



AF-700 & AF-7500 Series Electric Self-Cleaning Screen Filter

SERVICE & MAINTENANCE MANUAL

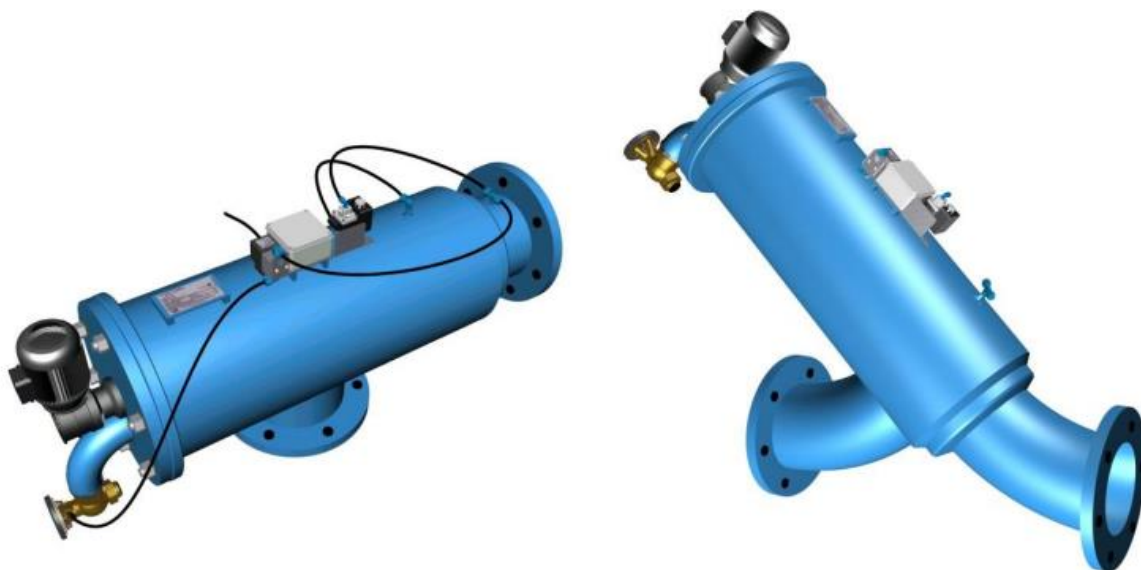


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1. Introduction

General

YAMIT Filtration & Water Treatment (hereinafter **YAMIT**) congratulates you on purchasing the new **AF-7500/700 SERIES** self-cleaning filter. This filter now joins the wide family of filters produced and supplied by **YAMIT** for agriculture, municipal water and sewage systems, and all types of industrial applications. All products manufactured by **YAMIT** are easy to install, use and service and don't require special skills to operate them.

2. Safety Instructions

1. It is necessary to use a noise protection device while the filter is in operation.
2. In the model with 12V DC power supply use the device which is provided by YAMIT or equivalent (with certifications and power rating).
3. Prior to installation or handling of the filter, read carefully the installation and operation instructions.
4. Verify that the control panel is grounded. Also verify that the AC power cord is connected to the control panel through 3 x 6A-fuse protector.
5. Verify that the filter housing is grounded to the appropriate location.
6. Confirm AC power disconnection prior to service.
7. Confirm filter draining prior to service.
8. Take precautions while lifting, transporting or installing the filter.
9. Installation and operation of the filter should be performed so as to avoid direct water splashing on the control unit.
10. Confirm that filter weight, when full, meets the support construction requirements.
11. Prior to installation confirm line pressure matches filter's operational pressure.
12. During installation, use standard flanges and connections only.
13. Check that all filter flanges bolts are properly secured.
14. Please note, the filter enters a flushing mode automatically, without prior warning.
15. Use original parts only, while servicing the filter.
16. No changes or modifications to the equipment are allowed.
17. Do not perform any maintenance activities other than those given in this manual.

3. Description & Operation

Filter Assembly General Description (Figure 1)

The **AFA-700 & AF-7500** electric self-cleaning screen filter enables high quality filtering at filtering degrees of 150-4000 micron from different types of fluid sources such as sewage, reservoirs, rivers, lakes, and wells.

The **A-700 & AF-7500 SERIES** filter contains the following parts:

- | | |
|----------------|-------------------|
| 1. Inlet | 4. Flushing Valve |
| 2. Fine screen | 5. Electric Motor |
| 3. Brush | 6. Outlet |

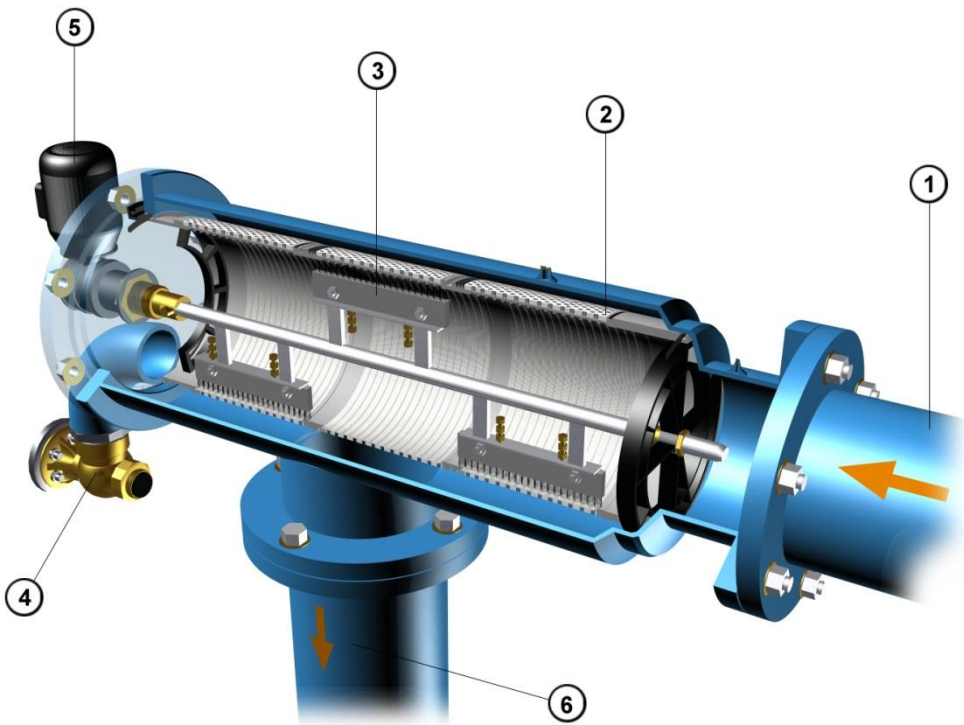


Figure 1: Filter Assembly

4. Technical Data

Standard Features

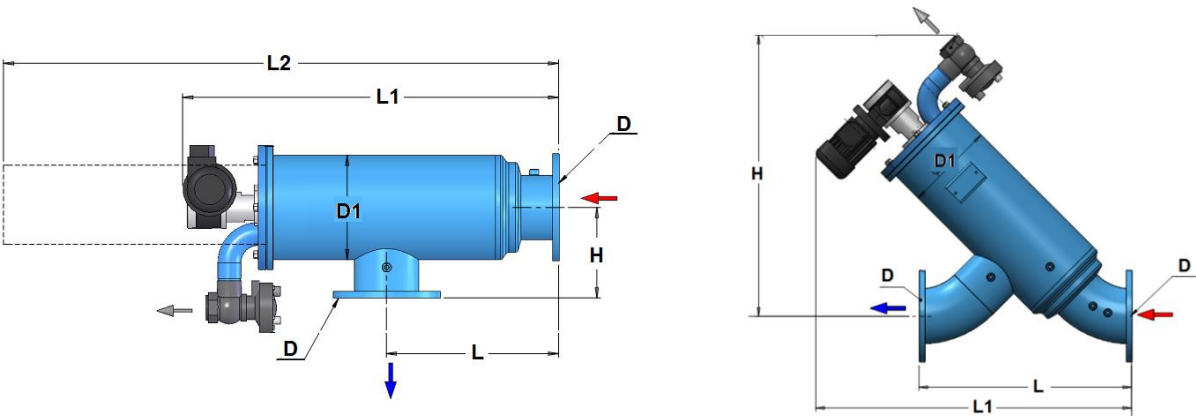
| | |
|---|---|
| Minimum operating pressure: | 1 bar (15 psi) |
| Maximum operating pressure: | 10 bar (145 psi) |
| Clean filter pressure loss: | 0.1bar (2 psi) |
| Maximum water temperature: | 65°C (149°F) |
| Filtration range: | 200-4000 microns |
| Flush water consumption (at minimum working pressure): | 70 liters (18.5 gallons) |
| Filter housing materials: | carbon steel coated with baked on epoxy |

*** Filters are supplied with PVC screen, also available with wedge wire screen.**

Measurements & Weight

| Model | In/Out D | | D1 | H | | L | | L1 | | L2 | | Shipping Weight | |
|-----------|-------------|--------|--------|------|--------|------|--------|------|--------|------|--------|--------------------|------|
| | (mm) | (inch) | (inch) | (mm) | (inch) | (mm) | (inch) | (mm) | (inch) | (mm) | (inch) | (kg) | (lb) |
| AF7504BIL | 100 | 4 | 10 | 701 | 27.58 | 550 | 21.65 | 775 | 30.50 | 882 | 34.71 | 112 | 247 |
| AF7504BL | 100 | 4 | 10 | 237 | 9.31 | 350 | 13.78 | 778 | 30.65 | 1060 | 41.73 | 108 | 238 |
| AF7506BIL | 150 | 6 | 10 | 860 | 33.84 | 650 | 25.59 | 965 | 38.01 | 1214 | 47.78 | 130 | 287 |
| AF7506BL | 150 | 6 | 10 | 237 | 9.31 | 450 | 17.72 | 982 | 38.66 | 1450 | 57.09 | 124 | 273 |
| AF7508BIL | 200 | 8 | 10 | 879 | 34.59 | 650 | 25.59 | 1197 | 47.14 | 1543 | 60.75 | 148 | 326 |
| AF7508BL | 200 | 8 | 10 | 237 | 9.31 | 550 | 21.65 | 1180 | 46.46 | 1850 | 72.83 | 140 | 309 |
| AF708BL | 200 | 8 | 16 | 323 | 12.72 | 350 | 13.78 | 882 | 34.72 | 1200 | 47.24 | 200 | 440 |
| AF710BL | 250 | 10 | 16 | 323 | 12.72 | 450 | 17.72 | 1096 | 43.15 | 1630 | 64.17 | 206 | 454 |
| AF712BL | 300 | 12 | 16 | 323 | 12.72 | 550 | 21.65 | 1310 | 51.57 | 2060 | 81.10 | 240 | 530 |
| AF714BL | 350 | 14 | 16 | 323 | 12.72 | 550 | 21.65 | 1310 | 51.57 | 2060 | 81.10 | 263 | 454 |
| AF716BL | 400 | 16 | 24 | 450 | 17.72 | 600 | 23.62 | 1338 | 52.68 | 2080 | 81.89 | 408 | 531 |
| AF718BL | 450 | 18 | 24 | 450 | 17.72 | 600 | 23.62 | 1735 | 68.31 | 2675 | 105.32 | 450 | 580 |
| AF720BL | 500 | 20 | 24 | 500 | 19.68 | 800 | 31.49 | 1960 | 77.16 | 3120 | 122.83 | 475 | 900 |

L = 90° Connections **IL** = In-line connections



Flow Rate

| Model | In/Out ØD (mm) (in) | | Max Flow Rate (m ³ /h) (gpm) | | Screen Area (cm ²) (in ²) | | Flushing Flow Rate (m ³ /h) (gpm) | | Flushing volume (m ³) (gal) | |
|----------|---------------------------|----|---|------|--|------|--|-----|---|------|
| AF7504BL | 100 | 4 | 80 | 350 | 2910 | 451 | 25 | 110 | 0.069 | 18.2 |
| AF7506BL | 150 | 6 | 160 | 700 | 4190 | 649 | 25 | 110 | 0.069 | 18.2 |
| AF7508BL | 200 | 8 | 300 | 1320 | 5470 | 848 | 25 | 110 | 0.069 | 18.2 |
| AF708BL | 200 | 8 | 350 | 1540 | 5880 | 911 | 25 | 11 | 0.069 | 18.2 |
| AF710BL | 250 | 10 | 450 | 2000 | 5880 | 911 | 25 | 110 | 0.069 | 18.2 |
| AF712BL | 300 | 12 | 650 | 2850 | 7630 | 1183 | 25 | 110 | 0.069 | 18.2 |
| AF714BL | 350 | 14 | 900 | 4000 | 7630 | 1183 | 25 | 110 | 0.069 | 18.2 |
| AF716BL | 400 | 16 | 1100 | 4850 | 11145 | 1727 | 25 | 110 | 0.069 | 18.2 |

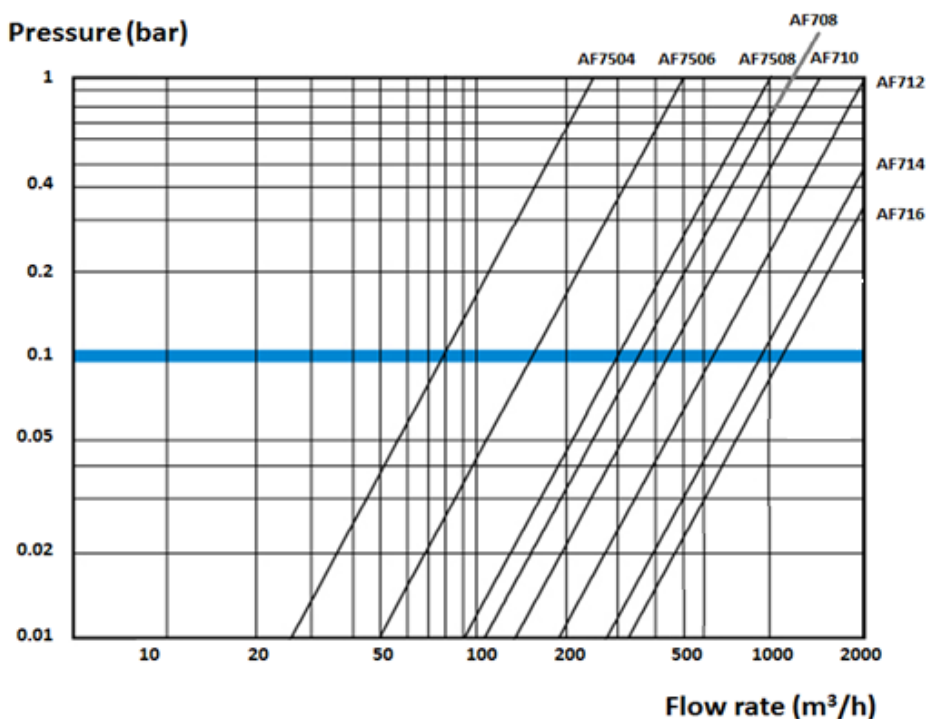
* Flow rate data are for high quality water at filtration grade of 200 micron.

** Flushing flow rate data are for minimum operational pressure (1 bar / 15 psi).

Filtration Grade Conversion Table

| Micron | 200 | 300 | 400 | 500 | 800 | 1000 | 1500 | 2000 | 3000 |
|--------|-----|-----|-----|-----|-----|------|------|------|------|
| Mesh | 80 | 55 | 40 | 30 | 20 | 15 | 10 | 8 | 5 |

Pressure Loss at 200 micron



5. Initial Installation & Operation

General

The filter assembly is protectively packed with all parts assembled.

Installation

1. Take the filter assembly out of the wood platform.
2. Install the filter assembly to the inlet line and outlet line.
3. Connect a drainpipe to the hydraulic flushing valve outlet opening (at least 63 mm or 2" diameter and no longer than 5m). Confirm that water runs freely out of the drainpipe.
4. Position the control panel in such a way as to be protected against humidity and solar radiation.
5. Connect the control panel to the power source.
6. Check that all connections are properly secured.
7. Check that all bolts and nuts on filter periphery are properly tightened and secured.

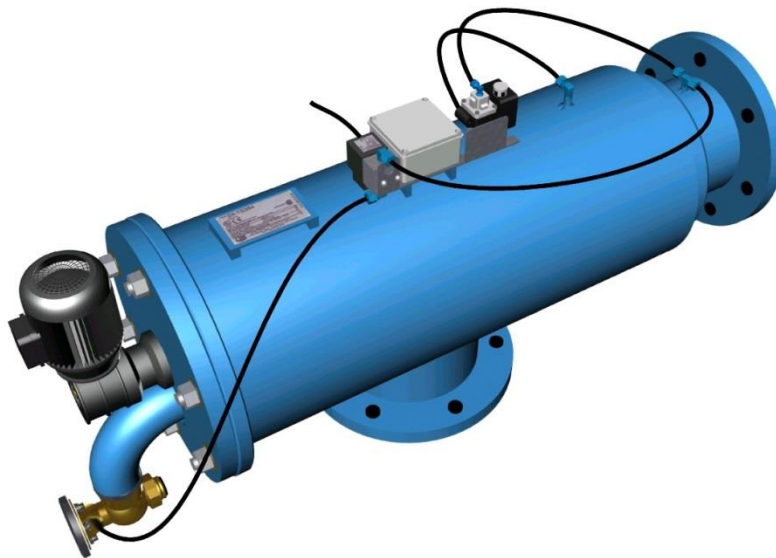


Figure 2: Initial Filter Installation

Initial Operation

1. Gradually open the inlet valve (make sure that the outlet valve, if installed, is open).
2. Check the filter assembly and its connections for leaks.
3. Perform a flushing cycle by disconnecting the high pressure tube from the differential pressure indicator (closing of the electrical circuit) – re-connect it immediately as flushing start.
4. Verify that the motor start spinning clockwise (if the motor spin to the opposite side, change the connections of the electric phase) and stop after 10 seconds.
5. Verify that the hydraulic flushing valve opens and closes after 10 seconds.
6. Perform a flushing cycle by pressing the MANUAL FLUSH switches at the control panel.
7. Perform continues flushing by disconnecting the high-pressure tube from the differential pressure indicator (closing of the electrical circuit) second flushing will start without a delay. Re-connect the high pressure tube.
8. When the filter is clean, verify that the differential pressure between inlet and outlet does not exceed 0.1 bar.
9. Set the appropriate differential pressure for flushing at the ΔP differential pressure indicator to 0.5 bar (7 psi).

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.

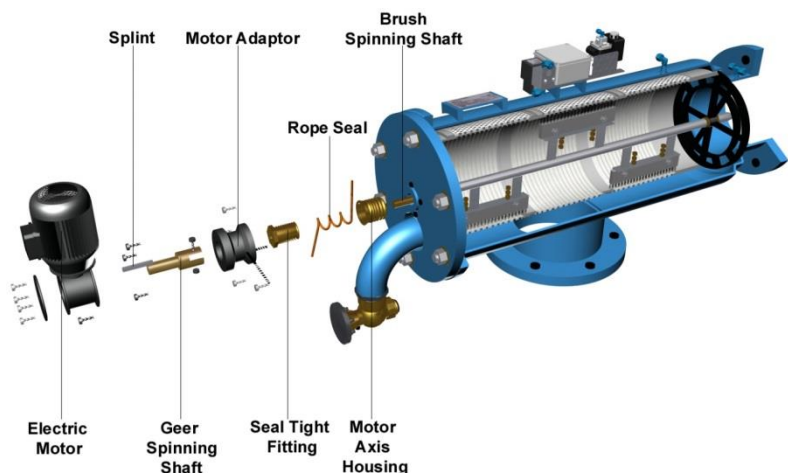
6. Maintenance & Periodical Checks

6.1 – Electric Motor Removal & Installation

1. Close the inlet and the outlet line valves.
2. **Lock** the main switch in the "0" position till after the service is performed
3. Verify that filter is drained prior to service.
4. **A qualified technician will carry out the electrical connections.**
5. Disconnect the electric motor from the electrical power source. Prior to removal, mark the electrical wiring connections (according to colors) on the new motor.
6. Remove the screw in the rear part of the motor.
7. Remove the four nuts and washers attaching the motor assembly to the motor adaptor.
8. Carefully remove the old motor assembly. Verify existence of splint on the motor axis groove.
9. Remove the splint out of the old motor axis groove.
10. Carefully slide the new motor assembly into the filter assembly.
11. Install the splint into the new motor axis groove.
12. Install the four nuts and washers attaching the motor assembly to the motor adaptor and the screw to the rear part of the motor.
13. Connect the electric motor to the electrical power source according to the marking previously made in step 5.
14. Set the main switch at the control panel to "1" position.
15. Open the inlet and the outlet line valves.
16. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
17. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 10 seconds.
18. Check for leaks.

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.



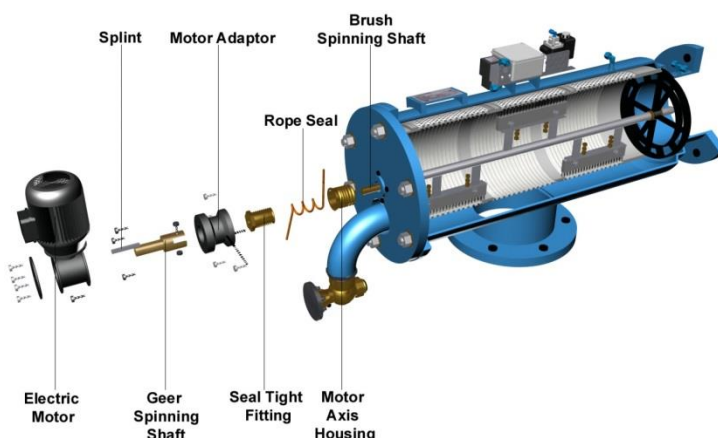
6.2 – Shaft Sealing Removal & Installation

1. Close the inlet and the outlet line valves.
2. Set the main switch at the control panel to "0" position.
3. Verify that filter is drained prior to service.
4. **A qualified technician will carry out the electrical connections.**
5. Disconnect the electric motor from the electrical power source. Prior to removal, mark the electrical wiring connections (according to colors) on the new motor.
6. Remove the screw in the rear part of the motor.
7. Remove the four nuts and washers attaching the motor assembly to the motor adaptor.
8. Carefully remove the motor assembly. Verify existence of splint on the motor axis groove.
9. remove the four nuts from the motor adaptor lower part,
10. unscrew the tightning nut and remove the sealing rope.
11. install 3 new rings of sealing rope in the motor adaptor.
12. connect the tightning nut (do not tighd it).
13. install the motor adaptor, by it self, on its place (the brush spinning axis will be inside it in this stage).
14. tighd the nut and open it again to add the 4th ring of sealing rope.
15. tighd the nut in it's place.
16. install, with the four nuts, the motor adaptor to the filter cover.
17. Carefully slide the motor assembly on the brush spinning axis.
18. Install the motor on the adaptor with the four screws and nuts.
19. Connect the electric motor to the electrical power source according to the marking previously made in step 5.
20. Set the main switch at the control panel to "1" position.
21. Open the inlet and the outlet line valves.

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.

22. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
23. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 10 seconds.
24. Check for leaks.



6.3 – Solenoid Removal & Installation

The solenoid controls hydraulically the flushing valve's operation.

1. Set the main switch at the control panel to "0" position.
2. Close the inlet and outlet valves of the filter and verify that filter is drained prior to service.
3. Disconnect the solenoid control tubes.
4. Remove the fittings from the damaged solenoid.
5. Remove the 4 screws attaching the electric connection box
6. Disconnect the electrical wiring from the connection box terminals.
7. Remove the 2 screws from the solenoid lower section.
8. Pull the solenoid out of the control assembly.
9. Insert a new solenoid into the control assembly.
10. Install the 2 screws on the solenoid lower section.
11. Install the fittings on the ports of the new solenoid.
12. Connect the solenoid control tubes.
13. Connect the electrical wiring to the connection box terminals.

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.

14. Open the inlet and outlet valves of the filter
15. Set the main switch at the control panel to "1" position.
16. Perform a flushing cycle by disconnecting the high pressure tube from the differential pressure indicator (closing of the electrical circuit) – re-connect it immediately as flushing start.
17. Verify that the hydraulic flushing valve closes after 10 seconds.
18. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.

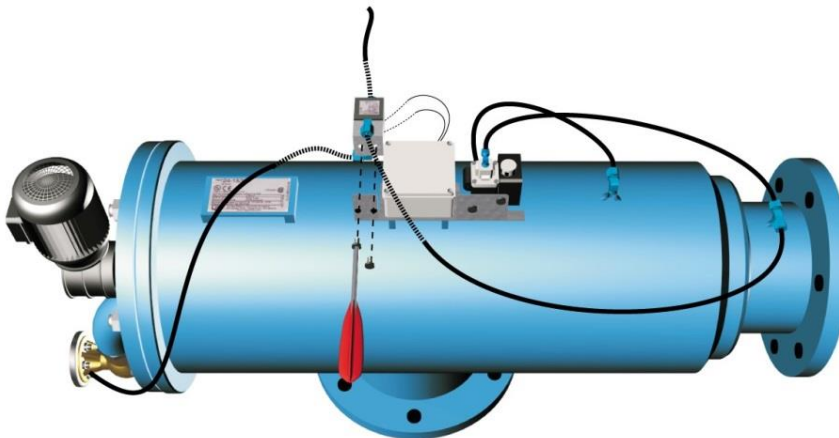


Figure 4: Solenoid Removal & Installation

6.4 – Differential Pressure Ind. Removal & Replacement

The differential pressure indicator supplies data to the electronic control unit, which controls the filter's self-cleaning process.

1. Set the main switch at the control panel to "0" position.
2. Close the inlet and outlet valves of the filter and verify that filter is drained prior to service.
3. Disconnect the two control tubes from the differential pressure indicator.
4. Remove the 4 screws attaching the electric connection box.
5. Disconnect the electrical wiring from the electric terminal in the connection box.
6. Remove the two nuts located at the bottom of the electronic control unit assembly and remove the screws.
7. Pull the differential pressure indicator out of the control assembly.
8. Insert a new differential pressure indicator into the control assembly.
9. Install the two screws and nuts at the bottom of the electronic control unit assembly.
10. Connect the two control tubes to the differential pressure indicator [note that the high pressure and the low pressure connected to the right fittings].
11. Connect the electrical wiring to terminals D and P on the electric terminal connection box.

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.

12. Set the main switch at the control panel to "1" position.
13. Perform a flushing cycle by disconnecting the high pressure tube from the differential pressure indicator (closing of the electrical circuit) – re-connect it immediately as flushing start.
14. Verify that the hydraulic flushing valve closes after 10 seconds.
15. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.

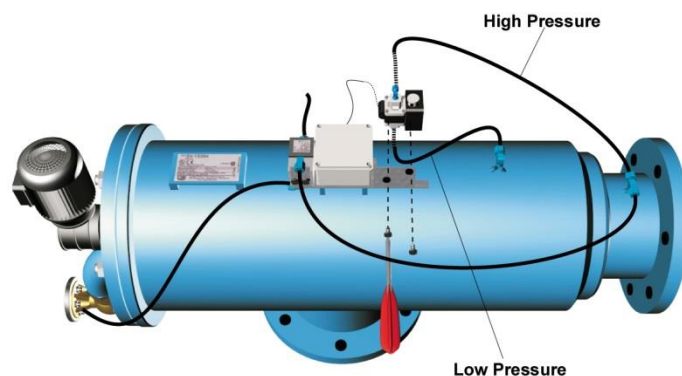


Figure 5: Pressure Difference Indicator Removal & Installation

6.5 – Brush Assembly Removal & Installation

1. Close the inlet and the outlet line valves.
2. Set the main switch at the control panel to "0" position.
3. Verify that filter is drained prior to service.
4. Remove the nuts and washers attaching the cover to the filter housing.
5. Remove the cover with the motor assembly.
6. Remove the body seal from the cover groove.
7. Pull the brush assembly out of the fine screen assembly
8. Unscrew the old brushes units from brush axis.
9. install the new brush units on the brush axis.
10. Slide the brushes assembly into the fine screen.
11. Verify that the straight side of the body seal fits into the groove located in the cover.
12. Put the cover into its place on the filter. (Take care that the motor's spinning axis housing is slide on the brush axis).
13. Install the nuts and washers attaching the cover to the filter housing.
14. Set the main switch at the control panel to "1" position.
15. Open the inlet and outlet line valves.

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.

16. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
17. Verify that the hydraulic flushing valves close after 10 second flushing cycle and FLUSHING lamp at the control panel extinguishes.
18. Check for leaks.

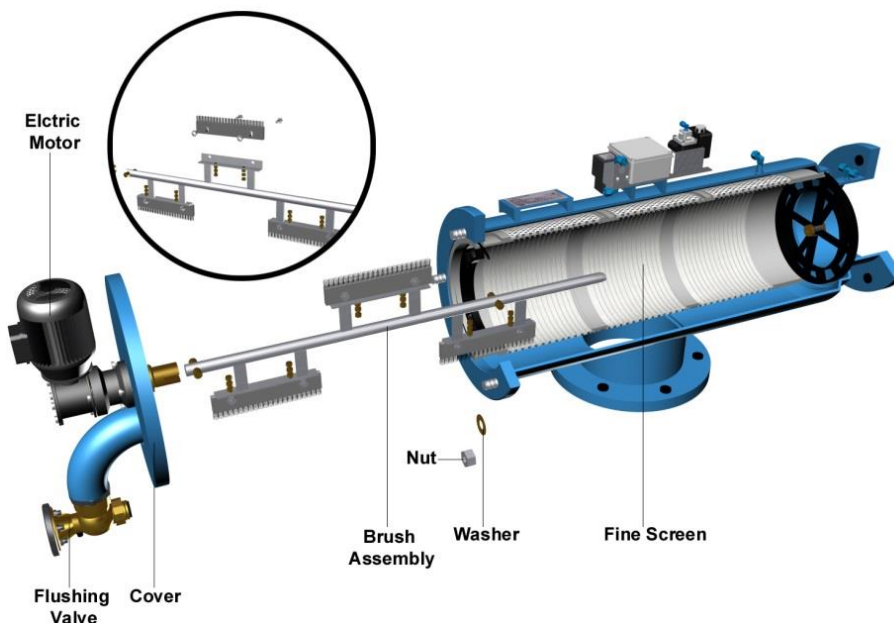


Figure 6: Brush Assembly Removal & Installation

6.6 – Fine Screen Assembly Removal & Installation

1. Close the inlet and the outlet line valves.
2. Set the main switch at the control panel to "0" position.
3. Verify that filter is drained prior to service.
4. Remove the nuts and washers attaching the cover to the filter housing.
5. Remove the cover with the motor assembly.
6. Remove the body seal from the cover groove.
7. Pull the old fine screen assembly with the brushes out of the filter housing assembly
8. Remove the brush assembly from the fine screen.
9. Remove the seals from the old fine screen assembly.
10. Position both upper and lower seals into the new fine screen assembly.
11. Lubricate upper and lower seals with **silicon grease**.
12. Slide the brush assembly into the new fine screen.
13. Slide the new fine screen assembly with the brush assembly into the filter housing assembly.
14. Verify that the straight side of the body seal fits into the groove located in the cover.
15. Put the cover into its place on the filter. (Take care that the motor's axis housing is slide on the brush axis)
16. Install the nuts and washers attaching the cover to the filter housing.
17. Set the main switch at the control panel to "1" position.
18. Open the inlet and outlet line valves.

WARNING

Take precautions while operating the filter as the filter may enter a flushing mode automatically, without prior warning.

19. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
20. Verify that the hydraulic flushing valves close after 10 flushing cycle and FLUSHING lamp at the control panel extinguishes.
21. Check for leaks.

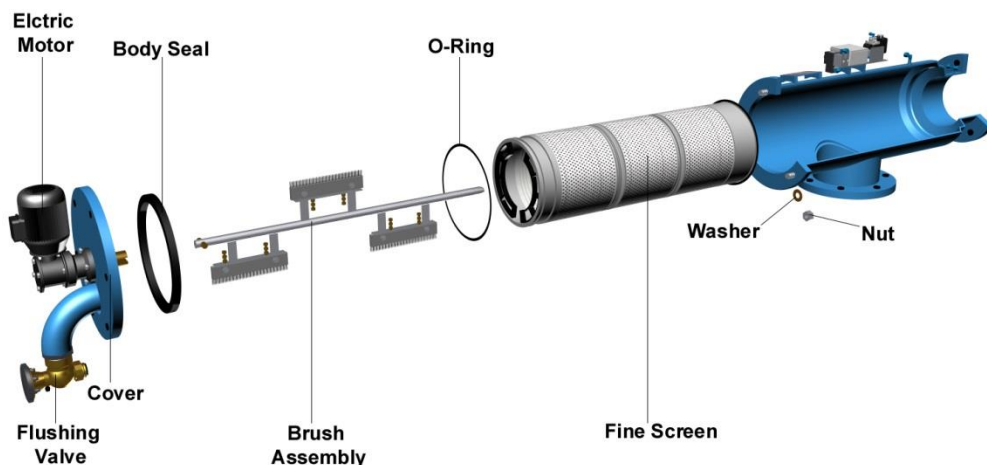


Figure 6: Fine Screen Removal & Installation

6.7 - Periodical Checks

Perform yearly or periodical checks at the beginning of the season, according to the following:

1. Check the condition of the fine screen assembly. If defective, replace according to "**Fine Screen Assembly Removal & Installation**".
2. Check seals condition. Lubricate with **silicon grease**.
3. Remove the brush according to "**brush Removal & Installation**" and check the brushes height. If defective, adjust or replace with a new one.
4. Check condition of the bearings, replace if damaged or deformed.
5. Check existence of grease on the motor axis.
6. Check the filter housing for paint damage and corrosion. If required, clean area with sandpaper and apply a thin layer of basic + epoxy paint.
7. Check for leaks.

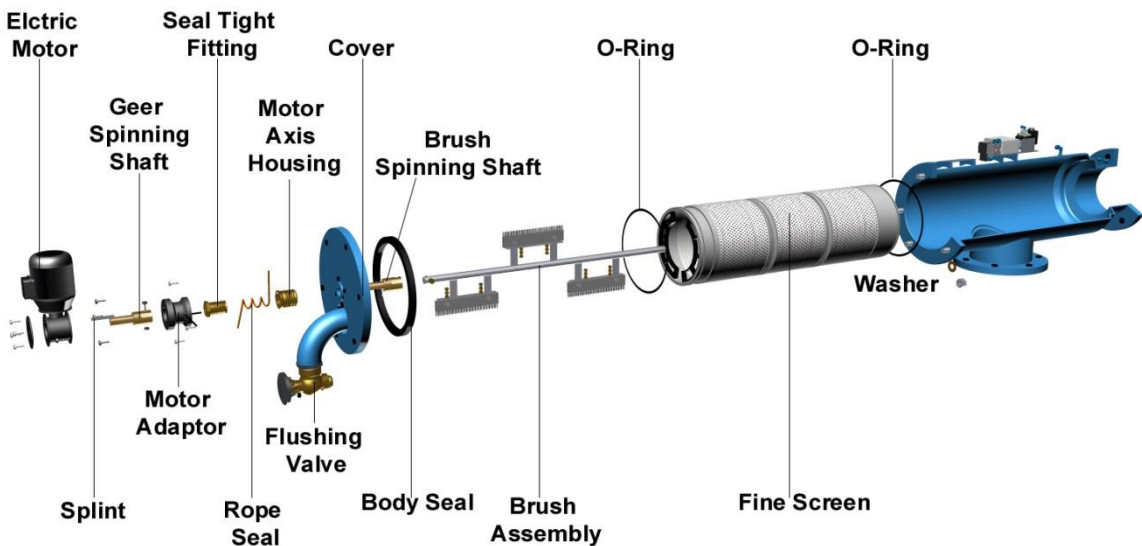
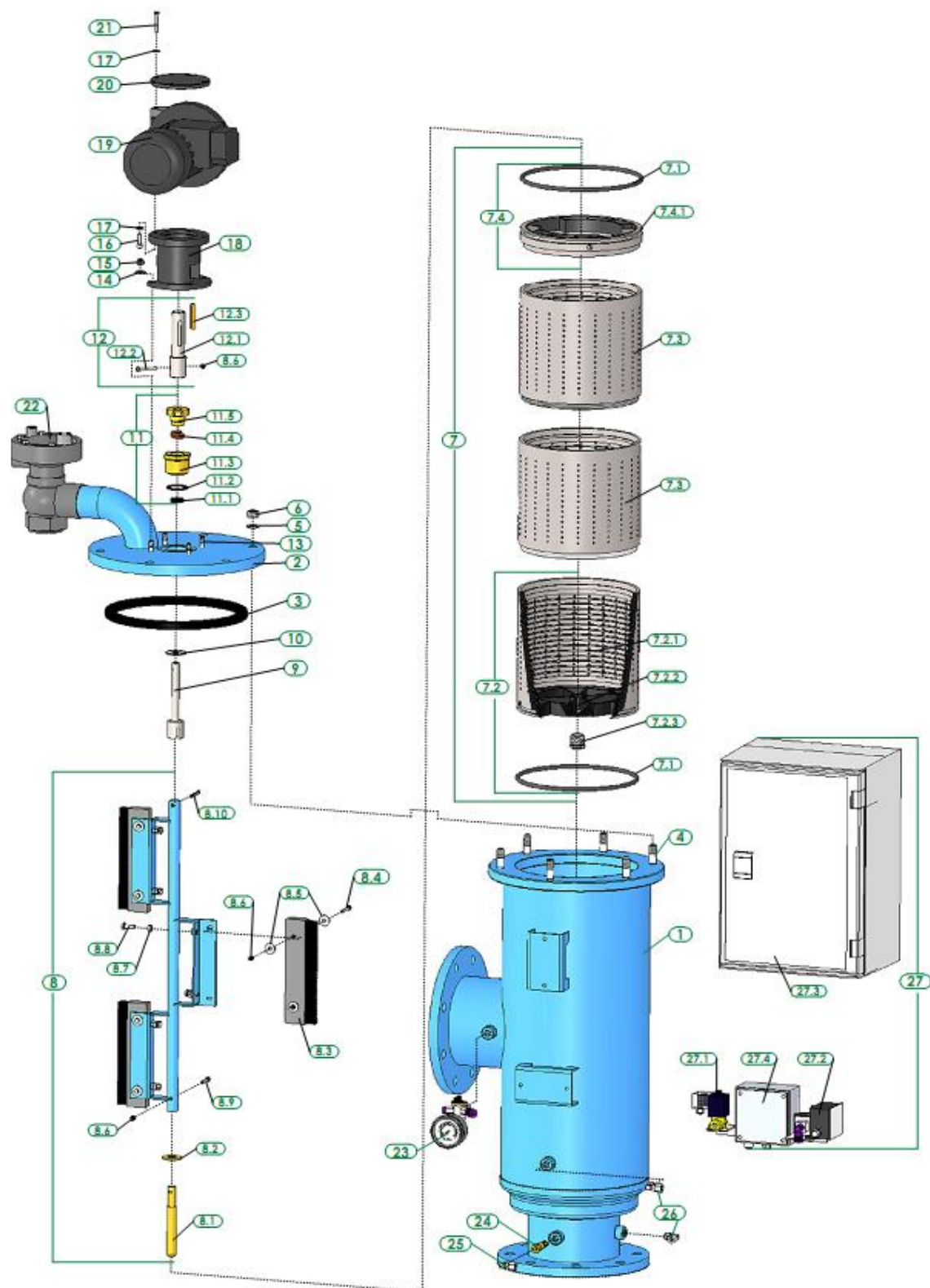
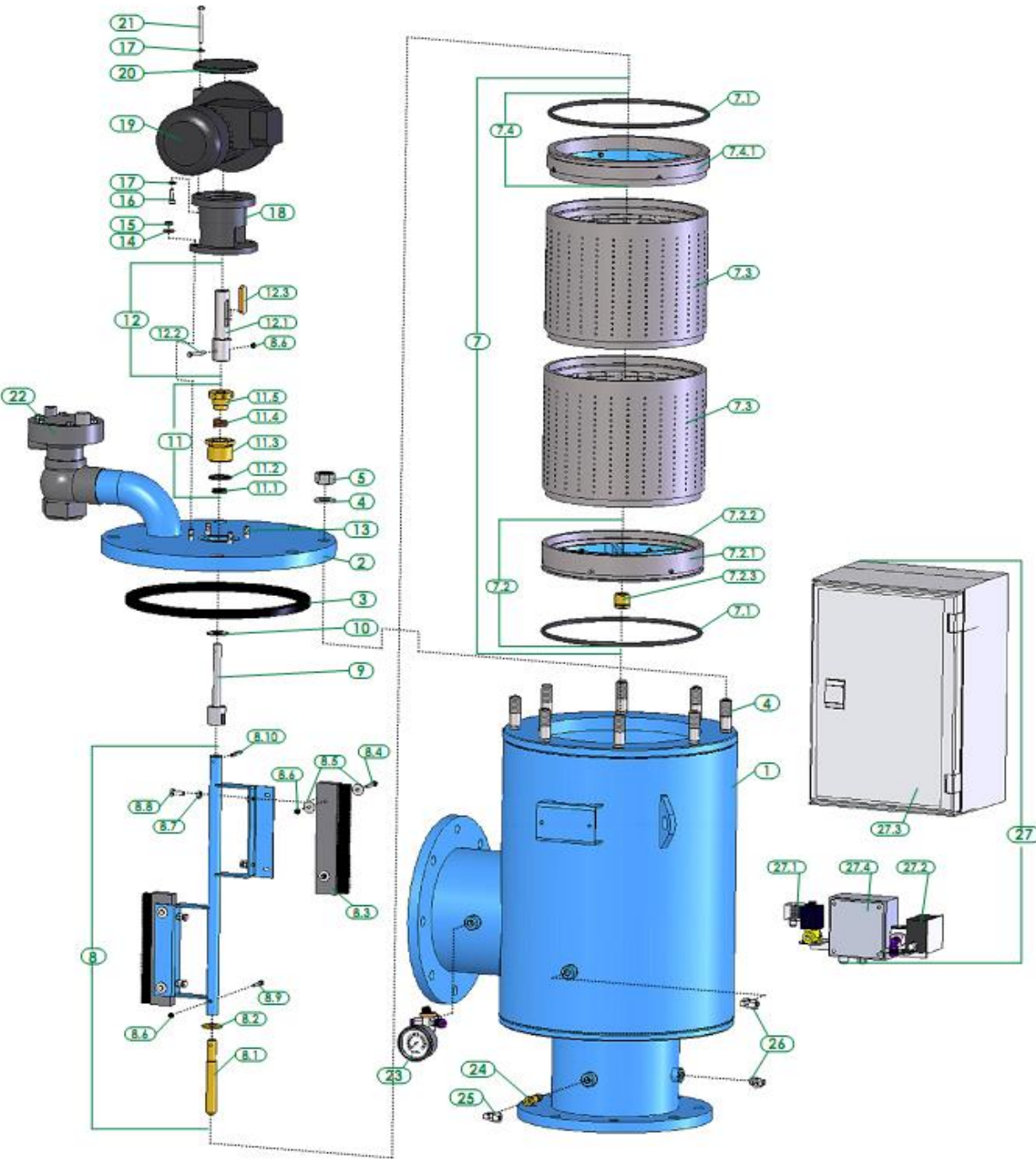


Figure 7: Periodical Checks

7. IPB





| IPB | Model | Catalog No | Description |
|-----|------------|------------------|---|
| 1 | AF7500/700 | N/A | FILTER BODY |
| 2 | AF7500/700 | N/A | FILTER COVER |
| 3 | AF7504 | 5311250100 | U-RING FOR COVER 10"-14" |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 5311400100 | U-RING FOR COVER 16" |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | 5311600100 | U-RING FOR COVER 24" |
| 4 | AF7504 | 5292143001-048 | STUD 1/2"NC*48 SS304 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 5292183001-073 | STUD 3/4"NC*73 SS304 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | 5292183001-080 | STUD 3/4"NC*80 SS304 |
| 5 | AF7504 | 4121123001 | WASHER M12 SS304 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 4121203001 | WASHER M20 SS304 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | | |
| 6 | AF7504 | 4112140401 | NUT 1/2"NC HOT GALVANIZED |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 4112180401 | NUT 3/4"NC HOT GALVANIZED |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | | |
| 7 | AF7504 | E7005602003-01## | COMP FINE SCREEN PVC225 SA504B/AF7504 |
| | AF7506 | E7005603002-01## | COMP FINE SCREEN PVC225 SA506/10B/AF7506 |
| | AF7508 | E7005604001-01## | COMP FINE SCREEN PVC225 SA508/12/14B/7508 |
| | AF708 | E7006602001-01## | COMP FINE SCREEN PVC280 AF708 |
| | AF710 | E7006603001-01## | COMP FINE SCREEN PVC280 AF710 |
| | AF712 | E7006604002-01## | COMP FINE SCREEN PVC280 AF712/14 |
| | AF714 | | |
| | AF716 | E7008604002-01## | COMP FINE SCREEN PVC400 AF716 |

| IPB | Model | Catalog No | Description |
|-------|------------|---------------------|---|
| 7.1 | AF7504 | 4081202100-445 | O-RING 445 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 4081266100-450 | O-RING 450 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | 4081380100-459 | O-RING 459 |
| 7.2 | AF7504 | E5005600100-01##-01 | FINE SCREEN UPPER SECTION PVC225 ASSM 500B/7500 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | E5006600901-01 | UPPER SCREEN ADAPTER PVC280 ASSM AF708-14 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | E5008600901-02 | UPPER SCREEN ADAPTER PVC400 ASSM AF716 |
| 7.2.1 | AF7504 | W5005600100-01## | FINE SCREEN UPPER SECTION PVC225 500B/7500 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 5006600901 | UPPER SCREEN ADAPTER PVC280 AF708-14 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | 5008600901 | UPPER SCREEN ADAPTER PVC400 AF716 |
| 7.2.2 | AF7504 | 5021640500 | SCREEN WHEEL 225 NYLON |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | 5021010600-P | SCREEN WHEEL 280 STEEL |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | 5021010800-P | SCREEN WHEEL 400 STEEL |
| 7.2.3 | AF7500/700 | 5172301700 | SCREEN BEARING F/SHAFT AF9/800/500B/700/9800N |
| 7.3 | AF7504 | W5005600300-01## | FINE SCREEN MIDDLE SECTION PVC225 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | W5006600300-01## | FINE SCREEN MIDDLE SECTION PVC280 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | W5008600300-01## | FINE SCREEN MIDDLE SECTION PVC400 |

| IPB | Model | Catalog No | Description |
|-------|------------|----------------|--|
| 7.4 | AF7504 | E5005601002-02 | LOWER SCREEN ADAPTER PVC225 ASSM SA500B/AF7500 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | E5006601001-02 | LOWER SCREEN ADAPTER PVC280 ASSM AF708-14 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | E5008601001-02 | LOWER SCREEN ADAPTER PVC400 ASSM AF716 |
| 7.4.1 | AF7504 | E5005601002-01 | LOWER SCREEN ADAPTER PVC225 SA500B/AF7500 |
| | AF7506 | | |
| | AF7508 | | |
| | AF708 | E5006601001-01 | LOWER SCREEN ADAPTER PVC280 AF708-14 |
| | AF710 | | |
| | AF712 | | |
| | AF714 | | |
| | AF716 | E5008601001-01 | LOWER SCREEN ADAPTER PVC400 AF716 |
| 8 | AF7504 | E7152250202-01 | COMP BRUSH SHAFT W/2 BRUSH UNITS(225)AF7504 |
| | AF7506 | E7152250302-01 | COMP BRUSH SHAFT W/3 BRUSH UNITS(225)AF7506 |
| | AF7508 | E7152250402-01 | COMP BRUSH SHAFT W/4 BRUSH UNITS(225)AF7508 |
| | AF708 | E7152800201-01 | COMP BRUSH SHAFT W/2 BRUSH UNITS(280)AF708 |
| | AF710 | E7152800301-01 | COMP BRUSH SHAFT W/3 BRUSH UNITS(280)AF710 |
| | AF712 | E7152800401-01 | COMP BRUSH SHAFT W/4 BRUSH UNITS(280)AF712/14 |
| | AF714 | | |
| | AF716 | E7154000401-01 | COMP BRUSH SHAFT W/4 BRUSH UNITS(400)AF716 |
| 8.1 | AF7500/700 | 5131391700 | CENTRALISE SHAFT BRASS 17mm SA500B/AF7500/700 |
| 8.2 | AF7500/700 | 6143901400 | WASHER 35 BRASS SA500B/AF7500/700 |
| 8.3 | AF7500/700 | 5150440100 | SST BRUSH UNIT AF700/7500 |
| 8.4 | AF7500/700 | 4101053001-035 | BOLT HEX HEAD M5*35 SS304 |
| 8.5 | AF7500/700 | 4121053005 | WASHER M5XL SS304 |
| 8.6 | AF7500/700 | 4111053002 | NYLOCK NUT M5 SS304 |
| 8.7 | AF7500/700 | 4112103001 | NUT 1/4"NC SS304 |
| 8.8 | AF7500/700 | 4102103101-025 | BOLT HEX HEAD 1/4"NC*1" SS316 |
| 8.9 | AF7500/700 | 4101053001-030 | BOLT HEX HEAD M5*30 SS304 |
| 8.10 | AF7500 | 4132053001 | PIN C 5*40 SS304 |
| | AF700 | 4132083001 | PIN C 8*40 SS304 |
| 9 | AF7500 | 5136311301 | CONNECTING SHAFT SS316 AF7500 |
| | AF708-14 | 5136311302 | CONNECTING SHAFT SS316 AF708-14 |
| | AF716 | 5136311502 | CONNECTING SHAFT SS316 AF716 |

| IPB | Model | Catalog No | Description |
|------|------------|----------------|---|
| 10 | AF700 | 4121143001 | WASHER M14 SS304 |
| | AF700 | 4121163001 | WASHER M16 SS304 |
| 11 | AF7504-714 | E5182391300-01 | COMP SEALING ROPE HOUSING -BRASS AF5/75/98 |
| | AF716 | E5182391500-01 | COMP SEALING ROPE HOUSING -BRASS AF716 |
| 11.1 | AF7504-714 | 4082013100 | U-RING 12.7*20.63*5.5 |
| | AF716 | 4082015100 | U-RING 15*25*5.5 |
| 11.2 | AF7504-714 | 4081030100 | O-RING 30*3 |
| 11.3 | AF7504-714 | 5182391300 | SEALING ROPE HOUSING-BRASS AF5/75/98 |
| | AF716 | 5182391500 | SEALING ROPE HOUSING-BRASS AF716 |
| 11.4 | AF700 | 5319000900 | SEALING ROPE |
| 11.5 | AF7504-714 | 5181391300 | TIGHTENING NUT FOR SEALING ROPE-BRASS AF5/75/98 |
| | AF716 | 5181391500 | TIGHTENING NUT FOR SEALING ROPE-BRASS AF716 |
| 12 | AF708-14 | E5133302401-01 | COMP GEAR DRIVE SHAFT AF704-14 |
| | AF716 | E5133302402-01 | COMP GEAR DRIVE SHAFT AF716 |
| 12.1 | AF700 | 5133302401 | GEAR DRIVE SHAFT SS304 AF7504-14 |
| | AF700 | 5133302402 | GEAR DRIVE SHAFT SS304 AF716 |
| 12.2 | AF7504-14 | 6163100501 | BOLT HEX HEAD M5*37 SS316 AF7500/708-14 |
| | AF716 | 6163100502 | BOLT HEX HEAD M6*41 SS316 AF716 |
| 12.3 | AF7500/700 | 5203390800 | GEAR KEY BRASS AF700 |
| 13 | AF7500/700 | 5292113001-029 | STUD 5/16"NC*29 SS304 |
| 14 | AF7500/700 | 4121083001 | WASHER M8 SS304 |
| 15 | AF7500/700 | 4112113901 | NUT 5/16"NC BRASS |
| 16 | AF7500/700 | 4101063005-025 | SCREW SOCKET HEAD M6*25 SS304 |
| 17 | AF7500/700 | 4121063001 | WASHER M6 SS304 |
| 18 | AF7500 | 5201400002-01 | MOTOR ADAPTER AF7500 |
| | AF700 | 5201400002-02 | MOTOR ADAPTER AF700 |
| 19 | AF7500/700 | E4060506800 | MOTOR 3 PHASE 0.5Hp 1500rpm 1:68 AF7500/700 |
| 20 | AF7500/700 | 5331610002 | MOTOR COVER AF7500/700 |
| 21 | AF7500/700 | 4101063001-025 | BOLT HEX HEAD M6*25 SS304 |
| 22 | AF7500/700 | 4510020003-07 | HYDRAULIC VALVE DOROT GALIL 09AN 2"BSP |
| 23 | AF7500/700 | CS11010020 | PRESSURE GAUGE SET AF900/7500/700 |
| 24 | AF7500/700 | 4470010001 | FINGER FILTER 1/4"*1/8" STEEL |
| 25 | AF7500/700 | 4650618081 | MALE ELBOW 1/8"*8 STEEL |
| 26 | AF7500/700 | 4650614081 | MALE ELBOW 1/4"*8 STEEL |
| 27 | AF7500/700 | CSE0200132402 | CONTROLLER ELI-02 COMPLETE AF7500/700 |
| 27.1 | AF7500/700 | 4430131003 | SOLENOID AC GEM-A BRASS 24V8W NC(2mm) |
| 27.2 | AF7500/700 | 4410000004 | DP PRESSURE SWITCH UNITED 24-15384 |
| 27.3 | AF7500/700 | 8500010100-02 | CONTROL BOARD ELI-02 AF7500/700 |
| 27.4 | AF7500/700 | 8500010801 | JUNCTION BOX FOR ELI-02 CONTROLLER |

8. Appendix

8.1 –ELI 02 Controller & Electrical Wiring (V-08-2019)

Warning - Do not operate the system without checking the motor rotation.

Summary of Abbreviations

DP = Differential pressure switch which measures the differential pressure across the filter, And activates the flushing mechanism above a set point.
(Normally set to 0.5 bar)

SV = Flushing solenoid , Which activates the flush filter hydraulic mechanism.

TP = DP sw. On/Off Delay time.

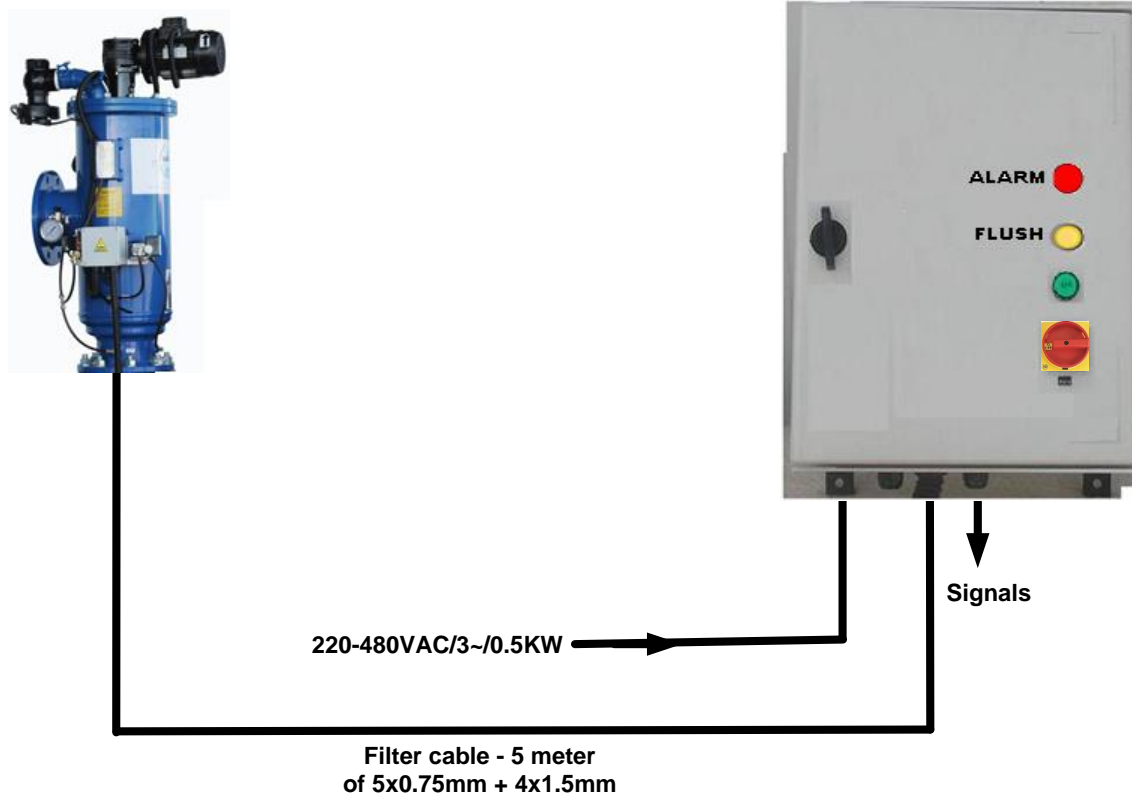
Note that The internal on delay timer is provided to assure that accidental DP switch vibrating will not activate the flushing mechanism.

TD = Flush Interval time. (Factory set to. , 9999 min. , can be adjust by the user)

TF = Flush time. (Factory set to 5 sec., can be adjust by the user)

TC = Differential pressure check time after DP flush.

AF 7xx



A. PANEL CONTROLS DESCRIPTION.

1. **MAIN** , Toggle switch 0-1.
Enable Connection of the MAIN voltage supply to the control unit.
Light indicator (Green) – indicates 24VDC internal supply.
2. **FLUSH** , Push-button switch (Yellow) , Enable manual flushing.
Note that **FLUSH** indicator will lit during flushing process.
3. **FAULT** , Push-button switch (RED) , Pressing this switch in FAULT state
(While red indicator illuminates) will reset the control unit.

B. INTERNAL CONTROLS DESCRIPTION.

1. **PLC** , Programmable logic controller.
(CROUZET XD10 /24VDC , Cat. No. 88 974 144).
2. **PS1** , Low voltage 24VDC Power Supply.
3. **OL1** , Motor over load protection 1.0-1.63 amp. with aux. contacts.
4. **C1** , power relay which controls filter motor.
5. **F1** , 1ampK. Half Automate Circuit breaker which serve as a main protect for PS1.
6. **F2** , 1ampK. Half Automate Circuit breaker which protect against accidental short circuit on the PLC / SV solenoids/outlets. (24VDC)
7. **FPLC** , 1.6ampT Fuse which protect against accidental short circuit on the PLC.
8. **FOUT** , 1.6ampT Fuse which protect against accidental short circuit on the solenoid/outlets. (24VDC)

C. TERMINAL CONNECTIONS.

- | | |
|------------|---|
| TB 1-4 | L1/L2/L3+ Gnd , 115-230-380-420-440-480V , 50/60 hz. supply voltage inlets. |
| TB 5-8 | U/V/W 230 -380-420-440-480V + GND, 3 phase,50/60 hz. motor supply voltage outlets. |
| TB 9 / 10 | SV, Flushing Solenoid outlet. (24VDC/10W) |
| TB 11 / 12 | DP, Differential Pressure switch contacts inlets. (N.O) |
| TB 19 / 20 | REM , Remote flush inlets. (N.O. Pulse activated , Voltage free contacts inlets.) This inlet is pulse activated through voltage free external contacts with pulse duration of at least 100 msec. |
| TB 22 / 23 | FLUSH , Aux. Flush signal contacts outlets. (N.O) |
| TB 24 / 25 | FAULT , Aux. Fault signal contacts outlets. (N.O) |

- WARNING**
1. Aux. Inlets REM are connected to PLC inputs.
BE SURE to connect Voltage free Contacts or switches to this inlets.
In case of signaling through remote system outlets, use auxiliary relays (K) to isolate between remote system voltage and PLC inputs.
 2. **FLUSH** and **FAULT** aux. signal is voltage free N.O. contacts that withstand max. of 230V / 2Amp. That must be protectors accordingly.

D. INSTALLATION

General – The control unit & Filter junction box are supplied with 5 meters cables in flexible conduit.

The user must connect only the line supply cable through a PG-13.5 mm conduit.

Requirements : 5 x 1-1.5mm supply cable.

1. Connect the line supply cable (5 x 1-1.5mm) to the control unit terminals :

IMPORTANT ! 1x2-4amp protectors **MUST** protect line supply.

- TB GND - GND Wire.
- TB1 - N Natural wire.
- TB2 - L1 Line phase supply.
- TB3 - L2 Line phase supply.
- TB4 - L3 Line phase supply.

| <u>Control board</u> | <u>Filter Junction box</u> |
|--|----------------------------|
| TB5 - Motor GND. wire. _____ | TB5 |
| TB6 - Motor U phase wire. _____ | TB6 |
| TB7 - Motor V phase wire. _____ | TB7 |
| TB8 - Motor W phase wire. _____ | TB8 |
| TB9 – SV flushing solenoid common. _____(1)_____ | TB9 |
| TB10 – SV flushing solenoid , live _____(2)_____ | TB10 |
| TB11 – DP switches common _____(3)_____ | TB11 |
| TB12 – DP switch live _____(4)_____ | TB12 |

2. Motor synchronization

Motor synchronization must be carried out as follows :

Switch the **MAIN** switch to **START** position and Verify that **ON** (L1) indicator lit.
Press push button **FLUSH** momentarily and Verify that **FLUSH** indicator lights and the motor activated simultaneously.
Check the motor axis rotation (Which drives the filter dirt collector) ,

The rotation must be at the same arrow label direction.

If not , switch the **MAIN** switch to **STOP** position , and exchange between two of the Motor phase and check again.(e.g. Between motor connection to TB 6<>7 or TB 7<>8 in the control board or in the filter junction box.)

E. FLUSHING PROCESS.

General – A Filter flush cycle is activated by the PLC which cause the flushing solenoid (SV) and the motor (M) to switch on for preset time (TF).

When the solenoid is in ON position , hydraulic command is applied to the filter flushing Valve causing it to open while the hydraulic piston starts it's movement across the screen. After **TF** elapsed time the solenoid will returned to it's OFF position causing the filter flushing valve to close while the filter internal pressure will restored the hydraulic piston to it's starting position.

NOTE that the practical flushing time is the time required for the hydraulic piston to complete it's movement due to a given line pressure.

In order to minimize the flushing time/waste of flushed water set **TF** respectively.

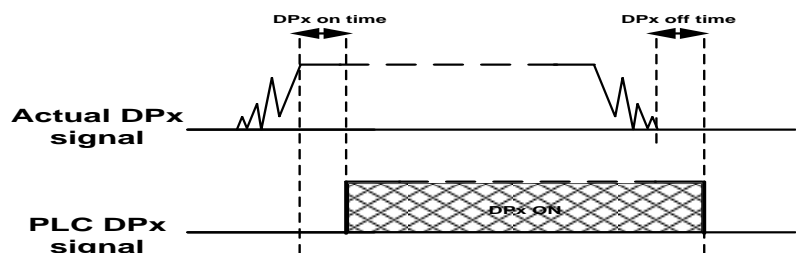
1. NON-DP FLUSH Is activated in three conditions :

1. Pressing the **FLUSH** switch.
2. Interval Timer **TD** (Internal) - If set by the operator.
Note that setting TD hrs/min is set to 0 , will disable this option.
3. Transition from OFF to ON.
(Applying short circuit for min. of 0.1 sec.at REMOTE inlets.)

2. DP FLUSH cycle.

A DP flush is caused by a differential pressure across the filter.

Signal at DP inlet for **DP ON TIME** (Factory set to 5 sec., can be adjust by the user) will activates the DP FLUSH mechanism while a DP signal absence for more than **DP OFF TIME** is consider as no DP signal.



Once a DP signal is registered , the flushing mechanism will execute a **FLUSHING** cycle by activating the motor and SV solenoid for **TF** preset time.

After flush cycle completion the control unit will check the DP signal for **TC** preset time.

- If DP signal is removed after TC preset time the system will return to normal state.
- If the DP is still signaling after **TC** preset time , 2nd flush cycle will be executed.
- If after X consecutive flushes , (Preset by **NFL** , Factory set to 3 times) , The DP signal is not removed the system will enter a fault state - **FLUSH FAULT** state is declared (FAULT Indicator lit constantly) and any further flushes are inhibited.

Note that entering 0 on one or both the above parameters will disable the DP FLUSH ALARM.

--- Pressing the **FAULT** switch will reset the fault state and resume operation.

F - CROUZET – XD-10 Controller

The first LCD display to appear is the Input/Output image table and the Real Time clock. An i/o no. indicates inactive i/o while a darkened i/o no. indicates an active i/o.



- PLC inputs display.
- PLC outputs display.
- Time display.
- PLC run indication.(rotating)
- PLC operation keys

Updating time & date.

1. press **OK** key.
2. Move to **MISCELLANEOUS** line by pressing [-] key **twice** and press [**OK**] key.
3. Move to **CLOCK** line by pressing [-] key and press the [**OK**] key.
4. On **DATE/HOUR SETUP** press the [**OK**] key and move to the required field using [-]/ [+] keys.

When the required field blinking and darkened , Press the [**OK**] key - the field is blinking but not darkened, in this state use the [-]/ [+] keys to change the field value.

When done, press the [**OK**] key to enter the new value - the field is blinking and darkened again.

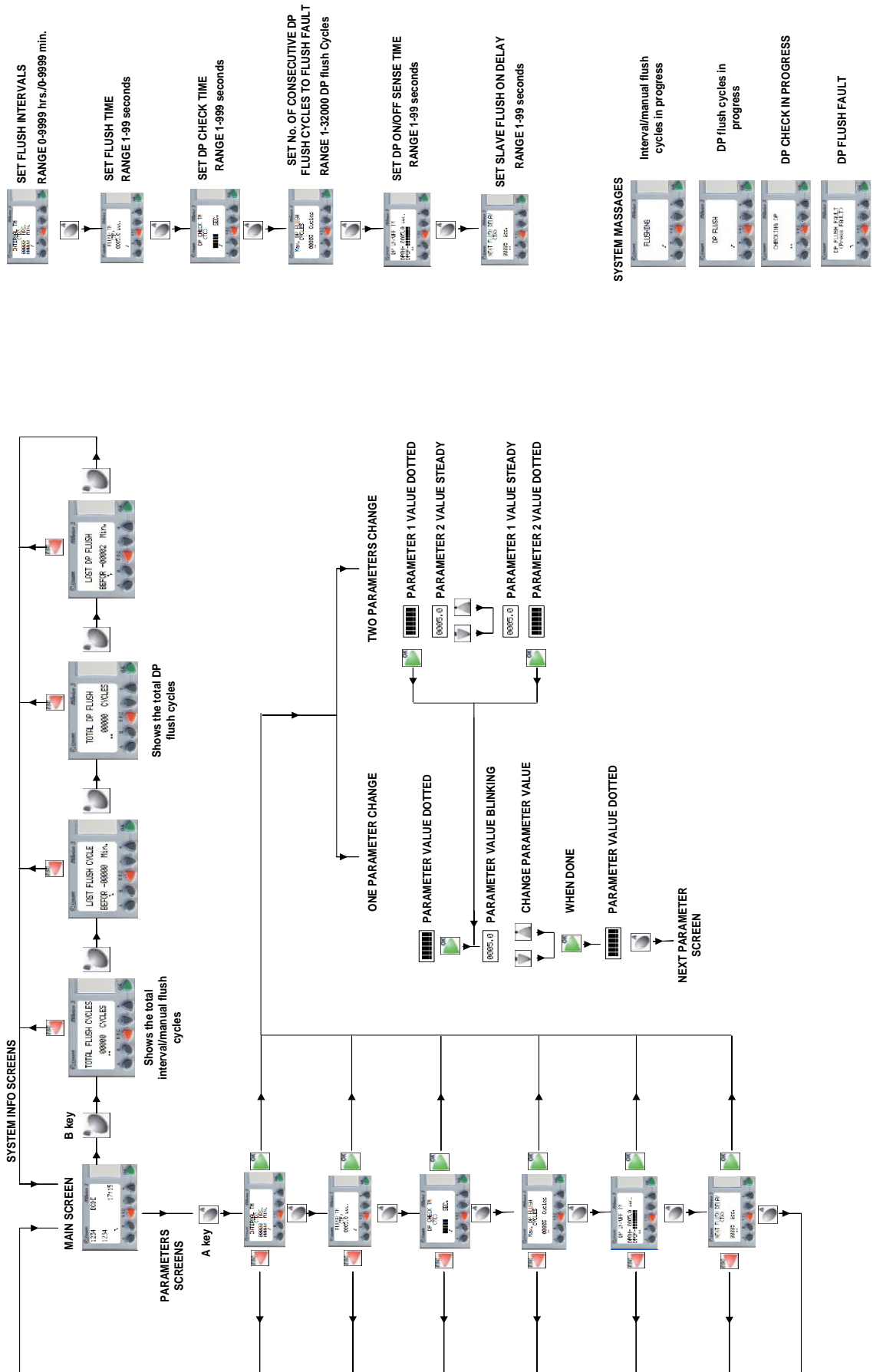
5. Move to other fields or exit to the main screen by pressing the [**ESC**] key until the main Screen appears.

PARAMETERS CHANGE/UPDATE PROCEDURE.

When a desire parameter screen displayed , it's value is darkened with black dots. (In case of parameter with two fields like DP ON/OFF TM use the [-]/ [+] keys to move between them.)

To change a value –

- A. Press the [**OK**] key > the value is blinking without the darkened dots.
- B. Change the value by pressing the [-]/ [+] keys.
(Note that you can hold the [-]/ [+] keys for fast change or to click them for slow change.)
- C. When done press the [**OK**] key to enter the new value > the new value is darkened with black dots again.
- D. Move to the next parameter by pressing the [**A**] key again or exit by pressing the [**ESC**] Key.

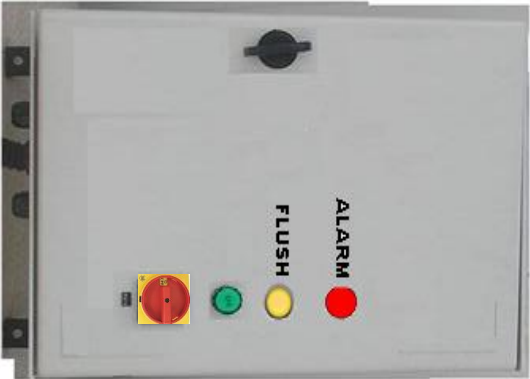


F. ELECTRICAL DRAWINGS.

AF 7xx



Control unit ELI-02/PLC

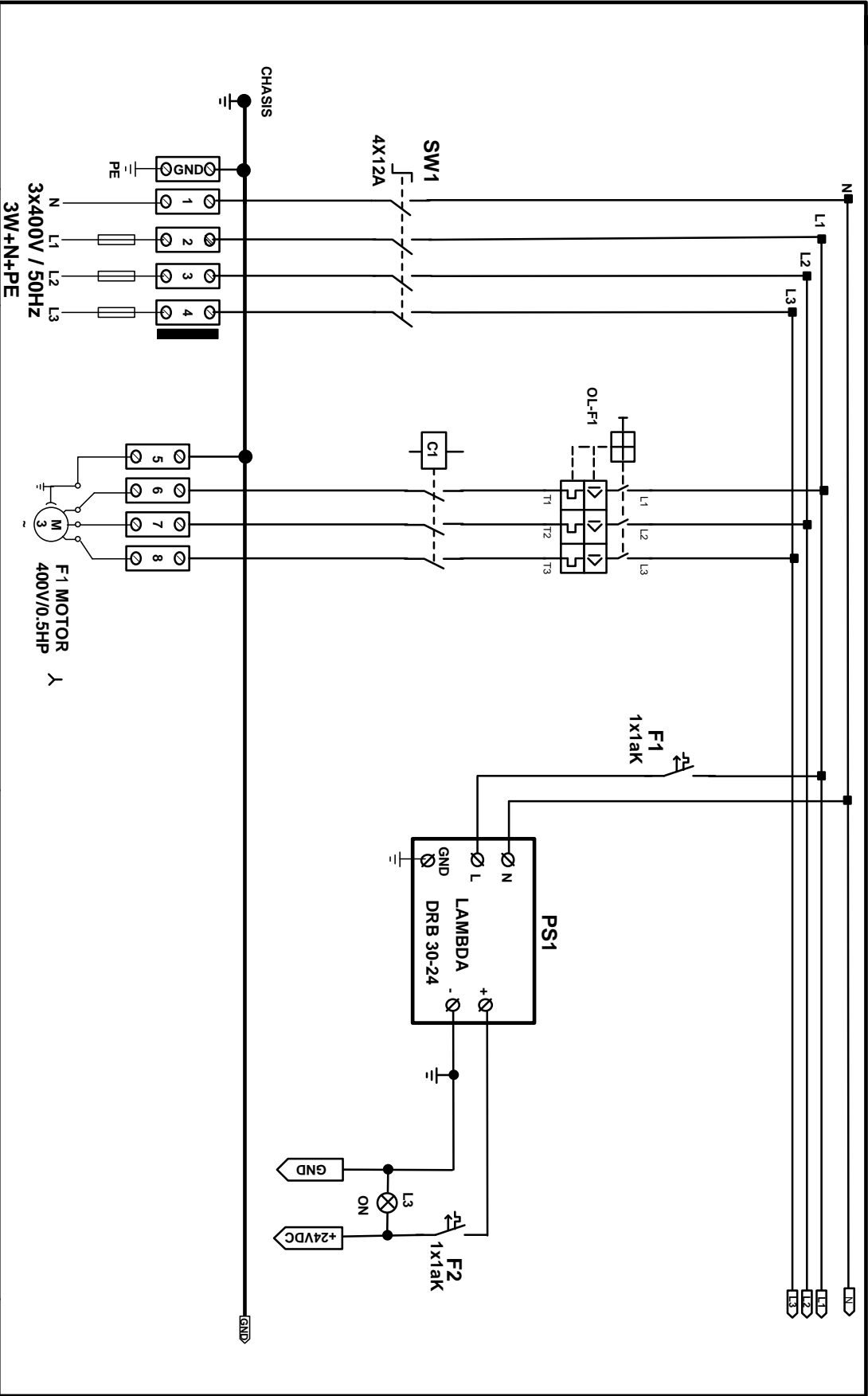


220-480VAC/3~/0.5KW

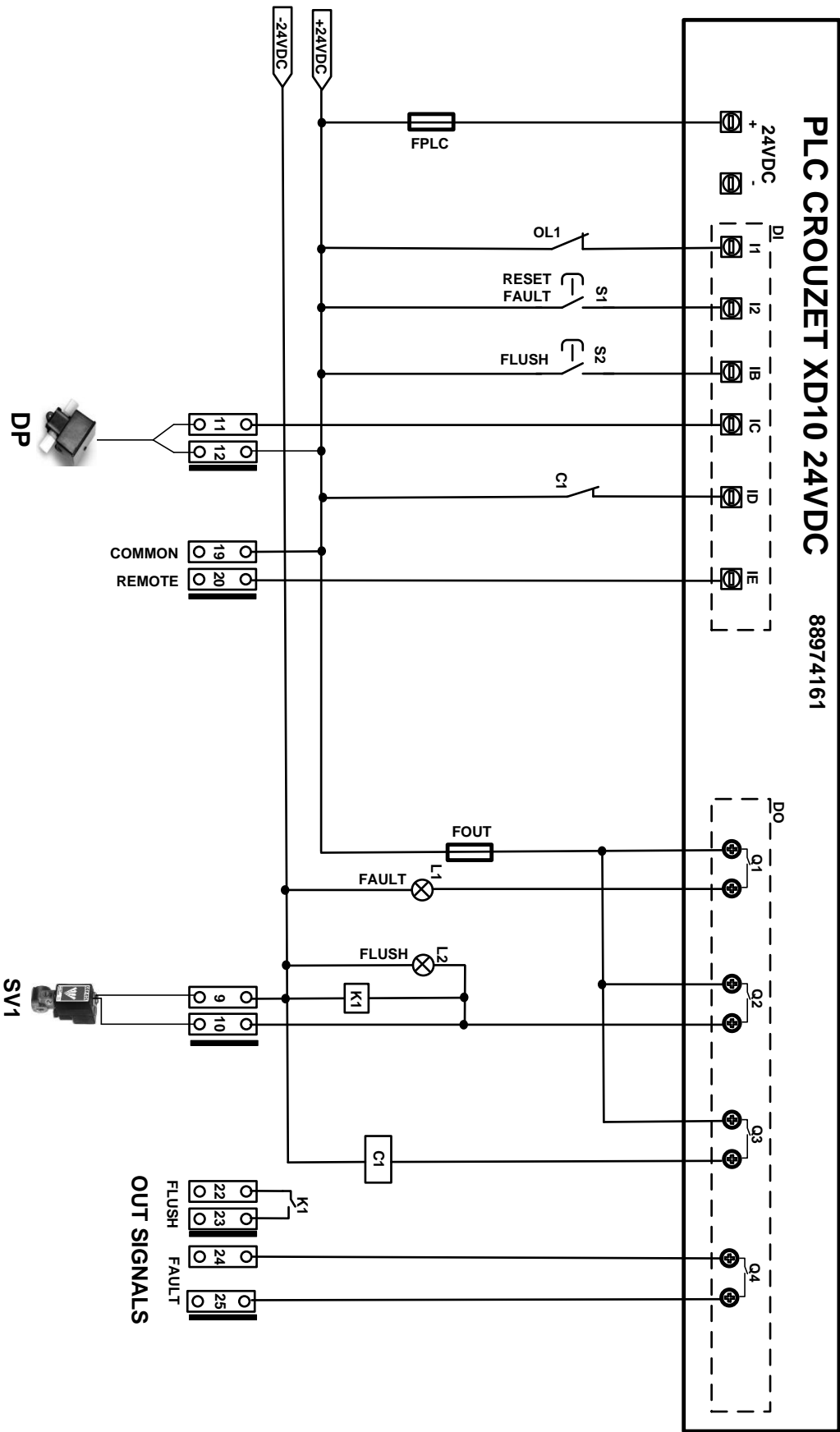
Filter cable - 5 meter
5x0.75mm + 4x1.5mm

Signals

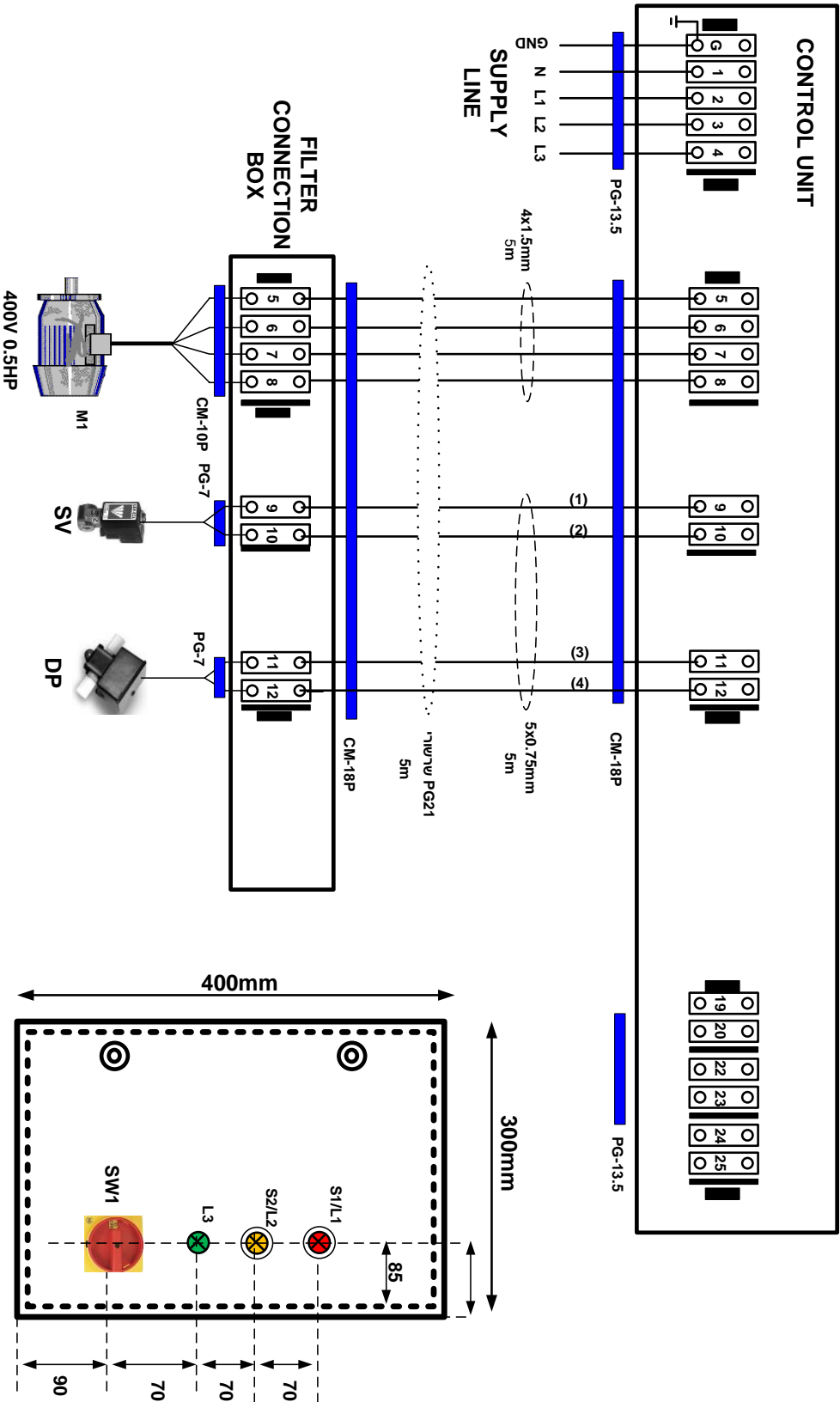
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| PAGE 1 OF 5 | FILENAME VISIODOCUMENT | CONTROL CROUZET | Cat. No. 8500010106 | Authorized by DAVID.Z | | |



| | | | | | | | |
|---------------------|--|------------------------------------|--|--------------|--|---------------|--|
| YAMIT FILTRATION | | PROJECT | | DESCRIPTION | | DRAWN BY | |
| DATE | | ELI-02 CROUZET XD10-CE- VER- 08-19 | | POWER WIRING | | DAVID.Z | |
| 25/08/2019 | | FILENAME | | CONTROL | | Authorized by | |
| PAGE | | VISIODOCUMENT | | CRUOZET | | DAVID.Z | |
| 2 OF 5 | | | | Cat. No. | | 8500010106 | |
| | | | | | | | |

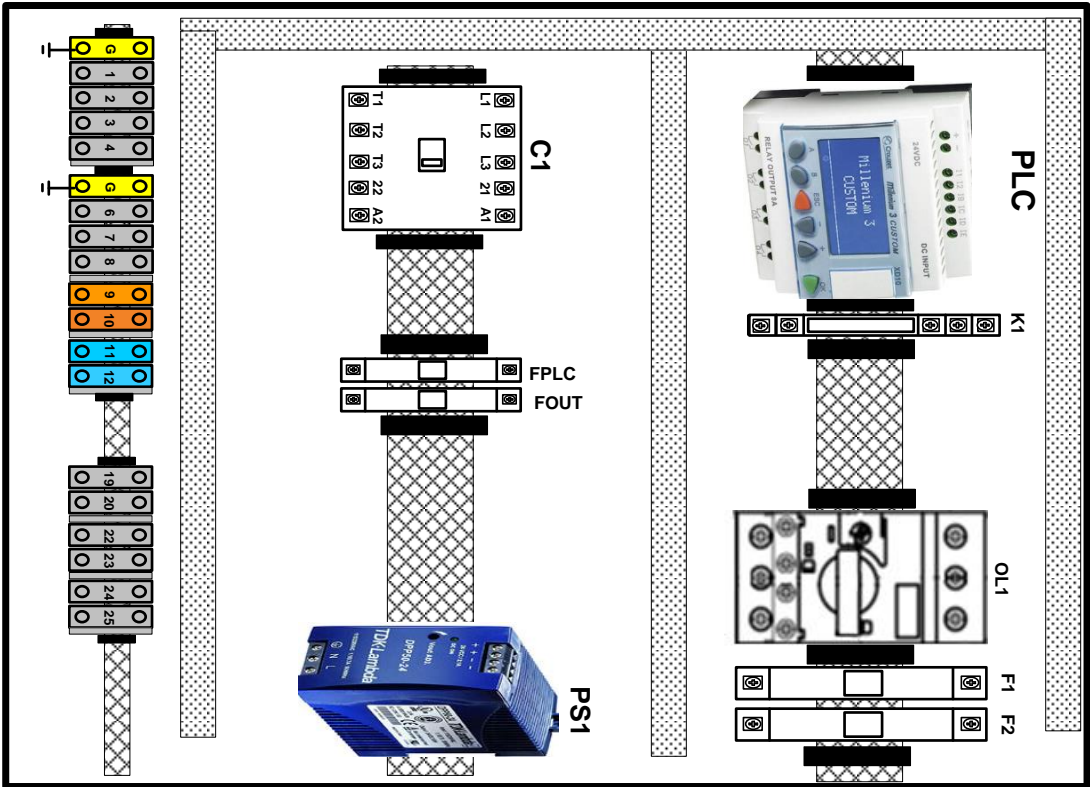
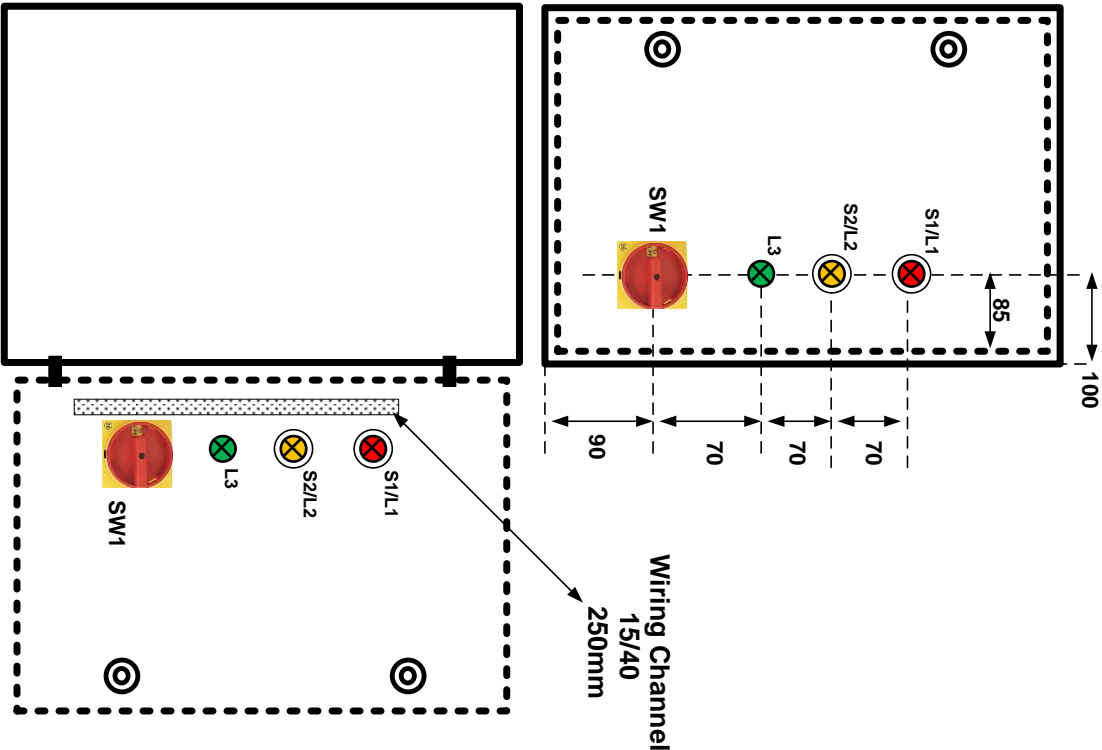


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|---------------------|--------------------|---|--|--------------------------|
| YAMIT FILTRATION | DATE 25/08/2019 | PROJECT ELI-02 CROUZET XD10-CE- VER- 08-19 | DESCRIPTION PLC INPUTS/OUTPUTS WIRING | DRAWN BY DAVID.Z |
| | PAGE 3 OF 5 | FILENAME VISIODOCUMENT | CONTROL CRUOZET | Authorized by DAVID.Z |
| | | Cat. No. 8500010106 | | |



| | | | | | | |
|---------------------|---------------------------|--------------------|---|------------------------------|------------------------|--------------------------|
| YAMIT FILTRATION | | DATE 25/08/2019 | PROJECT ELL-02 CROUZET XD10-CE- VER- 08-19 | DESCRIPTION SYSTEM WIRING | | DRAWN BY DAVID.Z |
| PAGE 4 OF 5 | FILENAME VISIODOCUMENT | | | CONTROL CROUZET | Cat. No. 8500010106 | Authorized by DAVID.Z |

ARIA 400/300/170



9. STANDARD INTERNATIONAL WARRANTY

YAMIT Filtration & Water Treatment Ltd. (hereinafter -" **YAMIT**") guarantees to the customers who purchased **YAMIT**'s products directly from **YAMIT** or through its authorized distributors, that such products will be free from defect in material and/or workmanship for the term set forth below, when such products are properly installed, used and maintained in accordance with **YAMIT**'s instructions, written or verbal.

Should such products prove defective within one year as of the day it left **YAMIT**'s premises, and subject to receipt by **YAMIT** or its authorized representative, of written notice thereof from the purchaser within 30 days of discovery of such defect or failure - **YAMIT** will repair or replace or refund the purchase price, at its sole option, any item proven defective in workmanship or material.

YAMIT will not be responsible, nor does this warranty extend to any consequential or incidental damages or expenses of any kind or nature, regardless of the nature thereof, including without limitation, injury to persons or property, loss of use of the products, loss of goodwill, loss of profits or any other contingent liabilities of any kind or character alleged to be the cause of loss or damage to the purchaser.

This warranty does not cover damage or failure caused by misuse, abuse or negligence, nor shall it apply to such products upon which repairs or alterations have been made by other than an authorized **YAMIT** representative.

This warranty does not extend to components, parts or raw materials used by **YAMIT** but manufactured by others, which shall be only to the extent warranted by the manufacturer's warranty.

No agents or representatives shall have the authority to alter the terms of this warranty nor to add any provisions to it not contained herein or to extend this warranty to anyone other than **YAMIT**'s customers.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, EXCEPT THIS WARRANTY WHICH IS GIVEN IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

