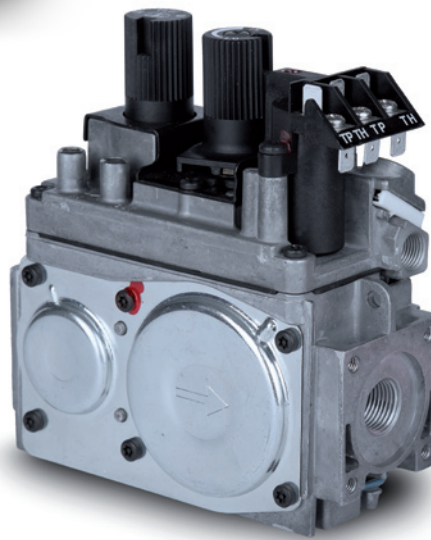


Multifunctional Control
for Gas Burning Appliances

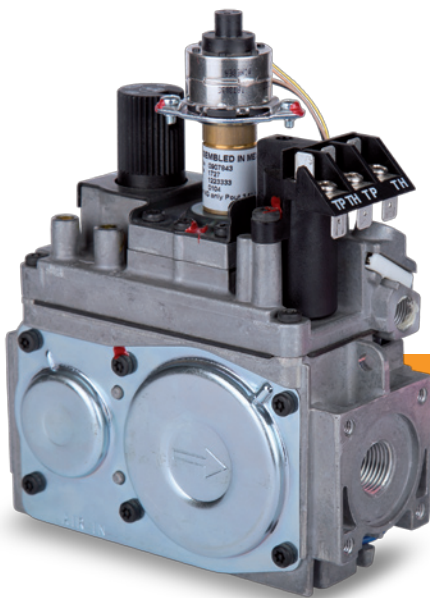
SIT 820 NOVA mV



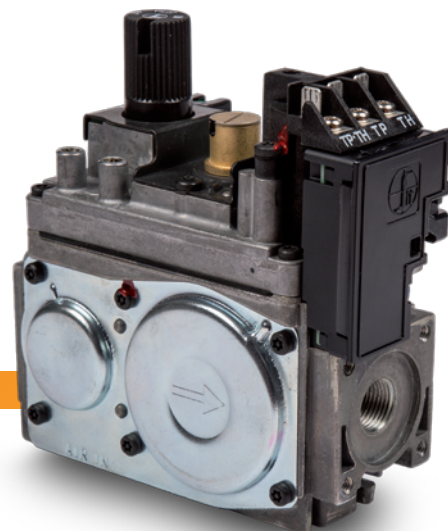
820 mV ON/OFF



820 mV Hi/Lo



829 mV



821 mV POD

Main Features

- Multifunctional control with shut-off solenoid valve powered by a thermopile: the external power supply is not required
- Thermoelectric safety device with single knob operation (OFF, pilot, ON)
- Thermoelectric flame failure device with restart interlock against improper operation
- Servo-controlled pressure regulator
- Different versions available: ON/OFF (820 mV ON/OFF), with manual adjustment knob (820 mV Hi/Lo), electrically modulated (829 mV), with Pilot on Demand device (821 mV POD)
- Conversion kits available as option to upgrade the feature directly in field

Technical Data

- Gas connections _____ Rp 1/2 ISO 7
- Installation position _____ any position
- Gas families _____ I, II and III
- Maximum gas inlet pressure _____ 60 mbar
- Outlet pressure setting range _____ 3...30 mbar
- Working temperature range _____ 0...70 °C
- Pressure regulator _____ Class B
- Automatic solenoid valve _____ Class D

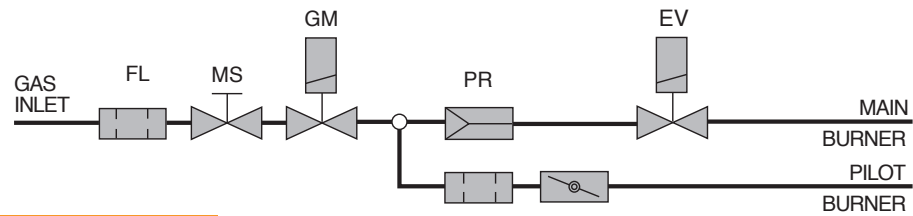
Thermopile Power Supply

- Voltage with open circuit _____ > 370 mV
- Voltage with closed circuit _____ > 145 mV
- Resistance of the coil _____ 12.2 ohm

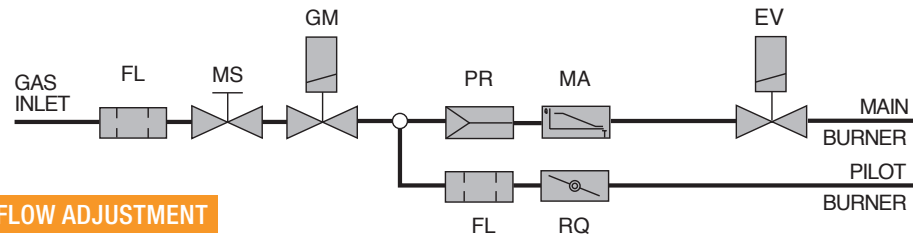
(Use two-wire thermopiles only)

Valve Description

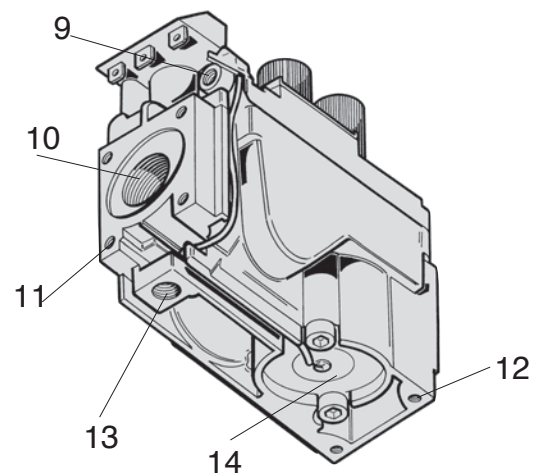
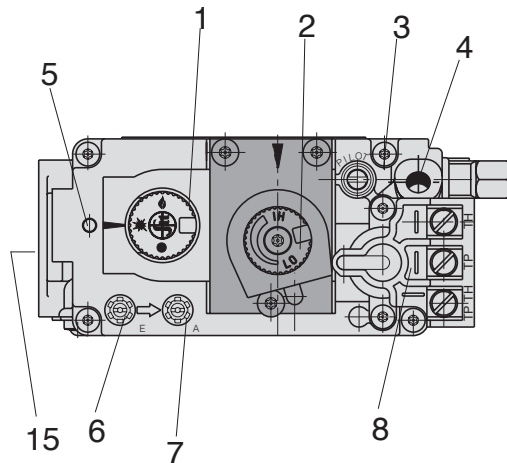
- Three position control knob: "OFF/ PILOT / ON" (MS)
- Thermo-electric flame failure device with re-start interlock (GM)
- Servo controlled Pressure Regulator (PR)
- Manual or electronic "HI/LO" adjustment (optional) (MA)
- Millivolt Operator (EV)
- Pilot outlet with flow adjustment screw (RQ)
- Inlet and pilot filters (FL)
- Inlet and outlet pressure test ports



VERSIONS WITH ON/OFF SETUP



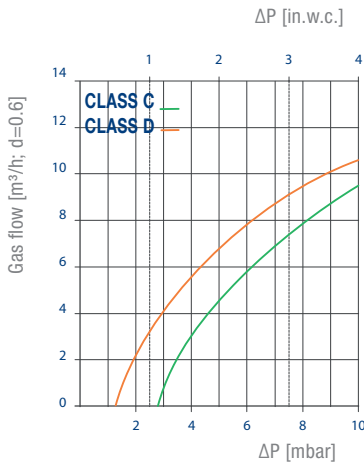
VERSIONS WITH MANUAL FLOW ADJUSTMENT



- 1 ON/PILOT/OFF Knob
- 2 Manual HI-LO adjustment or pressure regulator adjustment
- 3 Pilot adjustment
- 4 Thermocouple connection
- 5 Mounting for piezo & bracket
- 6 Inlet pressure test point
- 7 Outlet pressure test point
- 8 Main operator

- 9 Pilot outlet
- 10 Main gas outlet
- 11 Flange mounting screw holes
- 12 Additional valve mounting holes
- 13 Alternative TC connection point
- 14 Thermoelectric unit
- 15 Inlet

Regulated Flow Rate

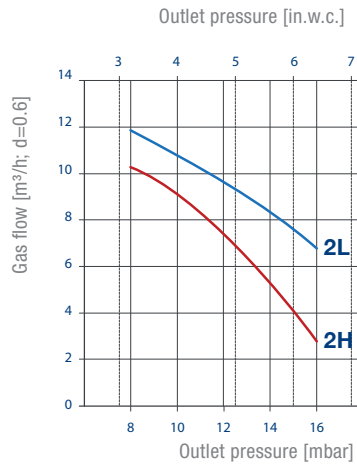


CLASS D

| | | | |
|------------|------------|---------------------------|-------------|
| I Family | (d = 0.45) | Q = 7.5 m ³ /h | Δp = 5 mbar |
| II Family | (d = 0.6) | Q = 6.5 m ³ /h | Δp = 5 mbar |
| III Family | (d = 1.7) | Q = 8.1 kg/h | Δp = 5 mbar |

CLASS C

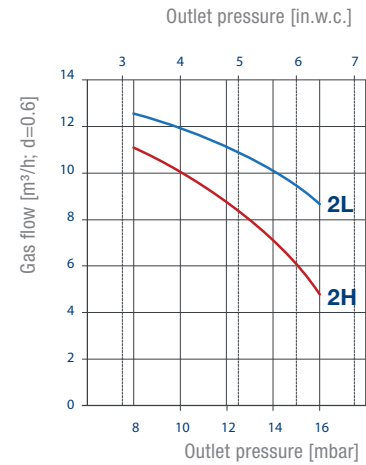
| | | | |
|------------|------------|---------------------------|-------------|
| I Family | (d = 0.45) | Q = 5.3 m ³ /h | Δp = 5 mbar |
| II Family | (d = 0.6) | Q = 4.6 m ³ /h | Δp = 5 mbar |
| III Family | (d = 1.7) | Q = 5.8 kg/h | Δp = 5 mbar |



CLASS C

| Gas type | Inlet pressure range | | |
|----------|----------------------|------|------|
| | Nominal | Max. | Min. |
| 2H | 20 | 25 | 17 |
| 2L | 25 | 30 | 20 |

Outlet pressure tolerance +10%...-15%



CLASS D

| Gas type | Inlet pressure range | | |
|----------|----------------------|------|------|
| | Nominal | Max. | Min. |
| 2H | 20 | 25 | 17 |
| 2L | 25 | 30 | 20 |

Outlet pressure tolerance +10%...-15%

Valve Functional Description

Pilot flame ignition

Depress and turn the control knob to the pilot position .
 Depress the button and ignite the pilot flame while keeping the knob fully depressed for a few seconds (fig. 1).
 Release the knob and check that the pilot flame stays lit. If it goes out, repeat the ignition operation.

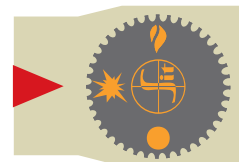


fig. 1

Main burner ignition

Depress and turn the control knob to the “on” position (fig. 2).
 When the automatic solenoid valve is energized, gas passage to the main burner is opened.
 Valves with step ignition devices reach the maximum flow after about 10 seconds.

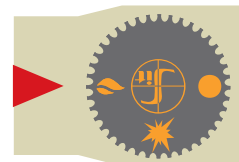


fig. 2

Pilot position

To keep the main burner closed and the pilot flame lit, depress and turn the control knob to the pilot position .

Turning off

Depress and turn the control knob to the “off” position (fig. 3).

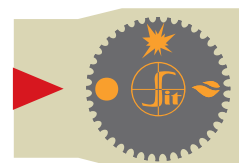


fig. 3

Caution: the restart interlock device prevents ignition of the appliance until the flame failure device has stopped gas flow. At the end of this period (after closing the magnet unit) it is possible to carry out the re-ignition operation.

Installation

Main gas connection

The connection is made using gas pipes with Rp 1/2 ISO 7 threading. Torque: 25 Nm.

If, alternatively, flanges (available on request) are used, first screw the pipes onto the flanges and then the flanges to the valve. Recommended torque for the flange fixing screws: 3 Nm.

Connection to the pilot burner

Pipes with \varnothing 4 mm, \varnothing 6 mm or \varnothing 1/4 can be used. Use a nut and olive of appropriate dimensions. Tighten the nut to 7 Nm torque.

Connection to the combustion chamber

Pressure regulator / combustion chamber compensation is possible when the latter is pressurized.

Use the special SIT hose connectors for this purpose. Torque: 1 Nm.

Electrical connections

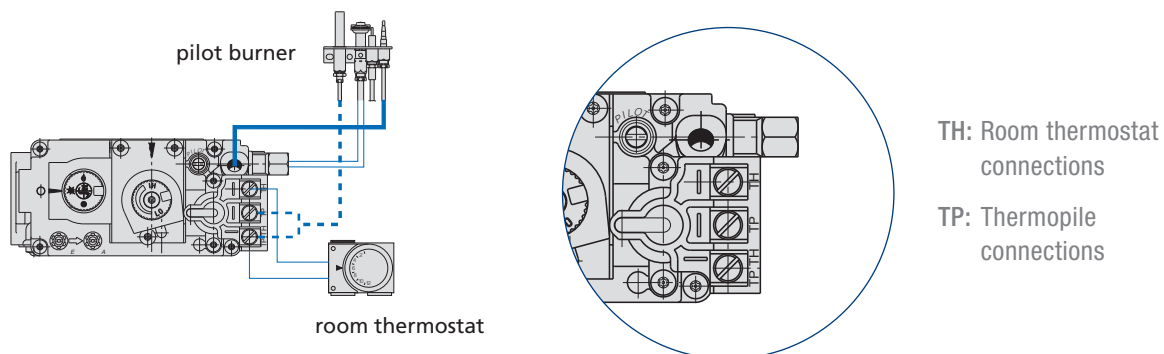
Use the special connectors for connection to the thermopile and to the thermostat.

Make the connections in accordance with the plan below and in accordance with the rules for the appliance.

The electrical safety cut-off devices (for example, the flame failure device, limit thermostat, and the like) must cut off the power supply to the thermoelectric circuit of the safety magnet unit.

Caution: after making the connections, check gas tightness.

Wiring Diagram



821 Nova mV POD

The 820 Nova Millivolt Pilot-On-Demand version combination gas control is an On/Off gas valve suitable for use with gas fireplaces, gas log sets, gas space heaters and other gas heating equipment.

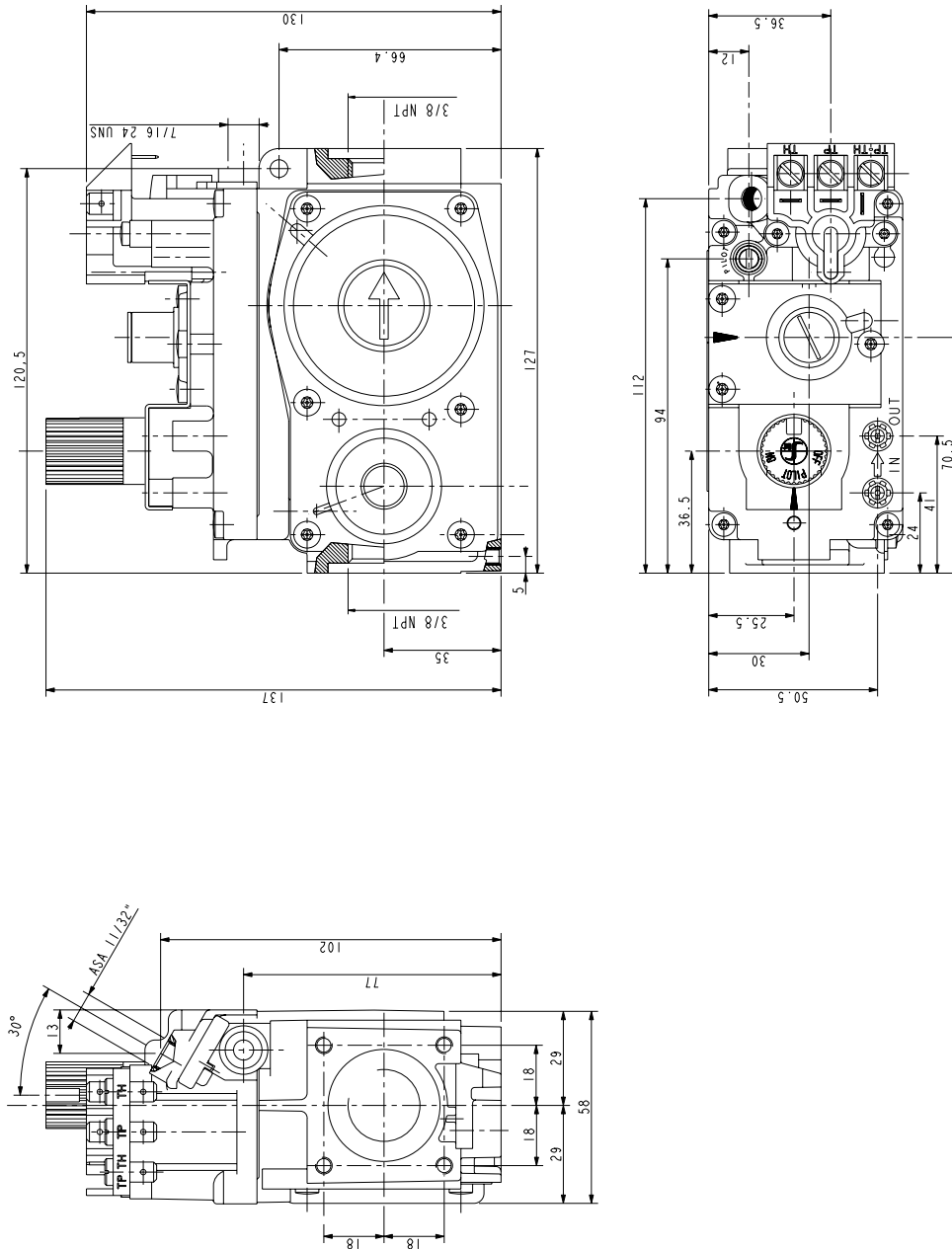
Millivolt control permits complete regulation of the appliance, without requiring main supply voltage.

Millivolt Pilot-On-Demand version is typically used in direct-vent applications where the main operator is powered by a thermo-generator and the safety valve is powered by a thermocouple with 11/32" thermocouple connection to the safety magnet but with an electronic card for pilot shutdown after 7 days of the appliance not being turned on.



Valve Dimensional Drawing

820 Nova mV ON/OFF

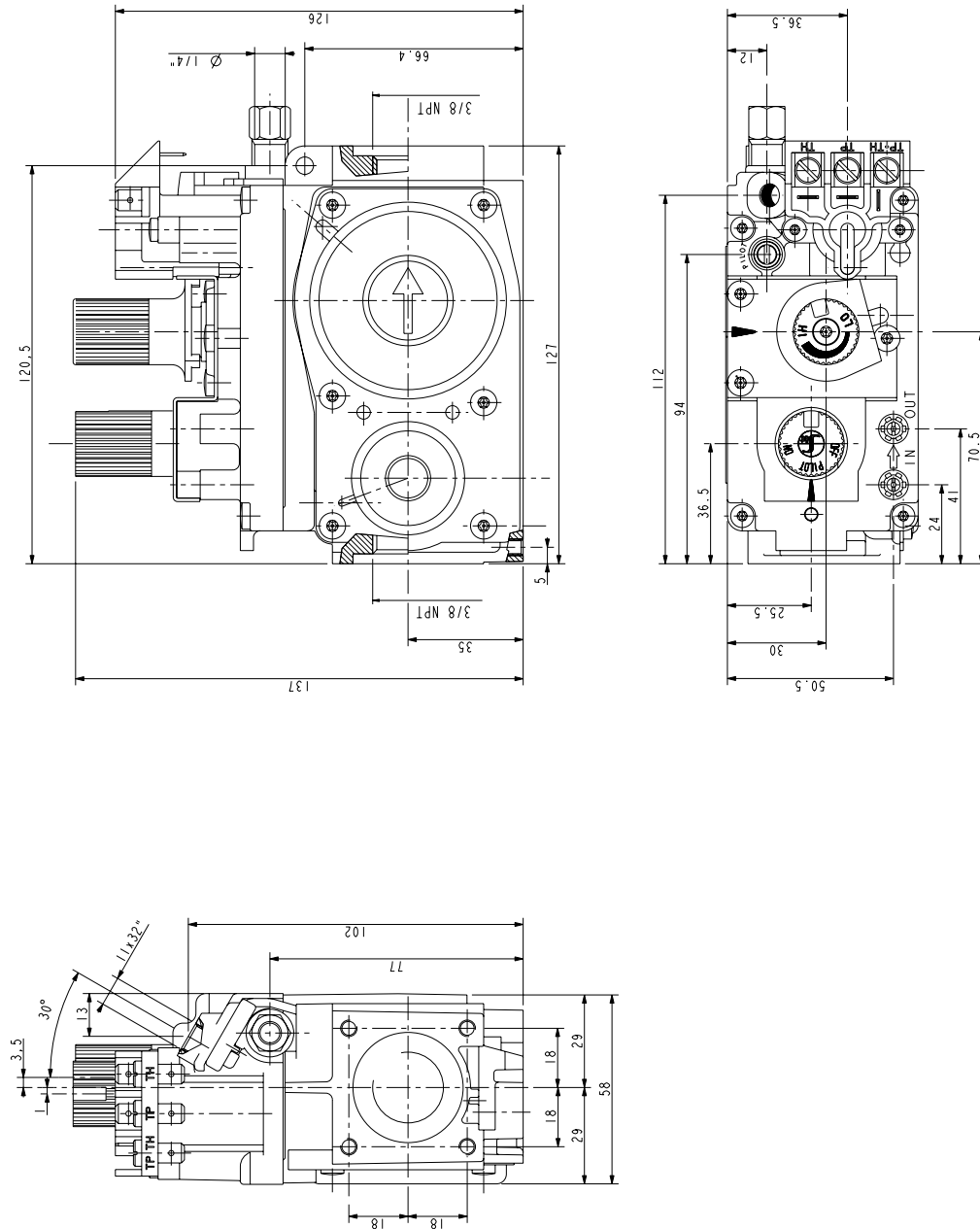


NOTE: ALL THE DIMENSIONS ARE EXPRESSED IN MILLIMETERS (INCHES)



Valve Dimensional Drawing

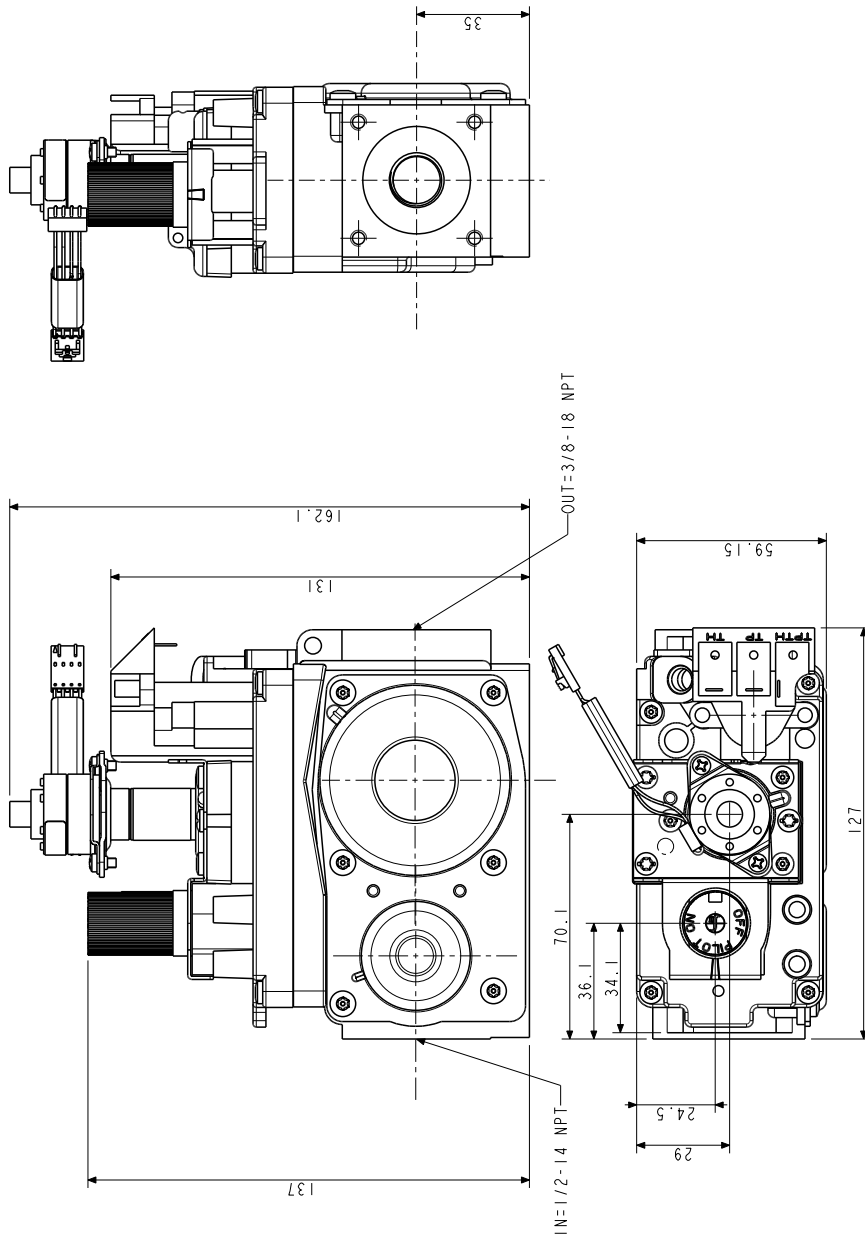
820 Nova mV Hi/Lo



NOTE: ALL THE DIMENSIONS ARE EXPRESSED IN MILLIMETERS (INCHES)

Valve Dimensional Drawing

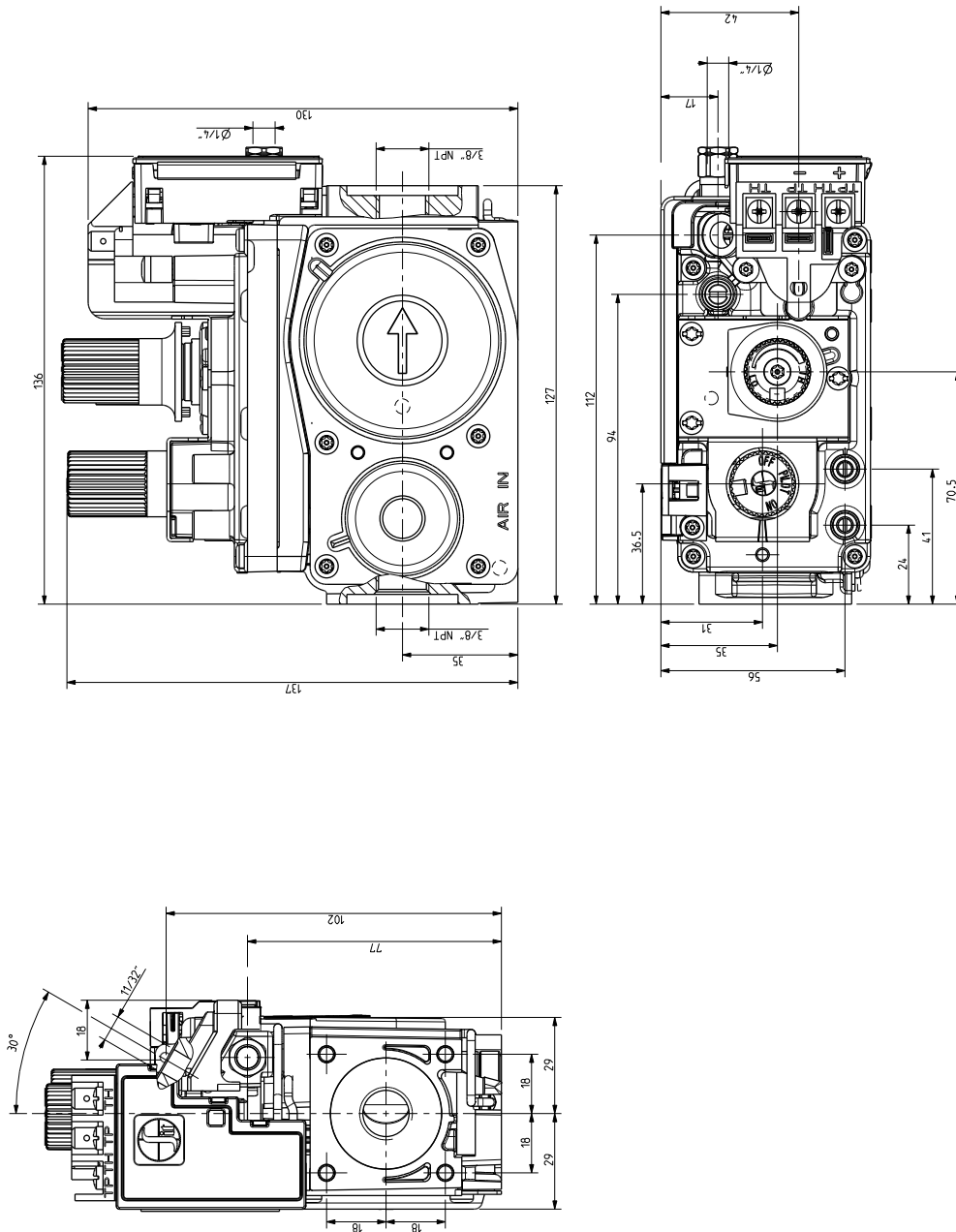
829 Nova mV Modulating



NOTE: ALL THE DIMENSIONS ARE EXPRESSED IN MILLIMETERS (INCHES)

Valve Dimensional Drawing

821 Nova mV POD Hi/Lo



NOTE: ALL THE DIMENSIONS ARE EXPRESSED IN MILLIMETERS (INCHES)



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