

LUBRICLEAN EP

CLEANING KIT

LUBRILLOG

LESS THAN
ONE HOUR
OPEN GEAR CLEANING

LUBRILLOG
LUBRILLOG

LUBRICATION ENGINEERING

Distributed by



TOTAL

LUBRICLEAN EP

CLEANING KIT



LESS THAN
ONE HOUR
OPEN GEAR CLEANING



BEFORE CLEANING



AFTER CLEANING

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KIT CONTENTS



1 3 DRUMS OF LUBRICLEAN EP

LUBRICLEAN EP is a special cleaning solvent developed from vegetable chemistry with well adapted EP protection. LUBRICLEAN EP is certified to be chlorine free. After application on the surfaces that have been cleaned, LUBRICLEAN EP evaporates slowly at ambient temperature leaving a thin oily film with extreme pressure properties.

LUBRICLEAN EP can be used whilst the equipment is operating by using an average pressure spray gun on the metallic parts which are to be treated whilst in the temperature range 20 to 80°C (100°C maximum).

** The quantity applied should be adjusted depending on the size of the gear set, adhesiveness of the open-gear lubricant and the level of contamination and dirt on the gear set.*



2 1 HIGH PRESSURE PUMP

 BOX 1 / 2

| | |
|---------------------------|--------------|
| Model | 15 / 200 |
| Max. pressure (bar / psi) | 200 / 2900 |
| Capacity (lt / mn) | 15 |
| Motor power (kW) | 5,5 |
| Voltage (V - Hz) | 380 - 50 |
| Dimensions L x P x H (cm) | 55 x 55 x 70 |
| Net weight (kg) | 60 |

KIT CONTENTS

3 ACCESSORIES FOR HIGH PRESSURE PUMP

 BOX 1 / 2


4 1 MANUAL PUMP

 BOX 1 / 2

This ready to use and fully equipped manual system of pumping can be installed on a drum and held by a 2" bung adapted to the drum orifice.

- Suction tube 1m steel 3/4", 2" bung
- 2m tube having \varnothing 25

| | |
|---|-----------|
| Housing | cast iron |
| Interior | brass |
| Max. flow rate (m ³ / h) | 1.3 |
| \varnothing (suction and delivery tube) | 3/4" |



KIT CONTENTS



5 2 PROTECTIVE MASKS

 BOX 2/2

The 7907S Full Face Mask from 3M is, thanks to its adaptability, the best choice for users working in an environment with variable contaminants and exposure levels. Equipped with a double seal allowing a perfect fit regardless of the size of the face. Wide and reinforced eyepiece, silicone facepiece, textured surfaces, flange set with 6 straps.



The operator will not be able to wear glasses as this will affect the seal of the protective mask with the face.



6 2 FILTER PAIRS

 BOX 2/2

The 3M™ Gas and Vapour filter 6098, AXP3 can be used where protection against low boiling point (<650°C) organic compounds and particulates is required. It is designed to be used with 3M Full Face respirators only.

KIT CONTENTS



7 2 PROTECTIVE SUITS

 BOX 2/2

A71 Chemical Permeation and Liquid Jet Protection Coverall. Suitable for handling of aqueous chemicals, low pressure industrial cleaning and maintenance.



8 2 PAIRS OF CHEMICAL PROTECTIVE GLOVES

 BOX 2/2

Ultranitril 485 is made of green nitrile rubber.

- Excellent dexterity, due to the suppleness of the glove
- Good grip on slippery objects, due to the embossed exterior finish



LUBRICLEAN EP cleaning specific PPE do not replace other imperative PPE (safety shoes, ear protection, helmet, etc...) that are not provided.

PUMP SETTING UP

COMMISSIONING



ELECTRICAL PLUG

Appropriate electrical plug needs to be fitted

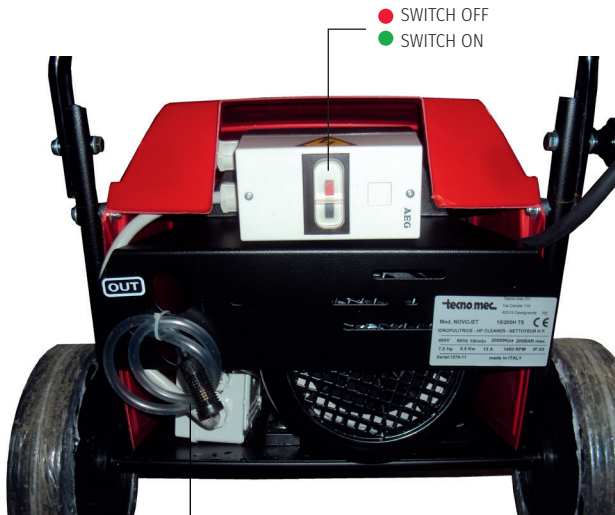


Electrical plug is not included in the kit



PUMP SETTING UP

REAR SIDE

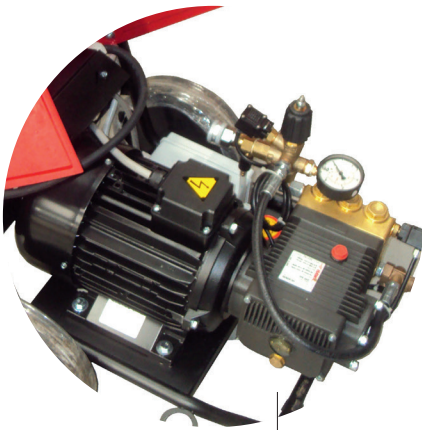


- SWITCH OFF
- SWITCH ON

Detergent circuit (for cleaning with water).
DO NOT USE WITH LUBRICLEAN EP

PUMP SETTING UP

LUBRICATION CHECK



Lubrication of the pump must be checked before the intervention : control of oil level.



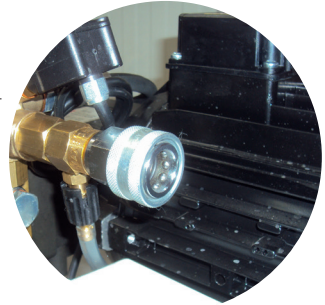
The oil must always be above the reference mark on the dipstick (use SAE 20W/30 oil). Follow the instructions in the manufacturer's manual.

PUMP SETTING UP

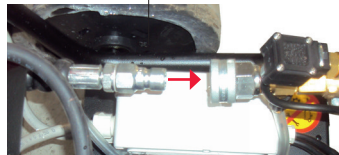
SPRAY LANCE CONNEXION



High pressure pump is connected to the spray lance



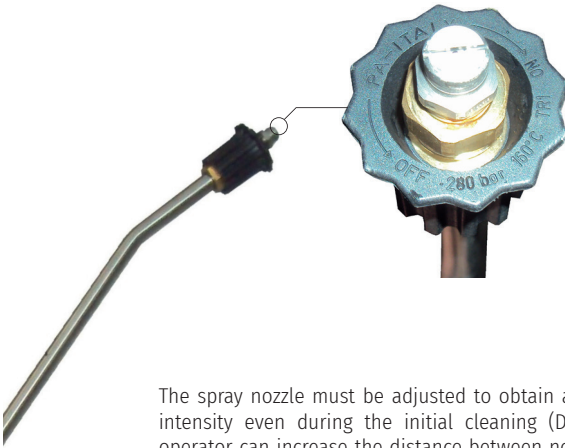
Connect hose tip of spray lance



High pressure hose

PUMP SETTING UP

SPRAY NOZZLE ADJUSTEMENT



The spray nozzle must be adjusted to obtain a jet with the greatest intensity even during the initial cleaning (During this phase the operator can increase the distance between nozzle and gear to have a more diffused spray). The spray angle of the nozzle of 15° allows a perfect concentration of the jet of LUBRICLEAN EP on the working flanks during cleaning.



After cleaning, do not forget to release the residual pressure with the gun trigger before disconnecting the hose from the high pressure pump.

PUMP SETTING UP

SPRAY NOZZLE ADJUSTEMENT

The high pressure pump is connected to the priming pump (input LUBRICLEAN EP). The photographs below show the connections to make.

It is advisable to test the spray before the cleaning, for example with water.

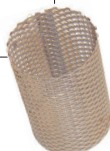
The length of hose should be checked before the operation (particularly the length between the pump and spray lance)



Low pressure inlet
(connection 1/2")
to connect with
LUBRICLEAN EP drum



LUBRICLEAN EP
low pressure inlet
(connection 1/2")
with metal filter



*The metallic filter must
be cleaned regularly*

Metalic filter
Ø16,5 mm x 25 mm

PRIMING PUMP SETTING UP

MANUAL PUMP EQUIPPED WITH BARREL TRANSFER

The priming pump is designed to supply the high pressure pump with LUBRICLEAN EP to prevent the pump running dry.



This ready to use and fully equipped manual system of pumping can be installed on a drum and held by a 2" bung adapted to the drum orifice.

PRIMING PUMP SETTING UP

The priming pump must remain in place during cleaning and set to the drum to improve rigidity of the assembly (to ease handling in the pump handle). However, when the drum is empty and need to be changed, the pump must be removed quickly to ensure continuity of LUBRICLEAN EP supply (beware of pollution when changing drum). We recommend disconnecting the pump when priming operation is over and just before cleaning but leaving it on the drum.



The pump must be fixed on the drum for proper operation but must then be free at each drum change (when the drum is empty to use the next one)

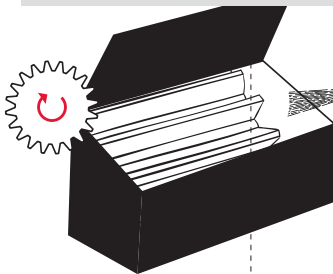
CLEANING PREPARATION



The designated operator for spraying should be equipped with standard P.P.E. (Personal Protective Equipment) and also protected against intense projections of LUBRICLEAN EP (particularly when the cleaning is carried out on the Pinion Gear/Drive); Facial mask, gloves, glasses and an impermeable combination are required.

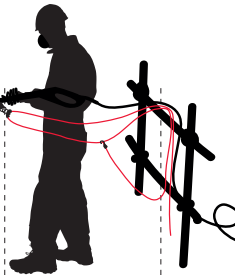


ATTENTION
Machine under operation



Minimum distance
of 20cm

Cleaning operator #1



Adjusting the strap
for safety

Cleaning operator #2



ATTENTION
Pump and drums must be
at the same floor level

Note :

The processed load, in the case of a mill, will be reduced for the duration of the cleaning intervention. The cleaning operation will be completed through the inspection door of the inward pinion (IN pinion) for double drive gear sets and through the inspection door of the outward pinion (OUT pinion) for single drive gear sets.

CLEANING PREPARATION



Risk prevention and security plans

The different documents required are to be shared with the factory where the intervention is carried out.

PREPARATORY STEPS

Once the installation of the pump is set up and security measures are applied, proceed to the following preparator steps.



Lighting

Lighting is only advisable. The important point is to have good visibility in the workshop during cleaning.



Preparation of the lubrication system stoppage

Except for the bath system lubrication, the customer should plan for the stoppage of lubricant without stopping the rotation of the girth gear during the cleaning process



Installation of the waste collection containers

The collection of waste grease and used Lubriclean EP needs to be contained in the area where the cleaning is taking place, please note that the final volume will be more than the Lubriclean EP solvent used in the operation.



Reduction of the load on the machine (for mills)

If possible, reduce the load of the treated material in the rotary drum to reduce the strains applied to the active flanks of the gear set.



Checking of the key equipments, the chronometer, the communication with the spraying operator and the control room

Time control is necessary during the various stages of cleaning; It is essential to keep enough LUBRICLEAN EP for the possible finishing step.

A communication with the control room of the Plant, or the Workshop, is necessary to be able to stop the machine (or restore the lubrication) quickly as soon as the cleaning is finished. (See p.19 for details)

STARTING OF CLEANING

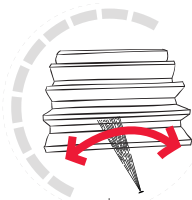


ATTENTION

In the event of the cleaning operation taking place while the equipment is rotating, trained operators who are aware of the health and safety regulations must carry out the cleaning operation.

- 1 Drums of LUBRICLEAN EP
- 2 High pressure pump
- 3 Accessories for High pressure pump
- 4 Manual pump
- 5 Protective mask
- 6 Filter pair
- 7 Protective suit
- 8 Chemical protective gloves

see page 4-7 for details



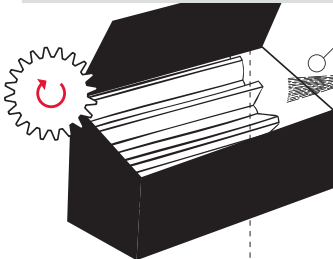
ACTION :

Spray the Lubriclean EP using the lance on the gear teeth and pinion gear flanks from left to right as well as cleaning the inside edges of the gear housing.

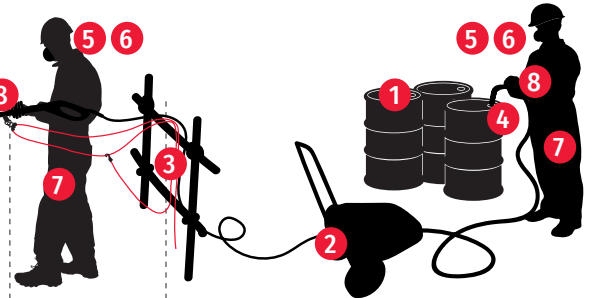


CAUTION

Machine under operation



Minimum distance of 20cm



Adjusting the strap for safety



15 L / MIN



ATTENTION

The priming pump must be removed quickly to ensure continuity of LUBRICLEAN EP supply (beware of pollution when changing drum)



15 L / MIN



30/35 min

Spraying of LUBRICLEAN EP during 30 to 35 minutes at 200 bars pressure. (maximum pressure)

AT SLOW SPEED
IF NECESSARY



15 L / MIN

5/10 min

Low speed finishing (auxiliary drive) during 5 to 10 minutes



**RESTART OF LUBRICATION
OR MACHINE STOP**



WARNING

No lubrication = Machine stop

The machine must not operate without lubrication. At the end of cleaning, lubricate in large quantity (for 4 hours) or stop the machine.

600 L*

* Example of times for 600 litres of LUBRICLEAN EP







MAINTENANCE OF THE KIT

CLEANING OF THE EQUIPMENT

Please circulate water inside the pump and also clean the Personal Protective equipment (P.P.E.)



SPARE PARTS LIST

| ARTICLE | ARTICLE NUMBER | DESCRIPTION |
|---|-----------------------|--------------------------------------|
|  | TOTAL SAP code 212296 | LUBRICLEAN EP (Full cleaning kit) |
|  | TOTAL SAP code 205885 | LUBRICLEAN EP (180kg Drum) |
|  | LUBRILOG ref 40009000 | HP PUMP and ACCESSORIES |
|  | LUBRILOG ref 40009010 | PROTECTIVE MASK |
|  | LUBRILOG ref 40009011 | PROTECTIVE SUIT |
|  | LUBRILOG ref 40009012 | FILTER PAIR |
|  | LUBRILOG ref 40009013 | PROTECTIVE GLOVES |
|  | LUBRILOG ref 40009017 | PRIMING PUMP |

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