

PRODUCT DATA: PXVW/PXV Pulse Width Expansion Valves

INTRODUCTION

The Hansen PXV Pulse Width Expansion Valve is a pulse modulating liquid refrigerant expansion valve. The PXV uses a specially designed, high-cycle, long life solenoid operator. A sophisticated controller uses a 4-20mA input signal to monitor the liquid flow to the system. Unlike traditional TXVs, the pulse design eliminates the need to maintain minimum pressure differential. Low and varying liquid feed pressures (head pressure) are compensated by the basic variable valve operation. Suitable for all Hansen approved refrigerants.

The unique PXVW60 body has an integral 100 mesh (150 micron) strainer screen and features direct weld assembly, eliminating flange gasket leak potential. Valve and controller ideally suited for use with Hansen's Vari-Level, Techni-Level™ VLT probes and HPT Pressure/Temperature sensor.

CAPACITY

The PXV is available for ammonia capacities up to 60 tons with adjustable capacity settings. The PXV models available for ammonia are 5 and 15 ton (nominal). The PXVW model for ammonia has an adjustable orifice from 5 to 60 tons (nominal).

APPLICATIONS

PXV modulates the flow of liquid feed to an evaporator or chiller. For use wherever a thermal expansion valve (TXV) would be used. Also ideal for liquid make-up to small surge vessels above flooded heat exchangers to minimize fluctuations in liquid level and pressures, and for liquid injection for compressor cooling.

FEATURES

- PXVW, PXV5, PXV15 drop-in replacement valve for Sporlan DA series thermostatic expansion valve
- PXV does not require minimum pressure drop to operate; low head pressure tolerant
- PXVW60 with adjustable capacity settings from 15 to 60 tons
- Simple, compact controller programmed for liquid level or DX superheat control
- Operates with 115V, 220V, or 24V AC/24V DC coil.



PXVW

PRINCIPLES OF OPERATION

Through the use of pulse width modulation, the valve is cycled on and off to achieve a desired flow. During a cycle, the valve can be open anywhere from 0 to 6 seconds. The more "on" time required, the greater the flow through the valve. The correct amount of "on" time can be determined by monitoring superheat (see *HPT Pressure/Temperature Transducer Bulletin PT100*). If actual superheat is greater than desired, the pulse width signal is increased to provide more valve "on" time. If actual superheat is less than desired, pulse width signal is decreased to reduce valve "on" time. The same principal applies to level control where a 4-20mA signal from a VLT level sensor controls the level in a vessel.

CAPACITIES

MODEL	CONNECTION		CAPACITY TONS AMMONIA
	SIZE	STYLE	
PXV5	1/2"	SW	5 (18 kW)
PXV15	1/2"	SW	15 (53 kW)
PXVW60	1/2", 3/4"	SW, BW	15 to 60
	5/8", 7/8", 1-1/8"	ODS	(53 to 212 kW) Adjustable