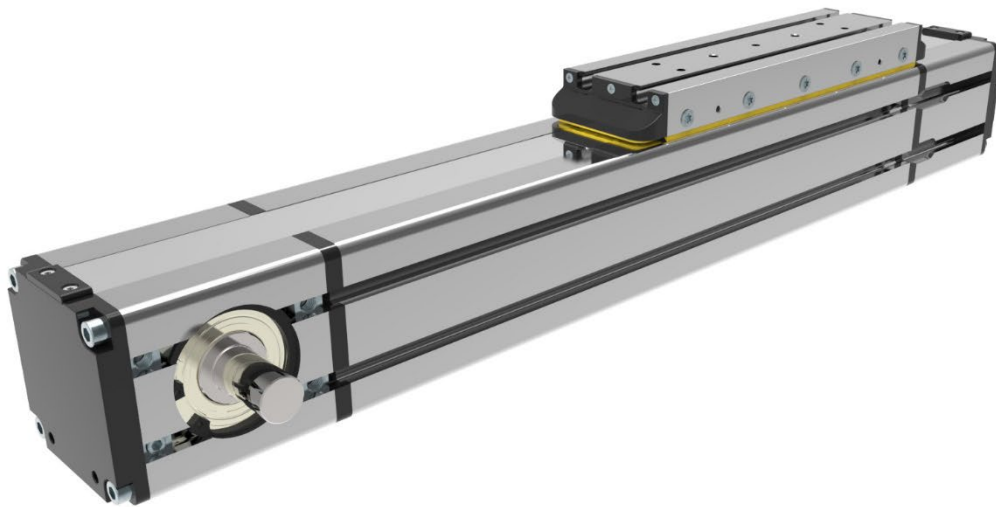


MTB

SERIES LINEAR UNITS

USER AND MAINTENANCE MANUAL



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1. INFORMATION ABOUT THIS DOCUMENT




Thank you for purchasing our products and please read this manual carefully before using the product to ensure its best possible performance. You are, also, requested to keep the documentation for future reference.

Target audience: installers and end users.

Motus Tech srl reserves the right to modify this document at any time..

2. SYMBOLS FOR SAFETY/STANDARDS AND REQUIREMENTS

This section illustrates, for important indications related to personal protection and safe operation, the warning, danger and information symbols and signs.

Safety Warnings.		indicates instructions that should be followed carefully to avoid injury to people and malfunction or damage to the product.
		indicates technical instructions to be followed to avoid damage and malfunction of the device.
		Indicates a precaution to be followed for safety or proper operation of the device

Standards and requirements

The product complies with the following regulations:

European Directives 2006/42/EC - Machinery Directive

and the Standardized Standards for the Machinery Directive of which a non-exhaustive list follows:

EN 12100:2010













The use of unsuitable materials for cleaning, lubrication, load securing, and securing the product may affect the safety and performance of the product.

This product is not intended for use by individuals (including children) whose physical, sensory, or cognitive abilities are limited or who lack relevant experience and/or knowledge, unless they are supervised by a person responsible for their safety or have received instructions from that person regarding the use of this equipment.

3. GENERAL SAFETY REQUIREMENTS

The following manual is intended for the end user. The following requirements must be followed in all cases and for permitted operations:

	<p>The assembly, installation and commissioning of the product inside a machine must be carried out by a qualified technician in full compliance with the relevant laws, regulations and directives, and in accordance with the assembly instructions</p>
	<p>The product is designed for mechanical connection to an electric motor. The user is responsible for all connection work, from fixing to electrical connection. No safety instructions for the electrical part are specified in this document.</p>
	<p>The unit must not be disassembled or opened for any reason. The safety prescriptions for permitted maintenance operations are in the following paragraphs.</p>
	<p>Never use abrasive substances or cleaning agents containing acids or chlorine on the surfaces of the appliance.</p>
	<p>Ensure that the attachment of the linear unit has been carried out in a safe position and manner, to prevent slipping or sliding during operation.</p>
	<p>If technical changes are made to the factory settings, MOTUS TECH accepts no liability for any consequential damage.</p>
	<p>MTB units must be stored in a dry and clean environment. If the environment does not meet the conditions, protect the linear unit by covering it or placing it inside a container.</p>
	<p>Any special operating conditions for environment and performance must be communicated in advance to our technical department to check feasibility.</p>
	<p>MTB units must be handled with care, also in view of their weight. Furthermore, it is not permitted to place tools or anything else on the unit that could impair its functionality.</p>
	<p>The linear unit may not be modified in relation to its condition of sale. In the event of unauthorized modifications, the user will be liable for any damage and injury caused by the modifications.</p>
<p>WARNING</p>	<p>Modifications to the linear unit are not permitted without the written consent of Motus Tech.</p>
<p>WARNING</p>	<p>All identification labels or warning signs may not be removed and must be legible. If damaged or unreadable they must be replaced.</p>

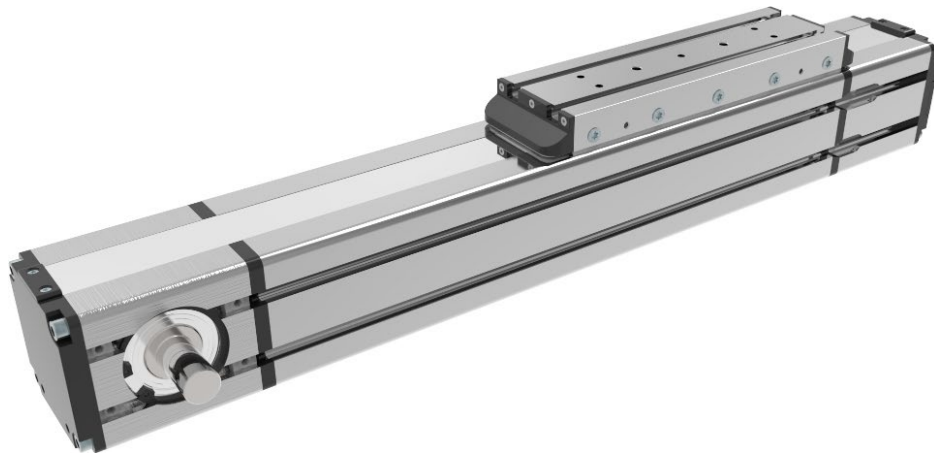
4. GENERAL INFORMATION FOR OPERATION

The linear unit must not be put into operation until the machine in which it is intended (incorporated), has been declared in conformity with the Machinery Directive 2006/42/EC or at least until all safety precautions for the machine have been taken pending the Declaration of Conformity.

The machine installer or end user is responsible for the safeguarding of the linear unit following an appropriate risk assessment.

Any operation of the linear unit that is not in accordance with its intended use can lead to product damage, accidents and at the same time to production interruptions for which Motus Tech cannot be held responsible. To ensure safe operation, please refer to this operating manual and the operating instructions of other machines, in which the linear unit is to be incorporated.

5



5. FUNCTION AND APPLICATION

The MTB series linear units support a moving load. Due to the coupling with a motor axis, the unit moves the load back and forth according to the application conditions and load limits.

The unit is driven by a belt-pulley mechanism. The reference position can be detected by limit switch sensors. The unit is designed specifically for the development of Cartesian systems by means of motorized linear axes.

6. PREREQUISITES FOR EMPLOYMENT

WARNING

Improper use may result in malfunction or injury. Ensure that the requirements set out in this document are always observed.

WARNING

Compare the limit values in these operating instructions with the specific use case (maybe, moments, temperature loads, speed).

WARNING

Mounting the load. The load must be mounted in such a way that the tilting torque resulting from the force parallel to the traversing axis is minimal.

WARNING

Secure the load with screws and centering sleeves.

7. TRANSPORT AND MOVEMENT UNIT'

The units are packaged according to internal standards that provide for different types depending on the quantities and types of units to be shipped.

Handling the unit does not require any special precautions; it is not necessary to grip it at any particular point other than for safety reasons.

Handle the unit with care because the moving part, shown in the red rectangle in figure 1, could cause damage or injury.

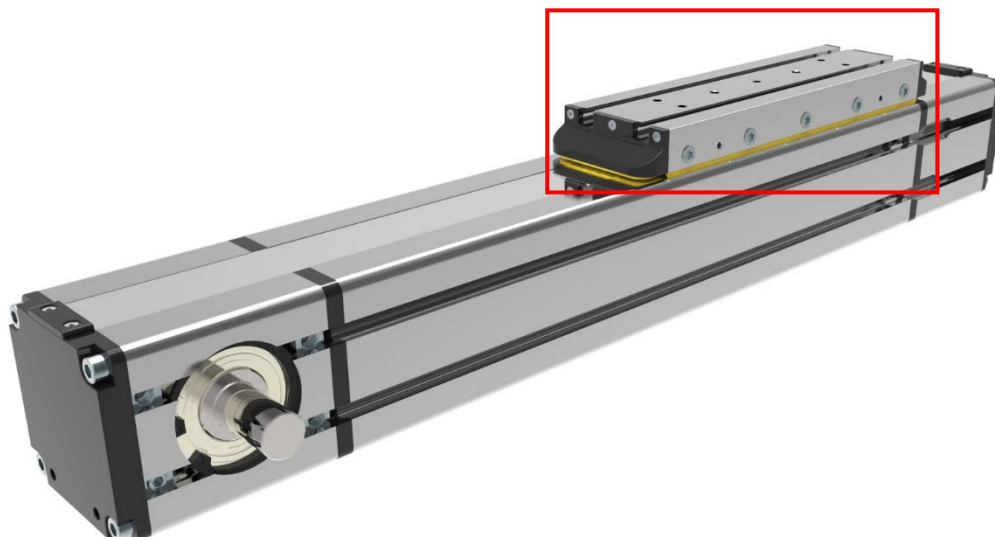


Fig. 1

8. DESCRIPTION OF THE LINEAR UNIT

Motus Tech MTB series linear units are linear actuators that transform the rotary motion of an electric motor into linear motion by means of a toothed belt drive and are designed for applications where the load must be moved predominantly horizontally.

They mainly consist of:

- an aluminum profile
- a recirculating ball bearing guide with two or more runners (MTB) .
- two heads, one for motor coupling and one with a belt tensioning system
- a carriage for drive transmission
- a toothed belt with AT profile

They are designed to minimize maintenance work.

The units are equipped with a lubrication system that guarantees optimal operation for a service life of more than 10,000 km, i.e. guide pads with lubrication reservoirs with solid lubricant (based on paraffin oils) that ensure a good level of lubrication in any working position of the actuator (horizontal, vertical, etc.)

It is suggested, at very high speeds (>1 m/s) or high loads (depending on the size of the actuator) or in aggressive environments, to supplement the lubrication of the ball bearing guides once a year.

9. PRODUCT IDENTIFICATION

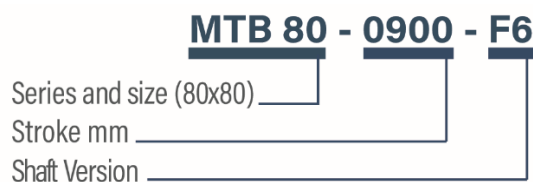
serial number, when and many units produced



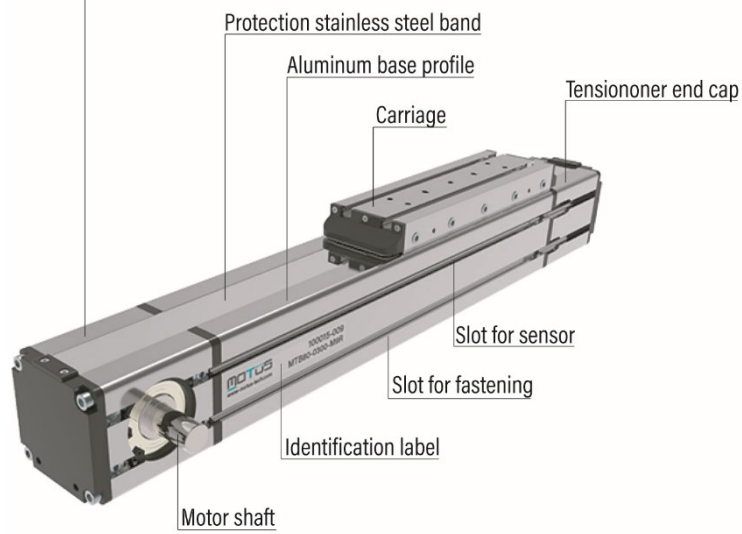
190301-001
MTB80-0750-M9L

part number products

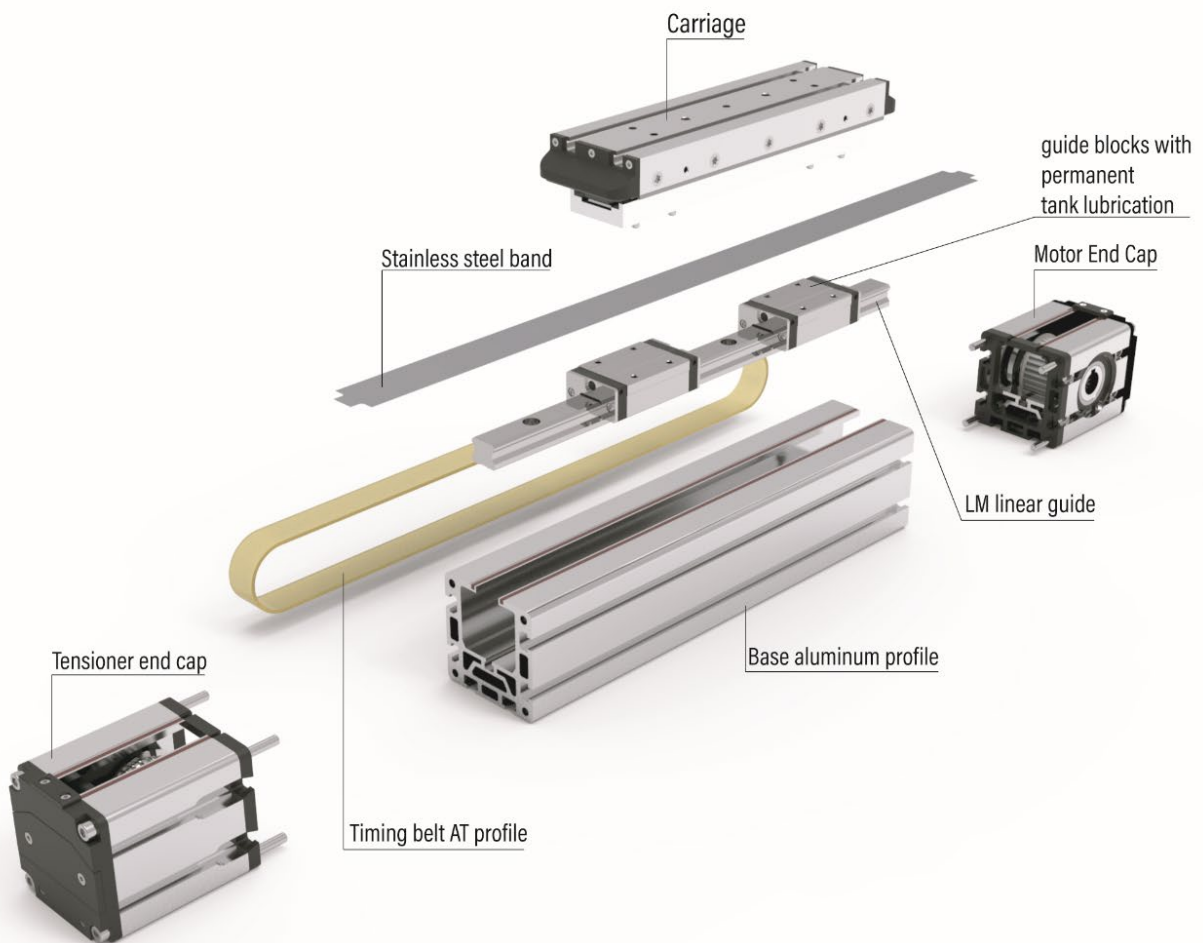
10. DESCRIPTION OF THE LINEAR UNIT



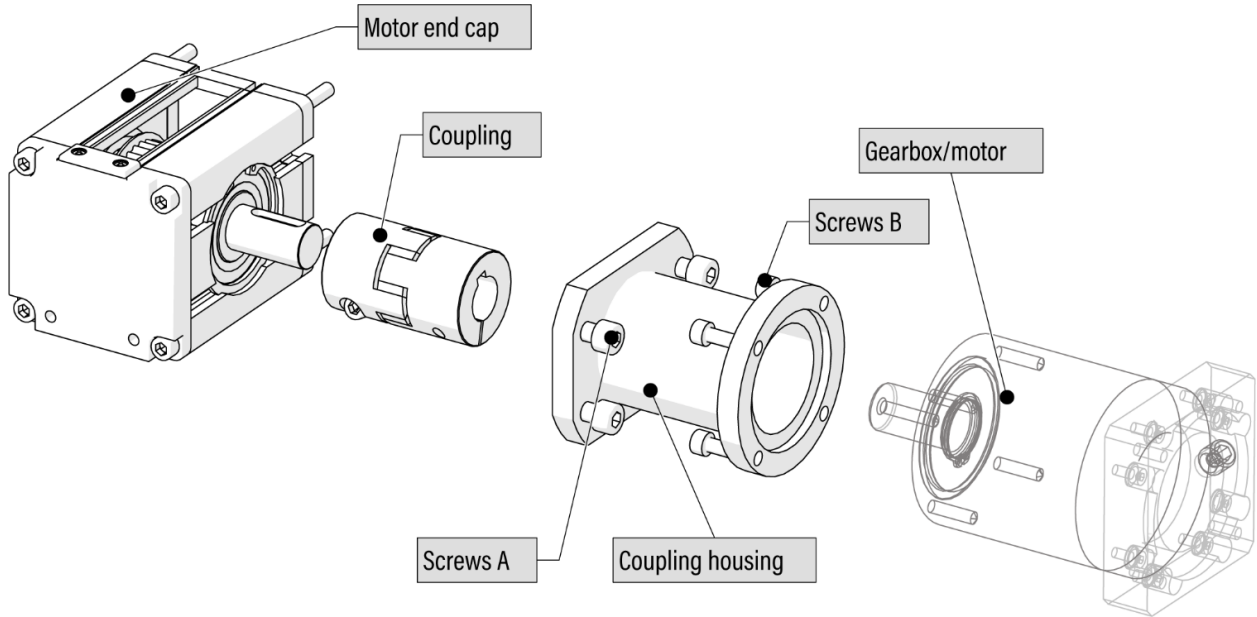
11. MAIN COMPONENTS



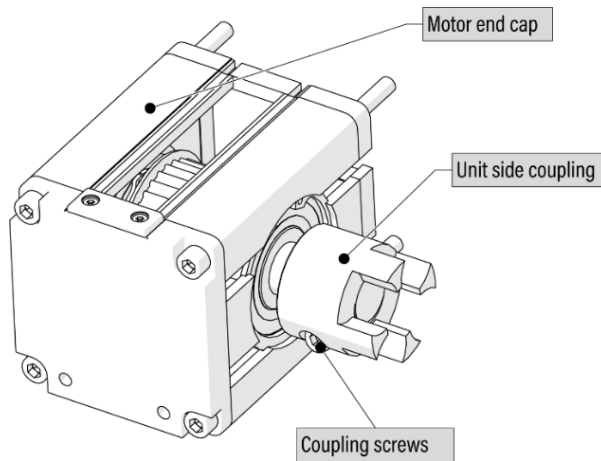
EXPLODED VIEW OF THE MAIN COMPONENTS



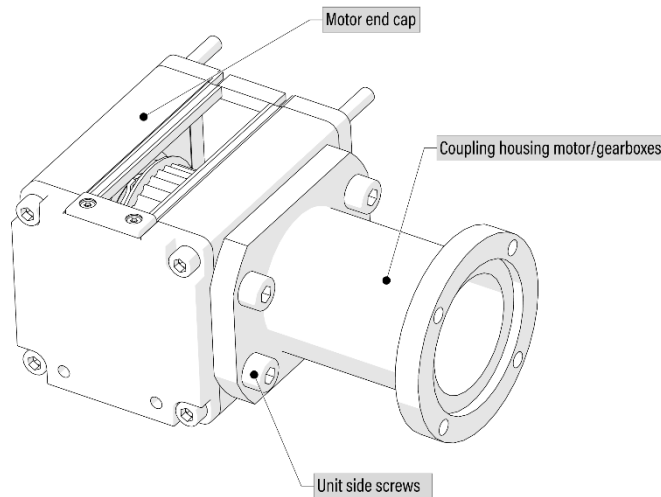
12. ASSEMBLY DISASSEMBLY MOTOR/GEARBOX COUPLING BELL



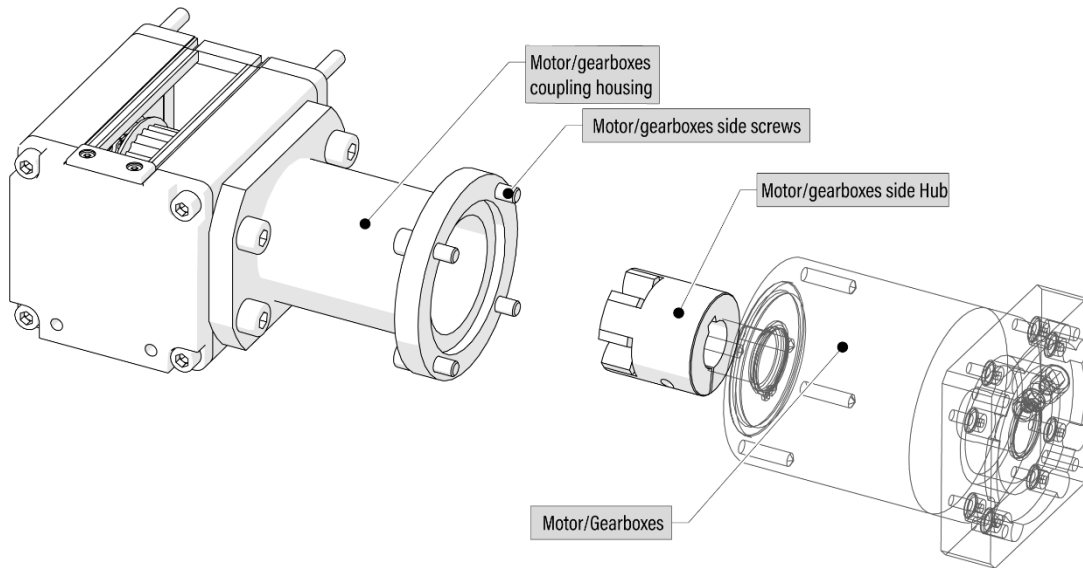
1. Insert the actuator side hub onto the shaft, the shaft end should coincide with the inner face of the hub, tighten the hub screw with the correct torque.



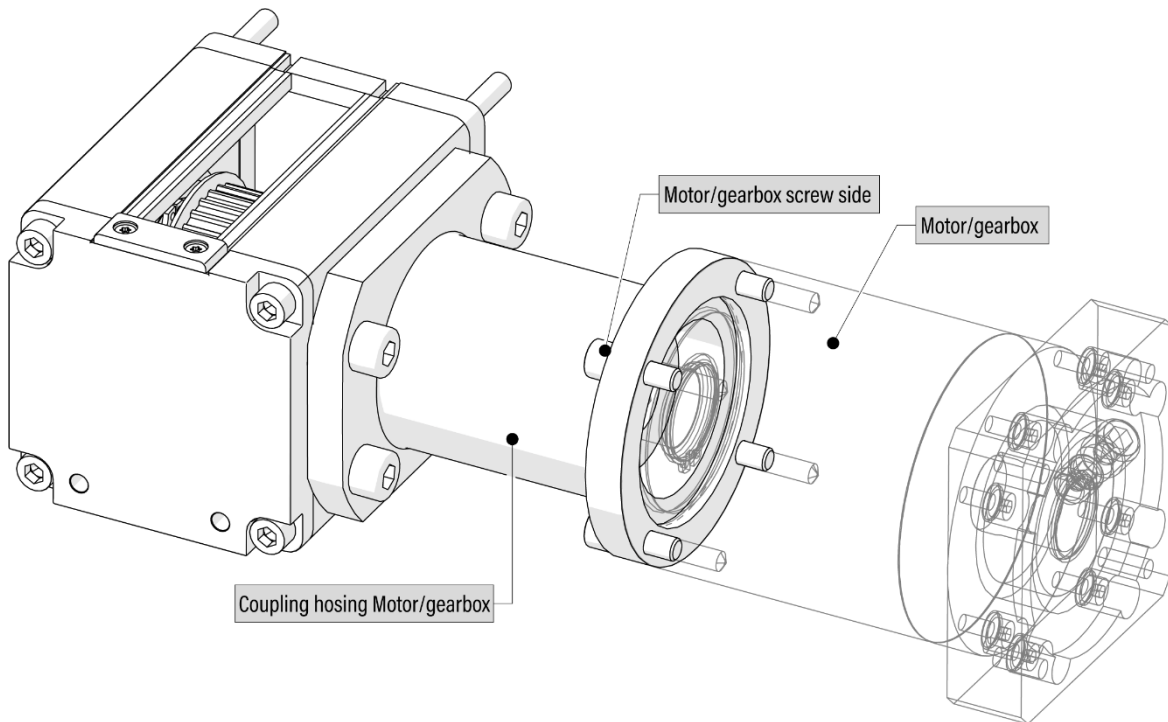
2. Connect the flange to the actuator (right or left side as needed) with the 4 screws A



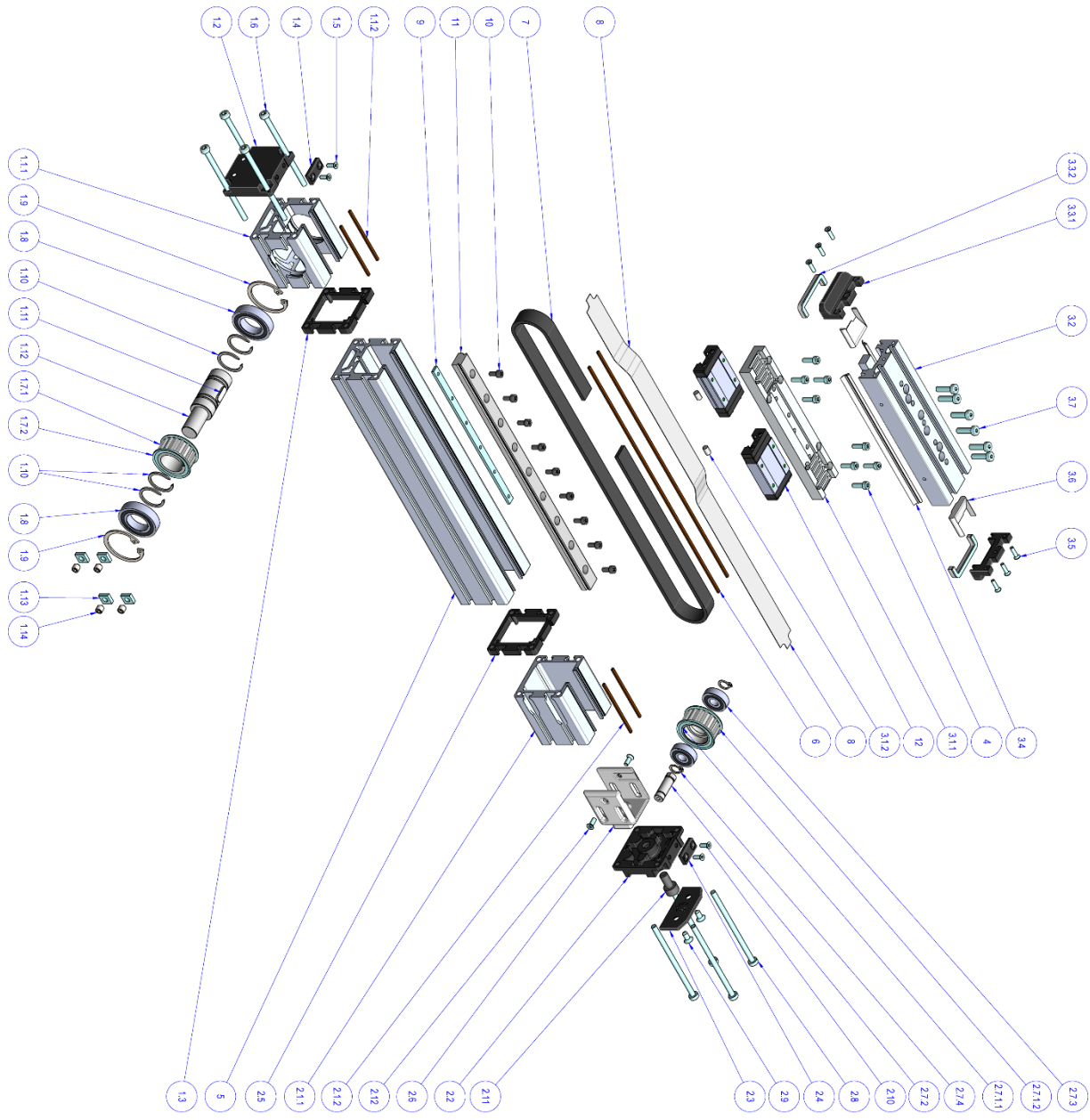
2. Insert the motor/gearbox side hub onto the shaft, the shaft end should coincide with the inner face of the hub, tighten the hub screw with the correct torque.



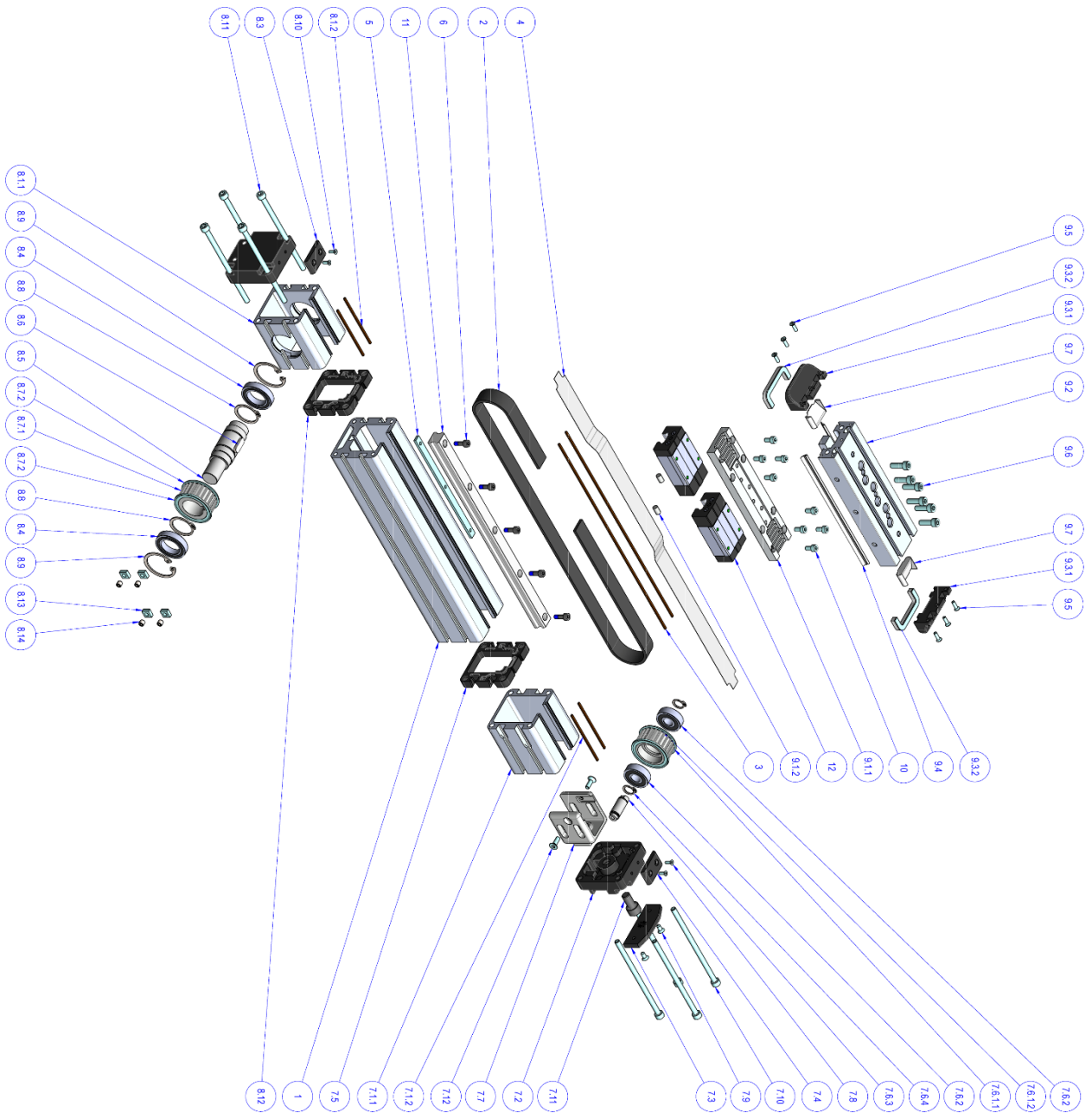
3. Insert the motor/gearbox into the bell housing by first matching the coupling and then the mounting holes, fasten with screws B and tension to the proper torque.



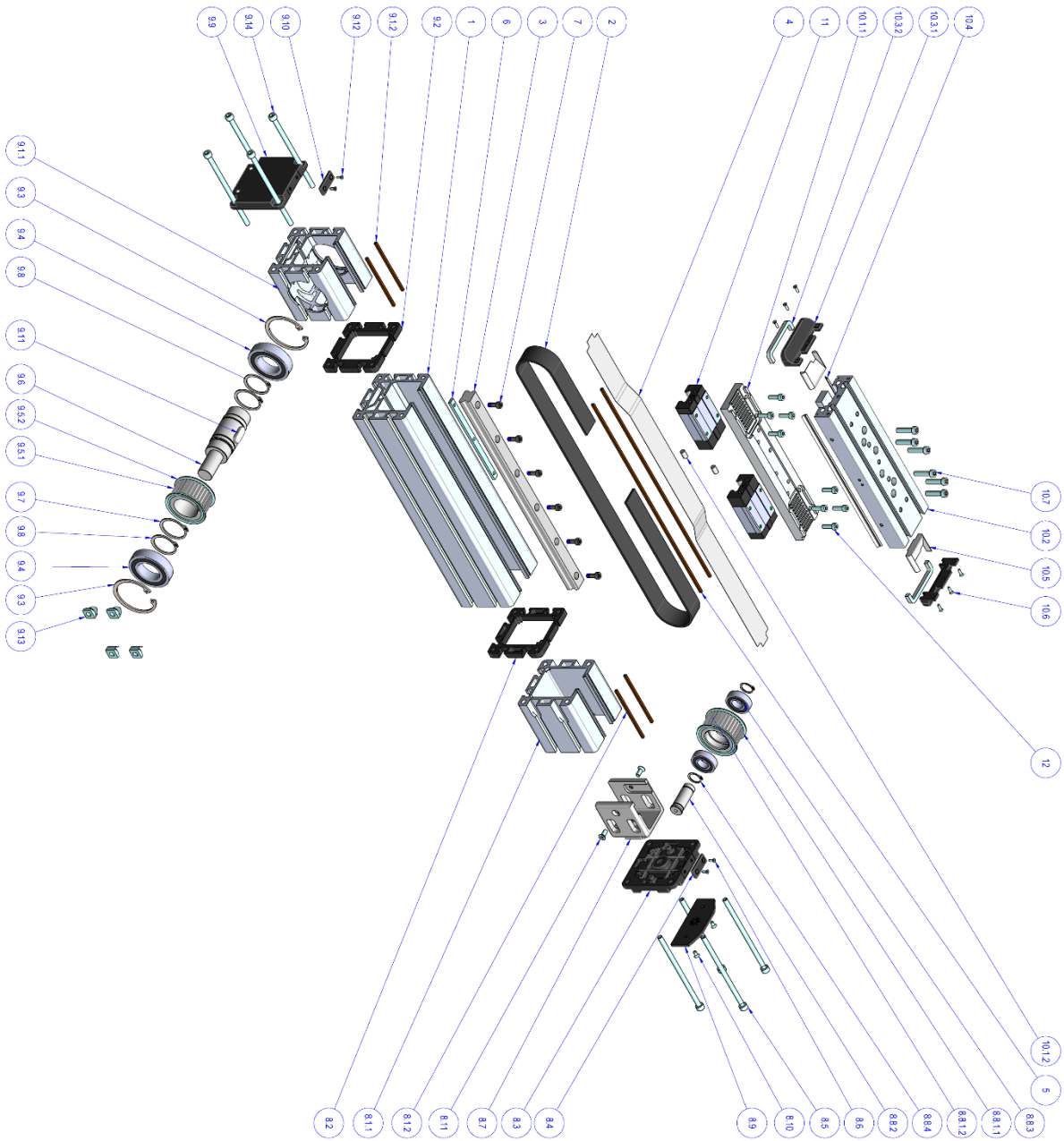
13. BOM MTB42



Pos.	Code	Description	Qty
1	APR000-14-2100K	PRE-ASSEMBLED MOTOR END CAP SINCE SHAFT Ø17.00	1
1.1	APR000A	PRE-ASSEMBLED MOTOR BODY MTB42	1
1.1.1	AM002-050	MOTOR BODY END CAP MACHINED MTB42	1
1.1.2	AM002-050	MOTOR BODY END CAP MACHINED MTB42	2
1.2	APR005	MOTOR TERMINAL END CAP MTB42	1
1.3	APR00V	SPACER MTB42	1
1.4	APR00T	SS STRIP LOCKING PLATE MTB42	1
1.5	VST02A-05-008	SCREW F.H. TORX SELF-DRIVING DIVISION - M08	2
1.6	VST02A-05-008	VITE CH. TORX SELF-DRIVING SPEC. M08X0.25X2	4
1.7	APR00T	PRE-ASSEMBLED MOTOR PULLEY - FLANGE MTB42	1
1.7.1	APR010	MOTOR PULLEY AT5 2-18 MTB42	1
1.7.2	AM001	PULLEY FLANGE ØM020X25H1 MTB42	2
1.8	CSR61903-2RS	BALL BEARING 100X017X7	2
1.9	SGP30	CIRCUIT BOARD - 30X12	2
1.10	SGP30	CIRCUIT BOARD - 30X12	4
1.11	OPR00A14	PARALL. EL. KEY SWITCH K0314	1
1.12	APR02A-2100K	MOTOR SHAFT Ø17.00 WITHOUT KEY MTB42	1
1.13	DO005-01	SOLAR W/UT DIMER M030027	4
1.14	VST02A-05-005	SCREW W/OUT HEAD SC0009 M05	4
2	APR002	PRE-ASSEMBLED TENSIONER END CAP MTB42	1
2.1	APR009	PRE-ASSEMBLED TENSIONER BODY MTB42	1
2.1.1	AS002	TENSIONER BODY END CAP MACHINED MTB42	1
2.1.2	AM002-004	PALSTMAS R01 1.5X1.4X1.6M BODY MTB42	2
2.2	APR001	TENSIONER TERMINAL END CAP MTB42	1
2.3	APR00V	PLATE LOCK SCREW TENSIONER MTB42	1
2.4	APR00V	SS STRIP LOCKING PLATE MTB42	1
2.5	APR00V	SPACER MTB42	1
2.6	APR001L	TENSIONER BODY MTB42	1
2.7	APR003	PRE-ASSEMBLED TENSIONER PULLEY MTB42	1
2.7.1	APR002	PRE-ASSEMBLED TENSIONER PULLEY - FLANGE MTB42	1
2.7.1.1	APR001	TENSIONER PULLEY AT5 2-18 MACHINED MTB42	1
2.7.2	AM001	PULLEY FLANGE ØM020X25H1 MTB42	2
2.7.3	CSR61903-2RS	BALL BEARING 100X017X7	1
2.7.4	SG007	CIRCUIT BOARD - 70X5	2
2.8	VST02A-05-005	SCREW CH. TORX SELF-DRIVING SPEC. M05X0.25X2	4
2.9	VST02A-05-008	SCREW F.H. TORX SELF-DRIVING DIVISION - M08	2
2.10	VST02A-05-008	SCREW F.H. TORX SELF-DRIVING DIVISION - M08	2
2.11	VST02A-05-012	SCREW SC0012 - M05X1.2 N	1
2.12	VST02A-05-008	SCREW F.H. TORX METRIC ISO1481 - M08	1
3	APR0013	PRE-ASSEMBLED CARTRIDGE MTB42	1
3.1	APR010	PRE-ASSEMBLED INTERNAL CARTRIDGE MTB42	1
3.1.1	AM004	INTERNAL CARTRIDGE MTB42	1
3.1.2	AM001	NEODIMIO MAGNET Ø6X6	2
3.2	APR000	EXTERNAL CARTRIDGE MACHINED MTB42	1
3.3	APR00V	PRE-ASSEMBLED LEAD SCAPPER MTB42	2
3.3.1	APR00V	LEAD SCAPPER MTB42	1
3.3.2	APR002	FEEL SWITCH MTB42	1
3.4	AT0010-050	PCB TERMINAL CARTRIDGE SEAL L=130MM MTB42	2
3.5	VST02A-05-010	SCREW F.H. TORX METRIC ISO1481 - M2.5X10	6
3.6	APR013	SS STRIP CARTRIDGE SUPPORT MTB42	2
3.7	VST02A-05-014	SCREW DIV014 - M05X1.4 Z	8
4	VST02A-05-010	VITE Ø10X1.0	2
5	AM001-0200	PAL. PROTELE MTB42 1M BAKE L=STROKE+130 MM	1
6	AM002-0200	PALSTMAS R01 1.5X1.4X1.6M SET L=STROKE+130 MM	2
7	AM010-0500	TUNING BEG. F. ASGARD CABLES - PZ GREEN - AT5V12 - 1.5X3.5X0.550 MM	1
8	AM010-0502	SS STRIP 100X010 100X1.0X0.550 MM	1
8	AM010-0502	THREADED PLATE MTB42 M03135	1
9	VST02A-05-007 SP	SCREW ISO007 SPECIAL - M05X7 N	1
10	VST02A-05-020	LAV GUIDE W/OUT TO 2 CARBON STEEL BAKE L=STROKE + 130 MM	9
11	AM003A-0200	AM003A	2
12	AM003A-0200	RUNNER BLOCK W/OUT WINDUP WITH 11F	2

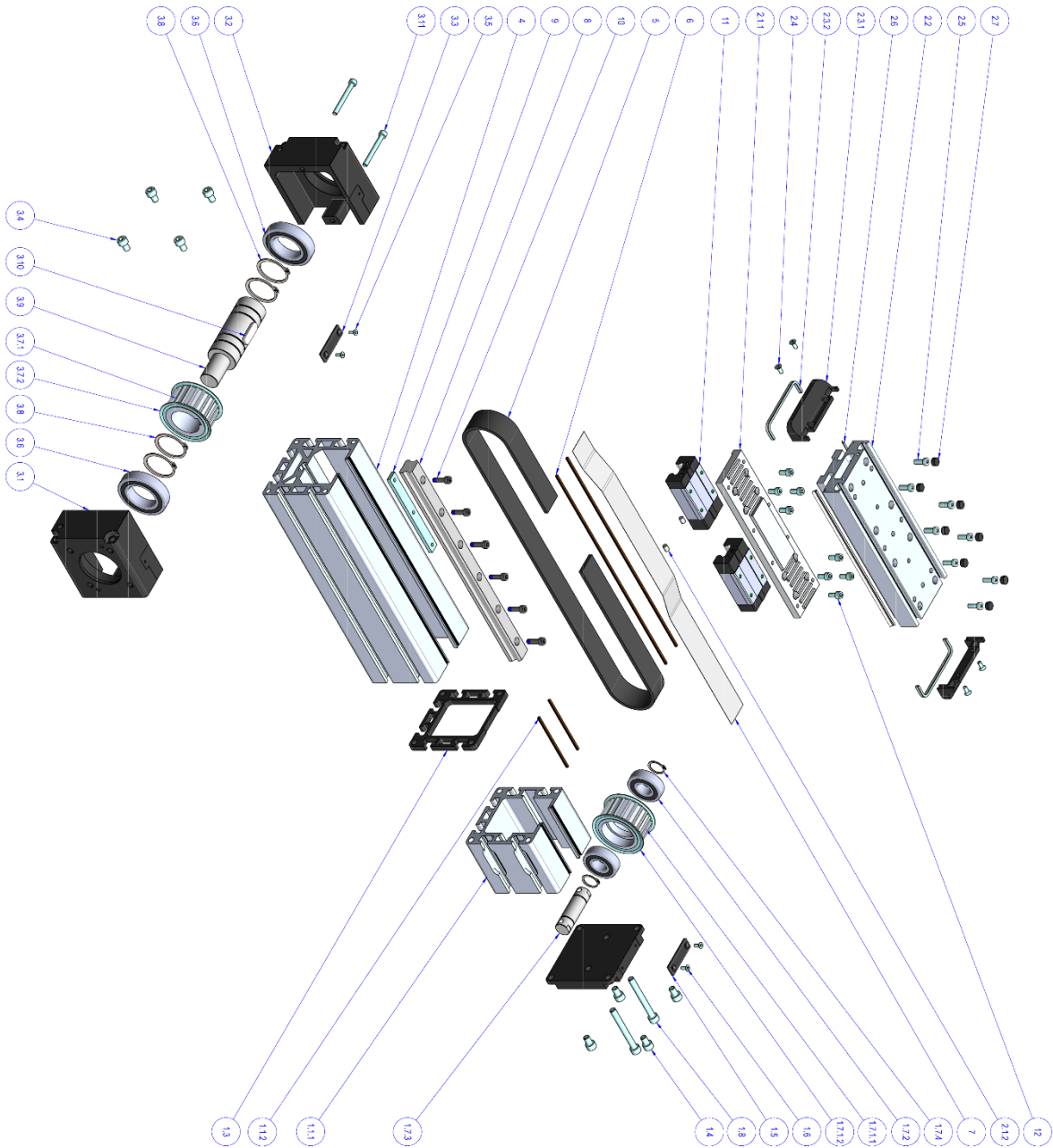


Pos.	Code	Description	Q.tà
1	A1001L-0259	ALL PROFILE MTR55, IN BASE L=STRONCE+195 MM	1
2	A10101-0985	TIMING BELT - 6MM0 DAIRES - 192Z (STRONCE+195MM - 50Z L=STRONCE+145MM)	1
3	A1001-0258	PASTINA DI PERI 2X1.5X1.5Z (STRONCE+158 MM)	1
4	A1001-0438	SS STRIP 20X25X1.55X0.5 (STRONCE+138 MM)	2
5	BALANZAS	THREADED PLATE MTR55 MAX15	1
6	VITENIA.40121FF	SCREW SCALING WITH THREADED LOCKER - MAX12 N	5
7	A10000	PRE-ASSEMBLED TENSIONER END CAP MTR55	1
7.1	A10002	PRE-ASSEMBLED TENSIONER BODY MTR55	1
7.1.1	A1002	TENSIONER BODY END CAP MACHINED MTR55	1
7.1.2	A1001-0885	PASTINA DI PERI 2X1.5X1.5Z BODY MTR55	2
7.2	A1001L	TENSIONER TERMINAL END CAP MTR55	1
7.3	A1000V	TENSIONER SCREW LOCKING PLATE MTR55	1
7.4	A1000V	SS STRIP LOCKING PLATE MTR55	1
7.5	A1002V	TENSIONER SPACER MTR55	1
7.6	A10002	PRE-ASSEMBLED TENSIONER PALLET / FLANGE MTR55	1
7.6.1	A1001L	TENSIONER PALLET / FLANGE MTR55	1
7.6.1.2	A1001L	PALLET FLANGE DAIRES/STRIP 1.5 MTR55	2
7.6.2	C58-0000-278	BALL BEARING 020X020X8	2
7.6.3	A1001	TENSIONER SHAFT MTR55	1
7.6.4	SS410	CIRCLIP DIA11 - 10X1	1
7.7	A1000V	TENSIONER BODY MTR55	1
7.8	VITENIA.30108	SCREW F.H. TORX SELF-DRIVING DIMENSION - MAX8	2
7.9	VITENIA.40108	SCREW F.H. TORX SELF-DRIVING DIMENSION - MAX8	2
7.10	VITENIA.50100	SCREW SCALING - MAX10 Z	4
7.11	VITENIA.30108	SCREW SCALING - MAX8 N	1
7.12	VITENIA.40102	SCREW F.H. TORX MENSILE 50X1.481 - MAX12	2
8	A1000V	PRE-ASSEMBLED MOTOR END CAP SINGLE SHAFT DR18 NO KEY WAY MTR55	1
8.1	A10000	PRE-ASSEMBLED MOTOR BODY MTR55	1
8.1.1	A10001	MOTOR BODY END CAP MACHINED MTR55	1
8.1.2	A1001-0469	PASTINA DI PERI 2X1.5X1.5Z BODY MTR55	2
8.2	A1000L	MOTOR TERMINAL END CAP MTR55	1
8.3	A1000V	SS STRIP LOCKING PLATE MTR55	1
8.4	C58-6100-278	BALL BEARING 020X020X7	2
8.5	A1002A-MTR55	MOTOR SHAFT DR18 WITHOUT KEY WAY MTR55	1
8.6	CHEKX-18	PARALLEL KEY DIM888-18X18	1
8.7	A10001	PRE-ASSEMBLED MOTOR PALLET / FLANGE MTR55	1
8.7.1	A1001G	MOTOR PALLET / FLANGE 2.5X1.4 MTR55	1
8.7.2	A1001	PALLET FLANGE DAIRES/STRIP 1.5 MTR55	2
8.8	SS42	CIRCLIP DIA11 - 22X1.2	2
8.9	SS972	CIRCLIP DIA17 - 22X1.2	2
8.10	VITENIA.30108	SCREW F.H. TORX SELF-DRIVING DIMENSION - MAX8	2
8.11	VITENIA.50100	SCREW SCALING - MAX10 Z	4
8.12	A1000V	MOTOR SPACER MTR55	4
8.13	DOMOS	SQUARE NUT MAX8X3	4
8.14	VITENIA.50100	SCREW WITHOUT HEAD 50X0.8 MAX5	4
9	A1001G	PRE-ASSEMBLED CHARGE MTR55	1
9.1	A1001G	PRE-ASSEMBLED INTERNAL CHARGE MTR55	1
9.1.1	A1001	INTERNAL CHARGE MTR55	1
9.1.2	A1001	WEDGEO LOCKET 68X4	2
9.2	A1000S	EXTERNAL CHARGE MACHINED MTR55	1
9.3	A1000V	PRE-ASSEMBLED END SCOPPER MTR55	1
9.3.1	A1000V	LEAD SCOPPER MTR55	1
9.3.2	A1001	FELT 16X17.5X5 MTR55	1
9.4	A1001-0190	POLYURETHAN CHARGE SEAL L=150MM MTR55	2
9.5	VITENIA.30100	SCREW F.H. TORX MENSILE 50X1.481 - MAX10	6
9.6	VITENIA.50108	SCREW SCALING - MAX10 Z	6
9.7	A1001G	SS STRIP CHARGE SUPPORT MTR55	2
10	VITENIA.40108	SCREW SCALING - MAX8 Z	8
11	A1000A-026	GLUE WORK TO LEADERS L=STRONCE - 154 MM	1
12	A1000A-LF	FOAMER-BLOCK WITH STRIP WITH L=15	2



Pos.	Code	Description	Qty
1	A2A011C330	ALL PROTECTOR MTR80 W/ BASE (STRONG-420) MM	1
2	A2B10-0875	TAPPING BELT - ARMED CABLES - PAZ GREEN AT252 - L-POSTION-H975 MM	1
3	A2000-0330	GUIDE W/OUT 10.25 BASE L-STRONG-420MM	1
4	A2A01-0442	SS STRIP - 205P/25X BASE L-STRONG-442 MM	1
5	A2A01-1030	PLASTIMAG HP1 30X BASE L-STRONG-1203 MM	2
6	BABX15	THREADED PLATE MTR80 M4X15	1
7	VTC2030-04H#	SCREW BODY WITH HEAD LOCKER - M4X15 N	6
8	A2B900	PRE-ASSEMBLED TENSIONER BODY MTR80	1
8.1	A2B902	TENSIONER BODY END CAP MACHINED MTR80	1
8.1.1	A2B903	TENSIONER BODY END CAP MACHINED MTR80	1
8.1.2	A2B904	PLASTIMAG HP1 30X BASE L-STRONG-1203 MM	2
8.2	A2B912	TENSIONER SPACER MTR80	1
8.3	A2B911	TENSIONER TERMINAL END CAP MTR80	1
8.4	A2B910	SS STRIP LOCKING PLATE MTR80	1
8.5	VTC2030-02	SCREW BODY - M4X20 Z	4
8.6	A2B901L	SCREW P.H. TORX SELF-CLEANING DIVISION - M4X8	2
8.7	A2B901	TENSIONER BODY MTR80	1
8.8	A2B903	PRE-ASSEMBLED TENSIONER PULLEY MTR80	1
8.8.1	A2B902	PRE-ASSEMBLED TENSIONER PULLEY FLANGE MTR80	1
8.8.1.1	A2B911	TENSIONER PULLEY HTS 2-K2 MTR80	1
8.8.1.2	A2B912	PULLEY FLANGE MTR80	2
8.8.2	A2B901	TENSIONER SHAFT MTR80	1
8.8.3	CSR-00002-085	BALL BEARING 020X0158	2
8.8.4	SG415	CIRCLIP DIN911 - 15X1	2
8.9	A2B900V	TENSIONER SCREW LOCKING PLATE MTR80	1
8.10	VTC16A-008	SCREW P.H. TORX SELF-CLEANING DIVISION - M4X8	2
8.11	VTC16A-008	SCREW P.H. TORX MERIC ISO1401 - M4X2	2
8.12	VTC12L-020	SCREW DIN913 - 20X12	1
9	A2B901A-008	PRE-ASSEMBLED MOTOR END CAP SINGLE SHAFT 078/102 VER.MV	1
9.1	A2B901B	PRE-ASSEMBLED MOTOR BODY MTR80	1
9.1.1	A2B901	MOTOR BODY END CAP MACHINED MTR80	1
9.1.2	A2A01-0484	PLASTIMAG HP1 30X BASE L-STRONG-1203 MM	2
9.2	A2B901V	MOTOR SPACER MTR80	2
9.3	SG415	CIRCLIP DIN911 - 16X2	2
9.4	CSR-00003-085	BALL BEARING 020X0163	2
9.5	A2B901	PRE-ASSEMBLED MOTOR PULLEY FLANGE MTR80	1
9.5.1	A2B911G	MOTOR PULLEY HTS 2-K2 MTR80	1
9.5.2	A2B901	PULLEY FLANGE MTR82	2
9.6	A2B901A-008	MOTOR SHAFT 078 WITHOUT REV.MV MTR80	1
9.7	SG412	CIRCLIP DIN911 - 20X12	2
9.8	SG430	CIRCLIP DIN911 - 20X15	2
9.9	A2B901	MOTOR TERMINAL END CAP MTR80	1
9.10	A2B901V	SS STRIP LOCKING PLATE MTR80	1
9.11	C-P-100X25	PIVOTAL KEY DIMMING 100X25	1
9.12	VTC16A-008	SCREW P.H. TORX SELF-CLEANING DIVISION - M4X8	2
9.13	DOX008	SCREW NUT M4X20.5 - SPRING	4
9.14	VTC2030-150	SCREW ISO9127 - M4X20 Z	4
10	A2B911S	PRE-ASSEMBLED CARTRIDGE MTR80	1
10.1	A2B910	PRE-ASSEMBLED INTERNAL CARTRIDGE MTR80	1
10.1.1	A2B901	INTERNAL CARTRIDGE MTR80	1
10.1.2	A2B902	NEEDLE MAGNET Ø80X10	2
10.2	AS102	EXTERNAL CARTRIDGE MACHINED MTR80	1
10.3	A2B901V	LEAD SCRAPPER MTR80	2
10.3.1	A2B901	FEEL EXPOSER MTR80	1
10.4	A1T01-020	POLYURETHAN CARTRIDGE SEAL L-20MM MTR80	1
10.5	A2B911	SS STRIP CARTRIDGE SUPPORT MTR80	2
10.6	VTC16A-008	SCREW P.H. TORX SELF-CLEANING DIVISION - M4X8	6
10.7	VTC16A-008	SCREW TORX MERIC ISO1401 - M4X2	6
11	A2B900V	MAGNET FROM SPRING CON LU	2
12	VTC2030-04V16	SCREW ISO9127 - M4X12 Z	8

16. BOM MTB105



Pos.	Code	Description	Qty
1	ASB002	TENSIONING END CAP PRE ASSEMBLY W/STRIPS	1
1.1	ASB001	TENSIONING END CAP PRE ASSEMBLY W/STRIPS	1
1.1.1	ASB011	TENSIONING BODY PRE ASSEMBLY W/STRIPS	1
1.1.2	ASB012	PLASTIC WIPER STRIP END TENSIONING BODY W/STRIPS	2
1.2	ASB004	TENSIONING TERMINAL END CAP ALUM ANODIZED W/STRIPS	1
1.3	ASB005	TENSIONING SPACER W/STRIPS	1
1.4	ASB006	SCREW ISOLATING - M4X12 L2	4
1.5	ASB007	SS STRIP COILING PLATE W/STRIPS	1
1.6	ASB008	SCREW / H. TORX M4X12X0.45H - M4X12	2
1.7	ASB009	TENSIONING PULLEY PRE ASSEMBLY W/STRIPS	1
1.7.1	ASB010	TENSIONING PULLEY / FLANGE PRE W/STRIPS	1
1.7.1.1	ASB011	TENSIONING PULLEY / 110-217 W/STRIPS	1
1.7.1.2	ASB012	PULLEY FLANGE / 270X200X30 W/STRIPS	2
1.7.2	ASB013	BALL BEARING / 6002X14	2
1.7.3	ASB014	TENSIONING SHAFT W/STRIPS	1
1.7.4	ASB015	PISTON / 10MM - 20X12	2
1.8	ASB016	SCREW ISOLATING - M4X12	2
1.9	ASB017	SCREW / H. TORX M4X12X0.45H - M4X12	1
2	ASB018	CARTRIDGE PRE ASSEMBLY W/STRIPS	1
2.1	ASB019	INTERNAL CARTRIDGE PRE ASSEMBLY W/STRIPS	1
2.1.1	ASB020	MOTOR END CAP PRE ASSEMBLY SINGLES END FLANGE SHIRT 20X120	1
2.1.2	ASB021	MOTOR END CAP PRE ASSEMBLY SINGLES END FLANGE SHIRT 20X120	1
2.2	ASB022	EXTERNAL CARTRIDGE ENDED W/STRIPS	2
2.3	ASB023	LEAD SCRAPPER PRE ASSEMBLY W/STRIPS	2
2.3.1	ASB024	HEAT SHIELDER W/STRIPS	1
2.3.2	ASB025	HEAT SHIELDER W/STRIPS	1
2.4	ASB026	SCREW / H. TORX SELF DRILLING DIVISION - M4X12	4
2.5	ASB027	SCREW / H. TORX SELF DRILLING DIVISION - M4X12	4
2.6	ASB028	POLYURETHAN CARTRIDGE SEAL - L-25MM W/STRIPS	8
2.7	ASB029	PL-3012 CAR ISOLATING	1
3	ASB030	MOTOR END CAP PRE ASSEMBLY SINGLES END FLANGE SHIRT 20X120	1
3.1	ASB031	MOTOR END CAP PRE ASSEMBLY SINGLES END FLANGE SHIRT 20X120	1
3.2	ASB032	ROTOR FIBER CAR ALUM ANODIZED RIGHT LEFT W/STRIPS	1
3.3	ASB033	SS STRIP COILING PLATE W/STRIPS	1
3.4	ASB034	SCREW ISOLATING - M4X12 L2	4
3.5	ASB035	SCREW / H. TORX M4X12X0.45H - M4X12	1
3.6	ASB036	BALL BEARING / 6002X14	2
3.7	ASB037	MOTOR PULLEY / FLANGE PRE ASSEMBLY W/STRIPS	1
3.7.1	ASB038	MOTOR PULLEY / 110-217 W/STRIPS	1
3.7.2	ASB039	PULLEY FLANGE / 270X200X30 W/STRIPS	2
3.8	ASB040	PISTON / 10MM - 20X12	4
3.9	ASB041	MOTOR SHAFT END WITHOUT FIBER W/STRIPS	1
3.10	ASB042	PARALLEL DIVISOR - 29X30X6	1
3.11	ASB043	SCREW ISOLATING - M4X5 L2	2
4	ASB044	ALL PROFILE W/STRIPS WITH HOLES M4X12X0.45H - 418 MM	1
5	ASB045	PLASTIC WIPER STRIP END TENSIONING BODY W/STRIPS	2
6	ASB046	SS STRIP COILING PLATE W/STRIPS	1
7	ASB047	PISTON / 10MM - 20X12	2
8	ASB048	SCREW / H. TORX M4X12X0.45H - M4X12	1
9	ASB049	SCREW ISOLATING WITH THE ADJUSTER - M4X20	1
10	ASB050	PLASTIC WIPER STRIP END TENSIONING BODY W/STRIPS	1
11	ASB051	SCREW ISOLATING WITH THE ADJUSTER - M4X20	1
12	ASB052	SCREW ISOLATING - M4X12 L2	8

17. BELT TENSION ADJUSTMENT

The units are already supplied with the belt with the correct tension, the instrument used, Trummeter, is an instrument based on infrared light reader, that reads the vibration of the belt and through software transforms it into Newton (thrust force).

In case it is necessary to adjust the belt act as described table following figure.

There is another way of adjusting the belt that is based on a known force applied to the belt and how much the belt must yield (in mm)

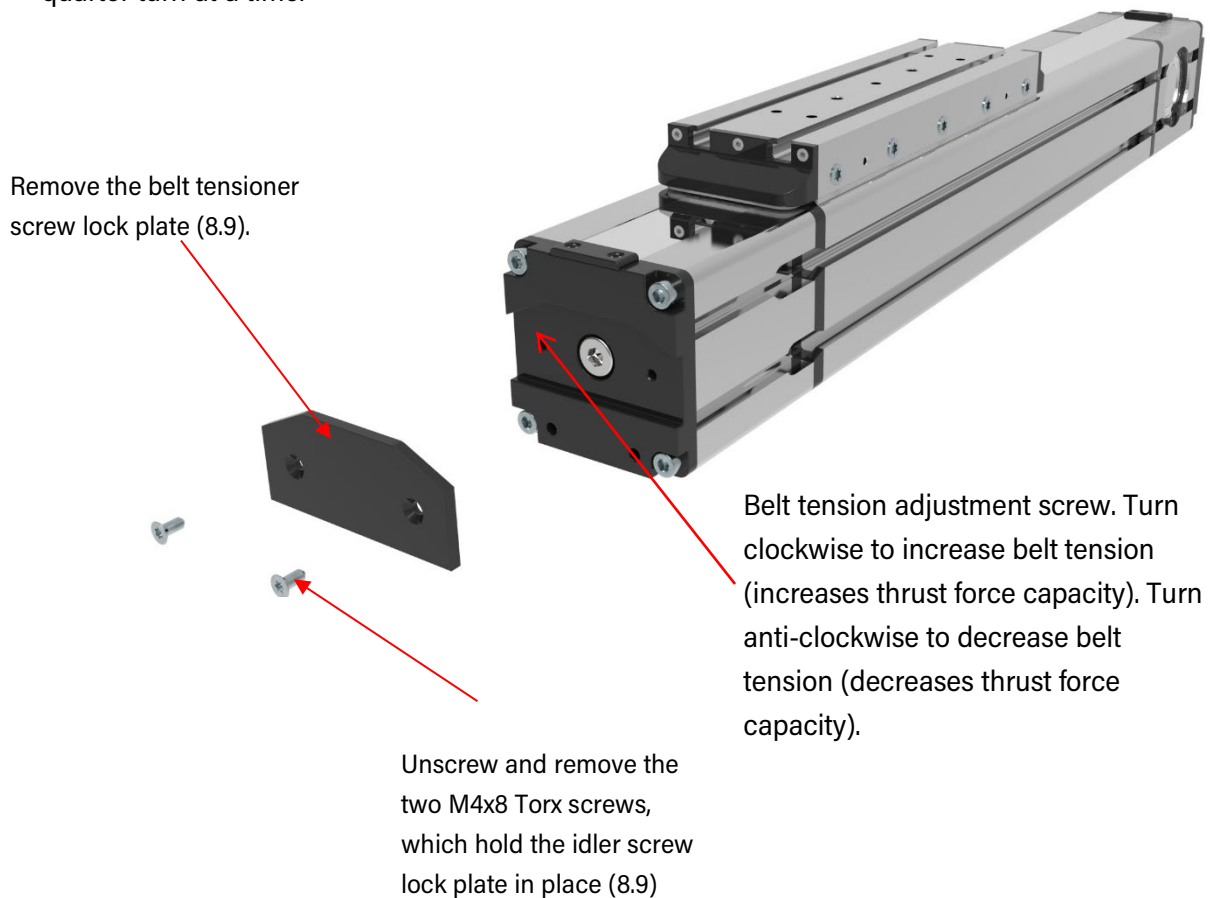
In the case of MTB80 actuators stroke 1240/2940/3900/4880 proceed as follows.

- Bring the carriage about 200 mm from the head, apply a force at about 80 Newtons in the middle part of the 200 mm, act on the adjusting screw so that the applied force does not cause the belt to yield about 3 mm.

Proper operation of the linear unit depends on the required thrust force and belt tension ratio.

Remember that:

- A belt with too high a tension leads to increased friction and mechanical stress on the bearings and the belt itself, in which case reduce the tension.
- A belt with too little "tension" can lead to loss of precision and in case of sudden acceleration can blow out the pulley teeth, in this case increase the tension. We recommend acting on the screw a quarter turn at a time.



18. LUBRICATION

The units are all supplied with LF-type lubrication reservoirs, a solid lubricant that maintains the correct lubrication of the guideways regardless of mounting and orientation. This type of lubrication allows for a longer service life and combined with the fact that the guideway is protected reduces lubrication maintenance to a minimum.

19. WARRANTY CONDITIONS

The guarantee conditions are set out in the terms and conditions of delivery and payment issued at the time of the order.

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Warranty coverage shall be voided if:

- the unit is not used in accordance with the appropriate use of the unit;
- the instructions in this manual are not followed;
- the unit is modified without the manufacturers consent;
- the screws sealed with paint are unlocked

The manufacturer's warranty for maintenance and repair applies only if original spare parts are used.

20. 20. MAINTENANCE CONTACTS

Motus Tech s.r.l.

Via G. Di Vittorio, 33/3 I 20068 Peschiera Borromeo - Milano - Italy

Tel. +39.02.54.70.273 – Fax +39.02.54.75.543

info@motus-tech.com