

A2 Monitors for tunnel protection

Caccialanza & C. **A2 Monitors for tunnel protection** are light compact units, designed to operate in extreme conditions and in an adverse environment like tunnels and to be used also on mobile units.

These monitors are a new product to be employed in remote controlled systems requiring a high aim precision.

Movements are performed by means of electric actuators integrated with bus power and command/control system with a single cable (flame resistant).

Monitors can be supplied already complete with integrated non return valve, feeded and controlled on the same bus which operates the other functions of the monitor.



A2 monitors are available in the following executions:

- electric remote operation (A2-El)
- electric remote operation and integrated valve (A2-El-T)

A2 monitors can be equipped with water/foam nozzles:

- water/foam nozzle with fixed flowrate, adjustable fo full jet/fog jet
- water/foam nozzle with variable flowrate, adjustable fo full jet/fog jet

Main Technical Data of A2 Monitors for tunnel protection:

- | | |
|-------------------------|--|
| - flowrate: | 800 - 1.000 lt/min |
| - pressure drop: | 0,4 bar with a flowrate of 800 lt/min
0,7 bar with a flowrate of 1.000 lt/min |
| - max nominal pressure: | 16 bar |
| - inlet flange: | 2½" ANSI 150 lbs RF
DN 65 UNI PN 16 |
| - body material: | seawater resistant light alloy G-Al Si 9 |

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A2 Monitors operation

A2 Monitors, through the single power/command cable, have to interface exclusively with Caccialanza integrated standard command/control panels.

Integrated standard panels in very compact execution are available in the version for control of 1 single monitor with 1 valve or for control of 2 monitors with 1 valve each.

On the panels there are the monitor command devices (joysticks and buttons) that can be doubled on one or more remote control panels, connected to the main panel by means of a single cable or optical fiber.

Features of these panels are listed in the document Integrated standard panels.

Command/control panels are available also in execution for rack 19" mounting, ready to be included in main or other equipment panels.

Special executions of panels are available on request.

Technical Data of the A2 Monitors in the different executions:

A2-EI electric remote controlled Monitor

- | | | |
|-----------------------------|-----------|--|
| - operation: | electric: | through electric multiturn actuators IP 67,
with integrated electric motors 24V/CC IP67, 0,21 kW |
| - locking devices: | | for arresting the horizontal and the vertical
movements in all positions |
| - rotation movement: | | horizontal and vertical movements on ball bearings |
| - lubrication: | | continuous |
| - rotation: | | 360° (adjustable from the panel) |
| - elevation: | | +75° / -55° (adjustable from the panel) |
| - torque switches: | | max rotation 360° (adjustable from the panel)
max elevation +75° / -55° (adjustable from the panel) |
| - mechanical protection: | | adjustable virtual limit switches for horizontal and vertical
movements |
| - motor protection: | | virtual thermostats integrated in the operation |
| - position control | | digital integrated for rotation, elevation and nozzle |
| - electric operation speed: | | rotation: about 180° in 26 sec. (about 7°/sec.)
elevation: about 90° in 12 sec. (about 7,5°/sec.) |

(general assembly drawing **52040017**)



Electric remote controlled Monitor A2-El-T with integrated valve

- operation: electric: through electric multiturn actuators IP 67,
with integrated electric motors 24V/CC IP67, 0,21 kW
 - locking devices: for arresting the horizontal and the vertical
movements in all positions
 - rotation movement: horizontal and vertical movements on ball bearings
 - lubrication: continuous
 - rotation: electric: 360° (adjustable)
manual: 360°
 - elevation: electric: +75° / -55° (adjustable)
manual: +75° / -55°
 - torque switches: max rotation 360° (adjustable)
max elevation +75° / -55° (adjustable)
 - mechanical protection: adjustable limit switches for horizontal and vertical
movements
 - motor protection: virtual thermostats integrated in the operation
 - position control digital integrated for rotation, elevation, nozzle and valve
 - electric operation speed: rotation: about 180° in 26 sec. (about 7°/sec.)
elevation: about 90° in 12 sec. (about 7,5°/sec.)
- (general assembly drawing **52040018**)

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