CO2电子膨胀阀 CO2 Electronic Expansion Valve

产品介绍 Product Description

CO2 EXV电子膨胀阀主要介质为R744。一般用在蒸发器前端（冷凝器），CO2 EXV电子膨胀阀是CO2热泵系统中核心零部件之一。

The main medium of CO2 EXV electronic expansion valve is R744. Generally used in assembly at the front-end of the evaporator (condenser).The CO2 EXV electronic expansion valve is one of the core components of the CO2 heat pump system.

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产品特征及优势 Feature and Benefits

- 性能优越/ Good performance
  - 采用步进电机，步距角更小，流量控制精度更高；
    Smaller step angle and higher flow control accuracy.
  - 高性能，开阀压差10.5MPa以上
    High performance, open valve pressure difference of more than 10.5MPa.
  - 可双向节流；
    Throttling is possible in both directions.
- 可靠性高/High reliability
  - 采用车规级电子元件，安全可靠；
    Using automotive grade electronic components, safe and reliable.
  - 基于振动、温度、湿度等多维评估验证；
    Multi-dimensional evaluation and validation based on vibration, temperature and humidity
- 采用集成芯片设计，结构更紧凑；
  With integrated chip and more compact structure.
- 专业的软件设计/ Software design
  - 采用分层架构设计，符合车用规范；
    With layered architecture design, comply with vehicle specifications.
  - 基于软件补偿的小开度流量精度控制；
    Precise control of small opening flow based on software compensation.
  - 采用UDS故障诊断处理体系；
    Using UDS fault diagnosis processing system.

产品作用 Application

主要作用是将系统中介质进行节流降压使介质达到相变，从而进行冷热交换；

The main function is to throttle and depressurize the medium in the system so that the medium reaches a phase change, so as to carry out cold and hot exchange.

操作 Operation

- **基本原理 Basic Principle:**

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吸气过热度控制系统由电子膨胀阀、压力传感器、温度传感器、控制器组成，工作时，压力传感器将蒸发器出口压力P1、温度传感器将压缩机吸气过热度传给控制器，控制器将信号处理后，随后输出指令作用于电子膨胀阀，电子膨胀阀通过步进电机的控制，将阀开到需要的位置，保证适量的供液量和合适过热度。

The suction superheat control system is composed of electronic expansion valve, pressure sensor, temperature sensor, controller, when working, the pressure sensor will evaporator outlet pressure P1, temperature sensor will compressor suction superheat transmission to the controller, the controller will signal processing, and then output instructions to act on the electronic expansion valve, the electronic expansion valve through the control of the stepper motor, the valve to the required position, to ensure the appropriate amount of liquid supply and suitable superheat.

◆ **包装选项 Packaging Options:**

可提供定制包装以满足任何需要，请联系KESENS技术部了解详情。

Custom packaging can be provided to meet any need, please contact KESENS Engineering for details.

技术参数 Functional Characteristics

项目 ITEMS	参数 PARAMETER
通讯方式 Communication Method	LIN2.1
阀口直径 Valve Port Diameter	6mm
工作介质 Working Medium	R744&PAG
环境温度 Ambient Temperature	-40℃~+165℃
工作温度 Temperature Range	-40℃~+105℃
工作电压 Operating Voltage	DC9V~DC16V
额定电压 Rated Voltage	DC12V
额定电流 Rated Current	< 0.5 A
线圈驱动方式 Coil Drive Method	步进电机 Stepper motor
驱动频率 Drive Frequency	100PPS
外漏 External Leakage	≤1g/y @ 10.5MPa
内漏 Internal Leakage	≤100ml/min @ 10.5MPa
开阀压差（MOPD）Open Valve Differential Pressure (MOPD)	≥10.5MPa
最大工作压力 Maximum Working Pressure	17MPa
爆破压力 Burst Pressure	34MPa
开阀时间（全闭-全开）Valve Opening Time (Off - On)	8.3s
质量流量 Mass Flow	Max 300 kg/h
流向 Flow Direction	双向 bidirectional
寿命耐久 Lifetimes	>200k cycles

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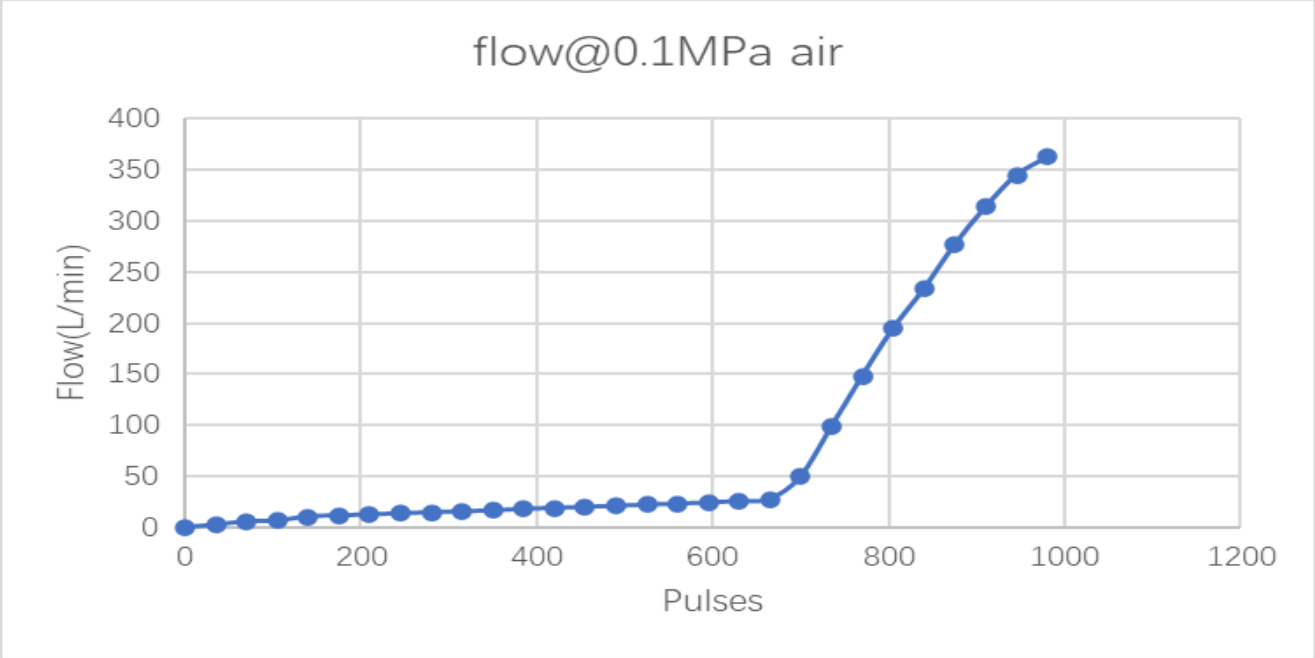

可根据需要定制电气和环境规范，详情请联系KESENS技术部。

Custom electrical and environmental specifications can be designed to meet any need, please contact KESENS Engineering for details.