



International
Standard

ISO 6953-2

**Pneumatic fluid power —
Compressed air pressure regulators
and filter-regulators —**

Part 2:

**Test methods to determine the
main characteristics to include in
supplier's literature**

*Transmissions pneumatiques — Régulateurs de pression et
filtres-régulateurs pour air comprimé —*

*Partie 2: Méthodes d'essai pour déterminer les principales
caractéristiques à inclure dans la documentation des fournisseurs*

**Third edition
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Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and units	2
5 Test conditions	2
5.1 Gas supply	2
5.2 Temperature	2
5.3 Pressures	3
5.4 Inlet pressure	3
5.5 Test pressures (regulated pressure)	3
6 Test procedure to verify rated pressure	3
7 Flow characteristics tests	4
7.1 Test installation	4
7.2 General requirements	5
7.3 Test procedures	6
7.3.1 Initial test procedure	6
7.3.2 Forward flow rate-pressure characteristics test	6
7.3.3 Relief flow rate-pressure characteristics test	6
7.3.4 Procedure for other regulated pressure values	7
7.4 Calculation of characteristics	7
7.4.1 Flow rate-pressure characteristic curves	7
7.4.2 Flow rate-pressure hysteresis	8
7.4.3 Maximum forward sonic conductance	8
7.4.4 Maximum relief sonic conductance	9
8 Pressure regulation test	9
8.1 Test circuit	9
8.2 Test procedure	9
9 Maximum air consumption at null forward flow rate or relief flow rate for pilot-operated regulator with air bleed	10
9.1 Test installation	10
9.2 Test procedures	10
9.3 Calculation of characteristics	10
10 Special test procedures	11
10.1 Pilot pressure/regulated pressure characteristics test in the case of external pilot-operated pressure regulators	11
10.1.1 Test installation	11
10.1.2 Test procedures	11
10.1.3 Calculation of characteristics	11
10.2 Output resolution in the case of manual air pressure regulator	13
10.2.1 Test installation	13
10.2.2 Test procedures	13
10.2.3 Calculation of characteristic	14
10.3 Resolution in case of pressure-pilot air pressure regulator	15
10.3.1 Test procedures	15
10.3.2 Calculation of characteristic	15
10.4 Sensitivity	15
10.4.1 Test procedures	15
10.4.2 Calculation of characteristic	16
10.5 Repeatability test	16

10.5.1	General	16
10.5.2	Test installation	16
10.5.3	General test method	17
10.5.4	Test execution	17
10.5.5	Calculation of the repeatability value	18
11	Presentation of data	18
11.1	General	18
11.2	Flow rate-pressure characteristics	18
11.3	Pressure regulation characteristics	18
11.4	Maximum air consumption for pilot operated regulators with air bleed	18
11.5	Additional characteristics for pressure-pilot air pressure regulators	18
11.6	Additional characteristics for manual air pressure regulators	19
Annex A	(informative) Comparison of repeatability test methods for manual air pressure regulators	20
Bibliography		39

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

This third edition cancels and replaces the second edition (ISO 6953-2:2015), which has been technically revised.

The main changes are as follows:

- addition of new paragraph for an additional test for relief flow rate (7.3.3);
- addition of new paragraph for a test for resolution in case of pressure-pilot air pressure regulator (10.3);
- addition of new detailed test procedure for repeatability test for manual air-pressure regulator and pilot pressure air-pressure regulator (10.5);
- addition of measure of the sensitivity.

A list of all parts in the ISO 6953 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

In pneumatic fluid power systems, power is transmitted and controlled through a gas under pressure within a circuit.

When pressure reduction or pressure regulation is required, regulators and filter-regulators are components designed to maintain the pressure of the gas at an approximately constant level.

It is therefore necessary to know the performance characteristics of these components in order to determine their suitability in an application.

Pneumatic fluid power — Compressed air pressure regulators and filter-regulators —

Part 2:

Test methods to determine the main characteristics to include in supplier's literature

1 Scope

This document specifies test procedures and a method of presenting the results concerning the parameters which define the main characteristics to be included in the literature from suppliers of regulators and filter-regulators conforming to ISO 6953-1.

The purpose of this document is to:

- facilitate the comparison of pressure regulators and filter-regulators by standardizing test methods and presentation of test data;
- assist in the proper application of pressure regulators and filter-regulators in compressed air systems.

The tests specified are intended to allow comparison among the different types of regulators and filter-regulators; they are not production tests to be carried out on each pressure regulator or filter-regulator manufactured.

ISO 6953-3 can be used as an alternative dynamic test method for flow-rate characteristics using an isothermal tank instead of a flow meter. However, this method measures only the decreasing flow rate part of the hysteresis curve of forward flow and relief flow characteristics.

NOTE The tests related to electro-pneumatic pressure control valves are specified in ISO 10094-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3448, *Industrial liquid lubricants — ISO viscosity classification*

ISO 5598, *Fluid power systems and components — Vocabulary*

ISO 6358-1, *Pneumatic fluid power — Determination of flow-rate characteristics of components using compressible fluids — Part 1: General rules and test methods for steady-state flow*

ISO 6953-1:2024, *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*

ISO 10094-1, *Pneumatic fluid power — Electro-pneumatic pressure control valves — Part 1: Main characteristics to include in the supplier's literature*