



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

GB/T 20081.1-2021

**Pneumatic fluid power - Compressed air pressure regulators
and filter-regulators - Part 1: Main characteristics to be included
in literature from suppliers and product-marking requirements**

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Foreword

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

This document is the first part of GB/T 20081 "Pneumatic Pressure Reducing Valves and Filter Pressure Reducing Valves". GB/T 20081 has released the following part.

---Part 1. The main characteristics and product identification requirements that should be included in the business documents;

---Part 2. Test methods for evaluating the main characteristics that should be included in the business documents;

---Part 3. Alternative methods for testing the flow characteristics of the pressure reducing valve.

This document replaces GB/T 20081.1-2006 "Pneumatic Pressure Reducing Valves and Filter Pressure Reducing Valves Part 1. The main items that should be included in commercial documents

Compared with GB/T 20081.1-2006, except for editorial changes, the main technical changes are as follows.

- a) Modified the "scope" (see Chapter 1, Chapter 1 of the.2006 edition);
- b) Modified "Normative Reference Documents" (see Chapter 2, Chapter 2 of the.2006

edition);

- c) Modified "Terms and Definitions" (see Chapter 3, Chapter 3 of the.2006 edition);
- d) Modified "Figure 1" (see Figure 1, Figure 1 of the.2006 edition);
- e) Modified the "Flow-Pressure Characteristics" (see 4.3.3, 4.3.3 of the.2006 edition);
- f) Modified the "pressure regulation characteristics" (see 4.3.4, 4.3.4 of the.2006 edition);
- g) Deleted the "Overflow Characteristics" and "Overflow Characteristics" graphs (see 4.3.5 and Figure 4 in the.2006 edition);
- h) The graphs of "Pilot Pressure-Adjusting Pressure Characteristics" and "Pilot Pressure-Adjusting Pressure Characteristics" have been added (see 4.3.5 and Figure 4);
- i) Added "linearity" (see 4.3.5.2);
- j) Added "pilot pressure-adjusting pressure hysteresis" (see 4.3.5.3);
- k) Added "repeatability" (see 4.3.6);
- l) Added "resolution of pilot-operated pressure reducing valve with exhaust function" (see 4.3.7);
- m) Added "the maximum air consumption of a pilot-operated pressure reducing valve with exhaust function when the forward flow or overflow flow is zero" (see 4.3.8);
- n) Modified the "Capacity of the Reservoir Cup" (see 4.3.9, 4.3.6 of the.2006 edition);
- o) Modified "Operation and Maintenance" (see Chapter 5, Chapter 5 of the.2006 edition);
- p) Modified "Identification" (see Chapter 6, Chapter 6 of the.2006 edition);
- q) An appendix (see appendix A) has been added for the size of the air port.

This document uses the translation method to be equivalent to ISO 6953-1.2015
 "Pneumatic Pressure Reducing Valves and Filter Pressure Reducing Valves Part
 1.Commercial Documents

The main characteristics and product identification requirements to be included in the ".

The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows.

---GB/T 2346-2003 Nominal pressure series of fluid transmission systems and components
 (ISO 2944.2000, MOD);

---GB/T 7306.1-2000 55° sealed pipe thread Part 1.Cylindrical internal thread and tapered external thread (eqvISO 7-1.

1994);

---GB/T 7306.2-2000 55° Sealed Pipe Thread Part 2. Conical Internal Thread and Conical External Thread (equiv ISO 7-1.

1994);

---GB/T 14513.1-2017 Determination of flow characteristics of compressible fluid components used in pneumatics Part 1. Steady-state flow

General rules and test methods (ISO 6358-1.2013, IDT);

---GB/T 17446-2012 Fluid Power System and Components Vocabulary (ISO 5598.2008, IDT);

---GB/T 32215-2015 pneumatic control valve and other components of the port and control mechanism identification (ISO 11727..1999, IDT);

---GB/T 39956.1-2021 Pneumatic electro-pneumatic pressure control valve Part 1. Main characteristics that should be included in commercial documents (ISO 10094-1.2010, IDT).

For ease of use, this document has made the following editorial changes.

---The pressure unit "kPa" in the international standard is changed to "MPa";

---In order to maintain consistency, the dm³/s in Figure 3 is changed to dm³/min;

--- Corrected a few editorial errors in ISO 6953-1.2015, and changed the linearity "deltapl" in 4.3.5.2 to "L"; changed

The "deltaph" of the hysteresis in 4.3.5.3 was changed to "H";

--- Corrected a few editorial errors in ISO 6953-1.2015, and revised "10.3.4" in the second paragraph of 4.3.6 to

"10.3.3"; Amend "10.2.4" in paragraph 2 of 4.3.7 to "10.2.3".

Introduction

In a pneumatic system, power is transmitted and controlled by compressed air in the loop. Need to reduce or adjust the pressure in the circuit, various reductions

Pressure valve and filter pressure reducing valve are components designed to maintain stable air pressure. Therefore, it is necessary to understand some of the performance characteristics of these components to

Then determine the adaptability of their application. GB/T 20081 is composed of three parts.

---Part 1.The main characteristics and product identification requirements that should be included in the business documents. The purpose is to stipulate that the business documents should include

The main characteristics and product identification requirements of the included pressure reducing valve and filter pressure reducing valve.

---Part 2.Test methods to assess the main characteristics that should be included in the business documents. The purpose is to stipulate according to GB/T 20081.1

The main characteristics of the pneumatic pressure reducing valve and filter pressure reducing valve included in the business documents are tested, the test items, test procedures, and

The presentation method of test results.

---Part 3.Alternative methods for testing the flow characteristics of the pressure reducing valve. The purpose is to specify optional tests for testing the flow characteristics of pneumatic components.

Pneumatic pressure reducing valve and filter pressure reducing valve

Part 1.What should be included in the business document

Main features and product identification requirements

1 Scope

This document specifies the main characteristics and product identification requirements of pressure reducing valves and filter pressure reducing valves contained in commercial documents.

This document applies to the following pressure reducing valves and filter pressure reducing valves.

---Manually controlled direct-acting type (with or without overflow device);

---Manually control the internal pilot type (such as. nozzle baffle);

---External pilot type.

This document applies to pressure reducing valves whose rated inlet pressure does not exceed 2.5 MPa and outlet regulating pressure does not exceed 1.6 MPa, and applies to

A filter pressure reducing valve whose rated inlet and outlet regulating pressure does not exceed 1.6 MPa and is decontaminated by mechanical methods.

The rated pressure should comply with the recommended pressure selection specified in GB/T 2346.