

# Trouble shooting for Filter unit

## IV Cause and action for alarm/trip relating to Filter unit

### A. FILTER DP HIGH / HIGH HIGH

Alarm indicates that differential pressure is over 0.6kg/cm<sup>2</sup> for longer than 60 seconds.

Trip indicates that differential pressure is over 1.2kg/cm<sup>2</sup> longer than 10~20 seconds and at which point, By pass Mode automatically activates.

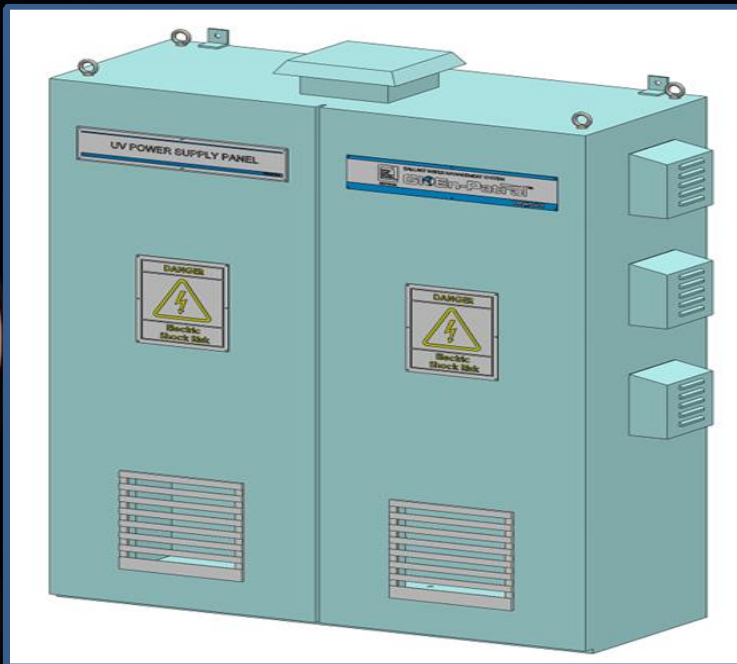
Cause	Description	Action
1	Loss of power for 'Pressure Transmitter/Motor/Solenoid	5
2	Malfunctioning Inlet Pressure Transmitter	2
3	Clogged Inlet Pressure Nozzle	2
4	Malfunctioning Back-flushing Valve	5
5	Faulty Limit Switches in the Limit Switch Box	2
6	Closed Local valve(s) in the Overboard pipe line	2
7	Clogged Filter Element	7
8	DP Set Value	1

# Trouble shooting for Filter unit

## IV Cause and action for alarm/trip relating to filter unit

### A. FILTER DP HIGH / HIGH HIGH

Cause ①: Loss of power for 'Pressure Transmitter / Motor / Solenoid



#### ● ACTION 1

Check if the circuit breaker switches in the UV power supply panel are turned on.

#### ● ACTION 2

Measure if power supply voltage (440V) of the circuit breaker switch is properly supplied.

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### A. FILTER DP HIGH / HIGH HIGH

Cause ①: Loss of power for 'Pressure Transmitter / Motor / Solenoid



#### ● ACTION 3

Check power supply to the UV power supply panel from 'MSBD' (Main Switch Board) in the ECR (Engine Control Room).

#### ● ACTION 4

Check if all the electric wires are connected and tightened properly according to the electric drawings.

#### ● ACTION 5

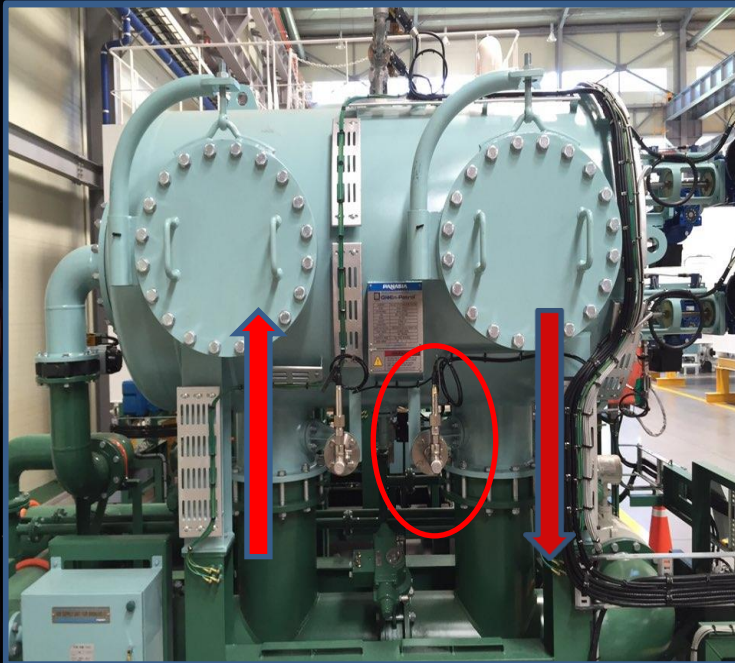
Verify all wires are properly terminated by checking the resistance with a Multi-Tester.

# Trouble shooting for Filter unit

## IV Cause and action for alarm/trip relating to filter unit

### A. FILTER DP HIGH / HIGH HIGH

Cause ②: Malfunction Outlet Pressure Transmitter



#### ● ACTION 1

Check if there is physical damage to the Pressure Transmitter.

#### ● ACTION 2

Dismantle the Pressure Transmitter and check electric current using a Multi-Tester.

Normal range  
3.99mA ~ 4.01mA

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### A. FILTER DP HIGH / HIGH HIGH

Cause ③: Clogged Outlet Pressure Nozzle



#### ● ACTION 1

Check if the valve on the nozzle line of the Inlet Pressure Transmitter is open.

#### ● ACTION 2

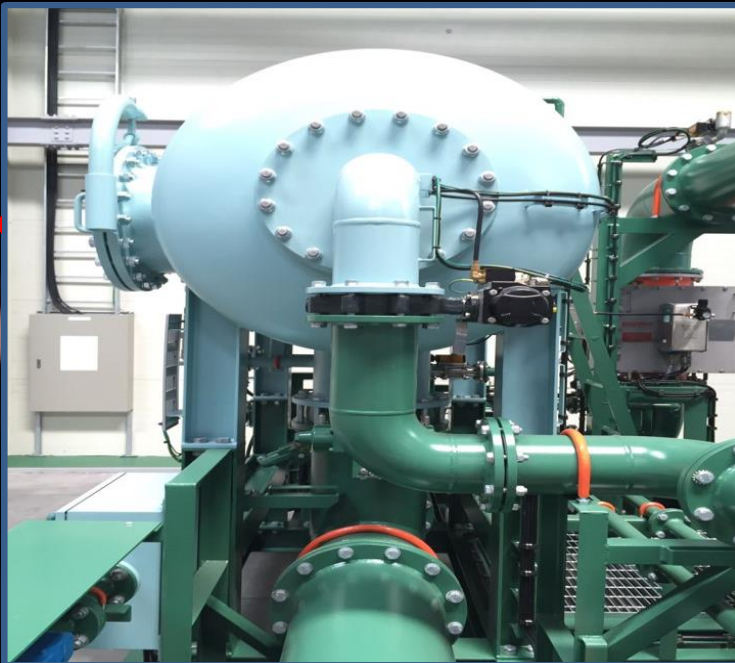
Clear the line if water does not flow out from the nozzle line during operation.

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### A. FILTER DP HIGH / HIGH HIGH

Cause ④: Malfunction Back-flushing Valve



#### ● ACTION 1

Check if the Back-flushing Valve is open during operating. (Normally open during operation)

#### ● ACTION 2

Check if the compressed air is supplied to the Solenoid Valve on the Actuator and Back-flushing Valve.

#### ● ACTION 3

Check if the Back-flushing Valve is working properly (Open/Close) by pushing the manual operation button on the Solenoid Valve by hand.



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### A. FILTER DP HIGH / HIGH HIGH

Cause ④: Malfunction Back-flushing Valve



#### ● ACTION 4

Check the function of Back-flushing Valve manually in the 'Check Mode'.

#### ● ACTION 5

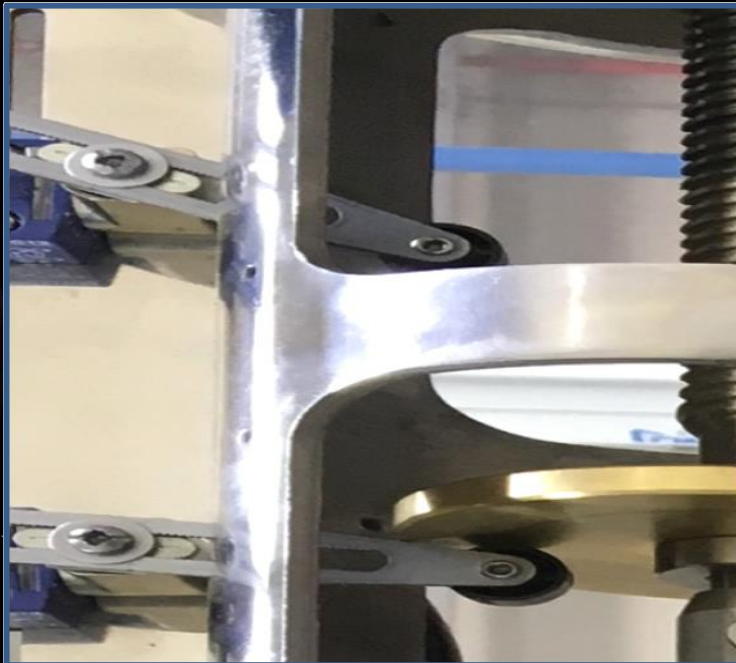
Dismantle the Actuator and Butterfly Valve to check if the disc, seat and/or shaft inside are jammed or damaged.

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## IV Cause and action for alarm/trip relating to filter unit

### A. FILTER DP HIGH / HIGH HIGH

Cause ⑤: Faulty Limit Switches in the Limit Switch Box



#### ● ACTION 1

Verify that the installed location of the operating Limit Switch set is lined up with the punched marks and that the switches work properly.

#### ● ACTION 2

Carry out the Back-flushing operation manually after selecting the 'Manual Back-flushing' button and check if the Limit Plate is moving up and down properly.

#### ● ACTION 3

Move Limit Switch reed(s) up and down to verify variability of an electronic contact with a Multi-Tester



# Trouble shooting for Filter unit

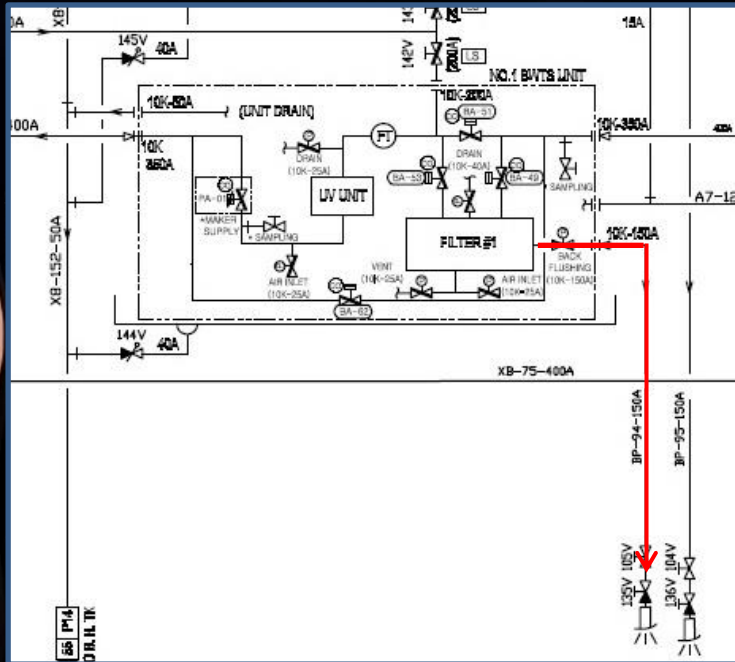
## IV Cause and action for alarm/trip relating to filter unit

### A. FILTER DP HIGH / HIGH HIGH

Cause ⑥: Closed Local valve(s) in the Overboard pipe line

#### ● ACTION 1

Check and make sure if the other Local valves in the pipe line from the Back – flushing valve to Overboard are open during operation.



# Trouble shooting for Filter unit

## IV. Cause and action for alarm/trip relating to filter unit

### A. FILTER DP HIGH / HIGH HIGH

Cause ⑦: Clogged Filter Element



#### ●● ACTION 1

Manual cleaning by using 'Filter Clogging Solution' program.

#### ●● ACTION 2

Physical cleaning of the filter element with De-scaling liquid.

#### ●● Note

We will take a look at it more closely in Part V. 'Filter Clogging Solution'.

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## IV. Cause and action for alarm/trip relating to filter unit

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Cause ⑧: DP Set Value



### ● ACTION 1

Select the "DP MODE OPERATING SET VALUE" (Default value = 0.45 kg/cm<sup>2</sup>) and input desired value (ex. 0.35 km/cm<sup>2</sup>)