YAMIT
FILTRATION

Bell AF200E Series Hydraulic Self-Cleaning Screen Filter

SERVICE & MAINTENANCE MANUAL

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1. Introduction

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General

YAMIT Filtration & Water Treatment congratulates you on purchasing the new **AF200E 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.

For operation and maintenance of the filter please follow the instructions in this manual.

2. Safety Instructions

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1. Prior to installation or handling of the filter, read carefully the installation and operation instructions.
2. 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.
3. Verify that the filter housing is grounded to the appropriate location.
4. Confirm AC power disconnection prior to service.
5. Confirm filter draining prior to service.
6. Take precautions while lifting, transporting or installing the filter.
7. Installation and operation of the filter should be performed so as to avoid direct water splashing on the control unit.
8. Confirm that filter weight, when full, meets the support construction requirements.
9. Prior to installation confirm line pressure matches filter's operational pressure.
10. During installation, use standard flanges and connections only.
11. Check that all filter flanges bolts are properly secured.
12. Please note, the filter enters a flushing mode automatically, without prior warning.
13. Use original parts only, while servicing the filter.
14. No changes or modifications to the equipment are allowed.
15. Do not perform any maintenance activities other than those given in this manual.

3. Description & Operation

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Filter Assembly General Description (Figure 1)

The **AF200E SERIES** self-cleaning filter enables high quality filtration from grades of 10-3000 micron from various types of fluid sources such as sewage, reservoirs, rivers, lakes, and wells.
The **AF200E SERIES** filter contains the following parts:

1. Inlet
2. Fine screen
3. Dirt Collector
4. Suction Nozzle
5. Solenoid valve
6. Electric connection box
7. Differential pressure indicator
8. Flushing chamber
9. Electric motor
10. Hydraulic piston
11. Hydraulic Flushing Valve
12. Outlet

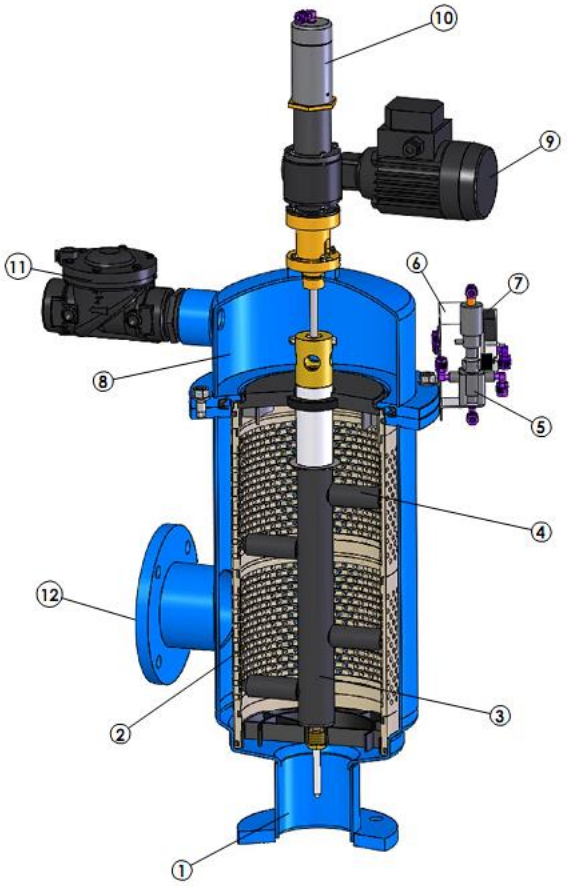

Figure 1: Filter Assembly

Filter Operation - General Description (Figure 1)

Water enters the filter through the “Inlet” (1). The water then reaches the fine screen (2), which purifies the flow by separating smaller particles from the water. As more water flows through, impurities build up on the fine screen. As impurities on the screen accumulate, a pressure imbalance is built up between the internal section of the fine Screen (2) and its external section.

When the difference in pressure (ΔP) reaches the preset value on the differential pressure indicator (7), Or when the preset time in the controller is arrive, a series of events is triggered while water continues to flow to the system units. The controller transmits a signal for a 15 second flushing cycle. The solenoid opens the flushing valve (11) and release the pressure from the hydraulic piston (10) water flows outside from the flushing valve. Pressure in the hydraulic chamber (8) and the dirt collector (3) is significantly lowered resulting a suction process via the suction nozzles (4) to the dirt collector (3) and from there to the hydraulic chamber (8) through the flushing valve (11) outside. The electric motor (9) simultaneously rotates the dirt collector (3) around its axis. The pressure is released from the piston (10) and the high pressure inside the filter causes vertical movement of the dirt collector. The combination of the vertical movement and rotation efficiently cleans the entire internal screen (2) surface.

At the end of the 15 second cycle the solenoid close the flushing valve (11) and the operation of the electric motor (9) is stopped. The increased water pressure returns the hydraulic piston (10) to its initial position. The filter is now ready for the next cycle, while clean and filtered water flowing through the “Outlet” (12).

The 15 second flushing cycle resumes operation whenever the difference in pressure reaches the preset pressure value set on the differential pressure indicator. Or when the preset time in the controller is triggered on. If the pressure difference remains unchanged after one cycle, another cycle will start after a delay of 15 seconds.

4. Technical Data

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Standard Features

Minimum operating pressure:	1 bar (15 psi)
Maximum operating pressure:	10 bar (145 psi)
Clean filter pressure loss:	0.1bar (1.45 psi)
Maximum water temperature:	65°C (149°F)
Filtration range:	25-400 microns
Electric Motor:	3-phase 1/3 Hp
Flush water consumption (at minimum working pressure):	7 liters (2.11 gallons)
Filter housing materials:	carbon steel coated with baked on epoxy
Available connections:	M= Threaded , V= Victaulic, F= Flange

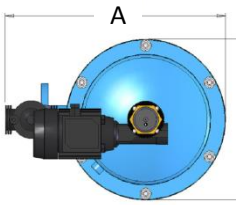
Measurements & Weight

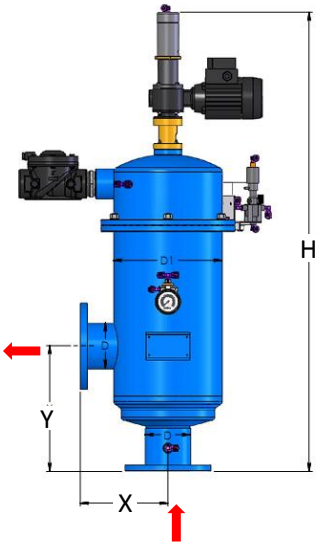
Model	D In/Out (mm)	(in)	D1 (in)	X (mm)	(in)	Y (mm)	(in)	H (mm)	(in)	A (mm)	(in)	Shipping Weight (kg)	(lb)	Packing Volume L*W*H (m)	(in)
AF202E	50	2	10	220	8.66	197	7.76	737	29.00	465	18.31	63	13	0.68x0.68x1.22	2.23x2.23x4.00
AF202EX	50	2	10	220	8.66	197	7.76	860	33.86	465	18.31	67	148	0.68x0.68x1.22	2.23x2.23x4.00
AF203E	75	3	10	220	8.66	197	7.76	737	29.00	465	18.31	65	143	0.68x0.68x1.22	2.23x2.23x4.00
AF203EX	75	3	10	220	8.66	210	8.27	855	33.66	465	18.31	69	152	0.68x0.68x1.22	2.23x2.23x4.00
AF204E	100	4	10	220	8.66	210	8.27	855	33.66	465	18.31	73	161	0.68x0.68x1.22	2.23x2.23x4.00
AF204EX	100	4	10	220	8.66	315	12.4					90	198	1.41x0.68x0.68	4.63x2.23x2.23
AF206E	150	6	10	220	8.66	400	15.75	1575	62.01	585	23.03	140	309	1.80x0.79x0.79	5.90x2.59x2.59
AF208E	200	8	16	303	11.93	450	17.72	1700	66.93	642	25.26	190	419	1.80x0.88x0.79	5.90x2.88x2.59

X = Extra-long filter with extra-large filtration area

* Flow rate data is for high quality water at filtration grade of 120 microns.

** Flushing flow rate data is for minimum operational pressure (2 bars / 30 psi).





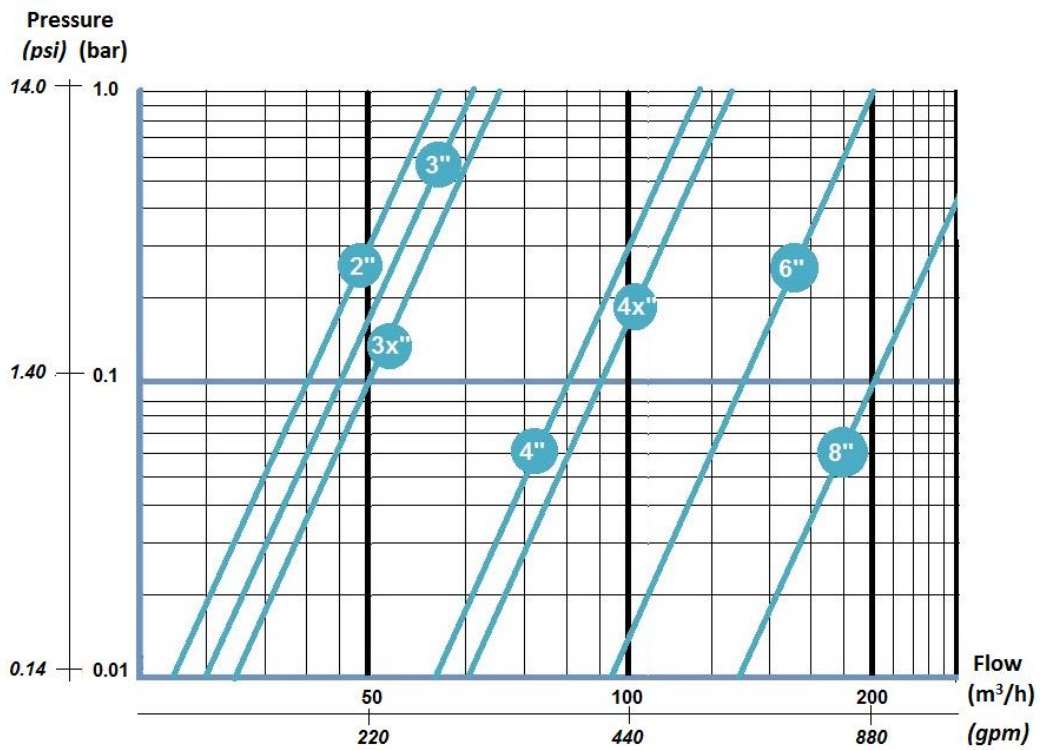
Flow Rate

Model	In/Out ØD (mm)	(in)	Max. flow rate (m^3/h)	(gpm)	Screen Dimension Diam*Length (cm)	(in)	Flushing Flow rate (m^3/h)	(gpm)	Flushing volume (m^3)	(gal)
AF202E	50	2	30	132	225 x 157	88.5 x 61.8	6	26	0.0083	2.2
AF202EX	50	2	30	132	225 x 227	88.5 x 89.4	6	26	0.0083	2.2
AF203E	75	3	40	176	225 x 157	88.5 x 61.8	6	26	0.0083	2.2
AF203EX	75	3	50	220	225 x 227	88.5 x 89.4	6	26	0.0083	2.2
AF204E	100	4	80	352	225 x 227	88.5 x 89.4	6	26	0.0083	2.2
AF204EX	100	4	90	396	225 x 487	88.5 x 191.7	12	52	0.0166	4.38
AF206E	150	6	130	572	225 x 685	88.5 x 269.7	12	52	0.0166	4.38
AF208E	200	8	200	880	280 x 748	110.2 x 294.5	12	52	0.0166	4.38

Filtration Grade Conversion Table

Micron	25	30	40	50	80	100	120	150	200	300	400
Mesh	650	550	400	300	200	150	120	100	80	55	40

Pressure Loss at 120 micron



5. Initial Installation & Operation

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General

The filter assembly is protectively packed with all parts assembled.

Installation

1. Remove the filter assembly from the carton.
2. Connect the filter assembly to the inlet line and outlet line.
3. Connect a drain pipe to the hydraulic flushing valve outlet opening
   3.1 - at least 40 mm diameter and not more than 5 m long – in filters 2", 2“X, 3", 3“X & 4“
   3.2 - at least 50 mm diameter and not more than 5 m long – in filters 4S" , 6" & 8“
   Confirm that water runs freely out of the drainpipe.
4. Check that all connections are properly secured.
5. Check that all nuts and bolts on filter periphery are properly tightened and secured.
6. Position the control panel in such a way as to be protected against humidity and solar radiation.
7. Connect the control panel to the power source.

Check that all connections of the control panel terminal box are properly secured.

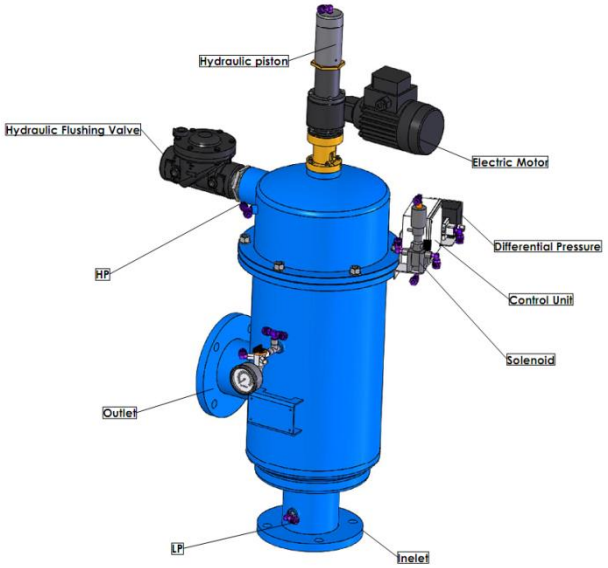

Figure 2: Initial Filter Installation

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 low 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 15 seconds.
5. Verify that the hydraulic flushing valve opens and closes after 15 seconds.
6. Verify that the hydraulic piston performed a full travel.
7. Perform a flushing cycle by pressing the MANUAL FLUSH switches at the control panel.
8. Perform continues flushing by disconnecting the low - pressure tube from the differential pressure indicator (closing of the electrical circuit) second flushing will start after a delay of 15 seconds. Re-connect the low pressure tube. Verify that the hydraulic piston return to it initial position before the second cycle start.
9. When the filter is clean, verify that the differential pressure between inlet and outlet does not exceed 0.1 bar.
10. Set the appropriate differential pressure for flushing at the ΔP differential pressure indicator to 0.5 bar (7 psi).

NOTE: any electric wiring between the controller and the electric terminal connection box, it has to be done by authorized technician.

WARNING

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

6. Maintenance & Periodical Checks

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6.1 – 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 nut from the solenoid lower section.
8. Pull the faulty solenoid out of the control assembly.
9. Insert a new solenoid into the control assembly.
10. Install the nut 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 low 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 15 seconds.
18. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.

Figure 3: Solenoid Removal & Replacement

6.2 – Differential Pressure Indicator Removal & Replacement

The differential pressure indicator supplies signal to the electric 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 – marked as D & P.
6. Remove the two nuts located at the bottom of the electronic control unit assembly and remove the screws.
7. Pull the faulty 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.
12. check that the electric wire inside the differential pressure indicator are connected to the "COM" and "N.O." ports.

WARNING

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

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

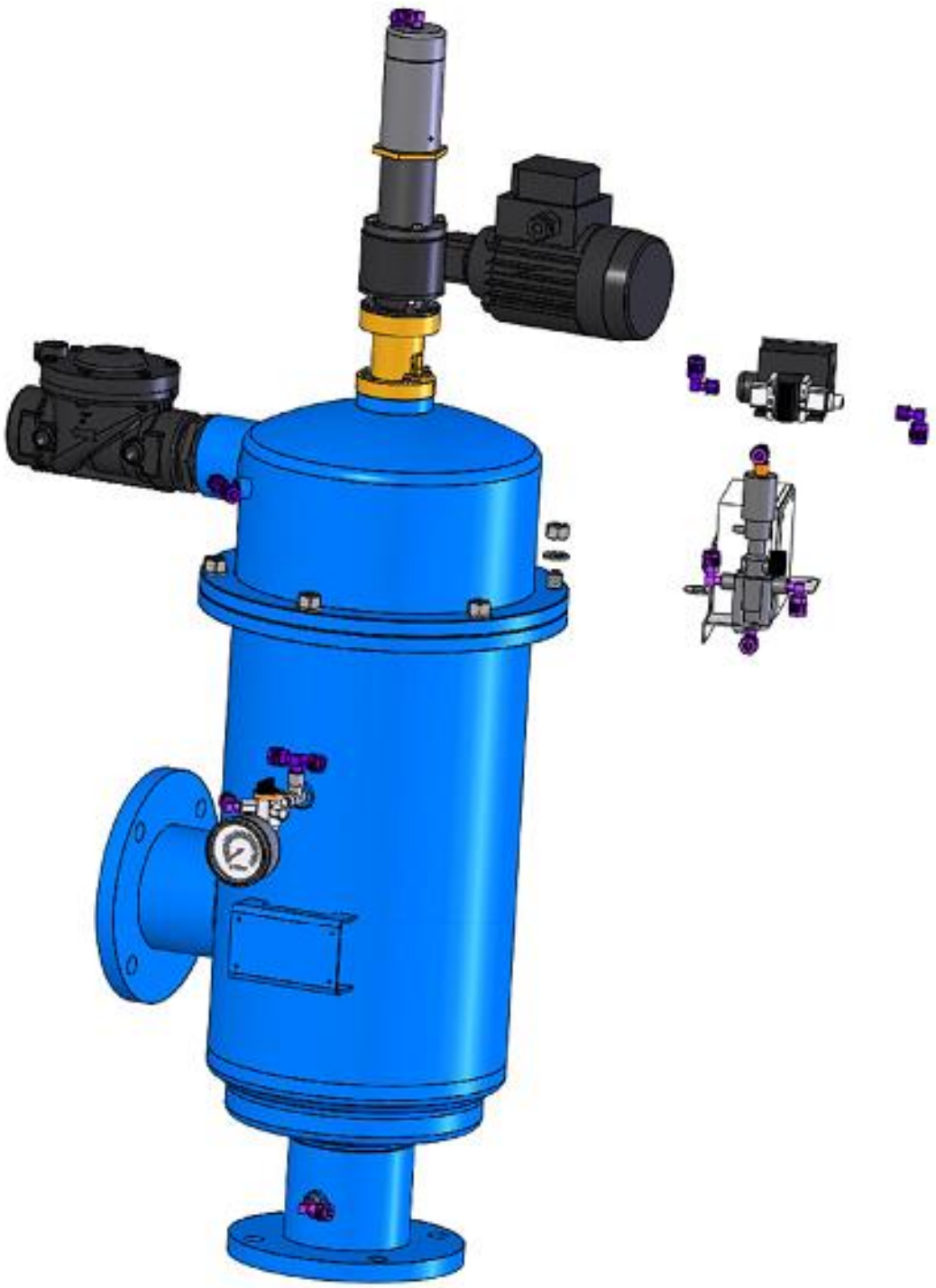


Figure 4: Differential Pressure Indicator Removal & Installation

6.3 – Hydraulic Piston Removal & Installation

The hydraulic piston enables the linear movement of the dirt collector.

1. Set the main switch at the control panel to "0" position.
2. Close the inlet and outlet valves of the filter.
3. Disconnect the control tube from the piston assembly's upper section.
4. Carefully unscrew and remove the piston assembly's.
5. Remove the seal from the old piston assembly lower section.
6. Position the seal into the new piston assembly.
7. Carefully install the new piston assembly into the upper adaptor.
8. Connect the control tube to the piston assembly's upper section.
9. Set the main switch at the control panel to "1" position.
10. Open the inlet and the outlet line valves.
11. Check for leaks.
12. Perform a flushing cycle by disconnecting the low pressure tube from the differential pressure indicator (closing of the electrical circuit) – re-connect it immediately as flushing start.
13. Verify that the hydraulic flushing valve closes after 15 seconds.
14. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel

WARNING

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

Figure 5: Hydraulic Piston Removal & Installation

6.4 – Electric Motor 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. Disconnect the hydraulic tube from the upper side of the piston
7. Remove the motor assembly form the filter by spin it to the left and pull it up.
8. Unscrew the hydraulic piston and remove it from the piston adaptor.
9. Slide out the Geer spinning shaft from the motor assembly by turn it upside down.
10. Remove the four nuts and washers attaching the piston adaptor from the motor assembly upper part - **take care that the gear cover will not be removed as well**.
11. Remove the four nuts from the motor adaptor lower part,
12. Install, with the four nuts, the motor adaptor to the lower part of the new motor.
13. Install, with the four nuts, the hydraulic piston adaptor on the upper side of the new motor assembly.
14. Slide inside the motor assembly the spinning shaft.
15. Install the hydraulic piston on the piston adaptor upper part.
16. Carefully slide the new motor assembly on the dirt collector spinning axis.
17. Install the motor on the filter by spin it to the right tied to the four nuts on the top of the filter.
18. Connect the electric motor to the electrical power source according to the marking previously made in step 5.
19. Set the main switch at the control panel to "1" position.
20. 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.

21. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
22. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 15 seconds.
23. Check for leaks.

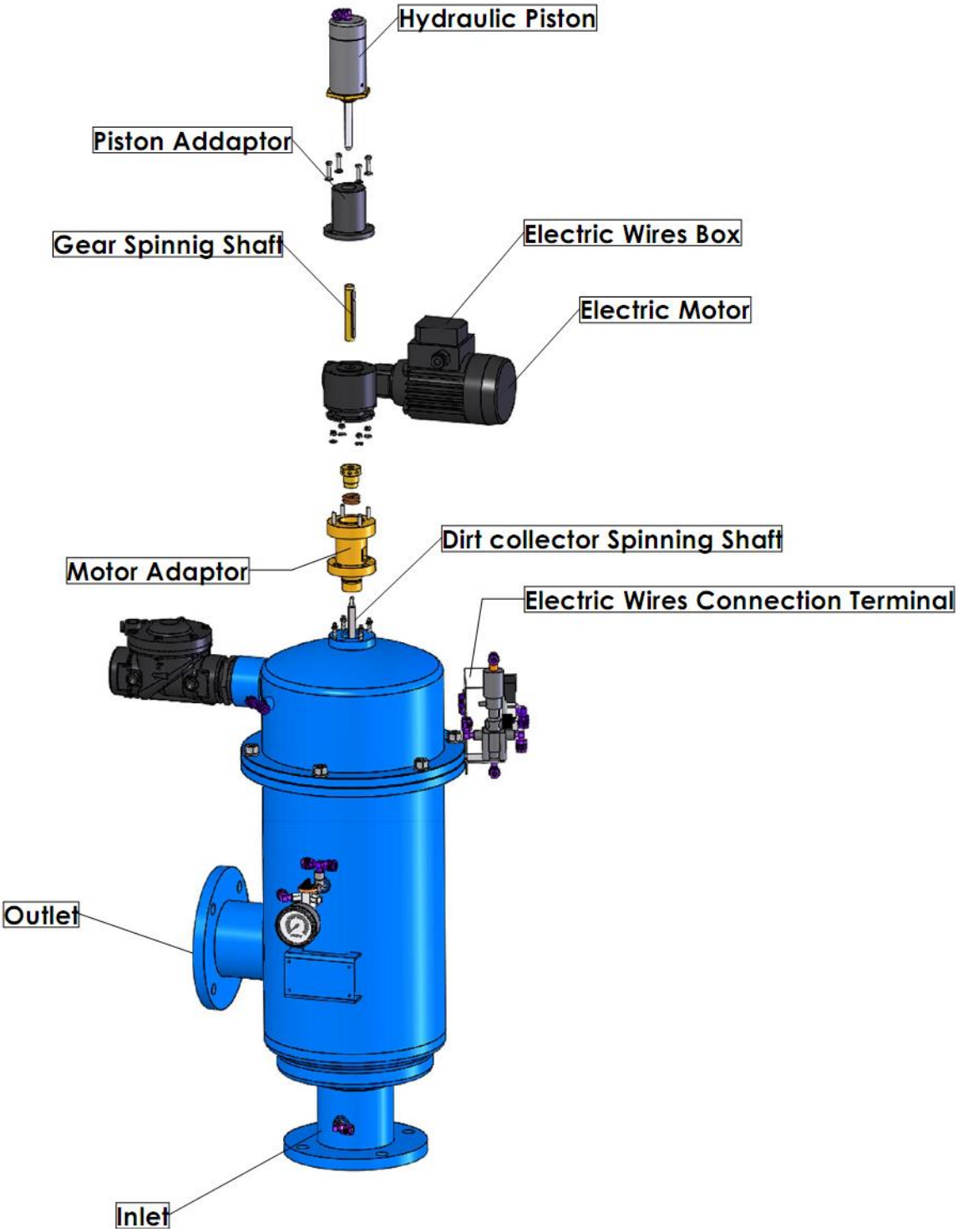


Figure 6 : Electric Motor Removal & Replacement

6.5 – Shaft Sealing 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. Disconnect the hydraulic tube from the upper side of the piston
7. Remove the motor assembly form the filter by spin it to the left and pull it up.
8. Unscrew the hydraulic piston and remove it from the piston adaptor.
9. Slide out the Geer Spinning Shaft from the motor assembly by turn it upside down.
10. Remove the four nuts from the motor adaptor lower part,
11. Unscrew the tightening nut and remove the sealing rope.
12. Install 3 new rings of sealing rope in the motor adaptor.
13. Connect the tightening nut (do not tight it).
14. Install the motor adaptor, by it self, on its place (the dirt collector spinning axis will be inside it in this stage).
15. Tight the nut and open it again to add the 4^{th} ring of sealing rope.
16. Tight the nut in it's place.
17. Install, with the four nuts, the motor adaptor to the lower part of the motor.
18. Slide inside the motor assembly the spinning shaft.
19. Install the hydraulic piston on the piston adaptor upper part.
20. Carefully slide the motor assembly on the dirt collector spinning axis.
21. Install the motor on the filter by spin it to the right tied to the four nuts on the top of the filter.
22. Connect the electric motor to the electrical power source according to the marking previously made in step 5.
23. Set the main switch at the control panel to "1" position.
24. 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.

25. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
26. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 15 seconds.
27. Check for leaks.

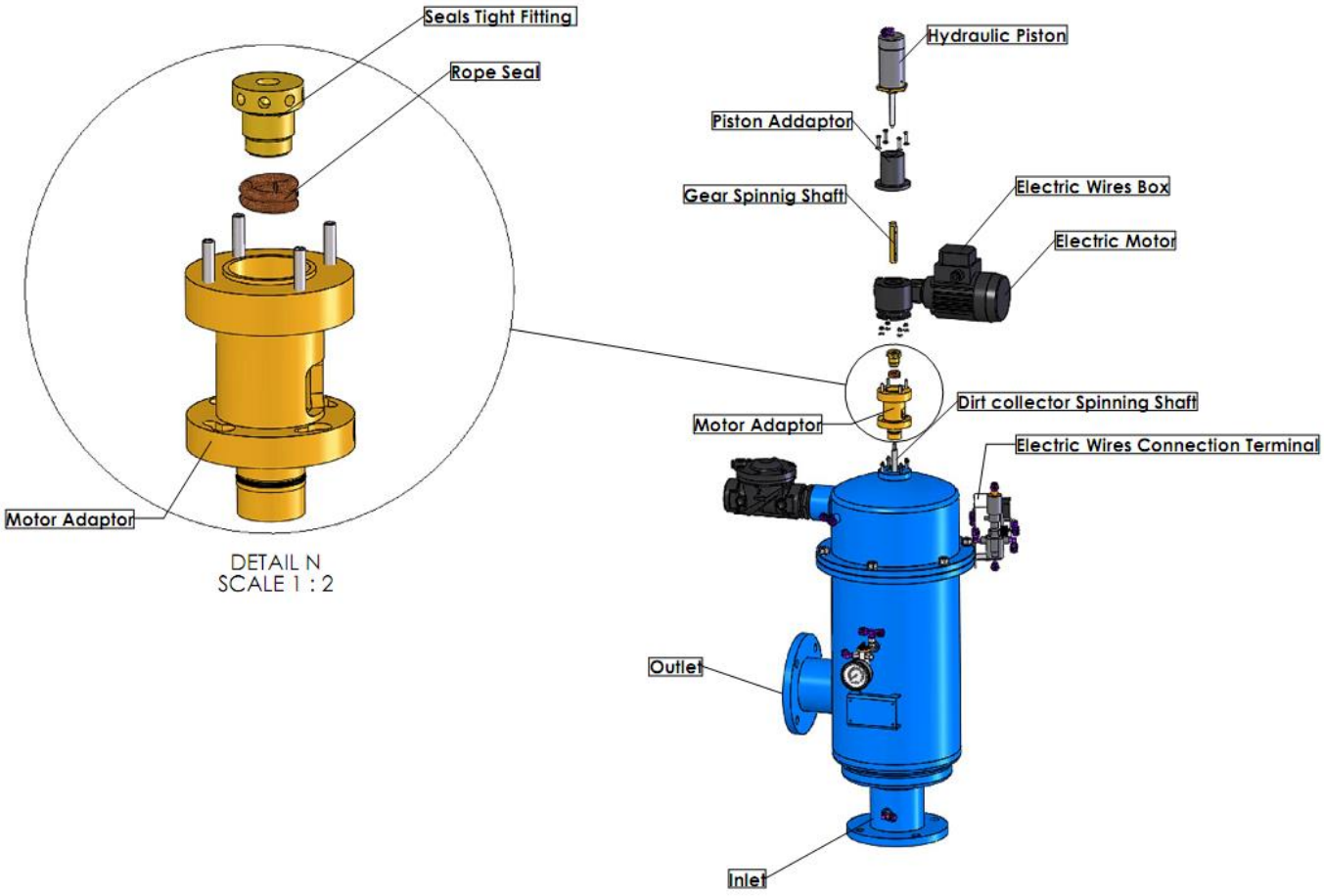


Figure 7: Shaft Sealing Installation

6.6 – Dirt Collector Removal & Installation for Bell 2” -4”

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. Disconnect the hydraulic tube from the upper side of the piston
5. Remove the motor assembly form the filter by spin it to the left and pull it up.
6. Remove the six nuts and washers connecting both parts of the filter's housing
7. Carefully remove the control assembly.
8. Remove the upper part of the filter assembly.
9. Pull out the old dirt collector from its place in the fine screen.
10. Put the dirt collector inside the fine screen and verify that the dirt collector axis passes through the screen bearing.
11. Verify that the straight side of the body seal (U-Ring) fits into the groove located in the filter assembly’s upper section.
12. Install the upper part of the filter assembly together
13. Carefully attach the control assembly to the filter housing with one of the six nuts and washers connecting both parts of the filter housing.
14. Continue to cross connect both parts of the filter housing by using the additional five nuts and washers. Do not over-tighten.
15. Install the motor on the filter by spin it to the right tied to the four nuts on the top of the filter.

WARNING

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

16. Connect the control tubes to the filter assembly housing.
17. Set the main switch at the control panel to "1" position.
18. Open the inlet and the outlet line valves.
19. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
20. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 15 seconds.
21. Check for leaks.

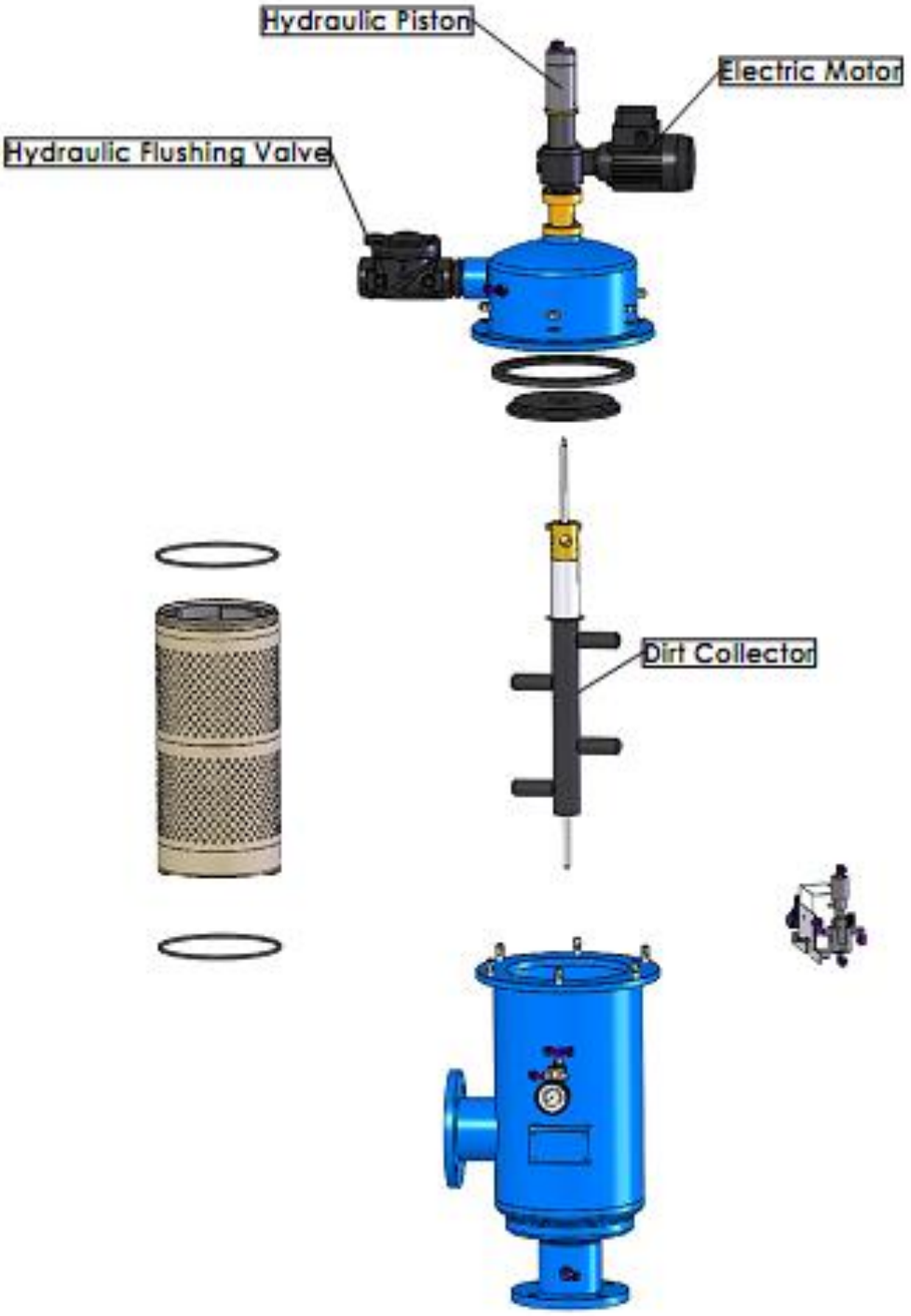


Figure 8: Dirt Collector Removal & Installation – Bell 2”-4”

6.7 – Dirt Collector Removal & Installation for Bell 4X” -8”

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. disconnect the hydraulic tube from the upper side of the piston
5. Remove the motor assembly form the filter by spin it to the left and pull it up.
6. Remove the six nuts and washers connecting both parts of the filter's housing (See Figure 8).
7. Carefully remove the control assembly.
8. Remove the upper part of the filter assembly.
9. Pull the plate out from the screen assembly
10. Pull out the old dirt collector from its place in the fine screen. Make sure the suction nozzles are in position to pass via the screen handle.
11. Install the new dirt collector and the plate into the screen assembly.
12. Make sure the suction nozzles are in the right position to pass via the screen handle and the dirt collector axis is in the screen bearing.
13. Verify that the straight side of the body seal (U-Ring) fits into the groove located in the filter assembly’s upper section.
14. Install the upper part of the filter assembly together
15. Carefully attach the control assembly to the filter housing with one of the six nuts and washers connecting both parts of the filter housing.
16. Continue to cross connect both parts of the filter housing by using the additional five nuts and washers. Do not over-tighten.
17. Install the motor on the filter by spin it to the right tied to the four nuts on the top of the filter.

WARNING

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

18. Connect the control tubes to the filter assembly housing.
19. Set the main switch at the control panel to "1" position.
20. Open the inlet and the outlet line valves.
21. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
22. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 15 seconds.
23. Check for leaks

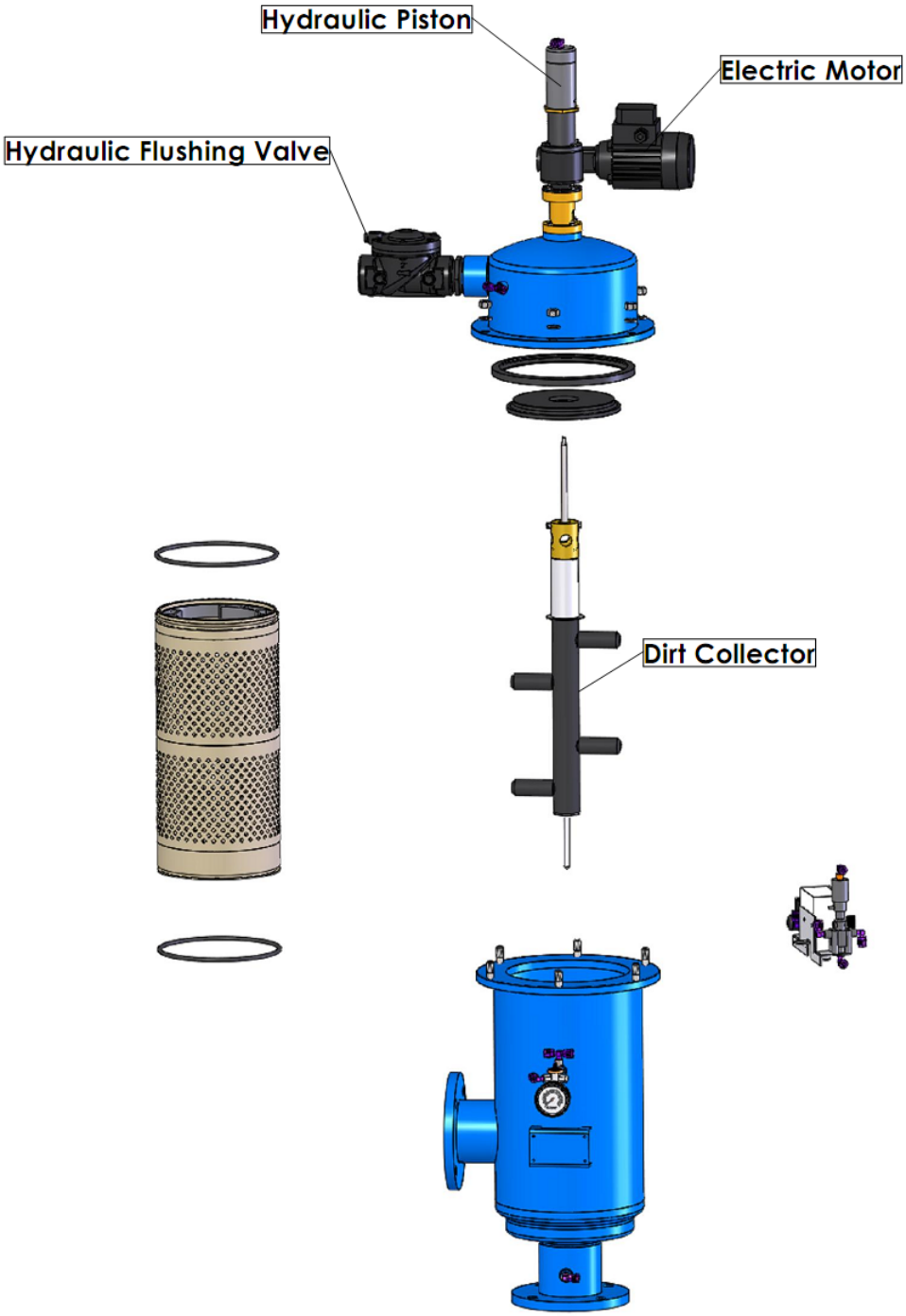


Figure 9: Dirt Collector Removal & Installation – Bell 4X”-8”

6.8 – Screen Removal & Installation for Bell 2” - 4”

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. Disconnect the hydraulic tube from the upper side of the piston and from the flushing valve.
5. Remove the motor assembly form the filter by spin it to the left and pull it up.
6. Remove the six nuts and washers connecting both parts of the filter's housing .
7. Carefully remove the control assembly.
8. Remove the upper part of the filter assembly.
9. Pull out the dirt collector from its place in the fine screen.
10. Pull the screen out of the filter housing assembly.
11. Remove both upper and lower seals from the old screen.
12. Remove the screen bearing from the old screen’s lower section.
13. Install the screen bearing into the new screen’s lower section.
14. Position both upper and lower seals into the new screen.
15. Lubricate upper and lower seals with **silicon grease**.
16. Slide the new screen into the filter housing assembly.
17. Put the dirt collector inside the fine screen and verify that the dirt collector lower axis passes through the screen bearing.
18. Verify that the straight side of the body seal (U-Ring) fits into the groove located in the filter assembly’s upper section.
19. Install the upper part of the filter assembly together
20. Carefully attach the control assembly to the filter housing with one of the six nuts and washers connecting both parts of the filter housing.
21. Continue to cross connect both parts of the filter housing by using the additional five nuts and washers. Do not over-tighten.
22. Install the motor on the filter by spin it to the right tied to the four nuts on the top of the filter.

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

23. Connect the control tubes to the filter assembly housing.
24. Set the main switch at the control panel to "1" position.
25. Open the inlet and the outlet line valves.
26. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
27. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 15 seconds.
28. Check for leaks.

28. Perform a flushing cycle by pressing the MANUAL FLUSH switch at the control panel.
29. Verify that the motor is spinning clockwise and the hydraulic flushing valves close after 15 seconds.
30. Check for leaks.

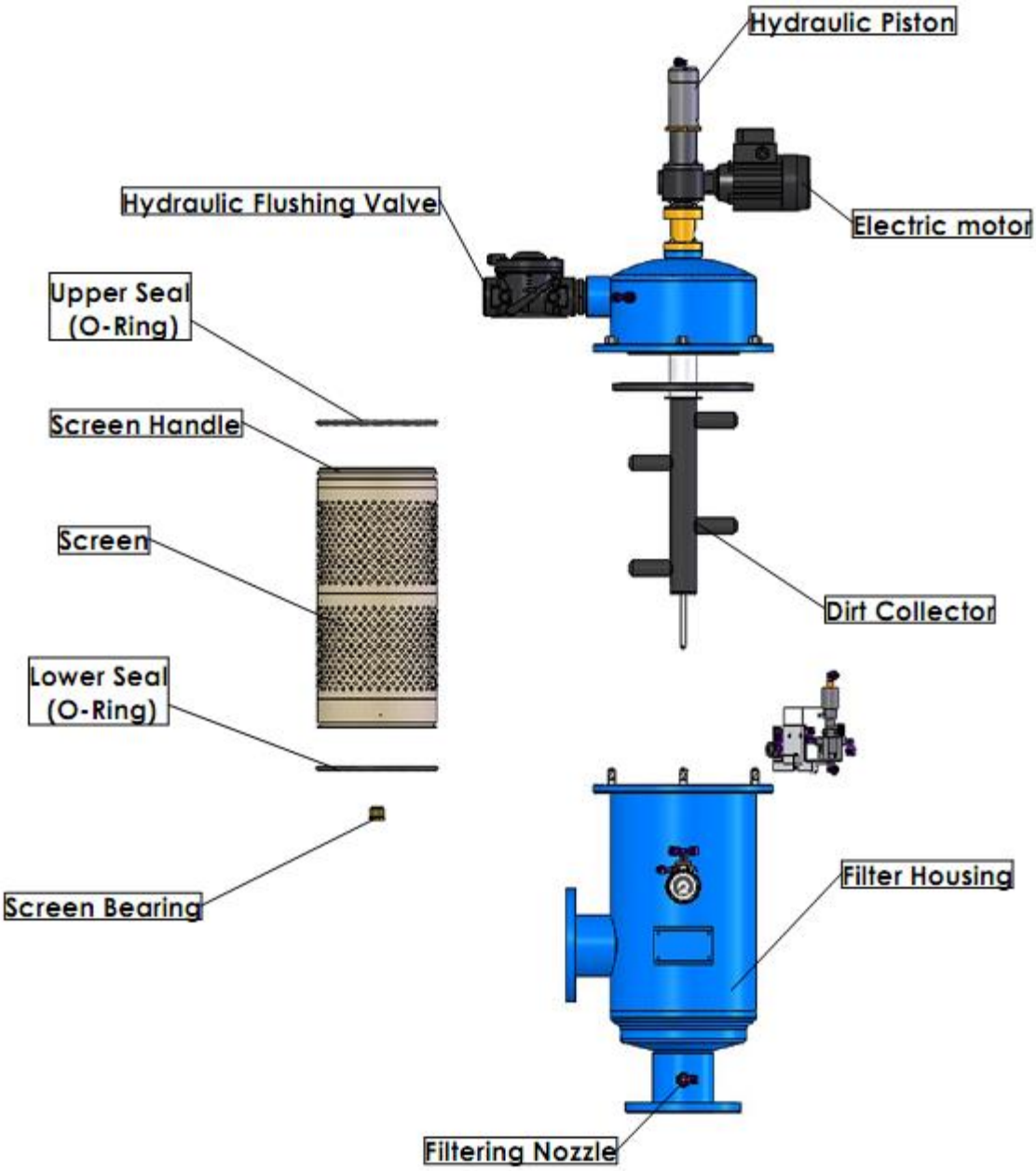


Figure 11: Screen Removal & Installation – Bell 4X”-8”

6.9 – Screen Removal & Installation for Bell 4X" – 8"

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. Disconnect the hydraulic tube from the upper side of the piston and from the flushing valve.
5. Remove the motor assembly form the filter by spin it to the left and pull it up.
6. Remove the six nuts and washers connecting both parts of the filter's housing (See Figure 9).
7. Carefully remove the control assembly.
8. Remove the upper part of the filter assembly.
9. Pull the plate out from the screen assembly
10. pull out the dirt collector. Make sure the suction nozzles are in position to pass via the screen handle.
11. Pull the screen out of the filter housing assembly.
12. Remove both upper and lower seals from the old screen.
13. Remove the screen bearing from the old screen's lower section.
14. Install the screen bearing into the new screen's lower section.
15. Position both upper and lower seals into the new screen.
16. Lubricate upper and lower seals with **silicon grease**.
17. Slide the new screen into the filter housing assembly.
18. Install the dirt collector and the plate into the screen assembly. Make sure the suction nozzles are in the right position to pass via the screen handle and the dirt collector axis is in the screen bearing.
19. Lubricate upper and lower seals with **silicon grease**.
20. Verify that the straight side of the body seal (U-Ring) fits into the groove located in the filter assembly's upper section.
21. Install the upper part of the filter assembly together
22. Carefully attach the control assembly to the filter housing with one of the six nuts and washers connecting both parts of the filter housing.

WARNING

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

23. Continue to cross connect both parts of the filter housing by using the additional five nuts and washers. Do not over-tighten.
24. Install the motor on the filter by spin it to the right tied to the four nuts on the top of the filter.
25. Connect the control tubes to the filter assembly housing.
26. Set the main switch at the control panel to "1" position.
27. Open the inlet and the outlet line valves.

6.10 – Periodical Checks

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

1. Unscrew the lower filtering nozzle and visually check for obstructions.
2. Check the condition of the screen. If defective, replace according to "**Screen Removal & Installation**".
3. Check upper and lower seals condition. Lubricate with **silicon grease**.
4. Check the condition of the screen bearing. If the bearing is deformed, (oval), replace with a new one.
5. Check the mechanical condition of the hydraulic piston assembly.
6. Verify piston's free movement. If defective, replace according to "**Hydraulic Piston Removal & Installation**".
7. Check the condition of the electric motor.
8. Check the filter housing for paint damage or corrosion. If required, clean the area with sandpaper and apply a thin layer of basic + epoxy paint.
9. Open the inlet and the outlet line valves.
10. Check for leaks.

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

11. Perform a flushing cycle by disconnecting the low pressure tube from the differential pressure indicator (closing of the electrical circuit) – re-connect it immediately as flushing starts.
12. Verify that the hydraulic flushing valve closes after 15 seconds.
13. Perform an additional flushing cycle manually, by operating the handle (turn clockwise 90°) located on the solenoid (See Figure 3).

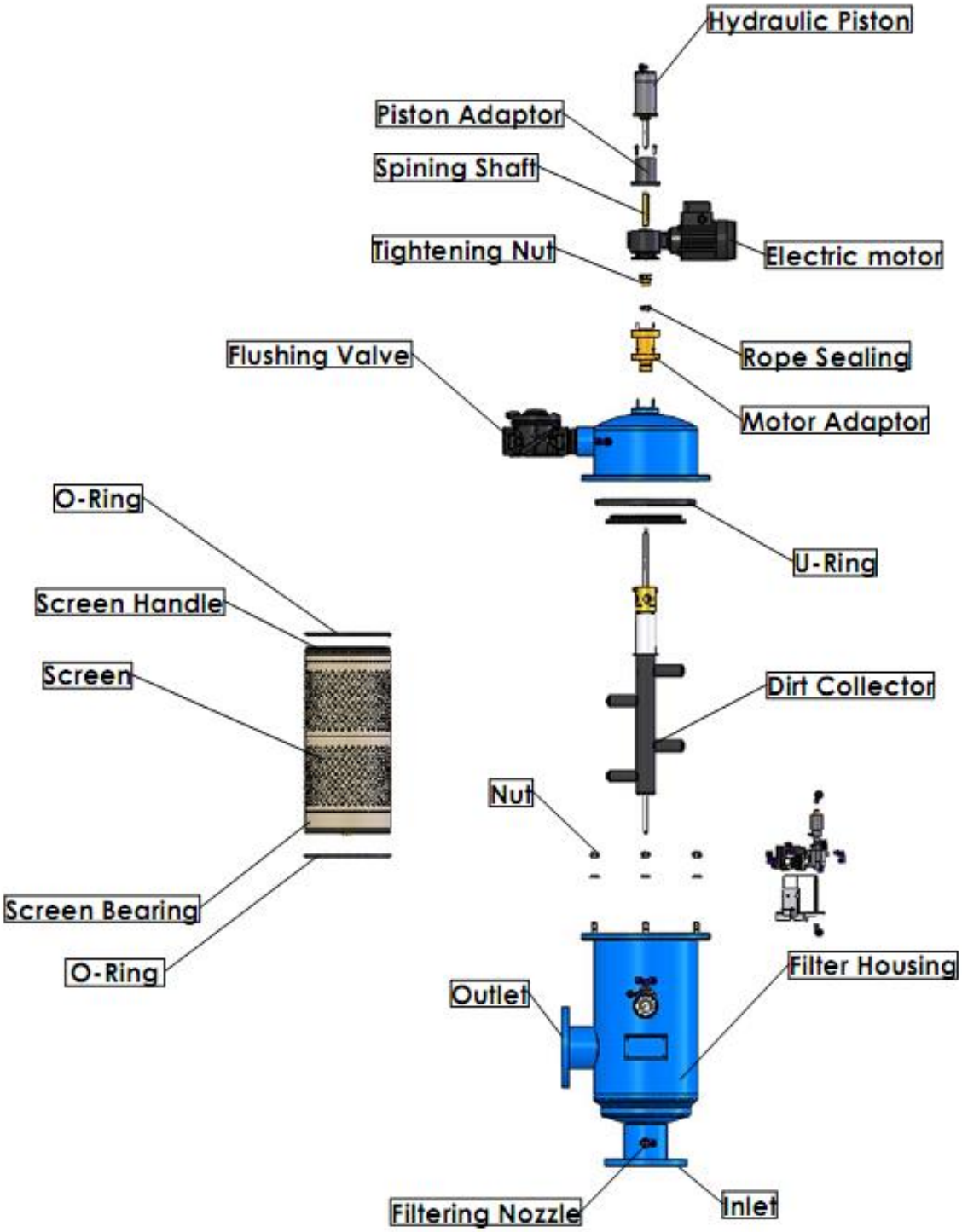
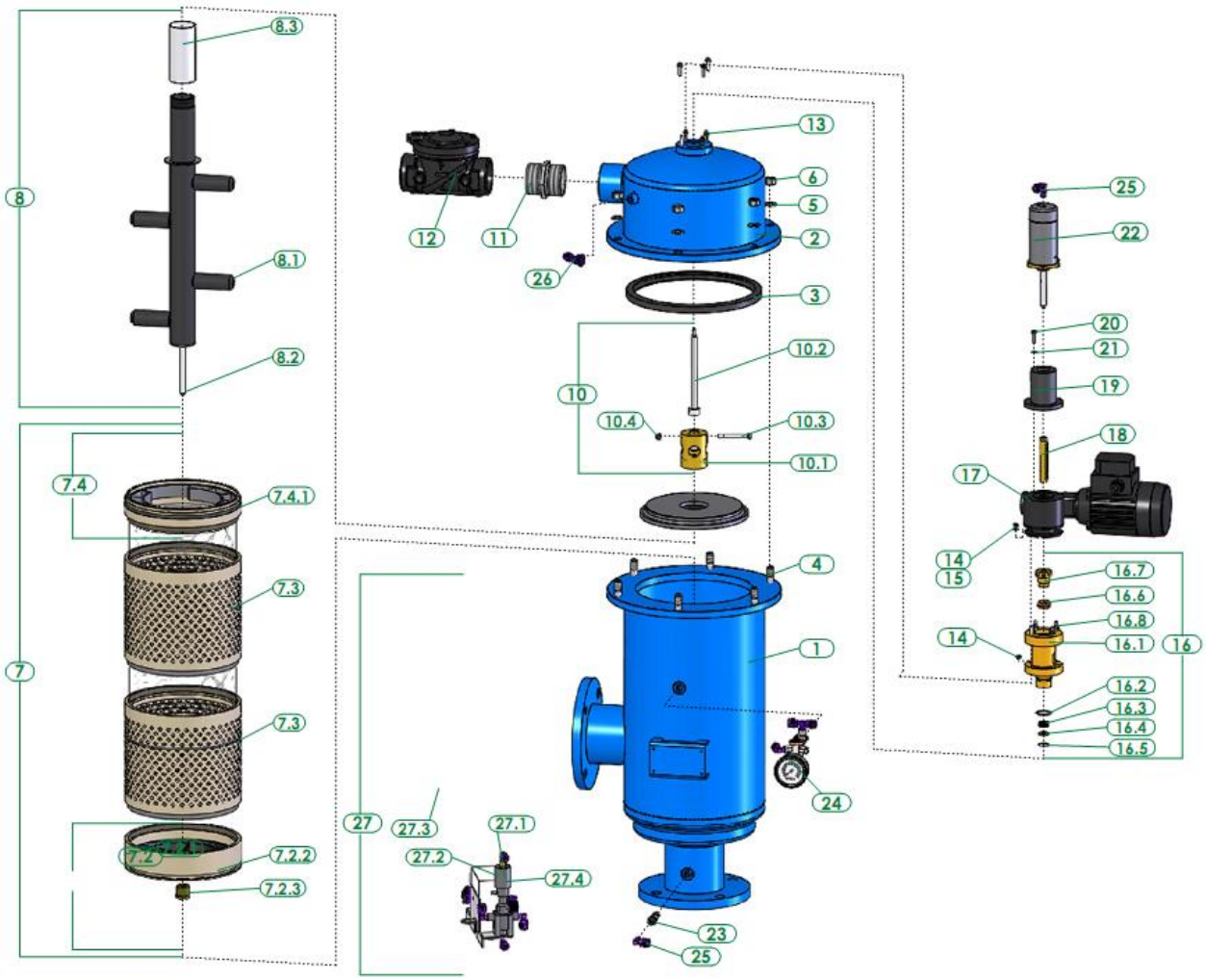


Figure 12: Periodical Checks

7. IPB


8.3
8
8.1
8.2
7.4
7.4.1
7.3
7.3
7
7.2.2
7.2.3
13
6
5
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12
11
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3
10.2
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10.4
10.3
10.1
4
1
24
27
27.3
27.1
27.2
27.4
23
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25
22
20
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19
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17
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15
16.7
16.6
16.8
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16.1
16
16.2
16.3
16.4
16.5

IPB No	Model	Catalog No	Description
1	AF200E	N/A	FILTER BODY
2	AF200E	N/A	FILTER COVER
3	AF202E-206E	5311250100	U-RING FOR COVER 10"-14"
	AF208E	5311400100	U-RING FOR COVER 16"
4	AF200E	5292143001-043	STUD 1/2"NC*43 SS304
5	AF200E	4121123001	WASHER M12 SS304
6	AF200E	4112140401	NUT 1/2"NC HOT GALVANIZED
7	AF202E/3E	E7005601000-01##	COMP FINE SCREEN PVC225 AF202/3
	AF202XE/3XE/4E	E7005601001-01##	COMP FINE SCREEN PVC225 AF202X/3X/4
	AF204XE	E7005602001-01##	COMP FINE SCREEN PVC225 AF204X
	AF206E	E7005603000-01##	COMP FINE SCREEN PVC225 AF206
	AF208E	E7006603000-01##	COMP FINE SCREEN PVC280 AF208
7.1	AF202E-206E	4081202100-445	O-RING 445
	AF208E	4081266100-450	O-RING 450
7.2	AF204XE/6E	E5005600900-01	UPPER SCREEN ADAPTER PVC225 ASSM AF204X/6
	AF208E	E5006600900-01	UPPER SCREEN ADAPTER PVC280 ASSM AF208
7.2.1	AF204XE/6E	5005600900	UPPER SCREEN ADAPTER PVC225 AF204X/6
	AF208E	5006600900	UPPER SCREEN ADAPTER PVC280 AF208
7.2.2	AF202E-206E	5021640500	SCREEN WHEEL 225 NYLON
	AF208E	5021010600-P	SCREEN WHEEL 280 STEEL
7.2.3	AF200E	5172391000	SCREEN BEARING F/DIRT COLLECTOR SHAFT AF200
7.3	AF202E/3E	W5005600400-01##	FINE SCREEN PVC225 AF202/3
	AF202XE/3XE/4E	W5005600401-01##	FINE SCREEN PVC225 AF202X/3X/4
	AF204XE/6E	W5005600300-01##	FINE SCREEN MIDDLE SECTION PVC225
	AF208E	W5006600300-01##	FINE SCREEN MIDDLE SECTION PVC280
7.4	AF204XE/6E	E5005601001-02	LOWER SCREEN ADAPTER PVC225 ASSM AF204X/6
	AF208E	E5006601000-02	LOWER SCREEN ADAPTER PVC280 ASSM AF208
7.4.1	AF204XE/6E	E5005601001-01	LOWER SCREEN ADAPTER PVC225 AF204X/6
	AF208E	E5006601000-01	LOWER SCREEN ADAPTER PVC280 AF208
8	AF202E/3E	E7101610200-01	COMP DIRT COLLECTOR 1" PVC 2 NOZZLE AF202/3
	AF202XE/3XE/4E	E7101610201-01	COMP DIRT COLLECTOR 1" PVC 2 NOZZLE AF202X/3X/4
	AF204XE	E7102610400-01	COMP DIRT COLLECTOR 1 1/2" PVC 4 NOZZLE AF204
	AF206E	E7102610600-01	COMP DIRT COLLECTOR 1 1/2" PVC 6 NOZZLE AF206
	AF208E	E7102610601-01	COMP DIRT COLLECTOR 1 1/2" PVC 6 NOZZLE AF208
8.1	AF202E-204E	5121610101	SUCTION NOZZLE AF202/202X/3X/4
	AF204XE/6E	5121610201	SUCTION NOZZLE AF204X/206
	AF208E	5121610202	SUCTION NOZZLE AF208
8.2	AF202E/3E	5131300900	DIRT COLLECTOR SHAFT SS304 9.5mm AF202/3
	AF202XE-206E	5131300901	DIRT COLLECTOR SHAFT SS304 9.5mm AF202X/3X/4/4X/6
	AF208FE	5131300902	DIRT COLLECTOR SHAFT SS304 9.5mm AF208

IPB No	Model	Catalog No	Description
8.3	AF202E/3E	5171303301	DIRT COLLECTOR SLEEVE 1" SS304 AF202/3
	AF202XE/3XE/4E	5171303302	DIRT COLLECTOR SLEEVE 1" SS304 AF202X/3X/4
	AF204XE/6E	5171305000	DIRT COLLECTOR SLEEVE 50 SS304 AF204X/6
	AF208E	E5171305001	DIRT COLLECTOR SLEEVE 50 ASSM SS304 AF208
9	AF202E-204E	E5023010500-01	FLUSHING CHAMBER PLATE AF202/3/4
	AF204XE/6E	E5023010501-01	FLUSHING CHAMBER PLATE AF204X/6
	AF208E	E5023010600-01	FLUSHING CHAMBER PLATE AF208
10	AF202E-4E	E5141390301-01	DIRT COLLECTOR ADAPTER ASSM AF202-204E
	AF204XE-6E	E5141390302-01	DIRT COLLECTOR ADAPTER ASSM AF204X-206E
	AF208E	E5141390303-01	DIRT COLLECTOR ADAPTER ASSM AF208E
10.1	AF202E-4E	5141390301	DIRT COLLECTOR ADAPTER BRASS AF202-204E
	AF204XE-6E	5141390302	DIRT COLLECTOR ADAPTER BRASS AF204X-206E
	AF208E	5141390303	DIRT COLLECTOR ADAPTER BRASS AF208E
10.2	AF202E-206E	W5136301001-01	CONNECTING SHAFT SS304 AF202-6E
	AF208E	W5136301003-01	CONNECTING SHAFT SS304 AF208E
10.3	AF202E-4E	6163100600	BOLT HEX HEAD M6*10*42 SS316
	AF204XE-8E	6163100601	BOLT HEX HEAD M6*10*58 SS316
10.4	AF200E	4111063002	NYLOCK NUT M6 SS304
11	AF202E-204E	4220106500	DOUBLE NIPPLE 1"BSP PLASTIC
	AF204XE-8E	4220200300	DOUBLE NIPPLE 2"BSP GALVANIZED
12	AF202E-204E	4510010004	HYDRAULIC VALVE BERMAD 205 1"BSP
	AF204XE-8E	4510020004-1M	HYDRAULIC VALVE BERMAD 2"BSP MODEL 205
13	AF200E	4101053004-030	SOCKET SET SCREW M5*30 SS304
14	AF200E	4111053002	NYLOCK NUT M5 SS304
15	AF200E	4121053001	WASHER M5 SS304
16	AF200E	E5181391000-01	COMP MOTOR ADAPTER AF200E
16.1	AF200E	5201390001	MOTOR ADAPTER BRASS AF200E
16.2	AF200E	4081020100	O-RING 20*2.5
16.3	AF200E	4082010100	U-RING 10*20*5
16.4	AF200E	6143902000	WASHER 20 BRASS AF200E
16.5	AF200E	4133205000	INTERNAL RETAINING RING J-20-DIN472 SS420
16.6	AF200E	5319000900	SEALING ROPE
16.7	AF200E	5181391000	TIGHTENING NUT FOR SEALING ROPE-BRASS AF200E
16.8	AF200E	4101053004-025	SOCKET SET SCREW M5*25 SS304
17	AF200E	E4060121000	MOTOR 3 PHASE 0.125Hp 1500rpm 1:10 AF200E
18	AF200E	E5133391300-01	COMP GEAR SPINNING SHAFT AF200E
19	AF200E	5201630001	HYDRAULIC PISTON ADAPTER DELRIN AF200E
20	AF200E	4101063005-020	SCREW SOCKET HEAD M6*20 SS304

IPB No	Model	Catalog No	Description
21	AF200E	4121063001	WASHER M6 SS304
22	AF202E/203E	E7160306301	HYD PISTON 30 DELRIN AF202E/3E
	AF202XE/203XE/4E	E7160306304	HYD PISTON 30 DELRIN AF202XE/3XE/4E
	AF204XE/6E	E7160306305	HYD PISTON 30 DELRIN AF204XE/6E
	AF208E	E7160306308	HYD PISTON 30 DELRIN AF208E
23	AF200E	4470010000	FINGER FILTER 1/4"*1/8" PLASTIC
24	AF200E	CS11010019	PRESSURE GAUGE SET AF200/200E
25	AF200E	4640618082	MALE ELBOW 1/8"*8 PLASTIC
26	AF200E	4640214082	TEE 8*1/4"*8 PLASTIC
27	AF200E	CSE0200114401	CONTROLLER ELI-02 COMPLETE AF200E
27.1	AF200E	4430030901	SOLENOID AC GALSOL 24V
27.2	AF200E	4410000004	DP PRESSURE SWITCH UNITED 24-15384
27.3	AF200E	8500010100-01	CONTROL BOARD ELI-02 AF200E
27.4	AF200E	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)

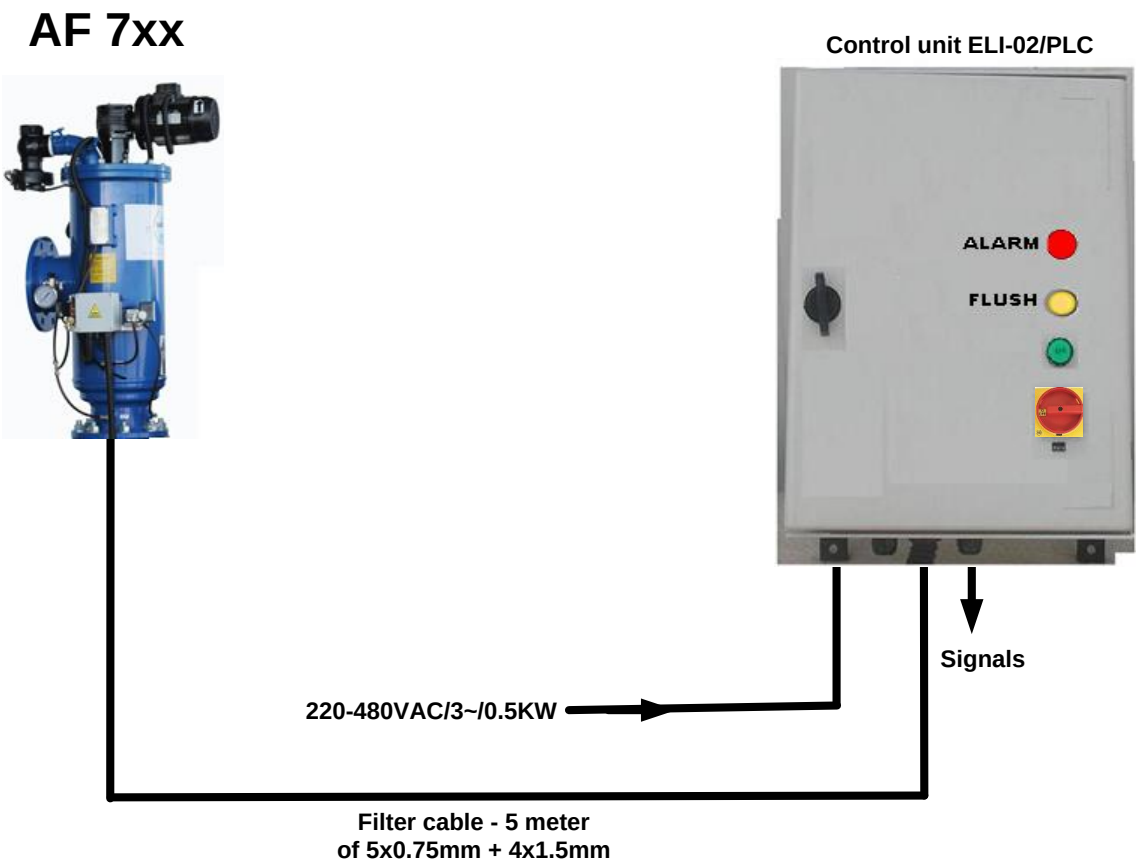
SV = Flushing solenoid , Which activates the flush filter hydraulic mechanism.

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.



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. NTERNAL 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.

Control board		Filter Junction box
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.

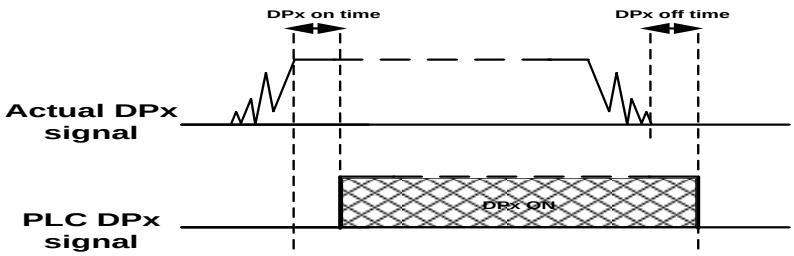
NOTE that the practical flushing time is the time required for the hydraulic piston to complete it's movement due to a given line pressure.
In order to minimize the flushing time/waste of flushed water set **TF** respectively.

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.

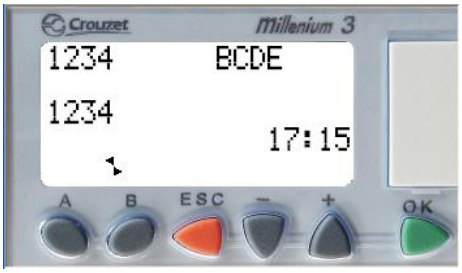
- If DP signal is removed <u>after **TC** preset time</u> the system will return to normal state.
- If the DP is still signaling after **TC** preset time , 2nd flush cycle will be executed.
- If after X consecutive flushes , (Preset by **NFL** , Factory set to 3 times) , The DP signal is not removed 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.



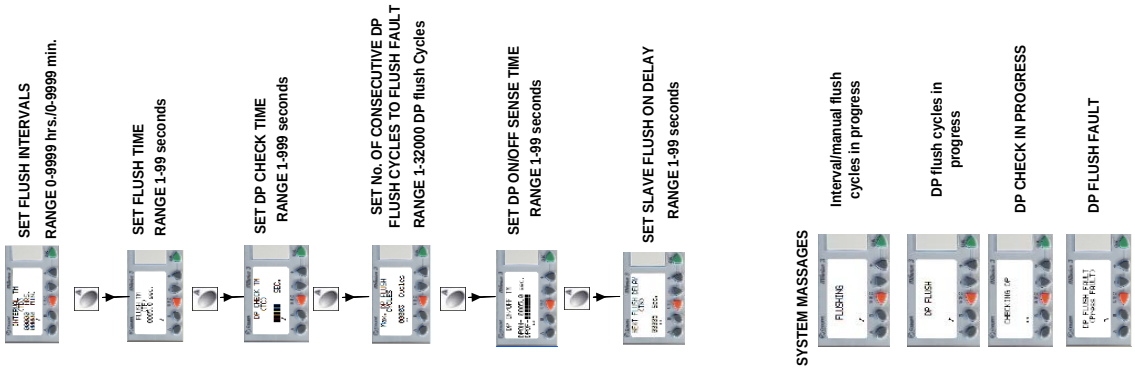
- PLC inputs display.
- PLC outputs display.
- Time display.
- PLC run indication.(rotating)
- PLC operation keys

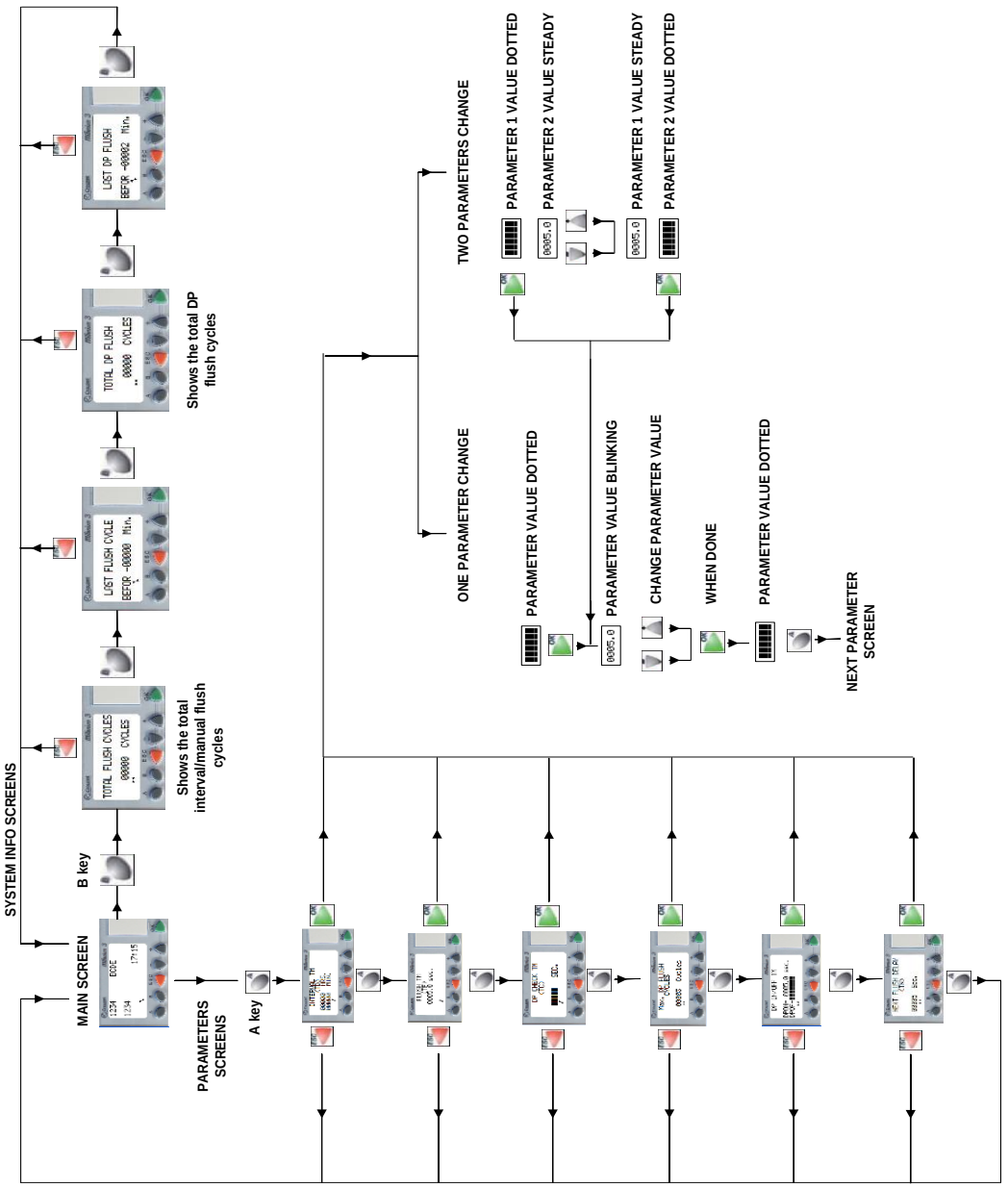
Updating time & date.

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 dotes. (In case of parameter with two fields like DP ON/OFF TM use the **[-]/ [+]** keys to move between them**.**)

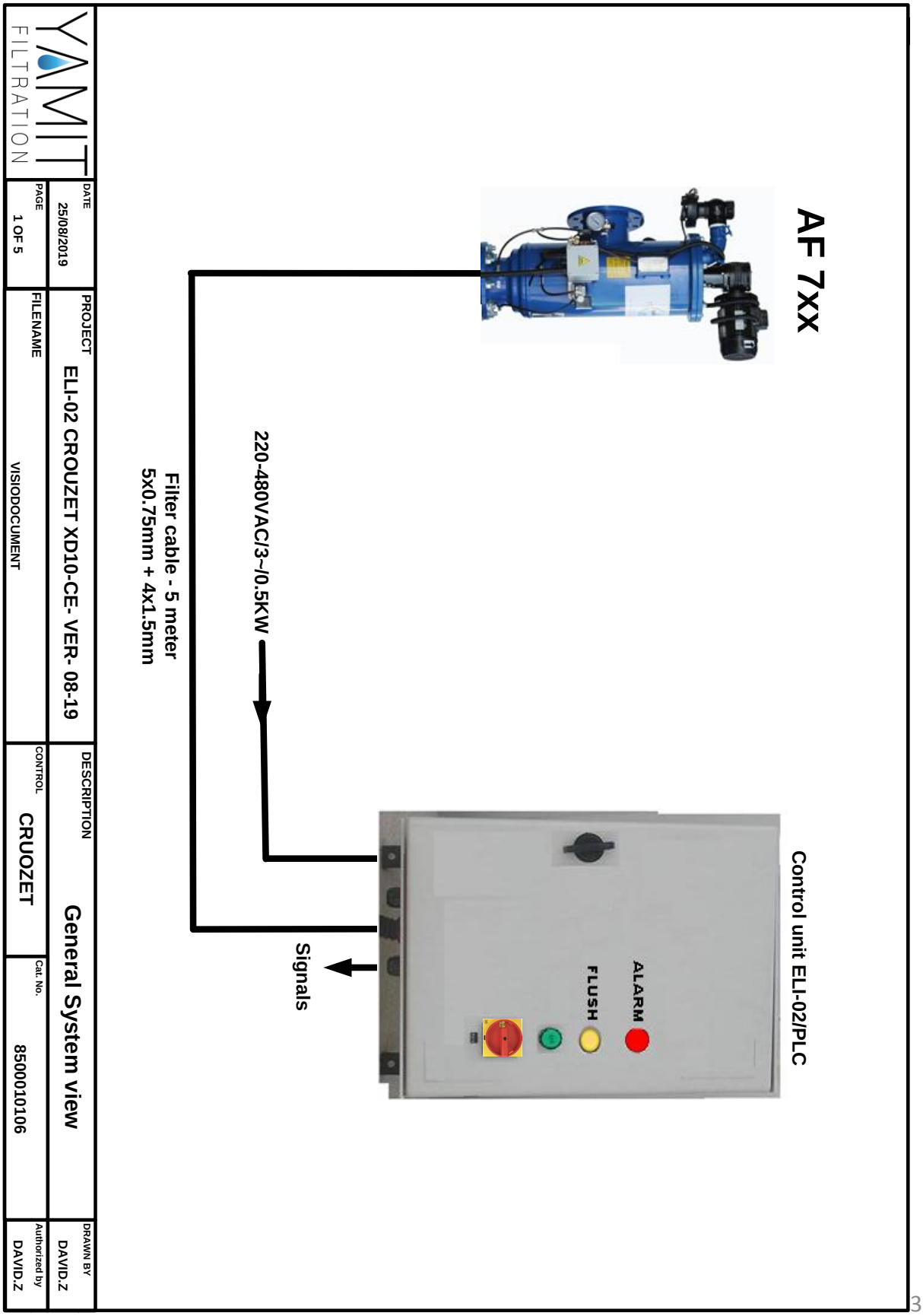
To change a value –

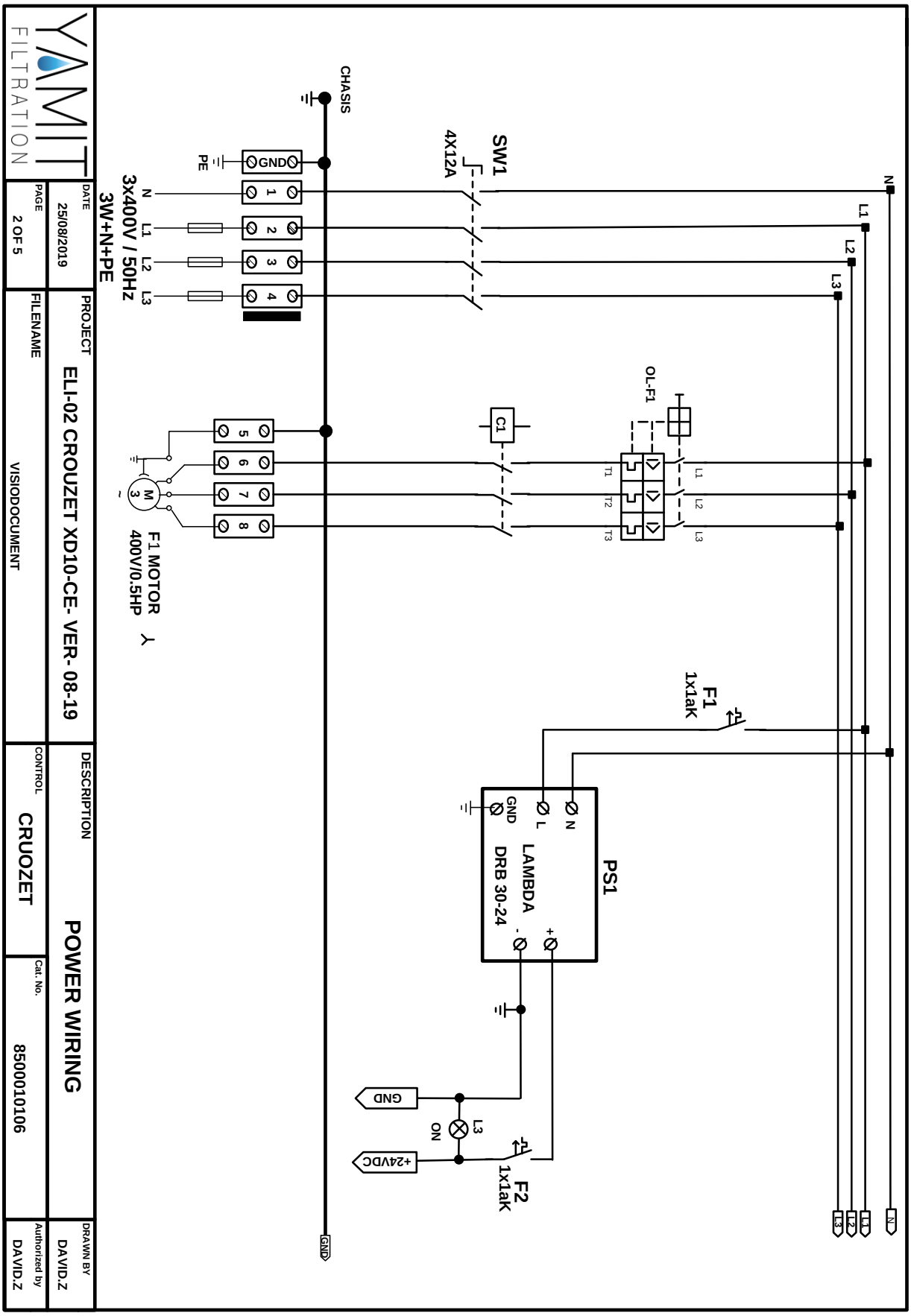
A. Press the **[OK]** key > the value is blinking without the darkened dots.
B. Change the value by pressing the **[-]/ [+]** keys.
(Note that you can hold the **[-]/ [+]** keys for fast change or to click them for slow change.)
C. When done press the **[OK]** key to enter the new value > the new value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

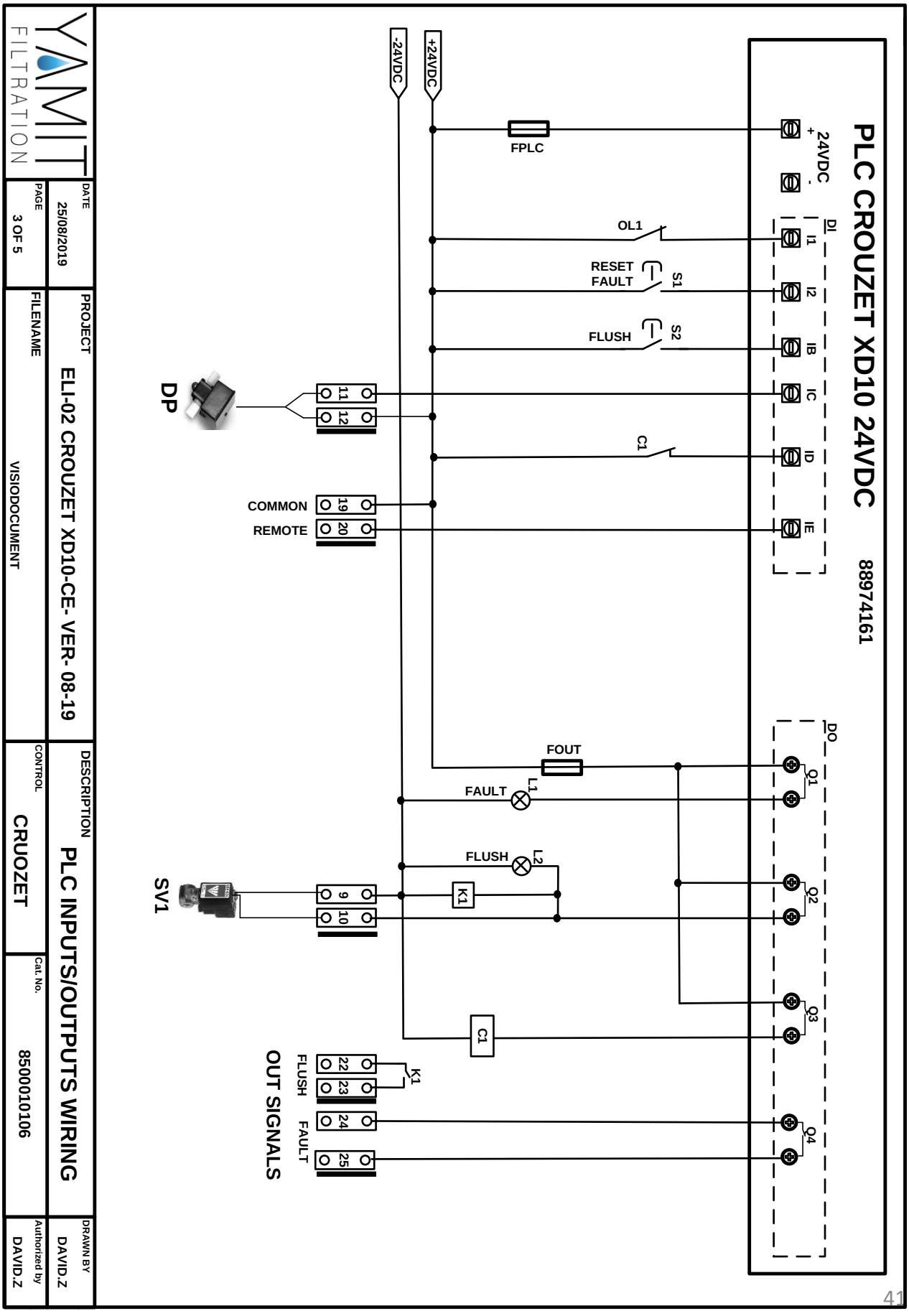

SET FLUSH INTERVALS
RANGE 0-9999 hrs./0-9999 min.
SET FLUSH TIME
RANGE 1-99 seconds
SET DP CHECK TIME
RANGE 1-999 seconds
SET No. OF CONSECUTIVE DP
FLUSH CYCLES TO FLUSH FAULT
RANGE 1-32000 DP flush Cycles
SET DP ON/OFF SENSE TIME
RANGE 1-99 seconds
SET SLAVE FLUSH ON DELAY
RANGE 1-99 seconds
SYSTEM MASSAGES
Interval/manual flush
cycles in progress
DP flush cycles in
progress
DP CHECK IN PROGRESS
DP FLUSH FAULT


SYSTEM INFO SCREENS
B key
MAIN SCREEN
TOTAL FLUSH CYCLES
Shows the total
interval/manual flush
cycles
LAST FLUSH CYCLE
LAST DP FLUSH
TOTAL DP FLUSH
Shows the total DP
flush cycles
PARAMETERS
SCREENS
A key
TWO PARAMETERS CHANGE
ONE PARAMETER CHANGE
PARAMETER 1 VALUE DOTTED
PARAMETER 2 VALUE STEADY
PARAMETER VALUE DOTTED
PARAMETER VALUE BLINKING
PARAMETER 1 VALUE STEADY
PARAMETER 2 VALUE DOTTED
CHANGE PARAMETER VALUE
WHEN DONE
PARAMETER VALUE DOTTED
NEXT PARAMETER
SCREEN

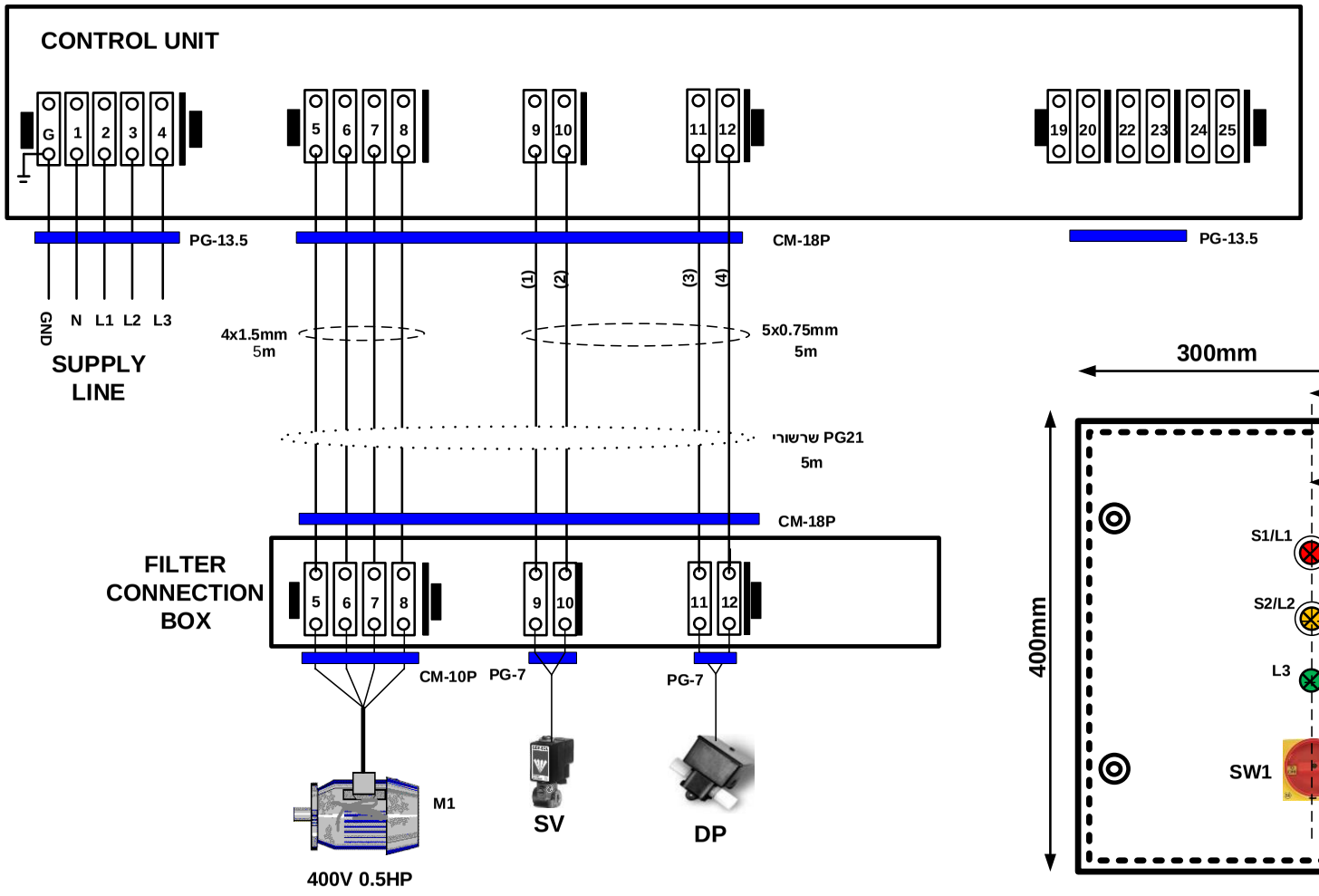
F. ELECTRICAL DRAWINGS.




YAMIT FILTRATION
DATE 25/08/2019
PAGE 2 OF 5
PROJECT ELI-02 CROUZET XD10-CE- VER- 08-19
DESCRIPTION POWER WIRING
DRAWN BY DAVID.Z
FILENAME VISIODOCUMENT
CONTROL CROUZET
Cat. No. 850010106
Authorized by DAVID.Z
3W+N+PE
3x400V / 50Hz
N
L1
L2
L3
PE
GND
SW1
4X12A
CHASIS
OL-F1
C1
T1
T2
T3
F1 MOTOR
400V/0.5HP
F1
1x1aK
PS1
LAMBDA
DRB 30-24
GND
L
N
+
-
+24VDC
L3
ON
F2
1x1aK


PLC CROUZET XD10 24VDC
88974161
24VDC
+
-
DI
I1
I2
IB
IC
ID
IE
DO
Q1
Q2
Q3
Q4
+24VDC
-24VDC
FPLC
OL1
RESET FAULT
S1
FLUSH
S2
C1
DP
11
12
COMMON
REMOTE
19
20
FOUT
FAULT
L1
FLUSH
L2
K1
9
10
SV1
C1
OUT SIGNALS
K1
22
23
24
25
FLUSH
FAULT
YAMIT FILTRATION
DATE
25/08/2019
PAGE
3 OF 5
PROJECT
ELI-02 CROUZET XD10-CE- VER- 08-19
DESCRIPTION
PLC INPUTS/OUTPUTS WIRING
FILENAME
VISIODOCUMENT
CONTROL
CRUOZET
Cat. No.
850010106
DRAWN BY
DAVID.Z
Authorized by
DAVID.Z

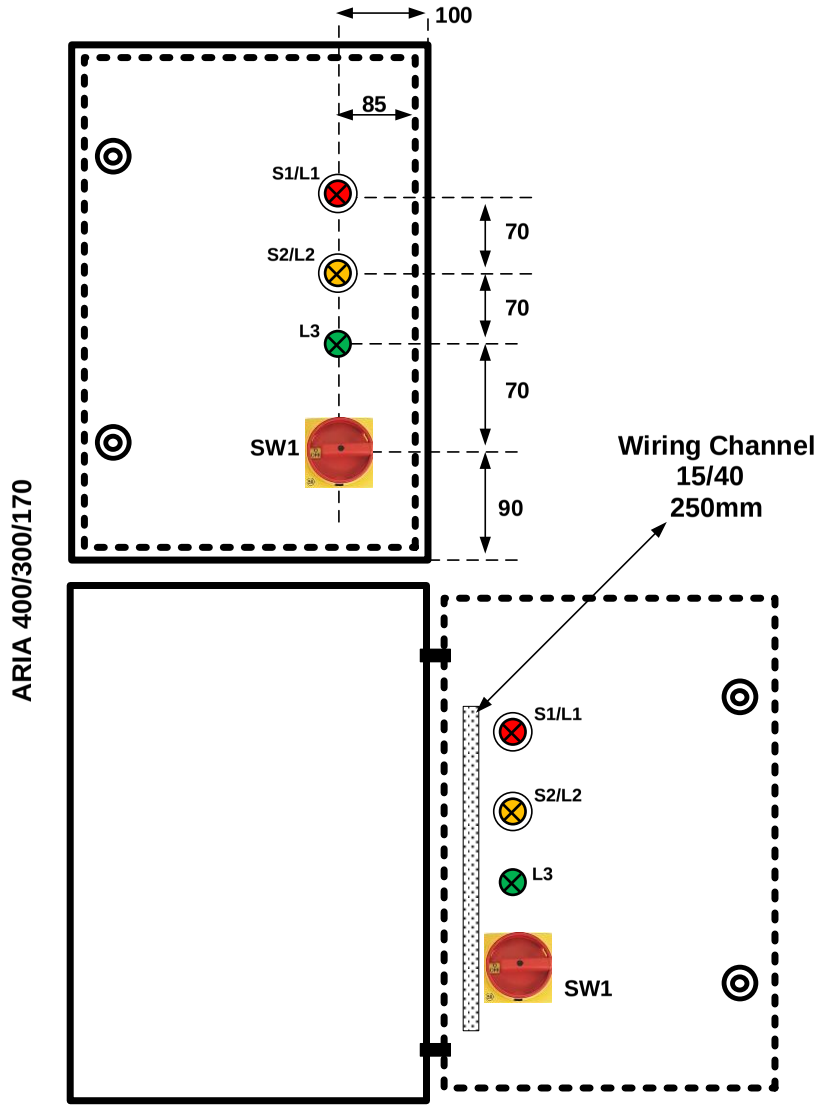
YAMIT FILTRATION

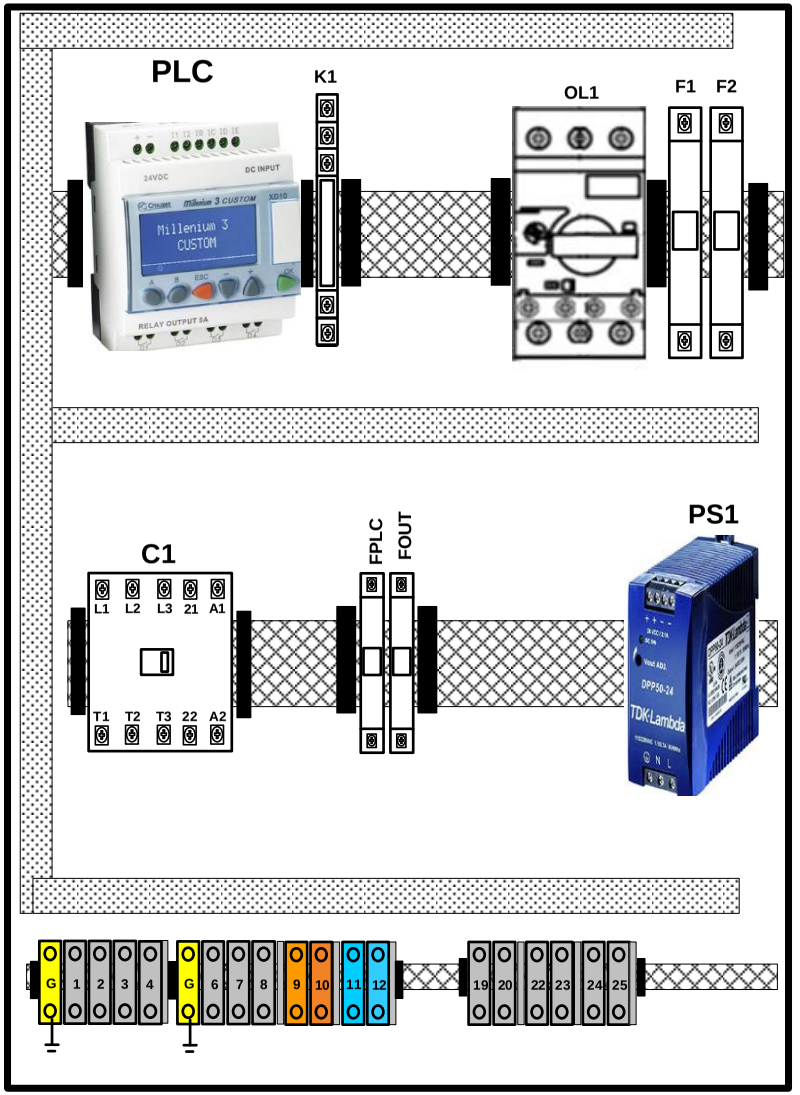


YAMIT FILTRATION	DATE 25/08/2019	PROJECT ELI-02 CROUZET XD10-CE- VER- 08-19	DESCRIPTION SYSTEM WIRING	DRAWN BY DAVID.Z
	PAGE 4 OF 5	FILENAME VISIODOCUMENT	CONTROL CRUOZET / Cat. No. 8500010106	Authorized by DAVID.Z

AF200E

AF200E





YAMIT FILTRATION

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

9. STANDARD INTERNATIONAL WARRANTY

YAMIT Filtration & Water Treatment (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.