	14	30	80	100	6,5	92		
MCD	14	30	50	70	4,5	60		
MCE	14	30	60	75	6,5	72		
MCF	14	30	50	70	5,5	60		
MDA	19	40	95	115	9	105		
MDB	19	40	80	100	7	96		
MDC	19	35	70	90	6	80		
MDD	19	35	70	90	7	80		
MEA	24	50	95	115	9	100		
MEB	24	50	110	130	10	115		
MFA	16	40	80	100	7	90		
MFB	16	40	70	90	7	80		
MGA	10	32	80	100	6,6	90		

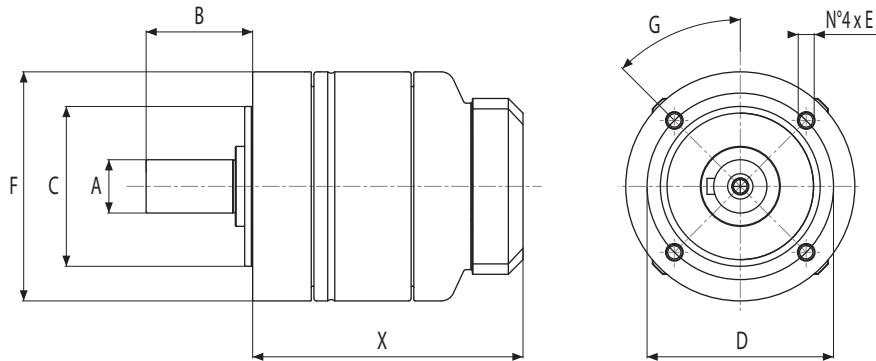
\* Il valore "Q" è indicativo e varia a seconda della sigla e marca del motore. /  
"Q" value is indicative and it depends on the motor type and brand.

\*\* I valori "X" e "Y" variano a seconda della sigla e marca del motore. / "X" and  
"Y" values depend on the motor type and brand.

MOTORE MOTOR	ESEMPIO DI MARCA E MODELLO BRAND AND TYPE EXAMPLE
MAA	SCHNEIDER (BSH/BMH 0551 / 0552 / 0553) SIEMENS (1FK7022) PARKER (SMB60.9X20) DANAHER (DBL2) OSAI (B28)
MBA	SCHNEIDER (BSH/BMH 0701 / 0702) PARKER (SMB60.11x23 / SMB82.11x23) OSAI (B36) LENZE (MCS06) SEW (CMP 50S M L BP)
MBB	DANAHER (DBL 3-11x23)
MBC	OMRON (R88M-K20030 11x23)
MCA	SCHNEIDER (BSH/BMH 0703) ELAU (iSH070-60-030) PARKER (SMB 82. 14x30)
MCB	DANAHER (DBL3. 14x30)
MCC	OSAI (B56) LENZE (MCS09) SEW (DFS 56)
MCD	OMRON (R88M-K20030 14x30)
MCE	SIEMENS (1FK7032 / 1FK7034)
MCF	DENSO (R2AA080)
MDA	SCHNEIDER (BSH/BMH 1001 / 1002 / 1003) PARKER (SMB82.19x40 / SMB100.19x40) DANAHER (DBL4) OSAI (B63) OMRON (R88M-K1K030)
MDB	SIEMENS (1FK 7040 / 1FK 7041)
MDC	OMRON (R88M.K75030)
MDD	DELTA ELECTRONICS (ECMA C0807) SIBONI (S 080 2B)
MEA	SCHNEIDER (BSH/BMH 1004) PARKER (SMB 100.24x50)
MEB	EMERSON - CONTROLTECHNIQUE 115 STOBER - EZ503U ALLEN-BRADLEY MPL-B4560
MFA	ALLEN-BRADLEY MPL-B 330P
MFB	DELTA ECMA C20807 YASKAWA SGMP H07
MGA	FANUC ALPHA IS2-5000

## 4.2

## Riduttori epicicloidali Planetary gearboxes

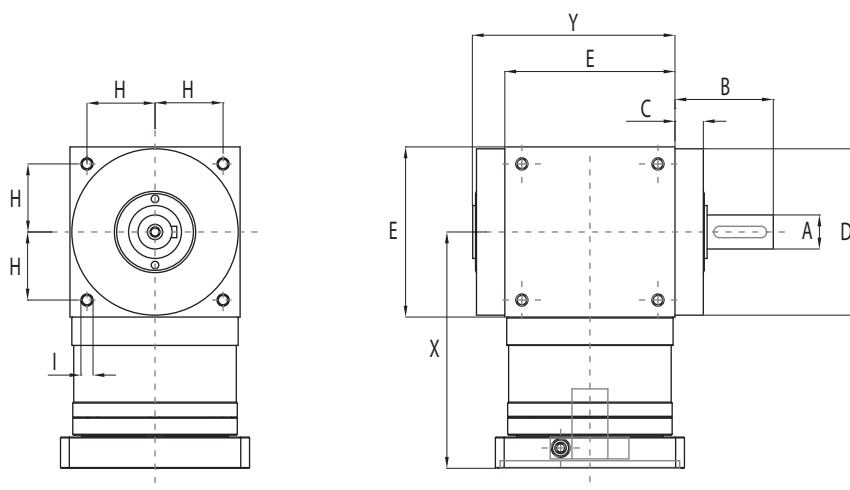


<b>RIDUTTORE PLANETARY GEARBOX</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>X* 1 STAGE</b>	<b>X* 2 STAGES</b>
GBA	12	24,5	35	44	M4	50	0°	66,5	93,5
GBB	14	35	40	52	M5	60	45°	90	123
GCA	16	36	52	62	M5	70	0°	81	107
GCB	20	40	60	70	M6	86	45°	115	154,5
GDA	22	46	68	80	M6	90	0°	97,5	132,5
GEA	32	70	90	108	M8	120	0°	116,5	155,5
GEB	25	55	80	100	M10	114	45°	149	202

\* Il valore "X" varia a seconda della sigla della marca e del rapporto di riduzione del riduttore.  
"X" value depends on the planetary gearbox type, brand and reduction ratio.

<b>RIDUTTORE PLANETARY GEARBOX</b>	<b>ESEMPIO DI MARCA E MODELLO BRAND AND TYPE EXAMPLE</b>
GBA	APEX (AE 050) WITTENSTEIN (LP 050) NEUGART (PLPE 050)
GBB	APEX (PGII 060) WITTENSTEIN (CP 060) NEUGART (PLE 060) SCHNEIDER (GBX 060)
GCA	APEX (AE 070) WITTENSTEIN (LP 070) NEUGART (PLPE 070)
GCB	APEX (PGII 080) WITTENSTEIN (CP 080) NEUGART (PLE 080) SCHNEIDER (GBX 080)
GDA	APEX (AE090) WITTENSTEIN (LP 090) NEUGART (PLPE 090)
GEA	APEX (AE 120) WITTENSTEIN (LP120) NEUGART (PLE 120)
GEB	APEX (PGII 120) WITTENSTEIN (CP 115) NEUGART (PLE 120) SCHNEIDER (GBX 120)

# 4.3 Rinvii angolari Angle bevel gearboxes



<b>RINVIO ANGOLORE ANGLE BEVEL GEARBOX</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>H</b>	<b>I</b>	<b>X* 1 STAGE</b>	<b>X* 2 STAGES</b>	<b>Y</b>
AAA	13	19,5	13	63	65	27	M4	101	129	80
ABA	16	30	14,5	73	75	30	M6	117	143,5	91,5
ACA	18	35	15	88	90	36	M6	125	165,5	107
ADA	22	40	15	108	110	44	M8	141,5	197	127
AEA	32	50	15	135	140	55	M10	175	234,5	157

\* Il valore "X" varia a seconda della sigla della marca e del rapporto di riduzione del rinvio angolare.  
"X" value depends on the bevel gearbox type, brand and reduction ratio.

<b>RINVIO ANGOLORE ANGLE BEVEL GEARBOX</b>	<b>ESEMPIO DI MARCA E MODELLO BRAND AND TYPE EXAMPLE</b>
AAA	APEX ATB065
ABA	APEX ATB075
ACA	APEX ATB090
ADA	APEX ATB110
AEA	APEX ATB140

5.

## Grandezze 125 / 160 / 240

### 125 / 160 / 240 Sizes

IE 125	pg. 152
IE 160	pg. 162
IE 240	pg. 174

## 5.1

## IE 125

## 5.1.1 Caratteristiche tecniche

## 5.1.1 Technical features

ISOMOVE IE 125		10	20
<b>P</b>	PASSO VITE SCREW LEAD [mm]	10	20
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	63	50
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	80000*	80000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	141,5	283
	"CASO 1" / "CASE 1": B [Nm]	141,5	283
	"CASO 2" / "CASE 2": B+D / B+A [Nm]	$\left[ \frac{157}{R} \right] + C_s$	$\left[ \frac{314}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio	
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B+R (R00) [Nm]	157	314
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1) R = belt gearbox reduction ratio (available R=1)	
	"CASO 4" / "CASE 4": B+R (R120) [Nm]	$\frac{174}{R}$	$\frac{349}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio	
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	100000	100000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	265/1590	667/2000
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]		
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	2	3
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	1200**	1200**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE [Kg]	15 / 5,3	14 / 4,8
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY mm	0,06	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	A RICHIESTA / UPON REQUEST	
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME Km	VEDI TABELLA / SEE TABLE pg. 154	

\* Per le versioni R00/R01 controllare con i grafici delle pagina 156. / For R00/R01 types please check graph at page 156.

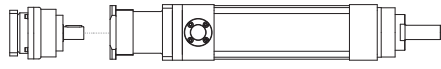
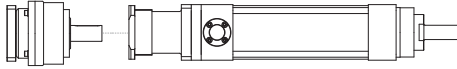
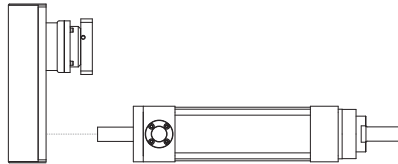
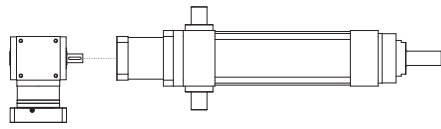
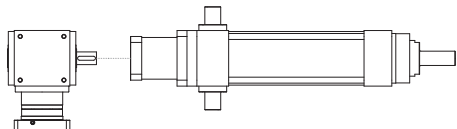
\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.



ISOMOVE IE 125		10	20
VERSIONI DISPONIBILI AVAILABLE TYPES		R00 / R120 / A110 / A140 / D-R120 / D-R155	
$F_{a,p}$	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX	[N] AE120/80000 AE155/80000	AE120/45000*** AE155/75200***
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX	[N] ATB110/37400*** ATB140/80000	ATB110/18600*** ATB140/43000***
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		NON DISPONIBILE / NOT AVAILABLE	

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

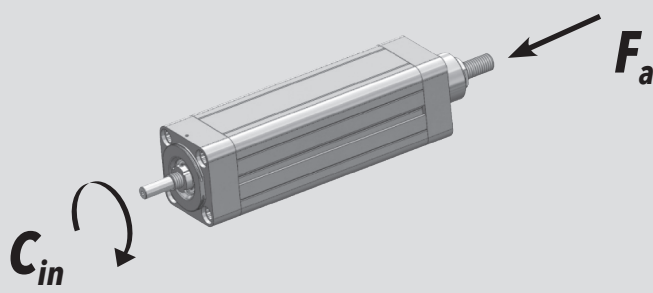
<p>TRASMISSIONE COASSIALE CON RIDUTTORE</p> <p>IN-LINE PLANETARY GEARBOX STAGE</p> <p><b>B+D</b></p>	 <p><b>AE120</b>      MODULO BASE BASIC MODULE</p>  <p><b>AE155</b>      MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE PARALLELA CON RIDUTTORE</p> <p>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p> <p><b>B+R</b></p>	 <p><b>AE120</b>      MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE ANGOLARE CON RINVIO</p> <p>ANGLE BEVEL GEARBOX STAGE</p> <p><b>B+A</b></p>	 <p><b>ATB110</b>      MODULO BASE BASIC MODULE</p>  <p><b>ATB140</b>      MODULO BASE BASIC MODULE</p>

## 5.1.2 Calcolo durata

## 5.1.2 Lifetime calculation

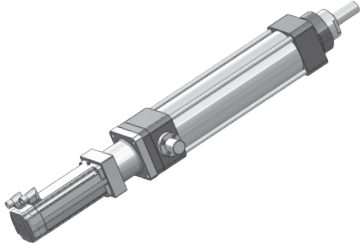
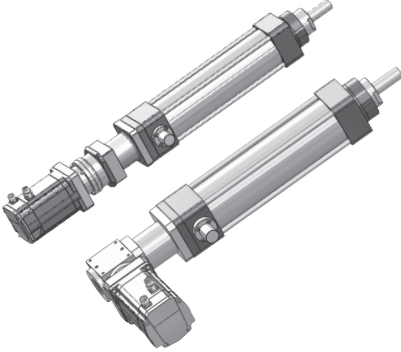
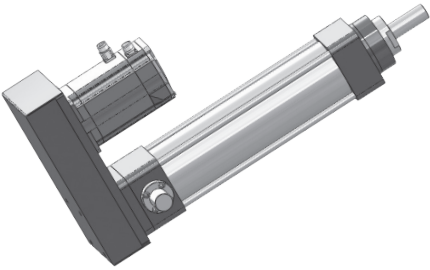
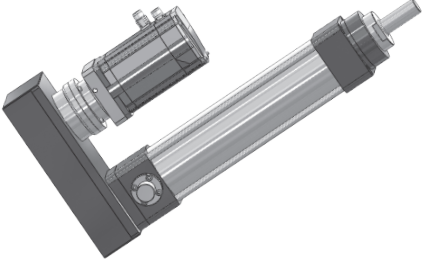
<b>IE 125</b> <b>P = 10 mm</b>	$L_{10,Km} = \left[ \frac{107400}{F_{eq}} \right]^3 \cdot 10$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$
<b>IE 125</b> <b>P = 20 mm</b>	$L_{10,Km} = \left[ \frac{84000}{F_{eq}} \right]^3 \cdot 20$	$L_{10,Km} = [Km]$ $F_{eq} = [N]$

5.1.3 Calcolo coppia in ingresso  
al modulo base5.1.3 Torque calculation at basic  
module input shaft

		
<b>IE 125</b> <b>P = 10 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$
<b>IE 125</b> <b>P = 20 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 20}{5652} \right]$	$C_{in} = [Nm]$ $F_a = [N]$

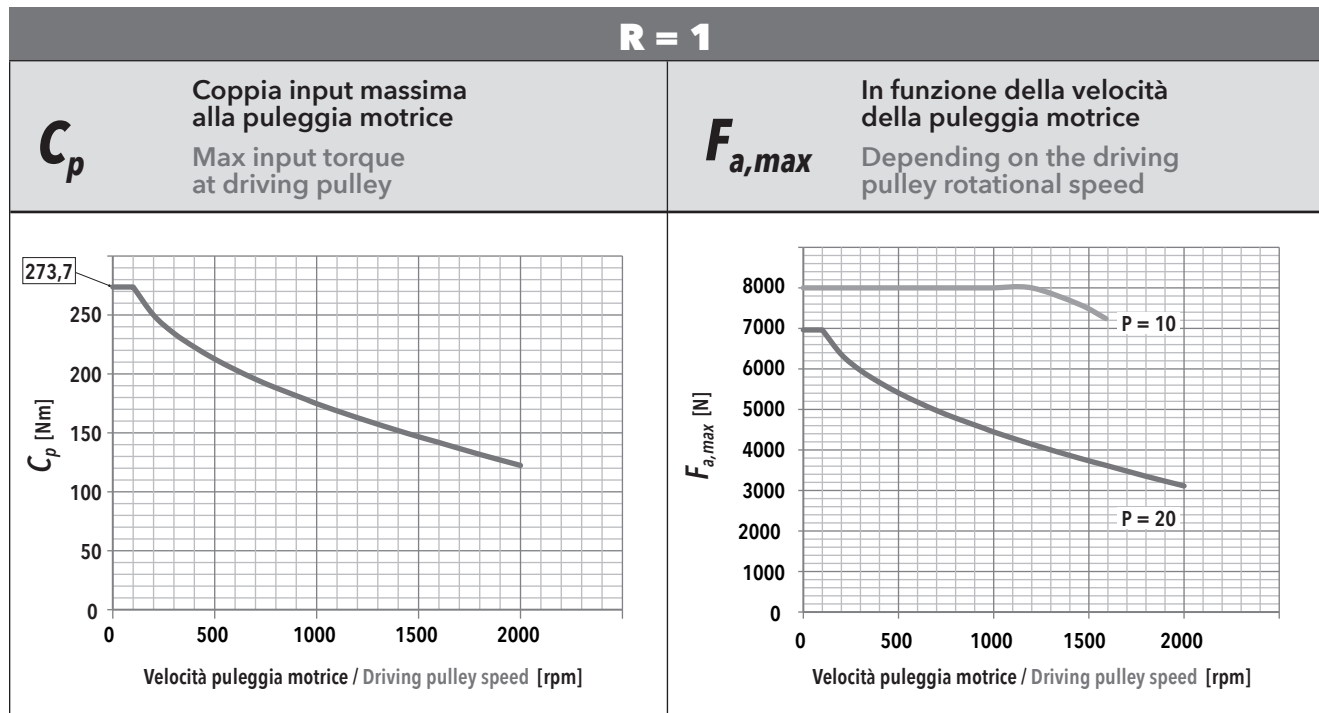
5.1.4 Calcolo coppia motore

5.1.4 Motor torque calculation

<p>CASO / CASE</p> <p><b>1</b></p>	<p style="text-align: center;"><b>ISOMOVE B</b></p>  <p style="text-align: right;"><math>C_m = C_{in}</math> [Nm]</p>
<p>CASO / CASE</p> <p><b>2</b></p>	<p style="text-align: center;"><b>ISOMOVE B+D / B+A</b></p>  <p style="text-align: right;"><math>C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s</math> [Nm]</p> <p><i>R</i> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>3</b></p>	<p style="text-align: center;"><b>ISOMOVE B+R (R00)</b></p>  <p style="text-align: right;"><math>C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right]</math> [Nm]</p> <p><i>R</i> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 belt gearbox reduction ratio, available R=1 <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE</p> <p><b>4</b></p>	<p style="text-align: center;"><b>ISOMOVE B+R (R120)</b></p>  <p style="text-align: right;"><math>C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s</math> [Nm]</p> <p><i>R</i> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <i>η</i> = rendimento meccanico / mechanical efficiency = 0,81</p>

**5.1.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**5.1.5 Mechanical input power at belt gear stage (R type)**

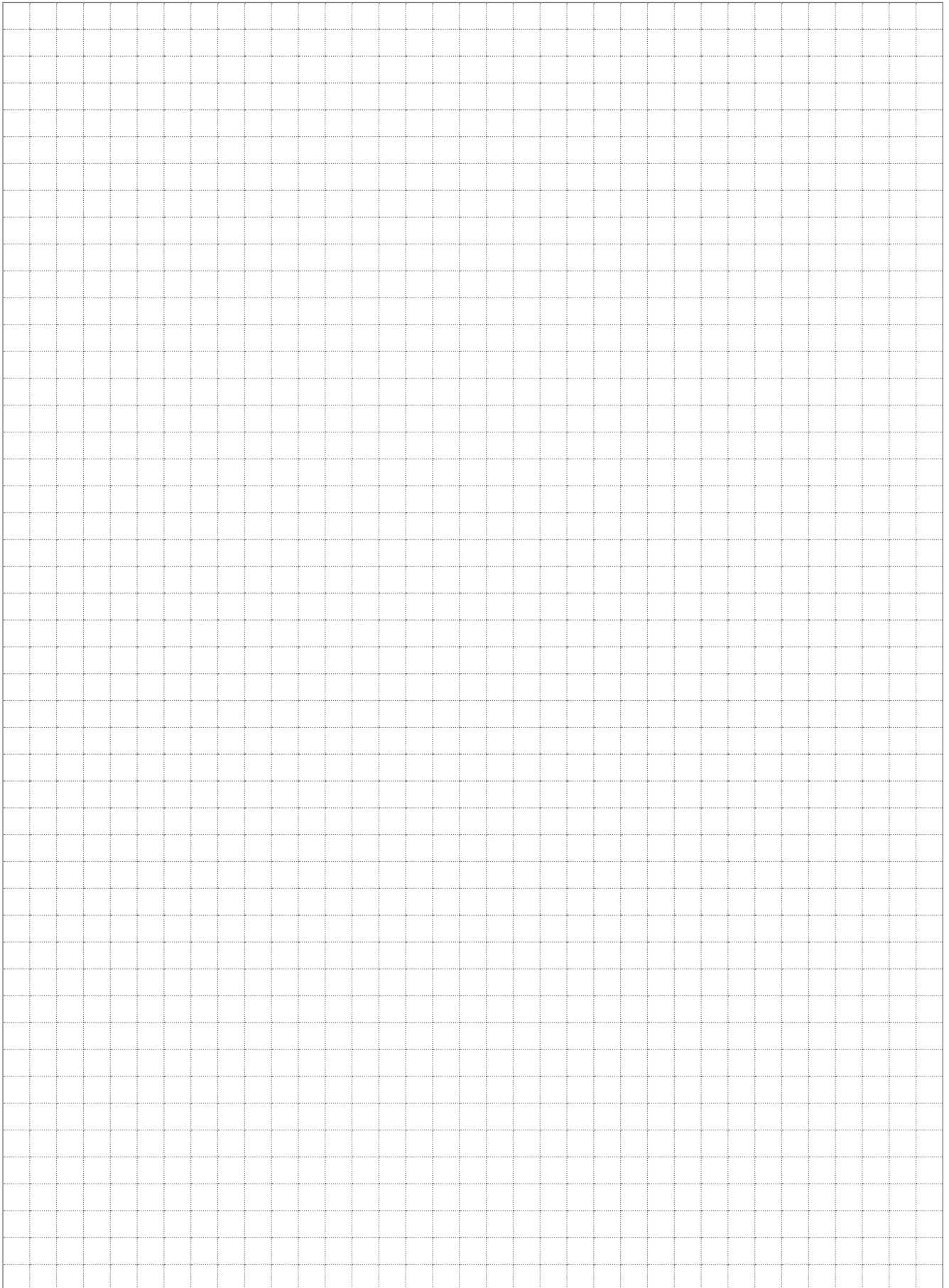


**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 125 - PASSO / PITCH 10					
$F_a$ [N]		$V_{out}$ [mm/s]			
		26,5	106	185,5	265
80000	$F_r$ [N]	2547	2561	2591	
	$f_t$ [Hz]	120	121	121	
72000	$F_r$ [N]	2292	2306	2337	2384
	$f_t$ [Hz]	114	114	115	116
64000	$F_r$ [N]	2038	2052	2082	2129
	$f_t$ [Hz]	108	108	109	110
56000	$F_r$ [N]	1783	1797	1827	1875
	$f_t$ [Hz]	101	101	102	103
48000	$F_r$ [N]	1529	1542	1573	1620
	$f_t$ [Hz]	93	94	95	96
40000	$F_r$ [N]	1274	1288	1318	1365
	$f_t$ [Hz]	85	86	87	88
32000	$F_r$ [N]	1019	1033	1063	1111
	$f_t$ [Hz]	76	77	78	79
24000	$F_r$ [N]	765	779	809	856
	$f_t$ [Hz]	66	67	68	70
16000	$F_r$ [N]	510	524	554	602
	$f_t$ [Hz]	54	55	56	58
8000	$F_r$ [N]	255	269	300	347
	$f_t$ [Hz]	38	39	41	44

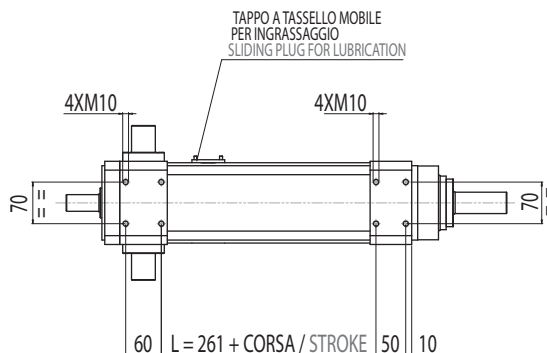
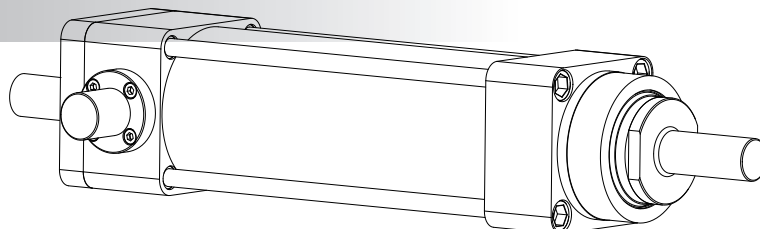
IE 125 - PASSO / PITCH 20					
$F_a$ [N]		$V_{out}$ [mm/s]			
		66,7	266,8	466,9	667
80000	$F_r$ [N]				
	$f_t$ [Hz]				
72000	$F_r$ [N]				
	$f_t$ [Hz]				
64000	$F_r$ [N]	4075			
	$f_t$ [Hz]	152			
56000	$F_r$ [N]	3566			
	$f_t$ [Hz]	142			
48000	$F_r$ [N]	3057	3079		
	$f_t$ [Hz]	132	132		
40000	$F_r$ [N]	2548	2569		
	$f_t$ [Hz]	120	121		
32000	$F_r$ [N]	2038	2060	2108	
	$f_t$ [Hz]	108	108	109	
24000	$F_r$ [N]	1529	1551	1599	
	$f_t$ [Hz]	93	94	95	
16000	$F_r$ [N]	1020	1042	1090	1165
	$f_t$ [Hz]	76	77	79	81
8000	$F_r$ [N]	656	532	581	656
	$f_t$ [Hz]	61	55	57	61



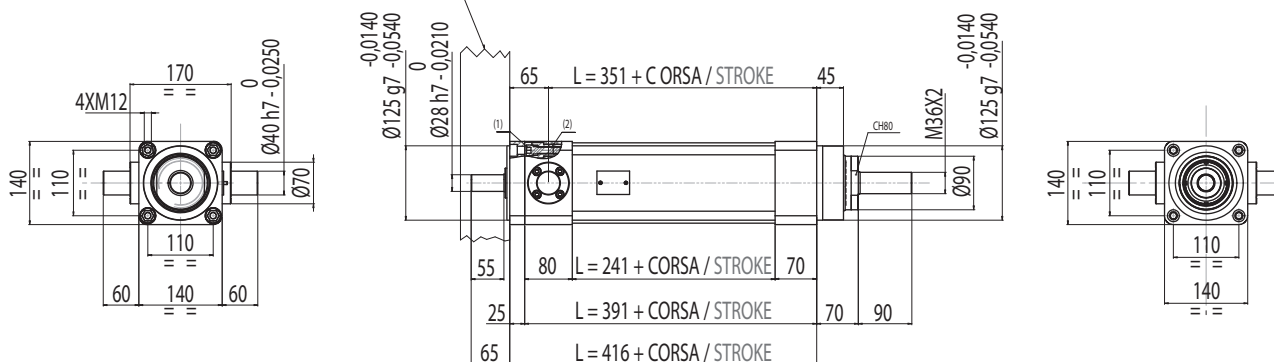
5.1.6 Caratteristiche dimensionali

5.1.6 Overall dimensions

**B**  
**MODULO BASE**  
**BASIC MODULE**



Per fissare la flangia indicata, rimuovere le 4 viti M12 (1) ed utilizzare le 4 filettature (2)  
To assembly the flange indicated, unscrew the 4 screws M12 (1) and use the 4 screws (2)

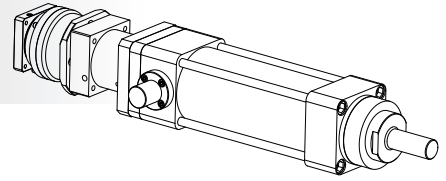




**B+D**

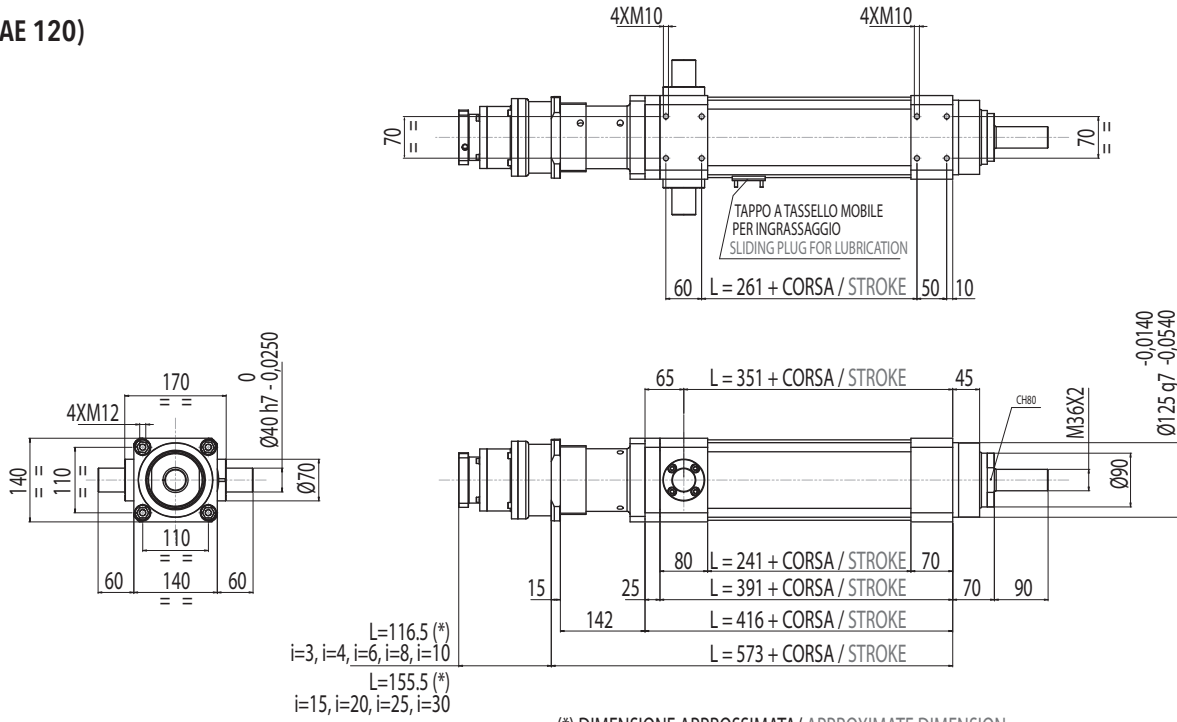
**MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE**

**BASIC MODULE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE**



**R120**

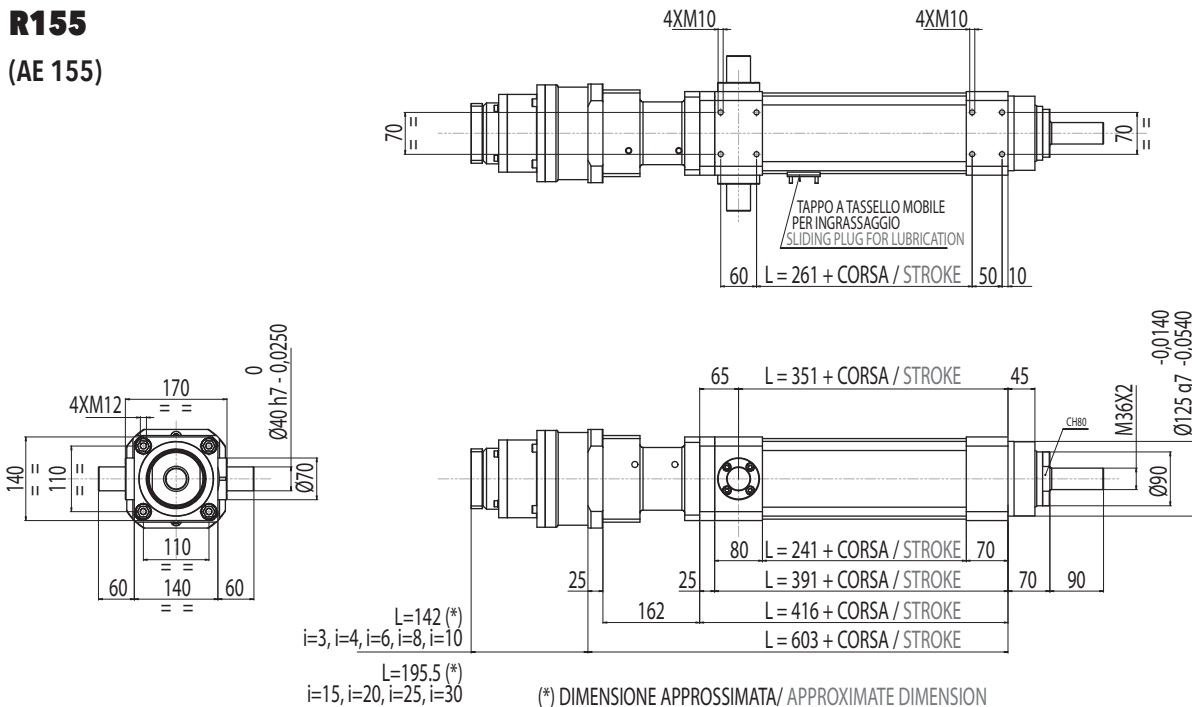
(AE 120)



(\*) DIMENSIONE APPROSSIMATA/ APPROXIMATE DIMENSION

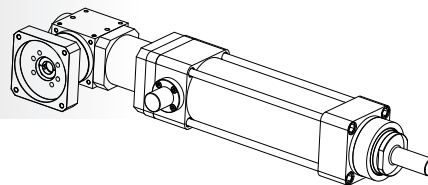
**R155**

(AE 155)

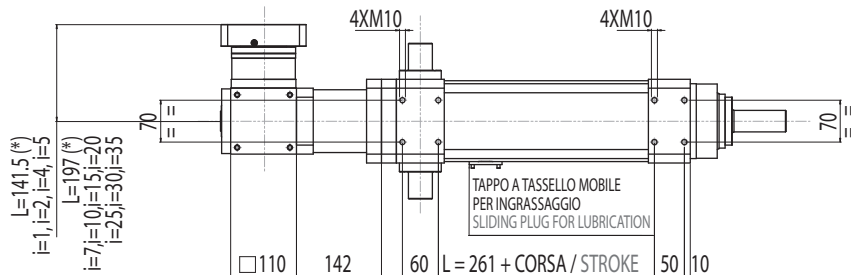


(\*) DIMENSIONE APPROSSIMATA/ APPROXIMATE DIMENSION

**B+A**  
MODULO BASE + RINVIO ANGOLARE  
BASIC MODULE + ANGLE BEVEL GEARBOX STAGE

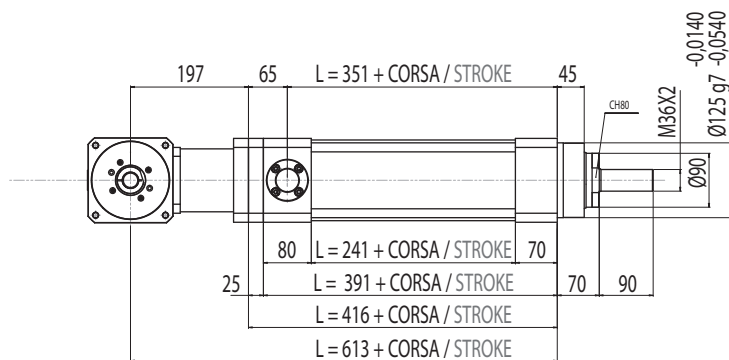
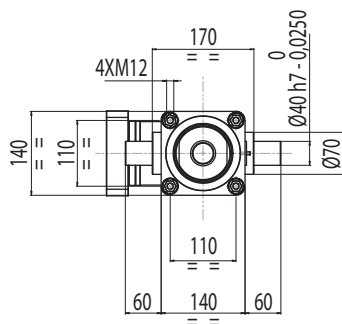


**A110**  
(ATB110-FL1)

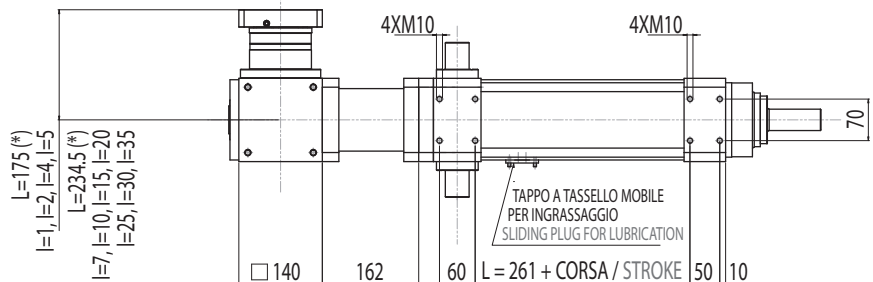


L=141,5 (\*)  
i=1, i=2, i=4, i=5  
L=197 (\*)  
i=7, i=10, i=15, i=20  
i=25, i=30, i=35

(\*) DIMENSIONE APPROSSIMATA/ APPROXIMATE DIMENSION

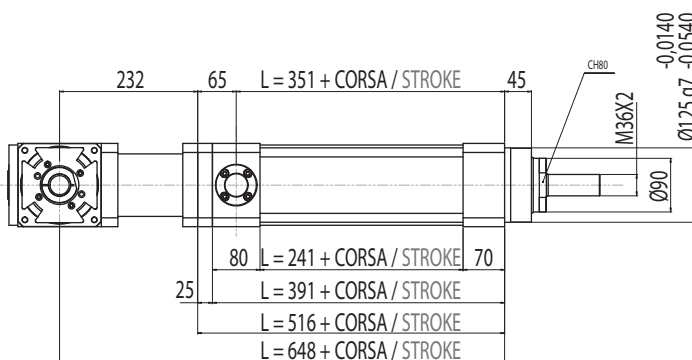
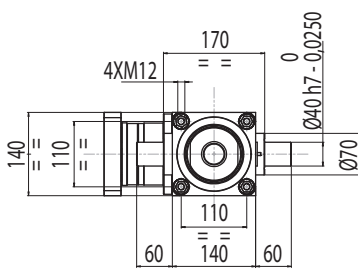


**A140**  
(ATB140-FL1)



L=175 (\*)  
i=1, i=2, i=4, i=5  
L=234,5 (\*)  
i=7, i=10, i=15, i=20  
i=25, i=30, i=35

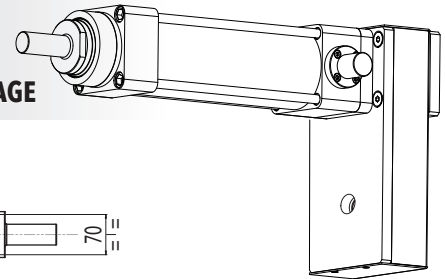
(\*) DIMENSIONE APPROSSIMATA/ APPROXIMATE DIMENSION



**B+R**

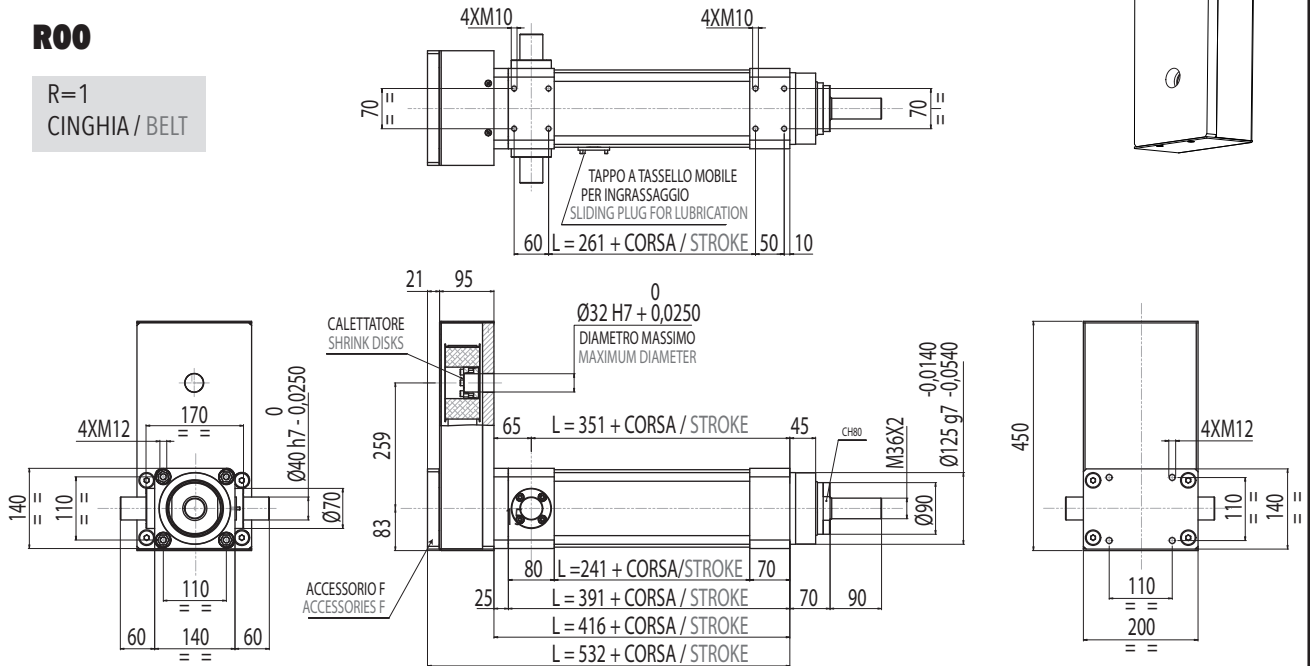
MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO  
PER MOTORE CUSTOM

BASIC MODULE + PARALLEL FOR CUSTOM MOTORS BELT GEARBOX STAGE



**R00**

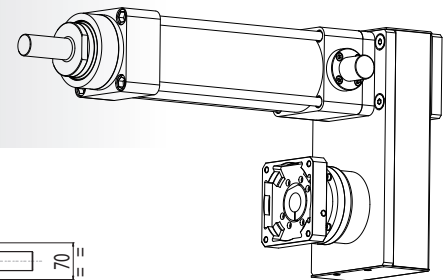
R=1  
CINGHIA / BELT



**B+R**

MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO  
+ RIDUTTORE EPICICLOIDALE R120

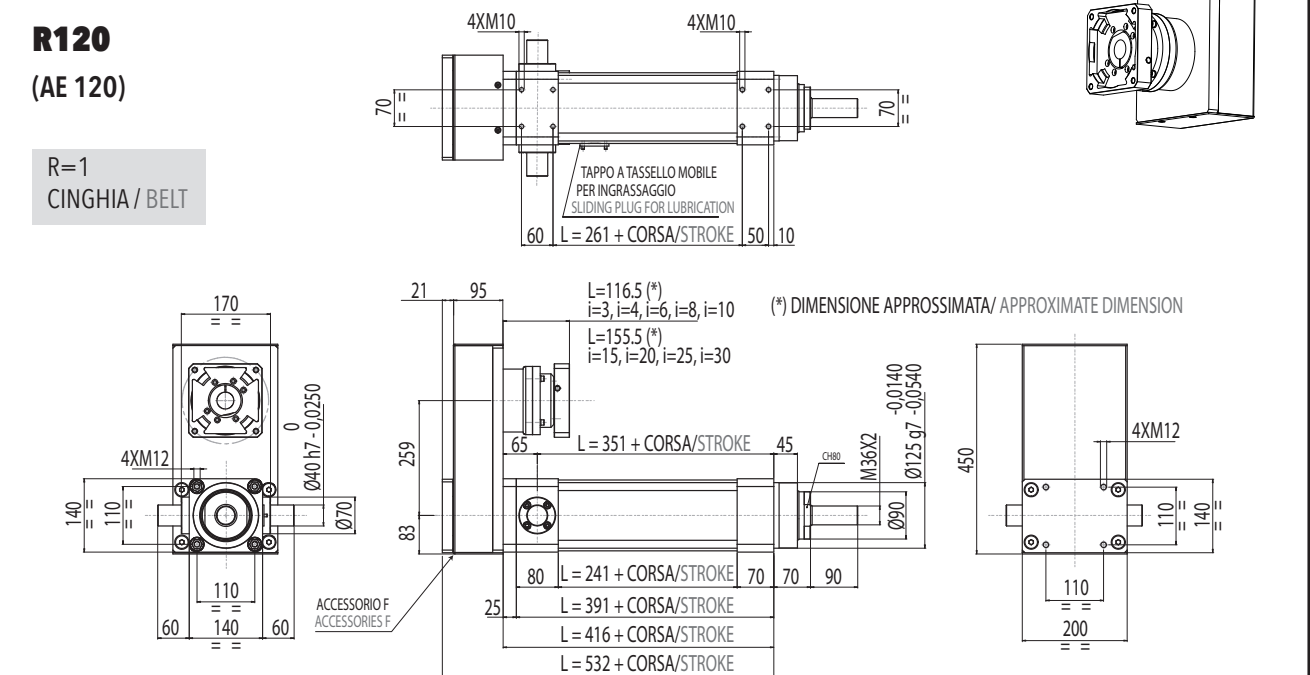
BASIC MODULE + PARALLEL BELT GEARBOX STAGE  
+ IN-LINE PLANETARY GEARBOX REDUCTION STAGE R120



**R120**

(AE 120)

R=1  
CINGHIA / BELT



## 5.2

## IE 160

## 5.2.1 Caratteristiche tecniche

## 5.2.1 Technical features

ISOMOVE IE 160		10	20
<b>P</b>	PASSO VITE SCREW LEAD [mm]	10	20
<b>D</b>	DIAMETRO VITE SCREW DIAMETER [mm]	80	80
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD [N]	100.000*	120.000*
<b>C<sub>in,max</sub></b>	PER AVERE $F_a = F_d$ TO GET [Nm]	177	424
	"CASO 1" / "CASE 1": B [Nm]	177	424
	"CASO 2" / "CASE 2": B+D / B+A [Nm]	$\left[ \frac{197}{R} \right] + C_s$	$\left[ \frac{471}{R} \right] + C_s$
		R = rapporto di riduzione del riduttore / rinvio angolare R = planetary / angle bevel gearbox reduction ratio	
<b>C<sub>m,max</sub></b>	"CASO 3" / "CASE 3": B+R (R00) [Nm]	197	471
		R = rapporto di riduzione della trasmissione a cinghia (disponibile R=1) R = belt gearbox reduction ratio (available R=1)	
	"CASO 4" / "CASE 4": B+R (R120 / R155) [Nm]	$\frac{218}{R}$	$\frac{523}{R}$
		R = rapporto di riduzione del riduttore epicicloidale R = planetary gearbox reduction ratio	
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD [N]	160.000	160.000
<b>V<sub>out,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS [mm/sec]	208/1248	417/1251
<b>N<sub>in,max</sub></b>	MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED [rpm]		
<b>a<sub>max</sub></b>	ACCELERAZIONE MASSIMA IN USCITA MAX OUTPUT ACCELERATION [m/sec <sup>2</sup> ]	2	3
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE [mm]	1200**	1200**
	PESO MODULO BASE CORSA 0 mm / PESO OGNI 100 mm DI CORSA BASIC MODULE WEIGHT FOR 0 mm STROKE / WEIGHT FOR ADDITIONAL 100 mm STROKE [Kg]	19,5 / 7	19,5 / 7
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY mm	0,06	0,06
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY	NON DISPONIBILE / NOT AVAILABLE	
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME Km	VEDI TABELLA / SEE TABLE pg. 164	

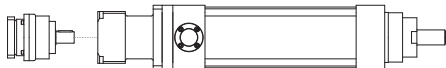
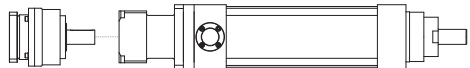
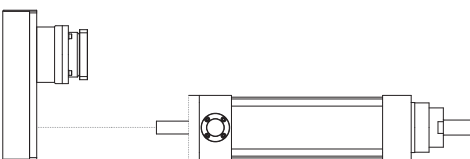
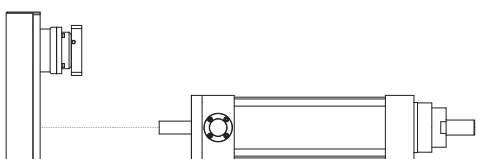
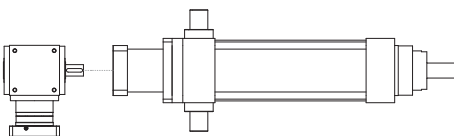
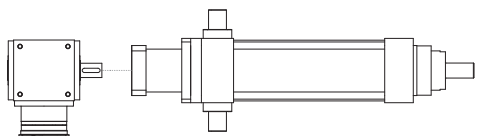
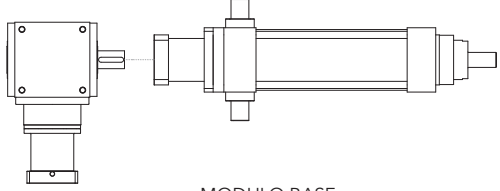
\* Per le versioni R00/R01 controllare con i grafici della pagina 166. / For R00/R01 types please check graph at page 166.

\*\* Per corse superiori, contattare il nostro servizio tecnico. / For longer strokes please contact our technical dpt.

ISOMOVE IE 160		5	20
VERSIONI DISPONIBILI AVAILABLE TYPES		R00 / R120 / R155 / A140 / A170 / A210 / D-R120 / D-R155	
$F_{a,p}$	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX	[N]	AE120/91000*** AE155/100000
	POSSIBILE CON IL RINVIO ANGOLARE INDICATO POSSIBLE VALUE WITH THE INDICATED ANGLE BEVEL GEARBOX	[N]	ATB140/86000*** ATB170/100000 ATB210/100000
ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		NON DISPONIBILE / NOT AVAILABLE	

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

<p>TRASMISSIONE COASSIALE CON RIDUTTORE</p> <p>IN-LINE PLANETARY GEARBOX STAGE</p> <p><b>B+D</b></p>	 <p><b>AE120</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>AE155</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE PARALLELA CON RIDUTTORE</p> <p>PARALLEL BELT GEARBOX STAGE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE</p> <p><b>B+R</b></p>	 <p><b>AE155</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>AE120</b></p> <p>MODULO BASE BASIC MODULE</p>
<p>TRASMISSIONE ANGOLARE CON RINVIO</p> <p>ANGLE BEVEL GEARBOX STAGE</p> <p><b>B+A</b></p>	 <p><b>ATB140</b></p> <p>MODULO BASE BASIC MODULE</p>	 <p><b>ATB170</b></p> <p>MODULO BASE BASIC MODULE</p>
	 <p><b>ATB210</b></p> <p>MODULO BASE BASIC MODULE</p>	

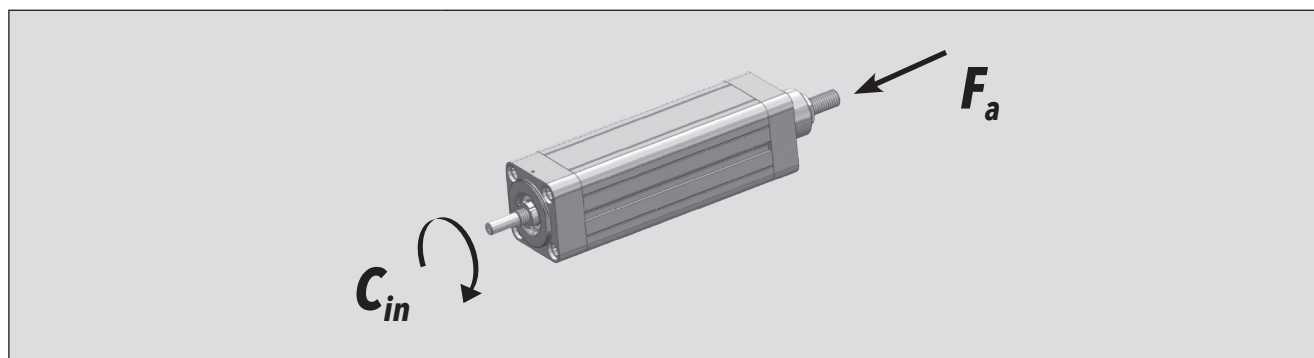
5.2.2 Calcolo durata

5.2.2 Lifetime calculation

<p><b>IE 160</b> <b>P = 10 mm</b></p>	$L_{10,Km} = \left[ \frac{123800}{F_{eq}} \right]^3 \cdot 10$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>
<p><b>IE 160</b> <b>P = 20 mm</b></p>	$L_{10,Km} = \left[ \frac{174000}{F_{eq}} \right]^3 \cdot 20$	<p><math>L_{10,Km} = [Km]</math> <math>F_{eq} = [N]</math></p>

5.2.3 Calcolo coppia in ingresso al modulo base

5.2.3 Torque calculation at basic module input shaft

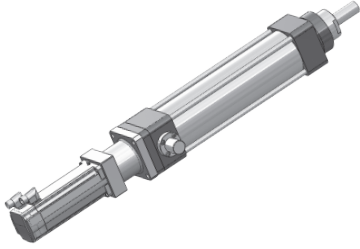
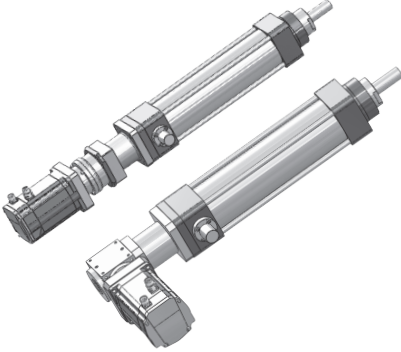
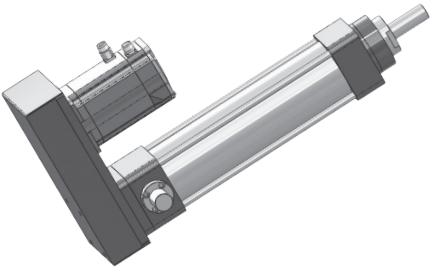
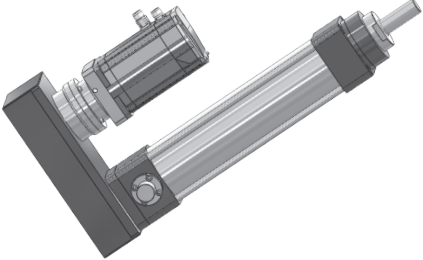


<p><b>IE 160</b> <b>P = 10 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 10}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>
<p><b>IE 160</b> <b>P = 20 mm</b></p>	$C_{in} = \left[ \frac{F_a \cdot 20}{5652} \right]$	<p><math>C_{in} = [Nm]</math> <math>F_a = [N]</math></p>



5.2.4 Calcolo coppia motore

5.2.4 Motor torque calculation

<p>CASO / CASE <b>1</b></p>	<p style="text-align: center;"><b>ISOMOVE B</b></p>  $C_m = C_{in} \quad [Nm]$
<p>CASO / CASE <b>2</b></p>	<p style="text-align: center;"><b>ISOMOVE B+D / B+A</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><i>R</i> = rapporto di riduzione riduttore / rinvio planetary / angle bevel gearbox reduction ratio <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>3</b></p>	<p style="text-align: center;"><b>ISOMOVE B+R (R00)</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] \quad [Nm]$ <p><i>R</i> = rapporto di riduzione trasmissione a cinghia, disponibile R=1 belt gearbox reduction ratio, available R=1 <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90</p>
<p>CASO / CASE <b>4</b></p>	<p style="text-align: center;"><b>ISOMOVE B+R (R120 / R155)</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p><i>R</i> = rapporto di riduzione riduttore epicicloidale planetary gearbox reduction ratio <i>η</i> = rendimento meccanico / mechanical efficiency = 0,81</p>

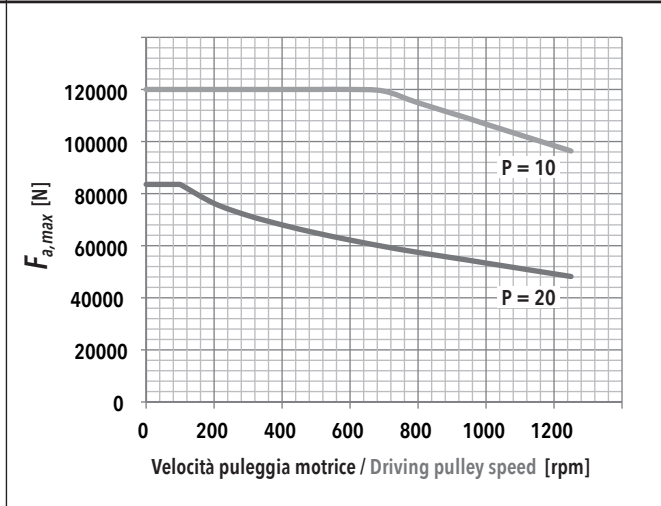
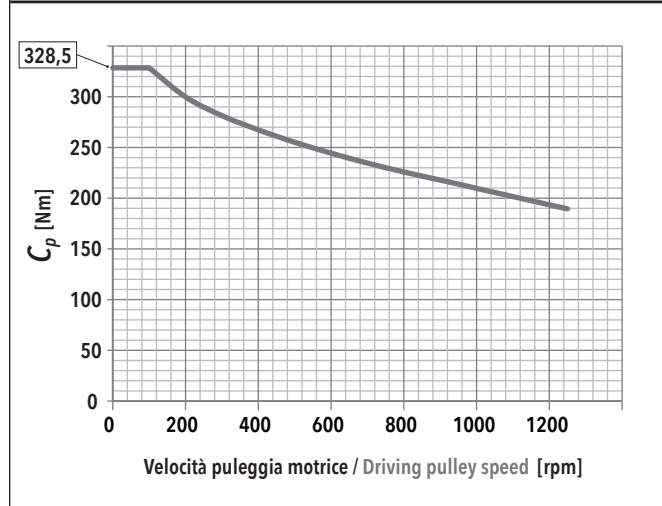
**5.2.5 Potenza in ingresso alla trasmissione a cinghia (versione R)**

**5.2.5 Mechanical input power at belt gear stage (R type)**

**R = 1**

**$C_p$**  Coppia input massima alla puleggia motrice  
Max input torque at driving pulley

**$F_{a,max}$**  In funzione della velocità della puleggia motrice  
Depending on the driving pulley rotational speed

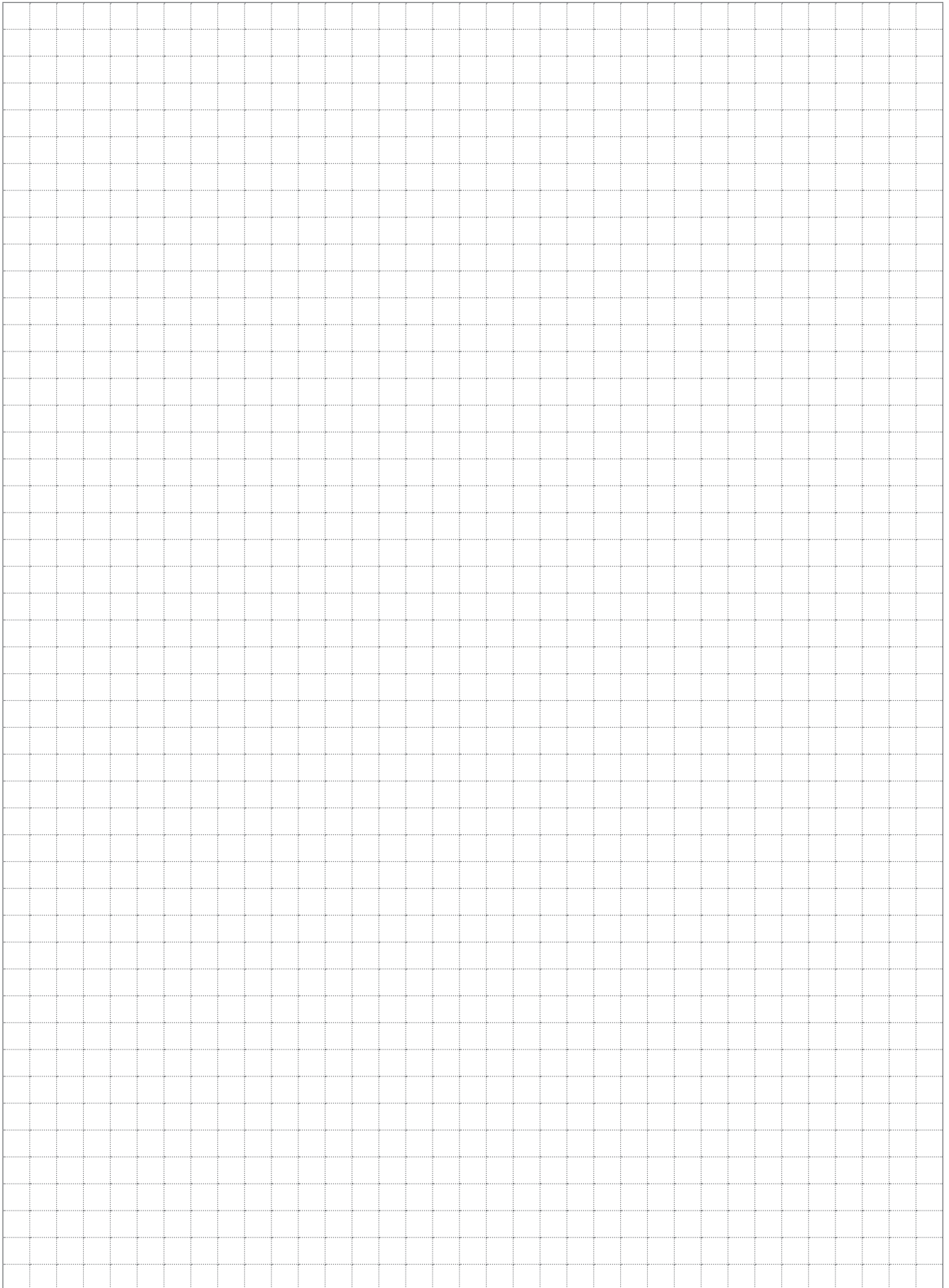


**$F_r$**  Forza radiale su asse puleggia motrice in funzione di  $C_{in}$   
Radial force on driving pulley as a function of  $C_{in}$

**$f_t$**  Frequenza di vibrazione della cinghia per il tensionamento (al montaggio)  
Vibration frequency of the belt for its tensioning (during assembly)

IE 160 - PASSO / PITCH 10					
$F_a$ [N]		$V_{out}$ [mm/s]			
		20,8	83,2	145,6	208
100000	$F_r$ [N]	3183	3192	3210	
	$f_t$ [Hz]	134	135	135	
90000	$F_r$ [N]	2865	2873	2892	2921
	$f_t$ [Hz]	128	128	128	129
80000	$F_r$ [N]	2547	2555	2574	2603
	$f_t$ [Hz]	120	120	121	122
70000	$F_r$ [N]	2228	2237	2255	2285
	$f_t$ [Hz]	113	113	113	114
60000	$F_r$ [N]	1910	1919	1937	1966
	$f_t$ [Hz]	104	104	105	106
50000	$F_r$ [N]	1592	1600	1619	1648
	$f_t$ [Hz]	95	95	96	97
40000	$F_r$ [N]	1274	1282	1301	1330
	$f_t$ [Hz]	85	85	86	87
30000	$F_r$ [N]	955	964	982	1012
	$f_t$ [Hz]	74	74	75	76
20000	$F_r$ [N]	637	646	664	693
	$f_t$ [Hz]	60	61	61	63
10000	$F_r$ [N]	319	327	346	375
	$f_t$ [Hz]	43	43	44	46

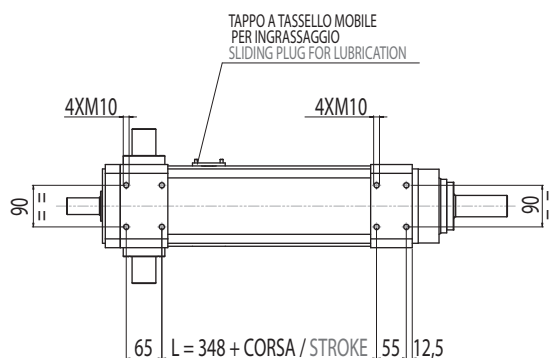
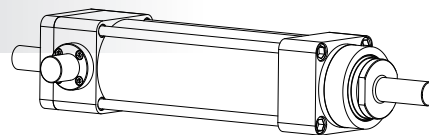
IE 160 - PASSO / PITCH 20					
$F_a$ [N]		$V_{out}$ [mm/s]			
		41,7	166,8	291,9	417
120000	$F_r$ [N]				
	$f_t$ [Hz]				
108000	$F_r$ [N]				
	$f_t$ [Hz]				
96000	$F_r$ [N]				
	$f_t$ [Hz]				
84000	$F_r$ [N]	5347			
	$f_t$ [Hz]	174			
72000	$F_r$ [N]	4583			
	$f_t$ [Hz]	161			
60000	$F_r$ [N]	3820	3828		
	$f_t$ [Hz]	147	147		
48000	$F_r$ [N]	3056	3064	3083	
	$f_t$ [Hz]	132	132	132	
36000	$F_r$ [N]	2292	2301	2320	2349
	$f_t$ [Hz]	114	114	115	116
24000	$F_r$ [N]	1528	1537	1556	1585
	$f_t$ [Hz]	93	93	94	95
12000	$F_r$ [N]	764	773	792	821
	$f_t$ [Hz]	66	66	67	68



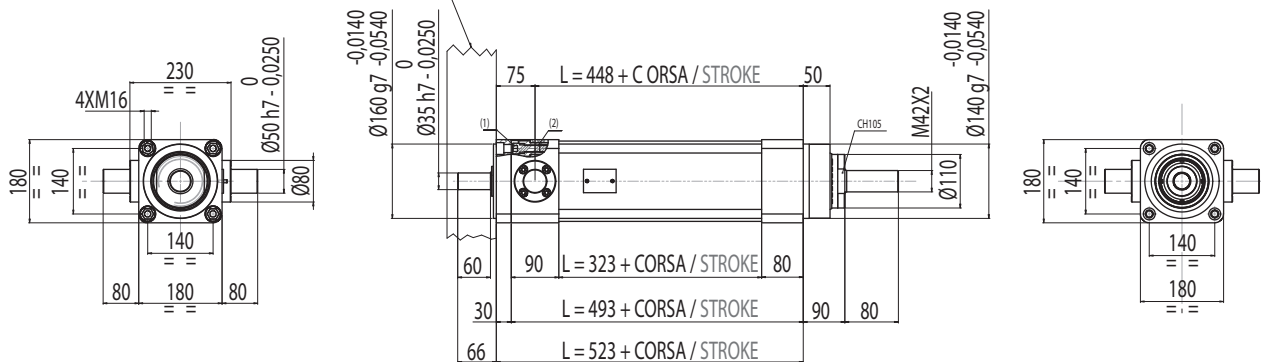
5.2.6 Caratteristiche dimensionali

5.2.6 Overall dimensions

**B**  
**MODULO BASE**  
**BASIC MODULE**



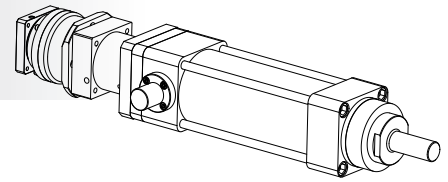
Per fissare la flangia indicata, rimuovere  
le 4 viti M12 (1) ed utilizzare le 4 filettature (2)  
To assembly the flange indicated, unscrew  
the 4 screws M12 (1) and use the 4 screws (2)



**B+D**

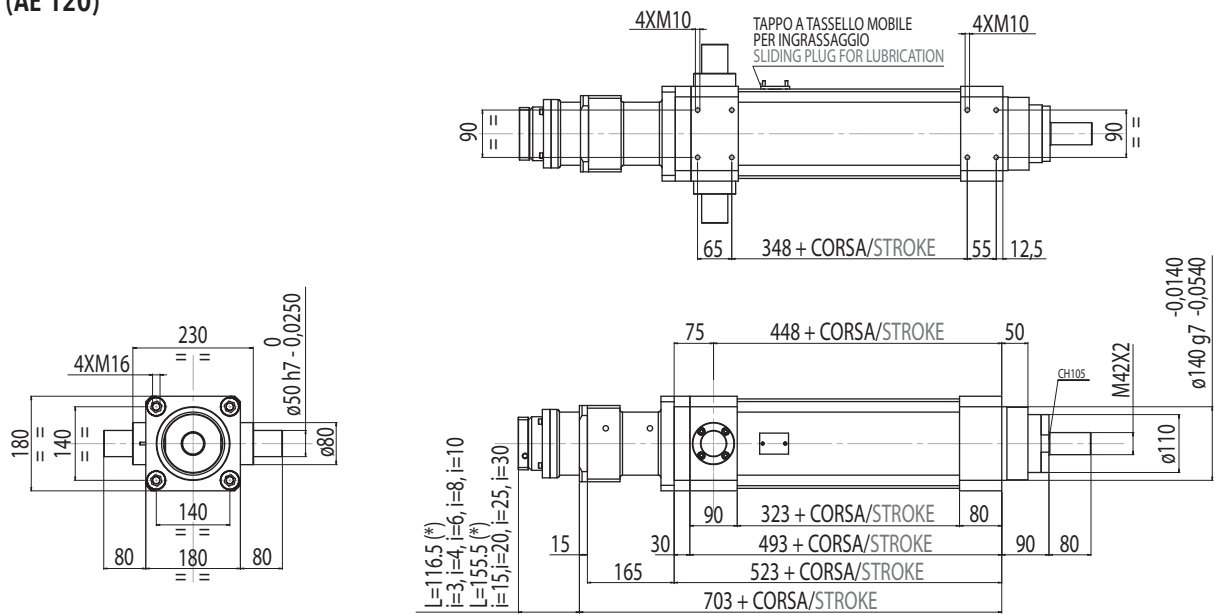
**MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE**

**BASIC MODULE + IN-LINE PLANETARY GEARBOX REDUCTION STAGE**



**R120**

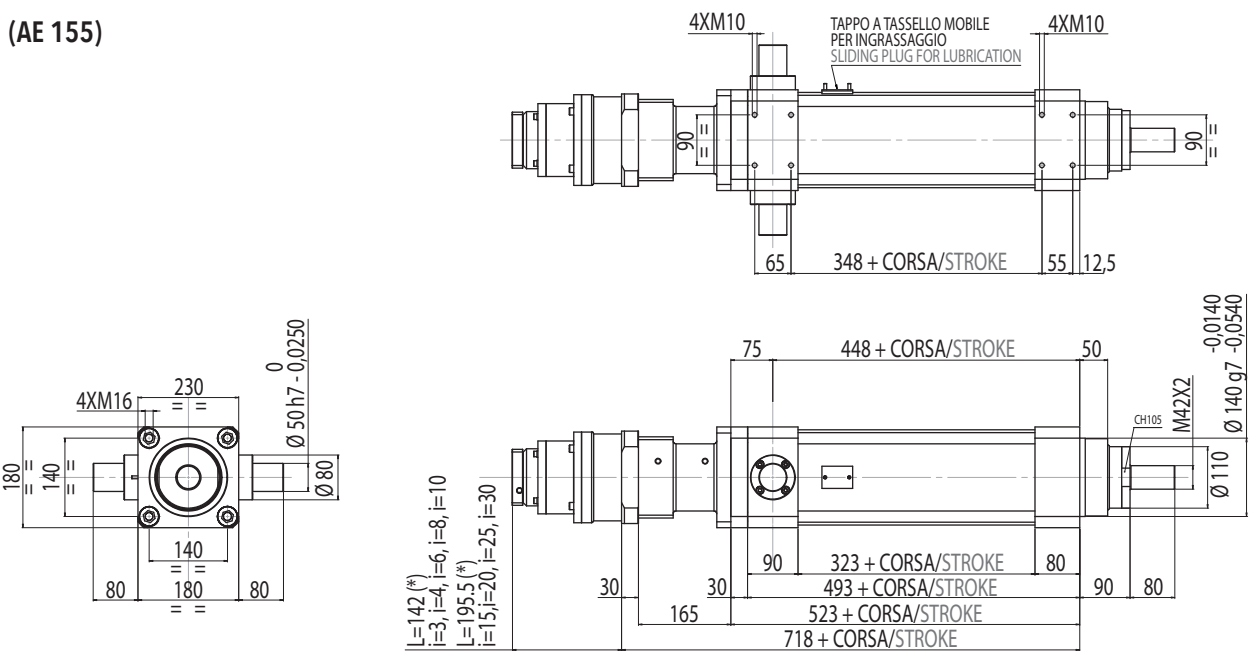
(AE 120)



(\*) DIMENSIONE APPROSSIMATA / APPROXIMATE DIMENSION

**R155**

(AE 155)

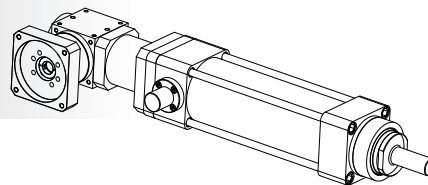


(\*) DIMENSIONE APPROSSIMATA / APPROXIMATE DIMENSION

**B+A**

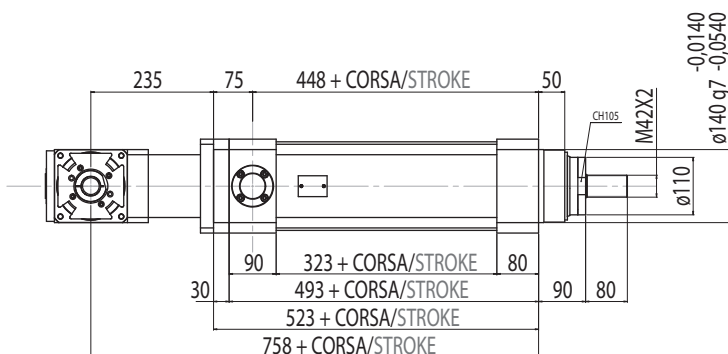
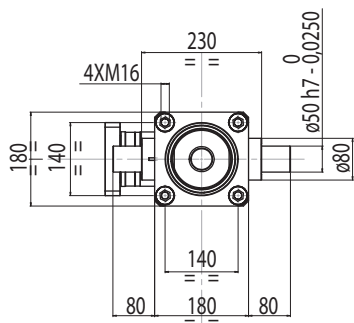
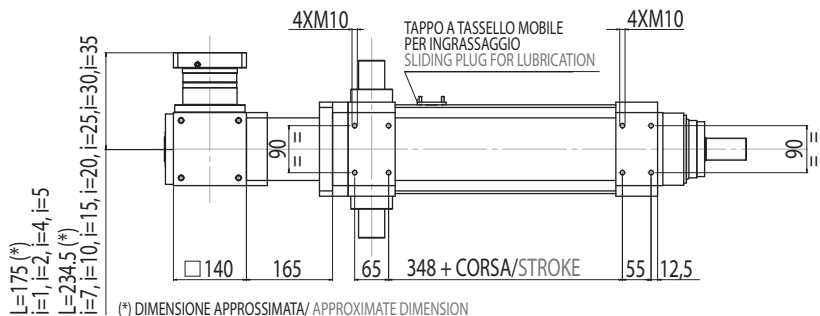
**MODULO BASE + RINVIO ANGOLARE**

**BASIC MODULE + ANGLE BEVEL GEARBOX STAGE**



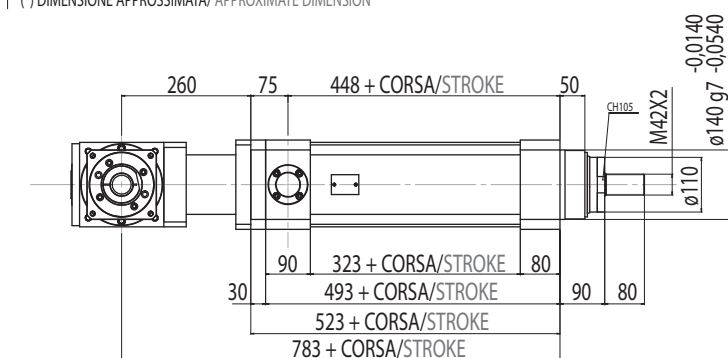
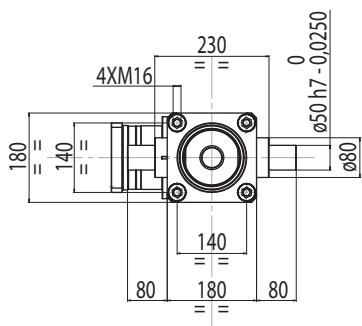
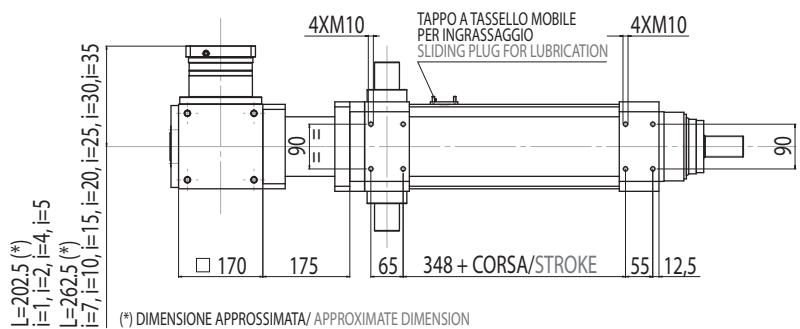
**A140**

(ATB140-FL1)



**A170**

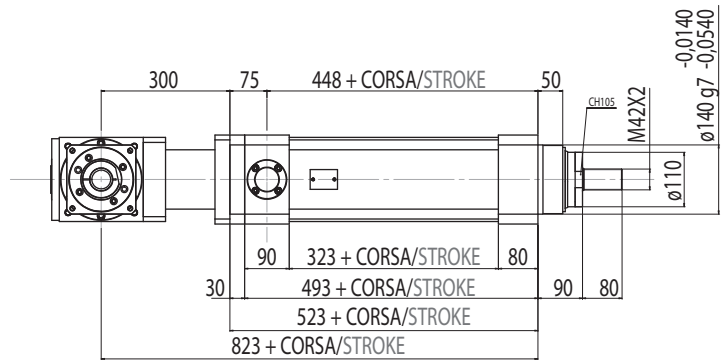
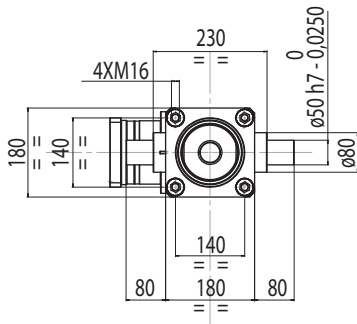
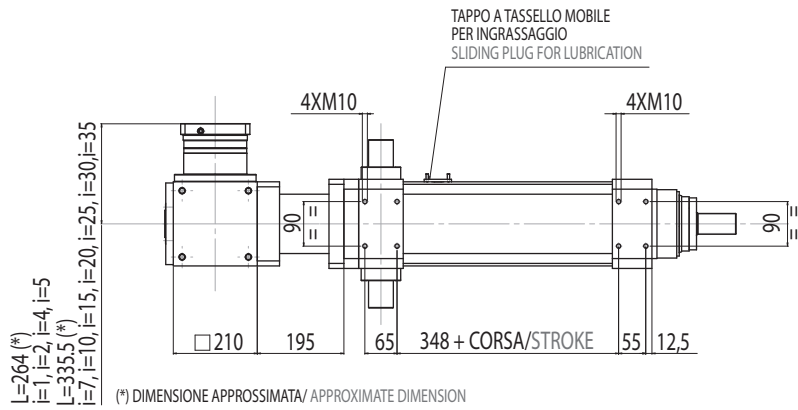
(ATB170-FL1)





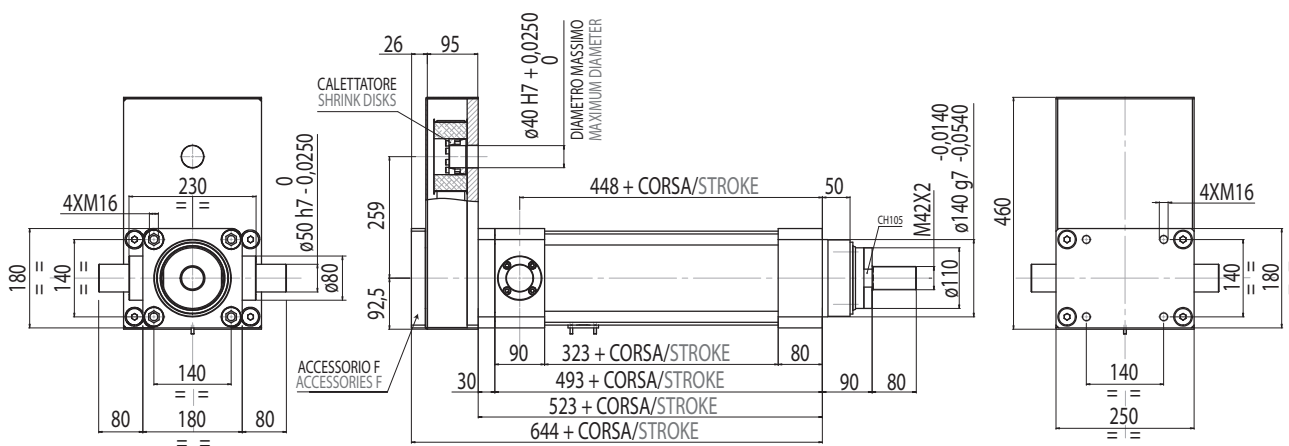
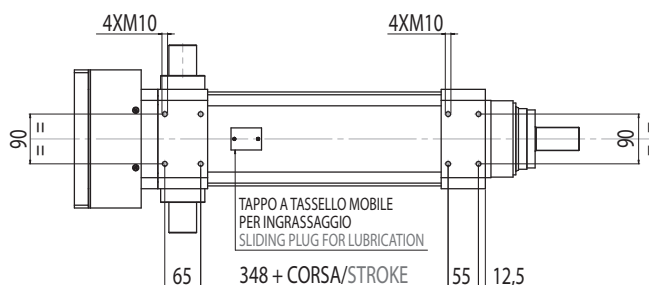
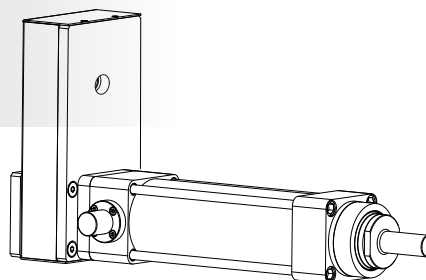
**A210**

(ATB210-FL1)



**B+R**  
**MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO**  
**PER MOTORE CUSTOM**  
**BASIC MODULE + PARALLEL FOR CUSTOM MOTORS**  
**BELT GEARBOX STAGE**

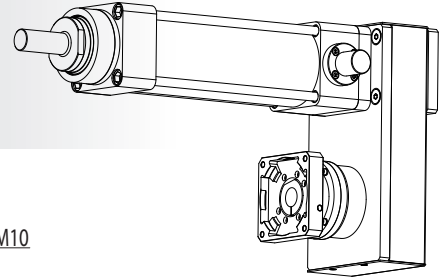
**R00**



**B+R**

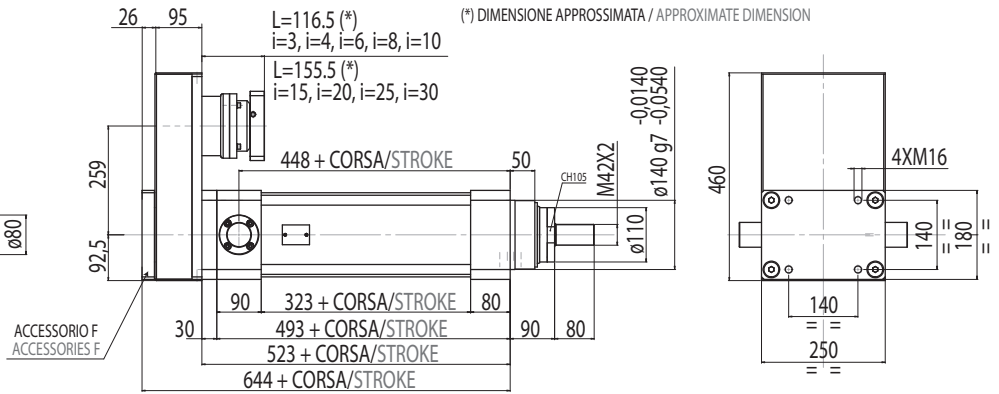
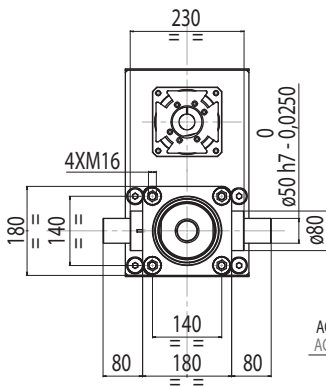
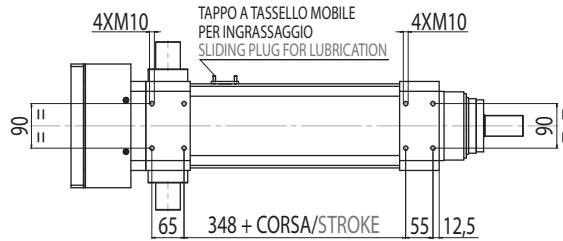
**MODULO BASE + TRASMISSIONE A CINGHIA IN PARALLELO  
+ RIDUTTORE EPICICLOIDALE R120/R155**

**BASIC MODULE + PARALLEL BELT GEARBOX STAGE  
+ IN-LINE PLANETARY GEARBOX REDUCTION STAGE R120/R155**



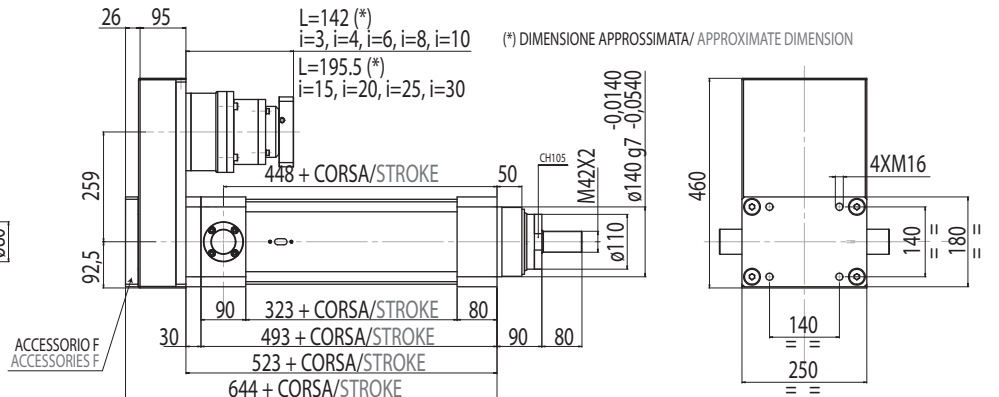
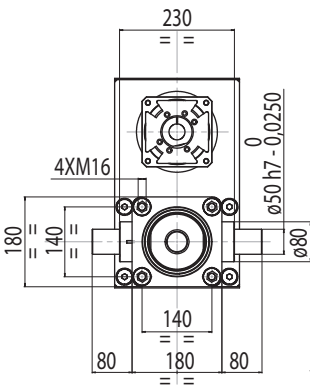
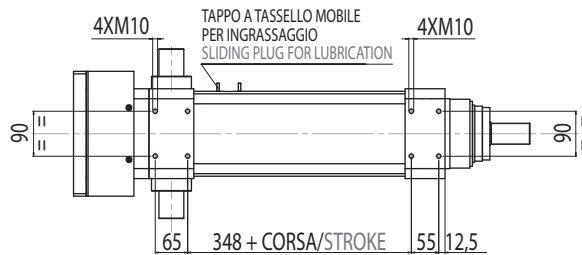
**R120**

(AE 120)



**R155**

(AE 155)



## 5.3

## IE 240

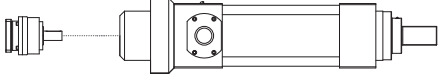
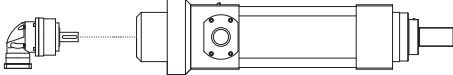
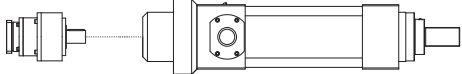
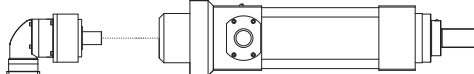
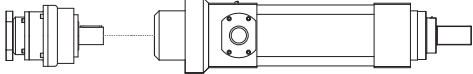
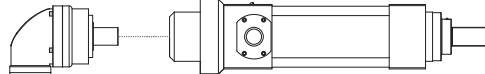
## 5.3.1 Caratteristiche tecniche

## 5.3.1 Technical features

ISOMOVE IE 240			25
<b>P</b>	PASSO VITE SCREW LEAD	[mm]	25
<b>D</b>	DIAMETRO VITE SCREW DIAMETER	[mm]	80
<b>F<sub>d</sub></b>	CARICO MASSIMO DINAMICO APPLICABILE MAX ADMISSIBLE DYNAMIC LOAD	[N]	350000
<b>C<sub>in,max</sub></b>	PER AVERE TO GET $F_a = F_d$	[Nm]	1548
<b>C<sub>m,max</sub></b>	"CASO 1" / "CASE 1": B	[Nm]	1548
	"CASO 2" / "CASE 2": B+D (R155/R205/R235/RA155/RA205/RA235)	[Nm]	$\left[ \frac{1720}{R} \right] + C_s$ R = rapporto di riduzione del riduttore / riduttore rinviato R = planetary / angle bevel gearbox reduction ratio
<b>F<sub>st</sub></b>	CARICO MASSIMO STATICO APPLICABILE MAX ADMISSIBLE STATIC LOAD	[N]	500000
<b>V<sub>out,max</sub></b> <b>N<sub>in,max</sub></b>	VELOCITÀ DI TRASLAZIONE MASSIMA IN USCITA / ROTAZIONE MASSIMA VITE RDS MAX OUTPUT SPEED / MAX BALLSCREW ROTATING INPUT SPEED	[mm/sec] [rpm]	417/1000
<b>S<sub>max</sub></b>	CORSA MASSIMA STANDARD MAX STANDARD STROKE	[mm]	1100**
<b>G<sub>s,max</sub></b>	GIOCO ASSIALE MASSIMO PER CHIOCCIOLA STANDARD MAX AXIAL BACKLASH FOR STANDARD BALLSCREW ASSEMBLY	mm	0,05
<b>G<sub>z</sub></b>	GIOCO "0" DELLA CHIOCCIOLA "0" BACKLASH BALLSCREW ASSEMBLY		A RICHIESTA / UPON REQUEST
<b>L<sub>10,Km</sub></b>	DURATA LIFETIME	Km	VEDI TABELLA / SEE TABLE pg. 175
	VERSIONI DISPONIBILI AVAILABLE TYPES		D-R155 / D-R205 / D-R235 D-RA155 / D-RA205 / D-RA235
<b>F<sub>a,max</sub></b>	POSSIBILE CON IL RIDUTTORE EPICICLOIDALE INDICATO POSSIBLE VALUE WITH THE INDICATED PLANETARY GEARBOX	[N]	AE155-AER155/60200*** AE205-AER205/103000*** AE235-AER235/350000***
	ACCESSORI DISPONIBILI AVAILABLE ACCESSORIES		NON DISPONIBILE / NOT AVAILABLE

\*\*\* È il valore massimo ottenibile con il rapporto di riduzione disponibile avente il minore valore di coppia erogabile.  
It is the max obtainable value with the available on tables reduction ratio which has the lowest value of nominal output torque.

**RIDUTTORI-RINVII "STANDARD SETEC GROUP DISPONIBILI"**  
**"STANDARD SETEC GROUP AVAILABLE" PLANETARY-ANGLE BEVEL GEARBOXES**

TRASMISSIONE CON RIDUTTORE  PLANETARY GEARBOX STAGE	 <b>AE155</b>	MODULO BASE BASIC MODULE	 <b>AER155</b>	MODULO BASE BASIC MODULE
	 <b>AE205</b>	MODULO BASE BASIC MODULE	 <b>AER205</b>	MODULO BASE BASIC MODULE
	 <b>AE235</b>	MODULO BASE BASIC MODULE	 <b>AER235</b>	MODULO BASE BASIC MODULE

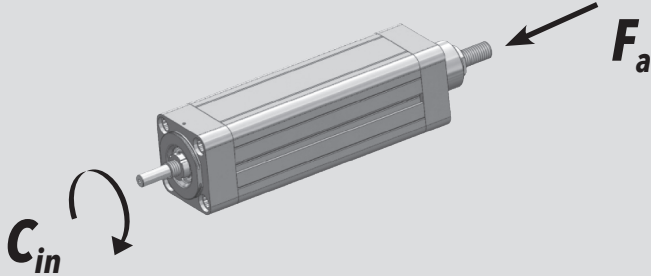
**5.3.2 Calcolo durata**

**5.3.2 Lifetime calculation**

<b>IE 240</b> <b>P = 25 mm</b>	$L_{10,Km} = \left[ \frac{800000}{F_{eq}} \right]^3 \cdot 25$	<b>L<sub>10,Km</sub></b> = [Km] <b>F<sub>eq</sub></b> = [N]
-----------------------------------	---	--

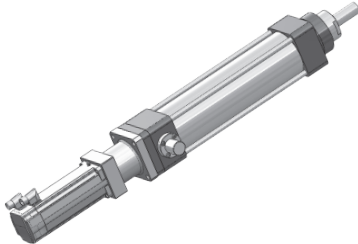
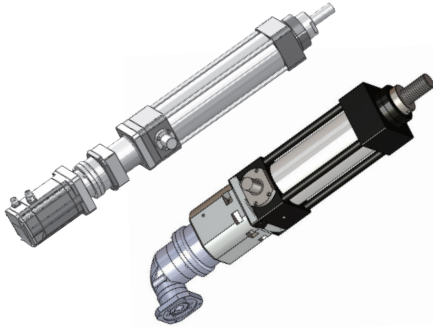
**5.2.3 Calcolo coppia in ingresso al modulo base**

**5.2.3 Torque calculation at basic module input shaft**

		
<b>IE 240</b> <b>P = 25 mm</b>	$C_{in} = \left[ \frac{F_a \cdot 25}{5652} \right]$	<b>C<sub>in</sub></b> = [Nm] <b>F<sub>a</sub></b> = [N]

## 5.3.4 Calcolo coppia motore

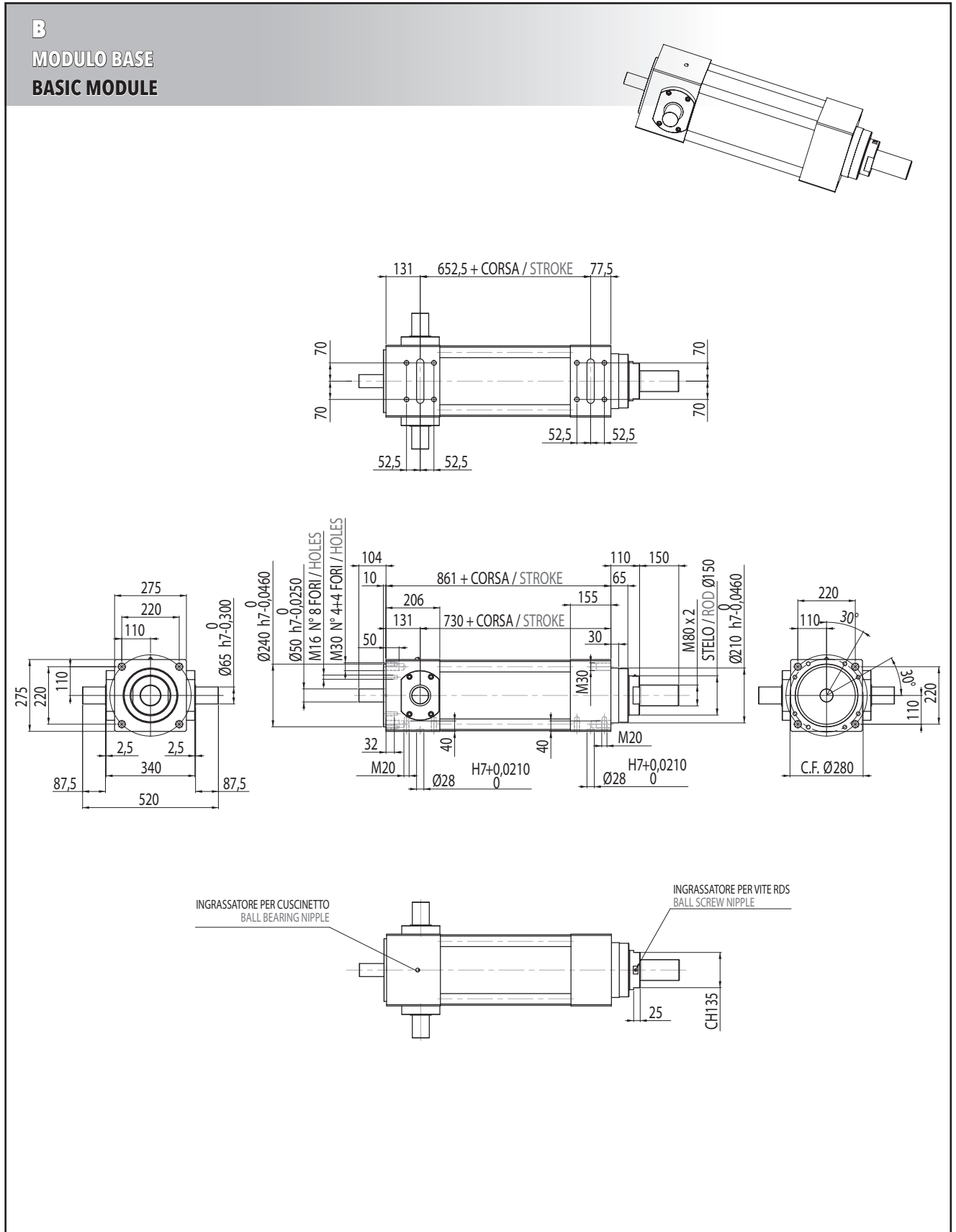
## 5.3.4 Motor torque calculation

CASO / CASE  <b>1</b>	<p style="text-align: center;"><b>ISOMOVE B</b></p>  $C_m = C_{in} \quad [Nm]$
CASO / CASE  <b>2</b>	<p style="text-align: center;"><b>ISOMOVE B+D</b> <b>(R155/R205/R235/RA155/RA205/RA235)</b></p>  $C_m = \left[ \frac{C_{in}}{R \cdot \eta} \right] + C_s \quad [Nm]$ <p> <i>R</i> = rapporto di riduzione riduttore / rinvio            planetary / angle bevel gearbox reduction ratio  <i>η</i> = rendimento meccanico / mechanical efficiency = 0,90         </p>



5.3.5 Caratteristiche dimensionali

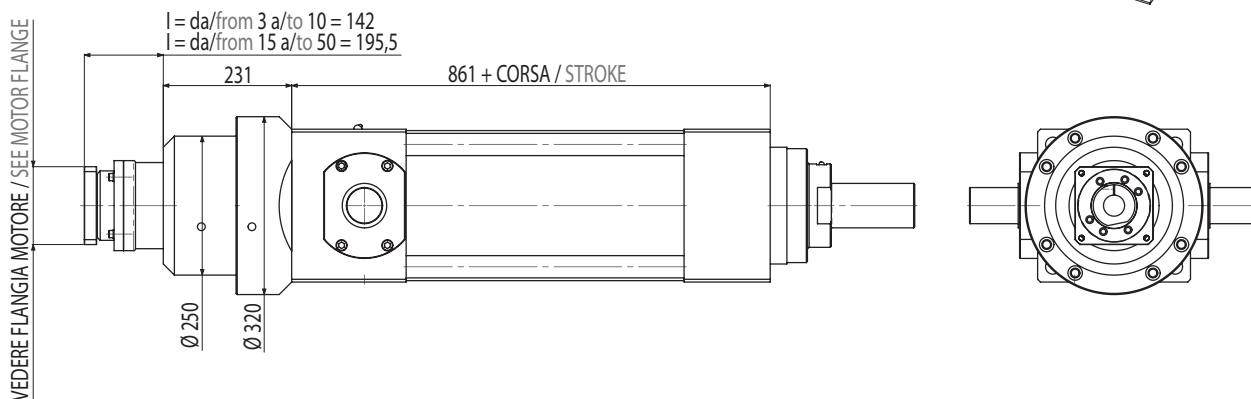
5.3.5 Overall dimensions



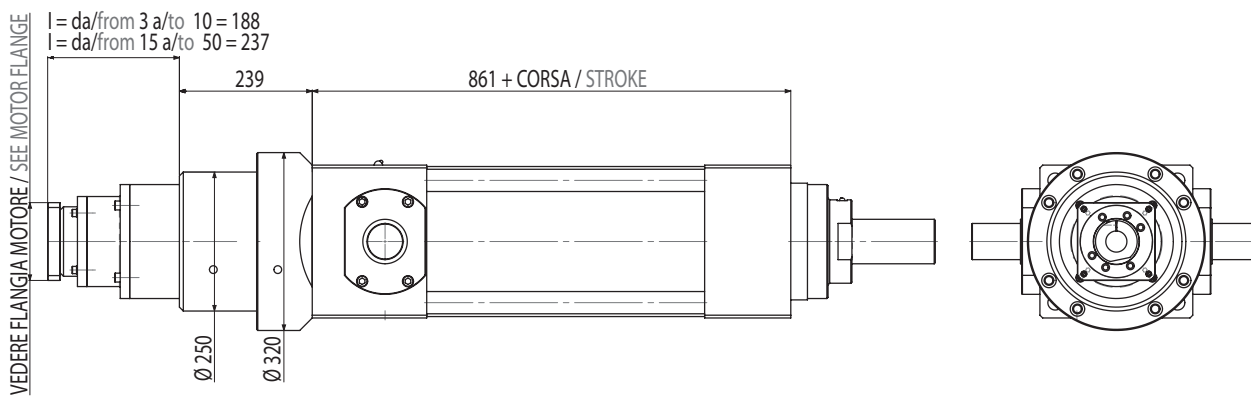
**B+D**

**MODULO BASE + RIDUTTORE EPICICLOIDALE COASSIALE  
BASIC MODULE + IN-LINE PLANETARY GEARBOX STAGE**

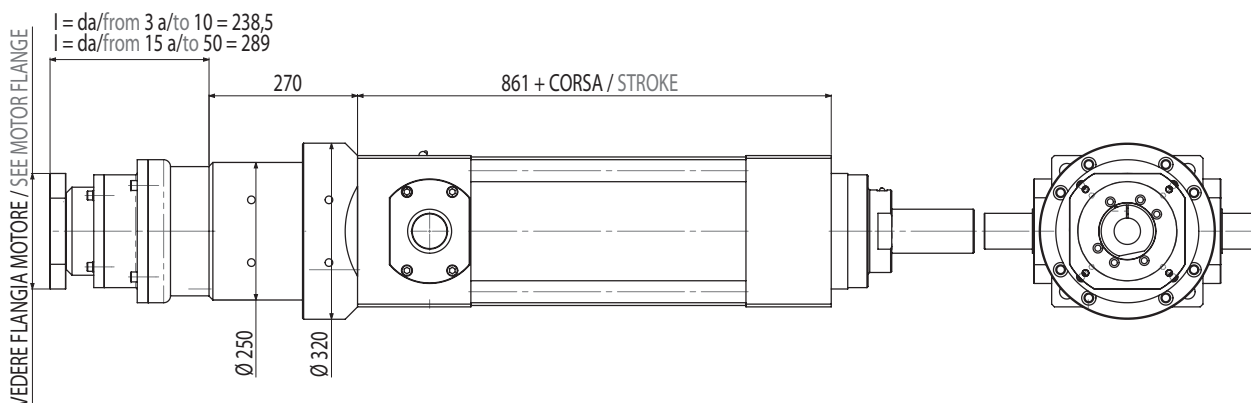
**R155**



**R205**

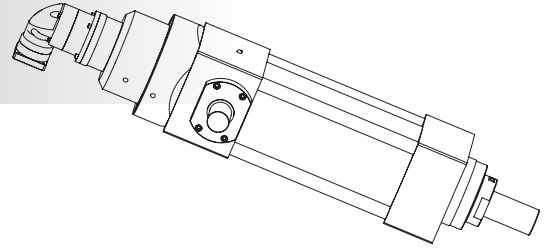


**R235**



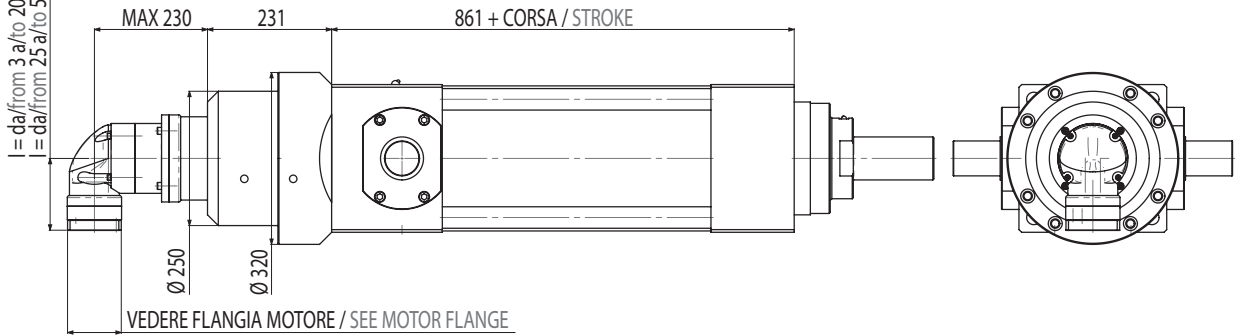
**B+D**

**MODULO BASE + RIDUTTORE EPICICLOIDALE ANGOLARE**  
**BASIC MODULE + PLANETARY ANGLE BEVEL GEARBOX STAGE**



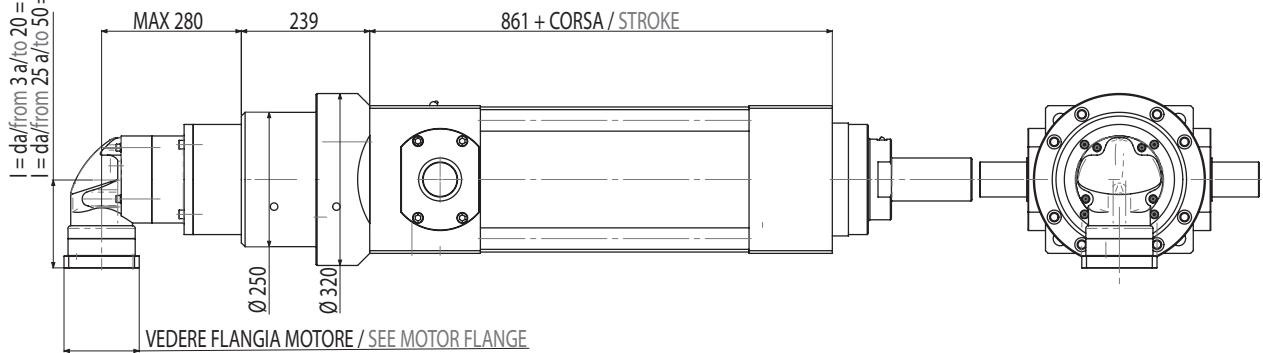
**RA155**

$i = da / \text{from } 3 \text{ a/to } 20 = 164,5$   
 $i = da / \text{from } 25 \text{ a/to } 50 = 134$



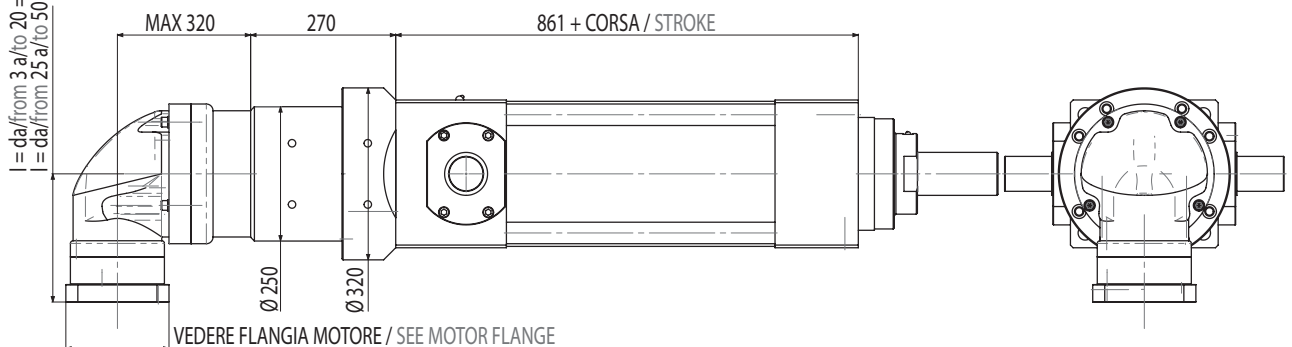
**RA205**

$i = da / \text{from } 3 \text{ a/to } 20 = 213,5$   
 $i = da / \text{from } 25 \text{ a/to } 50 = 164,5$



**RA235**

$i = da / \text{from } 3 \text{ a/to } 20 = 268,5$   
 $i = da / \text{from } 25 \text{ a/to } 50 = 213,5$





6.

## Schede tecniche Riduttori / Rinvii angolari

### Planetary gearboxes / Angle bevel gearboxes datasheets

Riduttori / Planetary gearboxes pg. 182

Rinvii angolari / Angle bevel gearboxes pg. 184

## 6.1

Scheda tecnica riduttori  
Planetary gearboxes datasheets

RIDUTTORI SERIE "AE" / PLANETARY GEARBOXES "AE" SERIES									
MODELLO MODEL	R	AE050	AE070	AE090	AE120	AE155 AER155	AE205 AER205	AE235 AER235	
<b>MONOSTADIO / 1 STAGE</b>	3	14	39	91	146	239	412	798	
		0,33	0,44	0,77	1,98	2,53	4,84	8,8	
	4	13	35	98	203	379	735	1190	
		0,33	0,44	0,77	1,98	2,53	4,84	8,8	
	5	15	42	112	231	455	840	1400	
		0,33	0,44	0,77	1,98	2,53	4,84	8,8	
	$C_{rid}$ COPPIA NOMINALE IN USCITA NOMINAL OUTPUT TORQUE [Nm]	6	14	39	105	217	420	770	1330
			0,33	0,44	0,77	1,98	2,53	4,84	8,8
	$C_s$ COPPIA A VUOTO CHE ASSORBE IL RIDUTTORE IDLE TORQUE [Nm]	7	13	35	98	210	385	770	1260
			0,33	0,44	0,77	1,98	2,53	4,84	8,8
	8	12	32	84	182	350	700	1120	
		0,33	0,44	0,77	1,98	2,53	4,84	8,8	
	9	10	28	70	161	315	630	1050	
		0,33	0,44	0,77	1,98	2,53	4,84	8,8	
	10	10	28	70	161	315	630	1050	
		0,33	0,44	0,77	1,98	2,53	4,84	8,8	
	<b>BISTADIO / 2 STAGES</b>	15	14	39	91	146	239*		
			0,17	0,17	0,28	0,55	1,43		
20		13	35	98	203	379*	735*	1190*	
		0,17	0,17	0,28	0,55	1,43	2,42	5,5	
25		15	42	112	231	455	840	1400	
		0,17	0,17	0,28	0,55	1,43	2,42	5,5	
$C_{rid}$ COPPIA NOMINALE IN USCITA NOMINAL OUTPUT TORQUE [Nm]		30	14	39	105	217	420	770	1330
			0,17	0,17	0,28	0,55	1,43	2,42	5,5
$C_s$ COPPIA A VUOTO CHE ASSORBE IL RIDUTTORE IDLE TORQUE [Nm]		35	13	35	98	210	385	770	1260
			0,17	0,17	0,28	0,55	1,43	2,42	5,5
40		11,9	31,5	84	182	350	700	1120	
		0,17	0,17	0,28	0,55	1,43	2,42	5,5	
45		10	28	70	161	315	630	1050	
		0,17	0,17	0,28	0,55	1,43	2,42	5,5	
VELOCITÀ MASSIMA IN INGRESSO AL RIDUTTORE [rpm] MAX GEARBOX INPUT SPEED			5000	5000	4000	4000	3000	3000	2000
$\eta$ RENDIMENTO DEL RIDUTTORE GEARBOX MECHANICAL EFFICIENCY			0,9	0,9	0,9	0,9	0,9	0,9	0,9

\* Non disponibili nella versione AER. / Not available in AER version.



RIDUTTORI SERIE "PGII" / PLANETARY GEARBOXES "PGII" SERIES					
MODELLO MODEL	R	PGII060	PGII080	PGII 120	
<p><b>MONOSTADIO / 1 STAGE</b></p> <hr/> <p><b><math>C_{rid}</math></b> COPPIA NOMINALE IN USCITA NOMINAL OUTPUTTORQUE [Nm]</p> <hr/> <p><b><math>C_s</math></b> COPPIA A VUOTO CHE ASSORBE IL RIDUTTORE IDLE TORQUE [Nm]</p>	3	29	77	152	
		0,1	0,4	0,8	
	4	29	79	156	
		0,1	0,4	0,8	
	5	28	83	154	
		0,1	0,4	0,8	
	7	25	67	139	
		0,1	0,4	0,8	
	10	19	48	109	
		0,1	0,4	0,8	
	<p><b>BISTADIO / 2 STAGES</b></p> <hr/> <p><b><math>C_{rid}</math></b> COPPIA NOMINALE IN USCITA NOMINAL OUTPUTTORQUE [Nm]</p> <hr/> <p><b><math>C_s</math></b> COPPIA A VUOTO CHE ASSORBE IL RIDUTTORE IDLE TORQUE [Nm]</p>	15	28	76	149
			0,1	0,3	0,4
16		29	81	160	
		0,1	0,3	0,4	
20		29	81	161	
		0,1	0,3	0,4	
25		28	86	160	
		0,1	0,3	0,4	
30		28	76	148	
		0,1	0,3	0,4	
35		25	70	144	
		0,1	0,3	0,4	
40		30	82	162	
		0,1	0,3	0,4	
50		28	86	160	
		0,05	0,3	0,4	
VELOCITÀ MASSIMA IN INGRESSO AL RIDUTTORE [rpm] MAX GEARBOX INPUT SPEED			4000	3600	3600
$\eta$ RENDIMENTO DEL RIDUTTORE GEARBOX MECHANICAL EFFICIENCY			0,9	0,9	0,9

## 6.2

Scheda tecnica rinvii angolari  
Angle bevel gearboxes datasheets

RINVII ANGOLARI SERIE "ATB" / ANGLE BEVEL GEARBOXES "ATB" SERIES									
MODELLO MODEL	R	ATB065	ATB075	ATB090	ATB110	ATB140	ATB170	ATB210	
<b>MONOSTADIO / 1 STAGE</b> <hr/> <b><math>C_{rid}</math></b> COPPIA NOMINALE IN USCITA NOMINAL OUTPUT TORQUE [Nm] <hr/> <b><math>C_s</math></b> COPPIA A VUOTO CHE ASSORBE IL RIDUTTORE IDLE TORQUE [Nm]	1	18	32	55	105	252	410	910	
		1,6	2,2	3,1	4,6	8,6	12,1	21,6	
	1,5	18	32	55	105	252	410	910	
		1,6	2,2	3,1	4,6	7,5	11	18,9	
	2	17	29	48	105	231	381	854	
		1,3	1,5	2,7	3,7	5	7,8	16,2	
	3	13	23	38	84	189	315	714	
		1,3	1,5	1,8	3	4,4	5,9	14,3	
	4	9	20	34	70	157	263	602	
		1,1	1,1	1,2	2,8	4	5,9	14,3	
	5	8	18	28	60	137	224	518	
		1,1	1,1	1,2	2,6	4	5,4	13,8	
	<b>BISTADIO / 2 STAGES</b> <hr/> <b><math>C_{rid}</math></b> COPPIA NOMINALE IN USCITA NOMINAL OUTPUT TORQUE [Nm] <hr/> <b><math>C_s</math></b> COPPIA A VUOTO CHE ASSORBE IL RIDUTTORE IDLE TORQUE [Nm]	10	17	20	48	105	146	146	301
			0,8	0,9	1	2	2,4	3,9	9,7
15		13	23	38	84	189	218	452	
		0,8	0,9	1	2	2,4	3,9	9,7	
20		9	20	34	70	157	263	602	
		0,8	0,9	1	2	2,4	3,9	9,7	
25		8	18	28	60	137	224	518	
		0,8	0,9	1	2	2,4	3,9	9,7	
35		8	18	28	60	137	224	518	
		0,8	0,9	1	2	2,4	3,9	9,7	
50		8	18	28	60	137	224	518	
		0,8	0,9	1	2	2,4	3,9	9,7	
VELOCITÀ MASSIMA IN INGRESSO AL RIDUTTORE [rpm] MAX GEARBOX INPUT SPEED			7000	6000	5000	4000	3000	3000	3000
$\eta$ RENDIMENTO DEL RIDUTTORE GEARBOX MECHANICAL EFFICIENCY			0,9	0,9	0,9	0,9	0,9	0,9	0,9

7.

## Note tecniche generali

General technical information

## 7.1

Extracorsa (corsa di sicurezza)  
Extra-stroke (safety stroke)

L'attuatore non è costruito per usare la sua battuta meccanica interna per arrestarsi, pertanto nella scelta consigliamo di tenere in conto una corsa extra che eviti la collisione interna.

A titolo indicativo si può aggiungere alla corsa massima di lavoro  $S_I$  un valore per ogni lato pari 2 volte il passo  $S_s = 2P$ :

$$S = S_I + 2S_s$$

NOTA: per una corsa nominale  $S$  la corsa reale è comunque superiore di qualche millimetro.

The actuator is not built to stand internal mechanical stop, thus during selection process we advice take into account to add some additional stroke to avoid internal collision.

Just as an indication you can add to the max working stroke  $S_I$  an additional safety for each side which is twice the ballscrew pitch  $S_s = 2P$ :

**corsa dell'attuatore**  
**actuator's stroke**

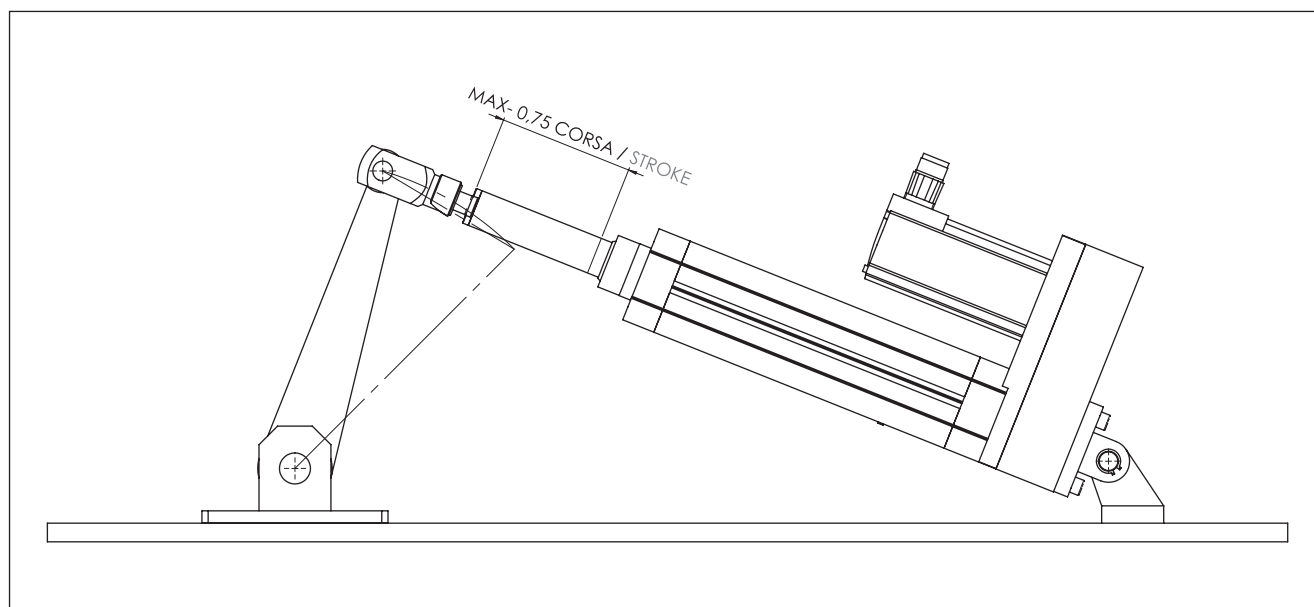
REMARK: the actual manufacturing stroke is anyway some millimeters longer the nominal stroke  $S$ .

## 7.2

Montaggio con attuatore basculante  
Installation with tilting actuator

Nel caso in cui l'attuatore sia montato in modo da basculare con il suo asse durante la sua corsa (ovvero in tutti quei casi in cui non mantiene una posizione fissa nello spazio), ad esempio perché si usano i perni oscillanti laterali **PE** in combinazione con la forcella anteriore **FS** oppure con la testa a snodo sferico **SS**, il suo peso proprio lo sollecita a flessione. Prevedere pertanto di usare un massimo della corsa totale  $S$  pari al 75% della stessa.

In all cases where the actuator is tilting during its stroke (i.e. all the cases where the actuator doesn't keep a fixed position during motion), because for example **PE** pins together with **FS** fork or **SS** joint are used; its weight creates a bending force on the actuator itself. Use then only 75% of the actuator stroke  $S$ .



## 7.3

### Grado protezione IP IP protection rate

Il MODULO BASE B00 ha un grado di protezione IP54.  
Tutte le altre versioni: contattare il ns. ufficio tecnico.

BASIC MODULE B00 has an IP54 protection rate.  
For all the other types: please contact our technical dept.

## 7.4

### Lubrificazione Lubrication

La lubrificazione standard è a grasso.  
L'attuatore è fornito lubrificato dal costruttore.  
Per ogni altro dettaglio fare riferimento al MANUALE DI  
INSTALLAZIONE-USO-MANUTENZIONE.

Standard lubrication is by grease.  
The actuator is supplied already lubricated by the  
manufacturer.  
For any other detail please refer to INSTALLATION-  
USE-MAINTENANCE HANDBOOK.

## 7.5

### Posizione di montaggio Mounting position

L'attuatore, in linea generale, può essere montato  
all'interno di un sistema in qualsiasi posizione.  
Tuttavia, in fase di progettazione e scelta dell'attuatore,  
vanno osservate tutte le condizioni di lavoro a cui verrà  
sottoposto l'ISOMOVE.  
Qualora l'attuatore venisse posizionato fisso in  
orizzontale, tenere sempre in considerazione il peso  
dello stesso al fine di selezionare il corretto sistema  
di fissaggio: in questo caso si consiglia sempre di  
supportare anteriormente e posteriormente l'attuatore.  
Assicurarsi che il montaggio venga eseguito senza  
deformazioni e sollecitazioni (assicurare ottime  
planarità e ortogonalità delle superfici di appoggio).

In general terms the actuator can be mounted in any  
position into the machine.  
Anyway, during design and selection, please consider  
all its the possible working condition.  
If the actuator is mounted horizontally in a fixed  
position, due to its proper weight it is always better to  
use a front and a back support.  
Please be sure during installation that its assembly into  
the machine is not causing deformation and stresses to  
the actuator itself (please respect very good tolerances  
for planarity and orthogonality of the connection  
machine parts).

## 7.6

### Reversibilità Reversibility

In generale l'attuatore è reversibile, ovvero non  
autobloccante.  
Pertanto in applicazioni verticali prevedere un sistema  
di frenatura esterno per ragioni di sicurezza.

In general terms the actuator is not self-locking; thus  
consider to add an external braking system for safety  
reason.

## 7.7

Capacità di fattore di servizio  
Duty cycle rating

L'attuatore ha una capacità di fattore di servizio pari al 100%, ovvero per impiego continuo.

The actuator has duty cycle rating of 100%, i.e. for continuous duty.

## 7.8

Collegamento riduttore/rivio a modulo base  
Torque transmission element between planetary /  
angle bevel gearbox and basic module

## IE 32 ÷ 100XL

**Per tutti i modelli:** si usano giunti a morsetto a gioco zero senza chiavetta / calettatori ad attrito.

**For all models:** zerobacklash servocouplings without keaway / friction shrink-disk are used.

## IE 125 ÷ 160

**B+R:** calettatori ad attrito.

**B+R:** shrink-Disks.

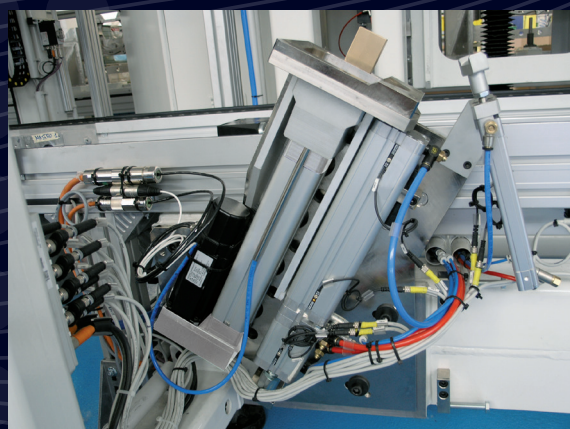
**B+D e B+A:** giunto a morsetto a gioco zero con chiavetta.

**B+D and B+A:** zero backlash servocouplings with keaway.



# ISOMOVE-E the evolution

Attuatori lineari meccanici di precisione per alta dinamica  
Precision mechanical linear actuators for high dynamics



<sup>®</sup> **JETEC**  
**COMPONENTI CONTROLLI SISTEMI DI MOTO**



## TORINO

**Direzione Generale e Stabilimento di Produzione - Headquarter and Production Plant**

Via Mappano, 17 - 10071 Borgaro T.se (TO) - T +39 011 451 8611 (centr. r.a.) - F +39 011 470 4891 - setec.to@setec-group.it

[www.setec-group.com](http://www.setec-group.com)



### MILANO

Via Meccanica, 5  
20026 Novate (MI) - Z. I. Vialba  
T +39 02 356 0990 - 382 01 590 (r.a.)  
F +39 02 356 0943  
setec.mi@setec-group.it



### PADOVA

Via Secchi, 81  
35136 Padova  
T +39 049 872 5983  
F +39 049 856 0965  
setec.pd@setec-group.it



### BOLOGNA

Via Del Lavoro, 6/A  
40051 Altedo (BO)  
T +39 051 871 949 (3 linee r.a.)  
F +39 051 870 329  
setec.bo@setec-group.it

### FIRENZE

Via Galileo Galilei, 3  
50015 Bagno a Ripoli - Grassano (FI)  
T +39 055 643 261  
F +39 055 646 6614  
setec.fi@setec-group.it

## NETWORK INTERNAZIONALE DISTRIBUTORI AUTORIZZATI / INTERNATIONAL AUTHORIZED DISTRIBUTORS

### AUSTRIA

**TAT Technom Antriebstechnik GmbH**  
Technologiering 13-17  
4060, Leonding  
Austria  
Tel. +43 7229 64840.0  
Fax +43 7229 61817  
tat@tat.at  
www.tat.at

### FINLAND

**WEXON OY**  
Turvekuja 6,  
00700, Helsinki,  
Finland  
Tel. +358 9 290 440  
Fax +358 9 290 44100  
wexon@wexon.com  
www.wexon.fi

### KOREA

**SONG WON TRADING Co. Ltd.**  
Songwon Bldg 6  
Seolleung-ro 121-gil Gangnam-gu  
Republic of Korea  
Tel. +82 2 5164111  
Fax +82 2 5458322  
tech@swt.co.kr  
www.swt.co.kr

### SPAIN

**INTRA Automation, S.L.**  
Ronda Auguste y Louis Lumière, 45 -  
Nave 3 - 46980, Parque Tecnológico  
de Paterna - Valencia, España  
Tel. +34 96 396 10 08  
Fax +34 96 396 10 18  
info@intraautomationsl.com  
www.intraautomationsl.com

### CANADA

**DRIVE SYSTEMS GROUP Inc.**  
7150 Torbram Rd. Units 1 & 2  
Mississauga, Ontario  
Canada, L4T 3Z8  
Tel. +1 905 405-0310  
Fax +1 905 405-0313  
georger@drivesystemsgroup.com  
www.drivesystemsgroup.com

### FRANCE

**SNT**  
2, rue Marcel DASSAULT - BP 29  
94510, La Queue en Brie  
France  
Tel. +33 1 4593 0525  
Fax +33 1 4594 7995  
contact@snt.tm.fr  
www.snt.tm.fr

### RUSSIA

**000 WEXON**  
Sofiykaya ul., 14  
192236, St. Petersburg  
Russia  
Tel. +7 812 6432375  
Fax +7 812 3266504  
wexon@wexon.ru  
www.wexon.ru

### THE NETHERLANDS

**DTS Aandrijftechniek BV**  
Parlevinkerweg 44 (Industrienummer 5068)  
5928, NV Venlo  
Nederland  
Tel. +31 77 3961420  
Fax +31 77 3961429  
info@dts-aandrijftechniek.nl  
www.dts-aandrijftechniek.nl

### CHINA

**EURO POWER TRANSMISSION  
& CONTROL Ltd.**  
No.293, Xiuyan Rd, Pudong  
201315, Shanghai, China  
Tel. +86 21 510 284 51  
Fax +86 21 510 288 72  
ptc@europtc.com  
www.europtc.com

### GERMANY

**A-Drive Technology GmbH**  
Ziegelhüttenweg 4  
65232, Taunusstein,  
Deutschland  
Tel. +49 0 6128 9755-0  
Fax +49 0 6128 9755-55  
info@a-drive.de  
www.a-drive.de

### SLOVAK REPUBLIC

**OPIS Engineering s.r.o.**  
Lúčna 476  
03202, Závažná Poruba,  
Slovenská Republika  
Tel. +421 445 547 234  
Fax +421 903 390 520  
info@opis.sk  
www.opis.sk

### TURKEY

**AKTEC Mühendislik ve Ticaret Ltd.**  
Veko Giz Plaza  
Maslak Meydan Sokak No. 3, Kat. 13/14  
34398, Maslak, Istanbul, Turkey  
Tel. +90 212 705 36 32  
Fax +90 212 705 36 36  
info@aktec.tc  
www.aktec.tc

### CZECK REPUBLIC

**OPIS Engineering k.s.**  
Selská 64  
61400, Brno,  
Česká Republika  
Tel. +420 543 330 055  
Fax +420 543 242 653  
info@opis.cz  
www.opis.cz

### GERMANY

**GEMOTEG GmbH + Co.KG**  
Walkenmühleweg 49  
72379, Hechingen,  
Deutschland  
Tel. +49 7471 9301030  
Fax +49 7471 9301059  
info@gemoteg.de  
www.gemoteg.de

### SLOVENIA

**M&M Intercom d.o.o.**  
Letališka cesta 33a  
1000, Ljubljana,  
Slovenija  
Tel. +386 1 52 00 116  
Fax +386 1 52 49 072  
info@mm-intercom.si  
www.mm-intercom.si

### UNITED KINGDOM

**GAPP AUTOMATION Ltd.**  
6 Kempston Court, Manor Road,  
Kempston Hardwick, Bedford,  
MK43 9PO, United Kingdom  
Tel. +44 0 1234 924324  
Fax +44 0 1234 924325  
ggoodge@gapp.co.uk  
www.gapp.co.uk