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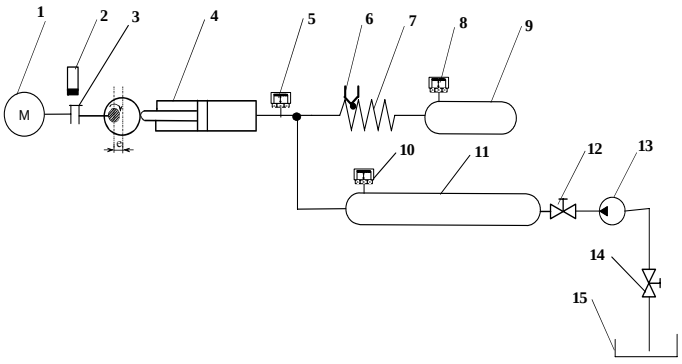
DRIVE INSTALLATION OF HARMONY FLOW ASSEMBLY IN PARALLEL
(part 1)

Bal Carmen
Technical University of Cluj Napoca
15 street Constantin Daicoviciu
Romania

Bal Nicolaie
Technical University of Cluj Napoca
102-103 B-dul Muncii
Romania

ABSTRACT
In this paper we propose to analyses the alternative flow in the parallel installation including the capacity, and the friction resistance In this paper we show the caloric effect due to the displacement of the low in the friction resistance calculate. We propose to calculate the section of the friction resistance in the parallel installation, were we know the capacity and the flow and sonic pressure.
Keywords: sonic pressure, sonic flow, friction resistance, sonic condenser, temperature etc.

1. INTRODUCTION
In this paper the proposed study the lows production and heat waves sonic and practical implementation of a stand to make it possible to achieve this objective. To produce heat vibrations to build a sonic generator phase, this consists of a pump equipped with a moving piston and a cylinder alternative. Pump speed is given by a DC electric motor with variable speed. The cylinder leaves a pipe to a condenser (capacitive cylinder) filled with liquid steel. As fluid is preferably water, with a coefficient of elasticity than oil.
To protect the system against rust oil was used. This capacitor can be considered equivalent to a capacitor of electricity called capacitor. From the other end of the condenser leaving a pipeline that is connected to a tube of small diameter, the shape of a coil spring. Tubing (resistance of friction which acts as an electrical resistance) is linked with a second capacitor (capacitive cylinder) filled with liquid [2]. This assembly of hydraulic viewpoint is nonsense as classical hydraulic fluid compressibility is not taken into account (figure 1).
If you take into account the liquid compressibility factor can be put in motion generator through a mechanism with eccentric (or rod crank), which produces alternative movement of the piston. As a result of the reciprocating piston pulsations occur in the first cylinders. Thus the tank becomes a kind of sonic generator.
Sonic waves are forced to pass inside the friction resistance and capacitor to reach its end. Movement is possible because of compressibility energy transmission waves [2]. Alternative energy via friction resistance thin tube made sonic friction loss, such losses caused by passing electric current through ohmic resistance to electricity.



Fiure 1. Block diagram of sonic installation

Legend:

- 1 - DC electric motor M;
- 2. - Proximity sensor,
- 3 - elastic coupling,
- 4 - Pump sonic,
- 5, 8, 10 - pressure sensor,
- 6 - Temperature sensor,
- 7 - Friction resistance
- 11- *CM* - large condenser,
- 9 - *cm* - small condenser,
- 12 - ball cock
- 13 - pump to achieve static pressure,
- 14 - valve,
- 15 - oil tank, for static pressure.

The installation is a complete, multifunctional, which allows, starting from a sonic source, determination of thermal effects [3].

2. EXPERIMENTAL RESEARCH IN THE HARMONIC PARALLEL INSTALLA -TION

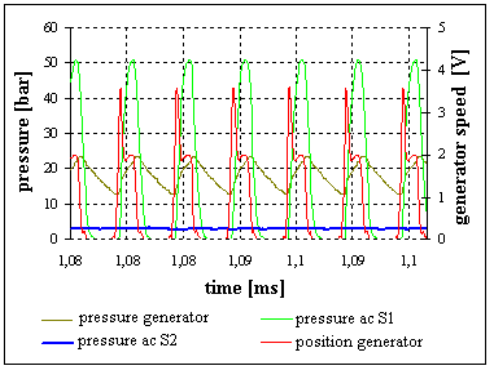


Figure 2. Evolution mounting pressure over time for small capacitor in parallel

Research focused on obtaining experimental heat effect as a result of heat transmission remote vibration (sonic waves in liquids). These studies were conducted on the stand presented in figure 1, starting at different frequencies of the engine that drives the piston sonic generator. For each frequency measurements were performed for various static pressure in the system (0.25, 0.5) Pa.

Stand in figure 1, is large capacitor mounted in parallel with the resistance of friction [2].

After processing the files with experimental data from three sensors mounted in the system resulting histograms represented the primary form in figure 2. This illustrates the pressures developments in general and two capacitors. You can also view the generator speed (position viewed

by curve generator). Evolution of pressure curves reveal a phase shift between pressure from the pressure generator and capacitors [2].
The graphs in figures 3 and 4 were built for a static pressure of 0,25E+05 Pa and starting speed n = 680 rpm. Pressure sensor has reached generator producing a 75E+05 Pa pressure drop in the friction resistance of 20E+05 Pa.

n = 680 rpm ***p_s = 0,25E+05 Pa***

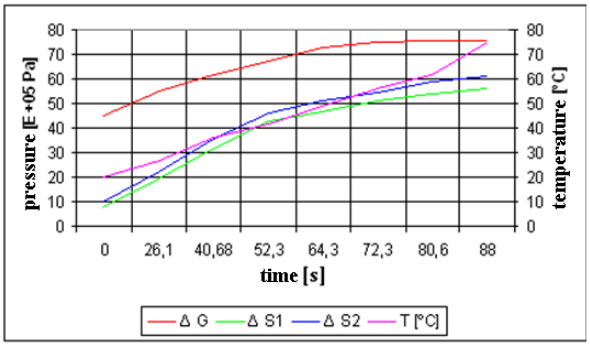


Figure 3. Diagram of pressures and temperature variation with time in static pressure of 0,25E+05 Pa

p_s = 0,25E+05 P

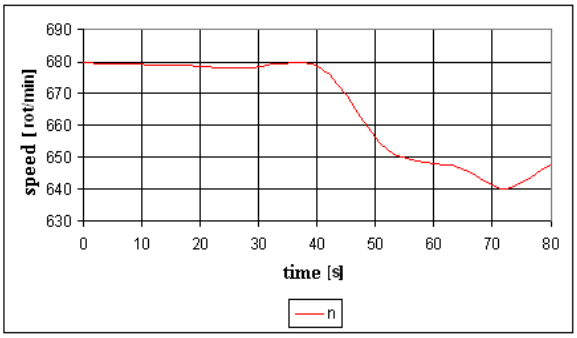


Figure 4. Diagram of pressures and temperature variation of speed according to the static pressure of 0,25E+05 Pa

Temperature reached after about 1 minute and a half working at 75° C continued to rise further to stabilize [3]. The results noted with graphics: ΔG - sonic pump pressure variation on the sensor 5;
ΔS1 - pressure variation obtained from pressure sensor 8;
ΔS2 - pressure variation obtained from pressure sensor 10;
T - temperature.

The graphs in figures 5 and 6 were built for a static pressure of 0,5E+05 Pa and n = 1000 rpm power. Temperature reached after about one minute and a half working at 70ºC continued to rise further to stabilize. Pressure sensor to rise around de 95E+05 Pa and at the large cylinder at a pressure of 37E+05 Pa, the pressure drop on the resistance of friction is equal to 20E+05 Pa .

n = 1000 rpm ***p_s = 0,5E+05 Pa***

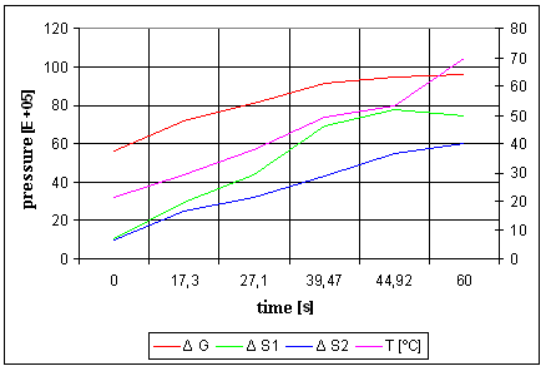


Figure 5. Diagram of pressures and temperature variation with time in static pressure of 0,5E+05 Pa

p_s = 0,5E+05 Pa

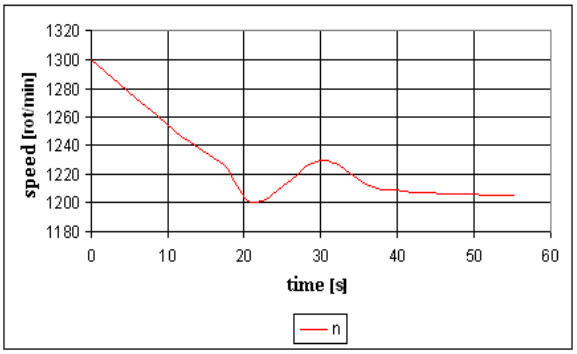


Figure 6. Diagram of pressures and temperature variation of speed according to the static pressure of 0,5E+05 Pa

3. CONCLUSION

The analysis of diagrams for assembly in parallel in Figure 1 the following conclusions can be drawn [3]:

- the link in parallel after about a minute stabilized speed;
- pressure drop across the resistance friction is around 20E 05 Pa to that calculated which is 25,86 $\cdot 10^{-5}$ Pa. Deviation between the two pressure was 22% deviation acceptable given the complexity of phenomena that occur across the system;
- after pressure stabilization is found that the speed remains constant;
- static pressure in the system does not influence significantly the pressure drop;
- based on the measurements it can be concluded that the optimal speed for a friction resistance with a diameter of 3 mm and length 1 m is comprised between 600 and 1000 rpm, as confirmed by the calculation.
- the two capacitors sonic, in parallel linked via a pipe with a small diameter acting as "capillary type hydraulic resistance", which aims to transform the sonic waves produced by friction fluid environment with walls, into heat.

4. REFERENCES

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