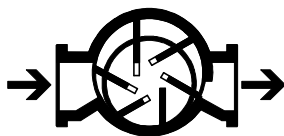


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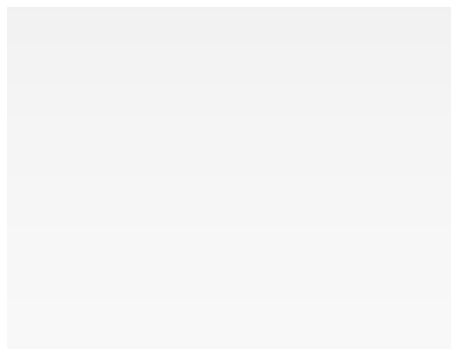
C 60-84-110



ORIGINAL INSTRUCTIONS



INSTALLATION, USE AND
MAINTENANCE MANUAL



Rev. 07
29-07-2021

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

2021 – **Juop** – Azzano Decimo (PN)

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Contents

1.	General warnings	pag.	4
1.1	Introduction		4
1.2	Spare part request		4
1.3	Warranty terms and conditions		4
2.	Technical data	pag.	5
2.1	Dimensions and arrangements		5
2.2	Performances		7
2.3	Sound pressure level		7
2.4	Usage Limitations		7
2.5	Lubrication		7
3.	Safety and accident prevention	pag.	8
3.1	General recommendations		8
3.2	Intended use		8
3.3	Conveyed fluids		8
4.	Installation	pag.	9
4.1	Checking upon receipt		9
4.2	Storing in the warehouse		9
4.3	Handling and installation		9
4.4	Mounting		9
4.5	Pump mounting - Drive connection		9
5.	Start up	pag.	11
5.1	Starting-up of the pump		11
5.2	Precautions when starting the system		11
6.	Maintenance	pag.	12
6.1	Ordinary maintenance		12
6.2	Extraordinary maintenance		13
7.	Malfunctions: troubleshooting	pag.	15
8.	Scrapping	pag.	15
	SPARE PART DATA SHEET – C 60-84-110		16

1. General warnings

1.1. Introduction

- This booklet contains the necessary instructions for a correct installation, running, use and maintenance of the pump, as well as some practical suggestions for a safe operating.
- The knowledge of the following pages will grant a long and trouble-free operation of the pump.
- Following the instructions below contributes to limiting pump repair expenses by extending its duration, as well as preventing hazardous situations, thereby increasing its reliability.
- If the pump is driven by an hydraulic motor please refer to manufacturer's specific manual.
- It is recommended to:
 - Understand and apply carefully the instructions before running the pump.
 - Keep the booklet at hand and have it known to all operators.

Below is a brief description of the symbols used in this manual.



If these safety rules are not respected, operators can be injured and the pump or oilers damaged remarkably.



If these safety rules are not respected, the pump or system can be damaged.




Suggestions for an environment friendly use of the pump.



Useful information for an easy usage and maintenance of the pump.

- The graphic representations and photographs contained in this manual are there to illustrate the product in the parts that make it up and in specific operating phases. Though the model shown in the manual may differ from the one purchased, the operating principle at the base of the illustrated operating phase is the same
- Compressor has to be fitted with its own tag reporting the following data: Model, Serial number, Year, Max speed, Max pressure.

 MADE IN ITALY <small>Jurop S.p.A. - Via Crosera, 50 - 33082 Azzano Decimo - PN (ITALY)</small>		
MOD.		
SERIAL No.		
YEAR		
MAX PRESSURE	(bar)	
MAX SPEED	(r.p.m.)	

Pic. 1.1

1.2. Spare part request

- Use only **genuine spare parts** for maintenance and repairs. To order spare parts, provide the following details:

EXAMPLE:

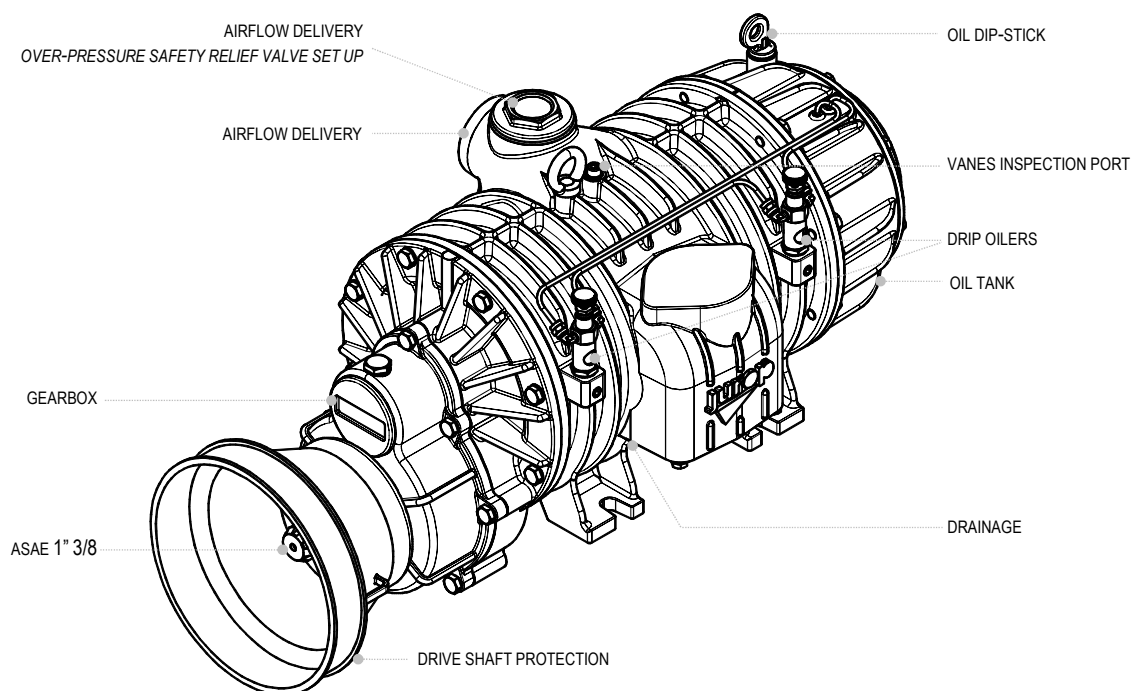
a) The model of the pump (see pump tag):	C 84
b) The serial number of the pump (see pump tag):	J90001
c) A description of the parts (see parts list):	VANE
d) The quantity (see parts list):	N°4 PZ
e) The code number of the part (see parts list):	16016 008 00

1.3. Warranty terms and conditions

- Compliance with the installation, use and maintenance instructions provided by this manual **is crucial for the recognition of warranty** against defective parts.

2. Technical data

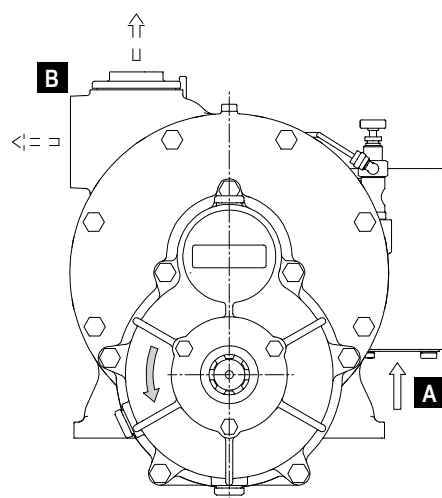
- Rotary slide vane compressor with air-cooled housing.
- Ideal for self-propelled hose reel irrigators emptying (compressed air insertion).
- Lubrication with adjustable oilers and rear mounted oil tank. Copper oil piping.
- N° 1 vanes inspection port.
- Two different airflow deliveries. A single airflow delivery for C60.
- Drive system:
 - Direct with gearbox (ASAE 1" 3/8) 540 rpm (counter clockwise rotation).
 - With hydraulic motor.



Pic. 2.1

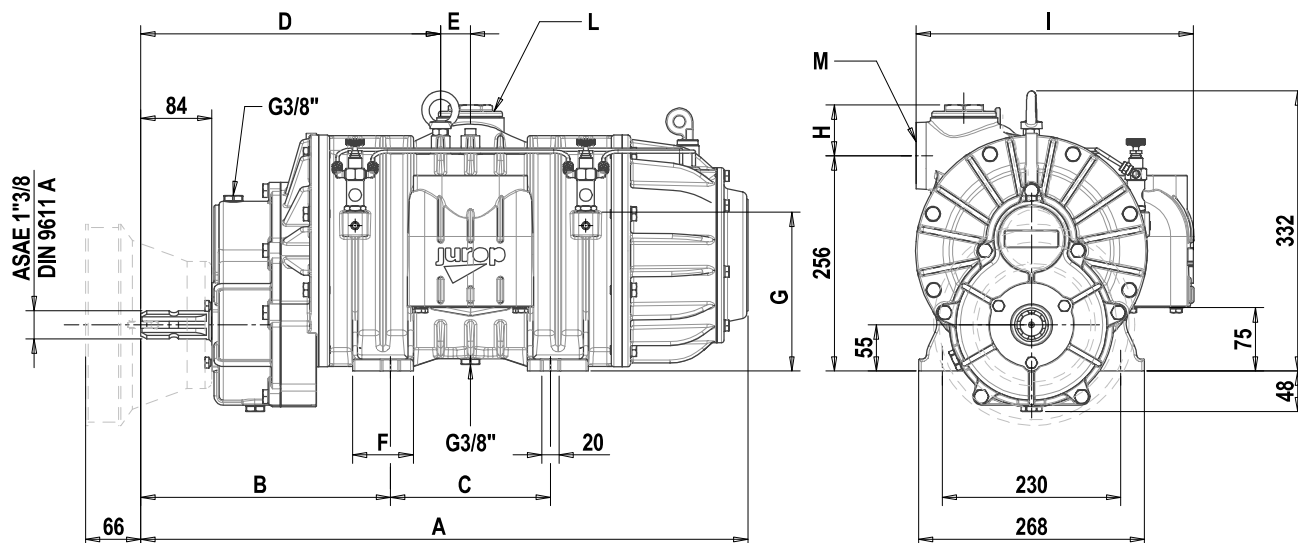
2.1. Dimensions and arrangements

- The picture 2.2 shows direct drive system with gearbox (counter clockwise rotation).
- Air is sucked from pump oiler side (A) and injected in the hose reel irrigators through the two different airflow deliveries (B).
- The one which is not used could be used with an overpressure safety valve (Pic. 2.1).



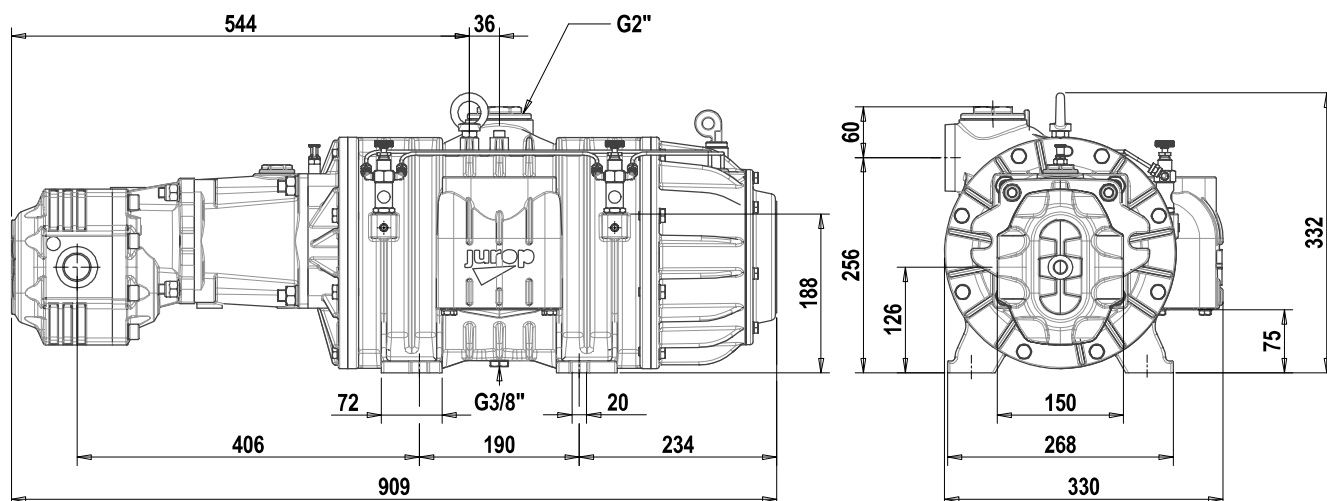
Pic. 2.2

C with gearbox



[mm]	A	B	C	D	E	F	G	H	I	L	M
C 60	621	246	190	318	46	58		48	318	-	G 2"
C 84	721	296	190	356	36	72	188	60	329	G 2"	G 2"
C 110	811	292	288	401	36	78	189	82	343	G 2 ½"	G 2 ½"

C84 with hydraulic motor



2.2. Performances

PERFORMANCES		C 60	C 84	C 84 HDR	C 110
Air flow (free ports)	l/min	6500	9000	9000	11000
	m³/h	390	540	540	660
Power required at free port	kW	8	11	11	14
Max operating relative press (abs.)	kW	30	42	42	52
Pressione max relativa (abs.)	bar	5 (6)	5 (6)	5 (6)	5 (6)
Sound pressure +5 bar rel ⁽¹⁾	dB (A)	80	82	82	85
Oil consumption	g/h	165	230	230	290
Oil tank capacity	l	2,3	2,3	2,3	2,3
Weight	kg	87	108	129	119

REFERENCE CONDITIONS

Conveyed gas: air	Vacuum functioning: free outlet.	Pressure condition: atmospheric suction.
Ambient reference temperature: 20°C	Absolute reference pressure: 1013mbar	⁽¹⁾ Noise of the compressor alone in free field at a distance of 7m from the compressor
Performances referred to compressor operating at max. speed. Actual performances may vary of +/- 5%.		

2.3. Sound pressure level

Lw (A)					
Noise power of the only compressor		[dB(A)]			
RPM	PRESSURE	C 60	C 84	C 84 HDR	C 110
NOMINAL SPEED	Δ press +5 bar rel	106	108	108	111

2.4. Usage Limitations

Model	Speed rpm			P ₂ (basr ABS)	T ₂ (°C)	Room Temperature
	Min	Operating speed	Max			
C 60	400	480	540	6 bar	180 °C	-20 / +40°C
C 84	400	480	540	6 bar	180 °C	-20 / +40°C
C 110	400	480	540	6 bar	180 °C	-20 / +40°C
C 84 HDR	1000	1200	1300	6 bar	180 °C	-20 / +40°C

P ₁ : Inlet absolute pressure	T ₁ : inlet air temperature
P ₂ : Outlet absolute pressure	T ₂ : outlet air temperature

2.5. Lubrication

Recommended lubricants: REAR OIL TANK LEVEL

Service	Discharge T°	Viscosity	Type	ENI	ESSO	SHELL	TOTAL	MOBIL	BP	TEXACO HAVOLINE
Light Service	MAX 150°C	ISO VG 150	Anti-wear mineral oil	Acer 150	Nuto 150	Morlina oil 150	Drosera MS 150	Nuto H 150	Bartran HV 150	Rando HD 150
Heavy Service	MAX 180°C		Biodegradable synthetic oil	JUROP lubricant recommended for vane pumps (cod. 40461EHB06)						

Light Service	causes discharge temperatures below 150°C (low ambient temperature, use for short periods)
Heavy Service	causes discharge temperatures between 150°C and 180°C (ambient temperature above 20°C, frequent use)

Recommended lubricants: GEAR BOX OIL

Viscosity	Type	ENI	ESSO	SHELL	TOTAL	MOBIL	BP	TEXACO HAVOLINE
ISO VG 220	EP mineral oil	Blasia 220	Spartan EP 220	Omala oil 220	Carter EP 220	Mobilgear 630	Energol GR XP 220	Meropa 220

3. Safety and accident prevention



Attention: carefully apply these prescriptions.

3.1. General recommendations

- When transporting the compressor, use proper slinging. Store the compressor in stable places.
- Installation and maintenance must be carried out with the unit totally disengaged from its drive system and must be performed by qualified personnel.
- Use adequate clothing (avoid ties, loose sleeves, necklaces and so on) and suitable protection equipment (gloves, protection glasses, boots...).
- Before each maintenance operation, stop the pump and restore the atmospheric pressure.
- Make sure that all the parts of the unit are idle and cool, before performing any maintenance operation.
- To prevent errors and hazardous situations, establish what each operator is responsible for in the different maintenance operations.
- Do not start the machine if the protection devices provided for transmissions are removed. Replace damaged parts.
- Final manufacturer must make the transmission inaccessible by means of a fixed guard or interlocked movable guard.
- Operators working nearby must avoid prolonged exposure to the noise emitted by the aspirator, if not equipped with the proper ear-protection devices (IPDs recommended: ear protectors).
- When the pump is running, some parts may reach very high temperatures (above 70°C). Use all necessary precautions to avoid contact.
- Avoid accidental suction of solids: solids may be projected at high speed through the exhaust manifold and cause injuries.
- Avoid suction of water from airflow deliveries ports.
- Pressure relief valve: point the air flux away from the operators.
- Do not use the aspirator over its designed limits: the machine may be damaged and the operator may be injured.



Do not exceed the power supply parameters indicated in the technical tables (see par. 2.2-2.4).

- Based on the final use of the compressor, the insertion in the housing machine and the typology of the same, the designer of the housing machine must apply safety signals (pictograms) to warn the operator on the risk still present. These pictograms essentially refer to three categories:
 - Signals prescribing the use of Individual Protection Devices (IPDs) such as, in this case, the use of gloves and ear protectors.
 - Signals indicating to pay particular attention to the dangers related to the machine's components, such as: risk of dragging in the transmission equipment and contact with hot surfaces.

- Signals indicating specific parts of the machine for an easier identification, such as: greasing points, oil tanks, etc.

3.2. Intended use

- The C compressors are designed to convey air into self-propelled hose reel irrigators for their water-emptying. Any other usage shall be considered improper.
- Intermittent operation: type IEC 34.1 S3 5%, 120 min, 4 bar.
- Avoid compressor surging phenomena. When the stall is reached, the air in the compressor ceases to flow forward in the compressor and a reverse flow takes place (with water inside hose reel). Apply a non-return valve.
- Do not sack toxic substances and inflammable or explosive gasses, since the internal components of the pump may reach high temperatures.



Avoid suction of toxic (poisonous) explosive or flammable gasses because internal components may reach high temperatures.

- Liquids or solids infiltrations can seriously damage the pump.



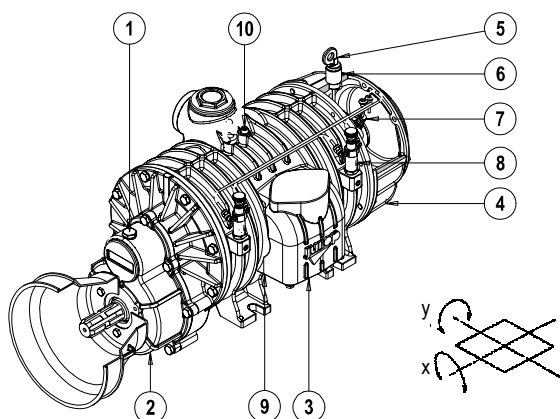
Attention: liquids or solids infiltrations can seriously damage the pump.

- Do not run the pump over its designed operating limits (see par. 2.4): it may break and transmission can be damaged.

3.3. Conveyed fluids

- The C compressors are suitable for conveying filtered air. Before conveying other kind of gases, verify compatibility with pump's characteristics.
- The machine was not designed and built to operate in environments with potentially explosive atmosphere (outdoor or indoor).
- Please contact JUROP's Technical dept. if necessary.

4. Installation



Pic. 4.1

1.	Filler cap (Gearbox)
2.	Oil drainage (Gearbox)
3.	Fan protection
4.	Oil tank
5.	Oil dip-stick
6.	Filler cap (Oil tank)
7.	Gear pump
8.	Oilers
9.	Drainage hole
10.	Vanes inspection port

4.1. Checking upon receipt

- When the goods are delivered, make sure that all parts listed on the delivery note are in perfect condition and have suffered no damage during shipping.

- Make sure the compressor has its identification plate affixed on the front cover. Compressors without such identification are to be considered anonymous and potentially dangerous: in such an event, they must not be used, otherwise the manufacturer will be deemed free from any liability whatsoever.

4.2 Storing in the warehouse

- If the pump will not be installed inside a short time after delivery:
 - Remove the guards from the ports and spray a film of protective oil over the inner surfaces of the body, rotors and sides. Then attach again the guards;
 - Store in a closed and dry place. Renew the preserving oil periodically.
- To temporarily store a used pump, follow the instructions below:
 - Thoroughly clean the pump.
 - Equip the pump with suitable anti-corrosion protection.

4.3 Handling and installation

- Before each movement, verify that the lifting equipment has a suitable capacity.

Check the weight of the compressor, possibly showed in this manual).

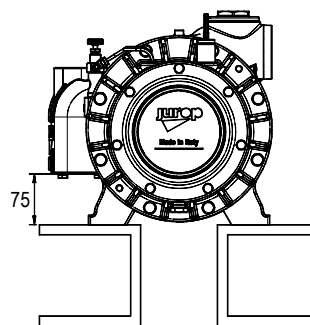
- Do not lift the packaging or the machine when moving more than 50 cm from the ground. Proceed with the final lifting only near the installation point.
- Harness the machine with suitable straps / chains near the main body, paying attention to the position of the mass center of gravity to ensure the load stability.



Warning: do not stand under the machine when it is lifted during the installation.

4.4. Mounting

- The pump must be assembled for an easy access for maintenance operations and secured rigidly to a frame or levelled base (max. 3° slant to the horizontal plane. See Fig. 4.1). The base must be such as to avoid vibrations, bending or deformation
- Leave enough space around the compressor to allow the free circulation of air for cooling; avoid exposure to dirt and debris. See Fig. 4.2 for indication of the distance to be respected.



Pic. 4.2

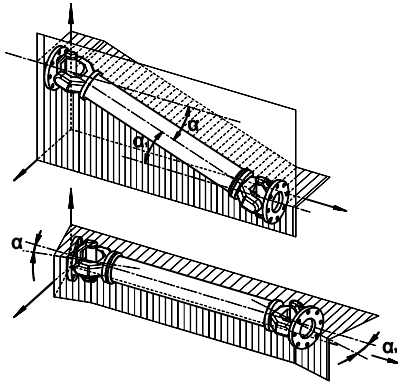
- Provide the necessary space to reach all points of lubrication control (both tank and gearbox), oil tank filler cap, oil drainage plug and vanes inspection port (Fig. 4.1).
- The oil tank is mounted on the rear side of the pump housing.
- In case of C84 with hydraulic motor, provide the necessary space to disassemble the motor itself and proceed with joint lubrication.
- In the event that the compressor is electrically isolated, connect it to the ground or make it equipotential with the housing machine. Check that the paint does not prevent its passage.

4.5. Compressor mounting - Drive connection

A) Cardan shaft drive

- Use telescopic cardan shafts.
- In order to achieve a uniform motion of the driven shaft, the following requirements must be met (see Fig. 4.3):
 - Equal working angle α and $\alpha 1$ of both couplings;
 - The internal fork joints must be coplanar;

- Both driven and driving shafts must be coplanar.



Pic. 4.3

- It is also recommended working with limited articulated joint angles (max 15° at 1000 rpm and max 11° at 1300 rpm) and disengaging the transmission for those operations requiring great angles (steering or lifting).



Follow the rotation direction as indicated on the pump front conveyor protection. Follow the instructions of the cardan shaft's manufacturer.

- Use the cardan guard supplied with the pump, by fixing it to the pump itself.



Use the cardan guard supplied with the pump, by fixing it to the pump itself. In any case, the installation, by the final installer, must comply with the current EC accident prevention regulations and must be compatible with the geometry of the protection cap supplied with the machine.

- The protection must not be removed; in case of removal, it is the responsibility of the final installer to provide for suitable guards according to the assembly.

- It is the responsibility of the final installer to provide for suitable guards, in presence of transmission shafts exposed during normal operation.

B) Hydraulic drive

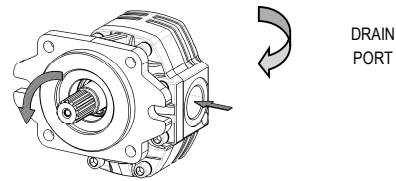
C84 HDR	
Displacement	133 cc/rev
Operating pressure	170 bar
Flow	190 l/min
Max pressure draining line	5 bar
Max. pressure	220 bar

- **Fluid:** mineral oil for hydraulic systems in compliance with ISO/DIN.

Temperature	Optimum viscosity ale	Max. viscosity allowed
-20 / +80 °C	12 – 100 cSt	750 cSt

- **Filtration:** class 19/16 contamination according to ISO 4406 to be obtained with a $\beta_x = 75$ filter.

- **Check circuit connections:** they must be applied in the same rotation direction as that indicated by the arrow on the pump front conveyor protection.



Pic. 4.4

- **Draining:** connect directly to the tank above the maximum oil level. Operating without draining line may damage the motor.

- **Distributor:** open-centre distributor in central idle position (vacuum pump off). It must be equipped with an adjustable overpressure safety valve.

- **Motor pipeline:** outlet pipe must not be of a smaller diameter than that of the inlet port. Inlet pipes always have a diameter smaller than outlet pipes. Choose preferably flexible pipes to avoid vibration transmission.

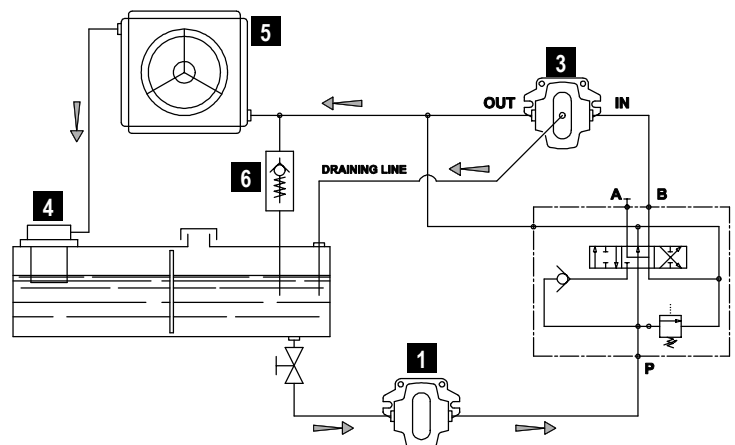
- **Tank:** with suction pipe and return separated by baffles. If necessary, use a heat exchanger to avoid oil heating above 70-80°C and protect it from extreme pressure with a pressure relief valve. Minimum approximate capacity: as twice as the circulation flow.

- **Starting-up:** be sure that the system is well cleaned and pour oil into the tank and into the motor housing (necessary to lubricate the internal bearings).

- Vent the circuit and adjust the overpressure safety valve to the lowest possible value.

- Check the oil tank level.

- Increase pressure and rotation speed until operating values are reached.



Pic. 4.5

1	HDR	4	Heat exchanger
2	Distributor	5 *	Scambiatore calore
3	HDR motor	6 *	Safety valve

* optional components

- The machine/system manufacturer is responsible for dimensioning the lines.



The machine/system manufacturer is responsible for dimensioning the lines.

5. Start up

5.1. Starting-up of the compressor

- Before starting-up the pump, check by the oil dip-stick the oil level in the rear oil tank.
 - If necessary, refill the oil tank till maximum level.
 - Also the oil level in the gearbox must be checked and it must reach the oil level check-nut.
 - In order to choose the most suitable oil, see paragraph 2.5.
 - Check that all protection devices are correctly installed.
 - Check that there are no obstacles in the injection port and in the pressure line.
 - Check rotation direction: open all system valves and start running slowly.



Do not rotate in the wrong direction: this may damage the pump. Follow the arrow indicated on the front flange or in the multiplier.

- If the pump has been in storage for a long time: inlet ½ liter of oil in the pump for an easy cleaning of internal parts.
 - Close the valve and increase the operating pressure.
 - Check loading and operating speed for vibrations or unusual noises.



The compressor is designed to run at maximum speed; it is advisable to run it at normal working speed to ensure a longer life-span (see par. 2.3).

- Prepare adequately transmission.

5.2. Operating precautions

- Run the compressor at a room temperature of -20°C e +40°C.
- The Series C compressors are suitable for intermittent operation.
- Allow the compressor to cool down between operations.
- When the ambient temperature is above 20°C, it is recommended to allow the compressor to cool down for at least 2 hours between one 5-6 minute operation and the next. This limits the risk of overheating.
 - Do not make the compressor overheat. Maximum air temperature on exhaust (or delivery) side: 180°C.
 - If maximum temperature allowed is reached, in order to prevent damages to the internal parts, it is recommended:
 - Stop the compressor;
 - Restart operation only after it has cooled down.
 - Do not operate the pump without lubrication: it may cause quick wear and possible breakdown of vanes.

- Do not start running the pump under load: that causes stress to the drive system and the hydraulic motor.
- Check rotation speed. The compressor must:
 - Never exceed the maximum speed, it may cause overheating;
 - Never run below the minimum speed, this may cause an anomalous wear of the housing.
- Do not accidentally operate the pump in the wrong direction: it may break the vanes.
 - Avoid suction of water from airflow deliver ports. If water reach the internal pump side, use the hole in the bottom side for fluid realese.
 - Protect compressor by using overpressure safety vale on injection line.
 - Do not convey the exceeding delivery outlet towards the suction port, otherwise it will sack warm gas.
 - Internal wash-up is necessary before long periods of inactivity, or after working in dusty environments, or in case of accidental suction of liquids.

Such operation must be carried out only on cooled pumps.

1. Start running the pump at low speed (400 rpm circa);
2. Suck some oil (about 1 litre) to lubricate internal components.



In case the exhaust line cannot be disconnected, drain the liquids accumulated.

- Is recommend reducing the compressor speed to its working speed.
 - This allows keeping exhaust temperature low. As a result, vanes durability is increased and both oil consumption and power absorption are reduced.

6. Maintenance

- Any interventions must be performed when the machine is cold, stopped and switched off.
- Installation and maintenance must be operated only by qualified personnel wearing the proper clothes and the necessary tools as well as protection devices.
- Use suitable protection equipment (gloves, protection glasses, boots...)
- In the following table summarizes the main controls to be performed and the frequency of intervention.

Operating Condition	Maintenance Area	Checking	8H	50H	500H	1500H
OPERATING	Transmission / Pump	Rotation speed				
		Lubrication: dripping in the oilers ¹				
		Working pressure				
		Noise level				
STANDSTILL	Pump	Clean oilers glasses				
		Clean fan protection				
		Check vanes wear				
		Rear tank oil level				
		Gearbox oil level				
		Gearbox oil change ²				
		Pump's inner washing ³				

¹ Frequent checks during operation.

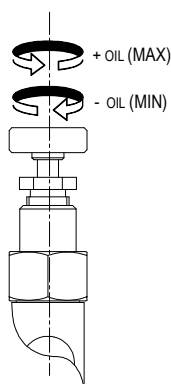
² In order to choose the most suitable oil, see paragraph 2.5.

³ After operation in dusty environments, after accidental sucking of liquids inside the pump or before a long inoperativity period it is recommended to wash the pump inside according to the procedure described at paragraph 5.2.

6.1. Ordinary maintenance

Checking lubrication

- Keep clean the oilers glasses and check dripping into the same oilers.
- Check dripping in the oilers on a frequent basis during operation.
- Be sure it is regular (about 60 drops/min at max. speed and free ports) to grant a correct lubrication of the pump. At lower speeds, the number of drops must be directly proportional.



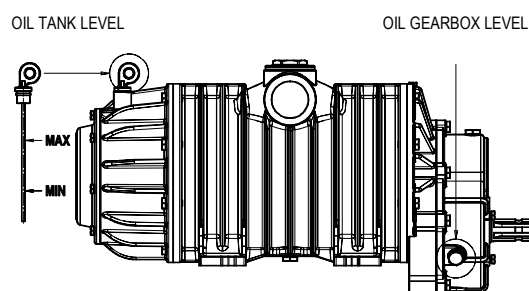
- Use lubricants that are of good quality and with the characteristics recommended by JUROP in relation to the operating temperatures.



Insufficient or poor quality lubrication causes rapid overheating, extreme wear and breaking of the vanes. In the absence of lubrication, stop the compressor and check the level in the tank and the conditions of the piping, oilers and pump.

Checking the rear mounted oil tank level

- Before starting-up the pump, check by the oil dip-stick the level of the oil.
- Do not run the pump with oil level under the minimum level: that may lead to dry functioning and cause serious damages. See Fig. 6.1.
- Also the oil level in the gear box must be checked and it must reach the oil level check-nut.



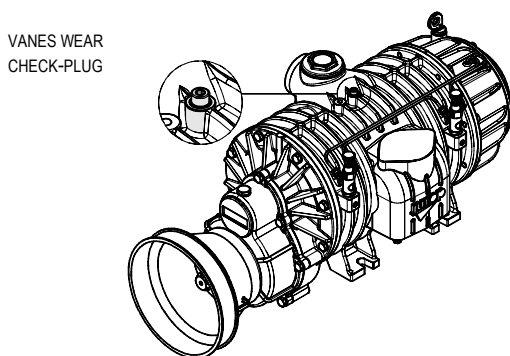
Pic. 6.1

- Tank capacity: **2,3 l.**
- Gearbox capacity: **0,4 l.**
- Use pure fresh oil. If refill is needed only the recommended oils must be used (see par. 2.5).

Checking the vanes wear

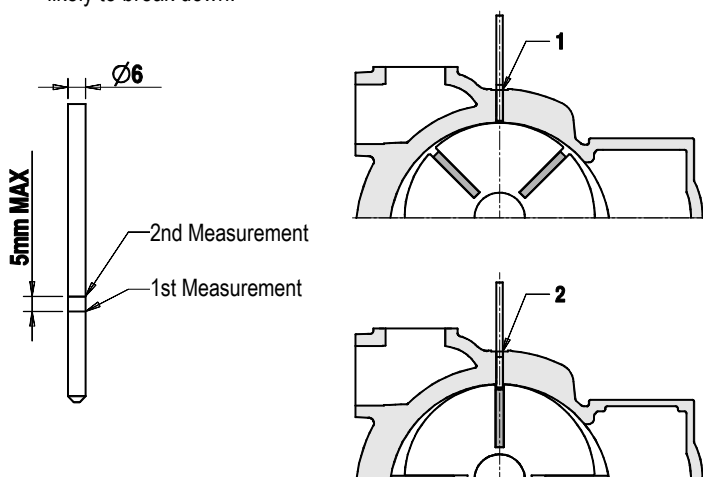
- Unscrew the vanes wear check-plug on the front flange (Fig. 6.2).
- Turn the shaft by hand until vanes appearance.

• Vanes usually slip on seat bottom due to gravity. Check their right entry in the seat.



Pic. 6.2

- Insert a $\varnothing 6$ mm stick with a tapered end, until it touches the rotor and then mark (see Fig. 6.3).
- Turn the rotor slowly until the stick touches the vane in idle position in its seat. The vanes slide to the bottom of the seat due to gravity: check they really do and mark again on the stick.
- Repeat the same procedure for all the vanes. If wear exceeds 5 mm: replace the vanes as soon as possible.
- Maximum acceptable wear: 5 mm. Immediately replace: vanes are likely to break down.



Pic. 6.3

- Replace all the pump vanes at the same time.



Replace the vanes when their wear exceeds 5 mm (L – L min): they may break. Replace all vanes at the same time.

- Replace the cap after the measurement.

6.2. Extraordinary maintenance

- Except for the cases described below, extraordinary maintenance on a C must be carried out by specialized personnel only; otherwise the guarantee will be invalidated.
- All extraordinary maintenance interventions must be carried out when the machine is cold, stopped and switched off. Implement the

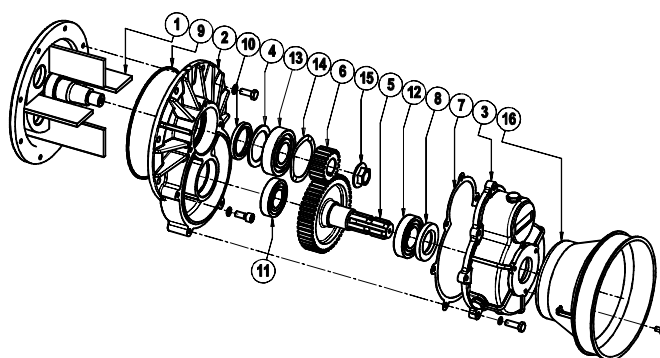
safety instructions reported in the “Safety and accident prevention” Chapter, before performing any maintenance operation.



Follow the safety prescriptions as described in Cap. “Safety and accident prevention”.

Replacing the vanes

- Remove the compressor from its bearing frame and wash it before disassembling.
- Work on the compressor front side. The following drawing shows all the components that have to be disassembled during the vanes replacing.
- Material that is subject to wear: replace.



Pic. 6.4

Pos.	Code	Description	Q.ty
1	1601600600	VANE C60	4
	1601600800	VANE C84	4
	1601601000	VANE C110	4
4	16240017E0	SPACER	1
7	1680700000	GASKET	1
8	4022200040	SEAL	1
9	4022200240	OR	1
10	4022252R10	SEAL	1
14	4026300020	COMPENSATION RING	1

Disassembling

- Disconnect the drive system, if this is the case, and check conditions.
- Hydraulic drive: mark the position of the driven shaft on the pump shaft.
- Remove the drive shaft protection (16).
- Disassembled the gearbox (3) and gearbox gasket (7).
- Remove the seal (8) and extract bushing (12) mounted in the gear wheel (5). At the same time loosen and remove the nut (15).
- Remove gear wheel (5) and pinion (6).
- Remove compressor flange (2) by using the threaded holes to extract it. Do not lose OR-ring (9).
- Hold the shaft before extracting the flange: the rotor weight must not solicit the internal components.
- Extract the worn vanes.

- Complete disassembling:
 - Extract bearings (11) and (13), seal (4) and spacer (10) from the pump flange (2);
 - Do not lose compensation ring (14).

Checking the wear condition

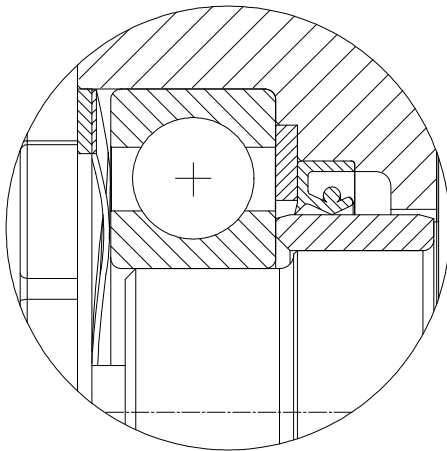
- Checking the condition of following parts:
 - Seals and gaskets: they may be worn or have damaged during disassembling.

Reassembly

- Oil and then insert all vanes in their seats (1).
- Compressor flange (2): insert seal and bearing if they have been previously removed or need to be replaced.
- Reassemble the parts in the following sequence:
 - Compressor flange: do not damage the seal while inserting it on to the axis. Correctly centre and fasten the screws. Properly align the bearing into its seat.
 - Pinion (6) and gear wheel (5) with their bushing (12) and seal (8).
 - Gearbox (3) and gasket (7).
 - Drive shaft protection.



Do not damage components during assembly by forcing them exceedingly.



Pic. 6.5

- Do not flip the seal ring during rotation of the shaft. Do not leave foreign objects inside the compressor.

Mounting the hydraulic drive

- We recommend the drive coupling be oiled when vanes are being replaced.
- However lubricate the drive coupling every 1500 hours.



Attention: lubricate the drive coupling every 1500 hours.

- Apply coupling hub to compressor axis respecting the position marked during disassembly: the grain must go back into the seat on the rim.
- Mount the coupling and lubricate internally with NLGI 2 Lithium grease.
- Reassembly the motor without forcing onto the seals.

7. Malfunctions: troubleshooting

PROBLEMS

COMPRESSOR OVERHEATS	
Cause	Solution
• Insufficient or absent lubrication	• Fill the tank. Check the piping, oilers and oil pump
• Lubrication of insufficient quality	• Use recommended lubricants
• Low tank oil level	• Fill tank with oil
• Excessive rotation speed	• Reduce rpm to the prescribed working speed
• Prolonged functioning	• Stop compressor or reduce speed rate
• Poor ventilation	• Provide enough room around the compressor
• Exhaust line of insufficient diameter	• Check dimensioning

COMPRESSOR DOES NOT ROTATE	
Cause	Solution
• Broken vanes:	• Clean inner chambers, replace vanes
- due to infiltrated solids	• Check the suction line and clean
- due to insufficient lubrication	• Use recommended synthetic lubricant
• Power transmission breakdown	• Check and replace the damaged parts
• Ice inside the compressor (during the cold season)	• Remove ice and slowly start running it. Avoid suction of water

REDUCED PERFORMANCES	
Cause	Solution
• Worn vanes	• Replace vanes
• Worn seal rings	• Replace
• Encrusted exhaust port	• Remove and clean

UNUSUAL OIL CONSUMPTION	
Cause	Solution
• Insufficient or absent lubrication	• Check and adjust the lubricating pump
• Oilers not adjust	• Regulate the oilers as described

8. Scrapping

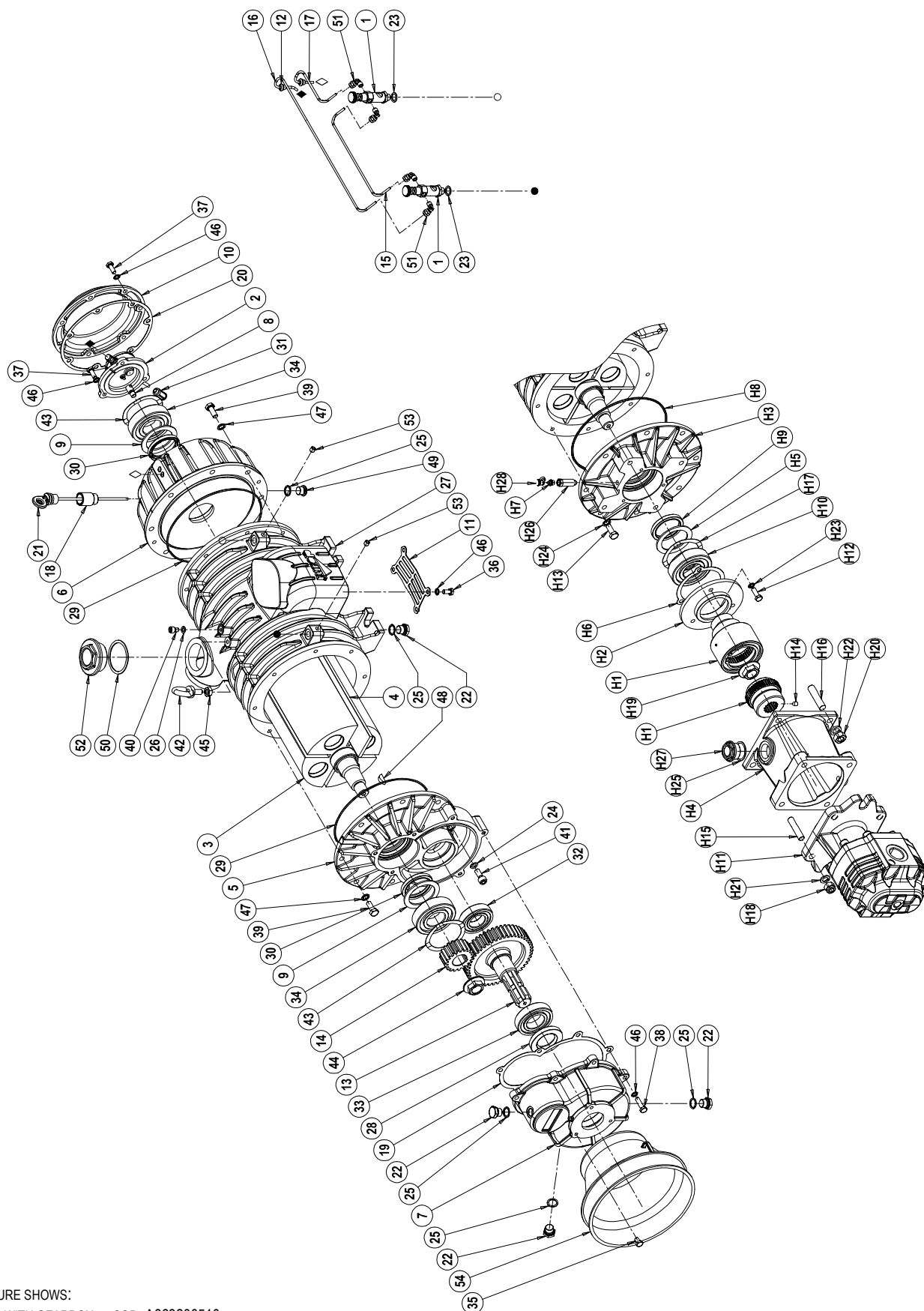
- Recycling materials allow reducing the environmental impact and respecting the environment.
- Before scrapping the machine, the following materials need to be separated and suitably disposed of.



Do not dispose of in the environment. Dispose of in compliance with the standards in force.

Material	Cast Iron	Steel	Alluminum	Copper	Bronze	Rubber	Vane	Oil	Plastic
C 60	85 %	12 %	0.2 %	0.4 %	0.1 %	0.1 %	0.7 %	0.7 %	0.5 %
C 84	86 %	11 %	0.2 %	0.4 %	0.1 %	0.1 %	0.7 %	0.5 %	0.4 %
C 110	87 %	11 %	0.2 %	0.4 %	0.1 %	0.1 %	1.0 %	0.5 %	0.3 %

C 60-84-110



PICTURE SHOWS:

C 84 WITH GEARBOX COD. A663200510
C 84 HYD COD. E668100510

C 60-84-110

Pos.	Code	Description	Q.ty	Pos.	Code	Description	Q.ty
1	1401200400	OILER C60	1	44	4026305614	NUT WITH FLANGE	1
	1401200400	OILER C84-110	2	45	4026308006	NUT M10 (C84)	1
2	1407200500	OIL PUMP PN45-106	1		4026308007	NUT M12 (C60-110)	1
3	15215008E0	ROTOR C60	1	46	4026351505	SERRATED LOCK WASHERS M 8 GALV	21
	15215005E0	ROTOR C84		47	4026351506	SERRATED LOCK WASHERS M 10 GALV	14
	15215007E0	ROTOR C110		48	4026500018	TAB 6X10	1
4	1601600600	VANE C60	4	49	4026701602	PLUG 3/8	1
	1601600800	VANE C84	4	50	4026702709	COOPER WASHER	1
	1601601000	VANE C110	4		4026702711	COOPER WASHER (C110)	1
5	16105002E0	C84 GEARBOX FLANGE	1	51	4026706000	FITTING 90°4X1/8 C60	4
6	16125002E0	REAR OIL TANK	1		4026706000	FITTING 90°4X1/8 C84-110	4
7	1612503100	GEARBOX	1	52	4026904006	PLUG 2"	1
8	1622002600	OIL PUMP PIN	1		16840039E0	TAPPO 2"1/2 (C110)	1
9	16240017E0	SPACER	2	53	4026910601	SHUT-OFF SCREW	2
10	1640101100	COVER	1	54	4029602806	DIRECT SHAFT PROTECTION	1
11	16420024E0	PROTECTION C60	1		18920002E0	GASKETS KIT C	1
	16420015E0	PROTECTION C84	1				
	16420025E0	PROTECTION C110	1				
12	1642600000	GASKET	2		C84 HDR		
13	1651000000	GEAR WHEEL PN-CN Z48	1	H1	1470100400	HDR JOINT	1
14	1651000100	PINION PN-CN Z19	1	H2	1610005500	FLANGE	1
15	16631010E0	OIL COPPER PIPE 2 C84	1	H3	16105003E0	COVER HDR	1
	16631013E0	OIL COPPER PIPE 2 C110	1	H4	1612501400	HOUSING TRASMISSION HDR	1
16	16631016E0	OIL COPPER PIPE 3 C60	1	H5	16240017E0	SPACER	1
	16631011E0	OIL COPPER PIPE 3 C84	1	H6	1680700400	GASKET	1
	16631014E0	OIL COPPER PIPE 3 C110	1	H7	4022100010	GREASER	1
17	16631017E0	OIL COPPER PIPE 1 C60	1	H8	4022200240	O RING	1
	16631012E0	OIL COPPER PIPE 1 C84	1	H9	4022252R10	SEAL 55X70X8	1
	16631015E0	OIL COPPER PIPE 1 C110	1	H10	4023100140	BEARING 6308	1
18	1673004100	OIL DIP-STICK SLEEVE	1	H11	4024107010	HYDRAULIC MOTOR	1
19	1680700000	GEARBOX GASKET	1	H12	4026102807	SCREW TE 8X25 ZINC.	3
20	1680707500	OIL TANK COVER GASKET	1	H13	4026102907	SCREW TE 10X25 ZINC.	8
21	1683600300	OIL DIP-STICK 200 MM	1	H14	4026136005	SCREW 8X12	1
22	1684000000	DISCHARGE PLUG 3/8	4	H15	4026171203	SCREW 12X40 ZINC.	4
23	1685100000	WASHER	2	H16	4026171304	SCREW 14X40 ZINC.	4
24	1685100100	WASHER	2	H17	4026300020	SEAL	1
25	1685100200	WASHER	5	H18	4026305508	NUT M12	4
26	1685100800	WASHER	1	H19	4026305614	NUT	1
27	16875016E0	HOUSING C60	1	H20	4026308008	NUT M14	4
	16875009E0	HOUSING C84	1	H21	4026350709	WASHER GROWER 12 ZINC.	4
	16875015E0	HOUSING C110	1	H22	4026350710	WASHER GROWER 14 ZINC.	4
28	4022200040	SEAL 72X40X10	1	H23	4026351505	WASHER M8	3
29	4022200240	OR RING	2	H24	4026351506	WASHER M10	8
30	4022252R10	SEAL 55X70X8	2	H25	4026359001	WASHER 40X33.5X1.5	1
31	4022300001	FILTER NYLON	1	H26	4026705001	GREASER LINK	1
32	4023100020	BEARING 6207	1	H27	4026904003	PLUG 1"	1
33	4023100030	BEARING 6208	1	H28	4029602700	PROTECTION	1
34	4023100040	BEARING 6308	2				
35	4026102802	SCREW M 8X12 GALV.	3				
36	4026102804	SCREW M 8X16 GALV.	4				
37	4026102806	SCREW M 8X20 GALV.	10				
38	4026102808	SCREW M 8X30 GALV.	7				
39	4026102907	SCREW M 10X25 GALV.	14				
40	4026121401	SCREW M 8X12 GALV.	1				
41	4026121808	SCREW M 10X25 GALV.	2				
42	4026190100	EYE BOLT M10 (C84)	1				
	4026190101	EYE BOLT M12 (C60-110)	1				
43	4026300020	COMPENSATION RING	2				

Model	Issue date	Revision No.	Revision date	Filled out by	Viewed by
C	05-12-2014	07	29-07-2021	U.T.	A.T.

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