

FCP

variable speed controller

Pentax®



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FCP VARIABLE SPEED CONTROLLER



FCP is a new revolutionary concept of Single-phase Inverter for Single-phase motor pump.

The Inverter is specifically designed for the single-phase motor pumps operation, and it is suitable for all types of pumps. It does not depend by the flow or the pressure of them, but by a perfect feedback pressure control that guarantees a substantial energy saving—up to 40% on respect to the standard on-off system. The energy saving is especially for medium flow, the most common use of the motor pump, combined by various security features which may not be possible in common appliances.

FCP replaces all traditional systems such as pressure switch or flow switch and big tank which are not longer necessary. Soft starts and stops guarantee low current absorbing, a long-lasting motor pump, silent working and the absence of water hammer.

The logic control unit of **FCP** protects the system from null flow and dry-working conditions or other dangerous electrical or mechanical conditions.



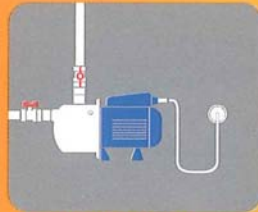
| <i>TECHNICAL CHARACTERISTICS</i> | <i>FCP 109</i> |
|---|--------------------------------|
| Inverter voltage supply V ₁ | 1 x 230 V ± 10% |
| Frequency supply inverter f ₁ | 50-60 Hz |
| Maximum motor-pump power P ₂ | 1100 W 1,5 Hp |
| Inverter voltage output V ₂ | 1 x 230 V ± 10% |
| Inverter frequency output f ₂ | 0..55 Hz |
| Nominal input current I _{1n} | 10 A |
| Maximum output current (ED 100%) I ₂ | 9 A |
| Maximum output current (<1 sec.) I ₂ | 4 x I _{1n} A |
| Control type | V/f |
| User interface | Micro-led panel |
| Pressure measure range ΔP | 0 - 10 bar |
| Pressure transducer included - standard | K16 |
| Pressure transducers compatibles | In: 0 - 15 V Out: 4 - 20 mA |
| Mounting type | Wall fixing |
| Cooling type | Natural convection |
| Protection grade | IP 65 |
| Ambient temperature T _a | 0.. +40°C |
| Storage temperature T _{stk} | -20.. +60°C |
| Dimensions b h p | 155 x 238 x 120 (mm) |

FCP INSTALLATION

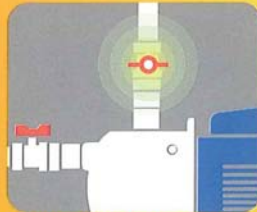


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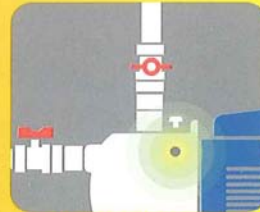
INSTALLATION IN A NEW GENERATION WATERWORKS SYSTEM:



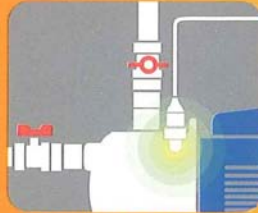
MOTOR PUMP INSTALLED



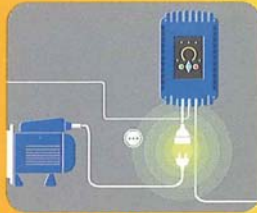
1) CLOSE THE DELIVERY SIDE OF THE PUMP



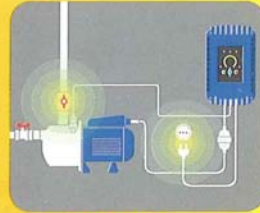
2) REMOVE THE PRIMING PLUG - BE SURE IT'S AT THE DELIVERY PRESSURE



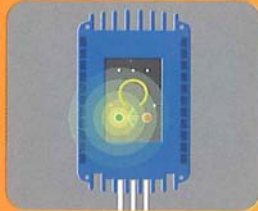
3) CONNECT THE PRESSURE TRANSDUCER TO THE PUMP



4) CONNECT FCP TO THE ELECTRIC MOTOR PLUG OF THE PUMP



5) CONNECT FCP TO THE VOLTAGE SUPPLY AND RE-OPEN THE DELIVERY SIDE OF THE PUMP

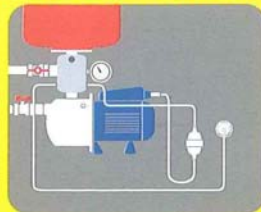


6) PRESS START, WAIT UNTIL THE END OF THE AUTOMATIC PUMP CHECK AND WORK NORMALLY



2

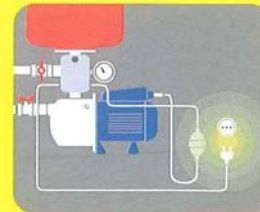
INSTALLATION IN A TRADITIONAL SYSTEM CONTROLLED BY A PRESSURE SWITCH:



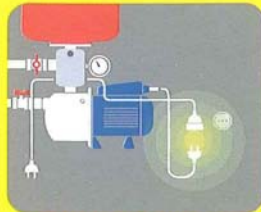
OLD SYSTEM CONTROLLED BY PRESSURE SWITCH



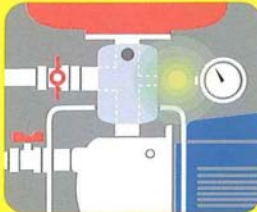
1) CLOSE THE DELIVERY SIDE OF THE SYSTEM



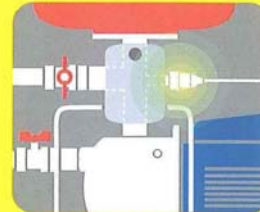
2) DISCONNECT THE ELECTRIC PLUG OF THE PRESSURE SWITCH



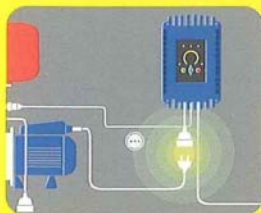
3) DISCONNECT THE MOTOR - PUMP FROM THE PRESSURE SWITCH PLUG



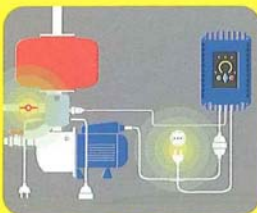
4) UNSCREW THE PRESSURE GAUGE ON THE DELIVERY



5) CONNECT THE PRESSURE TRANSDUCER ON THE PRESSURE GAUGE CAVITY



6) CONNECT FCP TO THE ELECTRIC MOTOR PLUG OF THE PUMP



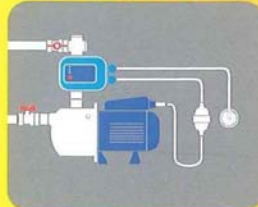
7) CONNECT FCP TO THE VOLTAGE SUPPLY AND RE-OPEN THE DELIVERY SIDE OF THE SYSTEM



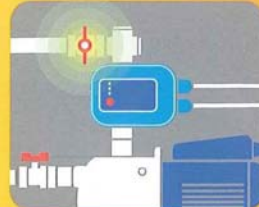
8) PRESS START, WAIT UNTIL THE END OF THE AUTOMATIC PUMP CHECK AND WORK NORMALLY

3

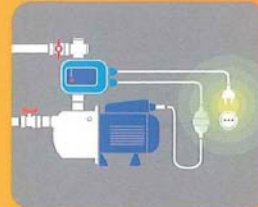
INSTALLATION IN A TRADITIONAL SYSTEM CONTROLLED BY A FLOW SWITCH:



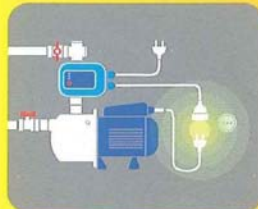
OLD SYSTEM CONTROLLED BY FLOW SWITCH



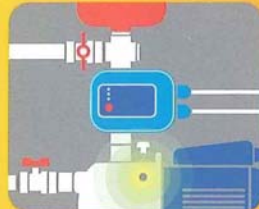
1) CLOSE THE DELIVERY SIDE OF THE SYSTEM



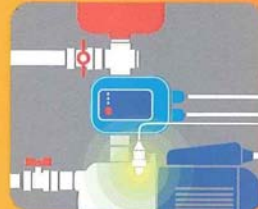
2) DISCONNECT THE SYSTEM FROM THE VOLTAGE SUPPLY



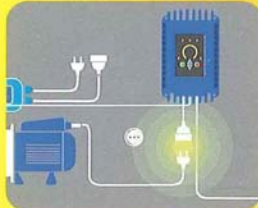
3) DISCONNECT THE MOTOR - PUMP FROM THE FLOW SWITCH PLUG



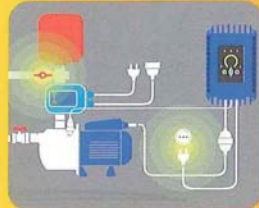
4) REMOVE THE PRIMING PLUG AND ADD A SMALL MEMBRANE TANK



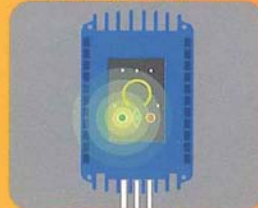
5) CONNECT THE PRESSURE TRANSDUCER ON THE PRIMING PLUG CAVITY



6) CONNECT FCP TO THE ELECTRIC MOTOR PLUG OF THE PUMP



7) CONNECT FCP TO THE VOLTAGE SUPPLY AND RE-OPEN THE DELIVERY SIDE OF THE SYSTEM



8) PRESS START, WAIT UNTIL THE END OF THE AUTOMATIC PUMP CHECK AND WORK NORMALLY