PWDS Series Differential Pressure Switch

OVERVIEW

The application of PWDS series differential pressure switch (also known as differential pressure flow switch) in HVAC system is mainly controlled according to the resistance and flow curve of HVAC equipment. The heat exchanger (casing type, shell and tube type, tube plate type and common plate type heat exchanger), water filter, water pump, valve and other equipment of HVAC equipment have their pressure drop (resistance) and flow performance curve, As long as the water pressure difference between the two ends of the heat exchanger is detected and compared with the preset value of the equipment, the flow can be accurately controlled. As a flow control switch, the differential pressure switch (also called differential flow switch) has the advantages of accurate flow control, no additional resistance to the system, no requirement for the pipe diameter and no disturbance of water flow, Therefore, it can be widely used in large, medium and small air-cooled or water-cooled chillers with welded plate heat exchanger, sleeve heat exchanger and shell and tube heat exchanger, and has the functions of water flow detection and control and antifreeze protection.

SPECIFICATION

Switching capacity	10A（max.）250V（max.）
Output form	normally open output
Enclosure protection grade	IP54
Applicable medium	Water, air or others customized
Medium temperature	- 20 ~ + 93 ° C
Maximum allowable static pressure	10bar (20bar can be customized)
Maximum allowable differential pressure	5bar (8bar can be customized)
High and low pressure side connection port	1 / 4 “SAE,G1/4 etc.
Life	500000 times
Line length	155cm

MODEL AND SPECIFICATION

MODEL	Corresponding pressure drop value of heat exchanger
PWDS630	8-12Kpa
PWDS650	12-18Kpa
PWDS680	18-30Kpa
PWDS6100	20-40Kpa
PWDS6130	28-50Kpa
PWDS6160	40-80Kpa
PWDS6240	51-90Kpa
PWDS6420	91-160Kpa

Application in plate and tube heat exchanger

Plate heat exchanger with small volume and high heat transfer efficiency has been widely used in small and medium-sized chillers as evaporator or condenser, but the specific structure of plate heat exchanger is destined to strengthen its anti freezing protection. One of the main reasons for plate heat exchanger freezing is that the water flow through the plate heat exchanger is less than the rated flow, and the temperature of the refrigerant side of the plate heat exchanger is lower than the freezing point, resulting in the freezing of the water side of the plate heat exchanger.

A large number of tests show that when the water flow of plate heat exchanger is less than 50% of the rated flow, there is a risk of icing. Therefore, it has become an important measure to accurately control the water flow of plate heat exchanger not less than 50% of the rated flow. According to the pressure drop and flow curve of plate heat exchanger, find out the pressure drop of plate heat exchanger under 50% rated water flow. This pressure drop is the lower limit pressure difference of plate heat exchanger flow protection. According to this value, select the appropriate differential pressure switch and install it on the whole machine for flow test to verify its flow protection value.

We suggest that the mass production customers choose the differential pressure flow switch with fixed set point, and the calibration of the differential pressure or flow value can be completed by our company on the special test equipment, so as to ensure that your set value is correct and avoid the influence of incorrect change of the set value on the equipment.

When plate heat exchanger is used as condenser, the appropriate water flow can ensure that the condensation pressure is controlled within the required range, which is conducive to the stable operation of the unit.