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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47940.1-2026

**Pneumatic fluid power - Electro-pneumatic continuous flow
control valves - Part 1: Main characteristics to include in the
supplier's literature**

气动 电-气连续流量控制阀 第1部分：商务文件中包含的主要特性
(English Translation)

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Table of Contents

Preface
Introduction
1 Scope
2 Normative References
3 Terms and Definitions
4 Symbols and Units
5 Characteristics
6 Notes

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 47940 "Pneumatic-Electro-Pneumatic Continuous Flow Control Valves". GB/T 47940 has the following publications.

part.

---Part 1: Key Features Included in Business Documents;

---Part 2: Test methods for evaluating key characteristics contained in business documents.

This document is modified to adopt ISO 10041-1:2010 "Pneumatic-electric continuous flow control valves - Part 1: Utilization of commercial documents containing the following standards".

Key features.

The technical differences between this document and ISO 10041-1:2010, and the reasons therefor, are as follows.

---ISO 5598 (see Chapter 3) has been replaced with the normatively referenced GB/T 17446 to adapt to my country's technical conditions and improve operability.

Actual nature;

---The terms "flow control servo valve" and "leakage characteristic curve" have been removed from the "Terms and Definitions" section (see Chapter 3) to accommodate Chinese technology.

Conditions to improve operability;

---ISO 10041-2:2010 (see 5.3, 5.4) has been replaced with the normatively referenced GB/T 47940.2 to adapt to my country's technical requirements.

This improves operability.

The following editorial changes have been made to this document.

---Notes in the range have been removed;

---The note for "electrical control signals" has been removed from "Terms and Definitions";

---The "%" units for repetition and resolution have been removed from Table 1;

---The unit "bar" has been removed; the unit "bar" in Figure 1 has been changed to "kPa".

---Some indexing symbols in Figures 1, 2, and 3 have been changed;

---The units in the index numbers of Figures 1 through 7 have been removed;

---Corrected an error in the original ISO text, changing ISO 10094-2:2010 to GB/T 47940.2 in sections 5.3.1.3.3 and 5.3.1.4.2.

Change "flow rate" to "pressure" in numbers 1 and 2 of Figure 4, and change Table 3 in 5.4.2.2.1 to Table 2.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Hydraulics and Pneumatics (SAC/TC3).

Introduction

In pneumatic systems, power is transmitted and controlled via compressed gas in a circuit. When precise control based on a variable flow rate setpoint is required...

For precise flow regulation, electro-pneumatic continuous flow control valves can be used. These control valves can continuously regulate the system's flow rate in response to continuous flow.

The performance characteristics of the valve are used to determine its applicability.

GB/T 47940 aims to determine the key characteristics and test methods for electro-pneumatic continuous flow control valves included in the evaluation commercial documents, and is intended to be developed by [the relevant authority/organization].

It consists of two parts.

---Part 1: Key Characteristics Included in the Commercial Documents. The purpose is to identify the electro-pneumatic continuous flow control valves included in the commercial documents.

Its main characteristics.

---Part 2: Test methods for evaluating the key characteristics contained in the commercial documentation. The aim is to determine the performance of the electro-pneumatic continuous flow control valve.

The test methods and parameter expressions for evaluating the key characteristics contained in the business documents.

Pneumatic-electric continuous flow control valve Part 1: Key Features Included in Business Documents

1 Scope

This document specifies the key characteristics of electro-pneumatic continuous flow control valves included in commercial documents.

This document applies to two-port and electro-pneumatic continuous flow control valves with vent ports.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 17446 Glossary of Fluid Transmission Systems and Components (GB/T 17446-2024, ISO 5598:2020, MOD) GB/T 47940.2 Pneumatic-Electro-Pneumatic Continuous Flow Control Valves - Part 2: Tests for Evaluating the Principal Characteristics Contained in the Commercial Documentation Methods (GB/T 47940.2-2026, ISO 10041-2:2010, MOD) the terms and definitions defined in GB/T 17446 and the following terms and definitions apply to this document.

It can respond to continuous electrical control signals and change the effective cross-sectional area of the working port according to the electrical control signals, thereby continuously adjusting the pneumatic system.

A flow control valve with high power output.

Note: The mass flow rate through the working port of the flow control valve is related to the

upstream and downstream pressures and the type of gas.

Inlet pressure

Pressure at the inlet of a component, piping, or system.

operating pressure

The pressure at the working port of the control valve.

exhaust pressure

Pressure at the exhaust port.

Electrical signals applied to the control mechanism.

A curve reflecting the relationship between flow rate and electrical control signal when the working port pressure and inlet pressure remain constant.