

# GV30/GV30A SERIES

COMBINATION GAS CONTROL SYSTEMS  
FOR COMMERCIAL COOKING APPLIANCES

**MAXITROL®**

[www.maxitrol.com](http://www.maxitrol.com)



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ABOUT US

## APPROVALS & FUEL GASES

### CE

- Multifunctional controls for gas burning appliances group 2 according to EN 126 and Gas Appliances Regulation EU/2016/426 (GAR)
- Thermoelectric flame supervision device according to EN 125 and Gas Appliances Regulation EU/2016/426 (GAR)
- Temperature control according to EN 257
- Suitable for use with gases of EN 437 gas family 1, 2 and 3

### CSA

- Combination controls for gas appliances according to:
  - ANSI Z21.77/CSA 6.20 for U.S. and Canada
  - ANSI Z21.78/CSA 6.20 for U.S. and Canada
- Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures

▼ Available approvals:

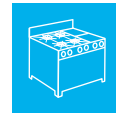


▼ On request:

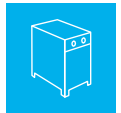


## GENERAL INFORMATION

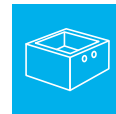
Maxitrol's GV series combination gas control valves precisely and efficiently control the pilot and the main burner of gas appliances. The GV series suits a wide range of commercial cooking appliances, including ovens, griddle plates, fryers, bain-maries, and coffee roasters. Valves can be customized to OEM specifications.



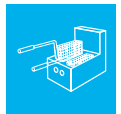
Oven



Griddle Plate



Bain-Marie



Fryer



Coffee Roaster

▲ Applications  
(additional applications may be supported upon review)

◆ GV30/GV30A valves for commercial cooking

## STANDARD FEATURES

- Compact design
- Various inlet/outlet connections for more flexibility
- Thermoelectric flame supervision device
- Min. rate setting with fixed or adjustable orifices
- Pilot gas adjustment screw
- Pilot gas filter
- Screen in gas inlet
- Easy operation
- Separate temperature knob
- Liquid filled stainless steel temperature sensor
- Optional adjustment with recalibration knob
- Outlet for 2nd burner

## KNOBS & D-STEMS

Maxitrol offers various D-stems and knobs for both the GV30 and GV30A.

The GV series can be equipped with aluminum D-stems (brass optional) allowing OEMs to use their own knobs, personalizing the appliance front. The recalibration version allows a change of the temperature setting within a defined range. The value of the temperature change is visible at the scale.



◆ D-stems



◆ Temperature knobs



◆ Operating knobs

GV30

GV30A

## TECHNICAL DATA

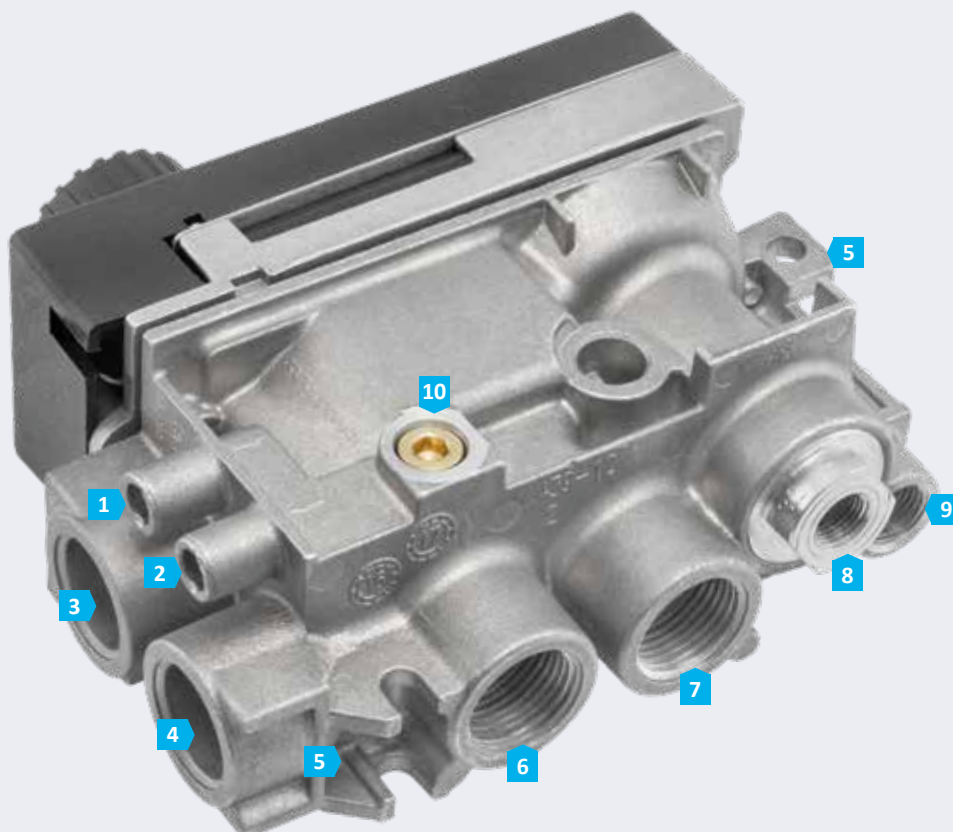
	<b>CE – Certification</b> EU/2016/426 (GAR), EN 125, EN 126	<b>CSA – Certification</b> ANSI Z21.77/CSA 6.20 + Z21.78/CSA 6.20
<b>Maximum Inlet Pressure</b>	5 kPa (50 mbar) (20" w.c.)	1/2 psi = 3.45 kPa (34.5 mbar) (14" w.c.)
<b>Pressure Drop / Capacity</b>	1.2 m³/h or 1.45 m³/h (GV30MAX) air at 0.25 kPa (2.5 mbar) pressure drop (2 m³/h air for GV30A)	65,000 BTU/hr* at 1" w.c. pressure drop (85,000 BTU/hr* at 1" w.c. for GV30A)
<b>Ambient Temperature</b> GV30/GV30A combination gas control GV30A (optional)	0 °C – 110 °C 0 °C – 120 °C (optional)	32 °F – 230 °F 32 °F – 248 °F (optional)
<b>Integral Pressure Regulator</b> (GV30 only)	Class C according to EN 88-1 adj. range 0.5 – 4 kPa (5 – 40 mbar)	10,000 to 85,000 BTU/hr* (ANSI 21.18) adj. range 3" – 12" w.c.
<b>Pipe Connection Thread</b> (various inlet/outlet combinations)	Rp ¾ (ISO 7-1/EN 10226-1)	¾" NPT

\* Natural gas (dv = 0.64; 1,000 BTU/cu.ft)

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## CONNECTIONS

Valve connections



- 1 Inlet pressure tap
- 2 Outlet pressure tap
- 3 Gas side inlet
- 4 Gas side outlet
- 5 Mounting points
- 6 Gas bottom outlet
- 7 Gas bottom inlet
- 8 Thermocouple connection
- 9 Pilot gas outlet
- 10 Min. rate setting with fixed or adjustable orifice

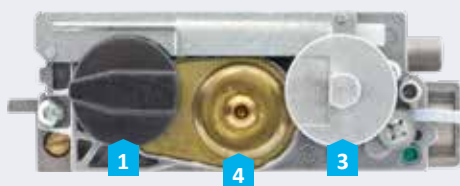
## GV30 SERIES – FEATURES & OPTIONS

### FEATURES

- Temperature control or manual operation
- Temperature sensors: various ranges between 13 °C (55.4 °F) and 340 °C (644 °F)
- Stand-by position independent of temperature setting with rotary slide valve to shut off main gas

### OPTIONS

- Microswitch for electronic igniter (9V/230V)
- Use of external ignition (piezo or match)
- D-stem for large temperature knobs
- D-stem recalibration knob
- Faceplate and large temperature knob
- Integrated piezo igniter
- Integrated pressure regulator or throttle (Throttle CE only)



◀ GV30 with D-stem and integrated piezo igniter

- 1 Operating knob
- 2 Temperature knob
- 3 D-stem
- 4 Pressure regulator



◀ GV30 with plastic knob and integrated piezo igniter



◀ GV30 with microswitch for electronic igniter



## GV30A SERIES – FEATURES & OPTIONS

### FEATURES

- Temperature control or manual operation
- Temperature sensors: various ranges between 30 °C (86 °F) and 340 °C (644 °F)
- Higher capacity flow rates: up to 30 % higher capacity (compared to GV30 series)
- Microswitch that interrupts thermocurrent circuit

### OPTIONS

- Microswitch for electronic igniter (9V/230V)
- Use of external ignition (piezo or match)
- D-stem for large temperature knobs
- D-stem recalibration knob
- Faceplate and large temperature knob
- Electronic ignition module with LED pilot flame indication



◀ GV30A manual operation

- 1 Operating knob
- 2 Temperature knob
- 3 D-stem
- 4 LED
- 5 Faceplate



◀ GV30A thermostatic operation with D-stem (Aluminum)



◀ GV30A thermostatic version with faceplate, large temperature knob and an electronic ignition module with LED pilot flame indication



## PRESSURE SWITCH

The GV30 switch closes an electrical contact when the gas reaches a set pressure. It is designed to be used in combination with Maxitrol combination gas controls.

**NOTE:** It is not a safety feature. It is the OEM's responsibility to comply with applicable certifications.

▼ *Graphic:* Pilot and main gas installation with Pressure Switch

*Photo:* Pressure Switch with thread to valve outlet (main gas) and with adapter to pipe (main gas)

### TYPICAL APPLICATIONS

#### MAIN GAS LED

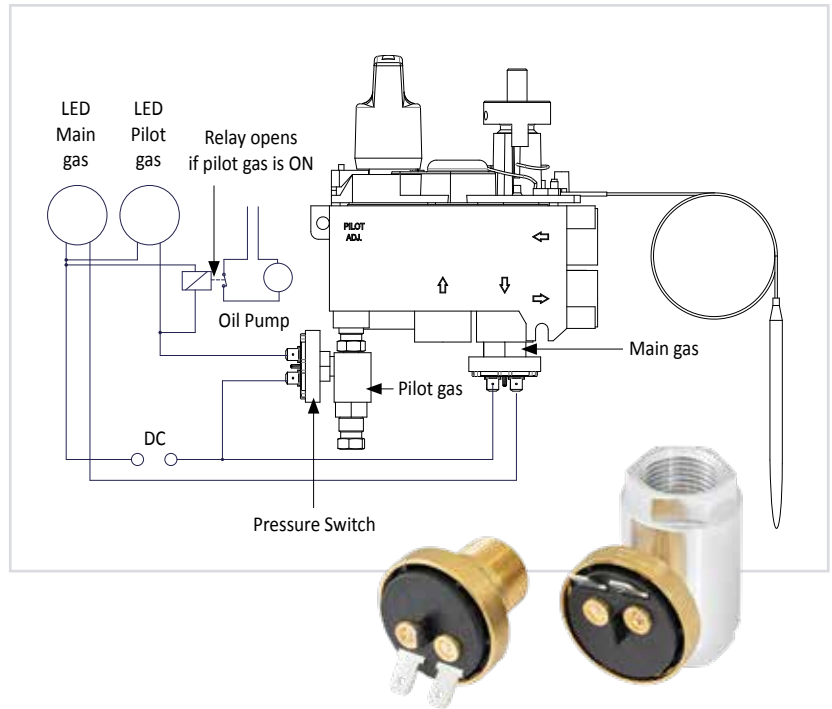
When used with the main gas outlet, the GV30-Switch can be used to turn ON an LED when the main burner is ON and to turn OFF the LED when the main burner is OFF.

#### PILOT GAS LED

When used with the pilot gas outlet, the GV30-Switch can be used to turn ON an LED when the pilot burner is ON and to turn OFF the LED when the pilot burner is OFF.

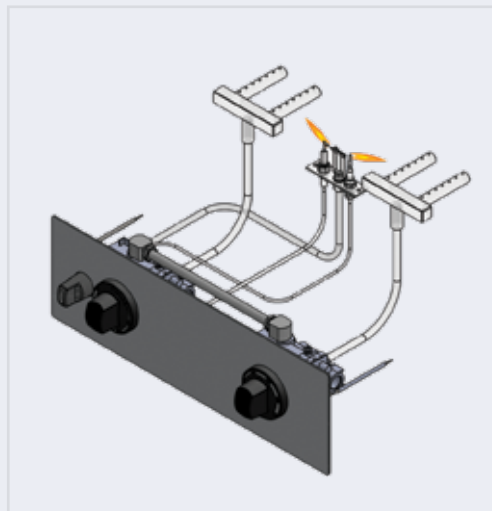
#### OIL PUMP

A normally closed relay can be wired in parallel with an LED. (e.g. If pilot gas is flowing, the relay will interrupt the power supply to the pump.)



## MECHANICAL THERMOSTAT

Maxitrol's GV30C mechanical thermostat is designed to control the temperature in a gas cooking appliance. It can be combined with a Maxitrol GV30 combination gas control in order to operate two main burners independently with one pilot burner.



◀ *Left:* GV30C Mechanical Thermostat

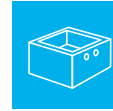
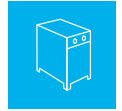
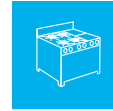
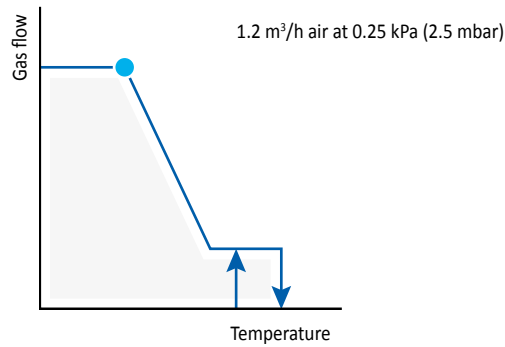
*Right:* Connection GV30 and GV30C for independent temperature control of two main burners



## GV30 AND GV30A – VALVE FUNCTION FOR MAIN GAS

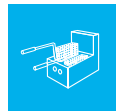
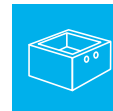
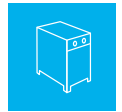
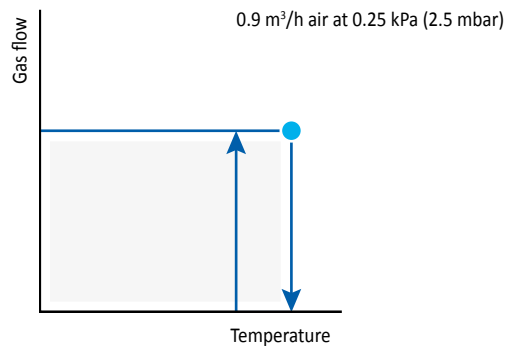
### HIGH TO LOW AND SHUT OFF

Thermostatically controlled modulating valve that maintains the set point temperature. After reaching the set point temperature, the valve supplies the amount of gas required to maintain that temperature. When low fire increases temperature above the set point, the valve will shut off gas to main burner.



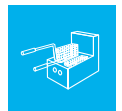
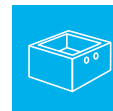
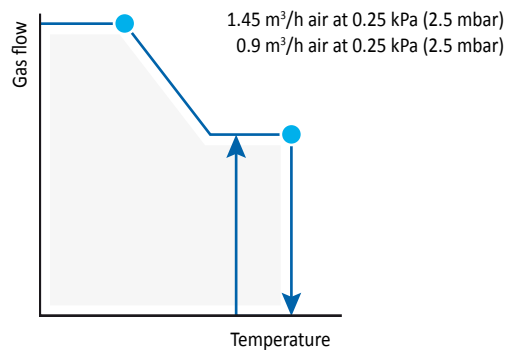
### HIGH AND SHUT OFF

Thermostatically controlled ON/OFF valve. The valve operates at maximum BTU rate until the set point temperature is reached, and then it snaps off.



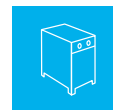
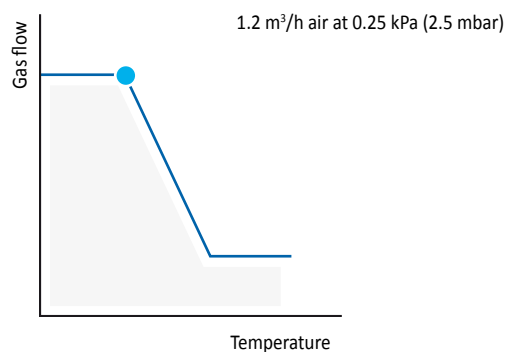
### MAX. TO HIGH AND SHUT OFF

Thermostatically controlled ON/OFF valve with additional range of modulation and increased capacity.



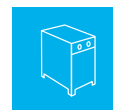
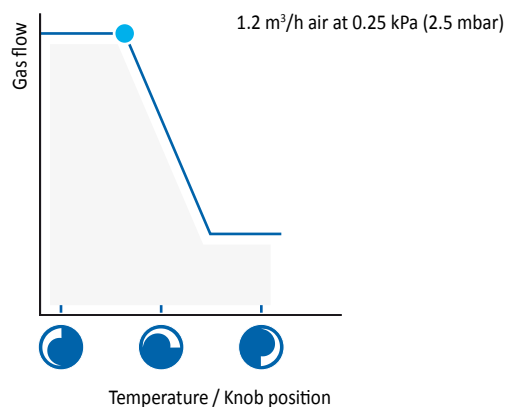
### HIGH TO LOW

After reaching the set point temperature, the thermostatically controlled valve goes to low fire without shutting off. When required, additional heat is quickly provided.



### HIGH TO LOW

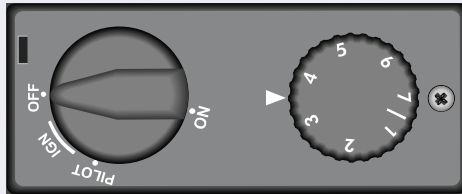
The manually operated valve is adjustable between low fire and high fire.



## GV30 SERIES – VALVE FUNCTION

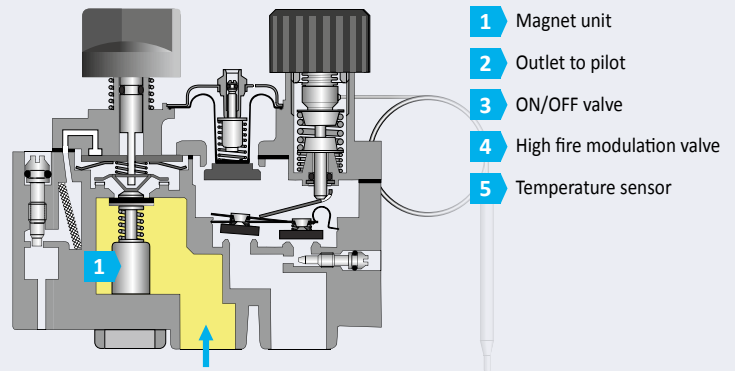
### 1. OFF

The operating knob is in OFF position. The magnet unit is closed.



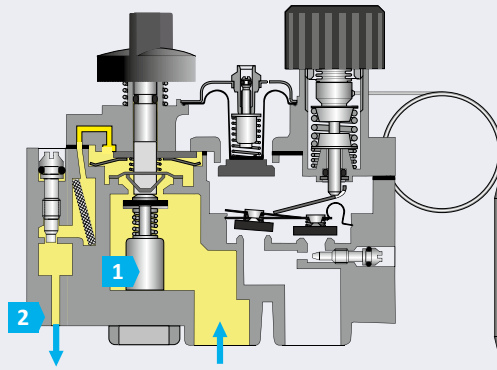
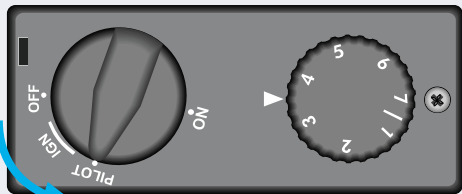
Operating Knob

Temperature Knob



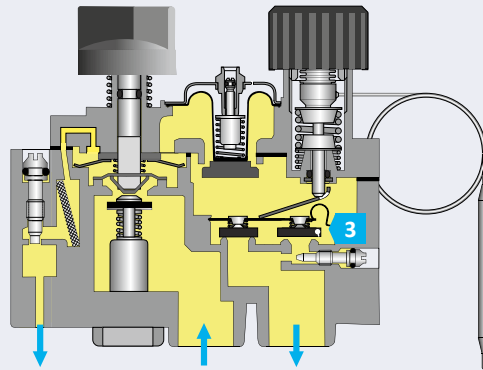
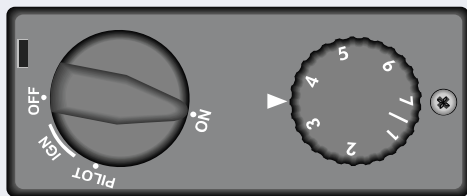
### 2. PILOT IGNITION

Turn the operating knob to IGN position; push down and hold. The magnet unit opens. Continue turning counterclockwise to pilot, creating spark to ignite pilot. Repeat sequence if pilot does not light.



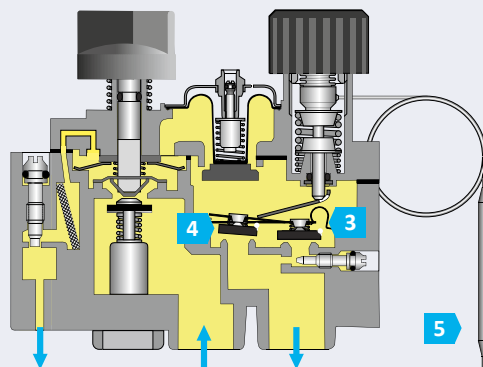
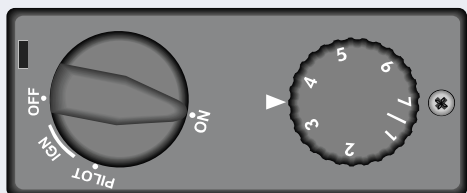
### 3. LOW FIRE OPERATION

The operating knob is in ON position. The temperature at sensor is slightly lower than the set temperature. Gas flows through the low fire ON/OFF valve.



### 4. HIGH FIRE OPERATION

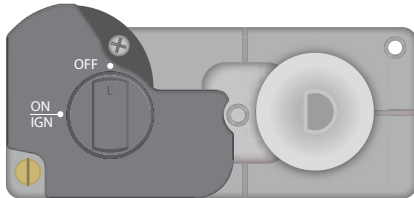
The operating knob is in ON position. The temperature at sensor is lower than the set temperature. Gas flows through the high fire modulation valve and low fire ON/OFF valve.



## GV30A SERIES – VALVE FUNCTION

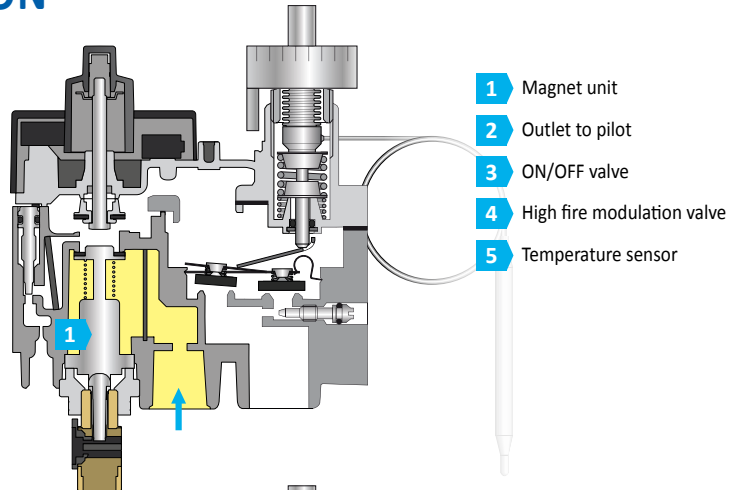
### 1. OFF

The operating knob is in OFF position. The magnet unit is closed. Main gas closed.



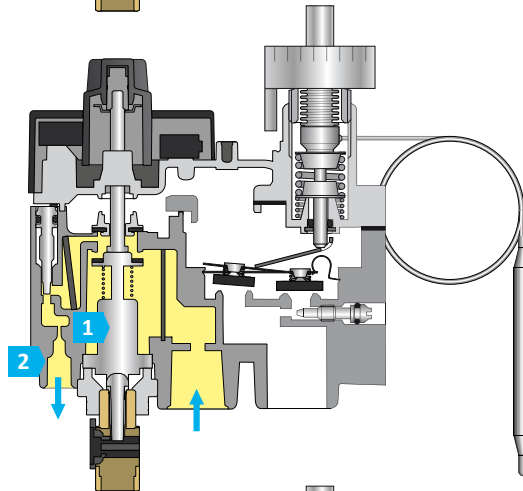
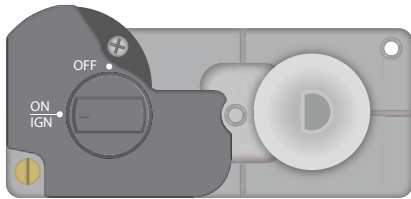
Operating Knob

Temperature Knob



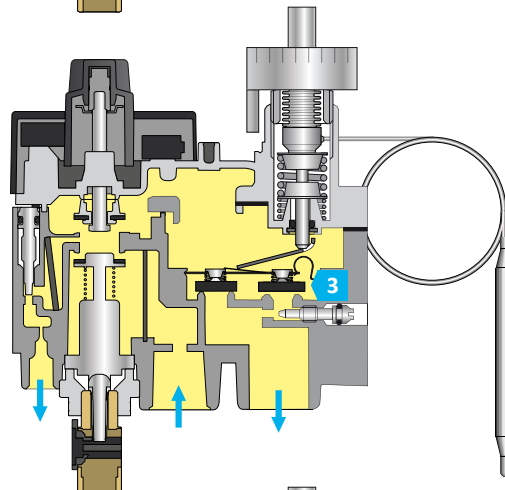
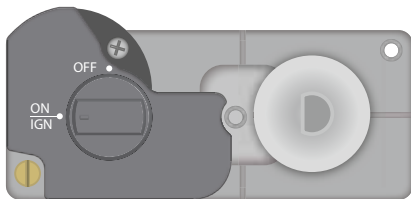
### 2. ELECTRONIC IGNITION

Turn the operating knob counterclockwise to ON/IGN position. Press down and hold to open the magnet unit. The electronic ignition to pilot starts. Either the external piezo or battery igniter can be used to start the ignition. Main gas closed.



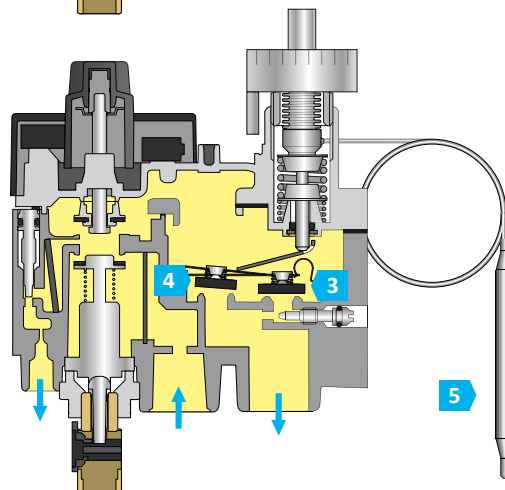
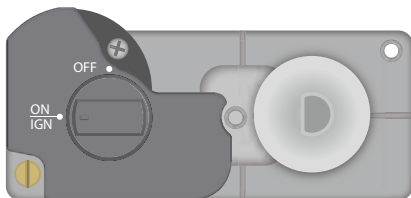
### 3. LOW FIRE OPERATION

The operating knob is in ON/IGN position. The temperature at sensor is slightly lower than the set temperature. Gas flows through the low fire ON/OFF valve.



### 4. HIGH FIRE OPERATION

The operating knob is in ON/IGN position. The temperature at sensor is lower than the set temperature. Gas flows through the high fire modulation valve and low fire ON/OFF valve.

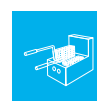
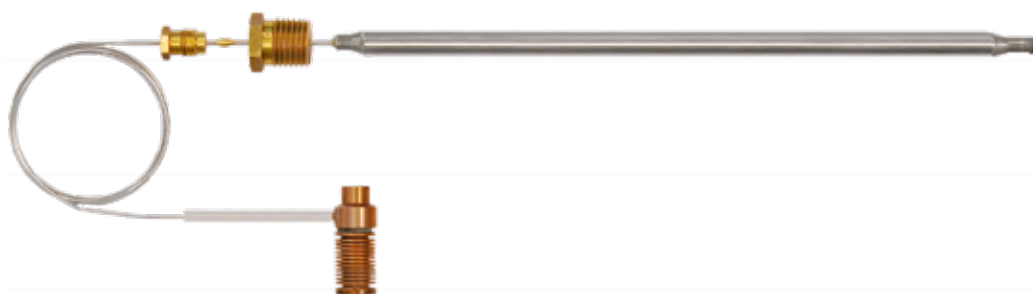


## TEMPERATURE SENSORS

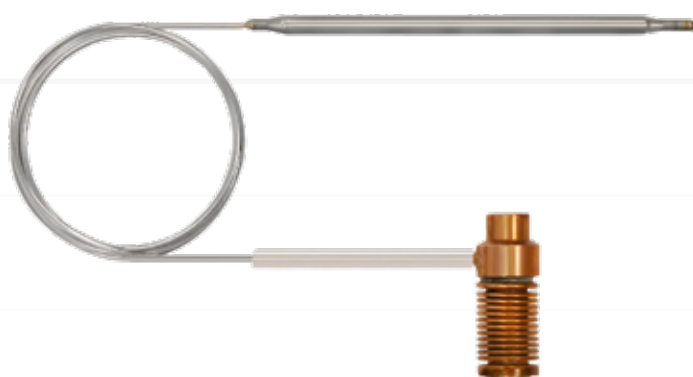
GV30 and GV30A combination gas control valves were specifically designed for commercial cooking equipment and appliances. Temperature sensors are stainless steel, and each assembly is precisely calibrated for the applications shown below.



113 mm |  $\varnothing$  6 mm  
(4.45 inch |  $\varnothing$  0.24 inch)  
Bain-Marie – L



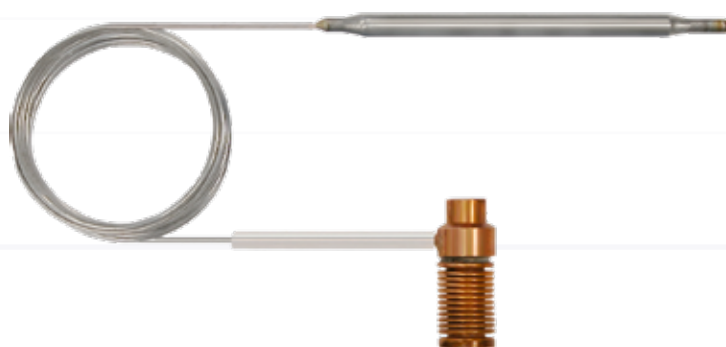
160 mm |  $\varnothing$  5 mm  
(6.30 inch |  $\varnothing$  0.20 inch)  
Fryer – Y



103 mm |  $\varnothing$  4 mm  
(4.06 inch |  $\varnothing$  0.16 inch)  
Griddle Plate – Q



87 mm |  $\varnothing$  4 mm  
(3.42 inch |  $\varnothing$  0.16 inch)  
Oven, Griddle Plate – Z



90 mm |  $\varnothing$  5 mm  
(3.50 inch |  $\varnothing$  0.20 inch)  
Oven, Griddle Plate – O

## GV SERIES SENSORS

Sensor	Application	Temperature Range		Capillary Length		Sensor Length		Sensor Diameter $\varnothing$		Sensor Material
		$^{\circ}\text{C}$	$^{\circ}\text{F}$	mm	ft	mm	inch	mm	inch	
L	Bain-Marie	30–100	86–212	1,350	4.43	113	4.45	6	0.24	stainless steel
Y	Fryer	110–190	230–374	1,100	3.61	160	6.30	5	0.20	stainless steel
Q	Griddle Plate	66–260	151–500	1,350	4.43	103	4.06	4	0.16	stainless steel
Z	Oven, Griddle Plate	100–340	212–644	1,500	4.92	87	3.42	4	0.16	stainless steel
O	Oven, Griddle Plate	90–340	194–644	1,350	4.43	90	3.50	5	0.20	stainless steel

## TEMPERATURE CONTROL CHARACTERISTICS

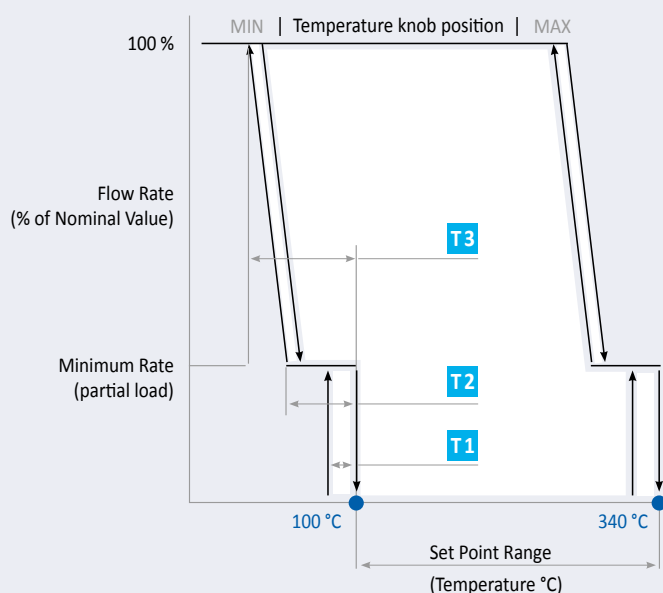
Sensor	Application	Temperature Range		T1		T2		T3		Ambient temperature influence
		$^{\circ}\text{C}$	$^{\circ}\text{F}$	$^{\circ}\text{C}$	$^{\circ}\text{F}$	$^{\circ}\text{C}$	$^{\circ}\text{F}$	$^{\circ}\text{C}$	$^{\circ}\text{F}$	
L	Bain-Marie	30–100	86–212	6	11	9	16	14	25	1:0.33
Y	Fryer	110–190	230–375	7	13	–	–	–	–	1:0.33
Q	Griddle Plate	66–260	151–500	14	25	23	41	36	65	1:0.60
Z	Oven, Griddle Plate	100–340	212–644	18	32	29	52	44	79	1:0.80
O	Oven, Griddle Plate	90–340	194–644	13	23	21	38	32	58	1:0.50

## WORKING DIAGRAM

### GV30 SERIES

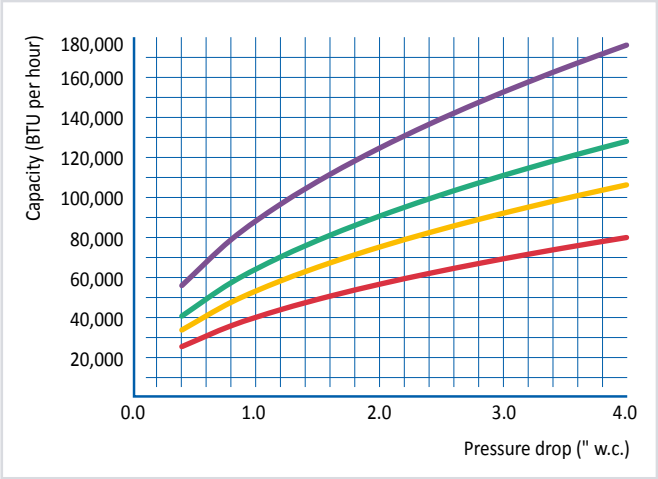
EXAMPLE FOR SET POINT RANGE (OVEN)  
100  $^{\circ}\text{C}$  to 340  $^{\circ}\text{C}$  (212  $^{\circ}\text{F}$  to 644  $^{\circ}\text{F}$ )

Thermostatically controlled modulating valves regulate the set point temperature. Once the set point temperature is reached, the valve supplies the amount of gas required to maintain temperature. When low fire increases temperature above the set point, the valve will shut off gas to main burner.

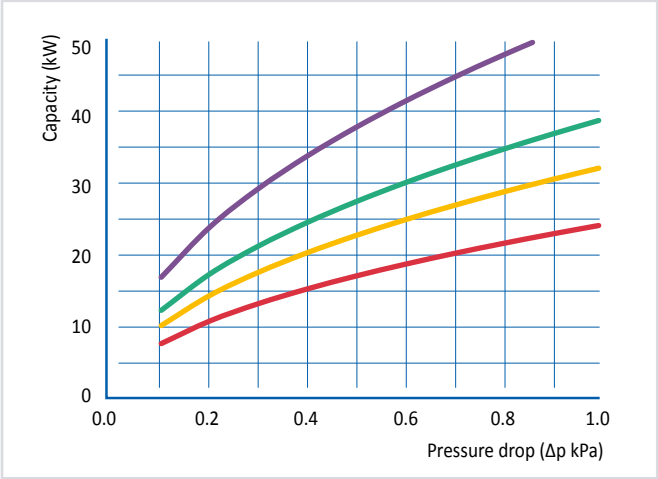


# PRESSURE DROP DIAGRAMS

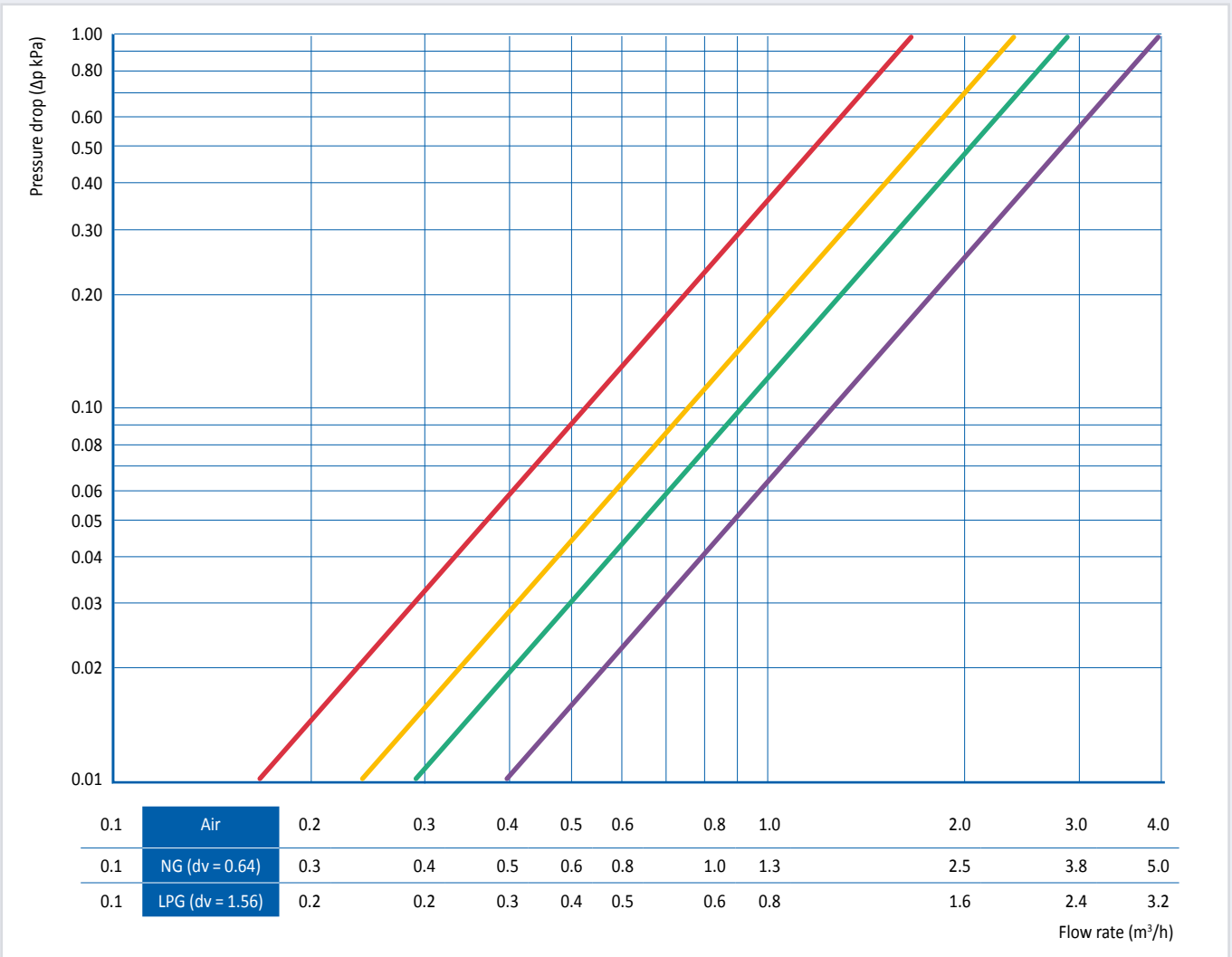
**PRESSURE DROP CAPACITY FOR NATURAL GAS**  
Density ratio of gas to air:  $\text{dv} = 0.64$  NG; 1,000 BTU/cu.ft



**PRESSURE DROP CAPACITY FOR NATURAL GAS**  
Density ratio of gas to air:  $\text{dv} = 0.55$  NG;  $\text{Hi} = 9.99$  kWh/m<sup>3</sup>



**PRESSURE DROP CHART**

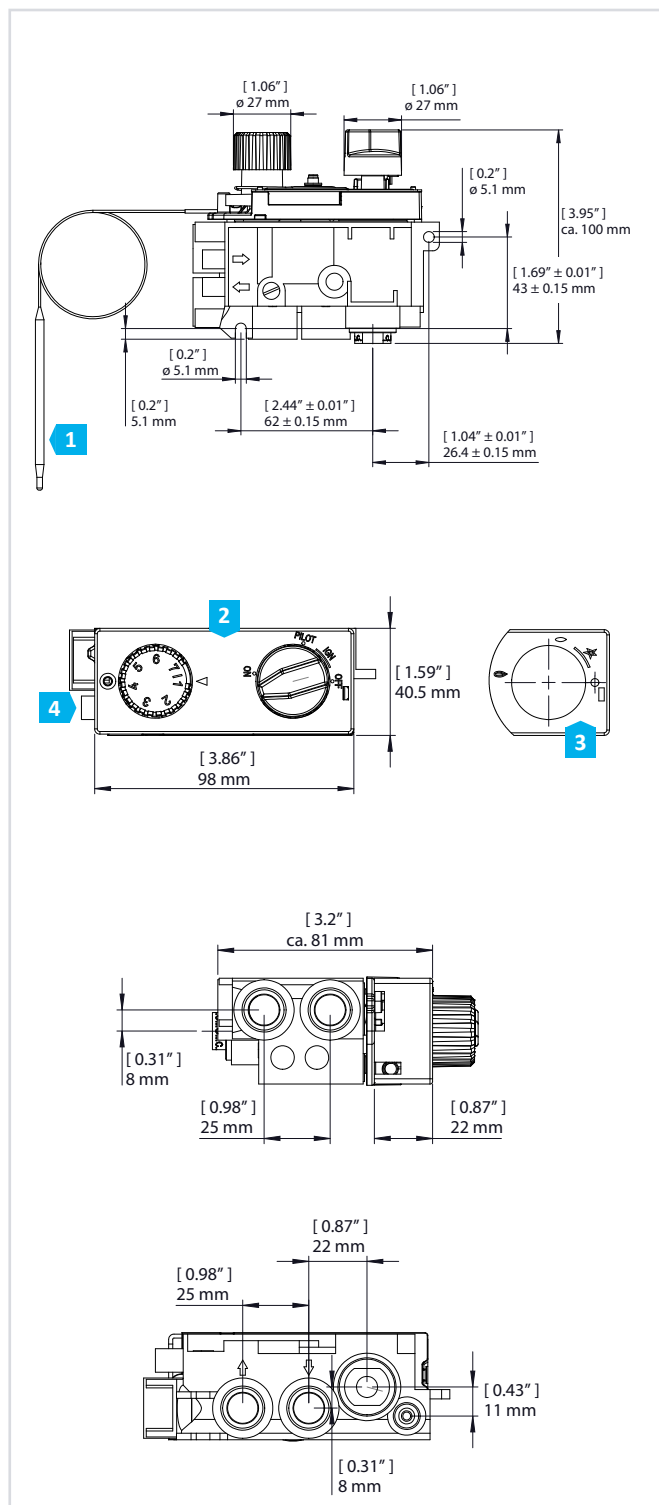




# DIMENSIONS & WEIGHTS

## GV30 SERIES

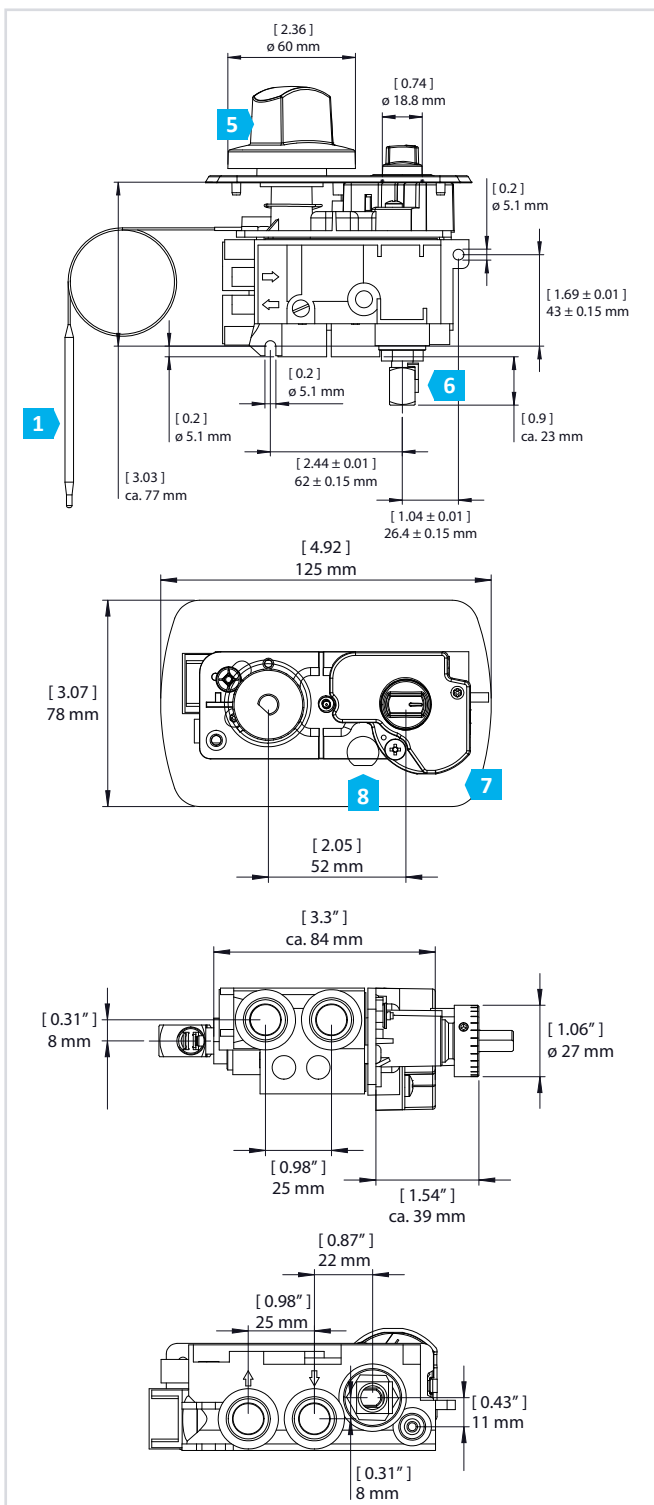
Weight approx. 420 g (15 ounces)



- 1 Temperature sensor
- 2 Cover printing US (optional)
- 3 Cover printing EU (optional)
- 4 Connection for igniter

## GV30A SERIES

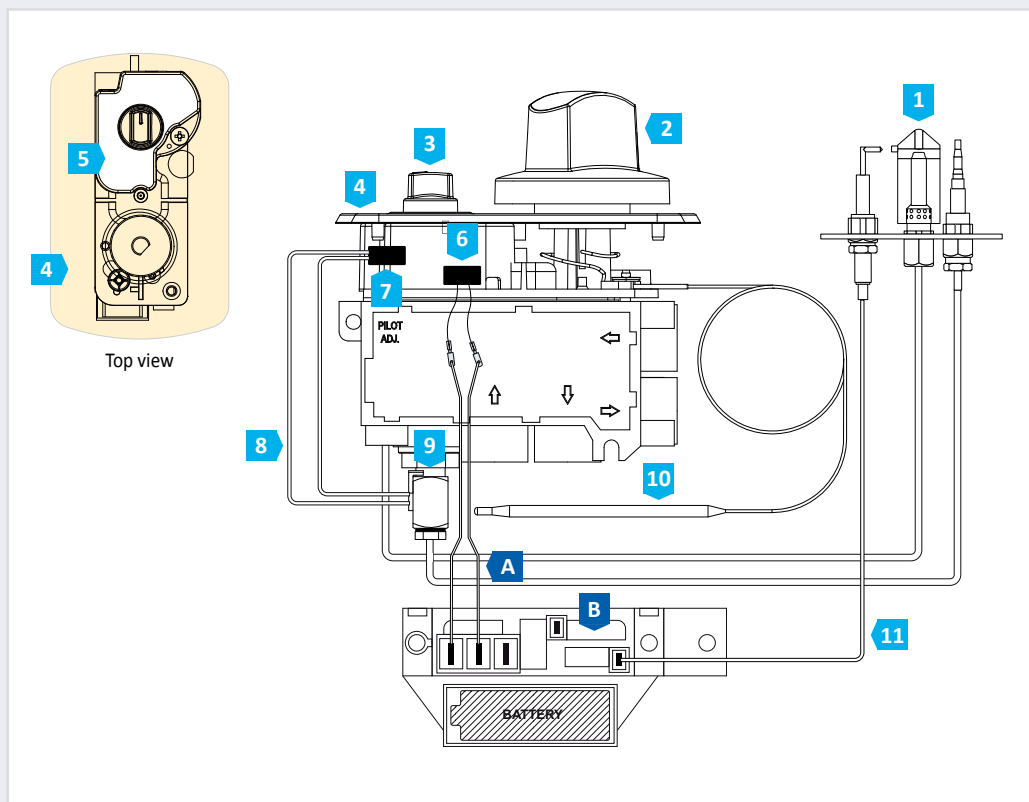
Weight approx. 490 g (17 ounces)



- 5 Temperature knob (optional, with different printing)
- 6 Interrupter block
- 7 Faceplate (optional, with different printing and opening for LED)
- 8 LED

## GV30A SERIES – COMPONENTS AND OPTIONS

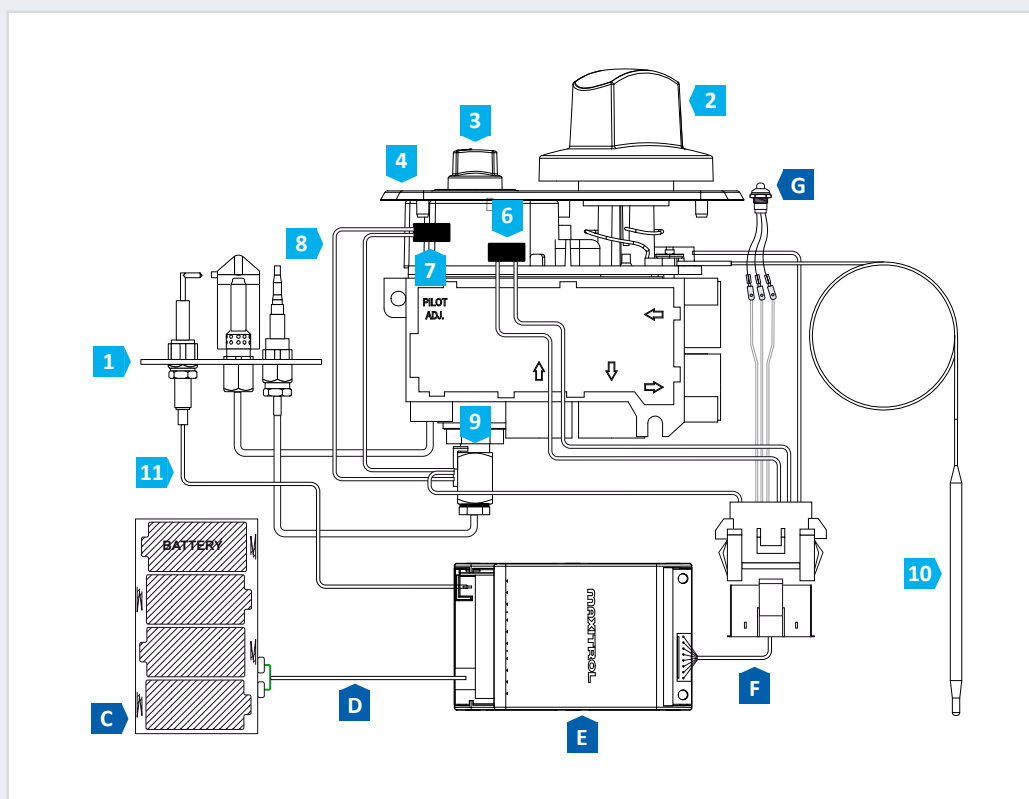
### 1) GV30A WITH PUSH BUTTON IGNITION



- 1 Pilot burner
- 2 Temperature knob (optional)
- 3 Operating knob
- 4 Faceplate
- 5 Cover
- 6 Microswitch 1 (optional)
- 7 Microswitch 2 (standard)
- 8 Interrupter cable
- 9 Interrupter block
- 10 Temperature sensor
- 11 Ignition cable (optional)

- A Cable for electronic igniter (optional)
- B Electronic igniter (optional)
- C Battery box
- D Cable for battery box
- E Electronic ignition module with LED pilot flame indication
- F 8 wire connection cable
- G Bicolor LED with cable

### 2) GV30A WITH PUSH BUTTON IGNITION and LED



## ACCESSORIES



Temperature knob  
(G30A-ZKB...)



Faceplate for GV30A  
(G30A-ZBB...)



Cover for GV30



Battery box (4x "C")  
for LED version (G30A-ZB4C)



Electronic igniter (9V)  
(G30A-ZZI)



Electronic ignition module with  
LED pilot flame indication  
(G30A-6M0B00)



8 wire connection cable  
(G6R-C...)



Cable for battery box  
(G60-ZCB(S)90/...)



Cable for electronic igniter  
(G30A-ZCI/1000)



Ignition cable for GV30A  
(G60-ZKIS...)



Ignition cable for GV30  
(G30-EZS...)



Compression fittings



Adapter and fitting for 15 mm  
inlet pipe (G30-ZAH15)



Plugs



Adjustable and fixed orifices



Interrupter block  
(G30-ZUSV...)



Interrupter block  
(G60-ZUSV...)



Thermocouple  
(G30-ZPT...)



Pilot burner (G30-ZP2M-L, EU only)  
Sealing (G30-ZPS2)  
Pilot gas fitting (G30-ZPF...)



Bicolor LED with cable  
(G30A-ZLB...)

Ø Connector	Ignition cable		Cable for electronic igniter G30A-ZCI/1000	Bicolor LED with cable G30A-ZLB...	Cable for battery box with 90° plug G60-ZCB(S)90/...	8 wire connection cable G6R-C...
	for GV30 G30-EZS...	for GV30A G60-ZKIS...				
mm (inch)	Length mm (inch)	Length mm (inch)	Length mm (inch)	Length mm (inch)	Length mm (inch)	Length mm (inch)
1.3 (0.05)	550 (21.7) 900 (35.4)	500 (19.7) 900 (35.4)				
1.6 (0.06)	425 (16.7) 550 (21.7) 800 (31.5)	350 (13.8) 500 (19.7) 900 (35.4)				
2.1 (0.08)	600 (23.6)					
2.36 (0.09)	900 (35.4)	275 (10.8) 1,500 (59.1)				
2.45 (0.10)	550 (21.7) 1,200 (47.2)					
4.0 (0.16)	550 (21.7) 900 (35.4) 1,550 (61.0)	500 (19.7) 900 (35.4) 1,200 (47.2) 1,500 (59.1)	1,000 (39.4)	120 (4.7)	500 (19.7) 1,500 (59.1) 3,000 (118.1)	350 (13.8) 500 (19.7) 1,800 (70.9)
2.8 x 0.5	300 (11.8) 550 (21.7) 900 (35.4) 1,200 (47.2) 1,800 (70.9)	350 (13.8) 500 (19.7) 900 (35.4) 1,200 (47.2) 1,500 (59.1)				
without	900 (35.4)	900 (35.4)				

## ADDITIONAL GAS CONTROL VALVES FOR COMMERCIAL COOKING

### EXA SERIES

EXA modulating gas control valves provide repeatable process control with minimal hysteresis throughout the entire range of modulation. EXA series operates with linear characteristics and high resolution over a broad range of flow rates. The new EXA iQM® can be connected to automation communication systems using the Modbus RTU protocol.



◀ EXA iQM and EXA40 (right) modulating gas control valves

### CV SERIES

The CV series are combination gas control valves with integrated pressure regulators. The CV100, CV200 and CV300 are suitable for numerous commercial cooking appliances.



◀ CV100, CV200, CV300 solenoid shut-off valves with an integrated pressure regulator

## ABOUT US

Maxitrol is a recognized international manufacturer dedicated to advancing the technology and efficiency of gas controls for today and the future.

Maxitrol's worldwide headquarters is located in Southfield, Michigan, and its European headquarters is located in Thale, Germany. The two

locations combine resources to develop and manufacture products for distribution worldwide. Over the past 10 years alone, Maxitrol Company has filed more than 60 patents in 25 countries. The companies' manufacturing facilities are located in Southeast Michigan and Thale, Germany, with regional offices in Senden, Germany, and Abercynon, UK.





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