## 2.8.0 MARTINETTI S.E.P.
## 2.8.1 Specifiche tecniche

## 2.8.0 S.E.P. SCREW JACK
## 2.8.1 Technical features

| **Tipo Martinetto** / Type of screw jack **S.E.P. T** | | | **50** | | **100** | |
|---|---|---|---|---|---|---|
| **Carico max nominale** (non superare mai)<br>Maximum nominal load (never exceed) | FN | [kN] | 50 | | 100 | |
| **Diametro esterno vitone**<br>Outer screw diameter | D | [mm] | 40 | | 55 | |
| **Passo vitone** / Screw lead | p | [mm] | 10 | | 12 | |
| **Rapporto** / Ratio | p | - | 6 | 24 | 8 | 24 |
| **Pot. termica dissipata dalla cassa con intermittenza 20%/h**<br>Case thermal capacity duty 20%/h | | [kW] | 1,87 | 1,57 | 2,24 | 1,93 |
| **Rendimento all'avviamento**<br>Start-up efficiency | $\eta_{avv}$ | - | 0,214 | 0,114 | 0,203 | 0,114 |
| **Spostamento assiale per giro ingresso**<br>Axial displacement per input revolution | | [mm] | 1,667 | 0,417 | 1,500 | 0,500 |
| **Coppia statica ingresso per carico max**<br>Static input torque at max nominal load | | [Nm] | 61,9 | 29,1 | 117,7 | 69,6 |
| **Mt max su vitone** per sollevamento carico<br>Mt max on screw for lifting load | | [Nm] | 219,7 | | 578,8 | |
| **Mt max su vitone per discesa carico**<br>Mt max on screw for lowering load | | [Nm] | 41,5 | | 151 | |
| **Mt max sulla vite**<br>senza fine per collegamento martinetti in serie<br>Mt max on screw for serial connection of jacks | | [Nm] | 110,0 | | 214,8 | |
| **Peso martinetto senza vitone**<br>Weight of jack without screw | | [kg] | 14 | | 17 | |
| **Peso vitone per 100 mm**<br>Weight of screw for 100 mm | | [kg] | 0,75 | | 1,56 | |
| **Gioco assiale normale vitone MIN-MAX**<br>Normal Backlash of screw MIN-MAX | | [mm] | 0,072-0,228 | | 0,086-0,267 | |
| **Materiale cassa**<br>Case material | | - | GS500.7 | | GS500.7 | |
| **Quantità lubrificante** / Quantity of lubricant | | [kg] | 0,40 | | 0,50 | |

Tab. 2.8.1 Caratteristiche tecniche martinetti S.E.P. vitone trapezio / S.E.P. trapezoidal screw technical features

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 200 | | 300 | | 500 | | 1000 | | 1500 (*) | |
| | 65 | | 95 | | 110 | | 155 (**) | | 180 (**) | |
| | 12 | | 16 | | 16 | | 18 | | 25 | |
| | 8 | 24 | 10,66 | 32 | 10,66 | 32 | 11,66 | 35 | 11,66 | 35 |
| | 3,62 | 3,17 | 5,49 | 5,02 | 8,63 | 7,96 | 16,53 | 15,56 | 16,31 | 15,32 |
| | 0,202 | 0,117 | 0,145 | 0,121 | 0,145 | 0,100 | 0,145 | 0,100 | 0,140 | 0,095 |
| | 1,500 | 0,500 | 1,500 | 0,500 | 1,500 | 0,500 | 1,543 | 0,514 | 2,143 | 0,714 |
| | 236,3 | 135,6 | 493,1 | 198,1 | 821,8 | 397,8 | 1695,5 | 815,7 | 3668,8 (*) | 1850 / 1788,6 |
| | 1304,9 | | 2794,1 | | 5210,4 | | 14032,1 | | 25323,7 | |
| | 449,3 | | 1082,9 | | 2358,4 | | 7615,2 | | 11955,1 | |
| | 214,8 | | 589,3 | | 879,6 | | 1800 | | 1850 | |
| | 34 | | 80 | | 145 | | 500 | | 500 | |
| | 2,22 | | 4,70 | | 6,50 | | 13,00 | | 17,00 | |
| | 0,086-0,267 | | 0,099-0,300 | | 0,099-0,300 | | 0,125-0,350 | | 0,150-0,390 | |
| | GS500.7 | | GS500.7 | | GS500.7 | | Fe430B | | Fe430B | |
| | 0,90 | | 1,80 | | 2,20 | | 6,00 | | 6,00 | |

(*) Valore di portata massima ottenibile solo con S.E.P. 1500 rapporto 1:35. Contattare ufficio tecnico / Maximum nominal load value possible only in S.E.P. 1500 - 1:35 ratio. Contact our technical service.
(**) Vite a filettatura quadra (filettatura trapezia a richiesta) / Squared threaded screw (trapezoidal threaded on request).

| **Tipo Martinetto / Type of screw jack S.E.P. S** | | | | | **50** | | | | | | | **100** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Carico max nominale** (non superare mai) (**) **Maximum nominal load** (never exceed) | | | FN | [kN] | 50 | | | | | | | 100 | | | | | |
| **Diametro esterno vitone** **Outer screw diameter** | | | D | [mm] | 40 | | | | 50 | | | 50 | | | 63 | | |
| **Passo vitone / Screw lead** | | | p | [mm] | 5 | 10 | 20 | 40 | 10 | 20 | 50 | 10 | 20 | 50 | 10 | 20 | |
| **Rapporto / Ratio** | | 1 | i | - | 6 | | | | 6 | | | 8 | | | 8 | | |
| | | 2 | | | 24 | | | | 24 | | | 24 | | | 24 | | |
| **Pot. termica dissipata dalla cassa con intermittenza 20%/h** **Case thermal capacity duty 20%/h** | (*) | 1 | | [kW] | 1,87 | | | | 1,87 | | | 2,24 | | | 2,24 | | |
| | | 2 | | | 1,57 | | | | 1,57 | | | 1,93 | | | 1,93 | | |
| **Rendimento all'avviamento** **Start-up efficiency** | (*) | 1 | $\eta_{avv}$ | - | 0,587 | 0,615 | 0,630 | 0,638 | 0,608 | 0,627 | 0,638 | 0,586 | 0,604 | 0,615 | 0,577 | 0,599 | |
| | | 2 | | | 0,472 | 0,494 | 0,506 | 0,512 | 0,489 | 0,503 | 0,512 | 0,466 | 0,480 | 0,489 | 0,459 | 0,477 | |
| **Rendimento efficace** **Efficiency** | (*) | 1 | $\eta_{eff}$ | - | 0,653 | 0,684 | 0,700 | 0,709 | 0,676 | 0,696 | 0,709 | 0,651 | 0,671 | 0,683 | 0,642 | 0,666 | |
| | | 2 | | | 0,524 | 0,549 | 0,563 | 0,569 | 0,543 | 0,559 | 0,569 | 0,518 | 0,534 | 0,543 | 0,510 | 0,529 | |
| **Spostamento assiale per giro ingresso** **Axial displacement per input revolution** | (*) | 1 | | [mm] | 0,833 | 1,667 | 3,333 | 6,667 | 1,667 | 3,333 | 8,333 | 1,250 | 2,500 | 6,250 | 1,250 | 2,500 | |
| | | 2 | | | 0,208 | 0,417 | 0,833 | 1,667 | 0,417 | 0,833 | 2,083 | 0,417 | 0,833 | 2,083 | 0,417 | 0,833 | |
| **Coppia statica ingresso per carico max** **Static input torque at max nominal load** | (*) | 1 | | [Nm] | 11,303 | 21,577 | 42,126 | 83,195 | 21,825 | 42,327 | 103,99 | 33,967 | 65,909 | 161,825 | 34,496 | 66,459 | |
| | | 2 | | | 3,514 | 6,715 | 13,112 | 25,917 | 6,784 | 13,190 | 32,397 | 14,238 | 27,645 | 67,841 | 14,455 | 27,819 | |
| **Mt max su vitone per sollevamento carico** **Mt max on screw for lifting load** | | | | [Nm] | 442,3 | | | | | | | 884,6 | | | | | |
| **Mt max su vitone per discesa carico** **Mt max on screw for lowering load** | | | | [Nm] | Ø | | | | | | | Ø | | | | | |
| **Mt max sulla vite** **senza fine per collegamento martinetti in serie** **Mt max on screw for serial connection of jacks** | | | | [Nm] | 110,0 | | | | | | | 214,8 | | | | | |
| **Peso martinetto senza vitone** **Weight of jack without screw** | | | | [kg] | 14 | | | | | | | 17 | | | | | |
| **Peso vitone per 100 mm** **Weight of screw for 100 mm** | | | | [kg] | 0,98 | | | | 1,53 | | | 1,53 | | | 2,43 | | |
| **Gioco assiale normale vitone MIN-MAX** **Normal Backlash of screw MIN-MAX** | | | | [mm] | 0,072-0,228 | | | | | | | 0,086-0,267 | | | | | |
| **Materiale cassa** **Case material** | | | | - | GS500.7 | | | | | | | GS500.7 | | | | | |
| **Quantità lubrificante / Quantity of lubricant** | | | | [kg] | 0,40 | | | | | | | 0,50 | | | | | |

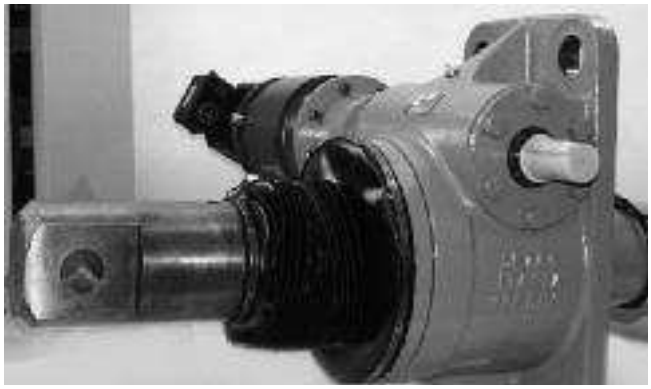
Tab. 2.8.1 Caratteristiche tecniche martinetti S.E.P. vitone a ricircolo / S.E.P. ballscrew technical features

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 200 | | | | 300 | | 500 | | | | ND<br>NA | ND<br>NA |
| | 63 | | 80 | | 80 | | 100 | | 125 | | ND<br>NA | ND<br>NA |
| | 10 | 20 | 10 | 20 | 10 | 20 | 20 | 25 | 20 | 25 | ND<br>NA | ND<br>NA |
| | 8 | | 8 | | 10,66 | | 10,66 | | 10,66 | | ND | ND |
| | 24 | | 24 | | 32,00 | | 32,00 | | 32,00 | | NA | NA |
| | 3,62 | | 3,62 | | 5,49 | | 8,63 | | 8,63 | | ND | ND |
| | 3,17 | | 3,17 | | 5,02 | | 7,96 | | 7,96 | | NA | NA |
| | 0,579 | 0,601 | 0,568 | 0,595 | 0,535 | 0,561 | 0,577 | 0,584 | 0,569 | 0,577 | ND<br>NA | ND<br>NA |
| | 0,473 | 0,491 | 0,463 | 0,486 | 0,402 | 0,421 | 0,457 | 0,462 | 0,450 | 0,457 | | |
| | 0,644 | 0,668 | 0,631 | 0,661 | 0,595 | 0,623 | 0,641 | 0,649 | 0,632 | 0,641 | | |
| | 0,525 | 0,545 | 0,515 | 0,540 | 0,447 | 0,468 | 0,507 | 0,513 | 0,500 | 0,507 | | |
| | 1,250 | 2,500 | 1,250 | 2,500 | 0,938 | 1,876 | 1,876 | 2,345 | 1,876 | 2,345 | | |
| | 0,417 | 0,833 | 0,417 | 0,833 | 0,313 | 0,625 | 0,625 | 0,781 | 0,625 | 0,781 | | |
| | 68,755 | 132,476 | 70,086 | 133,811 | 83,763 | 159,761 | 258,885 | 319,728 | 262,525 | 323,607 | | |
| | 28,054 | 54,051 | 28,660 | 54,608 | 37,135 | 70,918 | 108,887 | 134,635 | 110,580 | 136,108 | | |
| | 707,7 | | | | 1061,6 | | 2211,6 | | | | ND<br>NA | ND<br>NA |
| | Ø | | | | Ø | | Ø | | | | ND<br>NA | ND<br>NA |
| | 214,8 | | | | 589,3 | | 879,6 | | | | ND<br>NA | ND<br>NA |
| | 34 | | | | 80 | | 145 | | | | | |
| | 2,43 | | 3,92 | | 3,92 | | 6,12 | | 9,57 | | ND<br>NA | ND<br>NA |
| | 0,086-0,267 | | | | 0,099-0,300 | | 0,099-0,300 | | | | ND<br>NA | ND<br>NA |
| | GS500.7 | | | | GS500.7 | | GS500.7 | | | | ND<br>NA | ND<br>NA |
| | 0,90 | | | | 1,80 | | 2,20 | | | | ND<br>NA | ND<br>NA |

(*) Valori calcolati sulla base dei rapporti di trasmissione (secondo la sequenza indicata nella riga "Rapporto di trasmissione nominale") e secondo il passo della vite.
Values calulated according to the ratio (following the same sequence as in the row "Nominal ratio") and according to the ballscrew lead.

(**) Per il carico massimo applicabile sul martinetto, consultare il catalogo delle viti a ricircolo di sfere.
For the maximum load applicable on the screw jack, please consult the ballscrew catalogue.

## 2.8.2 APPLICAZIONI



## 2.8.2 APPLICATIONS

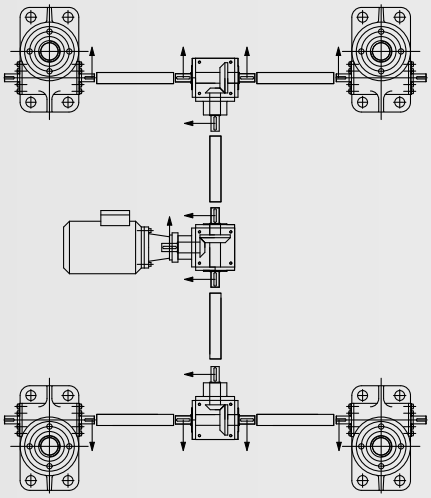




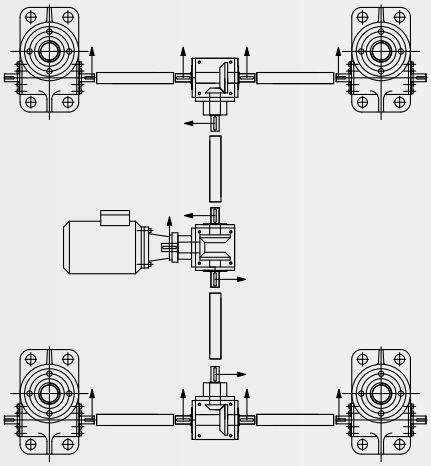
## 2.8.3 ESEMPI DI MONTAGGIO

## 2.8.3 CONFIGURATION EXAMPLES

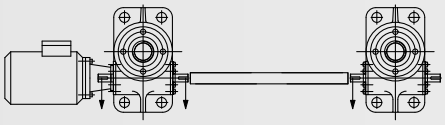
**Schema** / Layout **1**



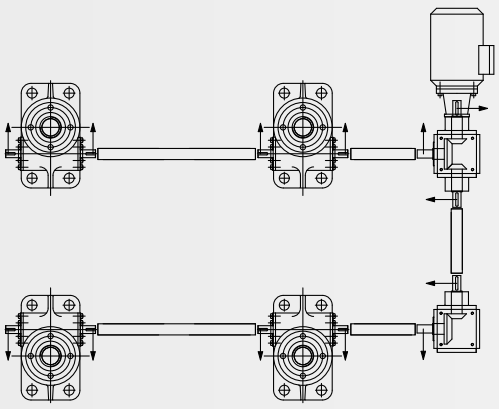
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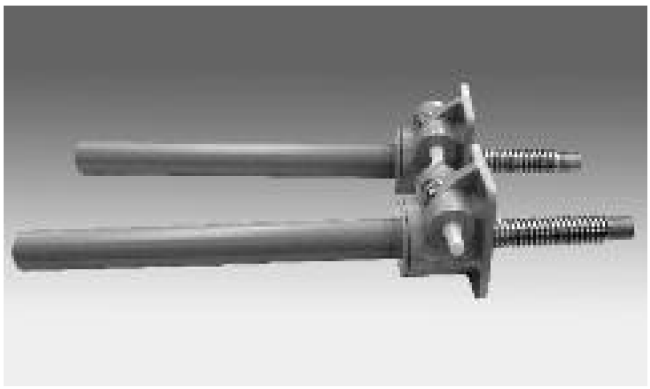


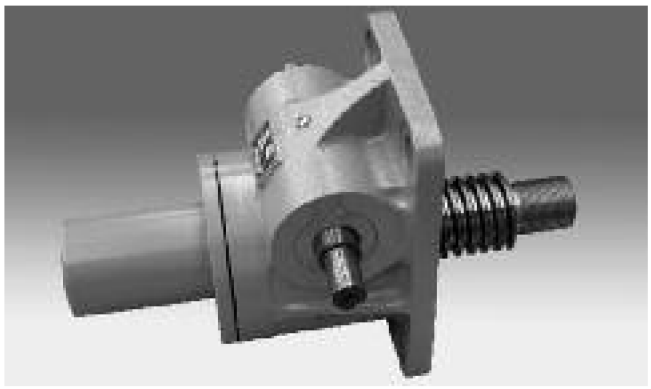
**Schema** / Layout **5**



**Schema** / Layout **6**

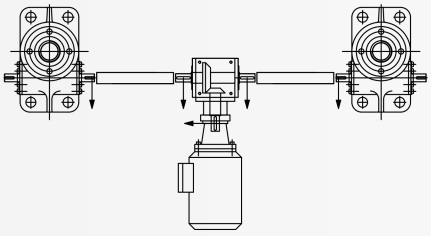


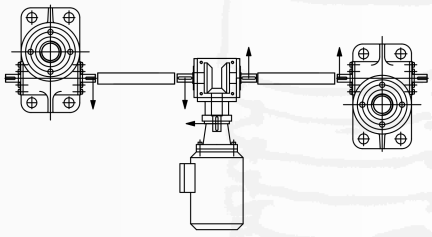




**Schema** / Layout **3**

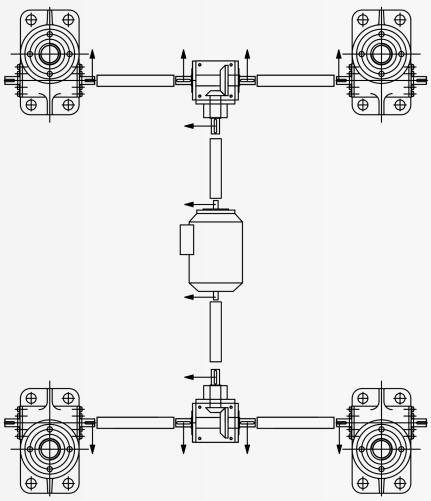
**Schema** / Layout **4**

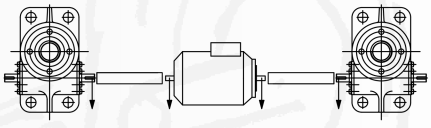




**Schema** / Layout **7**

**Schema** / Layout **8**





## 2.9.0 SPECIFICHE TECNICHE — 2.9.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 40mm - Passo / Lead 10**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 40mm - Passo / Lead 10**

**SPECIFICHE TECNICHE SEP 50 Vite Trapezia Traslante - Rotante Ø 40mm / TECHNICAL FEATURES SEP 50 Trapezoidal Screw Travelling - Rotating Screw Jack Ø 40mm**

| Rapporto / Ratio | 6 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 10 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 6 | 0,236 | | 1,125 | 1,103 | 24 | 0,125 | | 0,531 | 1,096 |
| 50 | 30 | 0,237 | | 1,120 | 1,107 | 120 | 0,13 | | 0,510 | 1,140 |
| 100 | 60 | 0,239 | | 1,110 | 1,117 | 240 | 0,135 | | 0,491 | 1,184 |
| 150 | 90 | 0,241 | | 1,101 | 1,126 | 360 | 0,14 | | 0,474 | 1,228 |
| 200 | 120 | 0,243 | | 1,092 | 1,136 | 480 | 0,145 | | 0,458 | 1,272 |
| 250 | 150 | 0,245 | | 1,083 | 1,145 | 600 | 0,151 | | 0,439 | 1,325 |
| 300 | 180 | 0,247 | | 1,074 | 1,154 | 720 | 0,156 | | 0,425 | 1,368 |
| 350 | 210 | 0,249 | | 1,066 | 1,164 | 840 | 0,161 | | 0,412 | 1,412 |
| 400 | 240 | 0,251 | | 1,057 | 1,173 | 960 | 0,166 | | 0,400 | 1,456 |
| 450 | 270 | 0,253 | | 1,049 | 1,182 | 1080 | 0,172 | | 0,386 | 1,509 |
| 500 | 300 | 0,255 | | 1,041 | 1,192 | 1200 | 0,177 | | 0,375 | 1,553 |
| 550 | 330 | 0,257 | | 1,033 | 1,201 | 1320 | 0,182 | | 0,365 | 1,596 |
| 600 | 360 | 0,259 | | 1,025 | 1,210 | 1440 | 0,187 | | 0,355 | 1,640 |
| 650 | 390 | 0,261 | | 1,017 | 1,220 | 1560 | 0,193 | | 0,344 | 1,693 |
| 700 | 420 | 0,263 | | 1,009 | 1,229 | 1680 | 0,198 | | 0,335 | 1,737 |
| 750 | 450 | 0,265 | | 1,001 | 1,238 | 1800 | 0,203 | | 0,327 | 1,781 |
| 800 | 480 | 0,267 | | 0,994 | 1,248 | 1920 | 0,209 | | 0,317 | 1,833 |
| 850 | 510 | 0,269 | 0,214 | 0,987 | 1,257 | 2040 | 0,214 | 0,114 | 0,310 | 1,877 |
| 900 | 540 | 0,271 | | 0,979 | 1,266 | 2160 | 0,219 | | 0,303 | 1,921 |
| 950 | 570 | 0,273 | | 0,972 | 1,276 | 2280 | 0,224 | | 0,296 | 1,965 |
| 1000 | 600 | 0,275 | | 0,965 | 1,285 | | | | | |
| 1100 | 660 | 0,279 | | 0,951 | 1,304 | | | | | |
| 1200 | 720 | 0,283 | | 0,938 | 1,322 | | | | | |
| 1300 | 780 | 0,287 | | 0,925 | 1,341 | | | | | |
| 1400 | 840 | 0,291 | | 0,912 | 1,360 | | | | | |
| 1500 | 900 | 0,295 | | 0,900 | 1,379 | | | | | |
| 1600 | 960 | 0,299 | | 0,888 | 1,397 | | | | | |
| 1700 | 1020 | 0,303 | | 0,876 | 1,416 | | | | | |
| 1800 | 1080 | 0,307 | | 0,864 | 1,435 | | | | | |
| 1900 | 1140 | 0,311 | | 0,853 | 1,453 | | | | | |
| 2000 | 1200 | 0,315 | | 0,843 | 1,472 | | | | | |
| 2100 | 1260 | 0,319 | | 0,832 | 1,491 | | | | | |
| 2200 | 1320 | 0,322 | | 0,824 | 1,505 | | | | | |
| 2300 | 1380 | 0,327 | | 0,812 | 1,528 | | | | | |

## COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

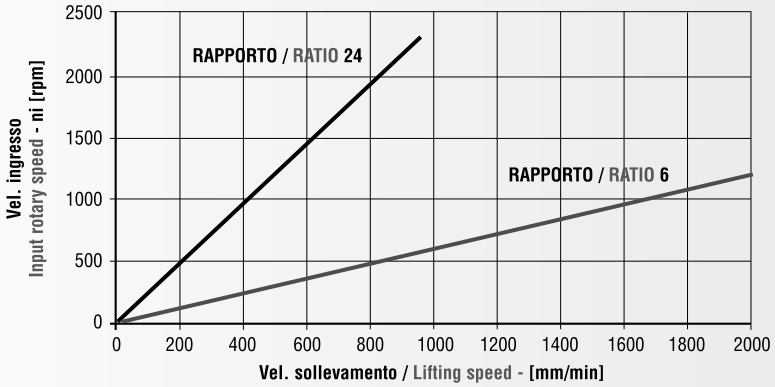
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 50 Vitone Trapezio Ø 40mm - Passo 10 / PERFORMANCE SEP 50 Trapezoidal Screw Ø 40mm - Lead 4

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

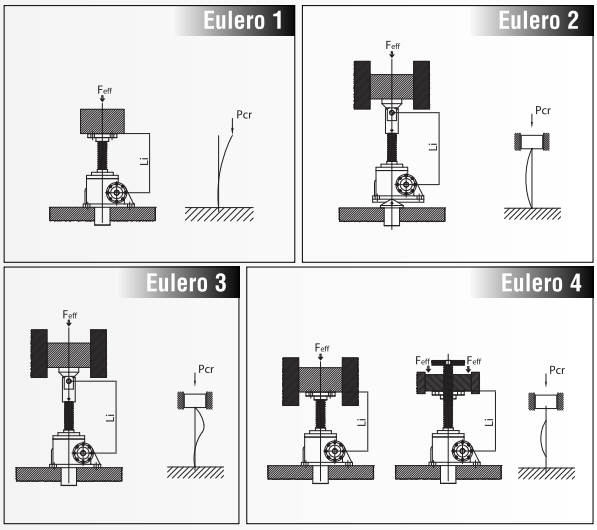
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | SEP 50 T |
|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 50,00 |
| 125 | 250 | 354 | 500 | 50,00 |
| 150 | 300 | 424 | 600 | 50,00 |
| 175 | 350 | 495 | 700 | 50,00 |
| 200 | 400 | 566 | 800 | 50,00 |
| 225 | 450 | 636 | 900 | 50,00 |
| 250 | 500 | 707 | 1000 | 50,00 |
| 275 | 550 | 778 | 1100 | 50,00 |
| 300 | 600 | 849 | 1200 | 50,00 |
| 325 | 650 | 919 | 1300 | 49,95 |
| 350 | 700 | 990 | 1400 | 48,60 |
| 375 | 750 | 1061 | 1500 | 42,34 |
| 400 | 800 | 1131 | 1600 | 37,21 |
| 425 | 850 | 1202 | 1700 | 32,96 |
| 450 | 900 | 1273 | 1800 | 29,40 |
| 475 | 950 | 1344 | 1900 | 26,39 |
| 500 | 1000 | 1414 | 2000 | 23,81 |
| 550 | 1100 | 1556 | 2200 | 19,68 |
| 600 | 1200 | 1697 | 2400 | 16,54 |
| 650 | 1300 | 1838 | 2600 | 14,09 |
| 700 | 1400 | 1980 | 2800 | 12,15 |
| 750 | 1500 | 2121 | 3000 | 10,58 |
| 800 | 1600 | 2263 | 3200 | 9,38 |
| 850 | 1700 | 2404 | 3400 | 8,24 |
| 900 | 1800 | 2546 | 3600 | 7,35 |
| 950 | 1900 | 2687 | 3800 | 6,60 |
| 1000 | 2000 | 2828 | 4000 | 5,95 |
| 1050 | 2100 | 2970 | 4200 | |
| 1100 | 2200 | 3111 | 4400 | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 50 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 6 | 47687 | 35756 | 23843 | 15896 | 11922 | 9537 | 7948 | 6812 | 5961 | 5299 | 4769 |
| 24 | 26625 | 29969 | 13312 | 8875 | 6656 | 5325 | 4437 | 3804 | 3328 | 2958 | 2662 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## **VT** - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 40mm - **Passo** / Lead 5-10
## **VR** - VITE ROTANTE / ROTATING SCREW JACK Ø 40mm - **Passo** / Lead 5-10-20-40

### SPECIFICHE TECNICHE SEP 50 Vite Ricircolo Ø 40mm / TECHNICAL FEATURES SEP 50 Ballscrew Ø 40mm

| Rapporto / Ratio | 6 | | | | | 24 | | | | | 6 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo / Lead** [mm] | 5 | | | | | | | | | | 10 | | | | | | | | | |
| **Velocità sollevamento** "V" **Lifting speed** [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 12 | | | | | 48 | | | | | 6 | | | | | 24 | | | | |
| 50 | 60 | | | | | 240 | | | | | 30 | | | | | 120 | | | | |
| 100 | 120 | | | | | 480 | | | | | 60 | | | | | 240 | | | | |
| 150 | 180 | | | | | 720 | | | | | 90 | | | | | 360 | | | | |
| 200 | 240 | | | | | 960 | | | | | 120 | | | | | 480 | | | | |
| 250 | 300 | | | | | 1200 | | | | | 150 | | | | | 600 | | | | |
| 300 | 360 | | | | | 1440 | | | | | 180 | | | | | 720 | | | | |
| 350 | 420 | | | | | 1680 | | | | | 210 | | | | | 840 | | | | |
| 400 | 480 | | | | | 1920 | | | | | 240 | | | | | 960 | | | | |
| 450 | 540 | | | | | | | | | | 270 | | | | | 1080 | | | | |
| 500 | 600 | | | | | | | | | | 300 | | | | | 1200 | | | | |
| 550 | 660 | | | | | | | | | | 330 | | | | | 1320 | | | | |
| 600 | 720 | | | | | | | | | | 360 | | | | | 1440 | | | | |
| 650 | 780 | | | | | | | | | | 390 | | | | | 1560 | | | | |
| 700 | 840 | | | | | | | | | | 420 | | | | | 1680 | | | | |
| 750 | 900 | | | | | | | | | | 450 | | | | | 1800 | | | | |
| 800 | 960 | | | | | | | | | | 480 | | | | | 1920 | | | | |
| 850 | 1020 | 0,653 | 0,587 | 0,203 | 1,112 | | 0,524 | 0,472 | 0,063 | 1,110 | 510 | 0,684 | 0,615 | 0,388 | 1,112 | | 0,549 | 0,494 | 0,121 | 1,111 |
| 900 | 1080 | | | | | | | | | | 540 | | | | | | | | | |
| 950 | 1140 | | | | | | | | | | 570 | | | | | | | | | |
| 1000 | 1200 | | | | | | | | | | 600 | | | | | | | | | |
| 1100 | 1320 | | | | | | | | | | 660 | | | | | | | | | |
| 1200 | 1440 | | | | | | | | | | 720 | | | | | | | | | |
| 1300 | 1560 | | | | | | | | | | 780 | | | | | | | | | |
| 1400 | 1680 | | | | | | | | | | 840 | | | | | | | | | |
| 1500 | 1800 | | | | | | | | | | 900 | | | | | | | | | |
| 1600 | | | | | | | | | | | 960 | | | | | | | | | |
| 1700 | | | | | | | | | | | 1020 | | | | | | | | | |
| 1800 | | | | | | | | | | | 1080 | | | | | | | | | |
| 1900 | | | | | | | | | | | 1140 | | | | | | | | | |
| 2000 | | | | | | | | | | | 1200 | | | | | | | | | |
| 2100 | | | | | | | | | | | 1260 | | | | | | | | | |
| 2200 | | | | | | | | | | | 1320 | | | | | | | | | |
| 2300 | | | | | | | | | | | 1380 | | | | | | | | | |

| **Passo / Lead** [mm] | 20 | | | | | | | | | | 40 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 3 | | | | | 12 | | | | | 2 | | | | | 6 | | | | |
| 50 | 15 | | | | | 60 | | | | | 8 | | | | | 30 | | | | |
| 100 | 30 | | | | | 120 | | | | | 15 | | | | | 60 | | | | |
| 150 | 45 | | | | | 180 | | | | | 23 | | | | | 90 | | | | |
| 200 | 60 | | | | | 240 | | | | | 30 | | | | | 120 | | | | |
| 250 | 75 | | | | | 300 | | | | | 38 | | | | | 150 | | | | |
| 300 | 90 | | | | | 360 | | | | | 45 | | | | | 180 | | | | |
| 350 | 105 | | | | | 420 | | | | | 53 | | | | | 210 | | | | |
| 400 | 120 | | | | | 480 | | | | | 60 | | | | | 240 | | | | |
| 450 | 135 | | | | | 540 | | | | | 68 | | | | | 270 | | | | |
| 500 | 150 | | | | | 600 | | | | | 75 | | | | | 300 | | | | |
| 550 | 165 | | | | | 660 | | | | | 83 | | | | | 330 | | | | |
| 600 | 180 | | | | | 720 | | | | | 90 | | | | | 360 | | | | |
| 650 | 195 | | | | | 780 | | | | | 98 | | | | | 390 | | | | |
| 700 | 210 | | | | | 840 | | | | | 105 | | | | | 420 | | | | |
| 750 | 225 | | | | | 900 | | | | | 113 | | | | | 450 | | | | |
| 800 | 240 | | | | | 960 | | | | | 120 | | | | | 480 | | | | |
| 850 | 255 | 0,7 | 0,63 | 0,758 | 1,111 | 1020 | 0,563 | 0,506 | 0,236 | 1,113 | 128 | 0,709 | 0,638 | 1,497 | 1,111 | 510 | 0,569 | 0,512 | 0,466 | 1,111 |
| 900 | 270 | | | | | 1080 | | | | | 135 | | | | | 540 | | | | |
| 950 | 285 | | | | | 1140 | | | | | 143 | | | | | 570 | | | | |
| 1000 | 300 | | | | | 1200 | | | | | 150 | | | | | 600 | | | | |
| 1100 | 330 | | | | | 1320 | | | | | 165 | | | | | 660 | | | | |
| 1200 | 360 | | | | | 1440 | | | | | 180 | | | | | 720 | | | | |
| 1300 | 390 | | | | | 1560 | | | | | 195 | | | | | 780 | | | | |
| 1400 | 420 | | | | | 1680 | | | | | 210 | | | | | 840 | | | | |
| 1500 | 450 | | | | | 1800 | | | | | 225 | | | | | 900 | | | | |
| 1600 | 480 | | | | | 1920 | | | | | 240 | | | | | 960 | | | | |
| 1700 | 510 | | | | | | | | | | 255 | | | | | 1020 | | | | |
| 1800 | 540 | | | | | | | | | | 270 | | | | | 1080 | | | | |
| 1900 | 570 | | | | | | | | | | 285 | | | | | 1140 | | | | |
| 2000 | 600 | | | | | | | | | | 300 | | | | | 1200 | | | | |
| 2100 | 630 | | | | | | | | | | 315 | | | | | 1260 | | | | |
| 2200 | 660 | | | | | | | | | | 330 | | | | | 1320 | | | | |
| 2300 | 690 | | | | | | | | | | 345 | | | | | 1380 | | | | |

### COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

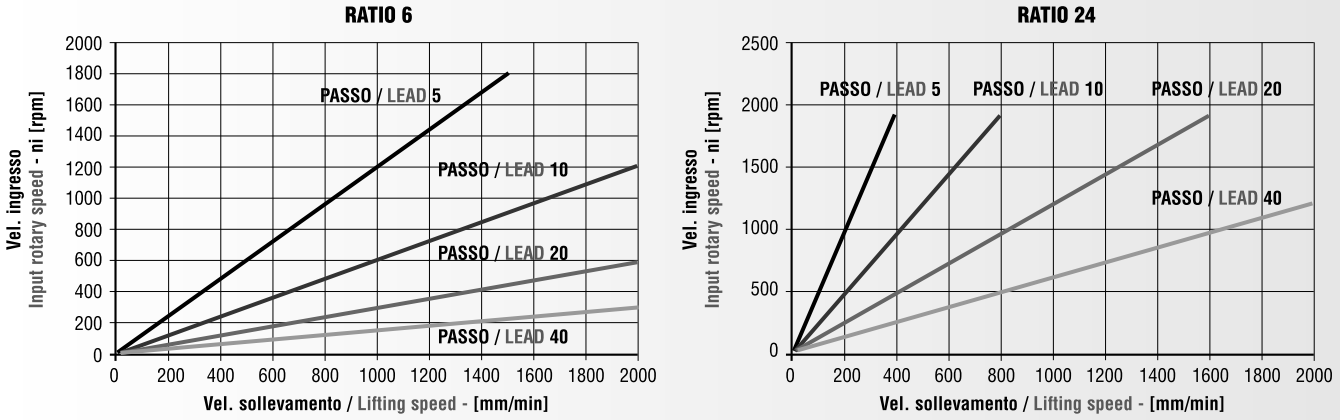
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 50 Vitone Ricircolo di sfere Ø 40mm - Passo 5-10-20-40 / PERFORMANCE SEP 50 Ballscrew Ø 40mm - Lead 5-10-20-40

Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

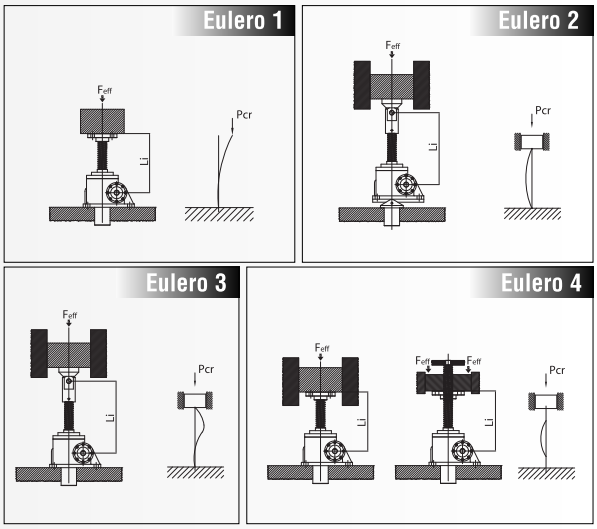
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 50 S (d40) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 50,00 | 1150 | 2300 | 3253 | 4600 | 6,26 |
| 125 | 250 | 354 | 500 | 50,00 | 1200 | 2400 | 3394 | 4800 | 5,75 |
| 150 | 300 | 424 | 600 | 50,00 | 1250 | 2500 | 3536 | 5000 | 5,30 |
| 175 | 350 | 495 | 700 | 50,00 | 1300 | 2600 | 3677 | 5200 | 4,90 |
| 200 | 400 | 566 | 800 | 50,00 | | | | | |
| 225 | 450 | 636 | 900 | 50,00 | | | | | |
| 250 | 500 | 707 | 1000 | 50,00 | | | | | |
| 275 | 550 | 778 | 1100 | 50,00 | | | | | |
| 300 | 600 | 849 | 1200 | 50,00 | | | | | |
| 325 | 650 | 919 | 1300 | 50,00 | | | | | |
| 350 | 700 | 990 | 1400 | 50,00 | | | | | |
| 375 | 750 | 1061 | 1500 | 50,00 | | | | | |
| 400 | 800 | 1131 | 1600 | 50,00 | | | | | |
| 425 | 850 | 1202 | 1700 | 45,85 | | | | | |
| 450 | 900 | 1273 | 1800 | 40,90 | | | | | |
| 475 | 950 | 1344 | 1900 | 36,71 | | | | | |
| 500 | 1000 | 1414 | 2000 | 33,13 | | | | | |
| 550 | 1100 | 1556 | 2200 | 27,38 | | | | | |
| 600 | 1200 | 1697 | 2400 | 23,01 | | | | | |
| 650 | 1300 | 1838 | 2600 | 19,60 | | | | | |
| 700 | 1400 | 1980 | 2800 | 16,90 | | | | | |
| 750 | 1500 | 2121 | 3000 | 14,72 | | | | | |
| 800 | 1600 | 2263 | 3200 | 12,94 | | | | | |
| 850 | 1700 | 2404 | 3400 | 11,46 | | | | | |
| 900 | 1800 | 2546 | 3600 | 10,23 | | | | | |
| 950 | 1900 | 2687 | 3800 | 9,18 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 8,28 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 7,51 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 6,84 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 50 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 6 | 114449 | 85814 | 57223 | 38150 | 28613 | 22889 | 19075 | 16349 | 14306 | 12718 | 11446 |
| 24 | 63900 | 71926 | 31949 | 21300 | 15974 | 12780 | 10649 | 9130 | 7987 | 7099 | 6389 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## SOLO IN VERSIONE **VR**
## **VR** TYPE ONLY

**SPECIFICHE TECNICHE SEP 50 Vite Ricircolo Ø 50mm / TECHNICAL FEATURES SEP 50 Ballscrew Ø 50mm**

| Rapporto / Ratio | 6 | | | | | 24 | | | | | 6 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 10 | | | | | | | | | | 20 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 6 | | | | | 24 | | | | | 3 | | | | | 12 | | | | |
| 50 | 30 | | | | | 120 | | | | | 15 | | | | | 60 | | | | |
| 100 | 60 | | | | | 240 | | | | | 30 | | | | | 120 | | | | |
| 150 | 90 | | | | | 360 | | | | | 45 | | | | | 180 | | | | |
| 200 | 120 | | | | | 480 | | | | | 60 | | | | | 240 | | | | |
| 250 | 150 | | | | | 600 | | | | | 75 | | | | | 300 | | | | |
| 300 | 180 | | | | | 720 | | | | | 90 | | | | | 360 | | | | |
| 350 | 210 | | | | | 840 | | | | | 105 | | | | | 420 | | | | |
| 400 | 240 | | | | | 960 | | | | | 120 | | | | | 480 | | | | |
| 450 | 270 | | | | | 1080 | | | | | 135 | | | | | 540 | | | | |
| 500 | 300 | | | | | 1200 | | | | | 150 | | | | | 600 | | | | |
| 550 | 330 | | | | | 1320 | | | | | 165 | | | | | 660 | | | | |
| 600 | 360 | | | | | 1440 | | | | | 180 | | | | | 720 | | | | |
| 650 | 390 | | | | | 1560 | | | | | 195 | | | | | 780 | | | | |
| 700 | 420 | | | | | 1680 | | | | | 210 | | | | | 840 | | | | |
| 750 | 450 | | | | | 1800 | | | | | 225 | | | | | 900 | | | | |
| 800 | 480 | 0,676 | 0,608 | 0,393 | 1,112 | | 0,543 | 0,489 | 0,122 | 1,110 | 240 | 0,696 | 0,627 | 0,763 | 1,110 | 960 | 0,559 | 0,503 | 0,237 | 1,111 |
| 850 | 510 | | | | | | | | | | 255 | | | | | 1020 | | | | |
| 900 | 540 | | | | | | | | | | 270 | | | | | 1080 | | | | |
| 950 | 570 | | | | | | | | | | 285 | | | | | 1140 | | | | |
| 1000 | 600 | | | | | | | | | | 300 | | | | | 1200 | | | | |
| 1100 | 660 | | | | | | | | | | 330 | | | | | 1320 | | | | |
| 1200 | 720 | | | | | | | | | | 360 | | | | | 1440 | | | | |
| 1300 | 780 | | | | | | | | | | 390 | | | | | 1560 | | | | |
| 1400 | 840 | | | | | | | | | | 420 | | | | | 1680 | | | | |
| 1500 | 900 | | | | | | | | | | 450 | | | | | 1800 | | | | |
| 1600 | 960 | | | | | | | | | | 480 | | | | | | | | | |
| 1700 | 1020 | | | | | | | | | | 510 | | | | | | | | | |
| 1800 | 1080 | | | | | | | | | | 540 | | | | | | | | | |
| 1900 | 1140 | | | | | | | | | | 570 | | | | | | | | | |
| 2000 | 1200 | | | | | | | | | | 600 | | | | | | | | | |
| 2100 | 1260 | | | | | | | | | | 630 | | | | | | | | | |
| 2200 | 1320 | | | | | | | | | | 660 | | | | | | | | | |
| 2300 | 1380 | | | | | | | | | | 690 | | | | | | | | | |

| Passo / Lead [mm] | 50 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 1 | | | | | 5 | | | | |
| 50 | 6 | | | | | 24 | | | | |
| 100 | 12 | | | | | 48 | | | | |
| 150 | 18 | | | | | 72 | | | | |
| 200 | 24 | | | | | 96 | | | | |
| 250 | 30 | | | | | 120 | | | | |
| 300 | 36 | | | | | 144 | | | | |
| 350 | 42 | | | | | 168 | | | | |
| 400 | 48 | | | | | 192 | | | | |
| 450 | 54 | | | | | 216 | | | | |
| 500 | 60 | | | | | 240 | | | | |
| 550 | 66 | | | | | 264 | | | | |
| 600 | 72 | | | | | 288 | | | | |
| 650 | 78 | | | | | 312 | | | | |
| 700 | 84 | | | | | 336 | | | | |
| 750 | 90 | | | | | 360 | | | | |
| 800 | 96 | 0,709 | 0,638 | 1,872 | 1,111 | 384 | 0,569 | 0,512 | 0,583 | 1,111 |
| 850 | 102 | | | | | 408 | | | | |
| 900 | 108 | | | | | 432 | | | | |
| 950 | 114 | | | | | 456 | | | | |
| 1000 | 120 | | | | | 480 | | | | |
| 1100 | 132 | | | | | 528 | | | | |
| 1200 | 144 | | | | | 576 | | | | |
| 1300 | 156 | | | | | 624 | | | | |
| 1400 | 168 | | | | | 672 | | | | |
| 1500 | 180 | | | | | 720 | | | | |
| 1600 | 192 | | | | | 768 | | | | |
| 1700 | 204 | | | | | 816 | | | | |
| 1800 | 216 | | | | | 864 | | | | |
| 1900 | 228 | | | | | 912 | | | | |
| 2000 | 240 | | | | | 960 | | | | |
| 2100 | 252 | | | | | 1008 | | | | |
| 2200 | 264 | | | | | 1056 | | | | |
| 2300 | 276 | | | | | 1104 | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; $\eta_{eff}$**:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); $\xi$**:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; $\xi$**:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; $\chi$**:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; $\xi$**:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; $n_i$ **=** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

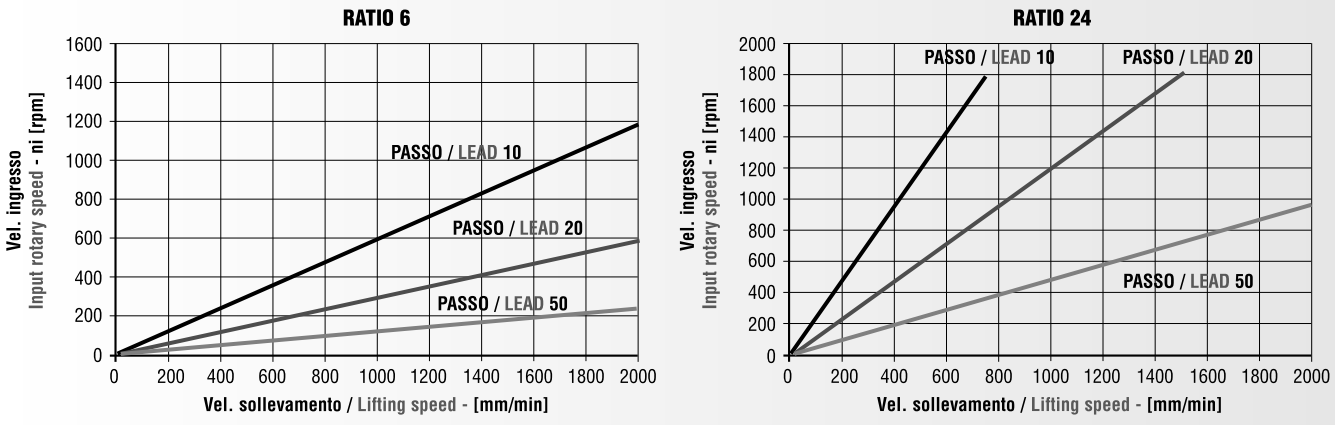
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; $\eta_{eff}$**:** efficiency;
**p:** screw lead [mm]; **i:** ratio; $\xi$**:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; $\xi$**:** fixed number;
**Cu:** input torque [Nm]; $\chi$**:** torque coefficient (it's a coefficient to multiply to input torque that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; $\xi$**:** fixed number;
**Cu:** input torque [Nm];
$n_i$ **=** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 50 Vitone Ricircolo di sfere Ø 50mm - Passo 10-20 / PERFORMANCE SEP 50 Ballscrew Ø 50mm - Lead 10-20

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

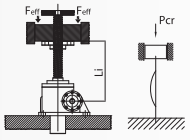
**N.B. il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | SEP 50 S (d50) | |
|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] Eulero 4 | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] Eulero 4 | Pcr [kN] |
| 400 | 50,00 | 4600 | 17,25 |
| 500 | 50,00 | 4800 | 15,84 |
| 600 | 50,00 | 5000 | 14,60 |
| 700 | 50,00 | 5200 | 13,50 |
| 800 | 50,00 | 5400 | 12,52 |
| 900 | 50,00 | 5600 | 11,64 |
| 1000 | 50,00 | 5800 | 10,85 |
| 1100 | 50,00 | 6000 | 10,14 |
| 1200 | 50,00 | 6400 | 8,91 |
| 1300 | 50,00 | 6800 | 7,89 |
| 1400 | 50,00 | 7200 | 7,04 |
| 1500 | 50,00 | 7600 | 6,32 |
| 1600 | 50,00 | 8000 | 5,70 |
| 1700 | 50,00 | 8400 | 5,17 |
| 1800 | 50,00 | 9000 | 4,51 |
| 1900 | 50,00 | | |
| 2000 | 50,00 | | |
| 2200 | 50,00 | | |
| 2400 | 50,00 | | |
| 2600 | 50,00 | | |
| 2800 | 46,55 | | |
| 3000 | 40,55 | | |
| 3200 | 35,64 | | |
| 3400 | 31,57 | | |
| 3600 | 28,16 | | |
| 3800 | 25,28 | | |
| 4000 | 22,81 | | |
| 4200 | 20,69 | | |
| 4400 | 18,85 | | |

**Eulero 4**




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 50 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be CT ≥ Feff • V | | | | | | | | Feff [kN] - V [mm/min] | | |
| 6 | 114449 | 85814 | 57223 | 38150 | 28613 | 22889 | 19075 | 16349 | 14306 | 12718 | 11446 |
| 24 | 63900 | 71926 | 31949 | 21300 | 15974 | 12780 | 10649 | 9130 | 7987 | 7099 | 6389 |

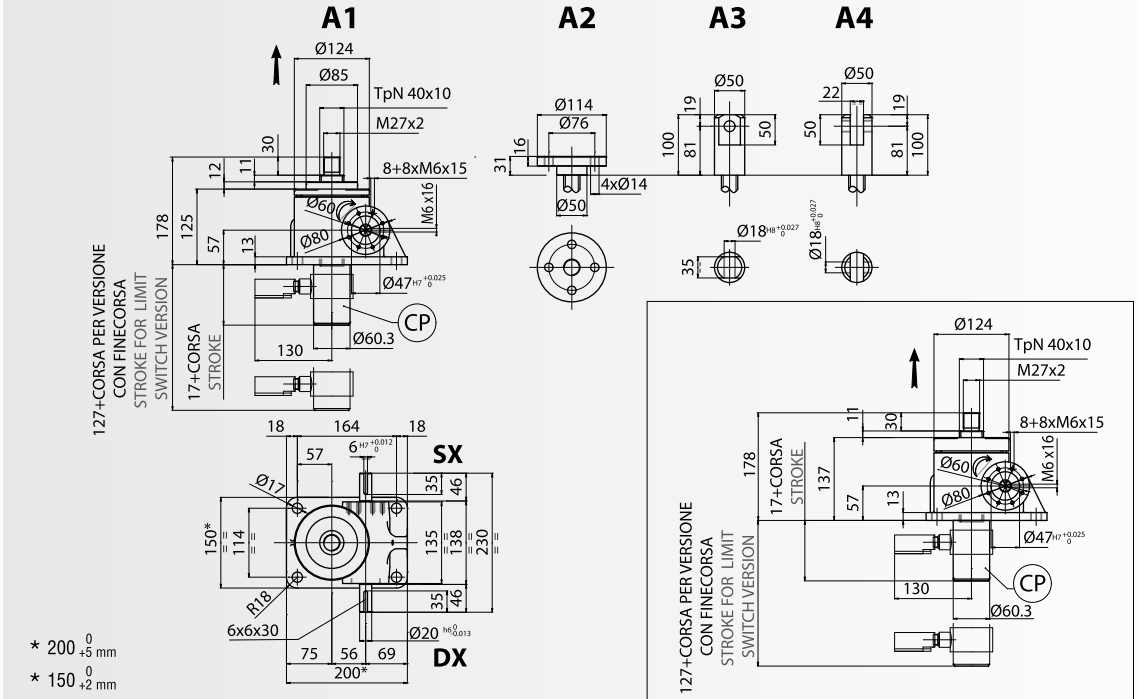
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## 2.9.1 SCHEMI DIMENSIONALI

## 2.9.1 OVERALL DIMENSIONS

**SEP 50 T VT ... A**




* 200 $^{0}_{+5}$ mm

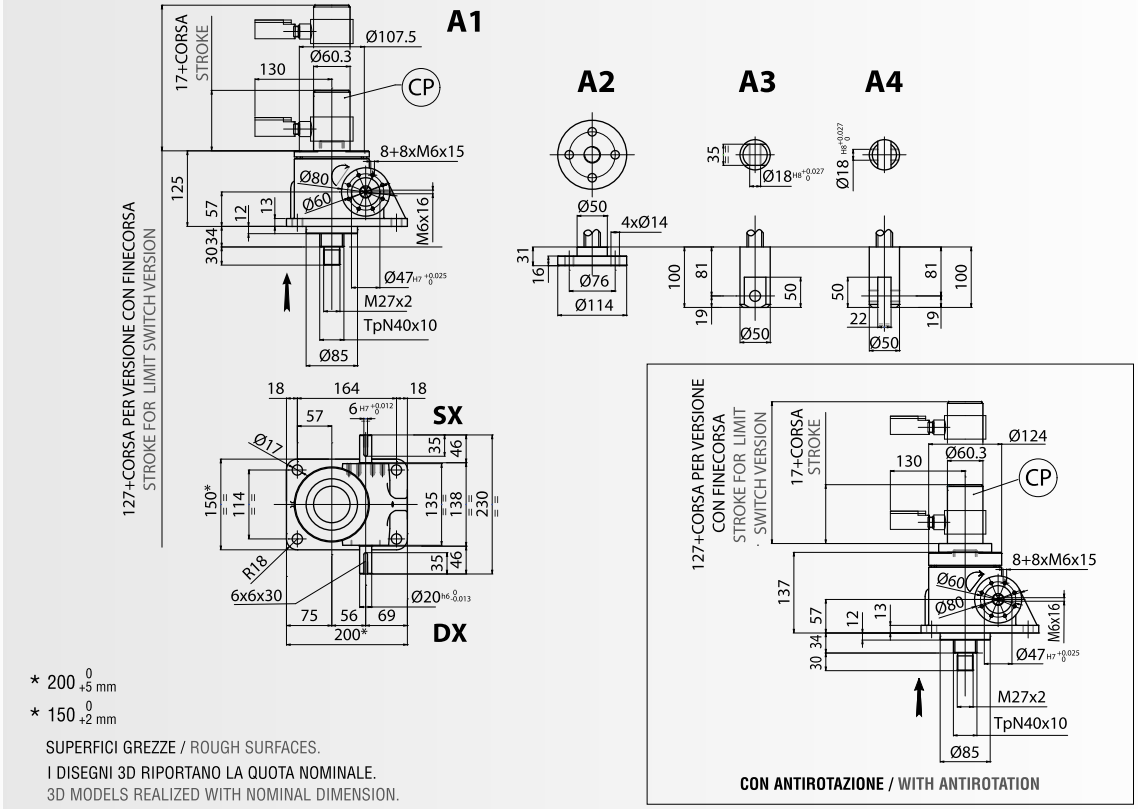
* 150 $^{0}_{+2}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

3D MODELS REALIZED WITH NOMINAL DIMENSION.

**SEP 50 T VT ... B**




* 200 $^{0}_{+5}$ mm

* 150 $^{0}_{+2}$ mm

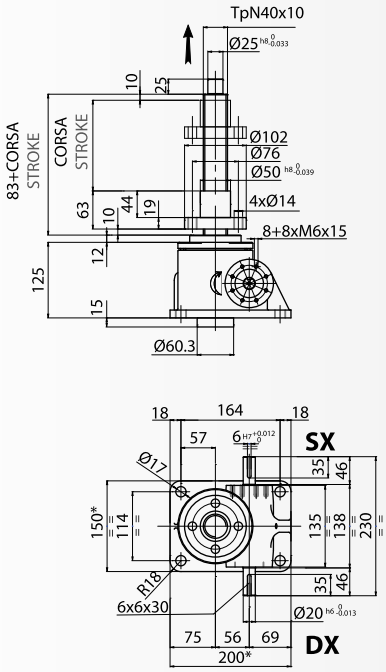
SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

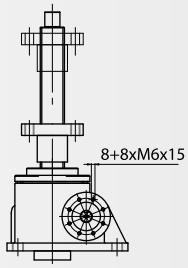
3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SEP 50 T VR...A

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**




* 200 +5 0 mm

* 150 +2 0 mm

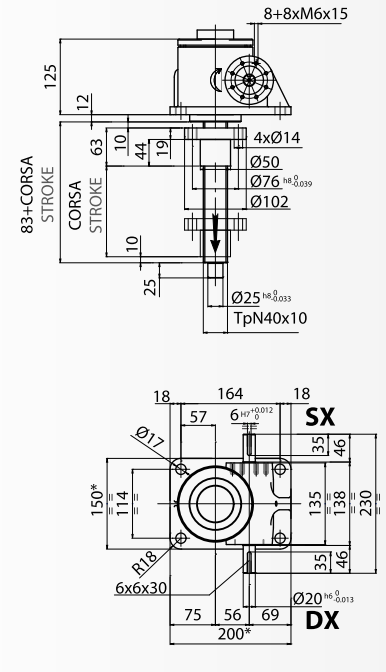
SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

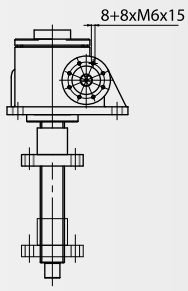
3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SEP 50 T VR...B

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**




* 200 +5 0 mm

* 150 +2 0 mm

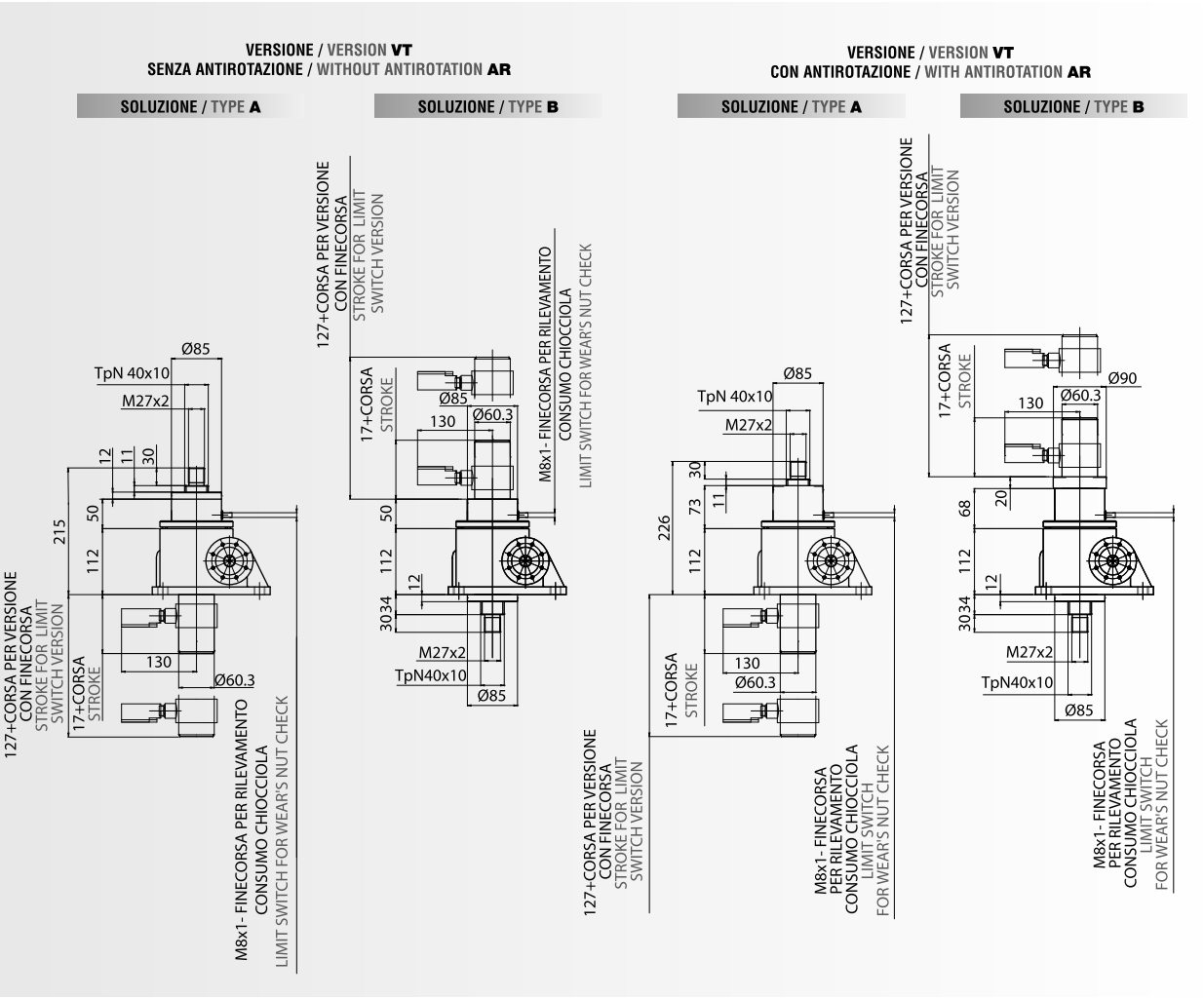
SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

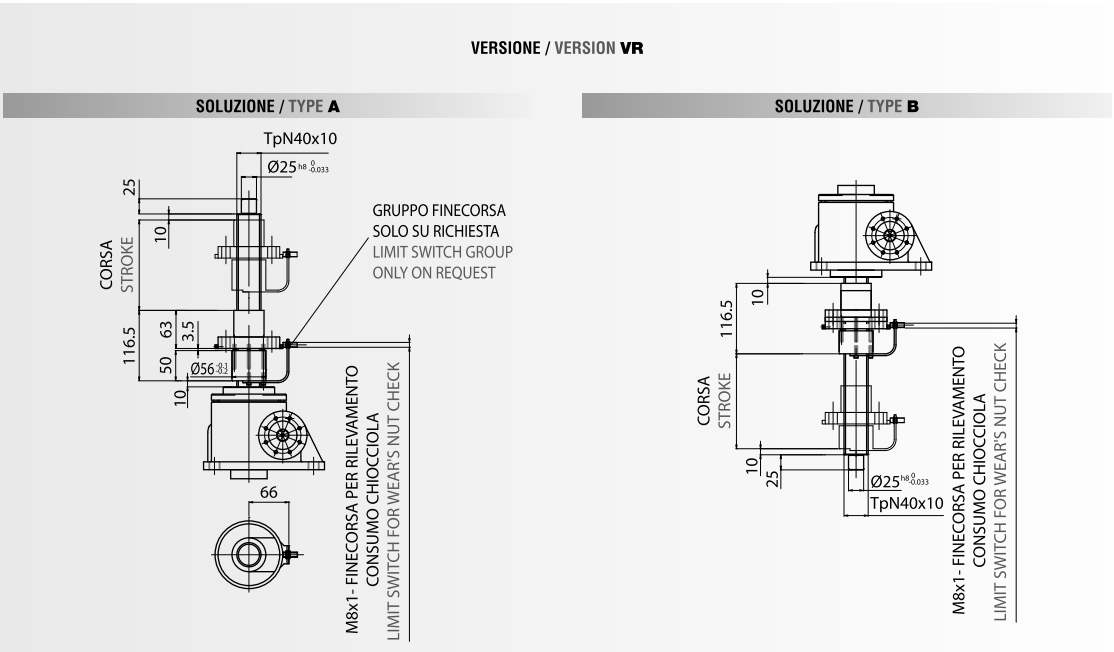
3D MODELS REALIZED WITH NOMINAL DIMENSION.

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

## SEP 50 T VT ... A(B) ... SS
## SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT

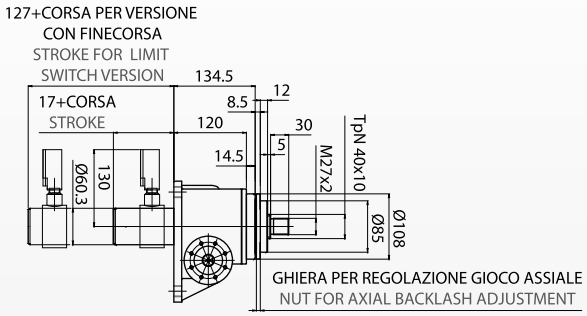



## SEP 50 T VR ... A(B) ... SS
## SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT

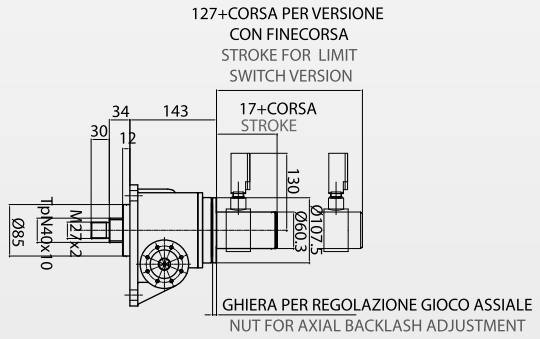


**SENZA ANTIROTAZIONE / WITHOUT ANTIROTATION AR**

**SOLUZIONE / TYPE A**



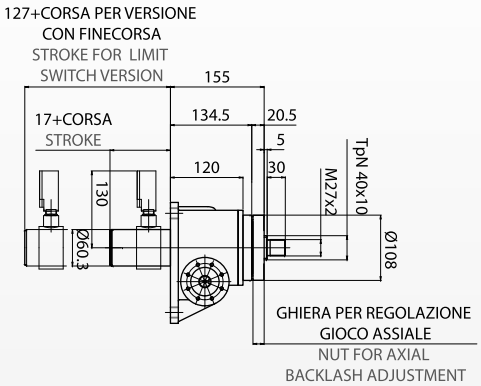

**SOLUZIONE / TYPE B**



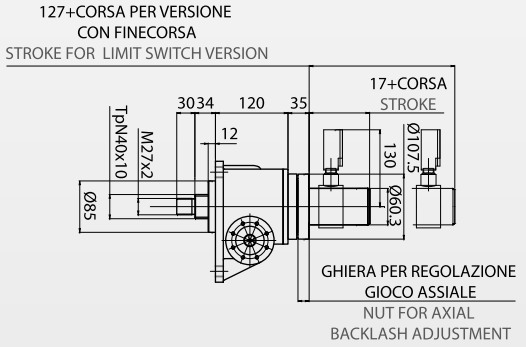

**SEP 50 T VT ... A(B) ... SB**
**SB - CHIOCCIOLA RECUPERO GIOCO / ANTI BACKLASH NUT**

**CON ANTIROTAZIONE / WITH ANTIROTATION AR**

**SOLUZIONE / TYPE A**



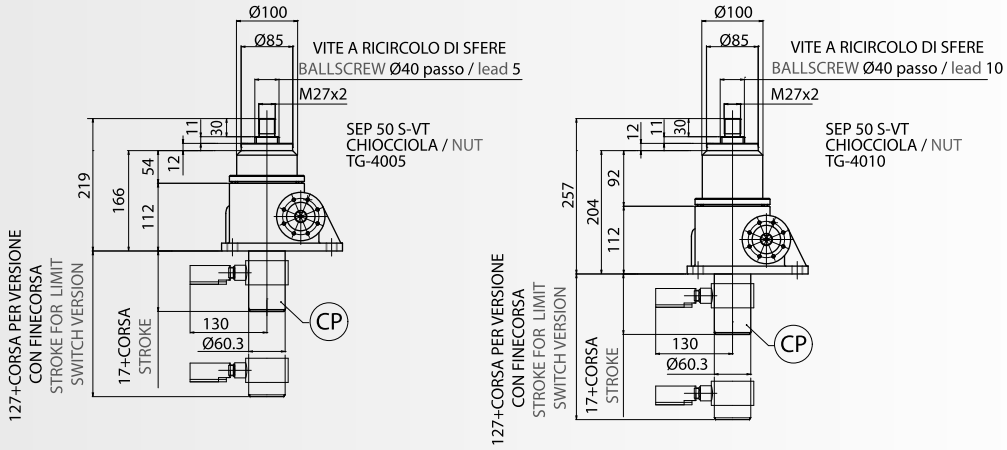

**SOLUZIONE / TYPE B**



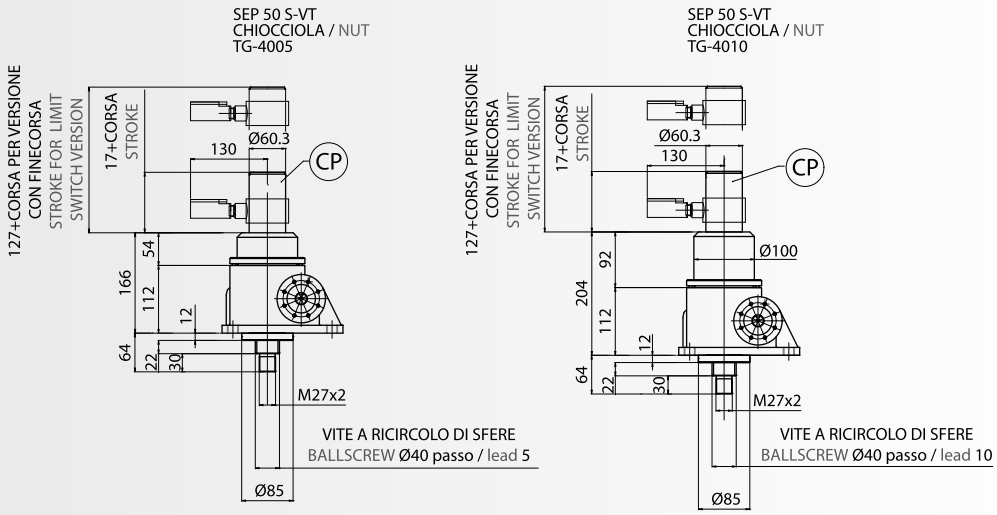

**SEP 50 T VT ... A(B) ... SB ... AR**
**SB - CHIOCCIOLA RECUPERO GIOCO / ANTI BACKLASH NUT**

## SCHEMI DIMENSIONALI / OVERALL DIMENSIONS

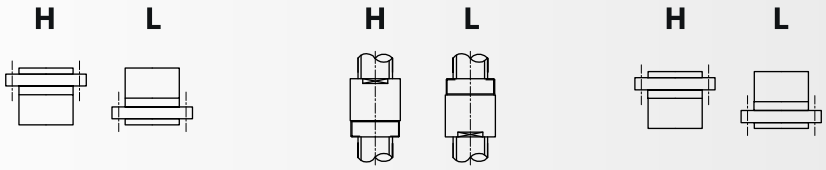
### SOLUZIONE / TYPE A




### SOLUZIONE / TYPE B



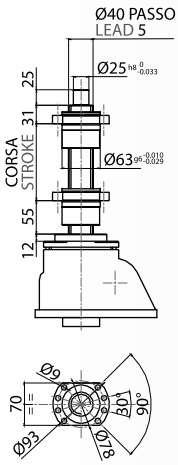
**VERSO DI MONTAGGIO CHIOCCIOLA / NUT MOUNTING SIDE**



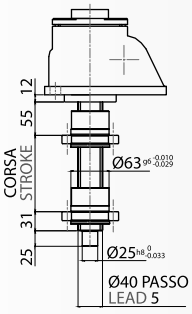

TIPO / TYPE **TK** — TIPO / TYPE **TG** — TIPO / TYPE **TH**

## TK4005

**SOLUZIONE / TYPE A**

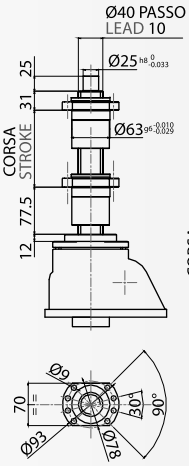



**SOLUZIONE / TYPE B**

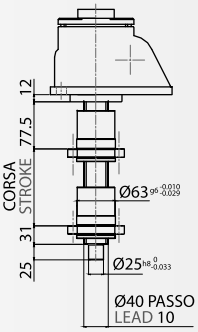



## TK4010

**SOLUZIONE / TYPE A**

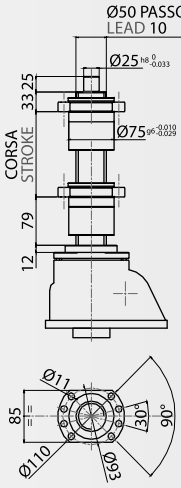



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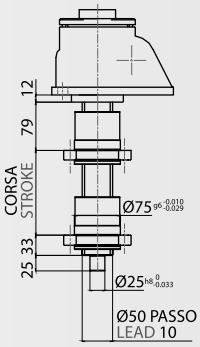



## TK5010

**SOLUZIONE / TYPE A**

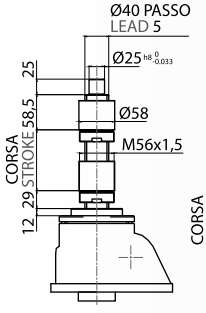



**SOLUZIONE / TYPE B**

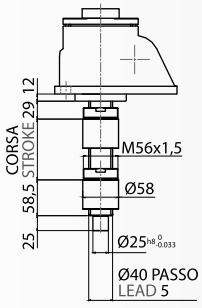



## TG4005

**SOLUZIONE / TYPE A**

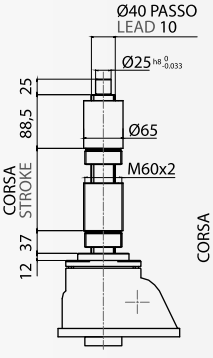



**SOLUZIONE / TYPE B**

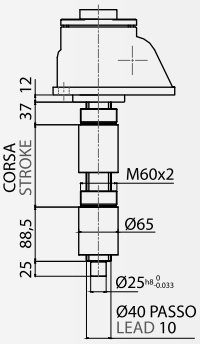



## TG4010

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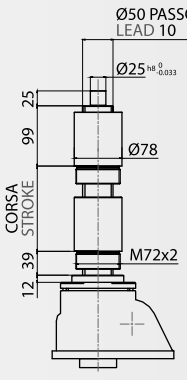



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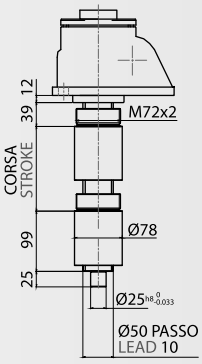



## TG5010

**SOLUZIONE / TYPE A**




**SOLUZIONE / TYPE B**

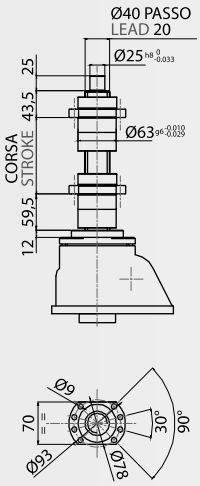


**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

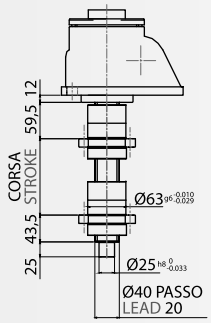


## TH4020

**SOLUZIONE** / TYPE **A**

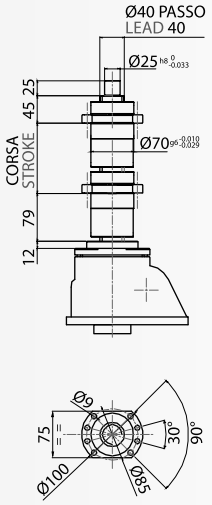



**SOLUZIONE** / TYPE **B**

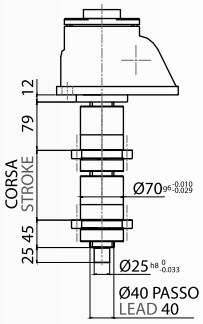



## TH4040

**SOLUZIONE** / TYPE **A**

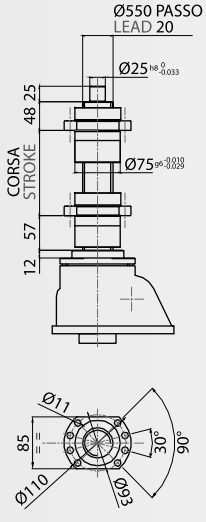



**SOLUZIONE** / TYPE **B**

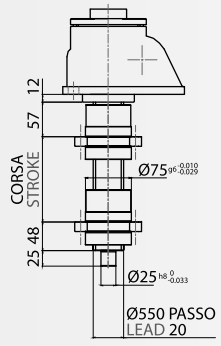



## TH5020

**SOLUZIONE** / TYPE **A**

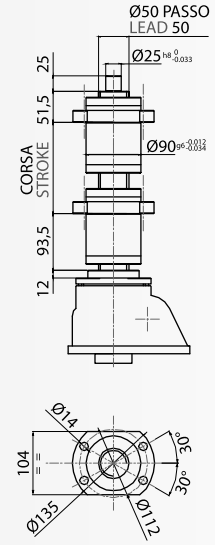



**SOLUZIONE** / TYPE **B**

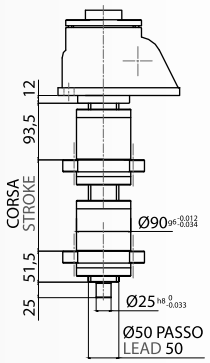


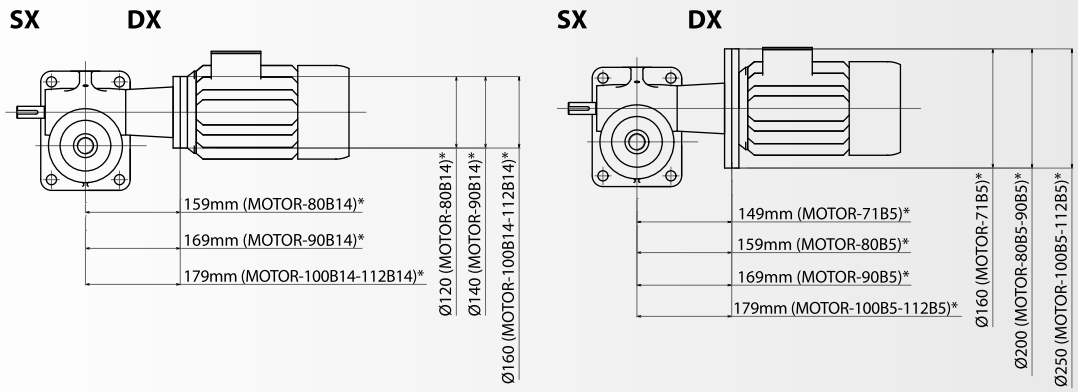

## HH5050

**SOLUZIONE** / TYPE **A**




**SOLUZIONE** / TYPE **B**






**FLANGIA** / FLANGE **B14**

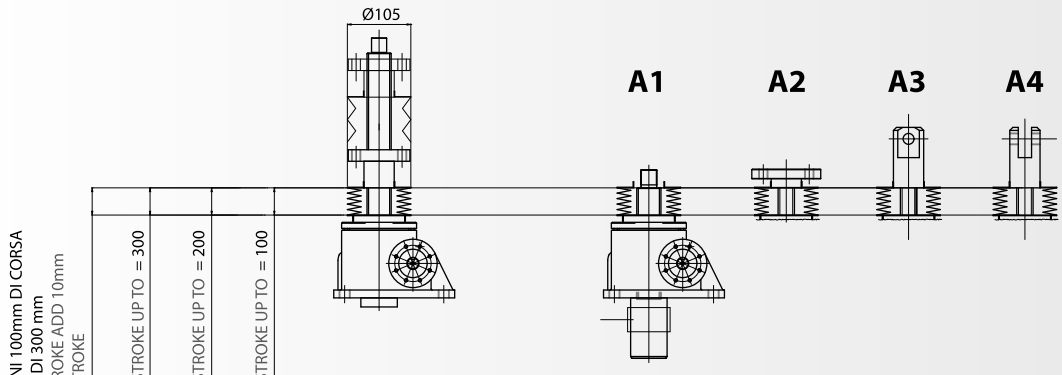
**FLANGIA** / FLANGE **B5**

***Nota: Le dimensioni del motore sono indicative /**
***Note: Motor dimensions are approximate**

**PE - SOFFIETTO ELASTICO** / ELASTIC BELLOW

**VITE ROTANTE** / ROTATING SCREW **VR**

**VITE TRASLANTE** / TRAVELLING SCREW **VT**




Esempio calcolo ingombro soffietto / Calculation example of bellows overall dimensions:
CORSA/ STROKE =750mm --> [(750-300)/100]=4.5 (Considerare / Consider 5)*10+35=85

**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.
**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.

## 2.10.0 SPECIFICHE TECNICHE — 2.10.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 55mm - Passo / Lead 12**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 55mm - Passo / Lead 12**

**SPECIFICHE TECNICHE SEP 100 Vite Trapezia Traslante - Rotante Ø 55mm / TECHNICAL FEATURES SEP 100 Trapezoidal Screw Travelling - Rotating Screw Jack Ø 55mm**

| Rapporto / Ratio | 8 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 12 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 7 | 0,223 | | 1,071 | 1,099 | 20 | 0,126 | | 0,632 | 1,105 |
| 50 | 33 | 0,225 | | 1,062 | 1,108 | 100 | 0,129 | | 0,617 | 1,132 |
| 100 | 67 | 0,227 | | 1,052 | 1,118 | 200 | 0,133 | | 0,599 | 1,167 |
| 150 | 100 | 0,229 | | 1,043 | 1,128 | 300 | 0,138 | | 0,577 | 1,211 |
| 200 | 133 | 0,230 | | 1,038 | 1,133 | 400 | 0,142 | | 0,561 | 1,246 |
| 250 | 167 | 0,232 | | 1,030 | 1,143 | 500 | 0,146 | | 0,545 | 1,281 |
| 300 | 200 | 0,234 | | 1,021 | 1,153 | 600 | 0,150 | | 0,531 | 1,316 |
| 350 | 233 | 0,236 | | 1,012 | 1,163 | 700 | 0,154 | | 0,517 | 1,351 |
| 400 | 267 | 0,238 | | 1,004 | 1,172 | 800 | 0,158 | | 0,504 | 1,386 |
| 450 | 300 | 0,240 | | 0,995 | 1,182 | 900 | 0,163 | | 0,488 | 1,430 |
| 500 | 333 | 0,242 | | 0,987 | 1,192 | 1000 | 0,167 | | 0,477 | 1,465 |
| 550 | 367 | 0,244 | | 0,979 | 1,202 | 1100 | 0,171 | | 0,466 | 1,500 |
| 600 | 400 | 0,246 | | 0,971 | 1,212 | 1200 | 0,175 | | 0,455 | 1,535 |
| 650 | 433 | 0,248 | | 0,963 | 1,222 | 1300 | 0,179 | | 0,445 | 1,570 |
| 700 | 467 | 0,250 | | 0,955 | 1,232 | 1400 | 0,184 | | 0,433 | 1,614 |
| 750 | 500 | 0,252 | | 0,948 | 1,241 | 1500 | 0,188 | | 0,423 | 1,649 |
| 800 | 533 | 0,253 | | 0,944 | 1,246 | 1600 | 0,192 | | 0,415 | 1,684 |
| 850 | 567 | 0,255 | 0,203 | 0,937 | 1,256 | 1700 | 0,196 | 0,114 | 0,114 | 1,719 |
| 900 | 600 | 0,257 | | 0,929 | 1,266 | 1800 | 0,200 | | 0,398 | 1,754 |
| 950 | 633 | 0,259 | | 0,922 | 1,276 | 1900 | 0,204 | | 0,390 | 1,789 |
| 1000 | 667 | 0,261 | | 0,915 | 1,286 | 2000 | 0,209 | | 0,381 | 1,833 |
| 1100 | 733 | 0,265 | | 0,901 | 1,305 | 2200 | 0,217 | | 0,367 | 1,904 |
| 1200 | 800 | 0,269 | | 0,888 | 1,325 | | | | | |
| 1300 | 867 | 0,273 | | 0,875 | 1,345 | | | | | |
| 1400 | 933 | 0,276 | | 0,865 | 1,360 | | | | | |
| 1500 | 1000 | 0,280 | | 0,853 | 1,379 | | | | | |
| 1600 | 1067 | 0,284 | | 0,841 | 1,399 | | | | | |
| 1700 | 1133 | 0,288 | | 0,829 | 1,419 | | | | | |
| 1800 | 1200 | 0,292 | | 0,818 | 1,438 | | | | | |
| 1900 | 1267 | 0,296 | | 0,807 | 1,458 | | | | | |
| 2000 | 1333 | 0,299 | | 0,799 | 1,473 | | | | | |
| 2100 | 1400 | 0,303 | | 0,788 | 1,493 | | | | | |
| 2200 | 1467 | 0,307 | | 0,778 | 1,512 | | | | | |
| 2300 | 1533 | 0,311 | | 0,768 | 1,532 | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

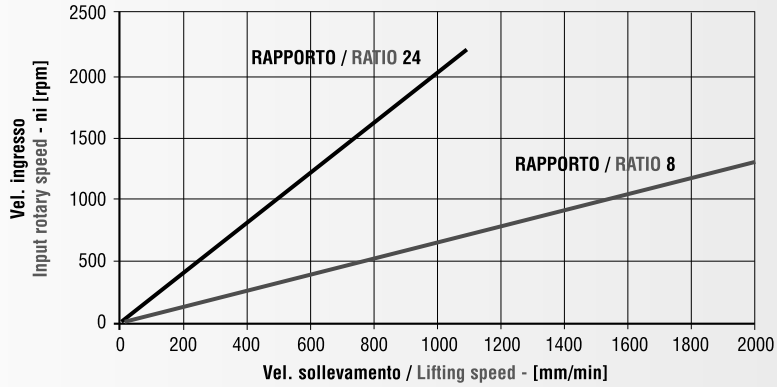
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 100 Vitone Trapezio Ø 55mm - Passo 12 / PERFORMANCE SEP 100 Trapezoidal Screw Ø 55mm - Lead 12

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

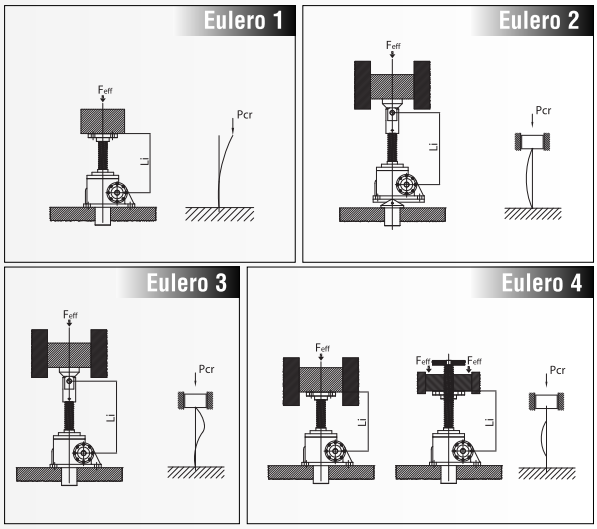
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 100 T | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 100,00 | 1150 | 2300 | 3253 | 4600 | 18,27 |
| 125 | 250 | 354 | 500 | 100,00 | 1200 | 2400 | 3394 | 4800 | 16,78 |
| 150 | 300 | 424 | 600 | 100,00 | 1250 | 2500 | 3536 | 5000 | 15,46 |
| 175 | 350 | 495 | 700 | 100,00 | 1300 | 2600 | 3677 | 5200 | 14,30 |
| 200 | 400 | 566 | 800 | 100,00 | 1350 | 2700 | 3818 | 5400 | 13,26 |
| 225 | 450 | 636 | 900 | 100,00 | 1400 | 2800 | 3960 | 5600 | 12,33 |
| 250 | 500 | 707 | 1000 | 100,00 | 1450 | 2900 | 4101 | 5800 | 11,49 |
| 275 | 550 | 778 | 1100 | 100,00 | | | | | |
| 300 | 600 | 849 | 1200 | 100,00 | | | | | |
| 325 | 650 | 919 | 1300 | 100,00 | | | | | |
| 350 | 700 | 990 | 1400 | 100,00 | | | | | |
| 375 | 750 | 1061 | 1500 | 100,00 | | | | | |
| 400 | 800 | 1131 | 1600 | 100,00 | | | | | |
| 425 | 850 | 1202 | 1700 | 100,00 | | | | | |
| 450 | 900 | 1273 | 1800 | 100,00 | | | | | |
| 475 | 950 | 1344 | 1900 | 99,37 | | | | | |
| 500 | 1000 | 1414 | 2000 | 96,65 | | | | | |
| 550 | 1100 | 1556 | 2200 | 79,88 | | | | | |
| 600 | 1200 | 1697 | 2400 | 67,12 | | | | | |
| 650 | 1300 | 1838 | 2600 | 57,19 | | | | | |
| 700 | 1400 | 1980 | 2800 | 49,31 | | | | | |
| 750 | 1500 | 2121 | 3000 | 42,96 | | | | | |
| 800 | 1600 | 2263 | 3200 | 37,75 | | | | | |
| 850 | 1700 | 2404 | 3400 | 33,44 | | | | | |
| 900 | 1800 | 2546 | 3600 | 29,83 | | | | | |
| 950 | 1900 | 2687 | 3800 | 26,77 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 24,16 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 21,92 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 19,97 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 100 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 8 | 54521 | 40891 | 27261 | 18174 | 13630 | 10904 | 9087 | 7789 | 6815 | 6058 | 5452 |
| 24 | 32518 | 24389 | 16259 | 10839 | 8130 | 5404 | 5420 | 4645 | 4065 | 3613 | 3252 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## **VT** - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 50mm - Passo / Lead 10-20
## **VR** - VITE ROTANTE / ROTATING SCREW JACK Ø 50mm - Passo / Lead 10-20-50

### SPECIFICHE TECNICHE SEP 100 Vite Ricircolo Ø 50mm / TECHNICAL FEATURES SEP 100 Ballscrew Ø 50mm

| Rapporto / Ratio | 8 | | | | | 24 | | | | | 8 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo / Lead** [mm] | 10 | | | | | | | | | | 20 | | | | | | | | | |
| **Velocità sollevamento** "V" **Lifting speed** [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 8 | | | | | 24 | | | | | 4 | | | | | 12 | | | | |
| 50 | 40 | | | | | 120 | | | | | 20 | | | | | 60 | | | | |
| 100 | 80 | | | | | 240 | | | | | 40 | | | | | 120 | | | | |
| 150 | 120 | | | | | 360 | | | | | 60 | | | | | 180 | | | | |
| 200 | 160 | | | | | 480 | | | | | 80 | | | | | 240 | | | | |
| 250 | 200 | | | | | 600 | | | | | 100 | | | | | 300 | | | | |
| 300 | 240 | | | | | 720 | | | | | 120 | | | | | 360 | | | | |
| 350 | 280 | | | | | 840 | | | | | 140 | | | | | 420 | | | | |
| 400 | 320 | | | | | 960 | | | | | 160 | | | | | 480 | | | | |
| 450 | 360 | | | | | 1080 | | | | | 180 | | | | | 540 | | | | |
| 500 | 400 | | | | | 1200 | | | | | 200 | | | | | 600 | | | | |
| 550 | 440 | | | | | 1320 | | | | | 220 | | | | | 660 | | | | |
| 600 | 480 | | | | | 1440 | | | | | 240 | | | | | 720 | | | | |
| 650 | 520 | | | | | 1560 | | | | | 260 | | | | | 780 | | | | |
| 700 | 560 | | | | | 1680 | | | | | 280 | | | | | 840 | | | | |
| 750 | 600 | | | | | 1800 | | | | | 300 | | | | | 900 | | | | |
| 800 | 640 | 0,651 | 0,586 | 0,306 | 1,111 | | 0,518 | 0,466 | 0,128 | 1,112 | 320 | 0,671 | 0,604 | 0,593 | 1,111 | 960 | 0,534 | 0,48 | 0,248 | 1,113 |
| 850 | 680 | | | | | | | | | | 340 | | | | | 1020 | | | | |
| 900 | 720 | | | | | | | | | | 360 | | | | | 1080 | | | | |
| 950 | 760 | | | | | | | | | | 380 | | | | | 1140 | | | | |
| 1000 | 800 | | | | | | | | | | 400 | | | | | 1200 | | | | |
| 1100 | 880 | | | | | | | | | | 440 | | | | | 1320 | | | | |
| 1200 | 960 | | | | | | | | | | 480 | | | | | 1440 | | | | |
| 1300 | 1040 | | | | | | | | | | 520 | | | | | 1560 | | | | |
| 1400 | 1120 | | | | | | | | | | 560 | | | | | 1680 | | | | |
| 1500 | 1200 | | | | | | | | | | 600 | | | | | 1800 | | | | |
| 1600 | 1280 | | | | | | | | | | 640 | | | | | | | | | |
| 1700 | 1360 | | | | | | | | | | 680 | | | | | | | | | |
| 1800 | 1440 | | | | | | | | | | 720 | | | | | | | | | |
| 1900 | 1520 | | | | | | | | | | 760 | | | | | | | | | |
| 2000 | 1600 | | | | | | | | | | 800 | | | | | | | | | |
| 2100 | 1680 | | | | | | | | | | 840 | | | | | | | | | |
| 2200 | 1760 | | | | | | | | | | 880 | | | | | | | | | |
| 2300 | 1840 | | | | | | | | | | 920 | | | | | | | | | |

| Passo / Lead [mm] | 50 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 2 | | | | | 5 | | | | |
| 50 | 8 | | | | | 24 | | | | |
| 100 | 16 | | | | | 48 | | | | |
| 150 | 24 | | | | | 72 | | | | |
| 200 | 32 | | | | | 96 | | | | |
| 250 | 40 | | | | | 120 | | | | |
| 300 | 48 | | | | | 144 | | | | |
| 350 | 56 | | | | | 168 | | | | |
| 400 | 64 | | | | | 192 | | | | |
| 450 | 72 | | | | | 216 | | | | |
| 500 | 80 | | | | | 240 | | | | |
| 550 | 88 | | | | | 264 | | | | |
| 600 | 96 | | | | | 288 | | | | |
| 650 | 104 | | | | | 312 | | | | |
| 700 | 112 | | | | | 336 | | | | |
| 750 | 120 | | | | | 360 | | | | |
| 800 | 128 | 0,683 | 0,615 | 1,457 | 1,111 | 384 | 0,543 | 0,489 | 0,611 | 1,111 |
| 850 | 136 | | | | | 408 | | | | |
| 900 | 144 | | | | | 432 | | | | |
| 950 | 152 | | | | | 456 | | | | |
| 1000 | 160 | | | | | 480 | | | | |
| 1100 | 176 | | | | | 528 | | | | |
| 1200 | 192 | | | | | 576 | | | | |
| 1300 | 208 | | | | | 624 | | | | |
| 1400 | 224 | | | | | 672 | | | | |
| 1500 | 240 | | | | | 720 | | | | |
| 1600 | 256 | | | | | 768 | | | | |
| 1700 | 272 | | | | | 816 | | | | |
| 1800 | 288 | | | | | 864 | | | | |
| 1900 | 304 | | | | | 912 | | | | |
| 2000 | 320 | | | | | 960 | | | | |
| 2100 | 336 | | | | | 1008 | | | | |
| 2200 | 352 | | | | | 1056 | | | | |
| 2300 | 368 | | | | | 1104 | | | | |

### COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **ηeff:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **ξ:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **ξ:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **χ:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **ξ:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

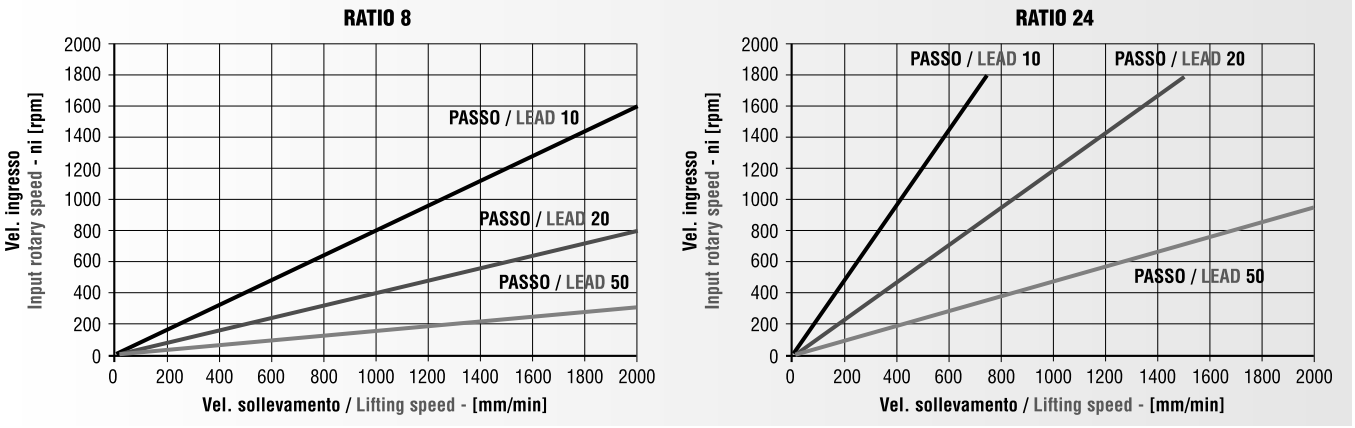
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **ηeff:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **ξ:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **ξ:** fixed number;
**Cu:** input torque [Nm]; **χ:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **ξ:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 100 Vitone Ricircolo Ø 50mm / PERFORMANCE SEP 50 Ballscrew Ø 50mm

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

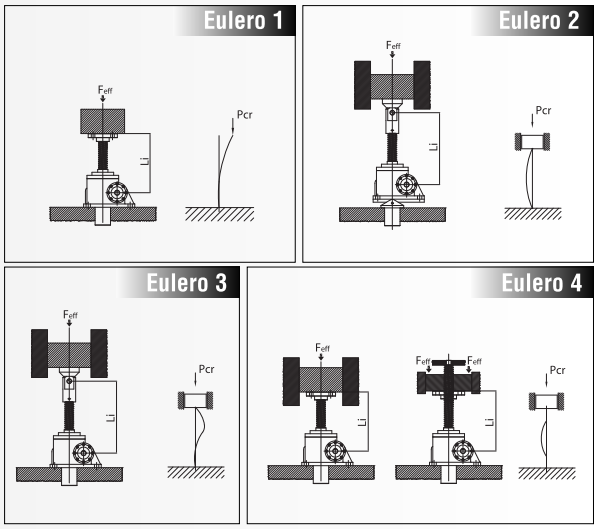
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 100 S (d50) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 100,00 | 1150 | 2300 | 3253 | 4600 | 17,25 |
| 125 | 250 | 354 | 500 | 100,00 | 1200 | 2400 | 3394 | 4800 | 15,84 |
| 150 | 300 | 424 | 600 | 100,00 | 1250 | 2500 | 3536 | 5000 | 14,60 |
| 175 | 350 | 495 | 700 | 100,00 | 1300 | 2600 | 3677 | 5200 | 13,50 |
| 200 | 400 | 566 | 800 | 100,00 | 1350 | 2700 | 3818 | 5400 | 12,52 |
| 225 | 450 | 636 | 900 | 100,00 | 1400 | 2800 | 3960 | 5600 | 11,64 |
| 250 | 500 | 707 | 1000 | 100,00 | 1450 | 2900 | 4101 | 5800 | 10,85 |
| 275 | 550 | 778 | 1100 | 100,00 | 1500 | 3000 | 4243 | 6000 | 10,14 |
| 300 | 600 | 849 | 1200 | 100,00 | | | | | |
| 325 | 650 | 919 | 1300 | 100,00 | | | | | |
| 350 | 700 | 990 | 1400 | 100,00 | | | | | |
| 375 | 750 | 1061 | 1500 | 100,00 | | | | | |
| 400 | 800 | 1131 | 1600 | 100,00 | | | | | |
| 425 | 850 | 1202 | 1700 | 100,00 | | | | | |
| 450 | 900 | 1273 | 1800 | 100,00 | | | | | |
| 475 | 950 | 1344 | 1900 | 100,00 | | | | | |
| 500 | 1000 | 1414 | 2000 | 91,24 | | | | | |
| 550 | 1100 | 1556 | 2200 | 75,41 | | | | | |
| 600 | 1200 | 1697 | 2400 | 63,36 | | | | | |
| 650 | 1300 | 1838 | 2600 | 53,99 | | | | | |
| 700 | 1400 | 1980 | 2800 | 46,55 | | | | | |
| 750 | 1500 | 2121 | 3000 | 40,55 | | | | | |
| 800 | 1600 | 2263 | 3200 | 35,64 | | | | | |
| 850 | 1700 | 2404 | 3400 | 31,57 | | | | | |
| 900 | 1800 | 2546 | 3600 | 28,16 | | | | | |
| 950 | 1900 | 2687 | 3800 | 25,28 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 22,81 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 20,69 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 18,85 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 100 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 8 | 141755 | 106317 | 70879 | 47252 | 35438 | 28350 | 23626 | 20251 | 17719 | 15751 | 14175 |
| 24 | 84547 | 63411 | 42273 | 28181 | 21138 | 14050 | 14092 | 12077 | 10569 | 9394 | 8455 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## SOLO IN VERSIONE **VR**
## **VR** TYPE ONLY

**SPECIFICHE TECNICHE SEP 100 Vite Ricircolo Ø 63mm /** TECHNICAL FEATURES SEP 100 Ballscrew Ø 63mm

| **Rapporto** / Ratio | 8 | | | | | 24 | | | | | 8 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo** / Lead [mm] | 10 | | | | | | | | | | 20 | | | | | | | | | |
| **Velocità sollevamento** "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 8 | | | | | 24 | | | | | 4 | | | | | 12 | | | | |
| 50 | 40 | | | | | 120 | | | | | 20 | | | | | 60 | | | | |
| 100 | 80 | | | | | 240 | | | | | 40 | | | | | 120 | | | | |
| 150 | 120 | | | | | 360 | | | | | 60 | | | | | 180 | | | | |
| 200 | 160 | | | | | 480 | | | | | 80 | | | | | 240 | | | | |
| 250 | 200 | | | | | 600 | | | | | 100 | | | | | 300 | | | | |
| 300 | 240 | | | | | 720 | | | | | 120 | | | | | 360 | | | | |
| 350 | 280 | | | | | 840 | | | | | 140 | | | | | 420 | | | | |
| 400 | 320 | | | | | 960 | | | | | 160 | | | | | 480 | | | | |
| 450 | 360 | | | | | 1080 | | | | | 180 | | | | | 540 | | | | |
| 500 | 400 | | | | | 1200 | | | | | 200 | | | | | 600 | | | | |
| 550 | 440 | | | | | 1320 | | | | | 220 | | | | | 660 | | | | |
| 600 | 480 | | | | | 1440 | | | | | 240 | | | | | 720 | | | | |
| 650 | 520 | | | | | 1560 | | | | | 260 | | | | | 780 | | | | |
| 700 | 560 | | | | | 1680 | | | | | 280 | | | | | 840 | | | | |
| 750 | 600 | | | | | 1800 | | | | | 300 | | | | | 900 | | | | |
| 800 | 640 | 0,642 | 0,577 | 0,310 | 1,113 | 1920 | 0,51 | 0,459 | 0,130 | 1,111 | 320 | 0,666 | 0,599 | 0,598 | 1,112 | 960 | 0,529 | 0,477 | 0,251 | 1,109 |
| 850 | 680 | | | | | | | | | | 340 | | | | | 1020 | | | | |
| 900 | 720 | | | | | | | | | | 360 | | | | | 1080 | | | | |
| 950 | 760 | | | | | | | | | | 380 | | | | | 1140 | | | | |
| 1000 | 800 | | | | | | | | | | 400 | | | | | 1200 | | | | |
| 1100 | 880 | | | | | | | | | | 440 | | | | | 1320 | | | | |
| 1200 | 960 | | | | | | | | | | 480 | | | | | 1440 | | | | |
| 1300 | 1040 | | | | | | | | | | 520 | | | | | 1560 | | | | |
| 1400 | 1120 | | | | | | | | | | 560 | | | | | 1680 | | | | |
| 1500 | 1200 | | | | | | | | | | 600 | | | | | 1800 | | | | |
| 1600 | 1280 | | | | | | | | | | 640 | | | | | 1920 | | | | |
| 1700 | 1360 | | | | | | | | | | 680 | | | | | | | | | |
| 1800 | 1440 | | | | | | | | | | 720 | | | | | | | | | |
| 1900 | 1520 | | | | | | | | | | 760 | | | | | | | | | |
| 2000 | 1600 | | | | | | | | | | 800 | | | | | | | | | |
| 2100 | 1680 | | | | | | | | | | 840 | | | | | | | | | |
| 2200 | 1760 | | | | | | | | | | 880 | | | | | | | | | |
| 2300 | 1840 | | | | | | | | | | 920 | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO /** REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; $\eta_{eff}$**:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); $\xi$**:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; $\xi$**:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; $\chi$**:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; $\xi$**:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; $n_i$ **=** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

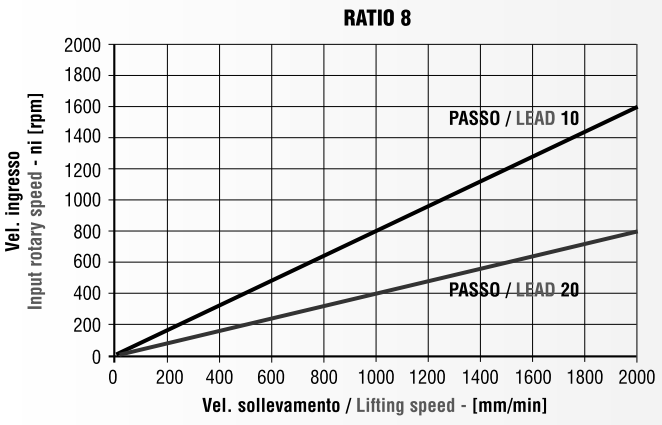
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; $\eta_{eff}$**:** efficiency;
**p:** screw lead [mm]; **i:** ratio; $\xi$**:** fixed number.

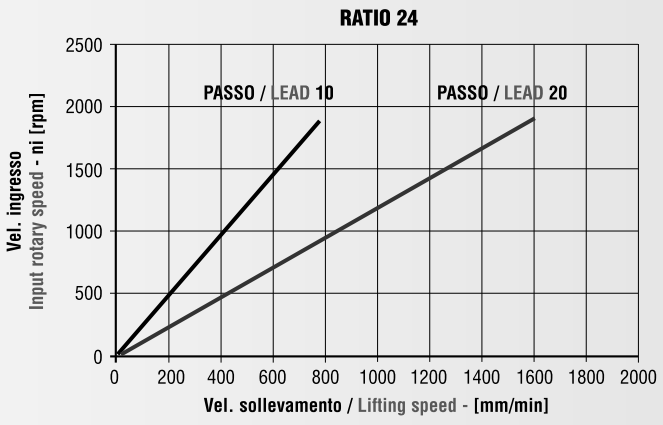
**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; $\xi$**:** fixed number;
**Cu:** input torque [Nm]; $\chi$**:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; $\xi$**:** fixed number;
**Cu:** input torque [Nm];
$n_i$ **=** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 100 Vitone Ricircolo Ø 63mm / PERFORMANCE SEP 50 Ballscrew Ø 63mm

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

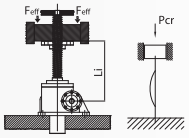
**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | SEP 100 S (d63) | |
|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | Pcr [kN] |
| Eulero 4 | | Eulero 4 | |
| 400 | 100,00 | 4600 | 49,12 |
| 500 | 100,00 | 4800 | 45,12 |
| 600 | 100,00 | 5000 | 41,58 |
| 700 | 100,00 | 5200 | 38,44 |
| 800 | 100,00 | 5400 | 35,65 |
| 900 | 100,00 | 5600 | 33,15 |
| 1000 | 100,00 | 5800 | 30,90 |
| 1100 | 100,00 | 6000 | 28,87 |
| 1200 | 100,00 | 6400 | 25,38 |
| 1300 | 100,00 | 6800 | 22,48 |
| 1400 | 100,00 | 7200 | 20,05 |
| 1500 | 100,00 | 7600 | 18,00 |
| 1600 | 100,00 | 8000 | 16,24 |
| 1700 | 100,00 | 8400 | 14,73 |
| 1800 | 100,00 | 9000 | 12,83 |
| 1900 | 100,00 | 9600 | 11,28 |
| 2000 | 100,00 | | |
| 2200 | 100,00 | | |
| 2400 | 100,00 | | |
| 2600 | 100,00 | | |
| 2800 | 100,00 | | |
| 3000 | 100,00 | | |
| 3200 | 100,00 | | |
| 3400 | 89,92 | | |
| 3600 | 80,21 | | |
| 3800 | 71,99 | | |
| 4000 | 64,97 | | |
| 4200 | 58,93 | | |
| 4400 | 53,69 | | |

**Eulero 4**




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 100 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 8 | 141755 | 106317 | 70879 | 47252 | 35438 | 28350 | 23626 | 20251 | 17719 | 15751 | 14175 |
| 24 | 84547 | 63411 | 42273 | 28181 | 21138 | 14050 | 14092 | 12077 | 10569 | 9394 | 8455 |

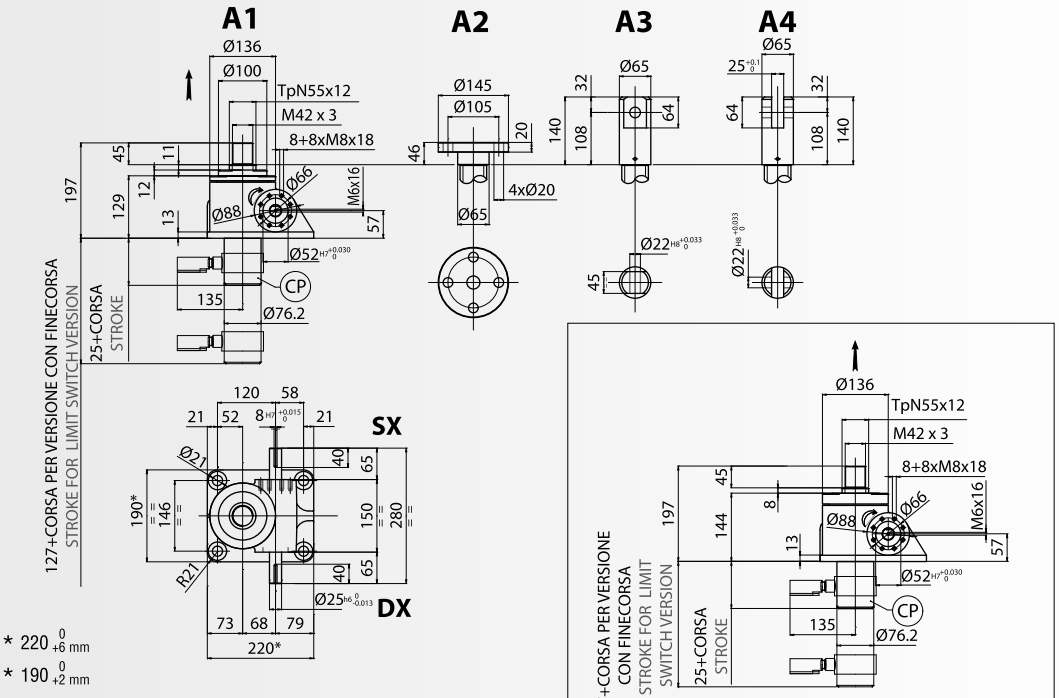
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

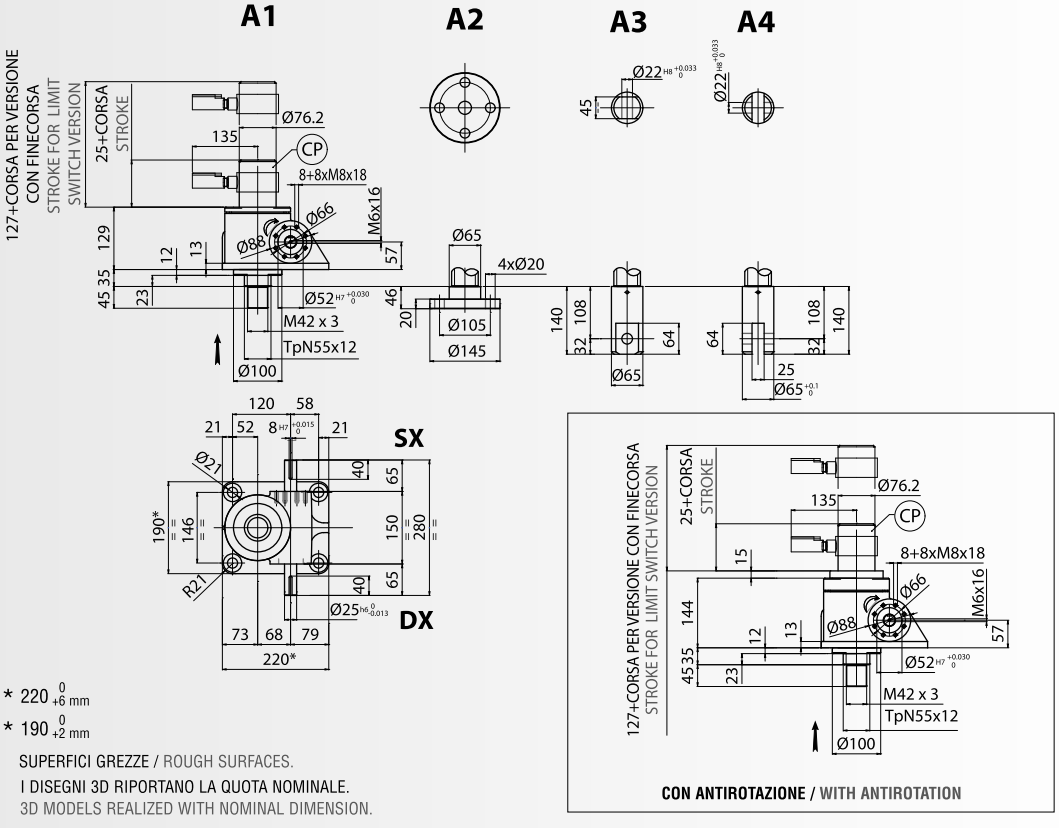
## 2.10.1 SCHEMI DIMENSIONALI

## 2.10.1 OVERALL DIMENSIONS

SEP 100 T VT ... A

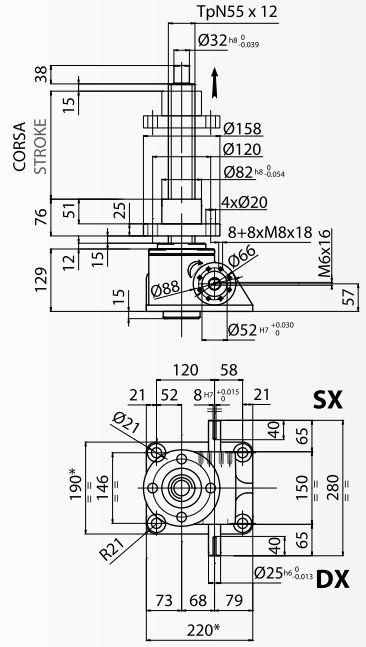



SEP 100 T VT ... B

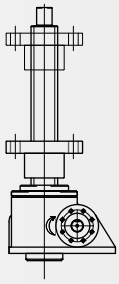


## SEP 100 T VR...A

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**



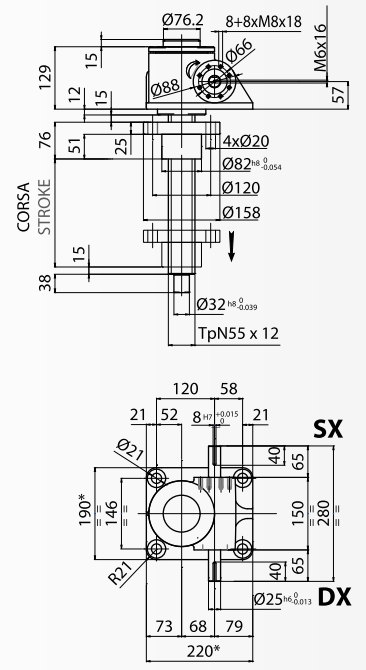
* 220 $^{0}_{+6}$ mm

* 190 $^{0}_{+2}$ mm

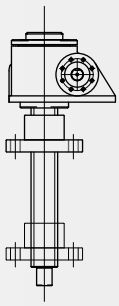
SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SEP 100 T VR...B

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**



* 220 $^{0}_{+6}$ mm

* 190 $^{0}_{+2}$ mm

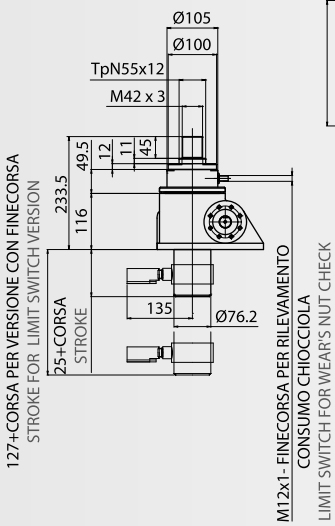
SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SCHEMI DIMENSIONALI / OVERALL DIMENSIONS

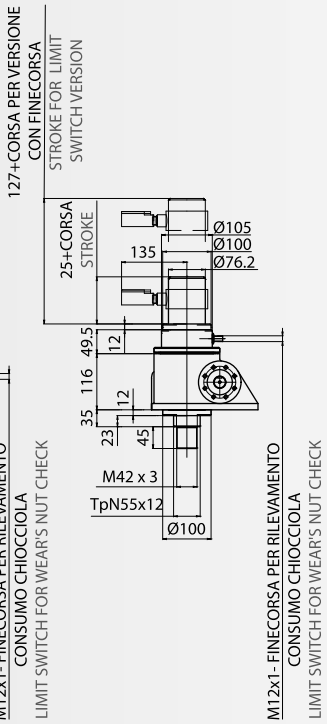
**SEP 100 T VT....A(B)....SS**
**SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT**

**VERSIONE / VERSION VT**
**SENZA ANTIROTAZIONE / WITHOUT ANTIROTATION AR**

**SOLUZIONE / TYPE A**

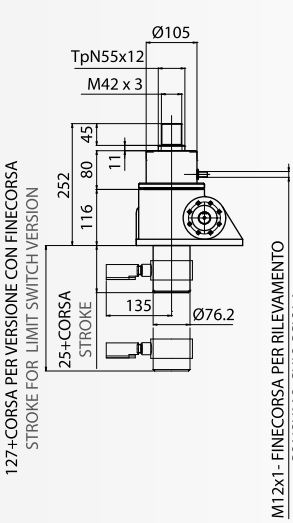



**SOLUZIONE / TYPE B**

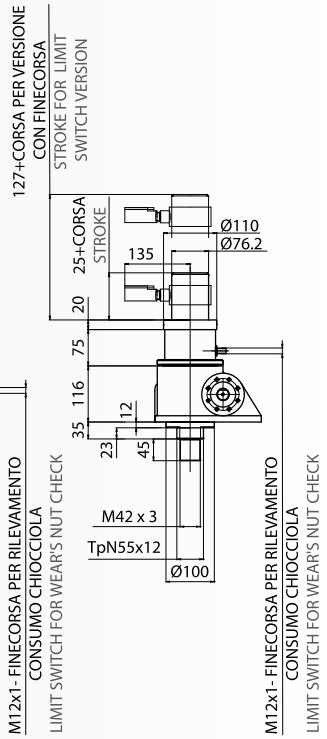



**VERSIONE / VERSION VT**
**CON ANTIROTAZIONE / WITH ANTIROTATION AR**

**SOLUZIONE / TYPE A**



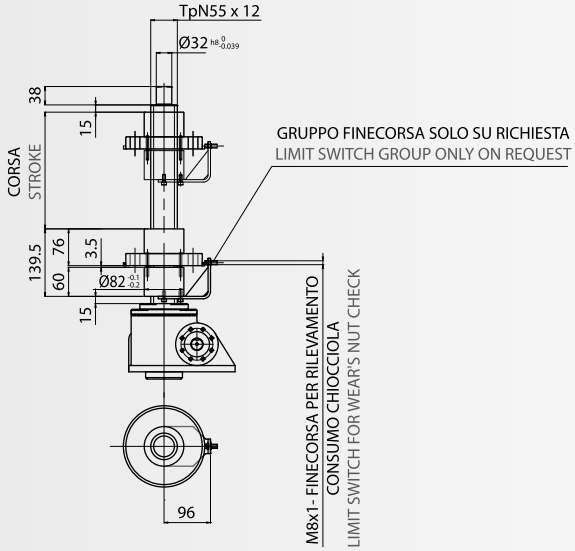

**SOLUZIONE / TYPE B**



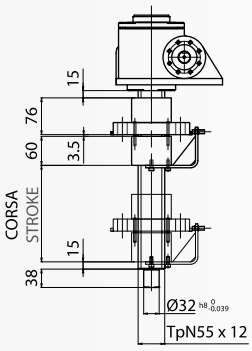

**SEP 100 T VR....A(B)....SS**
**SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT**

**VERSIONE / VERSION VR**

**SOLUZIONE / TYPE A**

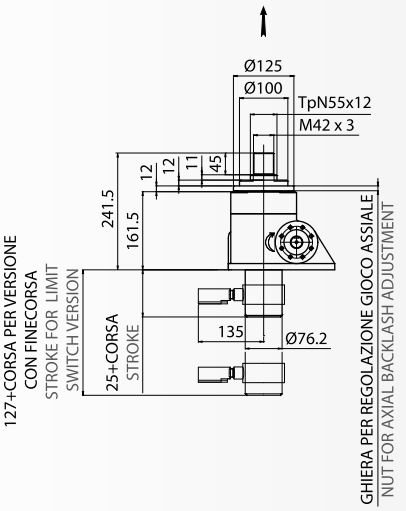



**SOLUZIONE / TYPE B**

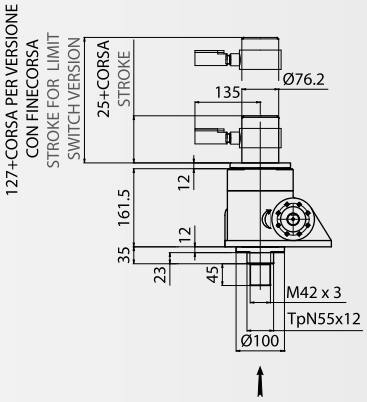


**SENZA ANTIROTAZIONE / WITHOUT ANTIROTATION AR**

**SOLUZIONE / TYPE A**



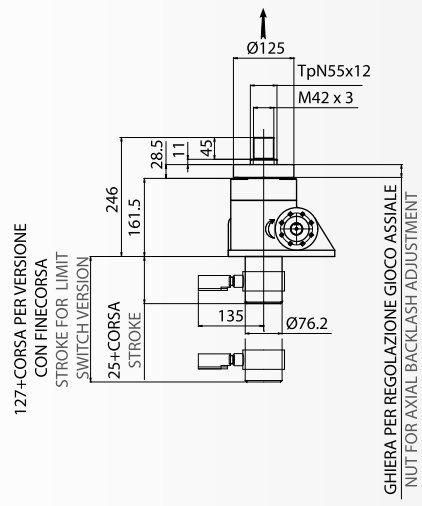

**SOLUZIONE / TYPE B**



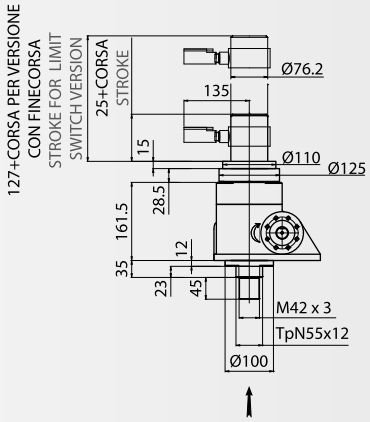

**SEP 100 T VT ... A(B) ... SB**
**SB - CHIOCCIOLA RECUPERO GIOCHI / ANTI BACKLASH NUT**

**CON ANTIROTAZIONE / WITH ANTIROTATION AR**

**SOLUZIONE / TYPE A**




**SOLUZIONE / TYPE B**

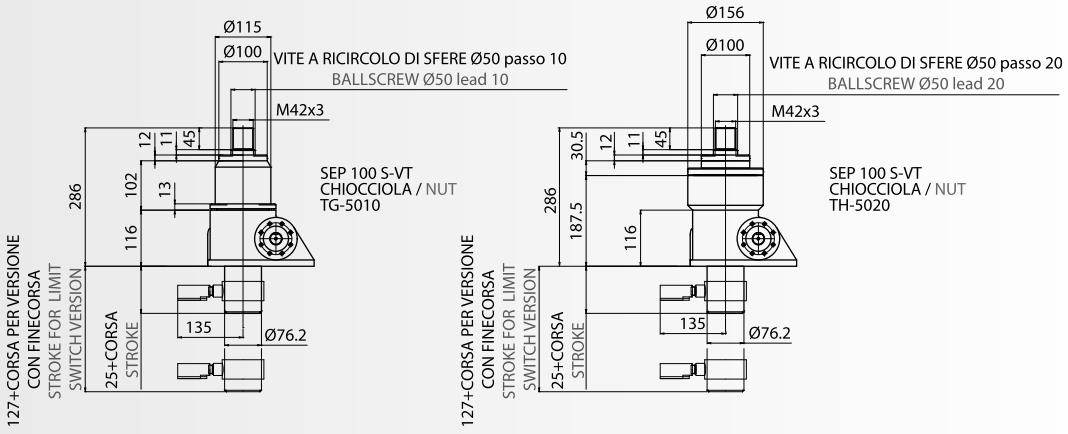



**SEP 100 T VT ... A(B) ... SB ... AR**
**SB - CHIOCCIOLA RECUPERO GIOCHI / ANTI BACKLASH NUT**

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

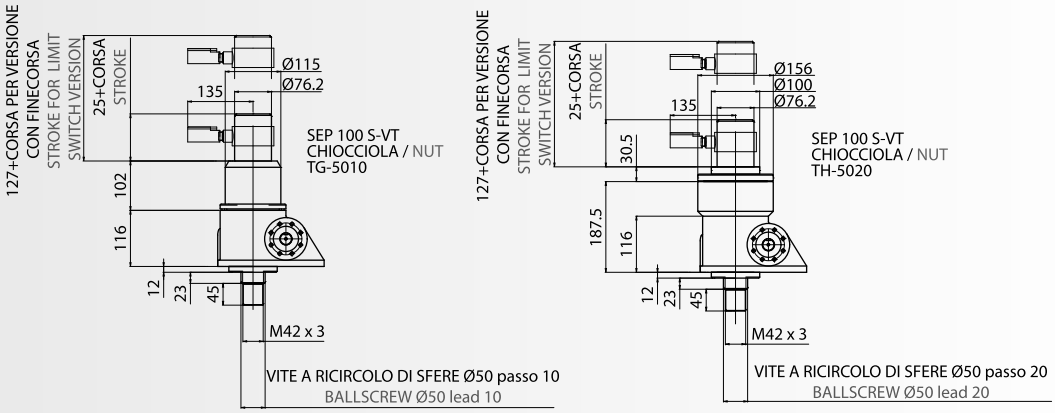
## SEP 100 S VT ... A
## S - CON VITE A RICIRCOLO DI SFERE / BALLSCREW

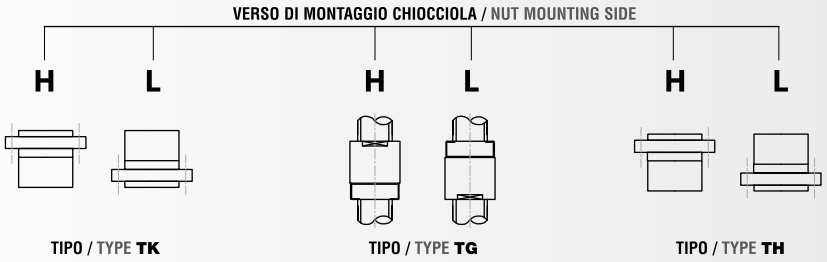
**SOLUZIONE** / TYPE **A**




## SEP 100 S VT ... B
## S - CON VITE A RICIRCOLO DI SFERE / BALLSCREW

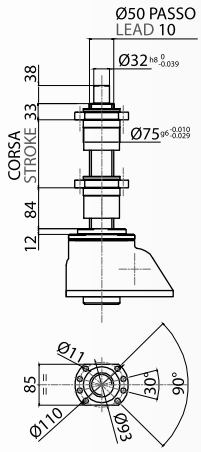
**SOLUZIONE** / TYPE **B**



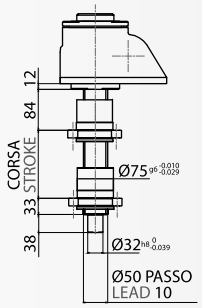



## TK5010

SOLUZIONE / TYPE A

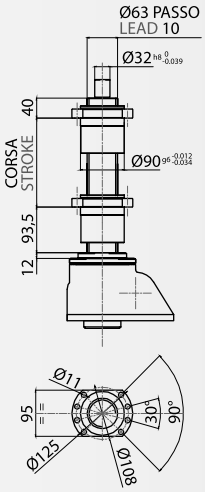



SOLUZIONE / TYPE B

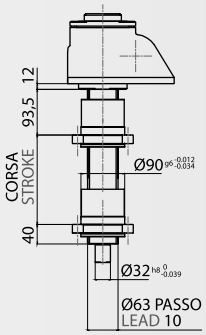



## TK6310

SOLUZIONE / TYPE A

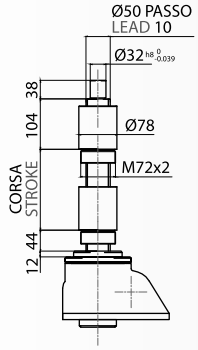



SOLUZIONE / TYPE B

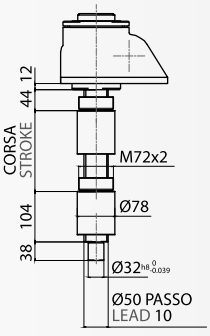



## TG5010

SOLUZIONE / TYPE A

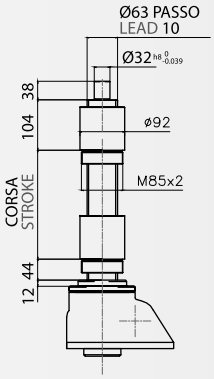



SOLUZIONE / TYPE B

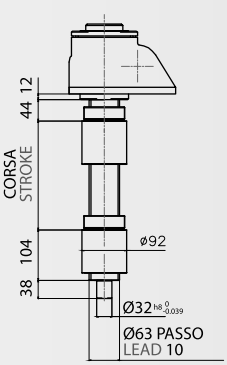



## TG6310

SOLUZIONE / TYPE A




SOLUZIONE / TYPE B

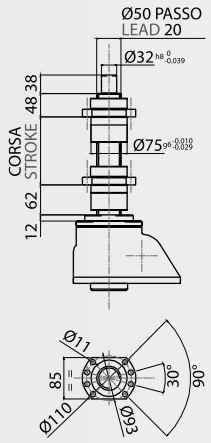


**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

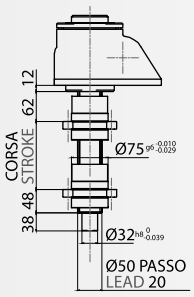
**SEP 100 S VR... A(B)**
**S - CON VITE A RICIRCOLO DI SFERE** / BALLSCREW

## TH5020

**SOLUZIONE** / TYPE **A**

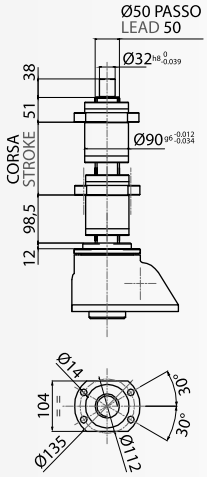



**SOLUZIONE** / TYPE **B**

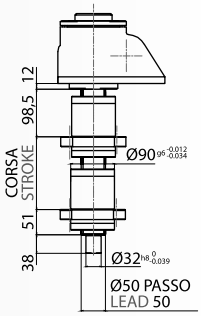



## HH5050

**SOLUZIONE** / TYPE **A**

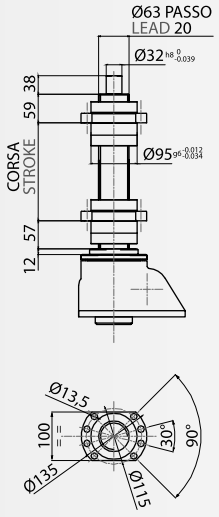



**SOLUZIONE** / TYPE **B**

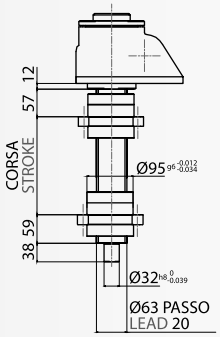



## TH6320

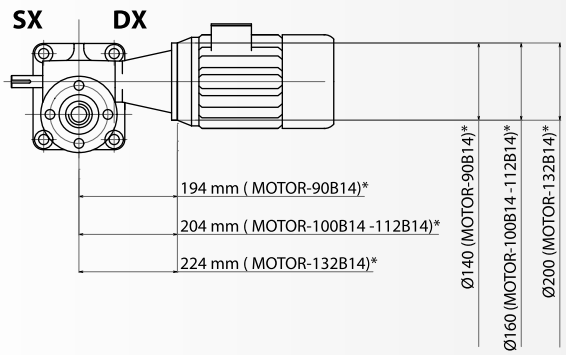
**SOLUZIONE** / TYPE **A**

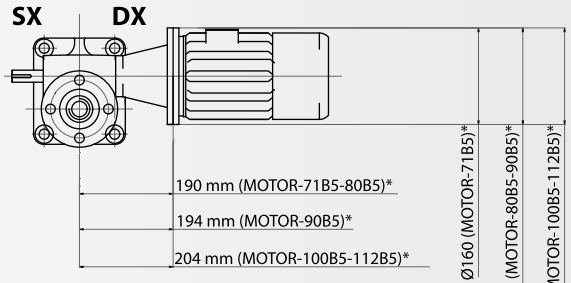



**SOLUZIONE** / TYPE **B**



**FLANGIA / FLANGE B14**



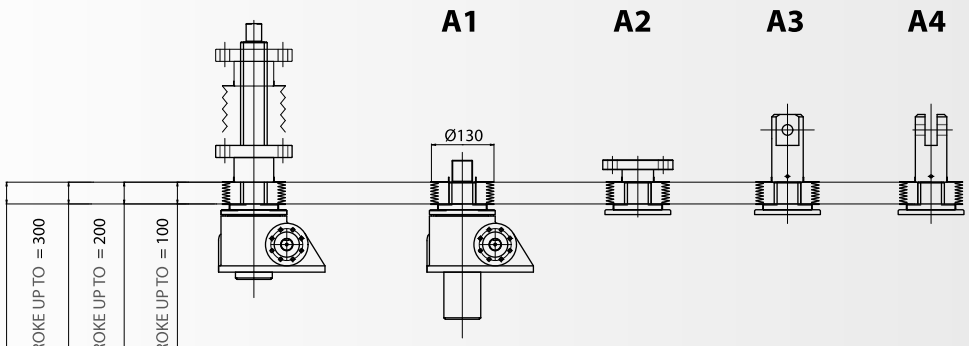

**FLANGIA / FLANGE B5**

***Nota: Le dimensioni del motore sono indicative /**
***Note: Motor dimensions are approximate**



**VITE ROTANTE / ROTATING SCREW VR**

**VITE TRASLANTE / TRAVELLING SCREW VT**




(a) AGGIUNGERE 10mm PER OGNI 100mm DI CORSA
PER CORSE SUPERIORI DI 300mm
FOR MORE THAN 300mm STROKE ADD 10mm
EVERY 100mm STROKE

(a) 35mm PER CORSA FINO A / FOR STROKE UP TO = 300

(a) 30mm PER CORSA FINO A / FOR STROKE UP TO = 200

(a) 20mm PER CORSA FINO A / FOR STROKE UP TO = 100

Esempio calcolo ingombro soffietto / Calculation example of bellows overall dimensions:
CORSA/ STROKE =750mm --> [(750-300)/100]=4.5 (considerare/ consider 5)*10+35=85

**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.
**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.

## 2.11.0 SPECIFICHE TECNICHE — 2.11.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 65mm - Passo / Lead 12**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 65mm - Passo / Lead 12**

**SPECIFICHE TECNICHE SEP 200 Vite Trapezia Traslante - Rotante Ø 65mm / TECHNICAL FEATURES SEP 200 Trapezoidal Screw Travelling - Rotating Screw Jack Ø 65mm**

| Rapporto / Ratio | 8 | | | | | 24 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 12 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 7 | 0,222 | | 1,076 | 1,099 | 20 | 0,129 | | 0,617 | 1,103 |
| 50 | 33 | 0,224 | | 1,066 | 1,109 | 100 | 0,133 | | 0,599 | 1,137 |
| 100 | 67 | 0,226 | | 1,057 | 1,119 | 200 | 0,138 | | 0,577 | 1,179 |
| 150 | 100 | 0,228 | | 1,048 | 1,129 | 300 | 0,143 | | 0,557 | 1,222 |
| 200 | 133 | 0,229 | | 1,043 | 1,134 | 400 | 0,147 | | 0,542 | 1,256 |
| 250 | 167 | 0,231 | | 1,034 | 1,144 | 500 | 0,152 | | 0,524 | 1,299 |
| 300 | 200 | 0,233 | | 1,025 | 1,153 | 600 | 0,157 | | 0,507 | 1,342 |
| 350 | 233 | 0,235 | | 1,016 | 1,163 | 700 | 0,162 | | 0,491 | 1,385 |
| 400 | 267 | 0,237 | | 1,008 | 1,173 | 800 | 0,166 | | 0,480 | 1,419 |
| 450 | 300 | 0,239 | | 0,999 | 1,183 | 900 | 0,171 | | 0,466 | 1,462 |
| 500 | 333 | 0,241 | | 0,991 | 1,193 | 1000 | 0,176 | | 0,452 | 1,504 |
| 550 | 367 | 0,243 | | 0,983 | 1,203 | 1100 | 0,181 | | 0,440 | 1,547 |
| 600 | 400 | 0,245 | | 0,975 | 1,213 | 1200 | 0,186 | | 0,428 | 1,590 |
| 650 | 433 | 0,246 | | 0,971 | 1,218 | 1300 | 0,19 | | 0,419 | 1,624 |
| 700 | 467 | 0,248 | | 0,963 | 1,228 | 1400 | 0,195 | | 0,408 | 1,667 |
| 750 | 500 | 0,250 | | 0,955 | 1,238 | 1500 | 0,2 | | 0,398 | 1,709 |
| 800 | 533 | 0,252 | 0,202 | 0,948 | 1,248 | 1600 | 0,25 | 0,117 | 0,318 | 2,137 |
| 850 | 567 | 0,254 | | 0,940 | 1,257 | 1700 | 0,209 | | 0,381 | 1,786 |
| 900 | 600 | 0,256 | | 0,933 | 1,267 | 1800 | 0,214 | | 0,372 | 1,829 |
| 950 | 633 | 0,258 | | 0,926 | 1,277 | 1900 | 0,219 | | 0,364 | 1,872 |
| 1000 | 667 | 0,260 | | 0,919 | 1,287 | | | | | |
| 1100 | 733 | 0,263 | | 0,908 | 1,302 | | | | | |
| 1200 | 800 | 0,267 | | 0,895 | 1,322 | | | | | |
| 1300 | 867 | 0,271 | | 0,881 | 1,342 | | | | | |
| 1400 | 933 | 0,275 | | 0,869 | 1,361 | | | | | |
| 1500 | 1000 | 0,278 | | 0,859 | 1,376 | | | | | |
| 1600 | 1067 | 0,282 | | 0,847 | 1,396 | | | | | |
| 1700 | 1133 | 0,286 | | 0,835 | 1,416 | | | | | |
| 1800 | 1200 | 0,290 | | 0,824 | 1,436 | | | | | |
| 1900 | 1267 | 0,293 | | 0,815 | 1,450 | | | | | |
| 2000 | 1333 | 0,297 | | 0,804 | 1,470 | | | | | |
| 2100 | 1400 | 0,301 | | 0,794 | 1,490 | | | | | |
| 2200 | 1467 | 0,305 | | 0,783 | 1,510 | | | | | |
| 2300 | | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

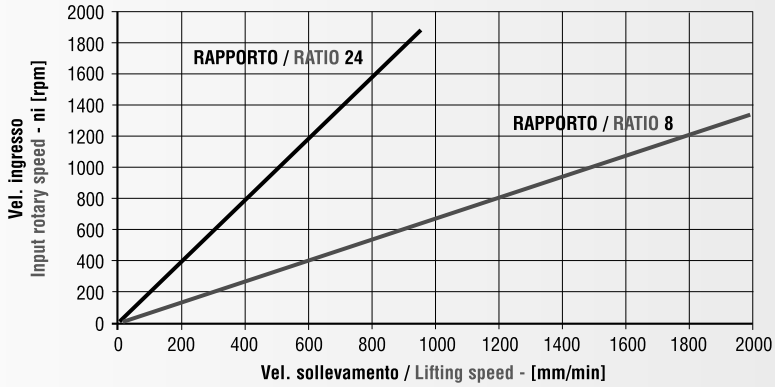
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 200 Vitone Trapezio Ø 65mm - Passo 12 / PERFORMANCE SEP 200 Trapezoidal Screw Ø 65mm - Lead 12

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

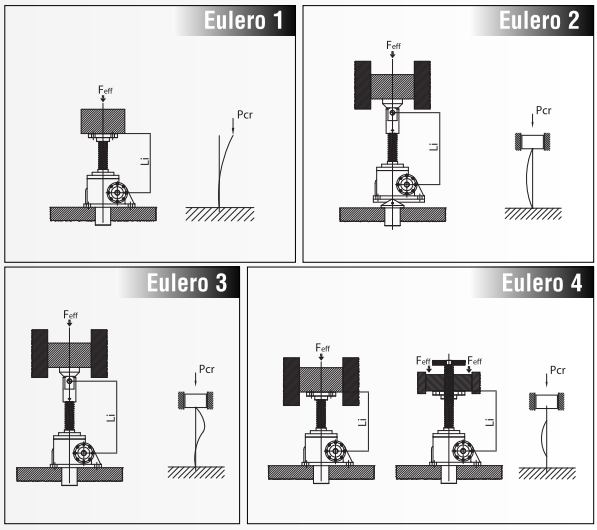
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 200 T | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 200,00 | 1150 | 2300 | 3253 | 4600 | 41,45 |
| 125 | 250 | 354 | 500 | 200,00 | 1200 | 2400 | 3394 | 4800 | 38,07 |
| 150 | 300 | 424 | 600 | 198,70 | 1250 | 2500 | 3536 | 5000 | 35,08 |
| 175 | 350 | 495 | 700 | 195,87 | 1300 | 2600 | 3677 | 5200 | 32,44 |
| 200 | 400 | 566 | 800 | 193,04 | 1350 | 2700 | 3818 | 5400 | 30,08 |
| 225 | 450 | 636 | 900 | 190,21 | 1400 | 2800 | 3960 | 5600 | 27,97 |
| 250 | 500 | 707 | 1000 | 187,38 | 1450 | 2900 | 4101 | 5800 | 26,07 |
| 275 | 550 | 778 | 1100 | 184,55 | 1500 | 3000 | 4243 | 6000 | 24,36 |
| 300 | 600 | 849 | 1200 | 181,72 | 1600 | 3200 | 4525 | 6400 | 21,41 |
| 325 | 650 | 919 | 1300 | 178,88 | 1700 | 3400 | 4808 | 6800 | 18,97 |
| 350 | 700 | 990 | 1400 | 176,05 | 1800 | 3600 | 5091 | 7200 | 16,92 |
| 375 | 750 | 1061 | 1500 | 173,22 | | | | | |
| 400 | 800 | 1131 | 1600 | 170,39 | | | | | |
| 425 | 850 | 1202 | 1700 | 167,56 | | | | | |
| 450 | 900 | 1273 | 1800 | 164,73 | | | | | |
| 475 | 950 | 1344 | 1900 | 161,90 | | | | | |
| 500 | 1000 | 1414 | 2000 | 159,07 | | | | | |
| 550 | 1100 | 1556 | 2200 | 153,41 | | | | | |
| 600 | 1200 | 1697 | 2400 | 147,74 | | | | | |
| 650 | 1300 | 1838 | 2600 | 129,74 | | | | | |
| 700 | 1400 | 1980 | 2800 | 111,37 | | | | | |
| 750 | 1500 | 2121 | 3000 | 97,45 | | | | | |
| 800 | 1600 | 2263 | 3200 | 85,65 | | | | | |
| 850 | 1700 | 2404 | 3400 | 75,87 | | | | | |
| 900 | 1800 | 2546 | 3600 | 67,68 | | | | | |
| 950 | 1900 | 2687 | 3800 | 60,74 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 54,82 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 49,72 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 45,30 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 200 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 8 | 87838 | 65878 | 43919 | 29279 | 21959 | 17568 | 14640 | 12548 | 10980 | 9760 | 8784 |
| 24 | 55720 | 41790 | 27860 | 18573 | 13930 | 11144 | 9287 | 7960 | 6965 | 6191 | 5572 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## **VT** - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 63mm - **Passo** / Lead 10-20
## **VR** - VITE ROTANTE / ROTATING SCREW JACK Ø 63mm - **Passo** / Lead 10-20

**SPECIFICHE TECNICHE SEP 200 Vite Ricircolo Ø 63mm / TECHNICAL FEATURES SEP 200 Ballscrew Ø 63mm**

| **Rapporto / Ratio** | **8** | | | | | **24** | | | | | **8** | | | | | **24** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo / Lead** [mm] | **10** | | | | | | | | | | **20** | | | | | | | | | |
| **Velocità sollevamento** "V" **Lifting speed** [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 8 | | | | | 24 | | | | | 4 | | | | | 12 | | | | |
| 50 | 40 | | | | | 120 | | | | | 20 | | | | | 60 | | | | |
| 100 | 80 | | | | | 240 | | | | | 40 | | | | | 120 | | | | |
| 150 | 120 | | | | | 360 | | | | | 60 | | | | | 180 | | | | |
| 200 | 160 | | | | | 480 | | | | | 80 | | | | | 240 | | | | |
| 250 | 200 | | | | | 600 | | | | | 100 | | | | | 300 | | | | |
| 300 | 240 | | | | | 720 | | | | | 120 | | | | | 360 | | | | |
| 350 | 280 | | | | | 840 | | | | | 140 | | | | | 420 | | | | |
| 400 | 320 | | | | | 960 | | | | | 160 | | | | | 480 | | | | |
| 450 | 360 | | | | | 1080 | | | | | 180 | | | | | 540 | | | | |
| 500 | 400 | | | | | 1200 | | | | | 200 | | | | | 600 | | | | |
| 550 | 440 | | | | | 1320 | | | | | 220 | | | | | 660 | | | | |
| 600 | 480 | | | | | 1440 | | | | | 240 | | | | | 720 | | | | |
| 650 | 520 | | | | | 1560 | | | | | 260 | | | | | 780 | | | | |
| 700 | 560 | | | | | 1680 | | | | | 280 | | | | | 840 | | | | |
| 750 | 600 | | | | | 1800 | | | | | 300 | | | | | 900 | | | | |
| 800 | 640 | 0,644 | 0,579 | 0,309 | 1,112 | | 0,525 | 0,473 | 0,126 | 1,110 | 320 | 0,668 | 0,601 | 0,596 | 1,111 | 960 | 0,545 | 0,491 | 0,243 | 1,110 |
| 850 | 680 | | | | | | | | | | 340 | | | | | 1020 | | | | |
| 900 | 720 | | | | | | | | | | 360 | | | | | 1080 | | | | |
| 950 | 760 | | | | | | | | | | 380 | | | | | 1140 | | | | |
| 1000 | 800 | | | | | | | | | | 400 | | | | | 1200 | | | | |
| 1100 | 880 | | | | | | | | | | 440 | | | | | 1320 | | | | |
| 1200 | 960 | | | | | | | | | | 480 | | | | | 1440 | | | | |
| 1300 | 1040 | | | | | | | | | | 520 | | | | | 1560 | | | | |
| 1400 | 1120 | | | | | | | | | | 560 | | | | | 1680 | | | | |
| 1500 | 1200 | | | | | | | | | | 600 | | | | | 1800 | | | | |
| 1600 | 1280 | | | | | | | | | | 640 | | | | | | | | | |
| 1700 | 1360 | | | | | | | | | | 680 | | | | | | | | | |
| 1800 | 1440 | | | | | | | | | | 720 | | | | | | | | | |
| 1900 | 1520 | | | | | | | | | | 760 | | | | | | | | | |
| 2000 | 1600 | | | | | | | | | | 800 | | | | | | | | | |
| 2100 | 1680 | | | | | | | | | | 840 | | | | | | | | | |
| 2200 | 1760 | | | | | | | | | | 880 | | | | | | | | | |
| 2300 | 1840 | | | | | | | | | | 920 | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

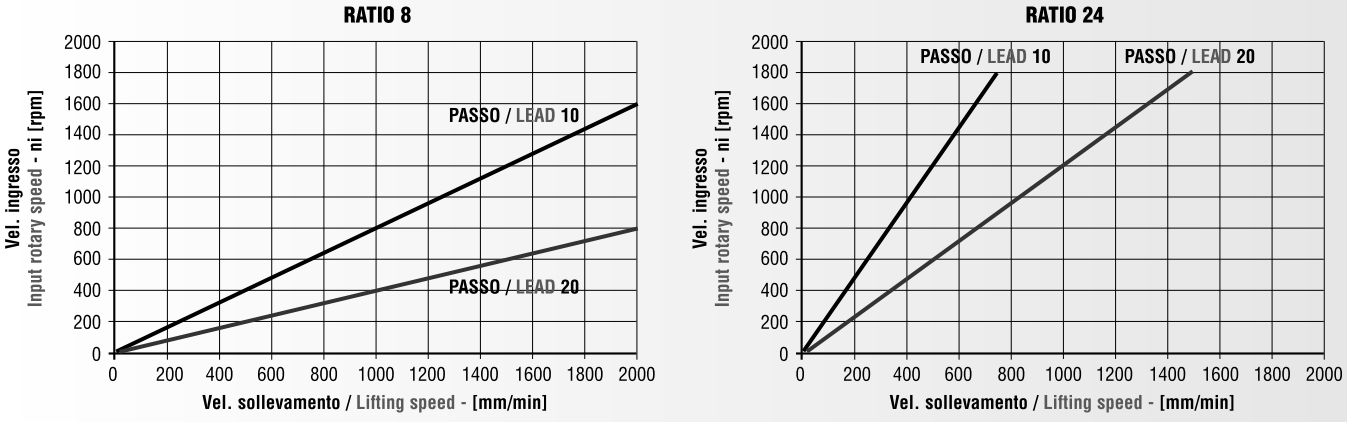
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 200 Vitone Ricircolo Ø 63mm - Passo 10-20 / PERFORMANCE SEP 200 Ballscrew Ø 63mm - Lead 10-20

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

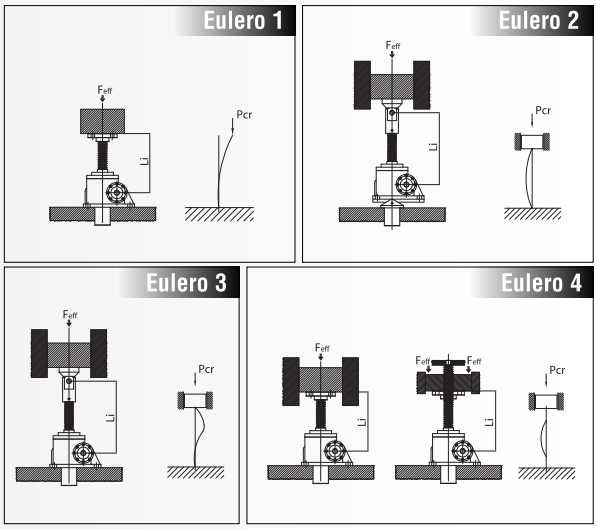
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 200 S (d63) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 200,00 | 1150 | 2300 | 3253 | 4600 | 49,12 |
| 125 | 250 | 354 | 500 | 200,00 | 1200 | 2400 | 3394 | 4800 | 45,12 |
| 150 | 300 | 424 | 600 | 200,00 | 1250 | 2500 | 3536 | 5000 | 41,58 |
| 175 | 350 | 495 | 700 | 200,00 | 1300 | 2600 | 3677 | 5200 | 38,44 |
| 200 | 400 | 566 | 800 | 200,00 | 1350 | 2700 | 3818 | 5400 | 35,65 |
| 225 | 450 | 636 | 900 | 200,00 | 1400 | 2800 | 3960 | 5600 | 33,15 |
| 250 | 500 | 707 | 1000 | 200,00 | 1450 | 2900 | 4101 | 5800 | 30,90 |
| 275 | 550 | 778 | 1100 | 200,00 | 1500 | 3000 | 4243 | 6000 | 28,87 |
| 300 | 600 | 849 | 1200 | 200,00 | 1600 | 3200 | 4525 | 6400 | 25,38 |
| 325 | 650 | 919 | 1300 | 200,00 | 1700 | 3400 | 4808 | 6800 | 22,48 |
| 350 | 700 | 990 | 1400 | 200,00 | 1800 | 3600 | 5091 | 7200 | 20,05 |
| 375 | 750 | 1061 | 1500 | 200,00 | | | | | |
| 400 | 800 | 1131 | 1600 | 200,00 | | | | | |
| 425 | 850 | 1202 | 1700 | 200,00 | | | | | |
| 450 | 900 | 1273 | 1800 | 200,00 | | | | | |
| 475 | 950 | 1344 | 1900 | 200,00 | | | | | |
| 500 | 1000 | 1414 | 2000 | 200,00 | | | | | |
| 550 | 1100 | 1556 | 2200 | 200,00 | | | | | |
| 600 | 1200 | 1697 | 2400 | 180,46 | | | | | |
| 650 | 1300 | 1838 | 2600 | 153,77 | | | | | |
| 700 | 1400 | 1980 | 2800 | 132,59 | | | | | |
| 750 | 1500 | 2121 | 3000 | 115,50 | | | | | |
| 800 | 1600 | 2263 | 3200 | 101,51 | | | | | |
| 850 | 1700 | 2404 | 3400 | 89,92 | | | | | |
| 900 | 1800 | 2546 | 3600 | 80,21 | | | | | |
| 950 | 1900 | 2687 | 3800 | 71,99 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 64,97 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 58,93 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 53,69 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 200 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be CT ≥ Feff • V | | | | | | | | Feff [kN] - V [mm/min] | | |
| 8 | 226622 | 169965 | 113311 | 75540 | 56654 | 45325 | 37771 | 32374 | 28328 | 25181 | 22663 |
| 24 | 143758 | 107818 | 71879 | 47918 | 35939 | 28752 | 23960 | 20537 | 17970 | 15973 | 14376 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## SOLO IN VERSIONE **VR**
## **VR** TYPE ONLY

**SPECIFICHE TECNICHE SEP 200 Vite Ricircolo Ø 80mm / TECHNICAL FEATURES SEP 200 Ballscrew Ø 80mm**

| **Rapporto / Ratio** | **8** | | | | | **24** | | | | | **8** | | | | | **24** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo / Lead** [mm] | **10** | | | | | | | | | | **20** | | | | | | | | | |
| **Velocità sollevamento** "V" **Lifting speed** [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 8 | | | | | 24 | | | | | 4 | | | | | 12 | | | | |
| 50 | 40 | | | | | 120 | | | | | 20 | | | | | 60 | | | | |
| 100 | 80 | | | | | 240 | | | | | 40 | | | | | 120 | | | | |
| 150 | 120 | | | | | 360 | | | | | 60 | | | | | 180 | | | | |
| 200 | 160 | | | | | 480 | | | | | 80 | | | | | 240 | | | | |
| 250 | 200 | | | | | 600 | | | | | 100 | | | | | 300 | | | | |
| 300 | 240 | | | | | 720 | | | | | 120 | | | | | 360 | | | | |
| 350 | 280 | | | | | 840 | | | | | 140 | | | | | 420 | | | | |
| 400 | 320 | | | | | 960 | | | | | 160 | | | | | 480 | | | | |
| 450 | 360 | | | | | 1080 | | | | | 180 | | | | | 540 | | | | |
| 500 | 400 | | | | | 1200 | | | | | 200 | | | | | 600 | | | | |
| 550 | 440 | | | | | 1320 | | | | | 220 | | | | | 660 | | | | |
| 600 | 480 | | | | | 1440 | | | | | 240 | | | | | 720 | | | | |
| 650 | 520 | | | | | 1560 | | | | | 260 | | | | | 780 | | | | |
| 700 | 560 | | | | | 1680 | | | | | 280 | | | | | 840 | | | | |
| 750 | 600 | | | | | 1800 | | | | | 300 | | | | | 900 | | | | |
| 800 | 640 | 0,631 | 0,568 | 0,315 | 1,111 | 1920 | 0,515 | 0,463 | 0,129 | 1,112 | 320 | 0,661 | 0,595 | 0,602 | 1,111 | 960 | 0,54 | 0,486 | 0,246 | 1,111 |
| 850 | 680 | | | | | | | | | | 340 | | | | | 1020 | | | | |
| 900 | 720 | | | | | | | | | | 360 | | | | | 1080 | | | | |
| 950 | 760 | | | | | | | | | | 380 | | | | | 1140 | | | | |
| 1000 | 800 | | | | | | | | | | 400 | | | | | 1200 | | | | |
| 1100 | 880 | | | | | | | | | | 440 | | | | | 1320 | | | | |
| 1200 | 960 | | | | | | | | | | 480 | | | | | 1440 | | | | |
| 1300 | 1040 | | | | | | | | | | 520 | | | | | 1560 | | | | |
| 1400 | 1120 | | | | | | | | | | 560 | | | | | 1680 | | | | |
| 1500 | 1200 | | | | | | | | | | 600 | | | | | 1800 | | | | |
| 1600 | 1280 | | | | | | | | | | 640 | | | | | 1920 | | | | |
| 1700 | 1360 | | | | | | | | | | 680 | | | | | | | | | |
| 1800 | 1440 | | | | | | | | | | 720 | | | | | | | | | |
| 1900 | 1520 | | | | | | | | | | 760 | | | | | | | | | |
| 2000 | 1600 | | | | | | | | | | 800 | | | | | | | | | |
| 2100 | 1680 | | | | | | | | | | 840 | | | | | | | | | |
| 2200 | 1760 | | | | | | | | | | 880 | | | | | | | | | |
| 2300 | 1840 | | | | | | | | | | 920 | | | | | | | | | |

## COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

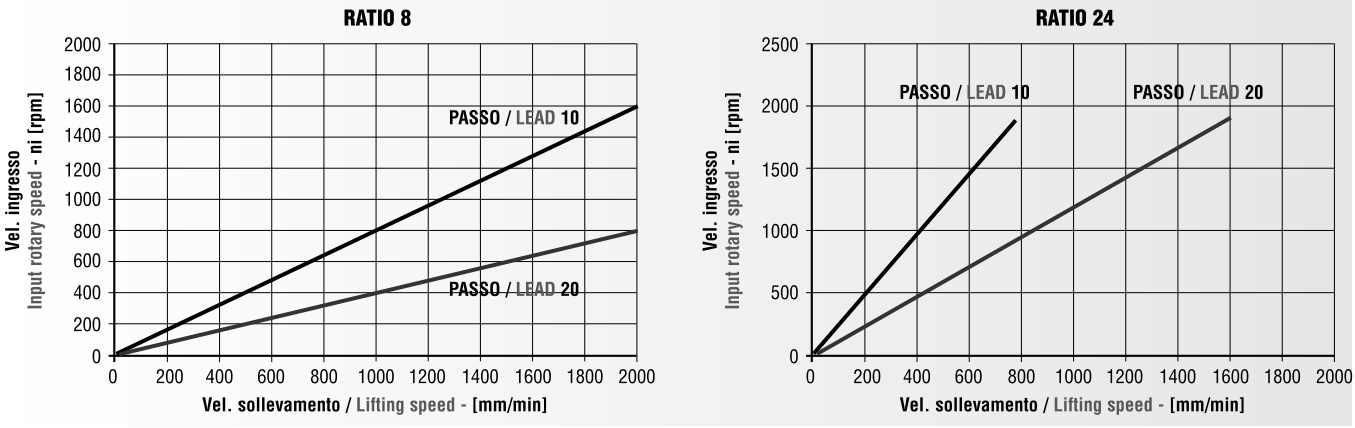
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 200 Vitone Ricircolo Ø 80mm - Passo 10-20 / PERFORMANCE SEP 200 Ballscrew Ø 80mm - Lead 10-20

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

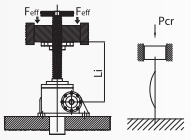
**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | SEP 200 S (d80) | |
|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] Eulero 4 | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] Eulero 4 | Pcr [kN] |
| 400 | 200,00 | 4600 | 115,12 |
| 500 | 200,00 | 4800 | 105,72 |
| 600 | 200,00 | 5000 | 97,43 |
| 700 | 200,00 | 5200 | 90,08 |
| 800 | 200,00 | 5400 | 83,53 |
| 900 | 200,00 | 5600 | 77,67 |
| 1000 | 200,00 | 5800 | 72,41 |
| 1100 | 200,00 | 6000 | 67,66 |
| 1200 | 200,00 | 6400 | 59,47 |
| 1300 | 200,00 | 6800 | 52,68 |
| 1400 | 200,00 | 7200 | 46,99 |
| 1500 | 200,00 | 7600 | 42,17 |
| 1600 | 200,00 | 8000 | 38,06 |
| 1700 | 200,00 | 8400 | 34,52 |
| 1800 | 200,00 | 9000 | 30,07 |
| 1900 | 200,00 | 9600 | 26,43 |
| 2000 | 200,00 | 10200 | 23,41 |
| 2200 | 200,00 | 10800 | 20,88 |
| 2400 | 200,00 | | |
| 2600 | 200,00 | | |
| 2800 | 200,00 | | |
| 3000 | 200,00 | | |
| 3200 | 200,00 | | |
| 3400 | 200,00 | | |
| 3600 | 187,95 | | |
| 3800 | 168,69 | | |
| 4000 | 152,24 | | |
| 4200 | 138,09 | | |
| 4400 | 125,82 | | |

**Eulero 4**




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 200 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 8 | 226622 | 169965 | 113311 | 75540 | 56654 | 45325 | 37771 | 32374 | 28328 | 25181 | 22663 |
| 24 | 143758 | 107818 | 71879 | 47918 | 35939 | 28752 | 23960 | 20537 | 17970 | 15973 | 14376 |

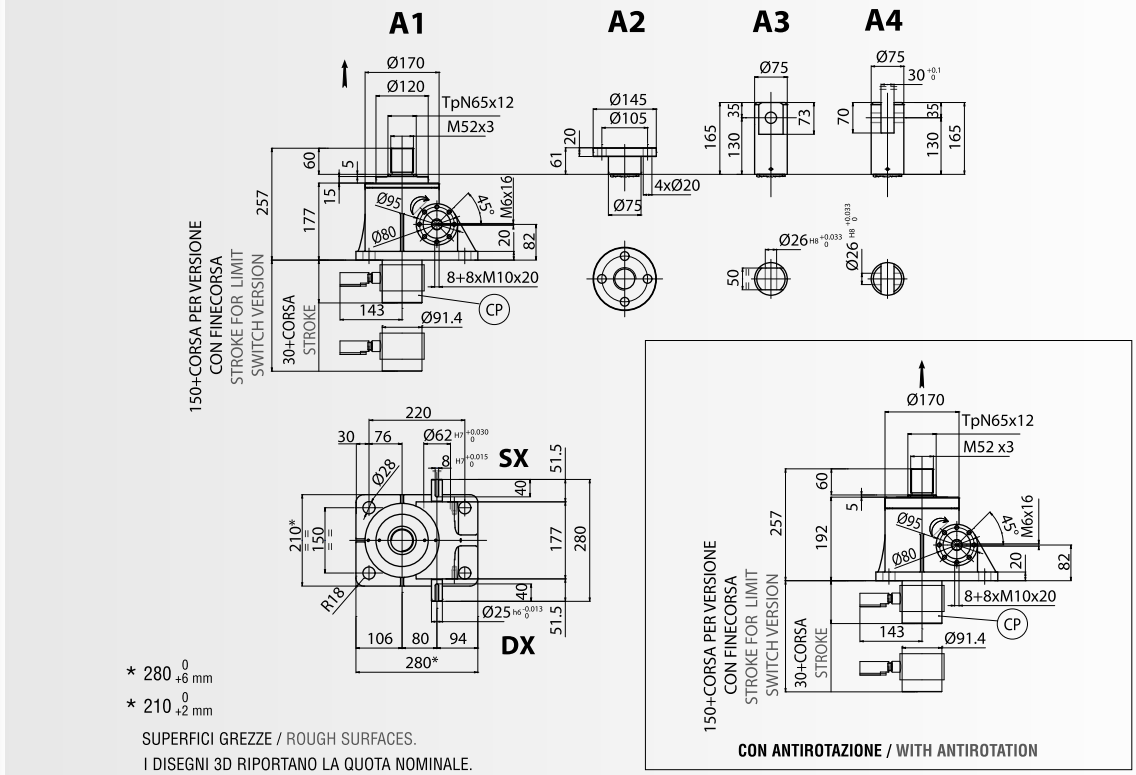
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## 2.11.1 SCHEMI DIMENSIONALI

## 2.11.1 OVERALL DIMENSIONS

SEP 200 T VT...A




* 280 $^{0}_{+6}$ mm

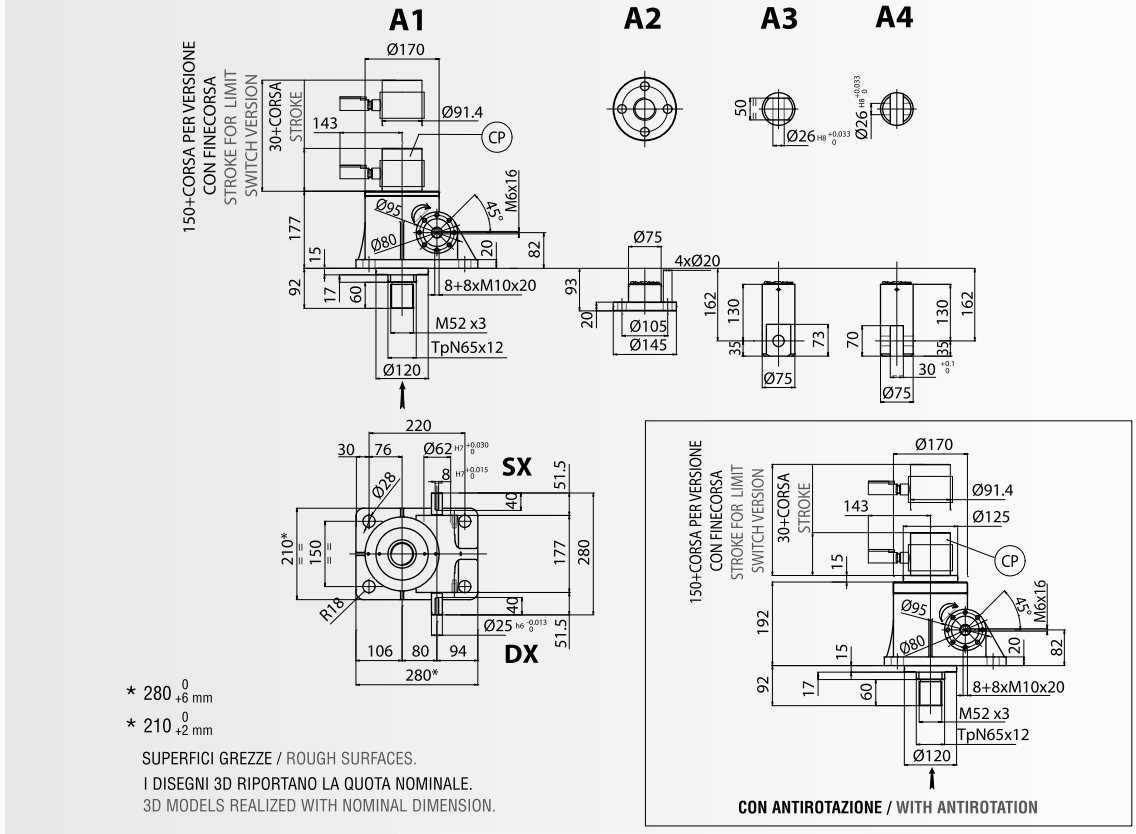
* 210 $^{0}_{+2}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

3D MODELS REALIZED WITH NOMINAL DIMENSION.

SEP 200 T VT...B




* 280 $^{0}_{+6}$ mm

* 210 $^{0}_{+2}$ mm

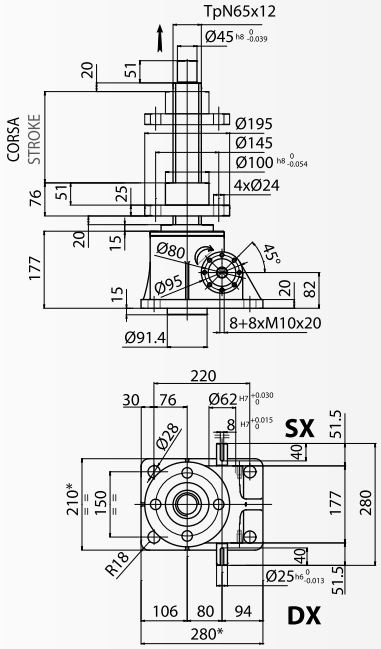
SUPERFICI GREZZE / ROUGH SURFACES.

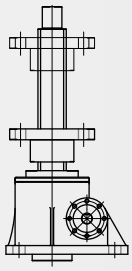
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SEP 200 T VR...A

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**



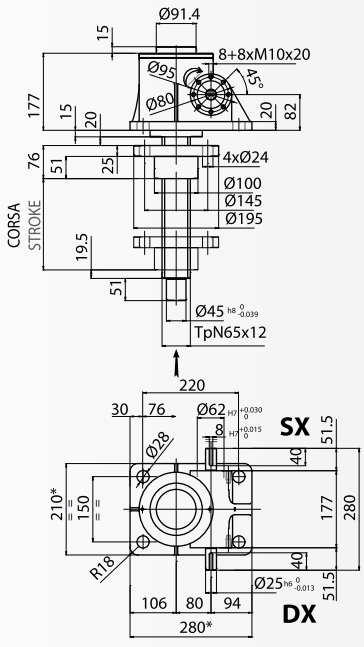
* 280 $^{0}_{+6}$ mm

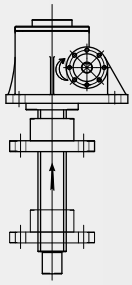
* 210 $^{0}_{+2}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SEP 200 T VR...B

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**



* 280 $^{0}_{+6}$ mm

* 210 $^{0}_{+2}$ mm

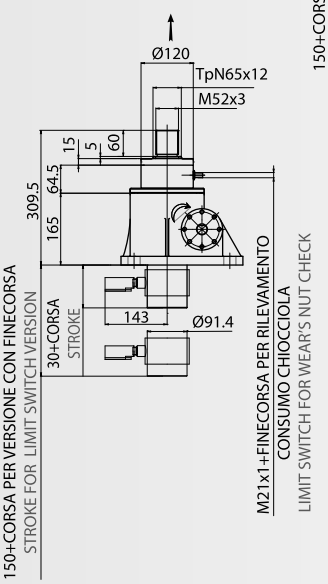
SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

## SCHEMI DIMENSIONALI / OVERALL DIMENSIONS

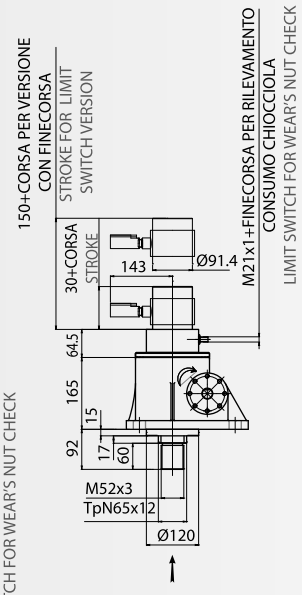
### SEP 200 T VT ... A(B) ... SS
### SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT

**VERSIONE / VERSION VT**
**SENZA ANTIROTAZIONE / WITHOUT ANTIROTATION AR**

**SOLUZIONE / TYPE A**

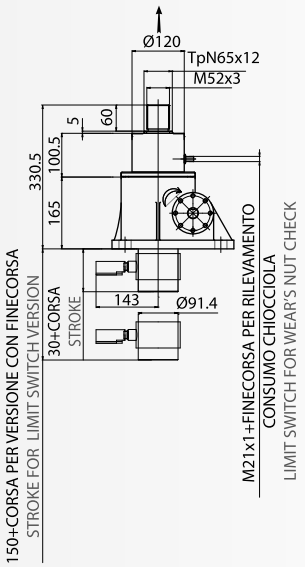



**SOLUZIONE / TYPE B**

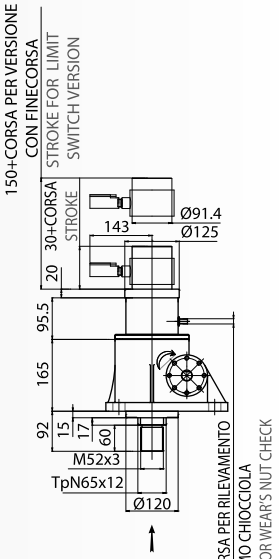



**VERSIONE / VERSION VT**
**CON ANTIROTAZIONE / WITH ANTIROTATION AR**

**SOLUZIONE / TYPE A**



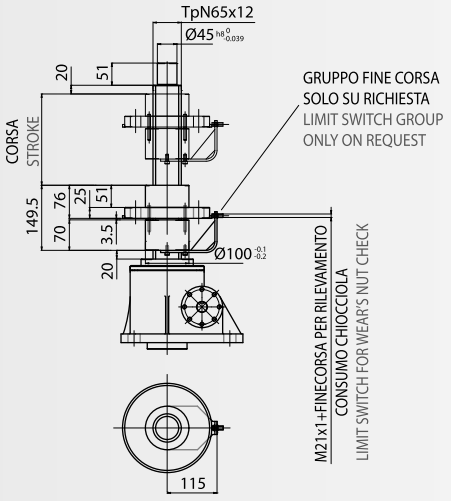

**SOLUZIONE / TYPE B**



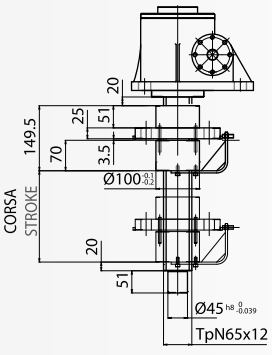

### SEP 200 T VR ... A(B) ... SS
### SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT

**VERSIONE / VERSION VR**

**SOLUZIONE / TYPE A**

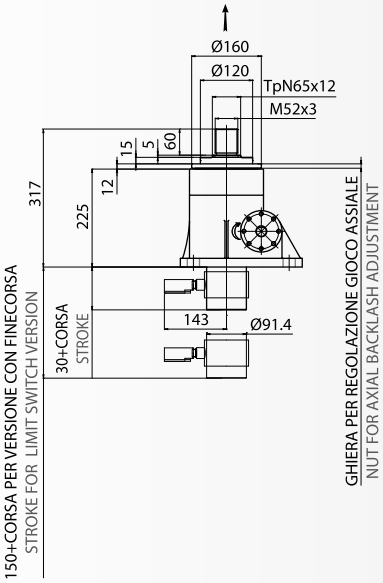



**SOLUZIONE / TYPE B**

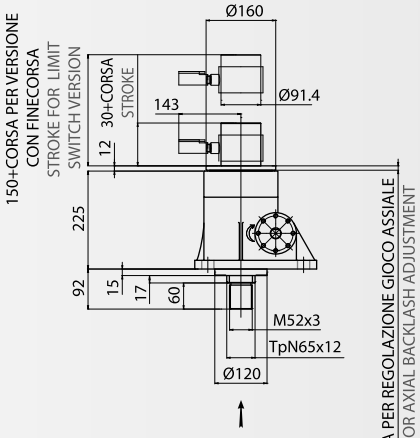


**SENZA ANTIROTAZIONE / WITHOUT ANTIROTATION AR**

**SOLUZIONE / TYPE A**



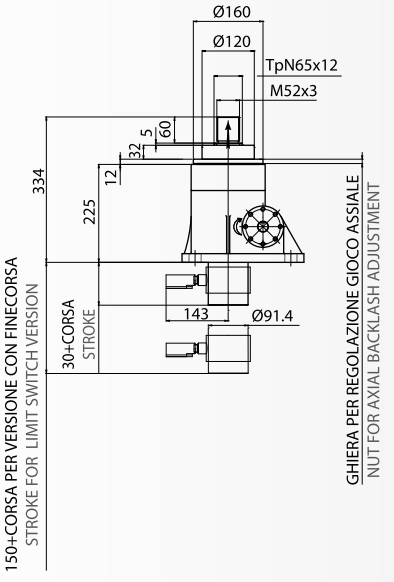

**SOLUZIONE / TYPE B**



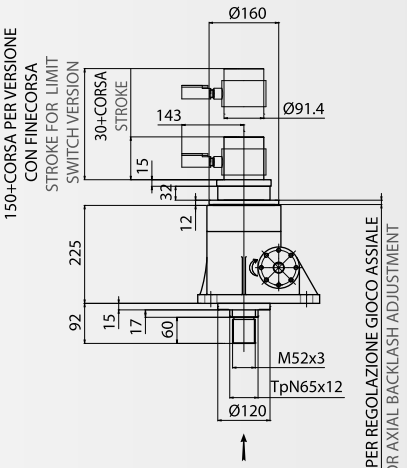

**SEP 200 T VT ... A(B) ... SB**
**SB - CHIOCCIOLA RECUPERO GIOCHI / ANTI BACKLASH NUT**

**CON ANTIROTAZIONE / WITH ANTIROTATION AR**

**SOLUZIONE / TYPE A**




**SOLUZIONE / TYPE B**

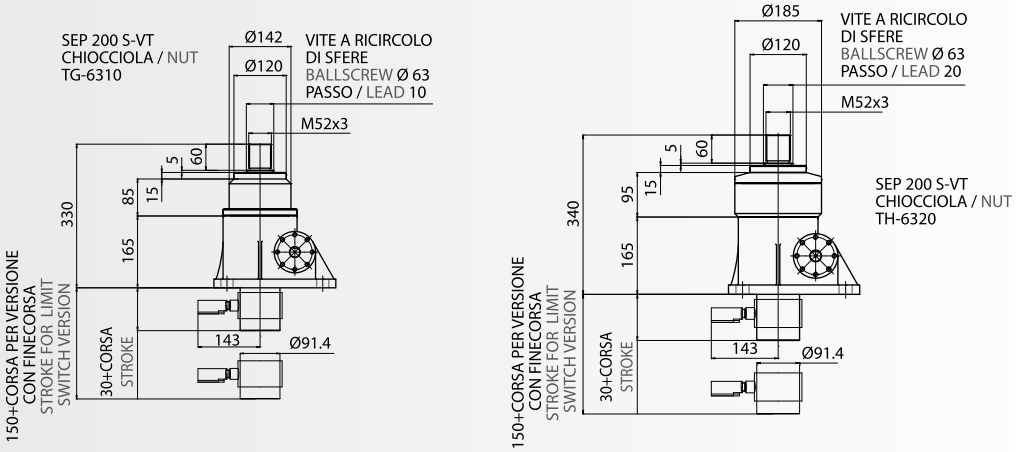



**SEP 200 T VT ... A(B) ... SB ... AR**
**SB - CHIOCCIOLA RECUPERO GIOCHI / ANTI BACKLASH NUT**

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

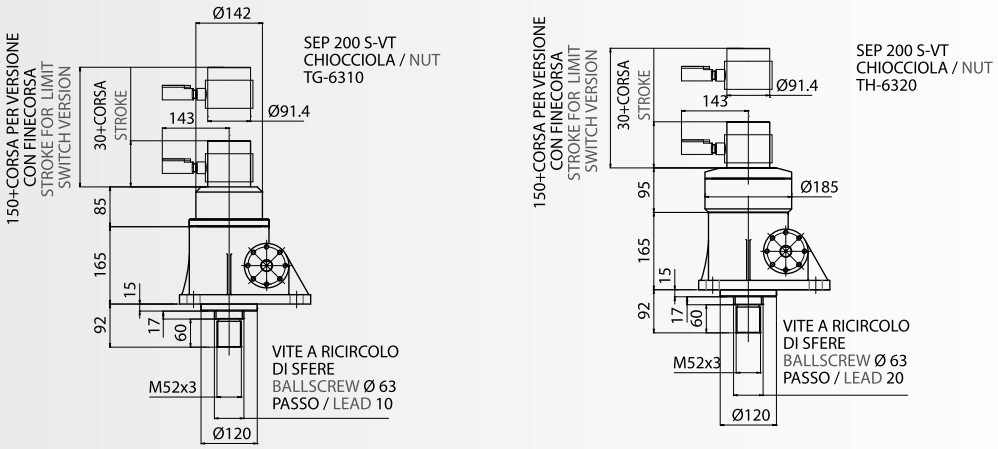
**SEP 200 S VT ... A**
**S - CON VITE A RICIRCOLO DI SFERE** / BALLSCREW

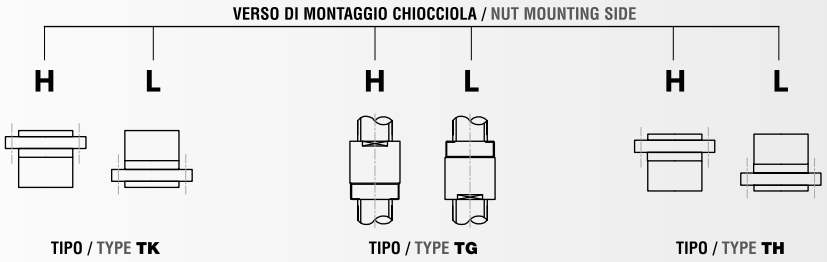
**SOLUZIONE** / TYPE **A**



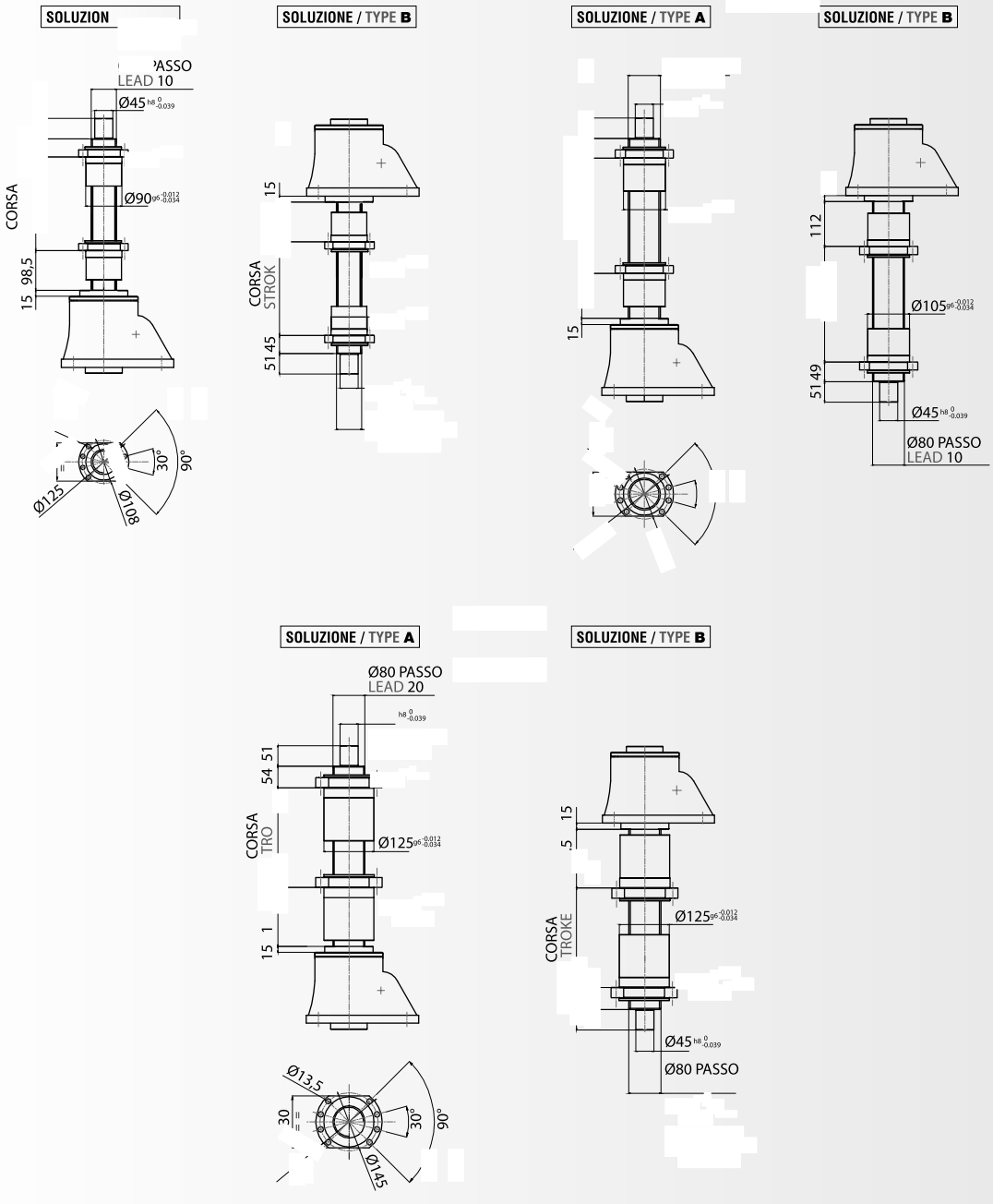

**SEP 200 S VT ... B**
**S - CON VITE A RICIRCOLO DI SFERE** / BALLSCREW

**SOLUZIONE** / TYPE **B**






## TK6310





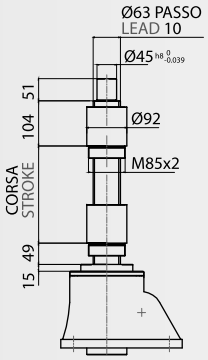

**SEP 200 S VR... A(B)**
**S - CON VITE A RICIRCOLO DI SFERE / BALLSCREW**

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

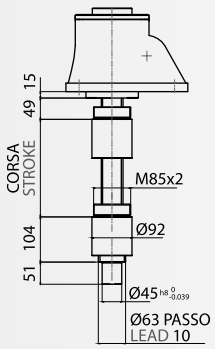


## TG6310

**SOLUZIONE / TYPE A**

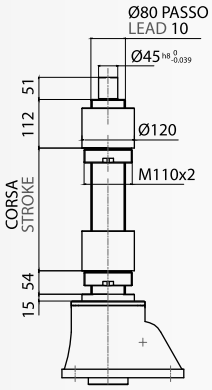



**SOLUZIONE / TYPE B**

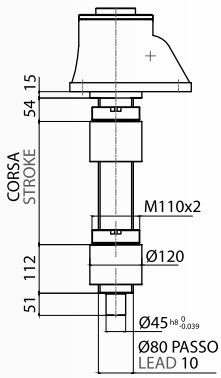



## TG8010

**SOLUZIONE / TYPE A**

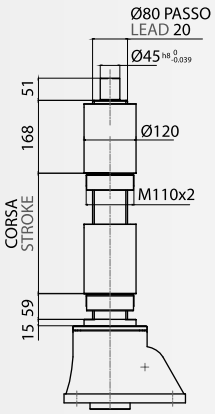



**SOLUZIONE / TYPE B**

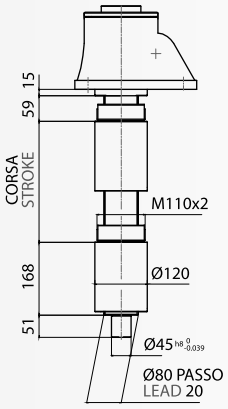



## TG8020

**SOLUZIONE / TYPE A**

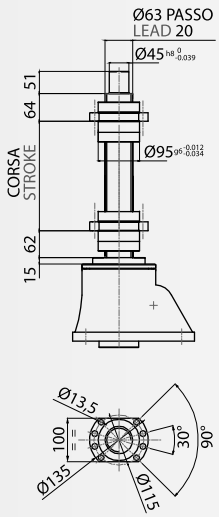



**SOLUZIONE / TYPE B**

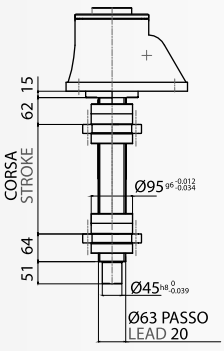



## TH6320

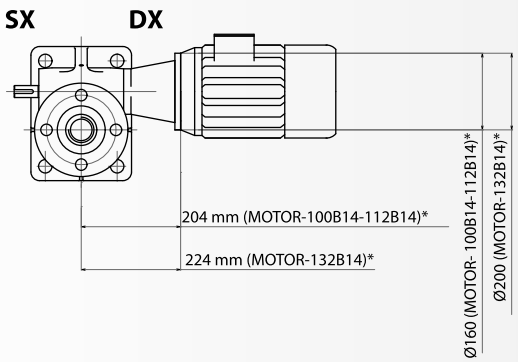
**SOLUZIONE / TYPE A**



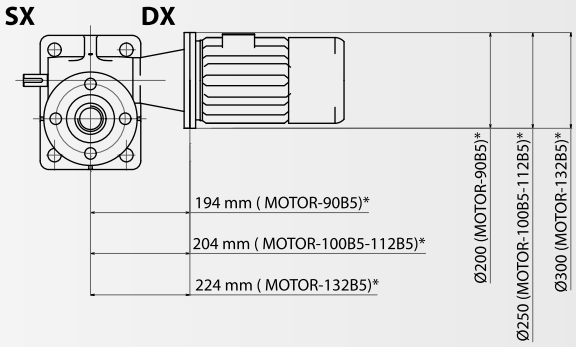

**SOLUZIONE / TYPE B**



**FLANGIA / FLANGE B14**



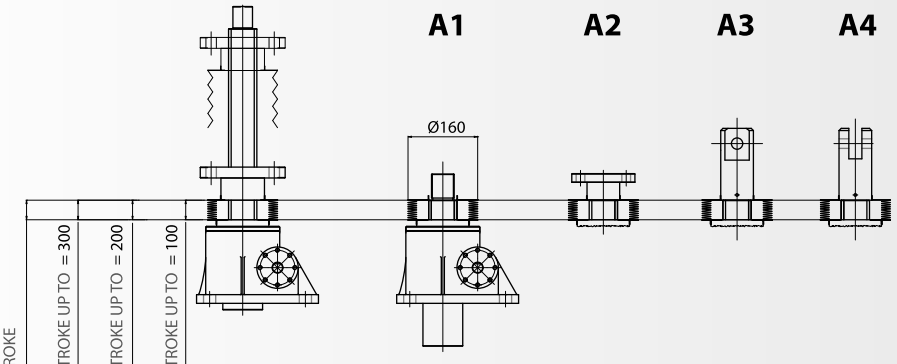

**FLANGIA / FLANGE B5**




***Nota: Le dimensioni del motore sono indicative /**
***Note: Motor dimensions are approximate**



**VITE ROTANTE / ROTATING SCREW VR** **VITE TRASLANTE / TRAVELLING SCREW VT**




(a) AGGIUNGERE 6mm PER OGNI 100mm DI CORSA
PER CORSE SUPERIORI DI 300mm
FOR MORE THAN 300mm STROKE ADD 6mm
EVERY 100mm STROKE

(a) 25mm PER CORSA FINO A / FOR STROKE UP TO = 300

(a) 20mm PER CORSA FINO A / FOR STROKE UP TO = 200

(a) 15mm PER CORSA FINO A / FOR STROKE UP TO = 100

Esempio calcolo ingombro soffietto / Calculation example of bellows overall dimensions:
CORSA/ STROKE =750mm --> [(750-300)/100]=4.5 (Considerare / Consider 5)*6+25=55

**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.
**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.

## 2.12.0 SPECIFICHE TECNICHE — 2.12.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 95mm - Passo / Lead 16**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 95mm - Passo / Lead 16**

**SPECIFICHE TECNICHE SEP 300 Vite Trapezia Traslante - Rotante Ø 95mm / TECHNICAL FEATURES SEP 300 Trapezoidal Screw Travelling - Rotating Screw Jack Ø 95mm**

| Rapporto / Ratio | 10,66 | | | | | 32 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 16 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 7 | 0,160 | | 1,494 | 1,103 | 20 | 0,133 | | 0,599 | 1,099 |
| 50 | 33 | 0,162 | | 1,475 | 1,117 | 100 | 0,134 | | 0,594 | 1,107 |
| 100 | 67 | 0,164 | | 1,457 | 1,131 | 200 | 0,137 | | 0,581 | 1,132 |
| 150 | 100 | 0,166 | | 1,440 | 1,145 | 300 | 0,139 | | 0,573 | 1,149 |
| 200 | 133 | 0,168 | | 1,423 | 1,159 | 400 | 0,141 | | 0,565 | 1,165 |
| 250 | 167 | 0,170 | | 1,406 | 1,172 | 500 | 0,143 | | 0,557 | 1,182 |
| 300 | 200 | 0,172 | | 1,390 | 1,186 | 600 | 0,145 | | 0,549 | 1,198 |
| 350 | 233 | 0,174 | | 1,374 | 1,200 | 700 | 0,147 | | 0,542 | 1,215 |
| 400 | 267 | 0,177 | | 1,350 | 1,221 | 800 | 0,15 | | 0,531 | 1,240 |
| 450 | 300 | 0,179 | | 1,335 | 1,234 | 900 | 0,152 | | 0,524 | 1,256 |
| 500 | 333 | 0,181 | | 1,320 | 1,248 | 1000 | 0,154 | | 0,517 | 1,273 |
| 550 | 366 | 0,183 | | 1,306 | 1,262 | 1100 | 0,156 | | 0,510 | 1,289 |
| 600 | 400 | 0,185 | | 1,292 | 1,276 | 1200 | 0,158 | | 0,504 | 1,306 |
| 650 | 433 | 0,187 | | 1,278 | 1,290 | 1300 | 0,16 | | 0,498 | 1,322 |
| 700 | 466 | 0,190 | | 1,258 | 1,310 | 1400 | 0,163 | | 0,488 | 1,347 |
| 750 | 500 | 0,192 | | 1,245 | 1,324 | 1500 | 0,165 | | 0,483 | 1,364 |
| 800 | 533 | 0,194 | 0,145 | 1,232 | 1,338 | 1600 | 0,167 | 0,121 | 0,477 | 1,380 |
| 850 | 566 | 0,196 | | 1,219 | 1,352 | 1700 | 0,169 | | 0,471 | 1,397 |
| 900 | 600 | 0,198 | | 1,207 | 1,366 | | | | | |
| 950 | 633 | 0,200 | | 1,195 | 1,379 | | | | | |
| 1000 | 666 | 0,202 | | 1,183 | 1,393 | | | | | |
| 1100 | 733 | 0,207 | | 1,155 | 1,428 | | | | | |
| 1200 | 800 | 0,211 | | 1,133 | 1,455 | | | | | |
| 1300 | 866 | 0,215 | | 1,112 | 1,483 | | | | | |
| 1400 | 933 | 0,220 | | 1,086 | 1,517 | | | | | |
| 1500 | 999 | 0,224 | | 1,067 | 1,545 | | | | | |
| 1600 | 1066 | 0,228 | | 1,048 | 1,572 | | | | | |
| 1700 | 1133 | 0,233 | | 1,026 | 1,607 | | | | | |
| 1800 | 1199 | 0,237 | | 1,008 | 1,634 | | | | | |
| 1900 | 1266 | 0,241 | | 0,992 | 1,662 | | | | | |
| 2000 | 1333 | 0,246 | | 0,972 | 1,697 | | | | | |
| 2100 | 1399 | 0,250 | | 0,956 | 1,724 | | | | | |
| 2200 | 1466 | 0,254 | | 0,941 | 1,752 | | | | | |
| 2300 | | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

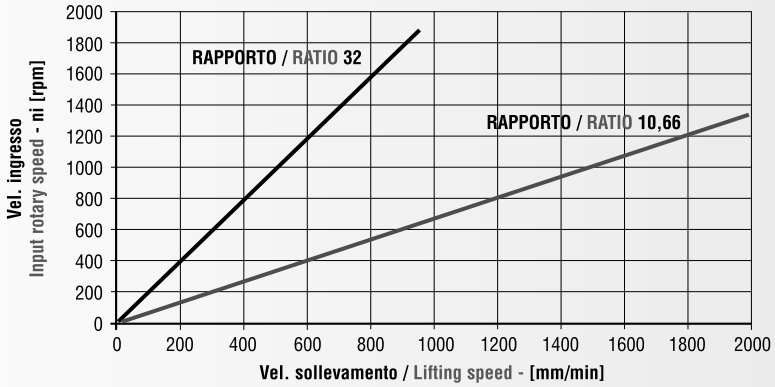
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 300 Vitone Trapezio Ø 95mm - Passo 16 / PERFORMANCE SEP 300 Trapezoidal Screw Ø 95mm - Lead 16

**Velocità di sollevamento in funzione della velocità in ingresso** / Lifting speed versus rotary input speed




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

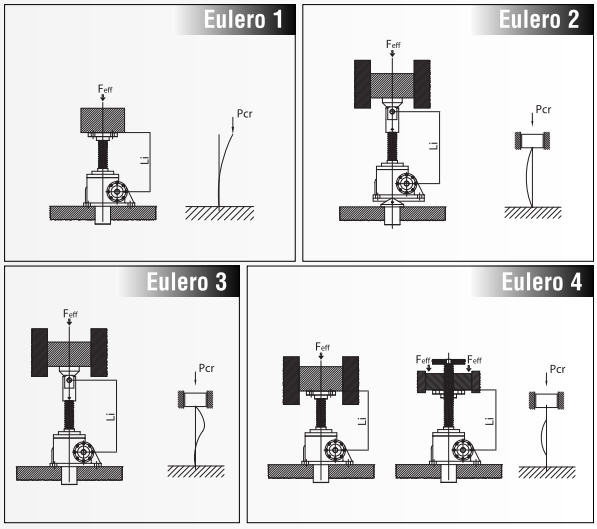
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 300 T | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 300,00 | 1150 | 2300 | 3253 | 4600 | 209,84 |
| 125 | 250 | 354 | 500 | 300,00 | 1200 | 2400 | 3394 | 4800 | 192,72 |
| 150 | 300 | 424 | 600 | 300,00 | 1250 | 2500 | 3536 | 5000 | 177,61 |
| 175 | 350 | 495 | 700 | 300,00 | 1300 | 2600 | 3677 | 5200 | 164,21 |
| 200 | 400 | 566 | 800 | 300,00 | 1350 | 2700 | 3818 | 5400 | 152,27 |
| 225 | 450 | 636 | 900 | 300,00 | 1400 | 2800 | 3960 | 5600 | 141,59 |
| 250 | 500 | 707 | 1000 | 300,00 | 1450 | 2900 | 4101 | 5800 | 131,99 |
| 275 | 550 | 778 | 1100 | 300,00 | 1500 | 3000 | 4243 | 6000 | 123,34 |
| 300 | 600 | 849 | 1200 | 300,00 | 1600 | 3200 | 4525 | 6400 | 108,40 |
| 325 | 650 | 919 | 1300 | 300,00 | 1700 | 3400 | 4808 | 6800 | 96,02 |
| 350 | 700 | 990 | 1400 | 300,00 | 1800 | 3600 | 5091 | 7200 | 85,65 |
| 375 | 750 | 1061 | 1500 | 300,00 | 1900 | 3800 | 5374 | 7600 | 76,87 |
| 400 | 800 | 1131 | 1600 | 300,00 | 2000 | 4000 | 5657 | 8000 | 69,38 |
| 425 | 850 | 1202 | 1700 | 300,00 | 2100 | 4200 | 5940 | 8400 | 62,93 |
| 450 | 900 | 1273 | 1800 | 300,00 | 2250 | 4500 | 6364 | 9000 | 54,82 |
| 475 | 950 | 1344 | 1900 | 300,00 | 2400 | 4800 | 6788 | 9600 | 48,18 |
| 500 | 1000 | 1414 | 2000 | 300,00 | 2550 | 5100 | 7212 | 10200 | 48,68 |
| 550 | 1100 | 1556 | 2200 | 300,00 | 2700 | 5400 | 7637 | 10800 | 38,07 |
| 600 | 1200 | 1697 | 2400 | 300,00 | | | | | |
| 650 | 1300 | 1838 | 2600 | 300,00 | | | | | |
| 700 | 1400 | 1980 | 2800 | 300,00 | | | | | |
| 750 | 1500 | 2121 | 3000 | 300,00 | | | | | |
| 800 | 1600 | 2263 | 3200 | 300,00 | | | | | |
| 850 | 1700 | 2404 | 3400 | 300,00 | | | | | |
| 900 | 1800 | 2546 | 3600 | 300,00 | | | | | |
| 950 | 1900 | 2687 | 3800 | 300,00 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 277,51 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 251,71 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 229,35 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 300 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | Feff [kN] - V [mm/min] | | | |
| 10,66 | 115580 | 86685 | 57790 | 38527 | 28895 | 23116 | 19263 | 16511 | 14447 | 12842 | 11558 |
| 32 | 78834 | 59126 | 39417 | 26278 | 19709 | 15767 | 13139 | 11262 | 9854 | 8759 | 7883 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## **VT** - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 80mm - Passo / Lead 10-20
## **VR** - VITE ROTANTE / ROTATING SCREW JACK Ø 80mm - Passo / Lead 10-20

**SPECIFICHE TECNICHE SEP 300 Vite Ricircolo Ø 80mm / TECHNICAL FEATURES SEP 300 Ballscrew Ø 80mm**

| Rapporto / Ratio | 10,66 | | | | | 32 | | | | | 10,66 | | | | | 32 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 10 | | | | | | | | | | 20 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 11 | | | | | 32 | | | | | 5 | | | | | 16 | | | | |
| 50 | 53 | | | | | 160 | | | | | 27 | | | | | 80 | | | | |
| 100 | 107 | | | | | 320 | | | | | 53 | | | | | 160 | | | | |
| 150 | 160 | | | | | 480 | | | | | 80 | | | | | 240 | | | | |
| 200 | 213 | | | | | 640 | | | | | 107 | | | | | 320 | | | | |
| 250 | 267 | | | | | 800 | | | | | 133 | | | | | 400 | | | | |
| 300 | 320 | | | | | 960 | | | | | 160 | | | | | 480 | | | | |
| 350 | 373 | | | | | 1120 | | | | | 187 | | | | | 560 | | | | |
| 400 | 426 | | | | | 1280 | | | | | 213 | | | | | 640 | | | | |
| 450 | 480 | | | | | 1440 | | | | | 240 | | | | | 720 | | | | |
| 500 | 533 | | | | | 1600 | | | | | 267 | | | | | 800 | | | | |
| 550 | 586 | | | | | 1760 | | | | | 293 | | | | | 880 | | | | |
| 600 | 640 | | | | | 1920 | | | | | 320 | | | | | 960 | | | | |
| 650 | 693 | | | | | | | | | | 346 | | | | | 1040 | | | | |
| 700 | 746 | | | | | | | | | | 373 | | | | | 1120 | | | | |
| 750 | 800 | | | | | | | | | | 400 | | | | | 1200 | | | | |
| 800 | 853 | 0,595 | 0,535 | 0,251 | 1,112 | | 0,447 | 0,402 | 0,111 | 1,112 | 426 | 0,623 | 0,561 | 0,480 | 1,111 | 1280 | 0,468 | 0,421 | 0,213 | 1,112 |
| 850 | 906 | | | | | | | | | | 453 | | | | | 1360 | | | | |
| 900 | 959 | | | | | | | | | | 480 | | | | | 1440 | | | | |
| 950 | 1013 | | | | | | | | | | 506 | | | | | 1520 | | | | |
| 1000 | 1066 | | | | | | | | | | 533 | | | | | 1600 | | | | |
| 1100 | 1173 | | | | | | | | | | 586 | | | | | 1760 | | | | |
| 1200 | 1279 | | | | | | | | | | 640 | | | | | 1920 | | | | |
| 1300 | 1386 | | | | | | | | | | 693 | | | | | | | | | |
| 1400 | 1492 | | | | | | | | | | 746 | | | | | | | | | |
| 1500 | 1599 | | | | | | | | | | 800 | | | | | | | | | |
| 1600 | 1706 | | | | | | | | | | 853 | | | | | | | | | |
| 1700 | 1812 | | | | | | | | | | 906 | | | | | | | | | |
| 1800 | 1919 | | | | | | | | | | 959 | | | | | | | | | |
| 1900 | 2025 | | | | | | | | | | 1013 | | | | | | | | | |
| 2000 | 2132 | | | | | | | | | | 1066 | | | | | | | | | |
| 2100 | 2239 | | | | | | | | | | 1119 | | | | | | | | | |
| 2200 | 2345 | | | | | | | | | | 1173 | | | | | | | | | |
| 2300 | 2452 | | | | | | | | | | 1226 | | | | | | | | | |

## COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

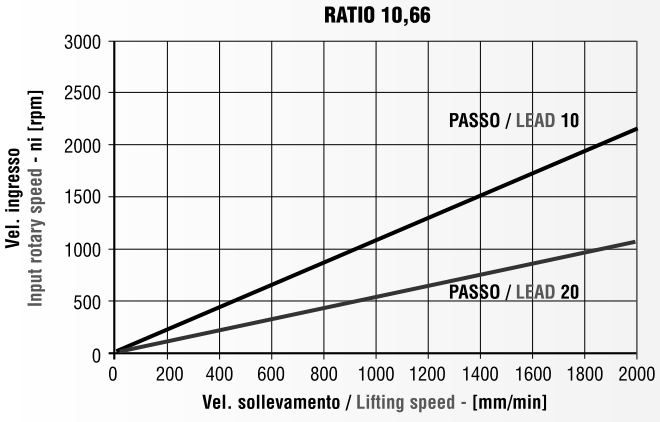
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

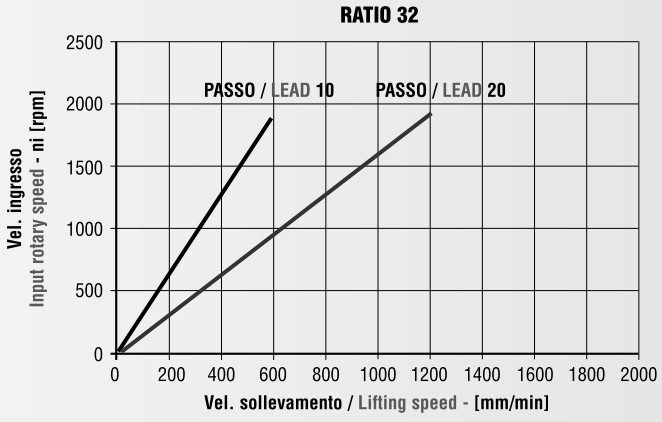
**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 300 Vitone Ricircolo Ø 80mm - Passo 10-20 / PERFORMANCE SEP 300 Ballscrew Ø 80mm - Lead 10-20

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

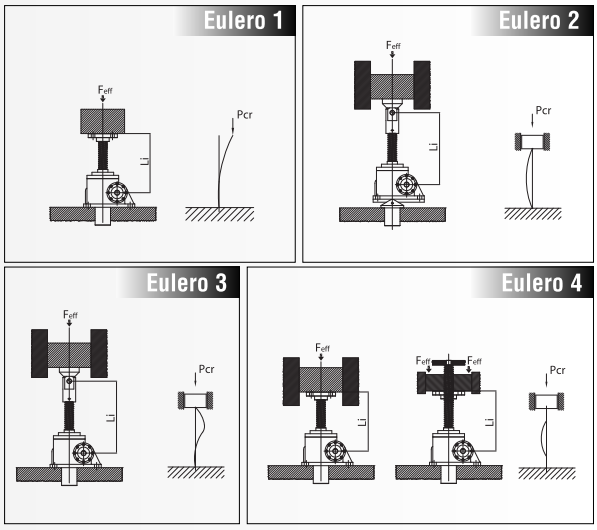
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 300 S (d80) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 300,00 | 1150 | 2300 | 3253 | 4600 | 115,12 |
| 125 | 250 | 354 | 500 | 300,00 | 1200 | 2400 | 3394 | 4800 | 105,72 |
| 150 | 300 | 424 | 600 | 300,00 | 1250 | 2500 | 3536 | 5000 | 97,43 |
| 175 | 350 | 495 | 700 | 300,00 | 1300 | 2600 | 3677 | 5200 | 90,08 |
| 200 | 400 | 566 | 800 | 300,00 | 1350 | 2700 | 3818 | 5400 | 83,53 |
| 225 | 450 | 636 | 900 | 300,00 | 1400 | 2800 | 3960 | 5600 | 77,67 |
| 250 | 500 | 707 | 1000 | 300,00 | 1450 | 2900 | 4101 | 5800 | 72,41 |
| 275 | 550 | 778 | 1100 | 300,00 | 1500 | 3000 | 4243 | 6000 | 67,66 |
| 300 | 600 | 849 | 1200 | 300,00 | 1600 | 3200 | 4525 | 6400 | 59,47 |
| 325 | 650 | 919 | 1300 | 300,00 | 1700 | 3400 | 4808 | 6800 | 52,68 |
| 350 | 700 | 990 | 1400 | 300,00 | 1800 | 3600 | 5091 | 7200 | 46,99 |
| 375 | 750 | 1061 | 1500 | 300,00 | 1900 | 3800 | 5374 | 7600 | 42,17 |
| 400 | 800 | 1131 | 1600 | 300,00 | 2000 | 4000 | 5657 | 8000 | 38,06 |
| 425 | 850 | 1202 | 1700 | 300,00 | 2100 | 4200 | 5940 | 8400 | 34,52 |
| 450 | 900 | 1273 | 1800 | 300,00 | 2250 | 4500 | 6364 | 9000 | 30,07 |
| 475 | 950 | 1344 | 1900 | 300,00 | | | | | |
| 500 | 1000 | 1414 | 2000 | 300,00 | | | | | |
| 550 | 1100 | 1556 | 2200 | 300,00 | | | | | |
| 600 | 1200 | 1697 | 2400 | 300,00 | | | | | |
| 650 | 1300 | 1838 | 2600 | 300,00 | | | | | |
| 700 | 1400 | 1980 | 2800 | 300,00 | | | | | |
| 750 | 1500 | 2121 | 3000 | 270,65 | | | | | |
| 800 | 1600 | 2263 | 3200 | 237,88 | | | | | |
| 850 | 1700 | 2404 | 3400 | 210,72 | | | | | |
| 900 | 1800 | 2546 | 3600 | 187,95 | | | | | |
| 950 | 1900 | 2687 | 3800 | 168,69 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 152,24 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 138,09 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 125,82 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 300 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be CT ≥ Feff • V | | | | | | | | Feff [kN] - V [mm/min] | | |
| 10,66 | 416088 | 312066 | 208044 | 138697 | 104022 | 83218 | 69347 | 59440 | 52009 | 46231 | 41609 |
| 32 | 283802 | 212854 | 141901 | 94601 | 70952 | 56761 | 47300 | 40543 | 35474 | 31532 | 28379 |

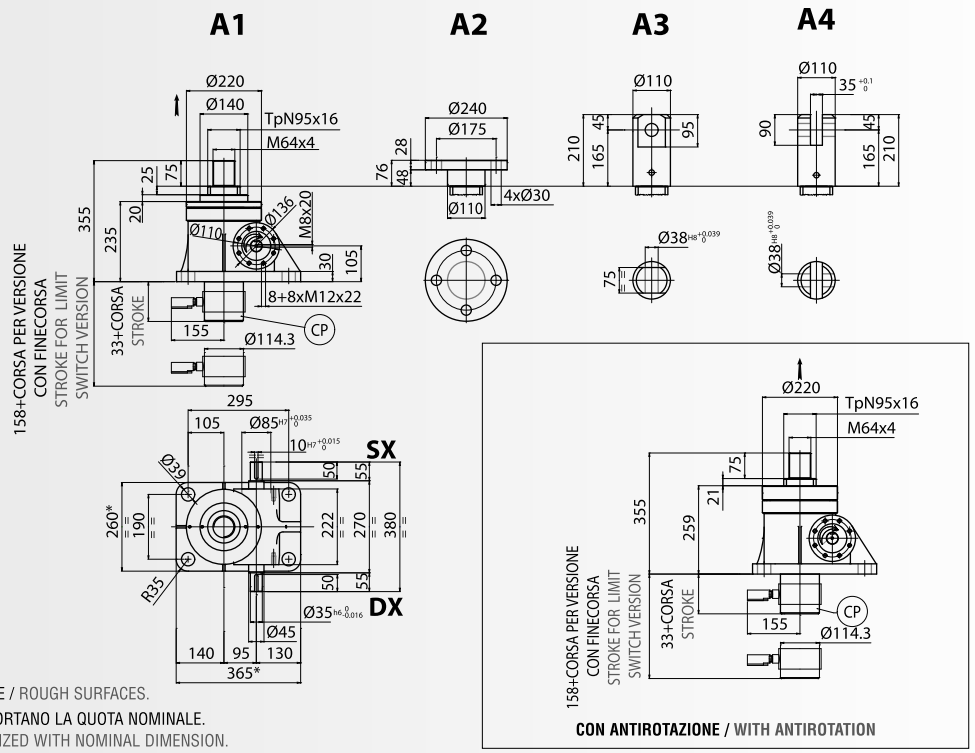
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## 2.12.1 SCHEMI DIMENSIONALI

## 2.12.1 OVERALL DIMENSIONS

SEP 300 T VT ... A




* 365 $^{0}_{+7}$ mm

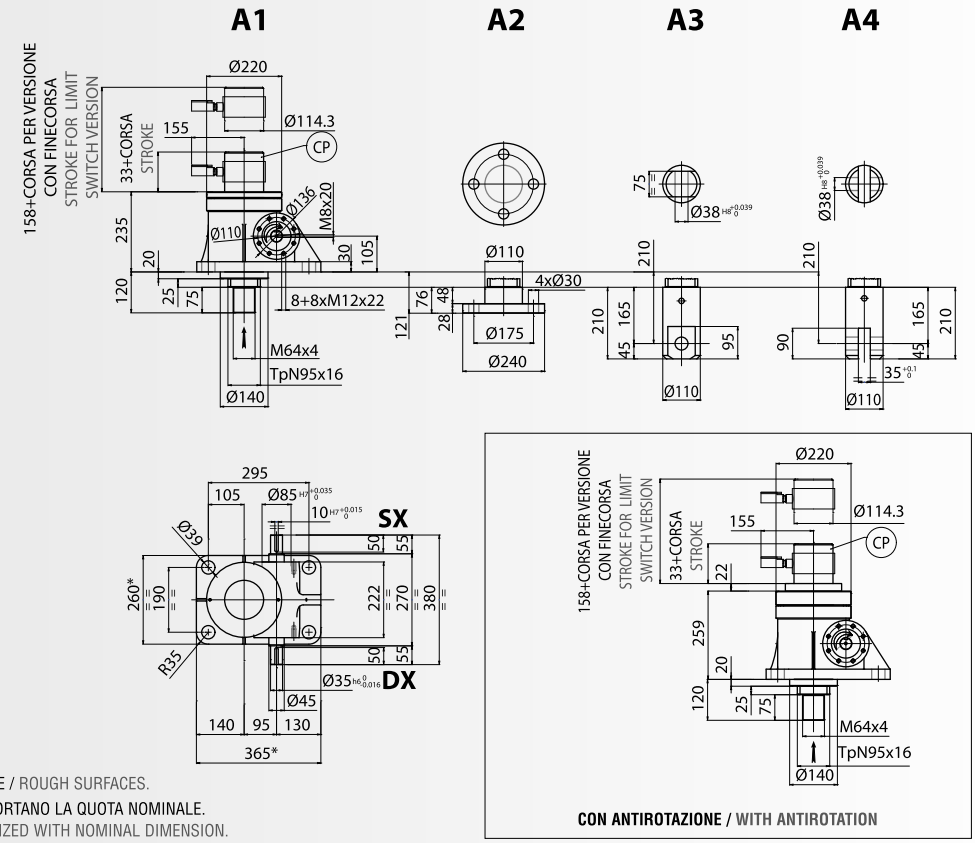
* 260 $^{0}_{+3}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

3D MODELS REALIZED WITH NOMINAL DIMENSION.

SEP 300 T VT ... B




* 365 $^{0}_{+7}$ mm

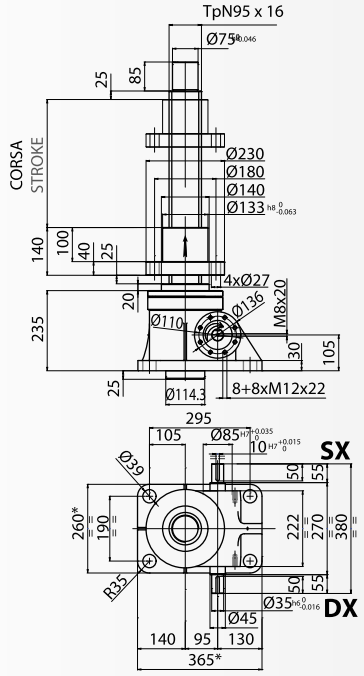
* 260 $^{0}_{+3}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.

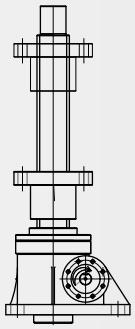
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

3D MODELS REALIZED WITH NOMINAL DIMENSION.

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**



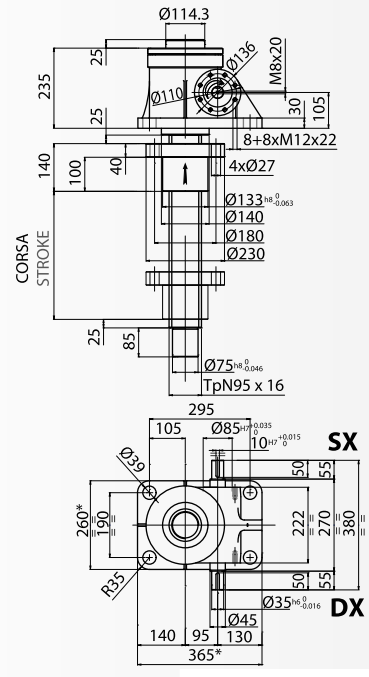
* 365 $^{0}_{+7}$ mm

* 260 $^{0}_{+3}$ mm

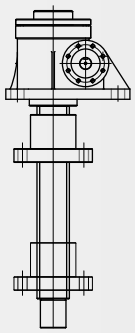
SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

**SEP 300 T VR ... A**

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**



* 365 $^{0}_{+7}$ mm

* 260 $^{0}_{+3}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

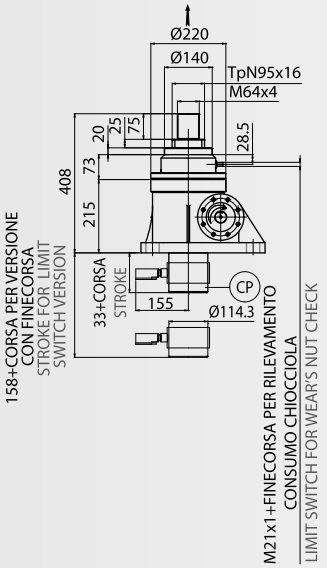
**SEP 300 T VR ... B**

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

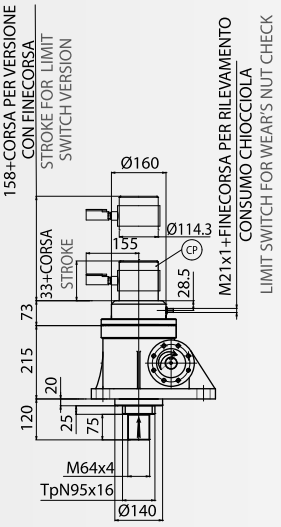
## SEP 300 T VT ... A(B) ... SS
## SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT

**VERSIONE** / VERSION **VT**
**SENZA ANTIROTAZIONE** / WITHOUT ANTIROTATION **AR**

**SOLUZIONE** / TYPE **A**

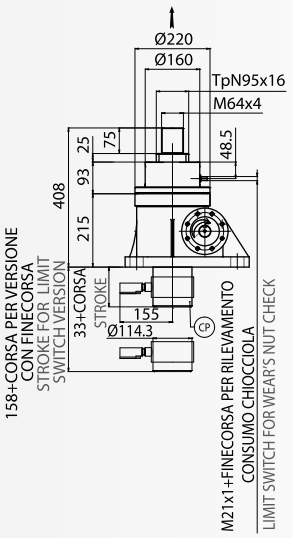



**SOLUZIONE** / TYPE **B**

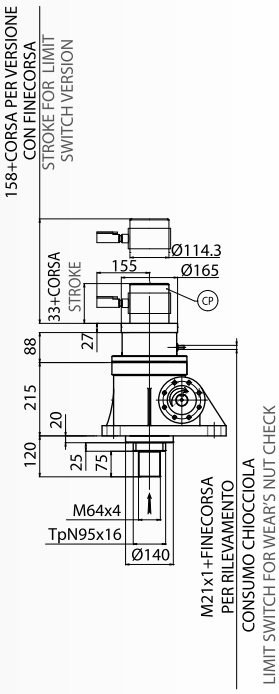



**VERSIONE** / VERSION **VT**
**CON ANTIROTAZIONE** / WITH ANTIROTATION **AR**

**SOLUZIONE** / TYPE **A**



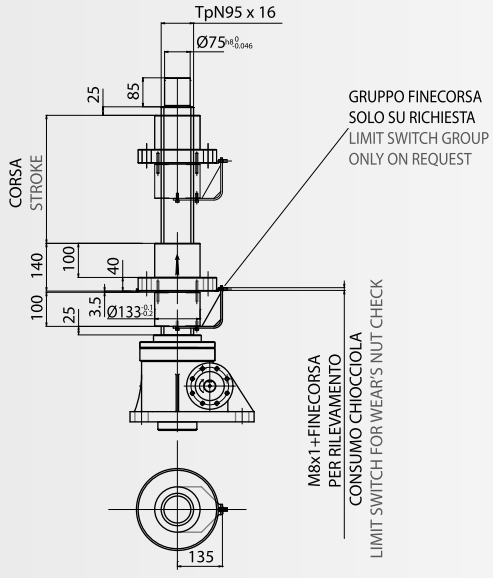

**SOLUZIONE** / TYPE **B**



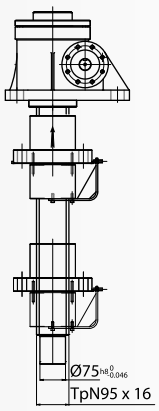

## SEP 300 T VR ... A(B) ... SS
## SS - CHIOCCIOLA DI SICUREZZA / SAFETY NUT

**VERSIONE** / VERSION **VR**

**SOLUZIONE** / TYPE **A**

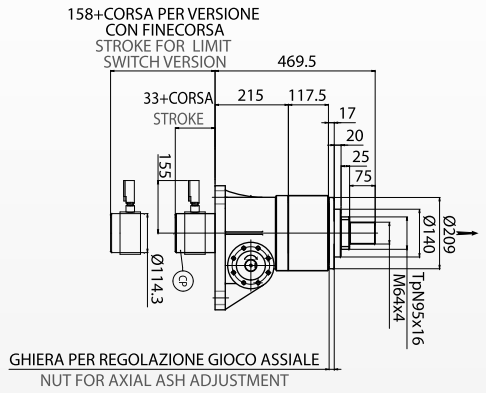



**SOLUZIONE** / TYPE **B**

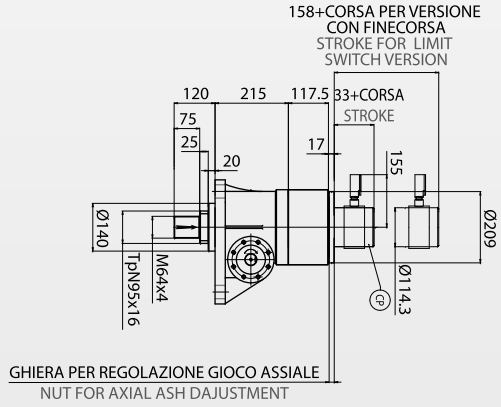


**SENZA ANTIROTAZIONE / WITHOUT ANTIROTATION AR**

**SOLUZIONE / TYPE A**



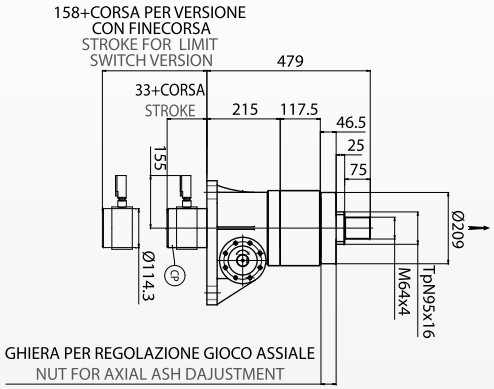

**SOLUZIONE / TYPE B**



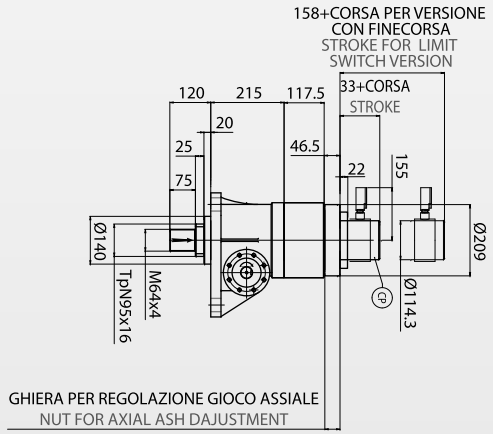

**SEP 300 T VT ... A(B) ... SB**
**SB - CHIOCCIOLA RECUPERO GIOCHI / ANTI BACKLASH NUT**

**CON ANTIROTAZIONE / WITH ANTIROTATION AR**

**SOLUZIONE / TYPE A**




**SOLUZIONE / TYPE B**

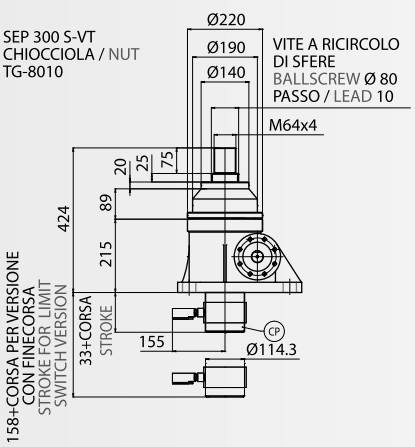


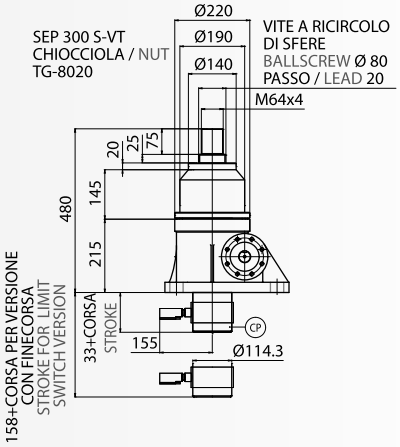

**SEP 300 T VT ... A(B) ... SB ... AR**
**SB - CHIOCCIOLA RECUPERO GIOCHI / ANTI BACKLASH NUT**

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

## SEP 300 S VT ... A
## S - CON VITE A RICIRCOLO DI SFERE / BALLSCREW

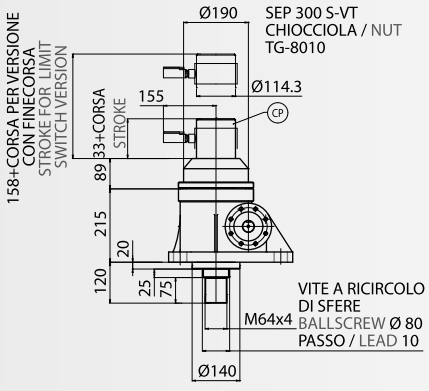
**SOLUZIONE** / TYPE **A**

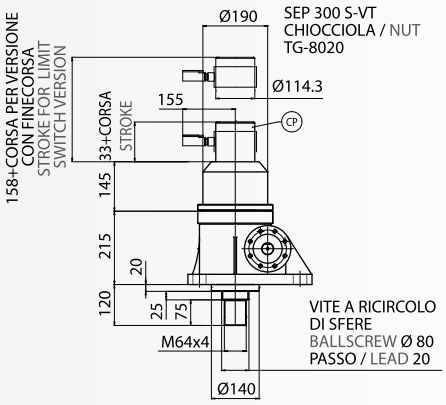


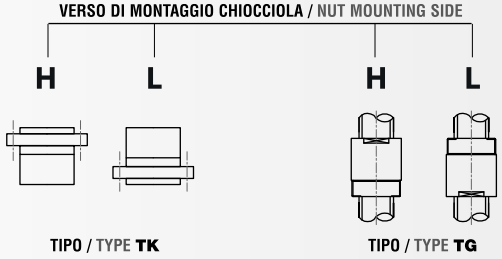

## SEP 300 S VT ... B
## S - CON VITE A RICIRCOLO DI SFERE / BALLSCREW

**SOLUZIONE** / TYPE **B**



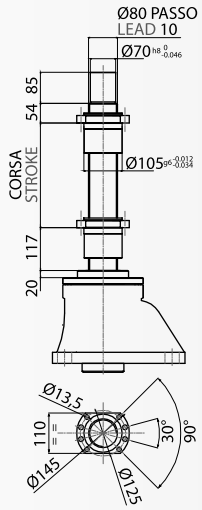
**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE



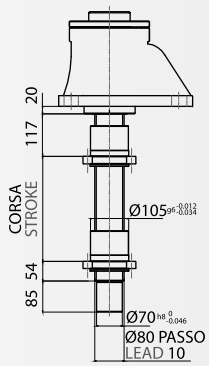

**TIPO** / TYPE **TK** — **TIPO** / TYPE **TG**

## TK8010

**SOLUZIONE** / TYPE **A**

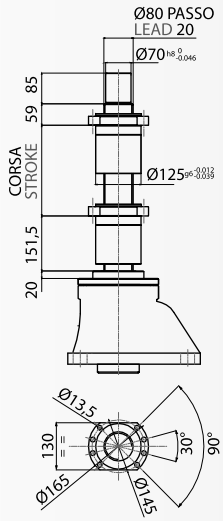



**SOLUZIONE** / TYPE **B**

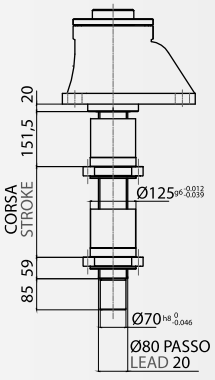



## TK8020

**SOLUZIONE** / TYPE **A**




**SOLUZIONE** / TYPE **B**



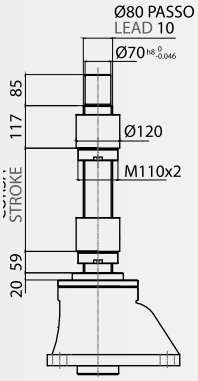

**SEP 300 S VR... A(B)**
**S - CON VITE A RICIRCOLO DI SFERE** / BALLSCREW

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

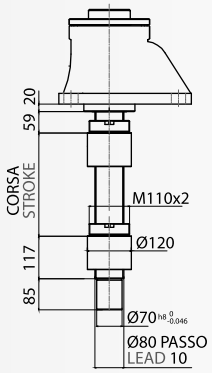
**SEP 300 S VR... A(B)**
**S - CON VITE A RICIRCOLO DI SFERE** / BALLSCREW

## TG8010

**SOLUZIONE** / TYPE **A**

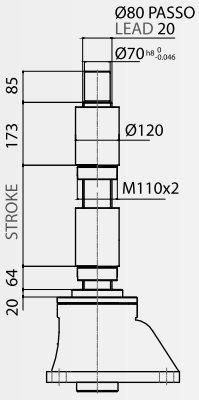



**SOLUZIONE** / TYPE **B**

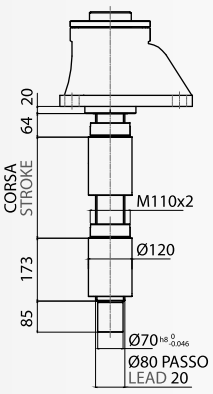



## TG8020

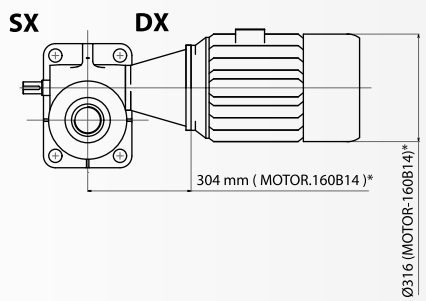
**SOLUZIONE** / TYPE **A**

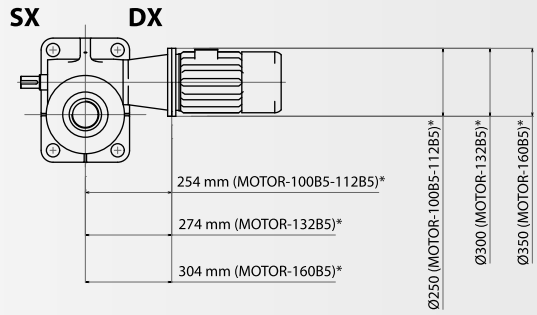



**SOLUZIONE** / TYPE **B**



**FLANGIA / FLANGE B14**



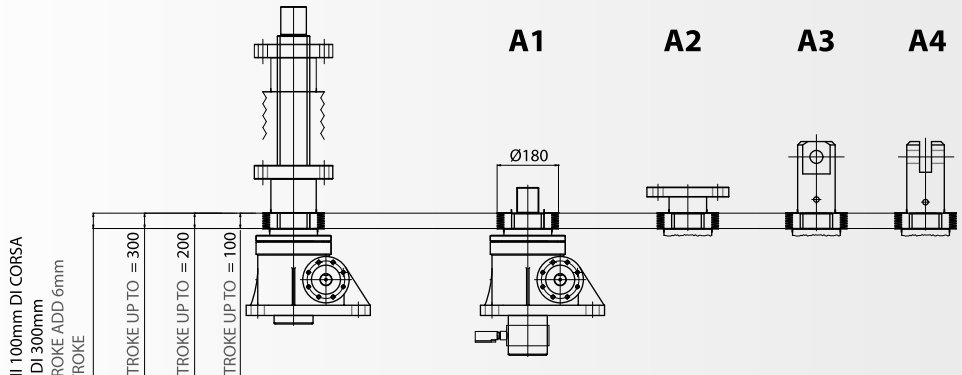

**FLANGIA / FLANGE B5**

***Nota: Le dimensioni del motore sono indicative /**
***Note: Motor dimensions are approximate**



**VITE ROTANTE / ROTATING SCREW VR**

**VITE TRASLANTE / TRAVELLING SCREW VT**




(a) AGGIUNGERE 6mm PER OGNI 100mm DI CORSA
PER CORSE SUPERIORI DI 300mm
FOR MORE THAN 300mm STROKE ADD 6mm
EVERY 100mm STROKE

(a) 25mm PER CORSA FINO A / FOR STROKE UP TO = 300

(a) 20mm PER CORSA FINO A / FOR STROKE UP TO = 200

(a) 15mm PER CORSA FINO A / FOR STROKE UP TO = 100

Esempio calcolo ingombro soffietto / Calculation example of bellows overall dimensions:
CORSA/ STROKE =750mm --> [(750-300)/100]=4.5 (Considerare / Consider 5)*6+25=55

**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.
**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.

## 2.13.0 SPECIFICHE TECNICHE — 2.13.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 110mm - Passo / Lead 16**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 110mm - Passo / Lead 16**

**SPECIFICHE TECNICHE SEP 500 Vite Trapezia Traslante - Rotante Ø 110mm / TECHNICAL FEATURES SEP 500 Trapezoidal Screw Travelling - Rotating Screw Jack Ø 110mm**

| Rapporto / Ratio | 10,66 | | | | | 32 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 16 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 7 | 0,160 | | 1,494 | 1,103 | 20 | 0,11 0 | | 0,724 | 1,100 |
| 50 | 33 | 0,162 | | 1,475 | 1,117 | 100 | 0,114 | | 0,698 | 1,140 |
| 100 | 67 | 0,164 | | 1,457 | 1,131 | 200 | 0,120 | | 0,663 | 1,200 |
| 150 | 100 | 0,166 | | 1,440 | 1,145 | 300 | 0,125 | | 0,637 | 1,250 |
| 200 | 133 | 0,168 | | 1,423 | 1,159 | 400 | 0,130 | | 0,612 | 1,300 |
| 250 | 167 | 0,170 | | 1,406 | 1,172 | 500 | 0,135 | | 0,590 | 1,350 |
| 300 | 200 | 0,173 | | 1,382 | 1,193 | 600 | 0,140 | | 0,569 | 1,400 |
| 350 | 233 | 0,175 | | 1,366 | 1,207 | 700 | 0,146 | | 0,545 | 1,460 |
| 400 | 267 | 0,177 | | 1,350 | 1,221 | 800 | 0,151 | | 0,527 | 1,510 |
| 450 | 300 | 0,179 | | 1,335 | 1,234 | 900 | 0,156 | | 0,510 | 1,560 |
| 500 | 333 | 0,181 | | 1,320 | 1,248 | 1000 | 0,161 | | 0,495 | 1,610 |
| 550 | 366 | 0,184 | | 1,299 | 1,269 | 1100 | 0,167 | | 0,477 | 1,670 |
| 600 | 400 | 0,186 | | 1,285 | 1,283 | 1200 | 0,172 | | 0,463 | 1,720 |
| 650 | 433 | 0,188 | | 1,271 | 1,297 | 1300 | 0,177 | | 0,450 | 1,770 |
| 700 | 466 | 0,190 | | 1,258 | 1,310 | 1400 | 0,182 | | 0,437 | 1,820 |
| 750 | 500 | 0,192 | | 1,245 | 1,324 | 1500 | 0,187 | | 0,426 | 1,870 |
| 800 | 533 | 0,194 | 0,145 | 1,232 | 1,338 | | | 0,100 | | |
| 850 | 566 | 0,197 | | 1,213 | 1,359 | | | | | |
| 900 | 600 | 0,199 | | 1,201 | 1,372 | | | | | |
| 950 | 633 | 0,201 | | 1,189 | 1,386 | | | | | |
| 1000 | 666 | 0,203 | | 1,177 | 1,400 | | | | | |
| 1100 | 733 | 0,208 | | 1,149 | 1,434 | | | | | |
| 1200 | 800 | 0,212 | | 1,127 | 1,462 | | | | | |
| 1300 | 866 | 0,216 | | 1,106 | 1,490 | | | | | |
| 1400 | 933 | 0,221 | | 1,081 | 1,524 | | | | | |
| 1500 | 999 | 0,225 | | 1,062 | 1,552 | | | | | |
| 1600 | 1066 | 0,230 | | 1,039 | 1,586 | | | | | |
| 1700 | 1133 | 0,234 | | 1,021 | 1,614 | | | | | |
| 1800 | 1199 | 0,238 | | 1,004 | 1,641 | | | | | |
| 1900 | 1266 | 0,243 | | 0,984 | 1,676 | | | | | |
| 2000 | 1333 | 0,247 | | 0,968 | 1,703 | | | | | |
| 2100 | 1399 | 0,251 | | 0,952 | 1,731 | | | | | |
| 2200 | 1466 | 0,256 | | 0,934 | 1,766 | | | | | |
| 2300 | | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

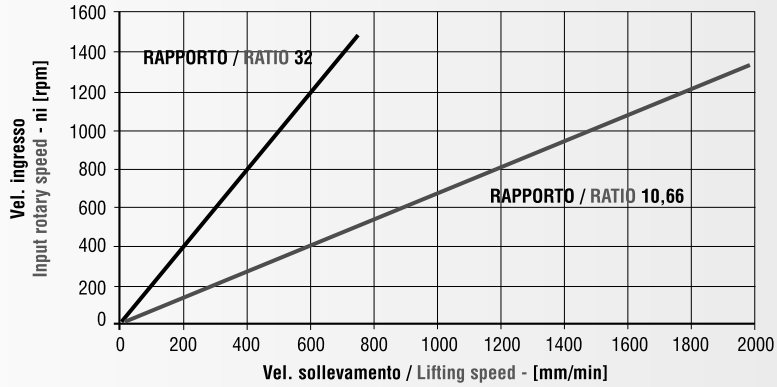
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 500 Vitone Trapezio Ø 110mm - Passo 16 / PERFORMANCE SEP 500 Trapezoidal Screw Ø 110mm - Lead 16

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

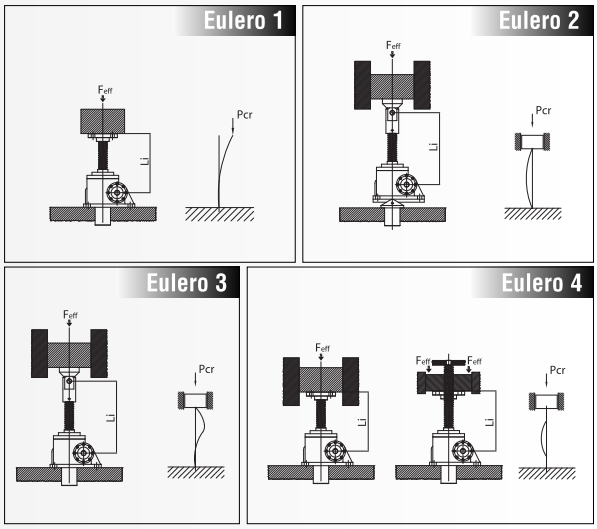
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 500 T | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 500,00 | 1150 | 2300 | 3253 | 4600 | 256,35 |
| 125 | 250 | 354 | 500 | 500,00 | 1200 | 2400 | 3394 | 4800 | 235,44 |
| 150 | 300 | 424 | 600 | 500,00 | 1250 | 2500 | 3536 | 5000 | 216,98 |
| 175 | 350 | 495 | 700 | 500,00 | 1300 | 2600 | 3677 | 5200 | 200,61 |
| 200 | 400 | 566 | 800 | 500,00 | 1350 | 2700 | 3818 | 5400 | 186,02 |
| 225 | 450 | 636 | 900 | 500,00 | 1400 | 2800 | 3960 | 5600 | 172,97 |
| 250 | 500 | 707 | 1000 | 500,00 | 1450 | 2900 | 4101 | 5800 | 161,25 |
| 275 | 550 | 778 | 1100 | 500,00 | 1500 | 3000 | 4243 | 6000 | 150,68 |
| 300 | 600 | 849 | 1200 | 500,00 | 1600 | 3200 | 4525 | 6400 | 132,43 |
| 325 | 650 | 919 | 1300 | 500,00 | 1700 | 3400 | 4808 | 6800 | 117,31 |
| 350 | 700 | 990 | 1400 | 500,00 | 1800 | 3600 | 5091 | 7200 | 104,64 |
| 375 | 750 | 1061 | 1500 | 500,00 | 1900 | 3800 | 5374 | 7600 | 93,91 |
| 400 | 800 | 1131 | 1600 | 500,00 | 2000 | 4000 | 5657 | 8000 | 84,76 |
| 425 | 850 | 1202 | 1700 | 500,00 | 2100 | 4200 | 5940 | 8400 | 76,88 |
| 450 | 900 | 1273 | 1800 | 500,00 | 2250 | 4500 | 6364 | 9000 | 66,97 |
| 475 | 950 | 1344 | 1900 | 500,00 | 2400 | 4800 | 6788 | 9600 | 58,86 |
| 500 | 1000 | 1414 | 2000 | 500,00 | 2550 | 5100 | 7212 | 10200 | 52,14 |
| 550 | 1100 | 1556 | 2200 | 500,00 | 2700 | 5400 | 7637 | 10800 | 46,51 |
| 600 | 1200 | 1697 | 2400 | 500,00 | 2850 | 5700 | 8061 | 11400 | 41,74 |
| 650 | 1300 | 1838 | 2600 | 500,00 | 3000 | 6000 | 8485 | 12000 | 37,67 |
| 700 | 1400 | 1980 | 2800 | 500,00 | | | | | |
| 750 | 1500 | 2121 | 3000 | 500,00 | | | | | |
| 800 | 1600 | 2263 | 3200 | 500,00 | | | | | |
| 850 | 1700 | 2404 | 3400 | 469,24 | | | | | |
| 900 | 1800 | 2546 | 3600 | 418,55 | | | | | |
| 950 | 1900 | 2687 | 3800 | 375,66 | | | | | |
| 1000 | 2000 | 2828 | 4000 | 339,03 | | | | | |
| 1050 | 2100 | 2970 | 4200 | 307,51 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 280,19 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 500 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 10,66 | 182467 | 136850 | 91233 | 60822 | 45617 | 36493 | 30411 | 26067 | 22808 | 20274 | 18247 |
| 32 | 130984 | 98238 | 65492 | 43661 | 32746 | 26197 | 21831 | 18712 | 16373 | 14554 | 13098 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## SOLO IN VERSIONE **VR**
## **VR** TYPE ONLY

**SPECIFICHE TECNICHE SEP 500 Vite Ricircolo Ø 100mm /** TECHNICAL FEATURES SEP 500 Ballscrew Ø 100mm

| **Rapporto** / Ratio | **10,66** | | | | | **32** | | | | | **10,66** | | | | | **32** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo** / Lead [mm] | **20** | | | | | | | | | | **25** | | | | | | | | | |
| **Velocità sollevamento** "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 5 | | | | | 16 | | | | | 4 | | | | | 13 | | | | |
| 50 | 27 | | | | | 80 | | | | | 21 | | | | | 64 | | | | |
| 100 | 53 | | | | | 160 | | | | | 43 | | | | | 128 | | | | |
| 150 | 80 | | | | | 240 | | | | | 64 | | | | | 192 | | | | |
| 200 | 107 | | | | | 320 | | | | | 85 | | | | | 256 | | | | |
| 250 | 133 | | | | | 400 | | | | | 107 | | | | | 320 | | | | |
| 300 | 160 | | | | | 480 | | | | | 128 | | | | | 384 | | | | |
| 350 | 187 | | | | | 560 | | | | | 149 | | | | | 448 | | | | |
| 400 | 213 | | | | | 640 | | | | | 171 | | | | | 512 | | | | |
| 450 | 240 | | | | | 720 | | | | | 192 | | | | | 576 | | | | |
| 500 | 267 | | | | | 800 | | | | | 213 | | | | | 640 | | | | |
| 550 | 293 | | | | | 880 | | | | | 235 | | | | | 704 | | | | |
| 600 | 320 | | | | | 960 | | | | | 256 | | | | | 768 | | | | |
| 650 | 346 | | | | | 1040 | | | | | 277 | | | | | 832 | | | | |
| 700 | 373 | | | | | 1120 | | | | | 298 | | | | | 896 | | | | |
| 750 | 400 | | | | | 1200 | | | | | 320 | | | | | 960 | | | | |
| 800 | 426 | | | | | 1280 | | | | | 341 | | | | | 1024 | | | | |
| 850 | 453 | 0,641 | 0,577 | 0,466 | 1,111 | 1360 | 0,507 | 0,457 | 0,196 | 1,109 | 362 | 0,649 | 0,584 | 0,575 | 1,111 | 1088 | 0,513 | 0,462 | 0,243 | 1,110 |
| 900 | 480 | | | | | 1440 | | | | | 384 | | | | | 1152 | | | | |
| 950 | 506 | | | | | 1520 | | | | | 405 | | | | | 1216 | | | | |
| 1000 | 533 | | | | | 1600 | | | | | 426 | | | | | 1280 | | | | |
| 1100 | 586 | | | | | 1760 | | | | | 469 | | | | | 1408 | | | | |
| 1200 | 640 | | | | | 1920 | | | | | 512 | | | | | 1536 | | | | |
| 1300 | 693 | | | | | | | | | | 554 | | | | | 1664 | | | | |
| 1400 | 746 | | | | | | | | | | 597 | | | | | 1792 | | | | |
| 1500 | 800 | | | | | | | | | | 640 | | | | | 1920 | | | | |
| 1600 | 853 | | | | | | | | | | 682 | | | | | | | | | |
| 1700 | 906 | | | | | | | | | | 725 | | | | | | | | | |
| 1800 | 959 | | | | | | | | | | 768 | | | | | | | | | |
| 1900 | 1013 | | | | | | | | | | 810 | | | | | | | | | |
| 2000 | 1066 | | | | | | | | | | 853 | | | | | | | | | |
| 2100 | 1119 | | | | | | | | | | 895 | | | | | | | | | |
| 2200 | 1173 | | | | | | | | | | 938 | | | | | | | | | |
| 2300 | 1226 | | | | | | | | | | 981 | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO /** REQUIRED INPUT TORQUE AND POWER

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

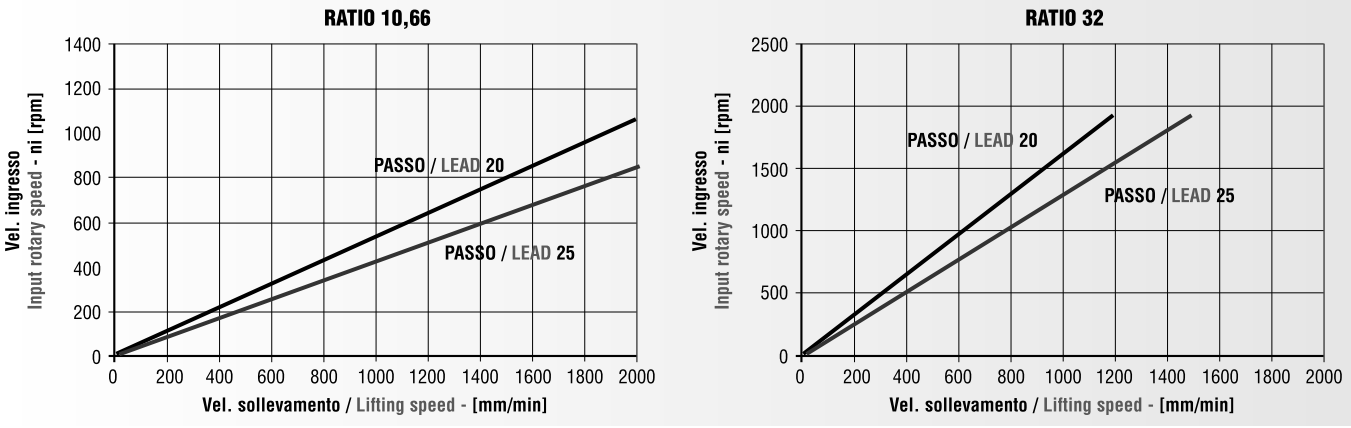
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 500 Vitone Ricircolo Ø 100mm - Passo 20-25 / PERFORMANCE SEP 500 Ballscrew Ø 100mm - Lead 20-25

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

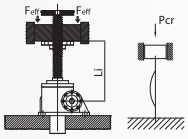
**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | SEP 500 S (d100) | |
|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | Pcr [kN] |
| Eulero **4** | | Eulero **4** | |
| 400 | 500,00 | 4600 | 343,09 |
| 500 | 500,00 | 4800 | 315,10 |
| 600 | 500,00 | 5000 | 290,40 |
| 700 | 500,00 | 5200 | 268,49 |
| 800 | 500,00 | 5400 | 248,97 |
| 900 | 500,00 | 5600 | 231,50 |
| 1000 | 500,00 | 5800 | 215,81 |
| 1100 | 500,00 | 6000 | 201,66 |
| 1200 | 500,00 | 6400 | 177,24 |
| 1300 | 500,00 | 6800 | 157,00 |
| 1400 | 500,00 | 7200 | 140,04 |
| 1500 | 500,00 | 7600 | 125,69 |
| 1600 | 500,00 | 8000 | 113,44 |
| 1700 | 500,00 | 8400 | 102,89 |
| 1800 | 500,00 | 9000 | 89,63 |
| 1900 | 500,00 | 9600 | 78,77 |
| 2000 | 500,00 | 10200 | 69,78 |
| 2200 | 500,00 | 10800 | 62,24 |
| 2400 | 500,00 | 11400 | 55,86 |
| 2600 | 500,00 | 12000 | 50,42 |
| 2800 | 500,00 | | |
| 3000 | 500,00 | | |
| 3200 | 500,00 | | |
| 3400 | 500,00 | | |
| 3600 | 500,00 | | |
| 3800 | 500,00 | | |
| 4000 | 453,74 | | |
| 4200 | 411,56 | | |
| 4400 | 374,99 | | |

**Eulero 4**




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 500 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 10,66 | 675128 | 506345 | 337562 | 225041 | 168783 | 135024 | 112521 | 96448 | 84390 | 75014 | 67514 |
| 32 | 484641 | 363481 | 242320 | 161546 | 121160 | 96929 | 80775 | 69234 | 60580 | 53850 | 48463 |

**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## SOLO IN VERSIONE **VR**
## **VR** TYPE ONLY

**SPECIFICHE TECNICHE SEP 500 Vite Ricircolo Ø 125mm / TECHNICAL FEATURES SEP 500 Ballscrew Ø 125mm**

| **Rapporto / Ratio** | **10,66** | | | | | | **32** | | | | | | **10,66** | | | | | | **32** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Passo / Lead** [mm] | **20** | | | | | | | | | | | | **25** | | | | | | | | | | | |
| **Velocità sollevamento** "V" **Lifting speed** [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | |
| 10 | 5 | | | | | | 16 | | | | | | 4 | | | | | | 13 | | | | | |
| 50 | 27 | | | | | | 80 | | | | | | 21 | | | | | | 64 | | | | | |
| 100 | 53 | | | | | | 160 | | | | | | 43 | | | | | | 128 | | | | | |
| 150 | 80 | | | | | | 240 | | | | | | 64 | | | | | | 192 | | | | | |
| 200 | 107 | | | | | | 320 | | | | | | 85 | | | | | | 256 | | | | | |
| 250 | 133 | | | | | | 400 | | | | | | 107 | | | | | | 320 | | | | | |
| 300 | 160 | | | | | | 480 | | | | | | 128 | | | | | | 384 | | | | | |
| 350 | 187 | | | | | | 560 | | | | | | 149 | | | | | | 448 | | | | | |
| 400 | 213 | | | | | | 640 | | | | | | 171 | | | | | | 512 | | | | | |
| 450 | 240 | | | | | | 720 | | | | | | 192 | | | | | | 576 | | | | | |
| 500 | 267 | | | | | | 800 | | | | | | 213 | | | | | | 640 | | | | | |
| 550 | 293 | | | | | | 880 | | | | | | 235 | | | | | | 704 | | | | | |
| 600 | 320 | | | | | | 960 | | | | | | 256 | | | | | | 768 | | | | | |
| 650 | 346 | | | | | | 1040 | | | | | | 277 | | | | | | 832 | | | | | |
| 700 | 373 | | | | | | 1120 | | | | | | 298 | | | | | | 896 | | | | | |
| 750 | 400 | | | | | | 1200 | | | | | | 320 | | | | | | 960 | | | | | |
| 800 | 426 | 0,632 | 0,569 | 0,473 | 1,111 | | 1280 | 0,5 | 0,45 | 0,199 | 1,111 | | 341 | 0,641 | 0,577 | 0,583 | 1,111 | | 1024 | 0,507 | 0,457 | 0,245 | 1,109 | |
| 850 | 453 | | | | | | 1360 | | | | | | 362 | | | | | | 1088 | | | | | |
| 900 | 480 | | | | | | 1440 | | | | | | 384 | | | | | | 1152 | | | | | |
| 950 | 506 | | | | | | 1520 | | | | | | 405 | | | | | | 1216 | | | | | |
| 1000 | 533 | | | | | | 1600 | | | | | | 426 | | | | | | 1280 | | | | | |
| 1100 | 586 | | | | | | 1760 | | | | | | 469 | | | | | | 1408 | | | | | |
| 1200 | 640 | | | | | | 1920 | | | | | | 512 | | | | | | 1536 | | | | | |
| 1300 | 693 | | | | | | | | | | | | 554 | | | | | | 1664 | | | | | |
| 1400 | 746 | | | | | | | | | | | | 597 | | | | | | 1792 | | | | | |
| 1500 | 800 | | | | | | | | | | | | 640 | | | | | | 1920 | | | | | |
| 1600 | 853 | | | | | | | | | | | | 682 | | | | | | | | | | | |
| 1700 | 906 | | | | | | | | | | | | 725 | | | | | | | | | | | |
| 1800 | 959 | | | | | | | | | | | | 768 | | | | | | | | | | | |
| 1900 | 1013 | | | | | | | | | | | | 810 | | | | | | | | | | | |
| 2000 | 1066 | | | | | | | | | | | | 853 | | | | | | | | | | | |
| 2100 | 1119 | | | | | | | | | | | | 895 | | | | | | | | | | | |
| 2200 | 1173 | | | | | | | | | | | | 938 | | | | | | | | | | | |
| 2300 | 1226 | | | | | | | | | | | | 981 | | | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

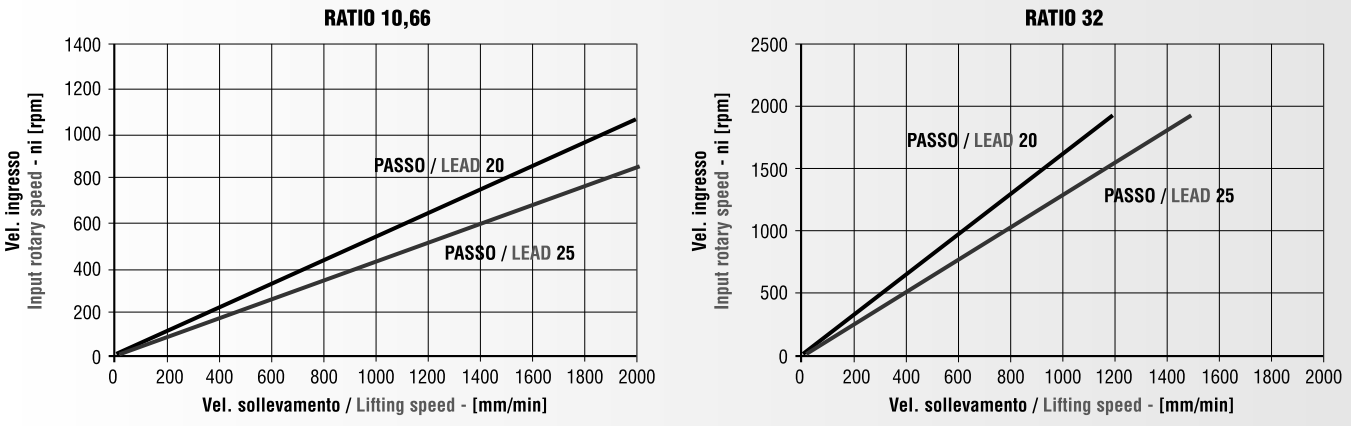
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 500 Vitone Ricircolo Ø 125mm - Passo 20-25 / PERFORMANCE SEP 500 Ballscrew Ø 125mm - Lead 20-25

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

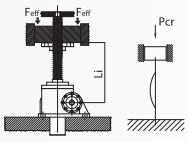
**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | SEP 500 S (d125) | |
|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | Pcr [kN] |
| Eulero 4 | | Eulero 4 | |
| 400 | 500,00 | 4600 | 500,00 |
| 500 | 500,00 | 4800 | 500,00 |
| 600 | 500,00 | 5000 | 500,00 |
| 700 | 500,00 | 5200 | 463,00 |
| 800 | 500,00 | 5400 | 429,34 |
| 900 | 500,00 | 5600 | 399,22 |
| 1000 | 500,00 | 5800 | 372,16 |
| 1100 | 500,00 | 6000 | 347,76 |
| 1200 | 500,00 | 6400 | 305,65 |
| 1300 | 500,00 | 6800 | 270,75 |
| 1400 | 500,00 | 7200 | 241,50 |
| 1500 | 500,00 | 7600 | 216,75 |
| 1600 | 500,00 | 8000 | 195,62 |
| 1700 | 500,00 | 8400 | 177,43 |
| 1800 | 500,00 | 9000 | 154,56 |
| 1900 | 500,00 | 9600 | 135,85 |
| 2000 | 500,00 | 10200 | 120,33 |
| 2200 | 500,00 | 10800 | 107,33 |
| 2400 | 500,00 | 11400 | 96,33 |
| 2600 | 500,00 | 12000 | 86,94 |
| 2800 | 500,00 | 12600 | 78,86 |
| 3000 | 500,00 | 13200 | 71,85 |
| 3200 | 500,00 | 14200 | 62,09 |
| 3400 | 500,00 | 15200 | 54,19 |
| 3600 | 500,00 | 16200 | 47,70 |
| 3800 | 500,00 | 17200 | 42,32 |
| 4000 | 500,00 | 18200 | 37,80 |
| 4200 | 500,00 | | |
| 4400 | 500,00 | | |

**Eulero 4**




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 500 S | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 10,66 | 675128 | 506345 | 337562 | 225041 | 168783 | 135024 | 112521 | 96448 | 84390 | 75014 | 67514 |
| 32 | 484641 | 363481 | 242320 | 161546 | 121160 | 96929 | 80775 | 69234 | 60580 | 53850 | 48463 |

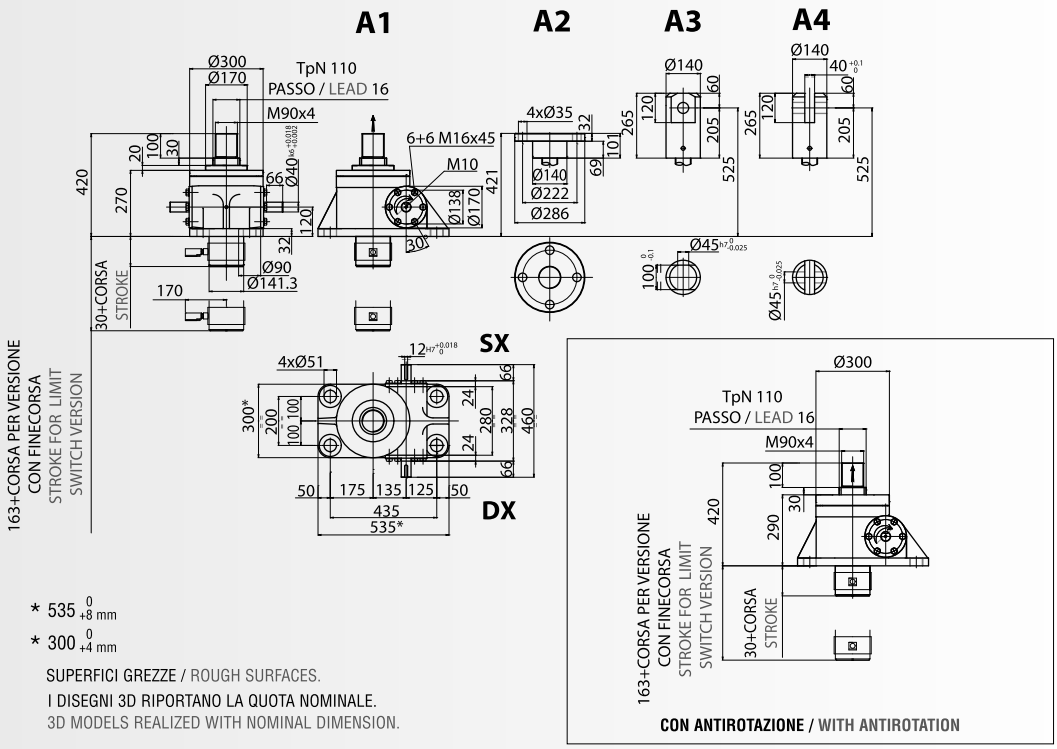
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

## 2.13.1 SCHEMI DIMENSIONALI

## 2.13.1 OVERALL DIMENSIONS

**SEP 500 T VT ... A**




* $535\,^{0}_{+8}$ mm

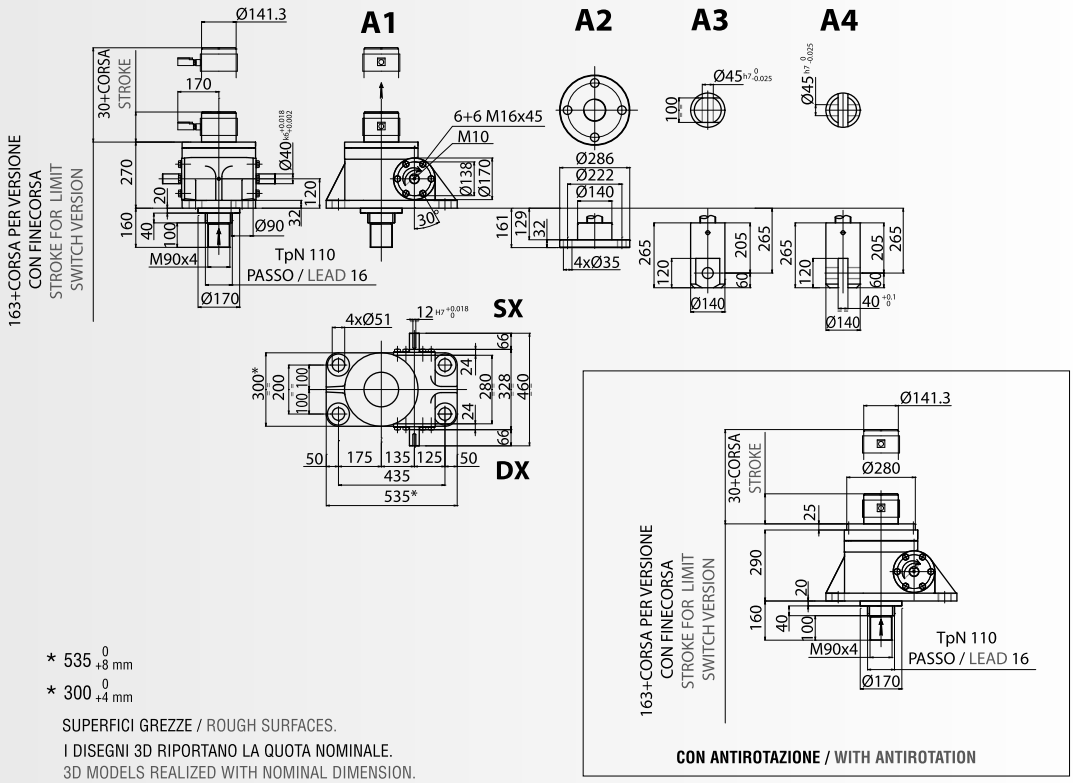
* $300\,^{0}_{+4}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.

I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

3D MODELS REALIZED WITH NOMINAL DIMENSION.

**SEP 500 T VT ... B**




* $535\,^{0}_{+8}$ mm

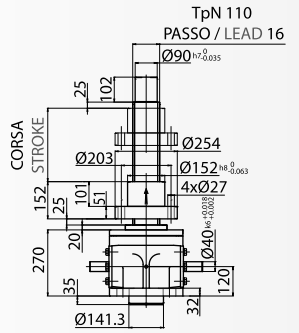
* $300\,^{0}_{+4}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.

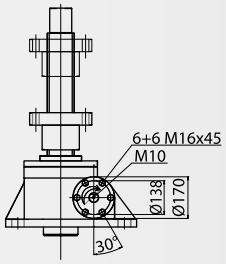
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.

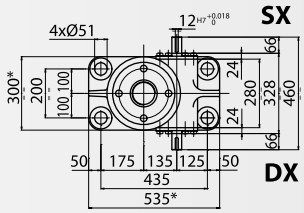
3D MODELS REALIZED WITH NOMINAL DIMENSION.

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**



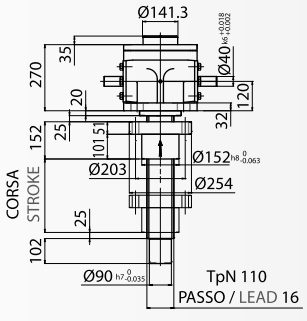

* 535 $^{0}_{+8}$ mm

* 300 $^{0}_{+4}$ mm

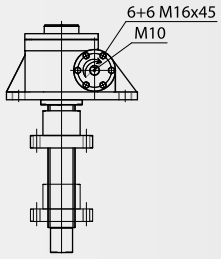
SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

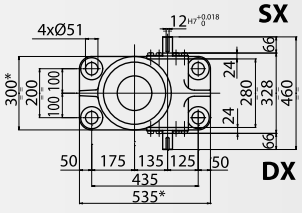
SEP 500 T VR...A

**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **H**




**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE **L**




* 535 $^{0}_{+8}$ mm

* 300 $^{0}_{+4}$ mm

SUPERFICI GREZZE / ROUGH SURFACES.
I DISEGNI 3D RIPORTANO LA QUOTA NOMINALE.
3D MODELS REALIZED WITH NOMINAL DIMENSION.

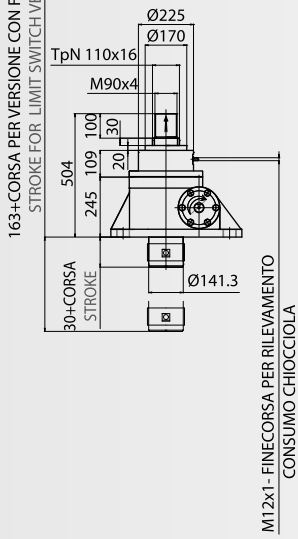
SEP 500 T VR...B

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

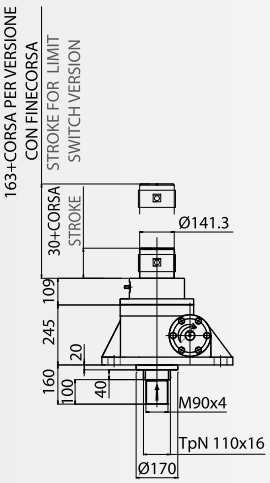
**SEP 500 T VT ... A(B) ... SS**
**SS - CHIOCCIOLA DI SICUREZZA** / SAFETY NUT

**VERSIONE** / VERSION **VT**
**SENZA ANTIROTAZIONE** / WITHOUT ANTIROTATION **AR**

**SOLUZIONE** / TYPE **A**

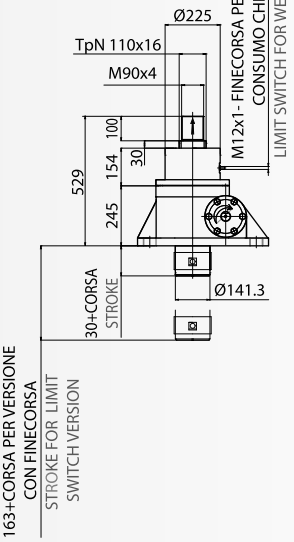



**SOLUZIONE** / TYPE **B**

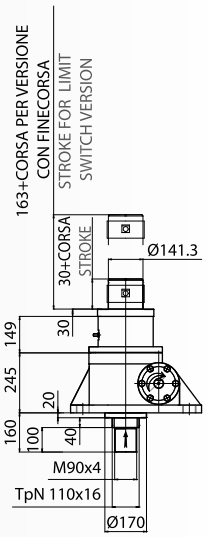



**VERSIONE** / VERSION **VT**
**CON ANTIROTAZIONE** / WITH ANTIROTATION **AR**

**SOLUZIONE** / TYPE **A**



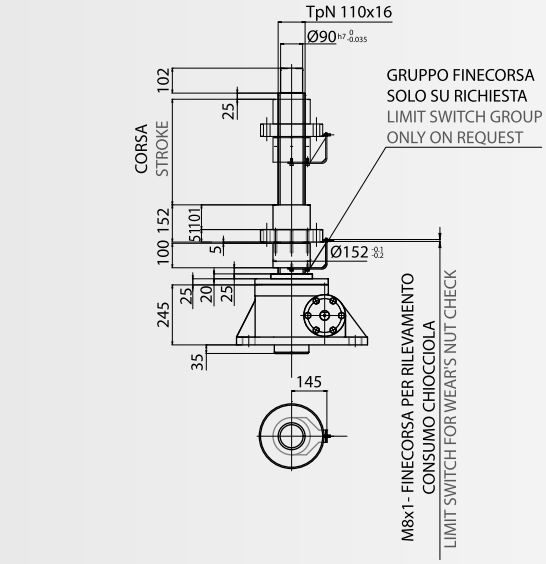

**SOLUZIONE** / TYPE **B**



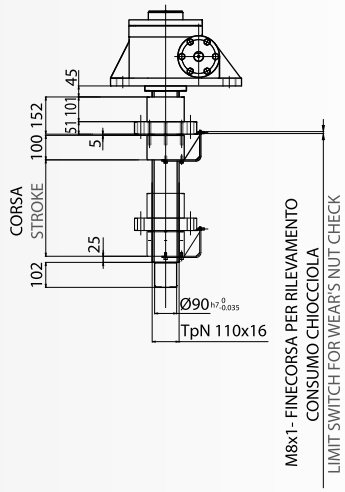

**SEP 500 T VR ... A(B) ... SS**
**SS - CHIOCCIOLA DI SICUREZZA** / SAFETY NUT

**VERSIONE** / VERSION **VR**

**SOLUZIONE** / TYPE **A**

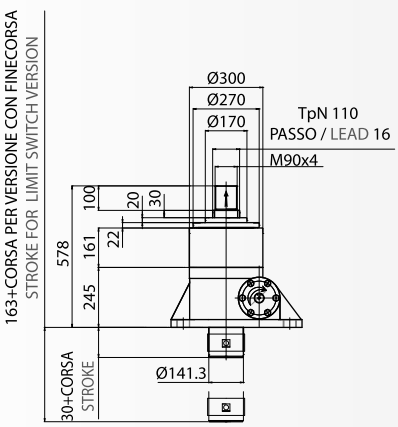



**SOLUZIONE** / TYPE **B**

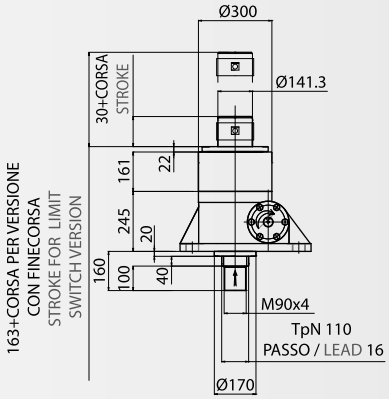


**SENZA ANTIROTAZIONE** / WITHOUT ANTIROTATION **AR**

**SOLUZIONE** / TYPE **A**



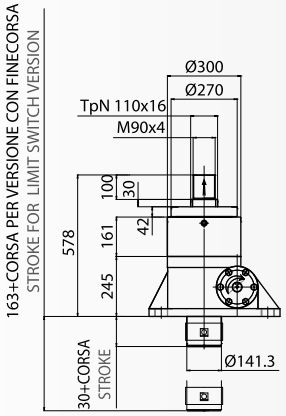

**SOLUZIONE** / TYPE **B**



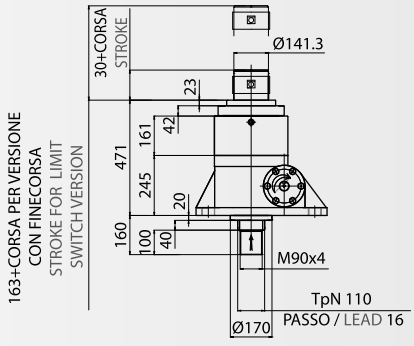

**SEP 500 T VT ... A(B) ... SB**
**SB - CHIOCCIOLA RECUPERO GIOCHI** / ANTI BACKLASH NUT

**CON ANTIROTAZIONE** / WITH ANTIROTATION **AR**

**SOLUZIONE** / TYPE **A**




**SOLUZIONE** / TYPE **B**

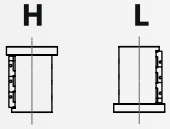



**SEP 500 T VT ... A(B) ... SB ... AR**
**SB - CHIOCCIOLA RECUPERO GIOCHI** / ANTI BACKLASH NUT

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

**SEP 500 S VR... A(B)**
**S - CON VITE A RICIRCOLO DI SFERE** / BALLSCREW

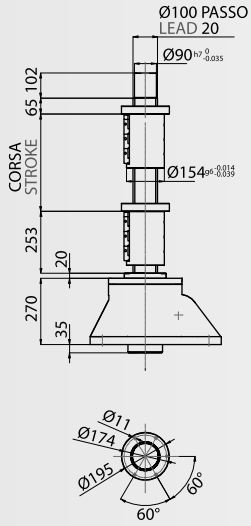
**VERSO DI MONTAGGIO CHIOCCIOLA** / NUT MOUNTING SIDE



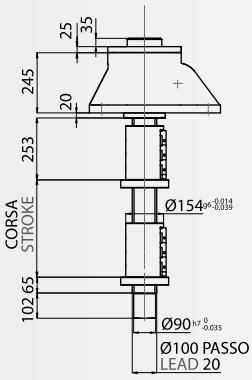

**TIPO** / TYPE **V.A.C.C.**

## *V.A.C.C. 100 - 20

**SOLUZIONE** / TYPE **A**

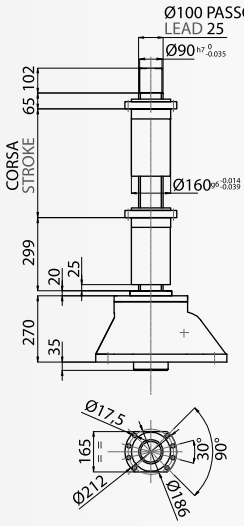



**SOLUZIONE** / TYPE **B**

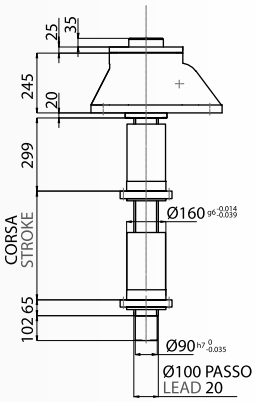



## *V.A.C.C. 100 - 25

**SOLUZIONE** / TYPE **A**

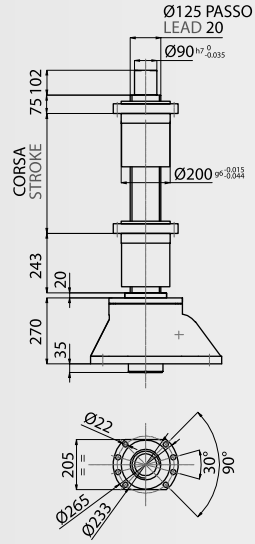



**SOLUZIONE** / TYPE **B**

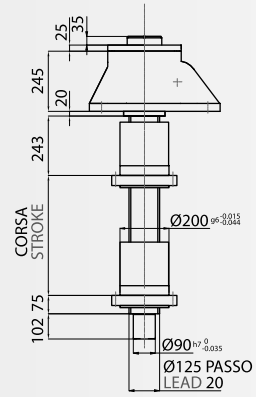



## *V.A.C.C. 125 - 20

**SOLUZIONE** / TYPE **A**

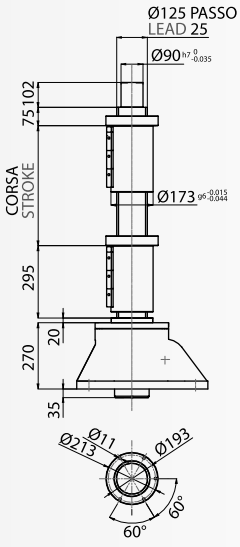



**SOLUZIONE** / TYPE **B**

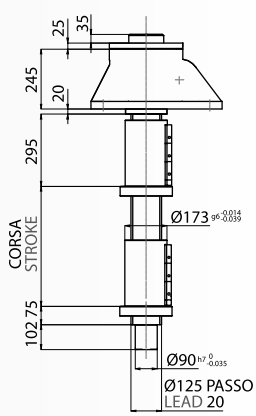



## *V.A.C.C. 125 - 25

**SOLUZIONE** / TYPE **A**

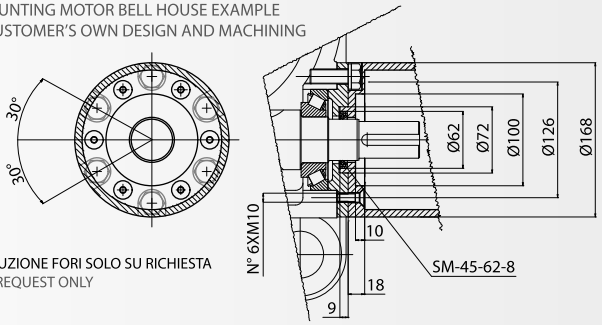



**SOLUZIONE** / TYPE **B**

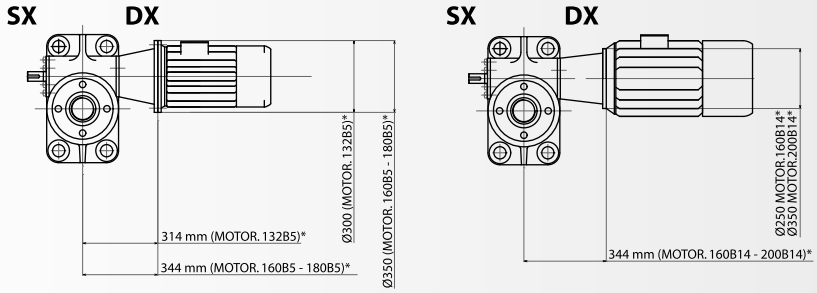



* Vite ad alta capacità di carico / Heavy load nut.

ESEMPIO DI MONTAGGIO DELLA CAMPANA MOTORE
IN CASO DI REALIZZAZIONE A CURA DEL CLIENTE
MOUNTING MOTOR BELL HOUSE EXAMPLE
FOR CUSTOMER'S OWN DESIGN AND MACHINING




NOTE: ESECUZIONE FORI SOLO SU RICHIESTA
HOLES ON REQUEST ONLY




**FLANGIA** / FLANGE **B5**

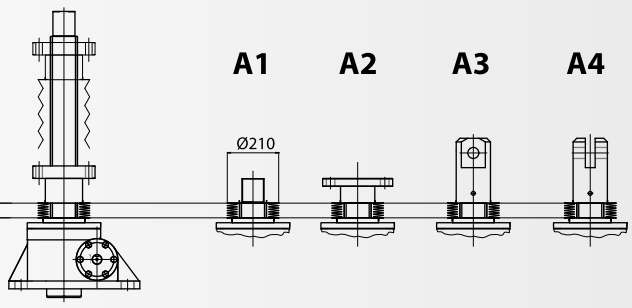
**FLANGIA** / FLANGE **B14**

***Nota: Le dimensioni del motore sono indicative** /
***Note: Motor dimensions are approximate**

**MOTOMARTINETTI** / MOTORIZED SCREW JACKS **MG**

**VITE ROTANTE** / ROTATING SCREW **VR**

**VITE TRASLANTE** / TRAVELLING SCREW **VT**




(a) AGGIUNGERE 6mm PER OGNI 100mm DI CORSA
PER CORSE SUPERIORI DI 300mm
FOR MORE THAN 300mm STROKE ADD 6mm
EVERY 100mm STROKE

(a) 25mm PER CORSA FINO A / FOR STROKE UP TO = 300

(a) 20mm PER CORSA FINO A / FOR STROKE UP TO = 200

(a) 15mm PER CORSA FINO A / FOR STROKE UP TO = 100

Esempio calcolo ingombro soffietto / Calculation example of bellows overall dimensions:
CORSA/ STROKE =750mm --> [(750-300)/100]=4.5 (Considerare / Consider 5)*6+25=55

**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.
**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.

**PE - SOFFIETTO ELASTICO** / ELASTIC BELLOW

## 2.14.0 SPECIFICHE TECNICHE — 2.14.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 155mm - Passo / Lead 18**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 155mm - Passo / Lead 18**

**SPECIFICHE TECNICHE SEP 1000 Vite Quadra Traslante - Rotante Ø 155mm / TECHNICAL FEATURES SEP 1000 Squared Screw Travelling - Rotating Screw Jack Ø 155mm**

| Rapporto / Ratio | 11,66 | | | | | 35 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 18 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 6 | 0,159 | | 1,546 | 1,097 | 19 | 0,110 | | 0,744 | 1,100 |
| 50 | 32 | 0,161 | | 1,527 | 1,110 | 97 | 0,114 | | 0,718 | 1,140 |
| 100 | 65 | 0,162 | | 1,517 | 1,117 | 194 | 0,119 | | 0,688 | 1,190 |
| 150 | 97 | 0,164 | | 1,499 | 1,131 | 292 | 0,124 | | 0,660 | 1,240 |
| 200 | 130 | 0,166 | | 1,481 | 1,145 | 389 | 0,129 | | 0,635 | 1,290 |
| 250 | 162 | 0,167 | | 1,472 | 1,152 | 486 | 0,135 | | 0,607 | 1,350 |
| 300 | 194 | 0,169 | | 1,455 | 1,166 | 583 | 0,140 | | 0,585 | 1,400 |
| 350 | 227 | 0,171 | | 1,438 | 1,179 | 681 | 0,145 | | 0,565 | 1,450 |
| 400 | 259 | 0,172 | | 1,429 | 1,186 | 778 | 0,150 | | 0,546 | 1,500 |
| 450 | 292 | 0,174 | | 1,413 | 1,200 | 875 | 0,155 | | 0,528 | 1,550 |
| 500 | 324 | 0,176 | | 1,397 | 1,214 | 972 | 0,160 | | 0,512 | 1,600 |
| 550 | 356 | 0,177 | | 1,389 | 1,221 | 1069 | 0,165 | | 0,496 | 1,650 |
| 600 | 389 | 0,179 | | 1,373 | 1,234 | 1167 | 0,170 | | 0,482 | 1,700 |
| 650 | 421 | 0,181 | | 1,358 | 1,248 | 1264 | 0,175 | | 0,468 | 1,750 |
| 700 | 453 | 0,182 | | 1,351 | 1,255 | 1361 | 0,180 | | 0,455 | 1,800 |
| 750 | 486 | 0,184 | | 1,336 | 1,269 | 1458 | 0,185 | | 0,443 | 1,850 |
| 800 | 518 | 0,186 | 0,145 | 1,322 | 1,283 | | | 0,100 | | |
| 850 | 551 | 0,187 | | 1,315 | 1,290 | | | | | |
| 900 | 583 | 0,189 | | 1,301 | 1,303 | | | | | |
| 950 | 615 | 0,191 | | 1,287 | 1,317 | | | | | |
| 1000 | 648 | 0,192 | | 1,280 | 1,324 | | | | | |
| 1100 | 713 | 0,196 | | 1,254 | 1,352 | | | | | |
| 1200 | 777 | 0,199 | | 1,235 | 1,372 | | | | | |
| 1300 | 842 | 0,202 | | 1,217 | 1,393 | | | | | |
| 1400 | 907 | 0,206 | | 1,193 | 1,421 | | | | | |
| 1500 | 972 | 0,209 | | 1,176 | 1,441 | | | | | |
| 1600 | 1036 | 0,212 | | 1,160 | 1,462 | | | | | |
| 1700 | 1101 | 0,216 | | 1,138 | 1,490 | | | | | |
| 1800 | 1166 | 0,219 | | 1,122 | 1,510 | | | | | |
| 1900 | 1231 | 0,222 | | 1,107 | 1,531 | | | | | |
| 2000 | 1296 | 0,226 | | 1,088 | 1,559 | | | | | |
| 2100 | 1360 | 0,229 | | 1,073 | 1,579 | | | | | |
| 2200 | | | | | | | | | | |
| 2300 | | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **ni =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

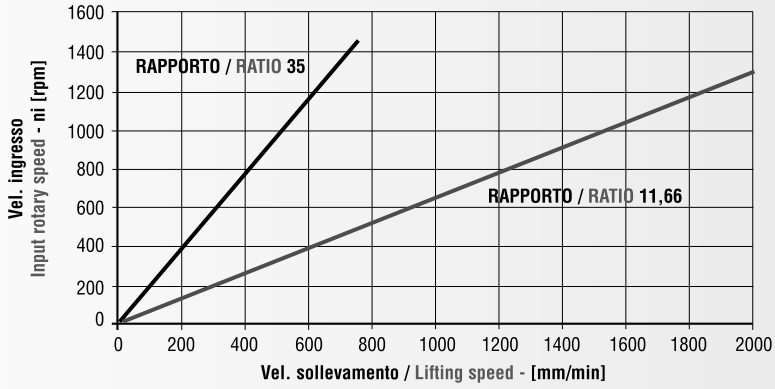
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**ni =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 1000 Vitone Quadro Ø 155mm - Passo 18 / PERFORMANCE SEP 1000 Squared Screw Ø 155mm - Lead 18

**Velocità di sollevamento in funzione della velocità in ingresso / Lifting speed versus rotary input speed**




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

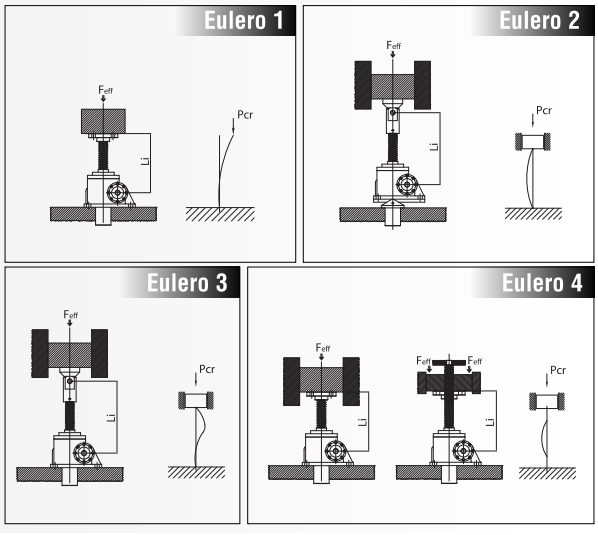
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 1000 T | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 1000,00 | 1150 | 2300 | 3253 | 4600 | 1000,00 |
| 125 | 250 | 354 | 500 | 1000,00 | 1200 | 2400 | 3394 | 4800 | 1000,00 |
| 150 | 300 | 424 | 600 | 1000,00 | 1250 | 2500 | 3536 | 5000 | 1000,00 |
| 175 | 350 | 495 | 700 | 1000,00 | 1300 | 2600 | 3677 | 5200 | 1000,00 |
| 200 | 400 | 566 | 800 | 1000,00 | 1350 | 2700 | 3818 | 5400 | 1000,00 |
| 225 | 450 | 636 | 900 | 1000,00 | 1400 | 2800 | 3960 | 5600 | 1000,00 |
| 250 | 500 | 707 | 1000 | 1000,00 | 1450 | 2900 | 4101 | 5800 | 1000,00 |
| 275 | 550 | 778 | 1100 | 1000,00 | 1500 | 3000 | 4243 | 6000 | 991,89 |
| 300 | 600 | 849 | 1200 | 1000,00 | 1600 | 3200 | 4525 | 6400 | 940,06 |
| 325 | 650 | 919 | 1300 | 1000,00 | 1700 | 3400 | 4808 | 6800 | 832,72 |
| 350 | 700 | 990 | 1400 | 1000,00 | 1800 | 3600 | 5091 | 7200 | 742,77 |
| 375 | 750 | 1061 | 1500 | 1000,00 | 1900 | 3800 | 5374 | 7600 | 666,64 |
| 400 | 800 | 1131 | 1600 | 1000,00 | 2000 | 4000 | 5657 | 8000 | 601,64 |
| 425 | 850 | 1202 | 1700 | 1000,00 | 2100 | 4200 | 5940 | 8400 | 545,71 |
| 450 | 900 | 1273 | 1800 | 1000,00 | 2250 | 4500 | 6364 | 9000 | 475,37 |
| 475 | 950 | 1344 | 1900 | 1000,00 | 2400 | 4800 | 6788 | 9600 | 417,81 |
| 500 | 1000 | 1414 | 2000 | 1000,00 | 2550 | 5100 | 7212 | 10200 | 370,10 |
| 550 | 1100 | 1556 | 2200 | 1000,00 | 2700 | 5400 | 7637 | 10800 | 330,12 |
| 600 | 1200 | 1697 | 2400 | 1000,00 | 2850 | 5700 | 8061 | 11400 | 296,28 |
| 650 | 1300 | 1838 | 2600 | 1000,00 | 3000 | 6000 | 8485 | 12000 | 267,40 |
| 700 | 1400 | 1980 | 2800 | 1000,00 | 3150 | 6300 | 8910 | 12600 | 242,54 |
| 750 | 1500 | 2121 | 3000 | 1000,00 | 3300 | 6600 | 9334 | 13200 | 220,99 |
| 800 | 1600 | 2263 | 3200 | 1000,00 | 3550 | 7100 | 10041 | 14200 | 190,96 |
| 850 | 1700 | 2404 | 3400 | 1000,00 | 3800 | 7600 | 10748 | 15200 | 166,66 |
| 900 | 1800 | 2546 | 3600 | 1000,00 | 4050 | 8100 | 11455 | 16200 | 146,72 |
| 950 | 1900 | 2687 | 3800 | 1000,00 | 4300 | 8600 | 12162 | 17200 | 130,15 |
| 1000 | 2000 | 2828 | 4000 | 1000,00 | 4550 | 9100 | 12869 | 18200 | 116,25 |
| 1050 | 2100 | 2970 | 4200 | 1000,00 | | | | | |
| 1100 | 2200 | 3111 | 4400 | 1000,00 | | | | | |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 1000 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 11,66 | 332454 | 249341 | 166227 | 110818 | 83114 | 66491 | 55409 | 47493 | 41557 | 36939 | 33245 |
| 35 | 255467 | 191601 | 127734 | 85156 | 63867 | 51093 | 42578 | 36495 | 31933 | 28385 | 25547 |

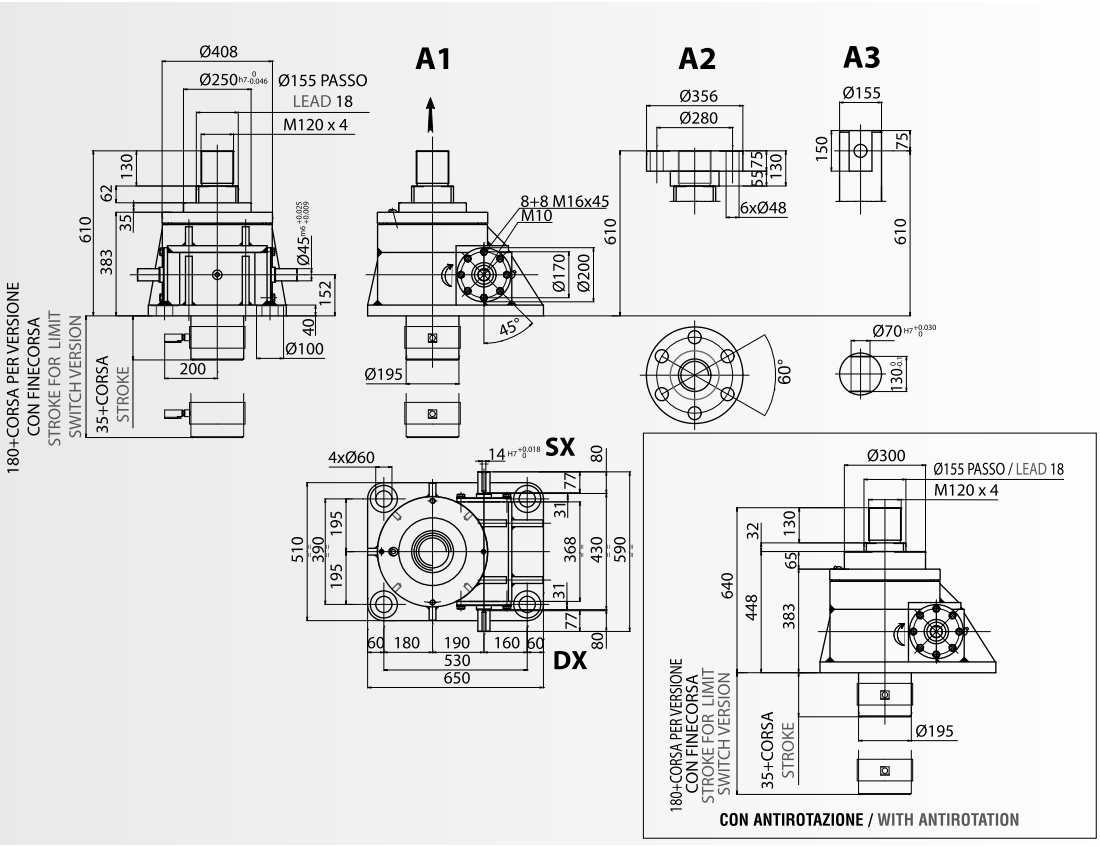
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters or choose a bigger screw jack size.

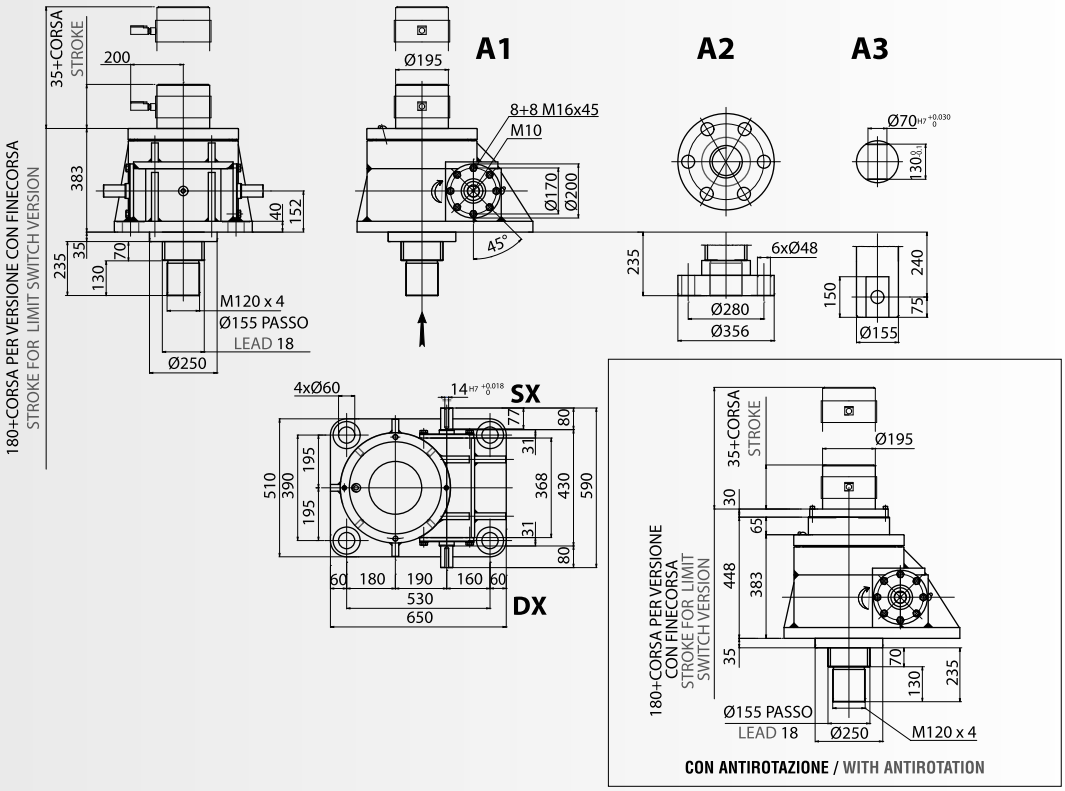
## 2.14.1 SCHEMI DIMENSIONALI

## 2.14.1 OVERALL DIMENSIONS

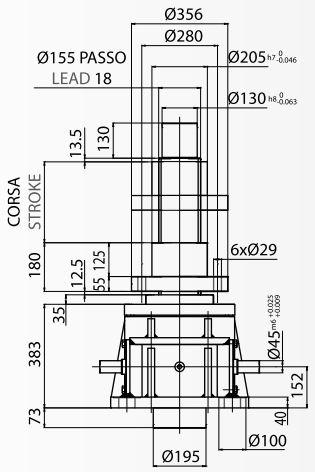
**SEP 1000 T VT ... A**



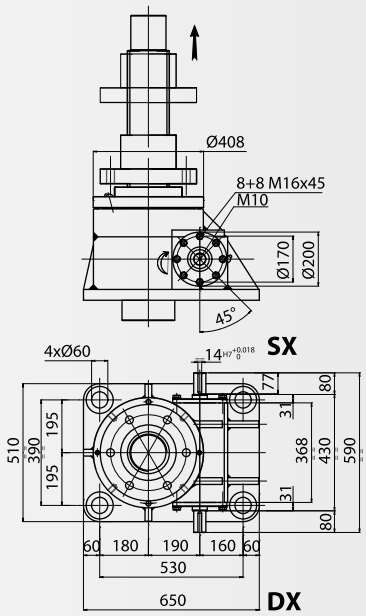

**SEP 1000 T VT ... B**



**VERSO DI MONTAGGIO CHIOCCIOLA / NUT MOUNTING SIDE H**

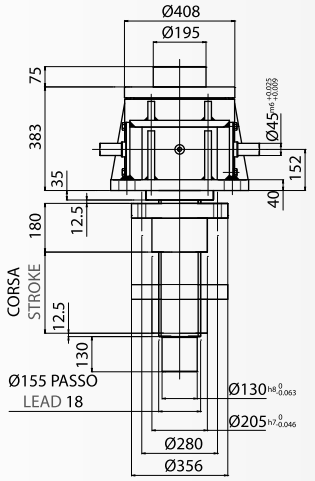



**VERSO DI MONTAGGIO CHIOCCIOLA / NUT MOUNTING SIDE L**

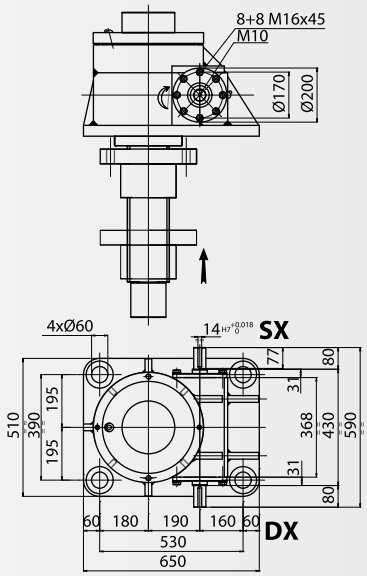



SEP 1000 T VR ... A

**VERSO DI MONTAGGIO CHIOCCIOLA / NUT MOUNTING SIDE H**




**VERSO DI MONTAGGIO CHIOCCIOLA / NUT MOUNTING SIDE L**



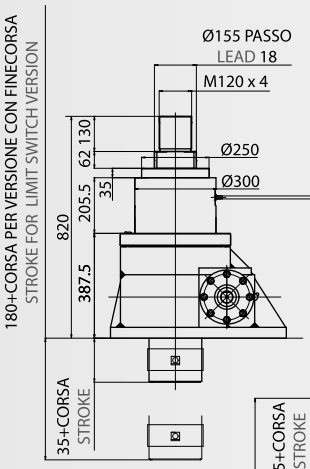

SEP 1000 T VR ... B

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

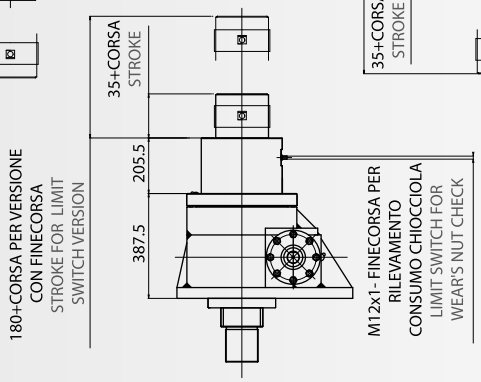
**SEP 1000 T VT....A(B)....SS**
**SS - CHIOCCIOLA DI SICUREZZA** / SAFETY NUT

**VERSIONE** / VERSION **VT**
**SENZA ANTIROTAZIONE** / WITHOUT ANTIROTATION

**SOLUZIONE** / TYPE **A**

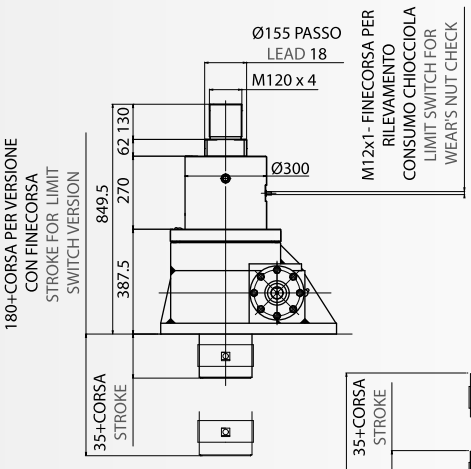



**SOLUZIONE** / TYPE **B**

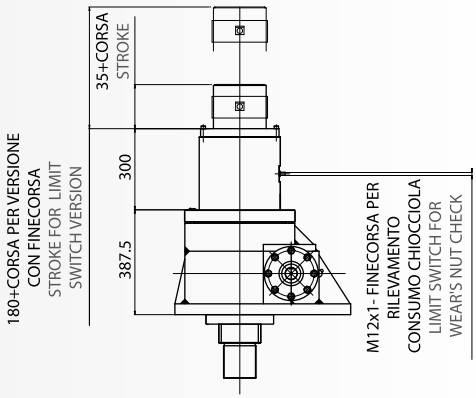



**VERSIONE** / VERSION **VT**
**CON ANTIROTAZIONE** / WITH ANTIROTATION

**SOLUZIONE** / TYPE **A**



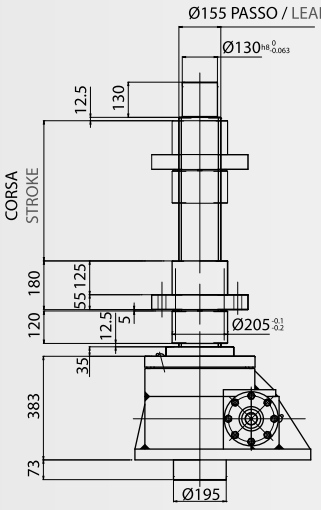

**SOLUZIONE** / TYPE **B**



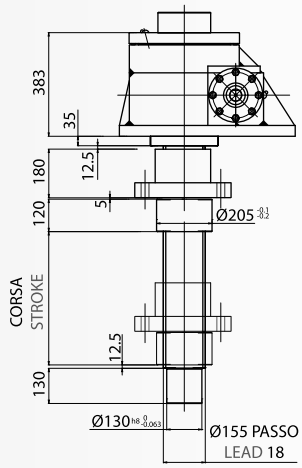

**SEP 1000 T VR....A(B)....SS**
**SS - CHIOCCIOLA DI SICUREZZA** / SAFETY NUT

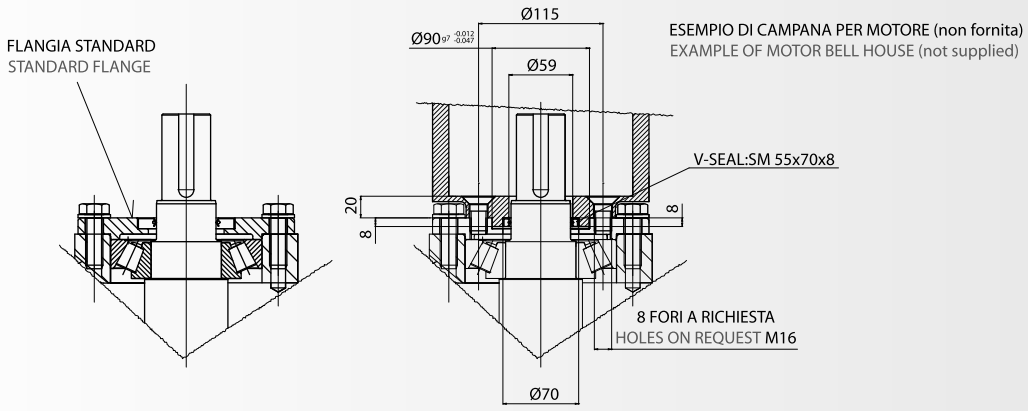
**VERSIONE** / VERSION **VR**

**SOLUZIONE** / TYPE **A**




**SOLUZIONE** / TYPE **B**

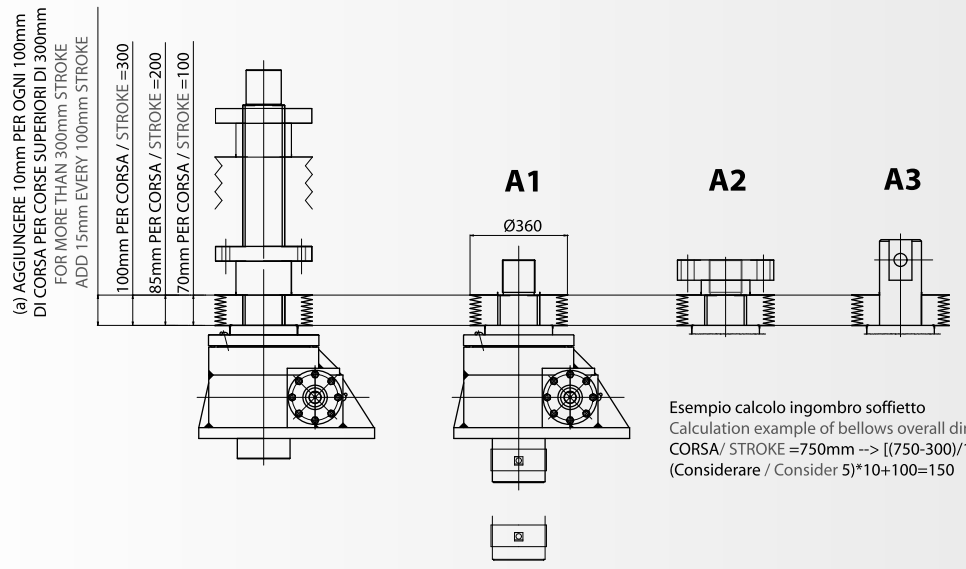







**VITE ROTANTE** / ROTATING SCREW **VR**

**VITE TRASLANTE** / TRAVELLING SCREW **VT**




Esempio calcolo ingombro soffietto
Calculation example of bellows overall dimensions:
CORSA/ STROKE =750mm --> [(750-300)/100]=4.5
(Considerare / Consider 5)*10+100=150

**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.

**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.

## 2.15.0 SPECIFICHE TECNICHE — 2.15.0 TECHNICAL FEATURES

**VT - VITE TRASLANTE / TRAVELLING SCREW JACK Ø 180mm - Passo / Lead 25**

**VR - VITE ROTANTE / ROTATING SCREW JACK Ø 180mm - Passo / Lead 25**

**SPECIFICHE TECNICHE SEP 1500 Vite Quadra Traslante - Rotante Ø 180mm / TECHNICAL FEATURES SEP 1500 Squared Screw Travelling - Rotating Screw Jack Ø 180mm**

| Rapporto / Ratio | 11,66 | | | | | 35 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Passo / Lead [mm] | 25 | | | | | | | | | |
| Velocità sollevamento "V" Lifting speed [mm/min] | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ | [rpm] $n_i$ | Rend Effic Efficiency $\eta_{eff}$ | Rend Avv Start-up efficiency $\eta_{avv}$ | nr. Fisso Fixed nr. $\xi$ | coeff di Coppia Torque coeff $\chi$ |
| 10 | 5 | 0,153 | | 2,231 | 1,093 | 14 | 0,105 | | 1,083 | 1,105 |
| 50 | 23 | 0,154 | | 2,217 | 1,100 | 70 | 0,107 | | 1,063 | 1,126 |
| 100 | 47 | 0,155 | | 2,203 | 1,107 | 140 | 0,111 | | 1,025 | 1,168 |
| 150 | 70 | 0,157 | | 2,175 | 1,121 | 210 | 0,114 | | 0,998 | 1,200 |
| 200 | 93 | 0,158 | | 2,161 | 1,129 | 280 | 0,117 | | 0,972 | 1,232 |
| 250 | 117 | 0,159 | | 2,147 | 1,136 | 350 | 0,12 | | 0,948 | 1,263 |
| 300 | 140 | 0,160 | | 2,134 | 1,143 | 420 | 0,123 | | 0,925 | 1,295 |
| 350 | 163 | 0,161 | | 2,121 | 1,150 | 490 | 0,126 | | 0,903 | 1,326 |
| 400 | 187 | 0,162 | | 2,107 | 1,157 | 560 | 0,129 | | 0,882 | 1,358 |
| 450 | 210 | 0,163 | | 2,095 | 1,164 | 630 | 0,132 | | 0,862 | 1,389 |
| 500 | 233 | 0,164 | | 2,082 | 1,171 | 700 | 0,135 | | 0,843 | 1,421 |
| 550 | 257 | 0,165 | | 2,069 | 1,179 | 770 | 0,138 | | 0,824 | 1,453 |
| 600 | 280 | 0,166 | | 2,057 | 1,186 | 840 | 0,142 | | 0,801 | 1,495 |
| 650 | 303 | 0,167 | | 2,044 | 1,193 | 910 | 0,145 | | 0,784 | 1,526 |
| 700 | 326 | 0,168 | | 2,032 | 1,200 | 980 | 0,148 | | 0,769 | 1,558 |
| 750 | 350 | 0,170 | | 2,008 | 1,214 | 1050 | 0,151 | | 0,753 | 1,589 |
| 800 | 373 | 0,171 | | 1,997 | 1,221 | 1120 | 0,154 | | 0,739 | 1,621 |
| 850 | 396 | 0,172 | 0,14 | 1,985 | 1,229 | 1190 | 0,157 | 0,095 | 0,724 | 1,653 |
| 900 | 420 | 0,173 | | 1,973 | 1,236 | 1260 | 0,16 | | 0,711 | 1,684 |
| 950 | 443 | 0,174 | | 1,962 | 1,243 | | | | | |
| 1000 | 466 | 0,175 | | 1,951 | 1,250 | | | | | |
| 1100 | 513 | 0,177 | | 1,929 | 1,264 | | | | | |
| 1200 | 560 | 0,179 | | 1,907 | 1,279 | | | | | |
| 1300 | 606 | 0,181 | | 1,886 | 1,293 | | | | | |
| 1400 | 653 | 0,184 | | 1,856 | 1,314 | | | | | |
| 1500 | 700 | 0,186 | | 1,836 | 1,329 | | | | | |
| 1600 | 746 | 0,188 | | 1,816 | 1,343 | | | | | |
| 1700 | 793 | 0,190 | | 1,797 | 1,357 | | | | | |
| 1800 | 840 | 0,192 | | 1,778 | 1,371 | | | | | |
| 1900 | 886 | 0,195 | | 1,751 | 1,393 | | | | | |
| 2000 | 933 | 0,197 | | 1,733 | 1,407 | | | | | |
| 2100 | | | | | | | | | | |
| 2200 | | | | | | | | | | |
| 2300 | | | | | | | | | | |

**COPPIA E POTENZA RICHIESTA IN INGRESSO AL MARTINETTO / REQUIRED INPUT TORQUE AND POWER**

**Coppia utile al sollevamento** *(in condizioni dinamiche)* - [Nm];
**Feff:** carico da sollevare [kN]; **$\eta_{eff}$:** rendimento efficace;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio); **$\xi$:** Nr. fisso equivalente.

$$C_u = F_{eff} \cdot \xi$$

**Coppia utile all'avviamento** *(in condizioni statiche)* - [Nm]
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$\chi$:** coeff. di coppia (*è un coeff. moltiplicativo che tiene conto della riduzione del rendimento all'avviamento).*

$$C_{avv} = C_u \cdot \chi = F_{eff} \cdot \xi \cdot \chi$$

**Potenza utile** *(in condizioni dinamiche)* - [KW];
**Feff:** carico da sollevare [kN]; **$\xi$:** Nr. fisso equivalente;
**Cu:** coppia utile [Nm]; **$n_i$ =** velocità di rotazione in ingresso al martinetto per avere la vel. di sollevamento "V" desiderata.

$$P_u = \frac{C_u \cdot n_i}{9549} = \frac{F_{eff} \cdot \xi \cdot n_i}{9549}$$

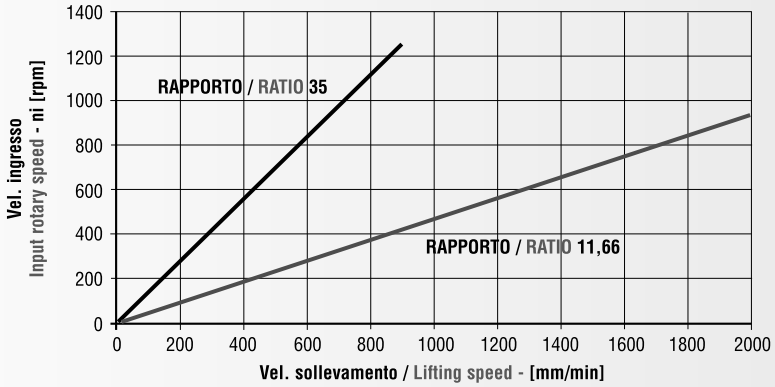
**Lifting input torque** *(in dynamic condition)* - [Nm];
**Feff:** load to lift [kN]; **$\eta_{eff}$:** efficiency;
**p:** screw lead [mm]; **i:** ratio; **$\xi$:** fixed number.

**Starting input torque** *(in static condition)* - [Nm];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm]; **$\chi$:** torque coefficient (it's a multiplying factor that takes in account the lower start-up efficiency).

**Input power** *(in dynamic condition)* - [KW];
**Feff:** load to lift [kN]; **$\xi$:** fixed number;
**Cu:** input torque [Nm];
**$n_i$ =** rotary input speed according to lifting speed "V".

## PRESTAZIONI SEP 1500 Vitone Quadro Ø 180mm - Passo 25 / PERFORMANCE SEP 1500 Squared Screw Ø 180mm - Lead 25

**Velocità di sollevamento in funzione della velocità in ingresso** / Lifting speed versus rotary input speed




## CALCOLO DI VELOCITÀ DI SOLLEVAMENTO "V" / LIFTING SPEED "V" CALCULATION

$$V = \frac{n_i \cdot p}{i}$$

$$n_i = \frac{V \cdot i}{p}$$

**Velocità di sollevamento "V"**- [mm/min];
**ni** = velocità di rotazione in ingresso al martinetto;
**p:** passo vitone [mm]; **i:** rapporto di riduzione (ratio).

**Lifting speed "V"**- [mm/min];
**ni** = input rotary speed;
**p:** screw lead [mm]; **i:** ratio.

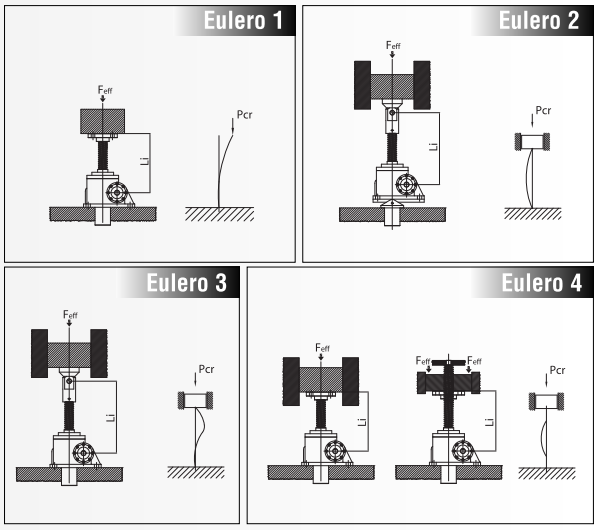
## VERIFICHE DIMENSIONAMENTO / SIZING CHECK

**N.B. Il carico da sollevare non deve mai superare il valore MAX consentito.**

**NOTE: the load to lift must never exceed the maximum capacity of the screw jack.**

### 1. Verifica a carico di punta sulla base della corsa del martinetto / Buckling load

| TIPO / TYPE | | | | | SEP 1500 T | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] | (Li) Lunghezza inflessione / Deflection lenght [mm] | | | | Pcr [kN] |
| Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | | Eulero 1 | Eulero 2 | Eulero 3 | Eulero 4 | |
| 100 | 200 | 283 | 400 | 1500,00 | 1150 | 2300 | 3253 | 4600 | 1444,59 |
| 125 | 250 | 354 | 500 | 1500,00 | 1200 | 2400 | 3394 | 4800 | 1428,13 |
| 150 | 300 | 424 | 600 | 1500,00 | 1250 | 2500 | 3536 | 5000 | 1411,77 |
| 175 | 350 | 495 | 700 | 1500,00 | 1300 | 2600 | 3677 | 5200 | 1395,21 |
| 200 | 400 | 566 | 800 | 1500,00 | 1350 | 2700 | 3818 | 5400 | 1378,25 |
| 225 | 450 | 636 | 900 | 1500,00 | 1400 | 2800 | 3960 | 5600 | 1362,29 |
| 250 | 500 | 707 | 1000 | 1500,00 | 1450 | 2900 | 4101 | 5800 | 1345,82 |
| 275 | 550 | 778 | 1100 | 1500,00 | 1500 | 3000 | 4243 | 6000 | 1329,36 |
| 300 | 600 | 849 | 1200 | 1500,00 | 1600 | 3200 | 4525 | 6400 | 1296,44 |
| 325 | 650 | 919 | 1300 | 1500,00 | 1700 | 3400 | 4808 | 6800 | 1263,52 |
| 350 | 700 | 990 | 1400 | 1500,00 | 1800 | 3600 | 5091 | 7200 | 1208,90 |
| 375 | 750 | 1061 | 1500 | 1500,00 | 1900 | 3800 | 5374 | 7600 | 1085,00 |
| 400 | 800 | 1131 | 1600 | 1500,00 | 2000 | 4000 | 5657 | 8000 | 979,21 |
| 425 | 850 | 1202 | 1700 | 1500,00 | 2100 | 4200 | 5940 | 8400 | 881,70 |
| 450 | 900 | 1273 | 1800 | 1500,00 | 2250 | 4500 | 6364 | 9000 | 773,70 |
| 475 | 950 | 1344 | 1900 | 1500,00 | 2400 | 4800 | 6788 | 9600 | 680,01 |
| 500 | 1000 | 1414 | 2000 | 1500,00 | 2550 | 5100 | 7212 | 10200 | 602,36 |
| 550 | 1100 | 1556 | 2200 | 1500,00 | 2700 | 5400 | 7637 | 10800 | 537,29 |
| 600 | 1200 | 1697 | 2400 | 1500,00 | 2850 | 5700 | 8061 | 11400 | 482,22 |
| 650 | 1300 | 1838 | 2600 | 1500,00 | 3000 | 6000 | 8485 | 12000 | 435,21 |
| 700 | 1400 | 1980 | 2800 | 1500,00 | 3150 | 6300 | 8910 | 12600 | 394,74 |
| 750 | 1500 | 2121 | 3000 | 1500,00 | 3300 | 6600 | 9334 | 13200 | 359,67 |
| 800 | 1600 | 2263 | 3200 | 1500,00 | 3550 | 7100 | 10041 | 14200 | 310,80 |
| 850 | 1700 | 2404 | 3400 | 1500,00 | 3800 | 7600 | 10748 | 15200 | 271,25 |
| 900 | 1800 | 2546 | 3600 | 1500,00 | 4050 | 8100 | 11455 | 16200 | 238,80 |
| 950 | 1900 | 2687 | 3800 | 1500,00 | 4300 | 8600 | 12162 | 17200 | 211,84 |
| 1000 | 2000 | 2828 | 4000 | 1493,98 | 4550 | 9100 | 12869 | 18200 | 189,20 |
| 1050 | 2100 | 2970 | 4200 | 1477,52 | 4800 | 9600 | 13576 | 19200 | 170,00 |
| 1100 | 2200 | 3111 | 4400 | 1461,05 | 5050 | 10100 | 14284 | 20200 | 153,59 |




### 2. Verifica della CAPACITÀ TERMICA del martinetto (valori riferiti a Tamb = 20°C - vedi Par. 1.5.5) / Thermal capacity (values referred to an environment temperature Tamb = 20°C - see Par. 1.5.5)

| TIPO / TYPE | SEP 1500 T | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERMITTENZA / DUTY CYCLE % per / for 10 min | 10 | 20 | 40 | 60 | 73 | 82 | 87 | 92 | 95 | 97 | 100 |
| RAPPORTO / RATIO | CT N.B. Deve risultare / Must be | | | | CT ≥ Feff • V | | | | Feff [kN] - V [mm/min] | | |
| 11,66 | 315611 | 236708 | 157805 | 105204 | 78903 | 63122 | 52602 | 45087 | 39451 | 35068 | 31561 |
| 35 | 235499 | 176625 | 117750 | 78500 | 58875 | 47100 | 39250 | 33643 | 29437 | 26167 | 23550 |

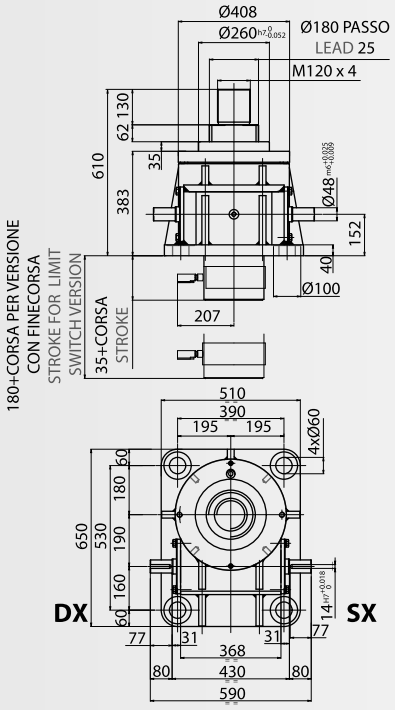
**N.B.** Qualora CT risulti inferiore al prodotto Feff V ridurre i dati operativi o provvedere alla scelta di una taglia superiore.

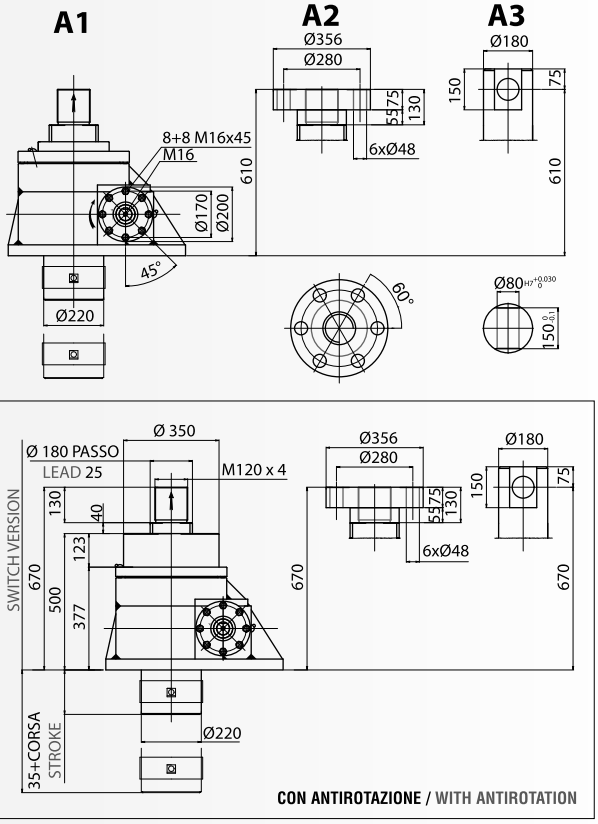
**NOTE:** if CT is lower than the product of Feff V reduce the operating parameters er screw jack size.

## 2.15.1 SCHEMI DIMENSIONALI

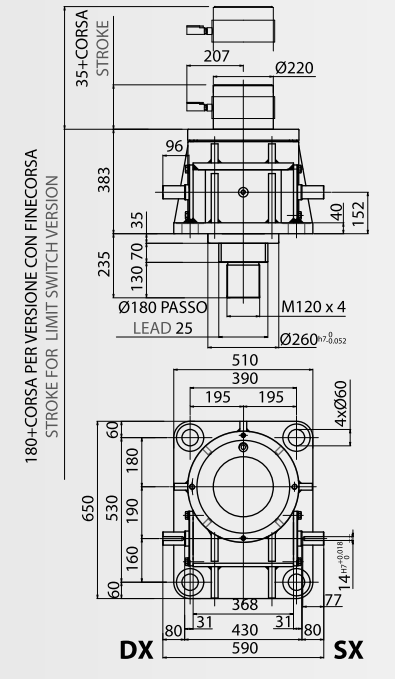
## 2.15.1 OVERALL DIMENSIONS

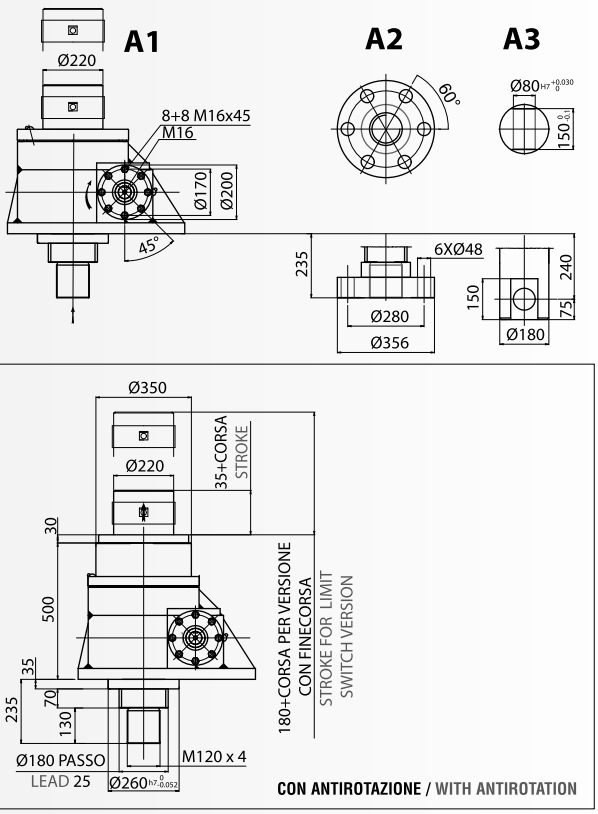
**SEP 1500 T VT ... A**

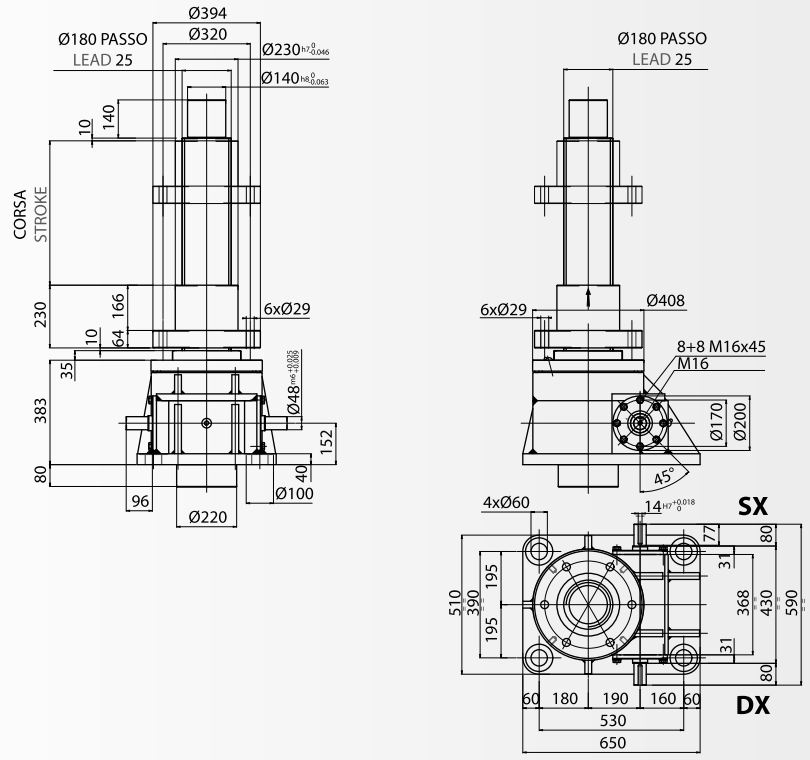


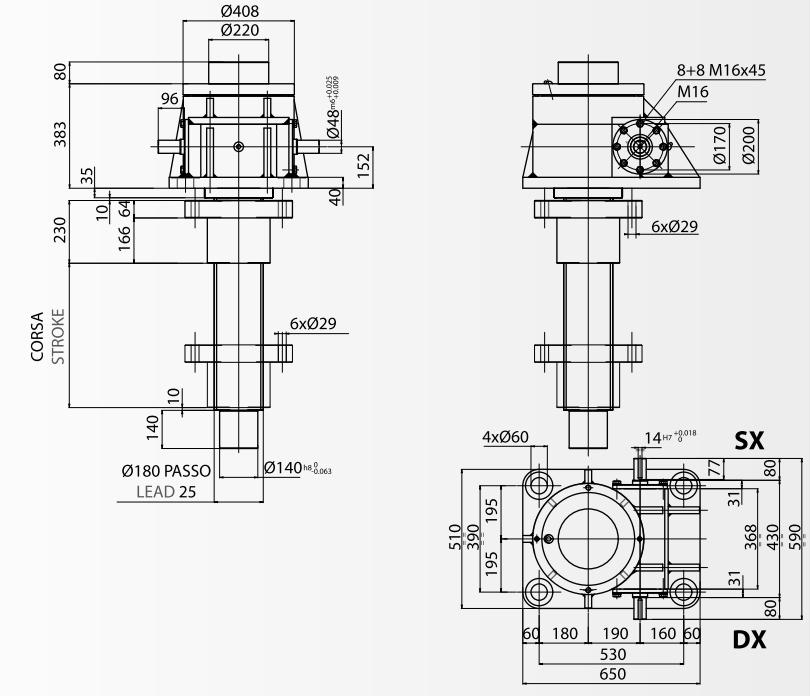

**SEP 1500 T VT ... B**






SEP 1500 T VR ... A



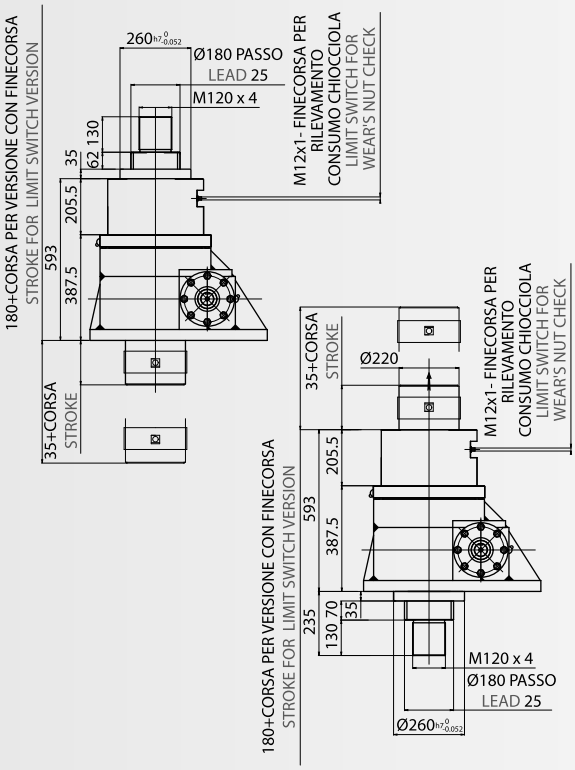

SEP 1500 T VR ... B

**SCHEMI DIMENSIONALI** / OVERALL DIMENSIONS

**SEP 1500 T VT ....A(B)....SS**
**SS - CHIOCCIOLA DI SICUREZZA** / SAFETY NUT

**VERSIONE** / VERSION **VT**
**SENZA ANTIROTAZIONE** / WITHOUT ANTIROTATION

**SOLUZIONE** / TYPE

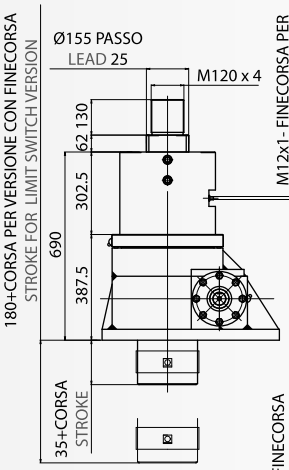



**SOLUZIONE** / TYPE **B**

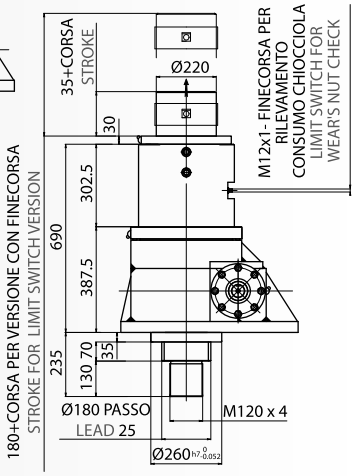



**VERSIONE** / VERSION **VT**
**CON ANTIROTAZIONE** / WITH ANTIROTATION

**SOLUZIONE** / TYPE **A**



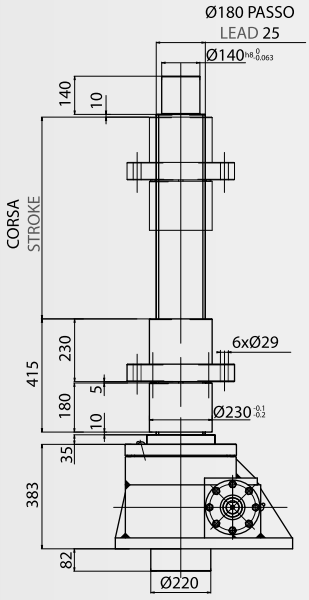

**SOLUZIONE** / TYPE **B**



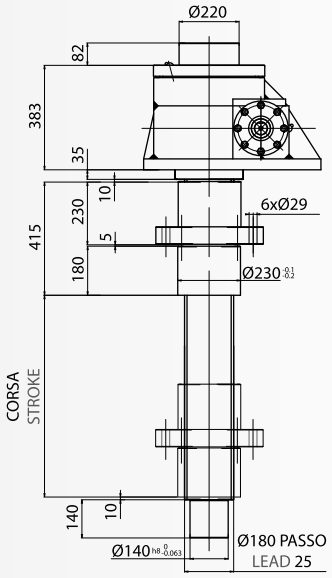

**SEP 1500 T VR....A(B)....SS**
**SS - CHIOCCIOLA DI SICUREZZA** / SAFETY NUT

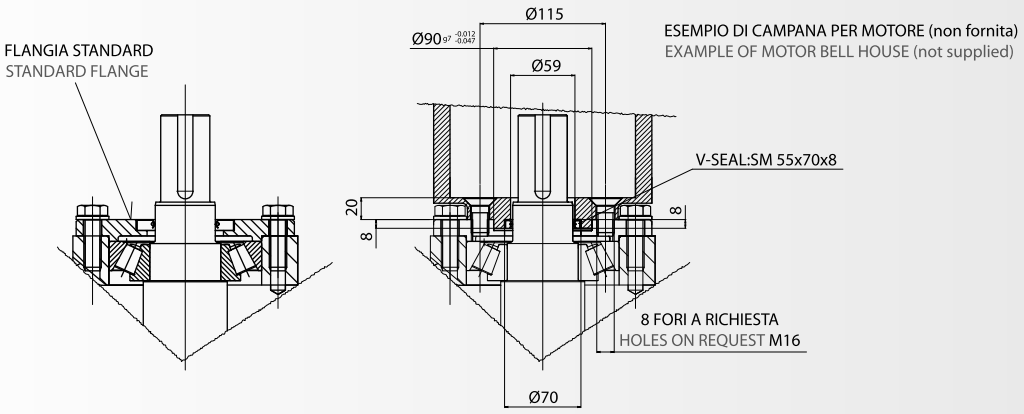
**VERSIONE** / VERSION **VR**

**SOLUZIONE** / TYPE **A**



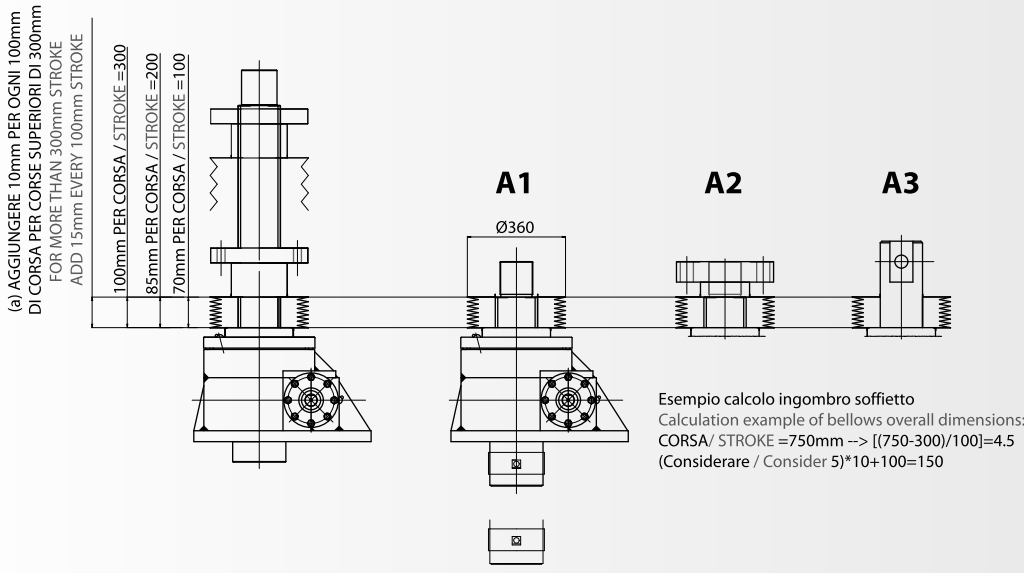

**SOLUZIONE** / TYPE **B**








**VITE ROTANTE / ROTATING SCREW VR** **VITE TRASLANTE / TRAVELLING SCREW VT**




**NOTA:** gli schemi per semplicità rappresentano il soffietto nelle sole versioni base ma può essere impiegato in tutte le versioni; la quota (a) è valida per tutte le versioni.

**NOTE:** drawings represent just elastic bellows in jack screw base versions but they are available in each version; (a) dimension is the same for each version.