

ISO 6953-2:2024-01 (E)

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

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