

March 6, 2017

To whom it may concern:

Company Name: MINEBEA MITSUMI Inc.
Representative: Yoshihisa Kainuma
Representative Director,
President and Chief Executive Officer
(Code No. 6479, TSE Div. No. 1)
Contact: Takayuki Ishikawa
General Manager
Corporate Communications Office
Phone: +81-(0)3-6758-6703

**Programmable Coolant System “Wavy Nozzle 2” is launched:
A Compact, High Power, Wireless Communications for Realizing an IoT Manufacturing Workplace!**

The Mechanical Assembly Business Unit of the Machined Component Manufacturing Headquarters at MINEBEA MITSUMI Inc.(MinebeaMitsumi) has developed a new model of its Wavy Nozzle® swing coolant*1 jetting device for removing machining dust and chips with the “Wavy Nozzle 2,” which goes on sale from April 2017.

1. Further enhanced freedom of fixing location due to miniaturization!

By thoroughly reviewing the internal structure, we have succeeded in miniaturizing the size of the jet unit to 49.7% of its previous size, while maintaining the same nozzle performance. This model can now be mounted to machine tools operating in small working areas where mounting of the conventional model would have been difficult.

2. Powered up with double the maximum coolant supply pressure!

The maximum coolant supply pressure has been enhanced from the conventional 2MPa to 4MPa. This means that it is now possible to directly supply coolant from almost any medium-pressure coolant pump device. The next-level in machining dust and chip removal is achieved by combining a stronger coolant jet and nozzle swing.

3. Easy realization of IoT, just by mounting the Wavy Nozzle 2!

Wavy Nozzle 2 does not require use of a conventional wire controller. Just by downloading the dedicated app to your smartphone, it becomes possible to use it as a wireless controller*2 for wireless communication with Wavy Nozzle 2. Wireless communications use the Bluetooth Mesh network and by using just one wireless controller unit, it is possible to communicate with up to 50 Wavy Nozzle 2 units. Stable use is possible even within large factories where reception is weak.

Further, with the addition of the new machine monitoring function, an app can monitor the operating situation of machine tools.

*1 Coolant: Cutting fluid and grinding fluid used to cool and lubricate parts being machined during machining.

*2Wireless controllers and the dedicated app will be on sale in Japan, U.S.A, Canada, EU countries and in Thailand.

Photo: Product appearance of the “Wavy Nozzle 2” made by MinebeaMitsumi.



Main Body



Controller

Price

Please ask for details.

Product Specifications

Dimensions	Spray unit dimensions (mm)	70 (D) x 146 (W) x 50 (H)	
	Control board dimensions (mm)	100 (D) x 145 (W) (split type) x 21.4 (H)	
	Wireless unit dimensions (mm)	70 (D) x 110 (W) x 40 (H)	Cable length: 5,000
	Junction cable (between spray unit and control board) (mm)	6,000	
Power supply	Rated voltage	+24V DC +/- 10%	
	Minimum starting current consumption	0.8A	
	Rated current consumption	0.45A	
Operation	Operating temperature range	0 deg. C to +50 deg. C	
	Operating humidity range	85% RH or below	
	Operating mode	3 modes (FIX, SWEEP, KICK)	
	Nozzle movement range	75 counts (1 count = about 1.8 deg.)	
	Maximum nozzle movement speed	99	
	Maximum operation memories	M-code control (one-on-one mode)	5
		M-code control (5-bit mode)	31
Serial control		99	
	M-code operation command signal	5 line	
	Discharge valve control signal input	1 line	
	Discharge valve control signal output	1 line	
	Serial control input	1 line	
	Alarm signal output	1 line	
	Signal tower signal input	3 line	
	Counter signal input	2 line	
	General purpose input signal	1 line	
	General purpose output signal	1 line	
Others	Specifications of pumps that can be connected to this unit	Theoretical discharge amount	22 L/min.
		Maximum discharge pressure	4 MPa
	Usable coolants	Oil-based coolants of Type N1 to Type N3 and Water-based coolants of Type A1, A2 specified in JIS K2241:2000	

Option: Split type control board enables mounting to large-scale machines!

By splitting the control board into the system control board and motor driver board, and extending the length of the cable between the two boards, it is now possible to mount the device to large-scale machinery for which the conventional type was not long enough.

- "Wavy Nozzle" is a registered trademark of MinebeaMitsumi Inc.
Japan Registered Trademark: No. 5645210.
- 44 patents and utility model patents are currently under application in Japan and overseas. (Of which, 21 have been registered). (As of Feb. 2017).

Related Information

Press release :

Oct. 30, 2014

["Wavy Nozzle" – a Newly-Introduced "Programmable Coolant System" for Small Machine Tools !](#)

Tech Column :

[Programmable coolant systems: Wavy Nozzle](#)

■Sales Inquiries

PMA Product Sales Management

Phone +81-3-6758-6735 Fax +81-3-6758-6760

■Media Inquiries :

Corporate Communications Office

Phone +81-3-6758-6703 Fax +81-3-6758-6718