

Technology Offer

Vibratory cylinder with hydraulic drive for concrete

Summary

A Romanian research team has developed a vibratory cylinder with hydraulic drive for concrete, that can be used for the internal vibration of concrete cast in construction works. Although only in the concept stage, it will provide a hydraulic driven vibratory cylinder, to ensure adjustment of the vibration force during work. The Romanian researchers are looking for research, academia and industrial partners, so as to establish research and technical cooperation agreements.

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Details

Description

A Romanian research team has developed a vibratory cylinder consisting of a supply pipe, in which there is a valve that controls the flow of a fluid sent through a hose and returned through another hose to and from a driving head, screwed to a cylindrical housing, closed with a bearing cover. Inside the cylindrical housing there is a dynamically balanced rotor that has radial cylindrical channels arranged in an inclined manner. On one side of the rotor there are some sliding balls, their spinning being carried out by a turbine (which is able of idle start-up at low speed and can vary the centrifugal force up to the full speed, by rolling the balls on the inside of the cylindrical housing, for unloading the bearings of the rotor).

Research, academia and industrial partners are sought for, in order to develop new applications for the product, to test it in laboratory and real conditions (research cooperation agreement) as well as its technological transfer for production (technical cooperation agreement).

Advantages and Innovations

- the bearings of the rotor are free from the centrifugal force, this leading to an increased lifespan;
- during operation, the centrifugal vibration force can be adjusted, by changing the turbine rotative speed, due to the possibility of adjusting the supply flow rate;
- the vibratory cylinder has the idle start-up option, since at low rotative speed, the centrifugal force acting on the floating balls can not move them outwards, along the sloping channels.

Stage of Development

Concept stage

IPR Status

Patents granted

Keywords

Technology

02006001 Materials, components and systems for construction
02006002 Construction methods and equipment

Market

08003007 Other industrial equipment and machinery
09007001 Construction companies
09007003 Distribution of building products and systems

NACE

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

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

Creative Industries

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