

## R&D Request

### Company Profile - Description of the company

**Company:**

RIST

**Country:**

South Korea

**www-Address:**

www.rist.re.kr

**Contact person:**

Kwon Hyun-Wook

**Position in the company:**

Senior Researcher

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**Year established: 1987**

### **Turnover in million Euro**

- Up to 2 million
- 2 to 10 million
- 10 to 50 million
- More than 50 Million

### **Number of employees in the enterprise:**

- 1 – 9
- 10 – 49
- 50 – 249
- More than 250

## R&D Request

<b>Technology Field</b>	Green Car and Automobile parts	
<b>Title of research</b>	Multi-blade fan for low energy consumption and low vibration	
<b>Feature &amp; Benefit</b>	Feature	<ul style="list-style-type: none"> <li>- Pressure transition part for discharge port of Multi-blade fan</li> <li>- Pressure variation is continuous(very low fluctuation) at discharging area of fan</li> <li>- Simple design</li> </ul>
	Benefit	<ul style="list-style-type: none"> <li>- Reduction of energy consumption</li> <li>- Low noise and vibration</li> <li>- Applicable to high and low speed/capacity fan</li> <li>- Design freedom for the location of discharge port of fan</li> </ul>
<b>Current Stage of Development</b>	<input type="checkbox"/> R&D Proposal	
	Domestic Patent was applied. (Application Number : 2012-0156144)	
<b>Description</b>	<p>[Technical Field]</p> <p>The present invention was developed to decrease the vibration and the noise of multi-blade fan.</p> <p>Particularly, for the reduction of the vibration and the noise arising from multi-blade fan we changed the shape of the discharging port.</p> <p>[[Technical Background]</p> <p>In general, multi-blade fan has large air volume compared to the other blowing fan of the same peripheral speed.</p> <p>Therefore it has been widely applied for air conditioners, coolers/heaters and general industrial blowers etc..</p> <p>The conventional multi-blade fan has the discharge port which is formed on the case of the fan having a rectangular shape with sides parallel/orthogonal to the blade.</p> <p>But, this rectangular port opens suddenly each of the pressurized volumes between blades as the fan is rotating. Therefore the discharging pressure varies sharply. And it makes vibration and noise.</p> <p>[Content of Technical Invention]</p> <p>In this invention, we changed the shape of the discharging port of multi-blade fan.</p> <p>There are two pressure transition part of the port of the fan.</p> <p>The first pressure transition part is located in the forward of the rotational direction of the fan, and the second is in the rear of that.</p> <p>While, conventional multi-blade fan has the discharge port which is formed on the case of</p>	

	<p>the fan having a rectangular shape with sides parallel/orthogonal to the blade.</p> <p>The pressure transition parts have the inclined sides of the discharging port which are inclined to the blade.</p> <p>This kind of port opens gradually each of the pressurized volumes between blades as the fan is rotating. Therefore the discharging pressure varies continually. And it reduces vibration, noise and energy consumption of the fan.</p>
<b>IPR Status</b>	<input checked="" type="checkbox"/> Patent pending
	Application Number : 2012-0156144
<b>R&amp;D Experience</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Available Language</b>	English
<b>Nationality</b>	South Korea
<b>Type of partner sought</b>	<p>- Type: company</p> <p>- Role: cooperation development, prototype manufacturing, business partner</p>
<b>Expected Period</b>	2-years