

Technology Offer

Rotary hydraulic transformer designed for hydraulic driven installations

Summary

A Romanian research institute has invented a rotary hydraulic equipment with axial pistons and tilted disc, which multiplies the pressure in continuous flow, designed for the use in hydraulic driven installations. The Romanian institute is looking for partners in the field of research, academia and industry in order to develop the product and for its technological transfer.

Creation Date	11 July 2014
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Reference	TORO20140620001

Details

Description

A Romanian research institute has developed a rotary hydraulic equipment with axial pistons and tilted disc, which multiplies the pressure in continuous flow, designed for use in hydraulic driven installations. The rotary hydraulic transformer of continuous pressure comprises a rotor with axial pistons, a tilted disc and a housing. Inside the rotor, an odd number of pistons can slide in axial direction, being also able to perform a double sliding stroke at each complete revolution of the rotor, as a result of the oil pressure applied to them.

The flow of oil which enters the cap through the port 'a' is passed through a semi-circular slit and through the internal holes of a distribution cap which closes the rotor on the side of the pistons, which, creating two unequal chambers of compression to the front and back sides, amplifies the fluid pressure in a continuous but decreased flow. Through discharge valves, the flow is then driven to a joint, at the exit stroke, and sucked through the suction valves existing one within each piston, at the backward stroke.

In the supply cap there is also made a second return port 'b', connected with the interior of the housing and a second semi-circular slit, through which the difference between the input flow and the flow getting out from the multiplier can be discharged. At the same time, the rotor is hydrostatically axially balanced, with a circular hole connected to the interior of a joint through a central opening. In this way, the front pressing of the distribution cap on the supply cap is determined only by the force of the springs.

The Romanian research institute is looking for EU partners (universities, institutes or SMEs), for research or technical cooperation agreements.

Advantages and Innovations

- it has a compact and independent design;
- it can be mounted directly on the served hydraulic circuit;
- it discharges a continuous flow.

Stage of Development

Concept stage

IPR Status

Patents granted

Keywords

Technology

02006001	Materials, components and systems for construction
02006002	Construction methods and equipment
05003001	Vibration and Acoustic engineering
09001001	Acoustic Technology related to measurements

Market

08003006	Power transmission equipment (including generators & motors)
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NACE

M.72.1.9	Other research and experimental development on natural sciences and engineering
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Network Contact

Issuing Partner

NATIONAL INSTITUTE OF RESEARCH AND DEVELOPMENT FOR OPTOELECTRONICS

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Open for EOI : **Yes**

Dissemination

Send to Sector Group

Environment

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

Romania

Partner Sought

Type and Role of Partner Sought

The partners sought are:

- research institutes and universities willing to develop new applications for the product, to test it in laboratory and in real conditions and
- SMEs able to introduce it in the manufacturing process.

Type and Size of Partner Sought

SME 11-50, University, R&D Institution, SME 51-250

Type of Partnership Considered

Technical cooperation agreement
Research cooperation agreement