

WHY FMS BE USED ?

1.

Variable Air Volume HVAC 가 VAV
 가 . 90%
 Constant Volume Reheat Systems
 . 60% 가 .
 가 가 가 (Variable Air Volume) 가 .
 70 가 (Pneumatic Control),
 (Electronic Control), (Direct Digital Control)
 가 가
 VAV
 Airflow Control VAV

2. 가 (VAV System)

가 80 (Room Thermostat Controller) 가 가

- 가
-
- (Pressure Independent Control)
- (Remote Setpoint Adjust)
- Warming Up

가

2.1.

- 가
- 가 (Minimum/Maximum)
-

2.2. 가

-
-
-
- 가
-

2.3. 가

-
- (Static Pressure Wide Range)
-
-

2.4. 가

- (FMS) (Monitoring)
-

3. 가 (FMS)

3.1.

VAV , , , (Positive Pressure)

(Negative Pressure) (Neutral Pressure) .

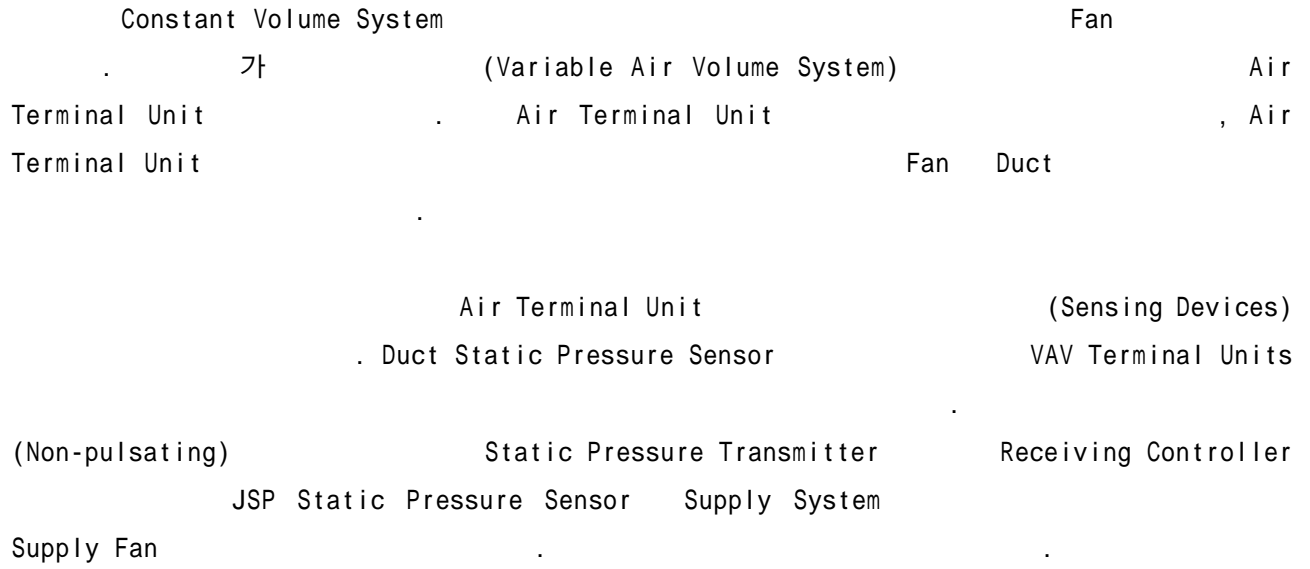
Pressurization(가) ,

(Supply Air Volume) 가 (VAV Air Terminal Units)

(Nonsynchronization) .

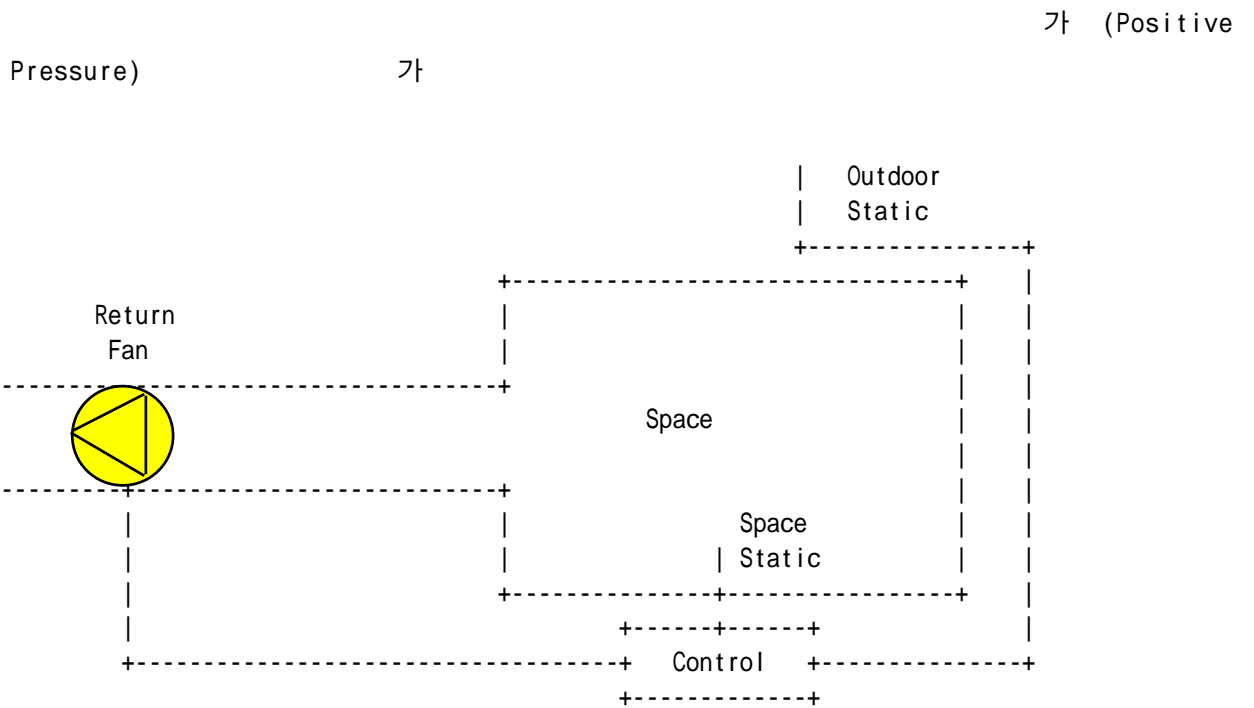
Duct System

(Return fan Control)가

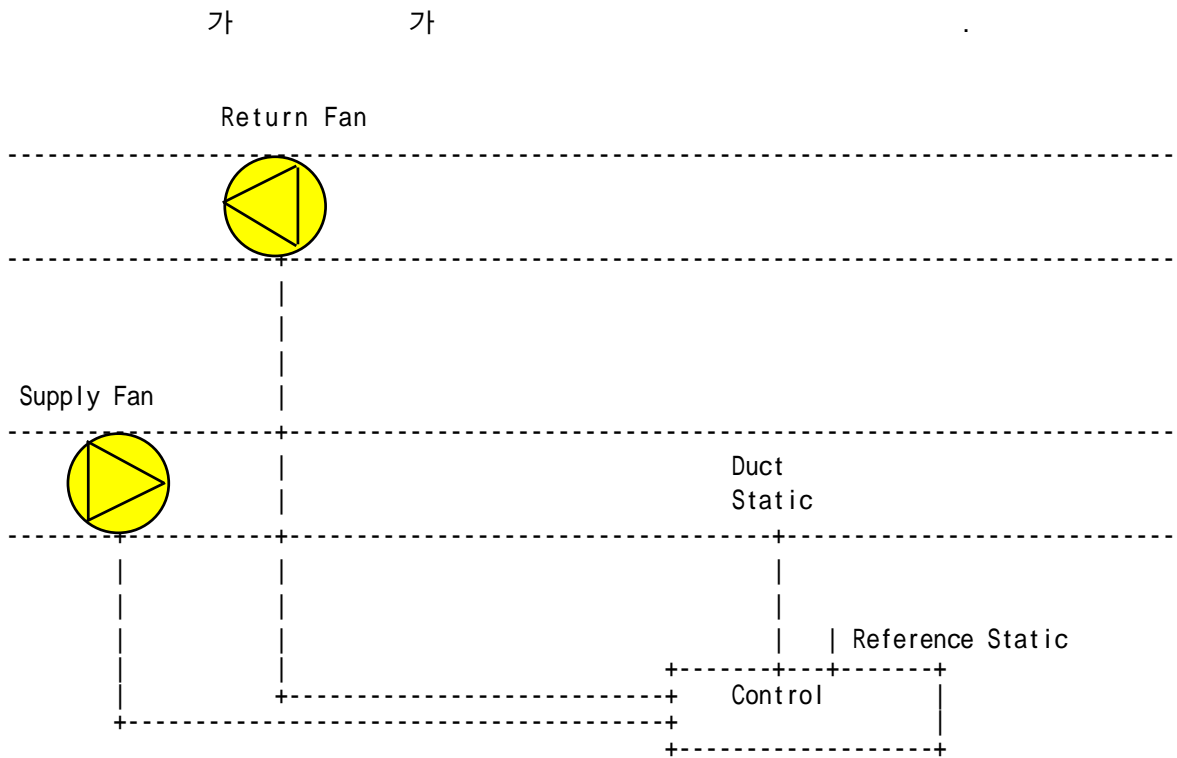


3.1.1.

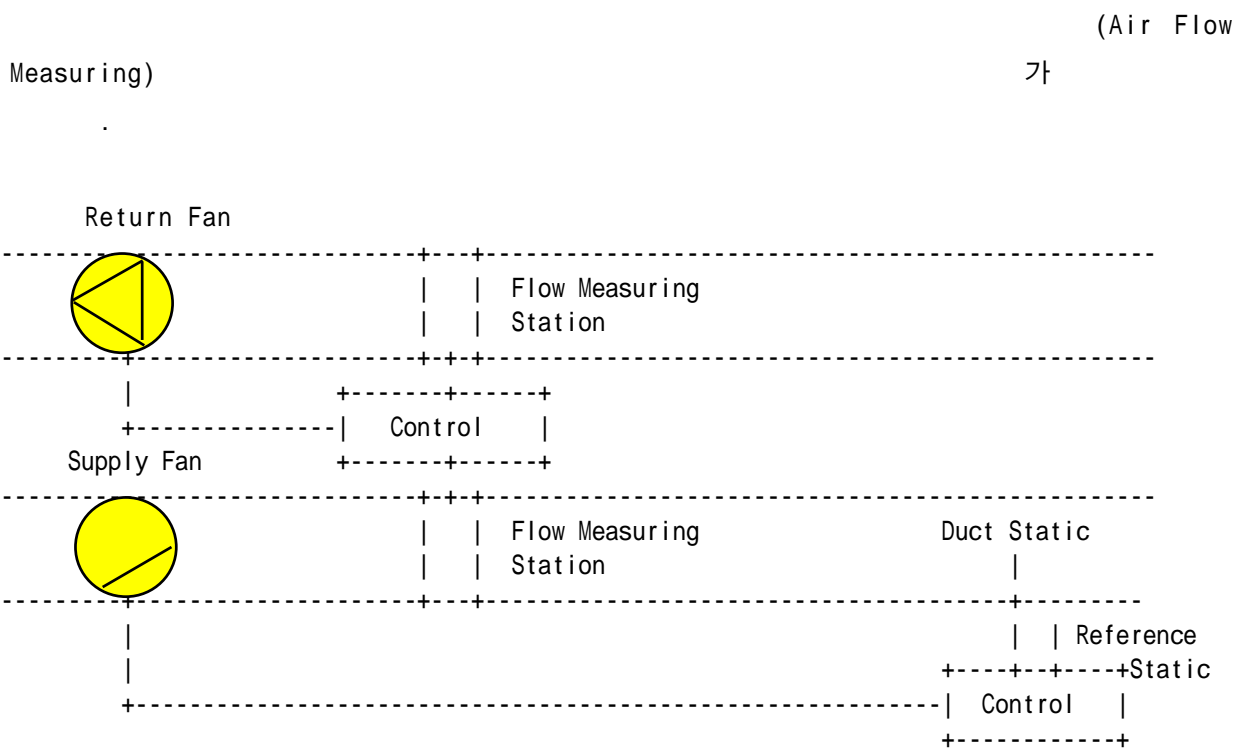
A. (Direct Building Static Pressure Control)



B. (Open Loop Control)



C. (Close Loop Control)



3.1.2.

(Static Pressure Sensor Location)

가

가

가

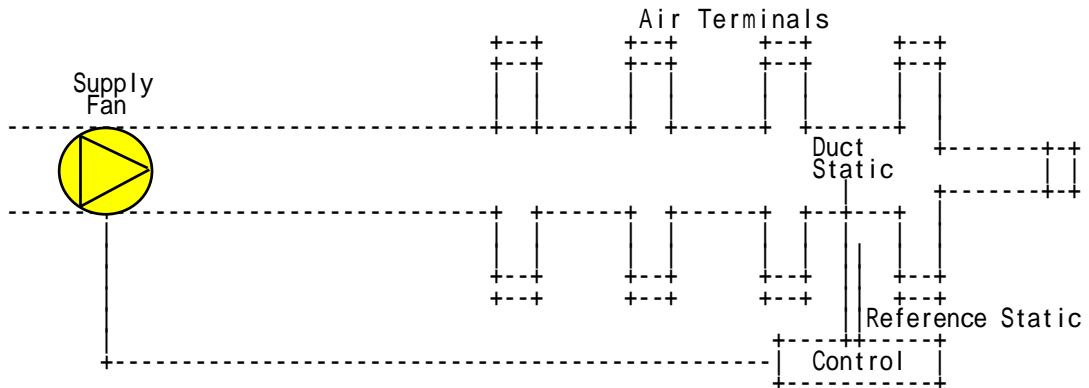
가

2/3

Friction Drop 1/3

가 Operation Surge

가

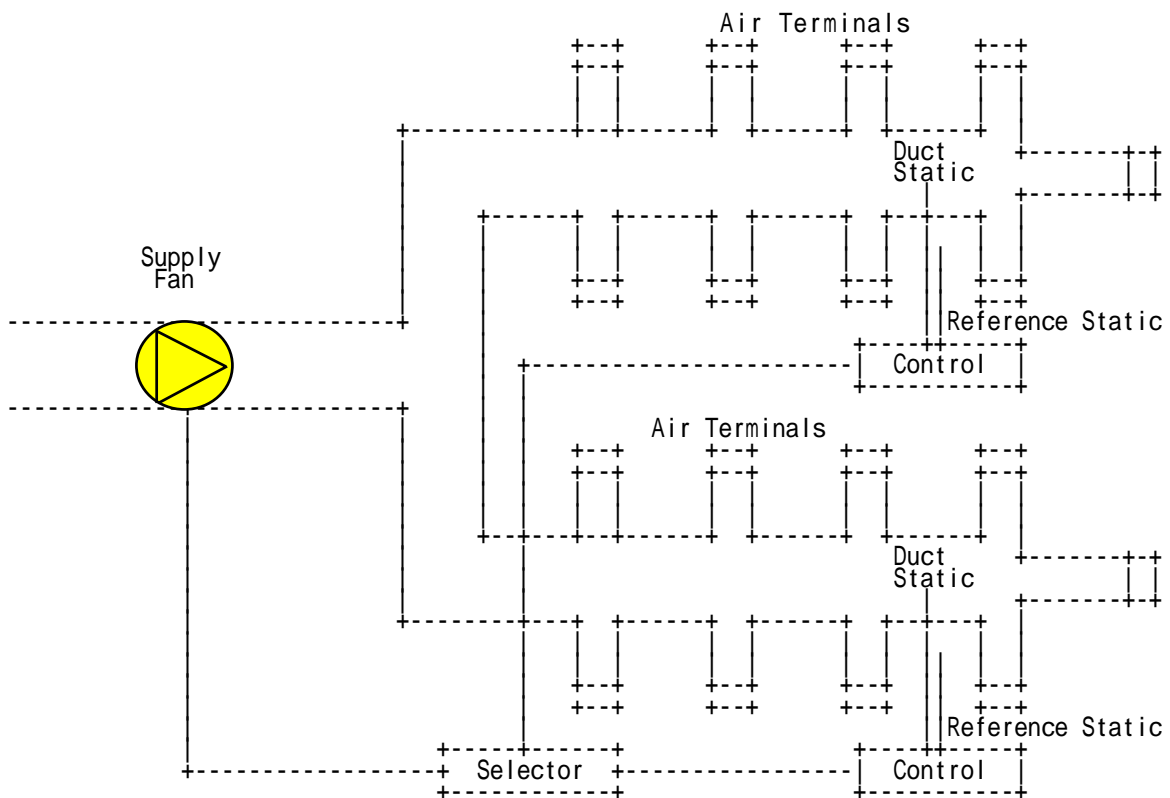


VAV Multi Zone

가

Multiple

Override Control



3.2. (FMS)

3.2.1. Supply Air Duct

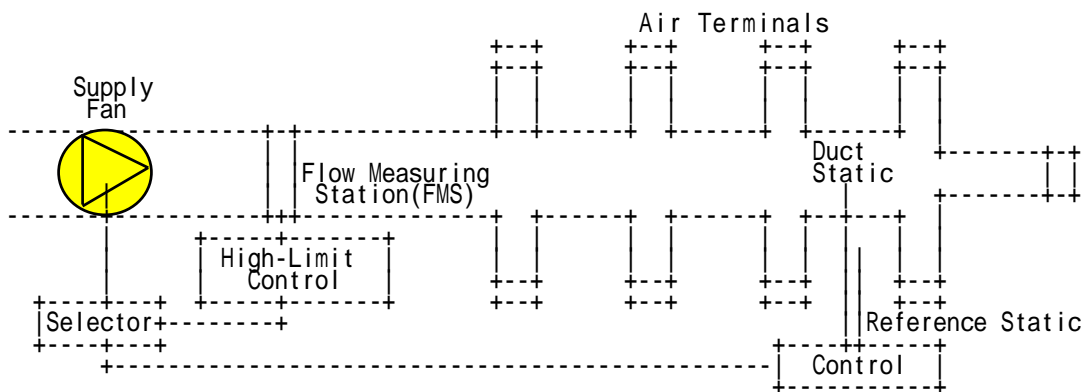
Supply Duct 가 Supply Fan Return Fan
 . Supply Fan Return Fan
 Supply Duct 가
 (Positive Pressure) .

- Supply Air Static Pressure Supply/Return Fan Air Unbalance :

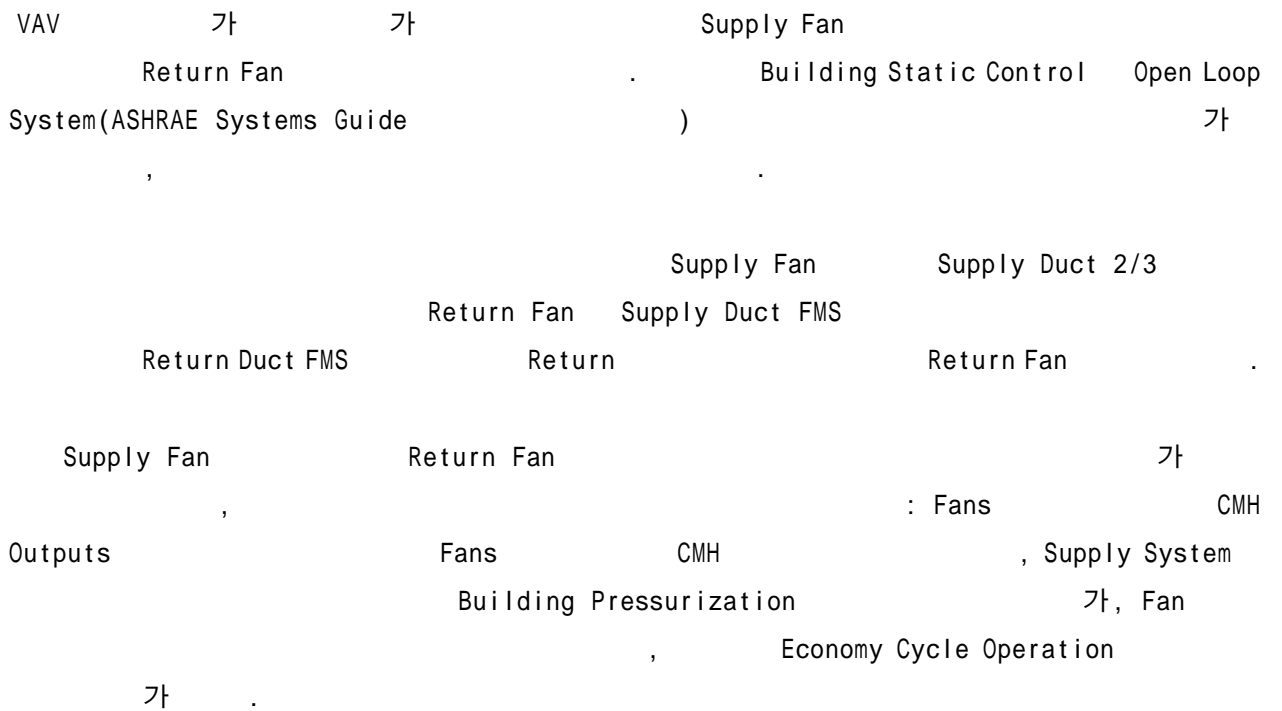
* AHU Supply Air 30,000 CMH, Return Air 27,000 CMH

	100%	80%	50%
Supply Fan	30,000 CMH	24,000 CMH	15,000 CMH
Return Fan	27,000 CMH	21,600 CMH	13,500 CMH
Exhaust			
Positive Pressure	3,000 CMH (100%)	2,400 CMH (80%)	1,500 CMH (50%)

System Static Pressure Controller (terminal unit
), Supply Fan . Fan
 Sensing Devices(JFM-P Series JFM-S Series)가 .

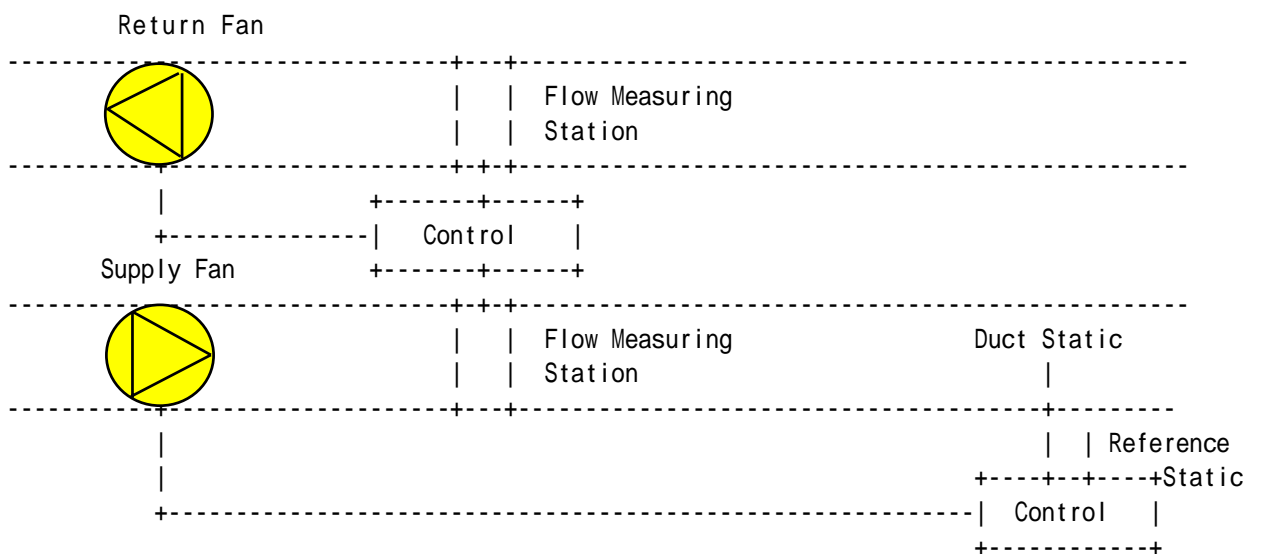


3.2.2. Supply Return Air Ducts



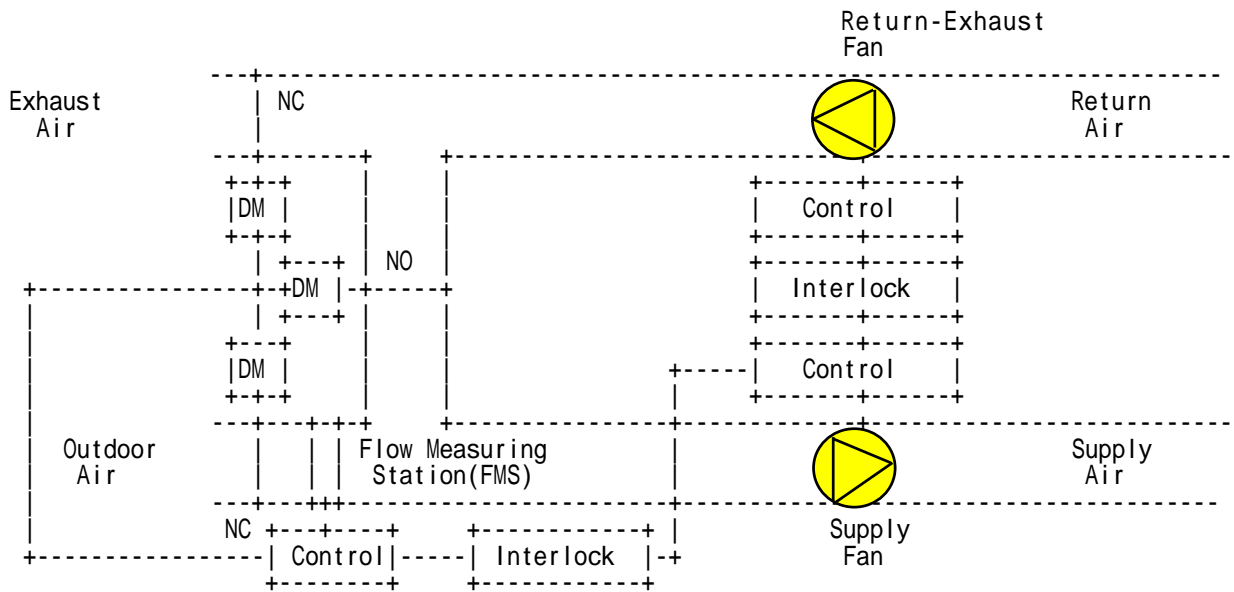
* Supply Air 30,000 CMH, Return Air 27,000 CMH

- Supply Air FMS 27,000 CMH : $27,000 - 3,000 = 24,000$ CMH (Return Fan Setpoint)
- Supply Air FMS 15,000 CMH : $15,000 - 3,000 = 12,000$ CMH (Return Fan Setpoint)
- Supply Air FMS 12,000 CMH : $12,000 - 3,000 = 9,000$ CMH (Return Fan Setpoint)



3.2.3. Outside Air Duct

Supply Fan (Minimum outside air volume)
 Supply Fan (Outside air quantities)
 Outside Air Intake Air Flow Measuring Probes(JFM-P Series)
 Stations(JFM-S Series) Economy Cycle



4.

Variable Air Volume System (VAV) 가 Air Flow 가 Supply Return Duct System . Duct System FMS 가 VAV System Supply Fan Supply Fan Return Fan FMS Return Fan , Fans(and Ducts) Sensing Devices FMS , Controls, Actuators가 .

VAV System 가
 Pressurization 가 Sensors Controls
 Air Terminal Units 가 Supply Return Fan
 Supply Return Air

Pressurization(가) VAV
 VAV System

- * JFM-P JFM-S Series (Sensing Devices FMS),
- * Direct Digital Controls (Controls),
- * Inverter (Actuators)

VAV System
 Automatic Air Flow Control

- * Fan Constant(system) Static Control
- * Constant(system) Static Controller Setting Fan
- * Constant Static Controller Safety Pressure
 Override()
- * (Minimum Outside Air Control)
- * Building Pressurization Supply Return Fan Synchronization
 ()
- * Floor() Space() Pressurization Supply Return Air Duct
 Volumes Synchronization()
- * Branch Duct Constant Static Control VAV Terminal Boxes Air Noise

* VAV System Constant Volume Control

Airflow Control Fan Flow Measuring Probes Stations
 Station Single Station

VAV System

Measuring Sensing Devices(JFM-P Series JFM-S Series JSP) Air Flow
 , VAV System Control

:

1. Return Air Duct

- Return Air System Flow Adjusting Balancing

2. Supply Air Duct

- Branch Ducts Constant Static Control Air Noise levels
- Supply Duct Air Flow Constant Volume Control

3. Supply Return Air Duct

- Floor Space Pressurization Control Supply Return Air Flow
- Branch Ducts Return Supply Fans Duct Leakage
- Supply Return Air Flows

4. Supply, Return Outside Air Duct

- Return Fan Balance Supply Return Fan Supply

Jin Sung Air Flow Measuring Probes(JFM-P Series) Stations(JFM-S Series) Static Pressure
Sensor(JSP) VAV System

가 .