

Accessories



Differential pressure gauges for air and gas

MAG-A & MAG-G (E5275 rev. 02 -12/04/2010)



GENERAL WARNINGS:



■ All installation, maintenance, ignition and setting must be performed by qualified staff, respecting the norms present at the time and place of the installation.

■ To avoid damage to people and things, it is essential to observe all the points indicated in this handbook. The reported indications do not exonerate the Client/User from observing general or specific laws concerning accidents and environmental safeguarding.

■ The operator must wear proper DPI clothing (shoes, helmets...) and respect the general safety, prevention and precaution norms.

■ To avoid the risks of burns or high voltage electrocution, the operator must avoid all contact with the burner and its control devices during the ignition phase and while it is running at high temperatures.

■ All ordinary and extraordinary maintenance must be performed when the system is stopped.

■ To assure correct and safe use of the combustion plant, it is of extreme importance that the contents of this document be brought to the attention of and be meticulously observed by all personnel in charge of controlling and working the devices.

■ The functioning of a combustion plant can be dangerous and cause injuries to persons or damage to equipment. Every burner must be provided with certified combustion safety and supervision devices.

■ The burner must be installed correctly to prevent any type of accidental/undesired heat transmission from the flame to the operator or the equipment.

■ The performances indicated in this technical document regarding the range of products are a result of experimental tests carried out at ESA-PYRONICS. The tests have been performed using ignition systems, flame detectors and supervisors developed by ESA-PYRONICS. The respect of the above mentioned functioning conditions cannot be guaranteed if equipment, which is not present in the ESA-PYRONICS catalogue, is used.

DISPOSAL:



To dispose of the product, abide by the local legislations regarding it.

GENERAL NOTES:



■ In accordance to the internal policy of constant quality improvement, ESA-PYRONICS reserves the right to modify the technical characteristics of the present document at any time and without warning.

■ It is possible to download technical sheets which have been updated to the latest revision from the www.esapyronics.com website.

CERTIFICATIONS:



EN746-2

The products manufactured by ESA-PYRONICS have been created in conformity to the **UNI EN 746-2** Norms: Equipment for industrial thermal process - Part 2: Safety requirements for combustion and the movement and treatment of combustible elements. This norm is in harmony with the Machine Directive **98/37/CE**. It is certified that the products in question respect all the requirements prescribed by the above mentioned Norms and Directives. These have been designed, produced, controlled and tested in accordance to the company's internal procedures for quality control, certified in conformity with the **UNI EN ISO 9001** Norm by DNV Italia s.r.l.



The products conform to the Russian market requirements according to the **GOST** and **GOSGORTEKHNAZOR** certification.

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Magnehelic are simple, high accuracy and inexpensive diaphragm-actuated differential pressure gauges .

APPLICATIONS

- Pressure drops across orifice plate (air and gas)
- Pressure indication non-corrosive air & natural gas
- Filter monitoring
- Blower pressures
- Furnace draft

CHARACTERISTICS

GENERAL INFORMATION:

- Service: Non-corrosive air & natural gas
- Accuracy: $\pm 2\%$ of full scale throughout range 21.1°C
- Pressure limits: -0.677 bar to 1.034 bar
- Overpressure: Relief plug opens at approximately 1.72 bar, standard gages only
- Temperature limits: -7 to 60°C
- Size: 101.6 mm Diameter dial face
- Mounting orientation: Diaphragm in vertical position
- Process connections: 1/8" female NPT duplicate high and low pressure taps-one pair side and one pair back.
- Weight: 510 g
- Standard Accessories: Two 1/8" NPT plugs for duplicate pressure taps, two 1/8" pipe thread to rubber tubing adapter and three flush mounting adapterswitch screws.

MATERIAL COMPOSITION:

- Housing: Die cast aluminum case and bezel, with acrylic cover. Exterior finishes coated gray to withstand 168 hour salt spray corrosion test.



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MODELS AND RANGES

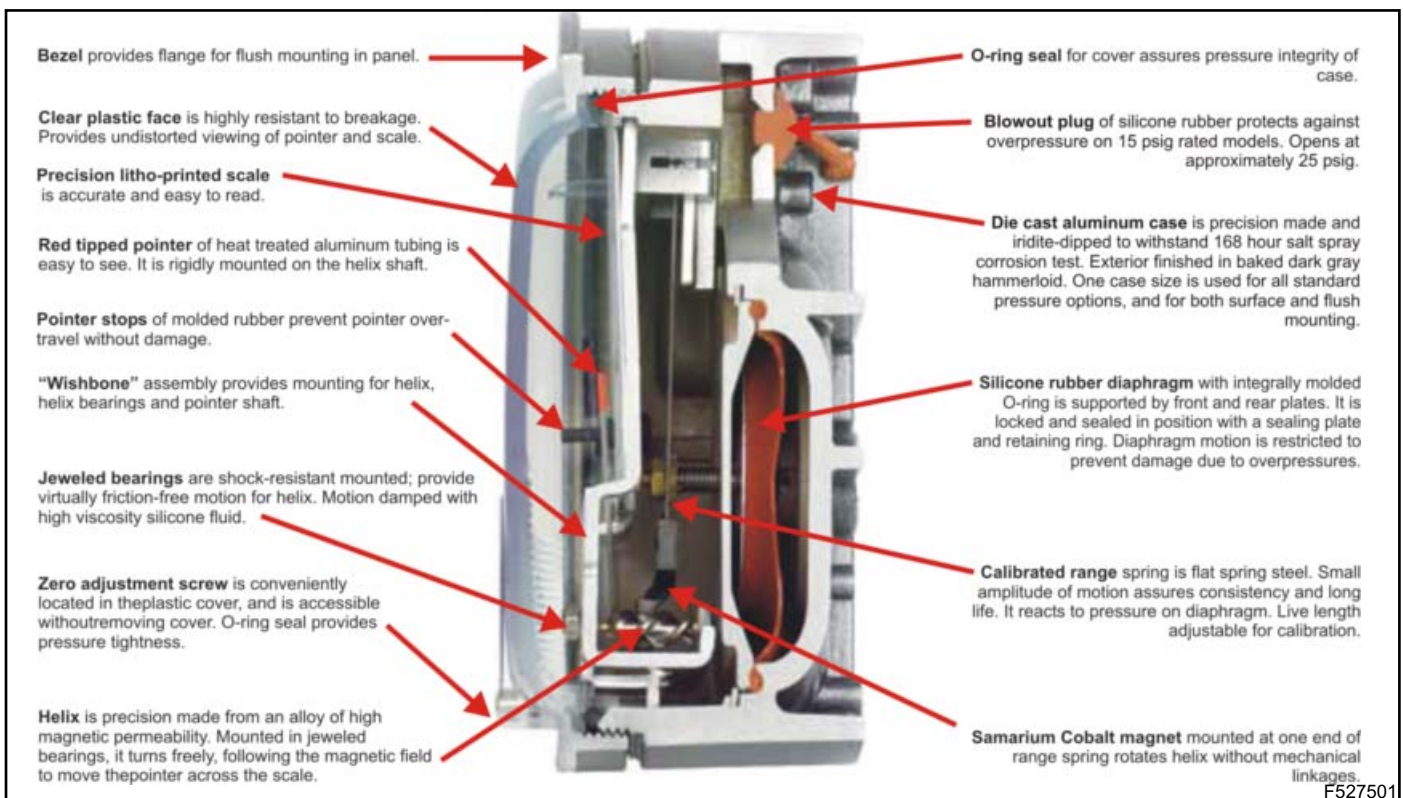
Model	Absolute scale
MAG-5	0 ÷ 5 mbar
MAG-10	0 ÷ 10 mbar
MAG-15	0 ÷ 15 mbar
MAG-20	0 ÷ 20 mbar
MAG-30	0 ÷ 30 mbar
MAG-40	0 ÷ 40 mbar
MAG-50	0 ÷ 50 mbar
MAG-80	0 ÷ 80 mbar
MAG-100	0 ÷ 100 mbar
MAG-150	0 ÷ 150 mbar
MAG-200	0 ÷ 200 mbar
MAG-300	0 ÷ 300 mbar
MAG-350	0 ÷ 350 mbar

Model	Double scale
MAG-C1	-1 ÷ 0 ÷ +1 mbar
MAG-C2	-2 ÷ 0 ÷ +2 mbar
MAG-C5	-5 ÷ 0 ÷ +5 mbar
MAG-C10	-10 ÷ 0 ÷ +10 mbar
MAG-C15	-15 ÷ 0 ÷ +15 mbar
MAG-C20	-20 ÷ 0 ÷ +20 mbar

DESCRIPTION

Using the simple, frictionless Magnehelic movement which transmits the effect of changes in pressure from a diaphragm to an indicating pointer by means of magnetic linkages, they quickly indicate low air and compatible, non-corrosive gas pressures, either positive, negative

(vacuum) or differential. The design resists shock, vibration and over-pressures. It avoids wear and physical contact which might destroy the accuracy and sensitivity of the instrument. There is no manometer fluid to evaporate, freeze or cause toxic or leveling problems.



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WARNINGS

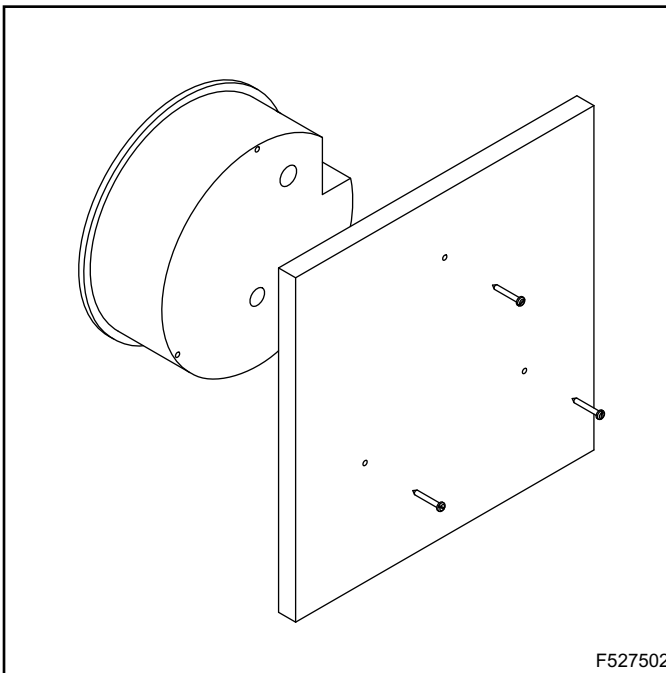
- - Attempted field repair may void your warranty. Recalibration or repair by the user is not recommended.

INSTALLATION

- 1 - Select a location free from excessive vibration and where the ambient temperature does not exceed 60°C.
- 2 - Also, avoid direct sunlight which accelerates discoloration of the clear plastic cover.
- 3 - Sensing lines may be run any necessary distance.
- 4 - Long tubing lengths will not affect accuracy but will increase response time slightly.
- 5 - All standard Magnehelic Differential Pressure Gages are calibrated with the diaphragm vertical and should be used in that position for maximum accuracy. If gauges are to be used in other than vertical positions, this should be specified in the order. Many higher range gauges will perform within tolerance in other positions with only rezeroing.
- 6 - Low range models of 1.2 mbar plus 0,6 mbar must be used in the vertical position only.

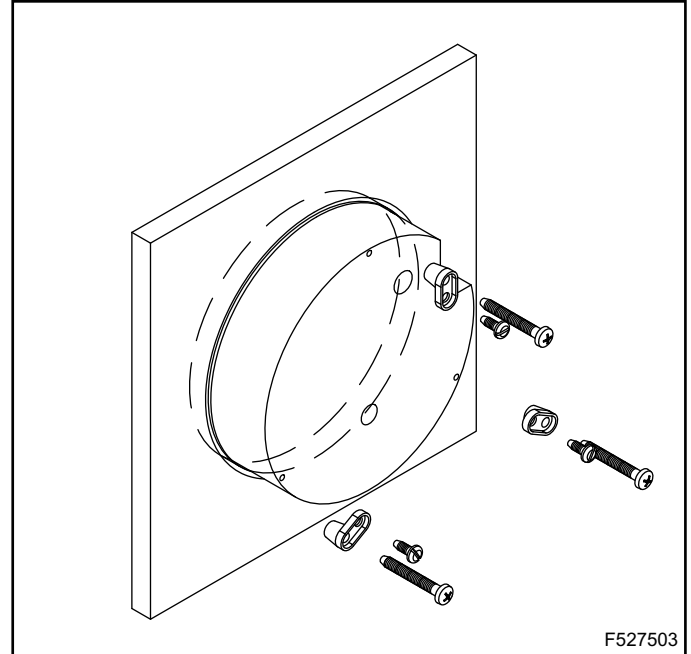
SURFACE MOUNTING

Locate mounting holes, 120° apart on a 4-1/8" dia. circle. Use machine screws of appropriate length. (included, but without panel)



FLUSH MOUNTING

Provide a 116 mm opening in panel. Insert gauge and secure in place with machine screws of appropriate length, with adapters, firmly secured in place. (included with panel)



ZERO CALIBRATION AFTER INSTALLATION

Set the indicating pointer exactly on the zero mark, using the external zero adjust screw on the cover at the bottom. Note that the zero check or adjustment can only be made with the high and low pressure taps both open to atmosphere.

OPERATION

Positive Pressure: Connect tubing from source of pressure to either of the two high pressure ports. Plug the port not used. Vent one or both low pressure ports to atmosphere.

Negative Pressure: Connect tubing from source of vacuum or negative pressure to either of the two low pressure ports. Plug the port not used. Vent one or both high pressure ports to atmosphere.

Differential Pressure: Connect tubing from the greater of two pressure sources to either high pressure port and the lower to either low pressure port. Plug both unused ports.

A - For portable use of temporary installation use 1/8" pipe thread to rubber tubing adapter and connect to source of pressure with flexible rubber or vinyl tubing.

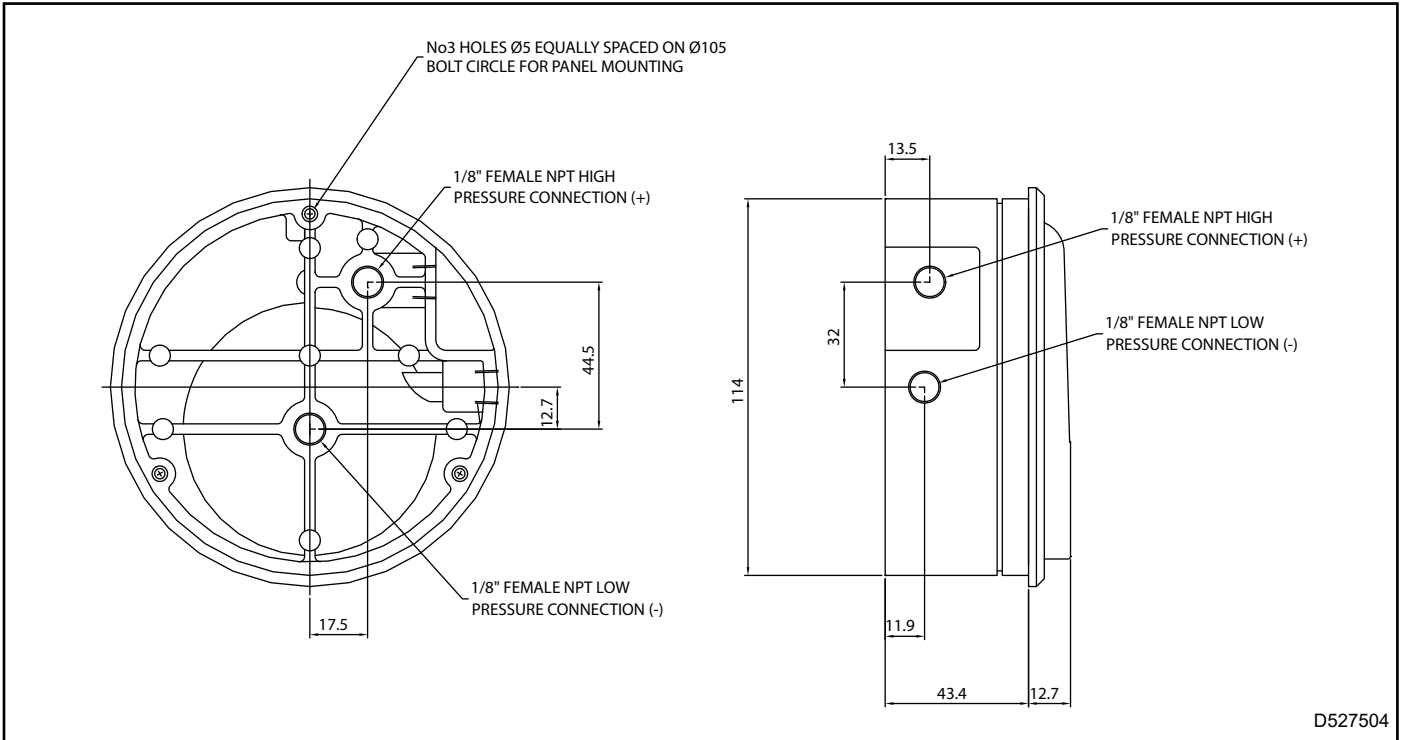
B - For permanent installation, 1/4" O.D., or larger, copper or aluminum tubing is recommended.

MAINTENANCE

No lubrication or periodic servicing is required. Keep case exterior and cover clean.

Occasionally disconnect pressure lines to vent both sides of gauge to atmosphere and re-zero.

DIMENSIONS - PRESSURE GAUGE AIR & GAS



ORDERING CODE - PRESSURE GAUGE AIR & GAS

MAG - -

SCALE		01
0 ÷ 5 mbar	5	C1
-1 ÷ 0 ÷ +1 mbar		
....		
see page 4		

TIPOLOGY		02
Air	* On request	A
Gas *		G

* On request