

# AMIAD Automatic Filters

## 2", 2"S and 3" TAF Automatic Electric Filter

Serial Number: \_\_\_\_\_

Order Number: \_\_\_\_\_

Catalogue Number: \_\_\_\_\_

Filtration Degree: \_\_\_\_\_

Tested By: \_\_\_\_\_

### Installation, Operation and Maintenance Instructions

Ref. 1.2003

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With any inquiry please quote Filter Serial Number, located on the filter housing.

# TECHNICAL SPECIFICATIONS

## General

	2"	2"-Super	3"	
Maximum flow rate	25 m <sup>3</sup> /hr (110USgpm)	25 m <sup>3</sup> /hr (110USgpm)	50 m <sup>3</sup> /h (220 USgpm)	Consult manufacturer for optimum flow depending on filtration degree & water quality.
Min. working pressure	1.5 bar (22psi)			Or lower if pressure is increased for flushing.
Max. working pressure	8 bar (120 psi)			
Filter area	465 cm <sup>2</sup> (72 in <sup>2</sup> )	700 cm <sup>2</sup> (110 in <sup>2</sup> )	700 cm <sup>2</sup> (110 in <sup>2</sup> )	
Inlet/Outlet diameter	2"/50 mm	2"/50 mm	3"/80 mm	Threads (2", 3"): BSP or NPT Flanges (3"): Standard as per request
Max. working temperature	60°C (140°F)			
Weight	11.6 kg (25.6lb)	12.4 kg (24.3lb)	13.0 kg (28.7lb)	

## Flushing data

Exhaust valve	40 mm (1 1/2")			
Flushing cycle time	16 seconds			
Wasted water per cycle	18 liter (4.7USgallon)	25 liter (6.6USgallon)	25 liter (6.6USgallon)	
Minimum flow for flushing	4 m <sup>3</sup> /h (18USgpm)	5.7 m <sup>3</sup> /h (25USgpm)	5.7 m <sup>3</sup> /h (25USgpm)	at 1.5 bar = 22 psi
Flushing criteria	Differential pressure of 0.5 bar (7psi), time intervals and manual operation			

## Control and electricity

Rated operation voltage	220 V - Single phase	110 upon request
Electric motor	15 Watt	50 / 60 Hz, Gear output 48 / 58 R.P.M.
Current consumption	0.18 A	
Control voltage	24 VAC	

## Construction materials

Filter housing and lid	PA+GF
Screens	St.St. 316 weavewire screen with Polycarbonate construction
Cleaning mechanism	PVC, Delarin
Exhaust valve	Plastic, Natural rubber
Seals	NBR
Control	Brass, Stainless steel, PE, PP

## Standard filtration degrees

	Stainless steel screen								
micron	500	300	200	130	100	80	50	25	10
mm	0.5	0.3	0.2	0.13	0.1	0.08	0.05	0.02	0.01
mesh	30	50	75	120	155	200	300	450	600

# DIMENSIONAL DRAWING

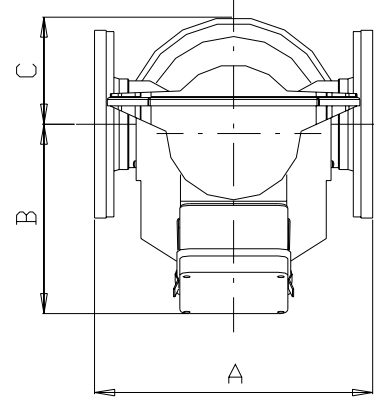
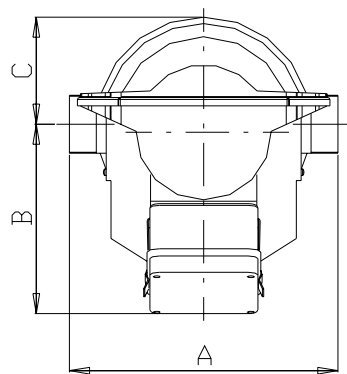
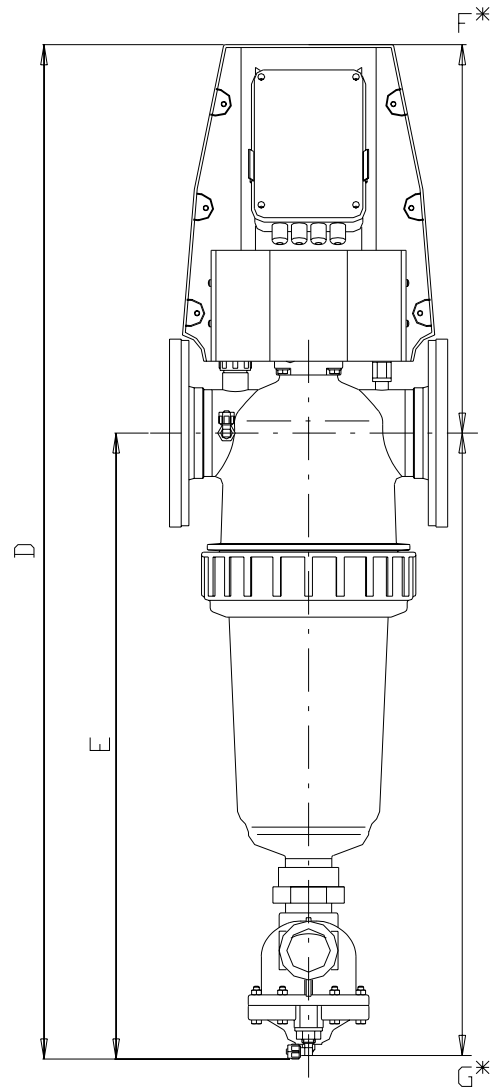
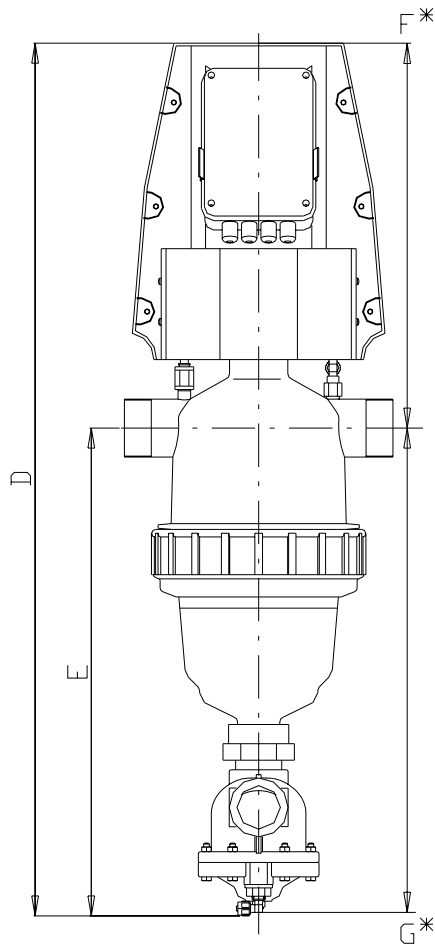


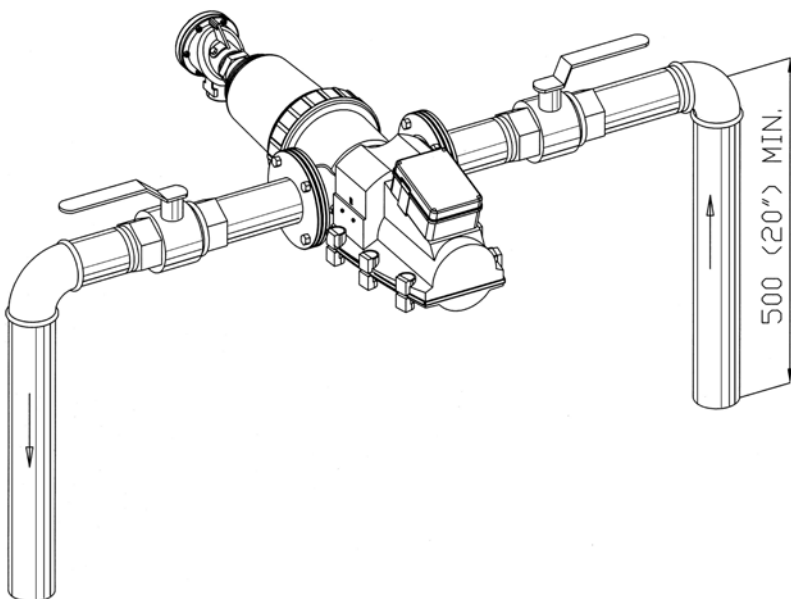
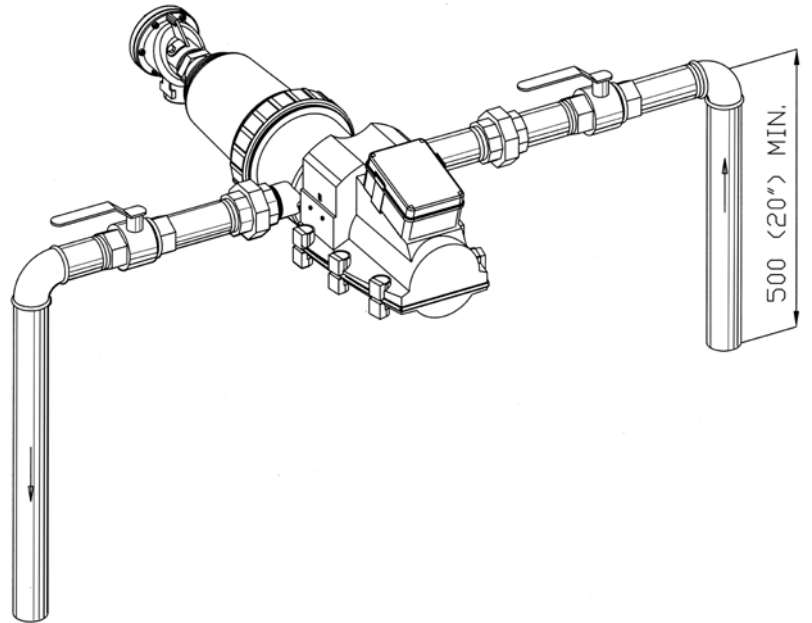
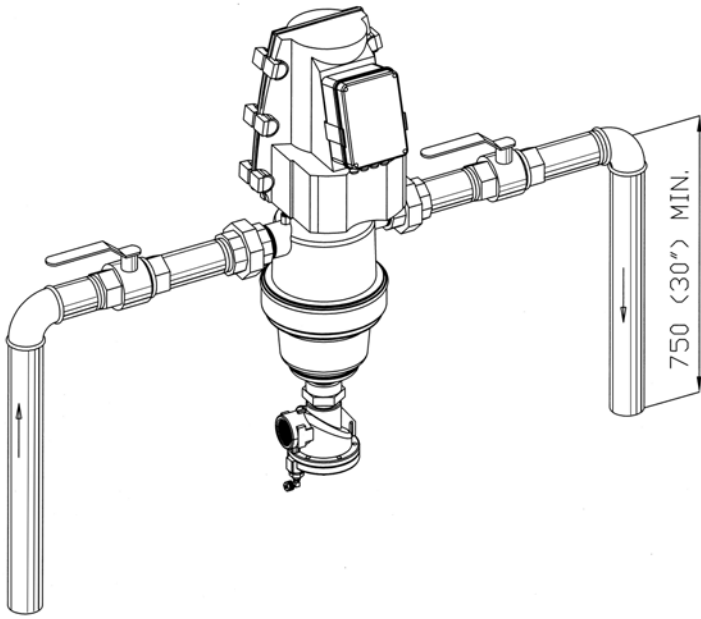
Fig. 1

Fig. 2

MODEL	Fig.	A		B		C		D		E		F		G	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
<b>2" TAF</b>	1	278	10.94	196	7.71	111	4.37	905	35.63	506	19.92	650	25.6	680	27
<b>2" TAF – SUPER</b>	1	278	10.94	196	7.71	111	4.37	1031	40.6	632	24.9	650	25.6	930	36.6
<b>3" TAF – THREADED</b>	1	280	11	196	7.71	111	4.37	1051	41.4	649	25.5	650	25.6	950	37.4
<b>3" TAF – FLANGED</b>	2	288	11.34	196	7.71	111	4.37	1051	41.4	649	25.5	650	25.6	950	37.4

F & G: The required distances to enable opening and dismantling of the filter.

# RECOMMENDED INSTALLATION DRAWING



**Please Note:**

The filter should be installed horizontally in all applications where the water contains sand and/ or fine gravel.

## DESCRIPTION OF FILTER OPERATION

The "TAF" is a sophisticated yet easy-to-operate automatic electric filter, with a self-cleaning mechanism driven by an electric motor. The filter is designed to work with various types of screens in filtration degrees from 500 to 10 micron, and is available in 2", and 3" inlet/outlet diameter.

### **Filtering process:**

The water enters through the inlet pipe into the screen area and flows through the screen from inside out. The "filtration cake" accumulates on the screen surface and causes head loss to develop.

### **Self-cleaning process:**

The TAF will start the self-cleaning process either when the pressure differential across the screen reaches a pre-set value or after a predetermined lapse of time.

The fine screen filter element is cleaned by the suction scanner whose nozzles spiral across the inner surface of the screen. The filtration cake is "vacuumed" from the screen and expelled out the exhaust valve.

The scanner's spiral motion is achieved by a drive unit mounted to a bi-directional continuous worm shaft.

The exhaust valve is activated for the duration of the cleaning cycle by a 3-way solenoid. Filtered water continues to flow downstream during the flush cycle, which takes approximately 16 seconds.

### **Control system:**

The control system comprises a Pressure differential switch (PDS), solenoid valve and a flushing controller.

The PDS senses the pressure differential across the screen and when it reaches 0.5 bar (7 psi) it sends a signal to the electronic controller. The controller activates the motor and the solenoid valve for the timed duration of the flushing cycle.

### **Initiation of self-cleaning:**

The filter will begin the self-cleaning process under any one of the following conditions:

1. PDS - Pressure differential across the screen.
2. Manually pressing the push button located in the controller box.
3. Timed intervals set by controller DIP switches.

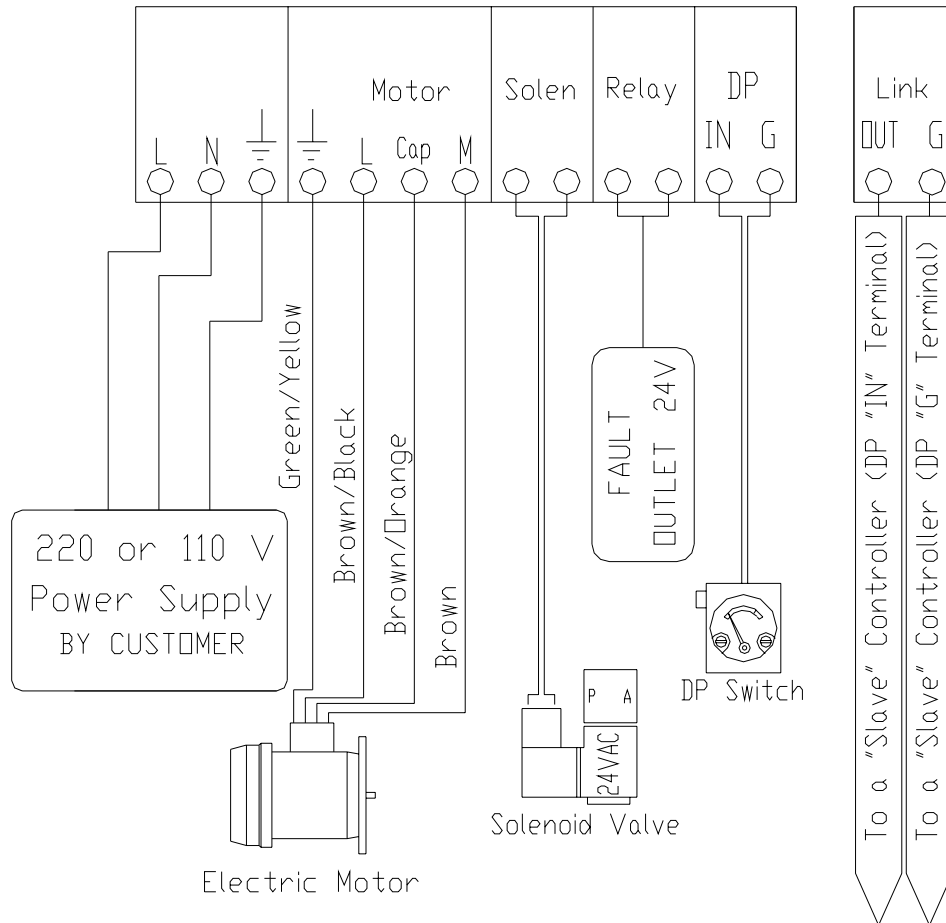
The filter is available with 2 different element sizes: 2" with 465cm<sup>2</sup> (72 in<sup>2</sup>) or 2"-Super and 3" with 700 cm<sup>2</sup> (108 in<sup>2</sup>). The "super" feature allows longer intervals between cleaning cycles and is highly recommended for use with poor water quality.

# CONTROLLER SETUP

The controller consists of the following components:

1. Electronic circuit with two Dip-switches: S1 and S2.
2. External waterproof pushbutton and LED signal.
3. 2 A fuse (5X20)
4. 220 or 110 / 24 VAC transformer.

**Wiring diagram:** (A standard TAF filter is supplied pre-wired).



## Led indicator

Led Signal	Indication
On	The filter is in filtering mode
Low Frequency Blinking (1 per sec.)	The filter is in flushing mode
High Frequency Blinking (3 per sec.)	PD fault
Double Blink	Dip-switches changing position
Off	Push the Reset/Test Pushbutton

## PD Fault:

The filter enters the PD fault after 7 consecutive cycles.

When the filter in this mode it will flush by time only and the fault output "Relay" turns on. The voltage in this output is 24 VAC. A relay is required in order to provide a free potential contact.

## Pushbutton functions:

1. Momentarily push - Manual initiation of a Flushing Cycle.
2. Long push (minimum of 2 seconds), Reset the fault mode (P.B. should be pressed until LED returns to normal ON position).

## Dipswitch setup time table:

1 = ON  
0 = OFF

Flushing cycles interval (S2)					Flushing duration (S1)						
	Dip-switches position				Time value		Dip-switches position				Time value
	1	2	3	4			1	2	3	4	
01	0	0	0	0	DP Only / Slave	01	0	0	0	0	5 seconds
02	1	0	0	0	5 Minutes	02	1	0	0	0	8 seconds
03	0	1	0	0	10 Minutes	03	0	1	0	0	10 seconds
04	1	1	0	0	15 Minutes	04	1	1	0	0	12 seconds
05	0	0	1	0	20 Minutes	05	0	0	1	0	16 seconds
06	1	0	1	0	30 Minutes	06	1	0	1	0	20 seconds
07	0	1	1	0	45 Minutes	07	0	1	1	0	25 seconds
08	1	1	1	0	1 Hour	08	1	1	1	0	30 seconds
09	0	0	0	1	2 Hours	09	0	0	0	1	45 seconds
10	1	0	0	1	4 Hours	10	1	0	0	1	1 Minutes
11	0	1	0	1	8 Hours	11	0	1	0	1	1.5 Minutes
12	1	1	0	1	16 Hours	12	1	1	0	1	2 Minutes
13	0	0	1	1	18 Hours	13	0	0	1	1	3 Minutes
14	1	0	1	1	24 Hours	14	1	0	1	1	4 Minutes
15	0	1	1	1	72 Hours	15	0	1	1	1	5 Minutes
16	1	1	1	1	120 Hours	16	1	1	1	1	6 Minutes

### Note:

When all the interval dip-switches are in the off (0) position – The filter will act as a "slave" and will flush only when getting an external signal. This feature allows installation of several filters in a battery. In this case one unit acts as the "Master" and the other units are the "Slaves".

**When connecting a few controllers in a chain, make sure to keep the polarity ("OUT" to "IN" and "G" to "G").**

## INSTALLATION

### Design recommendations:

1. The filter requires 4 – 6 m<sup>3</sup>/h for flushing, in addition to the working flow rate at a minimum pressure of 1.5 bar (22 psi).

In case that the system cannot provide the flushing flow in addition to the working flow at the minimum required pressure - a hydraulic valve should be installed downstream of the filter. This valve will be closed during the flushing process in order to ensure sufficient cleaning.

2. Do not allow water to flow in opposite direction. In case that there is a chance of back flow - a non-return check valve should be installed downstream of the filter.

### Installation instructions:

1. Install a manual valve upstream of the filter in order to allow convenient maintenance.
2. The diameter of the inlet pipe must not be smaller than that of the filter inlet.
3. Install the filter in a way that allows convenient approach and enough space to dismantle the filter for maintenance purposes.
4. It is recommended to install the filter horizontally, especially if the water contains sand.
5. Ensure the direction of flow according to the arrows marked on the filter housing.
6. The exhaust valve can be facing downwards or sideways. Connect a minimum of 1.5" (40 mm) pipe to the exhaust valve using a detachable connector or a flexible pipe. The exhaust pipe should be designed so that it creates minimal resistance to flow of 6 m<sup>3</sup>/h (26 USgpm).
7. If the system is designed to operate with a working pressure higher than 6 bar (85 psi), it is recommended that a manual valve be installed on the exhaust pipe, in order to enable regulation of the flushing flow rate.

## **START- UP AND FIRST OPERATION**

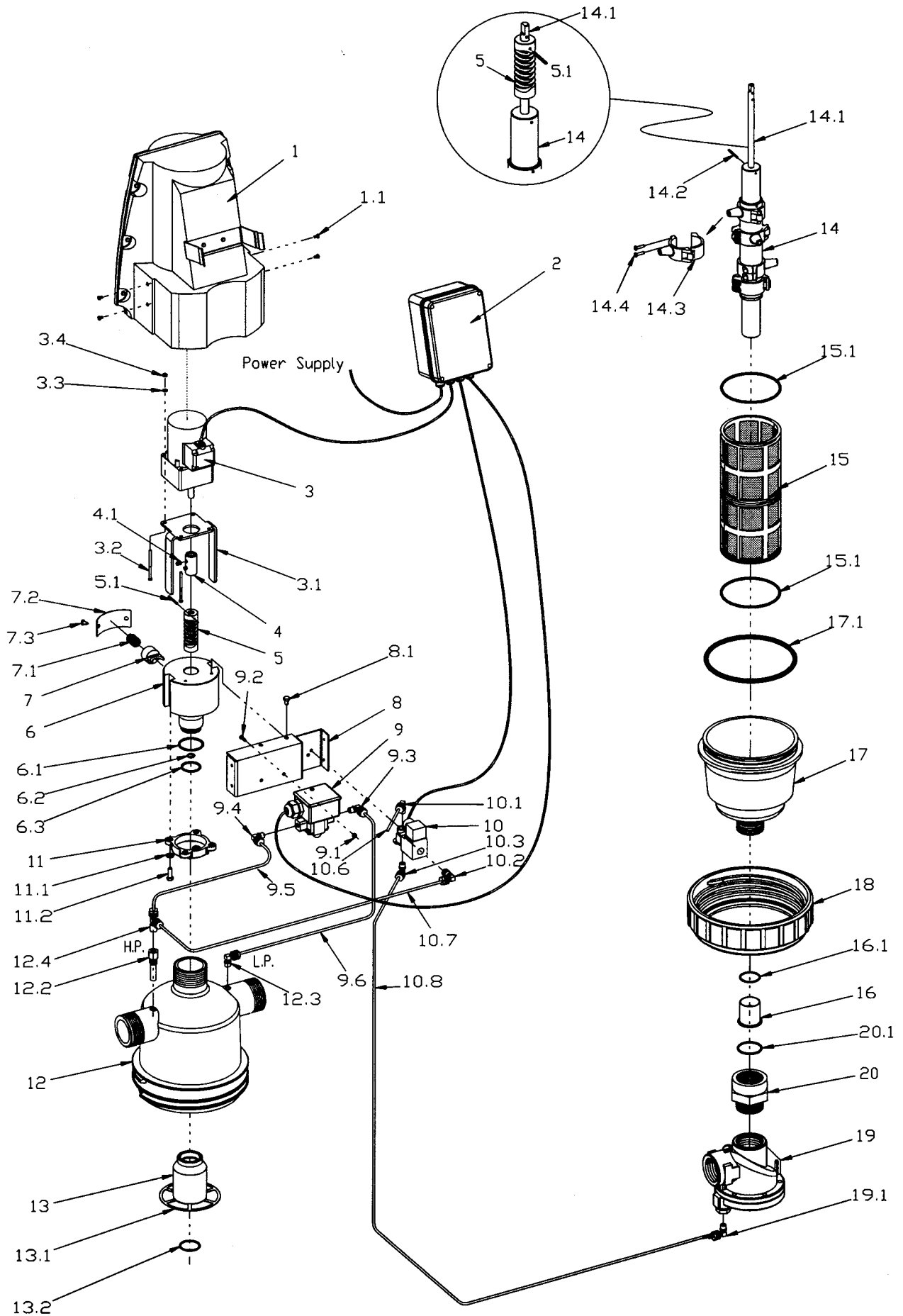
1. Set the controller Dip switches to 16 seconds flushing time and 2 hours intervals.
2. Operate a "dry" flushing cycle by pressing on the "TEST" push button. Verify proper operation of the controller, the motor and the solenoid valve.
3. Open the inlet valve to the filter, while the outlet valve remains closed or with an open by-pass valve (This will keep the flow in the filter at a minimum), and operate a flushing cycle by pressing the push-button on the controller panel.
4. Make sure the exhaust valve opens and all stages of the flushing cycle are carried out. Attend to leakage, if any.  
If necessary, change the time setting of S2 to ensure complete up and down travel of the suction scanner.
5. Gradually open the outlet valve and/or close the by-pass valve. Operate the filter at the designed hydraulic conditions.
6. Set the time intervals to 2 or 4 hours, follow the filter operation and change the timer setting if necessary.

# PARTS SCHEDULE

2" TAF filter (refer to drawing on page 11)

NO.	DESCRIPTION	CAT. NO.	NO.	DESCRIPTION	CAT. NO.
1	Drive unit cover (TAF)	53-9241-0040	10	Solenoid valve 24V AC, "NO"	82-21-0024-0001
1.1	Bolt M5 x 6 (St.St.) [x4]	85-2142-05-006	10.1	L-Connector 1/4" x 8mm	82-11-0469-4804
2	Controller, 220V (TAF)	82-81-6001-0041	10.2	L-Connector 1/8" x 8mm	82-11-0469-4802
	Controller, 110V (TAF)	82-81-6001-0042	10.3	L-Connector 1/4" x 8mm	82-11-0469-4804
3	Drive unit 220 V (TAF)	53-9201-3401	10.6	Pilot tube 8mm [vent]	82-11-0000-0008
	Drive unit 110 V (TAF)	53-9201-3301	10.7	Pilot tube 8mm	82-11-0000-0008
3.1	Drive unit basis (TAF)	63-9241-0025	10.8	Pilot tube 8mm	82-11-0000-0008
3.2	Bolt M6 x 25 (St.St.) [x4]	85-2112-06-025	11	Flange adaptor (TAF)	61-5200-0050
3.3	Washer M6 (St.St.) [x4]	85-2312-06-000	11.1	Washer M6 (St.St.) [x4]	85-2312-06-000
3.4	Nut M6 (St.St.) [x4]	85-2212-06-000	11.2	Bolt M6 x 25 (St.St.) [x4]	85-2112-06-025
4	Motor shaft coupler	63-9241-0023	12	Housing (TAF)	51-2020-2132
4.1	Set screw M6 x 6 (St.St.) [x2]	85-2162-06-006	12.2	Finger filter 1/4" (Plastic)	84-39-00-0001
5	Endless worm shaft (TAF)	63-9241-0003	12.3	L-Connector 1/4" x 8mm	82-11-0469-4804
5.1	Hollow pin 3 x 20 (St.St.)	84-32-10-0014	12.4	T-Connector 8 x 8 x 1/8"	82-11-0472-4802
6	Endless worm shaft housing	63-9241-0001	13	Pressure balancing pipe	63-9241-0062
6.1	O-Ring 40 x 3	81-41-4100-0040	13.1	Pressure balancing base	63-9241-0063
6.2	O-Ring 10 x 2	81-41-4100-0210	13.2	O-Ring P2-125	81-41-4000-0125
6.3	O-Ring 30 x 3	81-41-4100-3030	14	Suction scanner (2" TAF)	53-9241-5000
7	Endless worm shaft tooth	63-9241-0005	14.1	Suction scanner shaft	63-9241-0002
7.1	Tooth spring	63-9241-0006	14.2	Hollow pin 3 x 30 (St.St.)	84-32-10-0018
7.2	Tooth cover	63-9241-0007	14.3	Suction scanner nozzle	51-5200-0001
7.3	Bolt M6 x 15 (St.St.) [x2]	85-2112-06-015	14.4	Bolt 4 x 20 (St.St.) [x2]	85-2154-04-020
8	Instrumentation bracket (TAF)	63-9241-0011	15	Weavewire screen	11-2023-1XXX
8.1	Bolt M6 x 15 (St.St.) [x2]	85-2112-06-015	15.1	O-Ring P2-242	81-41-4000-0242
9	P. D. switch (UE)	84-34-10-0002	16	Suction scanner bearing	62-0200-6017
9.1	Nut M4 (St.St.) [x2]	85-2212-04-000	16.1	O-Ring P2-028	81-41-4000-0028
9.2	Bolt M3 x 15 (St.St.) [x2]	85-2112-03-015	17	Lid (2" T)	11-2021-2131
9.3	L-Connector 1/4" x 8mm	82-11-0469-4804	17.1	O-Ring P2-437	81-41-4000-0437
9.4	L-Connector 1/4" x 8mm	82-11-0469-4804	18	Tightening nut (T filters)	11-2020-2100
9.5	Pilot tube 8mm [H.P.]	82-11-0000-0008	19	Hydraulic valve 1 1/2" L-type	82-31-6115-0002
9.6	Pilot tube 8mm [L.P.]	82-11-0000-0008	19.1	L-Connector 1/4" x 8mm	82-11-0469-4804
			20	Connector 1 1/2" F x 1 1/2" M	83-4820-0150-1150
			20.1	O-Ring P2-129	81-41-4000-0129

# Parts drawing 2" TAF filter



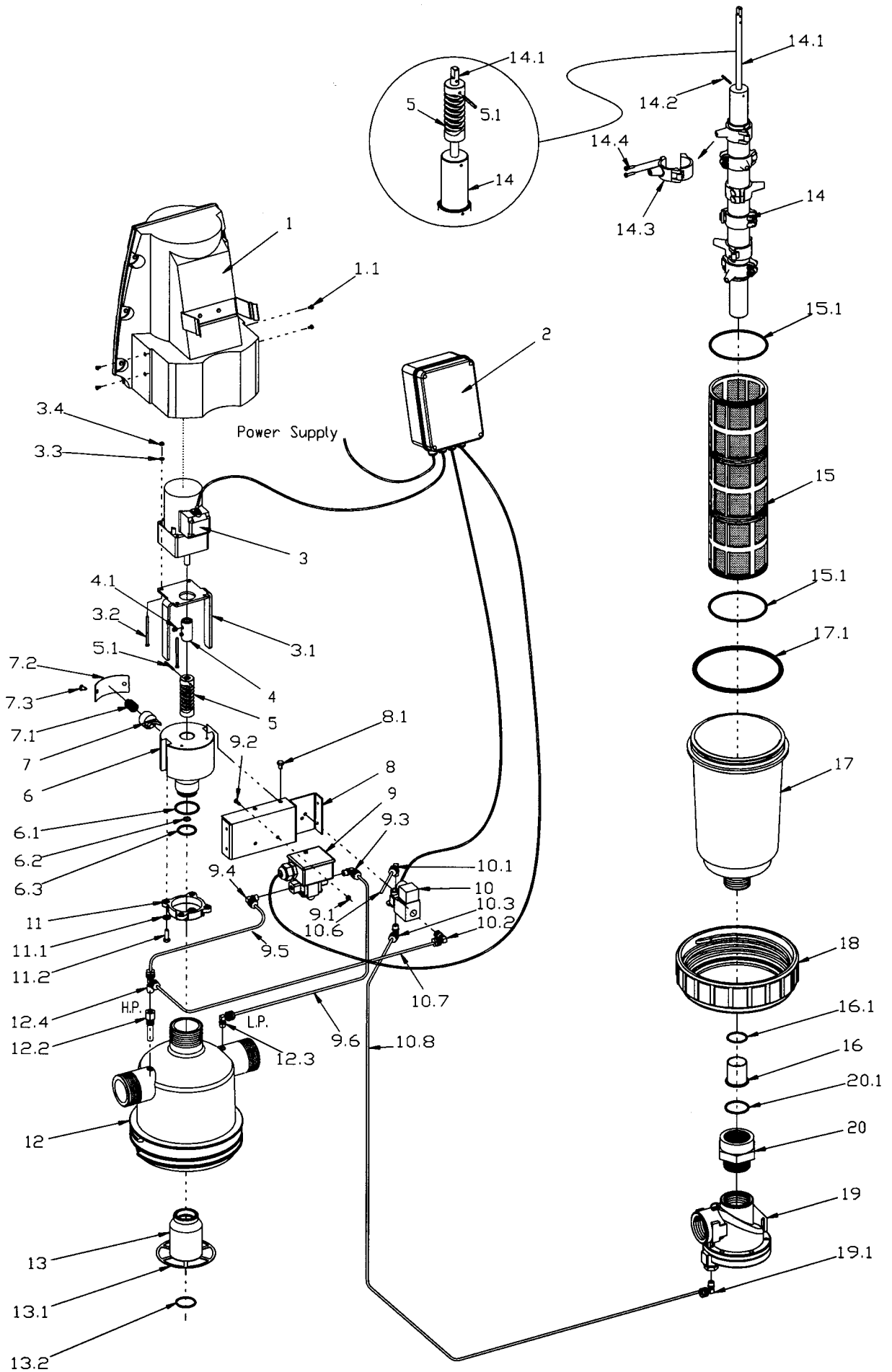
# PARTS SCHEDULE

2"-Super TAF filter (refer to drawing on page 13)

NO.	DESCRIPTION	CAT. NO.
1	Drive unit cover (TAF)	53-9241-0040
1.1	Bolt M5 x 6 (St.St.) [x4]	85-2142-05-006
2	Controller, 220V (TAF)	82-81-6001-0041
	Controller, 110V (TAF)	82-81-6001-0042
3	Drive unit 220V (TAF)	53-9201-3401
	Drive unit 110V (TAF)	53-9201-3301
3.1	Drive unit basis (TAF)	63-9241-0025
3.2	Bolt M6 x 25 (St.St.) [x4]	85-2112-06-025
3.3	Washer M6 (St.St.) [x4]	85-2312-06-000
3.4	Nut M6 (St.St.) [x4]	85-2212-06-000
4	Motor shaft coupler	63-9241-0023
4.1	Set screw M6 x 6 (St.St.) [x2]	85-2162-06-006
5	Endless worm shaft (TAF)	63-9241-0003
5.1	Hollow pin 3 x 20 (St.St.)	84-32-10-0014
6	Endless worm shaft housing	63-9241-0001
6.1	O-Ring 40 x 3	81-41-4100-0040
6.2	O-Ring 10 x 2	81-41-4100-0210
6.3	O-Ring 30 x 3	81-41-4100-3030
7	Endless worm shaft tooth	63-9241-0005
7.1	Tooth spring	63-9241-0006
7.2	Tooth cover	63-9241-0007
7.3	Bolt M6 x 15 (St.St.) [x2]	85-2112-06-015
8	Instrumentation bracket (TAF)	63-9241-0011
8.1	Bolt M6 x 15 (St.St.) [x2]	85-2112-06-015
9	Pressure differential switch (UE)	84-34-10-0002
9.1	Nut M4 (St.St.) [x2]	85-2212-04-000
9.2	Bolt M3 x 15 (St.St.) [x2]	85-2112-03-015
9.3	L-Connector 1/4" x 8mm	82-11-0469-4804
9.4	L-Connector 1/4" x 8mm	82-11-0469-4804
9.5	Pilot tube 8mm [H.P.]	82-11-0000-0008
9.6	Pilot tube 8mm [L.P.]	82-11-0000-0008
10	Solenoid valve 24V AC, "NO"	82-21-0024-0001
10.1	L-Connector 1/4" x 8mm	82-11-0469-4804

NO.	DESCRIPTION	CAT. NO.
10.2	L-Connector 1/8" x 8mm	82-11-0469-4802
10.3	L-Connector 1/4" x 8mm	82-11-0469-4804
10.6	Pilot tube 8mm [vent]	82-11-0000-0008
10.7	Pilot tube 8mm	82-11-0000-0008
10.8	Pilot tube 8mm	82-11-0000-0008
11	Flange adaptor (TAF)	61-5200-0050
11.1	Washer M6 (St.St.) [x4]	85-2312-06-000
11.2	Bolt M6 x 25 (St.St.) [x4]	85-2112-06-025
12	Housing (TAF)	51-2020-2132
12.2	Finger filter 1/4" (Plastic)	84-39-00-0001
12.3	L-Connector 1/4" x 8mm	82-11-0469-4804
12.4	T-Connector 8 x 8 x 1/8"	82-11-0472-4802
13	Pressure balancing pipe	63-9241-0062
13.1	Pressure balancing base	63-9241-0063
13.2	O-Ring P2-125	81-41-4000-0125
14	Suction scanner (2"S TAF)	53-9241-5020
14.1	Suction scanner shaft (2" TAF)	63-9241-0002
14.2	Hollow pin 3 x 30 (St.St.)	84-32-10-0018
14.3	Suction scanner nozzle	61-5200-0001
14.4	Bolt 4 x 20 (St.St.) [x2]	85-2154-04-020
15	Weavewire screen Ø110 x 370mm	11-3023-1XXX
15.1	O-Ring P2-242	81-41-4000-0242
16	Suction scanner bearing (TAF)	62-0200-6017
16.1	O-Ring P2-028	81-41-4000-0028
17	Lid (2"T-S, 3"T)	11-3021-2131
17.1	O-Ring P2-437	81-41-4000-0437
18	Tightening nut (T filters)	11-2020-2100
19	Hydraulic valve 11/2" L-type	82-31-6115-0002
19.1	L-Connector 1/4" x 8mm	82-11-0469-4804
20	Connector 11/2"F x 11/2"M	83-4820-0150-1150
20.1	O-Ring P2-129	81-41-4000-0129

Parts drawing 2"-Super TAF filter



# PARTS SCHEDULE

3" TAF filter (refer to drawing on page 15)

NO.	DESCRIPTION	CAT. NO.
1	Drive unit cover (TAF)	53-9241-0040
1.1	Bolt M5 x 6 (St.St.) [x4]	85-2142-05-006
2	Controller, 220V (TAF)	82-81-6001-0041
	Controller, 110V (TAF)	82-81-6001-0042
3	Drive unit 220V (TAF)	53-9201-3401
	Drive unit 110V (TAF)	53-9201-3301
3.1	Drive unit basis (TAF)	63-9241-0025
3.2	Bolt M6 x 25 (St.St.) [x4]	85-2112-06-025
3.3	Washer M6 (St.St.) [x4]	85-2312-06-000
3.4	Nut M6 (St.St.) [x4]	85-2212-06-000
4	Motor shaft coupler	63-9241-0023
4.1	Set screw M6 x 6 (St.St.) [x2]	85-2162-06-006
5	Endless worm shaft (TAF)	63-9241-0003
5.1	Hollow pin 3 x 20 (St.St.)	84-32-10-0014
6	Endless worm shaft housing	63-9241-0001
6.1	O-Ring 40 x 3	81-41-4100-0040
6.2	O-Ring 10 x 2	81-41-4100-0210
6.3	O-Ring 30 x 3	81-41-4100-3030
7	Endless worm shaft tooth	63-9241-0005
7.1	Tooth spring	63-9241-0006
7.2	Tooth cover	63-9241-0007
7.3	Bolt M6 x 15 (St.St.) [x2]	85-2112-06-015
8	Instrumentation bracket (TAF)	63-9241-0011
8.1	Bolt M6 x 15 (St.St.) [x2]	85-2112-06-015
9	Pressure differential switch (UE)	84-34-10-0002
9.1	Nut M4 (St.St.) [x2]	85-2212-04-000
9.2	Bolt M3 x 15 (St.St.) [x2]	85-2112-03-015
9.3	L-Connector 1/4" x 8mm	82-11-0469-4804
9.4	L-Connector 1/4" x 8mm	82-11-0469-4804
9.5	Pilot tube 8mm [H.P.]	82-11-0000-0008
9.6	Pilot tube 8mm [L.P.]	82-11-0000-0008
10	Solenoid valve 24V AC, "NO"	82-21-0024-0001
10.1	L-Connector 1/4" x 8mm	82-11-0469-4804
10.2	L-Connector 1/8" x 8mm	82-11-0469-4802
10.3	L-Connector 1/4" x 8mm	82-11-0469-4804
10.6	Pilot tube 8mm [vent]	82-11-0000-0008

NO.	DESCRIPTION	CAT. NO.
10.7	Pilot tube 8mm	82-11-0000-0008
10.8	Pilot tube 8mm	82-11-0000-0008
11	Flange adaptor (TAF)	61-5200-0050
11.1	Washer M6 (St.St.) [x4]	85-2312-06-000
11.2	Bolt M6 x 25 (St.St.) [x4]	85-2112-06-025
12	Housing (3" TAF)	51-3010-2132
12.1	T-Connector 8 mm	82-11-0464-4848
12.2	Finger filter 1/4" (Plastic)	84-39-00-0001
12.3	L-Connector 1/4" x 8mm	82-11-0469-4804
12.4	L-Connector 1/8" x 8mm	82-11-0469-4802
12.5	Cap Seal 3/4"	81-41-4200-0003
12.6	Cap 3/4"	61-4020-4500
12.7	Flange support 3"	51-3030-0030
12.8	Flange assembly 3" (3"T)	11-3010-0000
12.9	O-Ring P2-339	81-41-4000-0339
12.10	1/4" Plug	82-11-0121-0400
13	Pressure balancing pipe	63-9241-0062
13.1	Pressure balancing base	63-9241-0063
13.2	O-Ring P2-125	81-41-4000-0125
14	Suction scanner (3" TAF)	53-9241-5030
14.1	Suction scanner shaft (3" TAF)	63-9241-3002
14.2	Hollow pin 3 x 30 (St.St.)	84-32-10-0018
14.3	Suction scanner nozzle	61-5200-0001
14.4	Bolt 4 x 20 (St.St.) [x2]	85-2154-04-020
15	Weavewire screen $\varnothing$ 110 x 370mm	11-3023-1XXX
15.1	O-Ring P2-242	81-41-4000-0242
16	Suction scanner bearing (TAF)	62-0200-6017
16.1	O-Ring P2-028	81-41-4000-0028
17	Lid (2"T-S, 3"T)	11-3021-2131
17.1	O-Ring P2-437	81-41-4000-0437
18	Tightening nut (T filters)	11-2020-2100
19	Hydraulic valve 11/2" L-type	82-31-6115-0002
19.1	L-Connector 1/4" x 8mm	82-11-0469-4804
20	Connector 11/2"F x 11/2"M	83-4820-0150-1150
20.1	O-Ring P2-129	81-41-4000-0129

Parts drawing 3" TAF filter

