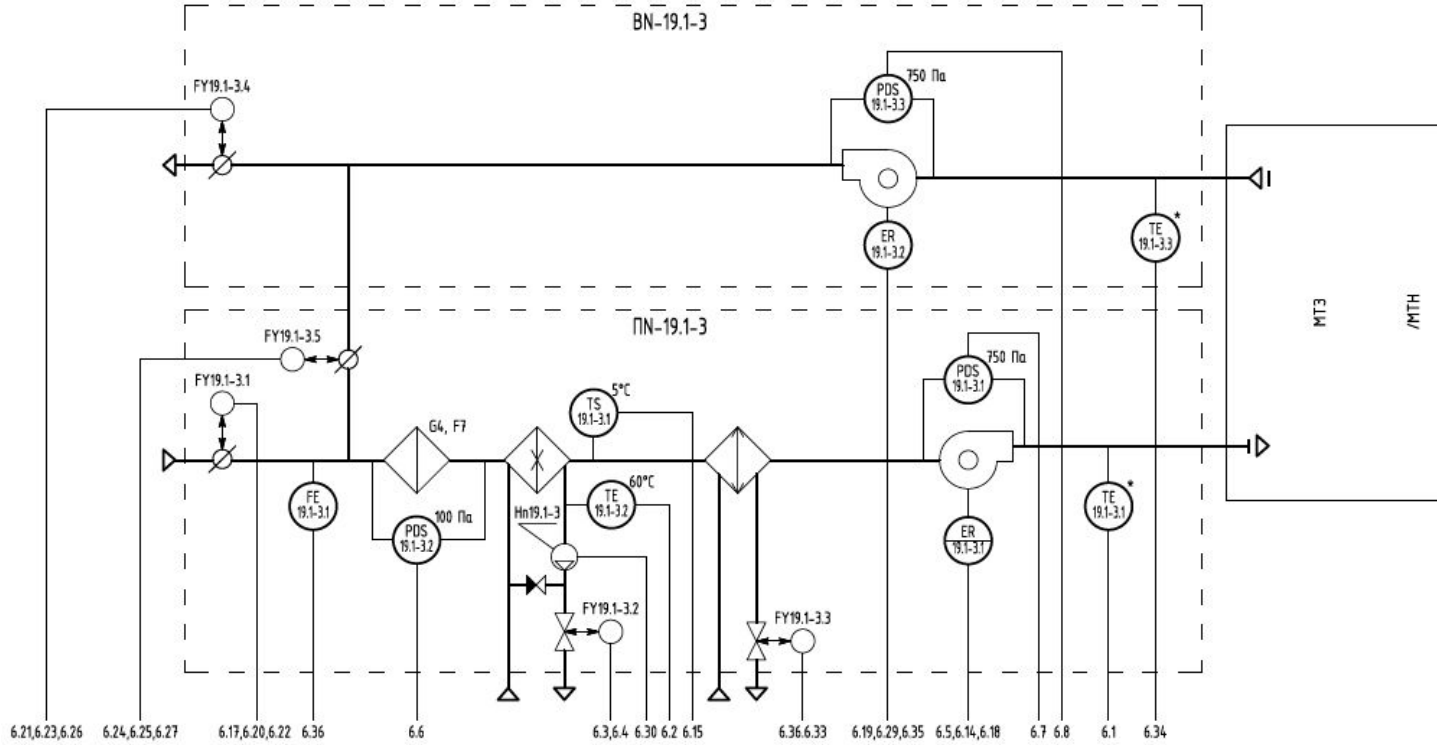




1. Please try to explain the difference between Differential pressure control valve for Flow and Differential pressure control valve for Pressure.

Item for comparison	Differential pressure control valve for Flow	Differential pressure control valve for Pressure	Remarks

2. Below is the constant air volume air handling unit. What kinds of sensors, controller and Points should be added if the VAV unit installed indoors? Also, What is the additional sequence of operation such as control logic?



6.21,6.23,6.26 6.24,6.25,6.27 6.17,6.20,6.22 6.36 6.6 6.3,6.4 6.30 6.2 6.15 6.36,6.33 6.19,6.29,6.35 6.5,6.14,6.18 6.7 6.8 6.1 6.34

- 6.1 IN-19.1-3. Outlet air temperature
- 6.2 IN-19.1-3. Outlet water temperature
- 6.3 IN-19.1-3. Position of heating valve
- 6.4 IN-19.1-3. Heating regulation
- 6.5 IN-19.1-3. Regulation of supply fan's rotation speed
- 6.6 IN-19.1-3. Filter's impurity control
- 6.7 IN-19.1-3. Supply fan's differential pressure control
- 6.8 IN-19.1-3. Exhaust fan's differential pressure control
- IN-19.1-3. Supply fan's "Man/Off/Auto" switch control
- IN-19.1-3. Pump's "Man/Off/Auto" switch control
- IN-19.1-3. Supply air valve's "Man/Off/Auto" switch control
- IN-19.1-3. Exhaust air valve's "Man/Off/Auto" switch control
- IN-19.1-3. Recirculation air valve's "Man/Off/Auto" switch control
- IN-19.1-3. Malfunction of the supply fan's drive
- IN-19.1-3. Freeze protection of air heater
- IN-19.1-3. Pump's heating protection control
- IN-19.1-3. Supply Air valve's position
- IN-19.1-3. Start/stop supply fan
- IN-19.1-3. Start/stop exhaust fan
- IN-19.1-3. Open supply air valve
- IN-19.1-3. Open exhaust air valve
- IN-19.1-3. Close supply air valve
- IN-19.1-3. Close exhaust air valve
- IN-19.1-3. Open recirculation air valve
- IN-19.1-3. Close recirculation air valve
- IN-19.1-3. Exhaust air valve's position
- IN-19.1-3. Recirculation air valve's position
- IN-19.1-3. Exhaust fan's "Man/Off/Auto" switch control
- IN-19.1-3. Malfunction of the exhaust fan's drive
- IN-19.1-3. Start/stop pump
- Fire alarm
- IN-19.1-3. Position of cooling valve
- IN-19.1-3. Cooling regulation
- IN-19.1-3. Exhaust air temperature
- IN-19.1-3. Regulation of exhaust fan's rotation speed
- IN-19.1-3. Measurement of minimum outdoor air intake

PXC100-ED	2xTXM1.8U	AI	6
		AO	4
	TXM1.16D	DI	15
	TXM1.6R	DO	6
BACnet/IP			

2. Below is the constant air volume air handling unit. What kinds of sensors, controller and Points should be added if the VAV unit installed indoors? Also, What is the additional sequence of operation such as control logic?

Draw automatic schematic diagram of VAV type AHU, describe above requirement.

3. When selecting size of automatic control valve, what kinds of factor do you need to consider on specification of valve.

Please describe each of the factors and Closed off rating, definition of CV and  $\Delta P$ ?

Make sample of valve schedule, describe above requirement.

4. Please describe installation condition of FMS(Flow Measure Station), Flowmeter and BTU ?

## **FMS(Flow Measure Station) installation**

4. Please describe installation condition of FMS(Flow Measure Station), Flowmeter and BTU ?

## Flowmeter, BTU Installation

Installation of flowmeter(Magnetic type)

5. To hand over to client successfully, describe order from construction to commissioning regarding BMS include

Mechanical and Electrical part?

Make order of construction, commissioning through fish-bone diagram, describe above requirement.



6. Please describe how to predict building cooling and heating load aspect of automatic control?

Draw automatic schematic diagram, describe monitoring method of predicting building cooling and heating load.