

Providing New Value Using Air-Control Technology

Pneumatic Equipment Manufacturer with a High Market Share Worldwide Aims to Expand from Manufacturing Sites into a Wider Range of Areas

Based on expertise in air fluid control accumulated over many years, Azbil TA satisfies customers' needs by developing, manufacturing, and selling various kinds of equipment. In addition to expanding its market share globally, Azbil TA, with product provision as its main business, has begun to use AI, the cloud, and other digital technology to move into life-cycle business, continuing to take on the challenge of creating new value at manufacturing sites and elsewhere.

Raising added value with life-cycle business

Azbil TA Co., Ltd., was founded in 1955 as a manufacturer specializing in pneumatic equipment. In November 2012, it began anew as a member of the azbil Group, with the shared philosophy of "human-centered automation." For many years the company has supported domestic and overseas industries with its unique air-controlling technology, and today it meets the needs of machine tool



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manufacturers and others in a wide range of industries using its expertise in controlling fluids—ranging from gases like air to liquids like oil—and by developing, manufacturing, and selling various kinds of equipment.

The two main pillars of Azbil TA's business are fog-type lubricators and dual valves.

Fog-type lubricators are used, for example, in machine tools on automobile engine manufacturing lines where objects are processed by rotating cutting tools attached to a high-speed shaft. The lubricators produce a lubricant mist by dropping lubricating oil into compressed air moving at the speed of sound. They spray minute amounts of lubricant on the rotating parts to smooth the rotation and reduce frictional heat and wear. It is important that the particles in the lubricant spray be the same size, and Azbil TA's strength is its advanced technology that makes the particle size uniform at about 2 micrometers. For fog-type lubricators, the company has a high market share globally and its products are used at many domestic automobile manufacturing sites.

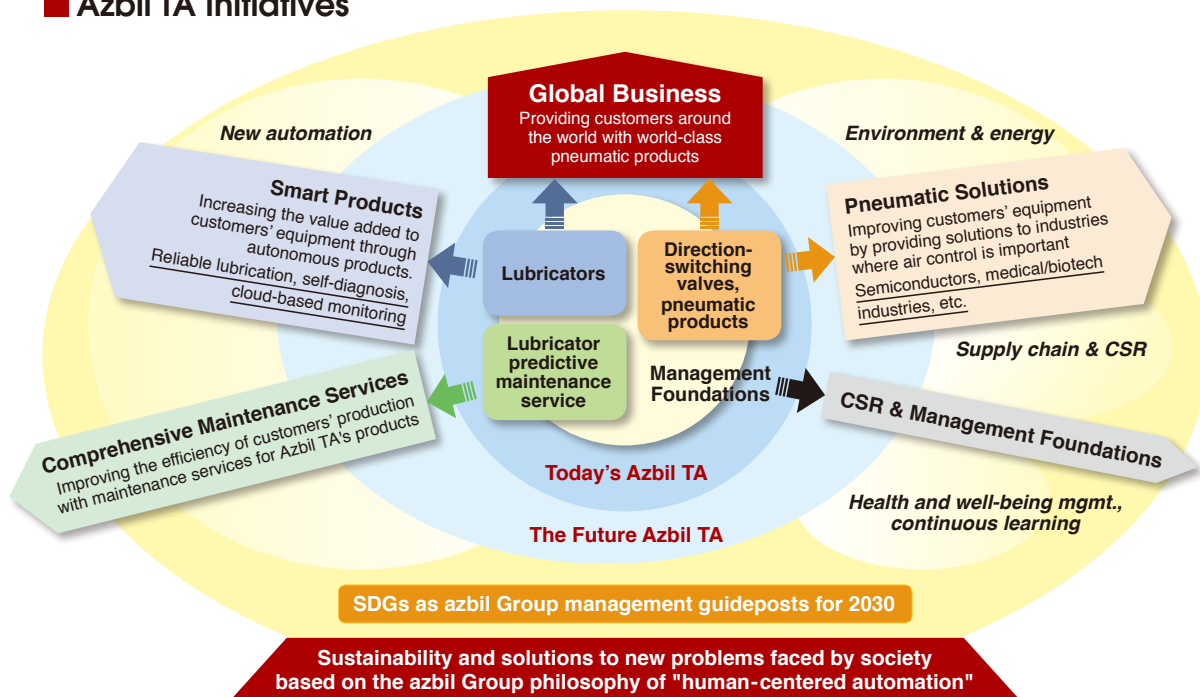
On another front, constant onsite maintenance is important for keeping lubrication equipment in top condition, since it has a very precise mechanism. Therefore, Azbil TA is not only providing equip-

ment but is also focusing on predictive maintenance services to continuously diagnose the condition of installed equipment so that failure, deterioration, or their warning signs can be caught without fail. Currently, these operations are carried out manually, but the company plans to use AI and cloud computing for these services to increase customers' convenience.

If the plan is put into practice, data for understanding the conditions of lubricators will be automatically collected and stored in a database. By analyzing the time-series data on the condition of a lubricator, the company will be able to report to the customer that, for example, the lubricator may not be able to perform adequately after several months or a year. This will help customers plan for maintenance or replacement. The company intends to create a system that allows customers to use the equipment without worrying about maintenance.

The azbil Group has set a direction for its companies of focus on life-cycle business, especially in the Building Automation business for the building market and the Advanced Automation business for the industrial market. In a life-cycle business, value is provided to customers through the life cycle of products by means of an integrated system that includes development, production, and

■ Azbil TA Initiatives



maintenance. Especially for the product operation and maintenance phases, the azbil Group is actively encouraging digitization of support services that use AI, cloud computing, etc. Azbil TA's predictive maintenance services are exactly in line with this direction. The company has begun to establish a system to collect information from sensors in lubricators and send it to the cloud through a network, and it is also cooperating with Azbil Corporation's AI Solution Dept. to develop AI cloud technology for analyzing the condition of lubricators.

Highly environmentally friendly products with improved fault tolerance and responsiveness

The other major pillar of Azbil TA's business is dual valves, which are incorporated into power press machines that are used at a variety of manufacturing sites. The dual valve has the very important function of controlling the discharge of compressed air for the clutch or brake of the power press machine.

Currently, Azbil TA has about half of the global dual valve market share. It is said that about 90% of power presses in use were manufactured in China, where the company's dual valve is regarded as a standard product by power press machine manufacturers.

Today, as customers require even higher reliability and responsiveness for emergency stops from dual valves, Azbil TA is developing and supplying products that meet the needs, and is also working on environmentally friendly designs to reduce environmental impact. The newly released TX dual valve was made 22% lighter than conventional products by using molded resin and die-cast aluminum parts, and its power consumption was improved by 50% by improving the electromagnetic mechanism. This environmentally friendly product with excellent energy efficiency is attracting great interest from all quarters.

Satisfying a wider range of onsite demands by making full use of fluid control know-how

In addition to the dual valves, Azbil TA offers a variety of air control products such as regulators. Also, it continues to take on the challenge of developing technology and products that meet the latest demands in each product area. Taking regulators as an example, Azbil TA and a major vacuum pump manufacturer are jointly developing regulator modules for dry vacuum pumps used in semiconductor manufacturing, where a clean vacuum is required. Its advanced air control technology is also used in the field of medicine. When an endoscope is used to diagnose digestive organs,

carbon dioxide gas is injected to open space in the organ. The company's regulator products are increasingly used for the extremely delicate air pressure or flow rate control required for injection.

Azbil TA is unique among azbil Group companies in that it is a small-scale company (with about 150 employees) that handles the whole series of business functions from product development to manufacturing and sales. To achieve a sustainable society, the azbil Group, viewing the SDGs*1 as important guideposts for management, has set essential goals of the azbil Group for the SDGs with four themes: (1) environment and energy, (2) new automation, (3) supply chain and CSR, and (4) health and well-being management and continuous organizational learning. The Group as a whole is working on personnel development and the other areas throughout its businesses. Azbil TA is continuing its efforts to contribute to customers and society by working on the azbil Group's goals using a unique approach that makes the most of its agility, which is an advantage of a small team.

*1 ▶ Sustainable Development Goals (SDGs)
International goals adopted at a United Nations summit in 2015 for the period from 2016 to 2030. Seventeen goals and 169 targets were established in order to achieve a sustainable, diverse, and inclusive society where no one will be left behind.