

# laminar FLOWMETER

FC0732



• Air and gas flows from  
0.01 ml/min to 2000  
litres/min in 9 models

• Measures pressure and  
flow simultaneously

• Programmable cycle  
times for production  
testing

• High accuracy and  
repeatability

Furness

TEST -1.00 TO +4.00 BAR  
TEST -1.00 TO -4.00 BAR

150ml 50cc/HR  
150ml 50cc/HR

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## Description

Model FCO732 is a cost effective flow and pressure measuring instrument designed to meet the needs of production line testing of injectors and other assemblies requiring leak detection and live flow measurement, where simultaneous indication of pressure and flow are required.

Using the well proven Furness Controls laminar flow technology the FCO732 adds temperature compensation and optional barometric pressure compensation to an already highly accurate flow measuring system giving a high resolution with complete linearity. The inherent low flow resistance of the design ensures minimal interference with the flow path.

The advantages of this unique design are:-

- Minimum resistance to flow (< 1mbar)
- High turndown (better than 1:2000)
- Automatic pressure compensation
- Temperature compensation
- Excellent calibration accuracy (1%FS over full range)



The main applications include

- Measurement and calibration of gas jets and burners
- Measurement and calibration of fuel injectors
- Leak Detection using laminar flow technology

The FCO732 uses the latest flash technology, allowing system diagnostics with a laptop computer and is part of the 700 series of Furness Controls Leak Detectors and flowmeters. The front panel uses a 2X16 digit LCD backlit display and has start and reset buttons with Pass and Fail lamps to indicate test results. The front panel pressure regulator allows pressure adjustment or an external regulator for air or gas can be used. Optional half 19" rack brackets can be supplied.

## Flow Rate & Test Pressure Ranges

### FLOW RATES

0-20 ml/min, 0-200 ml/min, 0-2 litres/min,  
0-6 litres/min, 0-20 litres/min, 0-30 litres/min,  
0-100 litres/min, 0-200 litres/min,  
and 0-2000 litres/min

### PRESSURE RANGES

0- minus 800 mbar (vacuum) 0-2 mbar,  
0-20 mbar, 0-200 mbar, 0-999 mbar,  
0-4 bar and 0-8 bar  
0-58 PSI and 0-120PSI

## Furness Controls

**2020 Younts Road  
Indian Trail, NC 28079**

**Telephone: 704-882-3311**

**Fax: 704-882-3811**

**Email: sales@furnesscontrols.com**

**Web Site: http://www.furnesscontrols.com**

## Performance Specifications

<b>FLOW MEASUREMENT</b>	
ACCURACY @ 20 °C	< ±1% FS ± 1 DIGIT
TEMPERATURE COEFFICIENT (ZERO)	AUTO ZERO
TEMPERATURE COEFFICIENT (SPAN)	< ± 0.15% PER °C
SPAN ADJUSTMENT	SOFTWARE ADJUSTABLE
<b>PRESSURE MEASUREMENT</b>	
ACCURACY @ 20°C	< ± 1% FS ± 1 DIGIT
TEMPERATURE COEFFICIENT (SPAN)	< ± 0.02% PER °C
SPAN ADJUSTMENT	SOFTWARE ADJUSTABLE
ZERO ADJUSTMENT	SEMI-AUTOMATIC
<b>ELECTRICAL</b>	
SUPPLY VOLTAGE	24VDC ± 10%
SUPPLY POWER	<500MA
ELECTRICAL CONNECTIONS	9 PIN D (RS232C) DETACHABLE SCREW TERMINALS FOR INPUTS AND OUTPUTS
OUTPUT TYPE	ACTIVE HIGH TRANSISTOR OUTPUT (PNP)
OUTPUT RATING	5VDC TO 40VDC, 120MA (PER CHANNEL)
INPUT TYPE	OPTO-ISOLATED, ACTIVE HIGH OR ACTIVE LOW
INPUT RATING	5VDC TO 24VDC INTO 10KΩ
MEMORY BATTERY LIFE	>6 MONTHS DATA RETENTION
<b>PNEUMATIC</b>	
MEDIA COMPATIBILITY	CLEAN, DRY AIR OR NO HAZARDOUS GAS
GAS TEMPERATURE AT SOURCE	0 - 104 DEGREES F
RELATIVE HUMIDITY OF GAS	0 - 95% NON-CONDENSING
AIR SUPPLY PRESSURE	MAXIMUM 10 BAR GAUGE, MINIMUM 5 BAR GAUGE
REGULATOR SUPPLY PRESSURE	MAXIMUM 232 PSI GAUGE OR 35 BAR FOR 30 BAR OPTION
PNEUMATIC CONNECTIONS	SUPPLY 6MM PUSH IN AND 8MM PUSH IN, EXHAUST PILOT 4MM PUSH IN, TEST/REFERENCE 1/8" BSPF
INTERNAL VOLUME	10CC (+ 1CC FOR CALIBRATION PORT OPTION)
TEST PORT	CALIBRATION PORT OPTION)
TEST VOLUMES RANGE	0cc - 30000cc
LEAK TIGHTNESS	<0.2cc/HOUR
MATERIALS IN CONTACT WITH MEDIA	COPPER, BRASS, NICKEL, MICA, PVC
<b>PHYSICAL</b>	
OVERALL DIMENSIONS- BENCH CASE	294MM X 232MM X 145MM
NET WEIGHT	8KG ± 0.5KG
TEMPERATURE LIMITS	STORAGE: -20 TO 70 °C. WORKING: 0 TO 40 °C.
WARM-UP PERIOD	< 30 MINUTES
TIMER ACCURACY	<0.005s

AGENTS STAMP