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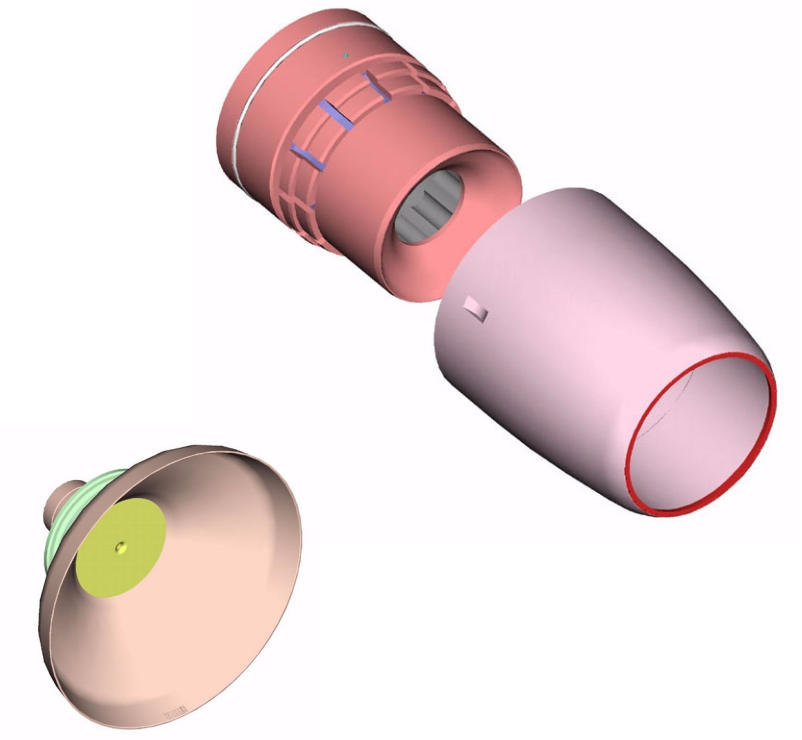
SAMES KREMLIN



User manual

Magnetic Bellcups and Shaping air assemblies used with High Speed Turbine

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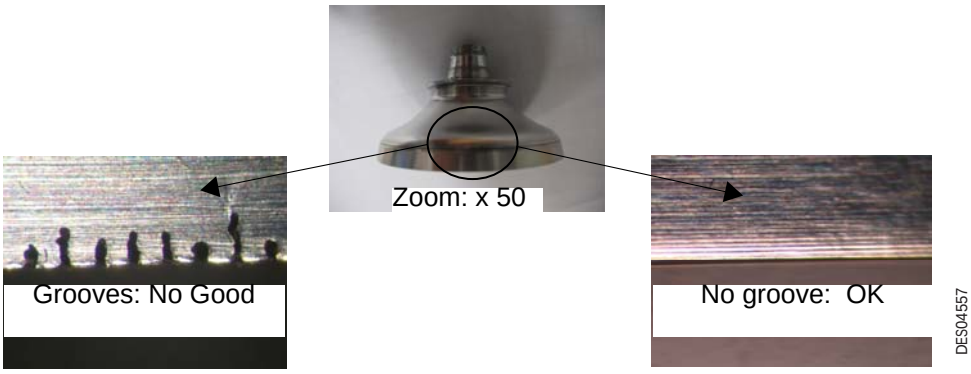
Magnetic Bellcups and Shaping air assemblies used with High Speed Turbine

1. Recommendations

For perfect results, the atomizing bellcup must be cleaned frequently. It is recommended to clean the bellcup external every 8 hours and completely every 120 hours. The bellcup must not be subjected to impacts on its atomizing edge or distorted because it is balanced.

Necessary Checks:
It is imperative to check the wear of the bellcups (diameter 35, 50, 65 and 80) at the level of the spraying edge every 120 hours using a binocular 50-times magnifying glass.

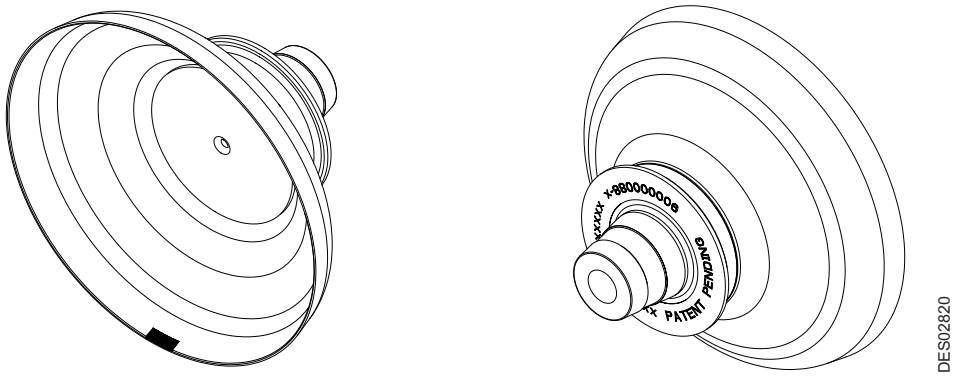


WARNING : If these recommendations are not respected, the operator exposes himself to the mechanical risk characterized by a tearing of the material due to the excessive wear of the bell-cup.
For the frequencies of the various bellcups replacement (see § 7.1 page 12).

2. Description

The bellcup is a component which allows the atomizing of liquid materials specially high solid primers, basecoats and clearcoats. A specific bellcup design is selected for the type of product being sprayed.
Bellcups are fixed to the high speed turbine ST by a magnetic device.
With each diameter of bellcup corresponds one or more assembly of shaping air ring.

Example: EC 65 and 80 Bellcups



3. Characteristics

	Magnetic Aluminium Bellcup	Magnetic Aluminium Bellcup	Magnetic Aluminium Bellcup	Magnetic Titanium Bellcup	Magnetic Aluminium Bellcup
Diameter	35 mm	50 mm	65 mm	65 mm	80 mm
Length	45.5 mm	45.5 mm	45.5 mm	45.5 mm	45.5 mm
Weight	38 g	44 g	49 g	49,5 g	50 g

4. Installation

see § 5.1.2 page 7 and see § 5.2.2 page 8.

5. Maintenance

WARNING : Before any operation, stop shaping air and high voltage and wait for a complete stop of the turbine. Never stop the bearing air.

5.1. Magnetic Bellcup

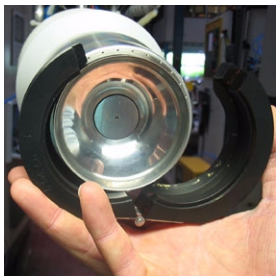
WARNING : All maintenance and handling operations operated on the bellcup must be carried out with utmost care as it is balanced.

WARNING : Any use of an unbalanced bellcup involves an inevitable destruction of the high speed turbine. Possible causes for unbalanced rotating parts are: paint deposits, physical damage and dry paint located on the bellcup or on the securing cone.

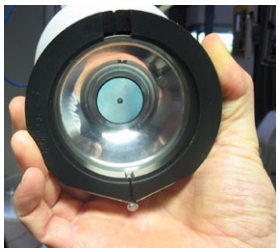
5.1.1. Removal

WARNING : The magnetic bellcup removal is carried out only the shaping air assembly in place.

- **Step 1**: Position the tool (see § 8 page 21), side of small diameter against the outer cover.



- **Step 2**: Close the tool on the bellcup and pull the bellcup in the axis.



- **Step 3**: Maintain the tool supporting the bellcup in order not to let it fall. Place the bellcup on a plane and perfectly clean surface.

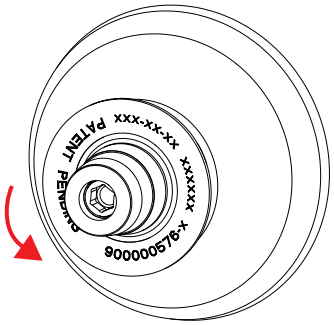
5.1.1.1. Deflector removal

WARNING : The deflector removal is an operation to be only with an aim of cleaning, the deflector is balanced with the bellcup and thus cannot be replaced alone.

Moreover, it will be necessary to be ensured to have a balancing test bench before carrying out this operation because a control of balancing will be obligatory after the reassembly of the deflector in the bellcup. For more informations concerning the balancing test bench: contact Sames Technologies.

- Using an appropriate allen wrench, loosen the deflector by the back of the bellcup. Caution: left threading.
- Extract the deflector from the bellcup.

Loosening sense



5.1.2. Reassembly

Deflector reassembly:

- Put in place, with precaution, the deflector in the bellcup. Make sure that the threading, the interior of the cone of the bellcup as well as the deflector are perfectly clean, if not see § 6 page 9 .
- Turn over the assembly, then using an appropriate wrench, tighten the deflector in the bellcup with a tightening torque of 3 N.m.

Bellcup reassembly:

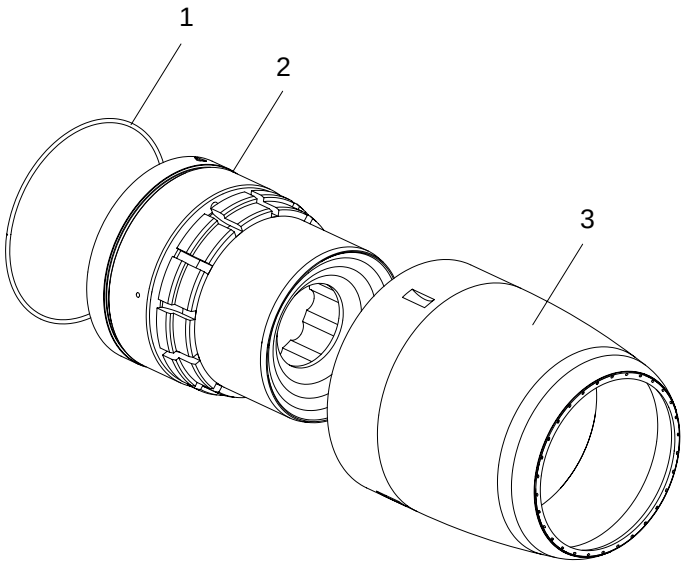
- Make sure that the bellcup is perflectly clean, check the absence of foreign matters (residues of dry paints, filings...) on the complete fixing cone of the bellcup and on the face of the magnet. Take care particularly of the fixing cone.
- Put in place the magnetic bellcup on the turbine, a ”clac” shoulb be heard.

WARNING : After the reassembly, rotate the bellcup by hand (after setting of the bearing air), carry out a visual check in order to check that the bellcup rotates perfectly (in a concentric way) and freely.

5.2. Shaping air assembly

The procedure is identical whatever the diameter of the bellcup and whatever the type of the shaping air assembly.

Item	Description
1	O-ring
2	Shaping air shroud
3	Outer cover



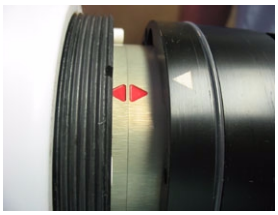
5.2.1. Disassembly

- **Step 1**: With the fingers, push the shaping air shroud against the atomizer and remove the outer cover using the tool (P/N # 1308689) by placing the wrench notches into the outer cover slots, turn clockwise and continue removing by hand.
- **Step 2**: Remove the shaping air shroud.

5.2.2. Reassembly

WARNING : Clean all components and inspect for damage, replace if necessary **see § 7 page 12****.**

- **Step 1**: Check the presence of the o-ring on the shaping air shroud, install it on the atomizer while making corresponding the various indexes (see illustration) and put it in stop.



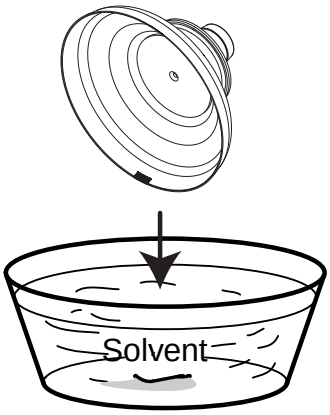
- **Step 2**: Put in place the outer cover over the assembly, secure it by hand then tighten it with the tool P/N # 1308689.

6. Cleaning

6.1. Bellcup cleaning

WARNING : All maintenance and handling operations operated on the bellcup must be carried out with utmost care as it is balanced.

- **Step 1**: Remove the bellcup (see § 5.1.1 page 6).
- **Step 2**: Leave to soak in solvent for one hour then clean with a clean cloth and soft brush.



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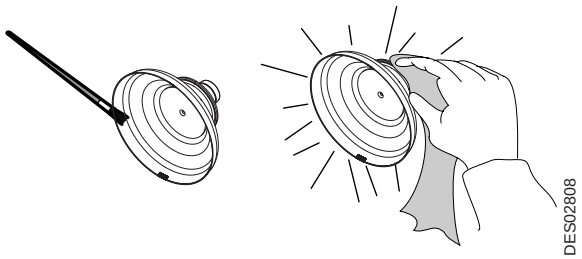

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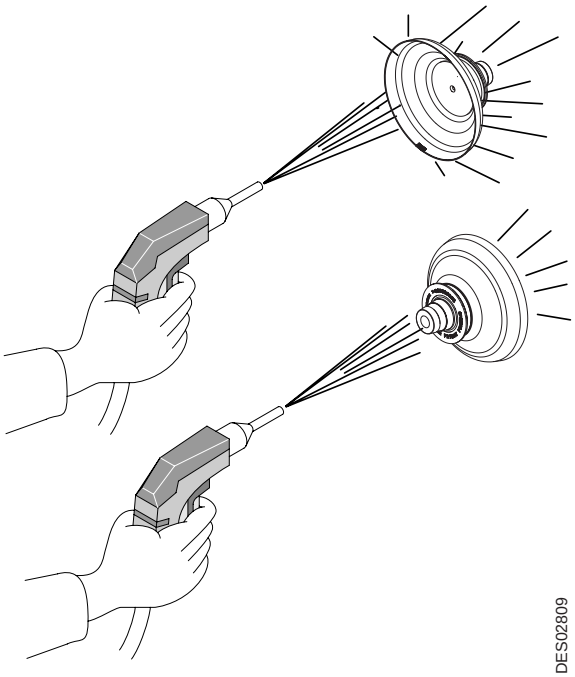
- **Step 3**: Dry carefully the two faces of the bellcup as well as the fixing cone with compressed air.



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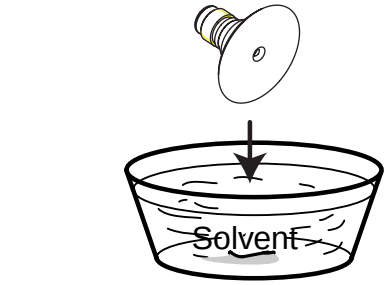
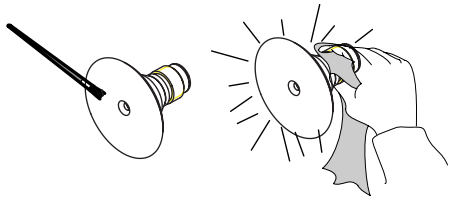
6.2. Deflector cleaning

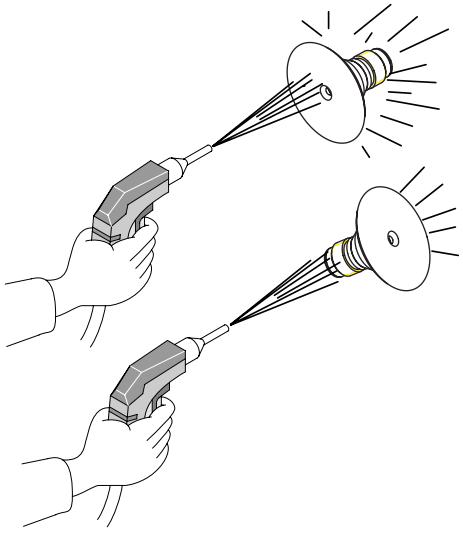
- **Step 1**: Remove the deflector, (see § 5.1.1.1 page 7).



- **Step 2**: Leave to soak in solvent for one hour.



- **Step 3**: Then clean with a clean cloth and soft brush.

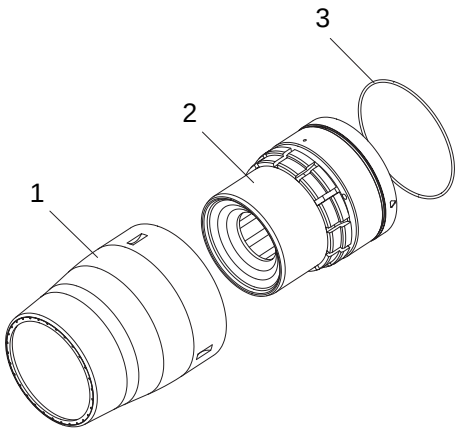


- **Step 4**: Dry carefully the two faces of the deflector with compressed air.

6.3. Outer cover cleaning

- **Step 1**: Remove the outer cover, see § 5.2.1 page 8.

1	Outer cover
2	Shaping air shroud
3	O-ring



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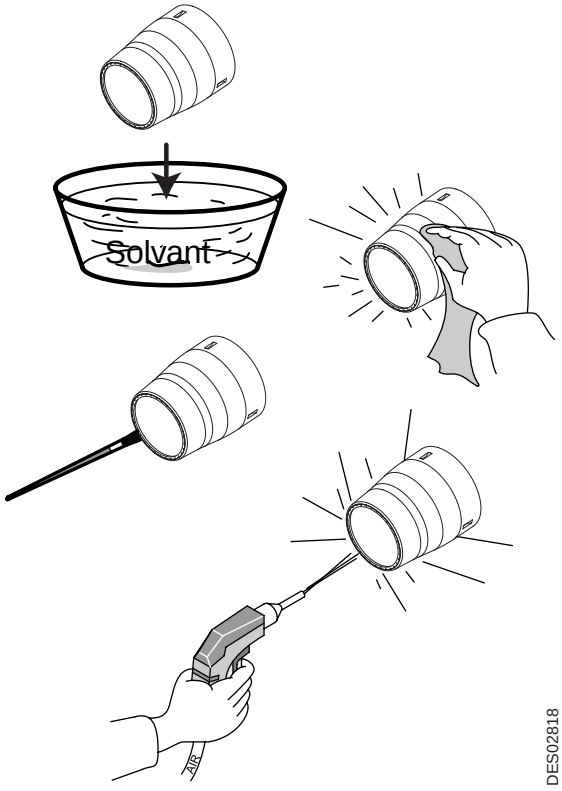
- **Step 2**: Leave to soak in solvent the outer cover for one hour, then clean the outer and inner surfaces using a rag soaked in solvent.
- **Step 3**: Using a nylon brush, clean all the holes located on the front face of the outer cover.
- **Step 4**: Dry carrefully with compressed air insisting on the holes to eliminate the paint residues, then wipe with a clean dry rag.
- **Step 5**: Check the shaping air shroud, clean it if necessary using a rag soaked in solvent.



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7. Spare parts

Note: These bellcups can be installed only on high speed turbine ST.

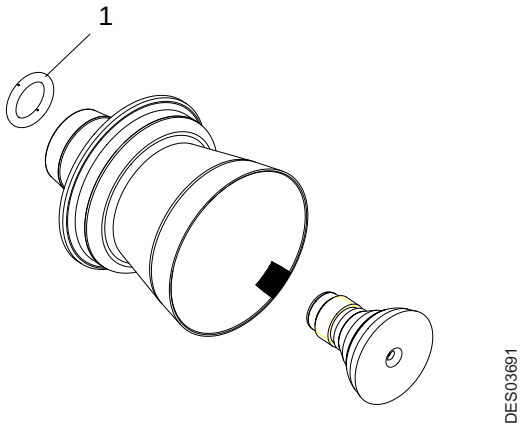
WARNING : The deflector removal is an operation to be only with an aim of cleaning, the deflector is balanced with the bellcup and thus cannot be replaced alone.

7.1. Frequency of Bellcup replacement

Types of bellcups	Replacement frequency
EC 35 bellcup	5000 hours
EC 50 bellcup	5000 hours
EC 65 bellcup	5000 hours
EC 80 bellcup	2500 hours

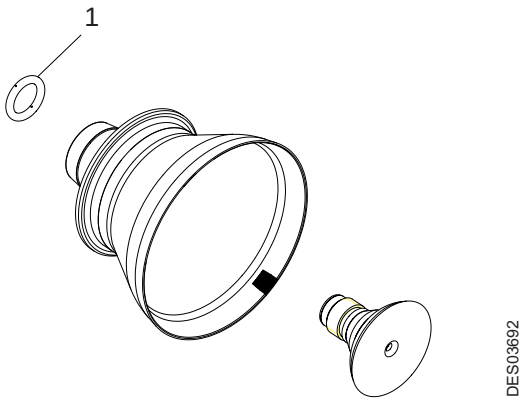
WARNING : Sames Technologies recommends to inregrate these periodicities in preventive maintenance schemes and to systematically apply them, so that the equipment is not affected by an excessive wear of the bellcup.

7.2. EC 35 magnetic Bellcup



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000636	**EC 35 aluminium magnetic bellcup**	**1**	**1**	**X**	
1	J3STKL094	O-ring - chemically inert	1	1		X

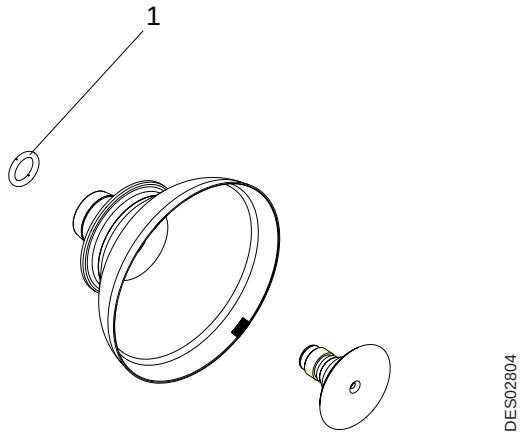
7.3. EC 50 magnetic Bellcup



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910003159	**EC 50 aluminium magnetic bellcup**	**1**	**1**	**X**	
1	J3STKL094	O-ring - chemically inert	1	1		X

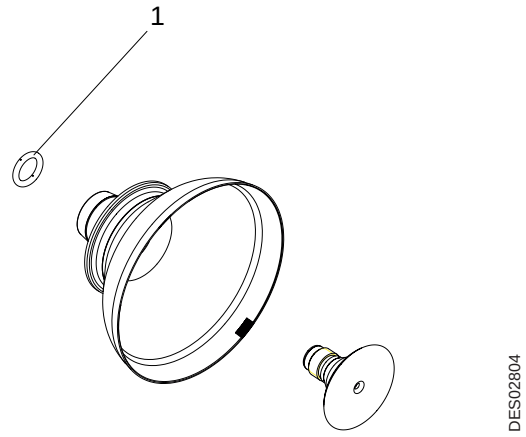
7.4. EC 65 Magnetic Bellcups

7.4.1. EC 65 aluminium magnetic Bellcup



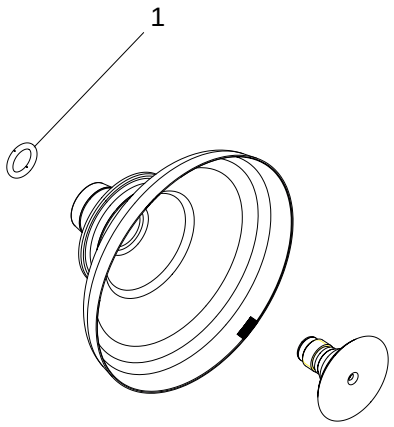
Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000635	**EC 65 aluminium magnetic bellcup**	**1**	**1**	**X**	
1	J3STKL094	O-ring - chemically inert	1	1		X

7.4.2. EC 65 titanium magnetic Bellcup



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000672	**EC 65 titanium magnetic bellcup**	**1**	**1**	**X**	
2	J3STKL094	O-ring - chemically inert	1	1		X

7.5. EC 80 Magnetic Bellcup

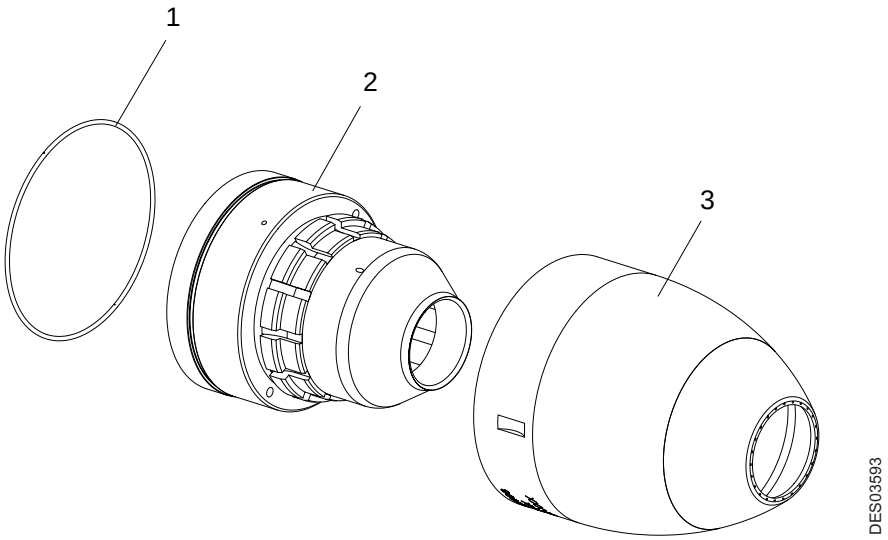


Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000600	**EC 80 aluminium magnetic bellcup**	**1**	**1**	**X**	
1	J3STKL094	O-ring - chemically inert	1	1		X

Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910006759	**EC 80 aluminium treated magnetic bellcup**	**1**	**1**	**X**	
1	J3STKL094	O-ring - chemically inert	1	1		X

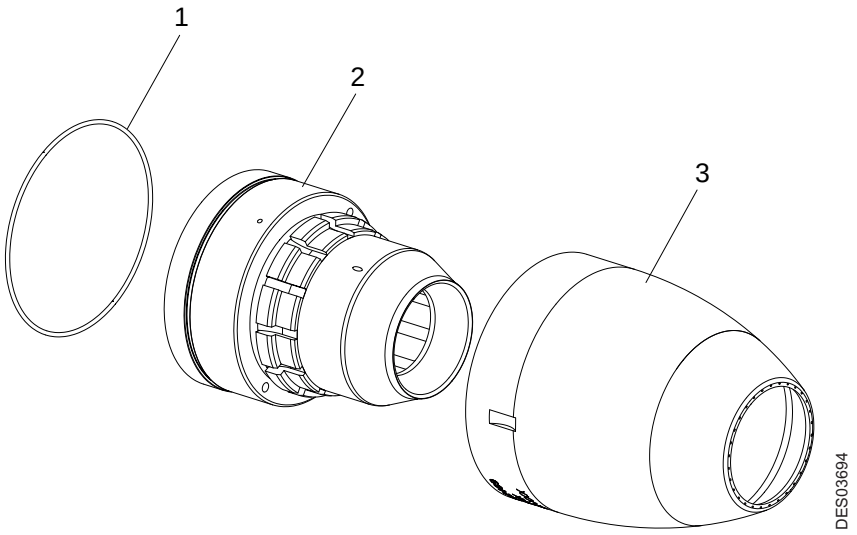
Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910003730	**EC 80 aluminium magnetic bellcup**	**1**	**1**	**X**	
1	J3STKL094	O-ring - chemically inert	1	1		X

7.6. Shaping air assembly associated to the EC 35 magnetic Bellcup



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910003193	**45° shaping air assembly, EC 35 Bell-cup, High speed turbine**	**1**	**1**	**X**	
1	J2FENV622	O-ring	1	1		X
2	900001005	Shaping air shroud	1	1		X
3	900001006	Vortex outer cover	1	1	X	

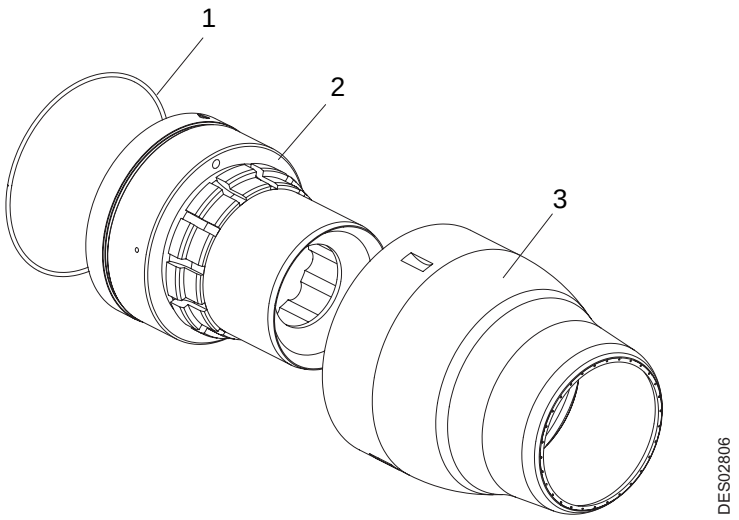
7.7. Shaping air assembly associated to the EC 50 magnetic Bellcup



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910003192	**45° shaping air assembly, EC 50 Bell-cup, High speed turbine**	**1**	**1**	**X**	
1	J2FENV622	O-ring	1	1		X
2	900002470	Shaping air shroud	1	1		X
3	900002469	Vortex outer cover	1	1	X	

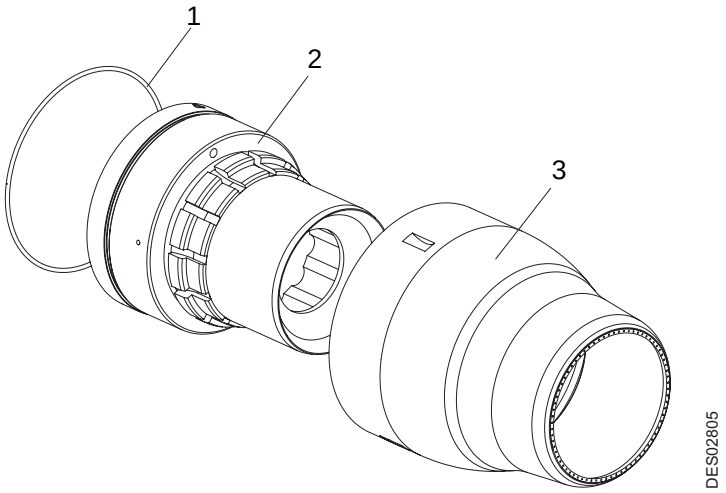
7.8. Shaping air assembly associated to the EC 65 magnetic Bellcup

7.8.1. 45° shaping air assembly



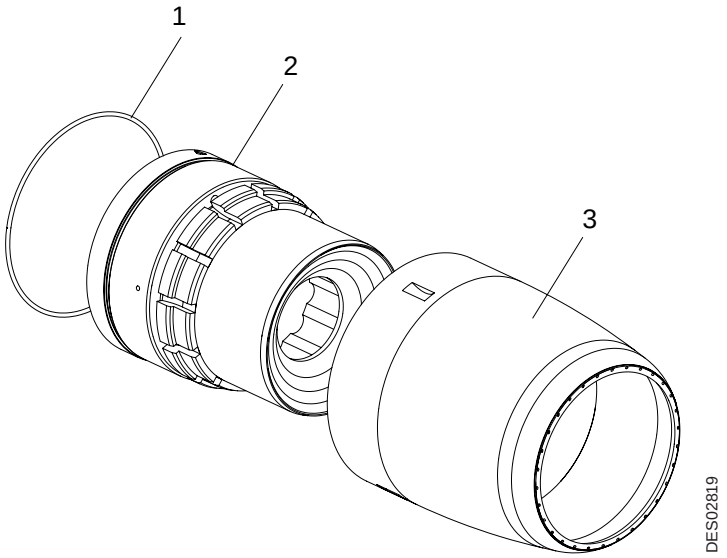
Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000674	**45° shaping air assembly, EC 65 Bell-cup, High speed turbine**	**1**	**1**	**X**	
1	J2FENV622	O-ring	1	1		X
2	900000569	Shaping air shroud	1	1		X
3	900000570	45° Vortex outer cover	1	1	X	

7.8.2. 0° Shaping air Assembly



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000856	**0° shaping air assembly, EC 65 Bellcup, High speed turbine**	**1**	**1**	**X**	
1	J2FENV622	O-ring	1	1		X
2	900000569	Shaping air shroud	1	1		X
3	900000577	0° Vortex outer cover	1	1	X	

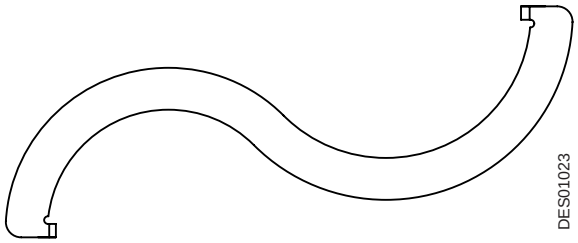
7.9. Shaping air assembly associated to the EC 80 magnetic Bellcup



Item	Part number	Description	Qty	Sale unit	First Priority	Wear
	910000673	**55° Vortex shaping air assembly, EC 80 bellcup , high speed turbine**	**1**	**1**	**X**	
1	J2FENV622	O-ring	1	1		X
2	900000106	Shaping air shroud	1	1		X
3	900000108	55° Vortex outer cover	1	1	X	

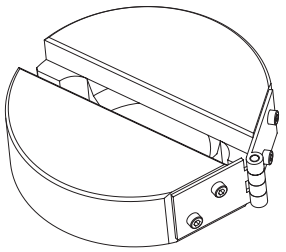
8. Specific tools

8.1. Common tool



Part number	Description	Qty	Sale unit
1308689	Outer cover fitting / removal wrench	1	1

8.2. For removal and fitting the different bellcups



Part number	Description	Qty	Sale unit
900000804	Removal tool for EC 35 magnetic bellcup	1	1
900000803	Removal tool for EC 50 magnetic bellcup	1	1
1204427	Removal tool for EC 65 magnetic bellcup	1	1
1204556	Removal tool for EC 80 magnetic bellcup	1	1