

Innovative spinning technology that achieves both high-speed productivity and high-quality fabric

Registration No.	Number 00389		
Registration Date	18 September 2025	Registration Category	Category 1
Name (Model, etc.)	Air vortex open-end spinning machine unit with vortex nozzle (VORTEX 870)		
Location	Fushimi-ku, Kyoto, Japan		
	Head office, MURATA MACHINERY, LTD.		
Owner (Custodian)	MURATA MACHINERY, LTD.		
Manufacturer (Company)	MURATA MACHINERY, LTD.		
Year Manufactured	2017		
Year first appeared	2011 (Nozzle components have been continuously improved since MVS No. 850 in 1995 until today.)		
Reason For Selection	<p>This item is a vortex-type spinning machine that was newly developed as a high-speed, labor-saving, and high-production alternative to ring spinning, in response to the intense demand for yarn from the 1950s onward. The first answer was rotor-type open-end spinning in 1967. False-twist-type air jet spinning followed in 1981. Finally, air-vortex-type open-end spinning (commonly known as vortex spinning) appeared in 1995. The VORTEX 870, released in 2011 as the successor series machine to the MVS 850 (1995), established a firm position in the global yarn market thanks to its overwhelming productivity of 500 m/min and superior fabric characteristics derived from its unique yarn structure. Vortex spinning is an extremely important historical step in the evolution of spinning technology.</p>		
Registration Criteria	<p>1-A (Shows an important aspect or stage in the development of science and technology.) 2-A (Played a notable role in improving people's way of life and creating new ways of living.)</p>		

Open/Closed to the Public	Open to the Public
Photos	<p>Main parts of the vortex nozzle section (Longitudinal sectional view of the nozzle and spindle section)</p> <ul style="list-style-type: none"> Fiber guide Nozzle Spindle <p>Spinning unit of the air vortex open-end spinning machine (VORTEX 870)</p> <ul style="list-style-type: none"> Core fibre feeding equipment for core yarn Draft section <ul style="list-style-type: none"> * 4-lines roller draft * Double apron * Front roller Yarn clearer Yarn storage and tension control device Waxing device Package winding section <ul style="list-style-type: none"> * Rod traverse * Drum * Package cradle