STAIRS PUMPS

INVECO

Pumping with Confidence

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INVECO: Variable Speed Controller

The INVECO line of variable frequency drives is designed to control and protect pumping systems including water supply for domestic, irrigation, commercial and industrial applications; for heating and airconditioning applications; for filtering to pressure washing applications; etc., the INVECO line is the perfect fit for new and existing applications, ensuring:

- **energy and cost savings**
- **simplified installation**
- **extended life of the pumping system**
- **greater reliability**

INVECO units are extremely compact and can work with a wide range of pumps. INVECO units will manage the operation of the pump to **maintain steady operational parameters such as pressure, flow, temperature or other**. INVECO units allow pumping systems to operate at the speed necessary to meet a user's operational requirements, ensuring energy savings, and extending the life of pumping systems.

INVECO units also provide motor protection and monitoring, such as:

- **overload** and **dry run** protection
- **integrated soft start and soft stop** functions, extending the life of the system and reducing peak variations
- **indication of input current and supply voltage**
- **recording running hours** and logging **errors and alarms** reported by the system
- INVECO units can **control a second pump at a constant speed DOL**
- INVECO units can be connected to other INVECO units to increase the scope of system control

Special inductive filters enable INVECO to break down dangerous over-voltages that are generated in very long cables, making INVECO ideal for the control of submersible pumps.

The INVECO body is constructed entirely of **aluminium**, making INVECO with their **compact dimensions** extremely **strong** yet **lightweight** and **easily cooled**, adding to the unit's **versatility**.
Protection according to IP55 standards, makes it possible to install the INVECO units virtually anywhere, including humid and dusty environments. The **illuminated liquid crystal display** ensures that INVECO units are easy to operate. A buzzer alarm provides a verbal warning of a problem.

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Installing INVECO is **simple** and **intuitive**, consisting of a few quick steps:

- connect INVECO to the **pump**
- connect INVECO to the **power supply**
- connect INVECO to the **sensor**, located wherever in the piping system that you want to maintain a constant value such as pressure, low, temperature, etc.
- if desired - connect an additional pump to operate DOL at constant speed
- if desired - connect an INVECO unit to a second INVECO unit for combined operation

INVECO software is extremely simple to use, and has a variety of parameters to be set for ideal system calibration.
Setting of operational parameters can be done on three levels.

- **user level**
  This is the only level that does not require a password. This level only allows the setting of the operational parameter values that are to remain constant, such as pressure, flow, temperature, etc., and the monitoring of the status of the INVECO unit, and also the pump.
- **installer level**
  On this level it is possible to program the INVECO unit as required by the system on which it is installed. A password is required to program the INVECO unit.
- **advanced level**
  A further password is required to electrically configure the INVECO unit to correspond to the pump that it is intended to control.

INVECO can be installed directly **on the cooling fan cover of the motor** or **directly to the wall** with a supplied installation kit.

Cooling fan of motor also cools the INVECO.

For wall - mount an integrated fan cools the unit.

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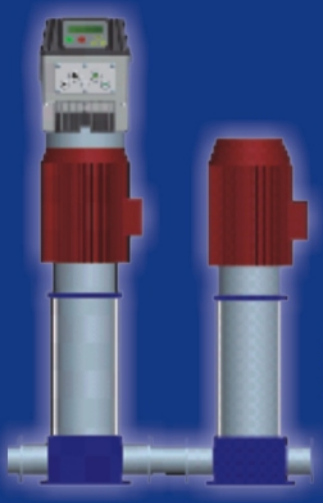
There are two basic hardware configuration:



INVECO controls one pump at variable speed and the other one at constant speed (DOL) .

Two or more INVECOs each command variable speed pumps (and possibly other pumps at constant speed) in concert with each other to fit virtually any application.

Description	Vin [V]	Vout [V]	I [A]	P2 motor [kW]	width [mm]	depth [mm]	height [mm]
VASCO 214	1 x 230	1 x 230	14	2,2KW	180	180	225
VASCO 214	1 x 230	3 x 230	11	3 KW	180	180	225
VASCO 407	3 x 400	3 x 400	7	3 KW	180	180	225
VASCO 410	3 x 400	3 x 400	10	4 KW	264	264	285
VASCO 414	3 x 400	3 x 400	14	5,5 kW	264	264	285
VASCO 418	3 x 400	3 x 400	18	7,5 KW	264	264	285
VASCO 425	3 x 400	3 x 400	25	11 KW	264	264	285
VASCO 432	3 x 400	3 x 400	32	15 KW	344	344	285
VASCO 444	3 x 400	3 x 400	44	22 KW	344	344	285

SUPPLY VOLTAGE	single-phase	230 V ± 15%
	three-phase	400 V ± 15%
SUPPLY FREQUENCY	50 Hz/ 60 Hz 6%	
MAX AMBIENT TEMPERATURE	40°C	
PWM	2.5-4-8-10-12 kHz	
COOLING	forced	
DEGREE OF PROTECTION	IP55	
INLETS	4 analogical , 2 digital	
OUTLETS	2 digital	
COMMUNICATION	1 Rs485	

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Based on Stairs' experience and in co-operation with Italian Technology

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