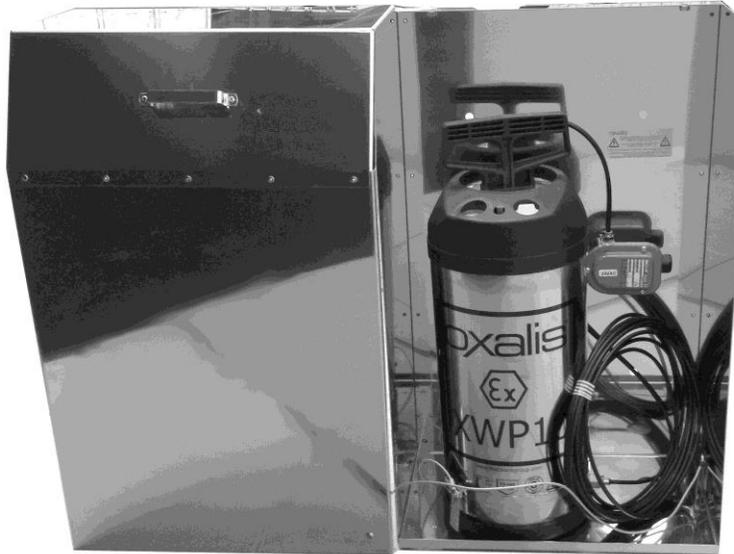


XWP10 Series Stainless Steel Pressurised Washer System



Installation Instructions

This manual should be read before attempting to connect or operate the equipment
This equipment shall be installed in accordance with the latest local/national codes of practice, and standards
e.g. :- *BS EN 60079-14:2008 Explosive atmospheres – Part 14: Electrical installations design, selection and erection*
(IEC 60079-14:2007)

Whilst every effort has been made to ensure that all information in this document is correct at the time of publication, due to our policy of continuous improvement, the company reserves the right to change any information contained herein without notice.

Amendment Record

<u>Issue</u>	<u>Date</u>	<u>Details of Amendment</u>
1.0		First Issue

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1.0 General



1.1 Important Safeguards and Warnings

Prior to installation and use of this product, the following WARNINGS should be observed.

1. Installation and servicing should only be carried out by Qualified Service Personnel and in accordance with all Local and National Standards and Codes of Practice.
2. The jubilee clips and securing straps are the only parts, which may be replaced in the field, by a competent engineer.
3. In all other instances of repair/replacement the unit should be returned to the factory.
4. Only use replacement parts recommended by Eaton.
5. The installation support method and materials should be capable of supporting up to 4 times the weight of the Unit.
6. The XWP10 is designed for the use solely described in this manual; any repairs made necessary by reason of misuse are not covered under Eaton warranty.

2.0 Description

The XWP10 series pressurised washer system with integral solenoid valve has been developed for use with closed circuit TV cameras in Hazardous areas in both offshore, marine and industrial environments, to allow for spray wash onto the housing window glass. Constructed from 316L stainless steel for low maintenance and protection from corrosion, the washer system is supplied as a complete unit for use with Eaton camera housings or as an addition to user supplied housings which have no washer facility. The fluid tank is a 10 litre manually pressurised unit with built in pressure gauge. When charged to the required pressure, the wash fluid is released under pressure by the integral solenoid valve. The washer system solenoid is activated from either a telemetry receiver relay or directly wired to a user supplied switching system. Switching supply is connected to the solenoid's integral terminal box using suitable rated power cable.

2.1 Versions

The XWP10 washer system can be supplied for various options to cover different certifications:

XWP10I-24	INMETRO/IECEX certified
XWP10R-24	TR CU/IECEX certified
XWP10AI-24	ATEX/IECEX certified

2.2 Supplied Equipment

Contained in the package are the following items:

- Stainless Steel Frame and Cover
- Manually Pressurised Tank with Pressure Gage
- Solenoid Valve
- 10 Metre Anti-Static Hose
- 2 x M40 Rubber Grommets
- Pressure Switch (optional)

2.3 Recommended Tools

For Installation and Maintenance purposes, we recommend the following hand tools:

- Voltmeter/Ohmmeter
- Allen wrench 2.5mm
- Screw drivers: Standard and Phillips head
- Screw drivers: Standard 5mm Slotted
- 13mm Extra Deep Socket
- 13mm Spanner
- Suitable tools for the client specific fixings used

3.0 Installation

In order to ensure proper wiring and system operation of all components, it is recommended that all associated control equipment be tested at your factory before field installation is commenced. For details of installation requirements you must refer to the solenoid valve manufactures manual.

3.1 Mounting the enclosure

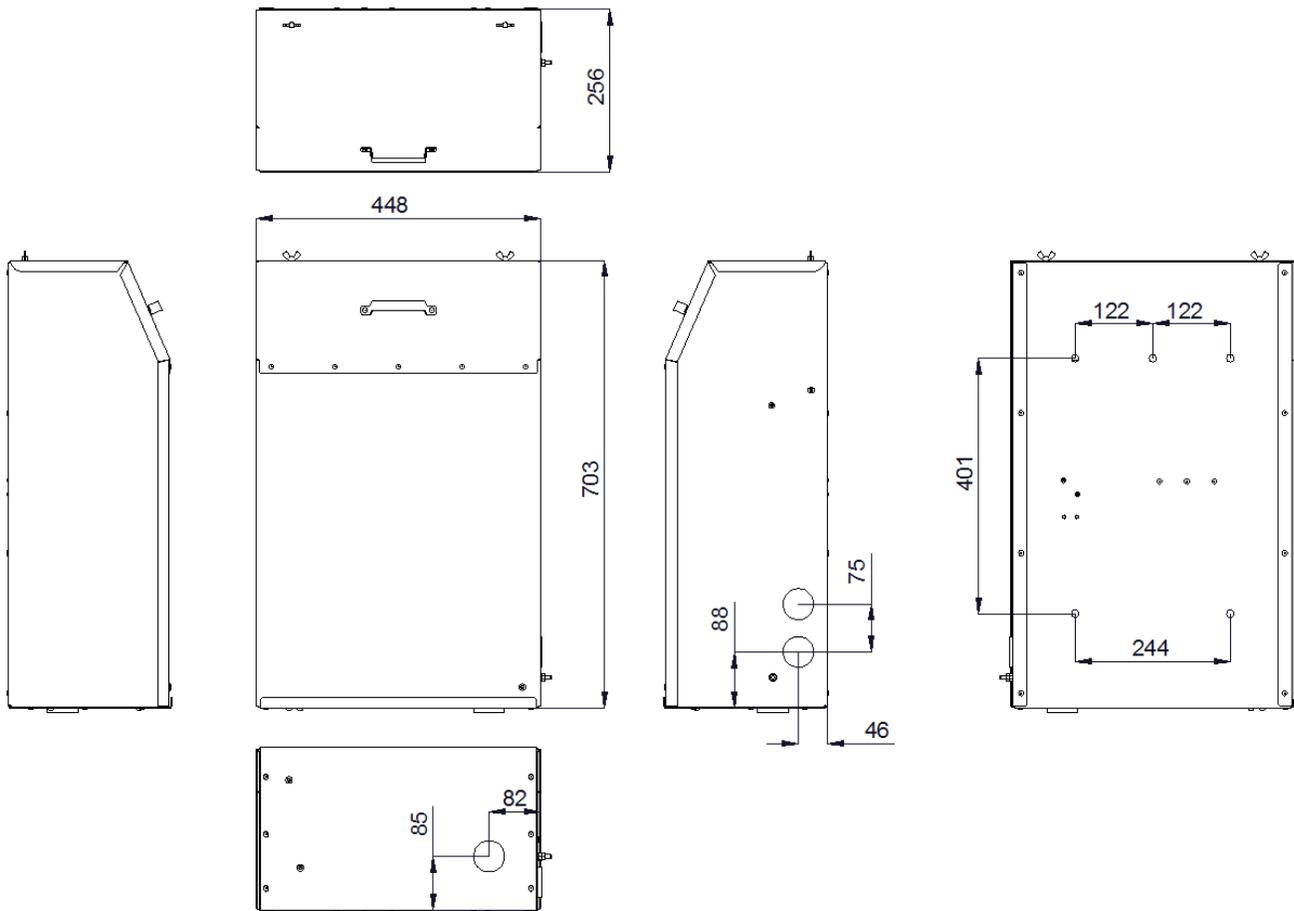


The unit should be mounted to suitable structure capable of supporting 4 times the total filled weight of the unit @ Max 27 KG.

There are 5 x 12mm diameters fixing holes on the rear of the enclosure frame as shown in Fig 1.

Oxalis recommends the use of A4 Stainless Steel M10 Fixing Bolts sealed on the inside of the enclosure with a suitable washer or compound to prevent water ingress.

Fig 1. Dimensions: mm ±5%



3.2 Electrical Installation



Electrical installation and servicing should only be carried out by qualified service personnel and in accordance with all local/national codes of practice and standards e.g. EN60079-14 1997.

Cable entry to the XWP10 case is via the one of 3 x 40mm holes, either in the bottom or side of the unit, and passed through one of the M40 rubber grommet supplied.

Fig 2. Shows the connection to the solenoid valve, these connections should only be made after confirmation of the correct voltage has been determined.

There are 3 M6 earth bonding studs provided located on the enclosure side frame, removable cover and tank securing screw and Strap. Internal earthing cables are fitted to ensure continuity. The unit should be externally bonded to earth using the earth stud provided and as required by local regulations.

For connection follow polarity marking on the terminal. Solenoid can be polarity sensitive.

Installation practices.

1. Always use insulated stranded multi-conductor cable, with braid/armour and outer sheathing, suitable for the specific site conditions and requirements.
2. Always use colour-coded or numbered conductors for ease of wiring and identification of function at a later date.
3. Keep a wiring diagram with the system for later use and reference.
4. Take care to select and install adaptors to the electrical entry that do not reduce the enclosure's degree of protection for use in Hazardous Areas. Thread supplied is ISO M20 x 1.5.



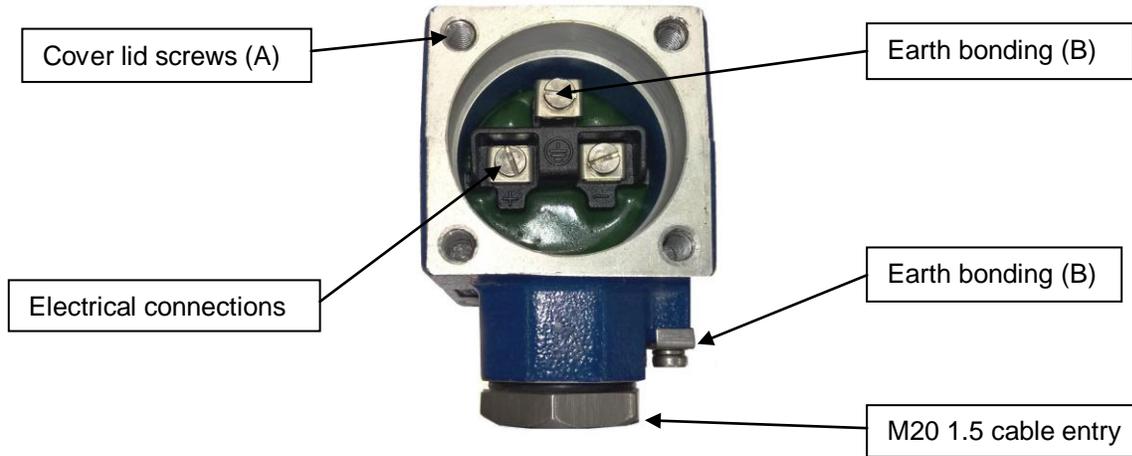
**FAILURE TO OBSERVE THESE REQUIREMENTS WILL RENDER THE INSTALLATION UNSAFE!
WARNING: IT IS A SAFETY REQUIREMENT THAT AT LEAST 5 FULL THREADS ARE ENGAGED BETWEEN THE ADAPTOR AND CONDUIT ENTRY WHEN THE UNIT IS IN OPERATION. NEVER OPERATE THE UNIT UNLESS THIS CONDITION IS MET. ONLY USE GREASES OR LUBRICANTS WHICH ARE COMPATIBLE WITH THE ENVIRONMENT AND ENCLOSURE MATERIAL.**



5. Provide earth connection at (Fig 2. B) to the solenoid, using cable at least 4mm². Earth connection terminals provided inside termination area as well as externally on the solenoid housing at (Fig 2. B). Terminal crew should be tightened by applying torque not exceeding 2Nm.
6. Prevent excess voltage as it may damage solenoid insulation and create undue heating of the solenoid. Do not keep solenoid energized if it is not fitted on the valve.
7. Ensure the cable is properly fixed by tightening terminal screws provided in the termination area applying torque not exceeding 2Nm.
8. **Removing Cover: The enclosure contains potentially sparking contacts so the cover should never be removed while electrical power is connected to the switch and/or when a flammable gas is present.**
9. For proper fixing of terminal box cover ensure that four screws, (Fig 2. A) are tightened applying 5Nm torque.
10. Do not interchange the cover of the solenoid. If the covers get mixed up segregate the same based on the rated voltage and current which are marked at the bottom of the solenoid.
11. If the cover/housing is damaged diametrical clearance between the cover and the bore in the housing should not be more than 0.1mm. Repairing of Solenoid at customer's end is not permitted. Replace solenoid is such an event.



Fig 2.



3.3 Hose Installation & connections

The Hose supplied should pass out of the enclosure via one of the 3 x 40mm holes, either in the bottom or side of the unit and passed through one of the M40 rubber grommet supplied. The hose should be secured to the mounting structure of the camera station using suitable hose clips that will not compress the hose and do not have sharp edges as to damage the hose.

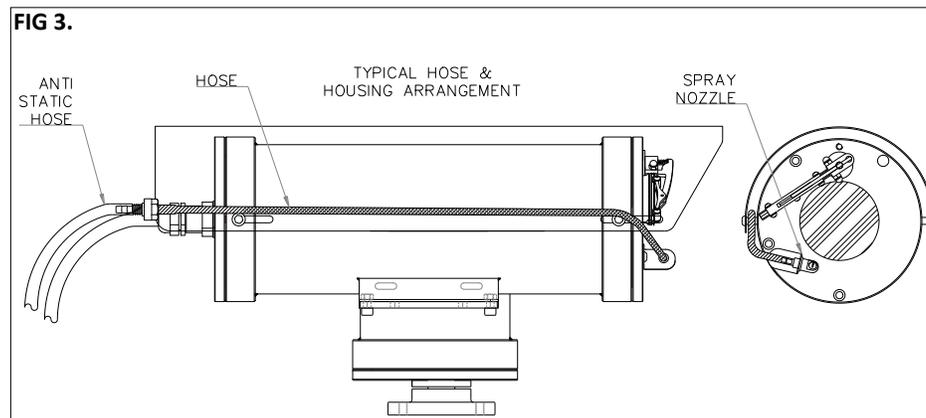
The hose should be clamped at the camera station as to give a suitable amount of slack to allow for the movement of pan and tilt unit where applicable.

Where supplied, the washer spray nozzle should be fixed to the front of the housing using an A4 M6 x 10 button head screw and positioned such that the wiper arm does not hit it when wiping, as shown in Fig 3.

The 6mm diameter anti-static hose hose should be routed behind the sunshield and on top of the sunshield fixings and should also be secured to the housing's incoming cable to prevent tangling.

The maximum head height is 20 meters from the top of the enclosure to the highest possible position of the washer nozzle.

Note. This would require an additional 10 metre length of hose to be ordered.



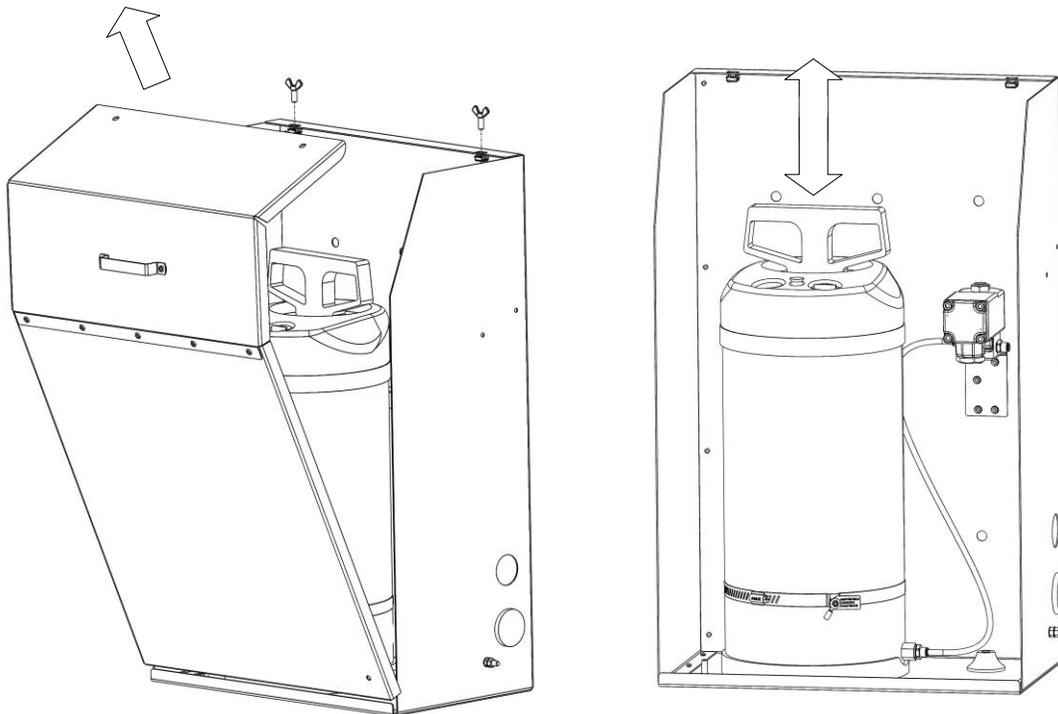
4.0 Unit setup & function

4.1 Filling and charging

1. Remove the pump body by rotating the handle counter clockwise.
2. Fill the vessel with up to 10 litres of fluid and replace the pump body by rotating it clockwise.
3. Charge the vessel by smoothly pumping (Fig 4) until **3.5 Bar** is reached on the pressure gauge.
4. It is advised that once charged a few seconds are allowed for the rising hose to become primed.
5. Once the rising hose is primed the pressure in the vessel can be brought back to **3.5 Bar**.
6. If more water is to be added when pressure is still present in the vessel, use the pressure relief valve on the top of the unit, Press RED Button.

The case can be leaned forward or lifted off completely

Fig 4.



6.0 Specifications

Solenoid Certification:

ATEX	<p>II 2 GD Ex d IIC T4 Gb $\leq -60^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ Ex t IIIC T130$^{\circ}\text{C}$ Db IP6x On Request: T5 $\leq -60^{\circ}\text{C}$ to $+75^{\circ}\text{C}$, T6 $\leq -60^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ On request: T95$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+75^{\circ}\text{C}$, T80$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ Certificate: DNV 12 ATEX 112883X</p>
IECEX	<p>Exd IIC T4 Gb $\leq -60^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ Ex t IIIC T130$^{\circ}\text{C}$ Db IP6x On Request: T5 $\leq -60^{\circ}\text{C}$ to $+75^{\circ}\text{C}$, T6 $\leq -60^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ On request: T95$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+75^{\circ}\text{C}$, T80$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ Certificate: IECEX DNV 13.0006X</p>
INMETRO	<p>Exd IIC T4 Gb -60°C to $+100^{\circ}\text{C}$ Ex tb IIIC T130$^{\circ}\text{C}$ Db IP6x On Request: T5 $\leq -60^{\circ}\text{C}$ to $+75^{\circ}\text{C}$, T6 $\leq -60^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ On request: T95$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+75^{\circ}\text{C}$, T80$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ Certificate: CEPEL 08.1717X</p>
TRCU EAC	<p>Exd IIC T4 Gb X $\leq -60^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ Ex tb IIIC T130$^{\circ}\text{C}$ Db X On Request: T5/T6 $\leq -60^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ On request: T95$^{\circ}\text{C}$/T80$^{\circ}\text{C}$ $\leq -60^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ Certificate: RUC-IN.ГБ08.B.01100</p>

Case Construction:	Stainless Steel AISI 316
Solenoid Voltage:	24 VAC/DC
Power Consumption:	8 Watts max.
Head Height:	Up to 20 metres @ 3.5 bar max. (Additional hose required)
Weight:	Maximum of 17Kg empty 27Kg full
Ingress Protection:	IP67 (solenoid valve)
Dimensions:	695H x 438W x 266D
Operating Temp:	-20°C to $+60^{\circ}\text{C}$