Cidepa

A GEARS BOXES COMPANY

USE AND MAINTENANCE INSTRUCTIONS FOR

GEARMOTORS

CRM SERIES

INDEX

1. General information

1.1- GENERAL INFORMATION

This technical manual produced by Cidepa-Sincron S.L. provides important information on the handling, storage, installation, use, maintenance, repair and disassembly of industrial gearmotors.

This documentation should be kept close to the product and should always be read by anyone working with the product.
The instructions contained in this manual must be followed, as Cidepa- Sincron S.L. will not be held responsible in case of:

- use of products in a manner contrary to safety standards
- failure to follow or improperly following the instructions contained in this manual
- incorrect installation or handling of the product.

1.2- INTENDED WORKING ENVIRONMENTS

All products referred to in this manual are for use in industrial plants. In case of outdoor use, protection must be provided against sun, rain, weather events, foreign bodies, corrosion and heat build-up detrimental to the proper functioning of the product.

Any damage to the paint should be touched up with the appropriate paint.
Use in potentially explosive environments is prohibited, except for geared motors that comply with the respective ATEX regulations.

For temperatures <0 ° C, refer to the following notes:

- check if the motor is suitable for low temperatures
- due to the high viscosity of the lubricant, check whether the motor can deliver high starting torque.
- let the unit run for a few minutes without load to ensure full lubrication.

1.3- HAZARDOUS SITUATIONS

During operation of each unit, there may be exposure to motion and rotation, which can cause serious injury or death.

To avoid property damage or personal injury, all handling, storage, installation, use, maintenance, repair and disassembly must be performed by qualified personnel and in accordance with the instructions in this manual and safety regulations.

Do not install damaged or defective products.

1.4- CONSEQUENCES OF INAPPROPRIATE USE

Cidepa-Sincron S.L. geared motors and variable speed drives generate rotary motion with speed reduction between the input and output shafts of the installations to be used.

Any other use or non-compliance with the information contained in the catalogs, manuals and safety standards can cause serious property damage or injury, even death.

2. Terms of delivery

2.1- EQUIPMENT CHECK

Check the information on the nameplate of all Cidepa-Sincron S.L. products before installing the product. Removal or damage of the nameplate will invalidate the warranty.

An example of a CRM gearmotor nameplate is shown below.

- Gearbox no. : Gearbox manufacturing number. It is a unique code that unequivocally identifies the equipment, ensuring its traceability. Keep it always visible and legible, since it is the reference that the technical service will ask for in case of requesting spare parts or to manage a breakdown. (In the example 187310)
- Type: Model of the gear unit in question. (In the example CRMS-67)
- Power hp: Power for which the gear unit was defined expressed in hp. (In the example 7.50 hp)
- Ratio: Equipment reduction ratio. (In the example 12.70)

In the case of gear units mounted in “tandem” (two gear units mounted in series), each gear unit will have its own nameplate with its corresponding technical data. Likewise, in the case of geared motors, the electric motor will be identified independently of the gear unit, with its own nameplate.

2.2- STORAGE

Immediately upon receipt, inspect the shipment for shipping damage. In case of damage, inform the shipping company immediately. It may be necessary to cancel commissioning.
To transport, tighten the suspension eyebolts securely. They are only designed to support the weight of the gearmotor/gearmotor; do not apply any additional load.
The eyebolts used comply with DIN 580. The loads and guidelines specified in this standard must be observed. If two eyebolts or eye bolts are installed on the gearmotor, both eyebolts must be fastened for transport. According to DIN 580, the pulling direction of the lashing device must not exceed 45° diagonal pull.
If necessary, use appropriate handling equipment. Before start-up, remove all transport lashings.
Store the products in a dry place, protected from the weather and possible intrusion of external elements, at temperatures below 50ºC and in an atmosphere free of aggressive or corrosive substances.
We recommend storing the geared motor in the mounting position in which it is to be used.
Protruding parts must be protected against impact or damage.
If stored for more than 2 months, gearmotors should be checked, and if necessary, unpainted castings and rubber should be lubricated with the appropriate products for rust and deterioration respectively.
If ATEX products are stored for more than 2 months, contact our Department.
The “extended storage” type gearboxes have the following features:

- In the case of mineral oil (CLP) and synthetic oil (CLPHC), an oil fill level suitable for the mounting position and so that the unit is ready for use. However, check the oil fill level before start-up.
- Higher oil level in case of synthetic oil (CLP PG). Correct the oil level before start-up. For prolonged storage, observe the storage conditions indicated in the table below:

Climatic zone	Packaging*	Storage place	Storage time
Moderate (Europe, USA, Canada, China, and Russia except for tropical areas	packed in sealed containers with a plastic film, and equipped with a blotter and a humidity indicator.	Covered, protected from rain and snow, and vibration free.	max. 3 years doing regular checks of packing and gauge humidity (re humidity). <50%).
	open	Covered and closed with a temperature and a constant humidity (5°C< 9 < 60°C < 50% of RH). Without sudden changes in temperature and with a controlled ventilation with filter (free of dirt and dust). No aggressive vapors or vibrations.	2 or more years if performed regular inspection. In this inspection, you must check cleanliness and there are mechanical damage In addition, it will be checked if the corrosion protection is in good state.
Moderate (Europe, USA, Canada, China, and Russia except for tropical areas	packed in sealed containers with a plastic film, and equipped with a blotter and a humidity indicator. chemically treated to protect them against insects and the formation of mold.	Covered, protected against rain, and free from vibrations.	max. 3 years doing periodic checks of packing and gauge humidity (rel. humidity < 50%).
	open	Covered and closed with a temperature and a constant humidity (5°C< 9 < 60°C. < 50% of RH). Without sudden changes in temperature and with a controlled ventilation with filter (free of dirt and dust). No aggressive vapors or vibrations. Protected against insects.	2 or more years if performed regular inspection. In this inspection, you must check cleanliness and there are mechanical damage In addition, it will be checked if the corrosion protection is in good state.

* The packaging must be carried out by an experienced emoresa with approved packaging material for each specific case.

2.3- PAINTING

- Grey cast iron GG20 : Epoxy primer (two-component) and grey (RAL7031) single-coat enamel finish (two components) In case of damage to the paint and all surfaces, please protect with appropriate products to prevent rust.

2.4- RECOMMENDED PRODUCTS

The following commercial products are used to complement Cidepa-Sincron products:

- Surface sealant: Loctite 510
- Sealant for press fittings: Loctite 603
- Tapping tool: Loctite 243
- Lubricating grease for oil seals: Kluber Petamo GHY 133N
- Anti-rust grease for shaft/hub connections: Kluber Pasta 46 MR 401
- Antioxidant for shafts and surfaces: Fuchs Anticorit DFW
- Two-component sealant for nameplates: Henkel Teroson 9220
- Degreaser for machined surfaces: Loctite 7063

3. Installation

3.1- GENERAL INFORMATION

Before installing the gearmotors, make sure that:

- The information on the nameplate matches the product ordered.
- Connecting surfaces and shafts are completely clean and undamaged.
- The surfaces on which the geared motor will be installed are perfectly flat and sufficiently rigid.
- The machine shaft and gearmotor shaft are correctly aligned.
- Torque limiting systems have been installed if the machine is expected to suffer impact or stall during operation.
- The necessary safety guards for rotating parts have been installed.
- Adequate cover has been provided to protect against atmospheric agents if the installation is exposed to adverse weather conditions.
- The working environment is not corrosive (unless declared when ordering the gearmotor for this use).
- Any sprockets or pulleys mounted on the gearmotor output or input shafts are properly adjusted so that radial and/or axial loads do not exceed allowable loads.
- All connections have been treated with suitable antioxidants, as protection, to avoid any oxidation by contact.
- All fastening screws have been properly tightened.
- Also check whether the oil fill level is as specified for your mounting position. The gear units are delivered from the factory with the required oil level. Depending on the mounting position, there may be slight deviations in the oil level control plug, which are permissible within the established manufacturing tolerances.
- Adjust the lubricant fill quantities and the position of the exhaust plug when changing the mounting position.
- Use plastic spacers (2-3 mm thick) if there is a risk of electrochemical corrosion between the gear unit and the driven machine (combination of dissimilar metals, e.g. cast iron/stainless steel). Also put plastic washers on the screws. Ground the housing using the motor grounding screws.

NOTE
The reducers are supplied with a screw plug in the aeration hole provided. Before start-up, the customer must replace the threaded plug at the top of each gear unit with the gas outlet plug supplied (included in a plastic bag).

3.2- CRITICAL APPLICATIONS

- In all of the following cases, consult the Technical Department:
- Use as a multiplier
- Use as a winch
- Use in environments that may be hazardous to humans in the event of failure
- Use in positions not foreseen in the catalog
- Use in an environment at a pressure other than atmospheric pressure
- Use at an ambient temperature different from the standard temperature.
- Use in an environment with a saline water atmosphere
- Use in an environment where aggressive chemicals are present
- Applications with very high inertia or high stress levels
- Input speed higher than 3000 r.p.m.
- Input speed higher than 2000 r.p.m. for gearmotor mounting in positions other than B3.

3.3- USE

The personnel authorized to handle the product must check its integrity and the safety of property and persons during handling. When the weight or geometry of the unit prevents manual handling, appropriate lifting equipment should be used, taking advantage of the anchorage provided or bolted onto the gearmotor.

3.4- MOUNTING A MOTOR TO THE GEARBOX

- Check that the motor flange and shaft tolerances correspond to at least “normal” quality class.
- Make sure that the shaft, surface and flange centering bolt are free of dirt or traces of paint.
- Do not force the drive shaft into the gearmotor input. If this is not possible, check the tolerance of the drive shaft and make sure it is properly seated.
- Apply a thin film of rust inhibitor to prevent contact rusting.
- Use good quality motors to ensure efficient, noise-free operation.
- Before mounting the gearmotor on the machine, check that the output shaft rotates in the correct direction.

3.5- TIGHTENING TORQUE OF THE BOLTS

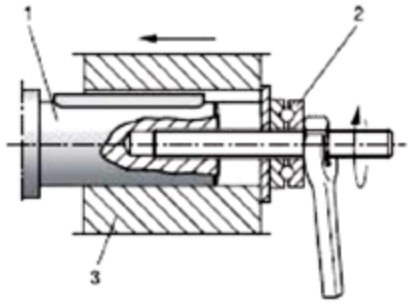
For all accessories involving the use of screw fasteners, refer to the following table:

Screw / Nut	Tightening torque of screws (quality 8.8) Nm
M6	**11**
M8	**25**
M10	**48**
M12	**86**
M16	**210**
M20	**410**
M24	**710**

3.6- GEARBOXES WITH INPUT SHAFTS

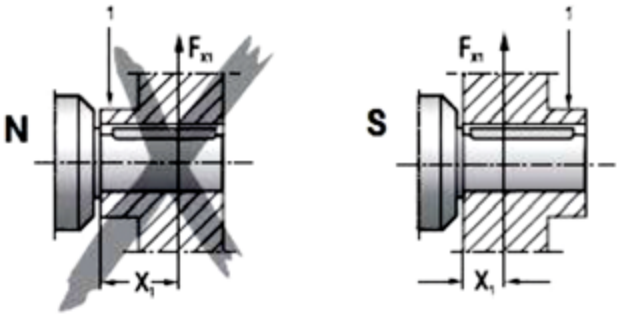
- Before mounting any devices on input shafts, or hollow output shafts, we recommend the use of corrosion protection lubricants to facilitate adjustment and prevent rusting of both parts after the gearmotor is put into service.
- To avoid damaging the gearmotor, shafts and relative bearings, the parts to be assembled must not be hammered.
- To tighten, use a mounting tool to clamp into the threaded hole in the end of the shaft.
- Alternatively, the component to be assembled can be heated to a maximum temperature of 100°C, ensuring that the part slides freely during assembly.
- For input shafts running at more than 1400 rpm, the rotating parts must be balanced.
- There must be no radial or axial loads exceeding the permissible limits (see Cidepa-Sincron S.L. catalog).
- We recommend the use of a threadlocker such as LOCTITE 243.
- Tighten each drive screw to its rated torque.

The following figure shows an example of a mounting device for the installation of couplings on the shaft ends of the gear unit or motor shafts. If necessary, the thrust bearing of the mounting device can be dispensed with. .



1) Reduction shaft end
2) Thrust bearing
3) Coupling

The following figure shows the correct mounting arrangement S of a gearwheel or drive pinion to avoid inadmissible radial loads N.



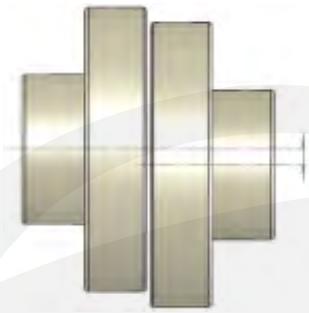
1=Coupling
N=Incorrect
Y=Correct

3.7- ASSEMBLY OF COUPLINGS

When mounting couplings, the following items must be balanced in accordance with the coupling manufacturer's instructions:

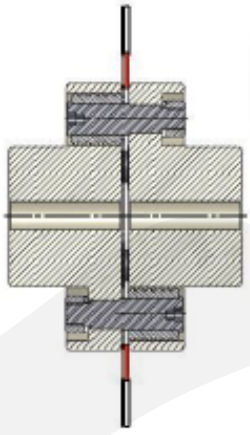
a) Axial misalignment
b) Angular misalignment
c) Maximum and minimum tolerance
d) Axial and angular alignment

a) Axial misalignment

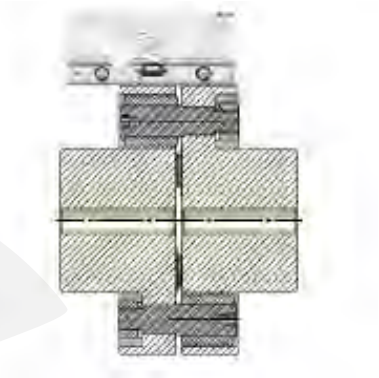


b) Angular misalignment

c) Maximum and minimum tolerances



d) Axial and angular alignment



Input and output elements , such as belt pulleys , couplings, etc., must be covered with a contact protection device, couplings, etc., must be covered with a contact protection device.

4. Lubrication

Unless a special agreement is established, CIDEPA-SINCRON S.L. supplies the drives with a specific lubricant depending on the gear unit and the mounting position. Therefore, it is very important to indicate the mounting position (C-1...C-6) when ordering the gear unit. If the mounting position is changed at a later date, the lubricant fill quantity must be adjusted to the changed mounting position. The lubricant table on the following page shows the lubricants that are allowed to be used in CIDEPA-SINCRON S.L. gearboxes. Please read carefully the explanatory legend of the lubricant table below:

CLP = mineral oil
CLP PG = polyglycol

synthetic lubricant (bearing grease with synthetic composition)

mineral lubricant (grease for bearings with a mineral composition)

Note that critical start-up behavior occurs at low temperatures.

4.1- BEARING GREASE

The bearings of the gearboxes and motors are supplied with the following greases. In bearings supplied with grease, CIDEPA- SIN-CRON S.L. recommends renewing the grease filling when changing the oil.

	Ambient temperature	Manufacturer	Type
Gearbox bearings	-30ºC to +60ºC	MOBIL	Mobilux EP 2
	-40ºC to +80ºC	MOBIL	Mobiltemp SHC 100
Motor bearings	-25ºC to +80ºC	ESSO	Unirex N3
	-25ºC to +60ºC	SHELL	Alvania R3
	+80ºC to +100ºC	KLUBER	Barrierta L55/2
	-45ºC to -25ºC	SHELL	Aero Shell Grease 16

The following amounts of fat are required:

- In fast-running bearings (on the motor and gearbox input side): fill one third of the cavities between the bearing elements with grease.
- In slow-running bearings (on the gear unit and on the output side of the gear unit): fill two thirds of the cavities between the bearing elements with grease.

4.3 - LUBRICANT FILLING QUANTITY

All Cidepa-Sincron S.L. gearmotors of the CRM series up to size 67, (27, 37, 47, 57, 67) are supplied with 320 viscosity high durability lubricant. From size 77 upwards (77, 87, 97, 107 and 137) the lubricant will be supplied upon request.

FUCHS	CASTROL	ESSO	KLUBER	MOBIL	SHELL
Renolin CLP-320	Alphasyn PG320	S320	Klubersynth GH 6 320	Mobil Glygoyle HE 320	Shell Omala S4 WE320

4.3 - LUBRICANT FILLING QUANTITY

The filling quantities given are guide values. The exact values vary depending on the number of trains and the reduction ratio. Close attention should be paid to the oil level plug which serves as an indicator to establish the correct oil quantity.
The following tables show guideline values for the lubricant fill quantities of the CRM and CRMB series, depending on the mounting position
(C-1 to C-6)

Gearbox type	Filling quantity in liters					
	C-1	C-2	C-3	C-4	C-5	C-6
CRM-27	0,4	0,7	0,5	0,7	0,5	0,5
CRM-37	0,95	0,85	0,95	1,05	0,75	0,95
CRM-47	1,5	1,6	1,5	1,65	1,5	1,5
CRM-57	1,7	1,9	1,7	2,1	1,7	1,7
CRM-67	2,3	3,2	2,8	2,9	1,8	2
CRM-77	3	4,2	3,6	3,8	2,5	3,4
CRM-87	6	8,1	7,2	7,2	6,3	6,5
CRM-97	9,8	14	11,7	13,4	11,3	11,7
CRM-107	13,7	16,3	16,9	19,2	13,2	15,9
CRM-137	25	28	29,5	31,5	25	25

Gearbox type	Filling quantity in liters					
	C-1	C-2	C-3	C-4	C-5	C-6
CRMB-27	0,4	0,7	0,5	0,7	0,5	0,5
CRMB-37	0,95	0,9	0,95	1,05	0,75	0,95
CRMB-47	1,5	1,6	1,5	1,65	1,5	1,5
CRMB-57	1,7	1,8	1,7	2	1,7	1,7
CRMB-67	2,5	3,2	2,7	2,8	1,9	2,1
CRMB-77	2,6	4,1	3,3	3,6	2,4	3
CRMB-87	6	8,2	7,1	7,2	6,3	6,4
CRMB-97	10,2	14	11,2	14	11,2	11,8
CRMB-107	14,9	15,9	17	19,2	13,1	15,9
CRMB-137	25	27	29	32,5	25	25

4.4- MOUNTING POSITIONS (standard)

The six standard positions for CRM series gearmotors are as follows:

CRM SERIES

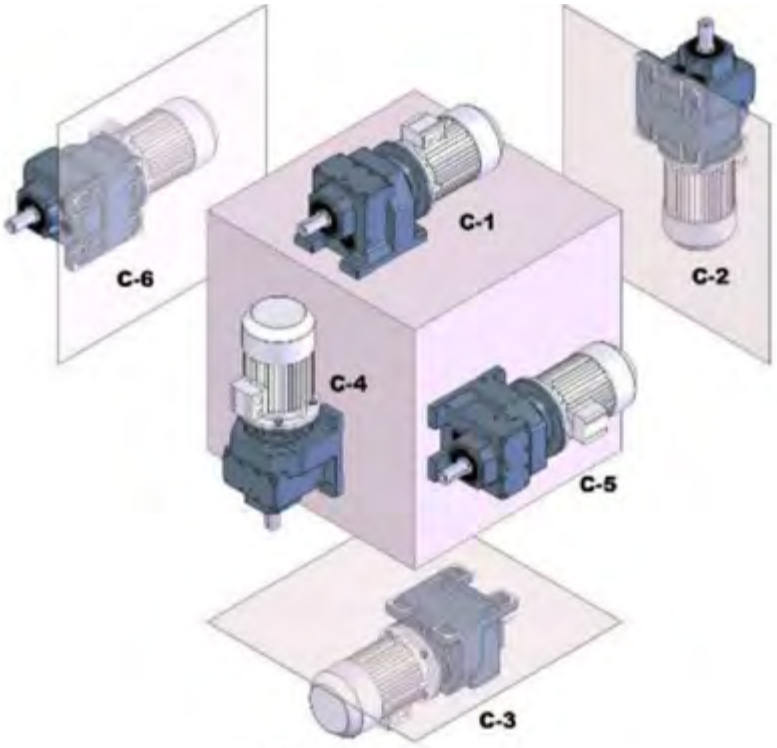


Fig. 1

CRMB SERIES

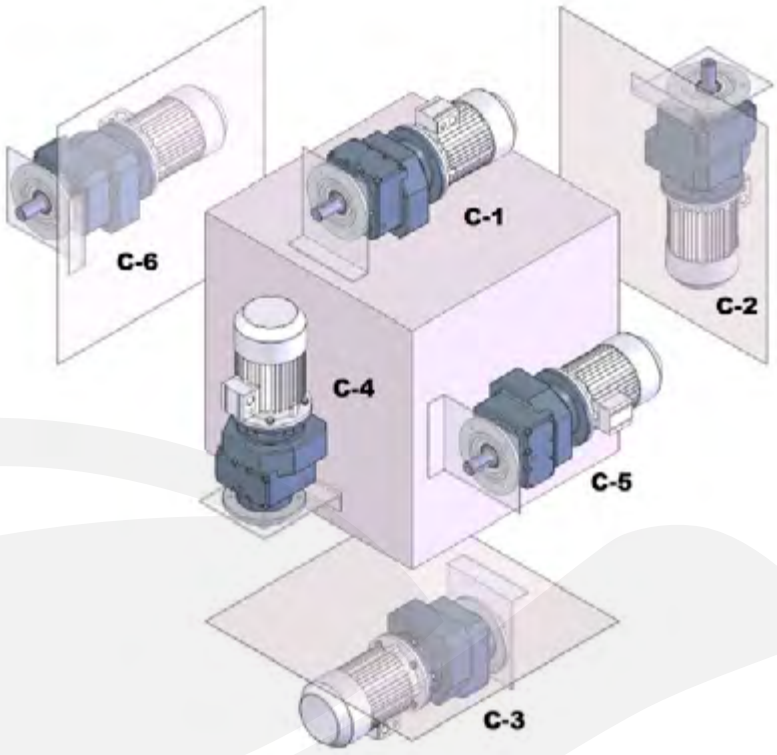


Fig. 2

The following table contains all the symbols used on the mounting position sheets and their meaning:

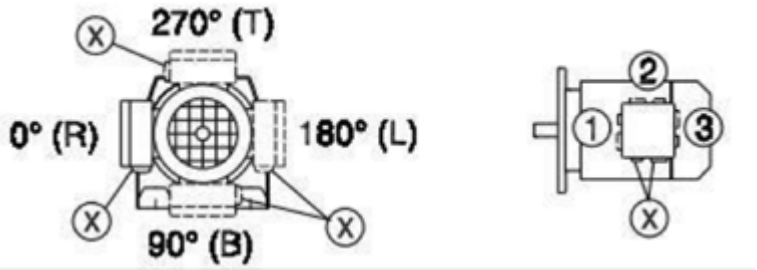
Symbol	Meaning
	**Gas outlet cap**
	**oil level plug**
	**oil drain plug**

Losses due to bubbling:

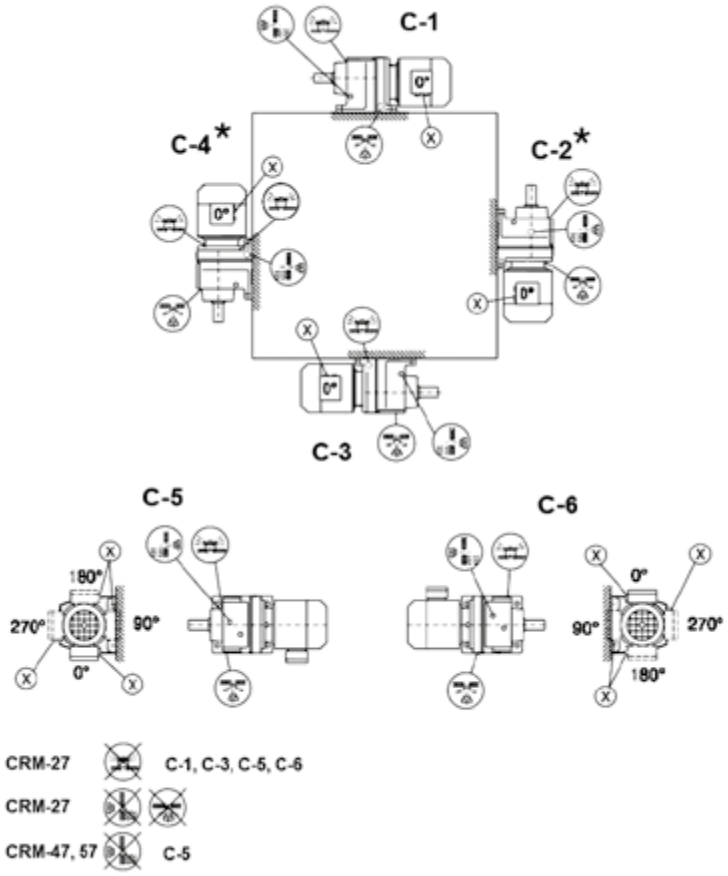
In some mounting positions there may be high losses due to barbotation. For the following combinations, please consult CIDEPA-SINCRON S.L.:

Mounting position	Gearbox type	Reducer size	Input speed
C-2, C-4	CR M	97....107	> 2500 r.p.m.
		>107	> 1500 r.p.m.

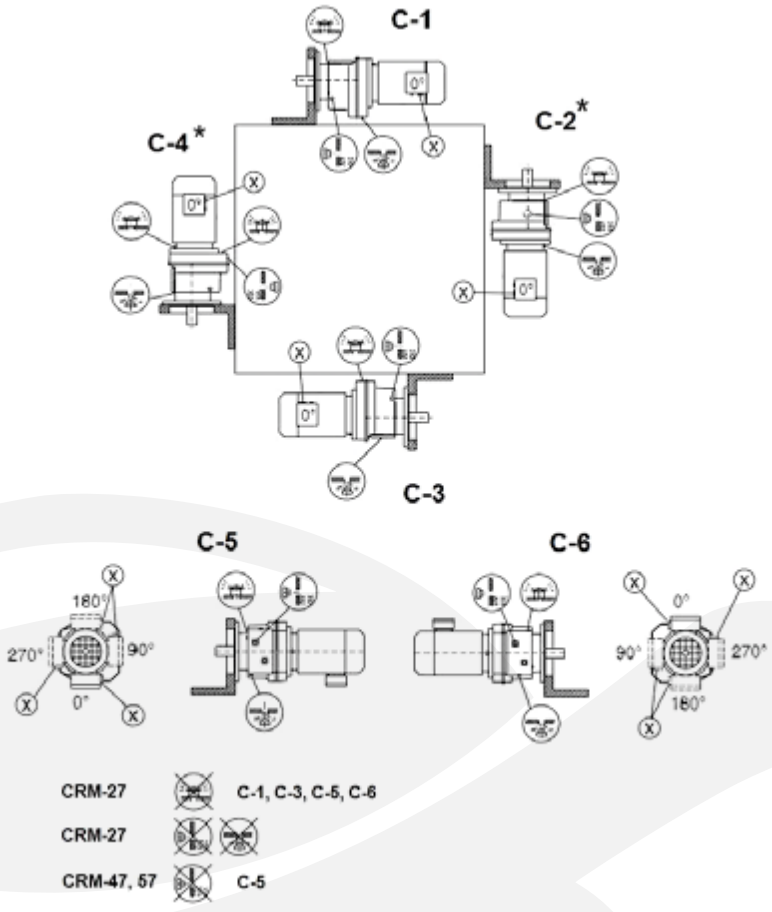
Position of the motor terminal box with respect to the X-axis on the CRM gearbox:



4.5- MOUNTING POSITION OF THE MOTOR- REDUCER CRM (on legs)



4.5- MOTOR MOUNTING POSITION - CRM REDUCER (with flange)

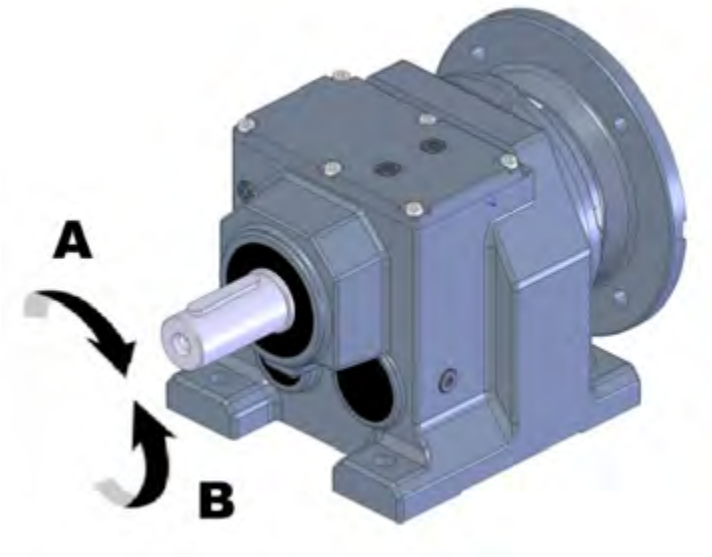


5. Order information

To enable the equipment configuration to be defined correctly, and to avoid confusion, more complete and detailed information is required along with the mounting position.

5.1- DIRECTION OF ROTATION OF THE OUTPUT SHAFT

When ordering a gearbox of the CRM family, it is necessary to indicate the direction of rotation of the output shaft. The direction of rotation is given facing the output shaft.



Direction A corresponds to the clockwise direction, and direction B corresponds to the counterclockwise direction.

5.2- SUPPLEMENTARY INFORMATION TABLE TEMPLATE

FAMILY AND SIZE	POSITION ASSEMBLY	ADDRESS OF ROTATION	SPEED OF MOTOR INLET	MOTOR TERMINAL POSITION
CRM-67	C-1	A	1,500 rpm.	270º (T)

In this example, we would have a unit with a motor, on legs, size 67, with mounting position C-1, which can be seen in the figure on page 17, the direction of rotation would be clockwise, motor input speed 1,500 rpm and the position of the motor terminal is at the top.

6. Commissioning

6.1- START-UP

Check, in the uncoupled state, if the direction of rotation is correct (detect
possible noises when turning it).
Fix the shaft keys to perform the tests without output elements. Do not disable monitoring and protection equipment during testing.
Unplug the gearmotor in case of doubt when changes from normal operation are observed.
Start-up should be a gradual process, avoiding the immediate application of the maximum load required by the machine, to prevent and correct any anomalies due to incorrect application.

6.2- SHOOTING

For CRM series geared motors, it is not necessary to observe any special measures for start-up, provided that these gearboxes have been installed in accordance with the Installation chapter.

TROUBLESHOOTING

If any problems arise during start-up, or in the first hours of operation, please contact after-sales service.
The following table shows a series of problems with a description of possible solutions.
It is evident that this information is given only as an indication, and for information purposes only, as all units are tested and verified before leaving the factory.
Any unauthorized tampering with the unit voids the warranty and often makes it impossible to determine the cause of the failure or malfunction.

PROBLEM	CAUSE	SOLUTION
Engine will not start	Incorrect motor size	check the power supply
The motor consumption is higher than shown on the nameplate.	Incorrect motor size	Check the application
Motor housing temperature is too high	Defective motor	Check the application
	Incorrect motor size	
	Incorrect motor mounting	
Gearmotor housing temperature is too high	Gearbox size is incorrect	Check the application
	Mounting position does not match the requested position	
	Incorrect motor size	
Gearmotor output shaft speed is incorrect	Gear reducer reduction ratio is incorrect	Check reduction ratio
	Motor polarity is incorrect	Check motor polarity
The output shaft rotates in the opposite direction	Motor supply connection is incorrect	Reversing 2 phases of the motor power supply
Electric motor vibrates	Motor and gearbox are not well aligned	Check motor flange tolerances
		Check the tolerances and geometry of the drive shaft.
Unusual and continuous operating noise	1. Scuffing or squeaking noise: damaged bearing 2. Knocking noise: gear irregularity	1. Check the oil (see Inspection and maintenance section), change the bearing. 2. Contact customer service
Unusual and discontinuous operating noise	Foreign bodies in the oil	Check oil (see inspection and maintenance section). Stop the drive, call service
Oil leaks (1) For the gearbox cover For the motor flange By motor shaft seal By gearbox flange By the output shaft seal	1, Rubber gasket of gearbox cover not sealed 2. Defective gasket 3. Non-aerated reducer	1. Re-tighten the screws of the cover of the reducer and keep an eye on it. If oil leaks continue, contact customer service 2. Contact customer service 3. Airing the gear unit (see mounting positions)
Oil leaks from the gas outlet cap	1. Excess oil 2, Actuator in incorrect mounting position 3, Frequent cold starts (foaming in the oil) and/or high oil level	1, Correct the oil level (see the section on Inspection and maintenance) 2, Put the gas outlet plug in place correctly (see the mounting positions) and correct the level of oil (see lubricants)

1) During the initial running-in phase (24 hours of running-in), it is normal for small amounts of oil or grease to escape the oil seal (see DIN 3761).

7. Maintenance

7.1- GENERAL INFORMATION

The high quality finish of the internal parts ensures proper operation with a minimum of maintenance.
In general, the following rules apply:

- Periodic control of the external cleanliness of the units, in particular the areas most affected by cooling.
- Periodic inspection of oil leaks, particularly around oil seals

Before performing routine checks and related maintenance, follow the instructions below:

- Make sure that the geared motor has stopped and that the motor is not yet active.
- Make sure that the geared motor has cooled down.
- Use appropriate protective equipment and observe the safety regulations and instructions contained in this manual.

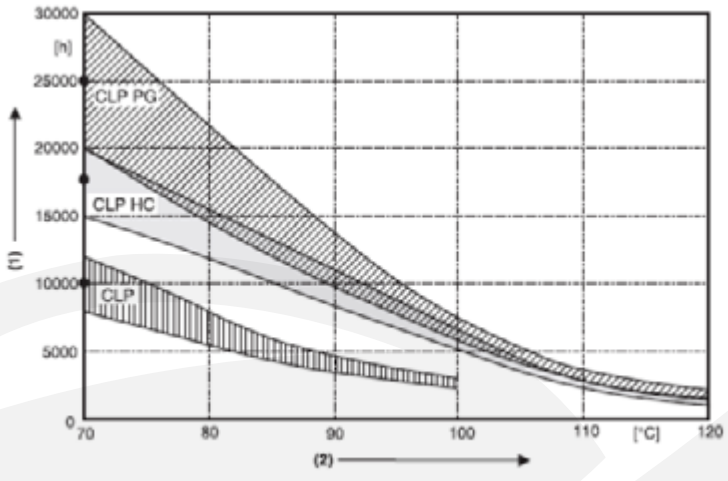
7.2- INSPECTION AND MAINTENANCE INTERVALS

The procedure for checking and changing the oil depends on the size and mounting position.
CRM gearboxes from size 27 to 67 are lubricated for life and are therefore maintenance-free. Depending on external influences, they must be reworked or recoated with anti-corrosion surface protection paint. The following inspection and maintenance intervals apply to all other sizes:

Time period	Action
Every 3,000 hours of machine operation, at least every 6 months	Check oil
Depending on operating conditions (see chart below), at the most every 3 years	Change synthetic oil Replace bearing grease
Depending on external influences	Touch up or reapply anti-corrosive surface protection paint.

7.3- LUBRICANT REPLACEMENT

This graph corresponds to the oil change periods for standard gearboxes under normal environmental conditions.
Change the oil more frequently when using special executions subjected to harsher environmental conditions.



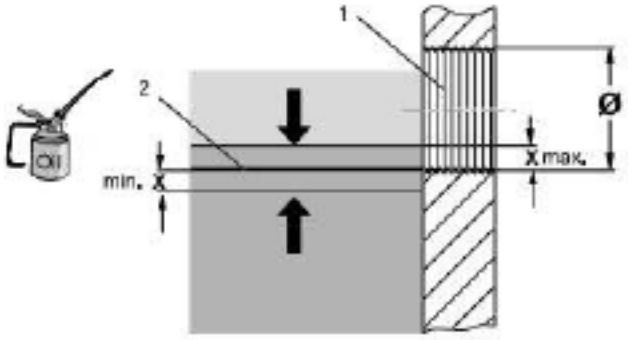
(1) Operating hours (2) Constant oil bath temperature • Average value depending on type of oil at 70° C

Do not mix synthetic lubricants with each other or with mineral lubricants. Mineral oil is used as standard lubricant.
The position of the oil level plug, oil drain plug and gas outlet plug depends on the mounting position and can be found in the mounting position diagrams.

Checking the oil level:

- Switch off the geared motor and protect it against accidental starting.
- Wait until the reducer cools down to avoid the risk of burns.
- If the mounting position is changed, please observe the instructions in the “Gear unit installation” section.
- With reducers with oil level plug:

  - Determine the position of the oil level plug and the gas outlet plug with the aid of the mounting position sheets.
  - Place a container under the oil level plug.
  - Slowly pull out the oil level plug. A small amount of oil may escape, as the maximum oil level is above the lower edge of the oil level hole.
  - Check the oil level according to the following picture and the corresponding chart



1. Oil level hole
2. Theoretical level

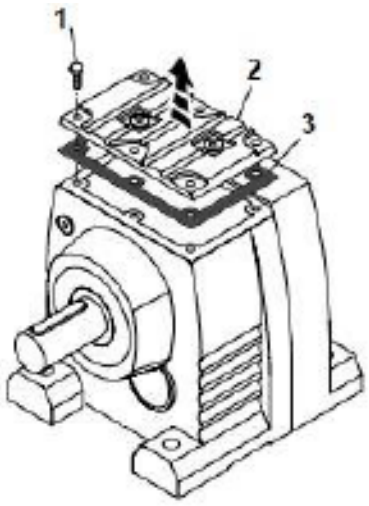
Ø of oil level hole	Max./min. filling level = x (mm)
M10 X 1	1
M12 x 1.5	1
M22 x 1.5	2
M33 x 2	2
M42 X 2	2

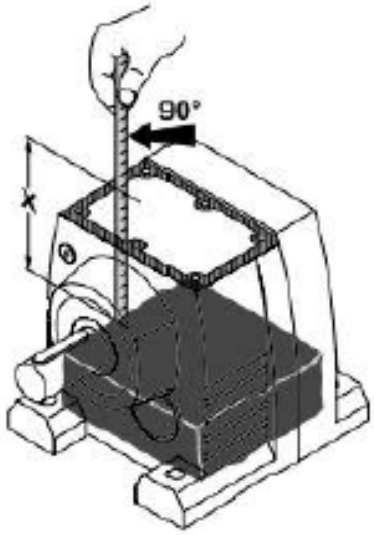
If the oil level is too low, follow these steps:

1. Remove the gas outlet plug.
2. Pour new oil of the same type through the aeration hole to the lower edge of the oil level hole.
3. Screw the oil level plug back on.

With reducers without oil level plug and with mounting cap:

- Place the gearbox in mounting position C-1 so that the cover faces upwards.
- Loosen the screws 1, from the mounting cover 2, and remove the mounting cover 2 with the corresponding gasket 3.
- Determine the vertical distance “x” between the oil level and the sealing surface of the casing.

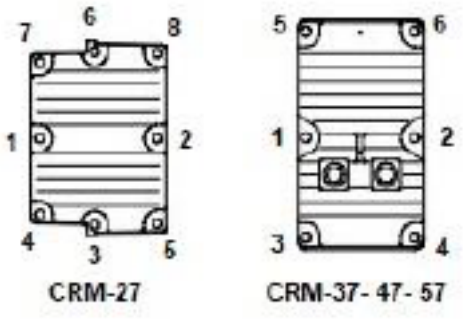




- Compare the obtained distance “x “with the maximum distance between the oil level and the sealing surface of the housing indicated in the table according to the installation position. If necessary, correct the filling height.

Reducer size		Maximum distance x (mm) between the oil level and the sealing surface of the housing for each mounting position					
		C-1	C-2	C3	C4	C-5	C-6
CRM-27	2 trains	74 ± 1	22 ± 1	45 ± 1	22 ± 1	45 ± 1	45 ± 1
	3 trains	76 ± 1	19 ± 1	42 ± 1	19 ± 1	42 ± 1	42± 1
CRM-37	2 trains	-	-	-	-	42 ± 1	-
	3 trains	-	-	-	-	39 ± 1	-
CRM-47	2 trains	-	-	-	-	39 ± 1	-
	3 trains	-	-	-	-	32 ± 1	-
CRM-57	2 trains	-	-	-	-	32 ± 1	-
	3 trains	-	-	-	-	26 ± 1	-

- Seal the gearbox after checking the oil level.
- Replace the mounting cover gasket. Make sure that the sealing surfaces are clean and dry.
- Mount the cover. Tighten the cover screws from the inside outwards in the order shown in the figure with the corresponding torques. To prevent damage to the mounting cover, only impulse screwdrivers or torque wrenches may be used (no impact screwdrivers).



- The tightening torques indicated for the M6 bolts of the covers of the sizes we are dealing with are:

Nominal tightening torque TN (Nm) = 1
Min. tightening torque Tmin (Nm) = 7

Oil check:

- Switch off the geared motor and protect it against accidental starting.
- Wait until the reducer cools down to avoid the risk of burns.
- Remove a little oil through the drain plug.
- Check the consistency of the oil:
- –Viscosity
  –If the oil is heavily contaminated, it is recommended that it be changed before the maintenance periods specified in the section “Inspection and Maintenance Periods”.
- For gearboxes with oil level plug: remove the oil level plug, check the oil level and correct it if necessary, and replace the oil level plug.

Oil change:

The oil change should only be carried out when the gear unit is at operating temperature.

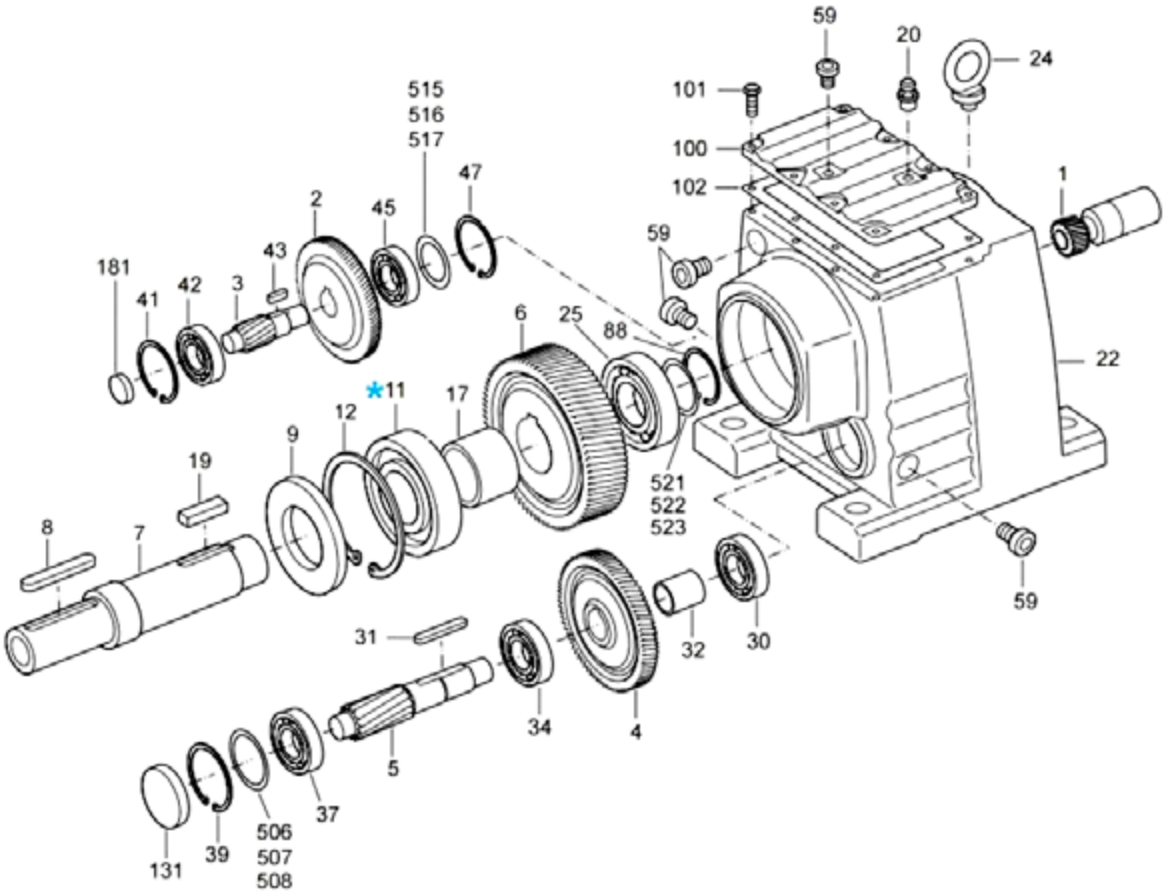
- Desconectar el motorreductor y protegerlo frente a un posible arranque accidental.
- Wait until the reducer cools down to avoid the risk of burns. Note: however, the reducer must still be warm; otherwise, the lack of fluidity due to excessively cold oil can make draining difficult.Coloque un recipiente debajo del tapón de drenaje del aceite.
- Place a container under the oil drain plug.
- Purge all oil
- Replace the oil drain plug.

- Insert new oil of the same type through the aeration hole (or consult customer service).
- – Fill in the quantity of oil corresponding to the installation position (see chapter “Lubricant fill quantities”).
  – Check the oil level in the oil level plug.

- Replace the oil level plug.
- Replace the gas outlet valve/plug.

8. Spare parts list

8.1-CRM COAXIAL SHAFT GEARMOTOR



1 Sprocket	19 Key	42 Bearing	507 Adjusting washer
2 Wheel	20 Gas outlet plug	43 Key	508 Adjusting washer
3 Fixed train	22 Housing	45 Bearing	515 Adjusting washer
4 Wheel	24 Clamping eyebolt	47 Circlip	516 Adjusting washer
5 Fixed train	25 Bearing	59 Screw plug	517 Adjusting washer
6 Wheel	30 Bearing	88 Circlip	521 Adjusting washer
7 Output shaft	31 Key	100 Gearbox cover	522 Adjusting washer
8 Keyway	32 Separator	101 Hex head screw	523 Adjusting washer
9 Retainer	34 Bearing	102 Board	
11 Bearing *	37 Bearing	131 Blanking plug	
12 Circlip	39 Circlip	181 Blanking plug	
17 Separator	41 Circlip	506 Adjusting washer	

11 Support* = In case of increased radial load, it is possible to replace the bearing on the output shaft with a spherical bearing with double row of rollers (21000 series), more suitable for higher loads.

9. Warranty

9.1- GENERAL INFORMATION

Cidepa-Sincron S.L. guarantees the good quality of the products supplied.
The warranty is valid for twelve months from the date of receipt of the goods.
Any complaint about product defects must be filed within eight days from
the date of discovery of the defect.
During the warranty period, Cidepa-Sincron S.L. guarantees at its factory or at any other place it has indicated, the repair or at its discretion, the defective components.
The warranty covers the costs that Cidepa-Sincron S.L. generates with the labor and materials necessary to restore the operation of the product.
The warranty does not cover other costs such as transportation of goods, expenses, etc. travel and accommodation costs for Cidepa-Sincron S.L. maintenance personnel for repairs and finally, the costs for the client's employees.

9.2- EXCLUSION OF WARRANTY

The Cidepa-Sincron S.L. warranty does not cover product failures attributed to:

- Negligent use or misuse
- Water damage
- Damage due to shipping
- Damages due to non-provided applications
- Damage due to interventions or repairs carried out by persons not authorized by Cidepa-Sincron S.L.
- Damage due to operation under unforeseen environmental conditions
- Damage due to components subject to normal wear and tear (seals, brushes for DC electric motors, etc.)
- Failure to comply with the specifications and regulations relating to the machines in which Cidepa-Sincron S.L. products are installed.
- Failure to consult and use the products according to the instructions, information and specifications in this manual.
- The payment of an indemnity for a non-operational or defective unit is generally excluded.

10. Commercial network

https://www.cidepa-sincron.com/es/red-comercial-reductor-motor-electrico

Cidepa

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