

## 36J CE Gas Control Product Information

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The 36J combination gas control valve is a versatile multifunction control designed to meet the requirements for use with direct ignition systems (Direct Spark Ignition, Hot Surface Ignition).

Models include fast and slow open single and two stage valves. These valves are also convertible for natural/LP gases. All control adjustments and features, as well as the system interface-wiring panel, have been designed on the top surface of the control for simplified application and easy accessibility. The 36J gas control is designed to meet today's requirement for maximum capacity, smaller size and highly efficient gas systems.

Features include:

- Patented coaxial solenoid design.
- Inlet and optional outlet screens.
- Controlled gasket compression.
- Tamper resistant screws.
- Conveniently located optional electric on-off switch.
- Versatile mounting.
- Flanged & threaded connections.

# General Specifications

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## Standard Features

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- Inlet/Outlet screen
- Ambient temperature for -40°C to 80°C
- Mounting (Any position)
- Quiet redundant
- Electrical shut-off
- Top mounted components
- Inlet & outlet pressure tap
- Vent connection
- Quick-connect terminals (6.3mm x 0.8mm)
- Adjustable regulator(s)
- Maximum pressure (100mb)
- CE approved
- Flange mount M4 & 1/2Rp

CURRENT REQUIREMENTS	
Valve (Stages)	Voltage Frequency
Single	230/24V, 50/60 Hz
Two	230/24V, 50/60 Hz

## Optional Features

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- Ground terminal
- Natural to LP regulator selector (convertible; single stage only)
- Slow open
- Limited maximum adjustable regulator

## 1" Pressure Drop Capacity

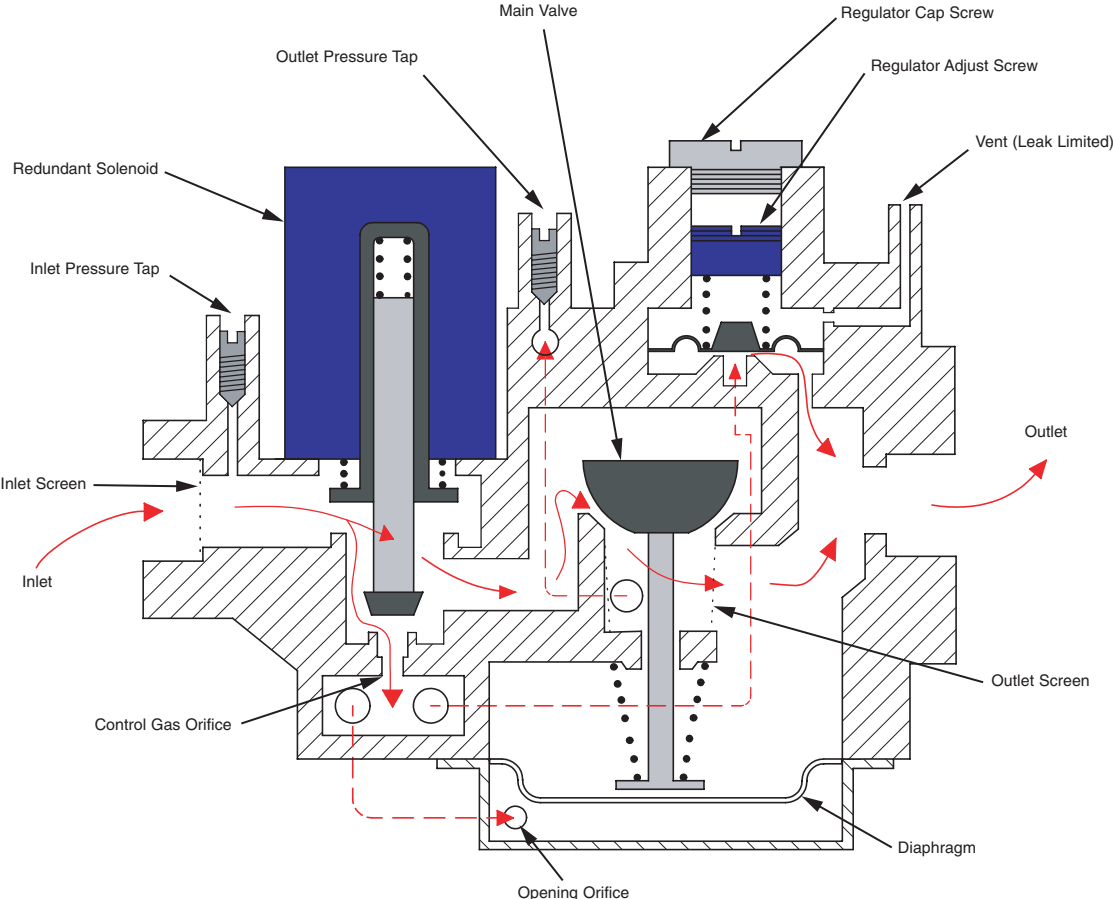
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1.0" PRESSURE DROP CAPACITY	
Pipe Sizes (NPT)	
1/2 x 1/2	110,000 BTU/HR/32kW

**50kW achievable with normal applications and outlet pressures.**

# Single Stage Model

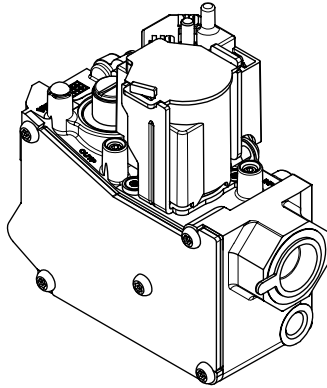
## Schematic Gas Flow Diagram



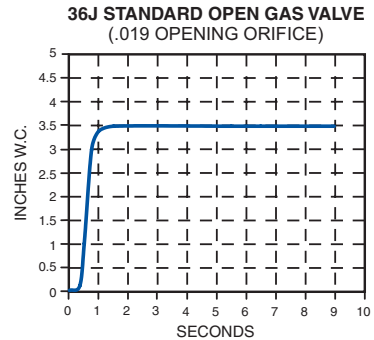
**DIAGRAM FOR ILLUSTRATION ONLY, NOT ALL DETAILS ARE INCLUDED**

# Single Stage Model - US Version

## Standard Open Control

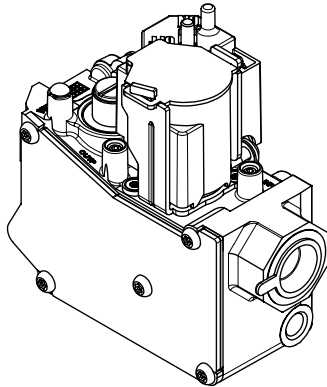


This control has a standard opening characteristic, which is suitable for a wide range of applications. It provides a fast rise to full pressure upon energizing the solenoid. Regulator LP spring conversion kits are available for this control.



NOTE: TYPICAL OPENING CURVE NATURAL GAS 100,000 BTU/HR. 7" W.C. INLET / 3.5" W.C. OUTLET

## Slow Open Control

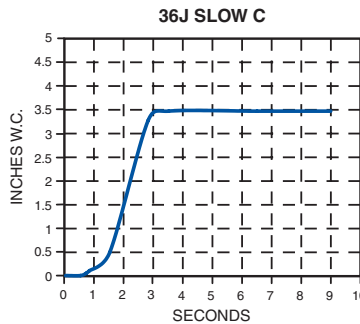
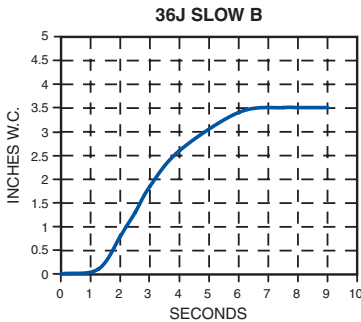


This control has a slow opening characteristic. It provides a slow increase of gas to full pressure for smoother ignition, as may be required by some applications.

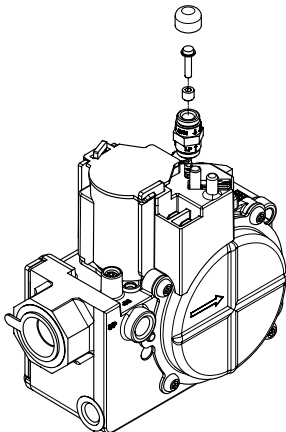
There are options available:

- B. Very Slow Opening Orifice
- C. Slow Opening Orifice
- D. Intermediate Opening Orifice

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OPENING CHARACTERISTICS WILL VARY WITH FLOW RATE AND APPLICATION.

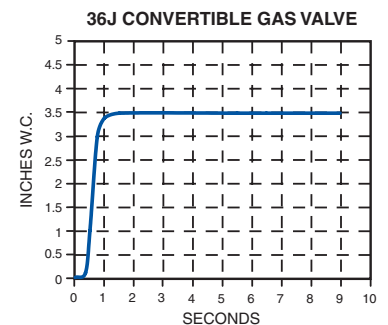


## Convertible Regulator



The convertible regulator option for this control involves a construction, which permits easy Natural to LP conversion (or vice versa) by removing, inverting and replacing the regulator cap screw. This feature easily lends itself to use in mobile homes and infra-red applications

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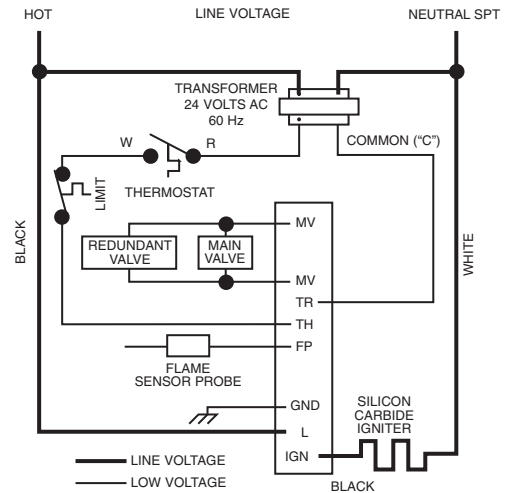


# Single Stage Model

## System Applications - Hot Surface Ignition

**HSI CONTROL.** The thermostat calls for heat and energizes the HSI control. If system is equipped with prepurge, the purge fan is energized and power will be delayed thirty seconds before application to the silicon carbide ignitor. If prepurge is not selected, the ignitor is powered within one second. The ignitor heats up and at the end of the heating period, the redundant and main valves are opened. A flame must be detected within a fixed time period or both valves close, the ignitor is turned off and the HSI control locks out unless the system is equipped with retry. Retry indicates the ignition sequence will be repeated for a total of three tries if flame is undetected or lost within 30 seconds of ignition.

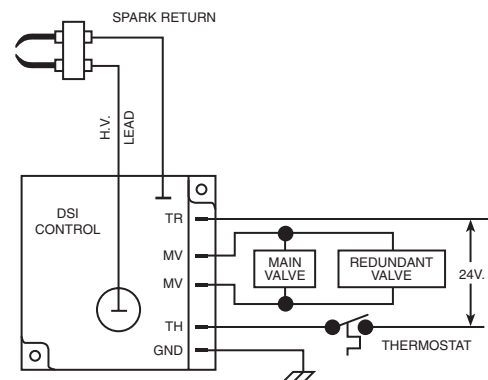
**Accessories:** HSI control, Sense Electrode, Silicon Carbide Igniter, Silicon Nitride Ignitor



## System Applications - Hot Surface Ignition

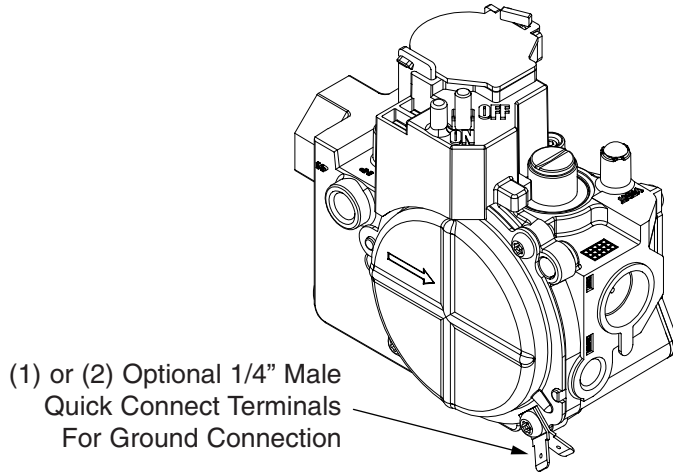
The thermostat calls for heat and simultaneously energizes the DSI control module and gas valve solenoid. Sparks at the ignition electrodes ignite the gas at the main burner. Flame is sensed through the electrodes by the flame detection circuit and shuts off the sparking. If flame is not established within a fixed time period (lock-out time) main and redundant valves close, sparking ceases and the control module locks out.

**Accessories:** DSI control, Electrodes

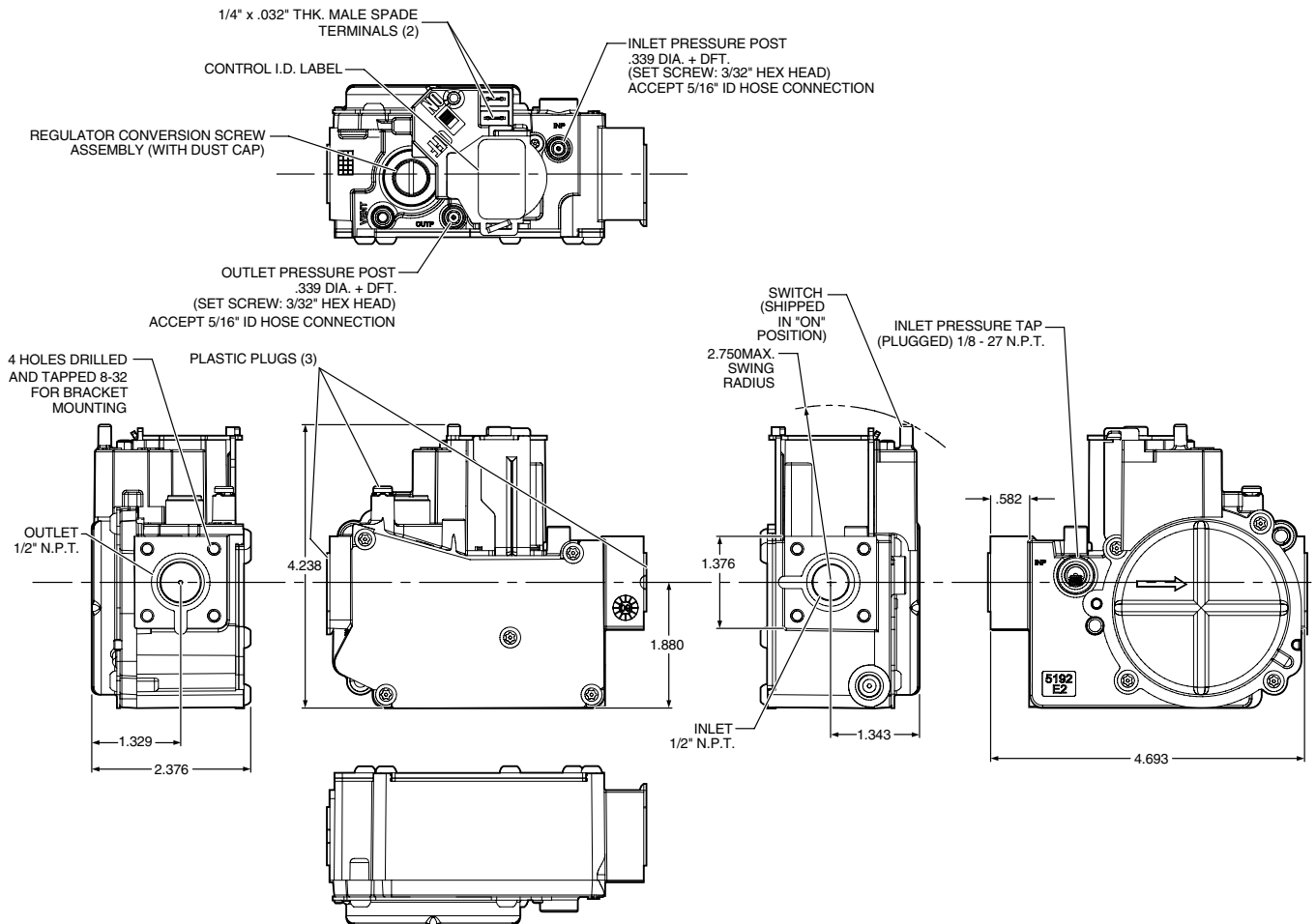


# Single Stage Model

## Electrical Connections

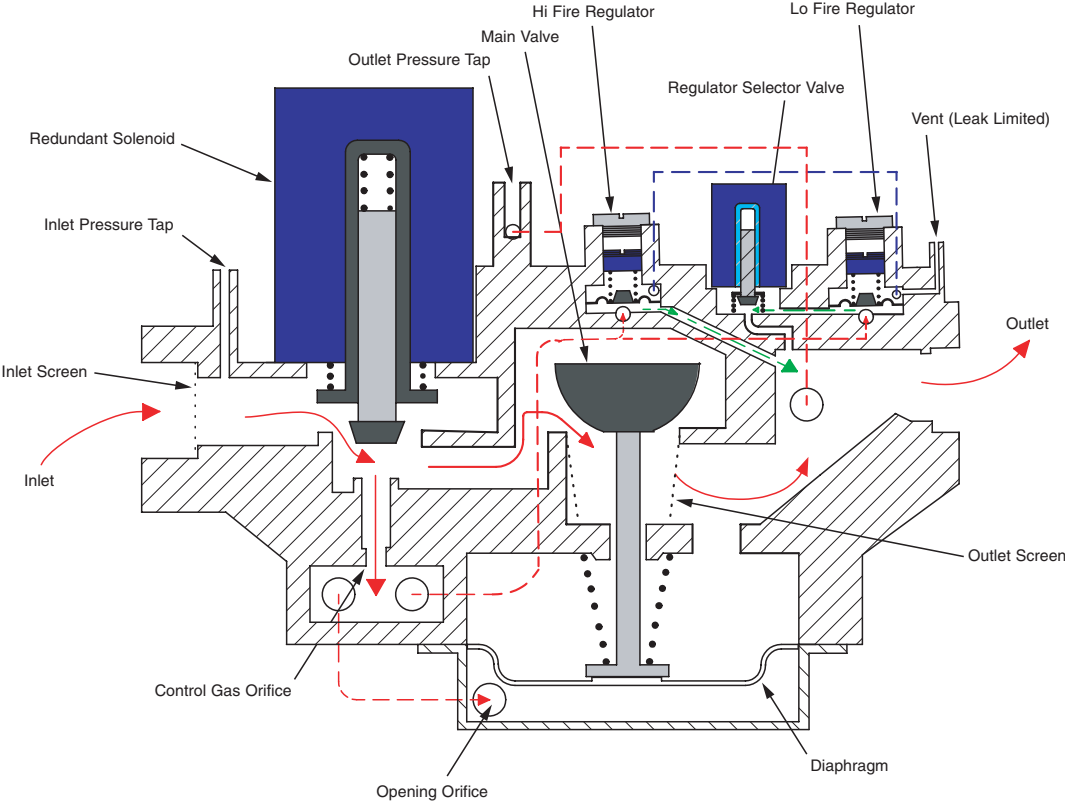


## Dimensions - 36J Standard/Slow Open Control



# Two Stage Model

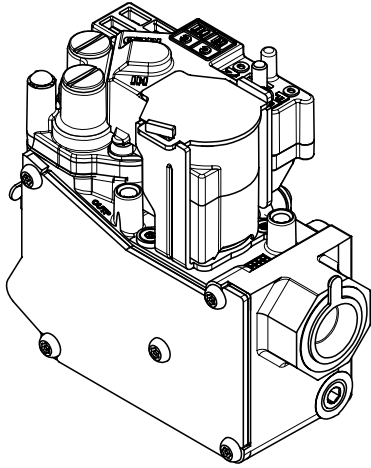
## Schematic Gas Flow Diagram



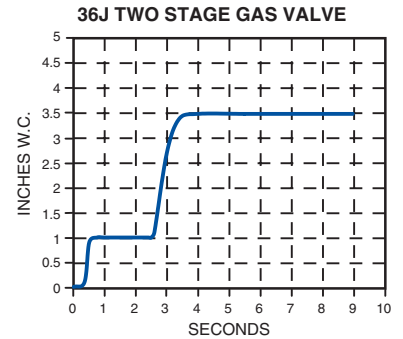
**DIAGRAM FOR ILLUSTRATION ONLY, NOT ALL DETAILS ARE INCLUDED**

# Two Stage Model - US Version

## Standard Open Control

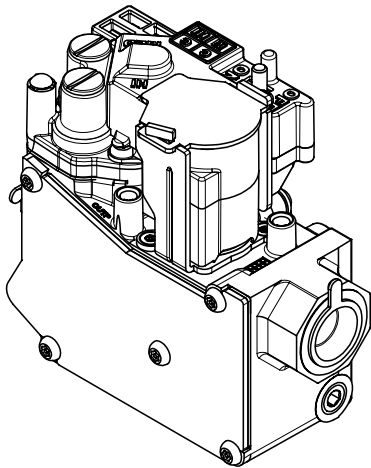


This control has dual outlet pressure levels, which is desirable for high efficiency applications. It provides a fast rise to first stage pressure upon energizing the single stage solenoid. Then, if more pressure level is required to satisfy heating requirement, energizing a second stage solenoid can attain a higher pressure level. Regulator LP spring conversion kits are available for both pressure levels on this control.

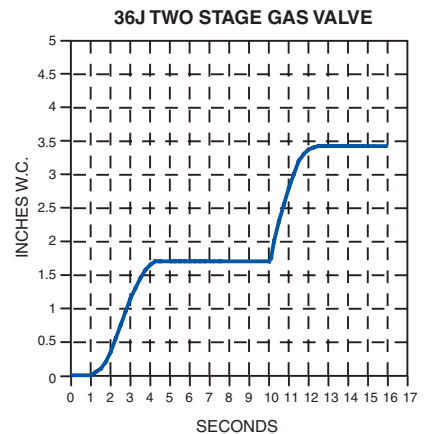


NOTE: TYPICAL OPENING CURVE NATURAL GAS  
100,000 BTU/HR. 7" W.C. INLET / 3.5" W.C. OUTLET

## Slow Open Control



This control has dual outlet pressure levels, which is desirable for high efficiency applications. It provides a slower rise to first stage pressure upon energizing the single stage solenoid. If more pressure is required to satisfy heating requirement, energizing a second stage solenoid can attain a slower rise to a higher pressure level. This slower rise condition is dependent on the size of orifice used. Regulator LP spring conversion kits for both pressure levels are available for this control.



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