

INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

CPG AGITATOR FOR WINE



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EC DECLARATION OF CONFORMITY

The manufacturer:

INOXPA, S.A. c/ Telers, 57 17820 Banyoles (Girona), Spain

herewith declares that the machine:

CGP Winery agitator

with the serial number: _____

conforms to the relevant provisions of the following directives:

Machinery Directive 2006/42/EC (RD 1644/2008) Low voltage Directive 2006/95/EC Electromagnetic Compatibility Directive 2004/108/EC

Applicable harmonised Standards:

UNE-EN ISO 12100:2012

In compliance with Regulation (EC) 1935/2004 on materials and articles intended to come into contact with food.

In compliance with Regulation (EC) 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food.

Identification of the person empowered to draw up the Declaration on behalf of the manufacturer, and qualified to compile the technical file established by the Community:

Banyoles, 8 January 2014

David Reyero Brunet Technical Office Manager



Danger of injury caused by rotating

Danger! Caustic or corrosive agents.

Danger to the correct operation of the

Protective goggles requirement.

equipment parts.

equipment.

1. Safety

1.1. INSTRUCTIONS MANUAL

This manual contains information about the receipt, installation, operation, assembly, disassembly and maintenance of the CPG agitators.

The information published in the instruction manual is based on updated information. INOXPA reserves the right to modify this instruction manual without prior notice.

1.2. START-UP INSTRUCTIONS

This instruction manual contains vital and useful information to appropriately handle and maintain your agitator. Read these instructions carefully before starting up the agitator; become familiar with the operation and use of your agitator and follow the instructions closely. These instructions should be kept in a safe location near the installation.

1.3. SAFETY

1.3.1. Warning symbols



Danger for persons in general



Electrical danger



Danger! Suspended loads



Commitment to safety at the workplace.

1.4. GENERAL SAFETY INSTRUCTIONS



Read this instruction manual carefully before installing and starting the agitator. Contact INOXPA in case of doubt.

1.4.1. During installation



The *Technical Specifications* of Chapter 8 should always be observed.

Check that the agitator anchoring is correct and that the shaft is perfectly aligned. Otherwise, this may lead to serious mechanical problems in the agitator.

Check that the motor specifications meet the requirements, especially when working under conditions that involve the risk of explosion.



During the installation, all the electric work should be carried out by authorised personnel.

1.4.2. During operation



The *Technical Specifications* of Chapter 8 should always be observed. Under no circumstances can the limit values specified be exceeded.

NEVER touch the agitator during operation if it is being used in a hot-liquid tank due to the risk of burns.





The agitator contains moving parts. Never place your fingers inside the agitator while it is in operation.



Remove the agitator before closing the valve.

NEVER spray the electrical motor directly with water. The standard protection for the motor is **IP- 55**: Protection against dust and sprayed water.

The agitator cannot operate without fluid. Standard agitators are not designed to work during the filling or emptying of tanks.

1.4.3. During maintenance



The *Technical Specifications* of Chapter 8 should always be observed.

NEVER disassemble the agitator until its temperature has decreased and can be handled safely. Always use appropriate protective clothing while operating the agitator.

Do not leave parts loose on the floor.



ALWAYS disconnect the agitator from the power supply before starting maintenance work. Remove the fuses and disconnect the cables from the motor terminals.

All electrical work should be carried out by authorised personnel.

1.4.4. Compliance with the instructions

Any non-fulfilment of the instructions may result in a risk for the operators, the environment and the machine, and may result in the loss of your right to claim damages.

- This non-fulfilment may result in the following risks:
 - Failure of important functions of the machines/plant.
 - Failure of specific maintenance and repair procedures.
 - Possibility of electric, mechanical and chemical risks.
 - Will place the environment in danger due to the release of substances.

1.4.5. Guarantee

Any warranty provided shall immediately be cancelled and void *ipso jure*, and INOXPA shall be compensated for any product liability claim from third parties, if:

- the service and maintenance work was not carried out in accordance with the service instructions, or the repair work has not been carried out by our personnel or it has been conducted without our written authorization;
- our equipment has been changed without prior written authorization;
- the parts or lubricants used are not original INOXPA parts and products;
- the materials were used incorrectly or negligently, or not in accordance with these instructions and their intended use;
- agitator parts were damaged by excessive pressure owing to the lack of a safety valve.

The General Delivery Terms already provided also apply.



No change can be made to the equipment without prior discussion with the manufacturer. For your safety, please use original spare parts and accessories. The use of other parts will exempt the manufacturer from any liability.

The service terms can only be changed with prior written authorisation from INOXPA.

Please do not hesitate to contact us in case of doubts or if more complete explanations are required on specific data (adjustments, assembly, disassembly, etc.).



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3. General Information

3.1. DESCRIPTION

CPG-series winery agitators are bottom side agitators. They are designed so that they can be installed and disassembled while the tank is full of fluid, it is inserted through a valve without losing pressure and without using tools or special implements. This design is based on the sliding agitation shaft and folding propeller that opens automatically when started up. Sealing is achieved using a mechanical seal.

All the parts into contact with the fluid are manufactured in stainless steel, AISI-304 (1.4301). The surface finish is electropolished. The standard agitation element is a type-12 folding propeller.

This equipment is suitable for use in food-processing.

3.2. RANGE OF APPLICATION

The CPG agitator main field of application is in the wine industry in general, maintaining solids in suspension, mixing wines (blending), gasification (SO_2 and CO_2), temperature homogenisation, syrup distribution, etc. The maximum tank volume for this agitator is 100,000 litres with a viscosity of 1 to 100 cPs (depending on the characteristics of the fluid).



Each agitator has performance limits. The agitator was selected for a given set of agitation conditions when the order was placed. INOXPA shall not be liable for any damage resulting from the incompleteness of the information provided by the purchaser (nature of the fluid, viscosity, RPM, etc.).



4. Installation

4.1. RECEIVING THE AGITATOR



INOXPA cannot be held responsible for the damage sustained by the equipment during transport or unpacking. Visually check that the packaging is not damaged.

The agitator will be accompanied by the following documents:

- Dispatch notes.
- Agitator Instructions and Service Manual.

Unpack the agitator and check:



- The agitator anchor connection, removing any remaining packaging materials.
- Check that the agitator and the motor have not suffered any damage.
- If the equipment is not in good condition and/or any part is missing, the carrier should draw up a report accordingly as soon as possible.

4.1.1. Identifying the agitator



Agitator identification plate

4.2. TRANSPORT AND STORAGE

CPG agitators are often too heavy to be handled and stored manually.

Do not handle the agitator by the shaft as it may become deformed.



- Lift the agitator at the points indicated on the drawing.
- Secure the supports so that they can not slip.



4.3. LOCATION

Once the agitator location has been determined, it must be fixed to the tank using the nut found on the discharge pipe and firmly tightening it with the appropriate spanner.

Take into account that when fitting the agitator, to prevent any deformation the agitation shaft must not be struck or forced.



Install the agitator so as to allow sufficient ventilation. If the agitator is installed outdoors, it should be protected by a roof. Its location should enable easy access for any inspection or maintenance operations.



Force must never be applied on the end of the agitation shaft, since it can easily acquire a permanent deformation.



The CPG-330 agitator must always be fixed by a support when mounted on the tank.

4.4. ELECTRICAL INSTALLATION



The connection of the electrical motors must be performed by qualified personnel. Take all necessary measures to prevent damage to connections and cables.



The electrical equipment, terminals and components of the control systems may still contain electric current when switched off. Contact with them may be dangerous for operators or cause irreversible damage to the equipment.

Before handling the agitator, make sure that the engine is fully disconnected from the power.

- Connect up the motor following the manufacturer's instructions.
- Check the direction of rotation (see the label on the agitator).



Start up the agitator motor briefly. Ensure that the direction is consistent with the one indicated on the plate. If the agitator operates in the wrong direction, the folding propeller may fall into the tank.



ALWAYS check the direction of rotation of the motor with fluid inside the agitator.



• The agitator is supplied with a connection ready for operation at 400 V (left photo). If the client has a 230 V, it should change the connection as indicated in the photo on the right.



380 - 480V



220-280V



5. Start-up



Before starting the agitator, carefully read the instructions provided in Chapter 4. Installation.

5.1. START-UP



Read Chapter 8 *Technical Specification* carefully. INOXPA cannot be held responsible for the incorrect use of the equipment.



NEVER touch the agitator when working with high-temperature liquids.

5.1.1. Checks before starting up the agitator

- Check that the agitator shaft is aligned and that it slides smoothly through the hollow shaft.
- Check the level of fluid in the tank. When not specified in the order, the agitator cannot be operated during the filling or emptying of the tank.
- Open the valve where the agitator is fixed.
- Introduce the shaft into the tank.
- Remove any air in the mechanical seal area by opening the drainage ports of the housing until liquid comes out.



The agitator must never operate when dry, as this may lead to serious damage to the mechanical seal.

- Check that the power supply matches the rating indicated on the engine plate.
- Check that the motor's direction of rotation is correct.

5.1.2. Checks when starting up the agitator

- Check that the agitator is not making any unusual noises.
- Check that there are no leaks through the sealed areas.



Introducing an object or solid raw material may cause the agitation component and other mechanical parts to break and compromise its safety or guarantee.



Check the motor's power consumption to avoid electric overload.

Remove the agitator shaft before closing the valve, as indicated on the sticker found on the agitator.





Once the agitator is operational, take precautions to ensure that you do not put your hand on the back of the agitator, inside the motor hood, because it contains rotating parts that may cause serious personal injury.





6. Operating Problems

The following table provides solutions to problems that might arise during agitator operation. The agitator is assumed to have been properly installed and correctly selected for the application. Please contact INOXPA if technical assistance is required.

Operating Problems	Probable causes
Motor overload	1, 2.
Not enough stirring.	1, 3, 4.
Vibration and noise.	5, 6, 7, 8, 9, 11.
Mechanical seal.	5, 10.
O-ring	7, 11.

Prob	able causes	Solutions		
1	Fluid viscosity too high	Reduce the viscosity, e.g. by heating the fluid.		
2	High density	Reduce the propeller diameter.		
3	Tank oversized for the agitator selected.	Check with the Technical Dep.		
4	Wrong direction of rotation	Reverse the direction of rotation.		
5	Liquid level too low or no liquid.	Check the level of fluid in the tank.		
6	Twisted shaft.	Replace the shaft.		
7	Scratched shaft.	Replace the shaft.		
8	Critical speed.	Check shaft gap.		
9	Brass bushings worn.	Replace brass bushings.		
10	Mechanical seal damaged or worn.	Replace the mechanical seal		
11	O-ring damaged or worn.	Replace the O-ring.		



If the problems persist, stop using the agitator immediately. Contact the agitator manufacturer or their representative.



7. Maintenance

7.1. GENERAL INFORMATION

Like any other machine, this agitator requires maintenance. The instructions contained in this manual cover the identification and replacement of spare parts. The instructions have been prepared for maintenance personnel and for those responsible for the supply of spare parts.



Please carefully read Chapter 8 Technical Specification.

All replaced material should be duly eliminated/recycled according to the directives in effect in the area.



ALWAYS disconnect the agitator from the power supply before undertaking maintenance work.

7.1.1. Checking the mechanical seal

Regularly check that there are no leaks at the front of the motor. If there are leaks through the mechanical seal, replace it following the instructions given under the Assembly and Disassembly section.

7.2. STORAGE

The agitator must be completely emptied of fluid before storage. If possible, avoid exposing the components of the agitator to excessively damp environments.

7.3. CLEANING



The use of aggressive cleaning products such as caustic soda and nitric acid may cause burns to the skin.

Use rubber gloves during the cleaning process.



Always use protective goggles.

If the agitator is installed in a system with a CIP process, it is not necessary to dismantle the agitator. If there is no automatic cleaning process, dismantle the agitator as indicated in the Assembly and Disassembly section.

Cleaning solutions for C	Cleaning solutions for CIP processes.				
Only use clear water (ch	nlorine-free) to mix with the cleaning agents:				
a) Alkaline solution:	1% by weight of caustic soda (NaOH) at 70°C (150°F)				
	1 Kg NaOH + 100 I. of water = cleaning solution o 2.2 I. NaOH at 33% + 100 I. of water = cleaning solution				
b) Acid solution:	0.5% by weight of nitric acid (HNO ₃) at 70°C (150°F) 0.7 litres HNO ₃ at 53% + 100 l. of water = cleaning				



Check the concentration of cleaning solutions; it may cause the deterioration of the watertight seals of the agitator.

To eliminate the remains of cleaning products, ALWAYS carry out a final rinse on completion of the cleaning process.



7.4. DISASSEMBLY / ASSEMBLY OF THE AGITATOR.

Disassembly

Remove the agitator through the valve to which it is fixed by means of the nut (45). Remove the agitator element (02, 02A) by unthreading it from the agitator shaft (05). Remove the shaft (05) behind the motor (93) by sliding it off its hollow shaft. First turn the pin (56A) properly in conjunction with the shaft turner (05A) at the end of the shaft. Remove the discharge pipe with drainage port (01) joined to the motor with screws (51, 52 for CPG-330) and washers (53). Remove the stop ring (17) after taking out the Allen pins (55). Remove the rotary part of the mechanical seal (08). Remove the seal cover (09) along with its O-ring (80A). Remove the fixed part of the mechanical seal (08).

☐ Assembly

Place the O-ring (80A) inside the seal cover (09). Place the stop ring (09) inside the motor flange housing (93). Carefully insert the fixed part of the mechanical seal (08) into its housing inside the seal cover (09). Then, slide the rotary part of the mechanical seal (08) over the motor shaft. Attach the stop ring (17) until it touches the motor shaft, and fasten the Allen pins (55). Insert the agitator shaft (05) through the hollow shaft at the back of the motor. Insert the discharge pipe with drainage port (01) and attach it to the motor with screws (51, 52 for CPG-330) and washers (53). Finally, attach the folding blades (02, 02A) by threading them onto the agitator shaft (05).





8. Technical Specifications

8.1. TECHNICAL SPECIFICATIONS

Maximum viscosity	100 mPa.s.
Maximum pressure	2 bar
Maximum temperature	+80°C
	+176 °F
Noise level	60-80 dB(A)
Anchor connection	DIN 11851 (nut)



Use special protection when the noise level in the operation area exceeds 85 dB(A).

Materials

Parts in contact with fluid	AISI 304
Other parts in stainless steel	AISI 304
Gaskets in contact with fluid	Viton
Other materials for optional gaskets Surface finish	Check with the supplier Sand blasted
Mechanical seal	
Type of seal	Single interior seal
Stationary parts material	graphite
Rotary parts material	AISI 316L

Sealing material

Agitator type	Power [kW]	Volume in H ₂ O [m ³]	Speed [r.p.m.]
CPG-211A	1.1	20	1390
CPG-211B	1.1	25-50	1390
CPG-330	3	50-100	1390

EPDM

8.2. WEIGHTS

Agitator type	Weight [Kg]	Weight [lbs]
CPG-211A	19	40
CPG-211B	19	42
CPG-330	42	92



8.3. CPG AGITATOR DIMENSIONS



Agitator type	DN	Α	В	С	φd	L	φH
CPG-211A	50 / 2″	425	960	495	18	950	155
CPG-211B	50 / 2″	425	960	495	18	950	165
CPG-330	65 / 3″	465	1175	560	25	1145	200



8.4. CPG-211A / B AGITATOR EXPLODED VIEW







8.5. CPG-211A / B PARTS LIST

Position	Description		Quantity	Material
01	Discharge pipe with drainage port		Quantity 1	AISI 304
01	Blade		2	AISI 304
02 02A	Blade holder	1	2	AISI 304 AISI 304
02A		1	1	AISI 304
	Agitator shaft			
05A	Shaft turner		1	AISI 304
08	Mechanical seal	*	1	-
09	Seal cover		1	AISI 304
14	Motor hood		1	AISI 304
17	Stop ring		1	AISI 304
20	Centring pipe		1	Brass
45	Nut		1	AISI 304
50	Screw		4	A2
51	Allen screw		4	A2
51A	Allen screw		2	A2
53	Grower washer		4	A2
55	Allen pin		2	A2
56	Blade pin		1	AISI 304
56A	Pin		1	AISI 304
74	Handle		1	Engineering plastic
80	O-ring	*	1	FPM
80A	O-ring	*	1	FPM
80B	O-ring		1	FPM
92	Drainage shaft		1	AISI 304
92A	Drainage knob		1	PTFE
93	Hollow-shaft motor		1	-

(*) Recommended spare parts



8.6. CPG-330 AGITATOR - EXPLODED VIEW







8.7. CPG-330 PARTS LIST

Position	Description	Quantity	Material
01	Discharge pipe with drainage port	1	AISI 304
02	Blade	2	AISI 304
02A	Blade holder	1	AISI 304
05	Agitator shaft	1	AISI 304
05A	Shaft turner	1	AISI 304
08	Mechanical seal *	1	-
09	Seal cover	1	AISI 304
14	Motor hood	1	AISI 304
17	Stop ring	1	AISI 304
20	Centring pipe	1	Brass
45	Nut	1	AISI 304
50	Screw	4	A2
52	Hexagonal screw	4	A2
53	Grower washer	4	A2
55	Allen pin	2	A2
56	Blade pin	1	AISI 304
56A	Pin	1	AISI 304
80	O-ring *	1	FPM
80A	O-ring *	1	FPM
80B	O-ring	1	FPM
92	Drainage shaft	1	AISI 304
92A	Drainage knob	1	PTFE
93	Hollow-shaft motor	1	-

(*) Recommended spare parts



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