

# ***C1 BP-R PUMP***



***INSTALLATION***

***OPERATION***

***MAINTENANCE***

# 1. OVERALL DIMENSIONS

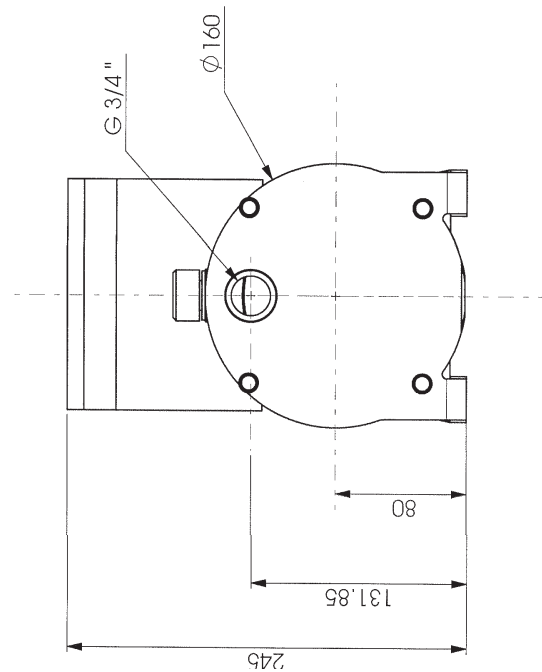
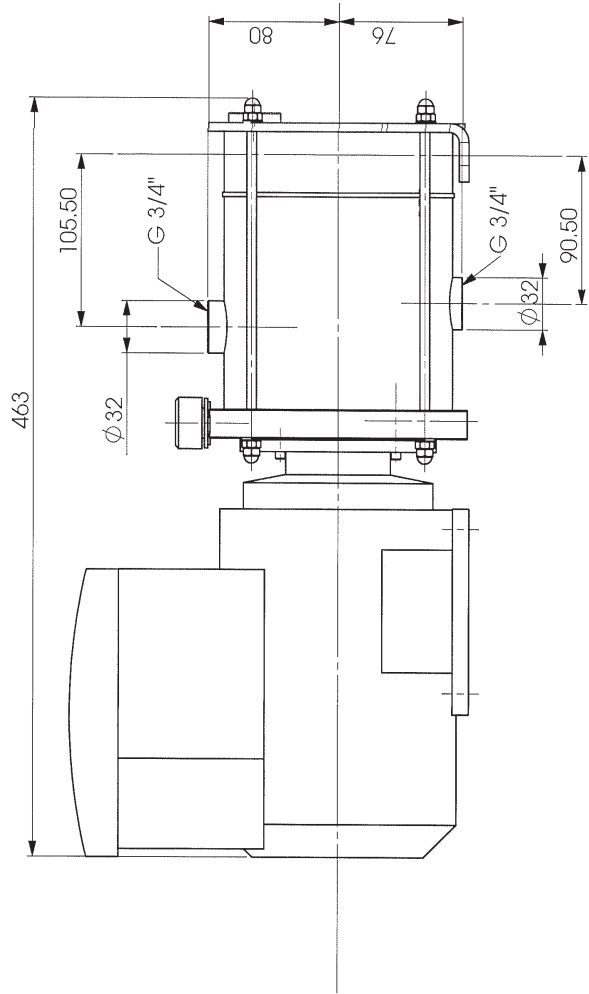
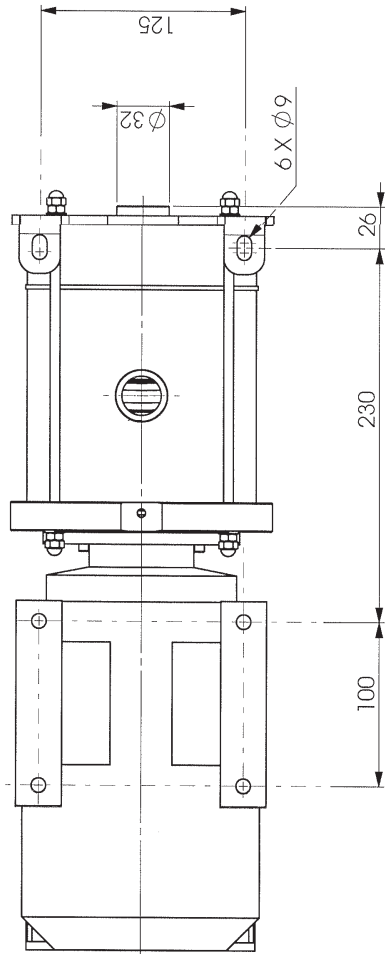
## C1 BP-R

Direction of rotation	Speed (rpm.)	Pressure (bar)
Clockwise	1000 rpm	1 bar
Clockwise	200 rpm	0,5 bar
Anti-Clockwise	500 rpm	0,5 bar

**BE CAREFUL : ANTI-CLOCKWISE ROTATION DO NOT EXCEED 0,5 BAR.**

Clockwise rotation stands for clockwise rotation of the motor watching its fan.

**Weight : Max. 20 kg**



## USED PRESSURE UNITS

**Unit without suffix :**

Differential pressure, for example, pressure difference between equipment suction and discharge.

**Unit with suffix "a" :**

Absolute pressure.

**Unit with suffix "g" :**

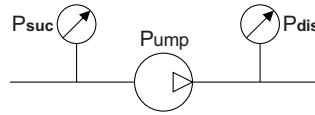
Gauge pressure, given regarding to atmospheric pressure (~101325 Pa, taken at 1 bar / 14,5 psi in this IOM).

Example :

$P_{suc} = -0,2 \text{ barg} = 0,8 \text{ bara}$

$P_{dis} = 8,8 \text{ barg} = 9,8 \text{ bara}$

$\Delta P = P_{dis} - P_{suc} = 9 \text{ bar}$



## 2. INSTALLATION

### 2.1 Assembly / Disassembly

THIS PUMPS CAN NOT BE DISASSEMBLED **WITHOUT MOUVEX TECHNICAL PERSONAL.**

### 2.2 Direction of rotation

The pump has two directions of rotation: **clockwise** and **anti-clockwise**.

### 2.3 Maximum speed and pressure

Direction of rotation	Speed (rpm)	Pressure (bar)
Clockwise	1000 rpm	1 bar
Clockwise	200 rpm	0,5 bar
Anti-clockwise	500 rpm	0,5 bar

**BE CAREFUL :**  
ANTI-CLOCKWISE ROTATION **DO NOT EXCEED 0,5 BAR.**

### 2.4 Protection of the installation

- In the situation where there are valves placed in the intake and delivery pipes, make sure that they cannot be closed without the pump being shut down beforehand.
- The pump must be protected from overpressures. It can be supplied with a pressure controller to perform this function.
- Make sure that the pump and the installation are protected against any possible damage due to intrusion of foreign bodies by fitting a pre-filter at the pump intake port.

## 3. OPERATION

### 3.1 Starting up

To avoid any risk of polluting the product to be pumped, rinse the whole installation before starting-up so as to eliminate any contaminants that may remain in the piping, tanks etc. at the time of installation.

**For any pure water pumping during process or cleaning operations, consult Mouvex imperatively.**

### 3.2 Dry running

The pump can operate dry for a period of 5 minutes.

### 3.3 Scrapping

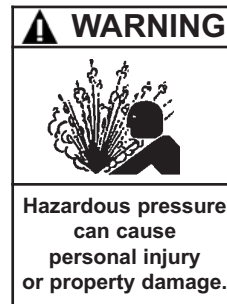
The pump must be scrapped in compliance with the regulations in force.

During this operation, particular care must be paid to the drainage stages of the pump (pumped product) and of its transmission (lubricant).

## 4. MAINTENANCE



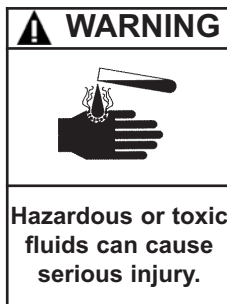
TAKE ALL NECESSARY MEASURES TO RENDER ANY START-UP, EVEN ACCIDENTAL, OF THE PUMP DURING THE WORK IMPOSSIBLE.



DISCONNECTING THE FLUID OR PRESSURE CONTAINMENT COMPONENTS DURING PUMP OPERATION CAN CAUSE SERIOUS PERSONAL INJURY, DEATH OR MAJOR PROPERTY DAMAGE.



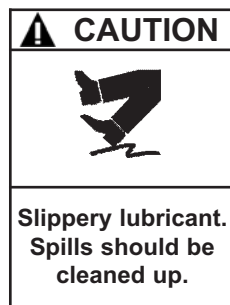
FAILURE TO RELIEVE SYSTEM PRESSURE PRIOR TO PERFORMING PUMP SERVICE OR MAINTENANCE CAN CAUSE PERSONAL INJURY OR PROPERTY DAMAGE.



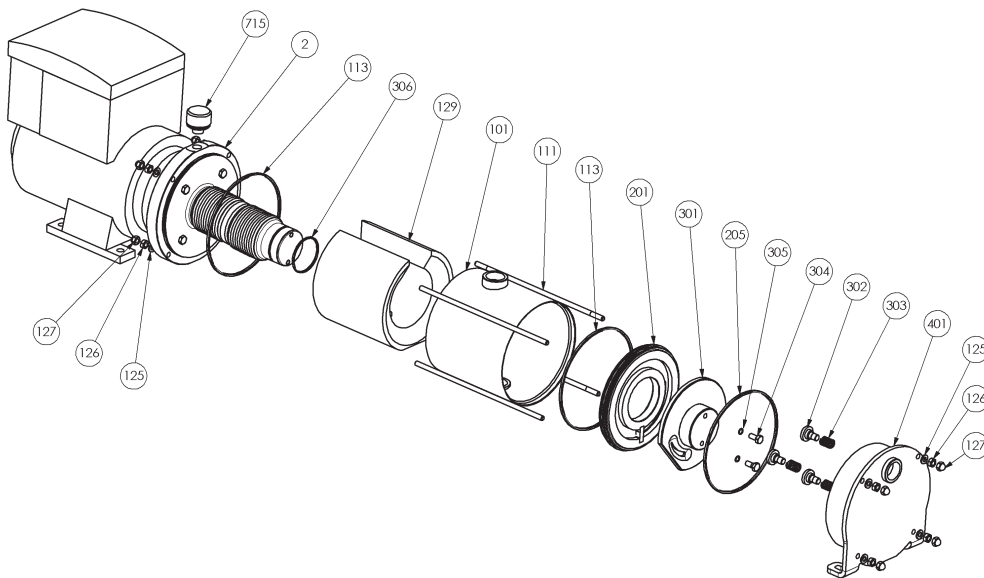
IF PUMPING HAZARDOUS OR TOXIC FLUIDS, THE SYSTEM MUST BE FLUSHED PRIOR TO PERFORMING ANY SERVICE OPERATION.



BE CAREFUL WITH THE WEIGHT OF THE PARTS WHEN THEY ARE BEING REMOVED.



THE PUMP LUBRICANT IS VERY SLIPPERY AND MAY CAUSE SERIOUS INJURY. ANY SPILLS MUST BE CLEANED UP.



**Pump greased for life with Food synthetic grease (60 ml of MOUVEX oil CS00).**

**CAUTION : DO NOT FILL IN OIL.**

**Before dismantling at any time, make sure that the pump has been drained and also take the necessary precautions to ensure that it cannot start. It must be impossible for the pump to start up, even accidentally.**

## 4. MAINTENANCE (continued)

### 4.1 Tools required

- Tubular spanner : 10
- Flat spanner : 10
- A corner iron.

### 4.2 Disassembly of the pump

- Uncouple the pump from both the intake pipe and the delivery pipe.
- Unscrew the 4 cap nuts **106** and remove the 4 die rods **111**.
- Unscrew the 4 nuts **126** and washers **125**. Remove the cover plate **401** with related seal **205**. Pay attention to the 3 springs **303** and the 3 piston-pushers **302** which may fall down while removing the cover plate.

#### BE CAREFUL :

Whatever happens, never pull the bellows. It could result in misplacing internal components of the pump transmission and / or damaging the bellows : the pump operability may be altered.

- Unscrew totally one of the two screws **304** and unscrew the other one only partially (let a few filets engaged).
- Tap on the remaining screw **304** until the piston **301** is disassembled from the bellows. Unscrew totally the remaining screw **304**, pay attention to the 2 seal **305** and remove the piston.
- Remove the seal **306** and the cylinder **201** with its related seal **113**.
- Pull out the sleeve **101** and the insert **129**, **carrying it carefully in order to prevent any impact with the bellows**.

**AFTER DISASSEMBLING THE PUMP, ALL THE SEALS HAVE TO BE CHANGED.**

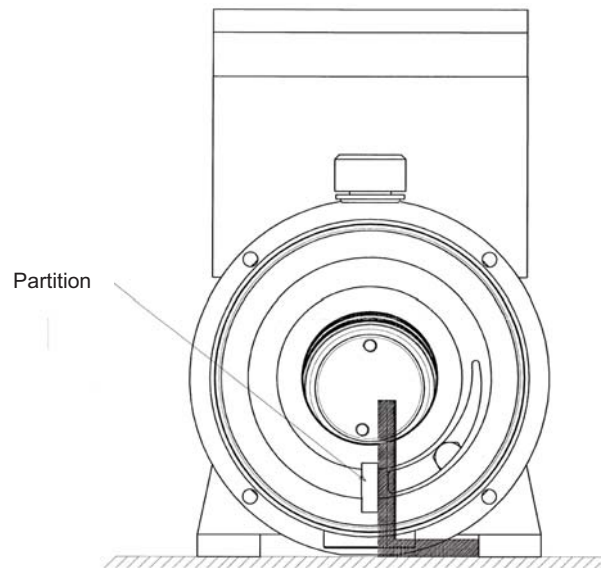
### 4.3 Assembly of the pump

**Before using the seals, all of them have to be greased. It is imperative to ensure effective pump tightness.**

- Position the insert **129** in the sleeve **101**.
- Position the seal **113** on the flange **2** and put the sleeve **101** in place.
- Position the seal **113** on the cylinder.
- Position the seal **306** on the bellows.
- Put the cylinder **201** in place and use a corner iron to make sure the partition of the cylinder is in vertical position as shown on following sketch.

#### BE CAREFUL :

Upper bore hole must be in line with the partition of the cylinder. The lower bore hole is slightly out of line to the goniometer (see drawing).  
In case of ignoring the cylinder is not in a vertical position. Piston can beat against partition, which can cause damages.



- Engage the piston **301** with the bellows, the slot of the piston being in front of the cylinder partition. Pay attention that the two piston holes are in front of related bellows holes in order to engage the screws **304**. Be aware that this two holes are not equally spaced in order to prevent mounting the piston upside down relatively to the bellows.

#### BE CAREFUL :

Whatever happens, never pull the bellows. It could result in misplacing internal components of the pump transmission and / or damaging the bellows : the pump operability may be altered.

- Place the little seals **305** on the 2 screws **304** and tighten the 2 screws (tightening torque of 7,5 Nm).
- Position the seal **205** on the cylinder.
- Put the 3 springs **303** and the 3 piston-pushers **302** in place on the cover plate **401**.
- Position this assembly against the piston and pay attention that no piston-pusher felt down while positioning. Maintain the assembly in place while positioning the 4 tie rods and engaging the 4 washers **125** and the 4 nuts **126**.
- Tighten the 4 nuts **126** alternatively so the seals **113** and **205** take their place progressively. When the 4 nuts are tightened (**tightening torque of 7,5 Nm**), the seals must not rise above the sleeve or the cover plate.
- Put the 4 cap nuts **106**.

## 5. CERTIFICATE OF CONFORMITY



# CERTIFICATE OF CONFORMITY CE

**Mouvex**, ZI La Plaine des Isles – Rue des Caillottes – 89 000 Auxerre France, declares the following equipment:

Set-up :  Pump / Compressor « bare-shaft »     Pumping Unit / Compressor Unit  
Type :  Eccentric Disc Pump     Vanes Pump     Lobes Pump  
 Peristaltic Pump     Centrifugal Pump     Other Pump  
 Screws compressor     Vanes compressors     Hydraulic cooler

Designation: \_\_\_\_\_ s/n°: \_\_\_\_\_

According to the specifications recorded in the file N°: \_\_\_\_\_

And with the following marking:  IIB G c IIB-T4    Max T° Flow = 80°C

Is in conformity with the provisions of the following Directive:

- « **MACHINES** » Directive 2006/42/EEC as transposed by the national legislation, concerning safety equipments and arrangements relative to mechanical and electric risks applicable to rotative machines.

NF EN 809:2009    NF EN 1672-2:2009    NF EN ISO 13857:2008    NF EN 12162:2009

- « **ATEX** » Directive 94/9/EC (23 march 1994) as transposed by the national legislation, concerning equipment intended to be used in explosive atmospheres. Conformity obtained by application of the standards :

NF EN 1127-1:1997    NF EN 13463-1:2009    NF EN 13463-5:2009

ATEX Certification delivered by INERIS, Notified Body (INERIS - Parc Technologique Alata – 60550 Verneuil-en-Halatte - France).

The equipment indicated above must be used according to the foreseen use by its design and its manufacturing, and according to the current standards.

We, undersigned, declare that the concerned equipment is in conformity with the Directives listed above and in the applicable standards in force.

For Mouvex SAS Company.

Date: \_\_\_\_\_

*Quality Manager*

**MOUVEX sas** : Z.I La Plaine des Isles – 2, rue des Caillottes - 89000 AUXERRE – France – SAS au capital de 8 496 855 €  
Tél : (33) 3.86.49.86.30 – Fax : (33) 3.86.46.42.10 – RCS AUXERRE 389 236 548 – APE 291 B – FR 85 389 236 548 – [www.mouvex.com](http://www.mouvex.com)