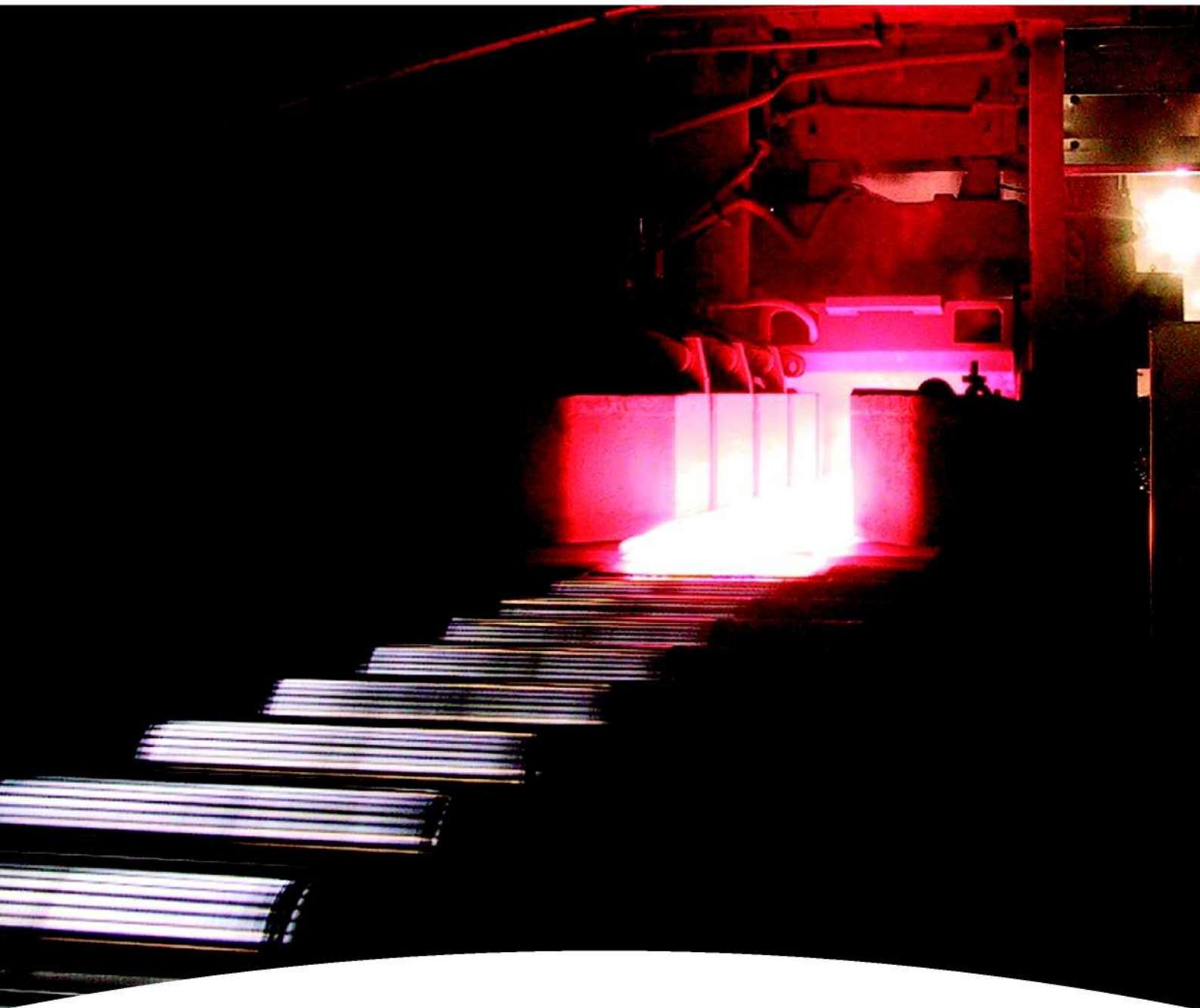# Combustion Control Products

Combustion Control Products for
Industrial Process Ovens and Heaters,
Furnaces, Kilns, Incinerators and Industrial Boilers

Honeywell

Combustion Control Products

Honeywell is the industry leader in burner and boiler control components and systems. These products and systems enhance safety in different industrial sectors.

Our key products include

- IR and UV Flame detectors.
- Flame switches and Burner sequence controllers.
- Modutrol Motor and actuators.
- UGV [Universal Gas Valves] & Gas Train Components.
- Adjustable port valves.
- Gas pressure switches.
- Ignition Transformers.
- Pressuretrol Proportional Pressure Controllers
- Satronic Burner controls and components.
- Limits and pressure controls, communications and software.

Applications include burners, boilers, furnaces, Incinerators, packaged rooftop units, kilns, hot water heaters and pool & spa heaters, etc.

These products are offered directly and through authorized distributors to OEMs, System Integrators, Contractors, Boiler manufacturers, Burner manufactures and end users.

Honeywell Flame Detectors and Flame Switch Units

Honeywell solid state electronic flame detectors sense the ultraviolet radiations produced by a flame and generates electrical signal that is amplified and transmitted to the primary burner control. The detector's can be mounted horizontally or in vertical plane.

C7027/35

Model C7027/35 is a compact flame detector used with flame safeguard controls with compatible Ultraviolet flame amplifier.

C7012

Model C7012 is a solid state electronic flame detector used with Honeywell flame safe guard controls and amplifiers. Sense's Ultraviolet radiation produced by combustion of gas, oil or other fuels. Weather proof & Ex proof versions also available.

C7076

Model C7076 is a solid state dynamic self check adjustable sensitivity flame detector, used with compatible Honeywell flame safe guard controls and amplifier. This is recommended for off-process fuels, such as H_2S or flames that are difficult to detect. eg. Coal, BF, Producer Gas, etc.

C7015

Model C7015 is an Infrared [Lead sulfide] Flame detector. This senses infrared radiation from gas, oil, coal or dual fuel flames. Used with Honeywell flame safe guard controls and amplifiers.

Honeywell flame detector relay is essentially a flame switch, that can be used in association with Ultraviolet /IR /Flame rod flame sensors to signal the presence or absence of flame.

R4343

Model R4343 performs flame detection function only.

R4348

Model R4348 is used for application in large commercial and industrial burner installation where they are used as simple flame switch with 3 pole flame relay and 3 pole line voltage load relay. This can perform flame detection and burner safe start function. The potential free relay contacts, enables the use of this with wide range of logic schemes as per customers needs The add-on features include; Flame intensity bar graph display and 4-20 mA flame intensity out put.

EC/RM7823

Microprocessor-based integrated flame switch for detecting a flame using rectification, UV or IR sources. Can be fitted with any 7800 series amplifier to provide relay action from 2 single pole double throw [SPDT] relays when flame is present or not present. This is a flame detection relay only. 3 LEDs to indicate power, flame and alarm, compatible with Honeywell flame detectors.

Honeywell 7800 Series Burner Control System

The Honeywell 7800 series combines enhanced safety, comprehensive diagnostics, communication and networking capabilities into one compact and affordable microprocessor based burner control. It can handle just about anything and everything your application requires.

You can apply the 7800 series on a wide range of commercial and industrial applications Including

- Burners
- Processor heaters
- Klaus reactors
- Boilers
- Furnaces
- Incinerators
- Ovens
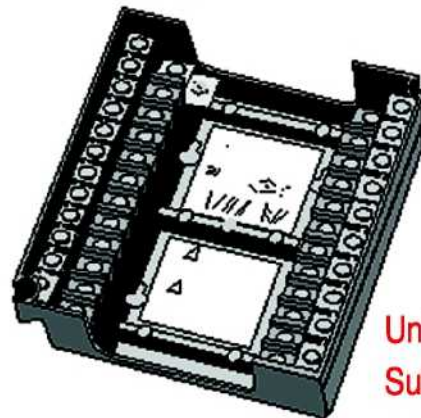- Dryers
- Lehrs
- Kilns

EC/RM7800

The 7800 series burner control comprises a relay module, wiring subbase, purge timer and amplifier. Available option let you customize your 7800 series installation to perform intelligent control to meet your specific needs.

The following are the other Accessories of 7800 Series Burner Control System

Key board display Module S7800A

Universal Wiring Subbase Q7800A

Flame Amplifiers R7847/R7848/ R7886/R7861

Purge Timers ST7800A

Satronic Burner Controls

Honeywell Satronic Burner controls for single or two stage gas/oil burners, available in electro mechanical and solid state versions with optional diagnostic information auxiliary devices, suitable photo/infrared/uv detectors are available. Other auxiliary equipments like oil/flowmeters/oil preheaters / electronic ignition devices for gas and oil burners are also available.

TFO/DKO

TFO/DKO for oil burners < 30kg./hr.

TTO/TMO/MMO /PKW/DMO

TTO/TMO/MMO/PKW/DMO for oil burners > 30kg./hr.

TF/MMI/MMG/ TMG/TME/DKG/DMG

TF/MMI/MMG/TMG/ TME/DKG/DMG for gas burners.

ZT 871/900/930/931

ZT 871/900/930/931 Ignition devices.

IRD/FZ,NZ/UVZ

IR/PHOTO/UV flame detectors

SOVE930

SOVE930 Oil preheaters.

Conectron Servomotors

The Conectron motors are typically used as air damper motors in power burner application. These are used in both Gas powered and Oil powered burners as air damper motors to increase the airflow to maximum position during pre purge and to decrease the air flow to suitable position for light up when the pre purge is completed. In case of 2 stage or 3 stage gas and oil burners, the air damper motor is used to switch the airflow from the first to second [and third] stage. The following are the different types of Conectron series motors.

LKS 118

For smaller Burners with simple air damper control [open/close].

LKS 120/131

For 1 or 2 stage oil and gas burners with or without fully closing damper.
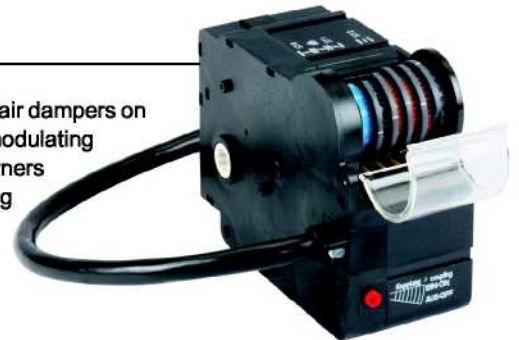
LKS 160

For air damper on multistage or modulating oil and gas burners with fully closing damper.

LKS 170

Direct coupled, air dampers on multistage or modulating oil and gas burners with fully closing damper.

LKS 310

For air dampers with higher or industrial application.

Universal Gas Valves & Accessories

Honeywell has wide range of Gas Valves & Accessories in its products portfolio. These are used in gas fired burners.

The following are some of the applications

- Automobile manufacturers
- Surface/ Powder coaters
- Textile /Ceramic/Petrochemicals
- Galvanising plants
- Bakery / Food processing
- Steel Mills & Forging Plants

Safety Shutoff Gas Valves

VE400AA

AC solenoid gas valve, normally closed, Class "A" AC powered, Safety Shutoff Solenoid Gas Valve with threaded Connections. For pilot and small burner applications in gas power burners, gas boiler, ovens, furnaces and other applications.

Gas Valve type - AC powered, non regulated ON/OFF normally closed, fast opening

Media - natural gas, propane, air

VE4000A

Solenoid gas valve, normally closed, Class "A" Safety Shutoff Solenoid Gas Valve with threaded connection. For control and regulation of gaseous fluids in gas power burners, ovens, furnaces and other gas consuming appliances.

Gas valve type - non regulated ON/OFF normally closed, fast opening

Media - natural gas, propane, air.

VE4000B1

Solenoid gas valve, normally closed, with flow rate adjustment, Class "A" Safety Shutoff Solenoid Gas Valve with threaded connection and maximum flow rate adjustment.

For control and regulation of gaseous fluids in gas power burners, ovens, furnaces and other gas consuming appliances.

Gas valve type - non regulated ON/OFF normally closed, fast opening.

Media - natural gas, propane, air.

VE4000B3

Solenoid gas valve, normally closed, Class "A" Safety Shutoff Solenoid Gas Valve with flanged connection.

For control and regulation of gaseous fluids in gas power burners, ovens, furnaces and other gas consuming appliances.

Media - natural gas, propane, air.

Normally Open Gas Valves

VE4000C

Solenoid gas valve, normally closed, with characterized opening, Class "A" Safety Shutoff Solenoid Gas Valve with threaded connection and maximum flow rate adjustment and characterized opening.

For control and regulation of gaseous fluids in gas power burn ovens, furnaces and other gas consuming appliances.

Gas valve type - non regulated normally closed, slow opening.

Media - natural gas, propane, air.

VE4000S

Solenoid Gas Valve normally open. The VE4000S1 and VE400S2 series gas valves are safety relief used as vent valves in gas power burners, gas boilers, ovens, gas consuming appliances.

Gas valve type - non regulated ON/OFF normally open.

Media - natural gas, propane, air

VE4000S1- CPI Switch Optional

VE4000S2- CPI Switch Mounted

Manual Reset Gas Valves

VG400AA

Small manual reset gas valve, normally closed, Class "A", manually open, Safety Shutoff Solenoid Gas Valve.

For use in gas leak detection systems or other applications.

Gas valve type - non regulated ON/OFF

Media - natural gas, propane, air.

VG4000A1

Manual reset gas valve, normally closed, Class "A", manually open, Safety Shutoff Solenoid Gas Valve.

For use in gas leak detection systems or other applications.

Gas valve type - non regulated ON/OFF

Media - natural gas, propane, air.

VG4000A3

Manual reset gas valve, normally closed, Class "A", manually open, Safety Shutoff Solenoid Gas Valve with flange connections.

For use in gas leak detection systems or other applications

Gas valve type - non regulated ON/OFF

Media - natural gas, propane, air.

VG400SA

Small Manual reset gas valve, normally open manually closed when energized.

For use in applications requiring a normally open gas valve.

Gas valve type - non regulated ON/OFF normally open, manual closing

Media - natural gas, propane, air.

VG4000S1

Manual reset gas valve, normally open manually closed.

For use in applications requiring a normally open gas valve.

Gas valve type - non regulated ON/OFF normally open, manual closing

Media - natural gas, propane, air.

VG4000S3

Manual reset gas valve, normally open. Manually opening/closing, Safety Shutoff Solenoid Gas Valve with flange connections.

For use in gas leak detection systems or other applications

Gas valve type - non regulated ON/OFF

Media - natural gas, propane, air.

Gas Pressure Filters & Regulators

HUF/HUP/HUPF

Separate filters & regulators available. (HUF& HUP).
Available as Combined gas filter regulator also. (HUPF).
Upto 2" threaded end conn, 2"-4" flanged conn.
Separate spring for various outlet pressures (5-150 mbar)

Gas Air Pressure Switches

C437/ C637   C6097

These are safety devices used in positive pressure or differential pressure system to sense gas or air pressure system.
C6097 Standard ranges

● 1-10 mbar ● 2.5-50 mbar ● 30-150 mbar ● 100-500 mbar

C437/C637 Gas air pressure switches used for pressure and differential pressure limit controls for industrial gas systems.

Universal Gas Valves & Accessories

Combination Gas Valves

VQ400

Combination gas valve without pressure regulation, Class "A" Combination Gas Valve.

For control and regulation of gaseous fluids in gas power burners, ovens, furnaces and other gas consuming appliances.

Gas valve type - 2 safety shutoff valves in series

Media - natural gas, propane, air.

VR400

Combination gas valve with pressure regulation, Class "A" Servo Regulated Combination Gas Valve.

For control and regulation of gaseous fluids in gas power burners, ovens, furnaces and other gas consuming appliances.

Gas valve type - 2 safety shutoff valves in series with pressure regulation

Media - natural gas, propane, air.

Valve Proving System

V4021

V4021 is self-checking microprocessor based valve proving system.

This acts prior to firing of the burner, This checks the effective closure of automatic shut-off valves for leakages with the help of pressure switches. In case of leakage this will not allow firing of burner to take place.

Fluid Power Actuator

V4055/V4062/V9055

These are special actuators powered by a fluid pump used for on-off or hi-low or modulation.

Slow opening & fast closing.

Fail safe duty.

Used to control gas supply or to provide manual reset, safety shut-off functions for commercial & industrial burners.

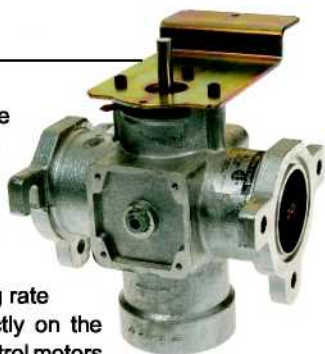Suitable for used with VE5065A/VE5065C/V5055/ V5097 Valves.

Port Valve

V5197A

The V5197A is an integrated valve train butterfly gas valve. It is a firing rate valve used to provide variable flow control of air, natural gas, Liquefied Petroleum [LP] and manufactured gases.

The V5197A is actuated by a firing rate motor that can be mounted directly on the valve or can be actuated with Modutrol motors with proper linkages.

Butterfly Gas/Air Valve

V51E

V51E Butterfly gas/air valve provides modulating control of natural, manufactured, LP gases or Air. Modutrol Motor can be fitted directly on Valve or closed to it.

Other Combustion Control Products

Pressuretrol Controllers

L404

Provide operating control, automatic or manual reset limit protection for pressure system upto 300psi.

Use with steam, air, non combustible gases or other fluids non corrosive to pressure sensing elements.

L91

Provide modulating pressure operating control for regulation of liquid or air and other non corrosive gases.

Use with steam, air, non combustible gases or other fluids non corrosive to the brass or phos-bronze (300psi model) bellows.

Siphon loop included with the models for 10 to 300 psi ranges.
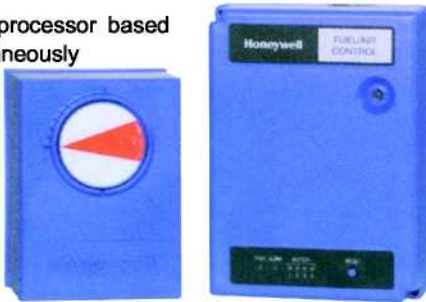
ControLinks™ Fuel Air Control System

Uses the latest microprocessor based technology to simultaneously control upto 4 actuators. ML7999 Universal parallel positioning actuators represents value-added replacement of mechanical cam and linkages Controlling relationship between fuel, air flow & fuel gas recirculation (if used) on a power burner. The ControLinks fuel air control system consist of the R7999 fuel air conroller, Q7999 wiring subbase, Ml7999 Universal parallel positioning actuators & Zm7999 configuration software.

Modutrol Motors

Modutrol IV Motors replace all present generation Modutrol motors and set new, certifiable standard for Industry.

These motors provide following features :

Dual shaft/Nema 3 housing / Higher holding torques / Improved spring return holding torque/Reduced power consumption. Add on features available: Diff Voltage models with field addable Transformer / Diff strokes, timings and control inputs [On/Off, SPDT Floating / Modulating], Diff Torque ratings as per application.

New ! Combustion Fuel Delivery System

VR400-vf

The VR400-vf is used in all condensing or non condensing premix burner applications of large capacity (150 kW to 500 kW). It consists of a VR400VA combivalve with pneumatic gas/air regulator assembled to a VMU venturi-mixing unit. The fan can be assembled directly downstream or upstream of the venturi (the fan mounted downstream maximizes the capacity of the gas valve and ensures full premixing of the gas/air mixture).

Modulation is obtained by varying the amount of airflow (usually by using a variable speed fan). The gas flow will follow the airflow in a predetermined ratio thanks to the gas/air pneumatic servo-regulator.
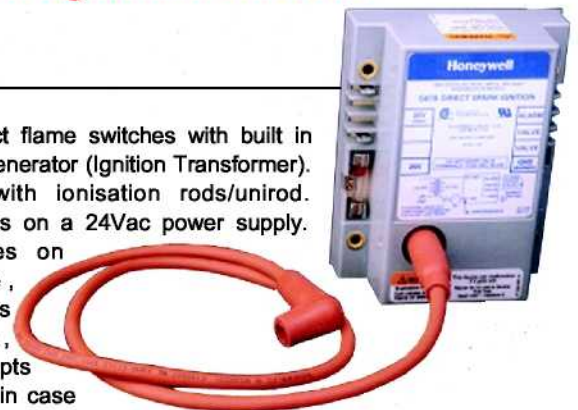
Spark Ignition Module

S87

Compact flame switches with built in spark generator (Ignition Transformer). Used with ionisation rods/unirod. Operates on a 24Vac power supply. Switches on valve, ignites spark, reattempts ignition in case of flame failure.
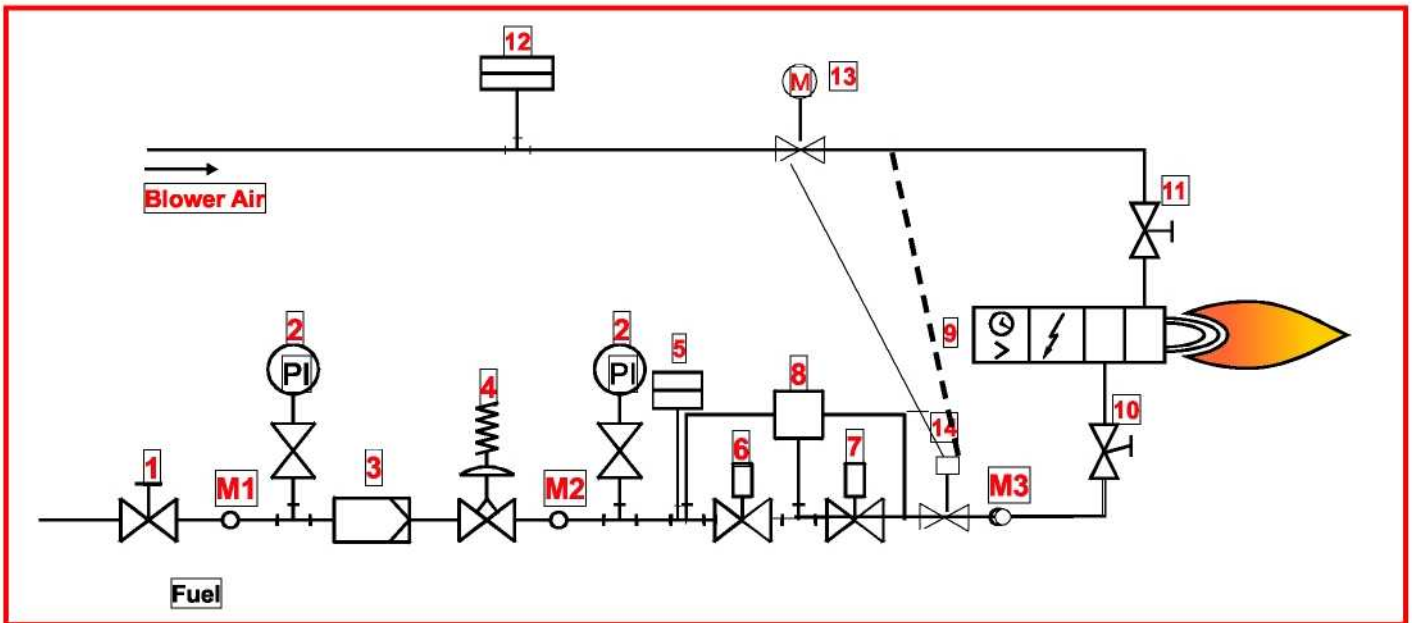
Optional 30 seconds, Pre purging time. Typically suitable for smaller batch type furnaces, Ovens, Powder coating and surface treatment ovens. Cost effective

Typical Line diagram of Single Burner Gas Train System

1. Shut off cock
2. Pressure gauge
3. Gas filter
4. Pressure regulator
5. Gas pressure switch
6. First safety shut off valve
7. Second safety shut off valve (if required)

8. Valve proving system or vent valve (if required)
9. Burner
10. Gas pressure adjustable cock
11. Air regulating sleeve
12. Air pressure switch
13. Motorised butterfly valve
14. Gas flow control

9 Regional Sales Offices

HEAD OFFICE :
PUNE:
56 & 57,
Hadapsar Industrial Estate,
Pune - 411 013 (India).
Tel : 91-20-56039400
Fax : 91-20-56039979
Email : ProductsBU@honeywell.com
Website: www.honeywellautomationindia.com

SALES AND CUSTOMER SUPPORT
OFFICES :

BANGALORE:
89,Richmond Road,
2nd floor, Fazal Manor,
Bangalore - 560 025 (India).
Tel.: 91-80-56635663
Fax : 91-80-56635664

BARODA
10,108,109,110, Arundeep Compex,
Race Course Circle (South),
Baroda - 390 007 (India).
Tel.: 91-265-2330252, 2333497
Fax : 91-265-2333498

CHENNAI :
1st Floor, Maalavika Centre,
144, Kodambakkam High Road,
Chennai - 600 034 (India).
Te.: 91-44-28255766, 28255463
Fax : 91-44-28259837

HYDERABAD :
603, 6th Floor, Saptagiri Towers,
S P Hoad, Begumpet,
Hyderabad- 500 016 (India).
Tel.: 91-40-55335925/26
Telefax : 91-40-55315975

JAMSHEDPUR:
1st Floor, Kashikunj Building,
Contractors Area, Road No 2, Bistupur,
Jamshedpur- 831 001 (India).
Tel. : 91-657-2223418
Fax : 91-657-2224415

KOLKATA :
Jindal Towers, 5th floor,
21/1A/3 Darga Road,
Kolkata - 700 017
Tel.: 91-33-22891701 to 1703
Fax : 91-33-22891700

MUMBAI :
6th floor, Solitaire Corporate Park,
Unit no. 762 & 862. 7th & 8th wing
Chakala Link Road. Andheri (East),
Mumbai - 400 069 (India).
Tel.: 91-22-28211459/6
Fax : 91-22-28211462

NEW DELHI :
917, International Trade Tower,
Nehru Place, New Delhi -110 019 (India).
Tel : 91-11-26439708, 26460146
Fax : 91-11-26466104

Regional Sales Network

N

Delhi
Indore
Baroda
Jamshedpur
Kolkata
Mumbai
Pune
Vizag
Hyderabad
Goa
Bangalore
Chennai
Kochi

■ REGIONAL SALES OFFICES
■ RESIDENTIAL SALES OFFICE

Sales and Distribution Network Map

Honeywell