



SITGroup

392 AGM



GAS/AIR FLOW CONTROL AND MIXING SYSTEM

Application

Fan-assisted gas-fired appliance with premix burner. The 392 AGM system is particularly suitable for modulating condensing boilers of the commercial type.

Main features

Advanced gas/air mixing system (patent pending). Features compact dimensions with an extremely straightforward integration onto the fan.



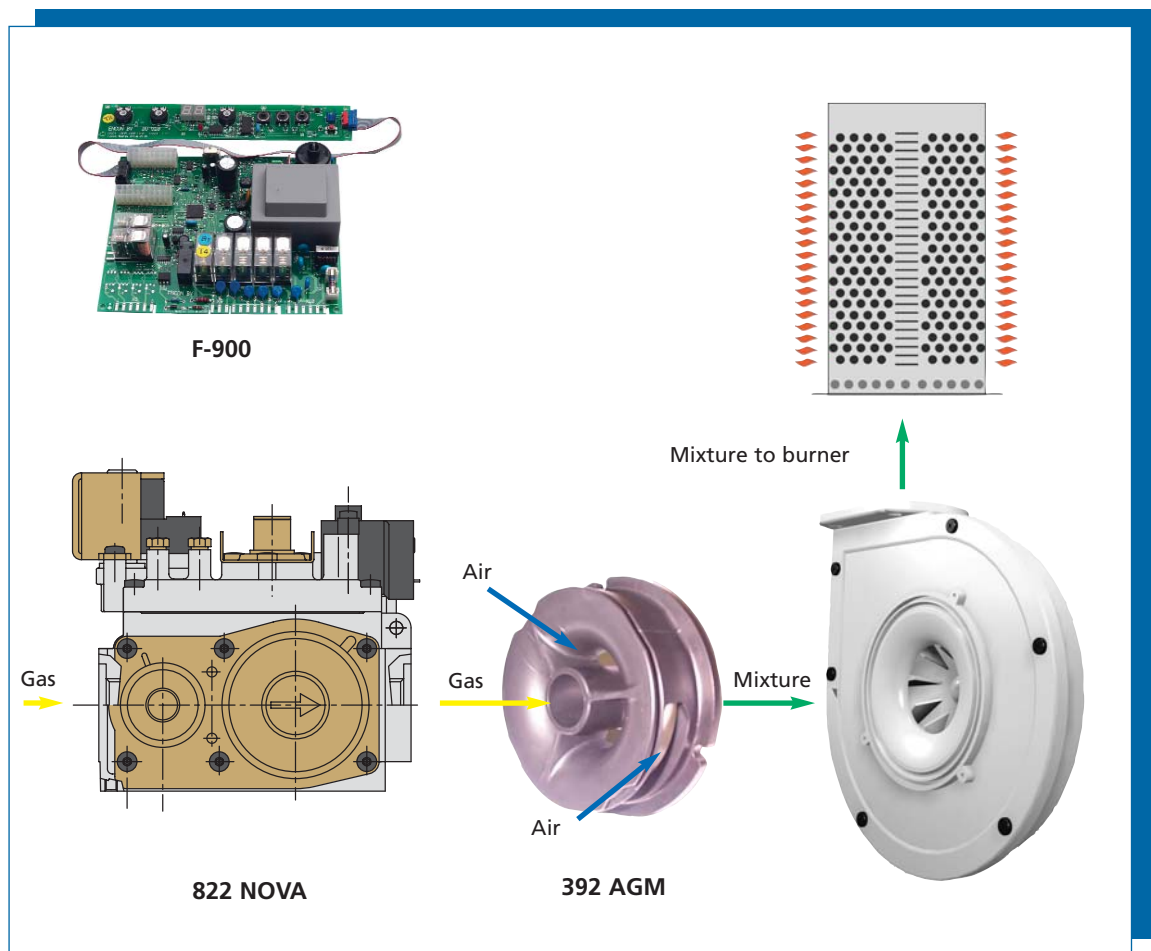
THE SIT AIR/GAS SYSTEM

SIT offers a complete and innovative control system specifically designed for condensing boilers utilising air/gas control. The system has been designed and manufactured with a view to ensuring the top-level performance required for (condensing) appliances in terms of efficiency, modulating range, high power and silent operation.

Each of the components has been certified according to the reference standards and complies with the highest specifications in terms of quality and reliability, in tune with the advanced technological characteristics of the appliances in which they are installed.

The system components are available both in combination or separately for partial integration. The 392 AGM (Air Gas Mixer) is the heart of the system and has been designed with the aid of specific fluid dynamic trials and accurate laboratory tests to ensure both a high mixing efficiency and a limited noise level in all working conditions. In particular, this latter aspect has been studied in depth using simulation programs and lab tests to guarantee results in most types of application.

The AGM incorporates both axial and radial mixing techniques.



GENERAL DATA

CONSTRUCTION CHARACTERISTICS

- High temperature anti static plastic moulding

WORKING CONDITIONS

- **Assembly position** at fan inlet
- **Ambient temperature** the 392 AGM is suitable for the normal temperature range of domestic gas appliances (-20°C to +100°C)

MECHANICAL CONNECTIONS

- **Fan connection** 3 holes on a pitch diameter of 100 mm are provided for making the connection to any of the fans commonly available on the market with M4 screws.
- **Gas injection** designed for metal pipes with an outer diameter of $21.5^{+0.07}_{+0.02}$ for positioning inside the cylindrical injection holder.

DESCRIPTION

- 1 Gas injection
- 2 Axial air inlet
- 3 Lateral air inlet

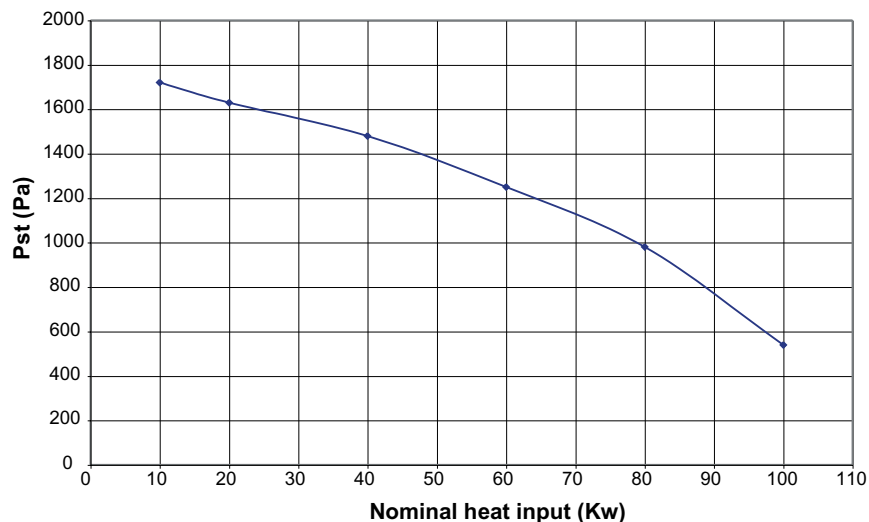




CHARACTERISTICS

FLOW RATE/HEAD

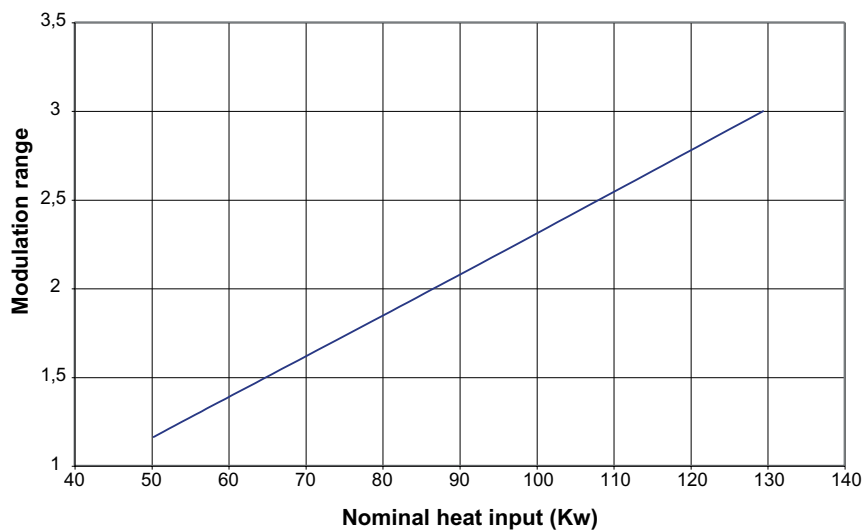
The following diagram shows the operating curve for EbmG1G144 230Vac 50Hz 75W 4800rpm fitted with the 392 AGM.



The nominal heat input is on the assumption of a combustion process using gas G20, net calorific value $\lambda = 1.3$.

MODULATING RANGE

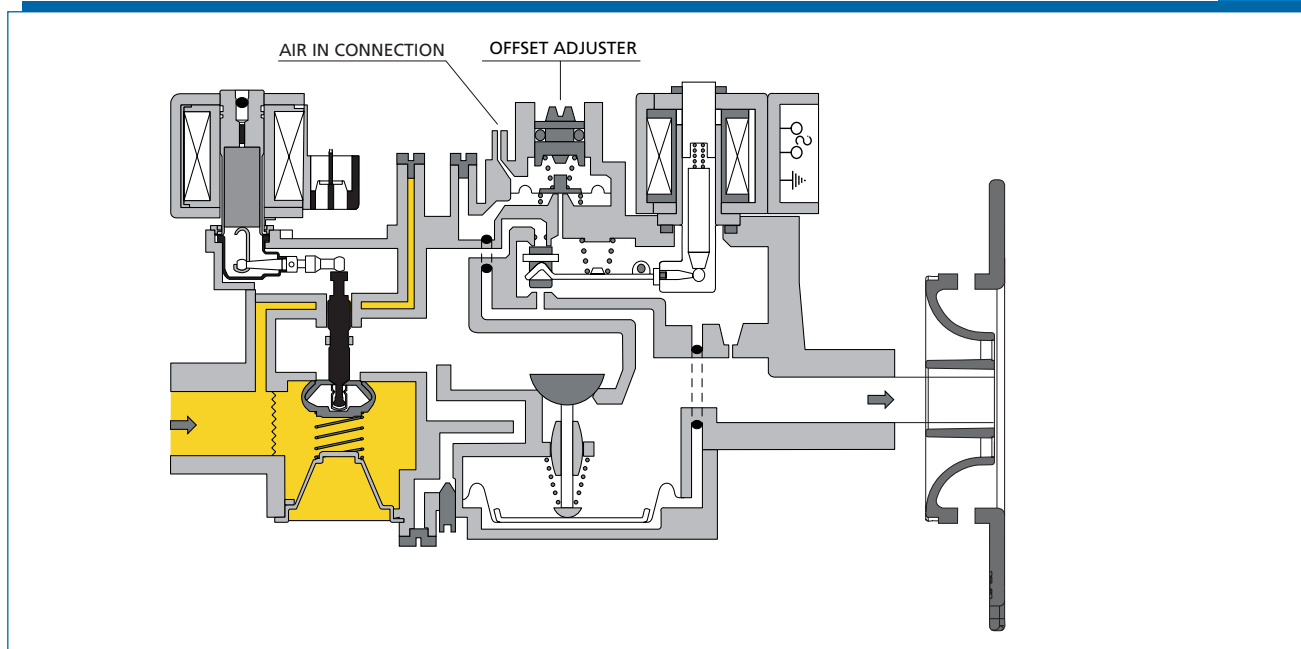
The maximum and minimum heat inputs are strictly related to the characteristics of the appliance. The following graph gives an idea of the modulating range at different rated maximum heat inputs of the appliance in the reference conditions with a minimum pressure drop of 50 Pa in the gas injection section.



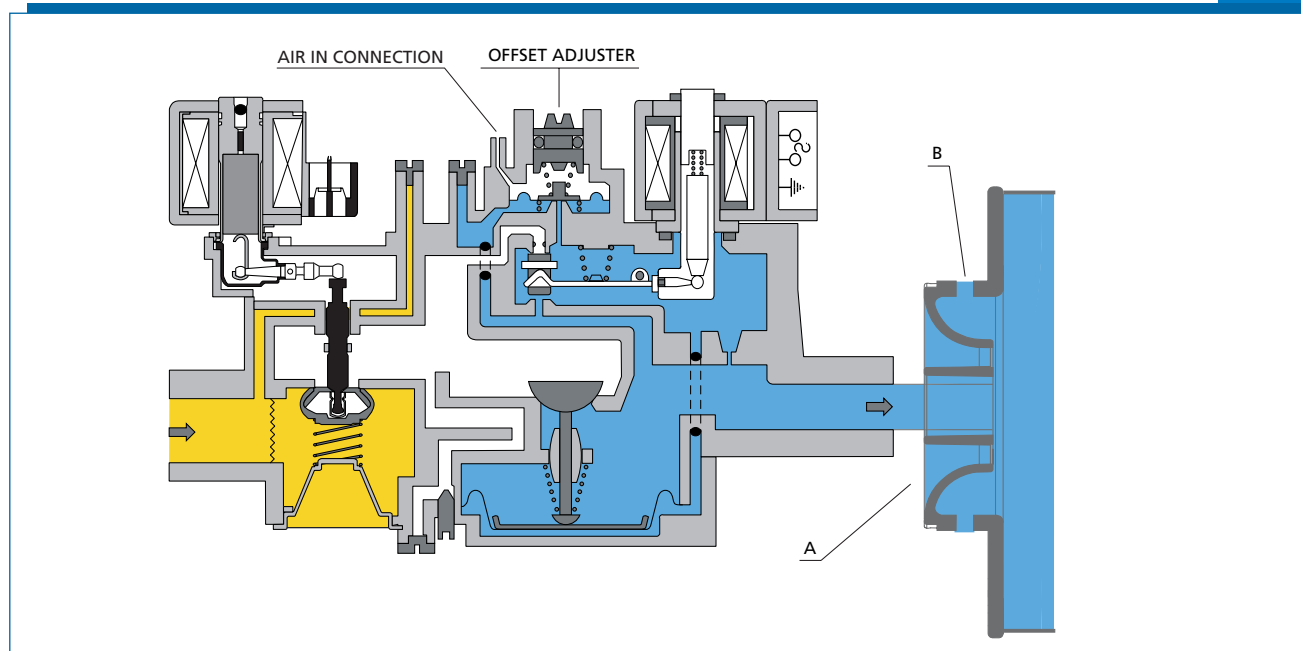
Reference conditions: gas G20, net calorific value, $\lambda = 1.3$.

OPERATION

Standby - With the appliance on standby there is no air flow through the 392 AGM and the path of the gas is intercepted by the multifunctional air/gas control.

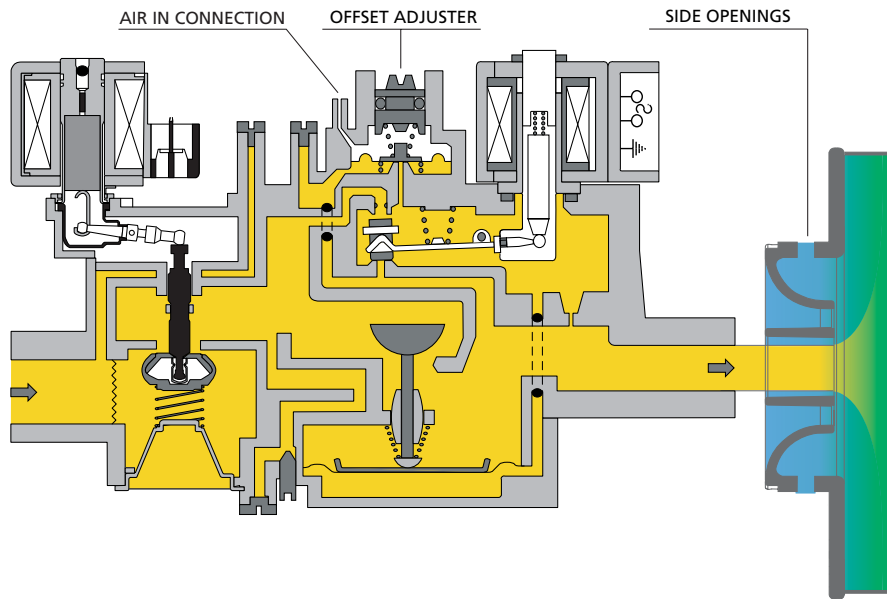


Pre-purge - In pre-purge conditions the air flow through the 392 AGM is enabled. The air is delivered in both the axial (A) and the transversal (B) directions.





Operation - Both the automatic shut-off valves are open. The gas flows from the gas control to the 392 AGM, where it is injected into the mixing chamber. The air/gas mixture then flows to the burner.



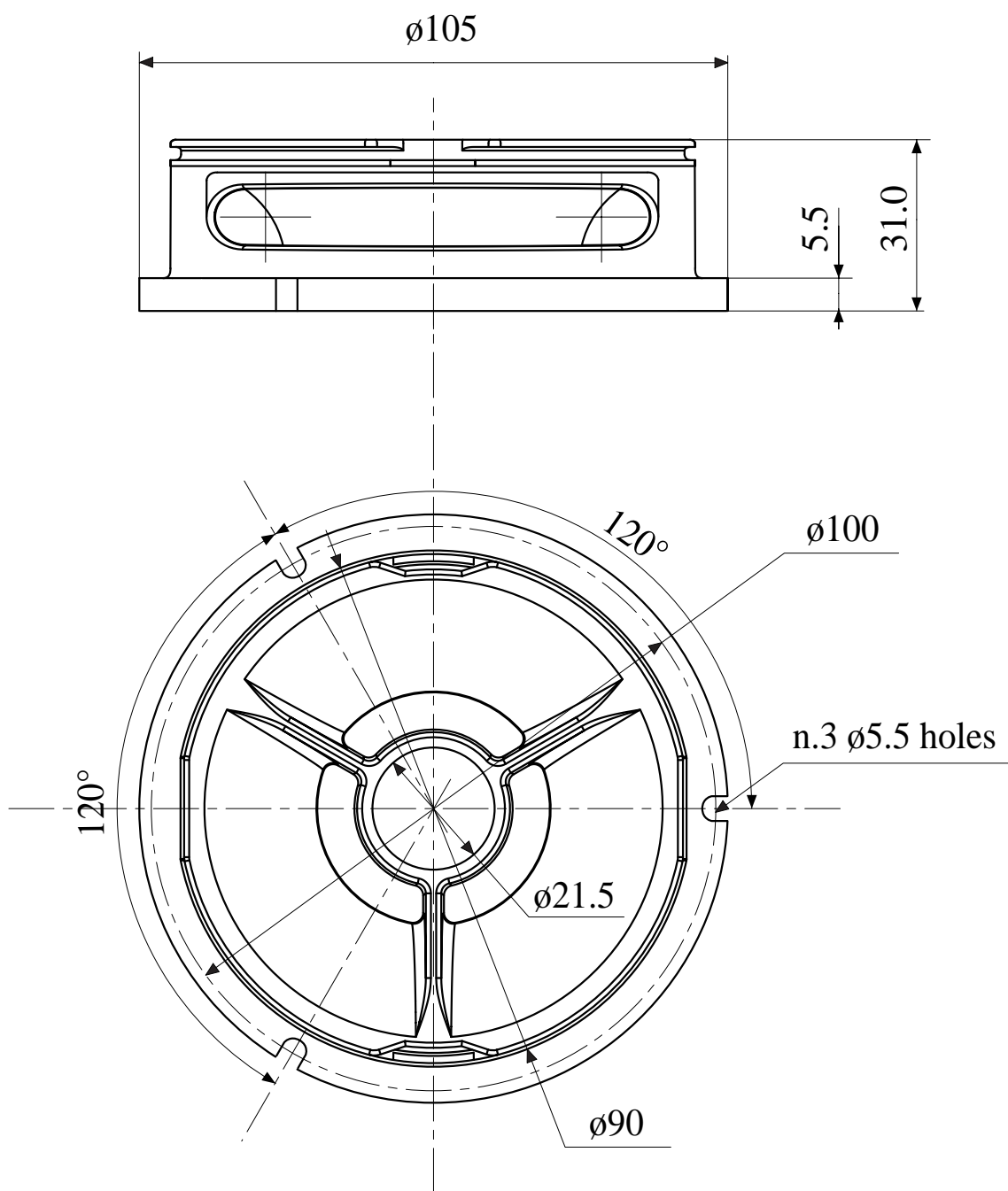
ADJUSTMENTS OPERATION

There is nothing to adjust or calibrate in the 392 AGM.

The following are a few recommendations concerning the preliminary operations involved in the application of the 392 AGM for establishing the correct air/gas configuration.

- 1) Install the 392 AGM, the 822 Novamix and the gas injector to obtain the power required at the maximum fan speed.
- 2) Bring the fan up to its maximum operating speed and to supply the 822 Novamix to open the gas flow.
- 3) Check the input. If it is higher than the required value, to modify the gas injector to obtain the right CO₂ value.
- 4) Then bring the fan down to its minimum operating speed and adjust the CO₂ to the expected value with the offset screw on the 822 Novamix.
- 5) Repeat the operations with maximum and minimum fanspeed once again.

DIMENSIONAL DRAWINGS



NOTE: All the dimensions are expressed in millimeters.



SITGroup

SIT La Precisa S.p.A.

Viale dell'Industria 31-33
35129 PADOVA - ITALY

Tel. +39/049.829.31.11, Fax +39/049.807.00.93
www.sitgroup.it - e-mail: mkt@sitgroup.it

Italy, Malta, Switzerland, West Slavic Republics, Spain, Portugal, Turkey

SIT LA PRECISA S.p.A., ITALY SALES AREA
Viale dell'Industria 32
35129 PADOVA - ITALY
Tel. +39/049.829.31.11, Fax +39/02.700.464.28
sit.italy@sitgroup.it

Czech, Slovak Republics, Poland, CIS countries

SIT CONTROLS ČR, s.r.o.
Václavská 125
61900 BRNO - ČESKÁ REPUBLIKA
Tel. +420/5/47.12.53.53, Fax +420/5/47.12.53.55
sit.czechrep@sitgroup.it

France, Belgium, Maghreb

SIT FRANCE S.A.R.L.
13 Rue Raymond Losserand
75014 PARIS - FRANCE
Tel. +33/1/43.21.33.30, Fax +33/1/43.21.32.60
sit.france@sitgroup.it

Germany

SIT CONTROLS DEUTSCHLAND GmbH
Wiebelsheidestr. 45a
59757 ARNSBERG - GERMANY
Tel. +49/2932/969.40, Fax +49/2932/96.94.50
sit.germany@sitgroup.it

The Netherlands

SIT CONTROLS BV
A.G. Bellstraat 2 P.O. BOX 2088
7900 BB HOOGEVEEN - THE NETHERLANDS
Tel. +31/528/24.65.60, Fax +31/528/23.22.72
sit.holland@sitgroup.it

United Kingdom

SIT GAS CONTROLS Ltd. - BRAY BURNERS Ltd.
Education Road
LEEDS LS7 2AN - U.K.
Tel. +44/113/281.67.00, Fax +44/113/281.67.23
sit.uk@sitgroup.it

North and Latin Americas

SIT CONTROLS USA, Inc.
900 Center Park Drive, Suite J
CHARLOTTE, N.C. 28217 - USA
Tel. +1/704/522.63.25, Fax +1/704/522.79.45
sit.usa@sitgroup.it

SIT CONTROLS CANADA, Inc.
5511 Spruce Avenue
BURLINGTON, ONTARIO L7L 1P3 - CANADA
Tel. +1/905/637.74.56, Fax +1/704/522.79.45
sit.usa@sitgroup.it

SIT CONTROLS USA, Inc.
Ejército Nacional 708 - 1102, Col. Polanco
11560 MEXICO CITY - D.F. MEXICO
Tel. +52/55/52.03.04.04, Fax +52/55/52.54.77.69
sit.usa@sitgroup.it

SIT USA, South America Office
Salta 2076 Piso 1 "A"
2000 ROSARIO, SANTA FE - ARGENTINA
Tel./Fax +54/341/447.0593
opcontrolsarg@infovia.com.ar
gcabral.opsudamerica@opcontrols.com

Australia, New Zealand

SIT GAS CONTROLS PTY Ltd.
8 Pickering Road, Mulgrave
VICTORIA 3170 - AUSTRALIA
Tel. +61/3/95.60.14.44, Fax +61/3/95.60.01.95
sit.australia@sitgroup.it

China

SIT GAS CONTROL SYSTEMS (SHANGHAI) Co., Ltd.
147 Chen An Road, Malu Town, Industrial Garden,
Jiading District,
201801 SHANGHAI - CHINA
Tel. +86/21/59.10.29.28/59.10.05.63/59.10.15.77,
Fax +86/21/591.001.29
sitchina@81890.net

Korea

SIT CONTROLS KOREA Co., Ltd.
Room N° 804, Hyundai Topics Building, B/D 44-3,
Bangyi-dong, Songpa-Gu
SEOUL - KOREA
Tel +82/2/425.16.93-4, Fax +82/2/425.16.50
sitcontrols@korea.com