



**Motor Supports:  
Elastic Bases for the automatic  
tensioning of belt transmissions.**



**Our products grant:**

- High efficiency
- No maintenance
- High vibration absorption
- Correct belts tensioning



**Tecnidea Cidue proposes innumerable innovative solutions,  
in fact a lot of our products are patented!**



**TECNIDEA CIDUE S.r.l.**



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## MOTOR BASES

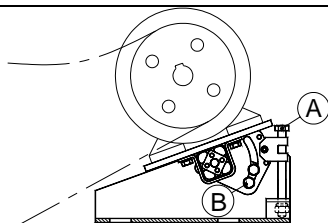
The motor bases are mainly used to automatically recover the stretches of the belts and to hinder the static torques during the starting of the engines. These motor supports take advantage of the same technologie of the CRESA tensioner and the VIB elastic elements to develop a torque moment that keeps always the belts in tension. The motor bases can be applied at the engines in the field included between 0.75 kW and 250 kW.

In the belt transmission the torque of the engine is propagated only by the friction, created between the driving pulley and the same belts. It is more important, for this reason, that on the belts there is still present a tension that allows to keep an enough friction force in order to avoid the slidings on the pulley.

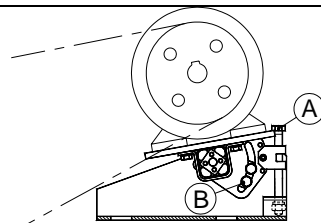
These slidings can cause both an irregular transmission of the torque and a sudden wear of the belts and pulleys. The automatic motor bases allow therefore to keep a constant tension on the belts, avoiding manual adjustments with the relative economic expenditure both for the operator intervention and for the machine stops.

The motor supports are largely used in the motorization of the screens, crushers and stirrers, in which the operation of a eccentric, for the handling of the vibrating box, causes more vibrations and continuous changes of the distance between the centres between the driving pulley and driven one. It is for this reason inevitable the use of an elastic motor support that allows to absorb the vibrations and to keep always constant the tension on the belts.

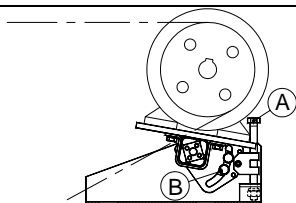
Assembly instructions (Example: Elastic Motor Support 70):



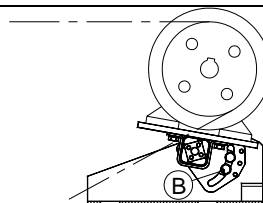
1) With slack B bolts, You have to incline the motor support by the A screw. This position of the motor will help You in the installation of the belts on the pulleys.



2) With slack B bolts, You have to start the preloading phase by the A screw.

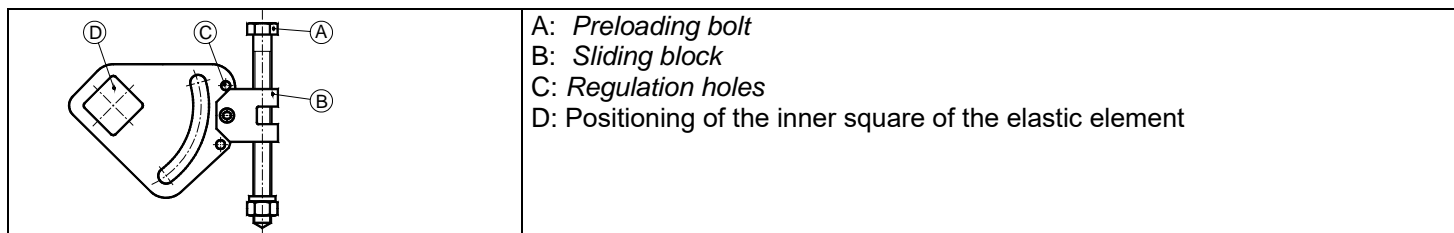


3) With slack B bolts, You have to go on with the preloading by the A screw as far as the inner elastic element will not turn at the warned position (lower than 30° of rotation).



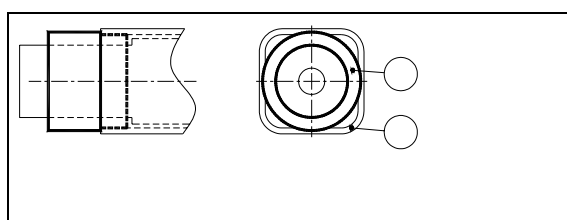
4) You have to fix the B bolts and remove the prealoding A screw first the operation of the motor.

Sistema di precarica per Supporti motori elastici: / Preloading system for elastic motor supports:



To preload the motor support (70 and 90 sizes) You have to position the sliding block (B) on the regulation hole (C) that is more suitable to the geometry of the transmission, then turning the preloading bolt (A), the plate leads in rotation the inner square (D) of the elastic elements.

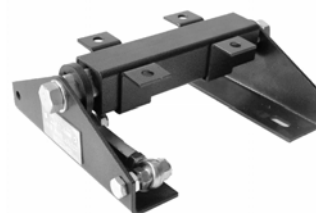
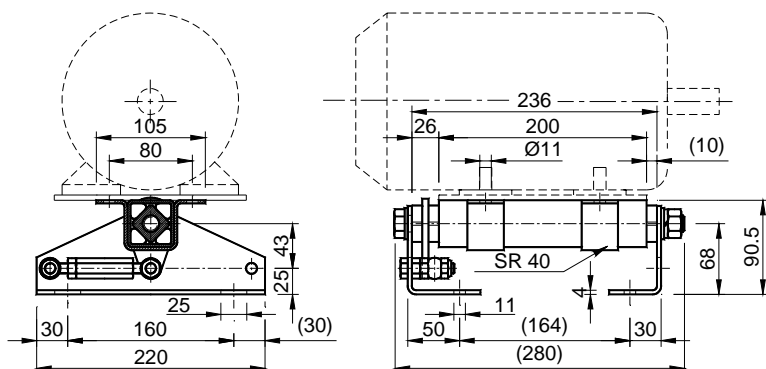
Cardanic supporting device:



The 70 and 90 motor supports have, in the side on which is assembled the pulley, a reinforcement between the inner square and the external tube of the elastic element with the purpose to hold up the tension of the belts, especially at the starting, in presence of an high static torque. This support, therefore, has the feature to hold up the cardanic moment that tends to a disalignement of the inner and of the external square of the elastic element. For this reason in the assembly operations of the motor support You will have especially to take attention that the cardanic support will be positioned on the same side of the driving pulley.

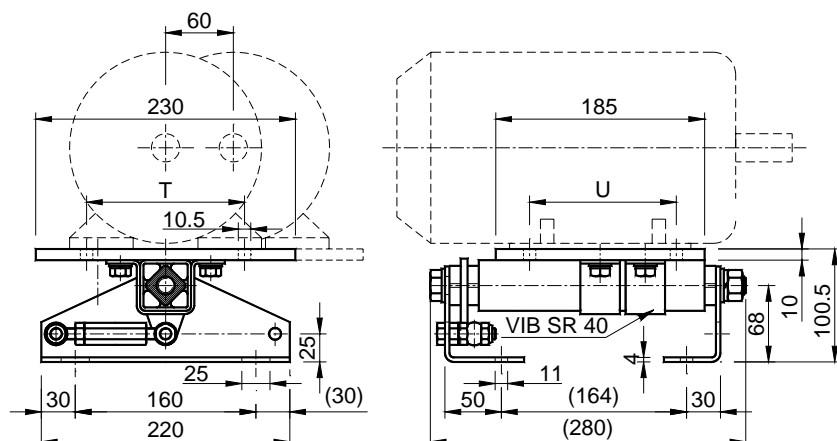
## Componenti Elastici **VIB** Tipo: **BM-T 40** / Elastic Components **VIB** Type: **BM-T 40**

Senza piastra motore: / Without motor plate:

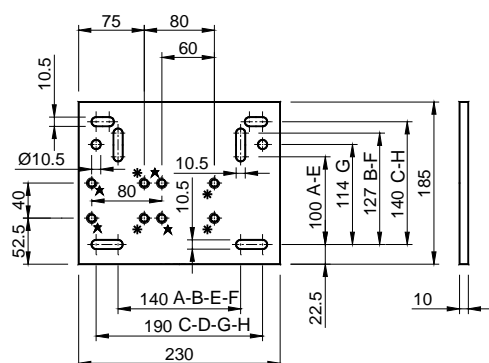


Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	3000 min <sup>-1</sup> kW	Weight in kg
<b>BM-T 40 x 80</b>	<b>RE022380</b>	D 90 S/L	0,75-1,10	1,10-1,50	1,50-2,20	4,00
<b>BM-T 40 x 120</b>	<b>RE022384</b>	D 100 L	1,50	2,20-3,00	3,00	4,30
<b>BM-T 40 x 200</b>	<b>RE022392</b>	D 112 M	2,20	4,00	4,00	4,50

## Elastic Components **VIB** Type: **BM-TP 40** / With motor plate:



Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	3000 min <sup>-1</sup> kW	T	U	Weight in kg
<b>BM-TP 40 x 80</b>	<b>RE022381</b>	D 90 S D 90 L	0,75-1,10	1,10-1,50	1,50-2,20	140 140	100 125	8,00
<b>BM-TP 40 x 120</b>	<b>RE022385</b>	D 100 L	1,50	2,20-3,00	3,00	160	140	8,30
<b>BM-TP 40 x 200</b>	<b>RE022393</b>	D 112 M	2,20	4,00	4,00	190	140	8,50



Weight in Kg: 4,0 Kg

The baseplate supporting the engine can be mounted in overhanging position of 60mm.

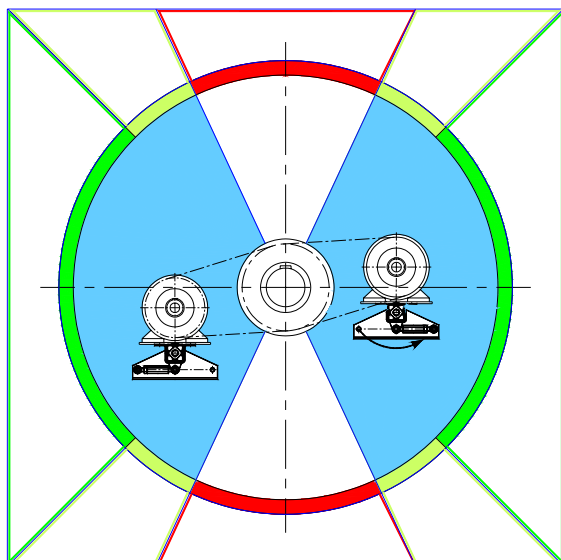
- A: Engine positioning D90 S
- B: Engine positioning D90 S
- C: Engine positioning D100 L
- D: Engine positioning D112 M
- E: / Engine positioning 143 T
- F: Engine positioning 145 T
- G: Engine positioning 182 T
- H: Engine positioning 184

- \*: Overhanging positioning
- ★: Central positioning



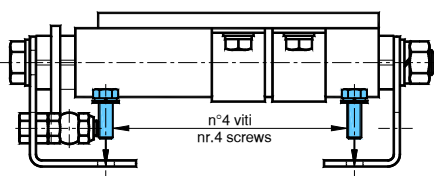
## Mounting instructions for BM-T 40

### 1) Ascertainment of the ideal motorbase position



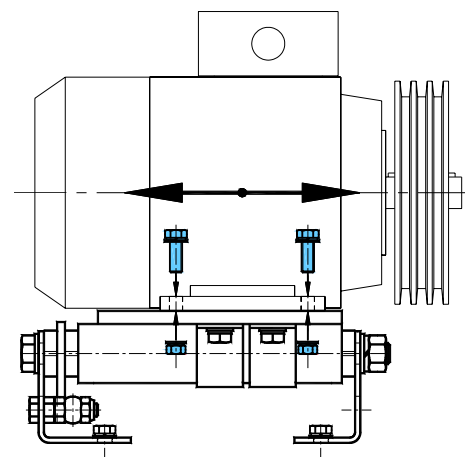
- Ideal position; longest tensioning travel
- Acceptable position; sufficient travel
- Not suggested; insufficient travel (contact Tecnidea Cidue)

### 2) Motor support fixation



Motor Base BM-T 40 must be fixed with four M10 screws. On the plate are given four oblong holes 11x25mm for the adjustment.

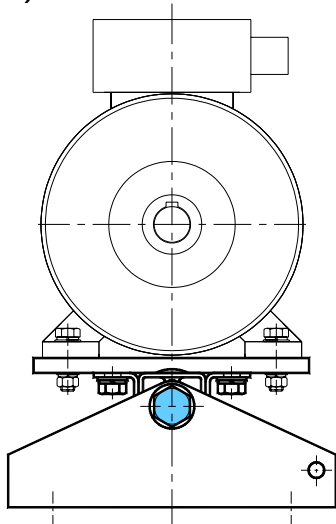
### 3) Alignment of pulleys and motor fixation



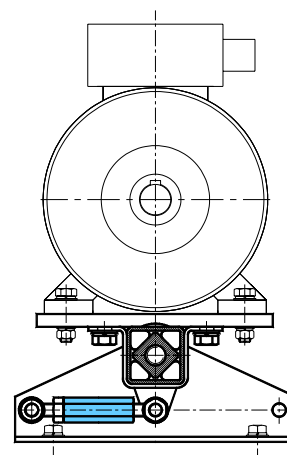
Motor must be mounted with at least four bolts. Be careful in aligning the driving pulley and the driven pulley.

### 5) Belts placement and preloading

#### 4) Loosen of the center screw

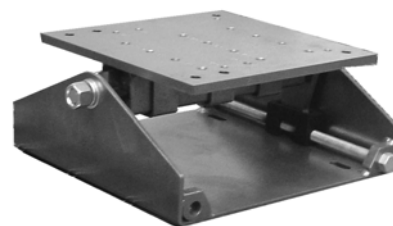
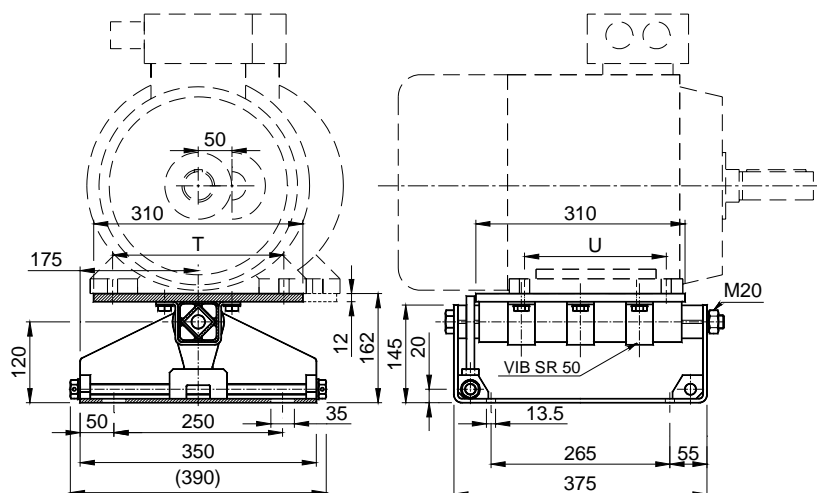


Loosen the central screw M16.



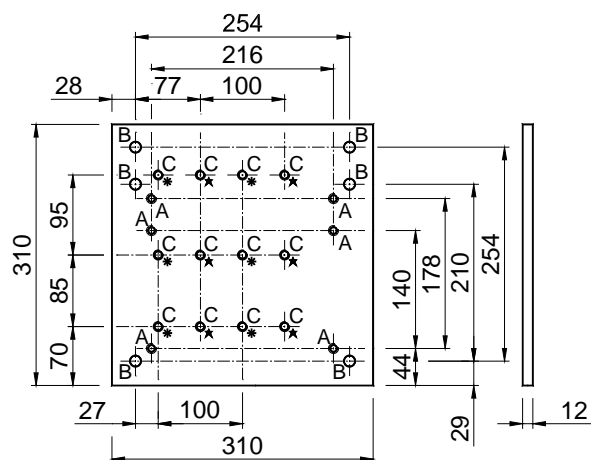
Adjust the belt tension by turning the preloading block. When finished, tighten the screw loosened in step 4 (M16 - 210 Nm).

## Elastic Components **VIB** Type: **BM-T 50**



Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	3000 min <sup>-1</sup> kW	A	B	C	T	U	Weight in kg
<b>BM-T 50 x 300</b>	<b>RE022395</b>	D 132 S	3,00	5,50	5,50-7,50	M10	-	M12	216	140	26,00
		D 132 M	4,00-5,50	7,50	-	M10	-	M12	216	178	
		D 160 M	7,50	11,00	11,00-15,00	-	Ø13	M12	254	210	
		D 160 L	11,00	15,00	18,50	-	Ø13	M12	254	254	

### Engine supporting baseplate for BM-T 50:



A: Engine positioning D132 S-M

B: Engine positioning D160 S-M

C: Fixing clamps VIB SR 50

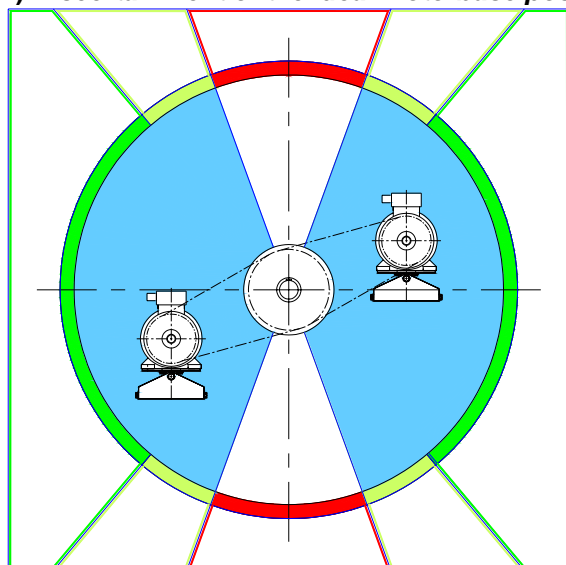
\*: Overhanging positioning

★: Central positioning

Weight in Kg: 9,5 Kg

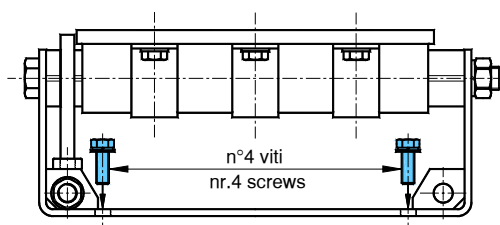
## I Mounting instructions for BM-T 50

### 1) Ascertainment of the ideal motorbase position



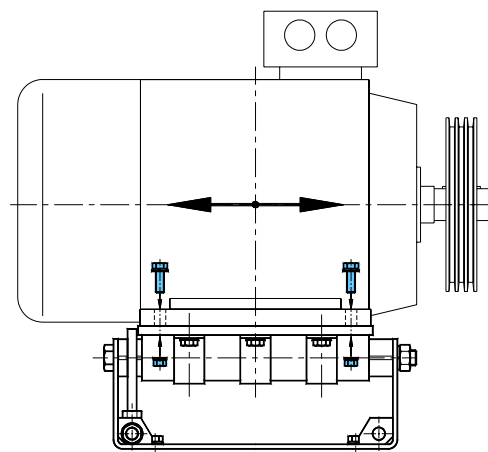
- Ideal position; longest tensioning travel
- Acceptable position; sufficient travel
- Not suggested; insufficient travel (contact Tecnidea Cidue)

### 2) Motor support fixation



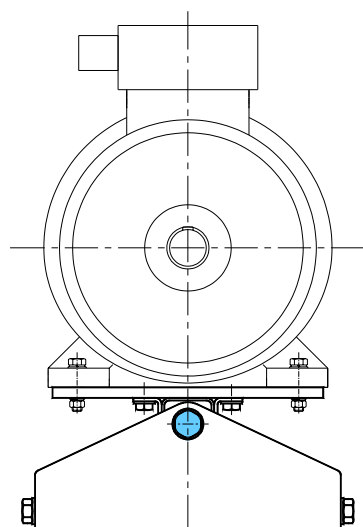
Motor Base BM-T 50 must be fixed with four M12 screws. On the plate are given four oblong holes 13.5x35mm for the adjustment.

### 3) Alignment of pulleys and motor fixation



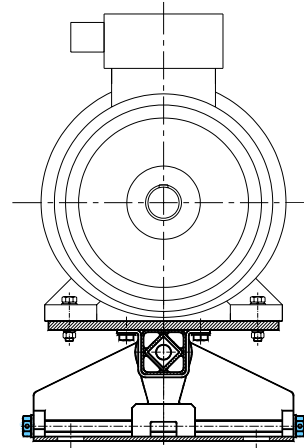
Motor must be mounted with at least four bolts. Be carefull in aligning the driving pulley and the driven pulley.

### 4) Loosen of the center screw



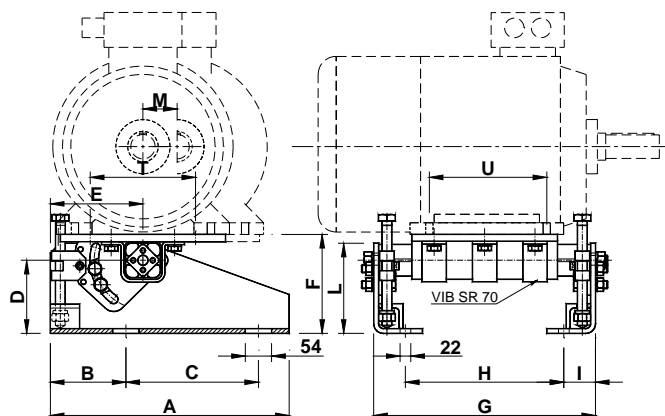
Loosen the  
central screw M20.

### 5) Belts placement and preloading



Adjust the belt tension by turning the preloading block .  
When finished , tighten the screw loosened in step 4 (M16 - 410 Nm ) .

## Elastic Components **VIB Type: BM-T 70**

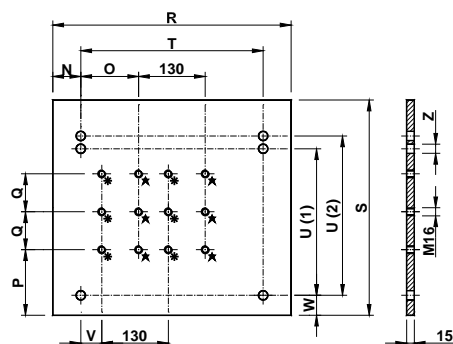


Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	3000 min <sup>-1</sup> kW	T	U	Weight in kg
<b>BM-T 70 x 160</b>	<b>RE022400</b>	D 132 S D 132 M	3,00 4,00-5,50	5,50 7,50	5,5-7,50 /	216 216	140 178	35,50
<b>BM-T 70 x 200</b>	<b>RE022404</b>	D 160 M D 160 L	7,50 11,00	11,00 15,00	11,00-15,00 18,50	254 254	210 254	40,70
<b>BM-T 70 x 270</b>	<b>RE022411</b>	D 180 M D 180 L	/ 15,00	18,50 22,00	22,00 /	279 279	241 279	45,10
<b>BM-T 70 x 400</b>	<b>RE022424</b>	D 200 L	18,50-22,00	30,00	30,00-37,00	318	305	54,10
<b>BM-T 70 x 500</b>	<b>RE022434</b>	D 225 S D 225 M	/ 30,00	37,00 45,00	/ 45,00	356 356	286 311	61,60

Type	A	B	C	D	E	F	G	H	I	L	M
<b>BM-T 70 x 160</b>	490	155	272	150	190	204	355	225	65	185	43
<b>BM-T 70 x 200</b>	490	155	272	150	190	204	455	325	65	185	45
<b>BM-T 70 x 270</b>	490	155	272	150	190	204	455	325	65	185	72
<b>BM-T 70 x 400</b>	490	155	272	150	190	204	555	425	65	185	72
<b>BM-T 70 x 500</b>	490	155	272	150	190	204	605	475	65	185	72

The baseplate supporting engine allows to assemble the engine in the central position, compared to the elastic component, and also overhanging (quota M).

### Engine supporting baseplate for BM-T 70:



Z: Engine positioning

\*: Overhanging positioning

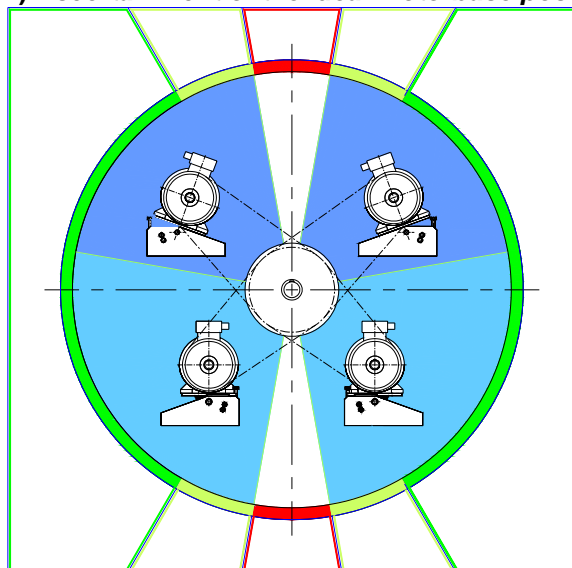
★: Central positioning

Type	N	O	P	Q	R	S	T	U(1)	U(2)	V	W	Z	Weight in kg
<b>BM-T 70 x 160</b>	26	43	64	120	270	230	216	140	178	/	24	M10	7,80
<b>BM-T 70 x 200</b>	28	62	69	130	310	310	254	210	254	17	29	Ø13	12,10
<b>BM-T 70 x 270</b>	35,5	74,5	74	80	350	350	279	241	279	2,5	34	Ø13	15,40
<b>BM-T 70 x 400</b>	43,5	94	85	55	405	375	318	267	305	22	34	Ø18	19,10
<b>BM-T 70 x 500</b>	54,5	113	54	74	465	420	356	286	311	41	39	Ø18	24,50



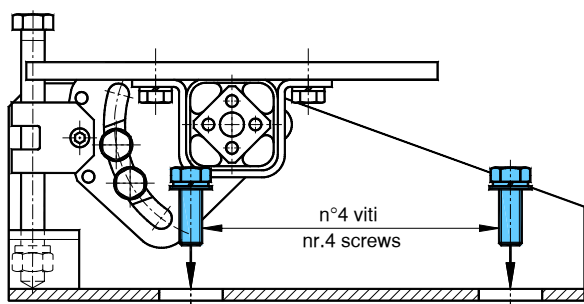
## Mounting instructions for BM-T 70

### 1) Ascertainment of the ideal motorbase position



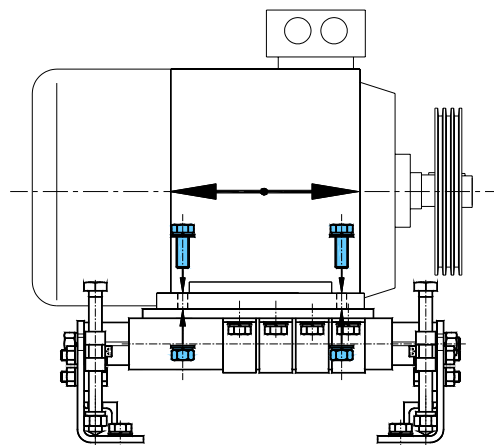
- Ideal position; longest tensioning travel
- Acceptable position; sufficient travel
- Not suggested; insufficient travel (contact Tecnidea Cidue)
- Operation area "above". Motor plate is inclined about 30°.
- Operation area "below". Motor plate is horizontal position.

### 2) Motor support fixation



Motor Base BM-T 90 must be fixed with four M20 screws. On the plate are given four oblong holes 22x54mm for the adjustment.

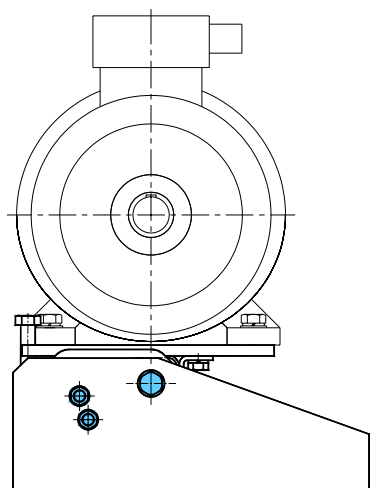
### 3) Alignment of pulleys and motor fixation



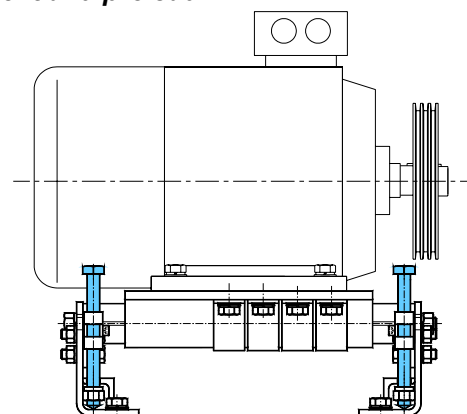
Motor must be mounted with at least four bolts. Be careful in aligning the driving pulley and the driven pulley.

### 4) Loosen of the center screws and of the lateral screws

#### Belt placement and preload

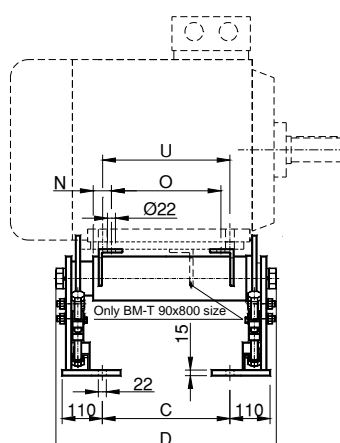
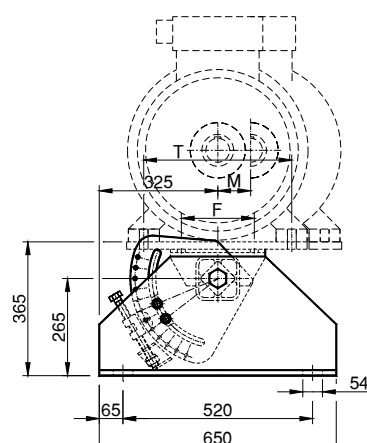


Loosen the central screws M20 and the lateral screws M16.



Adjust the belt tension by turning the preload screws. When finished, tighten the screws loosened in step 4 ( M30 - 1400 Nm / M16 - 210 Nm ).

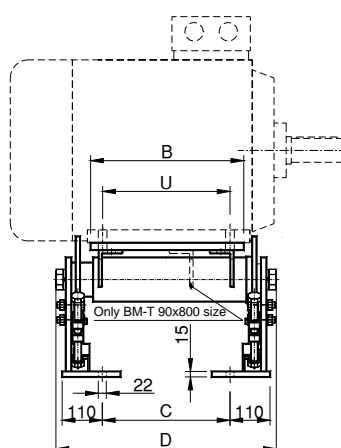
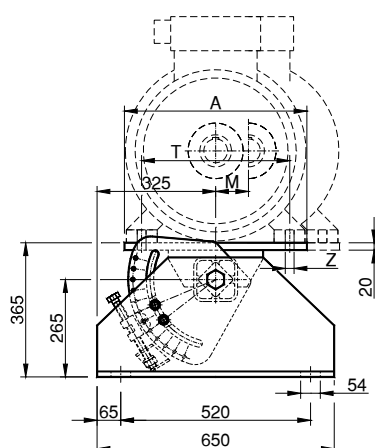
# Elastic Components **VIB Type: BM-T 90 Without motor plate:**



Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	C	D	F	M	N	O	T	U	Z	Weight in kg
<b>BM-T 90 x 400</b>	<b>RE022440</b>	D 250 M	37,00	55,00	350	595	200	50	50	300	406	349	22	117,80
<b>BM-T 90 x 550</b>	<b>RE022455</b>	D 280 S D 280 M	45,00 55,00	75,00 90,00	500	745	200	50	95	360	457 457	368 419	22 22	128,80
<b>BM-T 90 x 650</b>	<b>RE022465</b>	D 315 S	75,00	110,00	600	845	200	70	135	380	508	406	26	135,40
<b>BM-T 90 x 800</b>	<b>RE022470</b>	D 315 M D 315 L	90,00-110,00 110,00-160,00	132,00-160,00 160,00-200,00	723	968	200	70	135	503	508 508	457 508	28 28	150,00

The baseplate supporting the engine, is not supplied by Tecnidea Cidue. The engine could be overhanging assembled (quota M).

## With motor plate:

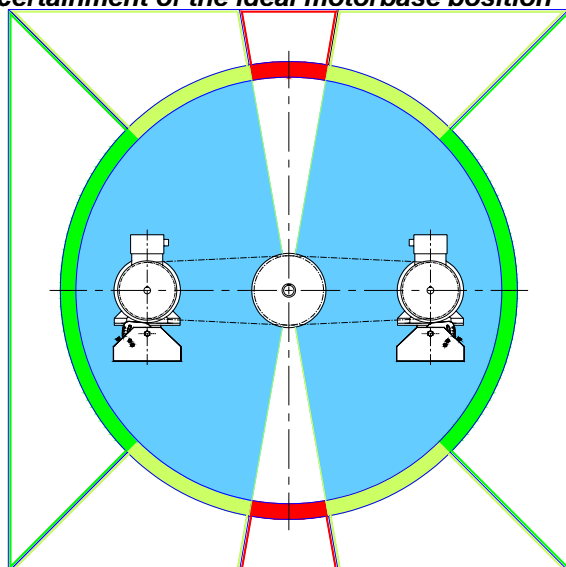


Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	A	B	C	D	M	T	U	Z	Weight in kg
<b>BM-TP 90 x 400</b>	<b>RE022441</b>	D 250 M	37,00	55,00	510	410	350	595	50	406	349	22	155,00
<b>BM-TP 90 x 550</b>	<b>RE022456</b>	D 280 S D 280 M	45,00 55,00	75,00 90,00	560	500	500	745	50	457 457	368 419	22 22	175,00
<b>BM-TP 90 x 650</b>	<b>RE022466</b>	D 315 S	75,00	110,00	630	570	600	845	70	508	406	26	195,00
<b>BM-TP 90 x 800</b>	<b>RE022471</b>	D 315 M D 315 L	90,00-110,00 110,00-160,00	132,00-160,00 160,00-200,00	630	750	723	968	70	508 508	457 508	28 28	225,00

The baseplate supporting the engine, is supplied by Tecnidea Cidue in "centered" configuration. The engine could be overhanging assembled (quota M) by the clients, with the threaded hole existent on plate.

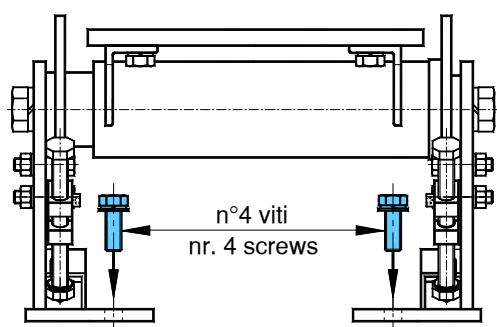
## Mounting instructions for BM-T 90

### 1) Ascertainment of the ideal motorbase position



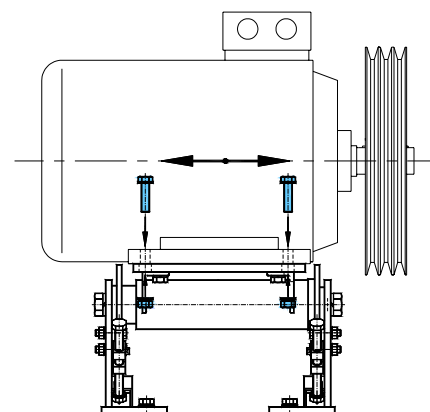
- Ideal position; longest tensioning travel
- Acceptable position; sufficient travel
- Not suggested; insufficient travel (contact Tecnidea Cidue)

### 2) Motor support fixation



Motor Base BM-T 90 must be fixed with four M20 screws. On the plate are given four oblong holes 22x54mm for the adjustment.

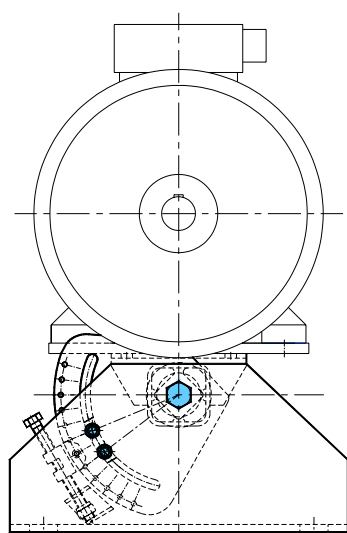
### 3) Alignment of pulleys and motor fixation



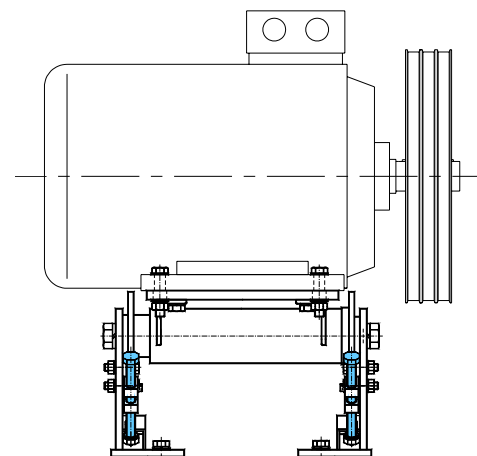
Motor must be mounted with at least four bolts. Be carefull in aligning the driving pulley and the driven pulley.

### 4) Loosen of the center screws and of the lateral screws

### 5) Belts placement and preloading

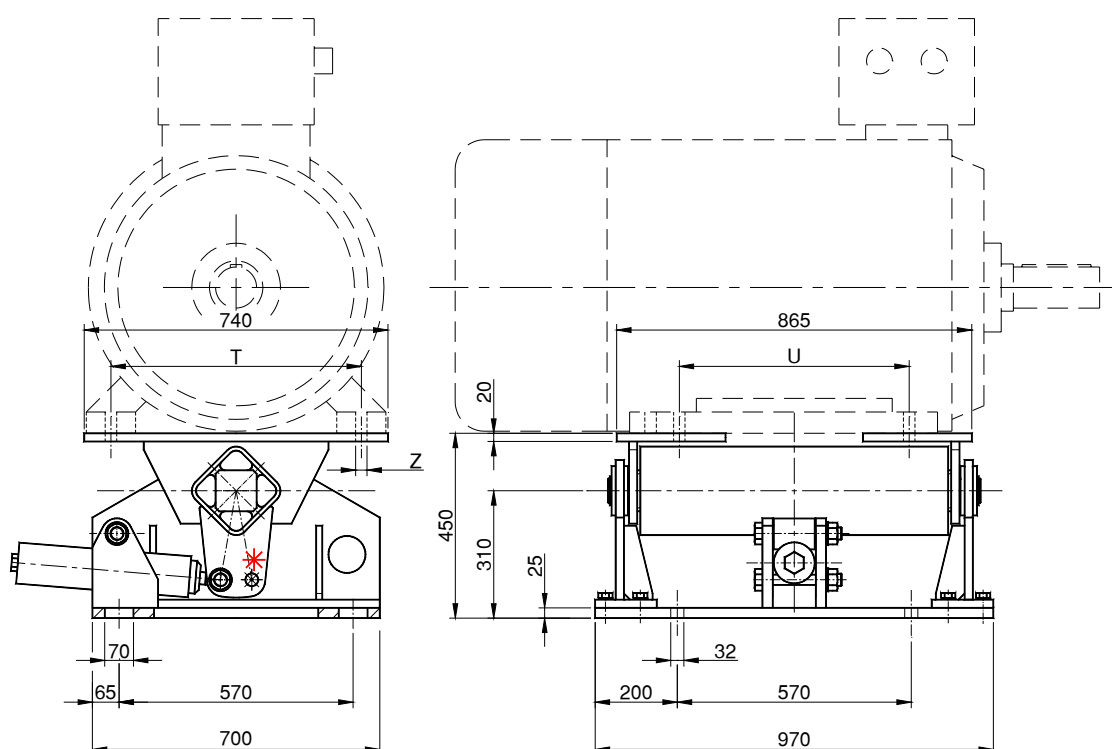


Loosen the central screws M30 and the lateral screws M16



Adjust the belt tension by turning the preload screws. When finished, tighten the screws loosened in step 4 ( M30 -1400 Nm / M16 - 210 Nm ).

Elastic Components **VIB Type: BM-T 110**



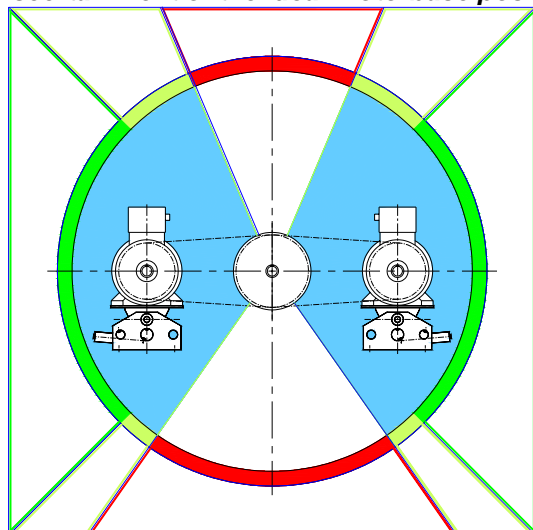
Type	Cod. N°	Motor Size	1000 min <sup>-1</sup> kW	1500 min <sup>-1</sup> kW	T	U	Z	Weight in kg
<b>BM-T 110 x 750</b>	<b>RE022474</b>	D 315 M	90-110	132-160	508	457	28	490
		D 315 L	110-160	160-200	508	508	28	
		D 355 S	132-160	200-250	610	500	28	
		D 355 M	200-250	250	610	560	28	
		D 315 L	200-250	250	610	630	28	



In order to take advantage of the max travel of the pre-tensioning, the pre-tensioning device should be fixed on the holes in front.

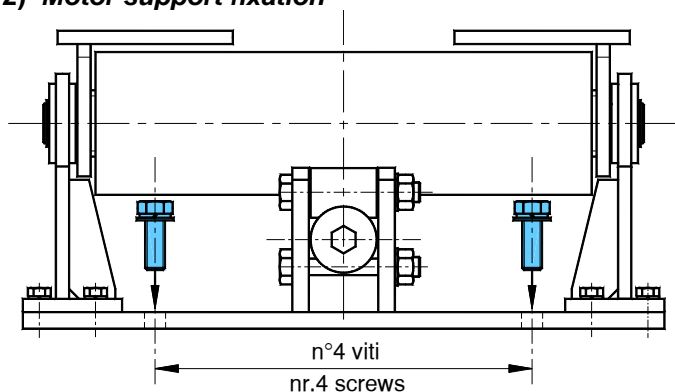
## Mounting instructions for BM-T 110

### 1) Ascertainment of the ideal motorbase position



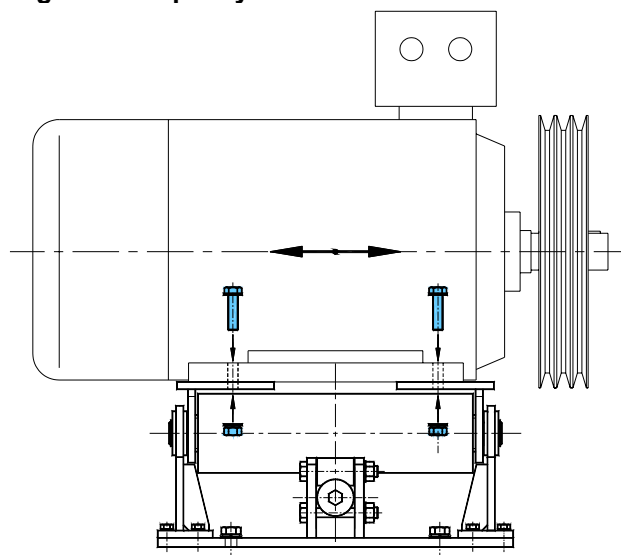
- Ideal position; longest tensioning travel
- Acceptable position; sufficient travel
- Not suggested; insufficient travel (contact Tecnidea Cidue)

### 2) Motor support fixation



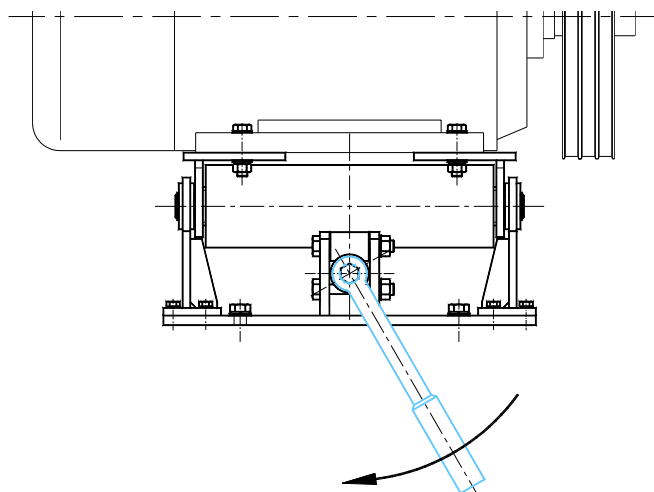
Motor Base BM-T 110x750 must be fixed with four M30 screws. On the plate are given four oblong holes 32x70mm for the adjustment.

### 3) Alignment of pulleys and motor fixation



Motor must be mounted with at least four bolts. Be carefull in aligning the driving pulley and the driven pulley.

### 3) Insert and tension the belts, control belt tensioning force



With an exagonal key screw the screw on the end of pre-tensioning device. Belt tension must be adjusted depending on suggestions provided by the belt manufacturer. Attention: do not release the pre-tensioning device when device is pre-tensioned.

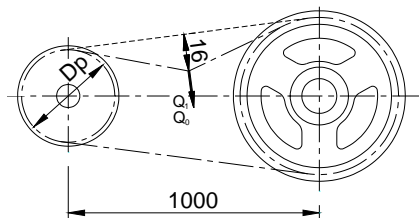


## Belt tensioning

V-Belt Type	Width [mm]	Height [mm]	Diam. of smaller pulley $D_p$ [mm]	Initial operation test-force $Q_1$ [N]	Operational test-force $Q_0$ [N]
XPZ, SPZ	10	8	56-71	20	16
			75-90	22	18
			95-125	25	20
			$\geq 125$	28	22
XPA, SPA	13	10	80-100	28	22
			106-140	38	30
			150-200	45	36
			$\geq 200$	50	40
XPB, SPB	16	13	112-160	50	40
			170-224	62	50
			236-355	77	62
			$\geq 355$	81	65
XPC, SPC	22	18	224-250	87	70
			265-355	115	92
			$\geq 375$	144	115
Z	10	6	56-100	5-7.5	
A	13	8	80-140	10-15	
B	17	11	125-200	20-30	
C	22	14	200-400	40-60	
D	32	19	355-600	70-105	

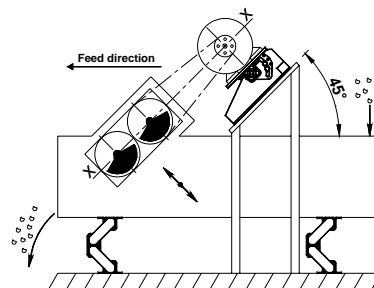
$Q_1$ : Initial operation test force given by guidelines of belt manufacturer

$Q_0$ : Operational test-force

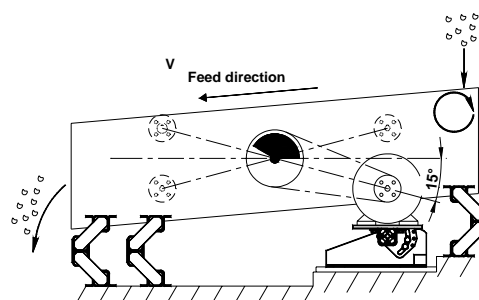


In order to obtain the ideal tension must be applied  $Q_1$  force in the middle of each section of the belt, verifying that the belt deflection is 16mm with an interaxial distance of 1000mm. The relevant deflection by shorter or longer centre distance has to be interpolated accordingly. After the first running in period, the belts lose resistance, therefore the operational test-force  $Q_0$  decreased around 20% compared  $Q_1$ .

## Usual positioning of the Motorbase in screen drive applications



Base plate center mounted on elastic element. Plate position horizontally on base. Installation of the entire base 45° inclined (aligned to exciter).



Base plate center mounted on elastic element. Plate position horizontally on base. Motor shaft min 15° above or below the driven eccentric shaft.