Inverters

AUTOIBO

WZI-AUTO 900

HOME 1

IQ-AUTO 750

MAGNET-AUTO 750

MCI 4 AUTO

INVERTER SYSTEM – IVR-02

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INVERTER SYSTEM – IVR-09T

INVERTER SYSTEM – IVR-09T

MULTI SET IVR-09

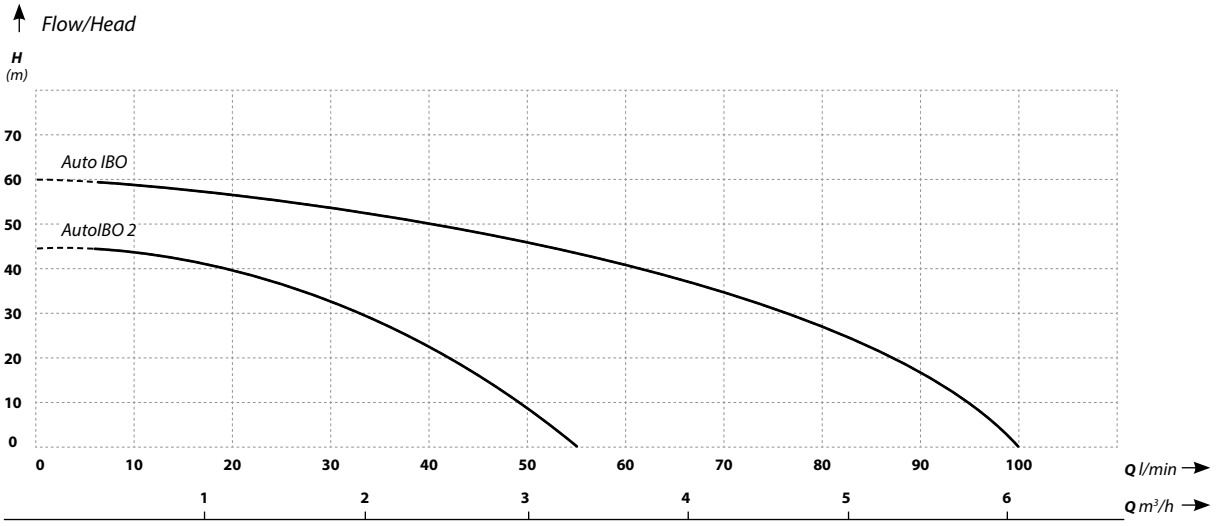
AUTOIBO

The AUTOIBO series pumps are equipped with a high performance frequency converter. Pumps equipped with frequency converters create seamless system to keep water supply system pressure constant regardless of the water demand. The frequency converter integrated into the pump will allow to reduce electricity consumption.
Compared to the traditional water supply method, the constant pressure water supply system with frequency converter saves up to 60% of energy. The pump motor speed is adjusted to the various operating conditions of the water supply system.

A pump with an inverter is an easy-to-use control and protection device that maintains a constant, set water pressure by changing the rotational speed of the pump motor.

Advantages:

- Low-noise operation: can be installed in the house.
- Simple operation: easy to use, all functions can be terminated by pressing a button.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer.
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.



Name	Head (m)	Flow (l/min)	Motor power (W)	Voltage (V)	Amperage (A)	Suction capacity (m)	Rational speed range (RPM)	Inlet/outlet (inch)	Dimensions L/H/W (cm)	Weight (kg)
AUTOIBO	45	55	800	230	3,6	8	0-3450	1 × 1	31,5 × 21 × 30,5	14
AUTOIBO 2	60	100	1500	230	10	8	0-3450	1½ × 1½	34,5 × 24 × 32	26

WZI-AUTO 900

WZI-AUTO 900 is a compact device designed to provide households with clean water from their own water intakes (wells) or to increase pressure from the water supply network. The pumps are equipped with a frequency inverter that guarantees constant pressure in all water taps, soft starts of the motor and lower current consumption compared to classical pressure boosting plants. The pumps with an integrated frequency inverter are state-of-the-art and energy efficient devices characterised by their silent operation, ease of installation and use, integrated protection against dry running, water hammer, pressure decrease or increase, or motor overload.
A very important characteristic of the IBO pumps with an integrated frequency inverter is their ease of use. Starting up and configuring the pump does not require the presence of an automation specialist - the user only has to set the operating pressure of the device using two buttons (+ and –).

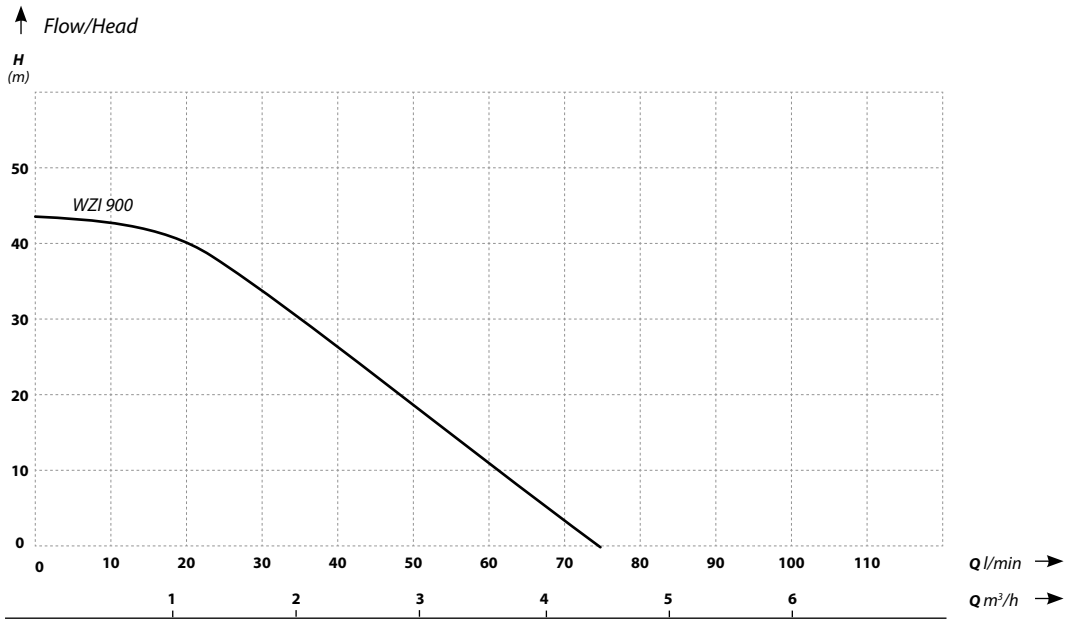
Despite utilising a small 900w motor, the wzi-auto 900 pump achieves very good parameters: flow rate of 75l/min and head of 43m. These parameters are sufficient to satisfy the needs of a single-family home or commercial premises. Additionally, the device is classified as S1, which means it has been designed for continuous duty.

Advantages:

- High efficiency despite utilising a small 900W motor
- Silent operation allowing the device to be installed even in usable rooms
- Ease of use and convenient operation
- Lower motor and hydraulic part wear thanks to an integrated "motor soft start"
- Constant pressure guarantee
- Protective functions: against dry running, overload, overvoltage/ undervoltage, motor overload, water hammer

Materials:

- Housing: plastic
- Impeller: Brass
- Diffuser: Cast iron
- Shaft and rotor: stainless steel AISI 304
- Inverter display: LED
- Mechanical sealing: Ceramics/graphite
- Motor rotational speed: 0-4000RPM
- Frequency range: 30-50hz



Model	Head (m)	Flow (l/min)	Motor power (W)	Voltage (V)	Suctioncapacity (m)	Amperage (A)	Rational speed range (RPM)	Dimensions L/H/W (cm)	Weight (kg)
WZI 900	43	75	900	230	8	4,8/7,5	4000	26/23/25	10,1

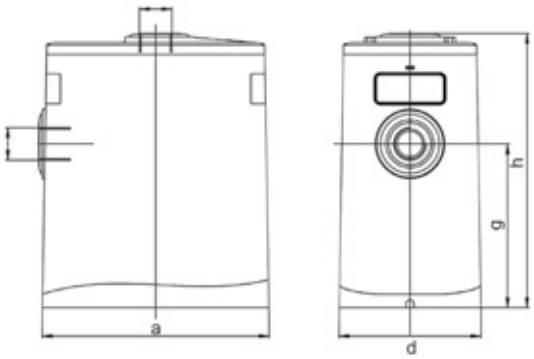
HOME 1

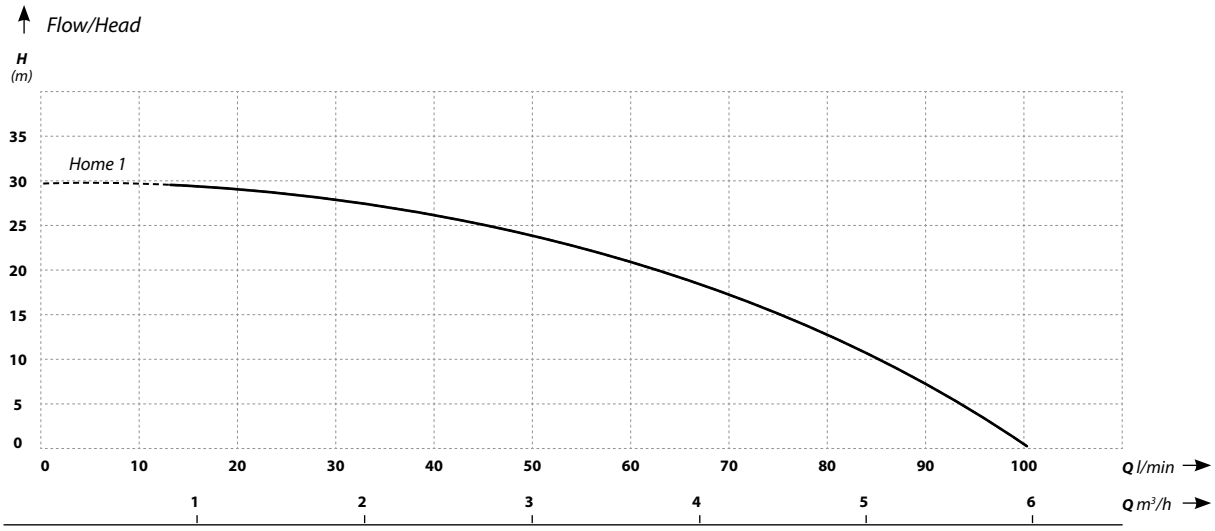
The HOME 1 series pumps are equipped with a high performance frequency converter. Pumps equipped with frequency converters create seamless system to keep water supply system pressure constant regardless of the water demand. The frequency converter integrated into the pump will allow to reduce electricity consumption. Compared to the traditional water supply method, the constant pressure water supply system with frequency converter saves up to 60% of energy. The pump motor speed is adjusted to the various operating conditions of the water supply system.

A pump with an inverter is an easy-to-use control and protection device that maintains a constant, set water pressure by changing the rotational speed of the pump motor.

Advantages:

- Low-noise operation: can be installed in the house.
- Simple operation: easy to use, all functions can be terminated by pressing a button.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the averagerotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer.
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/ sensors in the well.





Name	Head (m)	Flow (l/min)	Motor power (W)	Voltage (V)	Suction capacity (m.)	Rational speed range (RPM)	Inlet/outlet (inch)	Dimensions (mm)				Weight (kg)
								a	d	h	h	
HOME 1	30	100	750	230	8	0-3000	1 × 1	230	144	166	278	7

IQ-AUTO 750

IQ-AUTO 750 is a compact device designed to provide households with clean water from their own water intakes (wells) or to increase pressure from the water supply network. The pumps are equipped with a frequency inverter that guarantees constant pressure in all water taps, soft starts of the motor and lower current consumption compared to classical pressure boosting plants. The pumps with an integrated frequency inverter are state-of-the-art and energy efficient devices characterised by their silent operation, ease of installation and use, integrated protection against dry running, water hammer, pressure decrease or increase, or motor overload.
A very important characteristic of the IBO pumps with an integrated frequency inverter is their ease of use. Starting up and configuring the pump does not require the presence of an automation specialist - the user only has to set the operating pressure of the device using two buttons (+ and –).

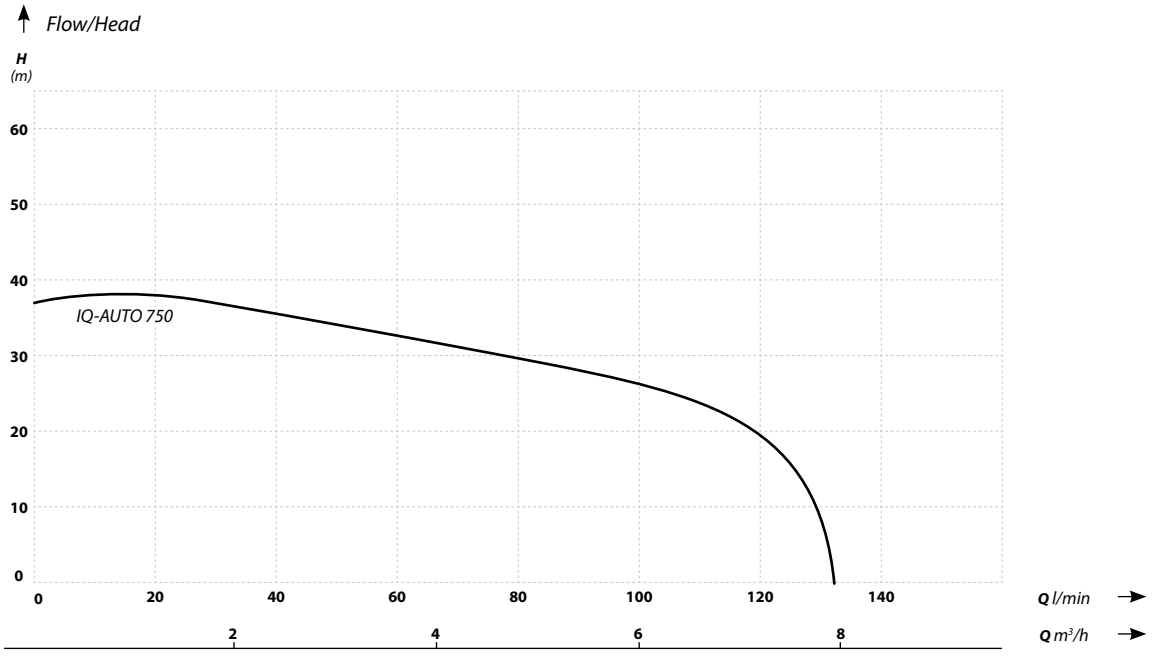
Despite utilising a small 750W motor, the IQ-AUTO 750 pump achieves a very high maximum flow rate of up to 130l /min. These parameters are sufficient to satisfy the needs of a large single-family home, including garden watering or of several commercial premises. Additionally, the device is classified as S1, which means it has been designed for continuous duty.

Advantages:

- Very high efficiency despite utilising a small 750W motor
- Silent operation allowing the device to be installed even in usable rooms
- Ease of use and convenient operation
- Lower motor and hydraulic part wear thanks to an integrated 'motor soft start"
- Constant pressure guarantee
- Protective functions: against dry running, overload, overvoltage/ undervoltage, motor overload, water hammer

Materials:

- Housing: plastic
- Impeller: Stainless steel AISI 304
- Diffuser: Stainless steel AISI 304
- Shaft and rotor: AISI 304 stainless steel
- Inverter display: LED
- Mechanical sealing: Ceramics/graphite
- Motor rotational speed: 0-4000 RPM
- Frequency range: 30-50Hz



Model	Head (m)	Flow (l/min)	Motor power (W)	Voltage (V)	Suction capacity (m)	Amperage (A)	Rational speed range (RPM)	Dimensions L/H/W (cm)	Weight (kg)
IQ-AUTO 750	37	130	750	230	8	5/8	4000	47/27/28	10,9

MAGNET-AUTO 750

MAGNET-AUTO 750 is a compact device designed to provide households with clean water from their own water intakes (wells) or to increase pressure from the water supply network. The pumps are equipped with a frequency inverter that guarantees constant pressure in all water taps, soft starts of the motor and lower current consumption compared to classical pressure boosting plants. The pumps with an integrated frequency inverter are state-of-the-art and energy efficient devices characterised by their silent operation, ease of installation and use, integrated protection against dry running, water hammer, pressure decrease or increase, or motor overload.
A very important characteristic of the IBO pumps with an integrated frequency inverter is their ease of use. Starting up and configuring the pump does not require the presence of an automation specialist - the user only has to set the operating pressure of the device using two buttons (+ and –)

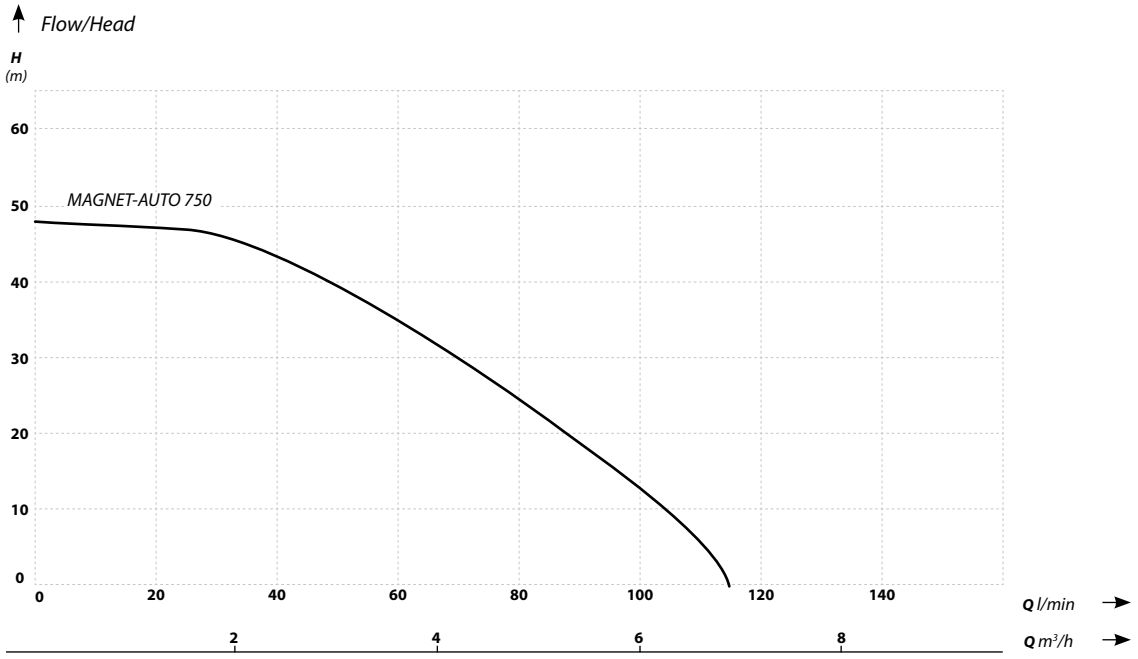
Despite utilising a small 750W motor, the MAGNET-AUTO 750 pump achieves a very high maximum flow rate of up to 115l/min. These parameters are sufficient to satisfy the needs of a large single-family home, including garden watering or of several commercial premises. Additionally, the device is classified as S1, which means it has been designed for continuous duty.

Advantages:

- Very high efficiency despite utilising a small 750W motor
- Silent operation allowing the device to be installed even in usable rooms
- Ease of use and convenient operation
- Lower motor and hydraulic part wear thanks to an integrated “motor soft start”
- Constant pressure guarantee
- Protective functions: against dry running, overload, overvoltage/undervoltage, motor overload, water hammer

Materials:

- Housing: plastic
- Impeller: PPO
- Diffuser: PPO
- Shaft and rotor: stainless steel AISI 304
- Inverter display: ?LED
- Mechanical sealing: Ceramics/graphite
- Motor rotational speed: 0-4000 RPM
- Frequency range: 30-50Hz



Model	Head (m)	Flow (l/min)	Motor power (W)	Voltage (V)	Suction capacity (m)	Amperage (A)	Rational speed range (RPM)	Dimensions L/H/W (cm)	Weight (kg)
MAGNET-AUTO 750	48	115	750	230	8	5/8	4000	42/22/28	10

MCI 4 AUTO

MCI series pumps are characterized by high quality of workmanship,additionally the AUTO version is equipped with a high-efficiency frequencyconverter. Pumps equipped with frequency converters form a well-tunedsystem that allows the system pressure to be kept at a constant level, regardless of the water demand. A frequency converter integrated with the pump willreduce electricity consumption. Compared to the traditional water supply, the onstant pressure water supply system with frequency converter saves energyup to 60%. The speed of the pump motor is adapted to the different operating conditions of the installation. In order to maintain smooth operation, the pumpis equipped with a diaphragm vessel.

The pump equipped with an inverter is an easy-to-use control and safety device,maintaining a constant set water pressure. Support the change of the pump motor rotational speed.

Advantages:

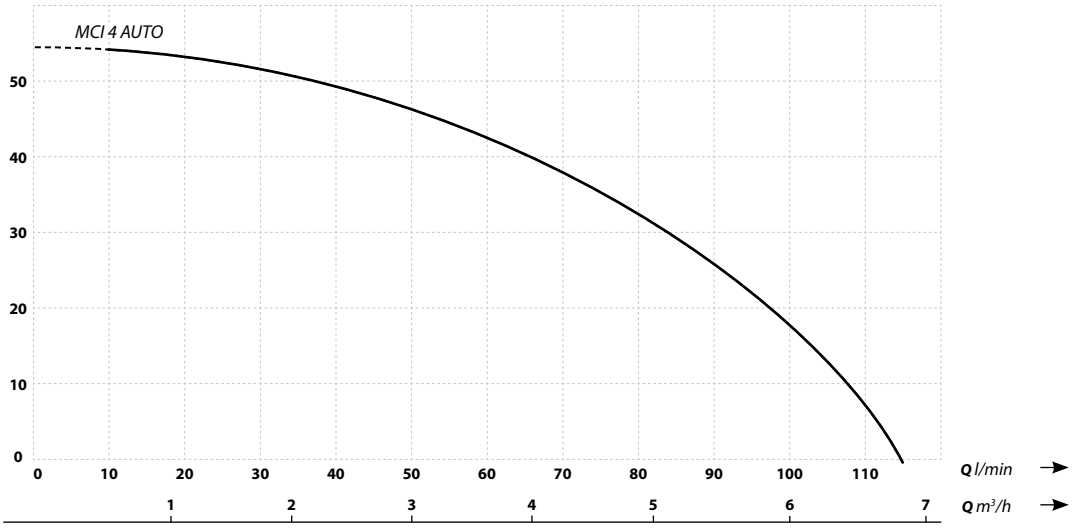
- Quiet operation: can be installed at home
- Simple operation: easy operation, all functions can be finished by pressing a button.
- Reliability for many years of associated pumps: the average torque and the shaft abrasion are reduced due to the decrease in the average speed, which ensures a longer service life of the pump. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer.
- Comprehensive protection: the system has the most comprehensive protection technology of overcurrent, overvoltage, undervoltage, short circuit, locked rotors, the ability to protect the pump against dry running without the need to install probes / sensors in the well.
- The kit is equipped with a check valve.
- Economical: by using an inverter, the pump consumes much less electricity compared to sets without an inverter.

Working conditions:

- Liquid temperature: ≤70 ° C
- Ambient temperature: ≤50 ° C
- Maximum pressure in the installation: up to 10 bar
- Degree of protection: IP55
- Insulation class: F

Materials:

- Body - AISI 304 stainless steel.
- Shaft - AISI 304 stainless steel.
- Mechanical stuffing box - SIC / SIC / EPDM
- Connectors: stainless AISI 304
- Impellers, diffusers, diffuser covers - AISI 304 stainless steel.
- Inter-wall: AISI 304 stainless steel
- Base: Steel
- Motor: closed-frame asynchronous cage motor, aluminum housing, external ventilation



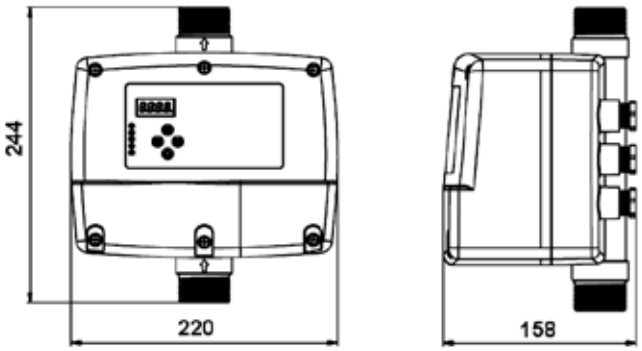
Model	Head (m)	Flow (l/min)	Motor power (W)	Voltage (V)	Suction capacity (m)	Rational speed range (RPM)	Inlet/outlet (inch)	Dimensions L/H/W (cm)	Weight (kg)
MCI AUTO	54	115	1200	230	8	0-3500	1¼ × 1	350/430/165	15,5

INVERTER SYSTEM – IVR–02

IVR-02M Intelligent Pump Controller is an easy-to-use control and protection device for direct connection of 0.75 KW to 1.5 KW (from 1 HP to 2 HP) single-phase submersible pumps, surface pumps, deep well pumps, etc., maintaining a constant, set water pressure by changing the rotational speed of the pump motor.
The IVR-02M model provides many operating modes by adapting to various electrical systems.

System advantages:

- Energy efficiency: Compared to the traditional water supply method, the constant pressure water supply system with frequency converter saves up to 30%-60% of energy.
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- Simple operation: easy to use, all functions can be terminated by pressing a button, without the need to hire programming specialists.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer (the water hammer is a sudden pressure increase that occurs at rapid stopping or starting of liquid flow.) The ability to control the operation of two pumps supplying the system.



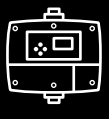
Application:

IVR-02M can be used in all applications where maintaining a constant water pressure in the system and control and protection of a pump or a set of two pumps is required.
IVR-02M controls automatic switching on and off, and adapts the motor speed to the requirements of the water supply system.

Typical application:

- houses
- apartments
- holiday houses
- agricultural holdings
- supply of water from the well
- irrigation of growing houses, gardens, agricultural land collecting and usingrainwater

Installation data	
Permissible ambient temperature	–10°C – +40°C
Permissible ambient humidity	20%–90% RH
Permissible liquid temperature	0°C – +50°C
Ingress Protection	IP 55
Mounting orientation	Vertical
Unit dimensions (L/W/H)	244/220/158 mm
Inlet/outlet	G 1¼" / G 1¼"
Minimum capacity of pressure tank	2 L



INVERTER SYSTEM – IVR–02

Main Technical Data	
Rated output power	0,37 KW – 1,5 KW (0,5 HP – 2 HP)
Rated input voltage	AC160–250 V / 50–60 HZ (single-phase)
Pump max. amp rating	12 A
Rated output voltage	AC 230 V / 20–60 Hz (single-phase)
Additional pump rated output voltage	AC 230 V / 50 Hz (single-phase)
Response time under overload condition	5 s – 5 min.
Pressure setting range	1–9 bar
Response time under open phase condition	< 5 s
Response time under short-circuit condition	< 0,1 s
Response time under overvoltage/undervoltage condition	< 5 s
Response time under dry-run condition	6 s
Time to activation after overload condition	30 min.
Time to activation after overvoltage/undervoltage condition	5 min.
Time to self-activation after dry-run condition	8s, 1 min, 10 min, 30 min, 1 h, 2 h...
Deactivation limit atovervoltage	270 V
Deactivation limit atundervoltage	100 V
Horizontal distance	≤ 1000 m
Protections	Dry-run Short-circuit Overload Pump overloaded Voltagespike Undervoltage Overvoltage

Main Technical Specification	
Control specification	double flow control
	pressure control
Liquid flow control specification	Manual / Automatic
Pressure control specification	probe electrode pulse and flow switch
Charakterystyka kontroli ciśnienia	Pressure sensor 24 V, 4–20 mA

INVERTER SYSTEM – IVR–03

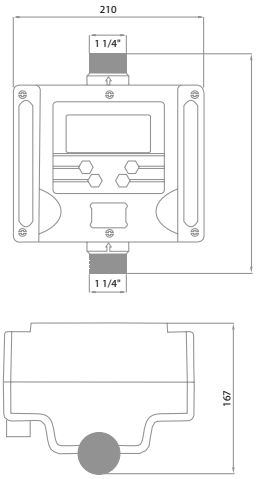
Can be arrangedin pump groups

IVR-03 Intelligent Pump Controller is an easy-to-use control and protection device for direct connection of deep-well pumps, surface pumps, submersible pumps, etc., maintaining a constant, preset water pressure by varying the pump motor speed. The IVR-03 inverter utilises SPWM (sinusoidal pulse width modulation) technology and high efficiency space vector technology, with V/F VVVF (variable speed, variable frequency) control.
With real-time pressure analysis, the inverter adjusts the pump speed to the current system demand. Variable speed pump stabilizes pressure and saves water and electricity.

Advantages:

Important features that distinguish IVR–03 from popular on/off control devices:

- Energy efficiency. The water supply system with frequency converter saves 30%-60% of energy compared to a traditional set-up.
- Simple operation: easy to use, all functions can be terminated by pressing a button without the need to hire programming specialists.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer (the water hammer means a sudden pressure increase that occurs at rapid stopping or starting of liquid flow.)
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- Ability to control the operation of several pumps supplying the system.



Application:

IVR-03 can be used to increase the water pressure in various installations such as residential, commercial, industrial, water treatment plants, agriculture, etc.
Ease of installation and operation. No need to hire a qualified service technician to connect the unit. Advanced technology, PID algorithm control, technology addressed for pump drive control
Reliable and fail-safe. The unit has various built-in protections. Dry-running protection, short-circuit protection, overload protection, under-voltage protection, over-voltage protection, rotor lockout protection, etc.
Energy-saving. The controller effectively saves between 30% and 60% of electrical energy.
Complies with CE product safety requirements, and meets environmental protection requirements.
The device improves the quality of life.

Industrial design No. Rp.27368

Model	1,1 KW	1,1 KW	1,5 KW	1,5 KW	2,2 KW	2,2 KW
Max. admissible motor current consumption	230 V–9 A	400 V–4,5 A	230 V–11 A	400 V–5,5 A	230 V–12 A	400 V–7 A
Input power	Single-phase or three-phase power supply					
Input voltage	230 V lub 400 V					
Allowed range voltage supply	160 V–260 V (230 V) lub 300 V–450 V (400 V)					
Current frequency power	50 Hz					
Output voltage	1~AC 230 V lub 3~AC 400 V					
Controlled device	Pump					
frequency range output	20~50 Hz					
Pressure sensor	24 V, 4 ÷ 20 mA					
Pressure range	0,5 ÷ 9,0 bar					
Installation required – pressure vessel	Tank with a volume of not less than 2L					
Ambient temperature range	0~+40°C					
Medium	Clean water at a temperature of 0 to +100°C					
Pressure required for automatic start	0.3 bar lower than the set operating pressure, but not lower than 0.5 bar					
Electric installation	Absolutely effectively grounded					
Control characteristics	Dual flow control					
Fluid flow control characteristics	Sampler electrode pulse and flow switch					

INVERTER SYSTEM – IVR–05

Our Intelligent Pump Controller, IVR-05 model, is an easy-to-use control and protection device for direct connection of deep-well pumps, surface pumps, submersible pumps, etc., maintaining a constant, set water pressure by changing the rotational speed of the pump motor. The IVR-05 inverter utilises the SPWM technology (sinusoidal pulse width modulation) and a highly-efficient spatial vector, using V/F VVVF control (variable velocity, variable frequency)

Application:

The IVR-05 can be used to increase water pressure in various systems such as residential houses, commercial premises, industry, water treatment stations, agricultureetc.
Ease of installation and use. No need to have the device connected by a qualified service technician
Advanced technology, PID algorithm control, technology dedicated to pump drive control
Trustworthy and reliable. The device has various integrated protection features. Protection against dry running, short-circuit, overload, undervoltage, overvoltage, impeller blocking etc.
Energy efficient. The controller effectively saves 20% - 60% of electric energy.
It meets the requirements regarding CE product safety and fulfils the environmental protection requirements.

Thanks to real-time pressure analysis, the inverter adjusts the rotational speed of a pump to system's demand at a given time. Variable rotational speed of the pump stabilises pressure, thus reducing water and current consumption.

Advantages:

Its important feature that distinguishes the controller from popular on/off control devices is:

- Energy efficiency. Compared to the traditional water supply method, the constant pressure water supply system with frequency converter saves 30%-60% of energy.
- Simple operation: easy to use, all functions can be terminated by pressing a button without the need to hire programming specialists.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer (the water hammer is a sudden pressure increase that occurs at rapid stopping or starting of liquid flow.)
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- Possibility of controlling several pumps supplying the system

Model	Motor power (W)	Input voltage Frequency (V/Hz)	Output load (A)	Output voltage (V)	Output frequency (Hz)
IVR-05	750–2200	1 phase 230 V 50/60 Hz	10,5	3 phases 3 × 230 V	20–50 Hz

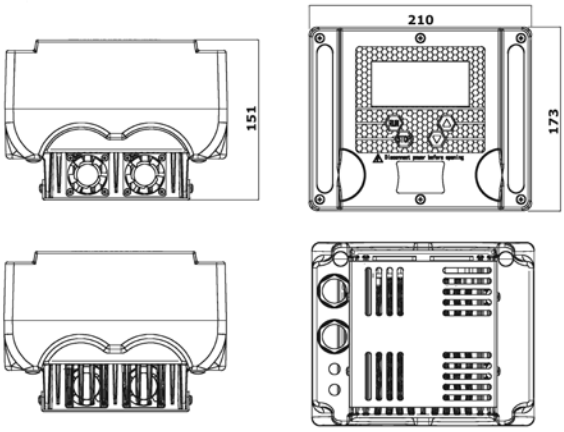
INVERTER SYSTEM – IVR-10 S/T IVR – 20 | 30 | 40

Can be arrangedin pump groups

IVR-10 S/T Intelligent Pump Controller is an easy-to-use control and protection device for direct connection of 1.1 KW do 2.2 KW (from 1.5 HP to 2.5 HP) single-phase (IVR-10S) or 3-phase (IVR-10T) deep well pumps, surface pumps, submersible pumps, etc., maintaining a constant, set water pressure by changing the rotational speed of the pump motor. The IVR-10 S/T model provides many operating modes by adapting to various electrical systems.

Advantages:

- Energy efficiency. Compared to the traditional water supply method, the constant pressure water supply system with frequency converter saves up to 30%-60% of energy.
- Simple operation: easy to use, all functions can be terminated by pressing a button, without the need to hire programming specialists.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer (the water hammer is a sudden pressure increase that occurs at rapid stopping or starting of liquid flow.)
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- The controllers can be combined into pump groups of up to 6 pumps. The group is controlled by one main controller selected by the user while other controllers adjust the operation to the system requirements. The set is very easily programmable and does not require the assistance of the programmer



Application:

IVR-10S/T can be used in all applications where maintaining a constant water pressure in the system, as well as control and protection of a single pump that controls automatic switching on and off by various electrical systems is required.

Typical application:

- houses / apartments / holiday houses,
- agricultural holdings,
- supply of water from the well,
- irrigation of growing houses, gardens, agricultural land,
- collecting and using rainwater,
- industrial equipment.

PATENT no. 007724539-0001

Name	Pump power (kW)	Dimensions (mm)	Pressure setting range (bar)	Operating current (A)	Input voltage (V)	Output voltage (V)	Output voltage frequency (Hz)	Częstotliwość prądu na wyjściu (Hz)	Pressure sensor
IVR-10S	1,1 kW	210 × 173 × 124 mm	0,5–9 bar	9 A	1 × 230 V (Permissible range 160–260 V)	1 × 230 V	50/60 Hz	20–50/60Hz	4 ÷ 20 mA + 24 V 10 bar
	1,5 kW			11 A					
	2,2 kW			12 A					
IVR-10T	2,2 kW			7 A	3 × 400 V (Permissible range 320–450V)	3 × 400 V			
	3/4 kW			10 A					
	5,5/7,5 kW			18 A					

INVERTER SYSTEM – IVR–09T

Can be arrangedin pump groups

IVR-09T Intelligent Pump Controller is an easy-to-use control and protection device for direct connection of 0.75 KW to 7.5 KW (from 1 HP to 10 HP) 3-phase deep well pumps, surface pumps, submersible pumps, etc., maintaining a constant, set water pressure by changing the rotational speed of the pump motor. The IVR-09T model provides many operating modes by adapting to various electrical systems. The IVR-09 series controllers can be used in pump groups of up to 6 pumps. Its important feature that distinguishes it from popular on/off control devices is:

Advantages:

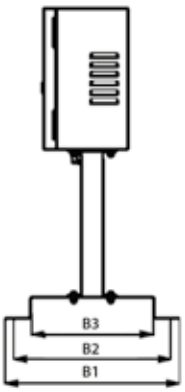
- Energy efficiency. Compared to the traditional water supply method, the constant pressure water supply system with frequency converter saves up to 30%-60% of energy.
- Simple operation: easy to use, all functions can be terminated by pressing a button, without the need to hire programming specialists.
- Long-term reliability of the co-operating pumps: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer. (the water hammer is a sudden pressure increase that occurs at rapid stopping or starting of liquid flow.)
- Fully protected: the system incorporates the most versatile overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- The controllers can be combined into pump groups of up to 6 pumps. The group is controlled by one main controller selected by the user while other controllers adjust the operation to the system requirements. The set is very easily programmable and does not require the assistance of the programmer.

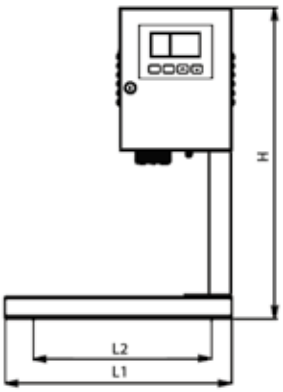
Application:

IVR-09t can be used in all applications where maintaining a constant water pressure in the system and control and protection of a pump or a set of two pumps is required.

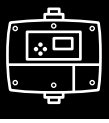
Typical application:

- houses / apartments / holiday houses
- agricultural holdings
- supply of water from the well
- irrigation of growing houses, gardens, agricultural land
- collecting and using rainwater
- industrial equipment





Motor power	Dimensions (mm)					
	B1	B2	B3	L1	L2	H
1.1 kW i mniej	306	276	214	400	314	546
1.5 kW do 2,2 kW	306	276	214	430	314	576
4 kW do 7.5 kW	360	320	270	520	350	710



INVERTER SYSTEM – IVR–09T cont.

Main Technical Data	
Rated output power	0,37 KW – 7,5 KW (0,5 HP – 10 HP)
Rated input voltage	AC~3 × 400 V / 50–60 HZ (3-phase)
Rated output voltage	AC ~3 × 400V / 20–60 Hz (3-phase)
Response time under overload condition	5 s – 5 min.
Pressure setting range	1–9 bar
Response time under open phase condition	< 5 s
Response time under short-circuit condition	< 0,1 s
Response time under overvoltage/ undervoltage condition	< 5 s.
Response time under dry-run condition	6 s
Time to activation after overload condition	30 min.
Time to activation after overvoltage/ undervoltage condition	5 min.
Time to self-activation after dry-run condition	8s, 1 min, 10 min, 30 min, 1 h, 2 h ...
Deactivation limit atovervoltage	418 V
Deactivation limit atundervoltage	324 V
Horizontal distance	≤ 1000 m
Protections	Dry-run Short-circuit Overload Pump overloaded Voltagespike Undervoltage Overvoltage

Main Technical Specification	
Control specification	Double flow control
	Pressure control
Control method	Manual / Automatic
Liquid flow control specification	Probe electrode pulse and flow switch
Pressure control specification	Pressure sensor 24 V, 4–20 mA
Installation Conditions	
Permissible ambitne temperature	–10°C – +40°C
Permissible ambitne humidity	20%–90% RH
Permissible liquid temperature	0°C – +100°C
Ingress Protection	IP 54
Mounting orientation	Vertical
Minimum pressure tank capacity	4 L
Motor power	**Max. Motor Current**
0,75-1.5 kW / 1-2 HP	4.3 A
2.2 kW / 3 HP	6.1 A
3.0-4.0 kW / 4-5,5 HP	9.7 A
5.5 kW / 7.5 HP	14 A
7.5 kW / 10 HP	18 A

MULTI SET IVR–02

The set is equipped with the IVR-02 (230V) frequency converter and the set of HP 1500 INOX or MH 1300 INOX pumps. Multi-Set is an easy-to-use device designed for pumping of clean water in order to increase pressure in water supply systems, maintaining a constant, set water pressure by changing the rotational speed of the pump motor, with additional control and protection features

Advantages:

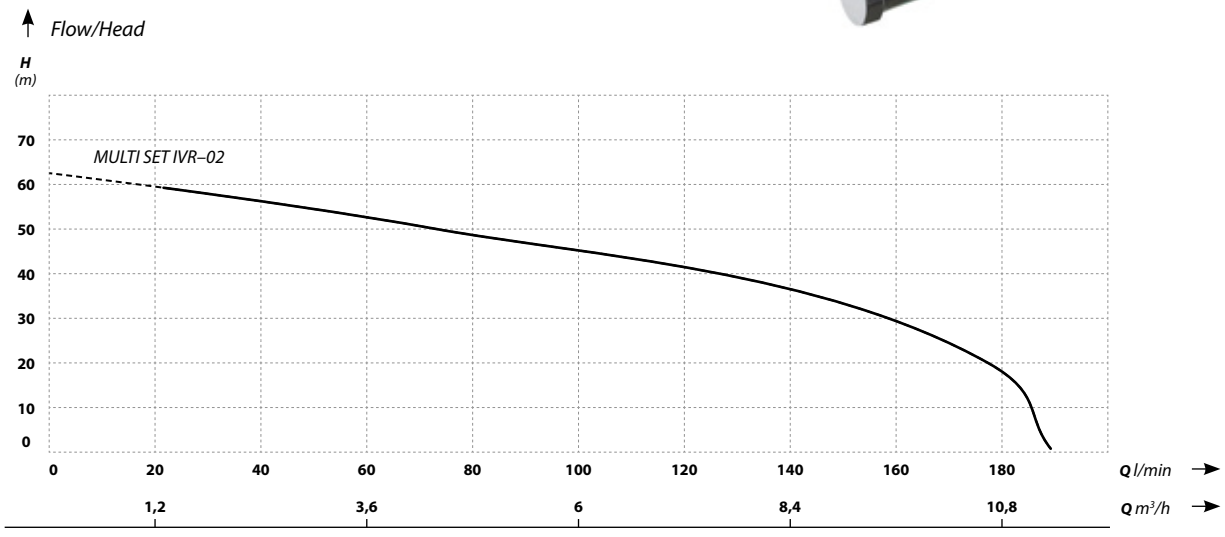
- Energy efficiency: reduction of energy consumption by 30%–60%.
- Simple operation: all functions can be terminated by pressing a button.
- Reliability: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime.
- Due to the built-in soft start and stop function, the device allows to eliminate the water hammer.
- Fully protected: the system incorporates the overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- The ability to control the operation of two pumps that supply the system.
- Low-noise operation.

Technical data:

- Pumps x 2 - HP 1500INOX (MH 13000INOX)
- Frequency converter - IVR-02 (230V)
- IBO ITALY steel fittings
- Check and water stop valves and fittings
- 8L IBO ITALY pressure vessel

Application:

- Houses
- Apartments
- Holiday houses
- Agricultural holdings
- Supply of water from the well
- Irrigation of growing houses, gardens, agricultural land
- Collecting and using rainwater
- Industrial equipment



Name	Head (m)	Flow (l/min)	Pressure (bar)	Water temp. (°C)	Ambient temp. (°C)	Inlet (mm)	Outlet (mm)
MULTI SET IVR-02/HP	62 (*55)	190 (*160)	9	+50	+40	40	40

*Details for MH pumps

MULTI SET IVR–09

The set is equipped with the IVR-09 (400V) / IVR-11(400V) frequency converter and the CV series pump/pumps. Multi-Set is an easy-to-use device designed for pumping of clean water in order to increase pressure in water supply systems, maintaining a constant, set water pressure by changing the rotational speed of the pump motor, with additional control and protection features.

Advantages:

- Energy efficiency: reduction of energy consumption by 30%–60%.
- Simple operation: all functions can be terminated by pressing a button.
- Reliability: the average torque and shaft wear are reduced due to decreasing the average rotational speed, which increases the pump operational lifetime. Due to the built-in soft start and stop function, the device allows to eliminate the water hammer.
- Fully protected: the system incorporates the overcurrent, overvoltage, undervoltage, short-circuit, impeller blocking and dry-running protection technology without the need to install probes/sensors in the well.
- The ability to control the operation of two pumps that supply the system.
- Low-noise operation.

Application:

- Houses
- Apartments
- Holiday houses
- Agricultural holdings
- Supply of water from the well
- Irrigation of growing houses, gardens, agricultural land
- Collecting and usingrainwater

Technical data:

- Pumps x 1/x 2/x 3/x 4/x 5/x 6 - (CV3 – Cv15)
- Frequency converter - IVR-09 (400V) / IVR-11 (400V)
- IBO ITALY steel fittings
- Check and water stop valves and fittings
- IBO ITALY pressure vessel

Name	Head (m)	Flow (l/min)	Pressure (bar)z	Water temp. (°C)	Ambient temp. (°C)	Inlet (mm)	Outlet (mm)
MULTI SET IVR-09	220	5–84	16	+90	+40	40–50	40–50