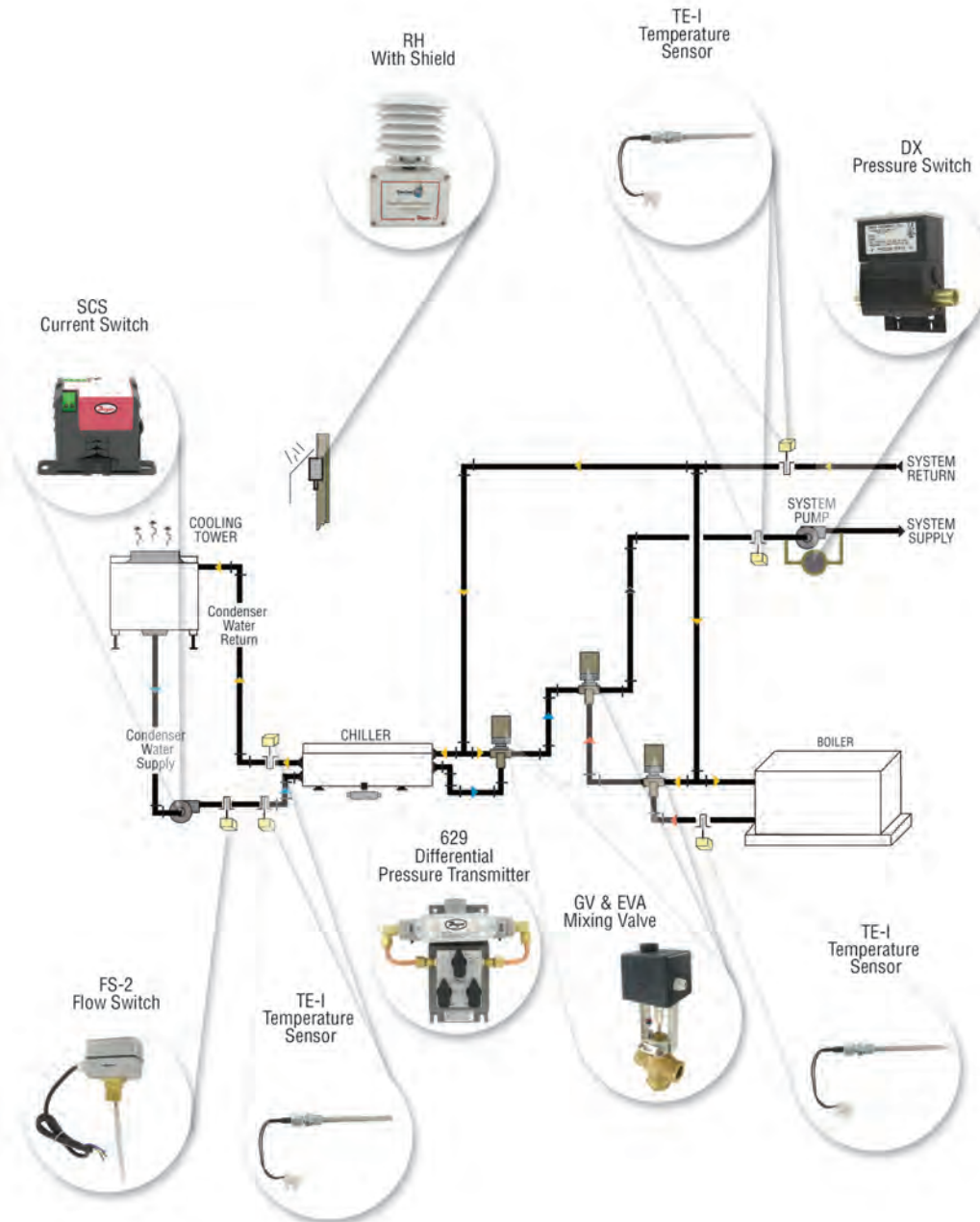


HEATING & COOLING APPLICATION



PRODUCTS APPLIED FOR HEATING & COOLING APPLICATION



WATER MIXING VALVE

Three-way valves are used to mix return and supply water and chilled and hot water together.

- Products used: GV Globe Valve with EVA Electric Actuator, or 3ABV Ball Valve with Electric Actuator



WATER TEMPERATURE MONITOR

A temperature sensor is inserted into the water pipeline to monitor the system supply, system return, condenser return, condenser supply, and boiler supply water temperature.

- Product used: TE-I RTD Temperature Sensor with Thermowell



OUTSIDE AIR SENSOR

A dual humidity and temperature transmitter is outside the building to monitor the outdoor air humidity and temperature.

- Product used: RHP Humidity/Temperature Transmitter with optional RHRS radiation shield



PUMP VALIDATION/FLOW PROVING

Proving a pump is operating can be done in several ways:

1. Monitor the differential pressure between upstream and downstream of the pump.
 - Product used: DX Pressure Switch
2. Monitor the water flow exiting the pump.
 - Products used: FS-2, V8 or V7 Flow Switch
3. Monitor the current usage of the pump.
 - Product used: SCS Current Switch
4. Ensure proper differential pressure is created from sufficient flow through chiller.
 - Product used: 629 Differential Pressure Transmitter

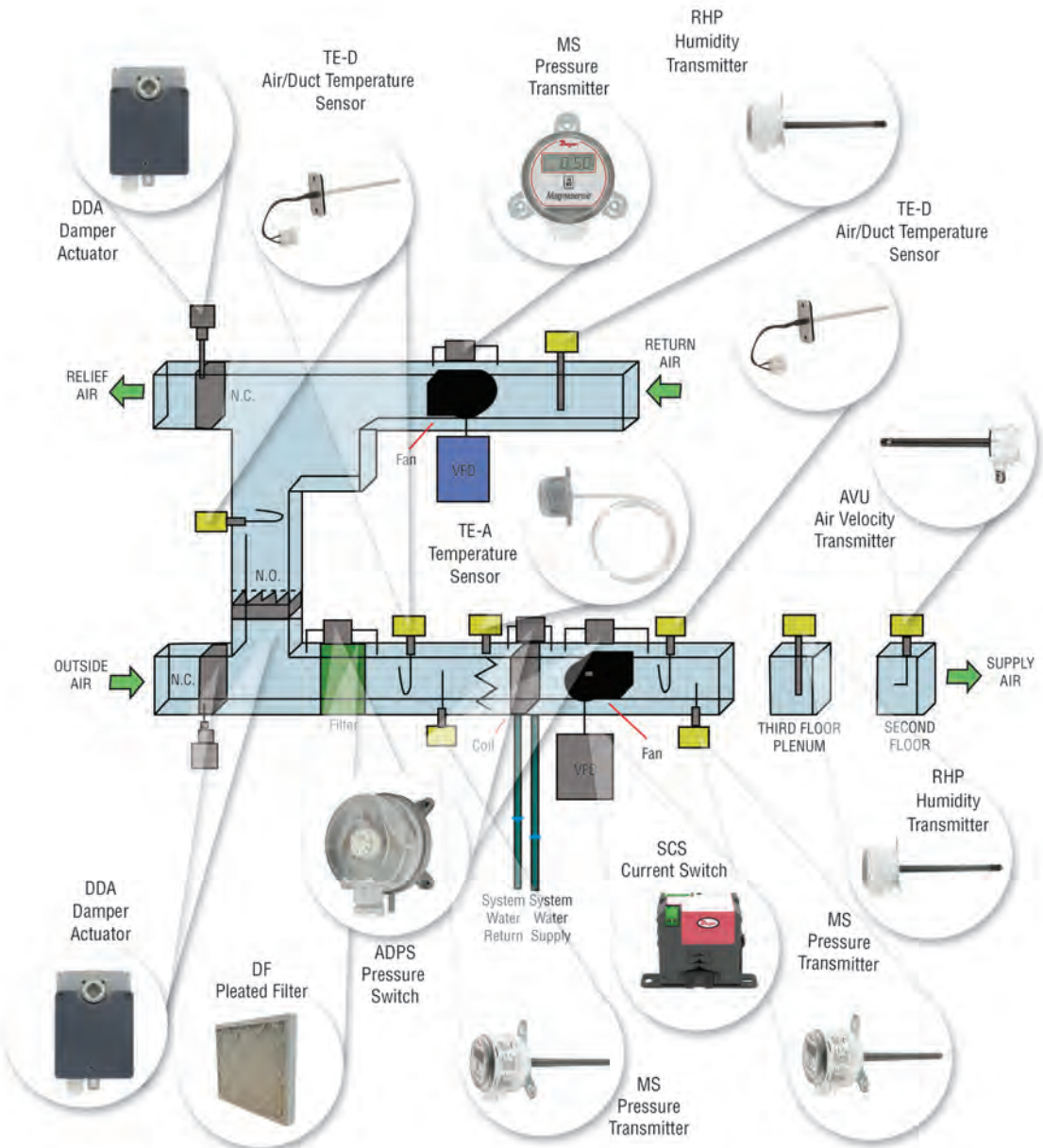


LEAK DETECTION/DRIP PAN MONITOR

A conductivity sensor is used to detect leaks of fluids around equipment and valves or to detect full drip pans.

- Products used: WD or WD2 Leak Detectors

AIR HANDLER APPLICATION



PRODUCTS APPLIED FOR AIR HANDLER APPLICATION



DIRTY FILTER ALARM

The differential pressure loss across the filter is monitored.

- Products used: ADPS Pressure Switch and 616KD Differential Pressure Transmitter

FAN VALIDATION

Proving a fan is operating can be done in several ways:

1. Monitor the differential pressure between upstream and downstream of the fan.
 - Product used: ADPS Pressure Switch
2. Monitor the air flow or velocity exiting the fan.
 - Products used: DH, DHII, DH3, MS, AVU, VTT, 641 Transmitter or 616KD Differential Pressure Transmitter
3. Monitor the current usage of the fan.
 - Product used: SCS Current Switch

DUCT STATIC PRESSURE

A pressure transmitter is used with a static pressure tip or optional inherent static probe to monitor discharge or mixing air duct static pressures.

- Products used: MS Pressure Transmitter with A-302 Static Pressure Tip or MS with integral static pressure probe

DUCT HUMIDITY SENSOR

A humidity transmitter is inserted into the duct to monitor the zone discharge humidity.

- Product used: RHP Humidity Transmitter

DUCT HUMIDITY/TEMPERATURE SENSOR

A dual humidity and temperature transmitter is inserted into the duct to monitor the exhaust air humidity and temperature.

- Product used: RHP Humidity/Temperature Transmitter

DUCT TEMPERATURE SENSOR

A temperature sensor is inserted into the duct to monitor the supply air, mix air, and exhaust air temperature.

- Products used: TE-D Series Temperature Sensor or TE-A Averaging Temperature Sensor

FILTER

A pleated filter offers better protection against dust and other airborne particulate, protecting your HVAC equipment and helps clean the indoor environment.

- Product used: DF Pleated Filters

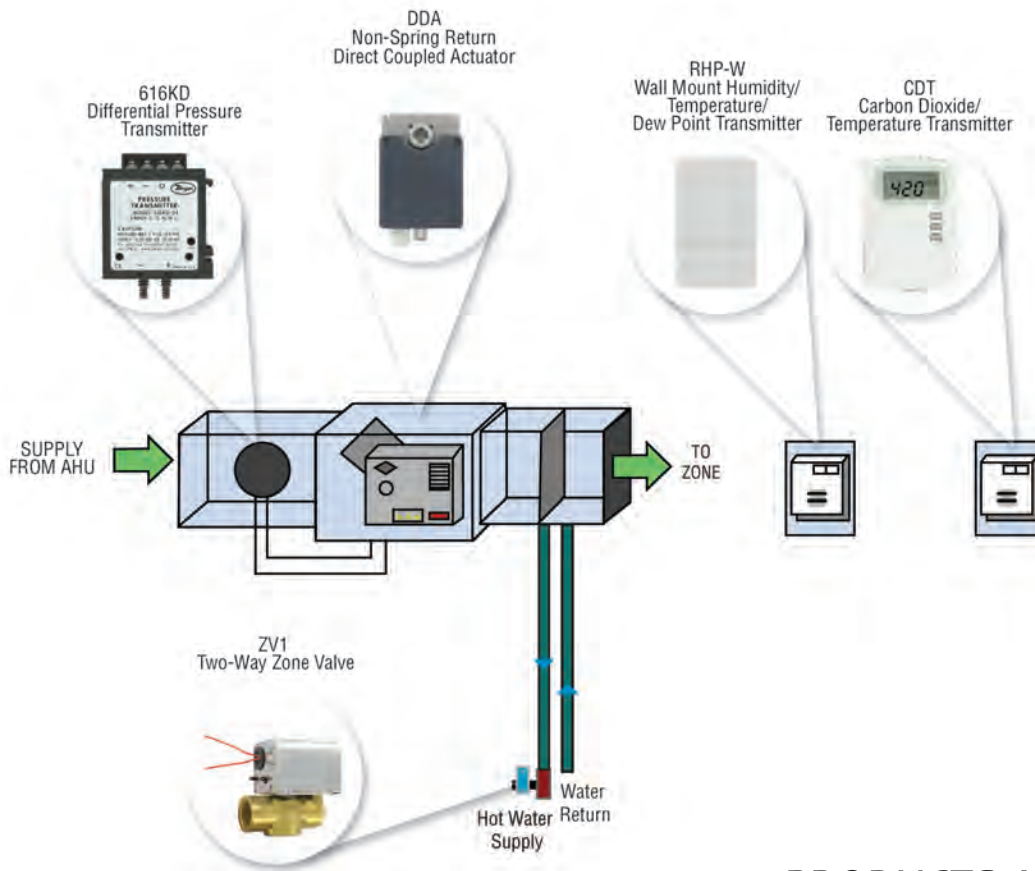
FROZEN COIL ALARM

A differential pressure loss across the cooling coil indicates ice build up on the coil.

- Products used: ADPS Pressure Switch or EDPS UL508 listed Pressure Switch



VARIABLE-AIR-VOLUME APPLICATION



PRODUCTS APPLIED FOR VARIABLE-AIR-VOLUME APPLICATION

AIR VOLUME CONTROL

The amount of air added to the zone is controlled by opening and closing the air duct via a damper with a damper actuator which receives a feedback signal from a differential pressure transmitter.

- Products used: DDA Damper Actuator and 616KD Differential Pressure Transmitter



ROOM TEMPERATURE AND HUMIDITY

A wall mounted temperature and humidity transmitter is placed in the zone to monitor the zone conditions and determine demand.

- Product used: RHP-W Humidity and Temperature Transmitter



ROOM TEMPERATURE AND CARBON DIOXIDE

The amount of air flow to a zone is varied based on occupancy in a zone. The occupancy is determined by the concentration of carbon dioxide in the zone.

- Product used: CDT Carbon Dioxide and Temperature Transmitter



WATER FLOW CONTROL

VAV systems can include heating coils of hot water that the air flows past. A zone valve is used to change the amount of hot water added to the heating coil. Zone systems can include radiant heating systems. A zone valve is used to change the amount of hot water added to the radiator in the zone.

- Products used: ZV1 or ZV2 Zone Valves



ASK HOW WE CAN HELP YOU WITH LEED



The following chart shows where Dwyer Instruments products have the potential to help buildings acquire LEED®. The LEED (Leadership in Energy and Environmental Design) Green Building Rating System is the nationally accepted benchmark for design, construction, and operation of high performance green buildings. Dwyer is proud to be a member of the U.S. Green Building Council and to be helping build a greener future. To find out more about LEED go to www.usgbc.org.

LEED Standard	Description	Credit Weighting (Points) by Building Classification			Products
		NC	School	CS	
SS 6.1	Stormwater Control	1	1	1	Level, Flowmeter, Valves
WE 1	Water Efficient Landscaping	2-4	2-4	2-4	Level, Flowmeter, Valves
WE 2	Innovative Wastewater Technologies	2	2	2	Level, Flowmeter, Valves
EA Prerequisite 1	Fundamental Commissioning of Building Energy Systems	Required	Required	Required	Pressure Handheld, Velocity Handheld, Pitot Tube, Test Equipment
EA Prerequisite 3	Enhanced Commissioning	Required	Required	Required	Pressure Handheld, Velocity Handheld, Pitot Tube, Test Equipment
IEQ Prerequisite 1	Minimum Indoor Air Quality Performance	Required	Required	Required	Air Velocity Transmitter, Air Flow Station, Pitot Tube, Differential Pressure Transmitter, Gage/Switch - Digital, Valve Actuator
IEQ Prerequisite 2	Environmental Tobacco Smoke (ETS) Control	Required	Required	Required	Differential Pressure Transmitter, Differential Pressure Switch, Differential Pressure Gage
IEQ 1	Outdoor Air Delivery Innovation	1	1	1	CO ₂ , Air Velocity Transmitter, Air Flow Station, Differential Pressure Transmitter, Gage/Switch - Digital
IEQ 2	Increased Ventilation	1	1	1	CO ₂ , Air Velocity Transmitter, Air Flow Station, Differential Pressure Transmitter, Gage/Switch - Digital
IEQ 3.2	Construction Indoor Air Quality Management Plan - Before Occupancy	1	1	N/A	Differential Pressure Transmitter, Differential Pressure Switch, Differential Pressure Gage, Humidity Transmitter
IEQ 5	Indoor Chemical and Pollution Control	1	1	1	Differential Pressure Transmitter, Differential Pressure Switch, Differential Pressure Gage
IEQ 6.2	Controllability of Systems - Thermal Comfort	1	1	1	Humidity Transmitter, CO ₂ , Differential Pressure Transmitter, Zone Valve, Level Indicator
IEQ 7.1	Thermal Comfort - Design	1	1	1	Humidity Transmitter, CO ₂ Transmitter, Differential Pressure Transmitter, Zone Valve, Level Indicator
IEQ 7.2	Thermal Comfort - Ventilation	1	1	N/A	Handheld Humidity, Handheld Pressure, Handheld Velocity, Humidity Transmitter, Differential Pressure Transmitter, CO ₂ Transmitter
IEQ 10	Mold Prevention	N/A	1	N/A	Humidity Transmitter, Water Detector

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See more at www.dwyer-inst.com/leed/leed_profile.cfm



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 P.O. Box 373
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