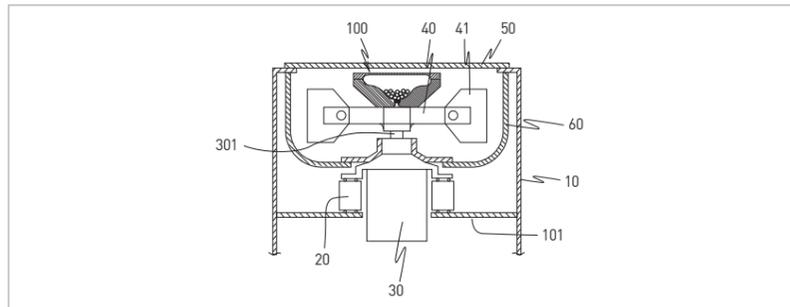


# Vertical Rotor Type Centrifuge with Automatic Balancer

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## Vertical Rotor Type Centrifuge with Automatic Balancer



### Client / Market

- Vertical rotating machinery market requiring automatic balancer such as medical and industrial centrifuge market, dehydrator market, etc.

### Necessity of this Technology

- With conventional technologies, the unbalance becomes greater below the resonance speed, which leads to instability.
- The balancing process becomes inefficient as it is greatly affected by the ball size or the racer diameter.

### Technical Differentiation

- Easy to install in a vertical rotor
- By having an inflection part in the balancing space where the ball is stored, balancing effect is occurred efficiently when the speed is higher than the resonance speed.
- A vertical rotary device like a centrifuge or dehydrator can start up with small vibration.
- By having an inflection part on the slope extended from the floor of the balancing space where the ball is stored, it is designed to operate when the speed is only higher than the resonance speed.
- Designed to allow the multi-racer type
- The balancing level can be enhanced using small metal particles.
- High balancing effect in a small space

## DESIRED PARTNERSHIP

Technology Transfer

Licensing

Joint Research

Other

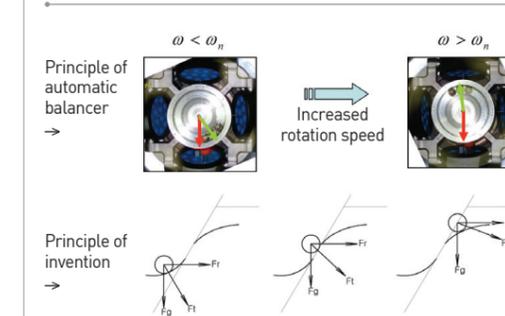


## TECHNOLOGY READINESS LEVEL [TRL]

Research, basic explanation | Project concept or idea development | Technology idea verification | Prototype development | Trial product production/evaluation in similar environment | Pilot field demonstration | Development and optimization of commercial model | Commercial product demonstration | Mass production and initial market launch

## Excellence of Technology

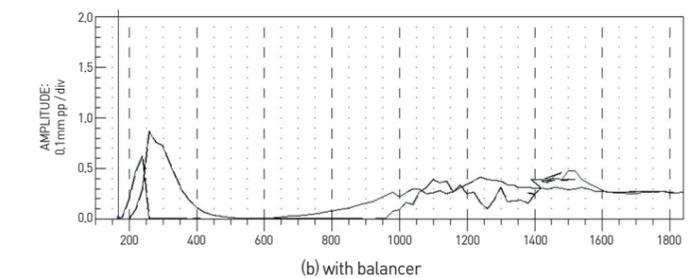
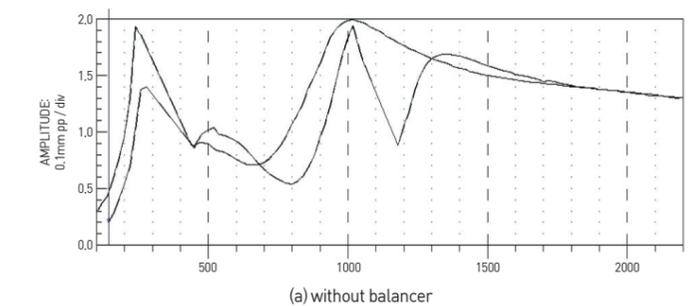
### (1) Principle of Ball Balancer



### (2) Prototype



### (3) Balancer Effect (Verified with Experiment)



## Current Intellectual Property Right Status

### PATENT

- Vertical Rotor Balancer and Centrifuge Using the Same (JP4509096, CNZL 2006 10172621.3, US7435211)
- Ball Balancer for Vertical Rotor (KR0759596)
- Ball Balance for Vertical Rotor with the Balancing Room (KR0759597)
- Balancer for Vertical Rotor with Metal Particles (KR0692368)
- A Centrifuge with the Balancer (KR0731827)