Gas Actuated Thermometer Model M201

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Magwell Model M201 Series Gas Actuated Thermometer is a temperature measurement device. It converts the media's temperature into mechanical displacement caused by the variation in volume or pressure of inert gas, which is filled in the bulb. As the temperature changes, the density of the gas changes thereby increasing the pressure, which can be read on a dial. By adding a capillary, the dial can be mounted remotely from the measurement location. Gas Actuated Thermometers are normally installed within a Thermowell. Gas Actuated thermometers are normally used for very High or Low temperature measurement. These thermometers are known for Accuracy, Repeatability, Reliability and Safety.

Standard Features

- SS 316L Case and Bayonet Ring
- Adjustable Micro Pointer
- Fast Response
- Shatter Proof Safety Glass
- Silicone filled to reduce Pointer Flutter
- Design Standard EN 13190,
- Weather Protection IP 66 / IP67

Applications

- Offshore Oil Rigs & Platforms
- Chemical & Petrochemical Plants
- Power & Utility
- Water & Waste Water Treatment Facilities
- Chemical Injections Skids
- Food & Beverage
- Pharmaceutical
- Other Critical Process Industries

Specification

Design Standard :	EN 13190
Dial Sizes :	4", 4.5", 5" & 6"
Accuracy :	± 1.0% of Span
Ambient Temperature :	-40 / +65° C
Range :	-40°C to 600°C
Bulb/Stem length :	55 mm to 1000 mm
Stem Diameter :	6mm, 8mm, 10mm
Capillary length :	100 to 4,000mm, other lengths on request
Case & Bayonet Material :	SS 316L
Movement :	AISI 304 SS
Connection :	1/2" NPT Adjustable Union, 1/2" NPT
Dial :	Aluminium, Black Graduation on White Background
Pointer :	Micro-Zero adjustable, Aluminum, Black Powder Coated
Gaskets, Blow out Disc & Filling Plug :	Neoprene / NBR
Window :	Shatterproof Safety Glass
Ingress Protection :	IP66 / IP67
Fill Fluid Options :	Silicon Oil
Units :	°C, °F, Dual Scale

Note

Thermowells should be used whenever the stem would be exposed to pressure, corrosion, velocity, abrasion or shear forces. The temperature sensor is inserted in the open end of the thermowell and typically spring-loaded to ensure that the outside tip of the temperature sensor is in metal to metal contact with the inside tip of the thermowell. Thermowells also make it possible to remove the thermometer without losing pressure or the contents of the process.

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Model Selection Guide

Description	Coding
Dial	**1**
4” / 100 mm	**100**
4.5” / 115 mm	**115**
6” / 160 mm	**160**
Model	**2**
M201 - Magwell Gas Actuated Thermometer	**M201**
Bulb / Stem Diameter	**3**
6 mm	**6**
8 mm	**8**
10 mm	**10**
Mounting / Connection Orientation	**4**
Bottom Connection	**BT**
Center Back	**CB**
Center Back Any Angle	**EA**
Process Connection	**5**
1/4" NPT (M)	**2MN**
1/4" BSP (M)	**2MB**
1/2" NPT (M)	**4MN**
1/2” BSP (M)	**4MB**
3/8" NPT (M)	**3MN**
3/8" BSP (M)	**3MB**
1/2" Adjustable Union	**2AU**

Description	Coding
Case Filling	**6**
Dry Case	**D**
Silicone Filled	**S**
Type of Capillary	**7**
Rigid Stem	**RS**
SS Armoured Capillary	**SC**
SS Armoured Capillary with PVC Sheath	**SP**
Bulb / Stem length	**8**
Please specify the Stem length in mm (115 to 4000)	**XXXX**
Range	**9**
Refer to Page 3, Chart 1	
Units	**10**
° Centigrade	**C**
° Fahrenheit	**F**
Dual Scale °C/°F	**D**
Options	**11**
5 Point Calibration Certificate	**CC**
316 L Tag Plate	**TP**
Custom Dial Design	**CD**
Material Test Certificate	**MT**
Front Panel Mount	**FF**
Surface Plate	**BF**
2” Pipe Mount	**2P**
NOTE	
* Any Angle model is possible only in the following Dial sizes 4” & 6” only.	

Sample Model Selection Code

1	2	3	4	5	6	7	8	9	10	11		
100	M201	6	BT	4MN	D	SC	120	160	C	CC	TP	MT

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Range

Bimetallic Thermometer Temperature Ranges		
Dial Ranges in °C	**Scale Divisions**	**Error Limits acc. Cl. 1 ±°C**
0 / 60	1	
0 / 80	1	1
0 / 100	1	1
0 / 120	2	2
0 / 160	2	2
0 / 2000	2	2
0 / 250	2	2
0 / 3000	2	2
0 / 400	5	2.5
0 / 5000	5	5
0 / 600	5	5
0 / 700	5	5
0 / 800	10	5
-10 / 50	10	5
-10 / 110	10	5
-20 / 40	10	5
-20 / 100	10	10
-20 / 120	1	1
-20 / 180	1	1
-30 / 50	1	1
-30 / 70	1	1
-30 / 170	1	1
-40 / 40	1	1
-40 / 60	1	1
-40 / 160	1	1
-50 / 50	2	1
-60 / 40	1	1

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