

VARIPULSE[®] interactive control module

NEW
VERSION

 DOSAPRO

Adjusts and controls the flow of Series GTM A and Series GTM M pumps.

Two versions are available:

- 1 Frequency variation
- 2 Three operating modes: manual, proportional by 4-20 mA analog signal and proportional by pulse

Applications

The VARIPULSE[®] controller uses digital and analogue signals to provide proportional control of the flow rate of Series GTM A and Series GTM M metering pumps. The controller is recommended for use in many applications, including water and wastewater treatment, surface treatment, irrigation, physical and chemical treatment and any applications where automated, proportional pumping is required.

Principle

Vector voltage control electronics compensate for variations in power supply voltage by generating and adjusting voltage and frequency to control a three-phase motor either by frequency variation or through a series of starts without compromising performance over the entire operating range. The electronic delivers extremely accurate metering.

Technical characteristics

- Supply voltage: 220 V (-7% to 10%) single-phase mains for 230 V three-phase motor
In option: 400 V three-phase mains
- Frequency: 50/60 Hz
- Power: 0.09 to 0.25 kW
- Enclosure: IP 55
- Room temperature: -20 to +40 °C
- Local fault indicator and remote alarm via voltage-free contact (1 A-250 V)
- Input impedance: 500 ohms
- Level detection
- Construction:
 - Aluminium finned box for reliable cooling by natural convection
 - Resin-moulded electronic components absorb vibrations and keep moisture out
- Version 1 frequency variation options:
 - Settings console (RS-422 link);
 - Field bus communication (PROFIBUS PD, INTERBUS S, CAN OPEN, DEVICENET)



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Integrated protection systems

Remote fault reporting:

- 1 Frequency variation version with field bus communication option
 - Overvoltage, undervoltage and overcurrent mains protection
 - Temperature protection for electronic components
 - Protection against faulty insulation and short-circuits
 - Locked rotor detection
 - Control inputs self-protected against shorts and overloads
- 2 Version with three operating modes:
 - Low level
 - Electronics

Advantages

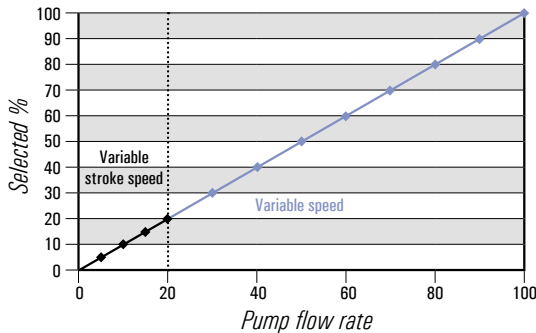
- Multi-language alphanumeric LCD display
- Simple, highly reliable and efficient **multi-purpose** system
- Delivered ready to use with optimised factory settings for each mode
- Guaranteed operation regardless of voltage fluctuations or mains frequency

3 operating modes



Manual mode

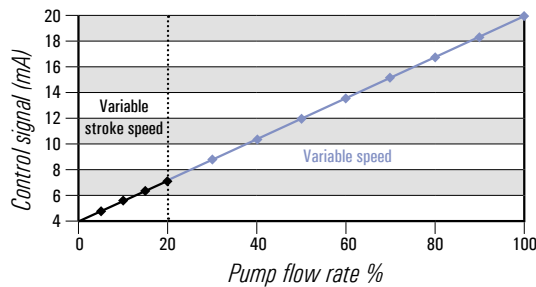
- Selection of pump model
- Programmable flow rate from 1 to 100%
- Automatic modification of working mode to optimize the pump output from 1 to 20% of the flow rate. The VARIPULSE® works in on/off mode from 0 to 20%. Above 20%: working in frequency variation



Proportional mode by 4-20 mA analog system

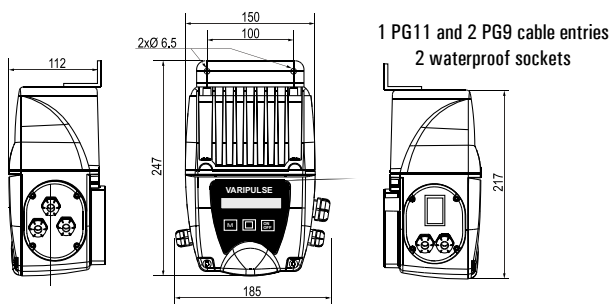
Flow rate controlled by a 4-20 mA analog signal

- 4 mA: 0% of pump flow rate
- 20 mA: 100% of pump flow rate



The VARIPULSE® works in on/off mode from 0 to 20%. Above 20%: working in frequency variation

Dimensions



Proportional mode by pulse

Flow rate controlled by voltage free contact or open collector

- Selection of flow meter
- Fittings flow rate (pulses generator meter): 1.5, 2.5, 3.5, 5, 10, 15, 25, 40, 60 or 100 m³/h
- Reference volume: 0.25, 0.5, 1 or 10 l/pulse
- The VARIPULSE® calculates the coefficient to be applied in order to optimize the pump speed according to its model

Example:

Fittings flow rate: 1.5 m³/h

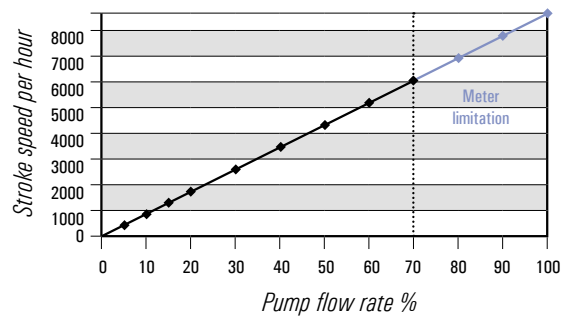
Reference volume: 0.25 l/pulse

Pump model: GM 50 with a stroke speed of 144 spm ie 8640 strokes/h

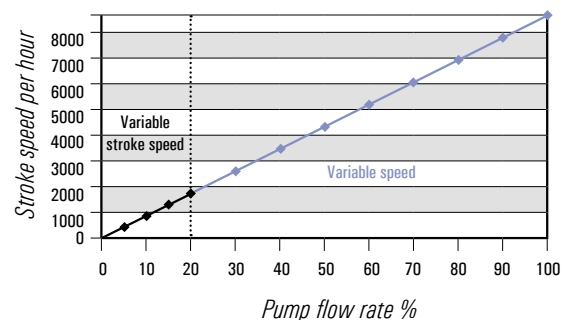
So, for fittings rated capacity, the pump number of strokes is 6000 strokes/h

Then the VARIPULSE® calculates the coefficient of optimization to have a pump flow rate of 100% with the 6000 pulses stemming from the meter which allows an optimal sizing of the pump.

The following graphs illustrate this example



After the optimization for 6000 pulses, the pump achieves 8640 strokes/hour



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