



TAD 2RP 2M4

Travelling Drive Unit



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Chapter 12


1


GENERAL INFORMATION

1.1

DIMENSIONS AND WEIGHTS

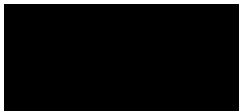
	DESCRIPTION	LENGTH	QUANTITY	WEIGHT
	<i>TAD 2RP 2M4 TRAVELLING UNIT (drive unit inclusive of adaptor)</i>	1.120 m (3.67 ft)	2	500 kg each (1103 lbs)
		WIDTH		
		1.120 m (3.67 ft)		
		HEIGHT		
		0.484 m (1.59 ft)		

	DESCRIPTION	LENGTH	QUANTITY	WEIGHT
	<i>TAD 2RP 2M4 TRAVELLING UNIT (idle unit inclusive of adaptor)</i>	1.120 m (3.67 ft)	2	380 kg each (838 lbs)
		WIDTH		
		0.375 m (1.23 ft)		
		HEIGHT		
		0.484 m (1.59 ft)		

	DESCRIPTION	LENGTH	QUANTITY	WEIGHT
	<i>Q.E.T. ELECTRIC BOX</i>	0.4 m (1.31 ft)	1	
		WIDTH		
		0.2 m (0.66 ft)		
		HEIGHT		
		0.4 m (1.31 ft)		

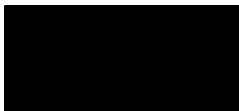
1.2

PERFORMANCES

	TAD 2RP 2M4	0 ≈ 24 m/min	2 × 4 kW
	Consult us		



U.S. Customery units.

	TAD 2RP 4M4	0 ≈ 79 ft/min	2 × 4 kW
	Consult us		



1.3 TECHNICAL CHARACTERISTICS

The unit consists of two idle units and two drive units. The two drive units shall be placed on two diagonally placed supports..

Each bogie rests on two wheels: in the drive unit one wheel is idle and the other is driving.

The unit is controlled by two groups of 3kW of power each, driven by alternate current motors.

There is a direct starting of the motors, starting and deceleration are made progressive by the interposition between the reduction gear and the motor of a hydraulic coupling.

Maximum travelling speed is 24 m/min (79 ft/min).

Motor

Feeding:	<i>Three-phase A.C. 400V - 50 Hz</i>
Type:	<i>LS 112 M 4 poles</i>
Power:	<i>4 kW (5 HP)</i>
Cooling:	<i>Autoventilated</i>

Reduction gear

Type:	<i>BV EM 1045 110</i>
Rated output torque:	<i>3700 Nm (2729 lbs.ft)</i>
Reduction:	<i>1 : 52</i>
Lubrication:	<i>Oil bath</i>

Hydraulic coupling

Type:	<i>D28 S-D28 190L/MU</i>
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Wheels

Diameter:	<i>0.305 m (1 ft)</i>
Number of idle wheels:	<i>6</i>
Number of driving wheels:	<i>2</i>

Service brake

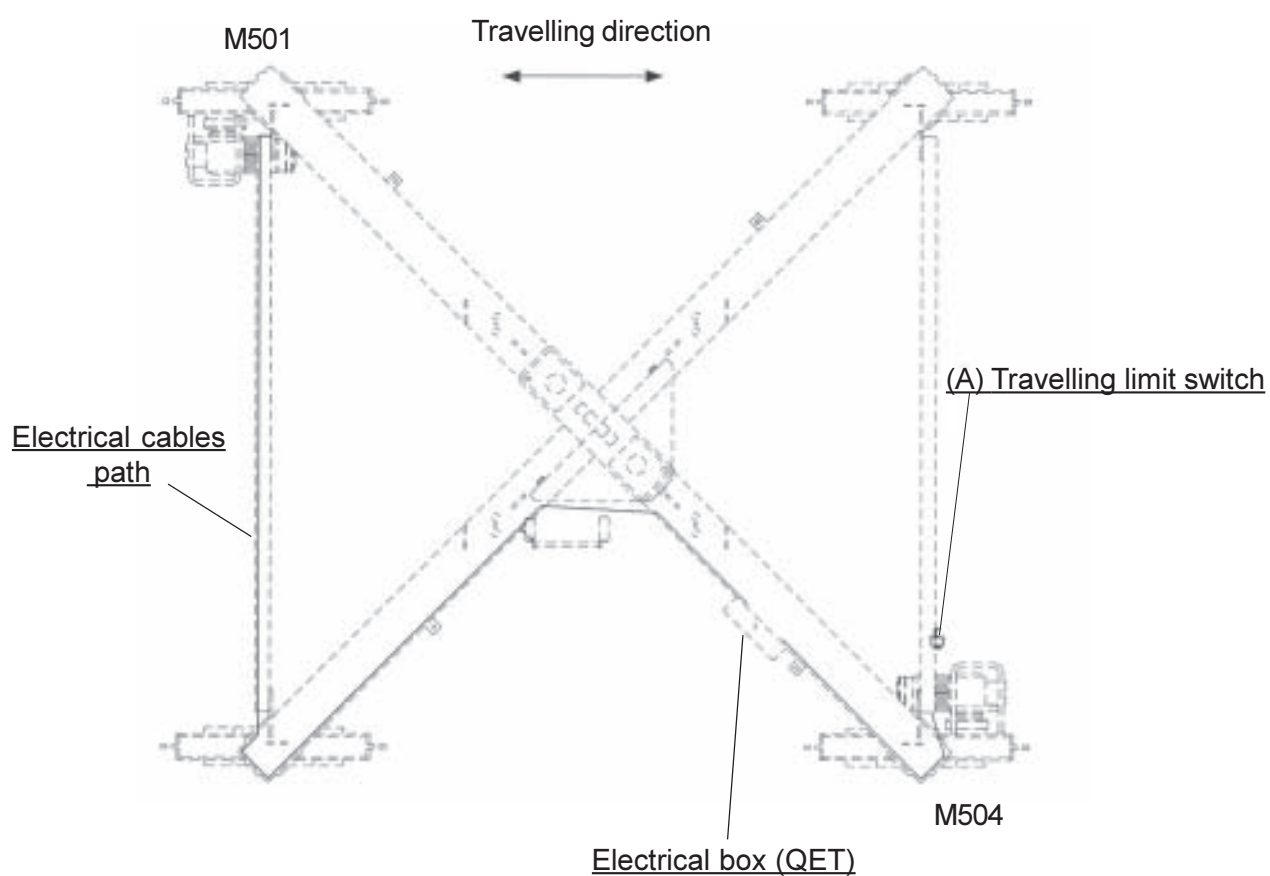
Type:	<i>TLC 145</i>
Feeding:	<i>40 V c.c.</i>
Braking torque:	<i>40 Nm (30 lbs.ft)</i>

1.3.1 Limit switch

The unit has a travelling limit switch (A) which limits the travelling of the crane on the rail track (picture 1.3.1).



For the operation, adjustment and maintenance of these components, refer to the main chapters of the crane's operation manual.



Picture 1.3.1

1.4 BRAKE SETTING

1.4.1 General information

The brake, assembled on the travelling reduction gear, is spring-pressure type. It stops the motor, when power is lost.

Visually inspect the brake in all its parts with great frequency.



Disconnect the brake and check the grounding before carrying out the inspections.



This brake does not need adjustments or maintenance during the first installation. Only after a protracted use it is advisable to check the gap (S) [distance between magnet (1) and mobile disc (2) (picture 1.4.1)].

1.4.2 Registrazione del traferro

The maximum gap clearance (S) allowed is 2 to 3 times greater than the nominal value.

To reset nominal value, adjust spacers (3) (picture 1.4.1).

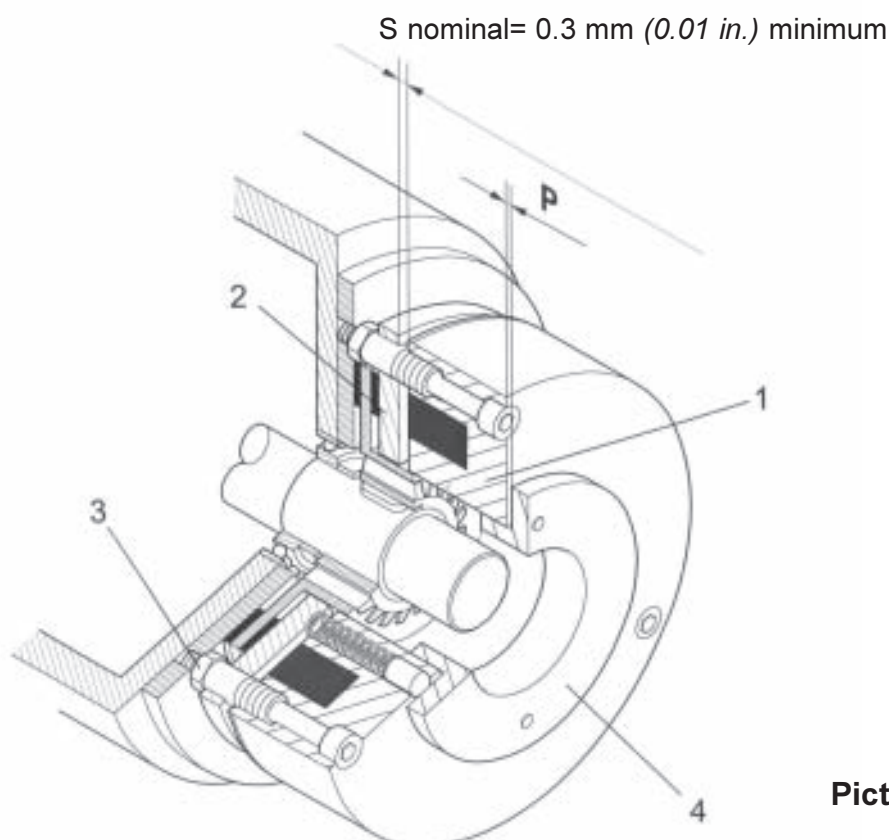
The gap value must be checked with the thickness gauge in at least three points, because it must be the same for the whole circumference area.

The braking power can be adjusted through the ring nut (4).

For a correct setting, the value (P) shall be as follows:

$P = 6 \text{ mm } (0.24 \text{ in.}) \text{ max.}$

After adjusting the spring tension through the ring nut (4), check again the gap (S) and make sure the brake is released.



Picture 1.4.1

**SPARE PARTS****Indice - Index - Sommaire - Inhaltsangabe**

PARTI DI RICAMBIO - SPARE PARTS - PIECES DE RECHANGE - ERSATZTEILE				
CODICE DI GRUPPO	DESCRIZIONE	DESCRIPTION	DESIGNATION	BEZEICHNUNG
243502020	Traslazione TAD 2RP 2M4	Travelling unit		
845258001	Riduttore completo di freno	Reduction gear with brake		
841020028	Motore	Motor		



**RICAMBI
SPARE PARTS
PIECES DE RECHANGE
ERSATZTEILE**

**Istruzioni per l'uso
Instructions for use
Mode d'emploi
Gebrauchsanleitung**

A	B	C	D	E	F	G
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POS.	CODICE	Q.TA'	DESCRIZIONE	DESCRIPTION	DESIGNATION	BEZEICHNUNG
243501010			TRASLAZIONE MOTRICE TAD 1RP 2M3	DRIVE TRAVELLING BOX		
1	346202001	1	Chiusura per scatola motrice	Cover		
2	840206005	2	Cusc. 22219 E TVPB (95 × 170 × 43)	Bearing		
3	346903040	1	Perno mot. 110 × 293	Motor pin		
4	347201010	1	Flangia attacco riduttore	Reduction gear		
5	845257001	1	Riduttore 1/51,7	Reduction gear		

Colonna A: posizione di riferimento su disegno d'insieme

Colonna B: codice particolare

Colonna C: quantità particolare

Colonna D: descrizione in lingua italiana

Colonna E - F - G: descrizione nelle varie lingue

Column A: part reference number on the assembly drawing

Column B: part code

Column C: part quantity

Column D: Italian designation

Column E - F - G: designations for the various languages

Colonne A: repère sur dessin d'ensemble

Colonne B: référence particulière

Colonne C: quantité particulière

Colonne D: description en italien

Colonne E - F - G: description dans les autres langues

Kolonne A: Referenznummer auf der Gesamtzeichnung

Kolonne B: Einzelheiten - Code

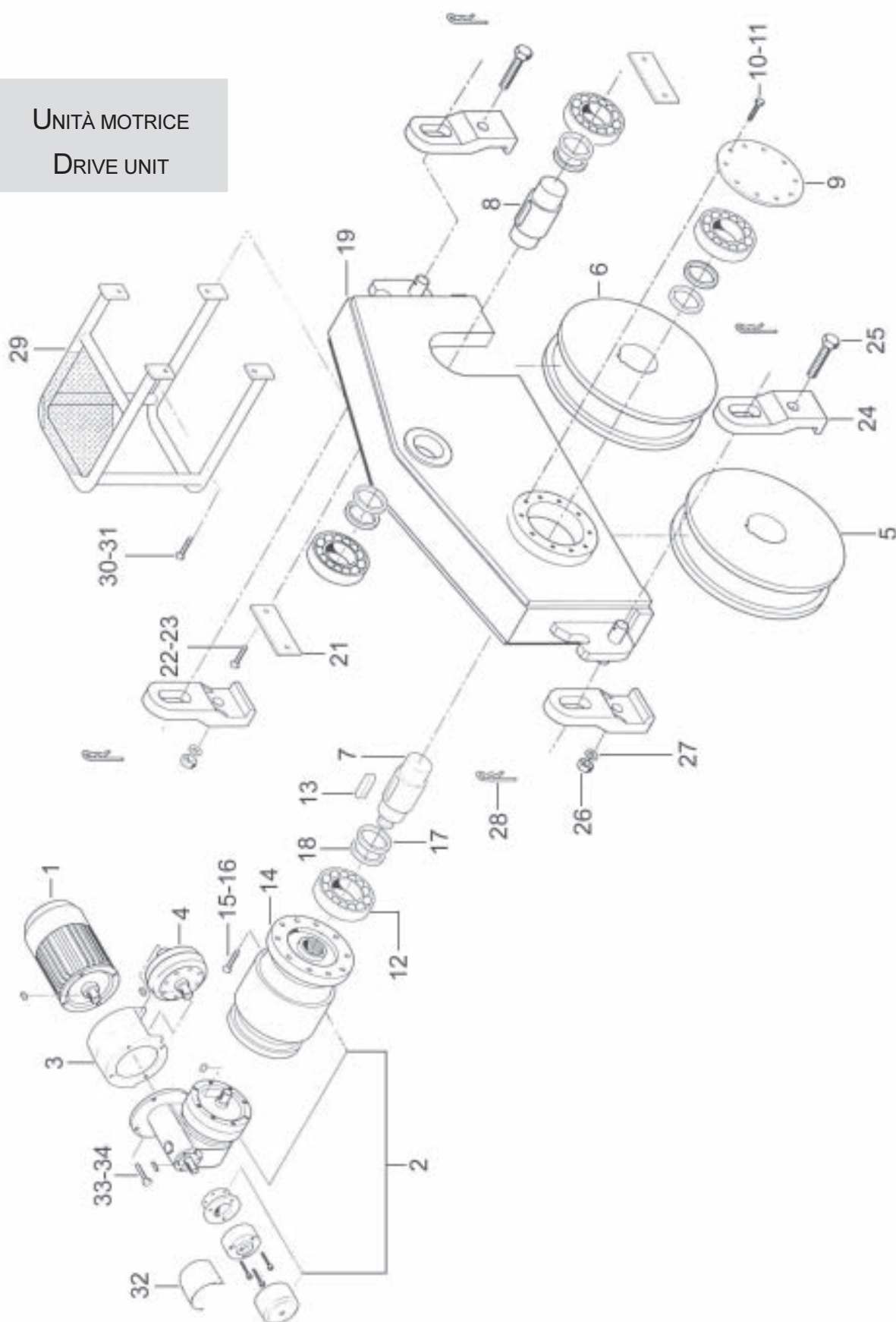
Kolonne C: Anzahl Einzelheiten

Kolonne D: Beschreibung in italienisch

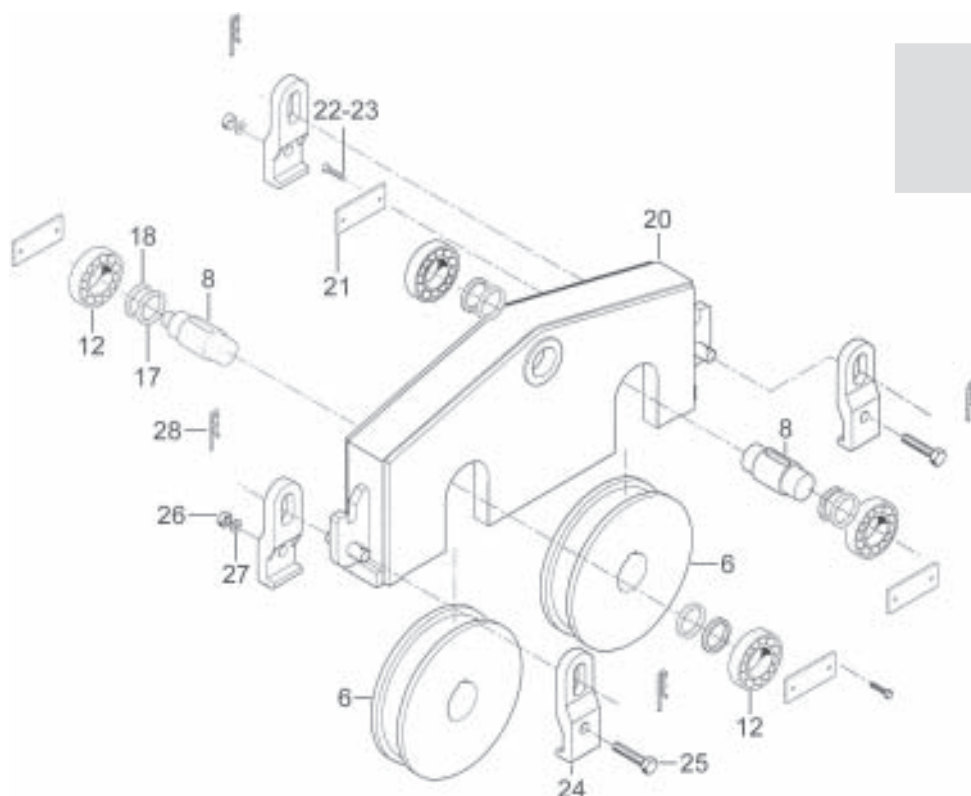
Kolonne E - F - G: Beschreibung in verschiedenen Sprachen

TRASLAZIONE TAD 2RP 2M4
TAD 2RP 2M4 TRAVELLING UNIT

UNITÀ MOTRICE
DRIVE UNIT

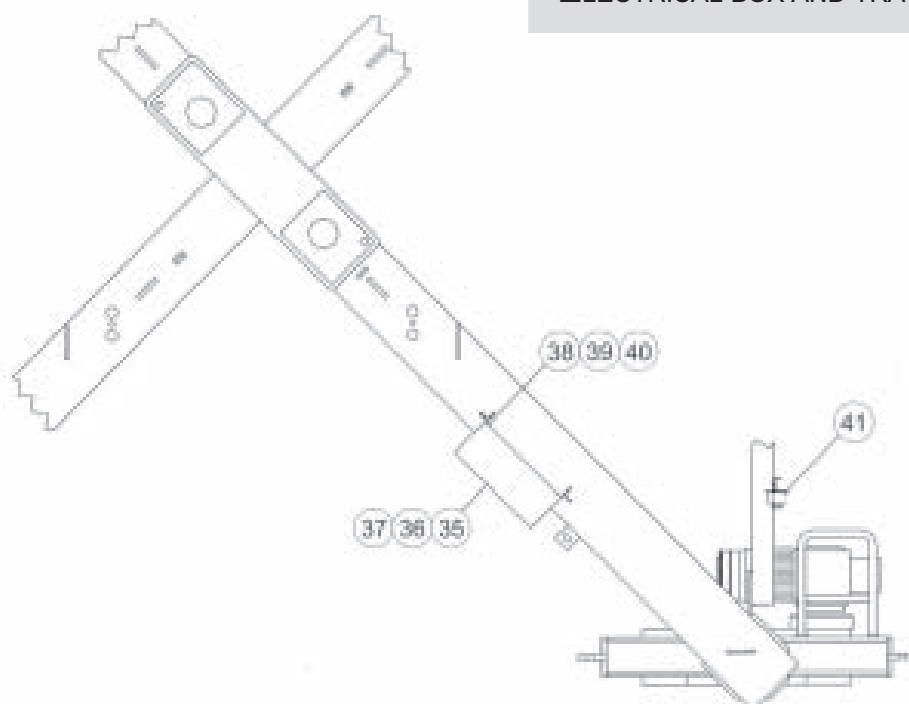


TRASLAZIONE TAD 2RP 2M4
TAD 2RP 2M4 TRAVELLING UNIT

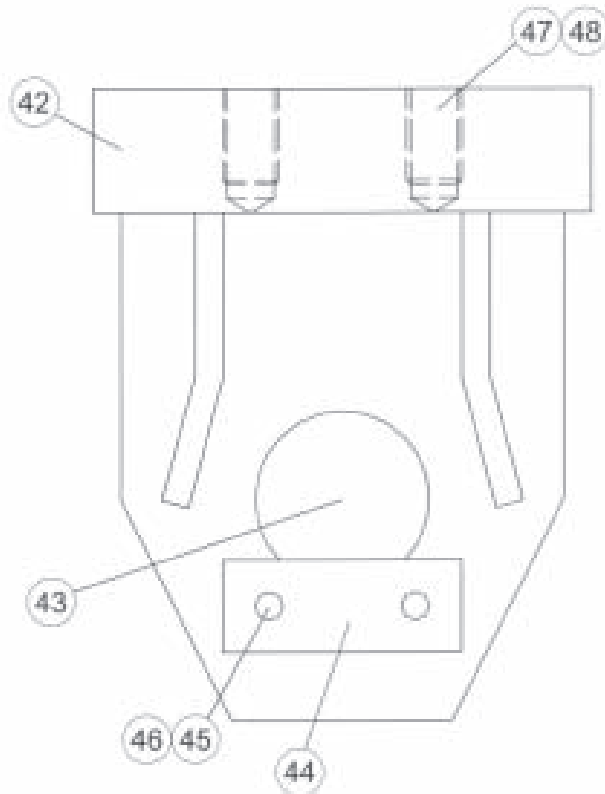


UNITÀ FOLLE
IDLE UNIT

QUADRO ELETTRICO E FINECORSA TRASLAZIONE
ELECTRICAL BOX AND TRAVELLING LIMIT SWITCH



TRASLAZIONE TAD 2RP 2M4
TAD 2RP 2M4 TRAVELLING UNIT



ADATTATORE PER COLLEGAMENTO AL CARRO
UNDERCARRIAGE JOINT ADAPTER

POS.	CODICE	Q.TA'	DESCRIZIONE	DESCRIPTION	DESIGNATION	BEZEICHNUNG
243502020			TRASLAZIONE TAD 2RP 2M4	TAD 2RP 2M4 TRAVELLING UNIT		
1	841020028	2	Motore	Motor		
2	845258001	2	Riduttore completo di freno	Reduction gear with brake		
3	346300004	2	Campana per giunto	Cover for coupling joint		
4	347128001	2	Giunto	Coupling joint		
5	346800002	2	Ruota motrice Ø 305	Drive wheel		
6	346800001	6	Ruota folle Ø 305	Idle wheel		
7	346903040	2	Perno motore 110 x 293	Motor pin		
8	346903030	6	Perno folle 95 x 226	Idle pin		
9	346202001	2	Chiusura per scatola motrice	Drive box cover		
10	880133012	16	Vite TE M12 x 50 Z - 8.8	Screw		
11	881732005	16	Rondella piana M12 Z - 6.8	Plane washer		
12	840206005	16	Cuscinetto	Bearing		
13	883440017	2	Linguetta 28 x 16 x 120	Tongue		
14	347201010	2	Flangia attacco riduttore	Reduction gear coupling flange		
15	880133101	16	Vite TE M12 x 30 Z - 8.8	Screw		
16	881732005	16	Rondella piana M12 Z - 6.8	Plane washer		
17	382606118	16	Distanziale 95 x 125 x 5	Spacer		



POS.	CODICE	Q.TA'	DESCRIZIONE	DESCRIPTION	DESIGNATION	BEZEICHNUNG
243502020			TRASLAZIONE TAD 2RP 2M4	TAD 2RP 2M4 TRAVELLING UNIT		
18	883700025	16	Anello Nilos	Ring		
19	17081100	2	Scatola motrice	Drive box		
20	17081200	2	Scatola folle	Idle box		
21	359902001	12	Chiavetta 12 x 50 x 210	Key		
22	880133119	24	Vite TE M16 x 30 Z - 8.8	Screw		
23	881732007	24	Rondella piana M16 Z - 6.8	Plane washer		
24	350553010	16	Tenaglia ancoraggio	Rail anchoring clamp		
25	880133073	8	Vite TE M27 x 180 Z - 8.8	Screw		
26	881224022	8	Dado alto M27 Z - 10	Tall nut		
27	881732011	16	Rondella piana M27 Z - 6.8	Plane washer		
28	883200004	16	Chiavistello R Ø8 Z	Spring split pin		
29	325300050	2	Protezione per motore	Motor protection		
30	880133101	8	Vite TE M12 x 30 Z - 8.8	Screw		
31	881732005	8	Rondella piana M12 Z - 6.8	Plane washer		
32	346200011	2	Carter protezione freno	Brake protection carter		
33	880133101	8	Vite TE M12 x 30 Z - 8.8	Screw		
34	881732005	8	Rondella piana M12 Z - 6.8	Plane washer		
35	330202007	1	Quadro elettrico QET (per altezza torre fino a 30 m/98 ft)	Electrical box (for tower height up to 30 m/98 ft)		
35	330202008	1	Quadro elettrico QET (per altezza torre fino a 42m/138 ft)	Electrical box (for tower height up to 42 m/138 ft)		
36	338101009	1	Kit predisposizione traslazione (montato su quadro elettrico QEG)	Travelling unit prearrangement kit (positioned on QEG electrical box)		
37	336301001	1	Kit cavi elettrici (per altezza torre maggiore di 42m/138 ft)	Electrical cables kit (for tower height greater than 42 m/138 ft)		
38	880133085	4	Vite TE M8 x 25 Z - 8.8	Screw		
39	881323001	4	Dado autobloccante M8 Z - 8	Self-locking nut		
40	881732003	4	Rondella piana M8 Z - 6.8	Plane washer		
41	832101006	1	Finecorsa traslazione	Travelling limit switch		
42	343500020	4	Adattatore per collegamento carro	Travelling adapter for undercarriage connection		
43	380343002	4	Spina PS 95 x 280	Pin		
44	383400008	4	Fermo spina 15 x 50 x 130 x 80	Pin lock		
45	880133133	8	Vite TE M18 x 40 Z - 8.8	Screw		
46	881732008	8	Rondella piana M18 Z - 6.8	Plane washer		
47	880133159	16	Vite TE M30 x 100 Z - 8.8	Screw		
48	881732012	16	Rondella piana M30 Z - 6.8	Plane washer		

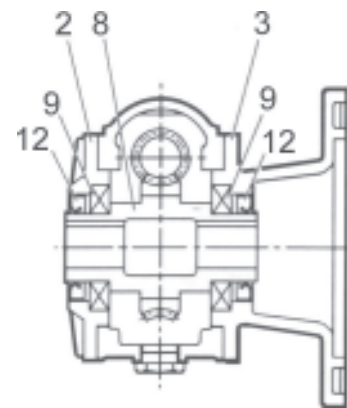
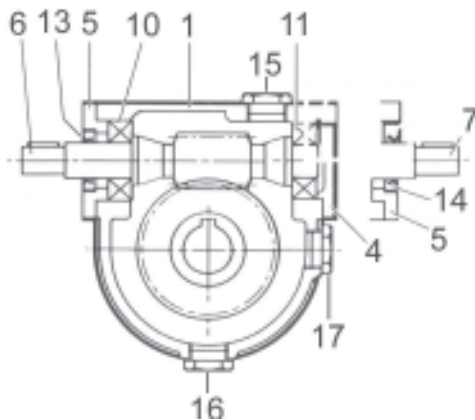


PRIMA DI ORDINARE IL QUADRO ELETTRICO (POS. 35) VERIFICARE CON ATTENZIONE IL CODICE RIPORTATO SULLA TARGHETTA ALL'INTERNO DEL QUADRO STESSO.

PRIOR TO PLACING ORDER FOR ELECTRICAL BOX (POS. 35) CHECK CODE NUMBER ON THE PLATE INSIDE IT.

RIDUTTORE COMPLETO DI FRENO
REDUCTION GEAR WITH BRAKE

RIDUTTORE A VITE SENZA FINE
WORM REDUCTION GEAR



POS.	CODICE	Q.TA'	DESCRIZIONE	DESCRIPTION	DESIGNATION	BEZEICHNUNG
			RIDUTTORE A VITE SENZA FINE	WORM REDUCTION GEAR		
1			Carcassa	Casing		
2			Coperchio	Cover		
3			Flangia uscita	Output flange		
4			Coperchio chiuso	Closed cover		
5			Coperchio aperto	Open cover		
6			Vite	Screw		
7			Vite bisporgente	Double protruding screw		
8			Corona	Gearwheel		
9			Cuscinetto	Bearing		
10			Cuscinetto	Bearing		
11			Cuscinetto	Bearing		
12			Anello di tenuta	Seal ring		
13			Anello di tenuta	Seal ring		
14			Anello di tenuta	Seal ring		
15			Tappo di carico / sfiato	Filling plug		
16			Tappo di scarico	Drain plug		
17			Tappo di livello	Level plug		



RIDUTTORE COMPLETO DI FRENO
REDUCTION GEAR WITH BRAKE

RIDUTTORE EPICICLOIDALE
EPICYCLIC REDUCTION GEAR



For information contact GRU COMEDIL's technical office.





RIDUTTORE COMPLETO DI FRENO
REDUCTION GEAR WITH BRAKE

FRENO
BRAKE

For information contact GRU COMEDIL's technical office.



MOTORE

MOTOR

For information contact GRU COMEDIL's technical office.

MAINTENANCE

GENERAL

Inspection consists of all the appropriate operations required to locate, identify and assess problems which might weaken the safety and functionality of the unit.

Repair is directly related to the inspection carried out and, resolving each detected deficiency, restores the unit to its original configuration and state of operation.



For detailed information on the maintenance program and requirements, refer to **Chapter 8 “General Maintenance”** of the crane’s operation manual.

LIST OF THE GROUPS SUBJECT TO MAINTENANCE

To facilitate the routine maintenance operations, Comedil cranes systems/components have been divided into some main groups of intervention.



For detailed information, refer to **Chapter 8 “General Maintenance”** of the crane’s operation manual.

Below find the travelling unit groups subject to maintenance:

- 1) *Travel tracks*
- 2) *Travelling unit (bogies, reduction gears, motors and wheels)*
- 3) *Connectors and electrical cables*
- 4) *Travelling limit switches*
- 5) *Cooling fans*

ROUTINE MAINTENANCE AND PERIODICAL INSPECTIONS

Maintenance procedures consist of two phases: **INSPECTION**
REPAIR

This system guarantees that all potential travelling unit deficiencies are identified and repaired.

Defects which cannot be solved during this phase will become part of the "SPECIAL MAINTENANCE".



For detailed information on the routine inspection criteria and requirements, refer to **Chapter 8 “General Maintenance”** of the crane’s operation manual.

3.3.1 Daily inspections

The operator, a qualified and trained person, is the appointed person to examine deficiencies and to determine whether they constitute a hazard.

The daily inspection of the travelling unit gives a good evaluation of the general condition of the crane.

3.3.2 Weekly inspections

- A) Make sure that all bolts connecting the travelling boxes to the undercarriage are fixed in their housings, secured with the relative nuts and tightened correctly.
- B) Check all the safety and protection devices.
- C) Visually inspect all the electric and electronic devices.
- D) Check the integrity and the correct connection of the supply cable (make sure that the phases are connected correctly).

3.3.3 Monthly inspections

- A) With great accuracy visually examine all the weldings of the bogies checking for visible cracks.
- B) Examine closely welds that are rusted: rust is often a sign of oxidation in a structural weld.
- C) Restore the oil level of the reduction gear as specified in the lubrication chart (\Rightarrow par. 3.5).
- D) With the power off, remove access covers on electrical motors to inspect the commutators for wear. Clean commutators as necessary. Replace any electrical part which looks seriously worn out
- E) Using low pressure compressed air remove the dust from inside the electrical boxes and panels.
- F) Clean the filters of the electric motor cooling fans using compressed air or washing them with water and soap.
- G) Open the electric box and visually inspect the relays, the fuses, the connections and other electric devices to eliminate any dampness, short-circuit, burning and other damages. Check that all components have been properly assembled. After the inspection, close the electric box.
- H) Inspect the motors and cooling fans for obvious defects or damage.
- I) Inspect for obvious damage or short circuit and check the electric wires for connections or for visible signs of damage.

3.3.4 Quarterly inspections

Made up for by monthly inspections.

3.3.5 Six- monthly inspections

Made up for by monthly inspections.

3.3.6 Annual inspections

- A) Perform non-destructive test on the weldings of the bogies.
- B) Treat corrosion on and repaint all oxidized parts of the crane.
- C) Check the conditions of the bogies connecting systems: any corroded, worn out or damaged screws and nuts shall be replaced by Comedil's technicians
- D) Calibrate the travelling brakes.
- E) Inspect the rail tracks and travelling wheels for visible cracks or evident sign of wear.
- F) Lubricate the travelling wheels as specified in the lubrication chart (⇒ par. 3.5).
- G) Visually inspect all the motor bearings for evident signs of wear.



NOTE: after three years at the latest, even if the equipment is out of operation, replace the oil of the reduction gear as specified in the lubrication chart (⇒ par. 3.5).

Note:



*Should extraordinary events happen, such as long periods of driving rain with lightening striking near the crane, protracted work in a corroding ambient or in particularly foul areas, etc. **MORE FREQUENTLY AND CAREFULLY INSPECT** the electrical equipment for evident signs of wear. In particular, check the cables running up the tower and possible leakages of water into the electrical boxes.*



3.4 SPECIAL MAINTENANCE

Special maintenance tasks shall be carried out by skilled technicians who have been properly trained and have the experience to accomplish these tasks.



Specialists only shall be appointed to carry out the following operations:

- A) Adjustment of the limit switches;
- B) Repair of electric components and calibration of electronic systems which operate the crane's movements and mechanisms;
- C) Adjustment of the brakes;
- D) Overhaul of the electric motor and of the reduction gear;
- E) Repair of the electric system;
- F) Non-destructive testing for structural damage;

3.5 LUBRICATION AND OILS

PARTS TO BE SERVICED	LUBRICANT
Travelling reduction gear	MOBIL Mobilgear SHC 630
Travelling wheels	Shield Fluid 3K



Check for proper oil level after any repairs or revisions inside the travelling unit.