

BravoJet Computerized dosing unit with direct injection system

BRAVOJET-L:

Dosing capacity up to 600 l/h



BRAVOJET-H:

Dosing capacity up to 1000/h



BravoJet is a fertigation unit with injection dosing system.

bravoJet can be CONFIGURED to be installed in parallel with the pump that POWERS the system (**SP** version), OR connected Directly to the main supply pump (**SL** version) or in parallel with a valve on the main pipe that guarantees an adequate loss of pressure suitable for the functioning of the Venturi (**SV** version)

A special mixing pipe allows stable and continuous dosing of mother solutions.

BravoJet is available in two versions based on the capacity of the dosing channels:

- BravoJet-L: up to 600 l/h
- BravoJet-H: up to 1000 l/h

For installation in disadvantaged areas BravoJet can be powered by a photovoltaic panel and eventually control a generator for its own energy needs

Basic features common to BravoJet L/H:

- 8 irrigation valves expandable up to 250
- 2 EC sensors + 2 pH sensors for measuring/regulation and control EC e pH
- Max. 1 acid dosing channel
- Max. 4 fertilizer dosing channels
- 150 multifunction irrigation programs
- Optional climate control (up to 4 zones)



system.

For LONG distances between BRAVOJET and the irrigation valves, these can be managed via radio in a safe and reliable way thanks to Spagnol radio



The mobile modem accessory allows you to receive text messages or calls in case of alarms or anomalies. On BRAVOJET with 230 / 240VAC power supply, this accessory combined with the power backup accessory allows YOU to be informed in case of power failure from the network.



Like all Spagnol controllers, BRAVOJET can also be supervised with Spagnol MC-Cloud and managed through the Web portal or with the Android and iOS app. The connection can be made via a network cable (with internet connection) or by installing the mobile modem accessory. In any case, it is always possible to supervise BRAVOJET on-premises (installation on site) using the Spagnol-MCNet supervision software. Mixed cloud/on-premises solutions are also possible

BravoJet INSTALLATION MODES:



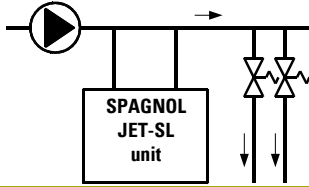
BravoJet SL



BravoJet SP

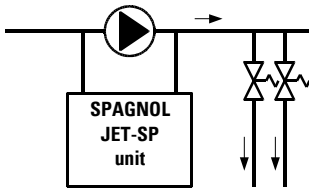
BravoJet-L

BravoJet-L-SL base, frequency 50 Hz, installation on irrigation line, electric power 400VAC three phases + neutral⁽¹⁾



Product name	Code		Electric power
BRAVOJETV3-L-SL-P11-5-40T3N	301071011	BRAVOJET-L-SL for irrigation line pressure up to 2 Bar	1.7 KW
BRAVOJETV3-L-SL-P12-5-40T3N	301071012	BRAVOJET-L-SL for irrigation line pressure up to 3 Bar	2.5 KW
BRAVOJETV3-L-SL-P13-5-40T3N	301071013	BRAVOJET-L-SL for irrigation line pressure up to 4 Bar	2.5 KW
BRAVOJETV3-L-SL-P15-5-40T3N	301071014	BRAVOJET-L-SL for irrigation line pressure up to 5 Bar	2.5 KW
BRAVOJETV3-L-SL-P16-5-40T3N	301071015	BRAVOJET-L-SL for irrigation line pressure up to 6 Bar	2.5 KW
BRAVOJETV3-L-SL-P17-5-40T3N	301071016	BRAVOJET-L-SL for irrigation line pressure up to 7 Bar	2.5 KW
BRAVOJETV3-L-SL-P18-5-40T3N	301071017	BRAVOJET-L-SL for irrigation line pressure up to 8 Bar	3.5 KW

BravoJet-L-SP base, installation on irrigation pump, electric power 230VAC single-phase⁽¹⁾



Product name	Code		Electric power
BRAVOJETV3-L-SP-P0-X-23S	301071008	BRAVOJET-L-SP on irrigation pump	0.2 KW

⁽¹⁾ BRAVOJET-L base description:

- 8 outputs (24VAC) for irrigation valves
- 2 EC sensors + 2 pH sensors for EC/pH measuring and regulation
- 1 electric output (24VAC) for acid dosing channel
- No acid dosing channel (free space for max. 1 acid dosing channel)
- 4 electric outputs (24VAC) for fertilizer channels
- No fertilizer dosing channel (free space for max. 4 fertilizer dosing channels)
- 4 S-BUS sensor inputs⁽²⁾
- 5 contact sensor inputs. Each electronic flowmeter (fertilizer or irrigation line) requires 1 contact sensor input⁽²⁾
- 2 free slots for I/O expansion boards⁽²⁾
- 1 output (24VAC) for alarm signaling
- 4 outputs (24VAC) free for other use⁽²⁾

⁽²⁾ USB console cable or Bluetooth console board required for configuration.

BRAVOJET-L - ACID DOSING CHANNEL (MAX 1)

301016008 Standard



Standard dosing channel for acid DN10, for JET units, composed of venturi injector, solenoid valve for acid, net filter and Ø16 mm hose connection.

301016009 Electronic flowmeter



Acid dosing channel DN10 with electronic flow meter, for JET units, composed of venturi injector, acid solenoid valve, high-resolution electronic flowmeter, net filter and Ø16 mm hose connection.

BRAVOJET-L - DN10 FERTILIZER DOSING CHANNELS (MAX 4)

301016011 Electronic flowmeter



Fertilizer dosing channel DN10 with electronic flowmeter, for JET units, composed of venturi injector, solenoid valve, high-resolution electronic flowmeter, net filter and Ø16 mm hose connection.

301016013 Variable area flowmeter



Fertilizer dosing channel DN10 with variable area flowmeter, for JET units, composed of venturi injector, solenoid valve, variable area flowmeter 60-600 l/h and Ø16 mm hose connection.

VARIANTS:

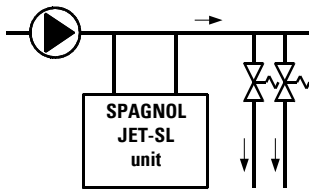
Code

BRAVOJET without controller (without display and keyboard) to be connected to PROCESS.

304005001

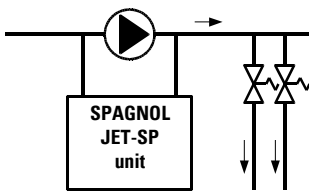
BravoJet-H

BravoJet-H-SL base, frequency 50 Hz, installation on irrigation line, electric power 400VAC three phases + neutral ⁽¹⁾



Product name	Code		Electric power
BRAVOJETV3-H-SL-P1-5-40T3N	301072001	BRAVOJET-H-SL for irrigation line pressure up to 3 Bar	2.4 KW
BRAVOJETV3-H-SL-P2-5-40T3N	301072002	BRAVOJET-H-SL for irrigation line pressure up to 4 Bar	2.4 KW
BRAVOJETV3-H-SL-P3-5-40T3N	301072003	BRAVOJET-H-SL for irrigation line pressure up to 5 Bar	2.4 KW
BRAVOJETV3-H-SL-P5-5-40T3N	301072005	BRAVOJET-H-SL for irrigation line pressure up to 6 Bar	3.2 KW
BRAVOJETV3-H-SL-P8-5-40T3N	301072008	BRAVOJET-H-SL for irrigation line pressure up to 7 Bar	4.2 KW
BRAVOJETV3-H-SL-P9-5-40T3N	301072011	BRAVOJET-H-SL for irrigation line pressure up to 8 Bar	7.7 KW
BRAVOJETV3-H-SL-P1-5-40T3N	301072001	BRAVOJET-H-SL for irrigation line pressure up to 3 Bar	2.4 KW
BRAVOJETV3-H-SL-P2-5-40T3N	301072002	BRAVOJET-H-SL for irrigation line pressure up to 4 Bar	2.4 KW

BravoJet-H-SP base, installation on irrigation pump, electric power 230VAC single-phase ⁽¹⁾



Product name	Code		Electric power
BRAVOJETV3-H-SP-P0-X-23S	301072010	BRAVOJET-H-SP on pressure reduction valve	0.2 KW

⁽¹⁾ BRAVOJET-H base description:

- 8 outputs (24VAC) for irrigation valves
- 2 EC sensors + 2 pH sensors for EC/pH measuring and regulation
- 1 electric output (24VAC) for acid dosing channel
- No acid dosing channel (free space for max. 1 acid dosing channel)
- 4 electric outputs (24VAC) for fertilizer channels
- No fertilizer dosing channel (free space for max. 4 fertilizer dosing channels)
- 4 S-BUS sensor inputs ⁽²⁾
- 5 contact sensor inputs. Each electronic flowmeter (fertilizer or irrigation line) requires 1 contact sensor input ⁽²⁾
- 2 free slots for I/O expansion boards ⁽²⁾
- 1 output (24VAC) for alarm signaling
- 4 outputs (24VAC) free for other use ⁽²⁾

⁽²⁾ USB console cable or Bluetooth console board required for configuration.

BRAVOJET-H - ACID DOSING CHANNEL (MAX 1)

301016008 Standard



Standard dosing channel for acid DN10, for JET units, composed of venturi injector, solenoid valve for acid, net filter and Ø16 mm hose connection.

301016009 Electronic flowmeter



Acid dosing channel DN10 with electronic flow meter, for JET units, composed of venturi injector, acid solenoid, high-resolution electronic flowmeter, net filter and Ø16 mm hose connection.

BRAVOJET-H - FERTILIZER DOSING CHANNELS (MAX 4)

301016012 Electronic flowmeter



Fertilizer dosing channel DN15 with electronic flowmeter, for JET units, composed of venturi injector, solenoid valve, high-resolution electronic flowmeter, net filter and Ø20 mm hose connection.

301016014 Variable area flowmeter



Fertilizer dosing channel DN15 with variable area flowmeter, for JET units, composed of venturi injector, solenoid valve, variable area flowmeter 100-1000 l/h and Ø20 mm hose connection.

VARIANTS:







Code

BRAVOJET without controller (without display and keyboard) to be connected to PROCESS.




304005001

BRAVOJET-L/H – Accessories













SENSORS:

		Code	Required sensor input type:	
			S-BUS	Contact
	Radiation sensor for the irrigation by radiation sum (Joule)	303002001	✓	
	Temperature and humidity sensor (for fog/mist irrigations)	303001001	✓	
	Irrigation line flow sensor	Page 124		✓
	Weight scale for automatic irrigation by weight.	Page 126	✓	
	Drainage quantity sensor	Page 129	✓	
	Drainage EC/pH sensor		✓	

EXPANSION BOARDS:

Description	Code	Description	Code
 8 relay outputs board	ESH0141	 4 S-BUS sensor inputs + 6 contact sensor inputs + 2 0-10V analogic output board	ESH0143
 8 S-BUS sensor inputs board	ESH0144		

ACCESSORI:

Description	Code	Description	Code
 Cellular modem for alarm reporting and cloud service* (*subscription required)	304003001	 Expansion boxes	Page 131
 Backup power (only for FENIX-M-23S-I)	Page 133	 Electric generator command output	ATT0082
 Cloud service	Page 146	 Console USB cable	EAP0816
 Radio system	Page 140	 Console Bluetooth board	304003006
 MC-Net supervision software	Page 144	 Greenhouse climate control	Page 135
 Water pumping unit SERVOMIX	Page 106	 Drainage water mixing units DRENAMIX	Page 100

BRAVOJET – Specifications

BravoJet-SL/SP – CONTROLLER CAPACITY:

See page 153 for software controls number and capacity.

See page 155 for software functionality description.

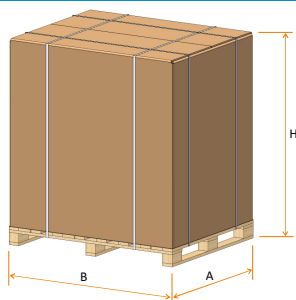
BravoJet-SL/SP – SPECIFICATIONS:

	L	H
Min. / Max. water temperature	5 °C (41 °F) / 30 °C (86 °F)	
Impurities in the water	Max.500 µm, Max.100g/m ³	
Ø Water inlet	DN32 Ø40 PVC	DN50 Ø63 PVC
Ø Water outlet	DN32 Ø40 PVC	DN50 Ø63 PVC
Ø Fertilizer inlet	Hose connection Øe 16 mm	Hose connection Øe 20 mm
Ø Acid inlet	Hose connection Øe 16 mm	Hose connection Øe 16 mm
Electric cables inlet	5 x PG 21 + 5 x PG29	
Ingress protection	IP55 (NEMA-12)	
Electric supply voltages Min/Max limit ⁽¹⁾	BRAVOJETV3-**-**-**-**-[1] [1]=40T3N: 360VAC / 490VAC [1]=23S: 207VAC / 280VAC	
Operative max. humidity	85 %	
Operative min. / max. air temperature	5 °C (41 °F) / 40 °C (104 °F)	



⁽¹⁾ Exceeding these values results in damaging.

BravoJet-SL/SP STANDARD PACKAGING PALLET + CARTON BOX:



	L	H		
Length (A):	1000 mm.	1000 mm.	Stackable:	NO
Width (B):	1200 mm.	1200 mm.	Minimum temperature:	7°C
Height (H):	1700 mm.	1700 mm.	Maximum temperature:	40°C
			Maximum humidity:	60 %



Do not expose to outside weather, direct sun radiation, salt fog and vibration.
In case of sea transportation or other harsh conditions we recommend the use of a wooden box + barrier bag packaging (see below)

BravoJet-SL/SP WOODEN BOX + BARRIER BAG:



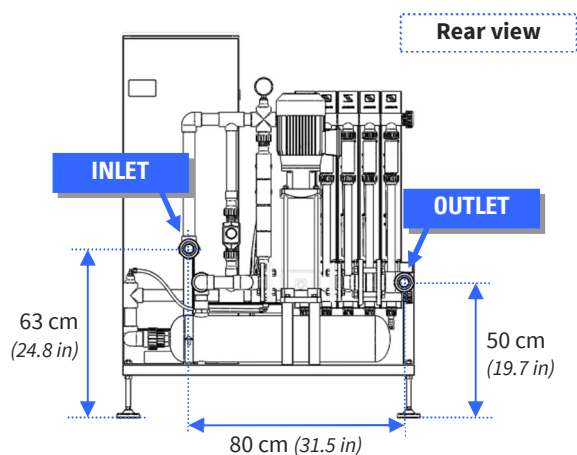
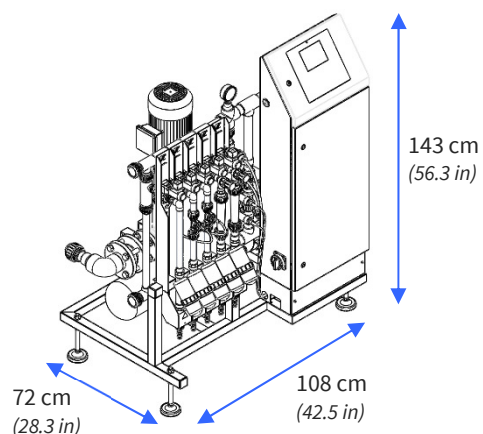
	L	H		
Length (A):	1170 mm	1170 mm	Stackable:	NO
Width (B):	1370 mm	1370 mm	Minimum temperature:	7°C
Height (H):	1830 mm	1830 mm	Maximum temperature:	40°C
Code:	IMB0124	IMB0124		



Do not expose to outside weather, direct sun radiation and vibration.

BRAVOJET – Specifications

BravoJet-L-SL/SP/SV – DIMENSION AND INLET/OUTLET POSITION:



BravoJet-H-SL/SP/SV – DIMENSION AND INLET/OUTLET POSITION:

