

WTI CONTROL PANEL

Control and management of filters and single-column and duplex softeners



PURPOSE AND USE

Switchboard designed and developed specifically for the control and management of WTI filters and softeners. The control panel, equipped with Schneider Electric micro-PLC, ensures the management of the different operating phases of the equipment. It is possible to set regeneration at regular time intervals or when a maximum ΔP is reached, or when a preset maximum volume of treated water is reached, or when the maximum volume is reached but delayed in time. Finally, it is always possible to start a manual regeneration by simply pressing a button on the front panel.

The WTI control panel is equipped with dry contacts for the management of important auxiliary functions (e.g. flocculant/oxidant dosing station, blower for water-air backwash, auxiliary contact for exchange/bypass system management) that make WTI equipment extremely versatile and complete, suitable for inclusion within industrial water treatment plants.

Finally, the WTI cabinet contains the air pilot solenoid valves for controlling the pneumatic valve actuators.

Four versions of the WTI control panel are available: single-column filter management, dual-column (duplex) filters, single-column softeners and dual-column (duplex) softeners.

COMMON TECHNICAL DATA

VOICE	VALUE
Supply voltage	240 Vdc - 50 Hz
Auxiliary voltage	24 Vdc
Degree of protection	IP 65
Dimensions L x W x H	340 x 160 x 460 mm

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CONTROL PANEL FOR SINGLE COLUMN FILTER

Single column filter control panel with:

- no. 5 butterfly valves with single-acting pneumatic actuator (flow management during operation and flushing), of which N.C. type valves

Available options: - management of butterfly valves with single-acting pneumatic actuator for air supply for flushing via external blower. (the system is supplied as an option, see "AIR" kit).

Panel commands:

- selector 0-1 (run-stop)
- wash start button
- selection button (service-wash)
- feed button (washing phases)

Panel complete with alarm warning light and emergency button.

Commands from PLC:

- filter set-up selection button (carbon, defertiliser, sand)
- display button / wash parameter setting
- display button / wash mode setting
- treated water meter display button (produced water totaliser).

Available regeneration modes:

- in time,
- immediate volume,
- volume delayed at a preset time,
- volume with time forced.
- when a maximum settable ΔP is reached

All volume regeneration modes require the installation of a pulse counter, while regeneration when a ΔP is reached requires the installation of a differential pressure sensor. Flushing function for prolonged inactivity.

Settable 6-step regeneration cycle:

- Drainage
- Air blowing
- Break
- Backwash
- Regenerating dosage (stage available for defertilising filters only)
- Quick rinse

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Functionality manageable from panel:

- n.1 pulse-lance counter
- n.1 minimum water inlet pressure switch
- n.1 maximum water inlet pressure switch
- n.1 water outlet pressure control
- n.1 air supply pressure control
- n.1 flocculating/regenerating dosing pump control complete with level control*.
- n.1 backwash pump control with water complete with level control**
- n.1 blower control for backwash with air**
- n.1 remote start consent
- n.1 dry contact system status (operation / flushing)
- n.1 dry contact system status (filter feed pump request)

* if the dosing pump is equipped with a contact for remote control, it can be operated directly, otherwise it must be operated with an auxiliary QE.

** command to be handled with auxiliary QE.

Base frame for single column filters Part
No.: WT0000246

CONTROL PANEL FOR DOUBLE COLUMN FILTER (DUPLEX)

Control panel for double-column filter management with:

- no. 5 butterfly valves with single-acting pneumatic actuator (flow management during operation and flushing phases), of which N.C. type valves

Available options: - management of butterfly valves with single-acting pneumatic actuator for air supply for flushing via external blower. (the system is supplied as an option, see "AIR" kit).

Panel commands:

- selector 0-1 (run-stop column 1)
- selector 0-1 (run-stop column 2)
- selector switch 1-0-2 (manual choice of column washing)
- wash start button
- selection button (service-wash)
- feed button (washing phases)

Panel complete with alarm warning light and emergency button.

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Commands from PLC:

- filter set-up selection button (carbon, defertiliser, sand)
- display button / wash parameter setting
- display button / wash mode setting
- treated water meter display button (produced water totaliser).

Available regeneration modes:

- in time,
- immediate volume,
- volume delayed at a preset time,
- volume with time forced.
- when a maximum settable ΔP is reached

All volume regeneration modes require the installation of a pulse counter, while regeneration when a ΔP is reached requires the installation of a differential pressure sensor. Flushing function for prolonged inactivity.

Settable 6-stage regeneration cycle:

- Drainage
- Air blowing
- Break
- Backwash
- Regenerating dosage (stage available for defertilising filters only)
- Quick rinse

Functionality manageable from panel:

- n.1 pulse-lance counter
- n.1 minimum water inlet pressure switch
- n.1 maximum water inlet pressure switch
- n.1 water outlet pressure control
- n.1 air supply pressure control
- n.1 flocculating/regenerating dosing pump control complete with level control*.
- n.1 backwash pump control with water complete with level control**
- n.1 blower control for backwash with air**
- n.1 remote start consent
- n.1 dry contact system status (operation / flushing)
- n.1 dry contact system status (filter feed pump request)

* If the dosing pump is equipped with a contact for remote control, it can be operated directly, otherwise it must be operated with an auxiliary QE.

** command to be handled with auxiliary QE.

Basic frame for double column filters (DUPLICATE) Part

No.: WT0000247

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SINGLE-COLUMN SOFTENER CONTROL PANEL

Control panel for single-column softener management with:

- No. 5 butterfly valves with single-acting pneumatic actuator (flow management during operation and regeneration), of which two valves N.O. and three valves N.C.
- No. 2 N.C. diaphragm valves (brine and motive water line management)

Available options butterfly valve management with single-acting pneumatic actuator for automatic by-pass (the valve is supplied as an option, see 'BY-PASS' kit).

Panel commands:

- selector 0-1 (run-stop)
- regeneration start button
- selection button (service-regeneration)
- progress button (regeneration phases)

Panel complete with alarm warning light and emergency button.

Commands from PLC:

- display button / setting regeneration parameters
- display button / regeneration mode setting
- treated water meter display button (produced water totaliser).

Available regeneration modes:

- in time,
- immediate volume,
- volume delayed at a preset time,
- volume with time forced.

All volume regeneration modes require installation of pulse counter. Flushing function for prolonged inactivity.

Settable 5-stage regeneration cycle:

- Backwash
- Brine extraction
- Slow washing
- Quick rinse
- Brine reintegration

Functionality manageable from panel:

- n.1 pulse-lance counter
- n.1 minimum water inlet pressure switch
- n.1 maximum water inlet pressure switch

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- n.1 water outlet pressure control
- n.1 air supply pressure control
- n.1 chlorine dosing pump control complete with level control*.
- n.1 brine pump control complete with level control**
- n.1 by-pass valve
- n.1 remote start consent
- n.1 dry contact system status (operation/regeneration)

* If the dosing pump is equipped with a contact for remote control, it can be operated directly, otherwise it must be operated with an auxiliary QE.

** command to be handled with auxiliary QE.

Basic control panel for single-column softeners Code: WT0000253

CONTROL PANEL FOR SINGLE-COLUMN SOFTENER

Control panel for single-column softener management with:

- No. 5 butterfly valves with single-acting pneumatic actuator (flow management during operation and regeneration), of which two valves N.O. and three valves N.C.
- No. 2 N.C. diaphragm valves (brine and motive water line management)

Available options butterfly valve management with single-acting pneumatic actuator for automatic by-pass (the valve is supplied as an option, see 'BY-PASS' kit).

Panel commands:

- selector 0-1 (run-stop column 1)
- selector switch 0-1 (column 2 stop gear)
- selector switch 1-0-2 (manual choice of column regeneration)
- regeneration start button
- selection button (service-regeneration)
- progress button (regeneration phases)

Panel complete with alarm warning light and emergency button.

Commands from PLC:

- display button / setting regeneration parameters
- display button / regeneration mode setting
- treated water meter display button (produced water totaliser).

Available regeneration modes:

- in time,
- immediate volume,
- volume delayed at a preset time,

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- volume with time forced.

All volume regeneration modes require installation of pulse counter. Flushing function for prolonged inactivity.

Settable 5-step regeneration cycle:

- Backwash
- Brine extraction
- Slow washing
- Quick rinse
- Brine reintegration

Functionality manageable from panel:

- n.1 pulse-lance counter
- n.1 minimum water inlet pressure switch
- n.1 maximum water inlet pressure switch
- n.1 water outlet pressure control
- n.1 air supply pressure control
- n.1 chlorine dosing pump control complete with level control*.
- n.1 brine pump control complete with level control**
- n.1 by-pass valve
- n.1 remote start consent
- n.1 dry contact system status (operation/regeneration)

* If the dosing pump is equipped with a contact for remote control, it can be operated directly, otherwise it must be operated with an auxiliary QE.

** command to be handled with auxiliary QE.

Basic control panel for twin-column (duplex) softeners
Part No.: WT0000254

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INSTALLATION

The installation of the equipment must be carried out directly by specialised technical personnel who have carried out an appropriate prior plant assessment. Carry out the installation in compliance with the local regulations in force.

Installation must be carried out in hygienically suitable locations and in compliance with the provisions of Ministerial Decree No. 37/2008, including those relating to testing and maintenance.

CONFORMITY

Switchboard built to CEI standards. The switchboard also complies with the following directives:

Directive 2014/30/EU: on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Directive 2014/35/EU: on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.



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