



DIGITAL & ELECTRONIC PRESSURE REGULATOR

INSTRUCTION MANUAL

MODEL: DPR | EPR

CODE: 28391 | 30288 | 28384 | 30271

CONTENTS

Description	3
Operating Characteristics	3
ART Function	4
APR Function	4
Technical Characteristics	4
Hydraulic Installation	5
Electronic Connection	5
Control Panel	6-7
Startup	8-9
Basic & Advanced Menu	10
Pressure Sensor Calibration	11
Warnings and Alarms	12
Warranty Information	13-14

GENERAL

Read the instructions carefully before installing this unit. Verify the technical characteristics of the motor in order to assure the compatibility with the device.

DESCRIPTION

EPR - Electronic Pressure Regulator

The EPR is an electronic controller for single-phase pumps up to 2.2kW with an innovative system of pressure reduction/regulation in order to maintain a steady outlet pressure. Therefore, in addition to the typical features of traditional electronic pump controllers: integrated non-return valve, flow sensor, accumulation membrane, pressure gauge, indicator led-lights, dry-run protection, automatic restart system (ART). It allows adjusting and control of the output pressure, avoiding overloads and water hammer. Ultimately, improving the comfort and durability of the installation.

DPR - Digital Pressure Regulator

Evolving from EPR, adding to its features a digital display with instantaneous indication of current consumption and outlet pressure since it houses current and pressure transducers inside. This device allows separates the regulation of the outlet pressure from the cut-in pressure to improve the flexibility of the system's hydraulic reserve, reducing the prolongation of inactive pauses and, consequently, reducing the number of starts of the electric pump. This independence from pressure regulation also allows operation with a minimum differential between the cut-in pressure (ON) and the outlet pressure (OUT). It also integrates alarm and function registers, as well as the possibility of adjusting multiple operating parameters such as automatic reset system, anti-flood function, start and stop delays, etc.

OPERATING CHARACTERISTICS

	EPR	DPR
Starting Pressure	Depends on the adjusted outlet pressure.	Adjustable from 0.5bar to 5.5bar
Outlet Pressure	Adjustable from 2.5 bar to 6 bar by the rear allen screw. (Refer Fig 1 and 2)	Adjustable from 2.5 bar to 6 bar by the rear allen screw. (Refer Fig 1 and 2)
Outlet Pressure Reading	Pressure Gauge	Digital
Dry-running Protection	Yes	Yes
Over-current Protection	No	Yes
ART* Function	Yes	Yes
Manual start push button	Yes	Yes
Control Panel	LED indicator lights and ENTER push button	3-digit display, LED indicator lights and 4 push buttons (up and down arrows, amps and enter)
APR** Function	Yes	Yes
Anti-flooding configuration	No	Yes
Stand-by Mode	No	Yes

*ART FUNCTION (AUTOMATIC RESET TEST)

When the device has stopped, the pump by the intervention of the dry-running protection system, the ART tries after 5 minutes to re-start the pump in order to restore the water supply. After this first attempt is performed, it will attempt every 30 minutes.

In the DPR, this function can be activated in the ADVANCED MENU. The number of attempts can be set (1-48) and also the span of the attempt (10-40 seconds).

**APR FUNCTION (ANTI-BLOCKING PERIODIC ROUTINE)

After 72 hours without operation the pump is automatically started for 10 seconds in order to avoid rotor locking. In the DPR the display will show the message "APR" while the pump is operating. In the EPR the pump LED will be on during this operation.

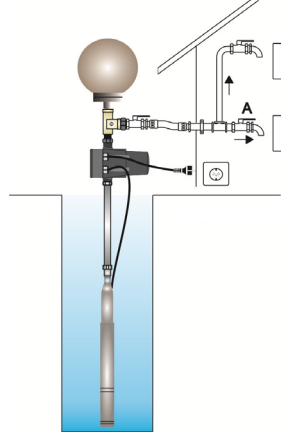
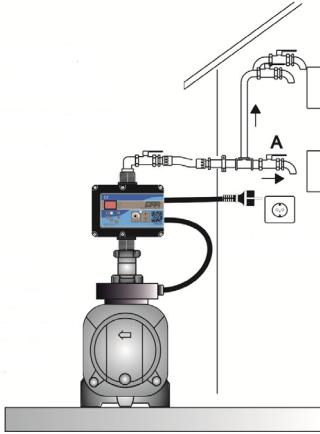
TECHNICAL CHARACTERISTICS

Rated Motor Power	0.37 - 2.2kW
Power Supply	240V
Frequency	50Hz
Max. Current	16A
Ingress Protection	IP65
Maximum Water Temperature	50°C
Maximum Ambient Temperature	60°C
Outlet Pressure	2.5 - 6 bar
Starting Pressure Range	DPR: 0.5 - 5.5 bar (factory setting 1.5 bar) EPR: 1.0 - 4.5 bar
Maximum Operating Pressure	10 bar
Inlet / Outlet	28391 & 28384: 25mm 1" MBSP 30288 & 30271: 32mm 1 ¼"
Net Weight (without cables)	2 kg

HYDRAULIC INSTALLATION



Before proceeding with hydraulic connection it is essential to prime the pump correctly. The DPR and EPR must be installed in a vertical position (arrows in upward position), thus connecting the inlet opening directly to the pump outlet; and the outlet to the network. The following accessories are recommended: flexible with a disassembling link for network protection, protecting the set from possible flexion charges and vibrations, ball valve which permits the isolation vales on suction and discharge of pump, use of unions for easy disconnection of the pump. optional pressure tank for protection against possible water hammer and vibrations.



ELECTRONIC CONNECTION



The electric connection must be performed by qualified technicians in compliance with the Australian regulation. Before doing manipulations inside the device, it must be disconnected from the electric supply. Wrong connection could spoil the electronic circuit.

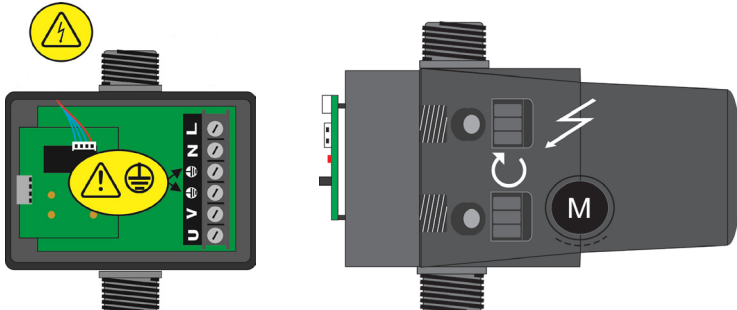
The manufacturer declines all responsibility in damages caused by wrong connections.

Check if the power supply is between 110-230V.

If you have purchased the unit without cables see diagram below. (EPR and DPR devices have the same electric wiring diagram.)

- Use cable type H07RN-F 3G1 or 3G1.5 with section enough to the power installed.
- Do the pump connection U, V and .
- Do the power supply connection L, N and .
- The earth conductor must be longer than the others. It will be the first one to be mounted during the assembly and the last one to be disconnected during the dismantling.

The earth conductors connections are compulsory!



CONTROL PANEL

The meanings of the different control panel elements are summarized on the following tables.




LEGEND





O = Lit LED Light

(O) = LED Flashing





DPR - Digital Pressure Regulator


DISPLAY	ACTION
OPERATION MODE	It shows on screen: instantaneous pressure or instantaneous current consumption
ADJUSTMENT MODE	Is displaying on screen the adjusted start pressure or the adjusted rated current
ALARM MODE	Is displaying the alarm code
STAND-BY MODE	Is displaying 3 flashing dots
BASIC CONFIG.	Is displaying the sequence of basic configuration parameters
ADVANCED CONFIG.	Is displaying the sequence of advanced configuration parameters

LEDS	DISPLAY	ACTION
O Bar	O	Is displaying the instantaneous pressure in bar.
	(O)	Pump ON and is displaying the instantaneous pressure in bar.
O psi	O	Is displaying the instantaneous pressure in psi.
	(O)	Pump ON and is displaying the instantaneous pressure in psi.
O A	O	Is displaying the instantaneous current consumption in Ampere units
	(O)	Pump ON and is displaying the instantaneous current consumption in Ampere units
 START PRESSURE	O	Is displaying the start pressure
	(O)	Adjusting start pressure
 FLOW	O	It indicates positive flow
 ALARM	O	Ratified dry-running or overload alarms
	(O)	Dry-running alarm performing ART or overload alarm performing any of the 4 restore attempts

P-BUTTON	TOUCH	ACTION
 ENTER	click!	From state ON: any alarm is restored. From state OFF: system changes to STATE ON, the pump starts. From any configuration MENU: the parameter value is accepted.
	HOLD DOWN	From state ON: unit OFF< relay disconnection. From state OFF: the pump starts and keeps operating until the push-button is released
 UP ARROW	click!	Pstart is displayed on the screen for 3 seconds
	click!	Increase the programming value.
	Hold 3 Sec	Pstart adjustment mode.
 DOWN ARROW	click!	Decrease the programming value.
 AMPERE	click!	Is displaying the instantaneous current consumption. If it is already displaying then switch to instantaneous pressure view.
	Hold 3 Sec	Rated current adjustment.

EPR - Electronic Pressure Regulator










LEDS	DISPLAY	ACTION
 POWER SUPPLY	0	It indicates the device is connected to the power supply.
 ALARM	0	Ratified dry-running or overload alarms.
	(0)	Dry-running alarm performing ART or overload alarm performing any of the 4 restore attempts.
 PUMP	0	It indicates the pump is working.
 FLOW	0	It indicates positive flow.

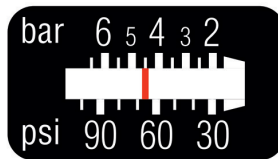
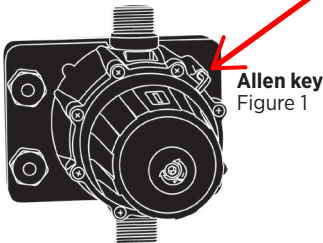
P-BUTTON	TOUCH	ACTION
	click!	Any alarm is restored.
	HOLD DOWN	The pump starts and keeps operating until the push-button is released.

STARTUP

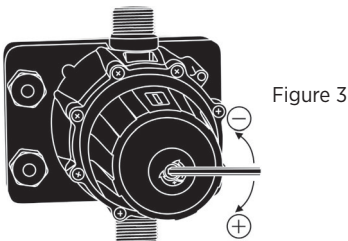
 Before starting the device please read the previous sections, especially “Hydraulic Installation” and “Electrical connection”.

Follow next steps:

1. Start the device. Connect to the power supply and press ENTER  in the DPR model. Connect to the power supply in the EPR model.
2. (Only DPR) Set the pump motors rated current:
 - Press  and hold for 3 seconds.
 - The current intensity value is displayed on screen and LED A is flashing (factory setting 16A).
 - By pressing of  and  it is adjusting the rated current reflected in the characteristics plate of the motor. See Note 1.
 - Press  for validation.
3. (Only DPR) Set the cut-in (start) pressure:
 - Press  during 3 seconds.
 - The start pressure value is displayed on screen and LED START is flashing.
 - By pressing of  and  it is adjusting the start pressure from 0.5 to 5.5 bar,.
 - Press  for validation.
4. Set the maximum pressure of the installation:
 - Open a tap.
 - Take the provided allen key.

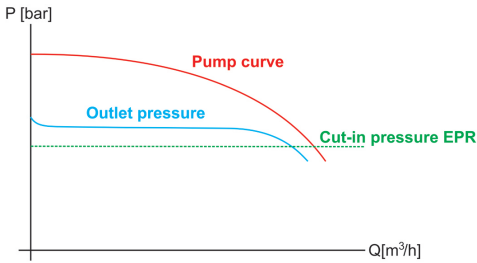


- Turn the regulation screw clockwise to increase the outlet pressure and anticlockwise to decrease it (factory setting 3 bar) . Look at the working pressure viewer (Figure 2) while turning the screw to have a first approximation of the outlet pressure setting.
- Close the tap and do the final adjustment looking at the pressure gauge (EPR) or the display (DPR).



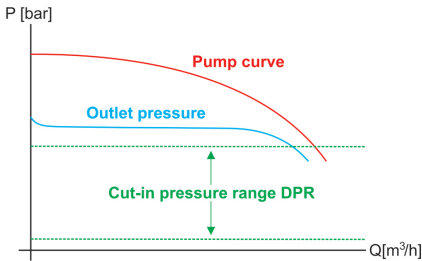
- **The regulated pressure should be at least 1 bar less than the maximum pressure of the pump.**

EPR Pressure Diagram:



OUTLET PRESSURE	CUT IN PRESSURE	MIN. PUMP PRESSURE	MAX. WATER COLUMN
2 bar	1 ± 0.5 bar	3 bar	4 m
3 bar	1.8 ± 2.5 bar	4 bar	12 m
4 bar	2.5 ± 0.5 bar	5 bar	18 m
5 bar	3.5 ± 0.5 bar	6 bar	25 m
6 bar	4.5 ± 0.5 bar	7 bar	30 m

DPR Pressure Diagram:

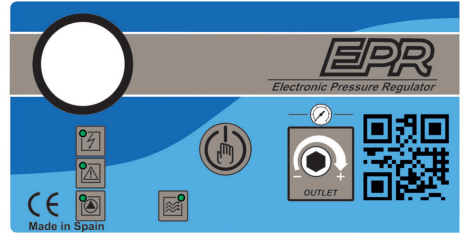
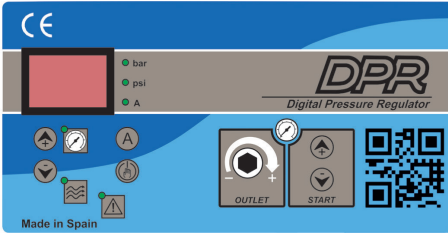







OUTLET PRESSURE	CUT IN PRESSURE	MIN. PUMP PRESSURE	MAX. WATER COLUMN
2 bar	0.5 ± 1.5 bar	3 bar	3-8 m
3 bar	0.5 ± 2.5 bar	4 bar	3-15 m
4 bar	0.5 ± 3.5 bar	5 bar	3-20 m
5 bar	0.5 ± 4.5 bar	6 bar	3-30 m
6 bar	0.5 ± 5.5 bar	7 bar	3-40 m

- The unit EPR is ready to operate but the unit DPR has more optional adjustments that can be set through basic and advanced MENUS. (See next page.)

Note 1: it is important to introduce exactly the rated current specified on the nameplate of the pump. If a new pump is installed this process should be repeated.

BASIC MENU +









- Press simultaneously  +  for 5 seconds
- The values can be changed by the  or .
- Press  for validation.

This is the parameters sequence:

TYPE		SYSTEM REACTION	FACTORY SETTING
bar	psi	We can select the pressure units displayed between bar and psi.	bar

ADVANCED MENU + +

- Press simultaneously  +  +  for 5 seconds
- The values can be changed by the  or .
- Press  for validation.




This is the parameters sequence:

SCREEN		SYSTEM REACTION	FACTORY SETTING
Ar0	Ar1	Activation of the automatic restore system ART (Ar1) or disable (Ar0)	Ar1
n01	n48	In case of enabled ART, it can be set the number of restore attempts, between 1 and 48.	48
t10	t40	It can be set the span of the attempt between 10 and 40 seconds.	15"
Sb0	Sb1	Stand-by disabled (Sb0) or enabled (Sb1)	0
H00	H99	Anti-flooding configuration. If activated, it stops the pump after programmed time (in hours) of continuous operation. Disabled (H000), 1 hour (H01), 2 Hours (H02)... 24 Hours (H24)	H00
rs0	rs1	Restore factory settings (rs1)	rs0




PRESSURE SENSOR CALIBRATION

In case of wrong lecture of the pressure sensor it can be adjusted again. For the pressure sensor calibration it is necessary to have a pressure gauge in the installation. Proceed with following the next steps:

ZERO REGULATION

1. Open the taps leaving the hydraulic network without pressure.
2. Press simultaneously the buttons  and  until the display is flashing 0.0.
3. Press  to validate.

FULL SCALE

1. Set the outlet pressure equal to the maximum pressure of the pump. In case of using a pump with higher pressure than 6 bar, set the outlet pressure to 6 bar. (Go to the point 4 of the STARTUP to remember how to set the outlet pressure)
2. Start the device and wait until it stops the pump
3. Press simultaneously the buttons  and  till the display flashes with a figure.
4. Adjust the pressure with the arrows push buttons to get the pressure desired.
5. Press  to validate.

Examples:

MAXIMUM PUMP PRESSURE	OUTLET PRESSURE	ADJUSTED FULL SCALE
4 bar	4 bar	4 bar
8 bar	6 bar	6 bar

Note: Pressure sensor recalibration should not be a normal event. If it is frequently repeated contact the technical service.

WARNINGS AND ALARMS

DPR

COD.	ALARM	DESCRIPTION	SYSTEM REACTION
A01	O	DRY RUNNING	When it has detected a dry-run operation the pump is automatically stopped. By pressing ENTER the normal operation can be manually restored.
	(O)		After the activation of the dry-running alarm, if the Automatic system reset (ART) is enabled, a first attempt at 5 minutes and then an attempt every 30 minutes for 24 hours is performed in order to restore the normal operation. This alarm can also be reset manually with the ENTER push-button. If the alarm persists after 24 hours we find a definitive alarm.
A02	O	OVERLOAD	Overcurrent alarm is activated when the nominal pump current is exceeded. 4 automatic reset attempts prior to the final alarm are performed.
	(O)		Normal operation can also be restored manually by pressing ENTER.
A05	O	DAMAGED PRESSURE TRANSMITTER	CONTACT SUPPLIER
A30	O	ANTI-FLOODING	FLOOD protection has been activated because the pump has been running continuously for a period of time equal to the limit set in the ADVANCED MENU. It is manually reset by pressing ENTER.

EPR

ALARM	DESCRIPTION	SYSTEM REACTION
O	DRY RUNNING	When it has detected a dry-run operation the pump is automatically stopped. By pressing ENTER the normal operation can be manually restored.
(O)		After the activation of the dry-running alarm, if the Automatic system reset (ART) is enabled, a first attempt at 5 minutes and then an attempt every 30 minutes for 24 hours is performed in order to restore the normal operation. This alarm can also be reset manually with the ENTER push-button. If the alarm persists after 24 hours we find a definitive alarm.

CLASSIFICATION AND TYPE

According to IEC 60730-1 and EN 60730-1 this unit is a control sensor device, electronic, independent assembly, with action type 1B (microdisconnection). Operating value: I <20% I learned. Pollution degree 2 (clean environment) or flow >2,5 l/min. Rated impulse voltage: cat II / 2500V. Temperatures for ball test: enclosure (75) and PCB (125).

2 YEAR WARRANTY CONDITIONS

1. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. If you are a consumer as defined by the Australian Consumer Law, you are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. If you (the purchaser) do not fall within the meaning of 'consumer' in the Australian Consumer Law the provisions of the Australian Consumer Law will not apply to you. The following conditions form part of the instructions and do not over-ride your statutory rights.
2. This warranty covers failure due to manufacturing defects for product purchased from Ascento and used in mainland Australia. We shall repair or replace faulty goods when we ascertain that the fault is due to manufacturing defects, within the period of time as advised by us for any particular item. If you require a refund, you must return the item to the original place of purchase.
3. Faults or losses or failure caused due to: Accidents, misuse, lack of maintenance, not following these instructions, damage caused by lightning strike/power surges/spikes/brownouts/operating the product on power other than mains power/operating the product on power supplied by a domestic generator - are not covered by warranty.
4. Warranty will be void if any tampering or removal of identification labels or electrical cables has occurred, or any non-genuine parts have been fitted, or repairs have been carried out by unqualified persons. No warranty applies for goods sold or used for HIRE or RENT or LEASE
5. The Warranty excludes accidental or deliberate breakages, normal wear and tear, fading or breakdown due to the effect of exposure to sunlight or chemicals or any other external factor that may affect the life of the product.
6. For Pump Controllers & similar products, the product is guaranteed as fit for the purpose of controlling pumps of acceptable size and power rating, and that are pumping CLEAN FRESH WATER in normal domestic household use, and for NO OTHER USE. Performance data quoted is generally from test data and is approximate and does not take into account factors in the installation such as loss of pressure and flow due to pipework & pipe-fittings & valves. It is the purchaser's responsibility to ensure that the product is fit for their purpose and of sufficient size & performance for their application.
7. IMPORTANT: No electrical appliances last forever. Therefore ALL installations must be constructed to allow the owner to easily remove the product for servicing, and to easily remove for replacement, warranty replacement or upgrading. Install using Barrel-Union fittings so that the owner can EASILY remove the pump and/or product for service or replacement. Warranty is void if there is no Barrel Unions used and the product cannot be EASILY removed for service. NEVER install pumps such that persons need to get inside a tank to remove/work on the pump. Warranty is VOID if persons have to get inside the tank to remove or repair the pump or product. Warranty replacement does not normally include costs of removal and re-installation as we have no control over the method of installation. A check-valve must be fitted to the inlet & the outlet of the pump to avoid backflow; warranty is void if not fitted. A Prefilter or Y-Strainer must be fitted between the tank and the pump, warranty is void if not fitted. Also ball-valves or gate-valves must be fitted on the discharge to avoid loss of water during servicing. WARNING: Penetrations through metal tanks for the power cable must conform to electrical code and be approved by a licenced electrician. WARNING: Swarf from cutting tank penetration (plastic or metal) may lead to pump or product failure which is not covered by warranty. Remove ALL SWARF before installing the pump.
8. Before touching, installing or servicing, disconnect from the power supply.
9. This product is not to be used as your sole water supply. For critical applications where loss of water supply could cause serious consequences, use a DUAL PUMP System so you have a backup water supply or use a TOWN-WATER BACK-UP System.
10. This product MUST NOT be installed in any manner that if it were to leak, or fail to work, that it would cause damage or loss to property or persons. It MUST be installed in a well-ventilated and drained area. All warranty is void if this condition is not heeded and no liability can be accepted in the case of damage or loss caused by failing to comply with this condition.

11. All electrical products must be correctly earthed and connected to a suitable sized electrical circuit, with an integral RCD (safety switch) having a rated residual operating current not exceeding 30mA, in the circuit breaker. For all new installations, a licenced electrician must certify that the installation is safe before using the product.

12. In the case of a fault, refer to the Fault Codes and Explanations, first. Secondly, refer to your installer. As the method and style of installation is completely out of our control we cannot be held responsible for failure which is due to any factor, other than failure due to a manufacturing defect. If you are certain that the failure is due to a manufacturing defect, you can return the faulty product to the original place of purchase, with proof of purchase, for replacement or refund. Alternatively you can mail us at PO BOX 650 MORNINGSIDE QLD 4170 or send an email to csv@ascento.com.au with a photo of the faulty item, copy of your purchase receipt, a description of the problem, and your name and address and phone number - we will review your request and send you a replacement directly if we accept your warranty claim. Or call us on 1800 807 604 with the above information; however we will always require a copy of your purchase receipt. Do not send the product to us unless we ask you to do so.

13. If an exact replacement is not available, the closest equivalent product will be supplied at our discretion.

14. This warranty does not exclude any non-excludable rights according to Australian Law. However any condition that is made void by Australian Law does not void the remaining conditions, which shall stand unaltered.

PRIVACY STATEMENT

We will not use your name, address, phone, or email address for marketing without your express permission. We will not sell or provide it to any other third party for the purpose of marketing.

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