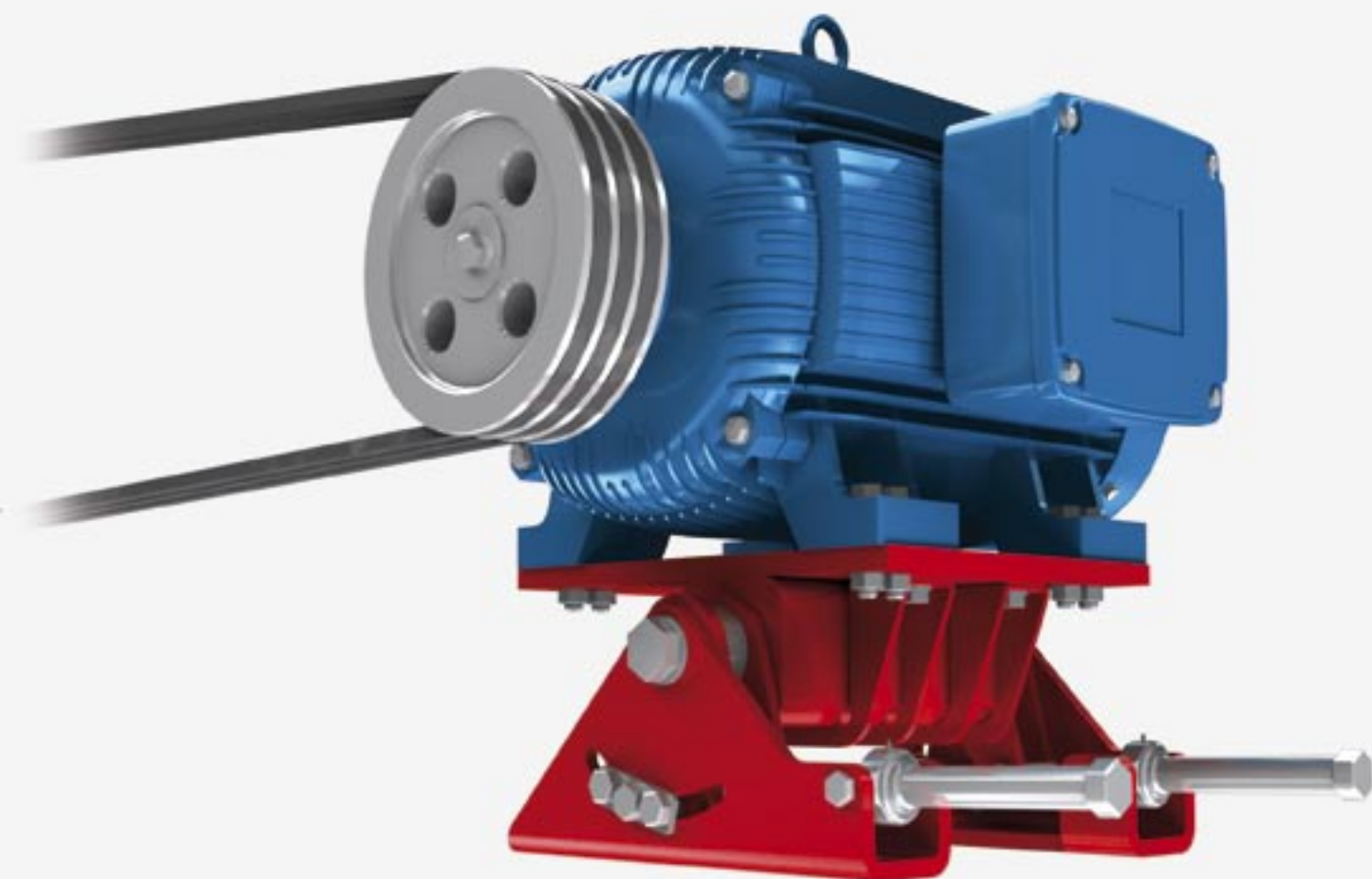




OSCILLATING
SYSTEMS
TECHNOLOGY



SELF-TENSIONING MOTOR BASE

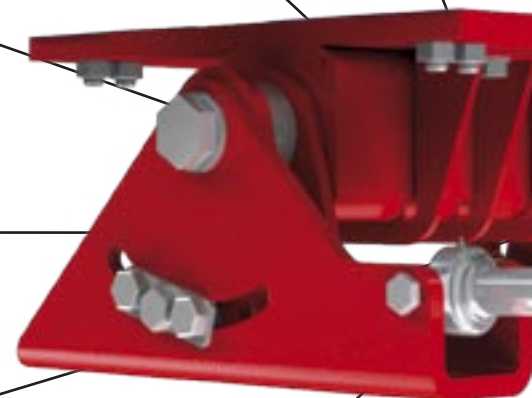


... an **efficient** transmission!

FOR MANY IT IS ALREADY

In the late eighties we got involved in the power transmission field. A leading mining Firm from Southern Africa requested that we identify the main causes of belt-slipping, frequent breakdowns, operative difficulties and high maintenance costs that resulted in poor efficiency of crushers, mills and pumps.

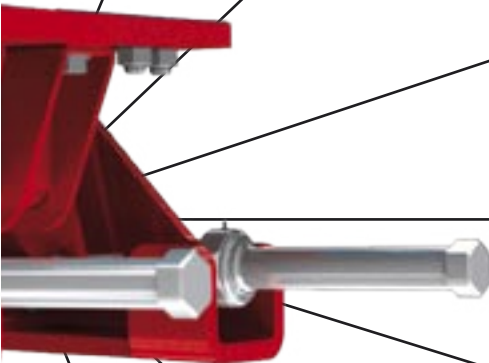
We developed our standard range of MB Motor Bases to meet with any transmission configuration that is powered by electric motors from frame size MEC 71 up to MEC 355.



A VALUABLE STANDARD

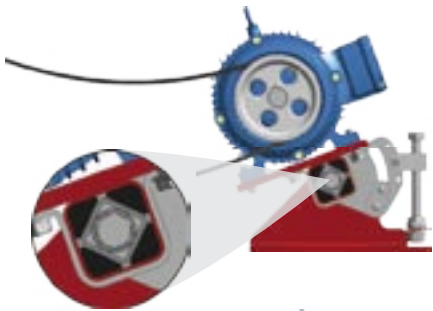
Today the MB Motor Base is widely used in power transmission applications namely: crushers, screens, pumps, feeders, mills, shredders, belt conveyors, mixers, presses, pellet mills, compressors, fans and blowers.

The efficiency and performance of the machines depends largely on the efficiency of the transmission.



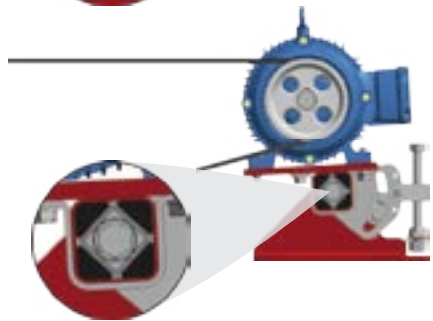
PRINCIPLE OF FUNCTION

The illustrations show the operation functionality during installation (1,2,3,4) and the result of short and long term operation (5,6):



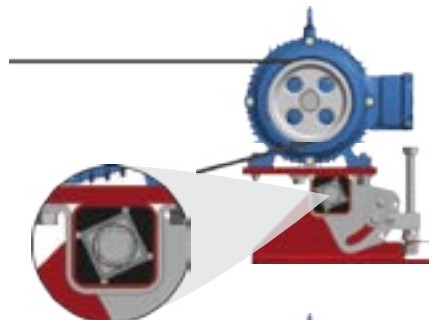
1

Electric motor moved forward for easy installation of the V-belt. This is obtained simply by unlocking the cam-plates, the centre pivot bolts and using the mechanical tensioner.



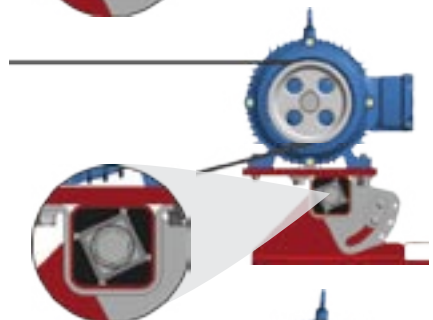
2

Electric motor moved backward to tension the V- belt. It is obtained by using the mechanical tensioner allowing the pulling back of the electric motor.



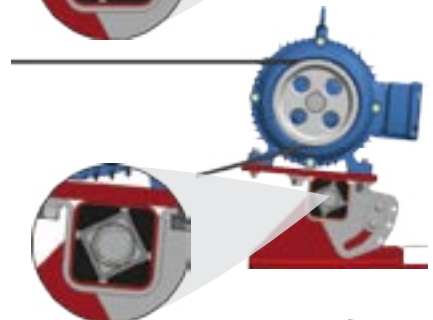
3

Pre-tensioning unit pre-loaded. It is obtained by using the mechanical tensioner; during this operation the Pre-Tensioning Unit is being loaded with the energy which will allow to recover and compensate the V-belt stretch, keeping the correct tension constant.



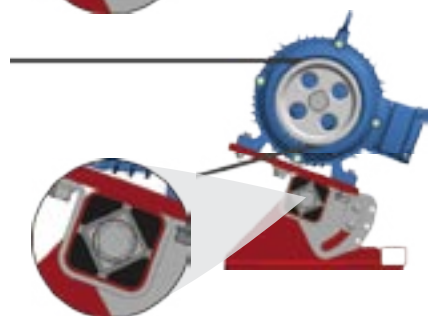
4

Locking the cam-plates and the centre pivot bolts. Removal of the mechanical tensioner: to be carried out before starting the system.



5

Initial reaction of the Pre-Tensioning Unit, due to the initial stretch of the V-belt.

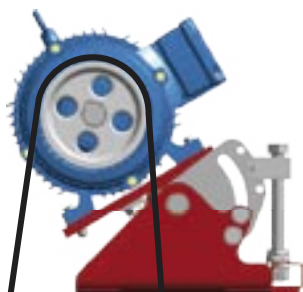


6

Long term reaction due to continuous stretch/wearing of the V-belt during its life is compensated by the reaction of the Pre-Tensioning Unit, which gradually releases its stored energy.

INSTALLATION AND POSITIONING

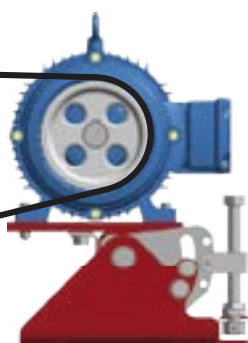
Recommended positions of installation considering the angle between the axis of the transmission in relation to the horizontal plane.



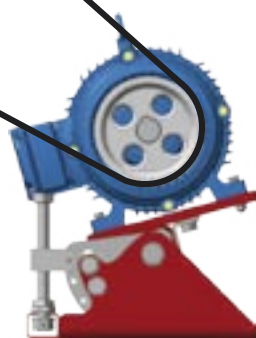
For applications with the angle of the transmission axis between **+90°** and **+60°** in relation to the horizontal plane, incline the fixing plate of the motor by about 20° towards the pulley.



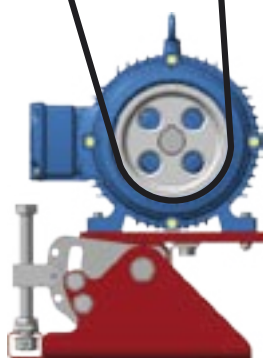
For applications with the angle of the transmission axis between **+60°** and **+20°** in relation to the horizontal plane, incline the motor plate of the Motor Base by about 10° towards the pulley.



For applications with the angle of the transmission axle between **+20°** and **-20°** compared with the horizontal surface, keep the fixing plate of the motor horizontal.

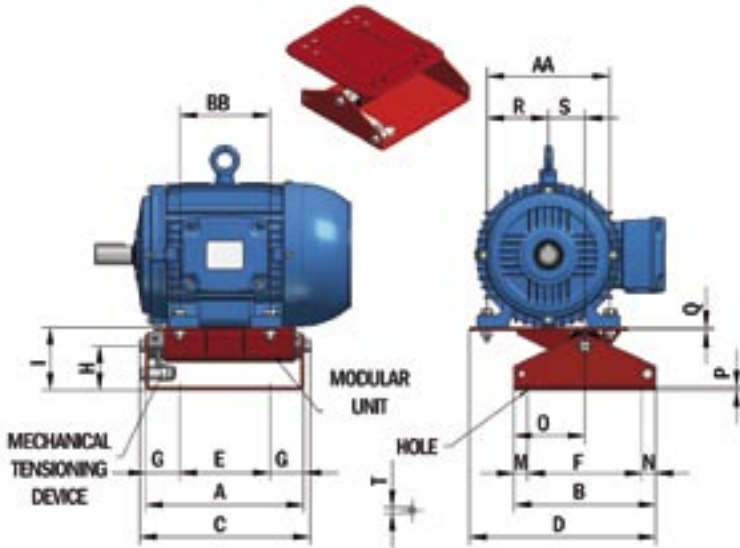


For applications with the angle of the transmission axle between **-20°** and **-60°** compared with the horizontal surface, incline the fixing plate of the motor by about 10° in the direction of the pulley.

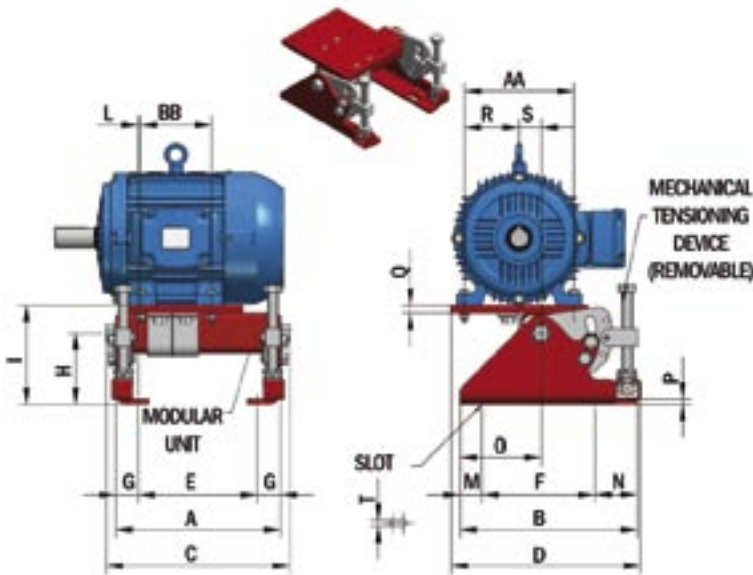


For applications with the angle of the transmission axle between **-60°** and **-90°** compared with the horizontal surface, keep the fixing plate of the motor horizontal.

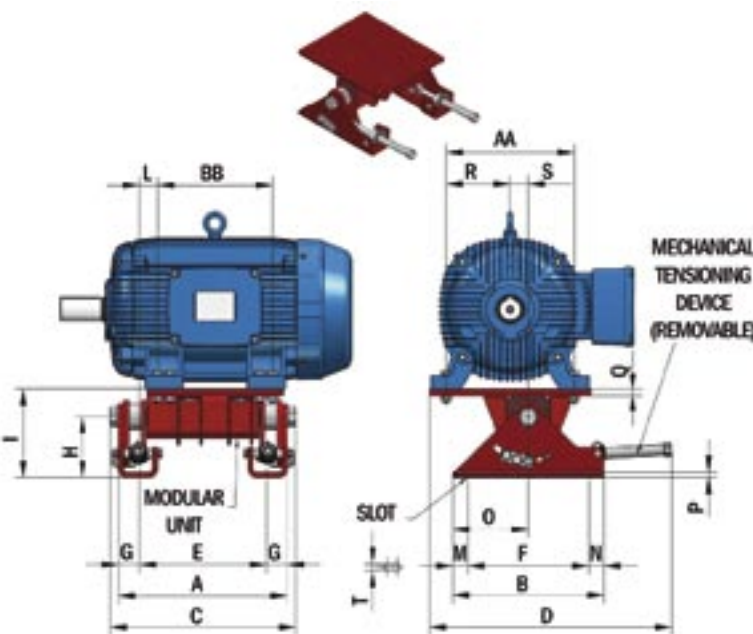
Sketch A



Sketch B



Sketch C



CODE	MODEL	ELECTRIC MOTOR DATA					
		FRAME SIZE	MAX. WEIGHT OF MOTOR (Kg)	2 Pole 3000 Rpm (Kw)	4 Pole 1500 Rpm (Kw)	6 Pole 1000 Rpm (Kw)	8 Pole 750 Rpm (Kw)
MBU02007100100	MB 20-71 - 001	71	11	0,37 0,75	0,25 0,55	0,18 0,25	0,09 0,12
MBU02008000100	MB 20-80 - 001	80	17	0,75 1,85	0,55 1,1	0,25 0,55	0,18 0,25
MBU02009000100	MB 20-90S - 001	90 S	21	1,1 2,2	0,75 1,1	0,75	0,37
MBU02009000200	MB 20-90L - 002	90 L	25	1,5 3,0	1,5 2,2	1,1	0,37 0,55
MBU03010000100	MB 30-100L - 001	100 L	35	3,0 4,0	2,2 3,0	1,5	0,75 1,1
MBU03011200100	MB 30-112M - 001	112 M	55	4,0 7,5	4,0 5,5	2,2 3,0	1,5 2,0
MBU050132A0100	MB 50-132S/M - A01	132 S/M	65	5,5 11,0	5,5 11,0	3,0 5,5	2,2 3,0
MBU050160A0100	MB 50-160M/L - A01	160 M/L	145	11,0 18,5	9,2 18,5	7,5 11,0	4,0 7,5
MBU050180A0100	MB 50-180M/L - A01	180 M/L	180	22,0	18,5 22,0	15,0	9,2 11,0
MBU050200A0100	MB 50-200M/L - A01	200 M/L	240	30,0 37,0	30,0 37,0	18,5 22,0	15,0
MBU050225A0100	MB 50-225S/M - A01	225 S/M	370	45,0	37,0 45,0	30,0 37,0	18,5 22,0
MBU07025000300	MB 70-250S - 003	250 S	460	55,0	37,0 55,0	37,0	30,0
MBU07025000400	MB 70-250M - 004	250 M	55,0	55,0 75,0	55,0 75,0	37,0 45,0	30,0 37,0
MBU07028000300	MB 70-280S - 003	280 S	650	75,0 90,0	75,0 90,0	45,0 55,0	37,0 45,0
MBU07028000400	MB 70-280M - 004	280 M	750	90,0 132,0	90,0 132,0	55,0 75,0	45,0 55,0
MBU07031500300	MB 70-315S - 003	315 S	850	110,0 132,0	90,0 110,0	75,0	55,0
MBU07031500400	MB 70-315M - 004	315 M	1000	132,0 150,0	132,0 150,0	90,0 110,0	75,0 90,0
MBU10031500500	MB 100-315S - 005	315 S	850	110,0 132,0	90,0 110,0	75,0	55,0
MBU10031500600	MB 100-315M - 006	315 M	1000	132,0 150,0	132,0 150,0	90,0 110,0	75,0 90,0
MBU10031500700	MB 100-315M/L - 007	315 M/L	1100	160,0 200,0	160,0 200,0	110,0 132,0	90,0 132,0
MBU10031500800	MB 100-315L/LX - 008	315 L/LX	1500	250,0 315,0	250,0 315,0	200,0 250,0	160,0 200,0
MBU10035500400	MB 100-355S - 004	355 S/M/L	1600	185,0 250,0	185,0 250,0	132,0 185,0	110,0 150,0
MBU10035500500	MB 100-355M - 005	355 S/M/L	1800	200,0	260,0 300,0	200,0 250,0	160,0 185,0
MBU10035500600	MB 100-355L - 006	355 S/M/L	2200	250	300,0 330,0	260,0 315,0	200,0 220,0

AL DATA

DATA				DIMENSIONS																				PRE-TENSIONING UNIT	TENSIONING DEVICE	WEIGHT (Kg)
FIXING				SKETCH/SCHEME	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	ØT				
AA	BB	Ø	No		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
(mm)	(mm)	(mm)			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
112	90	9	4	A	197	184	212	225	125	140	36	53	74	0	22	22	92	4	2	56	26	8,5	20x80 L189	MTD (F)	3,5	
125	100	9	4	A	197	184	212	225	125	140	36	53	74	0	22	22	92	4	2	62,5	32,5	8,5	20x100 L189	MTD (F)	3,6	
140	100	9	4	A	197	184	212	225	125	140	36	53	74	0	22	22	92	4	2	70	40	8,5	20x120 L189	MTD (F)	3,7	
140	125	9	4	A	197	184	212	225	125	140	36	53	74	0	22	22	92	4	2	70	40	8,5	20x167 L189	MTD (F)	3,8	
160	140	11	4	A	244	218	263	288	140	176	52	68	96	0	21	21	109	4	2	80	41	10,5	30x140 L236	MTD (F)	4,0	
190	140	11	4	A	244	218	263	288	140	176	52	68	96	0	21	21	109	4	2	95	56	10,5	30x200 L236	MTD (F)	5,5	
216	140 178	11	4	B	325	350	360	374	235	222 ±32	45	140	195	5+50	44	84	160	10	16	108	43	18	50x160 L305	MTD (R)	27,5	
254	210 254	13	4	B	405	350	440	396	315	222 ±32	45	140	195	7+50	44	84	160	10	16	127	45	18	50x200 L385	MTD (R)	34,5	
279	241 279	13	4	B	455	350	491	443	365	222 ±32	45	140	195	11+60	44	84	160	10	16	140	72	18	50x270 L435	MTD (R)	38,5	
318	267 305	18	4	B	505	350	541	471	415	222 ±32	45	140	195	11+85	44	84	160	10	16	159	72	18	50x400 L485	MTD (R)	43,0	
356	286 311	18	4	B	605	350	641	488	515	222 ±32	45	140	195	7+170	44	84	160	10	16	178	72	18	50x500 L585	MTD (R)	47,0	
406	311	22	4	C	648	600	705	900	482	480 ±32	83	230	310	0+135	60	60	300	16	20	203	72	22	70x400 L616	MTD HTD* (R)	115,0	
406	349	22	4	C	748	600	805	900	582	480 ±32	83	230	310	0+233	60	60	300	16	20	203	72	22	70x500 L716	MTD HTD* (R)	123,0	
457	368	22	4	C	848	600	905	925	682	480 ±32	83	230	310	0+263	60	60	300	16	20	229	72	22	70x600 L816	MTD HTD* (R)	130,0	
457	419	22	4	C	948	600	1005	925	782	480 ±32	83	230	310	0+363	60	60	300	16	20	229	72	22	70x700 L916	MTD HTD* (R)	135,0	
508	406	25	4	C	1148	600	1205	965	982	480 ±32	83	230	315	0+525	60	60	300	16	25	254	72	22	70x900 L1116	MTD HTD* (R)	166,0	
508	457	25	4	C	1248	600	1305	965	1082	480 ±32	83	230	315	0+625	60	60	300	16	25	254	72	22	70x1000 L1216	MTD HTD* (R)	180,0	
508	406	25	4	C	670	600	737	965	490	480 ±32	90	240	350	0+45	60	60	300	20	25	254	72	25	100x400 L630	MTD HTD* (R)	194,0	
508	457	25	4	C	770	600	837	965	590	480 ±32	90	240	350	0+145	60	60	300	20	25	254	72	25	100x500 L730	MTD HTD* (R)	204,0	
508	457 508	25	4	C	870	600	937	965	690	480 ±32	90	240	350	0+195	60	60	300	20	25	254	72	25	100x600 L830	MTD HTD* (R)	221,0	
508	508	25	4	C	970	600	1037	965	790	480 ±32	90	240	350	0+295	60	60	300	20	25	254	72	25	100x700 L930	MTD HTD* (R)	232,0	
610	500	25	4	C	1070	600	1137	1010	890	480 ±32	90	240	350	0+275	60	60	300	20	25	305	72	25	100x800 L1030	MTD HTD* (R)	265,0	
610	560 630	25	4	C	1170	600	1237	1010	990	480 ±32	90	240	350	0+375	60	60	300	20	25	305	72	25	100x900 L1130	MTD HTD* (R)	283,0	
610	630	25	4	C	1270	600	1337	1010	1090	480 ±32	90	240	350	0+475	60	60	300	20	25	305	72	25	100x1000 L1230	MTD HTD* (R)	292,0	

* Optional

Tolerances: +/- 2 mm , We reserve the right to modify any data without the obligation of notifying such modifications

TENSIONING UNIT

The new series of MB Motor Bases is based on extensive research and development which involved the quality, operation and industrialization of the tensioning unit.

The “MIX 01” elastomer is produced on an exclusive OST recipe resulting in a “minimal memory loss” enabling the pre-tensioning unit to keep the stored-up energy and gradually releasing it when needed.

The constant quality of the elastomer is granted by stringent quality controls involving every single production batch.

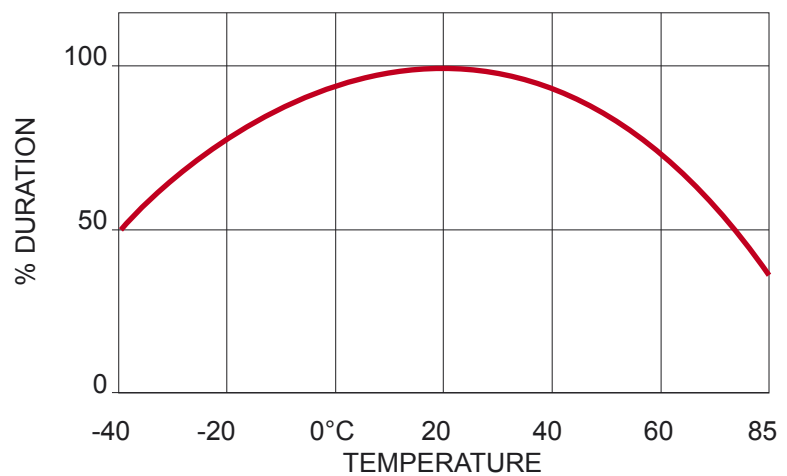
Compatibility of the “MIX 01” elastomer to be in contact with:

Citric Acid
Hydrochloric Acid (up to 25%)
Formic Acid
Phosphoric Acid
Lactic Acid
Sulphuric Acid (up to 10%)
Tannic Acid
Tartaric Acid
Water
Sea Water
Alcohol
Glycerine
Molasses
Caustic Soda (up to 25%)
Fruit Juices
Acetone
Alkaline
Ammonia
Milk
Acetic Acid (up to 25%)
Nitric Acid (up to 10%)
Benzene
Petrol
Sulphate Hydrogen
Combustible Oil
Hydraulic Oil
Greasing Oil
Solvent Resin
Toluene

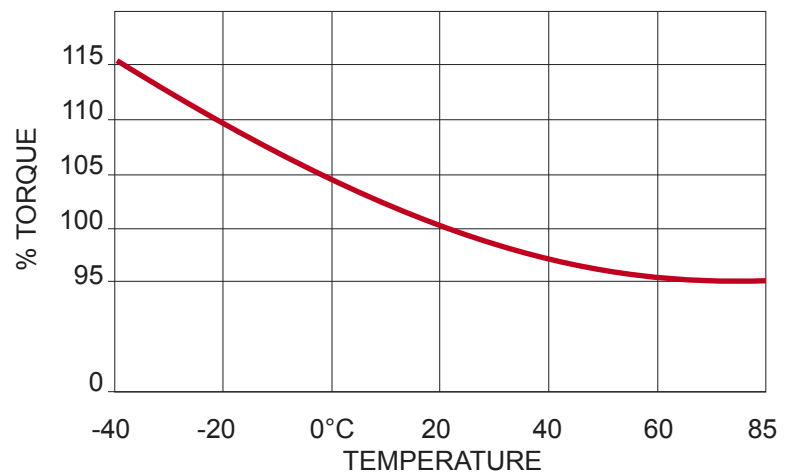
Compatibility:

- excellent
- good
- fair
- inadequate

Life expectancy of the elastomer related to the working temperature at the location



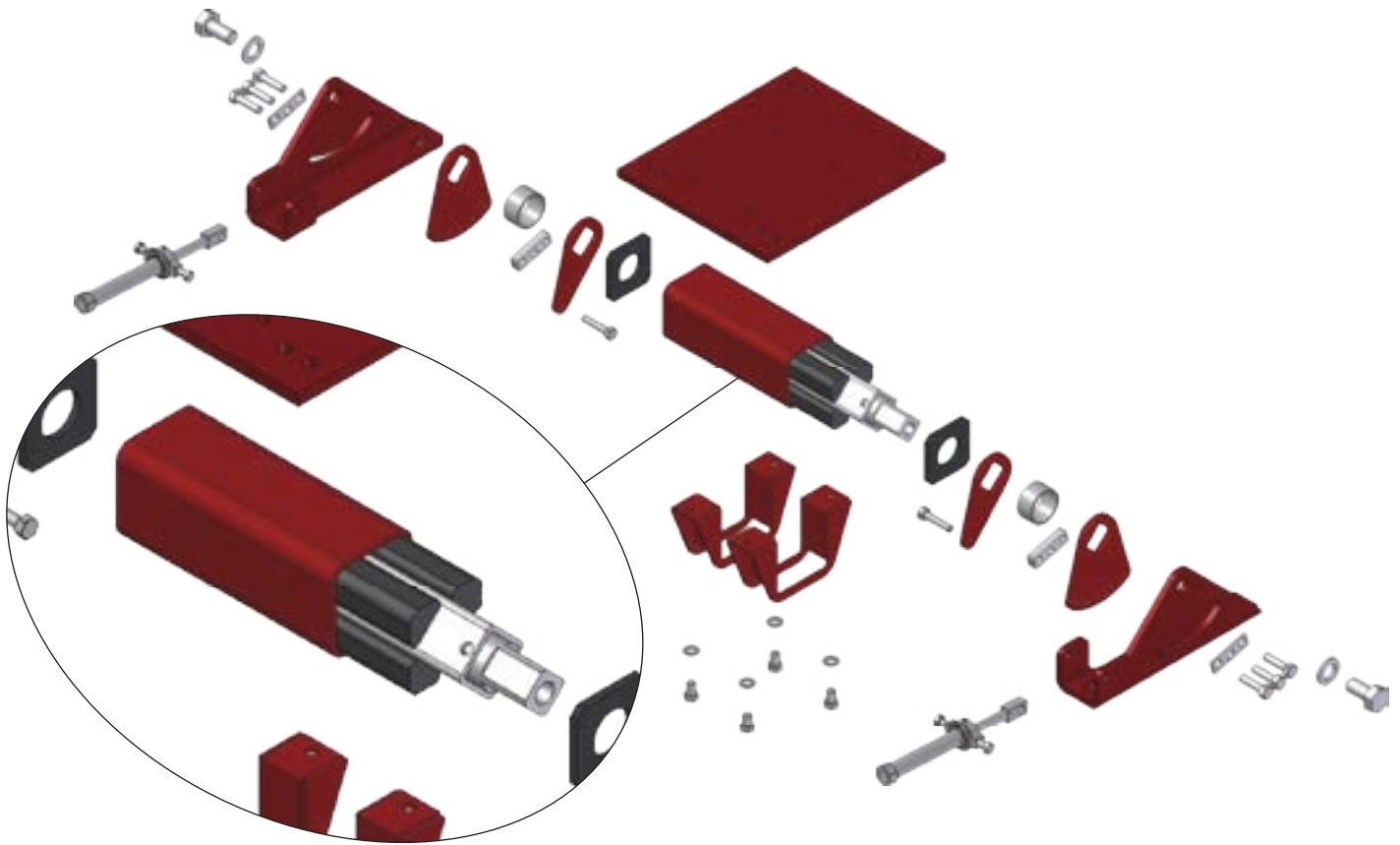
Torque of the elastomer related to the working temperature at the location



UNIQUE DESIGN FEATURES & ACCESSORIES

The new series of MB Motor Bases unique designs incorporate the following mechanical features:

- dimensional compactness for easier fitment into the transmission location
- new unique design allowing axial and longitudinal micro-settings to obtain perfect alignment during installation
- new Pre-Tensioning Unit with double cardanic bushes to eliminate the radial forces
- new removable tensioners for easy adjustment



STOPPERS

Different types of stoppers are available: they are essential safety device which restricts the electric motor from pivoting in the case of a sudden break of the V-belt.

HYDRAULIC TENSIONER

A hydraulic tensioner set has been developed for the MB Motor Base frame sizes 70 and 100. It allows a quick and easy tensioning and maintenance operations where large electric motors are involved.

It is supplied in a dedicated and transportable metal box.



ADVANTAGES

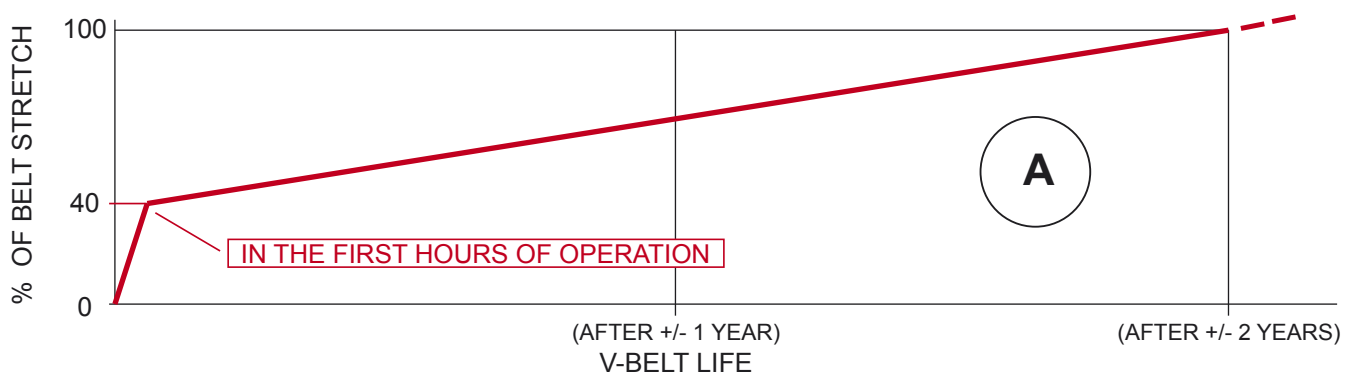
The use of MB Motor Base offers to the OEM and End-User the following advantages:

- tensioning to the value as specified by the V-belt manufacturer
- keeping the above tension constant throughout the life of the V-belt
- maintenance can be done in a quick, accurate, effective and safe manner, without losing the correct alignment
- absorbing vibrations generated by the machine

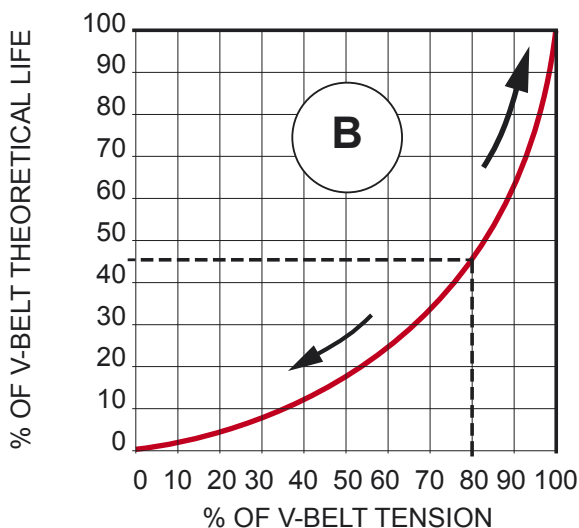
The traditional tensioning systems (i.e.: slide rails) have a number of disadvantages:

- loss of correct tensioning with related belt-slipping and diminished productivity
- high difficulties in planning maintenance with consequent un-scheduled shutdowns of the plant
- mechanical breakings due to over-tensioning
- difficulties in restoring the original alignment

Energy saving, maximum efficiency and productivity, minimized maintenance costs and lower risk of plant break-downs are some of the results of the correct use of the MB Motor Base.



The above diagram A shows the curve of natural stretch of a V-belt



*Diagram B shows the result of tension on the V-belt life expectancy
Arrows indicate how, with the help of the MB Motor Base, tension is kept at a high percentage, compare with traditional systems the natural stretch of the V-belts causes a constant loss of the tension value.*

OUR MISSION

OST is an international group with the two main centres located in South Africa and Italy.

Optimizing the efficiency of transmissions has been our mission for over 20 years.

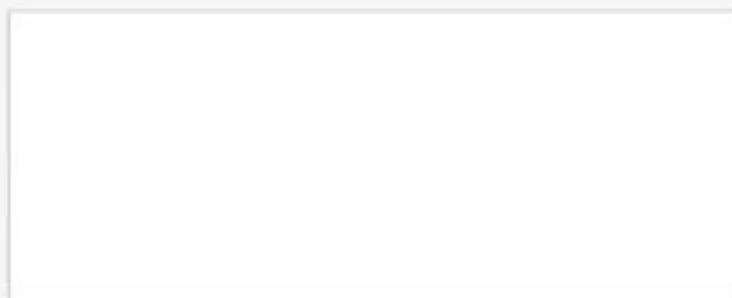
Due to our extensive technical and application know how our main objective is to develop in conjunction with the Original Equipment Manufacturers innovative and efficient systems.

Many objectives and results have been reached due to the valuable collaborations and synergies developed with important OEM's.

The awareness of **energy saving**, **efficiency** and **reliability** being more and more aspects of utmost importance for processing machines and plants has led us to reinforce our technical and commercial organization for responding and satisfying the rising market demand.



www.ost-group.net



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