



LINEAR SYSTEMS

USER AND MAINTENANCE MANUAL

movitec[®]

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This user and maintenance manual has been compiled by the manufacturer Impex Tecniche Lineari srl. Before starting to use any product, read the following instructions carefully. Impex Tecniche Lineari accepts no responsibility for damage to persons or property resulting from non-compliance with safety regulations contained herein or improper use of the product.

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1. Product description

All MOVITEC branded linear products are designed to offer many customizable solutions and can be combined with each other to form multi-axis systems. Thanks to a choice of drives, guiding systems, protections and options, the adaptability of the products in either existing or in new machines is guaranteed. MOVITEC linear systems are manufactured from extruded aluminium or from high-quality aluminium. The Linear Tables can also be realized in steel.

2. Application areas

MOVITEC Linear Tables are mainly used in the following areas: automotive, packaging, handling, laser cutting or water jet, marking systems, control and vision systems, assemblies, semiconductors, electronics, special machines, industrial automation, installation, etc.

3. Different sizes

TV sizes 100, 150, 200, 250, 300, 400:



Linear Tables electromechanical

- **TVP** with screw drive and linear rail guides
- **TVL** with screw drive and long block linear rail guides
- **TVH** with screw drive and heavy duty linear rail guides
- **TVR** with screw drive and roller guides

TP sizes 150, 200, 250, 300, 400:



Linear Tables pneumatic

- **TPP** with con pneumatic cylinder and linear rail guides
- **TPL** with con pneumatic cylinder and long block linear rail guides
- **TPH** with con pneumatic cylinder and heavy duty linear rail guides
- **TPR** with con pneumatic cylinder and roller guides

4. Safety symbols



ATTENTION!



DANGER!

The following safety instructions must be followed strictly to avoid any damage to property or persons. The manufacturer is not liable for any damage caused by negligence.

5. Safety instructions

MOVITEC Linear Tables are precision machine elements. They must be handled with utmost care. It is not allowed to put them into operation if they are not complied with the relevant European standards for machine safety, the relevant harmonized standards and all other relevant regulations.

6. Transport and storage

Linear Tables or Linear Systems are packed individually with care. Carefully read all the symbols on the packaging. Move products with the utmost care and leave them in original packaging until installation. Do not shake, do not drop! Remove packaging only in installation area. Careful when handling, weights can vary widely.

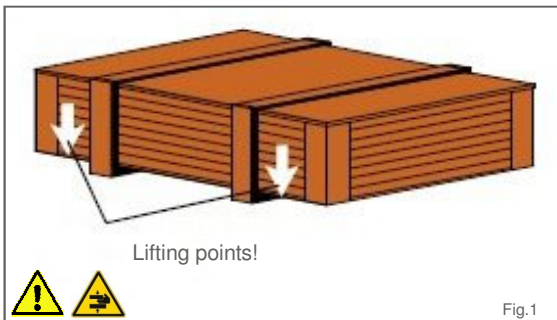


Fig.1

Raise the packaging only simultaneously on the two points

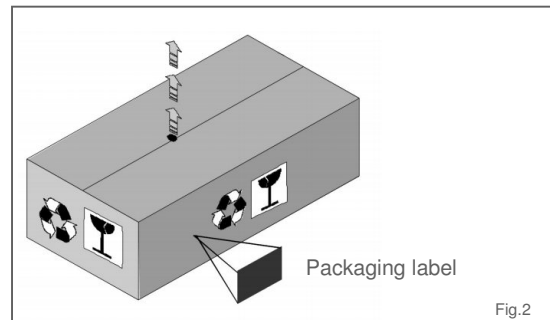


Fig.2

All information is provided on the packaging

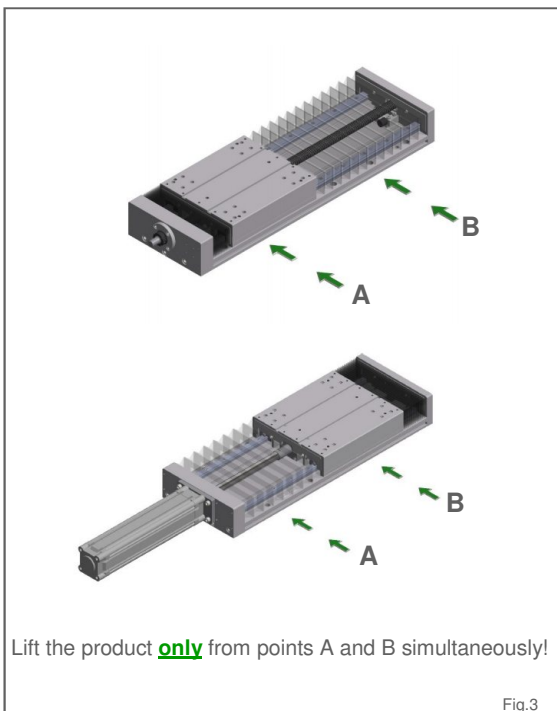


Fig.3

Lift the product only from points A and B simultaneously!

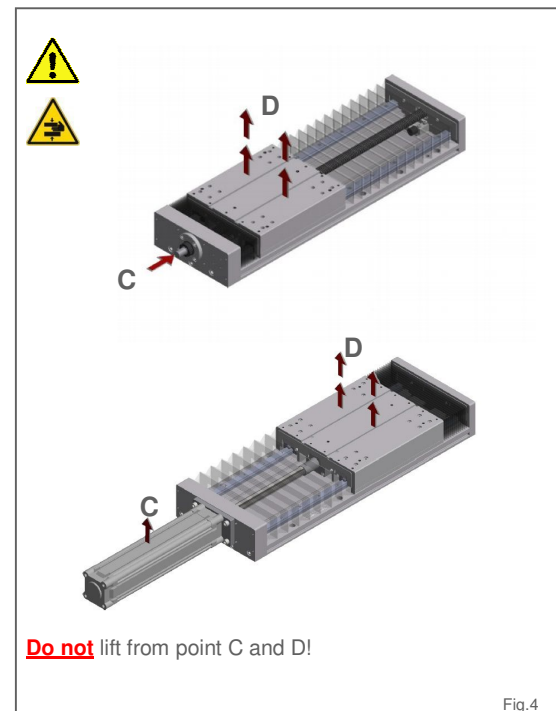


Fig.4

Do not lift from point C and D!

7. Serial number Identification

Each MOVITEC Linear Table is marked with a serial number. This number is always on the right side of the table, under the bellows and identifies all the assembly parts. To request spare parts, always attach the serial number.

2	0	1	3	1	1	2	5	0	0	1
---	---	---	---	---	---	---	---	---	---	---

To identify the serial number, raise the bellows from the front plate side and remove from the support.

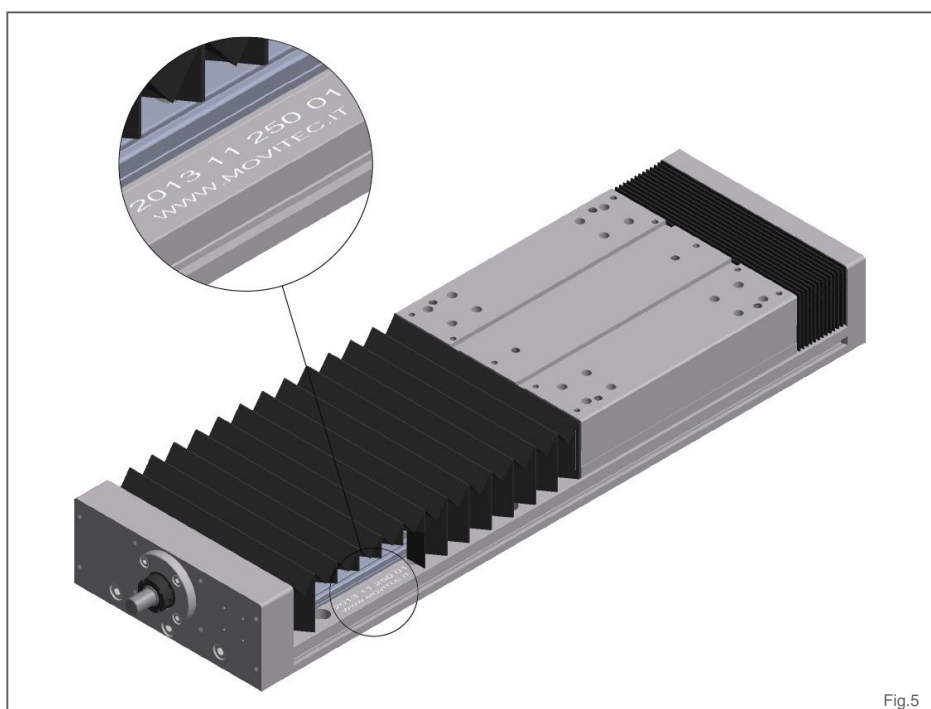


Fig.5

Example on TV

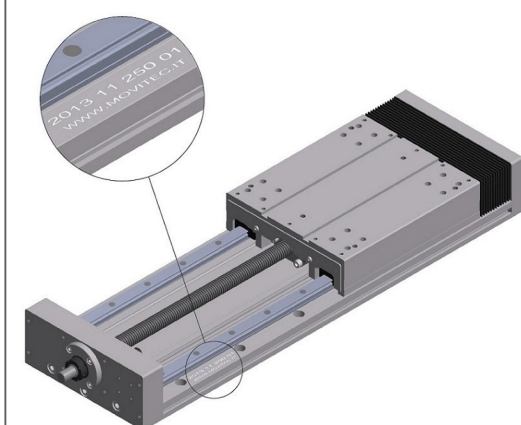


Fig.6

Example on TP

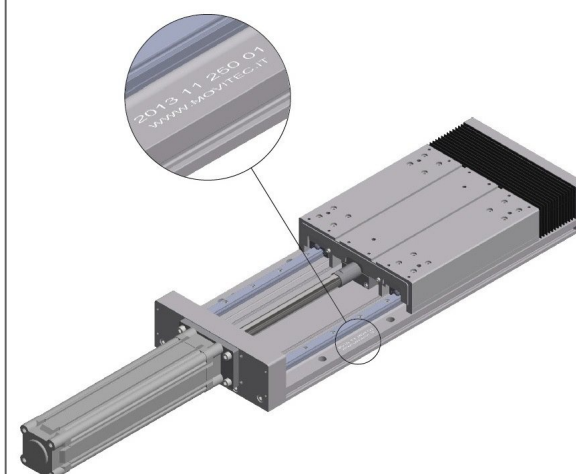


Fig.7

8. TV Linear Tables main parts

Main parts of MOVITEC Linear Tables:

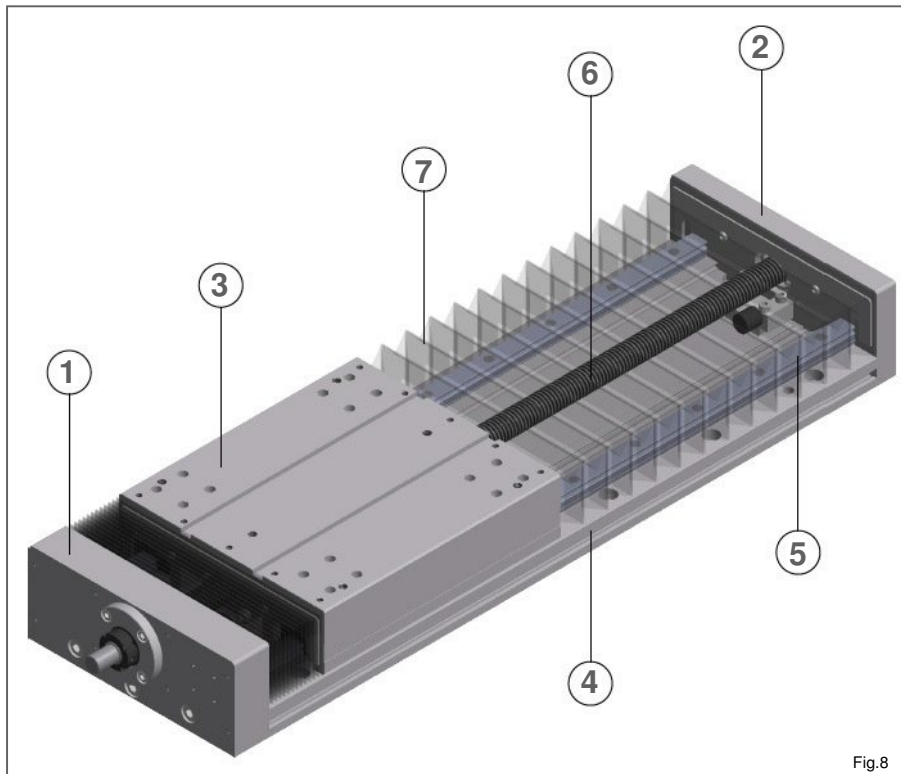


Fig.8

Main parts TV type

- 1) Front plate
- 2) Rear plate
- 3) Carriage
- 4) Base plate
- 5) Linear guides
- 6) Screw drive
- 7) Bellows

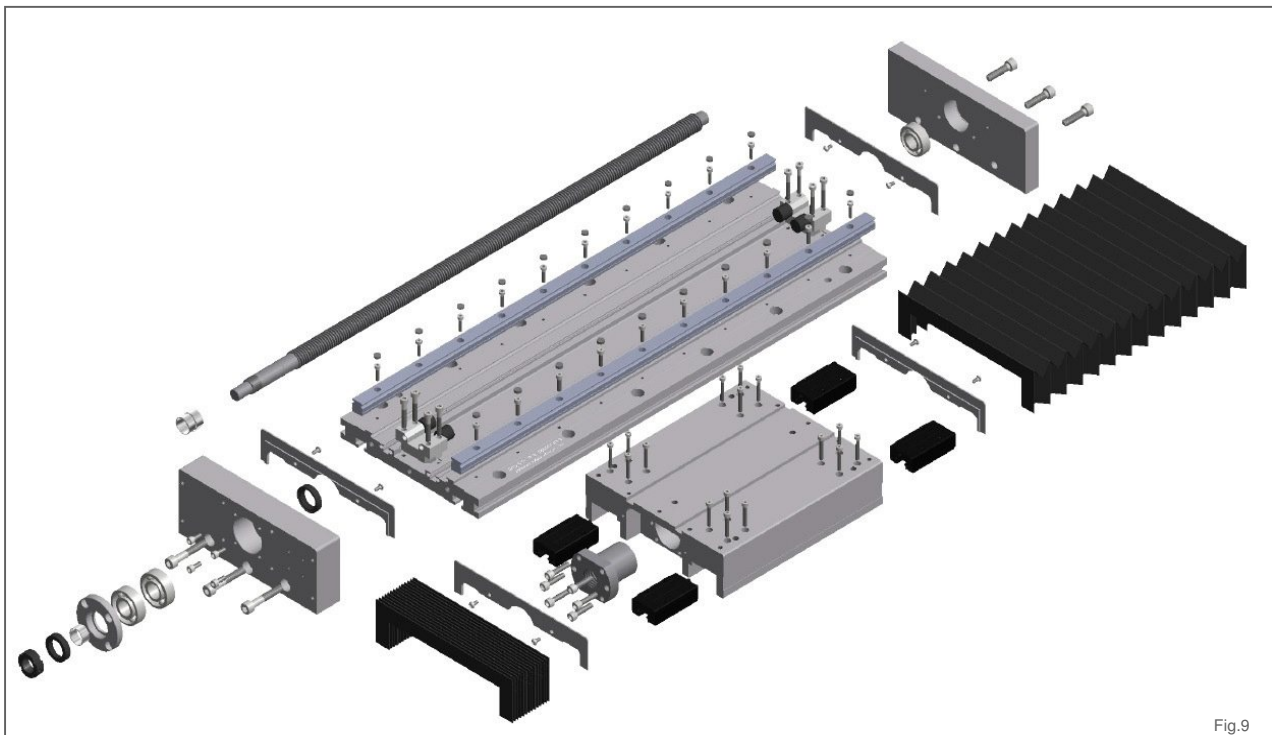


Fig.9

9. Maintenance

MOVITEC Linear tables are manufactured to require a minimum of maintenance. Maintenance should be performed only by qualified and specially trained staff .

Before performing maintenance, observe all necessary safety rules!

- Turn off the machine and disconnect the power plug
- For cleaning do not use any sharp or abrasive objects
- For greasing, use a minimal amount of fat. Do not dirt the mechanical elements

Standard maintenance is limited to a general cleaning and lubrication of nut and linear guides. Regularly inspect the Linear Tables in order to keep them clean. For lubrication refer to table 3 on page 11.

10. Part assembly and disassembly

Linear Tables are supplied assembled and ready for installation. To carry out a proper maintenance itb may be necessary to remove some of the parts:

Bellows:

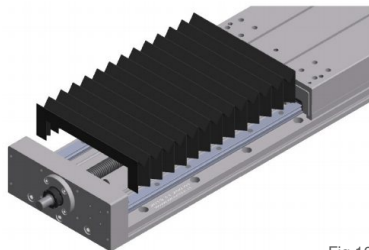


Fig.10

Screw:

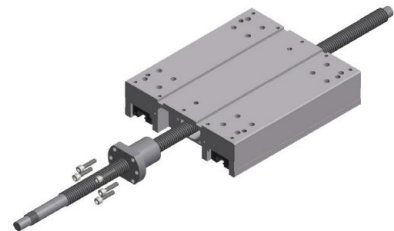


Fig.11

Carriage on base plate:



Fig.12

Linear guides:



Fig.13

Sliding blocks:

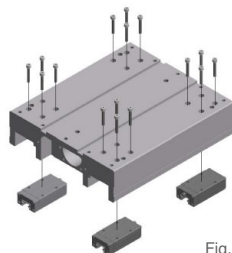


Fig.14

Motor mount:

Direct with coupling

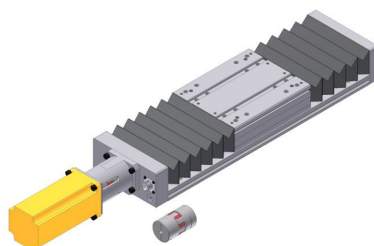


Fig.15

Lateral motor mount with belt gear

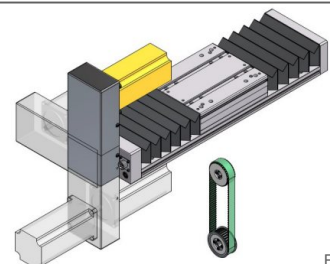
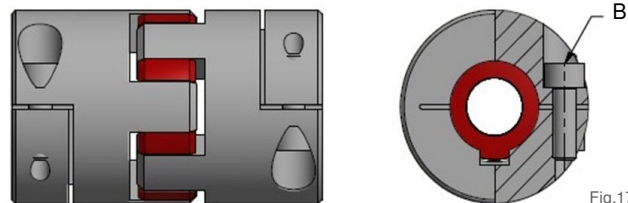
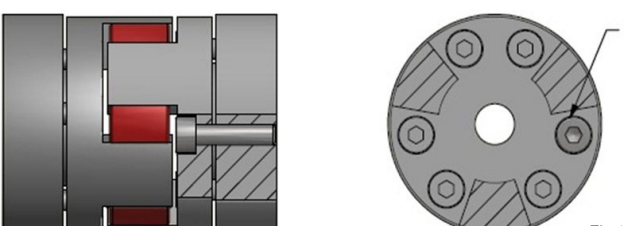
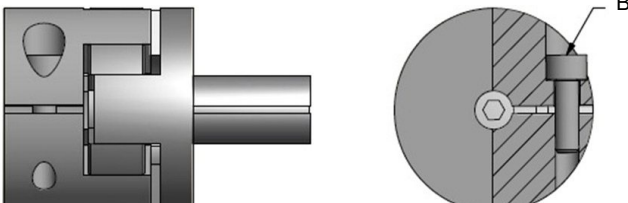


Fig.16

11. Precision couplings

Direct motor mounting is provided with aluminium support and coupling. These last are dangerous rotating parts. The operator has to comply with all safety rules and not touch the coupling at any time while rotating. Secure the machine during assembly / disassembly work.

	Fixing screw ISO 4762/12.9 [B]	Tightening torque [Nm]
Clamp coupling 	M2	0,35
	M2,5	0,75
	M3	1,35
	M3	2
	M4	4
	M5	8
	M6	10,5
	M6	15
	M8	25
Coupling with conical locking assembly 	M3	1,34
	3 x M3	2
	M4	2,9
	6 x M4	3
	4 x M5	6
	M5	6
	8 x M6	7
	M6	10
	8 x M8	12
	8 x M10	35
Coupling with spread shaft 	M3	2
	M4	4
	M5	8
	M6	15
	M8	35
	M10	70
	M12	120
	M16	290

Tab.1

12. Locking assembly

Locking device for lateral motor mount with belt gear.

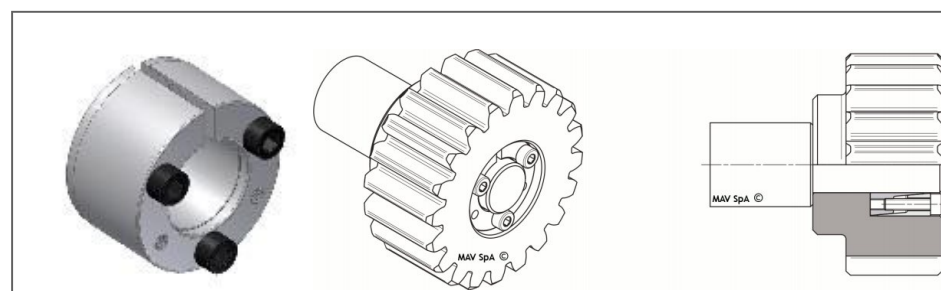


Fig.20

Fixing screw	Tightening torque [Nm]
M 2,5	1,2
M 3	2,2
M 4	5
M 5	10
M 6	17
M 8	41

Tab.2

13. Lubrication

MOVITEC Linear Tables are supplied lubricated. Optionally, it is possible to have additional lubrication holes on some sizes. The holes for centralized lubrication system are standards made on the left side of the carriage. On request, they can be provided on the right side.

For Linear Tables size 100 it is possible to add only one lubrication hole for the screw (Case A, Figure 22). If necessary, it is possible to mount self-lubricating sliding blocks (Case C, Fig.24).

For Linear Tables TV sizes 150 to 400 it is possible to add 5 lubrication holes (Case B, Figure 23). One for the screw and four for sliding blocks.

Lubrication	Use	Lubrication product	Maintenance cycle*
Screw	<u>High helix lead screws Speedy:</u> Lubricate nut with a brush. <u>Ballscrews:</u> Use a syringe with lubricant and inject on nut trough lubrication hole.	<u>High helix lead screws Speedy:</u> KLÜBER MICROLUBE GBUY131 <u>Ballscrews:</u> KLÜBER ISOFLEX NBU15	<p>Dynamic cycle < 10m/min every 500/600 hours</p> <p>Dynamic cycle > 10m/min every 300 hours</p>
Linear guides	Lubricate each sliding block trough lubrication hole (Fig.21)	KLÜBER ISOFLEX NBU15	

* Function of the kinematics

Tab.3

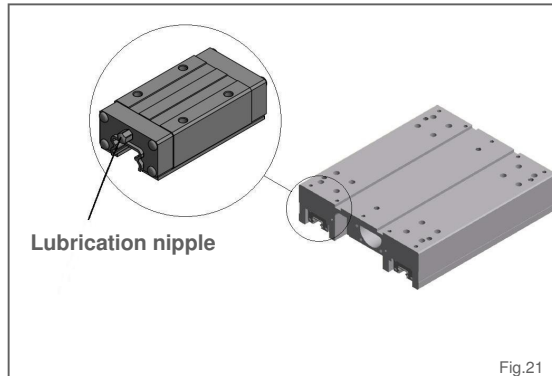


Fig.21

Size	Lubrication holes		
TV	[mm]		Nr. of holes
100	12	M6	1
150	15	1/8"	5x
200	15	1/8"	5x
250	15	1/8"	5x
300	15	1/8"	5x
400	20	1/8"	5x

Tab.4

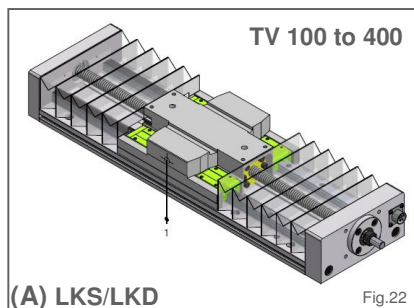


Fig.22

Linear Table with one lubrication hole for screw and eventually four self-lubricating sliding blocks

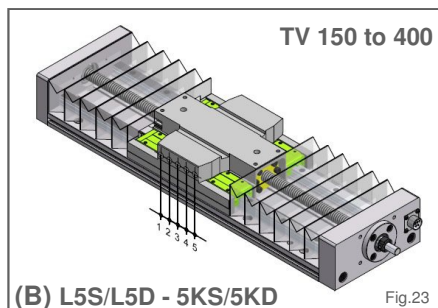


Fig.23

Linear Table with five lubrication holes. One for the screw and four for sliding blocks

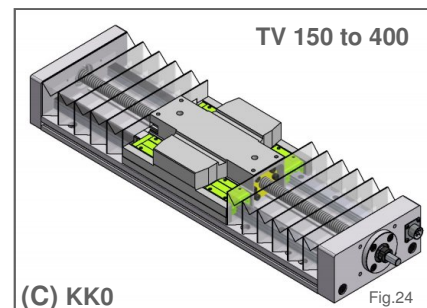


Fig.24

Linear Table without lubrication holes and four self-lubricating sliding blocks

14. Limit switches

The pin connector is supplied standard on the right side:

- Pin connector for TV 100



Fig.25

- Pin connector for TV 150 to 400



Fig.26

Inductive limit switches:

A: inductive limit switches PNP-NC

B: inductive limit switch PNP-NO

M: Stroke

X: 10mm (standard)

↔ :Adjustable limit switch ± 10 mm

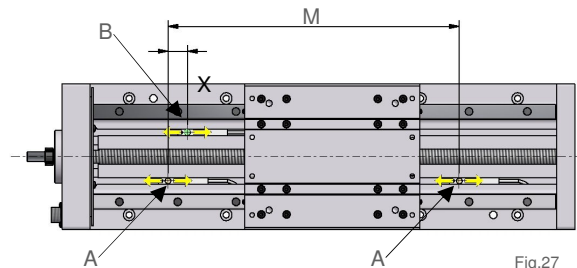


Fig.27

With pin connector		Without pin connector		Inductive limit switches
FA1	FA3	FA2	FA4	2x PNP-NC (emergency)
				1x PNP-NO (reference, motor side)
FB1	FB3	FB2	FB4	2x PNP-NC (emergency)
				1x PNP-NO (reference, opposite motor side)
FC1	FC3	FC2	FC4	2x PNP-NC (emergency)
FD1	FD3	FD2	FD4	1x PNP-NO (reference)

Tab.5

Wiring diagram:

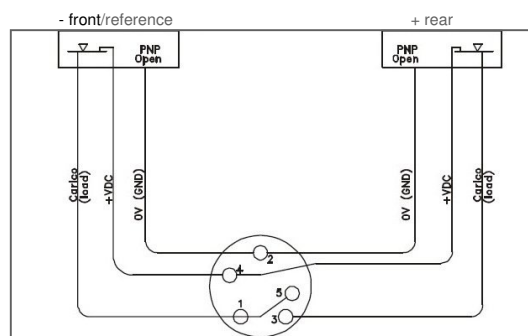


Fig.28

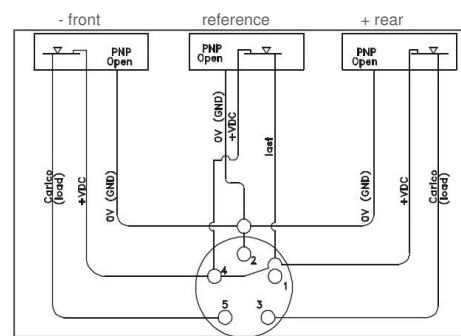


Fig.29

Mechanical limit switches:

Mechanical limit switches are available only for TV size 150 to 400 using two aluminium supports on base plate and one steel support on carriage as reference..

C: Mechanical limit switch

(Euchner o Balluff)

M: Stroke

↔ :Adjustable limit switch ± 10 mm

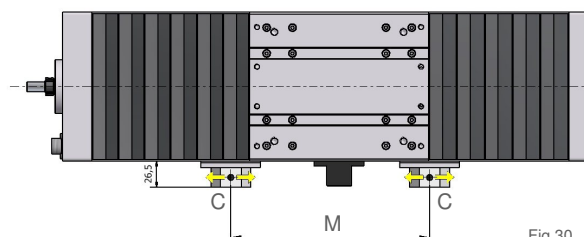


Fig.30

15. Additional holes on base plate and carriage

TV Linear Tables can be fixed precisely through optional bore holes on base plate and carriage.

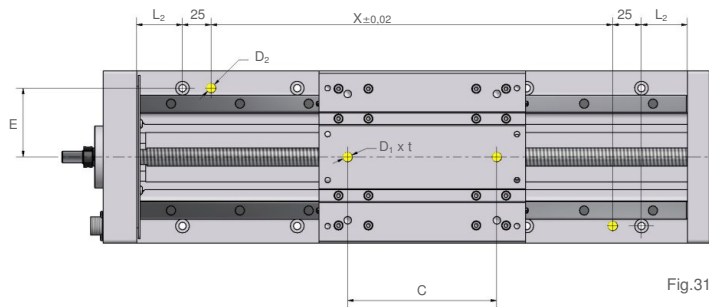


Fig.31

Size	Carriage		Base plate	
TV	D ₁ x t [mm]	C ± 0,02 [mm]	D ₂ [mm]	E ± 0,02 [mm]
100	6h7x8	98	6h7	80
150	8h7x15	130	8h7	120
200	8h7x15	120	8h7	170
250	8h7x15	150	8h7	220
300	8h7x15	250	8h7	260
400	8h7x15	280	8h7	360

Tab.6

16. Clamping systems

(A) Tapped holes on base plate:

Base plate has standard counterbored holes (FLS). Optionally it is possible to have threaded holes without counterboard (FFF), threaded and counterbored holes with ensat (FFE) or counterbored holes with thread (FFL).



Fig.32

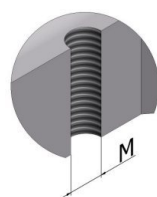
Size	FLS	FFF	FFE	FFL
TV	Ø [mm]	[mm]	[mm]	[mm]
100	6	M6	M6	M6
150	8	M8	M6	M8
200	10	M10	M8	M10
250	10	M10	M8	M10
300	10	M10	M8	M10
400	12	M12	M10	M12

Tab.7



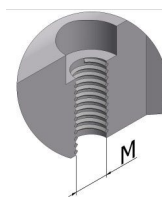
FLS

Fig.33



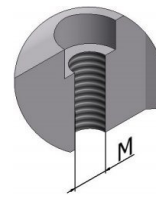
FFF

Fig.34



FFE

Fig.35



FFL

Fig.36

(B) Lower T-nuts:

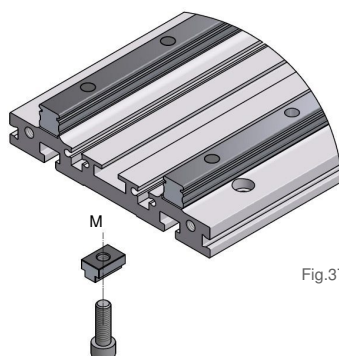


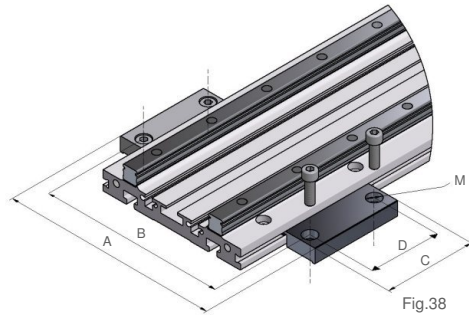
Fig.37

Size	Part Nr.	M
TV		[mm]
150	I 200-01	M6
200	I 200-01	M6
250	I 250-01	M8
300	I 250-01	M8

Tab.8

16. Clamping systems

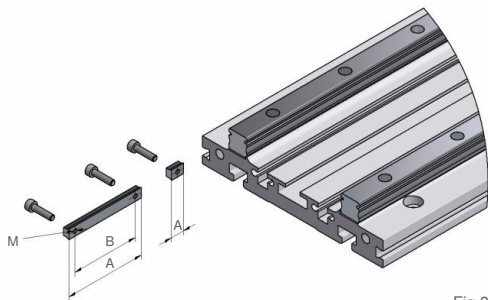
(C) Brackets:



Size	Part Nr.	A	B	C	D	E
TV		[mm]	[mm]	[mm]	[mm]	[mm]
100	ST 100-01	140	112	60	40	M5
150	ST 150-01	198	165	60	40	M6
200	ST 200-01	256	220	80	60	M8
250	ST 200-01	306	270	80	60	M8
300	ST 300-01	366	320	80	60	M8
400	ST 400-01	484	425	100	80	M10

Tab.9

(D) Lateral T-nuts:

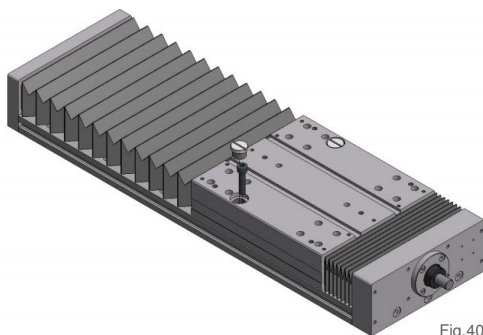


Size	Part Nr.	A	B	M
TV		[mm]	[mm]	[mm]
150	IL 150-01	10	–	M4
150	IL 150-02	60	50	M4
200	IL 200-01	10	–	M4
200	IL 200-02	60	50	M4
250	IL 200-01	10	–	M4
250	IL 200-02	60	50	M4
300	IL 200-01	10	–	M4
300	IL 200-02	60	50	M4

Tab.10

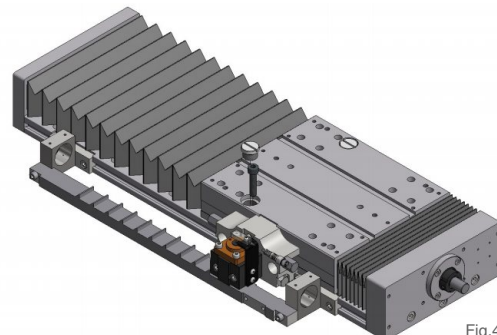
(E) Service holes:

For short strokes, service holes are provided to fix the base plate.



Size	Without mechanical safety system						
TVP/TVH	Stroke [mm]						
	50	100	150	200	250	300	350
150	2 holes	–	–	–	–	–	–
200	2 holes	2 holes	2 holes	2 holes	–	–	–
250	2 holes	2 holes	–	–	–	–	–
300	2 holes	2 holes	2 holes	–	–	–	–
400	–	4 holes	4 holes	2 holes	2 holes	–	–

Tab.11



Size	With mechanical safety system						
TVP/TVH	Stroke [mm]						
	50	100	150	200	250	300	350
150	2 holes	–	–	–	–	–	–
200	2 holes	2 holes	2 holes	2 holes	–	–	–
250	2 holes	2 holes	–	–	–	–	–
300	2 holes	2 holes	2 holes	2 holes	–	–	–
400	–	4 holes	4 holes	2 holes	2 holes	2 holes	–

Tab.12

17. Security systems

Electromechanical safety stop: With brake

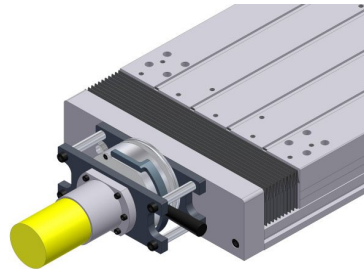
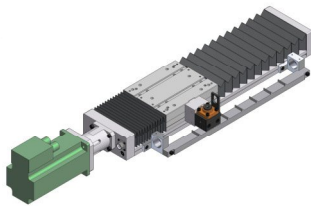


Fig.42

Mechanical safety stop (1):

With rack for vertical mounting position, limit switch holder straight.



*Release pressure by 4 Bar

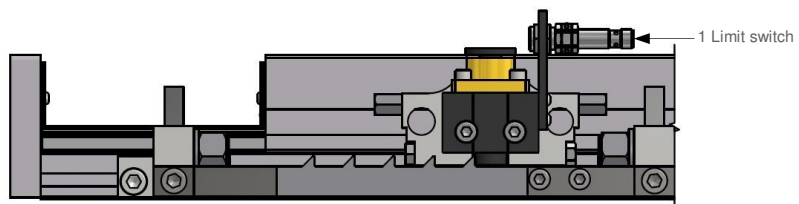
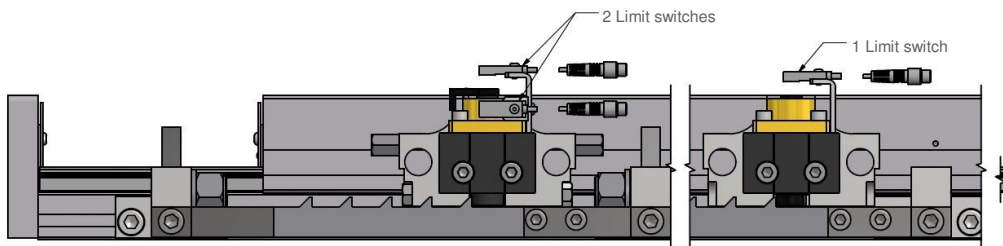


Fig.43

Mechanical safety stop (2):

With rack for vertical mounting position, limit switch holder L-form with one or two limit switches.

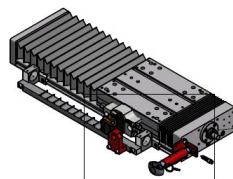


*Release pressure by 4 Bar

Fig.44

Mechanical safety stop with ball lock pin (3):

With rack for vertical mounting position, limit switch holder L-form with one or two limit switches and ball lock pin on front plate.



*Release pressure by 4 Bar

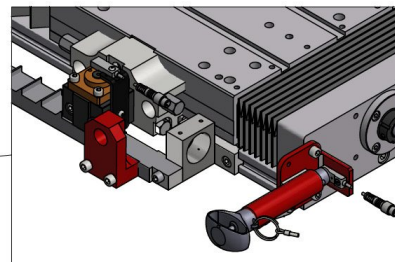
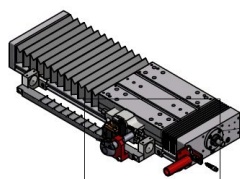


Fig.45

Mechanical safety stop with ball lock pin (4):

With rack for vertical mounting position, limit switch holder L-form with one or two limit switches and ball lock pin on rack support.



*Release pressure by 4 Bar

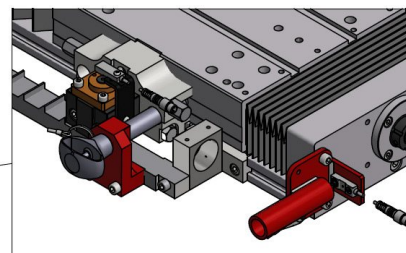


Fig.46

18. TP Linear Tables main parts

Main parts of MOVITEC Linear Tables:

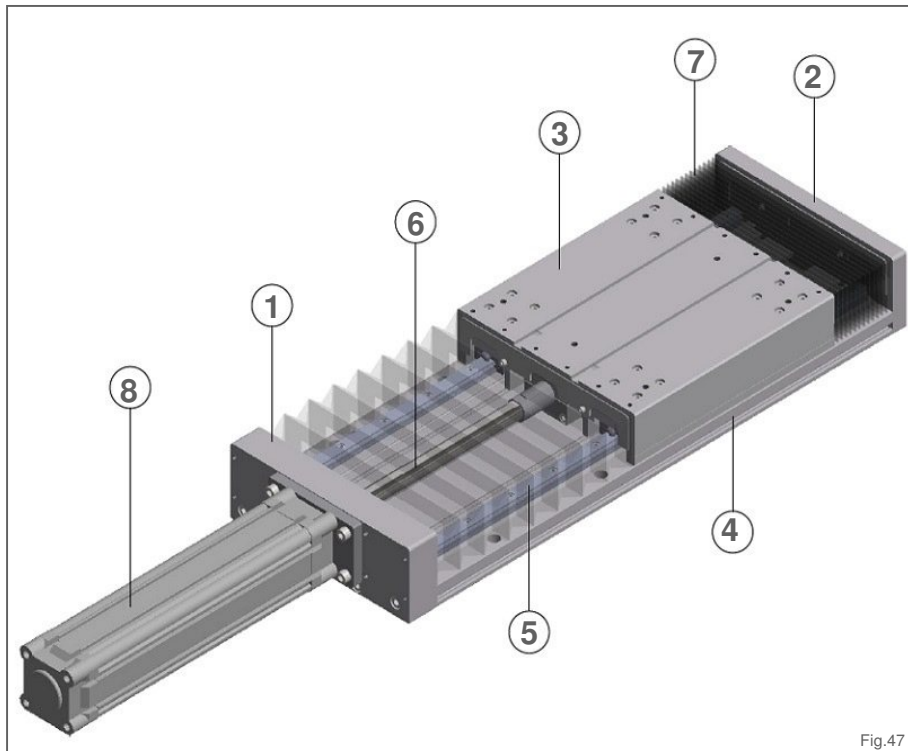


Fig.47

Main parts TP type

- 1) Front plate
- 2) Rear plate
- 3) Carriage
- 4) Base plate
- 5) Linear guides
- 6) Pneumatic drive
- 7) Bellows
- 8) Cylinder

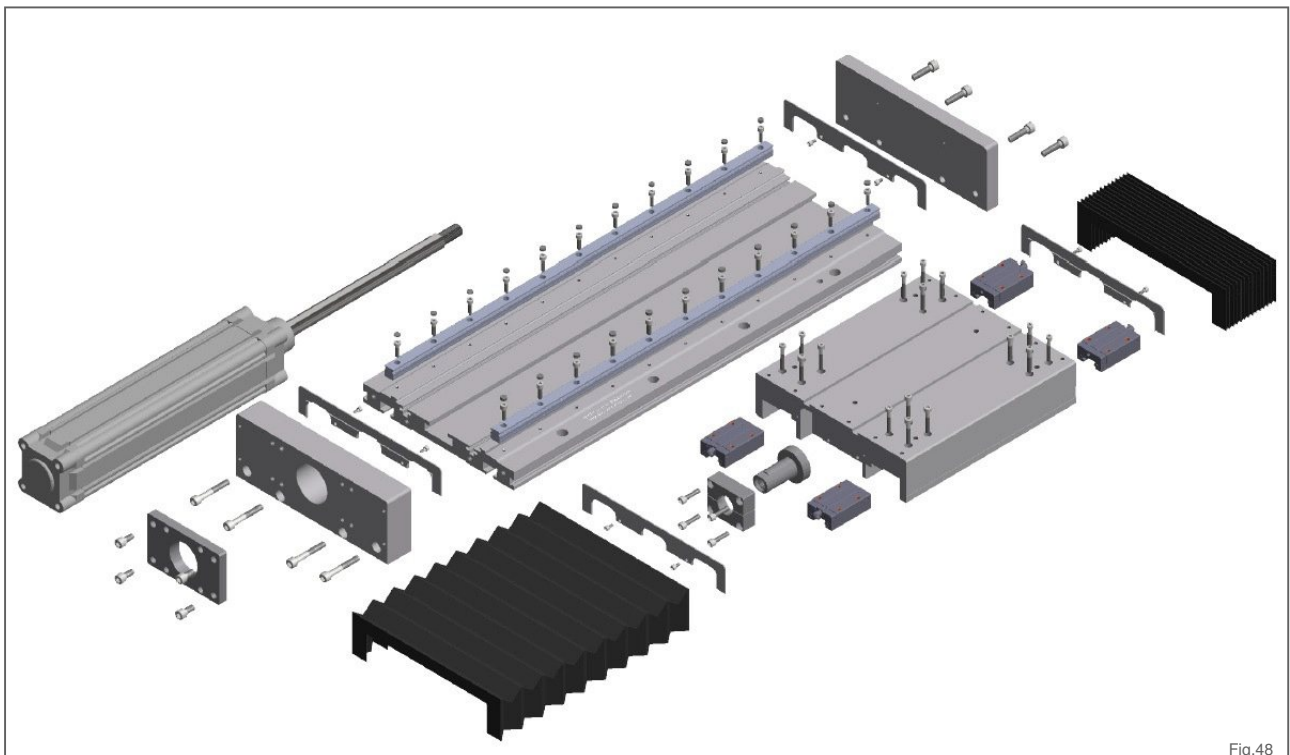


Fig.48

19. Maintenance

MOVITEC Linear tables are manufactured to require a minimum of maintenance. Maintenance should be performed only by qualified and specially trained staff .

Before performing maintenance, observe all necessary safety rules!

- Turn off the machine and disconnect the power plug
- For cleaning do not use any sharp or abrasive objects
- For greasing, use a minimal amount of fat. Do not dirt the mechanical elements

Standard maintenance is limited to a general cleaning and lubrication of nut and linear guides. Regularly inspect the Linear Tables in order to keep them clean. For lubrication refer to table 13 on page 18.

10. Part assembly and disassembly

Linear Tables are supplied assembled and ready for installation. To carry out a proper maintenance itb may be necessary to remove some of the parts:

Bellows:

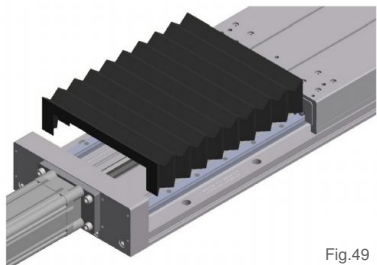


Fig.49

Cylinder:

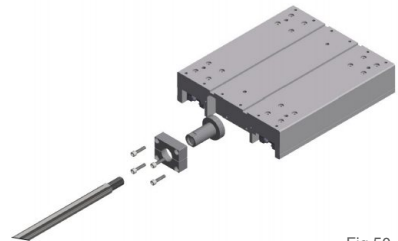


Fig.50

Carriage on base plate:



Fig.51

Linear guides:

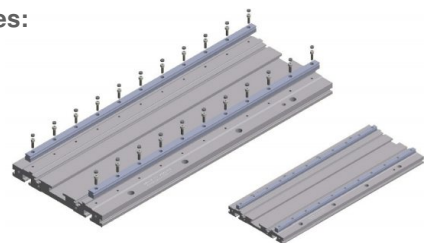


Fig.52

Sliding blocks:

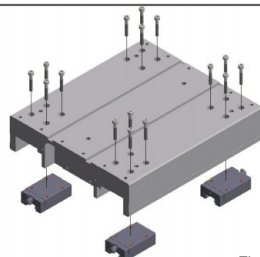


Fig.53

Cylinder adapter:

Adapter for ISO VDMA6431



Fig.54

21. Lubrication

MOVITEC Linear Tables are supplied lubricated. Optionally, it is possible to have additional lubrication holes on some sizes. The holes for centralized lubrication system are standards made on the left side of the carriage. On request, they can be provided on the right side.

For Linear Tables TP size 150 to 400 it is possible to add four lubrication holes (Case B, Figure 54). If necessary, it is possible to mount self-lubricating sliding blocks (Case C, Fig.55).

Lubrication	Use	Lubrication product	Maintenance cycle*
			Dynamic cycle < 10m/min every 500/600 hours
Linear guides	Lubricate each sliding block trough lubrication hole (Fig.21)	KLÜBER ISOFLEX NBU15	Dynamic cycle > 10m/min every 300 hours

* Function of the kinematics

Tab.13

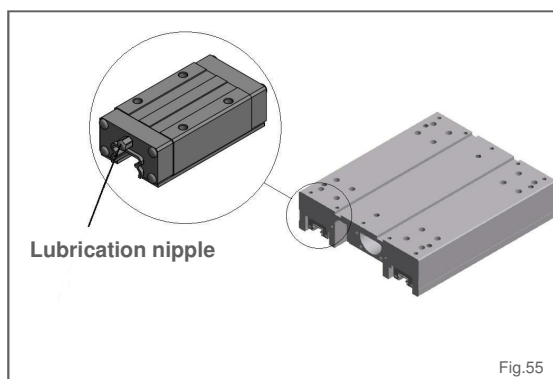


Fig.55

Size	Lubrication holes		
TP	[mm]		Nr. of holes
150	15	1/8"	4x
200	15	1/8"	4x
250	15	1/8"	4x
300	15	1/8"	4x
400	20	1/8"	4x

Tab.14

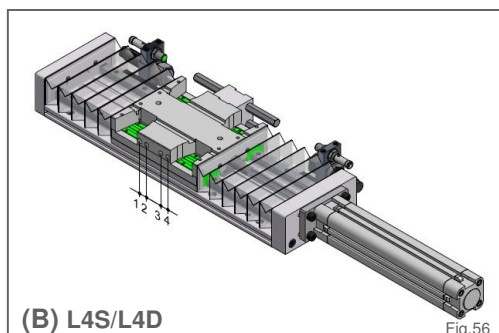


Fig.56

Linear Table with four lubrication holes, one for each sliding block

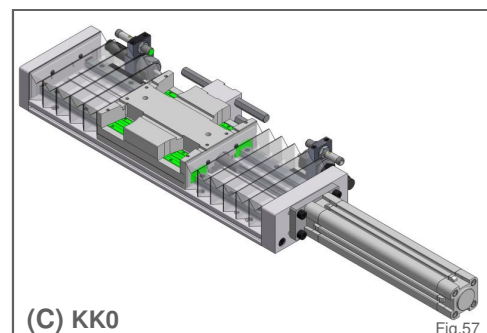


Fig.57

Linear Table without lubrication holes and four self-lubricating sliding blocks

22. Shock absorber mounting set

TP pneumatic Linear Tables may be provided with possono, su richiesta, essere fornite con kit supporti per montaggio

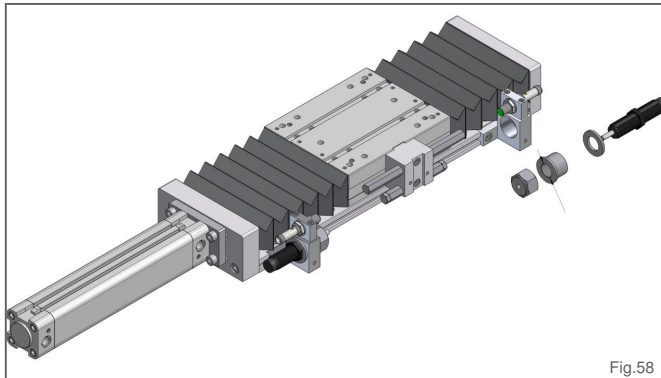


Fig.58

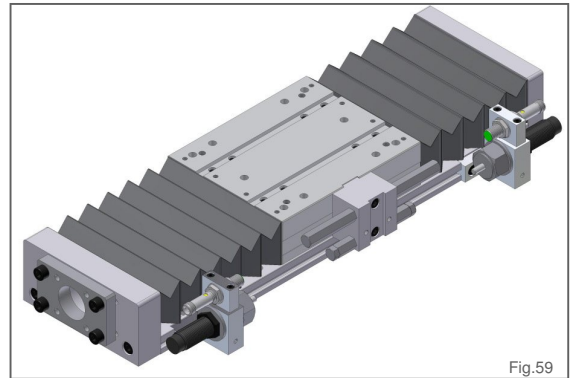


Fig.59

23. Stroke reduction

it is possible to reduce stroke length by adjusting shock absorber or trough spacer blocks on carriage support .

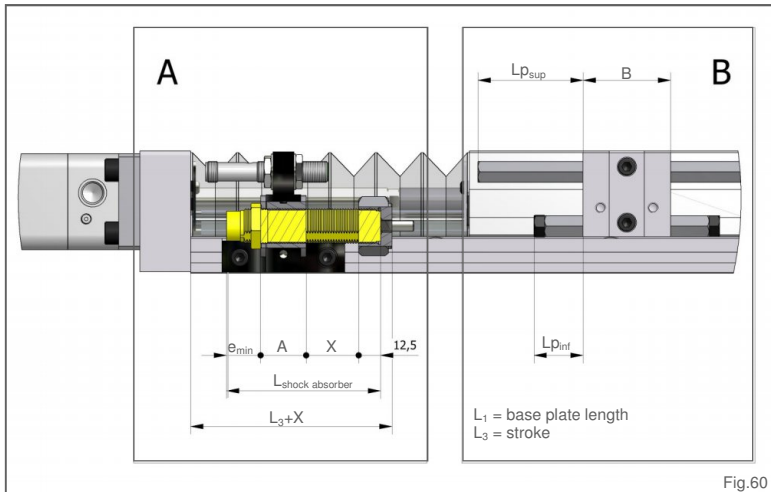


Fig.60

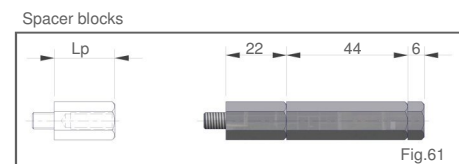


Fig.61

A Adjustment of shock absorber:

Stroke reduction:

$$X = L_{\text{shock absorber}} - (12,5 + A + e_{\min}) \text{ [mm]}$$

e_{\min} = distance (depending on type of shock absorber)

Size	Support
TP	A [mm]
150	20
200	20
250	25
300	25
400	35

Tab.15

B Adjustment with spacer blocks:

Stroke reduction left side or right side:

$$\text{Stroke} = (L_1/2) - (L_3 + X) - (B/2 + L_{p_{\text{inf}}}) \text{ [mm]}$$

Stroke reduction on both sides:

$$L_1 - 2 \cdot (L_3 + X) - (B + (2 \cdot L_{p_{\text{inf}}})) \text{ [mm]}$$

Size	Support
TP	B [mm]
150	50
200	50
250	50
300	50
400	70

Tab.16

24. Additional holes on base plate and carriage

TP Linear Tables can be fixed precisely through optional bore holes on base plate and carriage.

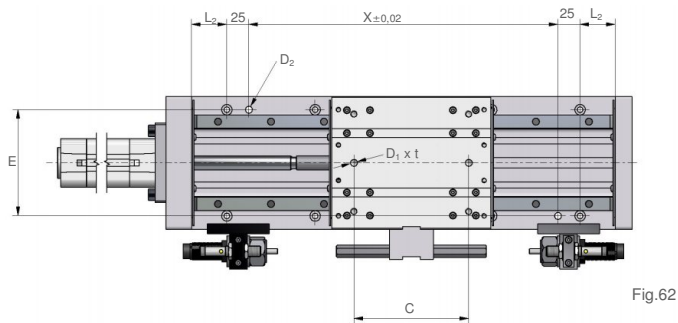


Fig.62

Size	Carriage		Base plate	
TP	D ₁ x t [mm]	C ± 0.02 [mm]	D ₂ [mm]	E ± 0.02 [mm]
150	8h7x15	130	8h7	120
200	8h7x15	120	8h7	170
250	8h7x15	150	8h7	220
300	8h7x15	250	8h7	260
400	8h7x15	280	8h7	360

Tab.17

25. Clamping systems

(A) Tapped holes on base plate:

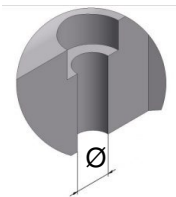
Base plate has standard counterbored holes (FLS). Optionally it is possible to have threaded holes without counterboard (FFF), threaded and counterbored holes with ensat (FFE) or counterbored holes with thread (FFL).



Fig.63

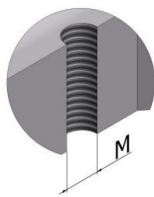
Size	FLS	FFF	FFE	FFL
TV	Ø [mm]	[mm]	[mm]	[mm]
100	6	M6	M6	M6
150	8	M8	M6	M8
200	10	M10	M8	M10
250	10	M10	M8	M10
300	10	M10	M8	M10
400	12	M12	M10	M12

Tab.18



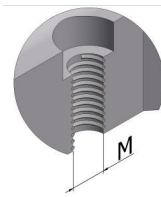
FLS

Fig.64



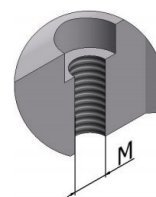
FFF

Fig.65



FFE

Fig.66



FFL

Fig.67

(B) Lower T-nuts:

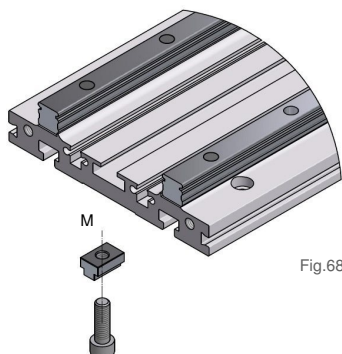


Fig.68

Size	Part Nr.	M
TP		[mm]
150	I 200-01	M6
200	I 200-01	M6
250	I 250-01	M8
300	I 250-01	M8

Tab.19

25. Clamping systems

(C) Brackets:

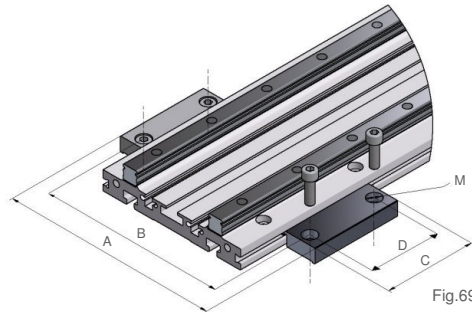


Fig.69

Size	Part Nr.	A	B	C	D	E
TP		[mm]	[mm]	[mm]	[mm]	[mm]
150	ST 150-01	198	165	60	40	M6
200	ST 200-01	256	220	80	60	M8
250	ST 200-01	306	270	80	60	M8
300	ST 300-01	366	320	80	60	M8
400	ST 400-01	484	425	100	80	M10

Tab.20

(D) Lateral T-nuts:

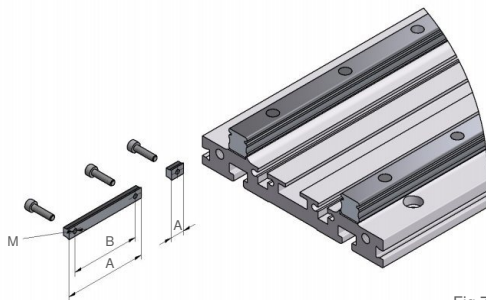


Fig.70

Size	Part Nr.	A	B	M
TP		[mm]	[mm]	[mm]
150	IL 150-01	10	—	M4
150	IL 150-02	60	50	M4
200	IL 200-01	10	—	M4
200	IL 200-02	60	50	M4
250	IL 200-01	10	—	M4
250	IL 200-02	60	50	M4
300	IL 200-01	10	—	M4
300	IL 200-02	60	50	M4

Tab.21

(E) Service holes:

For short strokes, service holes are provided to fix the base plate.

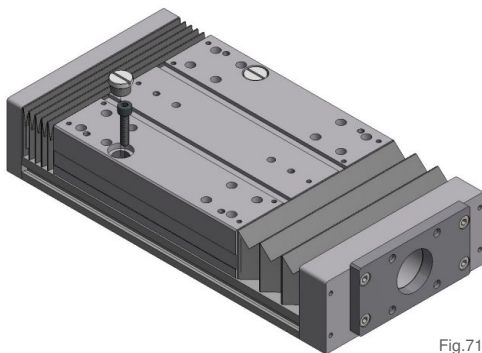


Fig.71

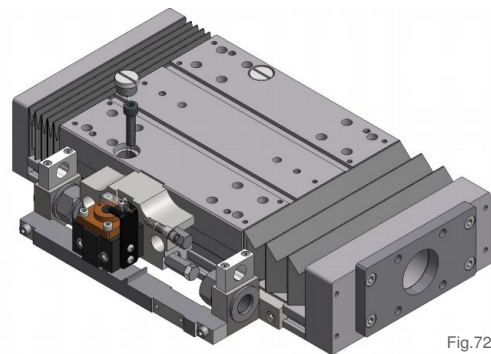


Fig.72

Size	Without mechanical safety system						
TPP/TPH	Stroke [mm]						
	50	100	150	200	250	300	350
150	2 holes	—	—	—	—	—	—
200	2 holes	2 holes	2 holes	2 holes	—	—	—
250	2 holes	2 holes	—	—	—	—	—
300	2 holes	2 holes	2 holes	2 holes	—	—	—
400	—	4 holes	4 holes	2 holes	2 holes	2 holes	—

Tab.22

Size	With mechanical safety system						
TPP/TPH	Stroke [mm]						
	50	100	150	200	250	300	350
150	2 holes	—	—	—	—	—	—
200	2 holes	2 holes	2 holes	2 holes	—	—	—
250	2 holes	2 holes	—	—	—	—	—
300	2 holes	2 holes	2 holes	2 holes	—	—	—
400	—	4 holes	4 holes	2 holes	2 holes	2 holes	—

Tab.23

26. Security systems

Rod blocking device:

*operating pressure of cylinder depends on the manufacturer's values

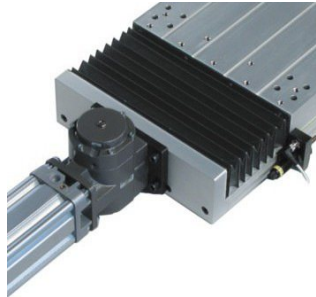
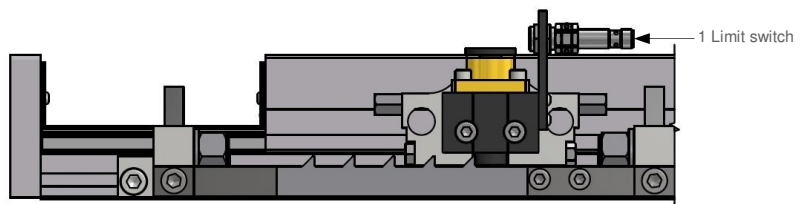
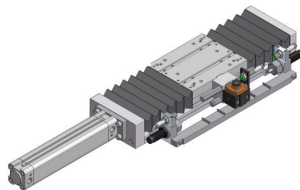


Fig.73

Mechanical safety stop (1):

With rack for vertical mounting position, limit switch holder straight.

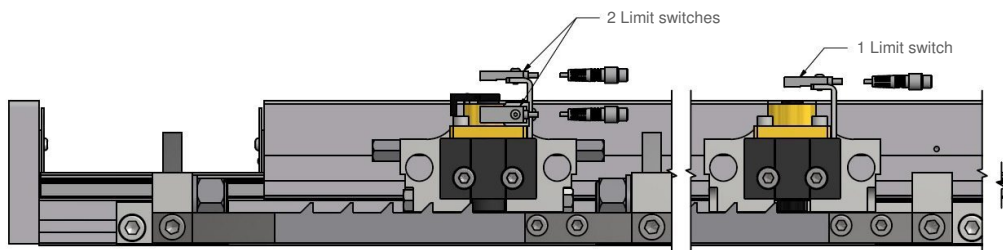


*Release pressure by 4 Bar

Fig.74

Mechanical safety stop (2):

With rack for vertical mounting position, limit switch holder L-form with one or two limit switches.

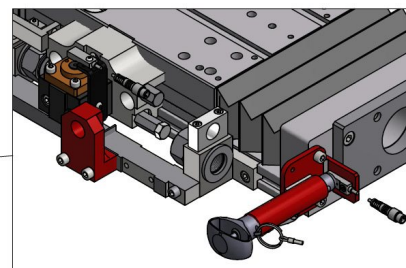
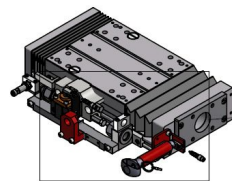


*Release pressure by 4 Bar

Fig.75

Mechanical safety stop with ball lock pin (3):

With rack for vertical mounting position, limit switch holder L-form with one or two limit switches and ball lock pin on front plate.

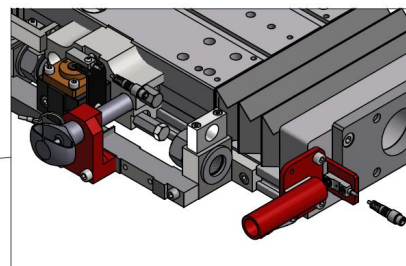
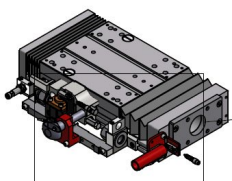


*Release pressure by 4 Bar

Fig.76

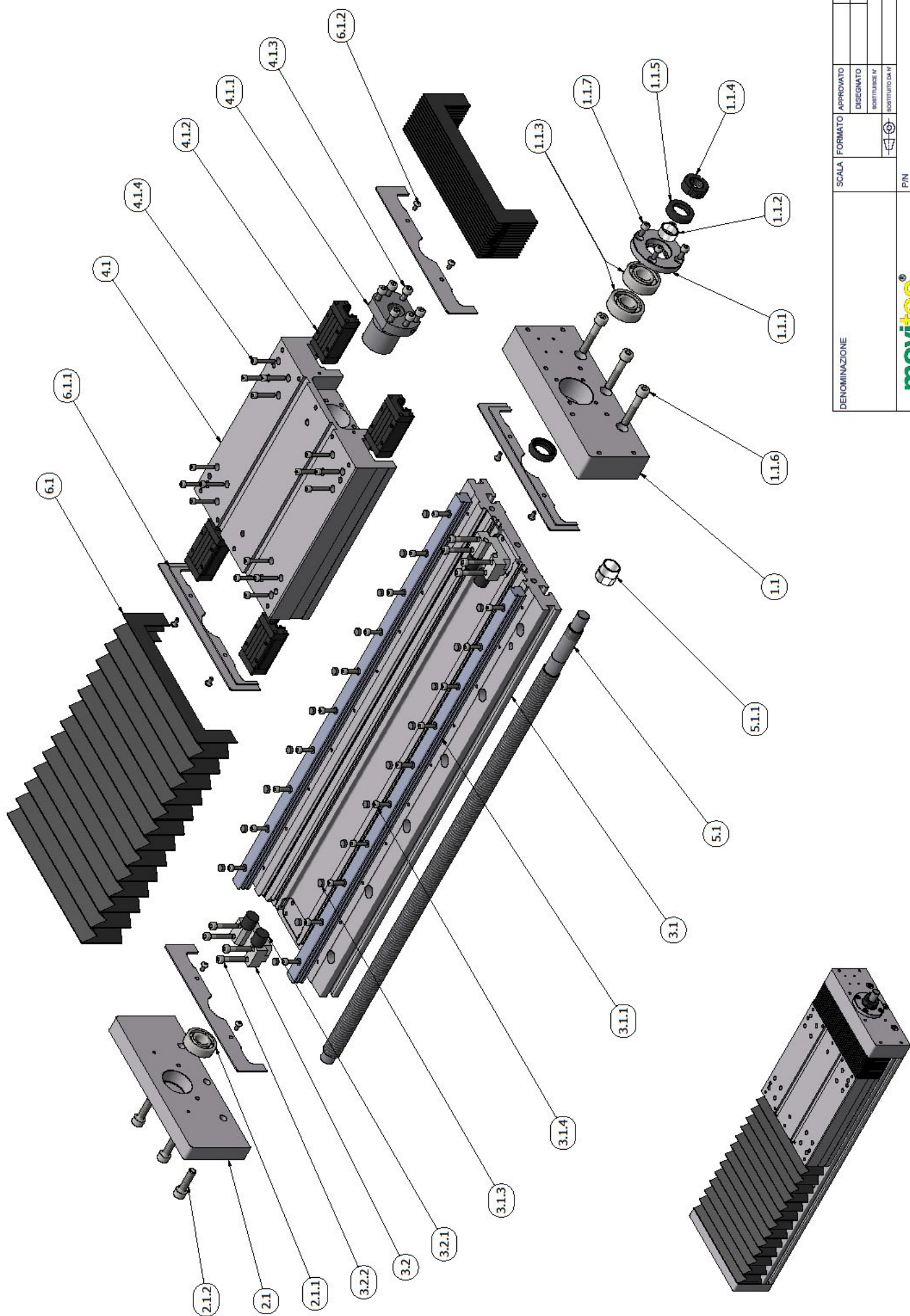
Mechanical safety stop with ball lock pin (4):

With rack for vertical mounting position, limit switch holder L-form with one or two limit switches and ball lock pin on rack support.



*Release pressure by 4 Bar

Fig.77



DENOMINAZIONE

SCALA

FORMATO

APPROVATO

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Edizione

TV LINEAR TABLE WITH LUBRICATION SYSTEM

Part Nr.	Description	Quantity
1	Front plate assembly for screw drive	
1.1	Front plate	1
1.1.1	Retaining ring	1
1.1.2	Spacer ring	1
1.1.3	Ball bearing	2
1.1.4	Ground nut	1
1.1.5	Seal	2
1.1.6	Bolt ISO4762	3
1.1.7	Bolt ISO4762	4
2	Rear plate assembly	
2.1	Rear plate	1
2.1.1	Ball bearing	1
2.1.2	Bolt ISO4762	3
3	Base plate assembly	
3.1	Base plate	1
3.1.1	Linear guides	2
3.1.3	Plugs for linear guides	L1*
3.1.4	Bolt ISO4762	L1*
3.2	Mechanical butt	2
3.2.1	Antivibration	4
3.2.2	Bolt ISO4762	8
4	Carriage assembly for screw drive	
4.1	Carriage for screw drive	1
4.1.1	Nut	1
4.1.2	Sliding block	4
4.1.3	Bolt ISO4762	6
4.1.4	Bolt ISO 4762	16
4.3	Lubrication system on carriage right side type (A) or (B) page 10	1
5	Screw drive assembly	
5.1	Screw drive	1
5.1.1	Spacer ring	1
6	Cover	
6.1	Bellow	2
6.1.1	Bellow support	4
6.1.2	Bolt ISO7380	8

L1* = depending on base plate length

TP LINEAR TABLE WITH LUBRICATION SYSTEM

Part Nr.	Description	Quantity
1	Front plate assembly for pneumatic cylinder drive	
1.2	Front plate	1
1.2.1	Cylinder adapter	1
1.2.2	Bolt ISO4762	2
1.2.3	Bolt ISO4762	3
2	Rear plate assembly	
2.2	Rear plate	1
2.2.1	Bolt ISO4762	3
3	Base plate assembly	
3.1	Base plate	1
3.1.1	Linear guides	2
3.1.2	Plugs for linear guides	L1*
3.1.3	Bolt ISO4762	L1*
4	Carriage assembly for pneumatic cylinder drive	
4.2	Carriage for pneumatic cylinder drive	1
4.2.1	Sliding block	4
4.2.2	Cylinder extention	1
4.2.3	Bracket for cylinder extention	4
4.2.4	Fixing caps	4
4.2.5	Bolt ISO 4762	16
4.2.6	Bolt ISO4762	2
4.3	Lubrication system on carriage right side type (B) page 16	1
5	Pneumatic cylinder assembly	
5.2	Cane	1
5.3	Pneumatic cylinder	1
6	Cover	
6.1	Bellow	2
6.1.1	Bellow support	4
6.1.2	Bolt ISO7380	8

L1* = depending on base plate length

TV LINEAR TABLE WITH LUBRICATION SYSTEM, WITH MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (1/2)

Part Nr.	Description	Quantity
1	Front plate assembly for screw drive	
1.1	Front plate	1
1.1.1	Retaining ring	1
1.1.2	Spacer ring	1
1.1.3	Ball bearing	2
1.1.4	Ground nut	1
1.1.5	Seal	2
1.1.6	Bolt ISO4762	3
1.1.7	Bolt ISO4762	4
2	Rear plate assembly	
2.1	Rear plate	1
2.1.1	Ball bearing	1
2.1.2	Bolt ISO4762	3
3	Base plate assembly	
3.1	Base plate for mechanical safety stop	1
3.1.1	Linear guides	2
3.1.2	Base plate insert	L1*
3.1.3	Plugs for linear guides	L1*
3.1.4	Bolt ISO4762	L1*
4	Carriage assembly for screw drive	
4.1	Carriage for screw drive	1
4.1.1	Nut	1
4.1.2	Sliding block	4
4.1.3	Bolt ISO4762	6
4.1.4	Bolt ISO 4762	16
4.3	Lubrication system on carriage right side type (A) or (B) page 10	1
5	Screw drive assembly	
5.1	Screw drive	1
5.1.1	Spacer ring	1
6	Cover	
6.1	Bellow	2
6.1.1	Bellow support	4
6.1.2	Bolt ISO7380	8
7	Mechanical safety stop assembly	
7.1	Shock absorber support on carriage	1
7.1.1	Spacer block	1
7.1.2	Tempered spacer block for shock absorber	2
7.1.3	Bolt ISO4762	2

L1* = depending on base plate length

TV LINEAR TABLE WITH LUBRICATION SYSTEM, WITH MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (2/2)

Part Nr.	Description	Quantity
7.2	Mechanical safety stop Rs/Ls	1
7.2.1	Rack docking pin	1
7.2.2	Cover	1
7.2.3	Balluff limit switch support	1
7.2.5	Bolt ISO7380	1
7.2.6	Bolt ISO7380	2
7.2.7	Bolt ISO4762	4
7.2.8	Bolt ISO4762	2
7.3	Support for shock absorber and rack on base plate	2
7.3.1	Support for shock absorber	2
7.3.2	Bolt ISO4762	4
7.4	25mm pitch rack	1
7.4.1	Bolt ISO4762	2
8	Lock pin assembly	
8.1	Lock pin support	1
8.1.1	Limit switch support	1
8.1.3	Halder lock pin	1
8.1.4	Retaining chain	1
8.1.5	Bolt ISO4762	2
8.1.6	Bolt ISO10642	1
8.1.7	Bolt ISO7380	1
8.1.8	Bolt ISO4762	2

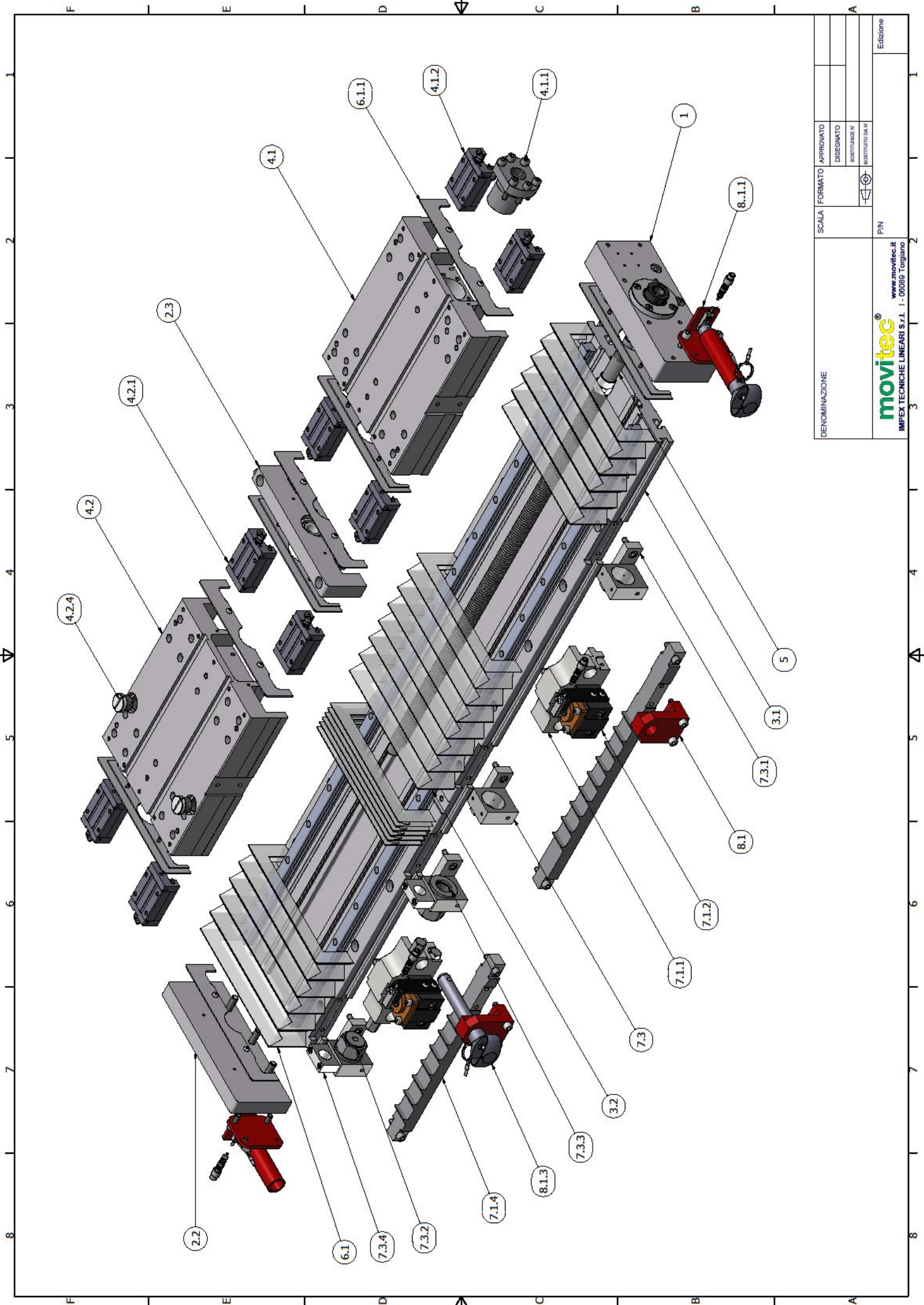
TP LINEAR TABLE WITH LUBRICATION SYSTEM, WITH MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (1/2)

Part Nr.	Description	Quantity
1	Front plate assembly for pneumatic cylinder drive	
1.2	Front plate	1
1.2.1	Cylinder adapter	1
1.2.2	Bolt ISO4762	2
1.2.3	Bolt ISO4762	3
2	Rear plate assembly	
2.2	Rear plate	1
2.2.1	Bolt ISO4762	3
3	Base plate assembly	
3.1	Base plate	1
3.1.1	Linear guides	2
3.1.2	Plugs for linear guides	L1*
3.1.3	Bolt ISO4762	L1*
4	Carriage assembly for pneumatic cylinder drive	
4.2	Carriage for pneumatic cylinder drive	1
4.2.1	Sliding block	4
4.2.2	Cylinder extension	1
4.2.3	Bracket for cylinder extension	2
4.2.4	Fixing caps	2
4.2.5	Bolt ISO 4762	16
4.2.6	Bolt ISO4762	4
4.3	Lubrication system on carriage right side type(B) page 16	1
5	Pneumatic cylinder assembly	
5.2	Cane	1
5.3	Pneumatic cylinder	1
6	Cover	
6.1	Bellow	2
6.1.1	Bellow support	4
6.1.2	Bolt ISO7380	8
7	Mechanical safety stop assembly	
7.1	Shock absorber support on carriage	1
7.1.1	Spacer block	1
7.1.2	Tempered spacer block for shock absorber	2
7.1.3	Bolt ISO4762	2
7.2	Mechanical safety stop Rs/Ls	1
7.2.1	Rack docking pin	1
7.2.2	Cover	1
7.2.3	Balluff limit switch support	1

L1* = depending on base plate length

TP LINEAR TABLE WITH LUBRICATION SYSTEM, WITH MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (2/2)

Part Nr.	Description	Quantity
7.2.5	Bolt ISO7380	1
7.2.6	Bolt ISO7380	2
7.2.7	Bolt ISO4762	4
7.2.8	Bolt ISO4762	2
7.3	Support for shock absorber and rack on base plate	2
7.3.1	Support for shock absorber	2
7.3.2	Bolt ISO4762	4
7.4	25mm pitch rack	1
7.4.1	Bolt ISO4762	2
8	Lock pin assembly	
8.1	Lock pin support	1
8.1.1	Limit switch support	1
8.1.3	Halder lock pin	1
8.1.4	Retaining chain	1
8.1.5	Bolt ISO4762	2
8.1.6	Bolt ISO10642	1
8.1.7	Bolt ISO7380	1
8.1.8	Bolt ISO4762	2



DENOMINAZIONE				SCALA	FORMATO	APPROVATO		
						DISEGNATO		
						SUBSTITUIRE IN		
						SOSTITUITO DA IN		

TV LINEAR TABLE WITH DOUBLE CARRIAGE, LUBRICATION SYSTEM, MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (1/3)

Part Nr.	Description	Quantity
1	Front plate assembly for screw drive	
1.1	Front plate	1
1.1.1	Retaining ring	1
1.1.2	Spacer ring	1
1.1.3	Ball bearing	2
1.1.4	Ground nut	1
1.1.5	Seal	2
1.1.6	Bolt ISO4762	3
1.1.7	Bolt ISO4762	4
2	Rear plate assembly	
2.2	Rear plate	1
2.2.1	Bolt ISO4762	3
2.3	Center rear plate	1
2.3.1	Ball bearing	1
2.3.2	Bolt ISO4762	2
3	Base plate assembly	
3.1	Base plate	1
3.1.1	Linear guides	2
3.1.2	Base plate insert	L1*
3.1.3	Plugs for linear guides	L1*
3.1.4	Bolt ISO4762	L1*
4	Carriage assembly	
4.1	Carriage for screw drive	1
4.1.1	Nut	1
4.1.2	Sliding block	4
4.1.3	Bolt ISO4762	6
4.1.4	Bolt ISO 4762	16
4.3	Lubrication system on carriage right side type (A) or (B) page 10	1
4.2	Carriage for pneumatic drive	1
4.2.1	Sliding block	4
4.2.2	Cylinder extention	1
4.2.3	Bracket for cylinder extention	4
4.2.4	Plugs for linear guides	2
4.2.5	Bolt ISO 4762	16
4.2.6	Bolt ISO4762	2
5	Screw drive assembly	
5.1	Screw drive	1
5.1.1	Spacer ring	1

L1* = depending on base plate length

TV LINEAR TABLE WITH DOUBLE CARRIAGE, LUBRICATION SYSTEM, MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (2/3)

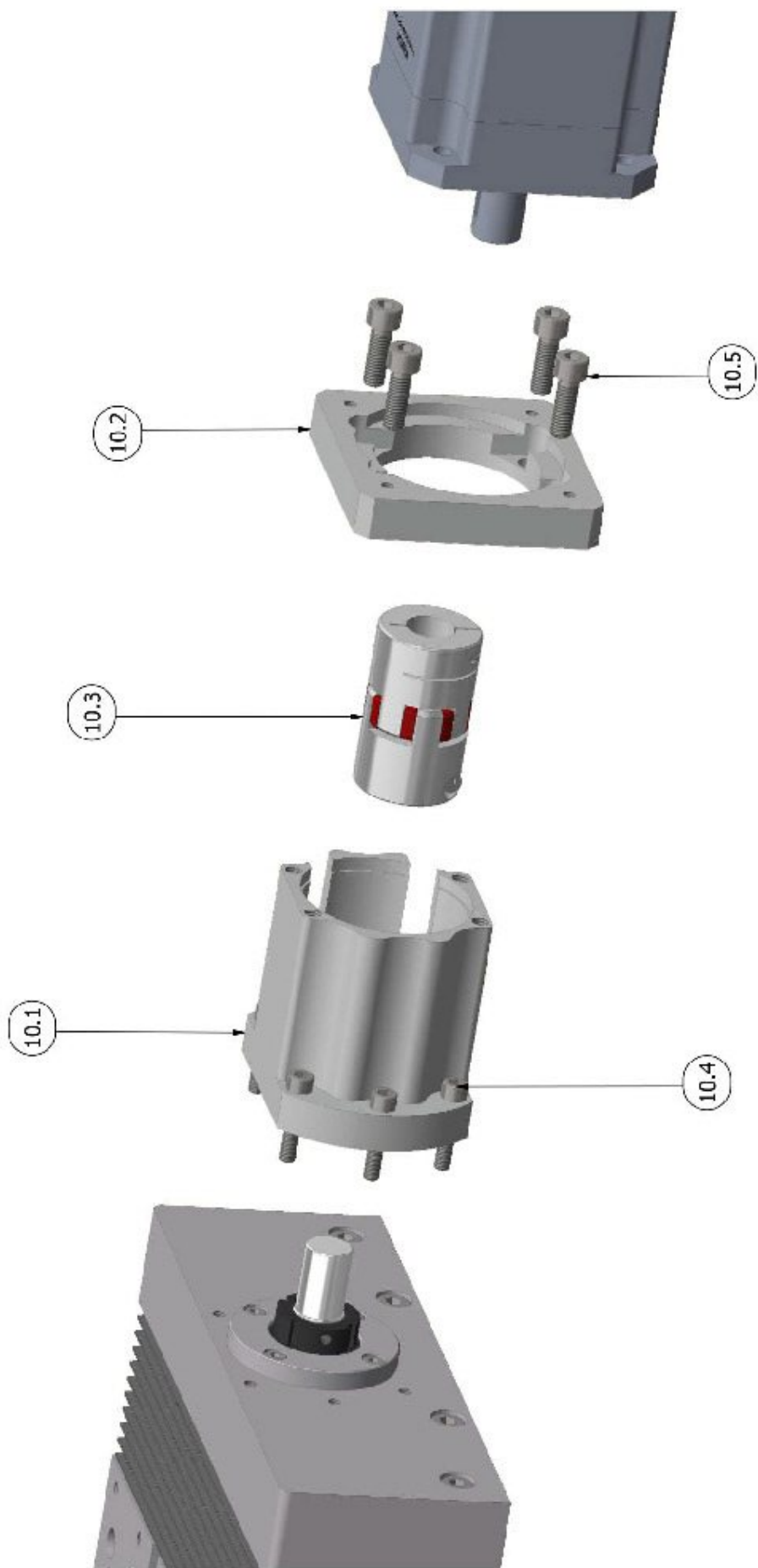
Part Nr.	Description	Quantity
6	Cover	
6.1	Bellow	4
6.1.1	Bellow support	8
6.1.2	Bolt ISO7380	16
7	Mechanical safety stop assembly A	
7.1	Shock absorber support on carriage	1
7.1.1	Spacer block	1
7.1.2	Tempered spacer block for shock absorber	2
7.1.3	Bolt ISO4762	2
7.2	Mechanical safety stop Rs/Ls	1
7.2.1	Rack docking pin	1
7.2.2	Cover	1
7.2.3	Limit switch support	1
7.2.5	Bolt ISO7380	1
7.2.6	Bolt ISO7380	2
7.2.7	Bolt ISO4762	4
7.2.8	Bolt ISO4762	2
7.3	Support for shock absorber and rack on base plate	2
7.3.1	Support for shock absorber	2
7.3.2	Bolt ISO4762	4
7.4	25mm pitch rack	1
7.4.1	Bolt ISO4762	2
7	Mechanical safety stop assembly B	
7.1	Shock absorber support on carriage	1
7.1.1	Spacer block	1
7.1.2	Tempered spacer block for shock absorber	2
7.1.3	Bolt ISO4762	2
7.2	Mechanical safety stop Rs/Ls	1
7.2.1	Rack docking pin	1
7.2.2	Cover	1
7.2.3	Limit switch support	1
7.2.5	Bolt ISO7380	1
7.2.6	Bolt ISO7380	2
7.2.7	Bolt ISO4762	4
7.2.8	Bolt ISO4762	2
7.3	Support for shock absorber and rack on base plate	2
7.3.1	Support for shock absorber	2
7.3.2	Bolt ISO4762	4

TV LINEAR TABLE WITH DOUBLE CARRIAGE, LUBRICATION SYSTEM, MECHANICAL SAFETY STOP FOR VERTICAL MOUNT AND BALL LOCK PIN (3/3)

Part Nr.	Description	Quantity
7.4	25mm pitch rack	1
7.4.1	Bolt ISO4762	2
8	Lock pin assembly A	
8.1	Lock pin support	1
8.1.1	Limit switch support	1
8.1.3	Halder lock pin	1
8.1.4	Retaining chain	1
8.1.5	Bolt ISO4762	2
8.1.6	Bolt ISO10642	1
8.1.7	Bolt ISO7380	1
8.1.8	Bolt ISO4762	2
8	Lock pin assembly B	
8.1	Lock pin support	1
8.1.1	Limit switch support	1
8.1.3	Halder lock pin	1
8.1.4	Retaining chain	1
8.1.5	Bolt ISO4762	2
8.1.6	Bolt ISO10642	1
8.1.7	Bolt ISO7380	1
8.1.8	Bolt ISO4762	2

LATERAL MOTOR MOUNT WITH BELT GEAR

Part Nr.	Descrizione	Quantity
9	Lateral motor mount with belt gear	
9.1	Case	1
9.2	Cover	1
9.3	Motor adapter plate	1
9.4	Belt	1
9.5	Pulley 1	1
9.6	Pulley 2	1
9.7	Locking assembly 1	1
9.8	Locking assembly 2	1
9.9	Bolt ISO4762	6
9.10	Bolt ISO4762	4
9.11	Bolt ISO4762	2
9.12	Bolt ISO4762	8



DIRECT MOTOR MOUNT WITH COUPLING

Part Nr.	Description	Quantity
10	Direct motor mount	1
10.1	Aluminium support	1
10.2	Motor adapter plate	1
10.3	Coupling	1
10.4	Bolt ISO4762	6
10.5	Bolt ISO4762	4

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