E-CJM

User Manual

TOPFIBRA

EFFECTIVE FILAMENT WINDING® PIONEERS

E-CJM

USER MANUAL

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1. INSTRUCTION MANUAL FOR USE AND MAINTENANCE

Name: equipment for GRP pipe and sleeve coupling joining.

1.1. PREMISES

1.1.1. Purpose of the Instruction Manual

This Instruction Manual is an integral part of the machine and is intended to provide all the information necessary for:

- handling of the machine;
- knowledge of its functioning and its limits;
- carrying out maintenance operations correctly and safely.

The managers of the company departments, where this machine will be installed, are required, according to the regulations in force, to carefully read the contents of this Instruction Manual and to have it read by the operators and maintenance technicians in charge, for the parts, which are their responsibility.

The time spent for this purpose will be largely rewarded by the correct functioning of the machine and its use in safe conditions.

1.1.2. How to read the Instruction Manual

The Manual has been divided into independent chapters, each of which is aimed at specific operator figures, for which the skills necessary to operate on the machine in safe conditions have been defined.

The sequence of the chapters responds to the temporal logic of the life of the machine.

The Instruction Manual consists of a cover, an index and a series of chapters (sections). The initial page shows the identification data of the machine and model (and serial number, if any),

the revision of the Instruction Manual and, lastly, a photograph/drawing of the type of machine described, to help the reader identify the machine and its relative manual.

Starting from the first page of the index, there is the revision table of the Instruction Manual and its parts, which correlates the revision level of the entire Manual with that of the index and the component chapters and shows the issue date of the entire Manual with a certain level of revision.

1.1.3. Keeping the Instruction Manual

The Instruction Manual must be kept with care and must accompany the machine in all changes of ownership that it may have in its life.

Conservation must be favoured by handling it with care, with clean hands and not depositing it on dirty surfaces.

Parts must not be removed, torn or arbitrarily modified.

The Manual must be filed in an environment protected from humidity and heat and close to the machine to which it refers.

Upon request by the User, Topfibra can provide additional copies of the machine Instruction Manual.

1.1.4. Instruction Manual update

Topfibra reserves the right to modify the project and make improvements to the machine without communicating it to the Customers, and without updating the Manual already delivered to the user.

Furthermore, in the event of modifications to the machine installed at the Customer's site, as agreed with Topfibra and which involve the modification of one or more chapters of the Instruction Manual, it will be the responsibility of Topfibra to send the affected chapters to the holders of the Instruction Manual involved.

It is the user's responsibility, following the instructions accompanying the updated documentation, to replace the old chapters with the new ones in all copies owned, the initial page and the index with those with the new revision level.

1.1.5. Recipients

The Manual in question is addressed to: the Installer, the Operator and Qualified Personnel qualified to maintain the machine.

EXPOSED PERSON: means any person who is wholly or partially in a dangerous area.

OPERATOR: means those people who have followed specialization courses, training, etc. and have experience in installation, commissioning and maintenance, repair, and transport of the machine.

QUALIFICATION OF THE RECIPIENTS

The machine is intended for industrial, and therefore professional and non-generalized use, therefore its use can be entrusted to qualified figures, in particular, those who:

- have reached the adult age;
- are physically and mentally suitable to carry out jobs of particular technical difficulty;
- have been adequately trained on the use and maintenance of the machine;
- have been judged suitable by the employer to carry out the task entrusted to them;
- are able to understand and interpret the operator's manual and the safety instructions;
- know the emergency procedures and their implementation;
- possess the ability to operate the specific type of equipment;
- are familiar with the specific rules of the case;
- have understood the operating procedures defined by Topfibra of the machine.

1.1.6. Safety signs

HAZARD!

HIGH VOLTAGE HAZARD

ELECTROMAGNETIC HAZARD

TRIPPING HAZARD

DROP (FALL) HAZARD

BURN HAZARD

RISK OF SQUEEZING THE LEGS

HAND CRUSH HAZARD

COUNTER-ROTATING ROLLERS HAZARD

PINCH POINT HAZARD

CRUSHING HAZARD

COUNTER-ROTATING ROLLERS HAZARD

SUDDEN LOUD NOISE HAZARD

LINE TRANSPORT SYSTEM

NO PACEMAKER WEARERS

NO METAL OR WATCHES

DO NOT STAND HERE

FOOT CRUSHING HAZARD

HAND CRUSHING HAZARD

WEAR EAR PROTECTION

WEAR EYE PROTECTION AND EARMUFFS

WEAR A HARD HAT AND EARMUFFS

WEAR EYE PROTECTION

WEAR EYE PROTECTION AND A HARD HAT

WEAR SAFETY GLOVES

WEAR HARD HAT

WEAR A MASK

WEAR A RESPIRATOR

CAUTION AIR SYSTEM UNDER PRESSURE

FORBIDDEN TO OPEN

DO NOT WORK UNDER THE TABLE
IF NOT MECHANICALLY BLOCKED

DANGER!
The operator may only use the machine in accordance with its intended use in a safe and technically perfect condition!

DANGER!
Competent personnel must ensure that unauthorized persons avoid dangerous areas!

DANGER!
The electrical equipment of the machine must be tested regularly. Defective cable insulation, loose connections, and burnt cables must be removed immediately. The main electrical cabinet must always be locked. Only authorized personnel are allowed access.

DANGER!
Work on the electrical system may only be carried out by competent and authorized workers! There is a risk of electric shock, which can range from severe burns to heart failure!

WARNING!
Observe all safety and accident prevention regulations!

WARNING!
When carrying out hazardous work, the main switch must be switched off and secured against being switched on again!

WARNING!
When installing the machine, the relevant safety rules must be observed and accidents must be avoided by prudent handling! This mainly concerns the use of safe means of transport and lifting devices! In addition, all dangerous places created, even if only temporary, must be adequately insured!

1.2. TECHNICAL SUPPORT INFORMATION

The Machines are covered by a guarantee, as foreseen in the general conditions of sale. If, during the period of validity, faulty operations or failures of parts of the machine occur, which

fall within the cases indicated by the guarantee, Topfibra, after the appropriate checks on the machine, will repair or replace the defective parts at his home.

We remind you that modifications carried out by the user, without explicit written authorization from Topfibra, void the guarantee and relieve Topfibra from any liability for damage caused by a defective product.

This is particularly true when the aforementioned modifications are performed on safety devices, degrading their effectiveness.

The same considerations apply when using non-original spare parts or spare parts other than those explicitly indicated by Topfibra as "SAFETY DEVICES".

For all these reasons, we advise our customers to always contact Topfibra's Assistance Service.

1.2.1. Items under customers scope of supply

Without prejudice to any different contractual agreements, the following are normally the responsibility of the Client:

- Foundations;
- Electrical power supply of the machine, in compliance with the regulations in force in the country of use;
- Pneumatic supplies at the indicated connection points.

1.3. SAFETY

1.3.1. General Warnings

Before making the Machine operational, carefully read the instructions contained in this Manual and carefully follow the indications contained therein.

Topfibra has made every effort to design this machine, as far as possible to be INTRINSICALLY SAFE.

Notwithstanding the above, the implementation of the safety system will be defined by the end-user, seeing that the equipment is inserted in a manufacturing plant with other equipment.

The user can conveniently integrate the information provided by Topfibra with additional work instructions, obviously not in conflict with what is reported in this Instruction Manual, to contribute to the safe use of the machine, namely:

- great attention must be paid to the operator's clothing: Avoid using clothes with hooks that could get caught on parts of the machine;
- avoid using ties or other loose clothing;
- avoid wearing bulky rings or bracelets that could get your hands caught in the parts of the machine;
- avoid modifying or changing the settings of the safety devices;
- avoid carrying out temporary repairs or restoration work that does not comply with the instructions.

It is essential to diligently follow the following guidelines:

- It is absolutely forbidden to inhibit the safety devices installed on the machine;
- Operations with reduced safety must be carried out scrupulously respecting the indications provided in the relative descriptions;
- After an operation with reduced safety, the temporarily removed protections must be restored as soon as possible;
- Do not modify parts of the machine for any reason; in the event of a malfunction, due to failure to comply with the above, Topfibra is not liable for the consequences. It is advisable to request any modifications directly from Topfibra;
- Clean the machine coverings, panels and controls with soft, dry cloths or cloths slightly soaked in a mild detergent solution; do not use any type of solvent, such as alcohol or petrol, as the surfaces could be damaged;
- Position the machines as established at the time of the order, according to the diagrams supplied by Topfibra, otherwise Topfibra is not liable for any inconveniences.

1.3.1.1. Controls and checks

The machine must be checked regularly and a weekly, monthly and quarterly register must be always ready in the maintenance department.

If worn or defective parts are not promptly replaced, Topfibra assumes no responsibility for damage from accidents that could result.

The checks must be carried out by an expert; they must be of a visual and functional type, to guarantee the safety of the machine.

They include:

- verification of all load-bearing structures, which must not show any cracks, breaks, damages, deformations, corrosion, wear or alterations compared to the original characteristics and specifications;
- verification of all mechanical parts;
- check all the safety devices installed on the machine;
- check all connections with pins and screws;
- functional check of the machine;
- checking the status of the machine;
- verification that the machine's performance corresponds to the service for which it is intended (work cycles - intermittence - time of use - load to be moved);
- verification of the adequacy of the state of conservation (cleaning, lubrication) and maintenance of the machine and its main components;
- verification of the suitability and functioning of the electrical system; in particular check the correctness of the connections and that there are no precarious and dangerous connections;
- verification of the correct functioning of the motors;
- constant check of the efficiency of the push-button panel;
- check the functionality of the stop/emergency buttons;
- verification of the lighting conditions of the area and visibility of the work area;
- use of "slow" speeds for approach and positioning operations;
- check that the power supply to the machine is cut off in the event of inspections, repairs, or routine maintenance interventions;

- for all operations, use of suitable work clothing, in compliance with safety standards in the workplace;
- compliance with the maintenance intervention schedule and record any related observations at each check; also compliance with the provisions of current regulations;
- reporting of any operating anomalies (faulty behaviour, suspected breakage, incorrect movements and abnormal noise levels) to the Department Manager and putting the machine out of service.

The results of this verification must be reported on a special sheet.

ATTENTION!

If anomalies are found, they must be eliminated before putting the machine back into operation, and the expert who carries out the check must note the repair on the report sheet, thus approving the use of the machine.

If the person carrying out the check finds cracks or dangerous anomalies, he must promptly:

- notify TOPFIBRA;
- put the machine out of service in the event of malfunctions, carrying out the appropriate checks and/or repairs;
- make sure that there are no objects amongst the parts of the machine;
- check that after any maintenance operation no objects remain between the moving parts.

In order to guarantee maximum safety in handling the machine, it is in any case FORBIDDEN:

- to tamper with some parts of the machine;
- use the machine in working order but not in complete efficiency;
- modify the machine to change the originally established use, without explicit authorization from TOPFIBRA.

1.3.1.2. Intended use

The intended use of the CJM 300-2600 is to insert fibre/basalt glass coupling in the range of ND300-2600 into the fibre/basalt glass pipe.

Each diameter must correspond to a certain pressure, for a certain time, from which it will be possible to see, from the instrumentation or visually, if the pipe has leaks or seepage.

The use of products/materials other than those specified by Topfibra, which can cause damage to the machine and dangerous situations for the operator and/or people close to the Machine, is considered incorrect or improper.

1.3.2. Contraindications for use

The machine must not be used:

- for uses other than those described, for uses different or not mentioned in this manual;
- in an explosive, corrosive or highly concentrated atmosphere of dust or oily substances suspended in the air;
- in the afire-risk atmosphere;
- exposed to bad weather;
- with safety devices excluded or not working;
- with electrical jumpers and/or mechanical devices that exclude utilities/parts of the machine itself.

To avoid anomalous and dangerous stresses on the mechanical equipment and the structure of the machine, it is advisable to avoid violent impacts between the handling equipment and the end bumpers. The limit switch devices are positioned in such a way as to allow the complete stroke when they are reached at a reduced speed, while the space required for braking is greater the higher the speed, being all managed by a PLC.

Dangerous areas are all those that can be included in the range of action of the machine.

If operations other than those programmed are carried out, such as loading unsuitable pieces or positioning outside the limits, or other unforeseen situations, this can interfere with the

installed program and internal shocks could occur which prevent the correct functioning of the machine.

1.3.3. Safety devices

The following safety devices are installed in the machine:

1. Emergency Stop from the hand control;
2. Buttons for one-stage operation, not with retention;
3. Irremovable fixed protections;
4. 6. Indicative signs;
5. 7. Operating instructions;
6. 8. Software that interlocks out-of-cycle machine movements;
7. To manage the safety devices, refer to the electrical diagrams.

1.3.4. Signs

The signs that must be installed near the machine and its work area are as follows.

1.3.4.1. Prohibition signs

- Sign indicating the prohibition to remove the safety devices or guards of the machine;
- Sign indicating the prohibition to repair and/or adjust while in motion;
- Access prohibition sign for live parts.

1.3.4.2. Danger signs

- Sign indicating general danger.

1.3.4.3. Mandatory signs

- Sign indicating the obligation to use protective footwear;
- Sign indicating the obligation to use gloves;
- Sign indicating the obligation to use protective clothing;
- Sign indicating the obligation to use the helmet.

2. MACHINE DESCRIPTION

2.1. DESCRIPTION

The Coupling Joining machinery is designed as an auxiliary device in the production of pipes. It is intended for inserting Couplings from size DN 300 to DN 3000 to the pipes.

Figure 1

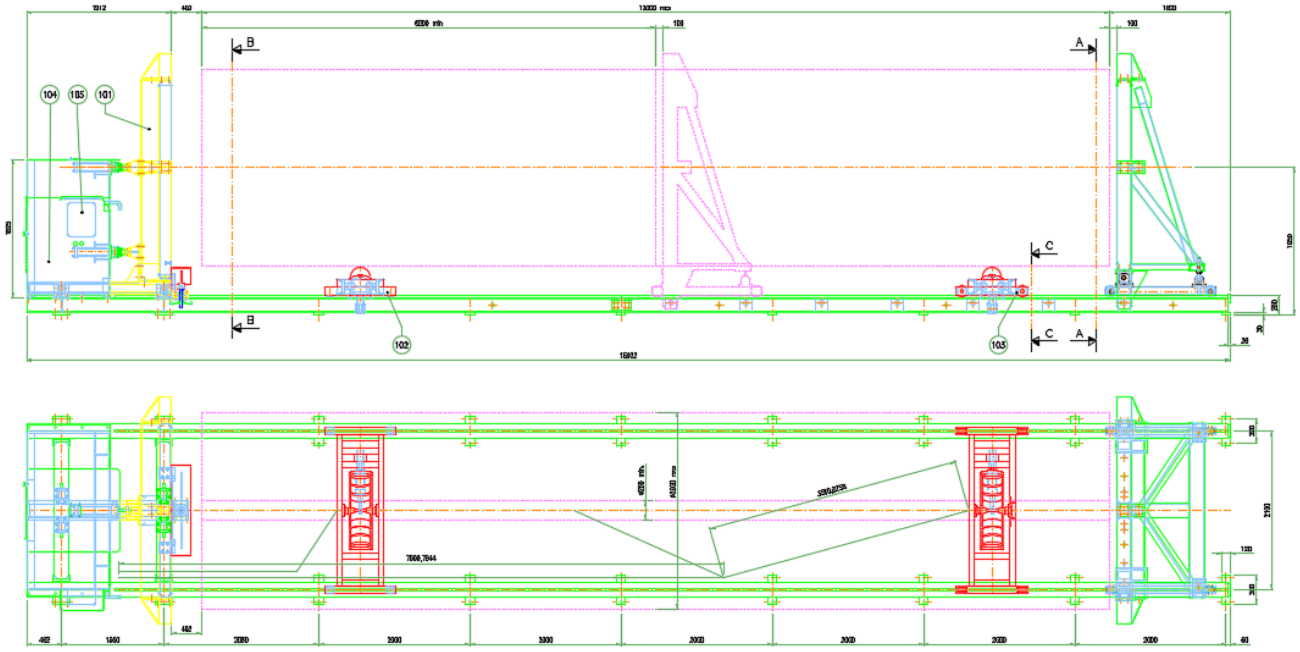


Figure 2

The device consists of the following important components:

- Framework with 2 hydraulic cylinders moving the metal plate;

Figure 3

- Hydraulic unit;

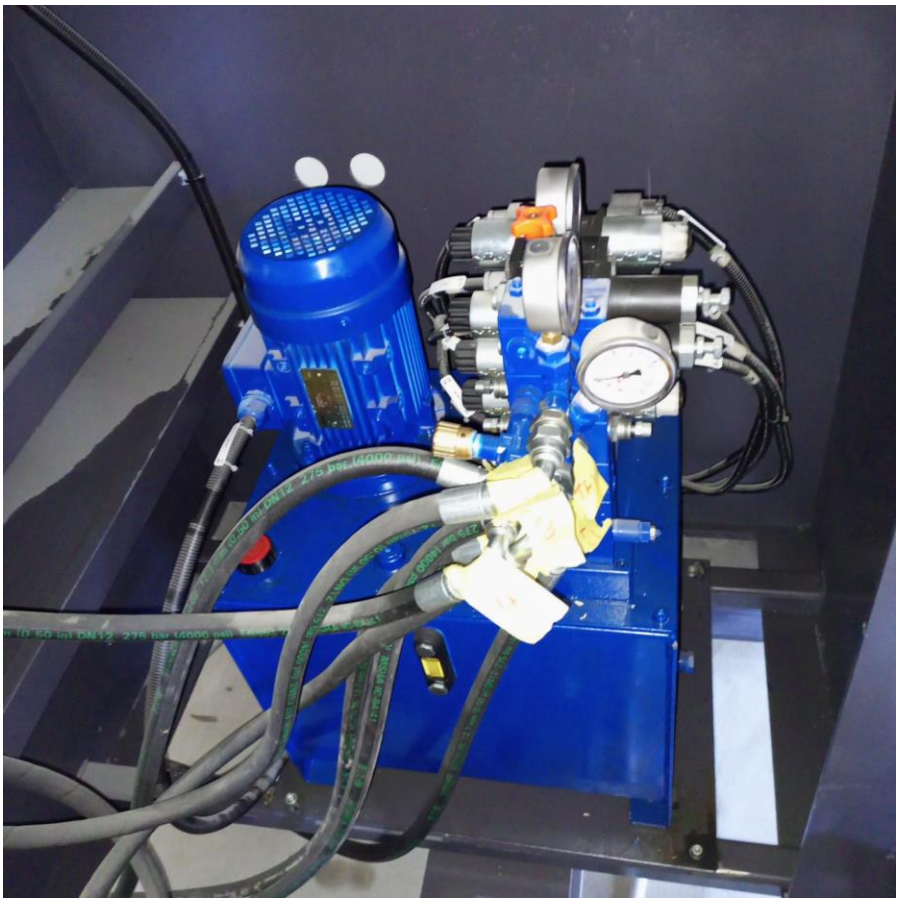


Figure 4

- Mobile head;

Figure 5

- Adjustable fix head;

Figure 6

- Fixed & mobile trolleys.

Figure 7

Figure 8

3. COUPLING JOINING

3.1. STEP 1

Adjust the mobile head and the pipe trolley carriages considering the length of the pipe and apply the securing pins. Load the Brp/Grp pipe on the machine. If you use rollers beams to load the pipe on the machine, rotate the hydraulic rollers support structures on carriages to permit pipe movement until the machine centreline (possibly pipe in contact with headstock).

3.2. STEP 2

Apply the sleeve coupling on the movable head and make a vertical adjustment of position. Cylinders closing at the minimum extension.

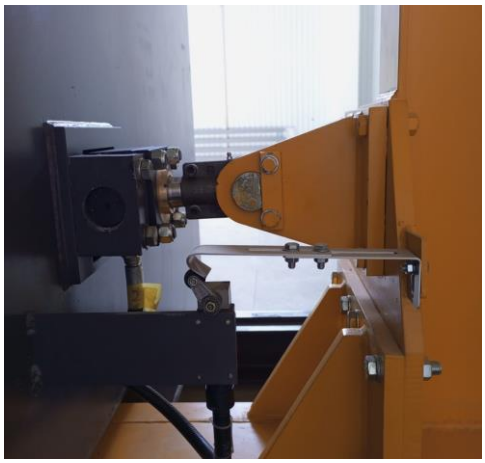


Figure 9

Figure 10

Note: Before continuing assure that inside of the sleeve, you have positioned the rubber gaskets!

Figure 11

Figure 12

3.3. STEP 3

From the main control panel apply hydraulic pressure to the movable head, and move so sleeve to the pipe.

Note: Move with low speed the movable head to avoid possible damage to the sleeve and pipe!

THE OPERATOR HAS TO DO ATTENTION TO STOP THE MOVABLE HEAD TO DESIRED POINT; OTHERWISE, IT GOES AT THE END OF THE ACTUATORS STROKE!! (APPLY A REFERENCE MARK!)

Figure 13

Figure 14

3.4. STEP 4

Retract the actuators, and take away the pipe + sleeve.

4. MAINTENANCE

4.1. CORRECT MAINTENANCE

The proper functioning and maintenance of the effectiveness of the machine depend a lot on the operator who uses it, being himself the best connoisseur of the same.

To ensure that the interventions are as rational as possible, a maintenance program is shown below which describes the checks and interventions envisaged on the machine, which include:

- Ordinary maintenance;
- Periodic maintenance.

4.1.1. Ordinary maintenance

Consists of the checks carried out by the workers assigned to use and/or by the maintenance personnel of the machines present in the company, without requiring the use of particular equipment and/or tools for its execution.

4.1.2. Periodic maintenance

Consists of targeted lubrication checks on the mechanisms, replacement of worn parts, and cleaning of the parts most directly exposed to dust and/or the action of external agents, carried out by expert and specialized personnel.

To ensure the safety of the operators and avoid substantial damage to the machine, it is always advisable to replace the component that is not able to offer sufficient guarantees of safety and/or reliability, without waiting for it to be completely and definitively put out of use.

For periodic maintenance, refer to the table indicated at the end of the manual.

4.2. LUBRICATIONS

Lubrication of moving equipment, necessary to avoid direct contact between the rolling parts of the machine, is one of the indispensable conditions for guaranteeing a long life and optimal functioning.

The precautions to be observed in the lubrication of lifting and translation equipment are highlighted in this paragraph.

In consideration of the technology used for the lubrication of the parts of the machine, this maintenance operation can also be carried out by unskilled personnel, who in any case must scrupulously comply with the instructions contained in this manual and operate with attention and common sense, even if it is a simple topping up of the lubricating liquid containment tanks, which in any case must be of the prescribed quality.

The diagram of the components of the lubrication system shown below indicates some brands of products and the type required on the machine.

For the hydraulic units, the oil must be changed after the initial 2500 to 3000 operating hours. Subsequent changes must be performed in intervals of 2500 operating hours or at least once a year. In an environment with the presence of fine particles of dirt or abrasive materials, the oil must be changed more frequently. Where larger quantities of oil are involved, the oil should be changed based on the laboratory analysis results. Jointly with the oil change, the inside of the tank and filter elements must be cleaned. They must be cleaned or changed after the initial start-up, too. The regular cleaning and changing of filter elements extend the service life of a hydraulic device by preventing dirt to enter it. It is advisable to instate a machine logbook already at the first start-up. In this logbook, time intervals for performing individual inspections shall be recorded. Components of the hydraulic device must be regularly inspected at precisely defined times.

The hydraulic units contain about 100 litres each (0.84 bbl) of oil, according to the table below.

The grease pumping stations each contain about 2 Kg (4 lb) of material, according to the table below.

CLASSE	SIMBOLI UNI	CAMPO DI APPLICAZIONE	FIELD OF APPLICATION	Mobil	oiltek	PETRONAS LUBRICANTS	Q8	REPSOL	ROLOIL	ROTHEN	Sinclair LUBRIFICANTI Divisione della Fuchs Lubrificanti S.p.A.
C	CKB 32	INGRANAGGI MODERATAMENTE CARICATI	MODERATELY LOADED GEARS	MOBIL DTE OIL LIGHT	OILTEK HLP 32	FL LP 32	Q8 VERDI 32	ARIES 32	ARM 32-V	CODRA 32	COMMANDER OIL AW 32
	CKB 68			MOBILGEAR 600 XP 68	OILTEK HLP 68	FL LP 68	Q8 VERDI 68	ARIES 68	ARM 68-V	CODRA 68	COMMANDER OIL AW 68
	CKC 150	INGRANAGGI MOLTO CARICATI	HEAVILY LOADED GEARS	MOBILGEAR 600 XP 150 MOBILGEAR XMP 150	OILTEK EP 150	FL BAKU R 150 EP	Q8 GOYA 150	SUPER TAURO 150	EP 150	GTR 150	WARRIOR EP/NL 150
	CKC 320			MOBILGEAR 600 XP 320 MOBILGEAR XMP 320	OILTEK EP 320	FL BAKU R 320 EP	Q8 GOYA 320	SUPER TAURO 320	EP 320	GTR 320	WARRIOR EP/NL 320
F	FD 10	CUSCINETTI DI MANDRINI, CUSCINETTI IN GENERE	SPINDLES AND BEARINGS	MOBIL VELOCITE OIL N° 6	OILTEK HL 10	FL HIDROBAK 10	Q8 HAYDN 10	TELEX E 10	LI 10	CODRALUBE M10	COMMANDER OIL AW 10
	FD 22			MOBIL VELOCITE OIL N° 10	OILTEK HL 22	FL HIDROBAK 22	Q8 HAYDN 22	TELEX E 15	LI 22	CODRALUBE M22	COMMANDER OIL AW 22
G	G 68	GUIDE	SLIDEWAYS	MOBIL VACTRA OIL N° 2	OILTEK G 68	FL HUSOLI 68 GS	Q8 WAGNER 68	ZEUS GUIA 68	ARM 68-EP	TENAX 68	TRUSLIDE OIL 68
	G 220			MOBIL VACTRA OIL N° 4	OILTEK G 220	FL HUSOLI 220 GS	Q8 WAGNER 220	ZEUS GUIA 220	ARM 220-EP	TENAX 220	TRUSLIDE OIL 220
H	HM 32	SISTEMI IDROSTATICI	HYDROSTATIC SYSTEMS	MOBIL DTE 24 MOBIL DTE EXCEL 32	OILTEK HLP 32	FL HIDROBAK 32	Q8 HAYDN 32	TELEX E 32	LI 32	CODRA PLUS 32	COMMANDER OIL AW 32
	HM 46			MOBIL DTE 25 MOBIL DTE EXCEL 46	OILTEK HLP 46	FL HIDROBAK 46	Q8 HAYDN 46	TELEX E 46	LI 46	CODRA PLUS 46	COMMANDER OIL AW 46
	HM 68			MOBIL DTE 26 MOBIL DTE EXCEL 68	OILTEK HLP 68	FL HIDROBAK 68	Q8 HAYDN 68	TELEX E 68	LI 68	CODRA PLUS 68	COMMANDER OIL AW 68
	HG 32	SISTEMI CON GUIDE IDROSTATICHE	HYDRAULIC AND SLIDEWAYS SYSTEMS	MOBIL VACTRA OIL N. 1	OILTEK HG 32	FL HUSOLI 32 HG	Q8 WAGNER HW 32	ZEUS GUIA 32	LI 32 EP	CODRA PLUS HV 32	TRUSLIDE OIL 32
	HG 68			MOBIL VACTRA OIL N. 2	OILTEK HG 68	FL HUSOLI 68 HG	Q8 WAGNER HW 68	ZEUS GUIA 68	LI 68 EP	CODRA PLUS HV 68	TRUSLIDE OIL 68
X	XBCEA 1	GRASSI MULTIFUNZIONALI	MULTI-PURPOSE GREASES	MOBILUX EP 1	OILTEK BEARING EP1	FL JOTA IND 1	Q8 REMBRANDT EP 1	GRASA LITICA EP1	LITEX EP 1	SUPERGREASE EP 1	RENOLIT EP 1
	XBCEA 2			MOBILUX EP 2	OILTEK BEARING EP2	FL JOTA IND 2	Q8 REMBRANDT EP 2	GRASA LITICA EP2	LITEX EP 2	SUPERGREASE EP 2	RENOLIT EP 2
	XBCEA 3			MOBILUX EP 3	OILTEK BEARING EP3	FL JOTA 3 FS/I	Q8 REMBRANDT EP 3	GRASA LITICA EP3	LITEX EP 3	SUPERGREASE EP 3	RENOLIT EP 3

Figure 15

There are also manual greasing points, such as undercarriage bolts and bearings, and their location will be indicated on the drawing, even if they are visually exposed.

For the manual greasing point, we recommend re-greasing every 4500 hours and using SKF LGMT 2.

4.3. ORDINARY MAINTENANCE

4.3.1. General prescriptions

Once a month, check the functioning of the Emergency Stops by running the machine without load and test the correct intervention (total arrest of operation) of the Emergency Stops themselves.

In the event of a malfunction, entrust troubleshooting to specialized personnel only, and if not indicated by the diagnostics, call Topfibra's technical assistance.

Check the continuity of the earth circuit every 2 years, by carrying out the continuity measurement according to the provisions of the local standard.

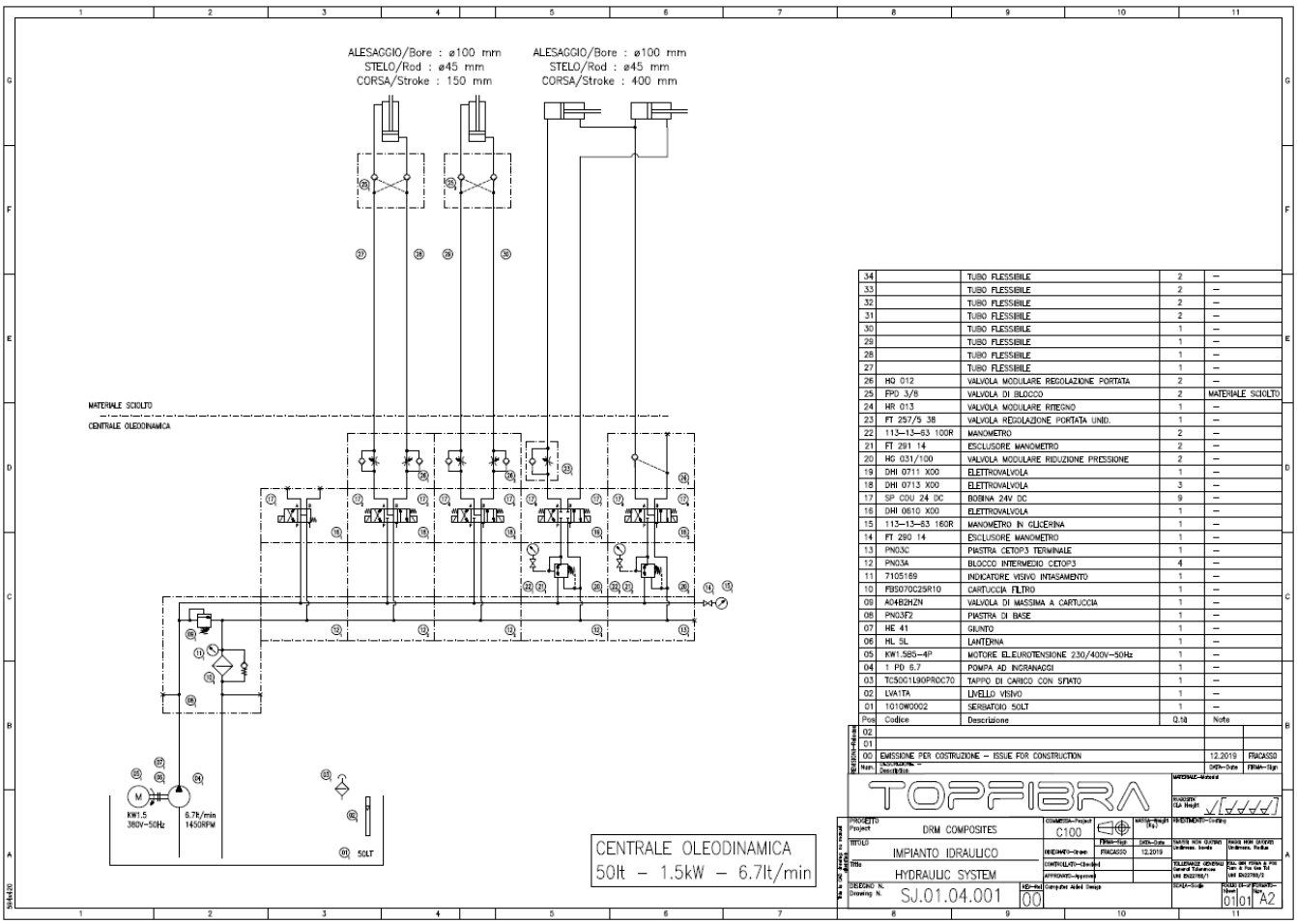
The machine has been designed to reduce ordinary maintenance to a minimum, it is up to the operator to judge the state and its suitability for use.

It is recommended to stop and intervene with maintenance whenever non-optimal functioning is perceived; this will always ensure maximum efficiency.

Visually check the condition of the individual parts that make up the machine, verifying that there are no alterations due to sagging or deformation.

For all maintenance that does not require voltage to the power components, the system must be stopped by disconnecting the power supply from the main switch, locking it in the "0" position.

5. HYDRAULIC CIRCUIT



Pos	Codice	Descrizione	Q.tà	Note
34		TUBO FLESSIBILE	2	–
33		TUBO FLESSIBILE	2	–
32		TUBO FLESSIBILE	2	–
31		TUBO FLESSIBILE	2	–
30		TUBO FLESSIBILE	1	–
29		TUBO FLESSIBILE	1	–
28		TUBO FLESSIBILE	1	–
27		TUBO FLESSIBILE	1	–
26	HQ 012	VALVOLA MODULARE REGOLAZIONE PORTATA	2	–
25	FPO 3/8	VALVOLA DI BLOCCO	2	MATERIALE SCIOLTO
24	HR 013	VALVOLA MODULARE RITEGNO	1	–
23	FT 257/5 38	VALVOLA REGOLAZIONE PORTATA UNID.	1	–
22	113–13–63 100R	MANOMETRO	2	–
21	FT 291 14	ESCLUSORE MANOMETRO	2	–
20	HQ 031/100	VALVOLA MODULARE RIDUZIONE PRESSIONE	2	–
19	DHI 0711 X00	ELETTROVALVOLA	1	–
18	DHI 0713 X00	ELETTROVALVOLA	3	–
17	SP COU 24 DC	BOBINA 24V DC	9	–
16	DHI 0610 X00	ELETTROVALVOLA	1	–
15	113–13–63 160R	MANOMETRO IN GLICERINA	1	–
14	FT 290 14	ESCLUSORE MANOMETRO	1	–
13	PN03C	PIASTRA CETOP3 TERMINALE	1	–
12	PN03A	BLOCCO INTERMEDIO CETOP3	4	–
11	7105169	INDICATORE VISIVO INTASAMENTO	1	–
10	FBS070C25R10	CARTUCCIA FILTRO	1	–
09	A04B2HZN	VALVOLA DI MASSIMA A CARTUCCIA	1	–
08	PN03F2	PIASTRA DI BASE	1	–
07	HE 41	GIUNTO	1	–
06	HL 5L	LANTERNA	1	–
05	KW1.5B5–4P	MOTORE ELEUROTENSIONE 230/400V–50Hz	1	–
04	1 PD 6.7	POMPA AD INGRANAGGI	1	–
03	TC5001L90PROC70	TAPPO DI CARICO CON SFIATO	1	–
02	LVA1TA	LIVELLO VISIVO	1	–
01	1010W0002	SERBATOIO 50LT	1	–

02			
01			
00	EMISSIONE PER COSTRUZIONE – ISSUE FOR CONSTRUCTION	12.2019	FRACASSO

Figure 16

6. ELECTRIC SCHEME

See file: E-CJM Electrical scheme.

For more information contact us at

support@topfibra.eu

or

visit our page

www.topfibra.eu

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