

Using and maintenance manual

Grease kit for 18/20 Kg drums cod. 81840



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GENERALITY

1.1 General considerations and Destination Of use

1

In the present book use and maintenance are described the formalities of use and maintenance of the dispensing unit for the decant grease. The system is composed of a pneumatic grease pump linked to a grease gun through a flexible rubber hose.

All these main components are mounted on a 3-wheeled trolley on which a 18/20 kg drum can be placed and so it can be possible to withdraw the grease by means of the pneumatic pump.

The system must not be used for other types of workmanships without the express authorization of the **OMPI S.r.I.**

The system has been projected to guarantee the best results, premising that all the operational instructions and the recommendations described in this manual must have respected.

The training of the personnel is important for the maintenance and the control of the respect of the procedures of operation and all the suitable safety norms in this manual.

1.2 Consultation of the manual

This manual has been organized so that the utilizer can find the necessary information for the use and the maintenance of the system in simple way and rapids. The utilizer must read the manual in its totality, with a lot of attention, and to make sure that all the contained information are perfectly assimilated.

The secondary function of the manual is that to be document of reference and consultation to use him every time that will be necessary to perform a procedure or an operation. Insofar you/he/she must always be maintained to disposition of the personnel employed to the management and to the maintenances so that to be able to be consulted in any moment.

The consultation of this manual is facilitated by the presence of a general index, that allows to immediately locate the chapter of the matter that interests.

The index is composed from 10 numbered principal chapters, according to the logic [to, b] where "to" points out the number of the general chapter, "b" the sub-chapter with specific matters. For great clarity some safety symbols have been inserted beside some paragraphs to underline its importance and to facilitate its individualization. To set particular attention to such notes.

1.3 Legislation Reference

 DIRECTIVE 2006/42/CE Relative to the approaching of the legislations of the states member concerning the machines.

1.4 Reference Norms

- UNI EN ISO 14121-1:2007 Safety of machinery - Risk assessment - Part 1
- UNI EN ISO/TR 14121-2:2010 Safety of machinery - Risk assessment - Part 2
- UNI EN ISO 12100-1:2009 Safety of machinery - Basic concepts, general principles for design - Part 1
- UNI EN ISO 12100-2:2009 Safety of machinery - Basic concepts, general principles for design - Part 2

1.5 Symbols

On the manual we will use the following symbols in order to point out the indications and warnings that are particularly important.



This symbol indicates the prohibition to carry out some operations that can threaten the safety of the operator and the machine integrity. Please read carefully the side note.



This symbol indicates warning messages that are important for the operator safety. Please read carefully the side note.



This symbol indicates the existence of a danger caused by the electric energy.

ELECTRIC DANGER

IMPORTANT

This indication points out a note of the manual that is particularly important for the machine use.

1.6 Manufacturer identification plate

On the body of the pump motor and on the enclosed including exploded drawing and statement of conformity has been applied the identification plate (see picture 1.1) with the following informations included:

- 1 Manufacturer's dates
- 2 Machine model
- 3 Serial Number
- 4 Year of manufacture
- 5 CE Marks that certifies the conformity of the machine with the directive 2006/42/CE



Picture 1.1: Identification Plate

1.7 Warranty

The period of warranty is, in accordance with the provisions of the general regulations in force, of 12 months from the date of purchase. Warranty only gives right to replacement of defective parts. Warranty is however excluded if the appliances have been used improperly or tampered with by persons we have not authorized, or anyhow using non-conforming components or techniques. Parts turning out to be defective at origin shall be replaced if returned free our warehouse.

1.8 Spare Parts Orders

Every request of spare parts must be carried out to the following phone number:

OMPI Srl – Customer Technical Assistance Service Tel. 0522 347247 specifying:

- Machine model;
- Serial number
- Code of the part to be ordered
- Required quantity
- Shipping mean
- Reference person

Using the following suitable table:

Company							
C.A.P.				City			
Tel.				Fax.			
Responsible Person			•				
Article Model:							
Table Number	Pos.	Code		Nr.	Description		

STATEMENT OF CONFORMITY "CE"

In conformity with Enclosed II B of the Directive 2006/42/CE, as from D.P.R. n. 459 of 1996-07-24 of which G.U. n. 146 of 1996-09-06

OMPI s.r.l. - Via Giovanni Falcone, 10/A - 42020 BORZANO DI ALBINEA (REGGIO EMILIA) - ITALY -

CODE: 81840

SERIAL NUMBERS: SEE PUMP LABEL

The undersigned **Ruozi Franco** In quality of legal representative of the company OMPI SRL

STATES

Under its own civil and penal responsibility that the product:

GREASE KIT FOR 18/20 KG DRUMS

Is in conformity with all the main safety requirements that concern these items; as also for the application points of the following particular provisions:

- Directive 2006/42/CE (ex. Dir. 98/37/CE) received in Italy with D.Lgs n. 17 of 27/01/2010 Concerning the machine safety.

Ompi S.r.l. Legal representative

0000

(RUOZI FRANCO)

Date

____28/07/20____

2.1 Prescriptions for Operator's Safety

The following rules must be read carefully and must become a fundamental part of the daily work and maintenance of the machine, in order to avoid any accident to the persons and/or damages to the things.



Please don't try to put in function the machine until the functioning is not clearly understood.



Ensure that all the prescriptions concerning the safety are known by the personnel involved in the use, cleaning and maintenance of the machine.



Before starting the machine, the operator must test the presence of defects in the safety devices of the machine. In this case the operator has to inform immediately the chief warehouse concerning the defect of the machine.



The protection devices must not be removed or become ineffective when the machine is working.



It's compulsory to keep all the plates with warning and safety signals in perfect conditions. In case of damages or deteriorations it's important to replace them immediately.



Replace the damaged parts with new ones indicated by OMPI SRL. Please NEVER try hazardous solutions.



All the works executed on parts under tension must be carried out by authorized personnel only. Before starting the works the machine will have to be disconnected from the electric network.

Important: Please apply all the safety rules and be sure that they are respected; in case of doubts please check again this manual before working on the machine.



The machine must be used only for the use for which it has been manufactured and according to what stated by OMPI SRL.



2.2 Individual Protection Devices

The operator, before starting the work, must know the disposition and the functioning of the commands and the machine features and must have read completely the present manual and also the enclosed manuals.

IMPORTANT !

It's a compulsion of the company's owner to supply the Individual Protection Devices and inform the personnel concerning the correct use and maintenance.

IMPORTANT!

The operator must always follow the prescriptions indicated on the signal reported on the machine.

The Individual Protection Devices that the operator must use during the operations of Loading,

Maintenance and Cleaning are:

Working Clothing, Shoes with Anti-slip Sole and Gloves



2.3 Air Noise and Vibrations

The measurement of acoustic intensity, relative to the machine emissions, have been taken according to the rule in force CEE 256.

The measurement of outlet pressure has been executed in correspondence of the work place 1 mt. far from the machine surface and at 1,60 mt height from the ground.

The measurements of acoustic intensity have pointed out an acoustic energy of less than 70 dB(A).

The vibrations measurement has not been affected because it has been estimated to be under the risk level.

3 FEATURES

3.1 Premise

The target of this chapter is to have a general framework of the machine features. The reading of this chapter is recommended to all the people working on that machine: **OPERATORS and QUALIFIED TECHNICIANS.**

3.2 Machine description

In the present using and maintenance manual we show the phases for use and maintenance of the grease unit cod. 81840

3.3 Not allowed uses



Don't use the same pump for oil **and** grease. Always obtain the safety file of the materials used and follow the instructions contained therein (contact competent technical personnel to choose correctly the liquid). Never dispose of any residues in the surrounding environment, keep to the provisions of current regulations.

3.4 Technical Features:

MODEL	FEEDING bar	RATIO	MAX. PRESSURE Bar	FREE-FLOW RATE Lt/min Kg/min	AIR CONNECTION	FOR DRUMS
81840	2-8	50:1	400	2,9 kg/min	1/4" BSP	18/20 Kg

For further information on the main components, check the following use and maintenance manuals:

• 81820 – Use and maintenance manual pneumatic pump for grease

4 STORAGE, LIFTING AND TRANSPORT

4.1 Introduction

The target of the following chapter is to give all the necessary information for the lifting and transport of the machine.

The information of this chapter are addressed to **QUALIFIED TECHNICAL** personnel with adequate knowledges to operate in a suitable way and in safety conditions using crane trucks, traveling cranes or whatever is necessary.

4.2 General Warnings



In order to avoid that, in case the machine falls, some parts can hit the people, please ensure that during lifting operations, there are no persons near the lifting machines.

IMPORTANT!

The lifting operation, transport, placing, must be carried out by qualified and trained technical personnel.

4.3 Machine Lifting



THE MAX. WEIGHT OF THE SYSTEM IS 14 KG. (WITHOUT THE DRUM)

For the handling of the machine it is not necessary to use the lifting machine because the weight is very few so it's possible to carry out the operation by hand.

4.4 Storage

In case of long period storage, please leave the machine repaired from rain and wind and possibly in a dry place.

Protect carefully from dust and external agents.

The pump can suffer big damages if, waiting for the installation, is kept in an environment at critical temperatures. Do not expose the machine to temperatures lower than -10° C and more than $+60^{\circ}$ C.



4.5 Transport

The transport must be carried out by hand complying peremptorily to the following rules:

• apply the rule in force as concerns the work hygiene and safety (in particular as concerns the total weight);

- take off the accessory devices or whatever else can hamper the operations;
- take out the pump from the drum, discharge the residual fluid and catch the pump on the pump body;
- keep the people not involved in the operation to an adequate distance.

5 INSTALLATION, CONNECTION AND FEEDING

5.1 Introduction

The target of the following chapter is to give information for the installation and use of the pump in safety conditions.

5.2 Installation Notes



Before starting the installation operations please check the following conditions:

Check always that all the components and devices are not damaged. In case it's necessary please contact immediately our authorized dealer in your area.

5.3 Connection hoses

5.3.1 Hoses for grease transfer

SAE 100 R2T Characteristics:

- Tube: black, oil, hydraulic fluids resistant synthetic rubber.
- Reinforcement: 2 wire braid.
- Cover: black, oil resistant synthetic rubber.
- Operating temperature range: from 10 C° to + 130 C°.

For grease we recommend hose with \emptyset min. 1/4 R2T.

Ø Nom. inch.	Ø Int. mm.	Ø Ext. mm.	Pressure bar	Working psi	Testing Pressure bar	Burst pressure bar	Bend radius Min. mm.	Weight Kg./mt.
1/4	6,4	15,5	351	5011	703	1404	101	0,493
5/16	7,9	16,5	298	4254	597	1404	115	0,539
3/8	9,5	19,5	281	4012	562	1124	127	0,673
1/2	12,7	22,5	245	3498	490	980	178	0,791
5/8	15,9	25,5	193	2755	386	772	203	0,936
3/4	19,0	29,5	158	2255	316	633	241	1,144
1	25,4	38	140	1998	281	562	305	1,575

5.4 Installation



During the phases of work the equipment is displaced in the different places; we recommend to comply with the following rules:

- do not place the equipment near heat sources or other (eg. radiators);

- do not place the equipment in such a way as to hold up other operators in the site.



On demand we can provide trolley with different dimensions and shapes to use correctly the equipment drum-pump-gun. For the choice of the trolley see the chap. accessories.

In case of need, immediately call our authorized area dealer or our technical assistance.

1. Place the drum on the trolley



2. Tighten the drum it using the bracket, moving it by means of the screw.



3. Place the follower plate inside the drum



4. Insert the pump inside the drum cover through the ring nut



5. Insert the pump and drum cover inside the drum, taking care of center the follower plate



6. Fix the drum cover with the suitable flap screw and the bracket on the handle





7. Connect the pump to the grease gun by using the rubber hose

5.5 Feeding

Description	unit	values
Max. operating pressure	bar	8
Min. operating pressure	bar	2
Min. air flow rate required	l/mi	200

Connection pressure must NEVER exceed 8 bar. For the min. value see also the sticker on the pump.

The flow min. changes because the liquid can have the different particulars (eg. viscosity of the liquid); the flow depend on the use (time) of the pump.

Connect a compressed air supply device (eg. compressor); calibrate with reducer the inlet pressure until the value asked is reached; check the value with the pressure meter).



The supply device must be in conformity with current regulations (eg. equipped with pressure relief valve) and must NEVER exceed 8 bar.

We recommend to use the following devices:

- Pressure reducer (art.40400): necessary when the



- Pressure reducer with condensate separator and filter (art.40360): it's essential in all pump type for a continuous use, over 10 mi. It avoids condensate creation, which may cause pump blocking;

- Pressure reducer with condensate separator and **lubricator and filter** (art.40300): suitable for fixed plants

In case of need, immediately call our authorized area dealer.

6.1 **Preliminary checks**

Carry out always the checks suitable:

- Check the correct connection of the air hose
- Check the presence of the losses

6.2 How to use it

When the pumps are fitted into their grease drum and when the pumps are connected to their grease hoses (equipped with grease guns) they start working according to the further related instructions



6.3 Stopping work

Pull out the pipe for the connection to pneumatic supply. To discharge the pressure of the equipment it's necessary to act the gun. If the equipment doesn't work at great length it is necessary to clean.

7 MAINTENANCE AND LUBRICATION

7.1 Premise

This chapter is applied to both the **OPERATOR** and to the **QUALIFIED TECHNICIAN** (MAINTENANCE TECHNICIAN).

7.2 General Notes

The cleaning of the machine can be carried out by personnel without any specific technical knowledge, but this people must be well trained on the main commands for energy exclusion and must know the main features of the machine so that danger situations won't happen.

The pump maintenance must be carried out by specialized personnel with good knowledge of the machine.



The maintenance work must be carried out only when the system is without pressure. Please ensure against any possibility of restart of the machine.

7.3 Cleaning



Carry out cleaning operations always when the device is switched off. Wear the suitable Individual Protection Devices (Gloves, Overall, Anti-slip Shoes).

General Cleaning of the Machine

Clean the system with fluffy cloth soaked with detergent liquids.



Don't use water or steam throw.

- Cancel dust traces from the machine surfaces.
- An accurate daily cleaning from the dust is the first condition to keep the machine efficient.
- Keep clean the surrounding areas; in particular keep them clean from grease that can make the floor slippery.

7.4 Ordinary Maintenance



Warning: this chapter is orientated exclusively to the QUALIFIED MAINTENANCE TECHNICIAN.

Models	Frequency/Cause	Test/Operation	Ref.
All	End of work	Discharge of the pressure	6.3
All	Weekly	Check the level of condensation	7.5

7.5 Discharge of the pressure and maintenance of reducer with filter and lubricator.

Pressure reducer with condensate separator and filter (art.40360): to discharge the liquid it's enough unscrew a bung located below the filter. We recommend also to clean the glass with degreasing atoxic, and the filter located at the base. If the filter remain dirty it's necessary to replace them.

Pressure reducer with condensate separator and Iubricator and filter (art.40300): see that is indicated for the filter group (art.40360) further check that the values are in between those indicated in the picture.





8 INCONVENIENTS AND REMEDIES

8.1 Extraordinary Maintenance

This chapter introduces a guide for the solution of the problems that may happen during the machine functioning; this chapter is orientated to the **QUALIFIED TECHNICIAN**.



Warning: During the maintenance operations please ensure that there is no residual pressure inside the machine.

The main inconvenient that the machine can suffer are:

1. the break or extreme worn-down of its parts:

In this case it's necessary to check the spare parts list enclosed to this manual and arrange to order the part to be replaced as described on paragraph 1.8.

8.2 Inconvenient, causes and remedies.

2 to 8 bar air-inlet are required for the grease. In case of continuous use, fit a condensate drainage-lubricator filter with pressure adjuster, on the compressed air-inlet.

Problems	Causes	Solutions	Interventions
Motor does not start	 Some foreign matter is blocking the alternating movement; Distributor valve blocked; Air discharged iced. 	 Unscrew the pipe and clean filter. Check and move pin Disassemble distributor body, removing pipe, screws and check the free movement on the nylon valve. Re- assemble and take care to position the valve into the reversing bush seat; Remove silencer and increase pressure 	1) 2) and 3) Technician
Air leakage from the silencer	1) Distributor valve worn out;	1) Maintenance and check that nylon valve striking surface is neither deformed nor dirty, nor blocked in its movement (that's is free)	1) Technician
Air leakage through pumping element	1) Faulty lip seal	1) Change seal	1) Technician

Motor deceleration while working	1) Water at air inlet, causing condensing effect.	1) Fit a filter with condensate separator.	1) Technician
Pump does not stop	 Dry running; Ball by-pass is not closing because of impurities in the grease; 	 Check that there is no vacuum near suction pipe Eventually fit a plate with membrane; The ball is dirty. Pump grease to purge for 5 minutes. 	

9 CHARACTERISTICS GREASE

Below we relate the features essentials of the grease to appraise the way to use of the equipment.

9.1 Grease

The classification N.L.G.I. is used very often to define the consistence of the grease, in particular the resistance of the deformation under stress. In the table the conversion between NLGI and ASTM 0217 is indicated (penetration strength (tenth part of mm.), in the grease in conditions defined, with a body (ball) with dimensions and weight .

Gradations NLGI	Deformation ASTM tenth part of mm. at 25°C
000	445-475
00	400-430
0	355-385
1	310-340
2	265-295
3	220-250
4	175-205
5	130-160
6	85-115

10 ACCESSORIES

We can fit up the accessories below indicated; in case of need, immediately call our authorized area dealer or our technical assistance. For the correct use of the equipment we recommend to use only the accessories fitted from our firm; our firm is not responsible for the damages or anomaly for the use of the accessories made from other firm.

10.1 Drum covers with pump fastening.

To fasten the pump at the drum of the grease it's necessary to predispose cover for the drum fastening with specific connection; it's necessary that the hose diameter is conforming to the dimensions of the drums presents in the trade.

Available Diameter int. (mm): 283 - 330 - 400 - 600

10.2 Follower plates

It's necessary to arrange a follower plates into the drum to obtain an homogeneous grease distribution. For the plates with membrane the diameter of the metallic part and of the membrane is indicated. Available dimensions (external \emptyset mm – internal \emptyset mm): 275 – 230; 310 – 260; 390 – 325; 590 – 540

10.3 Meters gun

The grease delivery can be carried out with a simple grease gun, or in case equipped with meter (electronic or mechanical) that allows to measure the delivered grease quantity. For the correct use of the device please refer to what described in the use and maintenance manual. For the installation it's enough to connect the outlet pipeline of the pump to the connection and then lock-up with strength. For the use you have to:

- open the air cock of the pump;
- the grease is pumped in the pump outlet pipe and reaches the meter;
- activating the gun lever the grease gets in the meter

11 STORAGE, DEMOLITION AND DISMANTLING

11.1 Stocking

In case of long period storage, please leave the machine repaired from rain and wind and possibly in a dry place.

Protect carefully the electric parts from dust and external agents

The machine can suffer big damages if, waiting for the installation, is kept in an environment at critical temperatures. Do not expose the machine to temperatures lower than -10° C and more than $+60^{\circ}$ C.



It's forbidden to put the machine on inadequate structures.



It's forbidden to leave on the machine other materials or other equipments

11.2 Machine dismantling

The dismantling of the rubbish coming from the demolition of the machine will have to be carried out according to the environmental respect, avoiding to pollute ground, air and water.

However we must operate according to the local legislation in force.

Please remind that for rubbish we intend every substance or object, included in the category of enclosed A to the point IV of Law 152/2006, that the holder wish to throw away or has decided or has the obligation to do that.

The rubbish coming from the machine demolition are to be classifiable as special rubbish.

11.3 Demolition Materials

The following are special not dangerous rubbish that can be recovered according to the Law February 5th 1998:

- Iron materials, stainless steel, copper
- Plastic materials
- Electronic card
- Grease
- Electric Wiring

11.4 Indication for a suitable handling of the Rubbish

The correct handling of the <u>special rubbish</u> schedules:

Storage in suitable places avoiding the mixing of dangerous rubbish with not dangerous ones. Ensure that the transport and the dismantling/recovery of the same rubbish is carried out by authorized transporters and recipients.

The transport of his own rubbish to authorized collection centers is allowed exclusively if you have the registration to the Environmental Administration Register.

11.5 Rubbish coming from Electric and Electronic devices

With the Law no. 151 of July 25th 2005, the italian government has taken in the directives of the European Parliament as concerns the rubbish dismantling of electric and electronic devices (RAEE) (Directive 2002/95/CE and 2003/108/CE).



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