

# HI TECH



**COELBO**  
PUMP DRIVERS





Since the end of the last century, the constant technological evolution has allowed the industry to incorporate new concepts and systems based on electronics, digitalization, and specific software that, properly combined, can be considered under the scope of artificial intelligence. The sophistication required in the use of these new means has induced a willingness to innovate at a business level and a progressive sectorial specialization.

COELBO was founded in 1988 with a business philosophy based on this innovative spirit and with the initial objective of producing a new electronic device (internationally patented) based on a new system for the automatic control of electric pumps for domestic use, which uses a pressure&flow dependent principle that consists of activating the pump by pressure drop to a preset value and deactivating it when the flow or consumption ceases. This technological innovation, based on electronics, basically makes it possible to dispense with traditional pressure switches and accumulators or hydropneumatic tanks, to the benefit of greater system reliability and offering the network greater stability and constant pressure. This innovation has been quickly accepted in the world market and is nowadays adopted by multiple replicas based on the same principle. COELBO has developed multiple variants that make up the most important range of pressure&flow dependent devices on the market, which we call the **Pressflow Tech** range.

The progressive and constant experience and know-how acquired by COELBO has allowed the creation of new **Hi Tech** systems and devices (*Drivers*), with sophisticated hardwares and specific and intelligent software, based on the principle of variable frequency drives (VSD) that confer to the current booster systems and to the fed network, all kinds of functional safety, energy efficiency, pressurization stability and reliability of all their functions. The wide range available offers all types of mounting, such as the SPEEDMATIC series for direct mounting on the hydraulic part of the electric pump, SPEEDBOARD for direct mounting on the electric motor or SPEEDBOX for independent wall mounting.

In addition to the ranges described above, COELBO has created a new range of **Smart Tech** devices and accessories with the same objective of automatic control of single or group electric pumps through single-phase or three-phase SWITCHMATIC electronic pressure switches. The **Smart Tech** family also includes transducers and auxiliary devices to protect the electric pump against water shortage or power supply overcurrent.

COELBO has also developed a range called **Panel Matic** of control panels, which combine its own experienced basic electronics with the software derived from its own know-how, offering excellent versatility and a wide range of features that allows the control of all types of electric pumps, with single or multiple groups, allowing the programming of all the functional inputs attributable to any type of installation.

COELBO through its history and constant technological innovation, supported by multiple patents and internationally registered designs, is today one of the leading specialists in the field of electric pump Drivers and its products are exported to more than seventy countries that guarantee a recognized international prestige.

The success of some of our products has created a trend in the market and are the reason for replicas, but only COELBO original products are distinguished by our brand.

*The information and technical data contained in this commercial catalog are subject to change without notice.*

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# Hi Tech

The pump drivers family HI TECH covers a full range of inverters for single-phase and 3-phase pumps assembled in-line, wall-mounted or on-board. These devices integrate all the necessary hydraulic, electrical and electronic elements such as flow sensors, pressure switches, transducers, sensing elements of pressure, frequency or current intensity, LED lights, displays, push-buttons, ... etc

## **SPEEDMATIC SET (in-line)**

This patented device manages the main pump by inverter (frequency converter) allowing to keep a constant pressure, regulating the speed and adapting the electrical consumption of the pump independently of the required flow. When the main pump reaches its maximum efficiency, it starts the auxiliary pump. At this point, the main pump, decreases its speed just to continue modulating and offering its potential, depending on the required flow. Obviously, if the required flow decreases until the situation where a single pump is enough, the auxiliary pump will stop and the main pump will keep regulating self-sufficiently.

This system guarantees a permanent intervention of the inverter, modulating the speed and energetic consumption. The electric supply can be either single-phase or three-phase.

## **SPEEDMATIC SET ALT (in-line)**

It is a compact automatic control device designed for the automation of pressure groups with 2 pumps. It includes a frequency inverter for the main pump control regulating the speed in order to keep constant the pressure independently of the flow given, the auxiliary pump is managed by mean of power relay. There is alternated operating sequence.

## **SPEEDMATIC ALT (in-line)**

SPEEDMATIC ALT is designed for a booster system of two pumps, managed each one by inverter, programming its intervention alternatively, never simultaneously.

This system is frequently used for feeding installations for a single pump, but using two of them with the intention to increase their durability and assuring the flow supply in case of failure of one of them. In some countries this system is considered in the standards. It operates with single-phase power supply, the electric pumps can be either single-phase or three-phase, and it just must be chosen during the initial configuration.

## **SPEEDMATIC MASTER (in-line)**

The Speedmatic MASTER manages, with inverter, an electric pump designated as master or main pump, being part of a group composed of 2, 3 or 4 slaves or dependent units, these pumps are also managed by their respective Speedmatic, all of them are communicated between them and with the master. This system allows to rationalize the operation of the system thanks to its alternate and staggered intervention, besides the own advantages of the INVERTER as far as the maintenance of the constant pressure by power consumption and speed modulation.

The booster set is configured through the master that manages the alternation, the pressure, temporizations, etc. while each slave is configured according to the specifications of their own pump. In case of damages in the master, another unit automatically becomes master. All the devices are identical; they are defined as master or slave during the configuration process.

The communication between sets of 2 units is carried out by mean of a communication cable.

For booster sets of 3 or 4 pumps communication is carried out through an station called Speedcenter.

The Speedmatic is the same unit than the Speedmatic MASTER but without the option of being communicated to another unit.

## **SPEEDMATIC EASY (in-line)**

Speedmatic EASY is a simplified version of the pump driver Speedmatic, has a 2-digit display. It is designed as a "plug and play" device, so that when we have connected the device to the water mains and electricity is only necessary to select the set pressure.

## **SPEEDBOARD (on-board)**

ON-BOARD variable speed drive for 3-phase pumps, the power supply can be single-phase or three-phase depending on the model. It can be mounted individually or in groups of two pumps communicated and operating in MASTER-SLAVE mode. It is installed on the terminal box of the electric pump.

## **SPEEDBOX (wall mounted)**

SPEEDBOX is a wall-mounted variable speed drive designed for the single and three-phase pump's automation. It includes a frequency inverter that regulates the speed of the pump in order to keep constant the pressure independently of the flow given.

The system incorporates an LCD screen where the parameters configuration is very easy and intuitive. Once the configuration parameters are set, the SPEEDBOX manages the start-up of the pump and the frequency inverter. It assures a constant pressure and an important costs reduction because at any time the control will feed the system with the right and necessary output, obtaining a maximum energetic efficiency.

Speedbox is cooled by forced convection and there is no water circulation inside.




Power supply and outputs can be either single-phase or 3-phase covering a wide range of pumps.




Like our unit Speedmatic, the SPEEDBOX can be communicated directly to another identical unit or through the Speedcenter for a group of 3 or 4 units operating in master-slave mode.


SPEEDBOX SUB: it is the most suitable device for submersible pumps because of his integrated circuit breaker and an internal housing for the start capacitor required in single-phase pumps.

SPEEDBOX DUO: Wall-mounted pump driver for the control of two pumps either at variable speed.

SPEEDBOX DUO SET: Wall-mounted pump driver for the control of two three-phase electric pumps. It includes a frequency inverter for the main pump control, regulating the speed in order to keep constant the pressure independently of the flow given, the auxiliary pump is managed by mean of power relay. There is alternated operating sequence.

In-line assembly	Model	Power supply Voltage	Pumps Connection		Pumps No.
			Main	Aux.	
	Speedmatic SET 2010 - 3010	~3x400 V (+N)	~3x230 V (Δ) (10 A)	~3x400 V (5 A)	2 - 3
	Speedmatic SET 2110 - 3110	~1x230 V	~3x230 V (Δ) (10 A)	~1x230 V (10 A)	2 - 3
	Speedmatic SET 21110 - 31110	~1x230 V	~1x230 V (10 A)		2
	Speedmatic SET ALT	~1x230 V	~1x230 V (12 A)	~1x230 V (12 A)	2
	Speedmatic ALT	~1x230 V	~1x230 V ~3x230 V (10 A)	~1x230 V ~3x230 V (10 A)	2
	Ecodrive	~1x230 V	~1x230 V (7,5 A)	-	1
	Speedmatic easy 09 MM	~1x230 V	~1x230 V (9 A)	-	1-2
	Speedmatic easy 12 MM		~1x230 V (12 A)	-	1-2
	Speedmatic easy 14 MM		~1x230 V (14 A)	-	1-2
	Speedmatic easy 06 MT		~3x230 V (Δ) (6 A)	-	1-2
	Speedmatic easy 10 MT		~3x230 V (Δ) (10 A)	-	1-2
	Speedmatic Master 101165	~1x230 V	~1x230 V (5 A) ~3x230 V (Δ) (6 A)	-	1-4
	Speedmatic Master 101110		~1x230 V (10 A) o ~3x230 V (Δ) (10 A)	-	1-4
	Speedmatic 1305	~3x400 V	~3x400 V (5 A)	-	1-4
	Speedmatic 1309		~3x400 V (9 A)	-	1-4
	Speedmatic 1314		~3x400 V (14 A)	-	1-4

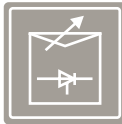
Wall-mounted assembly	Model	Power supply Voltage	Pumps Connection	Pumps No.
	Speedcenter	12 Vcc (S101040) ~1x230 V (S101228)	-	3-4
	Speedbox 1010 MT	~1x230 V	~3x230 V (Δ) (10 A)	1-4
	Speedbox 1112 MM		~1x230 V (12 A)	
	Speedbox 1305 TT	~3x400 V	~3x400 V (5 A)	
	Speedbox 1309 TT		~3x400 V (9 A)	
	Speedbox 1314TT		~3x400 V (14 A)	
	Speedbox 1325TT		~3x400-440 V (25 A)	
	Speedbox 1332TT	~3x400-440 V	~3x400-440 V (32 A)	
	Speedbox SUB	~1x230 V	~1x230 V (12 A)	
	Speedbox Duo	~1x230 V	2 VSD 1x230 V (12A) 2 VSD 3x230 V (10A)	2
	Speedbox Duo Set	~3x400 V	2 x ~3x400 V (9A)	2

On-board assembly	Model	Power supply Voltage	Pumps Connection	Pumps No.
	Speedboard 1006 MT	~1x230 V	~3x230 V (Δ) (6 A)	1-4
	Speedboard 1010 MT		~3x230 V (Δ) (10 A)	
	Speedboard 1305 TT	~3x400 V	~3x400 V (5 A)	
	Speedboard 1309 TT		~3x400 V (9 A)	
	Speedboard 1314 TT		~3x400 V (14 A)	

# Speedmatic Set

Driver for two (2010, 2110 & 21110) or three (3010, 3110 & 31110) electric pumps. Patented system.

Main pump managed by INVERTER and the auxiliary pump managed by a power relays. Models 3010, 3110 and 31110 have 2 auxiliary pumps with alternated operating sequence. General supply for devices 2010 and 3010 is three-phase, and for 2110, 21110, 3110 and 31110 is single-phase. On models 2010 and 3010 all pumps are three-phase. On models 2110 and 31110 all pumps are single-phase. On models 2110 and 3110 the main pump is three-phase and the auxiliary ones are single-phase.



[SET 2010](#)  
[SET 3010](#)  
[SET 2110](#)  
[SET 3110](#)  
[SET 21110](#)  
[SET 31110](#)

## OPERATING CHARACTERISTICS

- Main pump managed by frequency converter (inverter).
- Auxiliary pumps at full speed, managed by independent power relays.
- **ART** function (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry running operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system. Optional.
- Electronic input for detection of minimum water level in aspiration tank -optional. This system is independent of the safety system against dry-running operation.
- Inner pressure transducer with digital indicator.
- Inner current sensor with instantaneous digital reading.
- Control and information panel with LCD display.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.

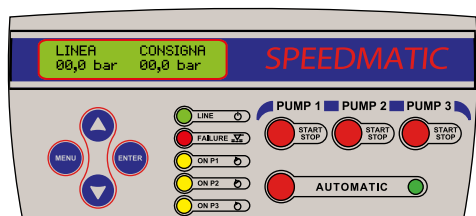


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Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

		2010-3010	2110-3110	21110-31110
Power supply voltage		~3x400 Vac (+N)	~1x230 Vac	~1x230 Vac
Frequency		50/60 Hz	50/60 Hz	50/60 Hz
Max current main pump		10A(~3x230 V) Δ	10A(~3x230 V) Δ	10A(~1x230 V)
Max current auxiliary pump		5A (~3x400 V) Y	10A(~1x230 V)	10A(~1x230 V)
Max operating pressure		16 bar	16 bar	16 bar
Range of set pressure		0,5 ÷ 12 bar	0,5 ÷ 12 bar	0,5 ÷ 12 bar
Protection Index		IP55	IP55	IP55
Max water temperature		40 °C	40 °C	40 °C
Max environment temperature		50 °C	50 °C	50 °C
Net weight (without cables)		3,6-4 kg	3,6-4 kg	3,6-4 kg
Innet and outlet threads		G 1 1/4"	G 1 1/4"	G 1 1/4"
Max flow:	Speedmatic Set	15.000 l/h	15.000 l/h	15.000 l/h
	Auxiliary pumps	Q l/h	Q l/h	Q l/h
	Total group (2/3 pumps)	(15.000 + Q) l/h	(15.000 + Q) l/h	(15.000 + Q) l/h

## CONTROL PANEL

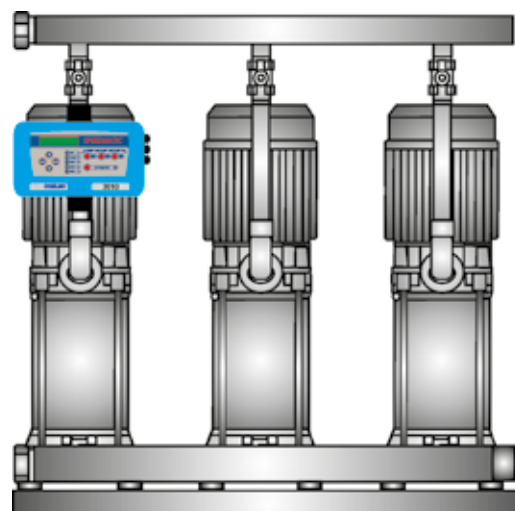
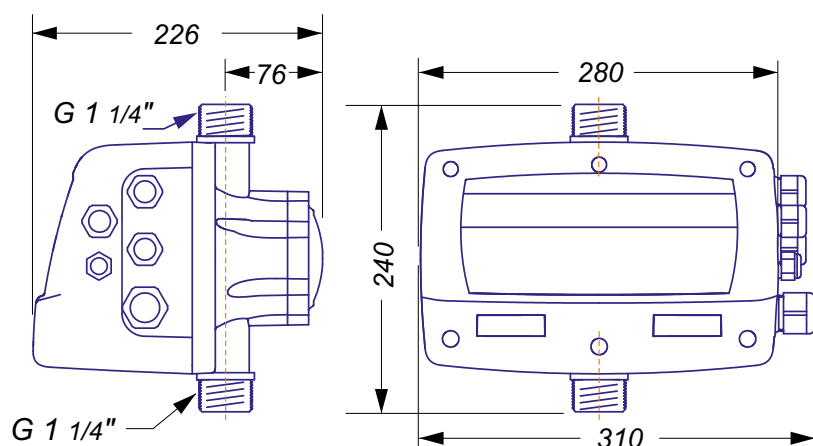


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overloads.
- Electronic control and safety system against dry running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases.

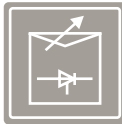
## DIMENSIONS



# Speedmatic Set Alt

Driver for two single-phase electric pumps at variable speed. Patented system.

SPEEDMATIC SET ALT is a compact automatic control device designed for the automation of pressure groups with 2 pumps, with an electronic system managed by a software responding to the rigorous requirements of efficiency and safety of the most important builders of pumps. It includes a frequency inverter for the main pump control regulating the speed in order to keep constant the pressure independently of the flow given, the auxiliary pump is managed by mean of power relay. There is alternated operating sequence, these means that the pump managed by the inverter is changed in each operating cycle and it is always the first to start.



## SET ALT 2110 MM

### OPERATING CHARACTERISTICS

- Main pump managed by frequency converter (inverter).
- Auxiliary pump at full speed with power relay.
- Alternated operation sequence. Main pump changes in each operation cycle.
- **ART** function (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system. Optional.
- Electronic input for detection of minimum water level in aspiration tank- optional-. This system is independent of the safety against dry-run operation.
- Inner pressure transducer with digital indicator,
- Inner current sensor with instantaneous digital reading.
- Control and information panel with LCD display.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Possibility to act over the PID.



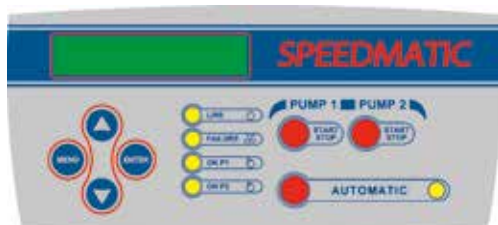
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Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC



## TECHNICAL CHARACTERISTICS

		SET ALT MM
Power supply voltage		~1 x 230 Vac
Frequency		50/60 Hz
Max current main pump		12A (~1 x 230 Vac)
Max current auxiliary pump		12A (~1 x 230 Vac)
Max operating pressure		16 bar
Range of set pressure		0,5 ÷ 12 bar
Protection Index		IP55
Max water temperature		40 °C
Max environment temperature		50 °C
Net weight (without cables)		3,6-4 kg
Innet and outlet threads		G 1 1/4"
Max flow:	Speedmatic Set	15.000 l/h
	Auxiliary pumps	Q l/h
	Total group (2 pumps)	(15.000 + Q) l/h

## CONTROL PANEL

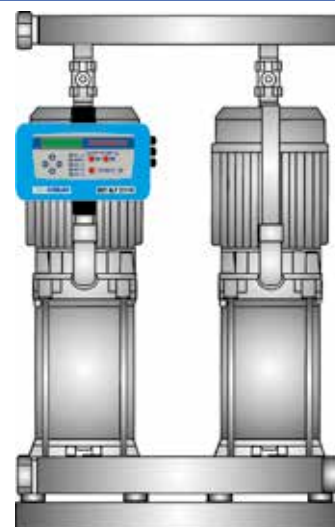
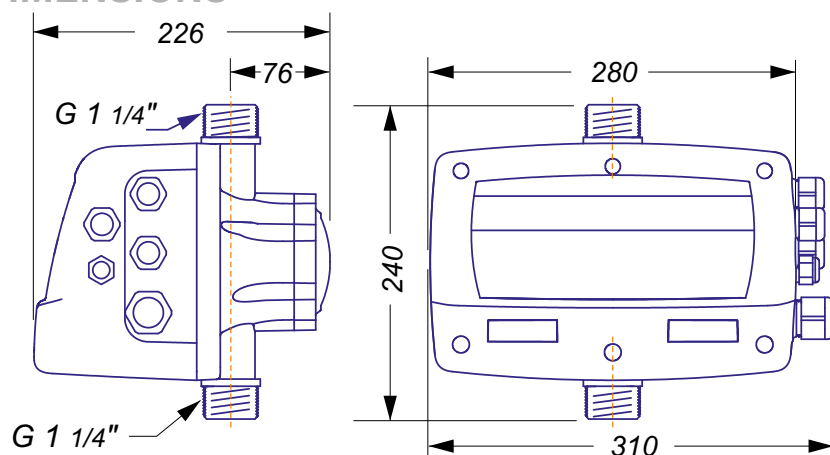


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against over-intensities.
- Electronic control and safety system against dry operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases.

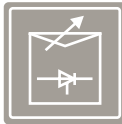
## DIMENSIONS



# Speedmatic Alt

Driver for two single-phase or three-phase electric pumps at variable speed and alternated operating sequence. Patented system.

Both pumps are managed by the same inverter (frequency converter) with alternated sequence - never simultaneously - in each operating cycle. This system guarantees the flow supply in case of failure of one of the electric pumps and also increase their durability. The electrical supply of the pumps -single phase or 3-phase- it's chosen through the configuration menu.



ALT 202110

## OPERATING CHARACTERISTICS

- Both pumps managed at variable speed (inverter).
- Alternated operating sequence.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system. This use is optional.
- Electronic input for detection of minimum water level in aspiration tank -optional. This system is independent of the safety against dry-running operation.
- Inner pressure transducer with digital indicator,
- Inner current sensor with instantaneous digital reading.
- Control and information panel with LCD display.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.



Low Voltage Directive 2014/35/EC  
Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

	ALT
Power supply voltage	~1 x 230 Vac
Frequence	50/60 Hz
Max current per phase	10A(~3 x 230 V) o 10A(~1 x 230 V)
Max operating pressure	16 bar
Range of set pressure	05 ÷ 12 bar
Protection degree	IP55
Max water temperature	40 °C
Max environment temperature	50 °C
Net weight (without cables)	3,7 kg
Inlet and output thread	G 1 1/4"
Max flow	15.000 l/h

## CONTROL PANEL

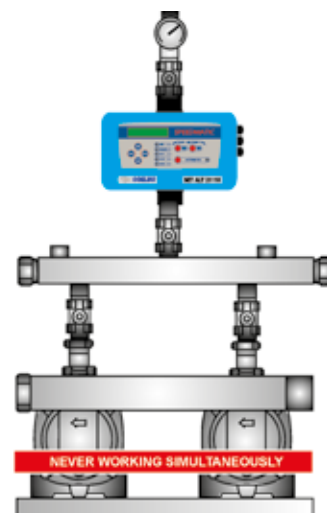
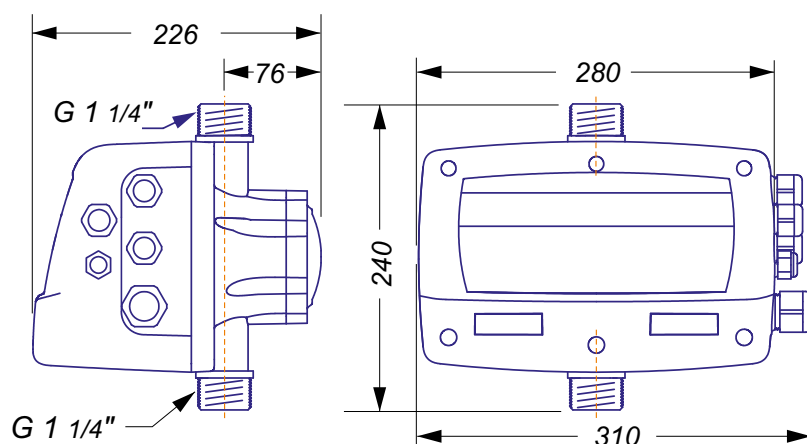


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overload.
- Electronic control and safety system against dry operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases.

## DIMENSIONS



# Ecodrive

Driver for one single-phase pump with variable speed. Plug and play unit.

General electric supply is single-phase 230 Vac. Easy to setup and operate, as it's only necessary to connect and select the set point pressure. Individual assembly.



## Ecodrive

### OPERATING CHARACTERISTICS

- Pump managed by frequency converter (inverter).
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Inner pressure transducer with digital indicator,
- Inner current sensor with instantaneous digital reading.
- Control and information panel with 2 digits.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.



REGISTERED  
DESIGN



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## TECHNICAL CHARACTERISTICS

	Ecodrive
Power supply voltage	1x230 Vac ~
Frequency	50/60 Hz
Output	1x230 Vac ~
Max. current	7,5 A
Max. peak of current	20% 10"
Range of set pressure	0,5 ÷ 8 bar
Protection degree.	IP55
Max water temperature.	40 °C
Max environment temperature.	50 °C
Net weight (without cables)	2,5 kg
Innet and outlet threads	G 1" / NPT 1"
Max flow	8.000 l/h

## CONTROL PANEL

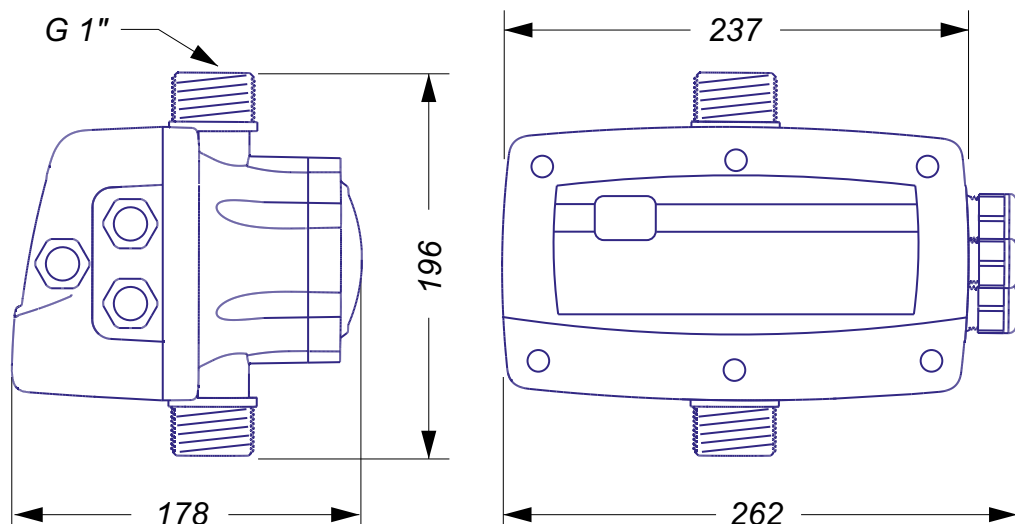


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety against overload.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit.
- Control and safety system against dry-running operation.

## DIMENSIONS



# Speedmatic Easy

Driver for one single-phase or 3-phase pump at variable speed. Plug and play unit.

General electric supply is single-phase 230 Vac. Easy to setup and operate, as it's only necessary to connect and select the setpoint pressure. It can be mounted individually (only one pump) or in group of 2 pumps communicated and operating in MASTER-SLAVE mode with alternated sequence of operation.



**EASY 09 MM**

**EASY 12 MM**

**EASY 06 MT**

**EASY 10 MT**

## OPERATING CHARACTERISTICS

- Pump managed by frequency converter (inverter).
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **MASTER-SLAVE** operation mode. The group will consist of 2 communicated devices: a main device configured like MASTER and an auxiliary device configured as SLAVE. The operating system is alternated, the device configured as MASTER is the responsible of the control but it does not imply that is the first to start when there is a flow demand.
- Automatic restore system after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Inner pressure transducer with digital indicator,
- Inner current sensor with instantaneous digital reading.
- Control and information panel with 2 digits.
- Electronic input for detection of minimum water level in aspiration tank - optional. This is independent of the safety system against dry-running operation.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.



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Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

	09MM	12MM	14MM	06MT	10MT
Power supply voltage	~1 x230 Vac	~1 x230 Vac	~1 x230 Vac	~1 x230 Vac	~1 x230 Vac
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Output	~1 x230 Vac	~1 x230 Vac	~1 x230 Vac	~3 x230 Vac	~3 x230 Vac
Max. current	9 A	12 A	14 A	6 A	10 A
Max. peak of current	20% 10"	20% 10"	20% 10"	20% 10"	20% 10"
Range of set pressure	0,5 ÷ 8 bar	0,5 ÷ 8 bar	0,5 ÷ 8 bar	0,5 ÷ 8 bar	0,5 ÷ 8 bar
Protection degree	IP55	IP55	IP55	IP55	IP55
Max water temperature	40 °C	40 °C	40 °C	40 °C	40 °C
Max environment temperature	50 °C	50 °C	50 °C	50 °C	50 °C
Net weight (without cables)	2,5 kg	2,5 kg	2,5 kg	2,5 kg	2,5 kg
Innet and outlet threads	G 1 1/4"M	G 1 1/4"M	G 1 1/4"M	G 1 1/4"M	G 1 1/4"M
Max flow	10.000 l/h	10.000 l/h	10.000 l/h	10.000 l/h	10.000 l/h
	i/o: ~1/~1			i/o: ~1/~3	

## CONTROL PANEL

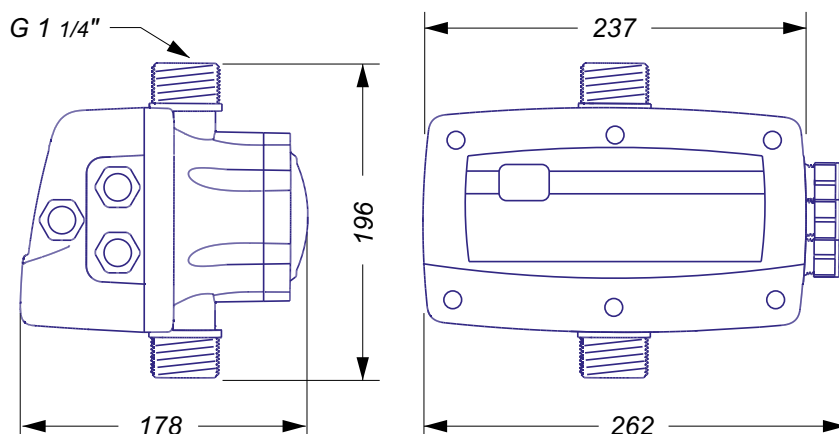


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety against overload.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit.
- Control and safety system against dry-running operation.

## DIMENSIONS



# Speedmatic 101110 & 101165

Driver for a single pump at variable speed, it can be communicated to other identical devices managing a maximum of 4 pumps. Communication can be carried out using cables.

Driver for single-phase or three-phase pump managed by INVERTER. General electric supply is 230 Vac. It can be mounted individually (only one pump) or in group of 2, 3 or 4 pumps communicated and operating in MASTER-SLAVE mode with alternated sequence of operation. The communication of 2 devices is direct -using cables. The communication of 3 or 4 units is carried out through of the communication center SPEEDCENTER



101110

101165

## OPERATING CHARACTERISTICS

- Pump managed by frequency converter (inverter).
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **MASTER-SLAVE** operation mode. Up to 4 communicated units operating in mode MASTER-SLAVE: a main device configured as a MASTER and the rest of devices configured as SLAVES. The operating system is alternated, the device configured as MASTER is the responsible of the control but it does not imply that is the first to start when there is flow demand.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Electronic input for detection of minimum water level in aspiration tank- optional. This system is independent of the safety system against dry-running operation.
- Inner pressure transducer with digital indicator.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.



Low Voltage Directive 2014/35/EC  
Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC



## TECHNICAL CHARACTERISTICS

	101110	101165
Power supply voltage	1 x 230 Vac	1 x 230 Vac
Frequency	50/60 Hz	50/60 Hz
Max current per phase pump	10A (~3x230 Vac) o 9A (~1 x 230 Vac)	6A (~3x230 Vac) o 5A (~1 x 230 Vac)
Max peak of current	+20% 10seg	+20% 10seg
Max operating pressure	15 bar	15 bar
Range of set pressure	05 ÷ 12 bar	05 ÷ 12 bar
Protection degree	IP55	IP55
Max water temperature	40 °C	40 °C
Max environment temperature	50 °C	50 °C
Net weight (without cables)	2,5 kg	2,5 kg
Inlet and outlet threads	G 1 1/4"	G 1 1/4"
Max flow	10.000 l/h	10.000 l/h

## CONTROL PANEL

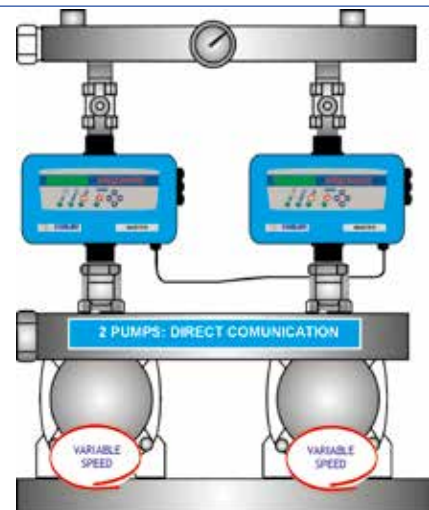
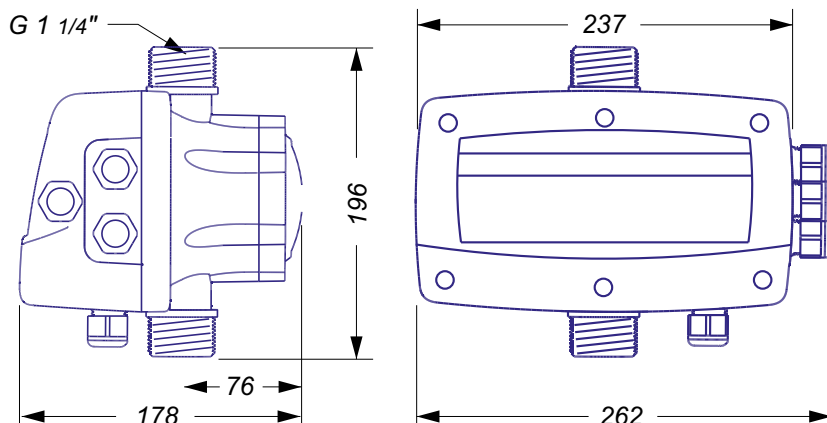


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overloads.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases.

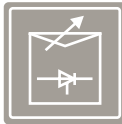
## DIMENSIONS



# Speedmatic 1305 & 1309

Driver for a one 3-phase pump at variable speed, it can be communicated to other identical devices managing a maximum of 4 pumps.

Three-phase pump managed by INVERTER. General electric supply is 400 Vac. It can be mounted individually (only one pump) or in group of 2, 3 or 4 pumps communicated and operating in MASTER-SLAVE mode with alternated sequence of operation. The communication of 2 devices is direct using cables. The communication of 3 or 4 units is carried out through the communication center SPEEDCENTER.



1305 MASTER

1309 MASTER

## OPERATING CHARACTERISTICS

- Pump managed by frequency converter (inverter).
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **MASTER-SLAVE** operation mode. Up to 4 communicated units operating in mode MASTER-SLAVE: a main device configured as a MASTER and the rest of devices configured as SLAVES. The operating system is alternated, the device configured as MASTER is the responsible of the control but it does not imply that is the first to start when there is flow demand.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system. Optional.
- Electronic input for detection of minimum water level in aspiration tank- optional-. This system is independent of the safety system against dry-running operation.
- Inner pressure transducer with digital indicator,
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.



Low Voltage Directive 2014/35/EC  
Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

	1305	1309
Power supply voltage	~3 x 400 Vac	~3 x 400 Vac
Frecuence	50/60 Hz	50/60 Hz
Max current per phase	5A(~3 x 400 Vac)	9A(~3 x 400 Vac)
Máx. peak of current	20% 10 seg	20% 10 seg
Max operating pressure	16 bar	16 bar
Range of set pressure	05 ÷ 12 bar	05 ÷ 12 bar
Protection degree	IP55	IP55
Max water temperature	40 °C	40 °C
Max environment temperature	50 °C	50 °C
Net weight (without cables)	3,5 kg	5 kg
Inlet thread	G1 1/4" M	G1 1/4" M
Outlet thread	G1 1/4" M	G1 1/4" M
Max flow	15.000 l/h	15.000 l/h

## CONTROL PANEL

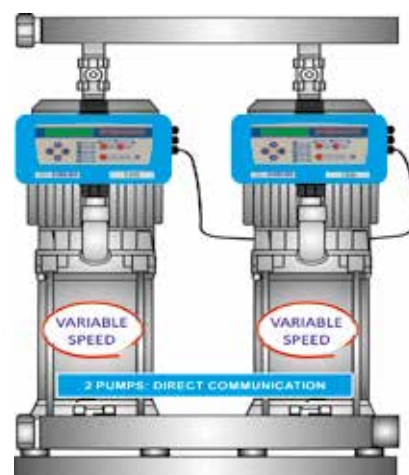
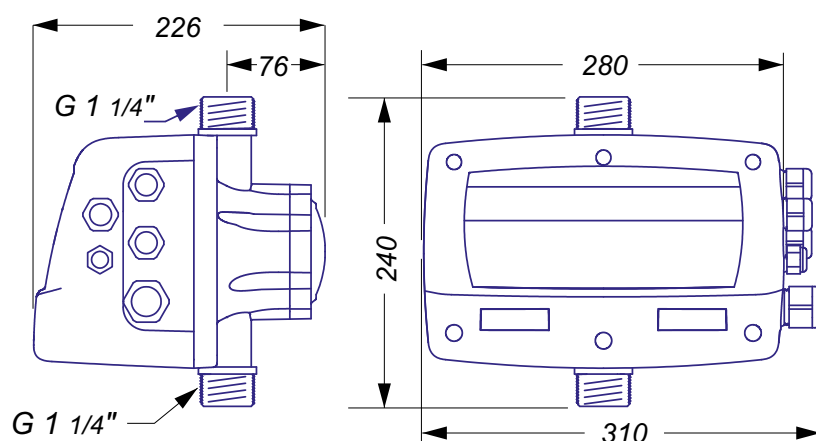


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overloads.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases.

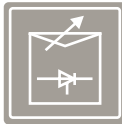
## DIMENSIONS



# Speedmatic 1314

Driver for a single three-phase pump at variable speed, it can be communicated to other identical devices managing a maximum of 4 pumps.

Three-phase pump managed by INVERTER. General electrical supply is 400 Vac. It can be mounted individually (only one pump) or in groups of 2, 3 or 4 pumps communicated and operating in mode MASTER-SLAVE with alternated sequence of operation. The communication of 2 devices is direct using cables. The communication of 3 or 4 units is carried out through the communication center SPEEDCENTER.



## 1314 MASTER

### OPERATING CHARACTERISTICS

- Main pump managed by frequency converter (inverter).
- **ART** function (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry-running operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **MASTER-SLAVE** operation mode. Up to 4 communicated units operating in mode MASTER-SLAVE: a main device configured as a MASTER and the rest of devices configured as SLAVES. The operating system is alternated, the device configured as MASTER is the responsible of the control but it does not imply that is the first to start when there is flow demand.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system.
- Electronic input for detection of minimum water level in aspiration tank- optional-. This system is independent of the safety against dry-running operation.
- Inner pressure transducer with digital indicator.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu

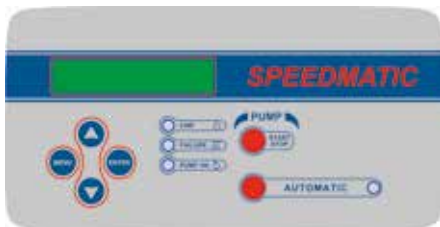


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Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

	1314
Power supply voltage	~3 x 400 Vac
Frequency	50/60 Hz
Max current per phase	14 A (~3 x 400 Vac)
Max operating pressure	8 bar
Range of set pressure	0,5 ÷ 8 bar
Protection degree	IP55
Temperatura máxima del agua	40 °C
Temperatura ambiente máxima	50 °C
Net weight (without cables)	5 kg
Inlet thread	G 2" M
Outlet thread	G 2" F
Max flow	25.000 l/h

## CONTROL PANEL

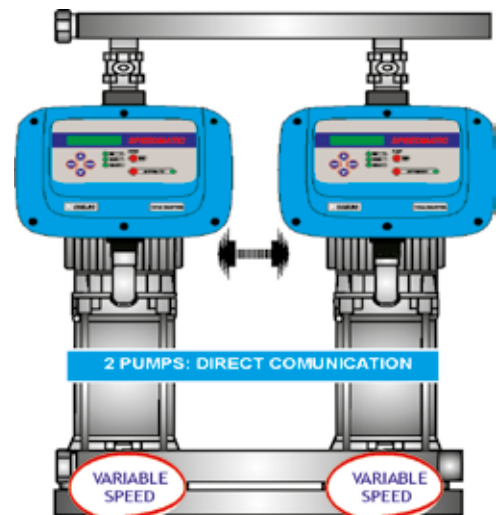
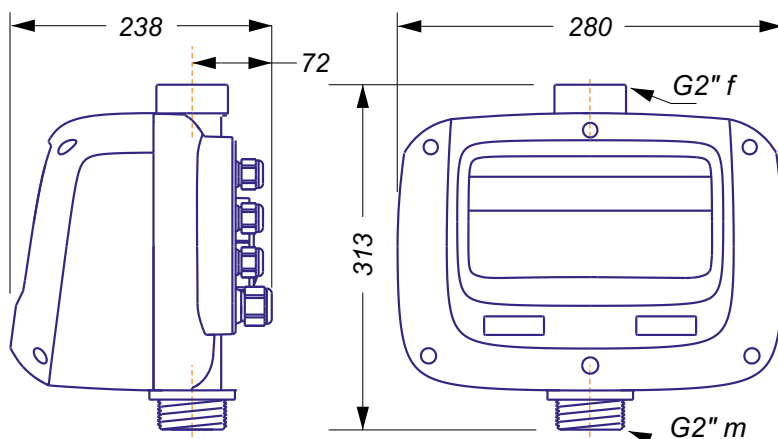


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overloads.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases.

## DIMENSIONS



# Speedcenter

Comunication center between units Speedmatic, Speedbox and Speedboard.

It can be comunicated up to 4 units Speedmatic, Speedbox and Speedboard MASTER operating in MASTER-SLAVE mode, managing the start and stop of these devices. Speedcenter includes a control panel with LCD screen, warning led-lights, push-buttons for configuration and manual start-stop. I



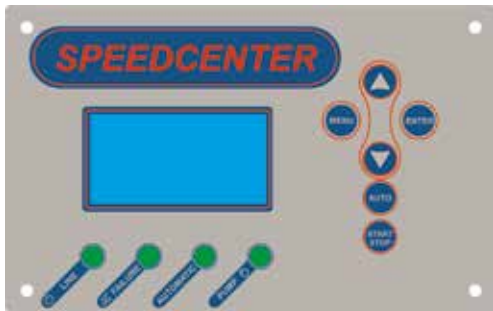
S101040

S101228

## SELECTION TABLE

	S101040	S101228
Speedmatic - complete range	✓	
Speedbox - complete range		✓
Speedboard 1006MT - 1010MT	✓	
Speedboard 1305TT - 1309TT - 1314TT		✓

## CONTROL PANEL



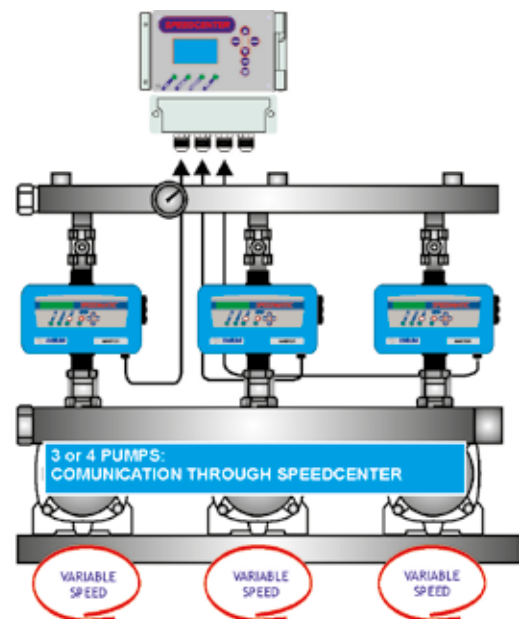
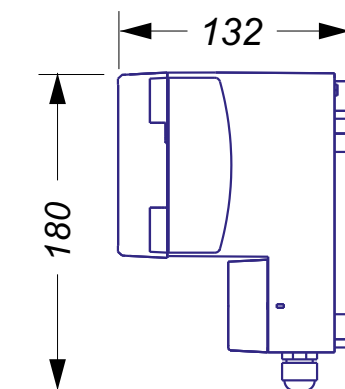
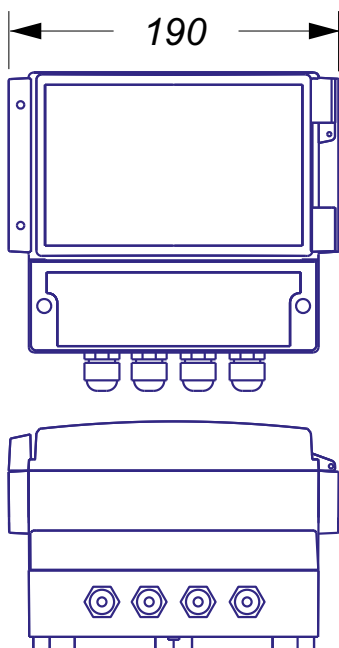
Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## TECHNICAL CHARACTERISTICS

	S101040	S101228
General supply voltage	12 Vcc *	~ 1 x 230 Vac
Communication points	4	
Wiring	4 x 0,25	
Protection index	IP65	
Max environment temperature	55 °C	
SCREEN	STN-GRAFIC 64 X 128 digits	

\* Through Speedmatic's communication cable

## DIMENSIONS



# Speedbox

Wall-mounted pump driver for a single pump at variable speed.

Designed for the automation of single-phase and 3-phase pumps managed by inverter. General electrical supply is ~1x230 or ~3x400 Vac -depending on model. It can be mounted individually or in groups of 4 pumps communicated and operating in MASTER-SLAVE mode with alternated sequence of operation.



1010 MT  
1112 MM  
1305 TT  
1309 TT  
1314 TT

## OPERATING CHARACTERISTICS

- Wall mounted variable speed drive for single-phase and 3-phase pumps control.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- **MASTER-SLAVE** operation mode. Up to 4 communicated units operating in mode MASTER-SLAVE: a main device configured as a MASTER and the rest of devices configured as SLAVES. The operating system is alternated, the device configured as MASTER is the responsible of the control but it does not imply that is the first to start when there is flow demand.
- **Programmable electronic input**. It can be configured as: control of an external level detector, assignment of a second pressure setpoint or remote start-stop control.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system.
- **STC function** (Smart Temperature Control): when temperature of electronic circuit is over 85 °C reduce automatically the frequency of the pump and decrease the generation of heat but keeping the flow of water.
- External pressure transducer 0-10 bar, 0-16 bar or 0-25 bar with 4-20 mA input.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters**. Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms**. Information about type and number of alarms.
- Open PID in the expert menu.
- Cooling by forced convection.



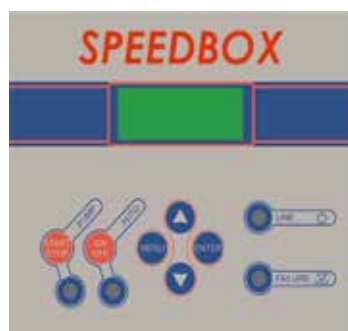
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RoHS 2011/65/EC + 2015/863/EC



## TECHNICAL CHARACTERISTICS

	1010 MT	1112 MM	1305 TT - 1309TT - 1314TT
Power supply voltage	~1 x 230 Vac	~1 x 230 Vac	~3 x 400 Vac
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Output voltage	~3 x 230 Vac	~1 x 230 Vac	~3 x 400 Vac
Max current	10 A	12 A	5 A - 9 A - 14A
Max peak current	20% 10"	20% 10"	20% 10"
Range of set pressure	0,5 ÷ 25 bar	0,5 ÷ 25 bar	0,5 ÷ 25 bar
Protection degree	IP55	IP55	IP55
Input transducer	4-20 mA	4-20 mA	4-20 mA
Max environment temperature	50 °C	50 °C	50 °C
Net weight (without cables)	4,5 kg	3,5 kg	4,5 kg
Cooling system	Forced Convection	Forced Convection	Forced Convection
	i/o: ~1/~3	i/o: ~1/~1	i/o: ~3/~3

## CONTROL PANEL

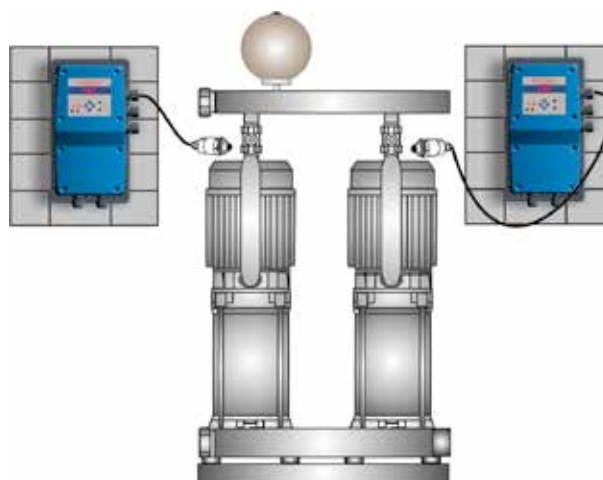
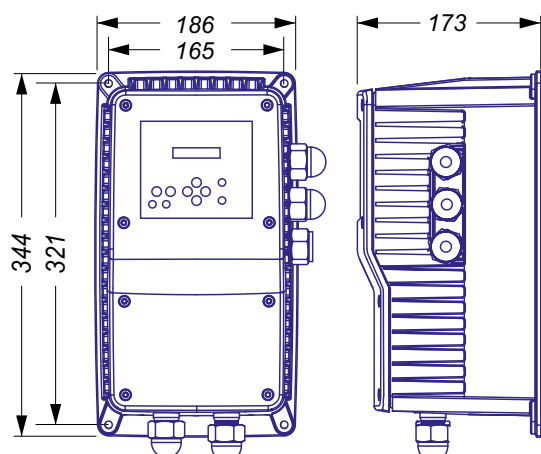


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overload.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases

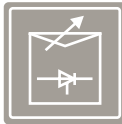
## DIMENSIONS



# Speedbox

Wall-mounted pump driver for a single pump at variable speed.

Designed for the automation of 3-phase pumps managed by inverter. General electrical supply ~3x400-440 Vac. It can be mounted individually or in groups of 4 pumps communicated and operating in MASTER-SLAVE mode with alternated sequence of operation.



1325 TT

1332 TT

## OPERATING CHARACTERISTICS

- Wall mounted variable speed drive for 3-phase pumps control.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- **MASTER-SLAVE** operation mode. Up to 4 communicated units operating in mode MASTER-SLAVE: a main device configured as a MASTER and the rest of devices configured as SLAVES. The operating system is alternated, the device configured as MASTER is the responsible of the control but it does not imply that is the first to start when there is flow demand.
- **Programmable electronic input**. It can be configured as: control of an external level detector, assignment of a second pressure setpoint or remote start-stop control.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system.
- **STC function** (Smart Temperature Control): when temperature of electronic circuit is over 85 °C reduce automatically the frequency of the pump and decrease the generation of heat but keeping the flow of water.
- External pressure transducer 0-10 bar, 0-16 bar or 0-25 bar with 4-20 mA input.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters**. Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms**. Information about type and number of alarms.
- Open PID in the expert menu.
- Cooling by forced convection.

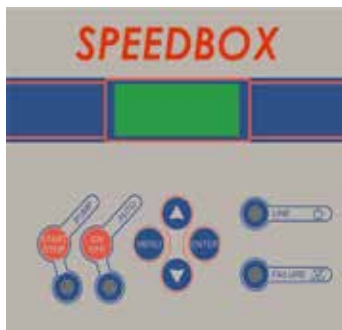


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## TECHNICAL CHARACTERISTICS

	1325TT	1332TT
Power supply voltage [+10%;-20%]	~3 x 400-440 Vac	~3 x 400-440 Vac
Frequency	50/60 Hz	50/60 Hz
Output voltage [+10%;-20%]	~3 x 400-440 Vac	~3 x 400-440 Vac
Max current	25 A	32 A
Max peak current	20% 10"	20% 10"
Range of set pressure	0,5 ÷ 25 bar	0,5 ÷ 25 bar
Protection degree	IP55	IP55
Input transducer	4-20 mA	4-20 mA
Max environment temperature	50 °C	50 °C
Net weight (without cables)	10 kg	10 kg
Cooling system	Forced Convection	Forced convection

## CONTROL PANEL

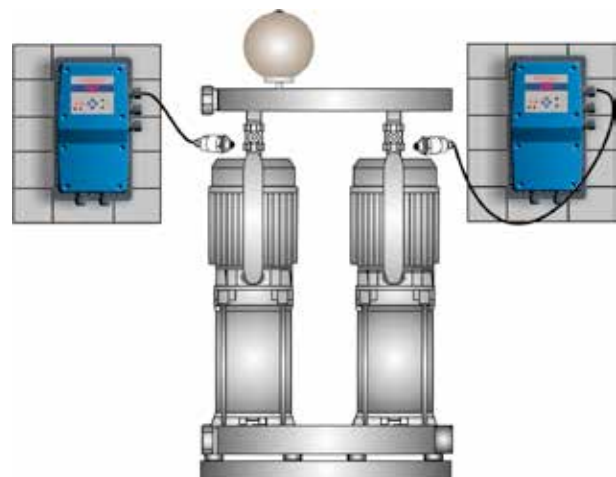
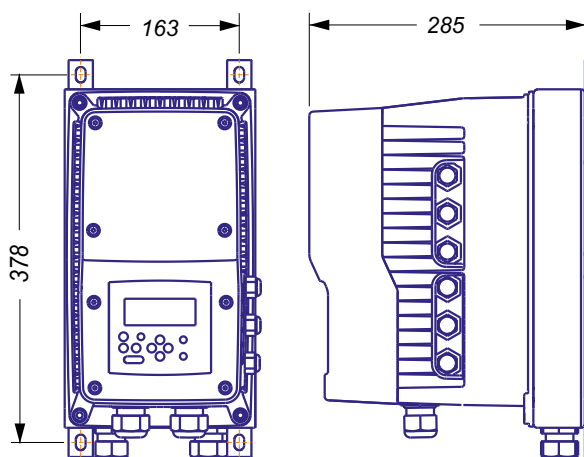


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overload.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases

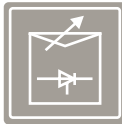
## DIMENSIONS



# Speedbox SUB

Wall-mounted pump driver for a single pump with variable speed.

Single-phase pump managed by an inverter. General electrical supply is ~1x230Vac. Ideal device for submersible pumps because of his integrated circuit breaker and an internal housing for the start capacitor required in single-phase pumps.



**SUB 1112 MM**

## OPERATING CHARACTERISTICS

- Frequency inverter for the pump control.
- Thermal-magnetic circuit breaker C 16A.
- Internal housing for the start capacitor until Ø50mm.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Electronic input for detection of minimum water level in aspiration tank- optional-. This system is independent of the safety system against dry-running operation.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system.
- **STC function** (Smart Temperature Control): when temperature of electronic circuit is over 85 °C reduce automatically the frequency of the pump and decrease the generation of heat but keeping the flow of water.
- External pressure transducer 0-10 bar, 0-16 bar or 0-25 bar with 4-20 mA input.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters**. Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms**. Information about type and number of alarms.
- Open PID in the expert menu.
- Cooling by forced convection.



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## TECHNICAL CHARACTERISTICS

	1112 MM
Power supply voltage	~1 x 230 Vac
Frequency	50/60 Hz
Output voltage	~1 x 230 Vac
Max current	12 A
Max peak current	20% 10"
Range of set pressure	0,5 ÷ 25 bar
Protection degree	IP55
Input transducer	4-20 mA
Max environment temperature	50 °C
Net weight (without cables)	4,0 kg
Cooling system	Forced Convection
	i/o: ~1/~1

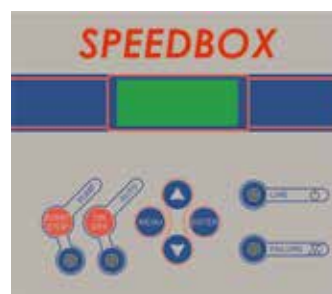
## SAFETY SYSTEMS

- Control and safety system against overload.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases

## CONTROL PANEL

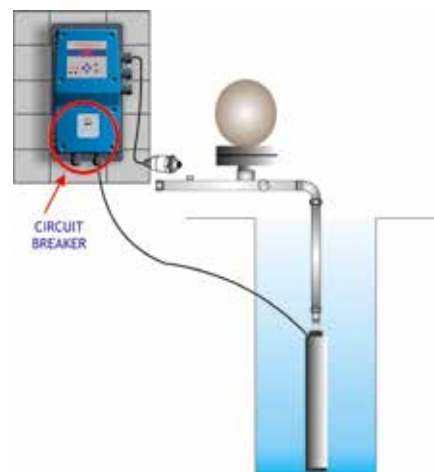
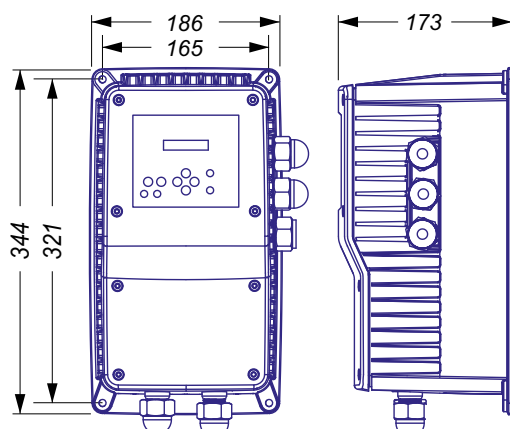
Control panel includes:

- LCD screen.
- Warning led-lights.
- Push-buttons, START-STOP, AUTOMATIC and configuration system.



Thermal-magnetic circuit breakers integrated.

## DIMENSIONS



# Speedbox Duo

Wall-mounted pump driver for the control of two pumps at variable speed.

Single-phase or 3-phase pumps managed by two INVERTERS. Electric supply is single-phase 230V. Both pumps operate in cascade with alternated starting sequence.



Duo

## OPERATING CHARACTERISTICS

- 2 inner inverters controlled by a single control for the management of 2 pumps.
- 2 operation modes: **duty-assist** and **duty-standby**.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- **Programmable electronic input**. It can be configured as: control of an external level detector, assignment of a second pressure setpoint or remote start-stop control.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system.
- **STC function** (Smart Temperature Control): when temperature of electronic circuit is over 85 °C reduce automatically the frequency of the pump and decrease the generation of heat but keeping the flow of water.
- Input 4-20 mA for external pressure transducer.
- Control and information panel with LCD screen.
- External pressure transducer 0-10 bar, 0-16 bar or 0-25 bar with 4-20 mA input.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters**. Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms**. Information about type and number of alarms.
- Open PID in the expert menu.

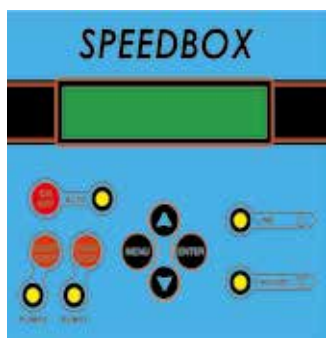


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Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

	Duo
Power supply voltage	~1 x 230 Vac
Frequency	50/60 Hz
Max current pump 1	10 A (~3 x 230 Vac) ou 12A (~1 x 230 Vac)
Max current pump 2	10 A (~3 x 230 Vac) ou 12A (~1 x 230 Vac)
Max peak current	20% 10"
Range of set pressure	0,5 ÷ 25 bar
Protection degree	IP65
Input transducer	4-20 mA
Max environment temperature	50 °C
Net weight (without cables)	4,8 kg
Cooling system	Forced Convection
	i/o: ~1/~3

## CONTROL PANEL

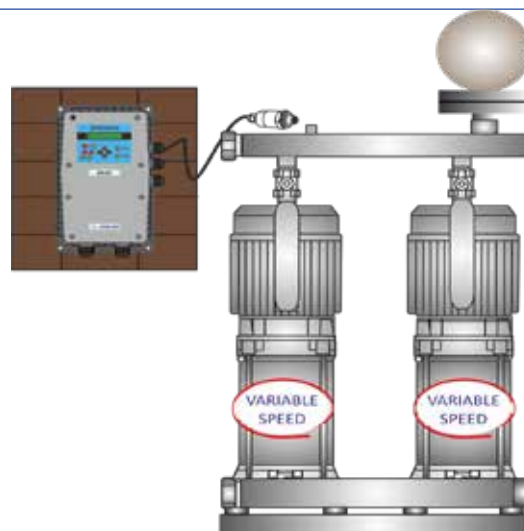
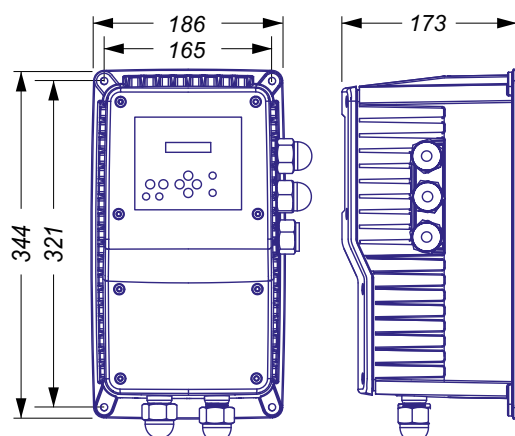


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overload.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases

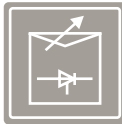
## DIMENSIONS



# Speedbox Duo Set

Wall-mounted pump driver for the control of two 3-phase electric pumps. Patented system.

SPEEDBOX DUO SET is a compact automatic control device designed for the automation of pressure groups with 2 pumps. It includes a frequency inverter for the main pump control regulating the speed in order to keep constant the pressure independently of the flow given, the auxiliary pump is managed by mean of power relay. There is alternated operating sequence, these means that the pump managed by the inverter is changed in each operating cycle and it is always the first to start.



Duo Set

## OPERATING CHARACTERISTICS

- Main pump at variable speed, managed by frequency converter (inverter).
- Auxiliary pump at full speed, managed by power relay.
- Alternated operating sequence and cascade.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous mode keeping the configuration parameters.
- Electronic input for detection of minimum water level in aspiration tank- optional. This system is independent of the safety system against dry-running operation.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system.
- **STC function** (Smart Temperature Control): when temperature of electronic circuit is over 85 °C reduce automatically the frequency of the pump and decrease the generation of heat but keeping the flow of water.
- External pressure transducer 0-10 bar, 0-16 bar or 0-25 bar with 4-20 mA input.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.



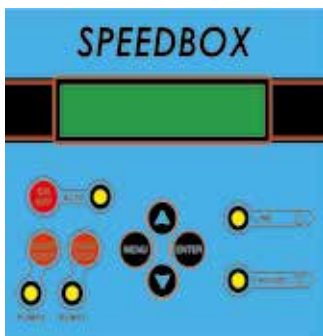
Low Voltage Directive 2014/35/EC  
Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC



## TECHNICAL CHARACTERISTICS

	Duo Set
Power supply voltage	~3 x 400 Vac
Frequency	50/60 Hz
Max current main pump	9 A (~3 x 400 Vac)
Max current auxiliary pump	9A (~3 x 400 Vac)
Max peak current	20% 10"
Range of set pressure	0,5 ÷ 25 bar
Protection degree	IP65
Input transducer	4-20 mA
Max environment temperature	50 °C
Net weight (without cables)	4,8 kg
Cooling system	Forced Convection
	i/o: ~3/~3

## CONTROL PANEL

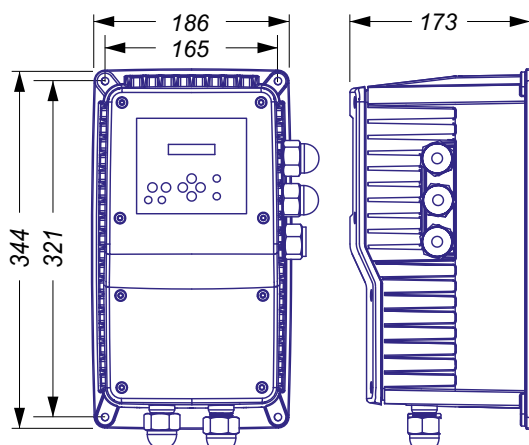


Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overload.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases

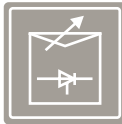
## DIMENSIONS



# Speedboard

Pump driver ON-BOARD assembled for a single pump with variable speed.

3-phase pumps managed by INVERTER. Electrical supply can be either single-phase and ~3x230 or ~3x400 Vac -depending on model. It can be mounted individually or in groups of 4 pumps communicated and operating in MASTER-SLAVE mode with alternated sequence of operation. It will be installed over connection box of the motor through a wide range of fastenings.



1006 MT  
1010 MT  
1305 TT  
1309 TT  
1314 TT



## OPERATING CHARACTERISTICS

- Frequency inverter for the pump control.
- Adaptable to any motor connection box through a wide range of fastenings.
- **ART function** (Automatic Reset Test). If the device has been stopped due to the action of the safety system against dry operation, the ART tries to connect the pump, with a programmed periodicity because the water supply could have been restored.
- **Automatic restore system** after an interruption of power supply. This system restores the previous state keeping the configuration parameters.
- Electronic input for detection of minimum water level in aspiration tank. This system is independent of the safety system against dry-running operation.
- Volt-free contact for monitoring the alarms displayed in screen originated by irregularities or problems of the system (optional).
- External pressure transducer 0-10 bar, 0-16 bar or 0-25 bar with 4-20 mA input.
- Inner current sensor with instantaneous digital reading.
- **Register of operational parameters.** Information about: operating hours, counter of starts, counter of connections to the power supply.
- **Register of alarms.** Information about type and number of alarms.
- Open PID in the expert menu.
- Aluminium heat exchanger.
- Cooling by forced convection by the fan of the motor with an intelligent temperature management system.



Low Voltage Directive 2014/35/EC  
Electromagnetic Compatibility 2014/30/EC  
RoHS 2011/65/EC + 2015/863/EC

## TECHNICAL CHARACTERISTICS

	1006 MT	1010 MT	1305 TT - 1309TT - 1314TT
Power supply voltage	~1 x 230 Vac	~1 x 230 Vac	~3 x 400 Vac
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Output voltage	~3 x 230 Vac	~3 x 230 Vac	~3 x 400 Vac
Max current	6 A	10 A	5 A - 9 A - 14A
Max peak current	20% 10"	20% 10"	20% 10"
Range of set pressure	0,5 ÷ 16 bar 0,5 ÷ 10 bar	0,5 ÷ 16 bar 0,5 ÷ 10 bar	0,5 ÷ 16 bar 0,5 ÷ 10 bar
Protection degree	IP65 (or maximum of engine)		
Input transducer	4-20 mA	4-20 mA	4-20 mA
Max environment temperature	50 °C	50 °C	50 °C
Net weight (without cables)	2,1 kg	2,1 kg	3,5 kg
Cooling system	Forced Convection by the fan of the motor		
	i/o: ~1/~3		i/o: ~3/~3

## CONTROL PANEL



Control panel includes LCD screen, warning leds, push-buttons, START-STOP, AUTOMATIC and configuration system.

## SAFETY SYSTEMS

- Control and safety system against overcurrent.
- Electronic control and safety system against dry-running operation.
- Control and safety system against wrong supply voltage.
- Control and safety system against short-circuit between output phases

## DIMENSIONS

