



## Flow Test 3925-0160



### In general

Automation of the workplace nowadays have to be realized even in quality assurance. To test production parts for flow, it is therefore necessary to integrate the flow test in the manufacturing process.

Important features of the FLOW TESTER 3925-0160

- automatic control cycle
- storage of test programs
- contamination free test
- reproducible measuring results
- short cycle times with high accuracy
- unambiguous results
- measured value in ml/min etc.
- programmable test pressures and test times to suit to the production of many different components
- user friendly operation with interactive user guidance
- modular design concept for ease of maintenance and service

### Operating principle:

The flow meter operates on a thermodynamic principle.

The instrument uses the linear relationship between the flow rate and the energy required to maintain a constant temperature along a pipe through in which the medium (gas) flows.

A high-precision thermal mass flow meter with high sensitivity is used as measuring sensor. This unit consists of a measuring tube and an exchangeable bypass which determines the measuring range.

The design of the measuring tube and the bypass ensures a laminar flow inside.

A heating coil is located in the middle of the measuring

tube. Resistance temperature sensors are located at equidistance on both sides of the heating coil. If there is no gas flow, each resistance sensor registers the same temperature. A gas flow creates a temperature difference between the sensors which is proportional to the flow of gas. This causes a change in resistance in both sensors which are part of an electrical bridge circuit. The resulting signals are shown on a display unit.

### Pneumatic module

- microprocessor controlled electronic pressure regulation for filling and test pressure
- thermal mass flow meter with overload protection
- function monitoring

### Electronic module

- modular designed processor system
- battery-buffered RAM for data protection
- alphanumeric keypad
- 5" color display,
- write protection key switch to prevent unauthorized program changes
- error message in plain text
- menu guided programming and adjustment of parameters
- interface ports to communicate with control systems

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### Technical Data

Program storage:	battery buffered RAM	Control output:	24 V DC; 500 mA
Keypad:	alphanumeric	short circuit proof	1 bit Ready to operate
Display	5 inch color LCD, resolution 320x240 px	1 bit Ready to test	1 bit Error
Measuring sensor:	Thermal mass flow meter, PN100	1 bit O.K.	1 bit UT (Upper Tolerance)
Measuring range:	0 ... 50; 100; 200; 500 ml/min 0 ... 1000; 2000 ml/min 0 ... 5; 10; 20: 50; 100 l/min others on request	1 bit LT (Lower Tolerance)	1 bit Measuring
Resolution:	High resolution SigmaDelta A/D converter, 1 converter per channel	1x Serial Port RS 232 or USB 2.0 for transfer of parameters, test results and counter readings	1x front USB 2.0 for transfer of parameters, test results and counter readings
Measuring units:	ml/min, l/min and m <sup>3</sup> /h	Optional Bus Interfaces:	FastEthernet, Profibus, Profinet, others on request
Test programs:	99	Housing:	19 inch rack mount case, 3 HU
Filling and test pressure:	Electronic pressure control with tolerance monitoring -1.0 ... 0 bar/g; -0.7 ... -0.1 bar/g 0.1 ... 1.0 bar/g; 0.15 ... 2.5 bar/g 0.2 ... 6.0 bar/g; 0.5 ... 10.0 bar/g 0.5 ... 12 bar/g others on request	Dimensions:	165 x 590 x 420 mm (H x W x D)
Test parameters:	Filling pressure Test pressure Filling time 0.1 ... 999.9 sec Compensation time 0.1 ... 999.9 sec Measuring time 0.1 ... 999.9 sec Lower tolerance limit LT Upper tolerance limit UT No. of consecutive rejects	Power supply:	115/240 V, 50...60 Hz
Write protection:	Key switch	Power consumption:	approx. 100 VA
Status indicator:	Lower tolerance O.K. Upper tolerance Error	Air supply:	approx. 1.5 bar > test pressure, max. 10 bar/g filtered, dry and oil-free
Test data storage:	Up to 8,000 tests (internal battery buffered RAM) for larger data storage use front connection for external USB memory stick or optional larger internal memory is available	Pneumatic ports:	Air supply G1/4", Test medium port G1/4" (optional) Test port G 1/8", Venting (through air silencer): G 1/4"
Interfaces:	1 parallel control I/O-port	Weight:	approx. 15 kg
	Control inputs: 24 V DC; 500 mA 1 bit Automatic 1 bit Device ready 1 bit Start 1 bit Flooding 8 bits Program select 1 bit Abort	Standard accessories:	Power cord, length 2.5 m, spare key for write protection, operating manual
		<b>Order-No.:</b>	<b>3925-0160</b>
			Specifications and technical data are subject to change without notice