

## SUBMITTAL PACKAGE

### FILTER & INSTRUMENTATION DATA SHEETS for OMICRON 2900UV-50-2CP-GAC

### AUTOMATIC SCREEN FILTRATION + ULTRAVIOLET LIGHT DISINFECTION + CATALYTIC CARBON FILTRATION

Project Name:

Prepared for:

Date:

Document Number:



OMICRON WATER TECHNOLOGIES 526 West 26 Street New York NY 10001  
T: 844 204 5400

**OMICRON SEQUENCE 2900UV-50-2CP-GAC  
DISINFECTION AUTOSTRAINER + CATALYTIC CARBON FILTRATION**



*Included with skid:*

- 2x 3” Butterfly valve, with manual Handle – wafer style NSF approved
- 2x 2” Check valve to protect screen and carbon filtration system drainage.
- 5x 2” Flanged stainless steel AISI316 ball valves, with electric actuator 24VDC
- 1x T 3” piece made in AISI304L stainless steel for outlet
- 1x 3” Sustaining valve at the filtering system outlet
- 2x (duplex) variable frequency drive pump, ea 120 gpm @ 85 psi, 208V AC 3ph 60Hz
- 1000-litre detention tank, HDPE, to drain all filters' backwash water (see drawings).
- 1x complete control panel with PLC, 208V AC 3ph to run entire system.

Notes:


Pressure rating on system is max 150 psi except for carbon filter control valve which is 125 psi.  
 System operating pressure estimated to be 85 psi, flow rate (recirc and discharge) 100 gpm.  
 Contractor to enable seamless way to revert to municipal supply via 3-way on outlet and panel receiving signal from tank float.  
 Discharge supply to application(s) direct from the water technologies (not tank).  
 Duplex catalytic carbon automatic backwash filtration system included, see part 2 of this submittal.  
 Water to be filtered upon discharge from Omicron 2900UV skid before flowing to application(s).  
 Start up by factory-authorized representative, also available for commissioning and ongoing maintenance service as required thereafter.  
 System designed to be self-running with occasional service as needed.  
 Panel enables communication compatibility with BMS via MODBUS or other protocol as directed.

**AUTOMATIC SCREEN FILTER DATA SHEET**

**Document Number: 1**

Rev	Date	Description	Prepared	Checked	Approved
A	28/05/2018	Issued for review	DF	DF	DF

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Document Type: DATA SHEETS	Document No. 1	Date: 28-May-2017	
Document Title: FILTER DATA SHEET		Rev: A	

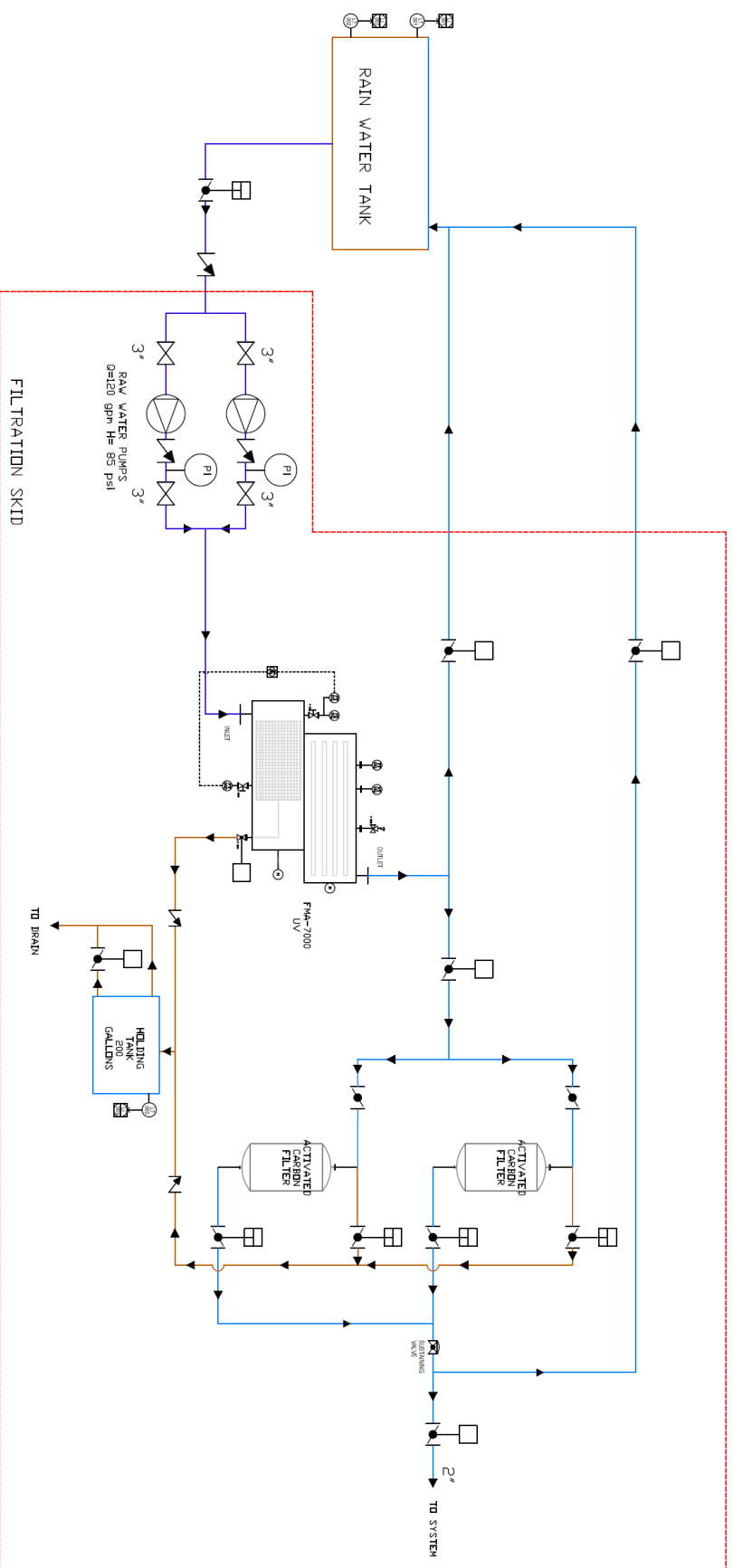
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**CATALYTIC CARBON FILTRATION SYSTEM BEGINS ON PAGE 26**

**WIRING DIAGRAM OF CONTROLLER BEGINS ON PAGE 48**

# P&ID




## Overall Sequence of Operation:

While water level in rain water collection tank is above minimum set level, system is on.

VFD pumps maintain 85 psi in recirculation loop. Water to application is delivered @ 120 gpm.

When rainwater tank water level falls below set minimum, valve opens to enable municipal water to supply application, bypassing system.



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## 1. INSTRUMENTATION DATA SHEETS

### a. MOTOR FOR FILTERING CLEANING SYSTEM

#### CHARACTERISTICS

- Brand:	Siemens
- Type:	Three-phase Squirrel Cage Motor
- Model:	1 LA7063-4ABB1-L1Y
- Extras:	-
- Rated Voltage:	208 V AC (60 Hz)
- Rated Power:	0.21 kW (Considering 40 °C)
- Degree of protection:	IP 55
- Insulation:	155(F) to 130(B)
- Duty type:	S1
- Cable entry:	M25x1.5 + M16x1.5

#### MATERIALS

- Material of terminal box:	Aluminum
- Coating:	Standars Siemens
- Colour:	RAL-7030


### b. MOTOR GEARBOX FOR UV CLEANING SYSTEM

- Brand:	DOGA
- Nominal Torque:	3 Nm
- Model:	319.3806.30.00
- Starting Torque:	35 Nm
- Rated Voltage:	24VDC
- Nominal / Starting current:	3 / 30 A
- Transmission Ratio:	78:2
- Degree of protection:	IP 55
- Cable entry:	M25x1.5 + M16x1.5

#### MATERIALS

- Material of terminal box:	Aluminum
- Coating:	Standars Siemens
- Colour:	RAL-7030

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### c. BACKWASH VALVES

#### CHARACTERISTICS

- Brand: Bermad
- Type: 2" BSP Hydraulic valve
- Connections: 2" BSP
- Model: S-100
- Nominal Pressure: 8 Kg/cm<sup>2</sup>.
- Drive: 24VDC NO Solenoid Baccara

#### MATERIALS

- Body: PA
- Threaded End: PA
- Metal Parts: Stainless steel
- Diaphragm: Natural rubber
- Seat: NBR (Buna-N)
- Spring: Stainless steel
- Cover Bolts: Stainless steel


#### SOLENOID

#### CHARACTERISTICS:

- Brand: BACCARA
- Model: GEMSOL 3x2 24VDC
- Type: 3x2 Ways
- Enclosure: IP 65
- Fluid operating temperature: max +80 °C
- Ambient operating temperature: -10°C up to +50 °C
- Valve Connection: 1/8" BSP
- Weight: 248 gr
- Power Supply: 24 V DC
- Power consumption: 10 W

#### MATERIALS

- Main Valve: Brass
  - Solenoid operator: Stainless steel
  - Seals: NBR
-


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#### d. LIMIT SWITCHES

##### CHARACTERISTICS:

- Brand:	OMRON
- Type:	Proximity sensor
- Model:	E2AM12KN08M1B2
- Size:	M12
- Sensing Distance:	8 mm
- Connection:	Pre-wired
- Response Frequency:	800 Hz
- Power supply voltage:	12 to 24 VDC
- Current Consumption:	10 mA max.
- Operation Mode:	N.C.
- Degree protection:	IP67
- Operation Temperature:	-25 ...+70°C
- Type of contact:	3 wires N/C+N/O snap action.

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## e. PRESSURE TRANSMITERS


### CHARACTERISTICS:

- Brand:	WIKA
- Type:	Analogical pressure transmitter
- Model:	A-10
- Connection:	G 1/4" Male.
- Output:	4 – 20 mA.
- Precision	0.25-0.50 %
- Measuring Range:	0 – 10 bar
- Overload limit:	20 bar
- Breaking pressure:	34 bar
- Connector type:	Angular
- Protection:	IP-65

### MATERIALS

- Pressure connection:	AISI 316 L
- Pressure sensor:	AISI 316 L
- Internal transmission fluid:	Synthetic oil
- Case:	AISI 316 L

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## f. UV LAMP

### CHARACTERISTICS:

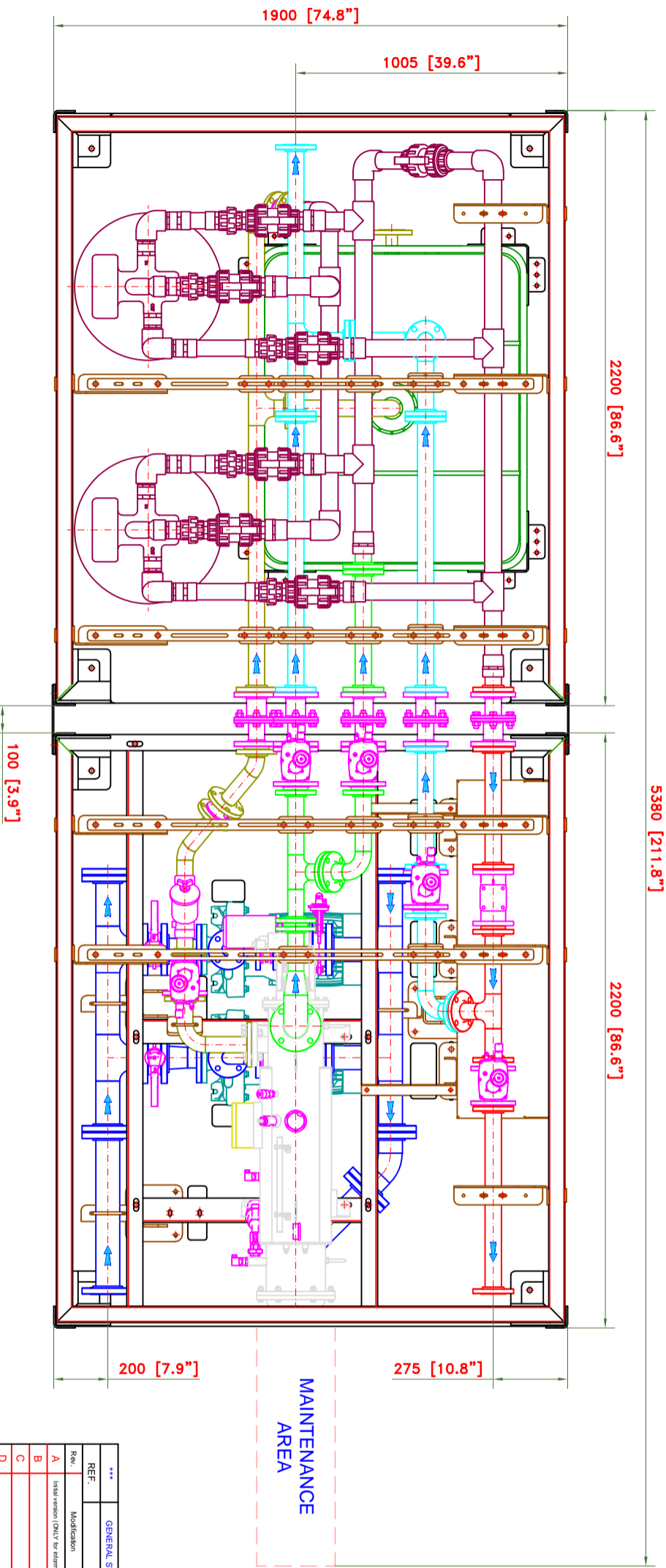
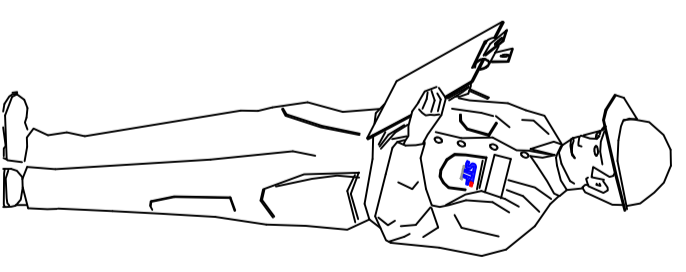
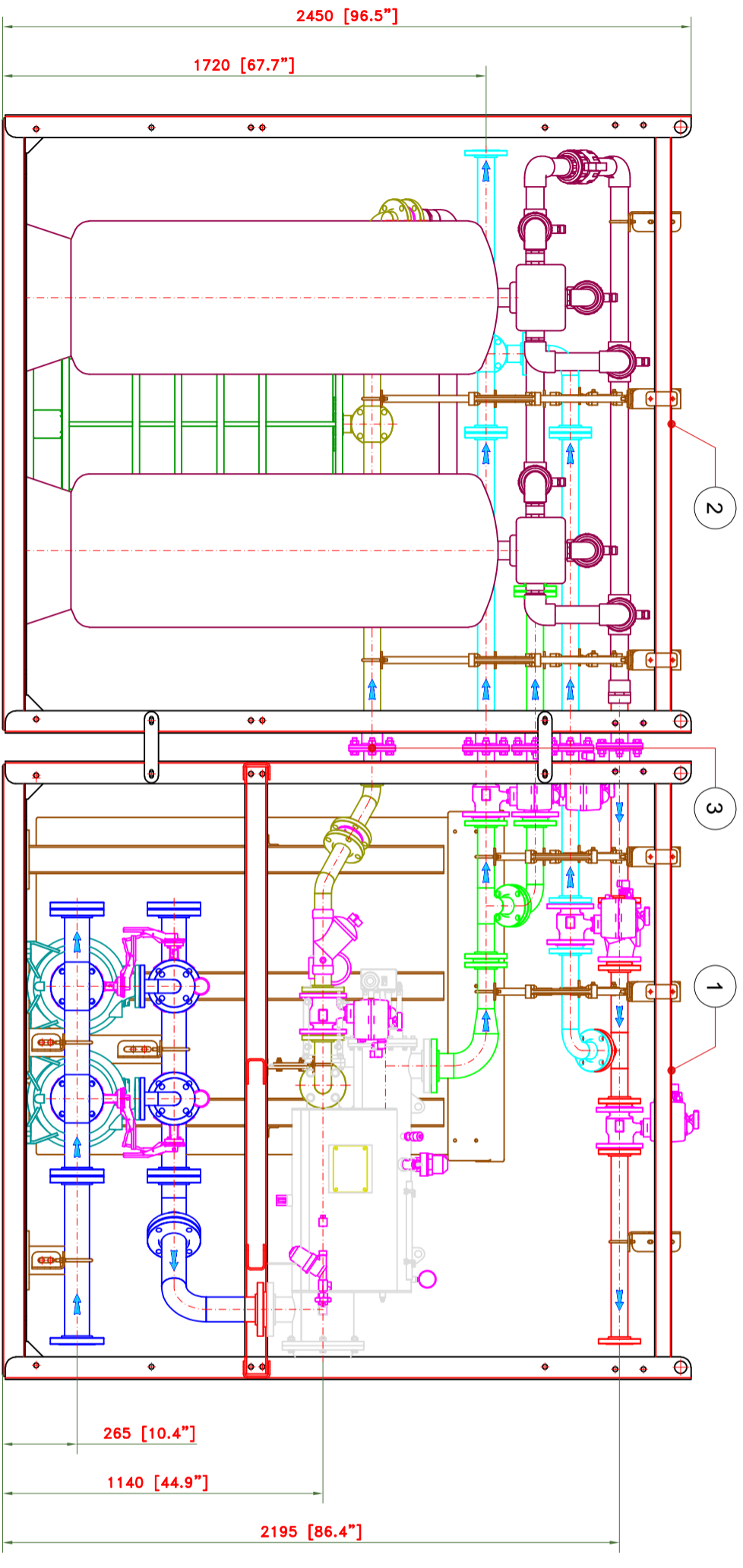
- Brand:	PHILIPS
- Type:	TUV Amalgam. Low Pressure
- Model:	TUV 130W WPT SE UNP
- Power:	130 W
- Current:	2.1 A
- Ignition supply voltage:	70 V

## g. UV-SENSOR

### CHARACTERISTICS:

- Brand:	UV-Consulting Peschl
- Type:	Plug-In
- Model:	SICONORM002-LP
- Diode:	Silicon carbide-(SiC) diode
- Body:	Stainless steel 1.4307
- Power supply:	9-15 V stabilised
- Signal:	4-20 mA
- Temperature drift:	0.03 W/m <sup>2</sup> /K
- Linearity within the initial voltage range:	2%
- Accessories:	Measurement window MF001 in stainless steel & quartz window

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2200 [86.6"]

5380 [211.8"]

2200 [86.6"]

MAINTENANCE AREA

**CONNECTION LIST**

COLOUR	REF.	INCH	DESIGNATION
Blue	Ln-1	3"	RAW WATER INLET
Red	Ln-2	2"	FILTERED WATER OUTLET
Green	Ln-3	2"	LANCASTER WATER INLET
Purple	Ln-4	2"	LANCASTER SYSTEM PIPES
Cyan	Ln-5	2"	BY-PASS LINE
Yellow	Ln-6	2"	DRAIN WATER LINE

ALL CONNECTIONS BETWEEN PIPES ARE MADE WITH SLIP-ON FLANGES, ACCORDING TO ANSI B16.5 NORM

ITEM	DESIGNATION	QUANT.	MATERIAL	OBSERVATIONS
1	RAW-7003 SYSTEM WITH MANIFOLDS	1	...	DRAWING: 20-xxxxx-SK1A
2	LANCASTER SYSTEM WITH MANIFOLDS	1	...	DRAWING: 20-xxxxx-SK1B
3	WCMX TIGHT DISMANTLING JOINT	5	ANSI-304	

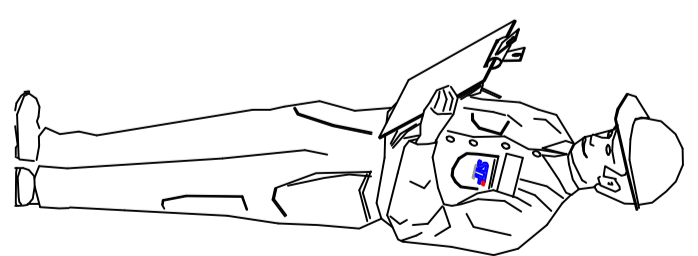
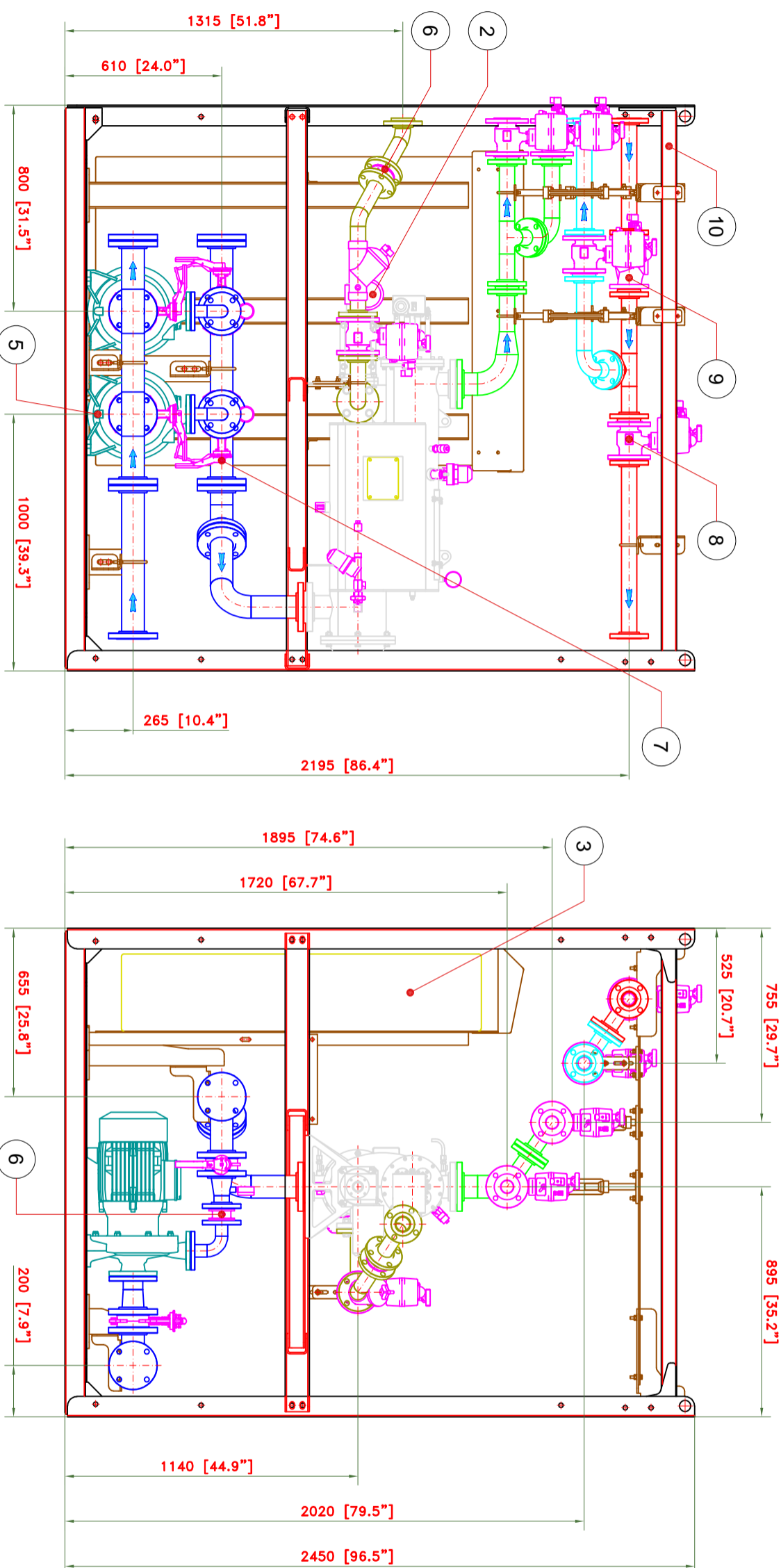
REF.	GENERAL STORM WATER SYSTEM	ITEM	QUANTITY	MATERIAL	WEIGHT	OBSERVATIONS
...			1	...	...	
A	Initial version (ONLY for information)	Date	CLIENT: OMICRON WATER TECHNOLOGIES			
B		Name	STORM WATER PROJECT			
C		Signature	REFERENCE: OMICRON SEQUENCE 2900UV-50			
D			DESCRIPTION: N° DRAWING			
E			Version control: 20-xxxxx-00-00			
F						

Form:	Date	Name	Signature
A1	05/05/20	J.P.R.	[Signature]
	05/05/20	J.P.R.	[Signature]
	05/05/20	J.P.R.	[Signature]



CONTROL DE CALIDAD / QUALITY CONTROL	
ACTIVIDAD / ACTIVITY	RESPONSABLE / FECHA / DATE
REVISIÓN Y CONTROL DIMENSIONES / REVIEW AND DIMENSION CONTROL	
BOLSAQUILAJE / WELD	
GRANALLAJE / SHOT-BLASTING	
PINTURA / COATING	
EMBALAJE / PACKING	
CARGA / CHARGE	

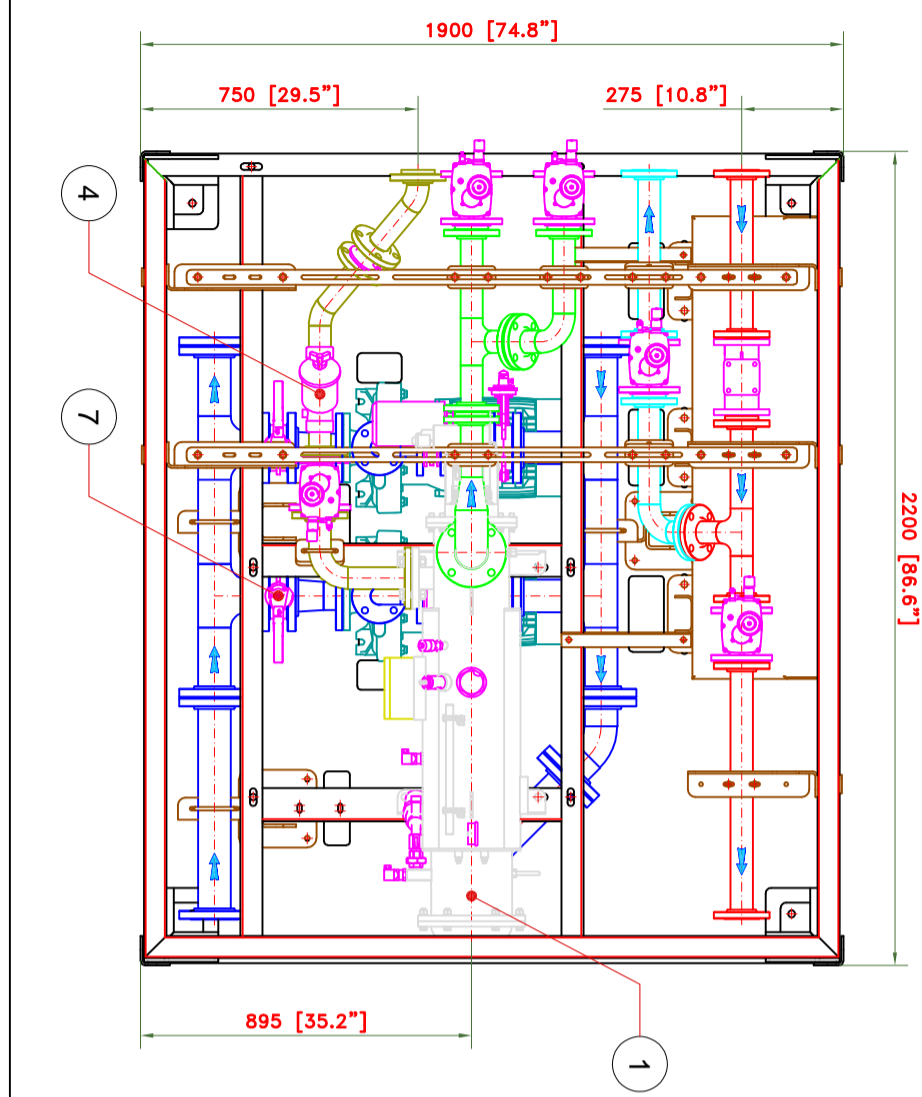


### CONNECTION LIST

COLOUR	REF.	INCH	DESIGNATION
■	Ln-1	3"	RAW WATER INLET
■	Ln-2	2"	FILTERED WATER OUTLET
■	Ln-3	2"	LANCASTER WATER INLET
■	Ln-4	2"	LANCASTER SYSTEM PIPES
■	Ln-5	2"	BY-PASS LINE
■	Ln-6	2"	DRAIN WATER LINE

ALL CONNECTIONS BETWEEN PIPES ARE MADE WITH SLIP-ON FLANGES, ACCORDING WITH ANSI B16.5 NORM

ITEM	DESIGNATION	QUANT.	MATERIAL	OBSERVATIONS
1	UV AUTOMATIC FILTER FMA-7003 UV WITH INLET / OULET NOZZLES 3" x 150lbs	1	ABS-304L	
2	ELECTRIC MOTOR	1	...	
3	CONTROL PANEL	1	...	
4	BACKWASH VALVE 2" - THREADED	1	PLASTIC	BACKWASH OUTLET
5	PUMP (DN CONNECTION)	2	...	
6	DNMS INLET / DNMS OULET	3	IRON CAST	RAW WATER INLET
7	WATER CHECK VALVE 2" - 150lbs	4	IRON CAST	RAW WATER INLET
8	ELECTRIC BALL VALVE 2" - FLANGED	5	ABS-304L	
9	SLIP-ON 2" - 150 Lbs. - L= 150	1	IRON CAST	
10	SLIP-ON 2" - 150 Lbs. - L= 210	1	S-275-JR	

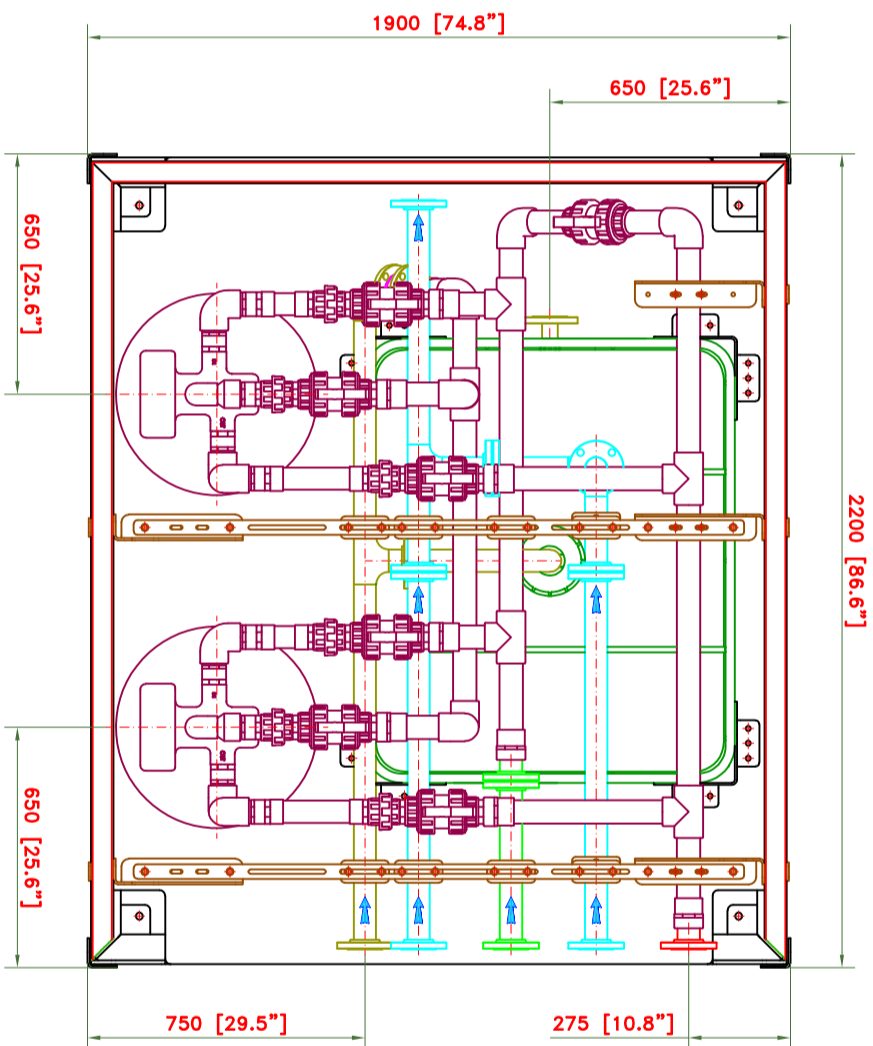
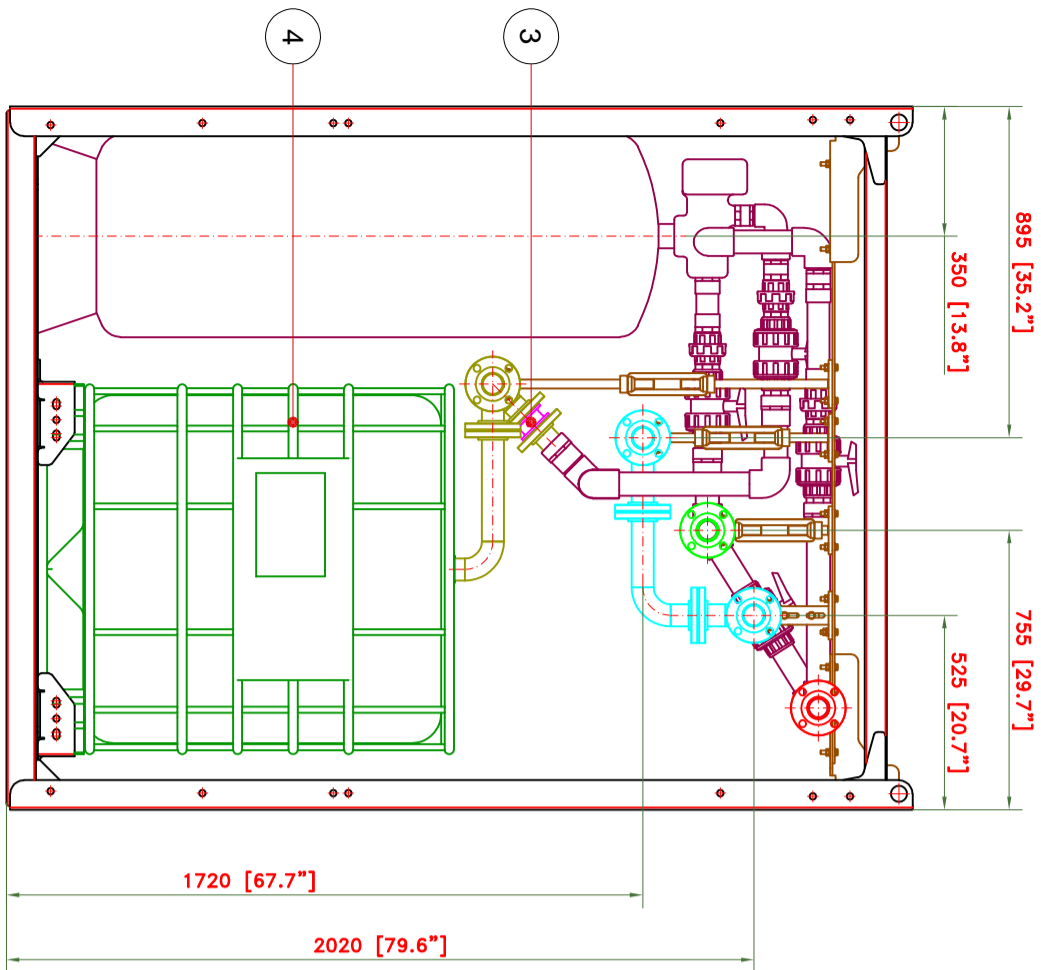
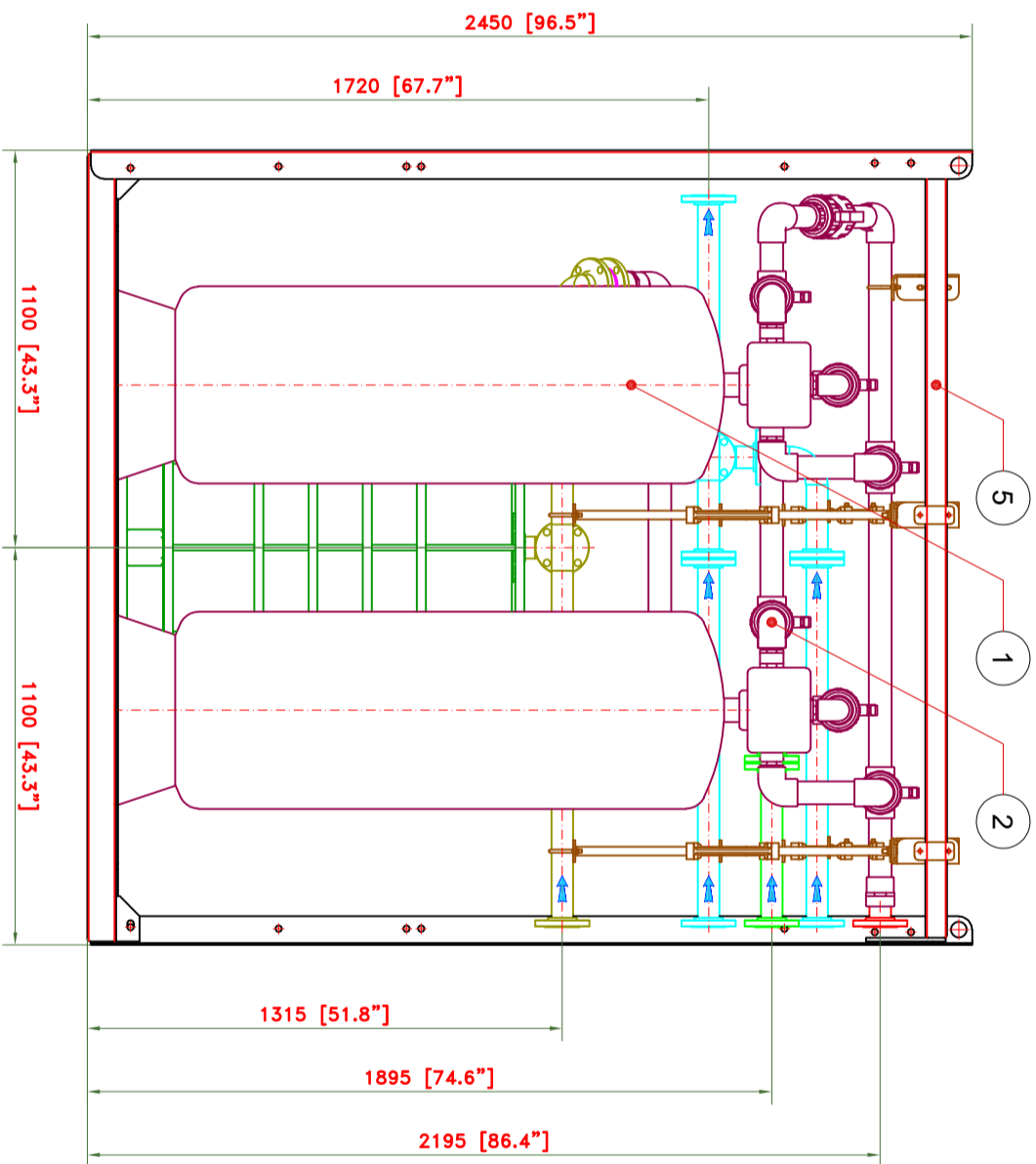
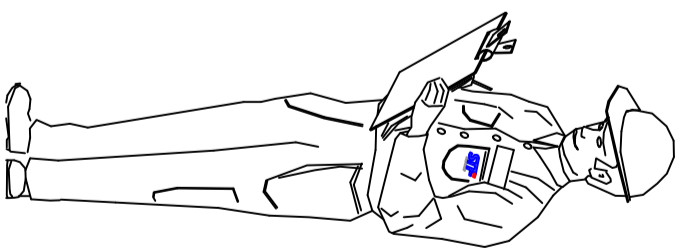


REF.	ITEM	QUANTITY	MATERIAL	WEIGHT	OBSERVATIONS
...	FMA-7003 SYSTEM WITH MANIFOLDS	1	...	...	...

REV.	MODIFICATION	DATE	NAME	SIGNED
A	Initial version (DWG for information)	05/05/20	J.P.R.	J.P.R.
B				
C				
D				
E				
F				

DESCRIPTION	DATE	NAME	SIGNED
OMICRON WATER TECHNOLOGIES	05/05/20	J.P.R.	J.P.R.
STORM WATER PROJECT	05/05/20	J.P.R.	J.P.R.
OMICRON SEQUENCE 2900UV - 50	05/05/20	J.P.R.	J.P.R.
Nº DRAWING	05/05/20	J.P.R.	J.P.R.
WORK ORDER	20xxxxx S/A		

CONTROL DE CALIDAD / QUALITY CONTROL	
RESPONSABLE DE FECHA / DATE	
ACTIVIDAD / ACTIVITY	
RESPONSABLE DE CONTROL DE CALIDAD / QUALITY CONTROL	
REVISOR Y/O DIMENSIONAL CONTROL	
BOLAS/GRANULOS / WELD	
GRANALLADO / SHOT BLASTING	
PINTURA / COATING	
EMBALAJE / PACKING	
CAMBIO / CHANGE	



### CONNECTION LIST

COLOUR	REF.	INCH	DESIGNATION
Blue	Ln-1	3"	RAW WATER INLET
Red	Ln-2	2"	FILTERED WATER OUTLET
Green	Ln-3	2"	LANCASTER WATER INLET
Purple	Ln-4	2"	LANCASTER SYSTEM PIPES
Cyan	Ln-5	2"	BY-PASS LINE
Yellow	Ln-6	2"	DRAIN WATER LINE

ALL CONNECTIONS BETWEEN PIPES ARE MADE WITH SLIP-ON FLANGES, ACCORDING WITH ANSI/B16.5 NORM.

ITEM	DESIGNATION	QUANT.	MATERIAL	OBSERVATIONS
1	CATALYTIC HIGHLY ACTIVATED CARBON TANK	2	...	NOT SUPPLY BY STF
2	CATALYTIC SYSTEM PIPES	1	PVC	NOT SUPPLY BY STF
3	WATER CHECK VALVE Z - 150Lbs	1	IRON CAST	
4	IBC TANK - 1000 Bbls L = 43 DIMENSIONS: 1200 X 1000 X 1160	1	PVC	
5	SKID	1	S-275-JR	

REF.	ITEM	QUANTITY	MATERIAL	WEIGHT	OBSERVATIONS
...	LANCASTER SYSTEM WITH MANIFOLDS	1	...	...	...

Rev.	Modification	Date	Name	Signed
A	Initial version (ONLY for information)	05/05/20	J.P.R.	[Signature]
B				
C				
D				
E				
F				

CLIENT:	SCALE:	DATE:	NAME:	SIGNED:
OMICRON WATER TECHNOLOGIES	1:10	05/05/20	J.P.R.	[Signature]

DESCRIPTION:	DATE:	NAME:	SIGNED:
STORM WATER PROJECT	05/05/20	J.P.R.	[Signature]

WORK ORDER:	PROJECTION:	APPROVED:
20xxxxx Skid B	05/05/20	J.P.R.



STF



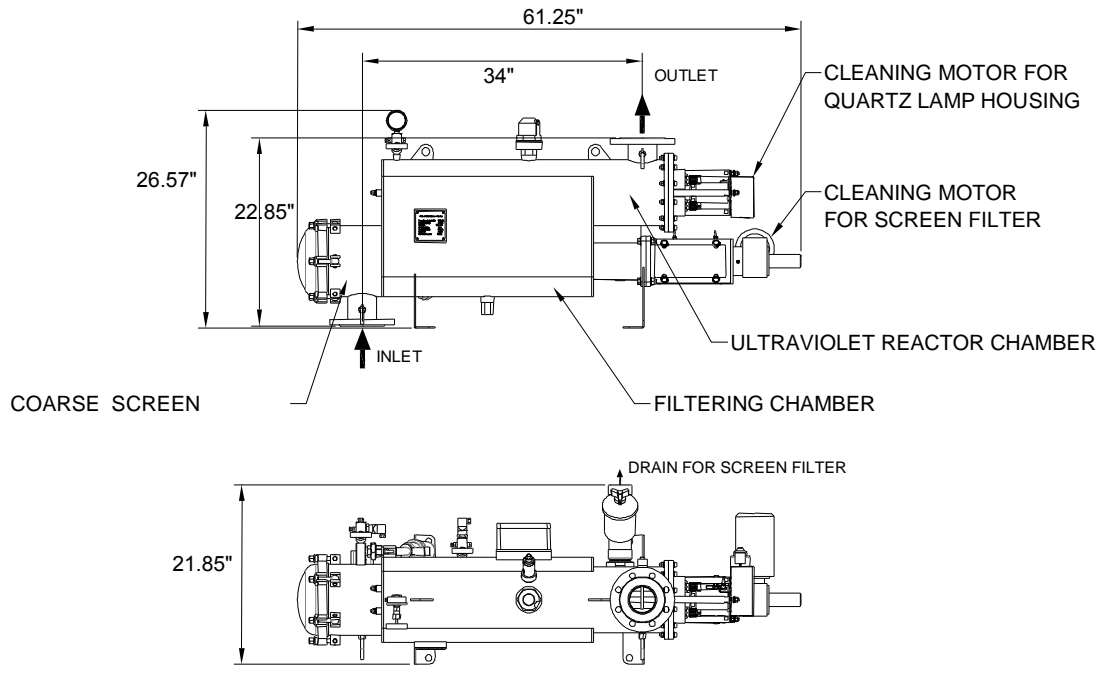






# DIMENSIONS (single, no manifold)

ALLOW MINIMUM 30" CLEARANCE ON EACH END FOR MAINTENANCE.  
 PER DRAWING BELOW: SCREEN SERVICE FROM LEFT, UV LAMPS FROM RIGHT.



## Certificado del Sistema de Gestión de la Calidad



ER-0233/2004

AENOR, Asociación Española de Normalización y Certificación, certifica que la organización

### SISTEMAS DE FILTRADO Y TRATAMIENTO DE FLUIDOS, S.A.

dispone de un sistema de gestión de la calidad conforme con la Norma UNE-EN ISO 9001:2008

para las actividades: El diseño, el desarrollo, la gestión de la producción, el montaje y la asistencia técnica de sistemas de filtración y tratamientos de fluidos.

que se realizan en: P.I. LA ARMENTERA PARCELA 49, 29420 - MARAZITA (BIZKAIA)

Fecha de emisión: 2004-02-12  
 Fecha de renovación: 2013-02-12  
 Fecha de expiración: 2019-02-12



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 Unidad acreditada por (ENAC) con nº 1265-SC02  
 AENOR es miembro de la RED AENOR (Red Internacional de Certificación)

## Certificado del Sistema de Gestión Ambiental



GA-2008/0396

AENOR, Asociación Española de Normalización y Certificación, certifica que la organización

### SISTEMAS DE FILTRADO Y TRATAMIENTO DE FLUIDOS, S.A.

dispone de un sistema de gestión ambiental conforme con la Norma UNE-EN ISO 14001:2004

para las actividades: El diseño, el desarrollo, la gestión de la producción, el montaje y la asistencia técnica de sistemas de filtración y tratamientos de fluidos.

que se realizan en: P.I. LA ARMENTERA PARCELA 49, 29420 - MARAZITA (BIZKAIA)

Fecha de emisión: 2008-09-23  
 Fecha de renovación: 2013-09-23  
 Fecha de expiración: 2019-09-23



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 Unidad acreditada por (ENAC) con nº 1265-SC02  
 AENOR es miembro de la RED AENOR (Red Internacional de Certificación)

## **OMICRON SEQUENCE 2900UV (single)**

**Two electrically operated water technologies consolidated into one unit: (1) Screen filtration followed by (2) Ultraviolet light disinfection.**

### **FILTER DESCRIPTION (Stage one)**

Single inlet and outlet, drain outlet for backwash discharge. The filter is comprised of a housing with two separate chambers within. The first chamber, with the filtration screen, connects to the water inlet port; the second is the backwashing chamber.

Water circulates through the body of the filter from the inside out. The collected solids in suspension are retained within the filtering component (the screen). This chamber connects to the filtered water outlet to supply the intended operation: potable water, process water, cooling tower water, etc.

The outlet of the backwashing chamber is connected to the drainage valve that enables rinse water run off, once the self-cleaning process has been initiated. The backwashing chamber is otherwise sealed from the filtration chamber.

The suction scanner is located on the central axis of the filtration element, and is hydraulically connected to the backwashing chamber. The scanner's suction nozzles terminate in nylon bristles that extend to within a few microns of the screen mesh. Nozzle positioning is calibrated to effect contact with the entire inner surface of the mesh as a consequence of the motorized spiral motion of the scanner, combining longitudinal motion with rotation.

### **OPERATION SUMMARY**

- The water enters the filtration chamber and passes through the fine screen to produce surface mechanical filtration at the filtration degree according to the selected screen rating (25 or 50 micron).

- As the collected particles accumulate on the inner surface of the fine mesh, their build-up causes a progressive loss of pressure between the filter inlet and outlet. When the differential pressure reaches 0.3 bar (about 4.4 psi), two analog transducers initiate the backwashing sequence. Other backwash methods are available, including time delay, combined pressure and time delay, or continuous backwashing.
- When the differential pressure switch reaches 0.3 bar (4.4 psi), the drainage valve is signaled to open. This generates a pressure differential between outside (atmospheric pressure) and inside the filter (working pressure), which induces a current of fast-flowing water that rushes through the mesh and out through the inner hole of the suction scanner nozzles. At this point a signal is sent to the motor to start operating.
- The result of simultaneous spiral movement of the suction scanner inside the filter and the suction effect from the nozzles on the accumulated filter cake enables successful cleaning of the fine screen.
- During the 25-second self-cleaning process filtered water flows without interruption to the intended application.

### **UV DISINFECTION (Stage two)**

Filtered water passes through a conduit into the disinfection chamber. Interleaved ultraviolet lamps (4) emit light at the 254 nm wavelength capable of penetrating the cell membrane of microorganisms that may be present in the water flowing through the chamber, which permanently alters their DNA structure by the process of thymine dimerization.

An automatic cleaning system for the quartz glass housing each UV lamp maintains the efficacy of the system throughout the lifetime of the lamps. Cleaning is initiated by time or when the sensor indicates a reduction in radiation.

## ENGINEERING SPECIFICATIONS:

### OMICRON SEQUENCE 2900UV-50 (single)

Furnish one Omicron Water Technologies model **2900UV-50** automatic water filtration + UV disinfection system manufactured by Sistemas de Filtrado y Tratamiento de Fluidos S.A. (STF) in Monzon, Spain: 3-inch inlet and outlet, 150# raised face flange connections. Unit shall continuously process up to 110 gallons /minute, using a weave wire screen rated at 50 micron and accordingly providing (1) near total reduction of total suspended solids (TSS) above 50 microns, and additional reduction of TSS smaller than 50 microns as is characteristic of screen filtration technology; (2) disinfection by exposure of the filtered water to ultraviolet light at the 254 nm wavelength to permanently alter the DNA structure of microorganisms by the process of thymine dimerization.

### Operation Description

The water enters the stainless steel fine filter element inside out, allowing the dirt to accumulate on the inside surface of the element. A Differential Pressure Switch (DPS) senses the pressure differential across the filter as filter cake builds up on the element. The DPS shall signal the PLC control panel to initiate the cleaning cycle of the filter when the filter cake causes a pressure differential of 0.3 bar (4.4 psi), visible on the PD display. PD set point shall be user adjustable via the HMI touchscreen. During the flushing cycle, there shall be no interruption of flow. With a clean screen at the maximum flow rate, the filter shall lose less than 1 psi. The filter operation and flushing shall be controlled and monitored by a touchscreen PLC control panel. The control panel, and its related circuitry, shall be housed in a NEMA 12 enclosure.

### Cleaning Mechanism

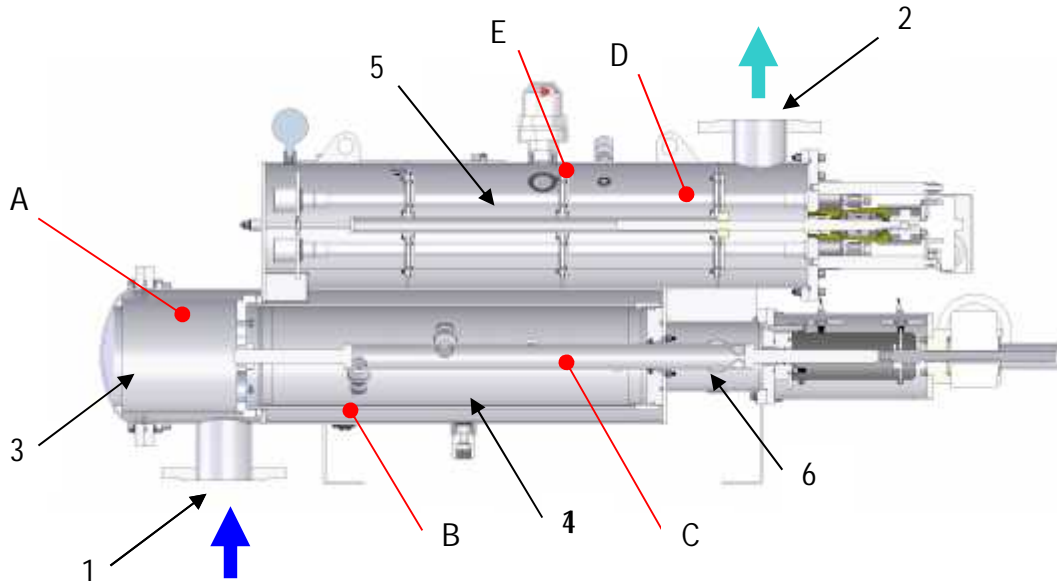
The unit's filter cleaning mechanism shall consist of a spiral-moving suction scanner, constructed of a 316 stainless steel assembly. By opening a 1" flush valve, the scanner shall create high efficiency suction force on each of the 3 cleaning nozzles. During that time, the nylon brush nozzles shall clean the total area of the screen. The nozzle head shall contact the screen surface at a constant pressure in order to maximize cleaning efficiency. At 45 PSI, the flushing flow rate shall not exceed 40 gallons per minute. Assuring a maximum flush flow rate of 40 gpm regardless of pressure shall be enabled by a flow control



Nozzle detail



valve in the drain line. The cleaning cycle shall be completed in 26 seconds or less, consuming approximately 17.3 gallons. The minimum pressure required for flushing shall be 45 PSI during the flush cycle.



- 1 – Raw water inlet.
- 2 – Treated water outlet.
- 3 – Roughing chamber.
- 4 – Filtration chamber.
- 5 – Disinfection chamber.
- 6 – Backwashing chamber.

- A – Roughing cartridge
- B – Filtered cartridge.
- C – Cleaning scanner.
- D – UV lamps.
- E – Lamp cleaning sleeve.

### Driving Mechanism

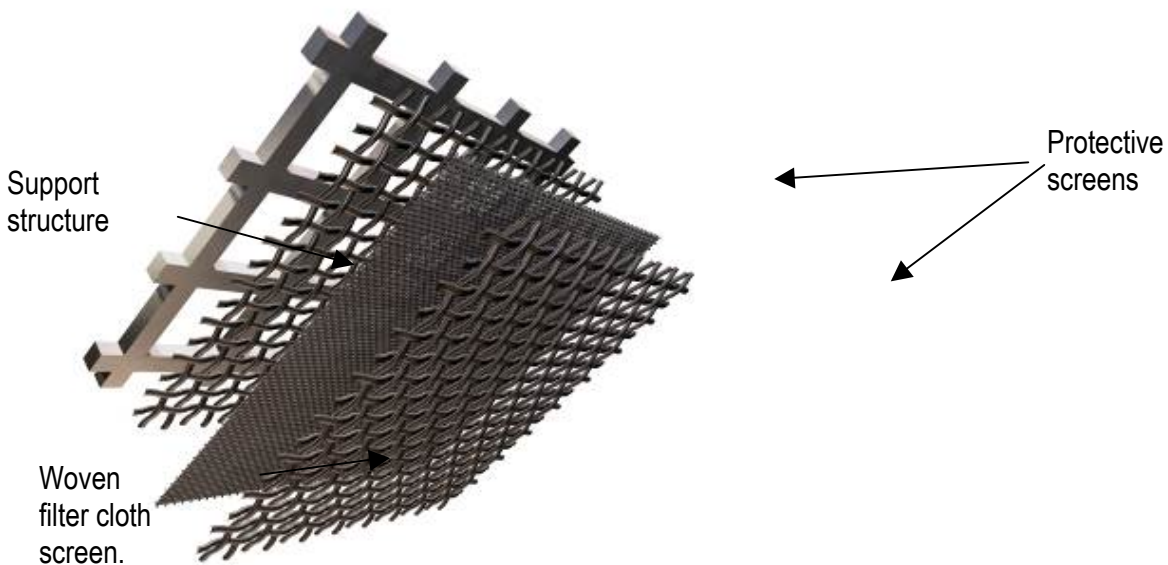
The suction scanner shall be driven by a 0.5 hp (0.37 kW) electric motor that is connected to the suction scanner through a threaded shaft that travels inside a threaded bearing. The movement created by the electric motor shall cause the scanner to move in a spiral motion at a speed of 17 RPM (@208V AC 60 Hz). The control of the scanner by the electric motor shall be limited by two normally closed limit switches and monitored by the control panel.

### Housing Construction

The filter and UV housings shall be of 316L stainless steel. The filter body and UV chamber shall have a maximum operating pressure of 145 PSI, and a maximum operating temperature of 120° F. The filter housing shall have the capability to accept filter elements with varying micron degrees, which are totally interchangeable in the same housing.

## Filtration Element

The filter element shall be of a patented construction of a combination of wedge and weave wire screens, consisting of 3 layers, fabricated together in order to achieve both greater open area and mechanical strength. The collective screen shall be made of 316L stainless steel. The screen's external support shall be constructed of wedge-wire for mechanical strength. The fine weaved-wire screen shall be sandwiched (protected) between two 2000-micron weaved-wire additional layers. The total surface area of each screen shall be 2900 cm<sup>2</sup> (449 in<sup>2</sup>) and shall be able to withstand an internal to external pressure differential of 100 PSI without any damage.



## Disinfection Chamber

The water flow shall be controlled to ensure turbulence and adequate contact time with the UV lamps by means of scraper support discs. Lamps shall be activated manually (on/off buttons) or automatically, enabled by (1) detection of pressure within the unit (water is flowing) and (2) temperature below the switch-off threshold (both must be true), which shall be settable within the control panel. The UV chamber shall have an independent cleaning system to maintain clarity of the quartz sleeves encasing the lamps, enabled (1) manually, (2) by timer, or (3) by sensing a decrease in UV transmittance (settable parameter).

## Control System

The filter control system shall consist of a NEMA 12 PLC with HMI that controls all aspects of the system's operation including: Monitoring the pressure transducers



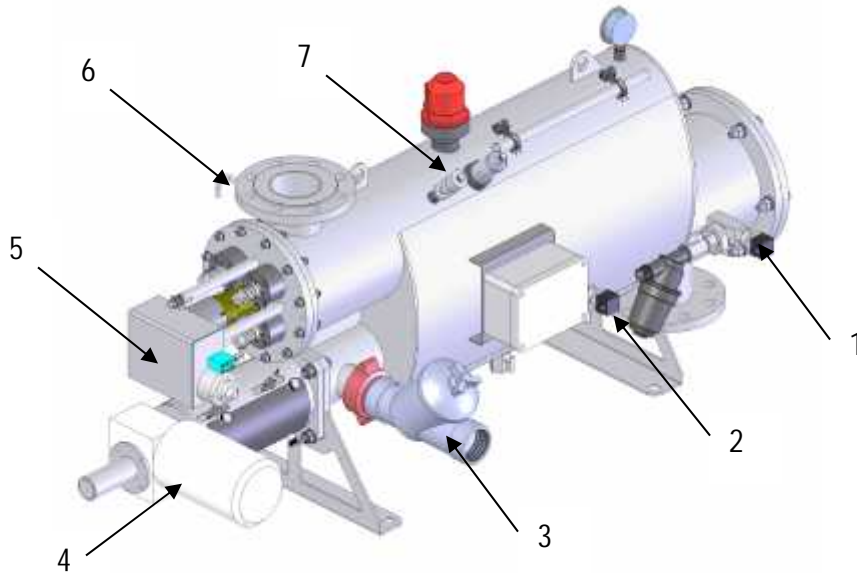
and limit switches, and operating the flush valve, electric motors, UV operational parameters and by-pass valves. The control panel shall include a flush counter to monitor average flush intervals. Control features shall include dry contact outputs to remotely indicate flush in progress and fault situations, and inputs to remotely initiate a start or stop of the filtration system.

The filter shall conform to international quality code ISO-14001.

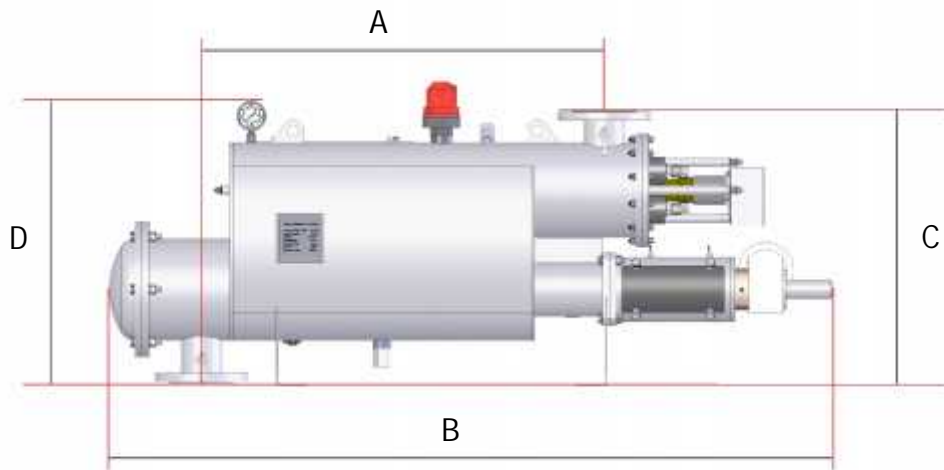
Meets or exceeds all current US domestic quality requirements for filtration devices including, but not limited to, NSF, ANSI, AWWA, ASE, and others.

Note: the manufacturer reserves the right to change product specifications without prior notice.

## TECHNICAL FEATURES



- 1 – Inlet pressure transducer
- 2 – Outlet pressure transducer
- 3 – Backwashing valve.
- 4 – Filter drive unit set.
- 5 – Backwashing drive unit set.
- 6 – Temperature sensor.
- 7 – UV radiation intensity sensor.



MODEL	DIMENSIONS (in)					Net Filtering area (cm <sup>2</sup> )
	A	B	C	D	DN	
<b>2900UV-50</b>	34	61.25	22.85	26.57	3	2900

MODEL	OMICRON SEQUENCE 2900UV	
GENERAL CHARACTERISTICS		
Inlet/Outlet Diameter (1)	DN-80 (3")	
Max/Min working pressure	150 psi / 30 psi	
Max. fluid temperature	40 °C	
STAINLESS STEEL MESH SUPPORT	50 microns	
Max. Flow (gpm)	110	
Net filtering surface (cm2)	2900	
Unladen weight (kg)	135	
Laden weight (kg)	200	
Filtration sizes available	50 / 25 micron	
BACKWASHING		
Backwashing valve	G-2" thread	
Backwashing min. pressure	2.5 bar	
Backwash cycle length	26 seconds	
Backwash flow (gpm)	40	
Backwash water consumption (gallons)	17.33	
ELECTRICAL DATA		
Supply voltage	208 V AC 60 Hz Three-phase	
Control voltage	24 V DC	
Electric motor power	0.18 kW	
Electric motor consumption	1 A	

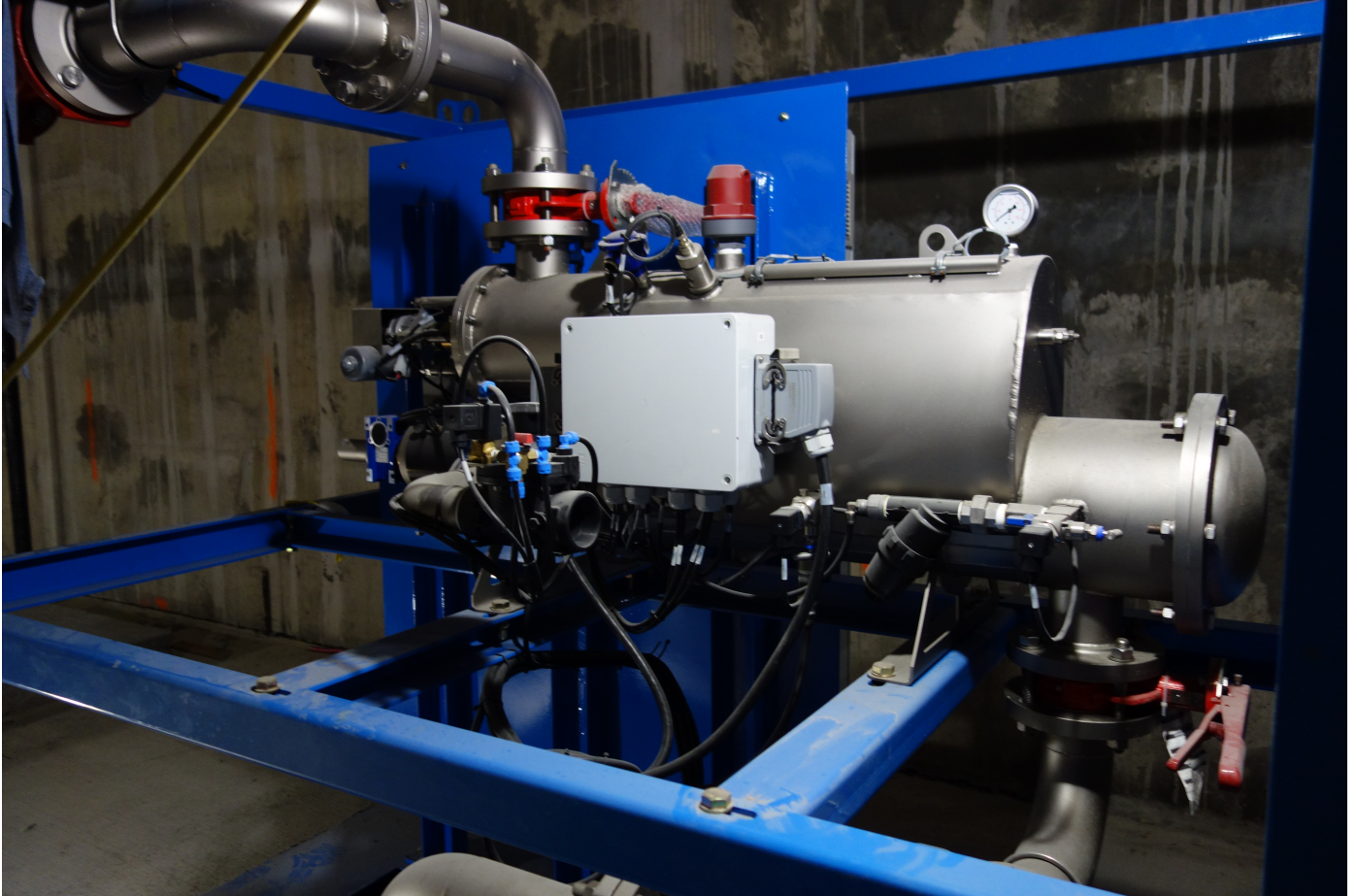
STANDARD MATERIALS	
Filter housing and covers	AISI-316 stainless steel
Finish treatment	Glass bead blasting
Suction scanner	AISI-304 stainless steel
Filtration mesh	AISI-316 stainless steel
Suction nozzle	PVC with AISI 316 stainless steel ring and nylon bristles
Backwash valves	Polypropylene
Bolting	A-4 stainless steel
Joints	NBR – EPDM - Viton
ULTRAVIOLET DISINFECTION	
Ultraviolet lamp	Low voltage amalgam
Number of lamps	4 units
UVC	50 W
Dose	400 J / m <sup>2</sup>
Transmittance	45 %
Lamp cleaning motor / Intensity	24 V DC / 3A







# Skidded solution, Omicron 2900UV-50-CP



## Document Number: 2

**2x (DUPLEX) LANCASTER 7-LX2F-CAT-7 AUTOMATIC CATALYTIC CARBON FILTER**  
2" FNPT, each filter vessel flow rate up to 60 gpm. No routine maintenance required.

**Description:** fully automatic and programmable self-cleaning filtration system. Provides general clarification and reduction of dirt, rust, plankton, sediment, chlorine, taste, odor and volatile organic compounds. Catalytic carbon media mix is rated for particle reduction as small as 20-micron. Each vessel consists of: composite FRP reinforced media tank (21"d x 65"h); lateral-type distributor with full 2" riser tube for low friction; 7.0 cu ft of high activated catalytic carbon media; heavy-duty brass piston-operated controller with multi-port stager for time-initiated backwashing; color LCD display screen; 2" FNPT inlet/outlet connections; 1" drain port with flow regulator; installation and operations manual.

**Installation:** Filter vessels shall be manifolded in parallel and located at discharge from retention tank. Requires 110v electrical and minimum 3" ips sanitary waste line with air-gap at point of discharge. Minimum space required: 54"w x 30"d x 78"h.

Carbon media mix should be replaced after 2,800,000 gallons consumption.



# X-Factor Series LX

CATALYTIC - HIGH ACTIVATED CARBON FILTERS

WONDERFUL HIGH QUALITY WATER  
AT EVERY TAP IN YOU HOME

Fresh, clean water for drinking, cooking, bathing, and cleaning for everyone in your household! The Lancaster X-Factor Series Diamond Line Catalytic – High Activated Carbon system can enhance your home's value and your overall quality of life. Protect your plumbing fixtures, appliances, and most importantly...your health.



## FEATURES & BENEFITS

- **Peace of Mind...** We demand healthy options for our families. That begins with a Lancaster X-Factor Diamond Line Catalytic Carbon System in your own home. Enjoy the contentment knowing that you're removing potentially harmful and damaging elements from your household's water.
- **Healthier Total Atmosphere...** Breathing acrid chlorine fumes is unpleasant and a particular concern with anyone suffering from respiratory ailments. The Lancaster X-Factor Series Diamond Line Catalytic – High Activated Carbon filters and polishes your water of odors and harmful vapors.
- **Virtually Maintenance Free...** Just have your installer change the filter media every 2-5 years depending on water conditions and usage.
- **Healthier Hair...** Hair is softer, has better texture and color-treated hair fades less quickly.





# X-Factor Series LX

## CATALYTIC - HIGH ACTIVATED CARBON FILTERS

### HOW IT WORKS

The Lancaster X-Factor Series Diamond Line Catalytic - High Activated Carbon Filtration system uses a specially formulated catalytic high activated carbon derived from coconut shells. The media is activated when heated to more than 800 degrees Celcius while being exposed to an inert gas then suddenly exposed to an air stream. The process turns the coconut shell aggregate into high activated carbon. This activation process oxidizes all the particles on the surface of the carbon creating millions of macro-pores. The result leaves the carbon surface free to attract and adsorb organic substances.

Specially formulated high activated carbon can perform a variety of functions including the reduction of undesirable flavors and odors caused by chlorine and other organics. Specially formulated high activated carbon uses also include the reduction of volatile organic compounds (VOCs). Substances classified as VOCs include numerous compounds which occur naturally and artificially. Water sourced from underground wells may contain some of these compounds. VOCs can be used in pesticides, herbicides, and can seep into the aquifer after being applied to the ground. VOCs might also enter the groundwater through industrial contamination or through waste disposal. VOCs also include tri-halomethanes (THMs) which are a byproduct of chlorination.

### ACTIVATED CARBON TECHNOLOGY REDUCES A BROAD RANGE OF CONTAMINANTS INCLUDING:

alachlor	trans-1,2-dichloroethylene	MTBE's
atrazine	1,2-dichloropropane	pentachlorophenol
benzene	cis-1,3dichloropropylene	simazine
carbofuran	dinoseb	styrene
carbon tetrachloride	endrin	1,1,2,2-tetrachloroethane
chlorine	ethylbenzene	tetrachloroethylene
chlorobenzene	ethylene dibromide (EDB)	toluene
chloropicrin	haloacetonitriles	2,4,5-TP (silvex)
2,4-D	haloketones	tribromoacetic acid
dibromochloropropane	heptachlor	1,2,4-trichlorobenzene
o-dichlorobenzene	heptachlor epoxide	1,1,1-trichloroethane
p-dichlorobenzene	hexachlorbutadiene	1,1,2-trichloroethane
1,2-dichloroethane	hexachlorocyclopentadiene	trichloroethylene
1,1-dichloroethylene	lindane	trihalomethanes
cis-1,2-dichloroethylene	methoxychlor	xylenes



### LANCASTER DESIGNED STATE-OF-THE-ART CONTROL VALVE

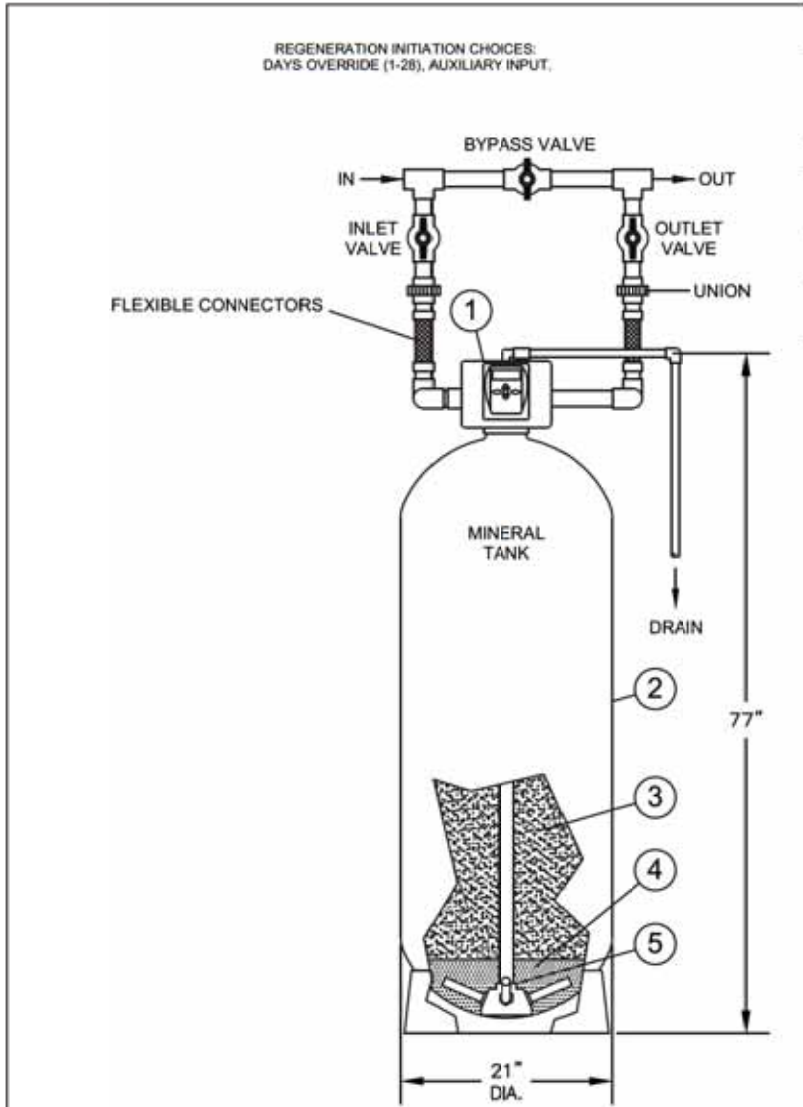
LCD color screen monitors water consumption and notifies owner when maximum filter capacity is reached.

\* Lower flow produces higher quality water and a larger volume of treated water between backwashing.

- All models are fully automatic and metered for maximum cleaning efficiency.
- Carbon media is factory loaded for convenient installation.
- Control valve is fully adjustable to manage the cleaning cycle for varying water conditions.



# Lancaster 2" Automatic Self-Cleaning Carbon Media



SPECIFICATIONS	
SERVICE FLOW RATE: CONTINUOUS (⑤GPM/SQ FT) PEAK (⑩GPM/SQ FT)	12 GPM 24 GPM
BACKWASH FLOW RATE (DLFC)	25 GPM
OPERATING PRESSURE: MINIMUM TO MAXIMUM	20 TO 125 PSI
WATER OPERATING TEMPERATURE: MINIMUM TO MAXIMUM	40 TO 110 °F
AC ADAPTER INPUT: VOLTAGE-HERTZ	120V-60 HZ

COMPONENT LIST		
ITEM NO.	DESCRIPTION	QTY.
1	LXCV15 CONTROL VALVE: LEAD FREE BRASS VALVE BODY, INLET/OUTLET 2" FEMALE NPT,	1
2	MINERAL TANK: 21"x62", COMPOSITE CONSTRUCTION	1
3	CARBON - CATALYTIC	7 CU. FT.
4	#20 FLINT GRAVEL SUPPORT BED	80 LBS.
5	DISTRIBUTOR ASSEMBLY- 1.5" PVC RISER PIPE, ABS HUB, 8-PVC SLOTTED LATERALS	1

NOTES:

- 1) PIPING NOT INCLUDED.
- 2) CAUTION: THE FILTER CANNOT BE SUBJECT TO A VACUUM DUE TO A LOSS OF PRESSURE (SUCH AS A WATER MAIN BREAK OR SUBMERSIBLE WELL PUMP CHECK VALVE FAILURE). INSTALLATION OF A VACUUM BREAKER ON THE INLET PIPING IS STRONGLY RECOMMENDED.
- 3) CAUTION: DO NOT LOCATE THE FILTER WHERE IT OR ITS CONNECTIONS (INCLUDING DRAIN LINE) WILL EVER BE SUBJECT TO ROOM TEMPERATURES UNDER 40° F.
- 4) FLEXIBLE CONNECTORS RECOMMENDED BETWEEN THE SFILTER AND HARD PIPING.
- 5) DURING BACKWASH, THIS FILTER WILL AUTOMATICALLY BYPASS RAW WATER TO SERVICE. AN OPTIONAL "NO HARD WATER BYPASS" VALVE IS AVAILABLE.

DIMENSIONS ARE APPROXIMATE FOR ESTIMATING ONLY.  
ALL DIMENSIONS ARE IN INCHES.

NOT INTENDED TO BE AN INSTALLATION DRAWING.  
FOLLOW ALL LOCAL PLUMBING CODES.

				<b>LANCASTER WATER TREATMENT</b>			
				<small>LANCASTER PUMP DIVISION C-B TOOL COMPANY 1340 MANHEIM PIKE LANCASTER, PA. 17801</small>			
				DWC.(PART)NAME SINGLE SYSTEM COMMERCIAL CARBON FILTER, 2" VALVE, TIME CLOCK			
				DWC.(PROCESS)TYPE GENERAL SPECIFICATIONS			
REV.	DESCRIPTION	DATE	BY	DRAWN BY APP'D BY <i>DB</i>	DATE 20APR12	DWC.(PART)NO.	REV.
				SIZE <b>B</b>	SHEET 1 OF 1	SCALE NA	7-LX2F-CT-7

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**LANCASTER<sup>®</sup>**  
**WATER TREATMENT**

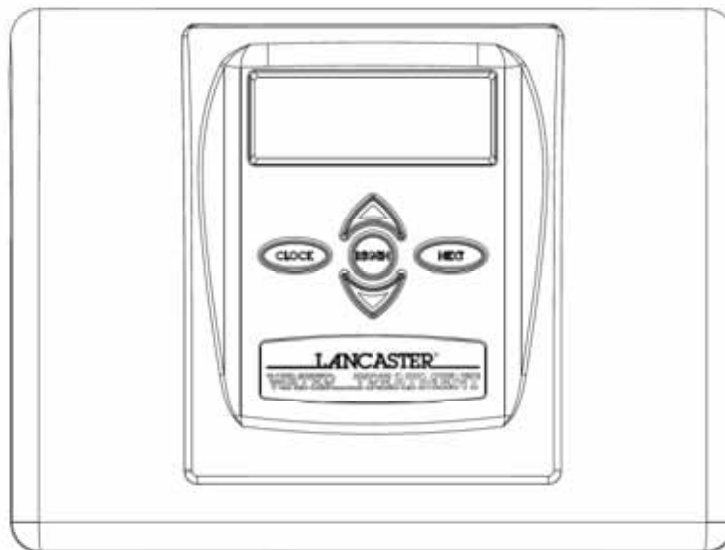
**X-FACTOR**  
**SERIES™**

**FILTER**

**INSTALLATION, OPERATING AND  
SERVICE MANUAL**

**ELECTRONIC WATER FILTER WITH THE  
X-FACTOR CONTROL VALVE  
COMMERCIAL SERIES**

**LX15, LX2 & LX2QC**



Congratulations on purchasing your new **Lancaster Water Filter**. This unit is designed to give you many years of trouble free service. For servicing and future inspection purposes, please file this booklet with your important documents.

In the event that you need assistance for servicing your water filter, please first contact the professional contractor who installed the system.



Commercial water filters are shipped in multiple cartons:

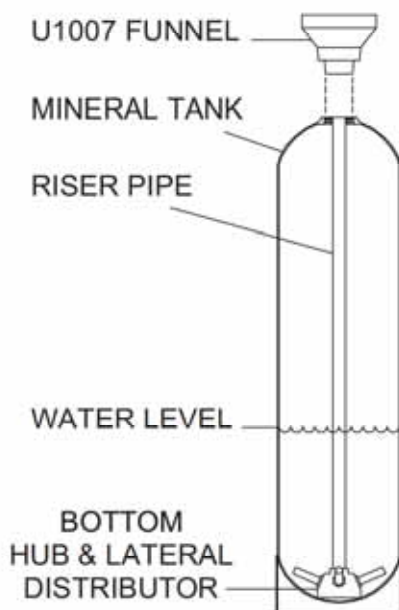
- mineral tank with bottom distributor and riser pipe
- control valve
- optional alternator valve or no hard water bypass valve
- bag(s) of gravel support bed (for 21" diameter and larger mineral tanks)
- bags of mineral

Quantity of components are specific for the individual type filtering system ordered. Refer to specification data sheet and/or drawing or consult factory.

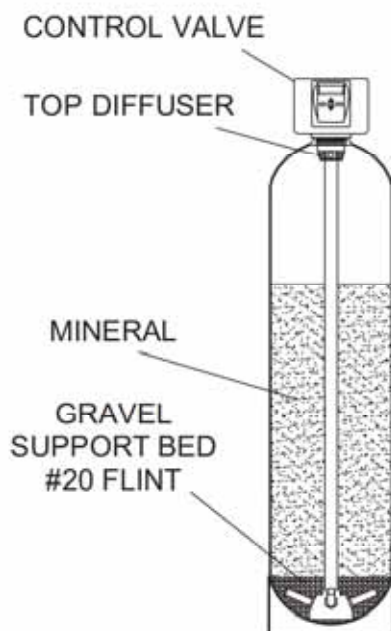
Inspect the shipping cartons and equipment for possible shipping damage or lost parts. If damage is present, notify the transportation company. The manufacturer is not responsible for damage or lost parts in shipment. Do not mistakenly discard any small parts bags when unpacking the system.

**BEFORE LOADING THE MINERAL TANK WITH GRAVEL FOLLOWED BY MINERAL,  
INSPECT THE BOTTOM LATERALS FOR ANY DAMAGE THAT MAY HAVE OCCURRED DURING SHIPPING.  
THE LATERALS MUST BE REPLACED IF THERE IS ANY DAMAGE.**

### LOADING AND ASSEMBLING THE MINERAL TANK:



1. Place the mineral tank where you want to install it, making sure it is on a clean, level and firm surface.
2. **PLUG OR TAPE THE TOP OF THE RISER PIPE** to keep gravel and mineral from entering. Gravel and mineral must not enter riser pipe.
3. **BEFORE LOADING THE GRAVEL AND MINERAL, FILL THE MINERAL TANK APPROXIMATELY 1/3 FULL OF WATER.** The water will act as a cushion to protect the bottom laterals from damage while filling the tank with gravel and mineral.
4. Using a U1007 commercial tank funnel is recommended (funnel is ordered separately). The U1007 funnel snaps into 4" and 6" mineral tank openings for stability when pouring gravel and mineral. The neck of the funnel allows air to escape the mineral tank while gravel and mineral are poured in.
5. Load the gravel support bed first, followed by the mineral. While filling, be careful to keep the riser pipe centered as best you can. Filling slowly with a small scoop to pour the mineral into the funnel, using water **SPARINGLY** to speed flow through the funnel if necessary, will work better than trying to fill too fast.
6. After the loading is complete, remove the funnel, clean the tank opening to remove mineral granules from the tank opening. Note that the mineral will only fill the mineral tank approximately 1/2 to 3/4 full. The mineral tank should **NEVER** be filled to the top with mineral. This remaining open space is called freeboard and is necessary for the mineral to have room to move during the backwash cycle.
7. **REMOVE THE PLUG OR TAPE FROM THE TOP OF THE RISER PIPE.**
8. **FINISH FILLING THE MINERAL TANK WITH WATER.** This will eliminate air space and prevent excessive air-head pressure when the water filter is pressurized.
9. The control valve must now be screwed onto the mineral tank. Be sure the mineral tank's o-ring sealing surface is clean. **NO** pipe dope should be used on threads. As you start to screw the control valve onto the tank, make sure the hole in the center of the control valve fits over the riser pipe. The control valve should be hand-tightened, snugly, clockwise. If your control valve is a top or side-mount clamp connection, or uses a flange base, consult factory if you have questions.



**NOTE- 14" AND 16" DIAMETER MINERAL TANKS ARE BOTTOM DISTRIBUTOR PLATE DESIGN; NO GRAVEL SUPPORT BED IS REQUIRED.**

## PRE-INSTALLATION REVIEW

**This water filter is not to be used for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after treatment.**

**WATER PRESSURE:** Maximum 125 psi. **CAUTION:** the filter cannot be subject to a vacuum due to loss of pressure (such as a water main break or submersible well pump check valve failure).

**WATER TEMPERATURE:** The range of water temperature is 40°F to 110°F. **DO NOT** install any water filter with less than 10 feet of piping between its outlet and the inlet of a water heater.

**AMBIENT TEMPERATURE:** **DO NOT** locate filter where it or its connections (including the drain and overflow lines) will ever be subject to room temperatures under 40°F.

**ELECTRICITY:** An uninterrupted 120 volt 60Hz outlet, within 15 feet of the filter, is required. *Make sure electrical source is not on a timer or switch.* All electrical connections must be connected according to local codes. The plug-in transformer is for dry locations only. Surge protection is recommended with all electrical connections.

**DRAIN:** All plumbing should be done in accordance with local plumbing codes. The distance between the drain and the water filter should be as short as possible. Correctly size drain line for the control valve's drain line flow control GPM rating (see installation instructions). Avoid elevating the drain line above the control valve where possible (see installation instructions).

**BYPASS:** A bypass valve should be installed so that water will be available if it should be necessary to shut off the pressure in order to service the filter.

## GENERAL INSTALLATION AND SERVICE WARNINGS

The control valve and fittings are not designed to support the weight of the system or the plumbing.

Do not use Vaseline, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicone lubricant may be used on black o-rings but is not necessary. **Avoid any type of lubricants, including silicone, on the clear lip seals.**

**Hydrocarbons such as kerosene, benzene, gasoline, etc., may damage products that contain o-rings or plastic components. Exposure to such hydrocarbons may cause the products to leak. Do not use the product(s) contained in this document on water supplies that contain hydrocarbons such as kerosene, benzene, gasoline, etc.**

**The optional water meter should not be used as the primary monitoring device for critical or health effect applications.**

Do not use pipe dope or other sealants on threads. Use of pipe dope may break down the plastics in the control valve. Use Teflon tape on the threaded inlet, outlet and drain fittings.

After completing any valve maintenance involving the drive assembly or the drive cap assembly and pistons, unplug power source jack from the printed circuit board (black wire) and plug back in or press and hold **NEXT** and **REGEN** buttons for 3 seconds. This resets the electronics and establishes the service piston position. The display should flash the software version and then reset the valve to the service position.

Solder joints near the drain must be done prior to connecting the drain line flow control fitting. Leave at least 6" between the drain line control fitting and solder joints when soldering pipes that are connected on the drain line control fitting. Failure to do this could cause interior damage to the drain line flow control fitting.

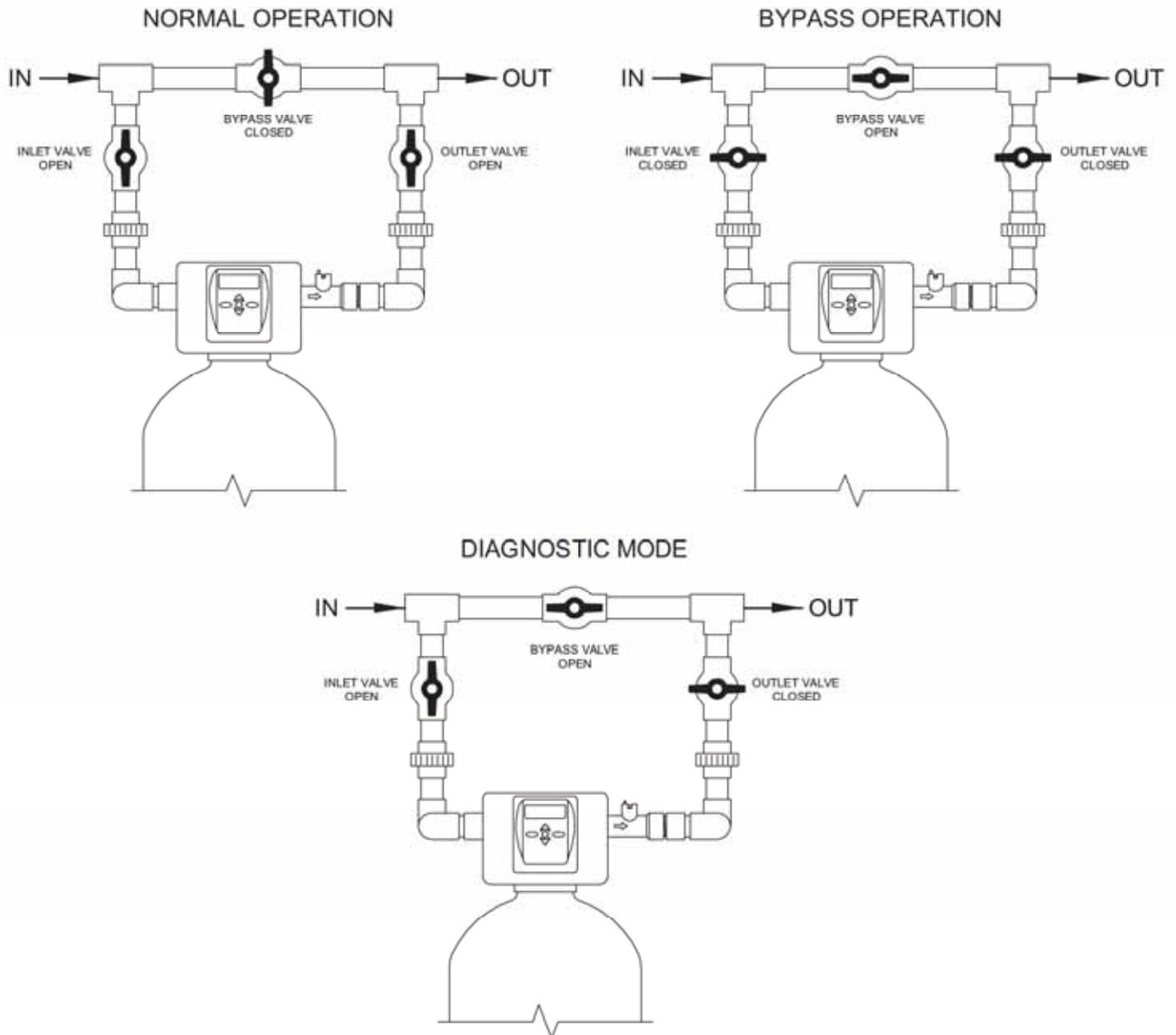
Install grounding strap on metal pipes.

**This water filter is not to be used for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after treatment.**



## BYPASS VALVE

(valves shown with optional meters)



**Normal Operation:** Water flows through the control valve during service and also allows the control valve to isolate the media bed during the regeneration cycle.

**Bypass Operation:** The control valve is isolated from the water pressure contained in the plumbing system. Untreated water is supplied to the plumbing system.

**Diagnostic Operation:** Water pressure is allowed to the control valve and the plumbing system while not allowing water to exit from the control valve to the plumbing system.

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## INSTALLATION INSTRUCTIONS

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(All electrical & plumbing should be done in accordance to all local codes)

1. LOCATION: Place the filter where you want to install it, making sure it is on a clean, level and firm surface. The plug-in power adaptor is for dry locations only. Use an uninterrupted electrical outlet installed within 15 feet of the filter. Locate the filter so the distance between the drain and the filter is as short as possible. Do not install the filter with less than 10 feet of piping between its outlet and the inlet of a water heater. Do not locate the filter where it or its connections (including the drain and overflow lines) will ever be subject to room temperatures under 40°F.

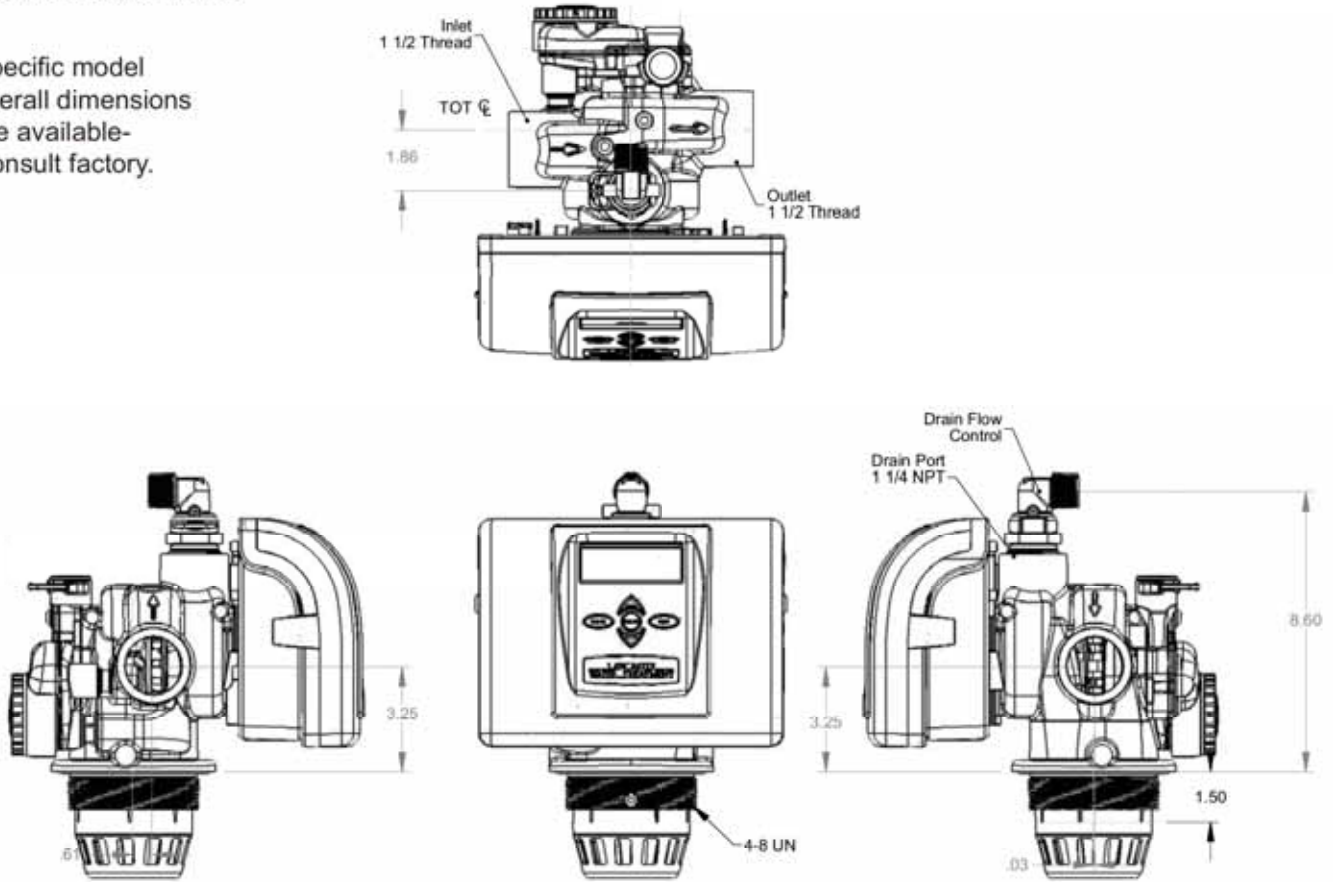
2. INLET/OUTLET: Connect to a supply line downstream of outdoor spigots. Install an inlet shutoff valve and plumb to the unit's inlet located at the left front as you face the unit. Installation of a bypass valve is recommended. If using plastic fittings ground the water filter per local electric codes. If a water meter is used, install the water meter on the outlet side of the control valve. It is recommended that the meter assembly be installed horizontally or in a downflow vertical position to reduce turbine bearing wear. The turbine assembly may be oriented in any direction, but is usually oriented pointing up to reduce drainage out of the pipes during service. Remove the cover and drive bracket and thread the water meter cord through the hole in the back plate. Reinstall the drive bracket. Weave the cord through the hooks on the right hand side of the drive bracket and connect the end to the three prong connector labeled METER on the printed circuit board. Replace the cover.

**3. A jumper ground wire should be installed between the inlet and outlet pipe whenever the metallic continuity of a water distribution piping system is interrupted. Install grounding strap on metal pipes.**

4. DRAIN: The drain must be able to handle the backwash rate of the filter. Correctly size the drain line for the filter's drain line flow control gpm rating. An adapter fitting is supplied with the valve that can connect a 3/4" fitting to be used with drain line flow controls up to 10 gpm, a 1" fitting to be used with drain line flow controls up to 25 gpm, or a 1-1/2" fitting to be used with drain line flow controls up to 60 gpm. If soldering, joints near the drain must be done prior to connecting the drain line flow control fitting. Leave at least 6" between the drain line control fitting and solder joints when soldering pipes that are connected on the drain line control fitting. Failure to do this could cause interior damage to the drain line flow control fitting. Avoid elevating the drain line above the control valve where possible. **Never insert a drain line directly into a drain, sewer line, or trap. Always allow an air gap between the drain line and the wastewater receptacle to prevent the possibility of sewage being back-siphoned into the filter.**

## Series LX15 LXCV15 Control Valve

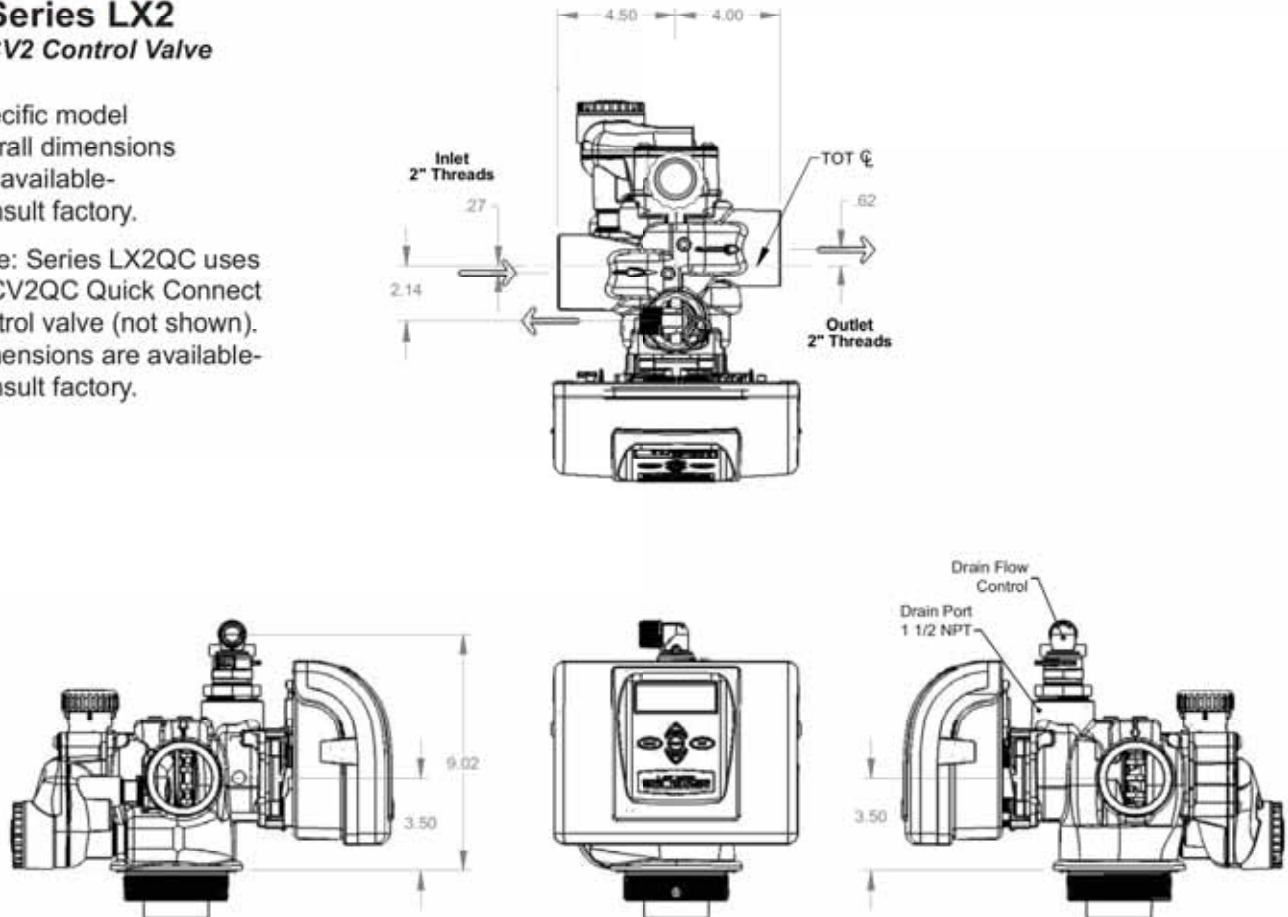
Specific model overall dimensions are available- Consult factory.



## Series LX2 LXCV2 Control Valve

Specific model overall dimensions are available- Consult factory.

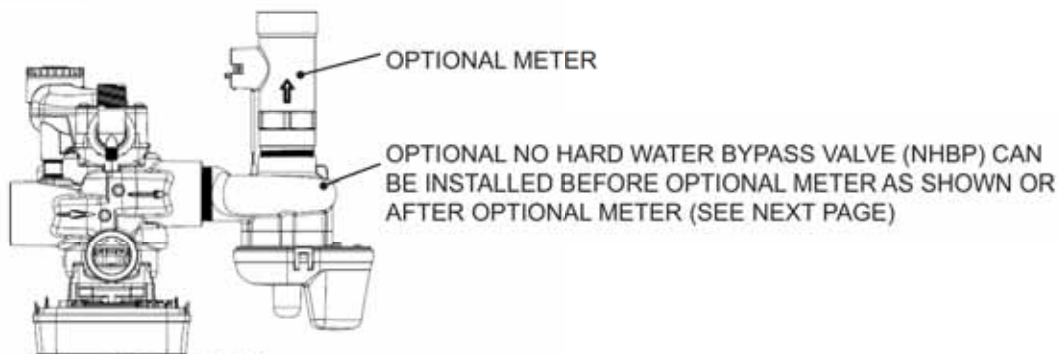
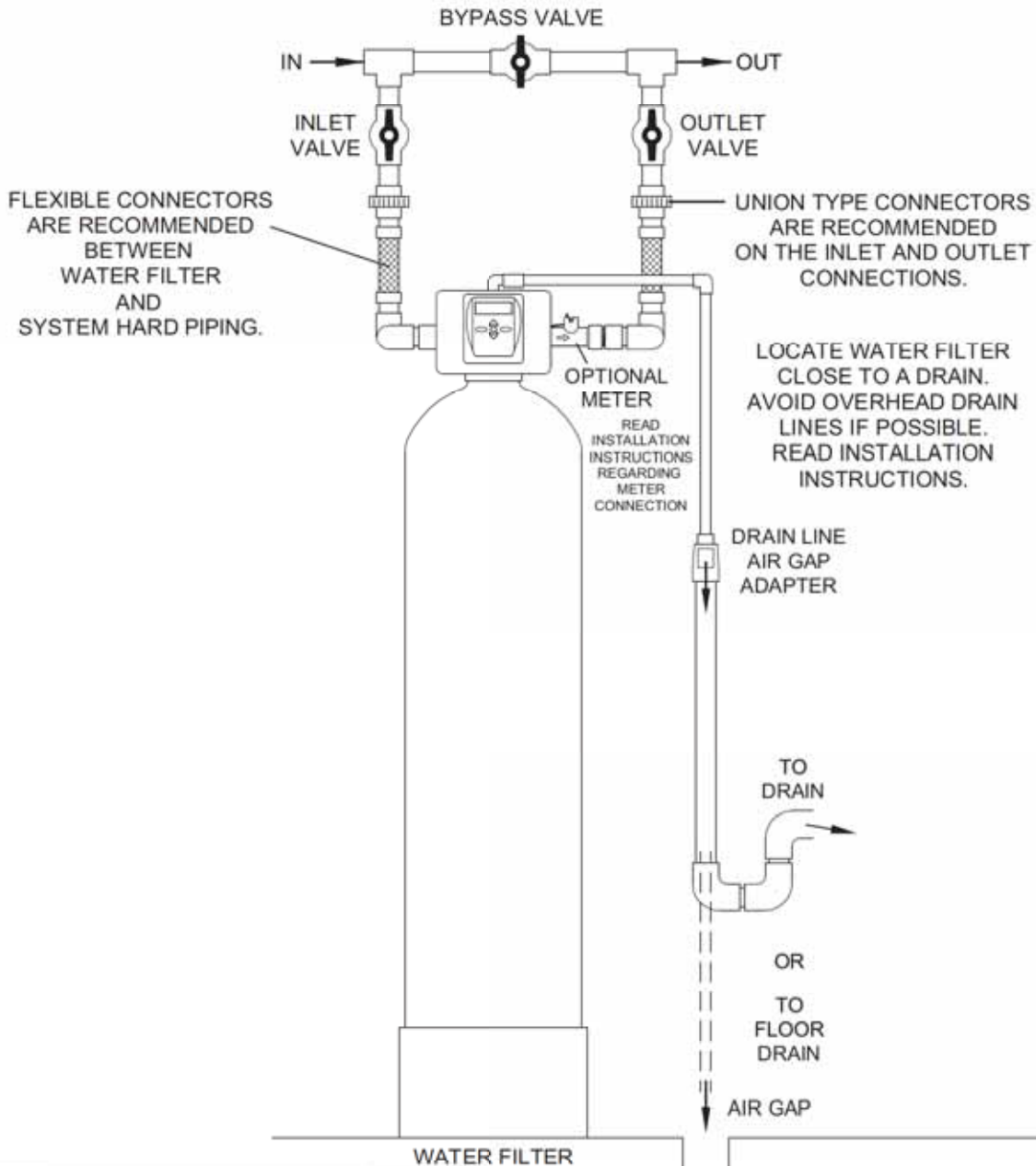
Note: Series LX2QC uses LXCV2QC Quick Connect control valve (not shown). Dimensions are available- Consult factory.



# TYPICAL SINGLE SYSTEM INSTALLATION DIAGRAM

SINGLE: ONE WATER FILTER WITH OPTIONAL METER.

BACKWASH INITIATION CHOICES: METER IMMEDIATE, METER DELAYED, METER DELAYED + IMMEDIATE (WITH OPTIONAL METER ONLY), DAYS OVERRIDE (1-28), AUXILIARY INPUT (SEE CUSTOM PROGRAMMING AND APPLICATION MANUAL).

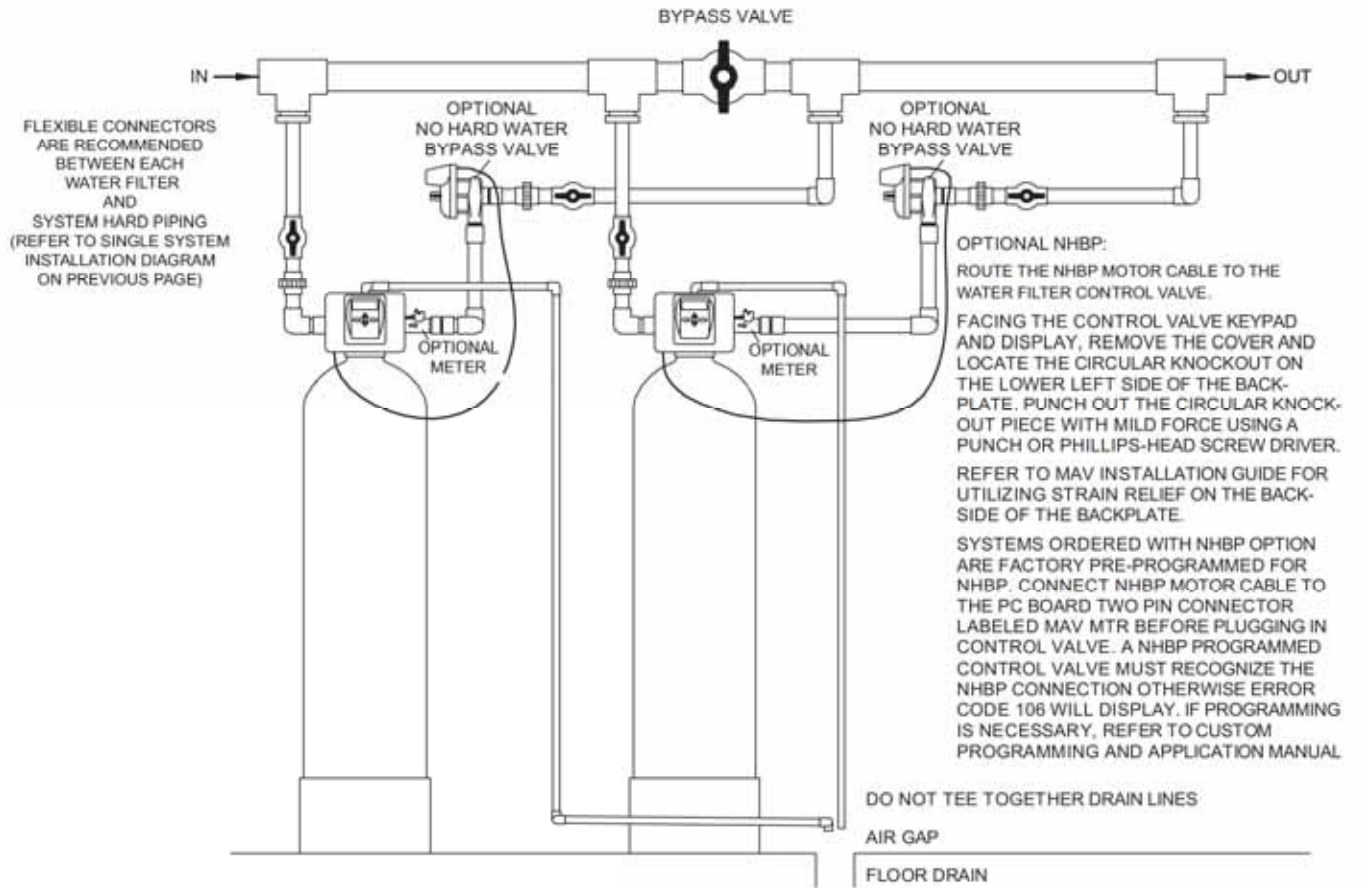


**TOP VIEW**  
WITH OPTIONAL NO HARD WATER BYPASS VALVE SHOWN



# TYPICAL TWIN PARALLEL SYSTEM INSTALLATION DIAGRAM

TWIN PARALLEL: TWO IDENTICAL FILTERS, EACH WITH ITS OWN OPTIONAL METER (IF ORDERED)  
 DAYS OVERRIDE OR METER DELAYED REGENERATION USED WITH OFFSET BACKWASH TIMES.  
 BOTH WATER FILTERS ARE ONLINE FOR DOUBLE THE SERVICE FLOW RATE.



## X FACTOR COMMERCIAL SERIES GENERAL SPECIFICATIONS

Operating Pressure;  
Max (PSI) 125

CAUTION: the filter cannot be subject to a vacuum due to loss of pressure (such as a water main break or submersible well pump check valve failure).

Water Operating Temp;  
Min to Max (°F) 40 to 110

CAUTION: do not locate the filter where it or its connections (including the drain line and overflow lines) will ever be subject to room temperatures under 40°F

AC Adaptor Input;  
Voltage - Hertz 120V AC - 60 Hz

AC Adaptor Output;  
Voltage - Current 12V AC - 500 mA

3 Volt Lithium Coin Cell  
Battery; type 2032

PC Board Relay  
Terminal Block DC  
Output; Voltage 12V DC \*\*

\*\* Relay Specifications: 12V DC Relay with a coil resistance not less than 80 ohms. If mounting the relay under the control valve cover, check for proper mounting location dimensions on the backplate.

No user serviceable parts are on the PC board, motor, or the power adapter. The means of disconnection from the main power supply is by unplugging the power adapter from the wall.

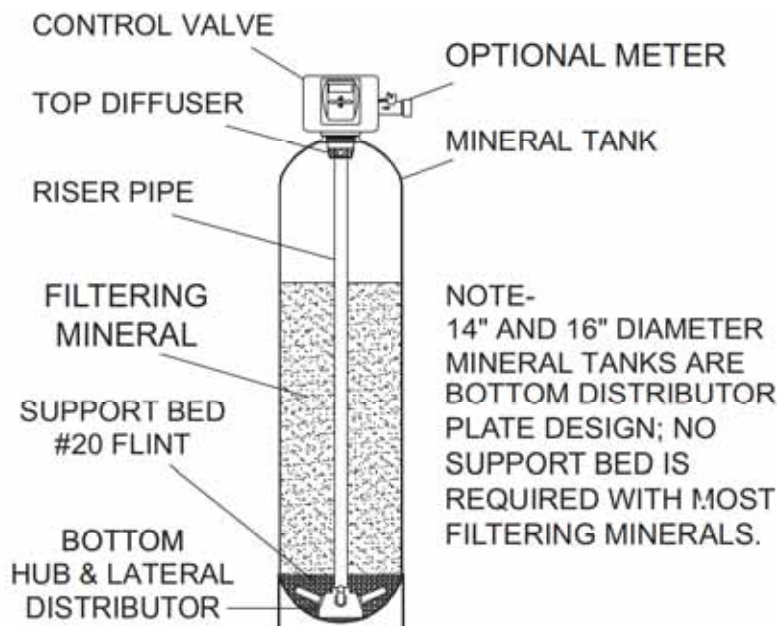
Control Valve;  
Inlet/Outlet/ Drain Port NPT size See page 7

Optional Meter Accuracy ± 5%

Optional Meter Flow Range 1.5": 0.5-75 gpm, 2": 1.5-150 gpm

**SPECIFIC MODEL # SPECIFICATIONS ARE AVAILABLE. PLEASE CONSULT FACTORY.**

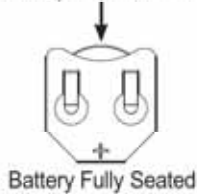
CONTROL VALVE, OPTIONAL METER PARTS DIAGRAMS ON NEXT PAGES.



## X-FACTOR FRONT COVER AND DRIVE ASSEMBLY

Drawing No.	Order No.	Description	Quantity
1	V3692-02LW	LP Front Cover Assembly	1
2	V3107-01	Motor	1
3	V3106-01	Drive Bracket & Spring Clip	1
4	V3757LP-BOARD	PC Board	1
5	V3110	Drive Gear 12x36	3
6	V3109	Drive Gear Cover	1

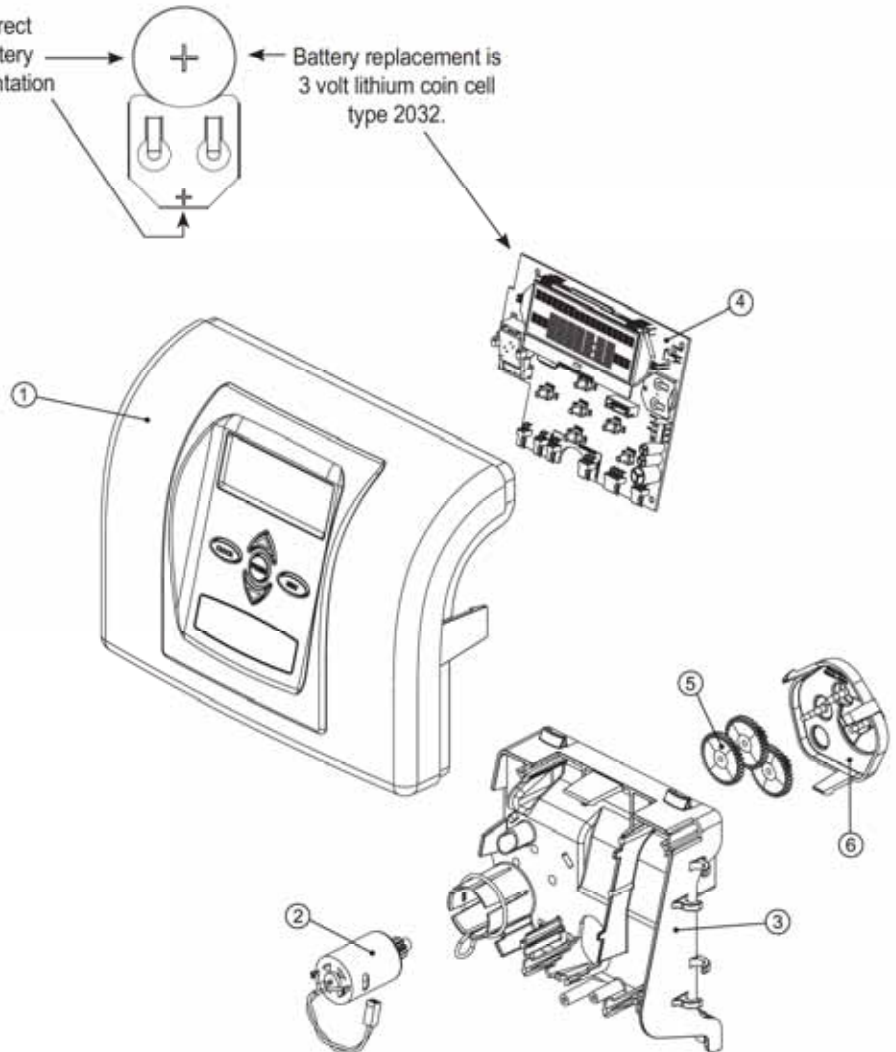
When replacing the battery, align positives and push down to fully seat.



Correct Battery Orientation

Battery replacement is 3 volt lithium coin cell type 2032.

AC Adapter	(Not shown)
Order No.	V3186
Supply Voltage	120V AC
Supply Frequency	60 Hz
Output Voltage	12V AC
Output Current	500 mA

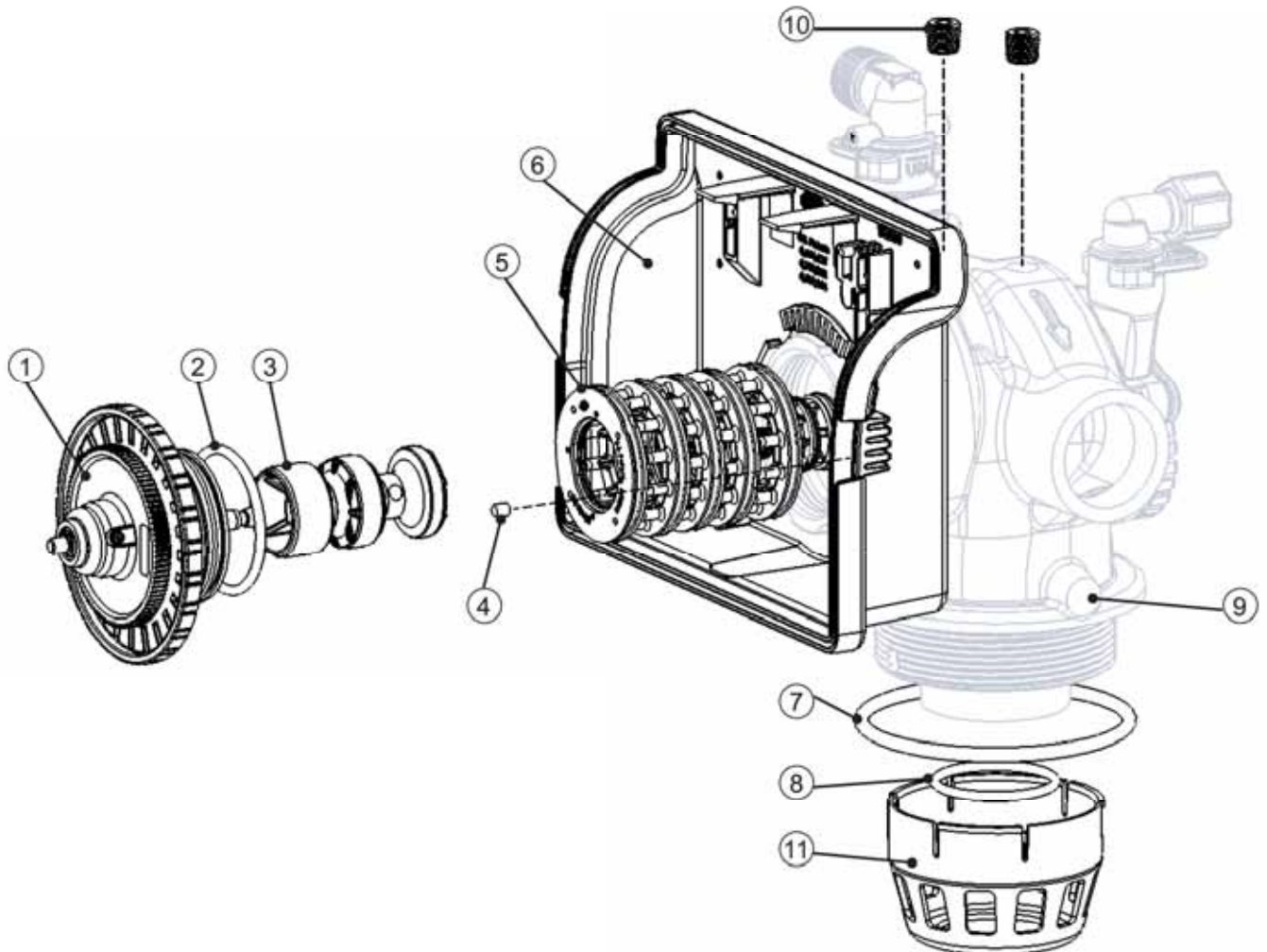


After completing any valve maintenance involving the drive assembly or the drive cap assembly and pistons, unplug power source jack from the printed circuit board (black wire) and plug back in or press and hold **NEXT** and **REGEN** buttons for 3 seconds. This resets the electronics and establishes the service piston position. The display should flash the software version and then reset the valve to the service position.

## LX15 SERIES

### LXCV15 Control Valve Drive Cap Assembly, Downflow Piston, Spacer Stack Assembly and Main Body

Drawing No.	Order No.	Description	Quantity
1	V3004	Drive Cap Assembly	1
2	V3135	O-ring 228	1
3	V3407	Piston Downflow Assembly	1
4	V3423	Backplate Dowel	1
5	V3430	Spacer Stack Assembly	1
6	V3178LP	Back Plate	1
7	V3419	O-ring 347	1
8	V3641	O-ring 225 for valve bodies with NPT threads	1
9	V3950-01	1.5 NPT Valve Body, Gen 2	1
10	V3468	Test Port Plug, 1/4" NPT	2
11	D1300	Top Baffle Diffuser, 1.5/50MM	1

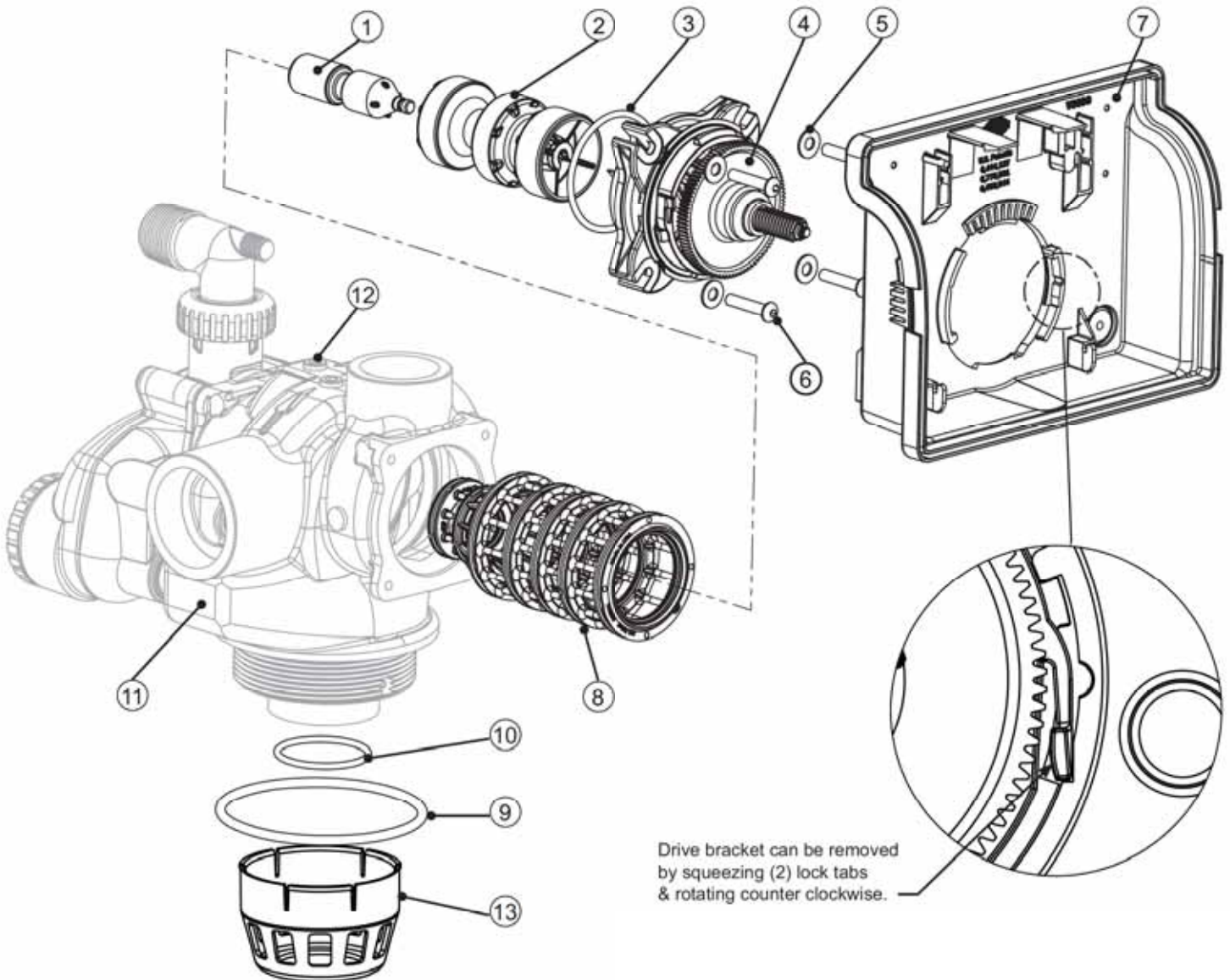




## LX2 SERIES

### LXCV2 Control Valve Drive Cap Assembly, Downflow Piston, Regenerant Piston, Spacer Stack Assembly and Main Body

Drawing No.	Order No.	Description	Quantity
1	V3729	Brine Piston Assembly	1
2	V3725	Piston Downflow Assembly	1
3	V3452	O-ring 230	1
4	V3728	Drive Cap Assembly	1
5	V3724	Washer Flat SS 1/4	4
6	V3642	Bolt BHCS S/S 1/4-20X1.25	4
7	V3178LP	Back Plate	1
8	V3729	Stack Assembly	1
9	V3419	O-ring 347	1
10	V3641	O-ring 225 for valve bodies with NPT threads	1
11	V3700-01	2 NPT Valve Body	1
12	V3468	Plug, 1/4" NPT	2
13	D1300	Top Baffle Diffuser, 1.5/50MM	1

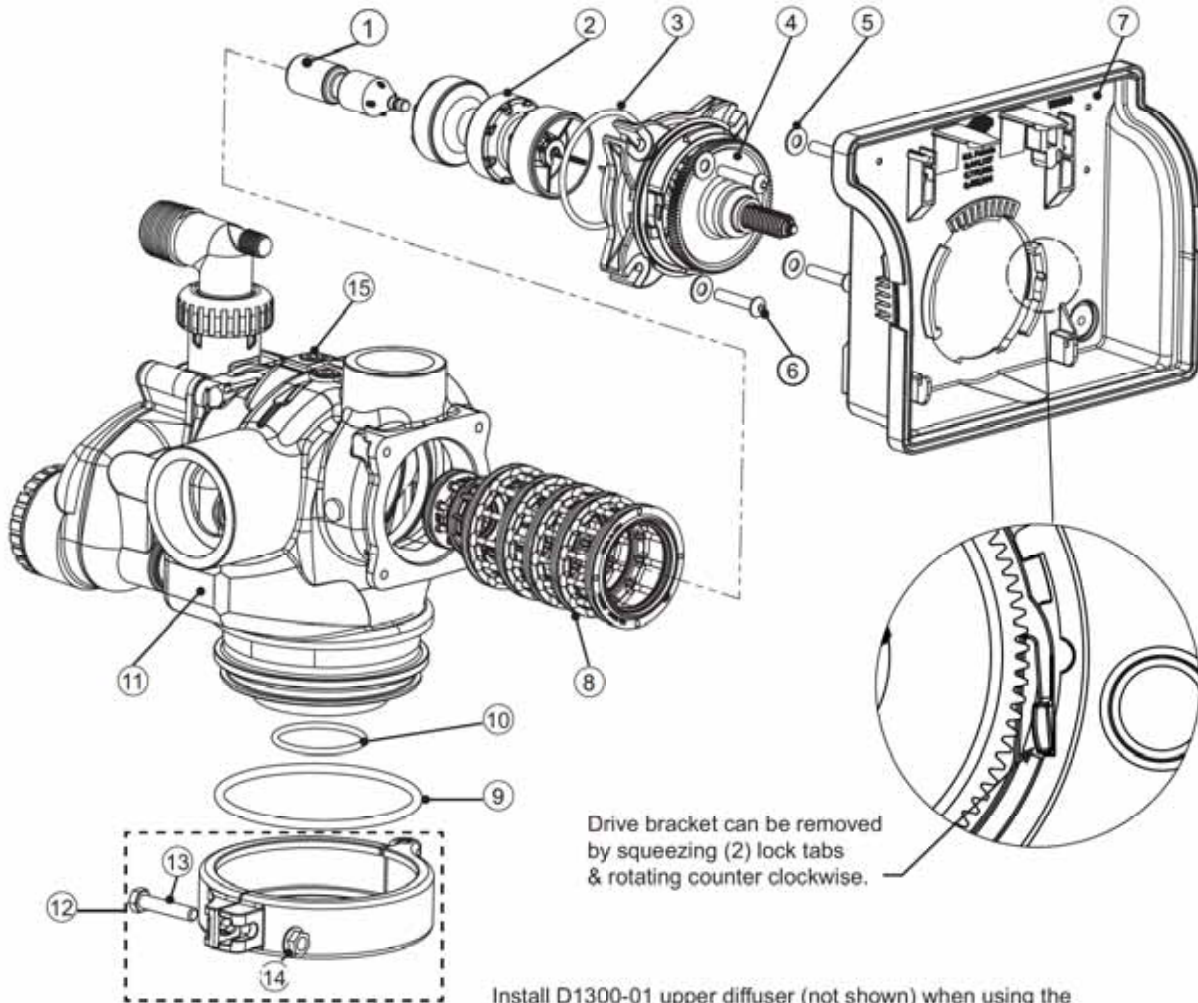


## LX2QC SERIES

### LXCV2QC Quick Connect Control Valve Drive Cap Assembly, Downflow Piston, Regenerant Piston, Spacer Stack Assembly and Main Body

Drawing No.	Order No.	Description	Quantity
1	V3726	Brine Piston Assembly	1
2	V3725	Piston Downflow Assembly	1
3	V3452	O-ring 230	1
4	V3728	Drive Cap Assembly	1
5	V3724	Washer Flat SS 1/4	4
6	V3642	Bolt BHCS S/S 1/4-20X1.25	4
7	V3178LP	Back Plate	1
8	V3729	Stack Assembly	1
9	V3279	O-ring 346	1
10	V3280	O-ring 332 for valve bodies with NPT threads	1
11	V3737-01	2 NPT QC Valve Body	1
12	V3054*	4IN Base Clamp Assembly	1
13	V3276	Bolt Hex 5/16 - 18 x 1-3/4	1
14	V3269	Nut 5/16 - 18 SS Hex	1
15	V3468	Plug, 1/4" NPT	2
Not Shown	D1300-01	Top Baffle Diffuser, 2/63MM	1

\* V3054 4IN Base Clamp Assy includes a V3276 Bolt Hex 5/16 - 18 X 1-3/4 and V3269 Nut 5/16 - 18 SS Hex

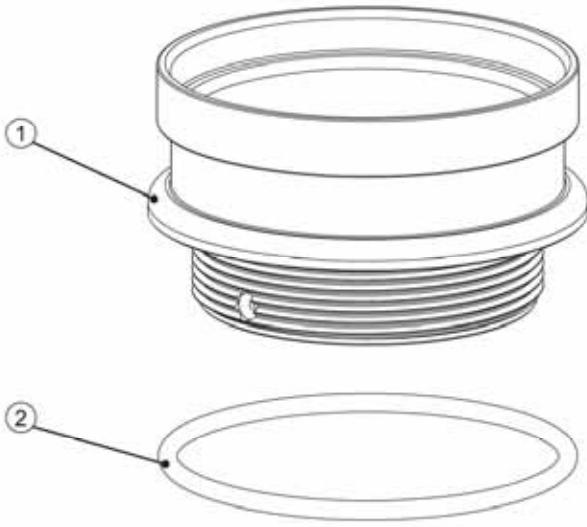


Drive bracket can be removed by squeezing (2) lock tabs & rotating counter clockwise.

Install D1300-01 upper diffuser (not shown) when using the 4" Quick Disconnect (V3064).

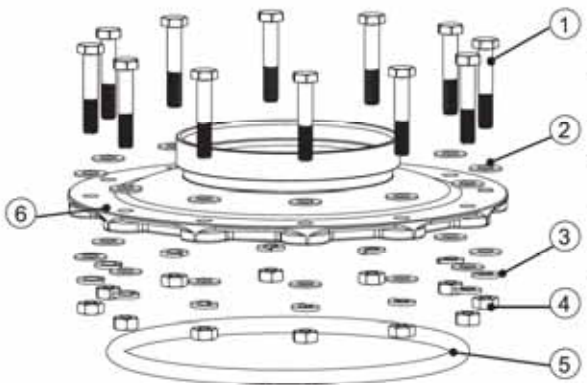
# LX2QC SERIES

## V3064 4 Inch Base Asy



Drawing No.	Order No.	Description	Quantity
1	V3202-01	Base	1
2	V3281	O-Ring 348	1

## V3055 Flange Base Asy



Drawing No.	Order No.	Description	Quantity
1	V3444	Screw Hexcap 5/16-18 x 2 SS	12
2	V3293	Washer SS 5/16 Flat	24
3	V3445	Washer Split Lock 5/16 SS	12
4	V3447	Nut Hex 5/16-18 Full SS	12
5	COR60FL	O Ring 6 Flange Adapter (Park)	1
6	V3261-01	Flange Base	1

## V3260-02 Side Mount Base NPT





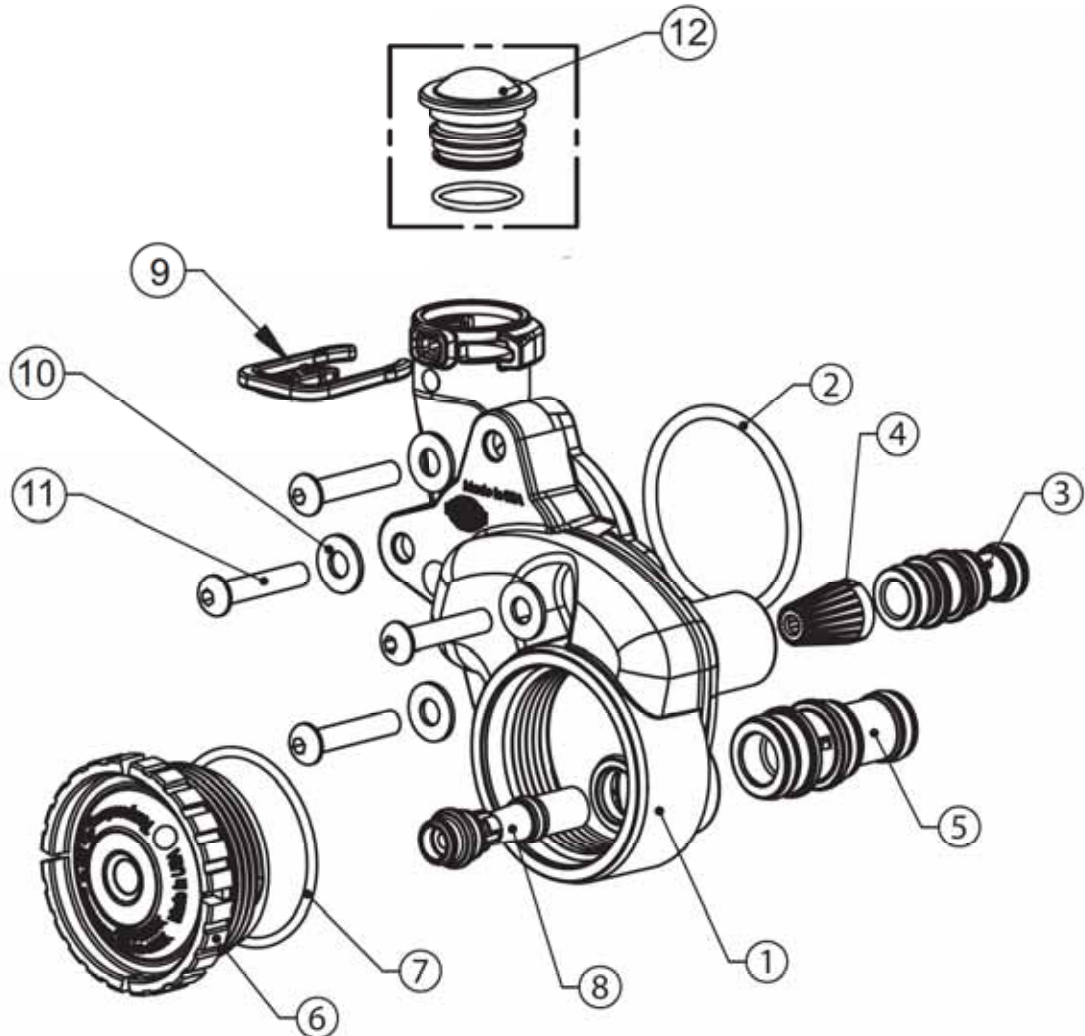
# LX15 SERIES

## LXCV15 Injector Valve Body and Injector

Drawing No.	Order No.	Description	Quantity
1	V3967	Injector Body, Welded Assembly	1
2	V3441	O-ring -226	1
3	V3968***	Injector Feed Tube	1
4	V3177-01	Injector Screen	1
5	V3969****	Injector Draw Tube	1
6	V3176	Injector Cap	1
7	V3152	O-ring -135	1
8	V3010-152	Injector Plug	1
9	H4615	Retaining Clip	1
10	V3724	Washer, Flat Stainless Steel	4
11	V3642	Bolt, BHCS Stainless Steel 1/4-20x 1 1/4	4
12	V3195-01	Refill Port Plug	1

\*\*\* V3968 contains one D1240 O-RING 111 and two V3155 O-RING 112

\*\*\*\* V3969 contains one V2638 O-RING 113 and two V3157 O-RING 115

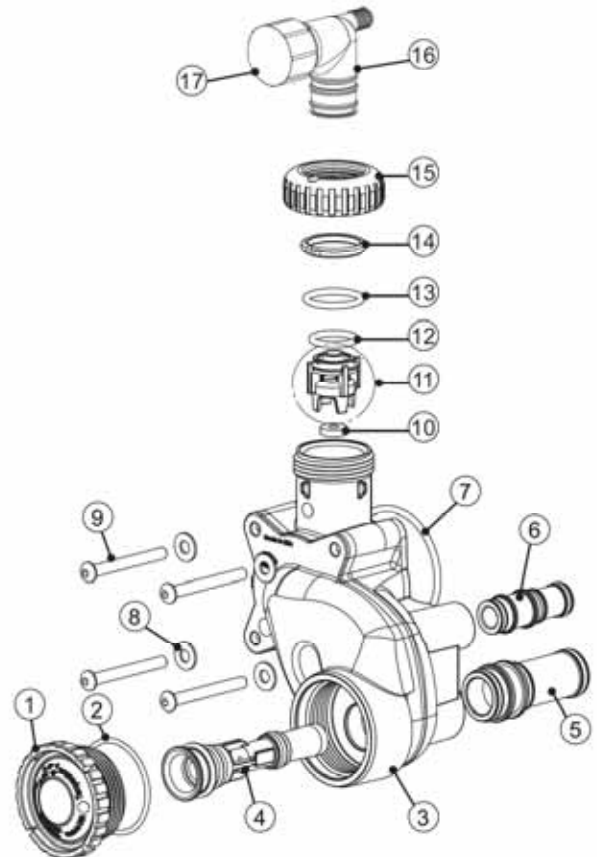




## LX2 & LX2QC SERIES

### LXCV2 and LXCV2QC Injector Valve Body

Drawing No.	Order No.	Description	Quantity
1	V3477	Injector Cap	1
2	V3152	O-Ring 135	1
3	V3727	Injector Body Assembly	1
4	See page 22	Injector	1
5	V3731	Inj Draw Tube Down Assembly	1
6	V3730	Inj Feed Tube Down Assembly	1
7	V3315	O-Ring 231	1
8	V3724	Washer Flat SS 1/4	4
9	V3643	Bolt BHCS S/S 1/4-20x2.25	4
10	V3162-022	2.2 gpm flow control for Models LX2 & LX2QC - 120 thru 300	1
	V3162-053	5.3 gpm flow control for Models LX2&LX2QC - 450 thru 1200	1
11	V3231	Refill FLOWCNTRL Retainer	1
12	V3277	O-Ring 211	1
13	V3105	O-Ring 215	1
14	V3150	Split Ring	1
15	V3151	Nut 1 QC	1
16	V3149**	FTG 1 PVC Male NPT Elbow for Models LX2 & LX-2QC-450 thru 1200	1
Not Shown	V3189*	FTG 3/4&1 PVC SLVNT 90 for Models LX2 & LX-2QC-120 thru 300	1
17	V3499	Cap	1



\* Use H4915 fitting kit for 1/2" O.D. polytube connection. If brine tube length exceeds 6 feet, use H4916 fitting kit for 5/8" polytube connection, increasing polytube size to 5/8" O.D. Refer to installation section.

\*\* Use 1" pipe to connect to brine tank. Refer to installation section.

A V3731 INJ DRAW TUBE DOWN ASY contains one D1262 O-RING 118 and two V3639 O-RING 119.

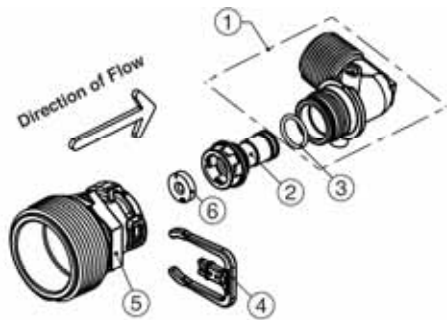
A V3730 INJ FEED TUBE DOWN ASY contains three V3638 O-RING 113.

## Drain Line Flow Controls

See drain line flow control washer section for available flow selections.

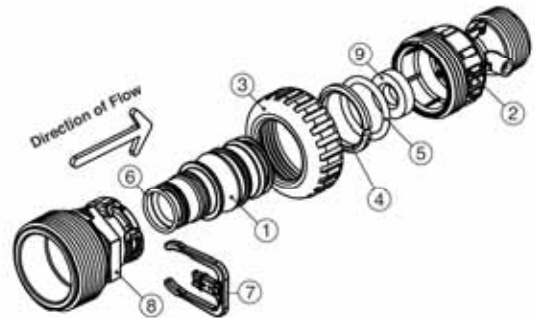
### PVC Elbow, 0.7-10 GPM

Item	Part#	Description	Qty.
	V3158-04	LX2 Drain Fitting, 3/4" Elbow	
1	V3158-03	Drain Elbow, 3/4 NPT	1
2	V3159-01	DLFC Retainer Assembly	1
3	V3163	O-ring, -019	1
4	H4615	Locking Clip	1
5	V3414	LX15 DLFC Adapter	1
5	V3983	LX2 DLFC Adapter	1
6	V3162-xx	See DLFC Section	1



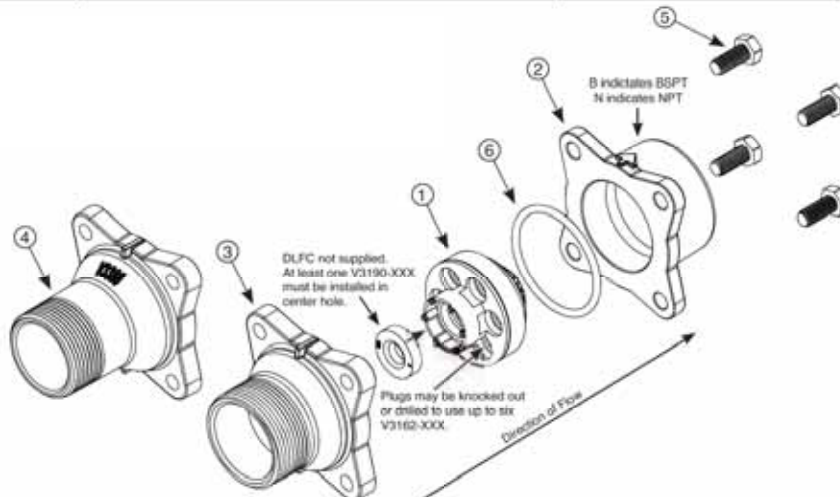
### Inline Plastic, 9 - 25 GPM

Item	Part#	Description	Qty.
	V3008-04	LX15 Drain Fitting, 1" Straight	
	V3008-05	LX2 Drain Fitting, 1" Straight	
1	V3167	Drain Fitting Adapter, 1" NPT	1
2	V3166-01	Drain Fitting Body	1
3	V3151	Nut, QC	1
4	V3150	Split Ring	1
5	V3105	O-ring -215	1
6	V3163	O-ring -019	1
7	H4615	Locking Clip	1
8	V3414	LX15 DLFC Adapter	1
8	V3983	LX2 DLFC Adapter	1
9	V3190-xx	See DLFC Section	1



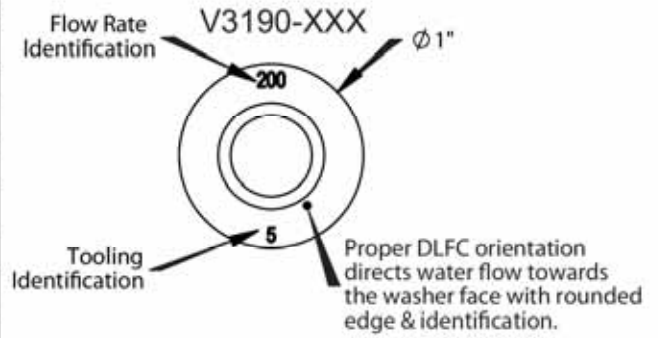
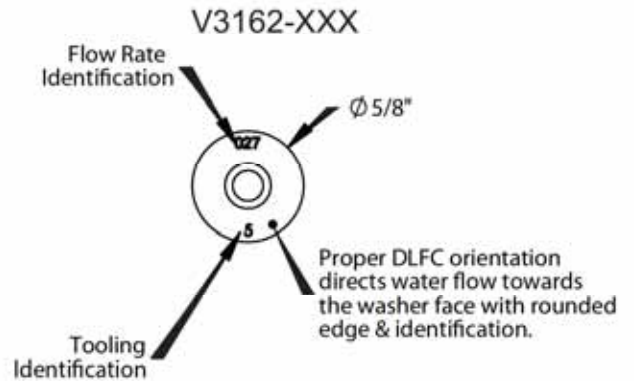
### MxF Stainless Steel, 9-85 GPM

Drawing No.	Order No.	Description	Quantity	
			V3079	V3080
1	V3081	LX2 RETAINER DLFC ASY	1	1
2	V3645	LX2 DLFC FLANGE OUTLET FNPT	1	1
3	V3646	LX2 DLFC FLANGE INLET MNPT		1
4	V3388	LX15 DLFC FLANGE INLET MNPT	1	
5	V3652	BOLT HEXHD S/S HCS 5/16-18X3/4	4	4
6	V3441	O-RING 226	1	1
7	V3162-xx	See DLFC Section	0-6	0-6
8	V3190-xx	See DLFC Section	1	1



## Drain Line Flow Control Washers

Order No.	Description
V3162-007	0.7 GPM Drain line flow control
V3162-010	1.0 GPM Drain line flow control
V3162-013	1.3 GPM Drain line flow control
V3162-017	1.7 GPM Drain line flow control
V3162-022	2.2 GPM Drain line flow control
V3162-027	2.7 GPM Drain line flow control
V3162-032	3.2 GPM Drain line flow control
V3162-042	4.2 GPM Drain line flow control
V3162-053	5.3 GPM Drain line flow control
V3162-065	6.5 GPM Drain line flow control
V3162-075	7.5 GPM Drain line flow control
V3162-090	9.0 GPM Drain line flow control
V3162-100	10.0 GPM Drain line flow control
V3190-090	9.0 GPM Drain line flow control
V3190-100	10.0 GPM Drain line flow control
V3190-110	11.0 GPM Drain line flow control
V3190-130	13.0 GPM Drain line flow control
V3190-150	15.0 GPM Drain line flow control
V3190-170	17.0 GPM Drain line flow control
V3190-200	20.0 GPM Drain line flow control
V3190-250	25.0 GPM Drain line flow control



Select control from table for proper backwash, based on particular model specifications. Specifications are available - consult factory.

## Servicing Drain Line Flow Control

### Disassembly and Inspection

Depending on the flow control installed on the unit, remove the red plastic retaining clip (plastic flow control) or the (4) screws (stainless steel flow control) to expose the flow control and retainer. The flow controls can be removed by flexing the washer with a small screwdriver being careful not to mar the plastic seat. The flow control and retainer may be chemically cleaned using dilute sodium bisulfite or vinegar, do not clean with abrasive methods.

### Reassembly

Insert the flow washers back into their respective bores, confirming correct flow control orientation (see diagram in the exploded view section). Place back into the housing and reassemble the housing/fitting. Do not use Vasoline, oils or other unacceptable lubricants on o-rings. A silicone lubricant may be used on the o-ring of the elbow or the retainer, but not on the flow control or its seat.

SISTEMAS DE FILTRADO Y TRATAMIENTO DE FLUIDOS, S.L.  
 POL. IND. LA ARMENTERA PARC.87  
 22400 - MONZON (HUESCA)  
 Tfn. 974-401933



## WIRING DIAGRAM OF CONTROLLER

PROJECT: STF-BETTER#7000\_SP

DESCRIPTION: UV LAMPS FILTER  
 ACTIVATED CARBON FILTER  
 INVERTER + 2 PUMPS  
 Power Supply: 208Vac-60Hz-3Ph

Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph		
Date	21/01/2019	Checked by	D.GRACIA			
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	10	Description: MAIN PAGE / TITLE





# INDEX

Sheet	Description	Extra Information	Date		
10	MAIN PAGE / TITLE		22/05/2020		
20	INDEX		28/05/2020		
20.a	INDEX		28/05/2020		
30	TECHNICAL FEATURES		25/05/2020		
40	POWER SUPPLY, 24Vdc SUPPLY AND ACCESORIES		25/05/2020		
50	FILTER MOTOR SUPPLY & LAMPS MOTOR SUPPLY		25/05/2020		
60	FLUSHING VALVE SUPPLY (HIDRAULIC OR MOTORIZED VALVE)		25/05/2020		
70	FLUSHING VALVE SUPPLY (1/3)		25/05/2020		
80	FLUSHING VALVE SUPPLY (2/3)		25/05/2020		
90	FLUSHING VALVE SUPPLY (3/3)		25/05/2020		
100	PUMP SUPPLY (INVERTER)		25/05/2020		
101	PUMP SUPPLY (MOTORS SUPPLY)		25/05/2020		
110	BY-PASS VALVE SUPPLY		25/05/2020		
120	UVA LAMPS SUPPLY		25/05/2020		
130	PLC LAY-OUT		25/05/2020		
140	PLC SUPPLY (1/2)		25/05/2020		
141	PLC SUPPLY (2/2)		25/05/2020		
150	DIGITAL INPUTS A1 (1/2)		25/05/2020		
160	DIGITAL INPUTS A1 (2/2)		25/05/2020		
170	DIGITAL INPUTS A2 (1/2)		25/05/2020		
180	DIGITAL INPUTS A2 (2/2)		25/05/2020		
190	DIGITAL INPUTS A3 (1/2)		25/05/2020		
200	DIGITAL INPUTS A3 (2/2)		25/05/2020		
210	ANALOGICAL INPUTS A1 (1/1)		25/05/2020		
220	ANALOGICAL INPUTS A4 (1/2)		25/05/2020		
230	ANALOGICAL INPUTS A4 (2/2)		25/05/2020		
240	DIGITAL OUTPUTS A1 (1/2)		25/05/2020		
250	DIGITAL OUTPUTS A1 (2/2)		25/05/2020		
260	DIGITAL OUTPUTS A2 (1/2)		25/05/2020		
270	DIGITAL OUTPUTS A2 (2/2)		25/05/2020		
280	DIGITAL OUTPUTS A3 (1/2)		25/05/2020		
290	DIGITAL OUTPUTS A3 (2/2)		25/05/2020		
300	ANALOGICAL OUTPUTS A4 (1/1)		25/05/2020		

Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
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Issued by	D.GRACIA	Revision	21/01/2019	Sheet	20	Description:	

# INDEX

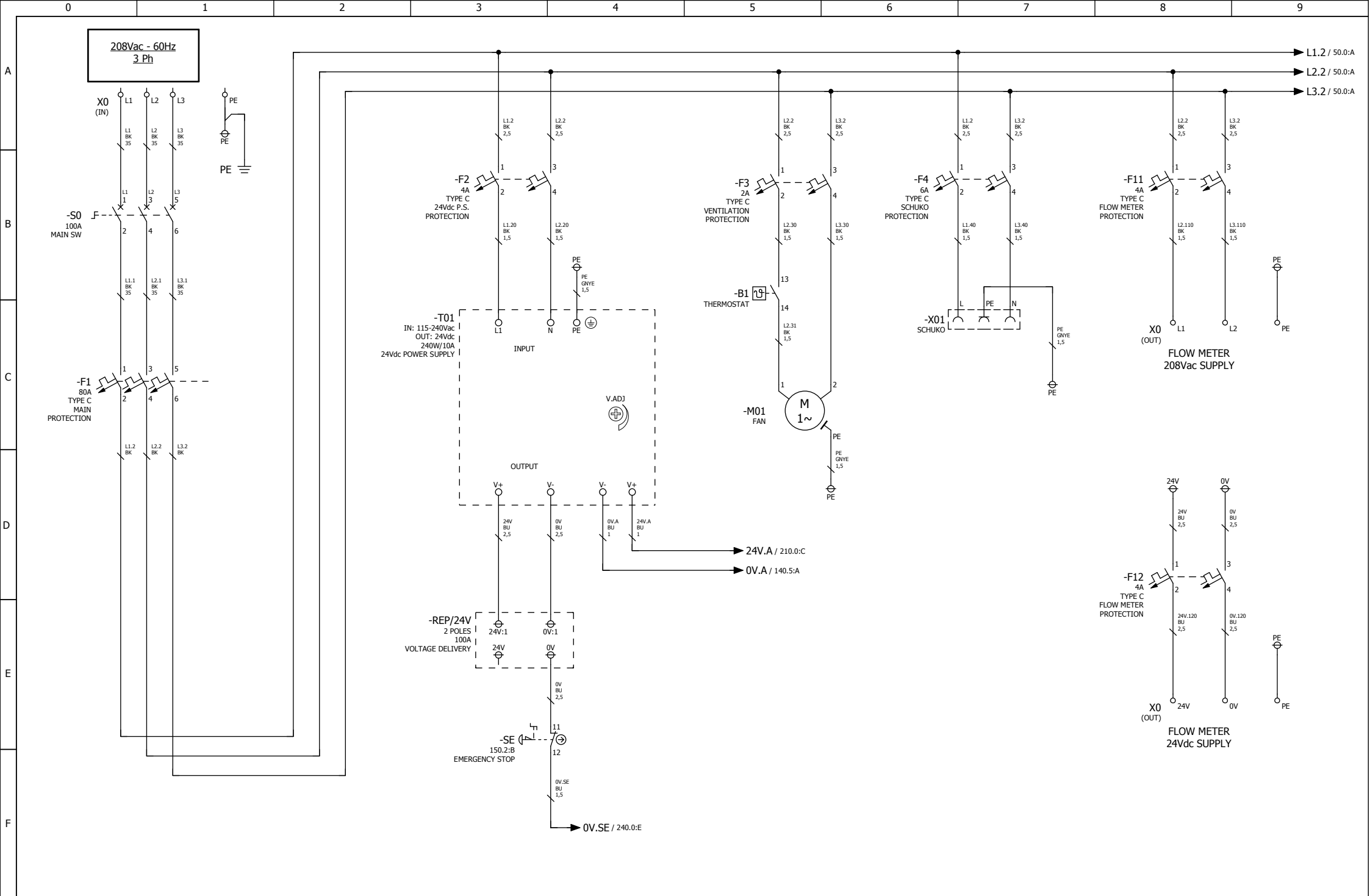
Sheet	Description	Extra Information	Date		
310	LAMPS		25/05/2020		
320	FREE VOLTAGE CONTACTS		28/05/2020		
330	INTERNAL LAY-OUT		28/05/2020		
340	CONTACTS BLOCK		28/05/2020		
350	EXTERNAL LAY-OUT		28/05/2020		



# Technical Features

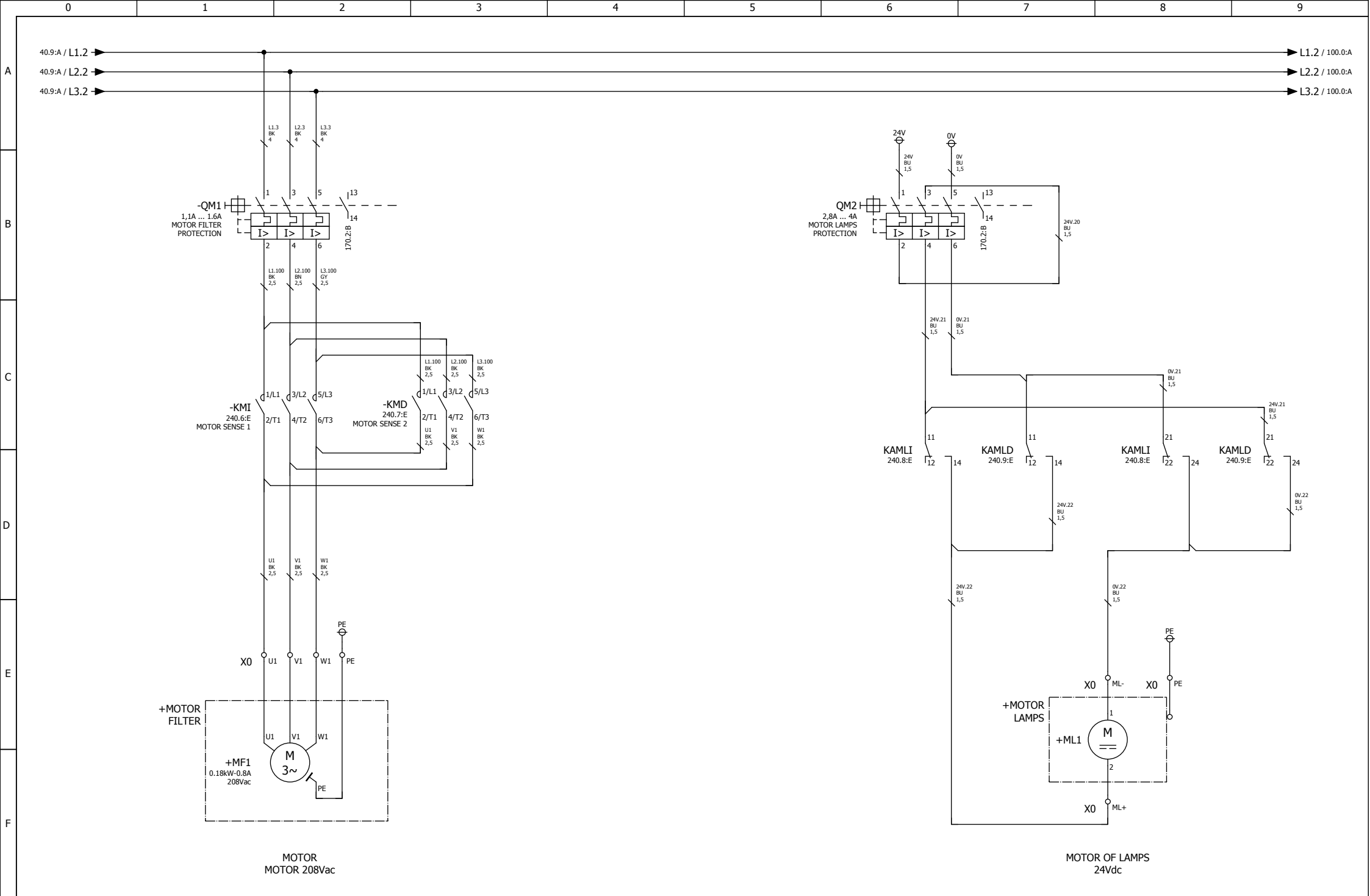
<h2>ENCLOSURE</h2>	<p>TRADE MARK / SERIE:          =====          RITTAL / COMPACT ENCLOSURES AE</p> <p>SIZE:          =====          1400*1000*300</p> <p>CHARACTERISTICS:          =====</p> <p>Material: Enclosure: Sheet steel          Door: Sheet steel, all-round foamed-in PU seal          Surface finish: Enclosure and door: Dipcoat primed, powder-coated on the outside, textured paint          Mounting plate: Zinc-plated          Colour: RAL 7035          Protection category IP to IEC 60 529: IP 55          Protection category NEMA: NEMA 12          IK Code: IK08          Supply includes: Enclosure with hinged door(s), of all-round solid construction          Gland plate(s) in enclosure base          Mounting plate          Lock: 3 mm double-bit          3-point lock systemU seal</p>
<h2>ELECTRICAL INFORMATION</h2>	<p>POWER SUPPLY -- 208Vac / 60Hz / 3Ph</p> <p>CONTROL SUPPLY -- 24Vdc</p>
<h2>COLORS CODE</h2>	<p>208Vac. PHASE -- BLACK          24Vdc -- BLUE          PE -- YELLOW/GREEN</p>
<h2>MINIMUM CROSS SECTION</h2>	<p>208Vac -- 1,5 mm<sup>2</sup>          24Vdc -- 1 mm<sup>2</sup></p>

Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	30	Description:	



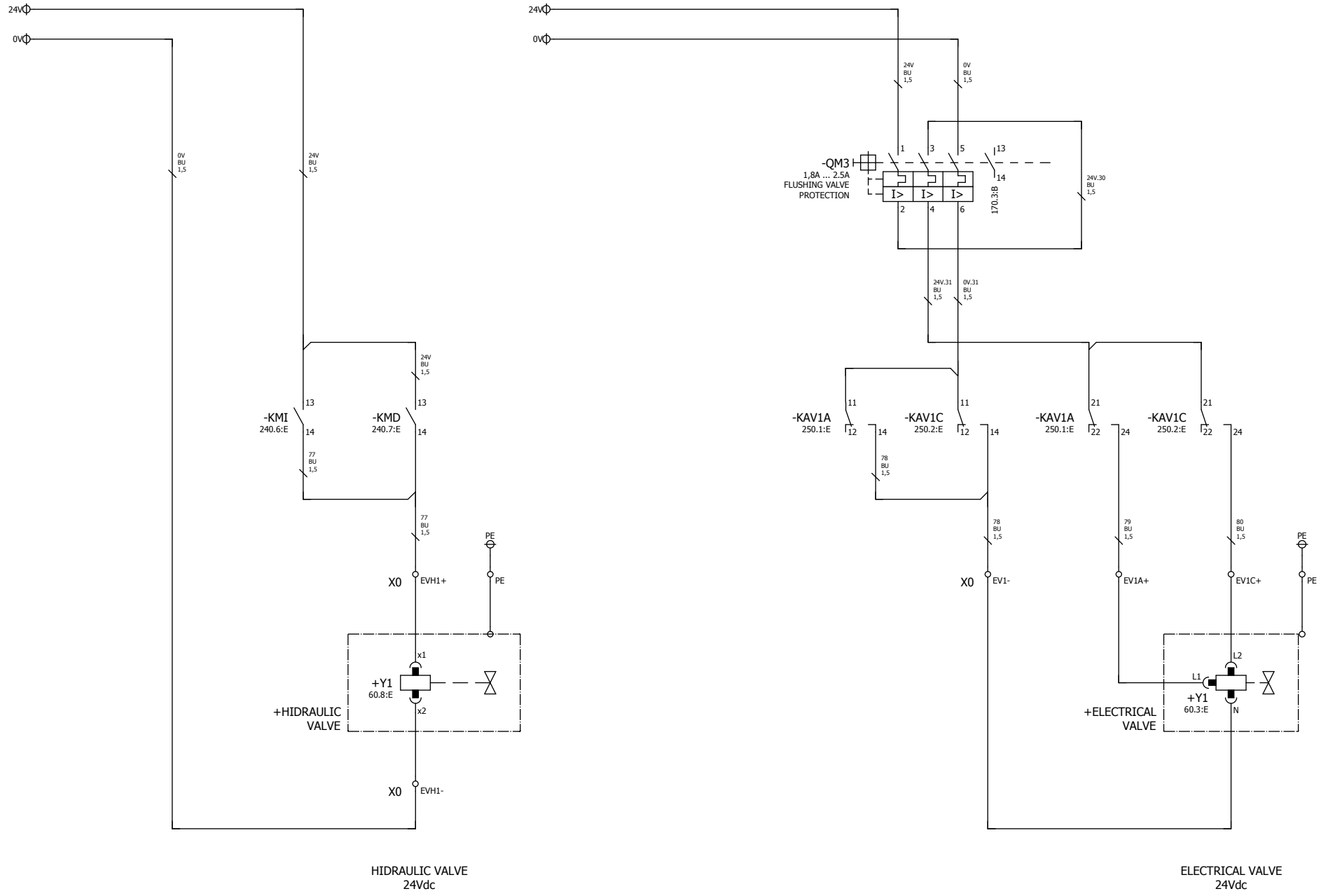
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Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	40	Description:	





Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	50	Description:	

# FLUSHING VALVE



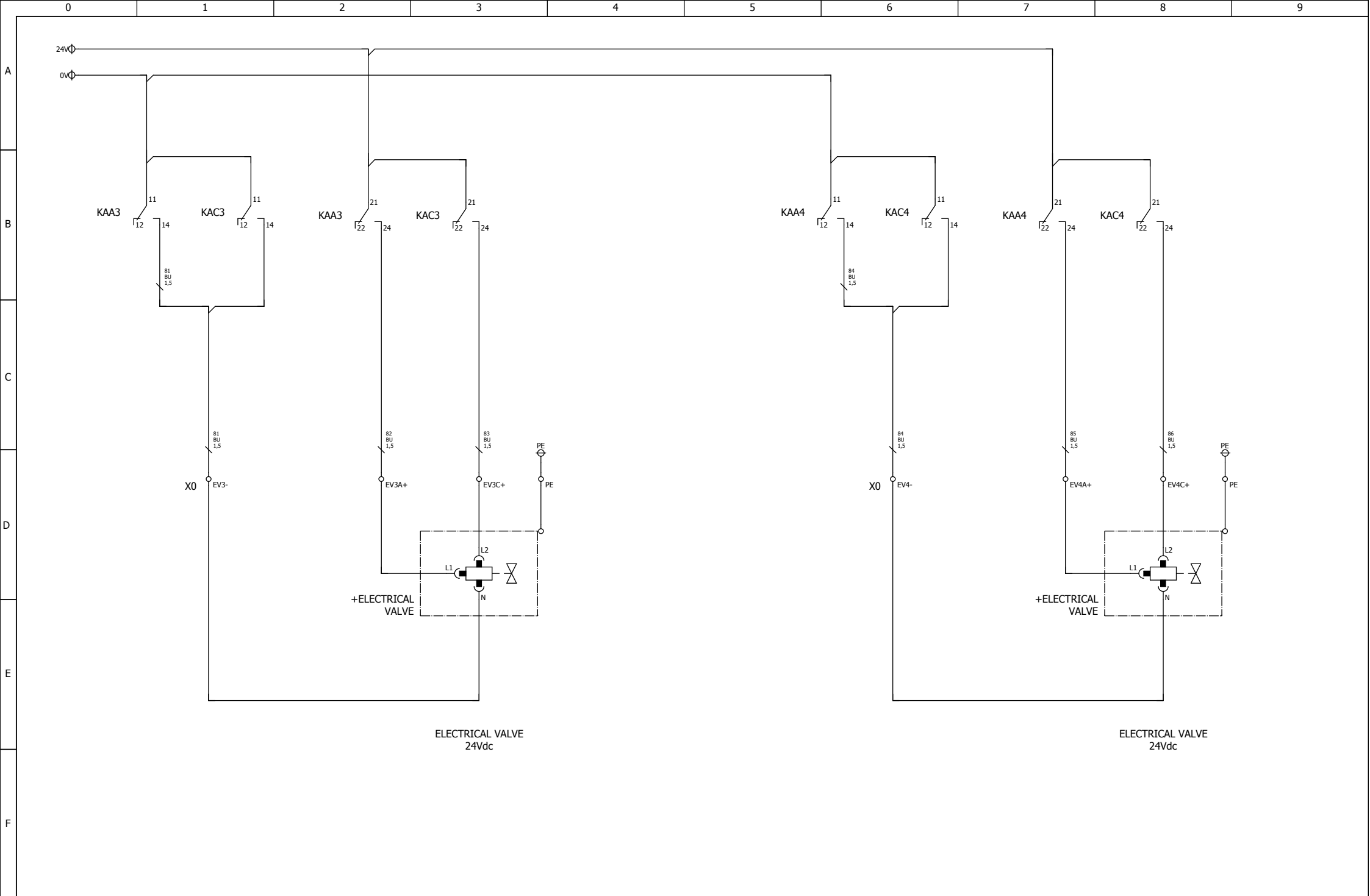
HIDRAULIC VALVE  
24Vdc

ELECTRICAL VALVE  
24Vdc

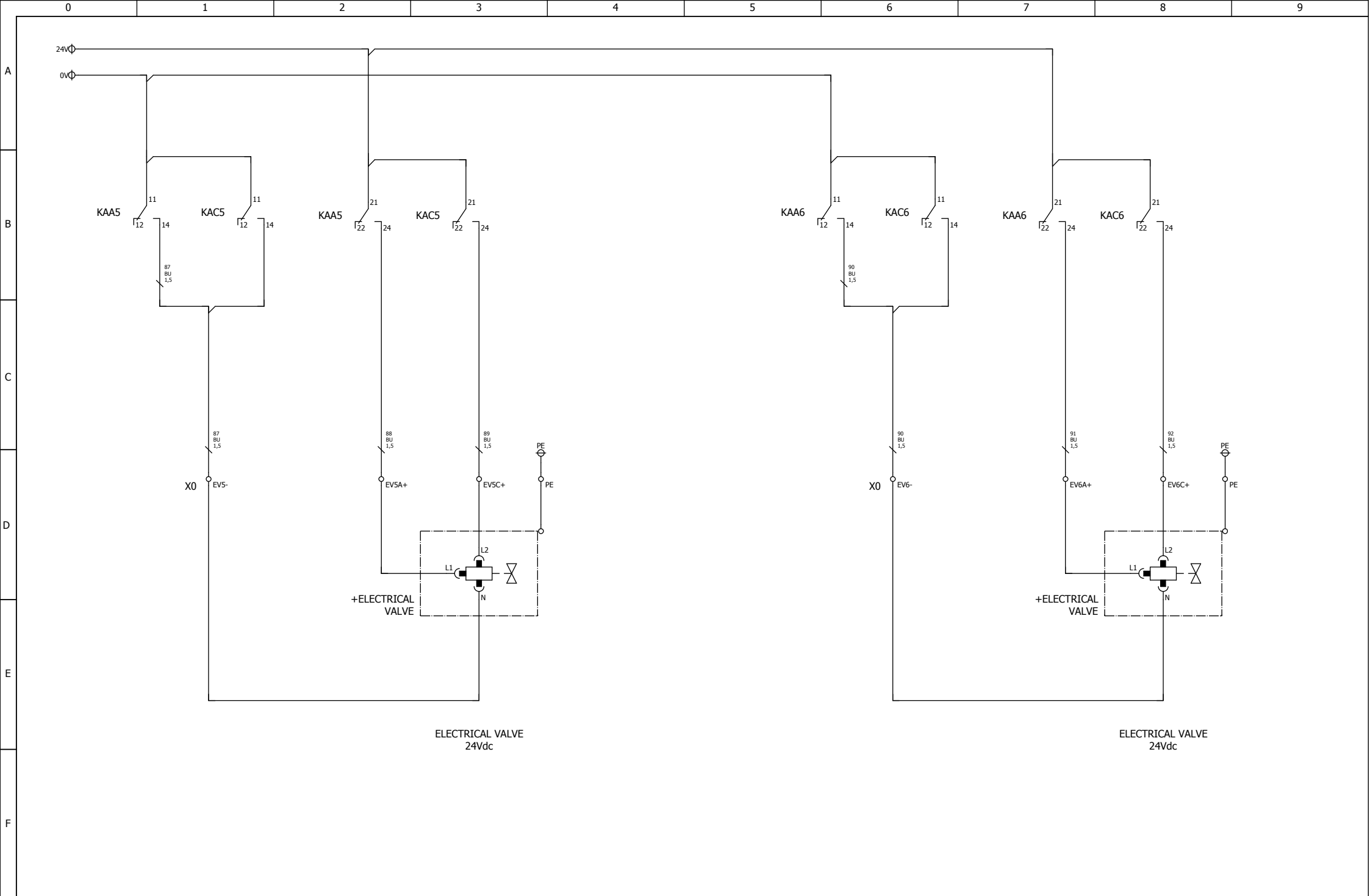
Project	STF-BETTER#7000_SP	Client	STF
Date	21/01/2019	Checked by	D.GRACIA
Issued by	D.GRACIA	Revision	21/01/2019

UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Sheet	60	Description:	FLUSHING VALVE SUPPLY (HIDRAULIC OR MOTORIZED VALVE)



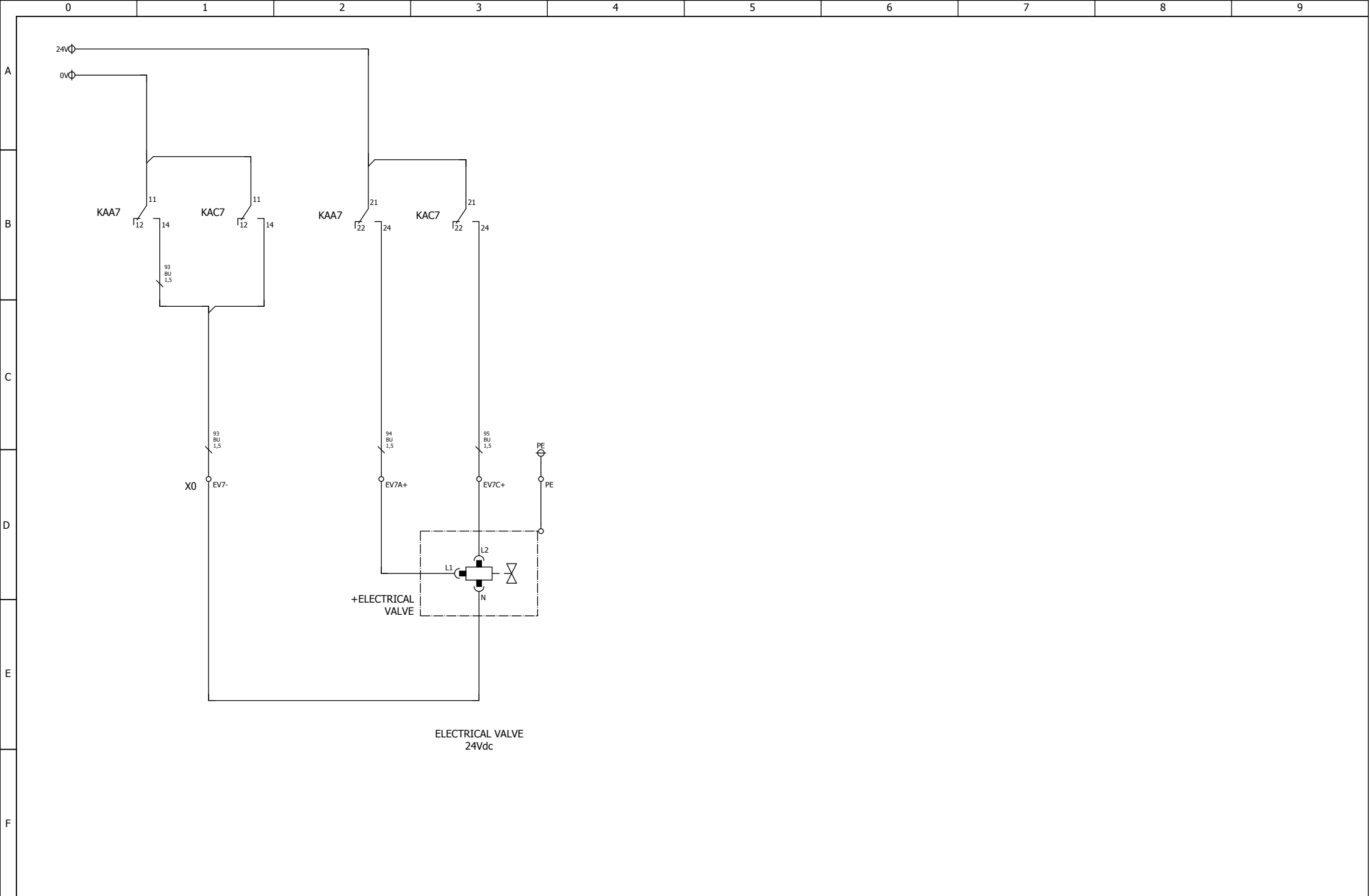



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	70	Description:	

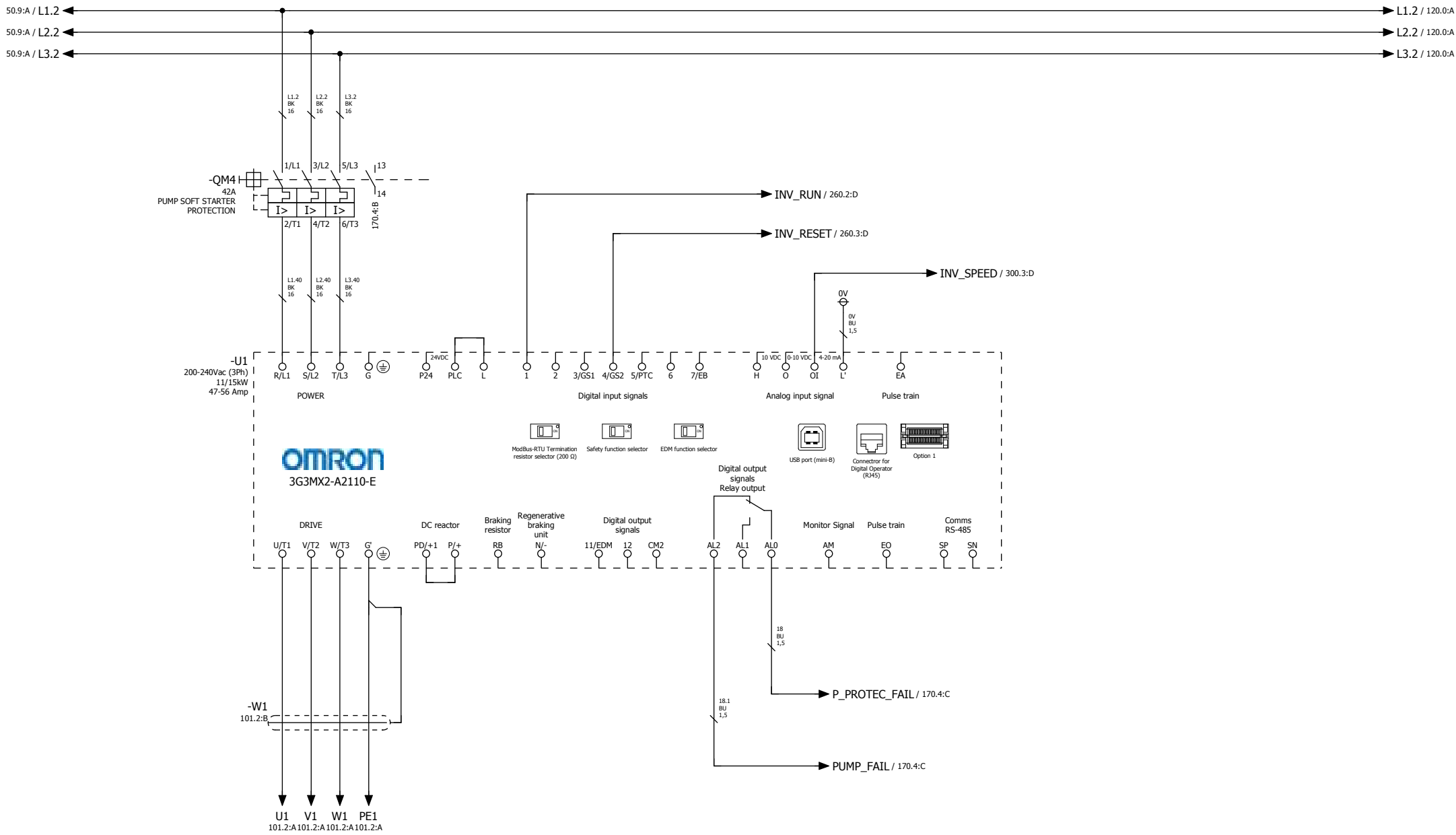


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	80	Description:	





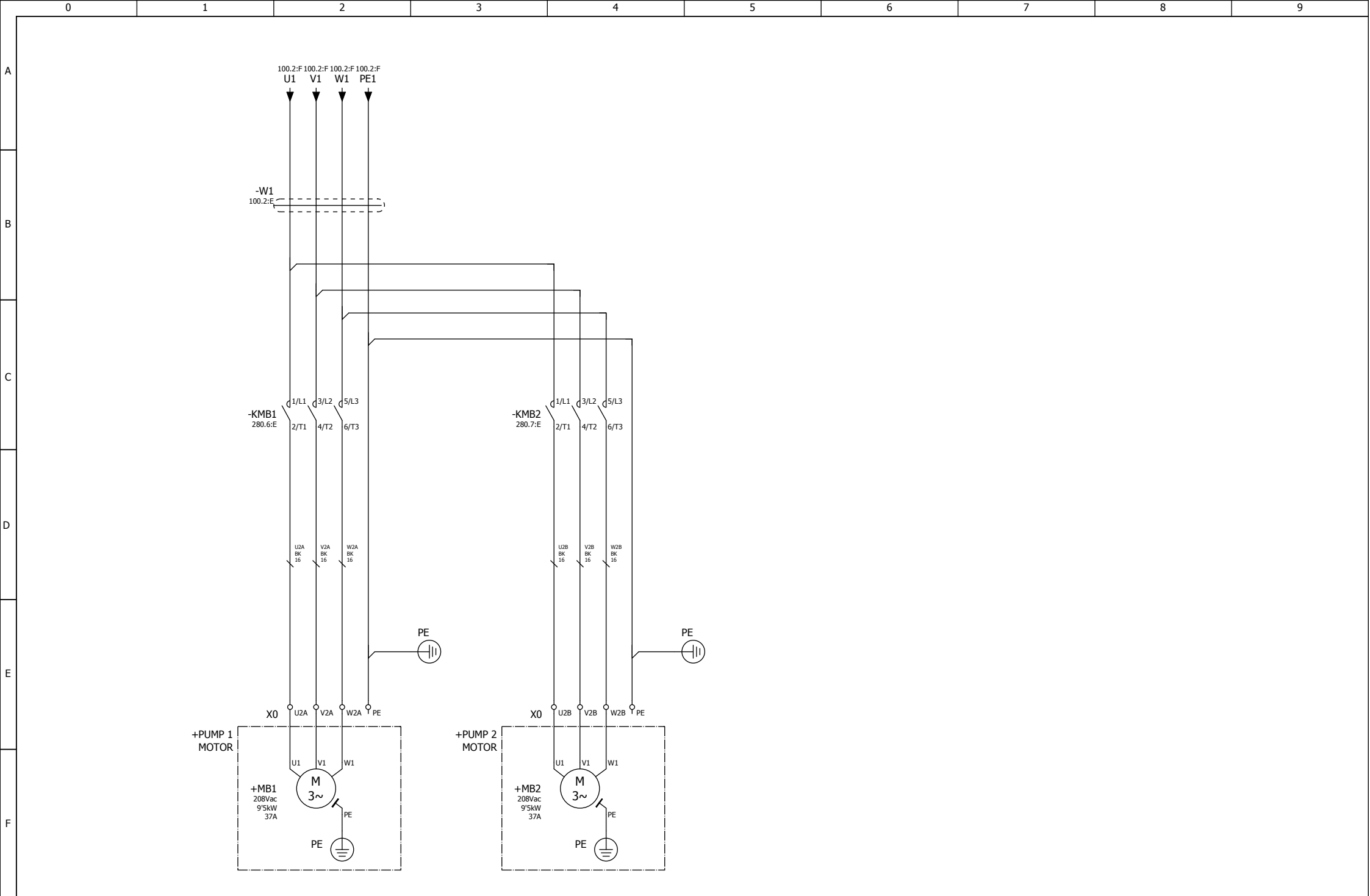
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Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	90	Description:	



Project	STF-BETTER#7000_SP	Client	STF
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Issued by	D.GRACIA	Revision	21/01/2019

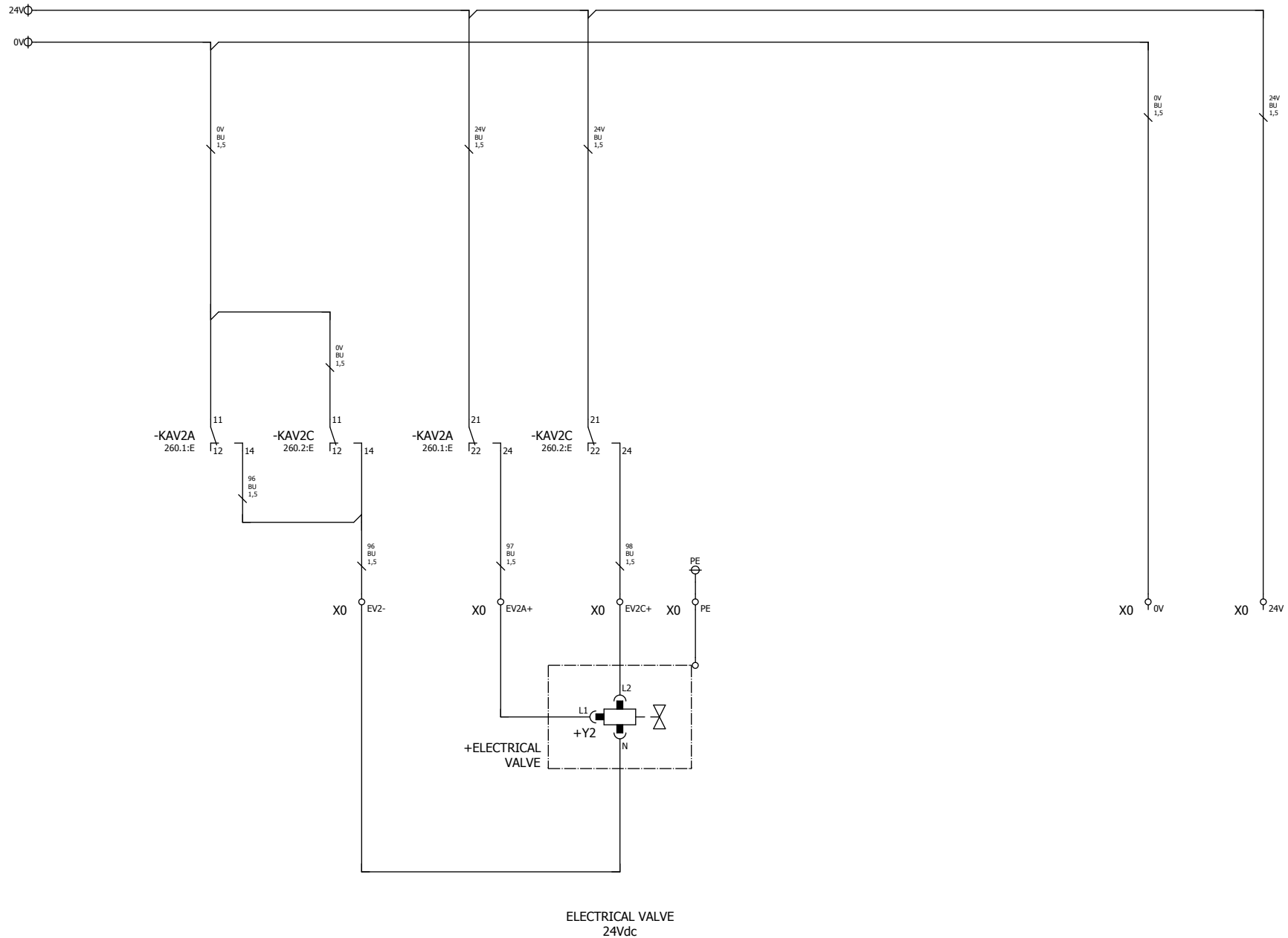
UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Sheet	100	Description:	PUMP SUPPLY (INVERTER)





Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	101	Description:	

# BY-PASS VALVE

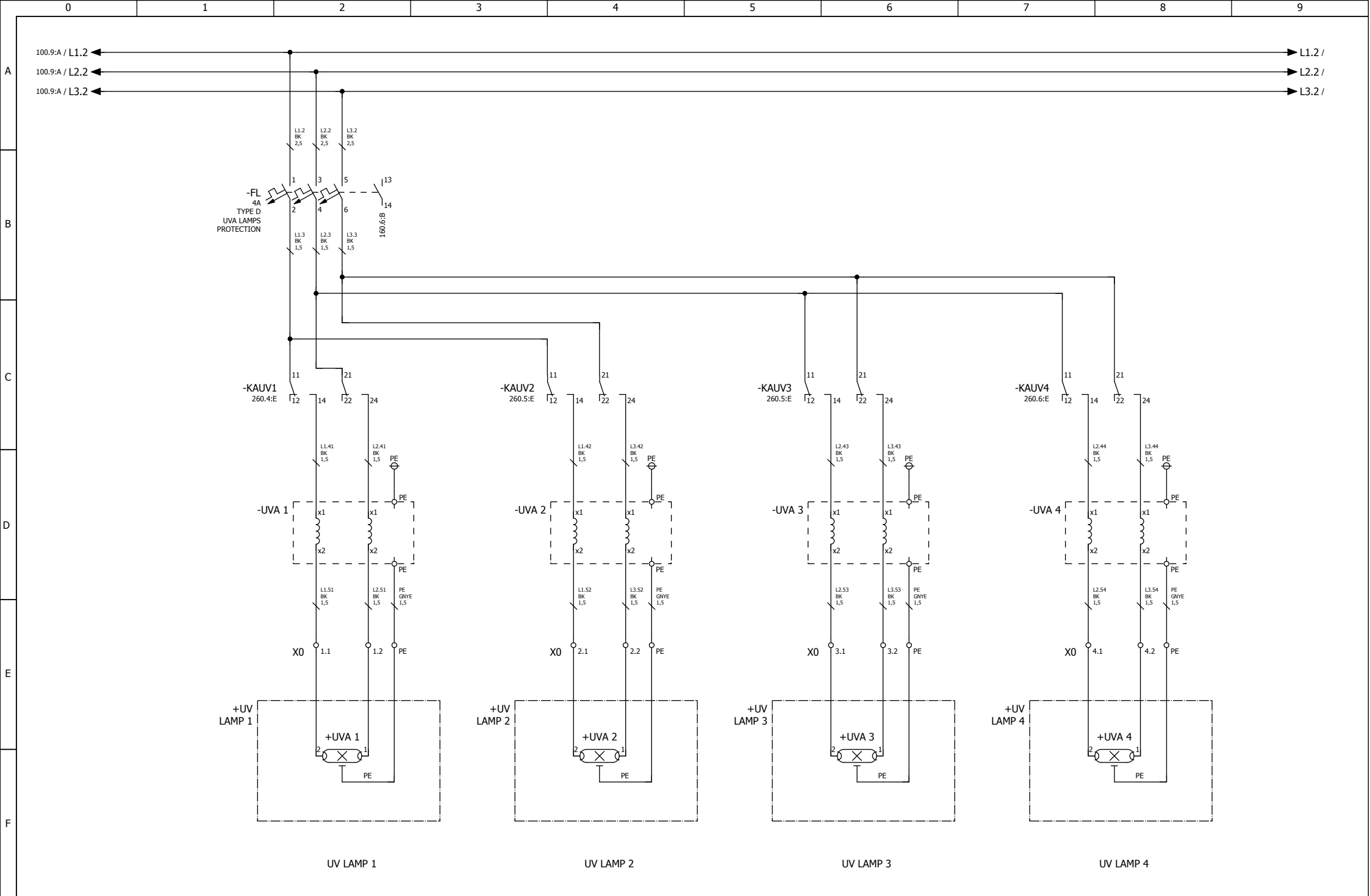


ELECTRICAL VALVE  
24Vdc

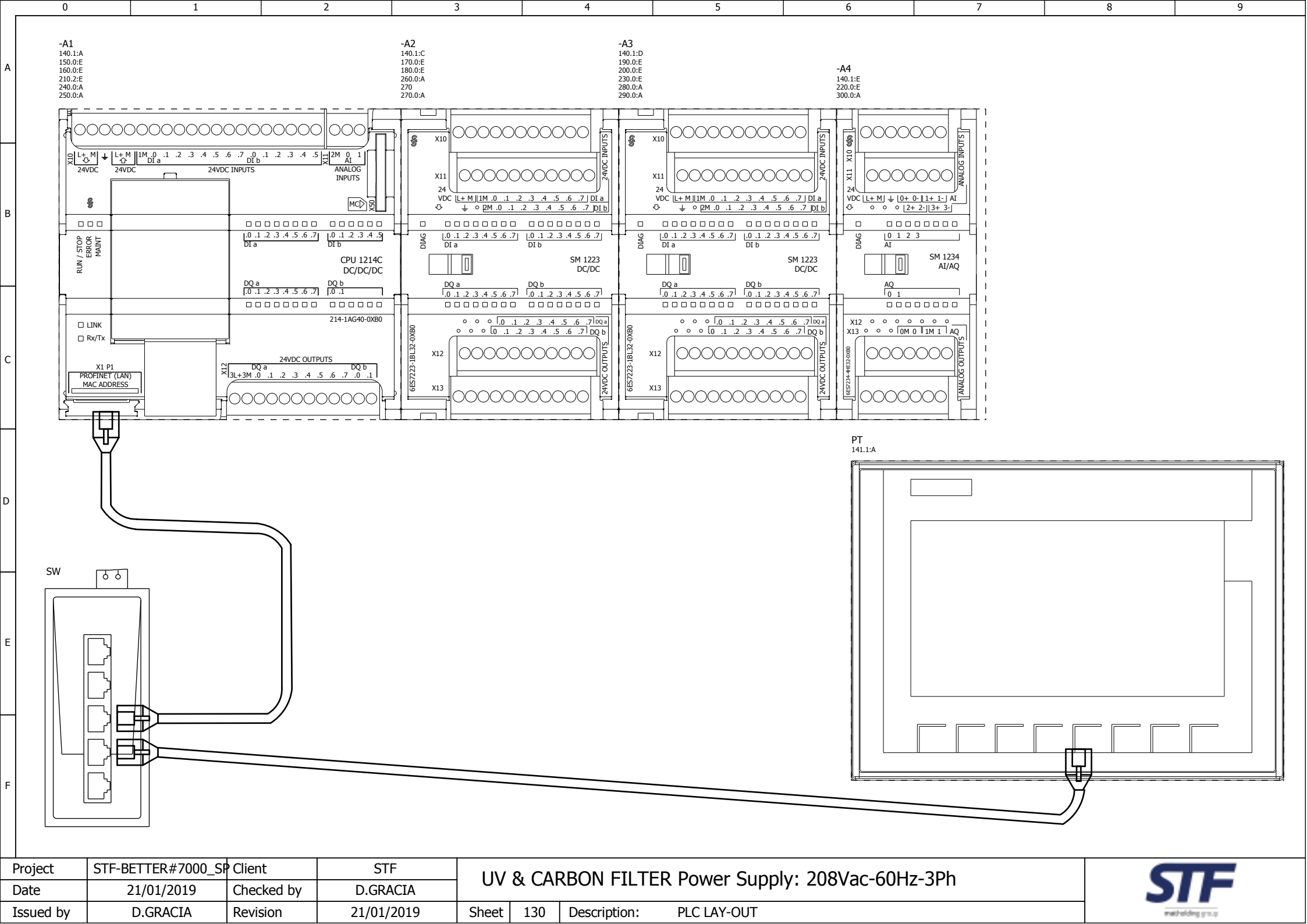
Project	STF-BETTER#7000_SP	Client	STF	<b>UV &amp; CARBON FILTER Power Supply: 208Vac-60Hz-3Ph</b>		
Date	21/01/2019	Checked by	D.GRACIA			
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	110	Description: BY-PASS VALVE SUPPLY







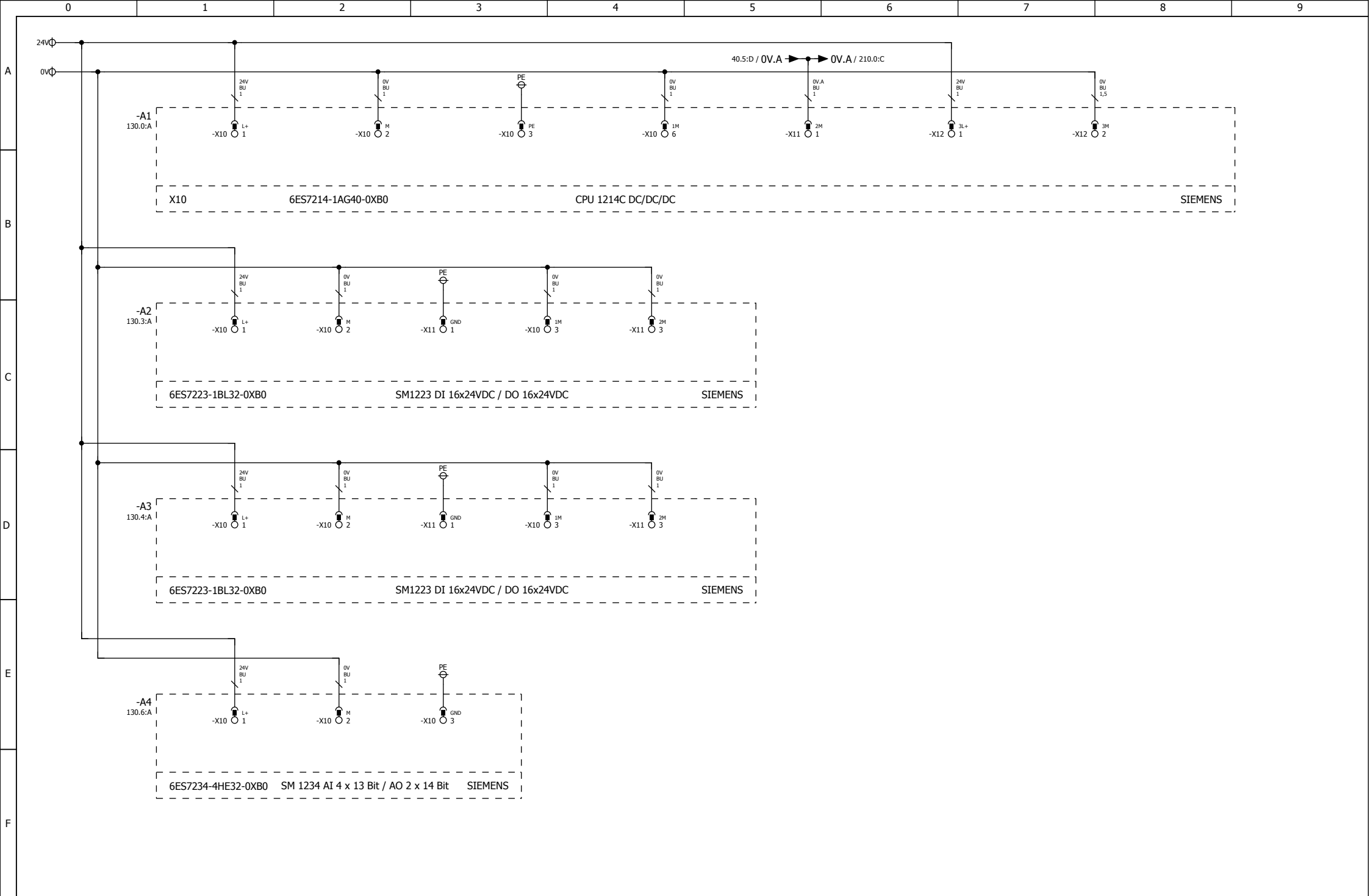
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	120	Description:	



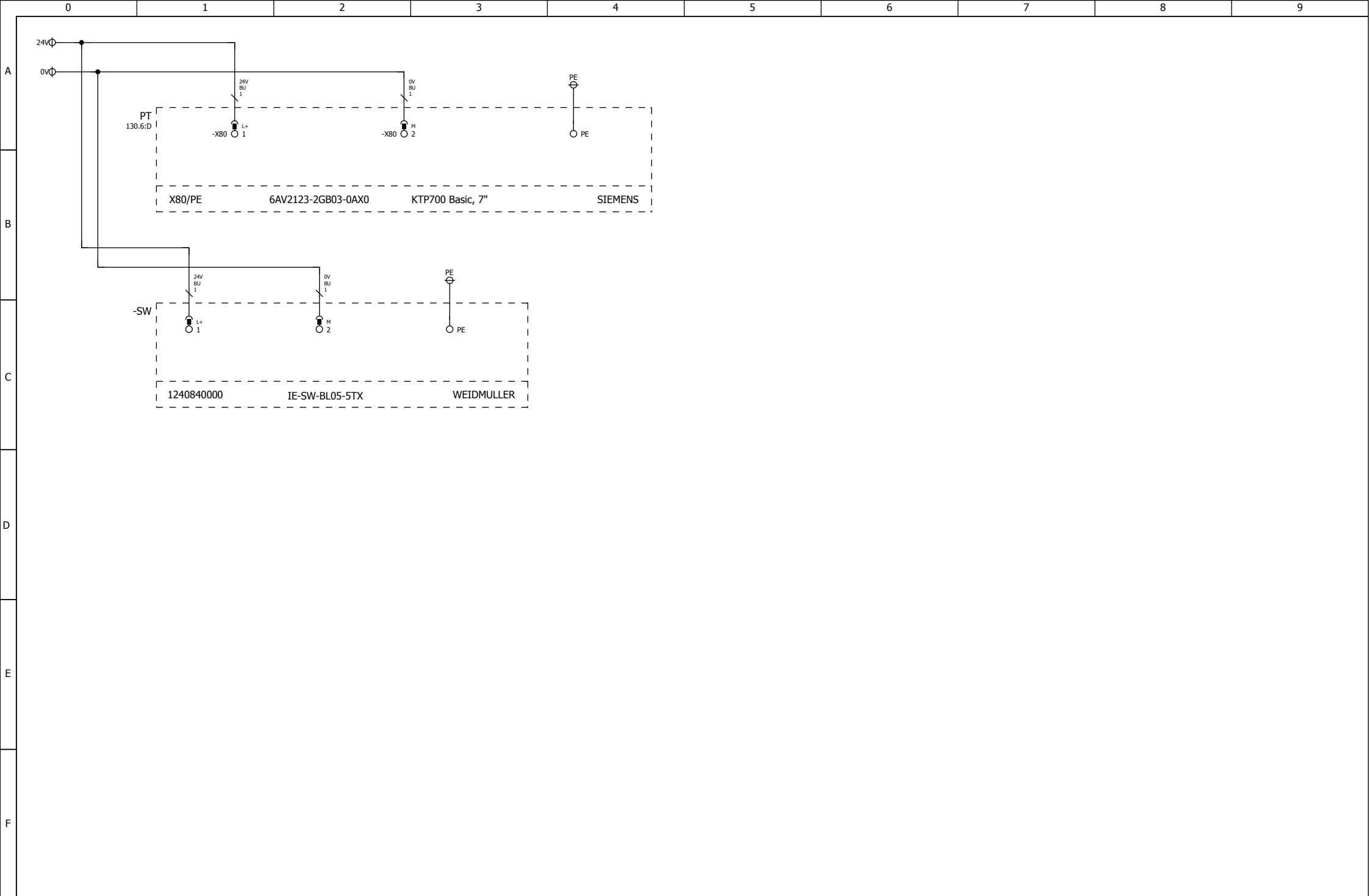
Project	STF-BETTER#7000_SP	Client	STF
Date	21/01/2019	Checked by	D.GRACIA
Issued by	D.GRACIA	Revision	21/01/2019

UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Sheet	130	Description:	PLC LAY-OUT



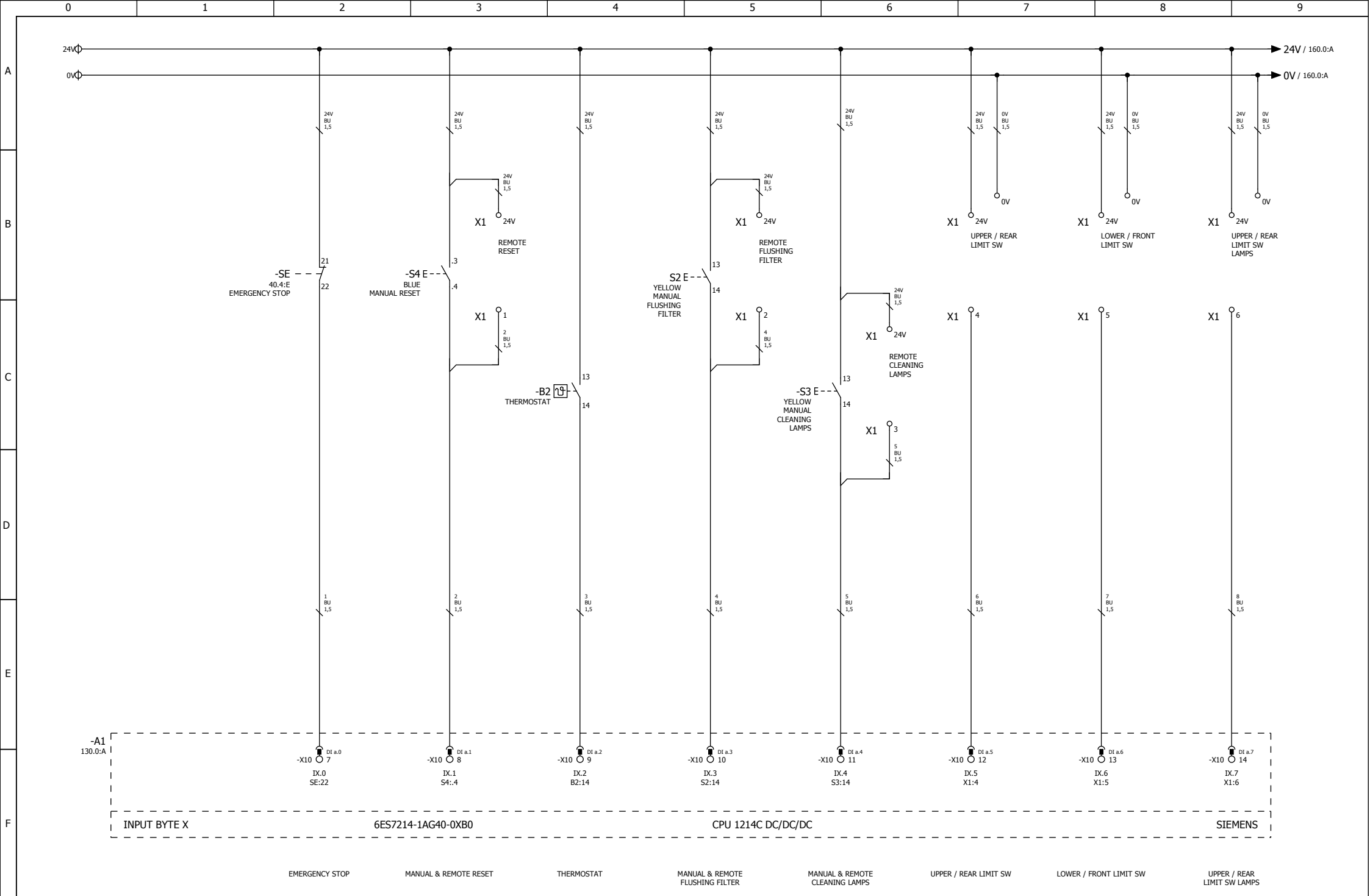


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	140	Description:	

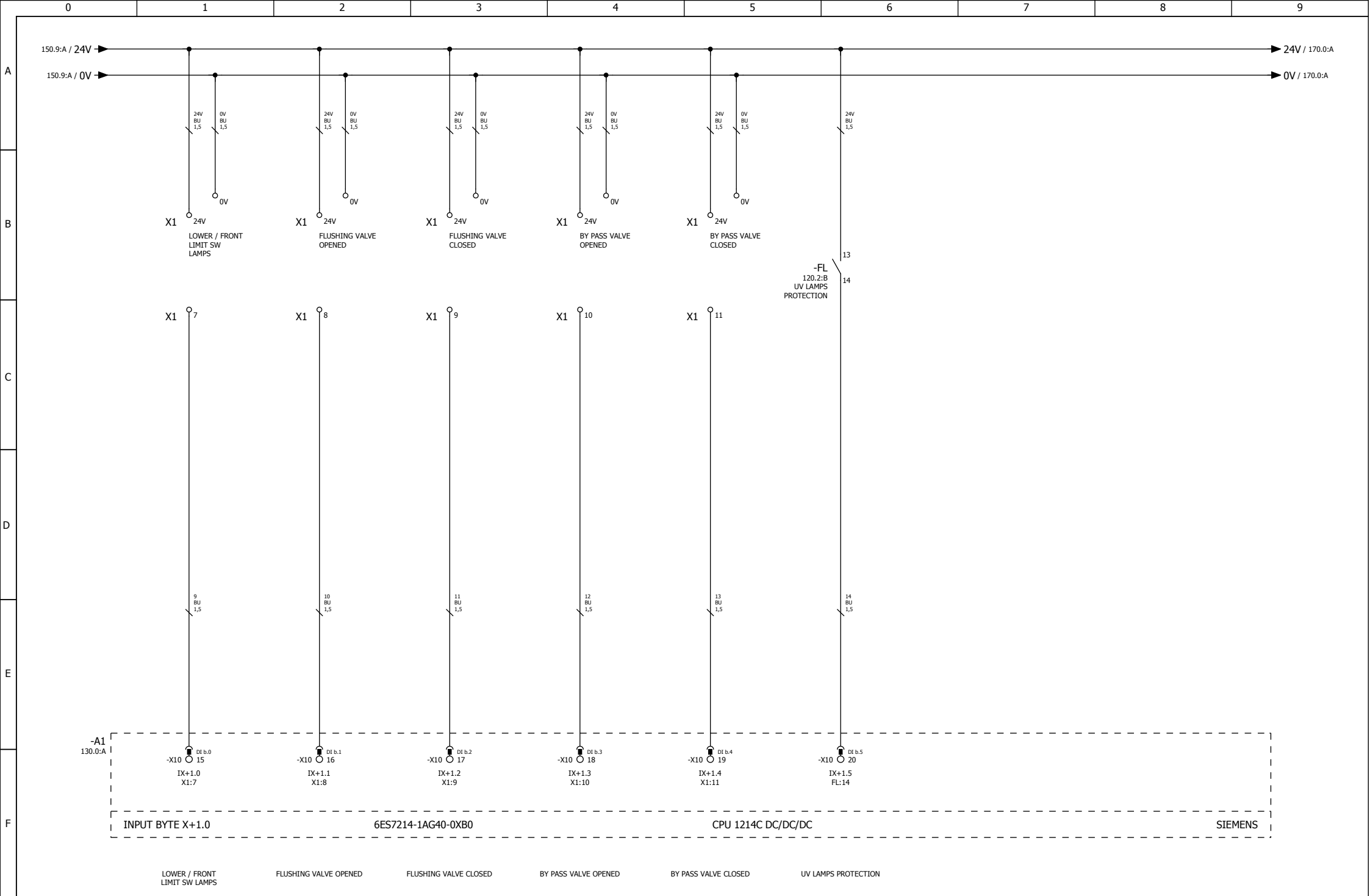


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	141	Description:	

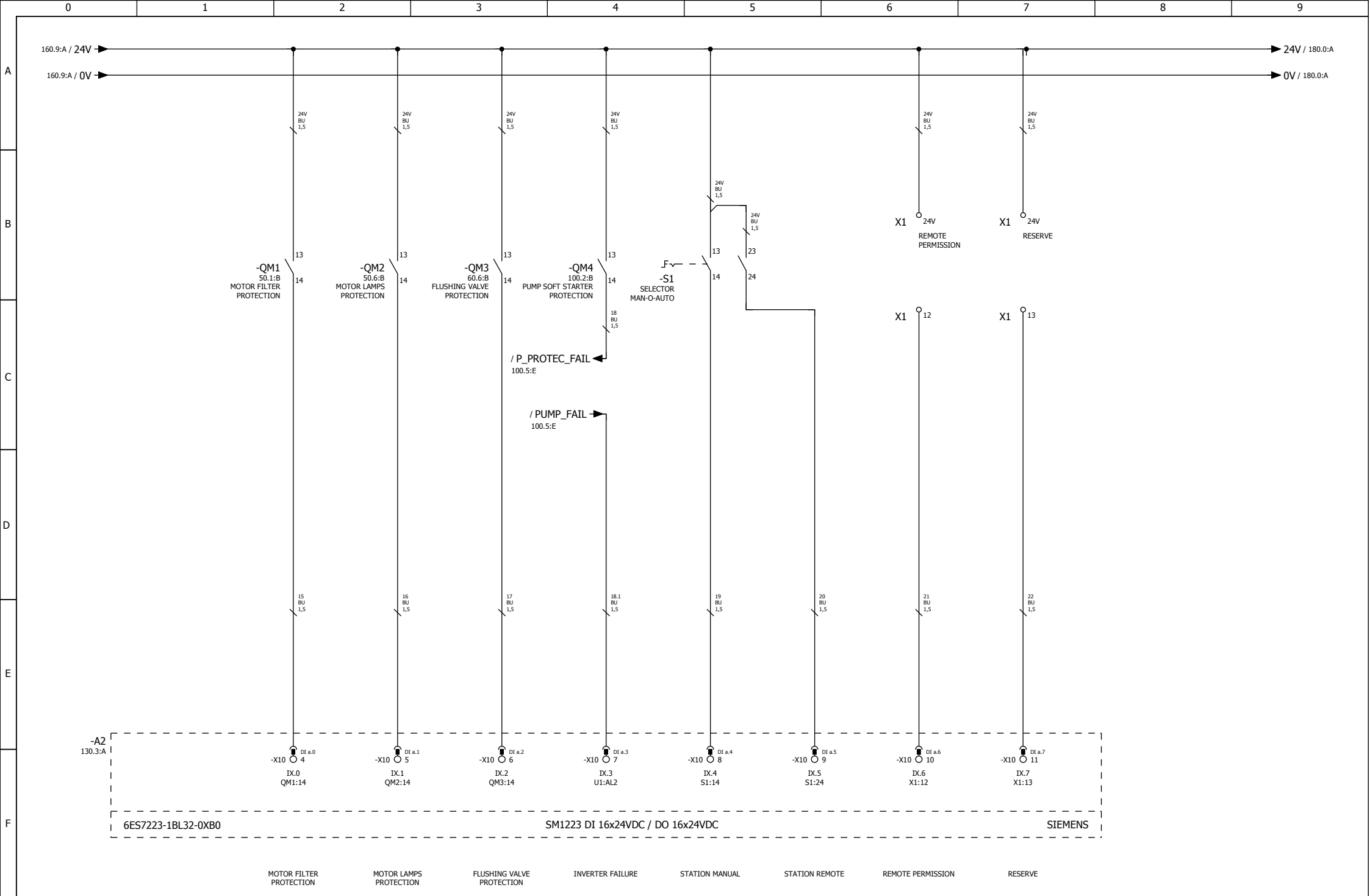




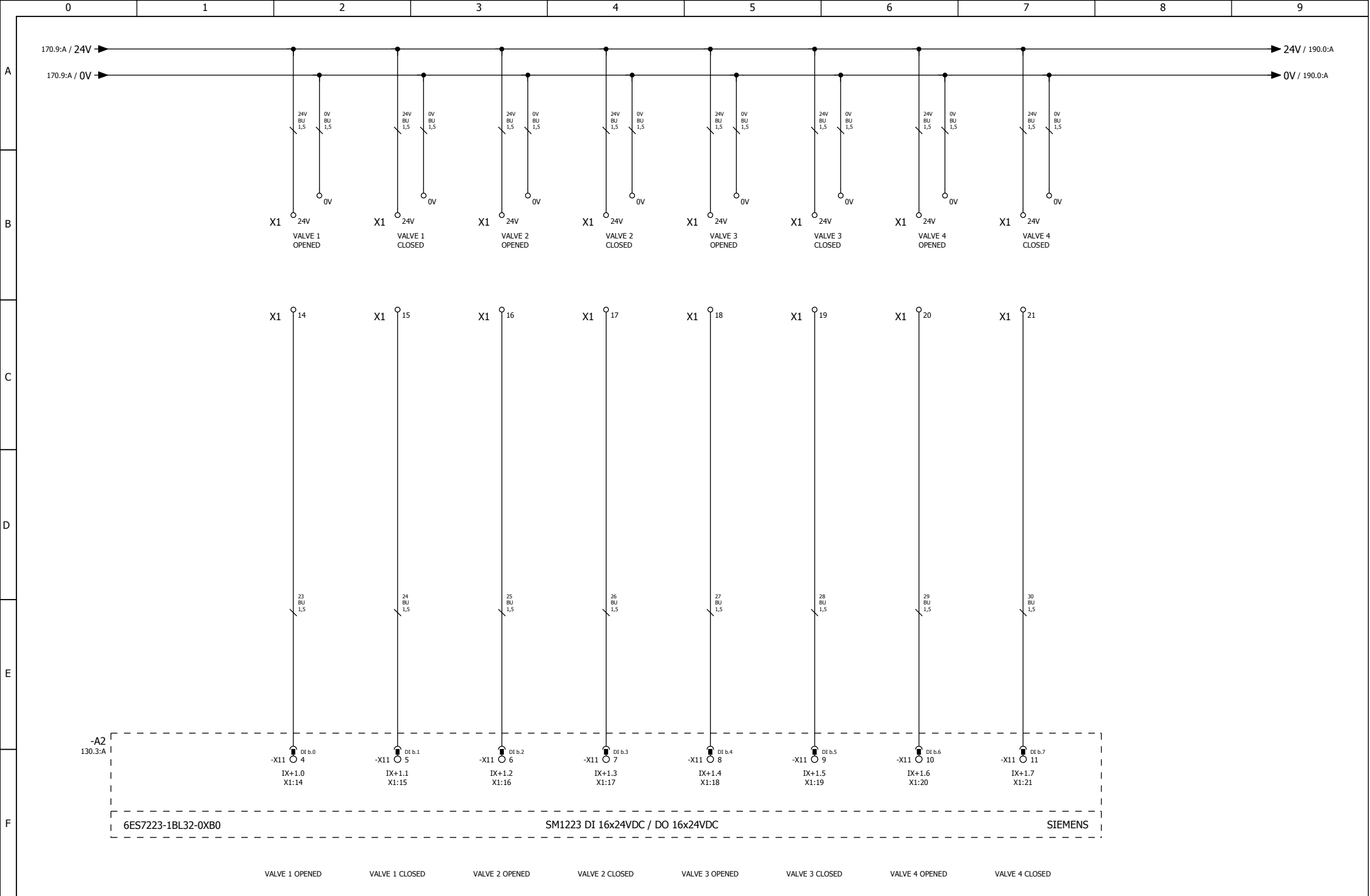
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA					
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	150	Description:	DIGITAL INPUTS A1 (1/2)	



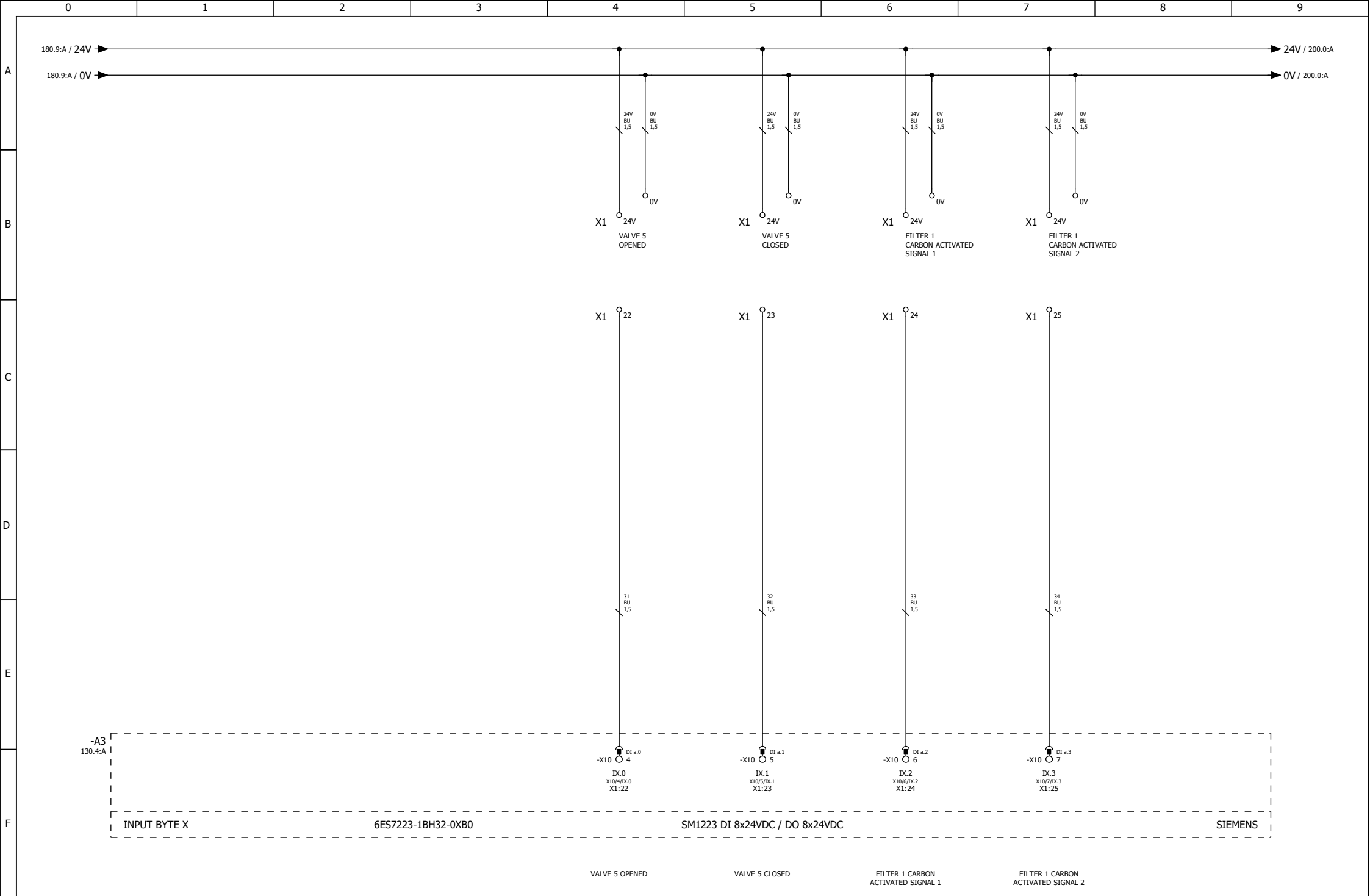
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	160	Description:	



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	170	Description:	

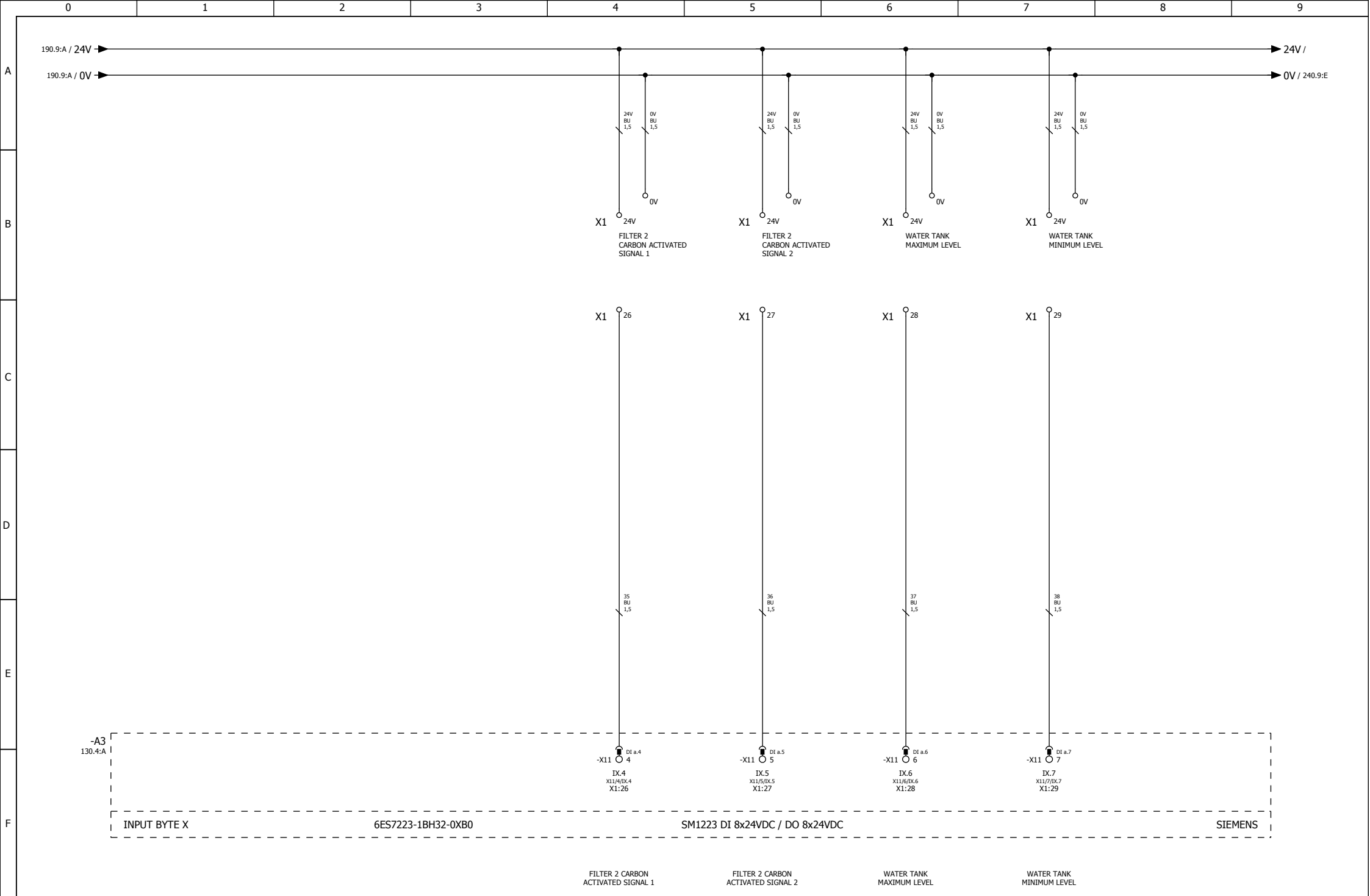


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	180	Description:	

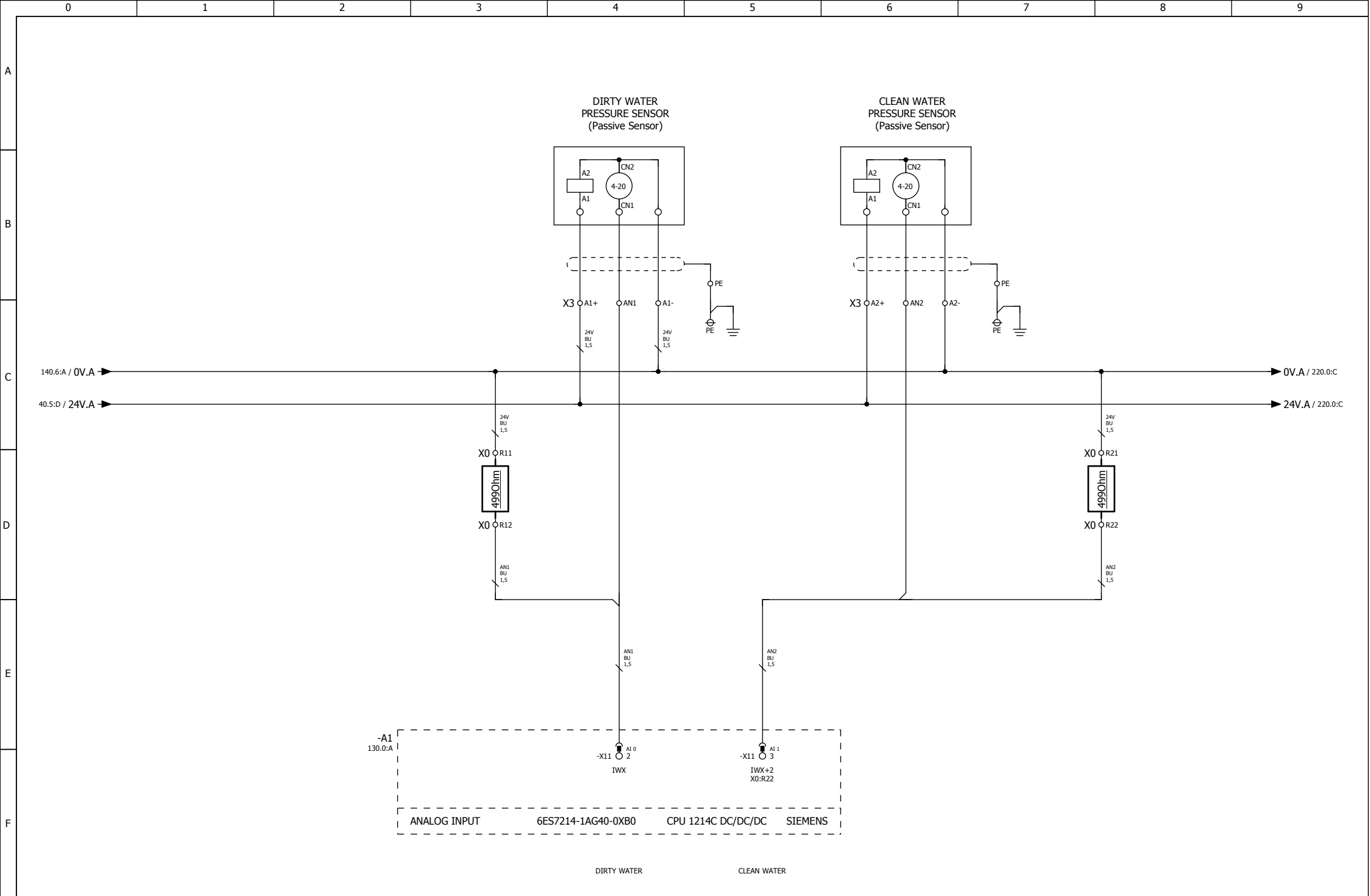


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA					
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	190	Description:	DIGITAL INPUTS A3 (1/2)	

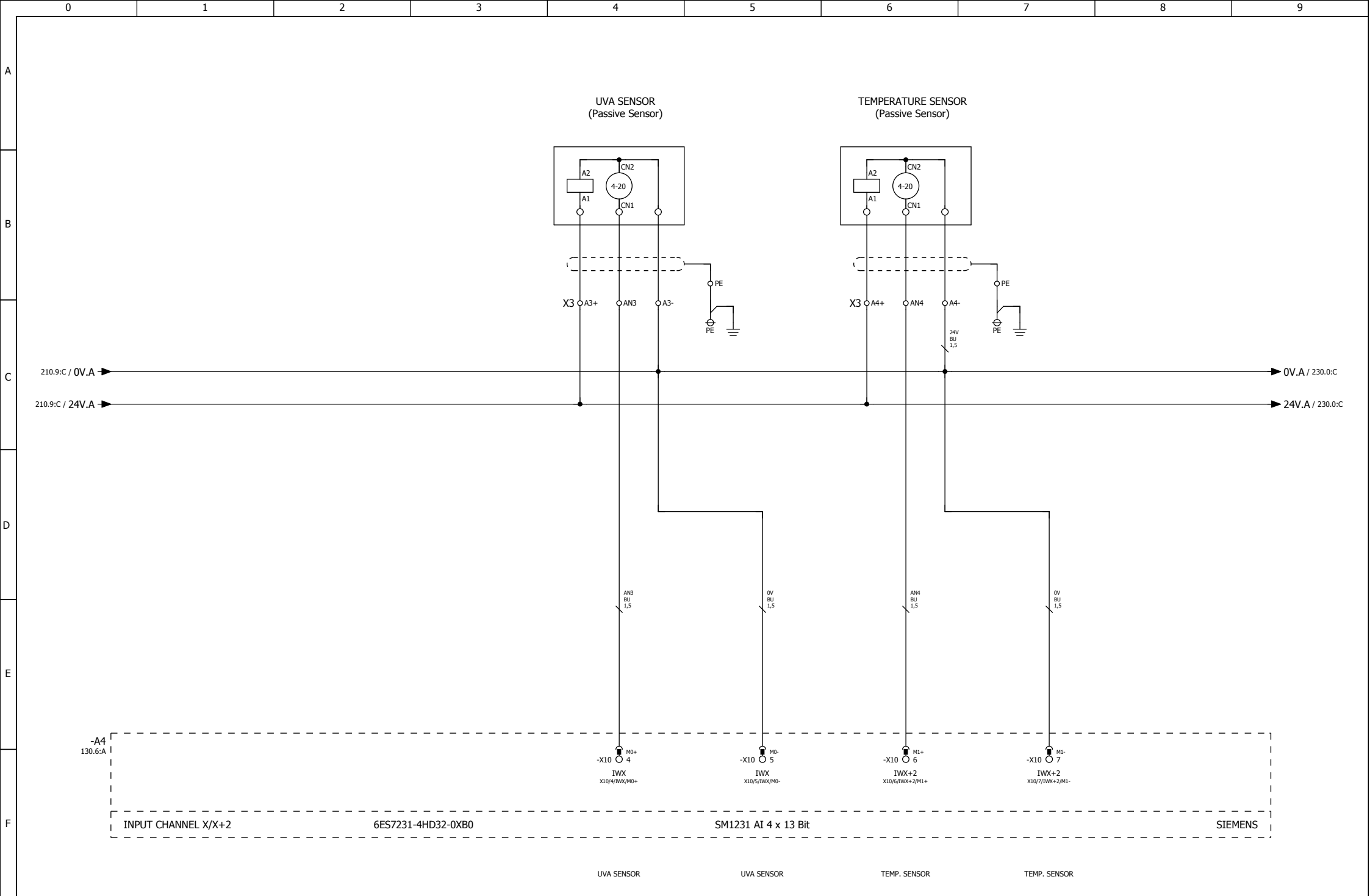




Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA					
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	200	Description:	DIGITAL INPUTS A3 (2/2)	



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	210	Description:	



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA					
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	220	Description:	ANALOGICAL INPUTS A4 (1/2)	

A

B

C

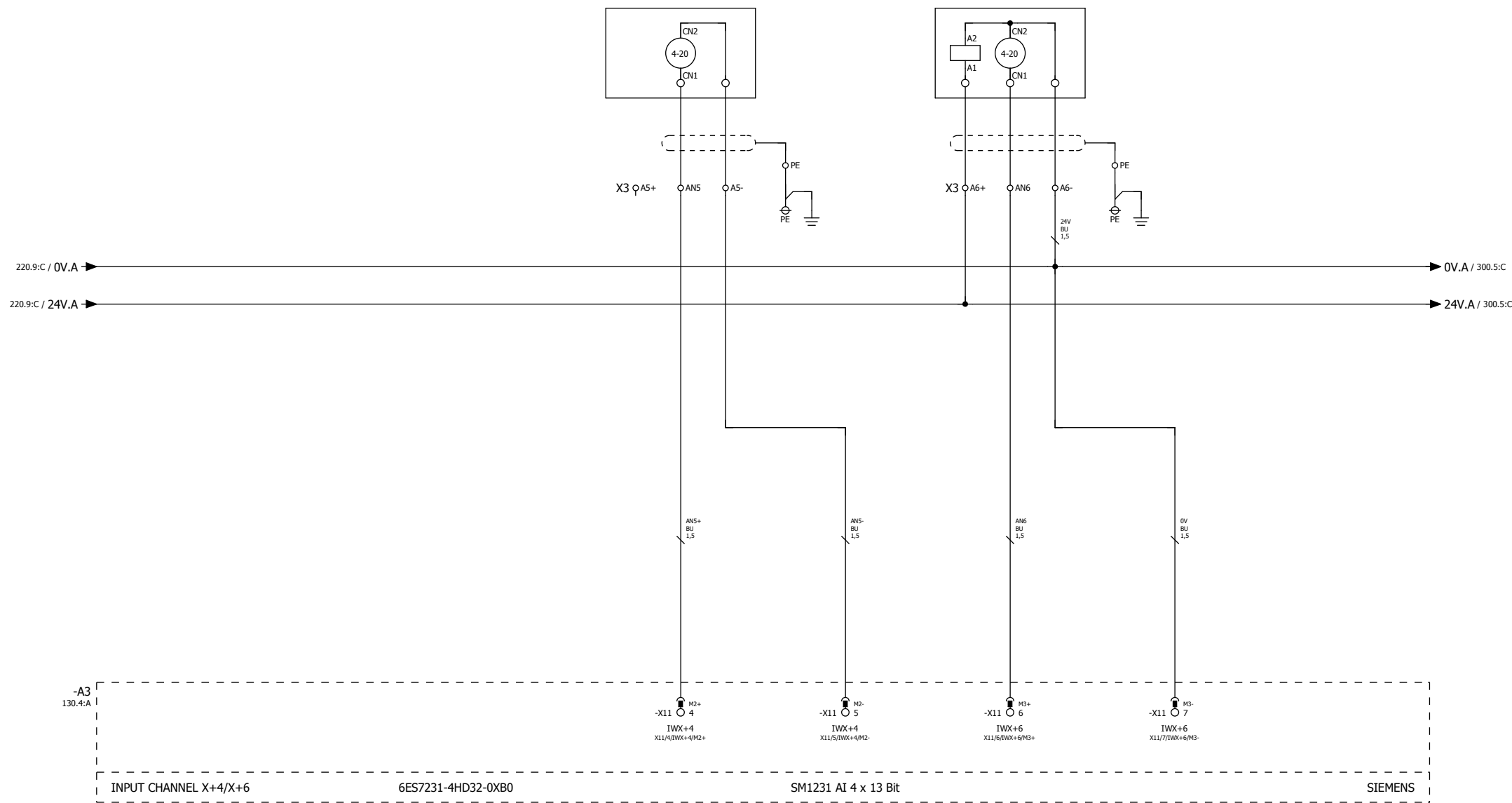
D

E

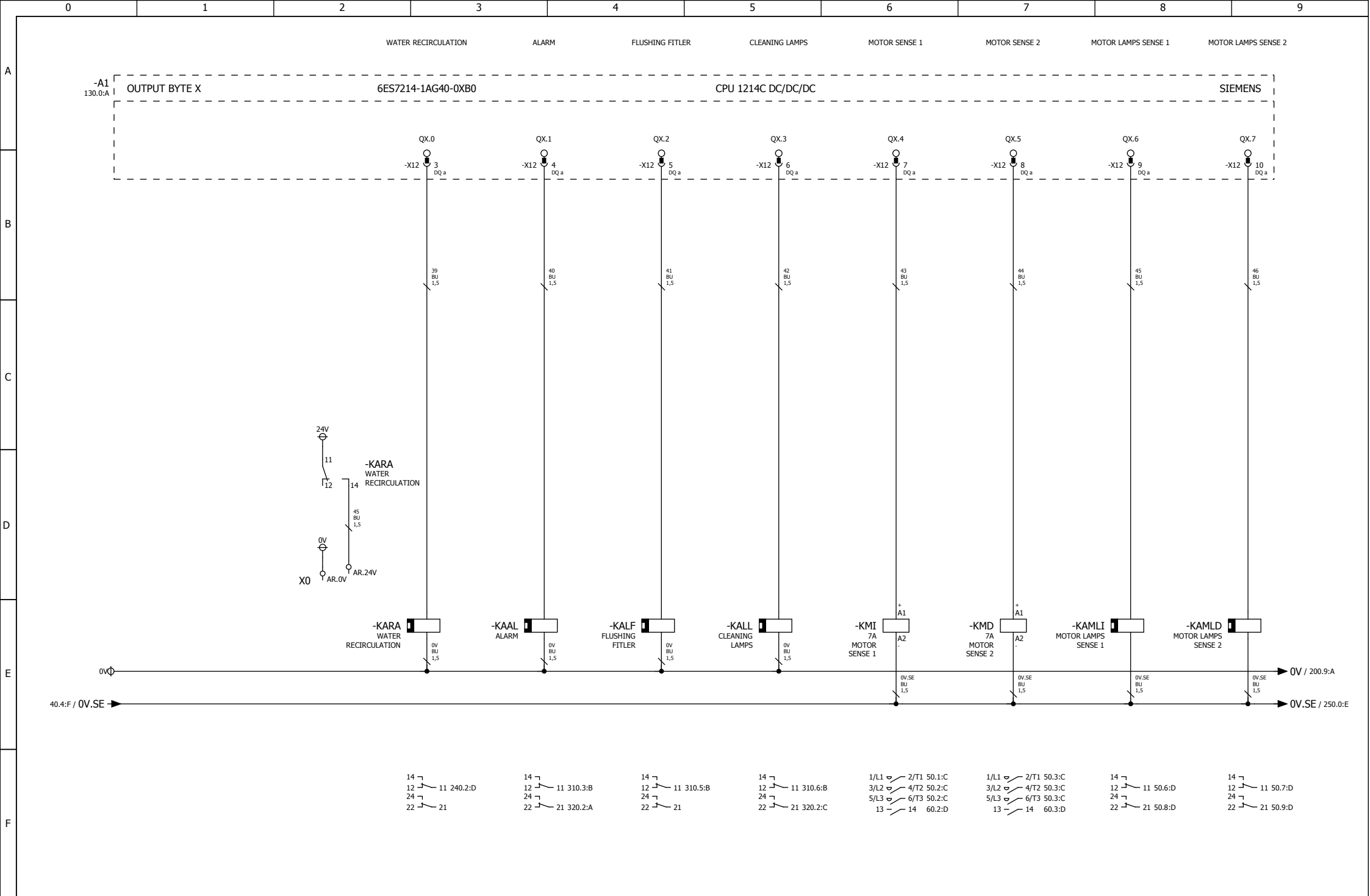
F

FLOW METER  
(Active Sensor)

RESERVE  
(Passive Sensor)

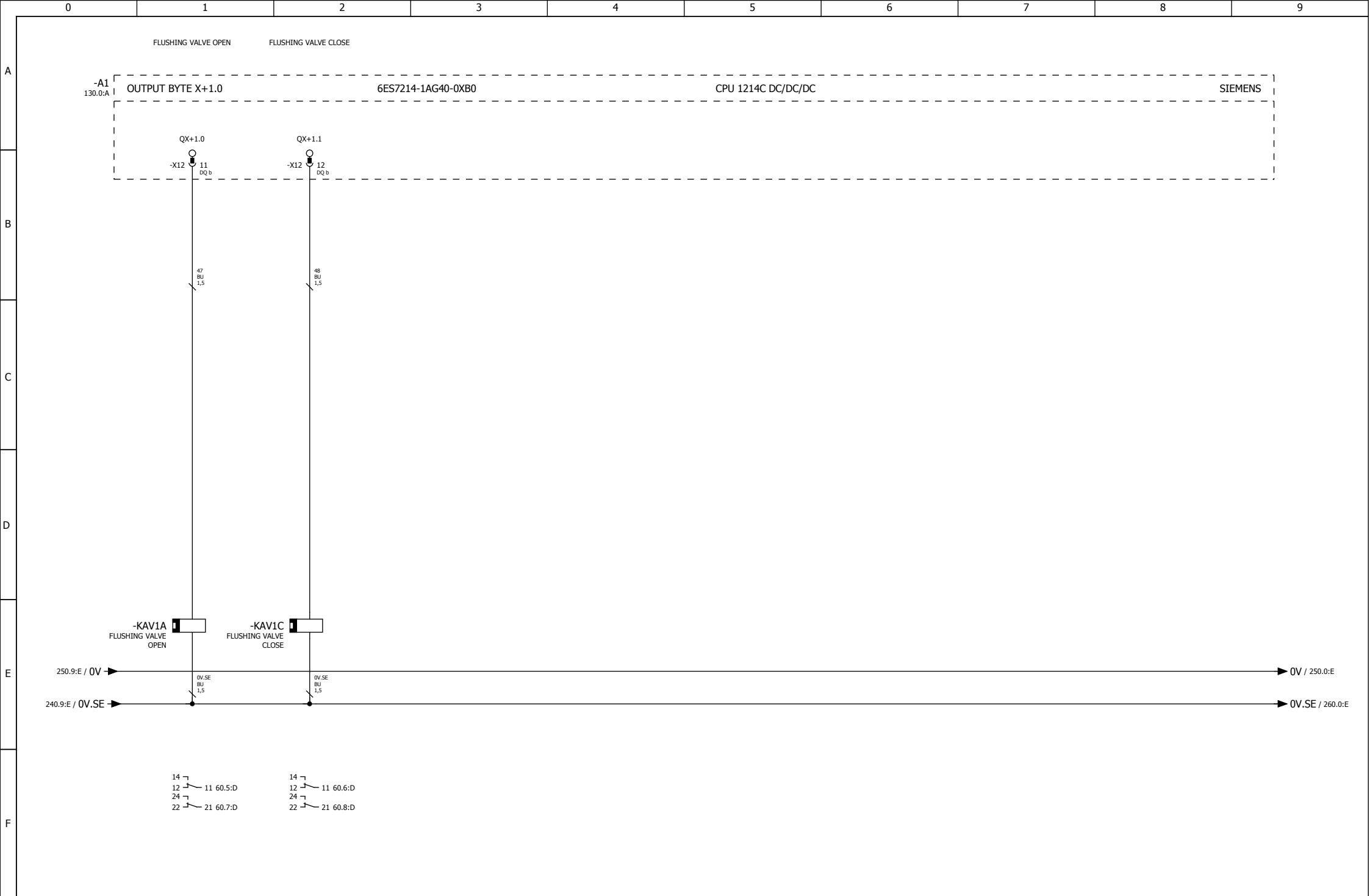


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	230	Description:	



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA	Sheet	240	Description:	DIGITAL OUTPUTS A1 (1/2)	
Issued by	D.GRACIA	Revision	21/01/2019					

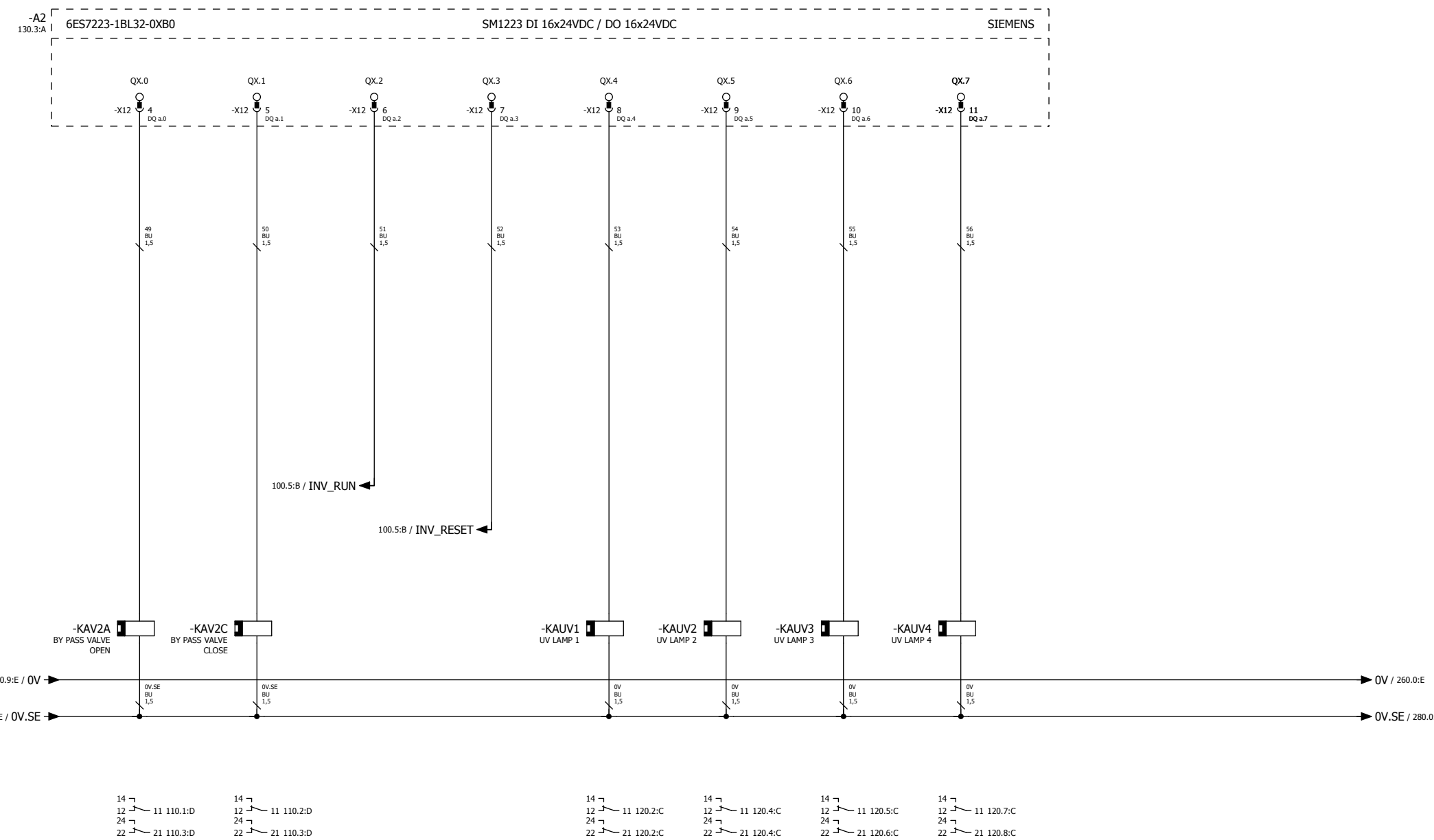




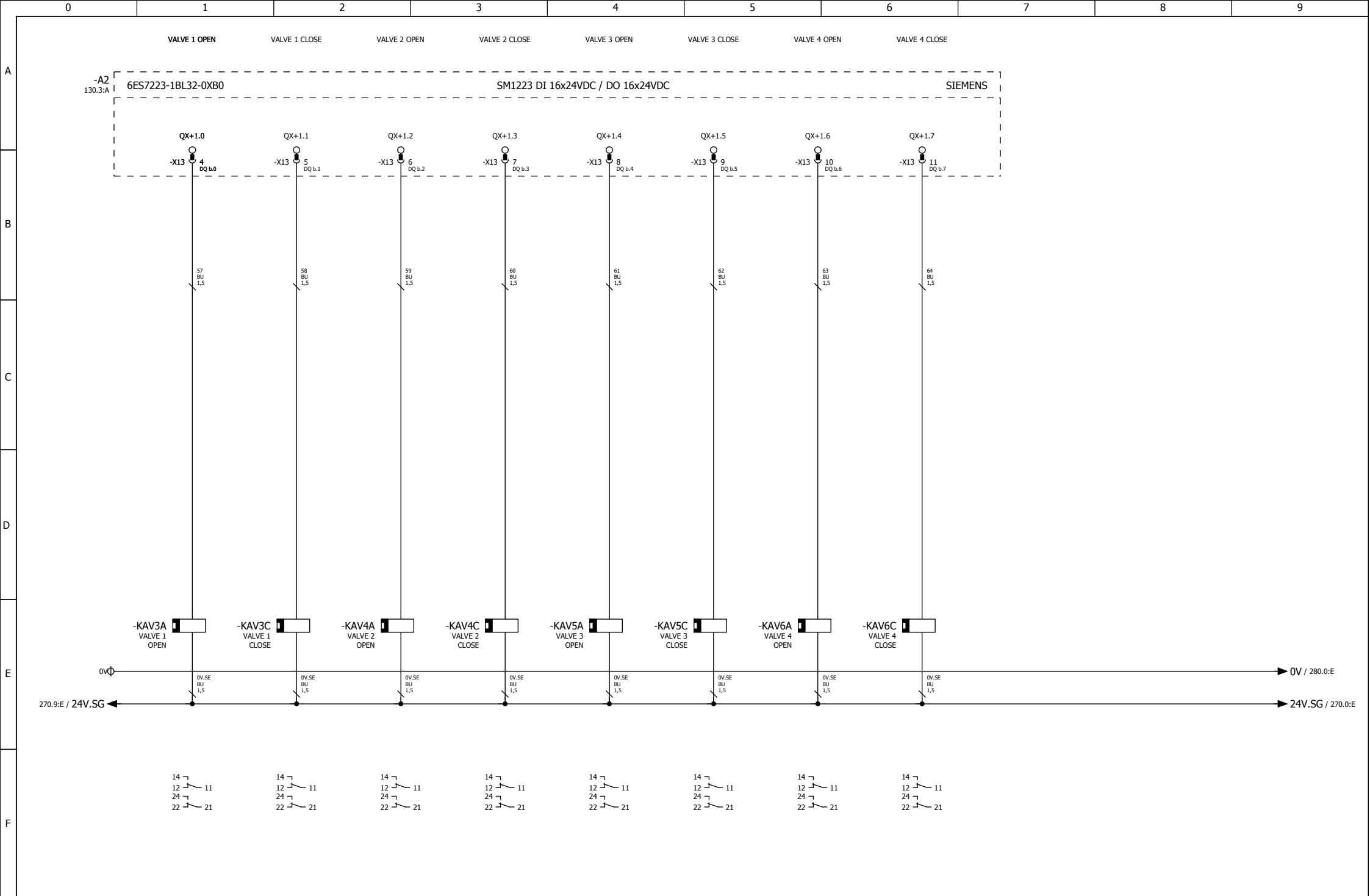
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	250	Description:	

A  
B  
C  
D  
E  
F

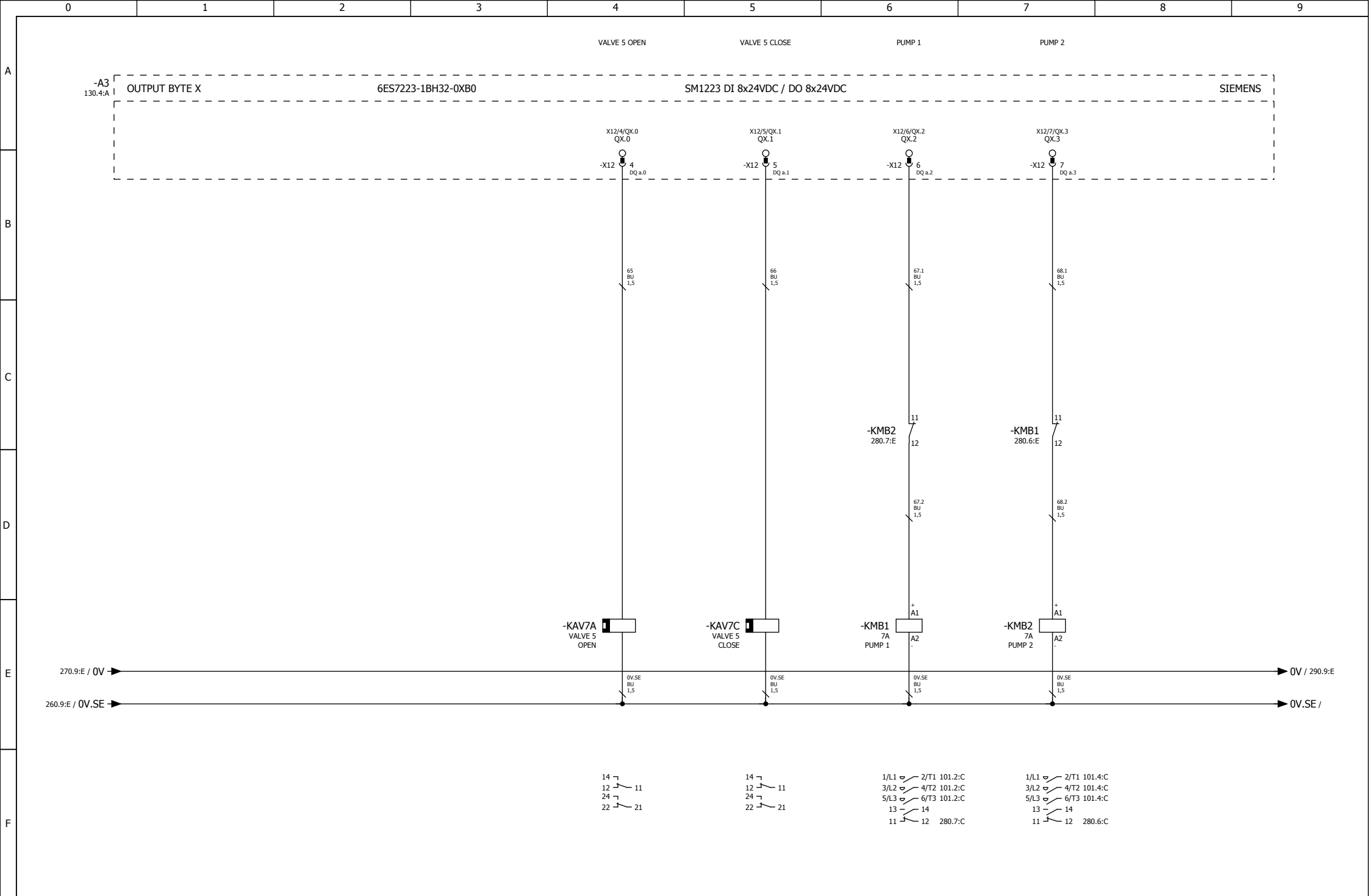
BY PASS VALVE OPEN BY PASS VALVE CLOSE INVERTER RUN INVERTER RESET UV LAMP 1 UV LAMP 2 UV LAMP 3 UV LAMP 4



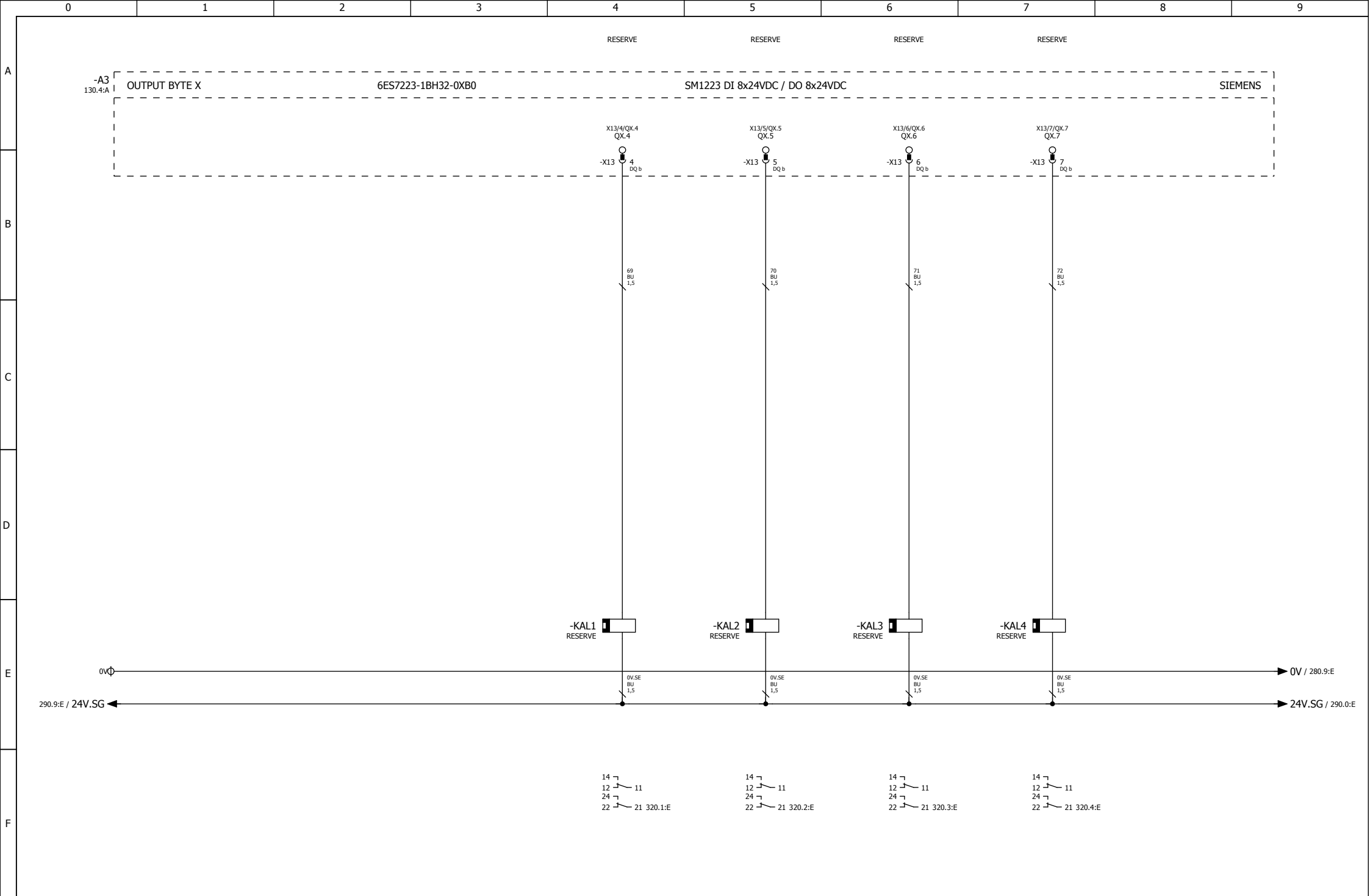
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	260	Description:	



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	270	Description:	

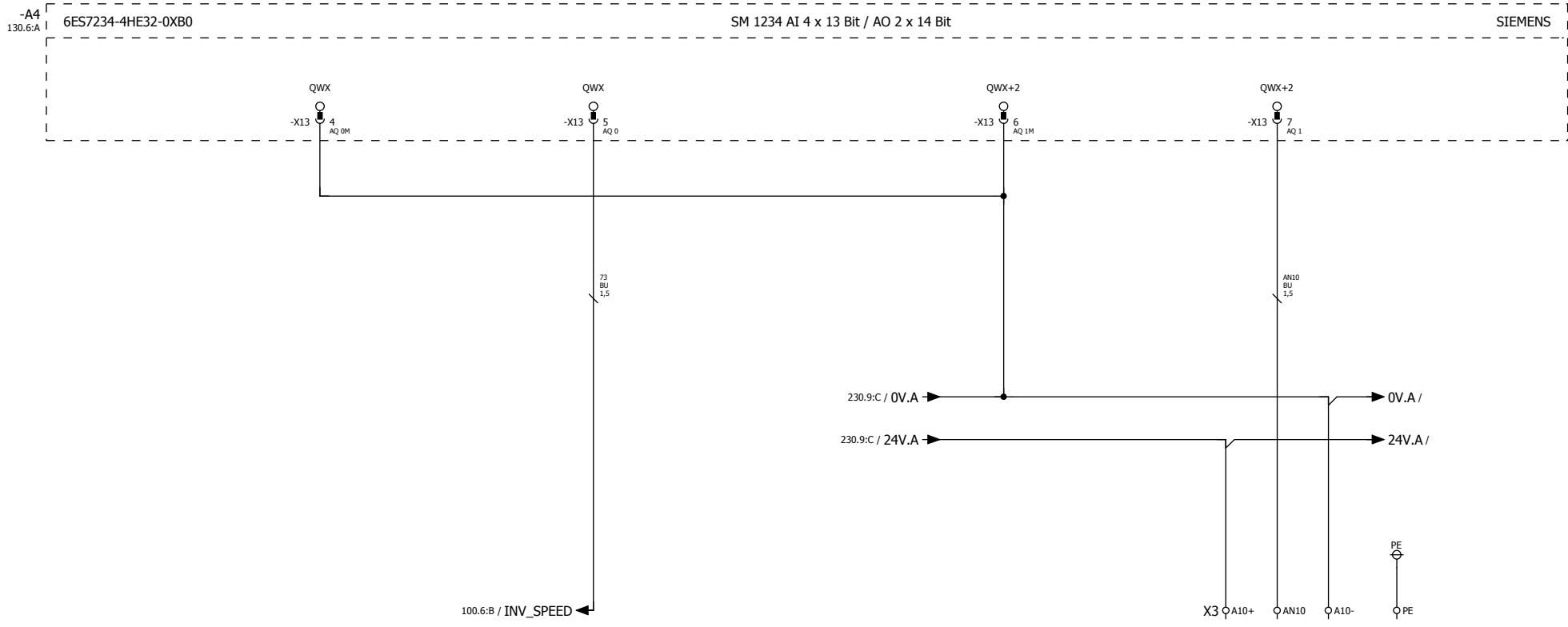


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA					
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	280	Description:	DIGITAL OUTPUTS A3 (1/2)	

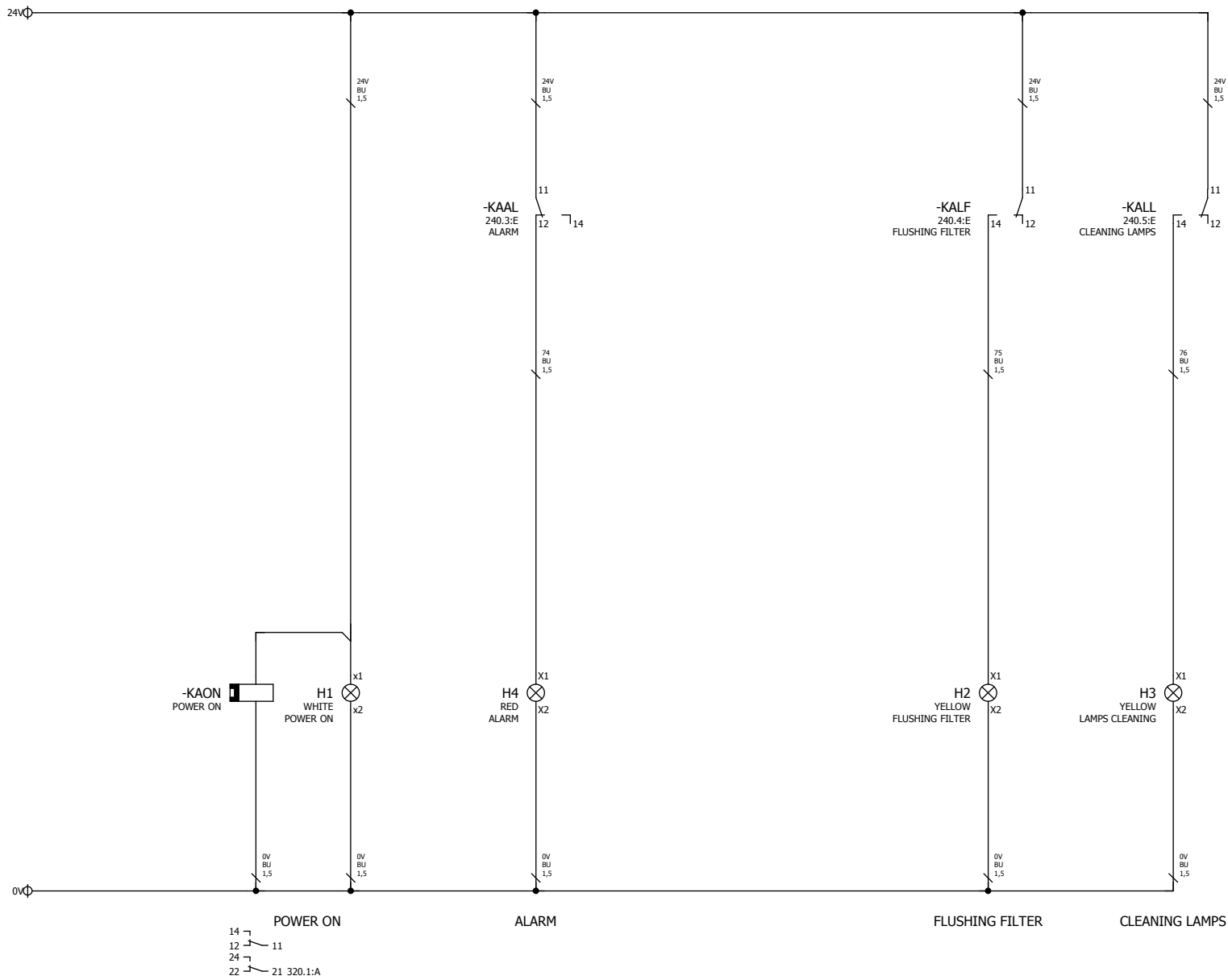


Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph				
Date	21/01/2019	Checked by	D.GRACIA					
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	290	Description:	DIGITAL OUTPUTS A3 (2/2)	





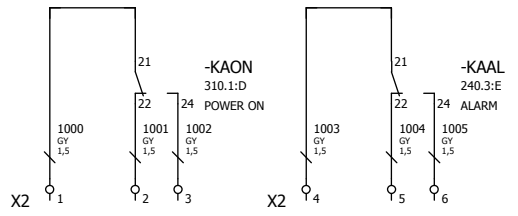
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	300	Description:	



Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph		
Date	21/01/2019	Checked by	D.GRACIA			
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	310	Description: LAMPS

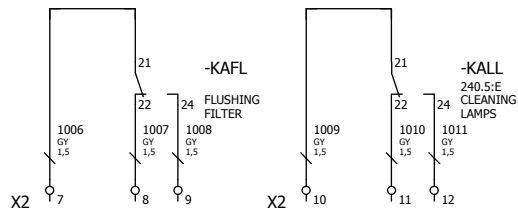


A  
B  
C  
D  
E  
F



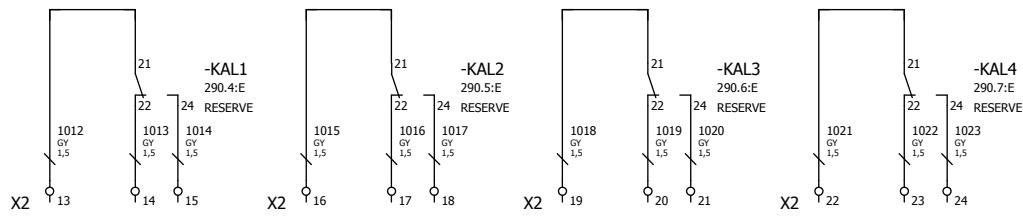
POWER ON

ALARM



FLUSHING FILTER

CLEANING LAMPS



RESERVE

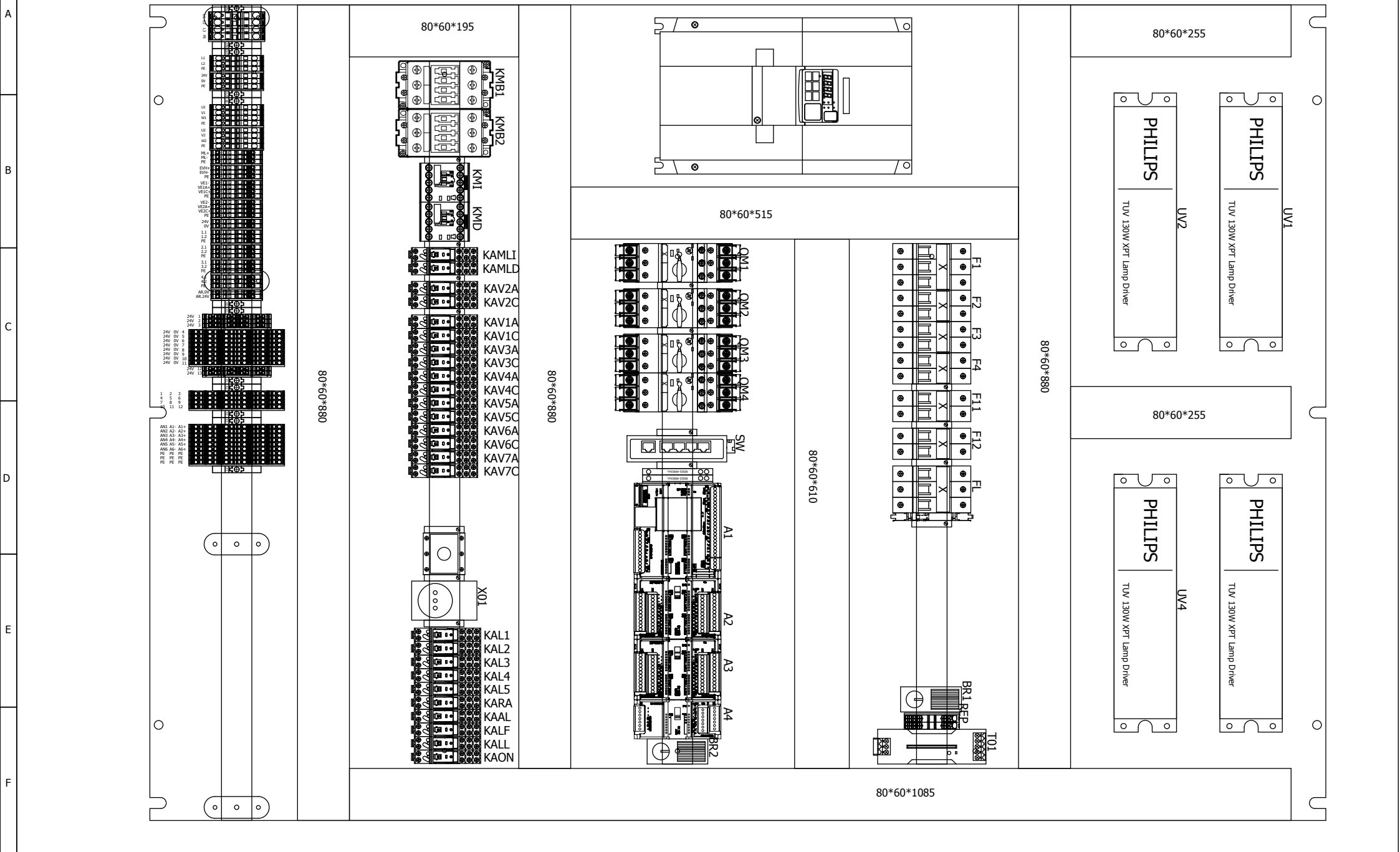
RESERVE

RESERVE

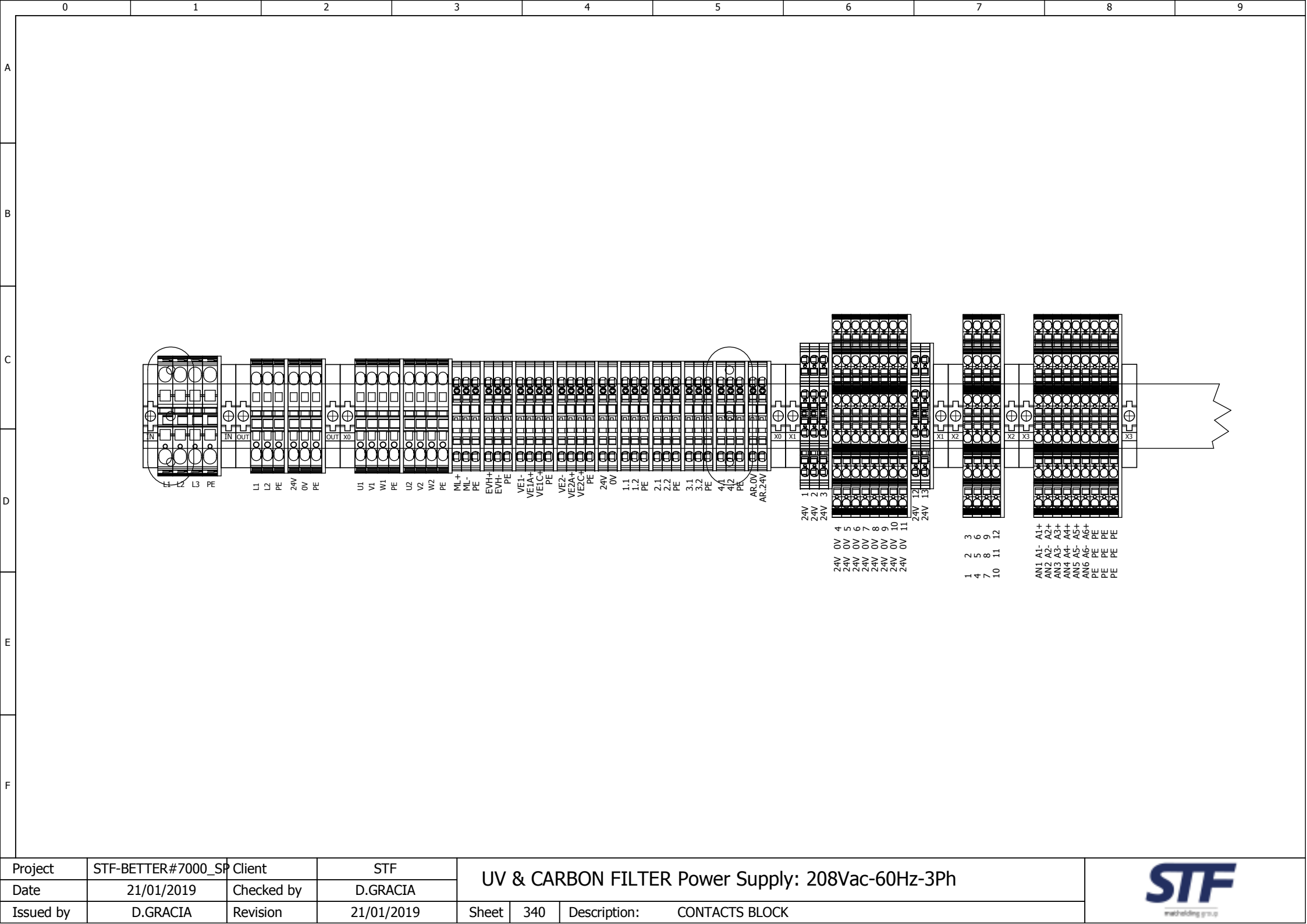
RESERVE

Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph		
Date	21/01/2019	Checked by	D.GRACIA			
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	320	Description: FREE VOLTAGE CONTACTS





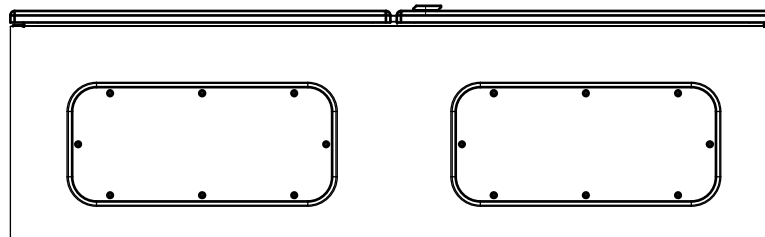
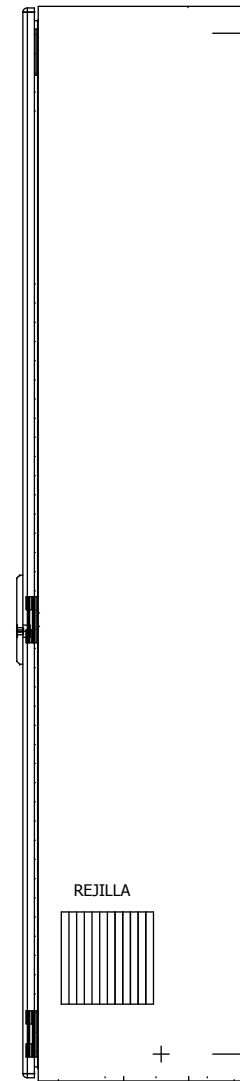
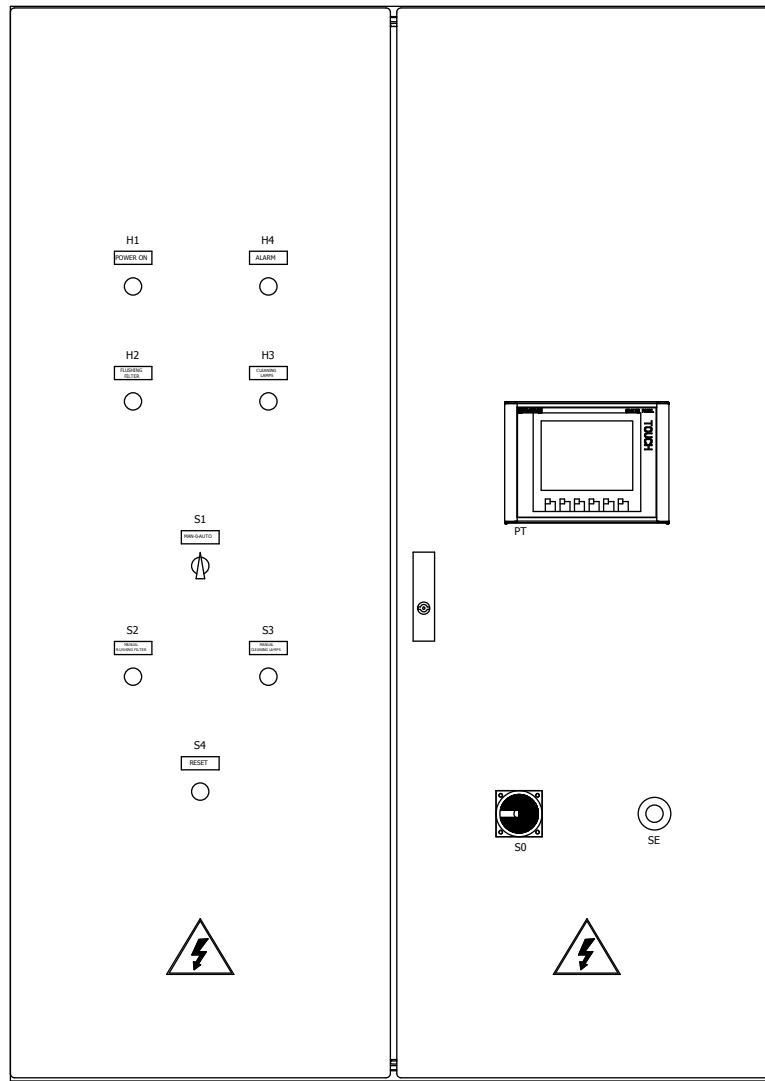
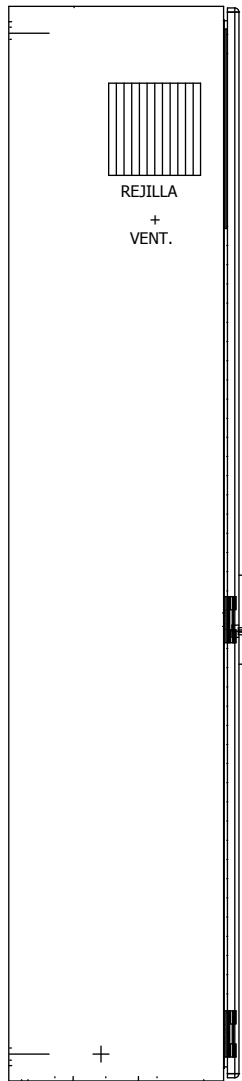
Project	STF-BETTER#7000_SP	Client	STF	UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Date	21/01/2019	Checked by	D.GRACIA				
Issued by	D.GRACIA	Revision	21/01/2019	Sheet	330	Description:	



Project	STF-BETTER#7000_SP	Client	STF
Date	21/01/2019	Checked by	D.GRACIA
Issued by	D.GRACIA	Revision	21/01/2019

<b>UV &amp; CARBON FILTER Power Supply: 208Vac-60Hz-3Ph</b>			
Sheet	340	Description:	CONTACTS BLOCK





Project	STF-BETTER#7000_SP	Client	STF
Date	21/01/2019	Checked by	D.GRACIA
Issued by	D.GRACIA	Revision	21/01/2019

UV & CARBON FILTER Power Supply: 208Vac-60Hz-3Ph			
Sheet	350	Description:	EXTERNAL LAY-OUT





CODE	DESCRIPTION	TRADE MARK	NAME	QTY
DELIVERY	POF	WALL MOUNTING ACCESSORE		
DELIVERY	174584	FEMALE CONNECTOR, 16P-16A	WIEDMULLER X1	1
DELIVERY	165648	CABLE ENTRY FOR 10P CONNECTOR, PG21	WIEDMULLER X1	1
ENCLOSURE	MIP-86	POLYESTER ENVILOSURE, SIZE 800*600*300	CAHORS	1
ENCLOSURE	200102-BULK	WARNING LABEL	CEMBRE	2
ENCLOSURE	40.30.77	CABLE CONDUIT, 40*30 GREY	UNEX	2
ENCLOSURE	310D504-0TKS3	MAIN SWITCH/EMERGENCY STOP, 3 POLE, 400Vac / 22kW, RED/YELLOW	ARMARIO	2
ENCLOSURE	35U1050-1HB20-0A0	EMERGENCY STOP PUSHBUTTON	SIEMENS S0	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS SE	1
ENCLOSURE	35U1400-1A10-1CA0	AUXILIAR CONTACT MODULE, 1NC	SIEMENS SE	2
ENCLOSURE	3439904	EMERGENCY STOP LABEL	CEMBRE SE	1
ENCLOSURE	6AV2123-2D803-0A0	SIMATIC HMI, KTP400 BASIC, BASIC 4"	SIEMENS PT	1
ENCLOSURE	17020002	R45 CABLE	AMP PT-A1	1
ENCLOSURE	35U1002-28110-0A0	SELECTOR SWITCH, 3 POSITIONS (I-O-II), BLACK	SIEMENS S1	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS S1	1
ENCLOSURE	35U1400-1A10-1CA0	AUXILIAR CONTACT MODULE, 1NC	SIEMENS S1	2
ENCLOSURE	M22-0D1-WS	DOUBLE PUSHBUTTON, WHITE/BLACK, LAMP OPTIONAL	MOELLER S2.xx	1
ENCLOSURE	M22-A	ACCESSORIE FOR AUXILIAR CONTACT	MOELLER S2.xx	1
ENCLOSURE	M22-K10	1NO AUXILIAR CONTACT	MOELLER S2.xx	2
ENCLOSURE	35U1050-0A30-0A0	YELLOW PUSHBUTTON, MOMENTARY CONTACT	SIEMENS S3	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS S3	1
ENCLOSURE	35U1400-1A10-1BA0	AUXILIAR CONTACT MODULE, 1NO	SIEMENS S3	1
ENCLOSURE	35U1050-0A850-0A0	BLUE PUSHBUTTON, MOMENTARY CONTACT	SIEMENS S4	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS S4	1
ENCLOSURE	35U1400-1A10-1BA0	AUXILIAR CONTACT MODULE, 1NO	SIEMENS S4	1
ENCLOSURE	35U1900-0D870-0A0	SILICON CLEAR PUSHBUTTON PROTECTION	SIEMENS S3-S4	2
ENCLOSURE	35U1051-6A6A0-0A0	ROUND INDICATOR, WHITE	SIEMENS H0	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS H0	1
ENCLOSURE	35U1401-1BB60-1A0	WHITE LED, 24V ac/dc, SCREW	SIEMENS H0	1
ENCLOSURE	35U1051-6A30-0A0	ROUND INDICATOR, YELLOW	SIEMENS H1	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS H1	1
ENCLOSURE	35U1401-1BB30-1A0	YELLOW LED, 24V ac/dc, SCREW	SIEMENS H1	1
ENCLOSURE	35U1051-6A40-0A0	ROUND INDICATOR, GREEN	SIEMENS H2	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS H2	1
ENCLOSURE	35U1051-6A420-0A0	GREEN LED, 24V ac/dc, SCREW	SIEMENS H2	1
ENCLOSURE	35U1550-0A10-0A0	HOLDER FOR 3 AUXILIARY CONTACT, METALLIC	SIEMENS H3	1
ENCLOSURE	35U1401-1BB20-1A0	RED LED, 24V ac/dc, SCREW	SIEMENS H3	1
ENCLOSURE	34702	IDENTIFICATION HOLDER FOR LAMP OR PUSHBUTTON	SIEMENS Sxx-Hxx	7
ENCLOSURE	35102N	IDENTIFICATION HOLDER	SIEMENS Sxx-Hxx	4
ENCLOSURE	47091N	PLASTIC IDENTIFICATION FOR LAMP & PUSHBUTTON, 15*97, WHITE	SIEMENS Sxx-Hxx	11
ENCLOSURE	1900.M32N	CABLE GLAND, M32	CEMBRE IN / OUT	2
ENCLOSURE	143M32N	NUT FOR CABLE GLAND, M32	CEMBRE IN / OUT	2
ENCLOSURE	1900.M16N	CABLE GLAND, M16	CEMBRE IN / OUT	2
ENCLOSURE	143M16N	NUT FOR CABLE GLAND, M16	CEMBRE IN / OUT	2
ENCLOSURE	1900.M25N	CABLE GLAND, M25	CEMBRE IN / OUT	2
ENCLOSURE	143M25N	NUT FOR CABLE GLAND, M25	CEMBRE IN / OUT	2
ENCLOSURE	120860	POLYAMIDE PLUG FOR CABLE GLAND (M25)	WEIDMULLER IN / OUT	1
ENCLOSURE	174578	HOLDER FOR 10P CONNECTOR	WEIDMULLER CONNECTOR X1	1
ENCLOSURE	985 M5	FEMALE CONNECTOR, 16P-16A	WEIDMULLER CONNECTOR X1	1
ENCLOSURE	125 M5	BLOCK NUT, DIN 985 M5	GENRICO CONNECTOR X1	4
ENCLOSURE	912 5*20	WASHER, DIN 125 M5	GENRICO CONNECTOR X1	4
ENCLOSURE		SCREW, DIN 912 M5*20	GENRICO CONNECTOR X1	4
BASE PLATE	PBM-86	METALLIC PLATE FOR COMPONENTS	GENERIC METALLIC BASE PLATE	1
BASE PLATE	125 M8	WASHER, DIN 125 M8	GENERIC	4
BASE PLATE	985 M8	BLOCK NUT, DIN 985 M8	CHEMIK	4
BASE PLATE	8WA4746	CONTACT BLOCK ELEVATOR	SIEMENS	2
BASE PLATE	383400000	SET OF DIN RAIL	WEIDMULLER	1
BASE PLATE	80.30.77	SET OF CABLE CONDUIT, 80*30 GREY	UNEX	1
BASE PLATE	80.40.77	SET OF CABLE CONDUIT, 80*40 GREY	UNEX	1
BASE PLATE	80.60.77	SET OF CABLE CONDUIT, 80*60 GREY	UNEX	1
BASE PLATE	0033810	SET OF ALUMINIUM RIVET, 3.9*10	GENERIC	1
WIRING	H07Z1-K-16	SET OF 16mm2 SINGLE-CORE CABLES, HALOGEN FREE (H07Z1-K)	CHEMIK	1
WIRING	H07Z1-K-10	SET OF 10mm2 SINGLE-CORE CABLES, HALOGEN FREE (H07Z1-K)	CHEMIK	1
WIRING	H07Z1-K-4	SET OF 4mm2 SINGLE-CORE CABLES, HALOGEN FREE (H07Z1-K)	CHEMIK	1
WIRING	H07Z1-K-2.5	SET OF 2.5mm2 SINGLE-CORE CABLES, HALOGEN FREE (H07Z1-K)	CHEMIK	1
WIRING	H07Z1-K-1.5	SET OF 1.5mm2 SINGLE-CORE CABLES, HALOGEN FREE (H07Z1-K)	CHEMIK	1
WIRING	H05Z1-K-1	SET OF 1mm2 SINGLE-CORE CABLES, HALOGEN FREE (H05Z1-K)	CHEMIK	1
COMPONENTS	5SL6363-7	CIRCUIT BREAKER 400V 6KA, 3-POLE, C, 63A	SIEMENS F1	1
COMPONENTS	55V4646-0	RESSIDUAL CURRENT CIRCUIT BREAKER, 4-pole, In: 63 A, 300 mA, 400 V	SIEMENS O1	1
COMPONENTS	NB1-X	PHASE CONTROL	CHEMIK P01	1
COMPONENTS	5SL6302-7	CIRCUIT BREAKER 400V 6KA, 3-POLE, C, 2A	SIEMENS F2	1
COMPONENTS	58K-12024	POWER SUPPLY, 380Vac/24Vdc, 120W/5A	OMRON T01	1
COMPONENTS	C0028	VOLTAGE DISTRIBUTOR, 2-POLES, 125A, 15 SCREW	STAFEL RRP24V	1
COMPONENTS	3RT2015-1BB41	CONTACTOR, AC-3, 3kW/400V, 3-POLE + 1NO, DC 24 V, SIZE 500, SCREW	SIEMENS K65	1
COMPONENTS	3RT2011-0KA10	CIRCUIT-BREAKER FOR MOTOR PROTECTION, SIZE 500, CLASS 10, 0.9...1.25A, SCREW	SIEMENS QM1	1
COMPONENTS	3RW2901-1E	TRANSVERSE AUXILIAR SWITCH, 1NO+1NC, FOR CIRCUIT-BREAKERS 3RW2, SCREW	SIEMENS QM1	1
COMPONENTS	3RT2015-1BB41	CONTACTOR, AC-3, 3kW/400V, 3-POLE + 1NO, DC 24 V, SIZE 500, SCREW	SIEMENS KMI-KMD	2
COMPONENTS	3RA1912-2H	MECHANICAL CONNECTOR, INTERLOCKING AT THE SIDE FOR 3RTZ CONTACTOR	SIEMENS KMI-KMD	1

	CODE	DESCRIPTION	TRADE MARK	NAME	QTY
COMPONENTS	3RW4028-1BB04	SOFT STARTER, 50, 38A, 30KW/400V, 200-480V, AC/Dc 2AV, SCREW	SIEMENS	OPTION 1 - U1	1
COMPONENTS	3RW4036-1BB04	SOFT STARTER, 5Z, 45A, 30KW/400V, 200-480V, AC/Dc 2AV, SCREW	SIEMENS	OPTION 2 - U1	1
COMPONENTS	RGE1548M	2 CONTACT RELAY SOCKET	SCHNEIDER	Kxxx	16
COMPONENTS	RXG22BD	2 CONTACT RELAY, 2AVdc, COIL	SCHNEIDER	Kxxx	16
COMPONENTS	6ES7214-1AG40-0XB0	SIMATIC 57-1200, CPU 1214C, 14DI, 2AVdc, 10DO, 2AVdc, 2AI, 0-10Vdc, PS 2AVdc, 100Kb	SIEMENS	A1	1
COMPONENTS	6ES7223-1BH32-0XB0	SIMATIC 57-1200, DIGITAL I/O, 8DI, 8DO, TRANSISTOR 0.5A	SIEMENS	A2	1
COMPONENTS	3036796	RESISTOR, ACCOMMODATION	PHOENIX CONTACT	X0/R1-R2	2
COMPONENTS	R499/0, 25W, 1%	499 Ohm, 0.25W, RESISTOR	CHEMIK	X0/R1-R2	2
COMPONENTS	3038448	2,5mm CONTACT BLOCK, (FOR PLUG COMPONENTS)	PHOENIX CONTACT	X0/R1-R2	2
COMPONENTS	3030514	CONTACT BLOCK END	PHOENIX CONTACT	X0/R1-R2	1
COMPONENTS	038356	END BRACKET	WEIDMULLER	MISC	16
CONTACT BLOCK	102050	35mm CONTACT BLOCK, GREY	WEIDMULLER	X0/IN	3
CONTACT BLOCK	101050	35mm CONTACT BLOCK, GROUND	WEIDMULLER	X0/IN	1
CONTACT BLOCK	102040	16mm CONTACT BLOCK, GREY	WEIDMULLER	X0/PUMP	3
CONTACT BLOCK	101040	16mm CONTACT BLOCK, GROUND	WEIDMULLER	X0/PUMP	1
CONTACT BLOCK	178230	2,5mm THREEFOLD CONTACT BLOCK, GREY	WEIDMULLER	X0/SIGNALS	9
CONTACT BLOCK	178234	2,5mm THREEFOLD CONTACT BLOCK END	WEIDMULLER	X0/SIGNALS	1
CONTACT BLOCK	178230	2,5mm THREEFOLD CONTACT BLOCK, GREY	WEIDMULLER	X0/FREE VOLTAGE	12
CONTACT BLOCK	178234	2,5mm THREEFOLD CONTACT BLOCK END	WEIDMULLER	X0/FREE VOLTAGE	1
CONTACT BLOCK	178230	2,5mm THREEFOLD CONTACT BLOCK, GREY	WEIDMULLER	X0/ANALOGICAL	2
CONTACT BLOCK	178234	2,5mm THREEFOLD CONTACT BLOCK END	WEIDMULLER	X0/ANALOGICAL	1
CONTACT BLOCK	1131740000	2,5mm THREEFOLD CONTACT BLOCK, GROUND	WEIDMULLER	X0/ANALOGICAL	1
CONTACT BLOCK	178234	2,5mm THREEFOLD CONTACT BLOCK END	WEIDMULLER	X0/ANALOGICAL	1
CONTACT BLOCK	169754	ELECTRICAL BRIDGE FOR CONTACT BLOCK	WEIDMULLER	X0	0,44
COMPONENTS	038356	END BRACKET	WEIDMULLER	X0	2