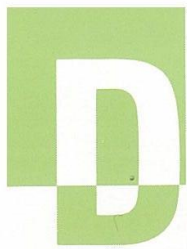




AICHI
LABORATORY GAS METER

GAS METER





AICHI

IAPHRAGM GAS METER

Model N



It has teamed up with the Meter Committee of the Japan Gas Association in developing the MODEL N GAS METER, to create a new standard of excellence in gas meters. From design to trial production, we at it worked to ensure that the MODEL N GAS METER not only comply strictly with the standardized specifications of the Japan Gas Association, but that it would be an innovative and powerful instrument.

You, the user, have been forefront in our minds, as evidenced by the modern design, and the light, com-

compact features for easy handling. We know you will welcome the MODEL N adjustment device which stably and accurately measures minute quantities of gas over the whole flow range. The high-quality internal components have been contrived for longterm, error-free performance.

Durability has been a major consideration externally also. The upper and lower cases are made of aluminum die casting and are coated with electrostatic paint. We have even developed a model especially for corrosive conditions.

The MODEL N GAS METER — an advanced gas meter with power and sophistication that eclipses anything yesterday's instruments could offer.

STANDARD SPECIFICATIONS

The MODEL N gas meters are manufactured to with the following specifications:

Unit : mm

| Item | Model | N1 | N2 | N3 | N5 | N7 | NN10 | NN15 | N30 | N50 | N90 | N120 | |
|---|-------|----------------------|------|----------|------|------|-----------|-----------|---------------------|----------|----------|-------|--|
| Max. service flow rate (m ³ /h) | | 1.0 | 2.0 | 3.0 | 5.0 | 7.0 | 10.0 | 15.0 | 30.0 | 50.0 | 90.0 | 120.0 | |
| Measuring chamber volume (ℓ/rev) | | 0.6 | | 0.9 | 1.7 | | 4.0 | | 9.0 | 20.0 | 40.0 | | |
| Revolution (r·p·m) | | 27.8 | 55.6 | 55.6 | 49.0 | 68.6 | 41.7 | 62.5 | 55.6 | 41.7 | 37.5 | 50.0 | |
| Recommended working pressure (mmH ₂ O) | | 1000 | | | | | | | | | | | |
| Max. registration (m ³) | | 9,999 | | | | | 99,999 | | | 999,999 | | | |
| Min. registration (ℓ) | | 0.2 | | | | | 2.0 | | | 20.0 | | | |
| Center to center of connection (mm) | | 130 | | | | | 220 | | | 320 | 380 | | |
| Connection (in·mm) | | ½B (15A) ¾B (20A) | | ¾B (20A) | | | 1¼B (32A) | 1½B (40A) | 1½B(40A) 2B(50A) | 2B (50A) | 3B (80A) | | |
| NET weight (kg) | | 2.2 | | 2.6 | 3.6 | | 9.1 | | 22.0 | 35.0 | 66.0 | | |

MATERIALS

Materials of the standard specifications are as follows:

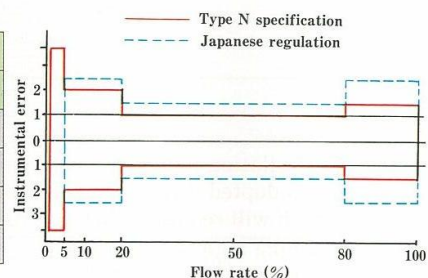
| Item | Model | N1~N7, NN10-15 | N30~N120 |
|----------------------|-------|--|--|
| Case body | | Aluminum die casting (Side plate: Galvanized steel plate) | Galvanized steel plate |
| Ferrule | | Aluminum die casting (Integrated with outer casing.) | Bronze casting (Jointed by tightening ferrule fixing nuts.) |
| Valve | | Phenolic resin with graphite fluoride | Phenolic resin with graphite fluoride |
| Distribution chamber | | Phenolic resin with graphite fluoride | Aluminum die casting (Valve sheet: White metal) |

INSTRUMENTAL ERROR

The MODEL N gas meter has instrumental error based on more severe target values than that of the Measurement Law. Head (max. instrumental error in flow

rate – accuracy in inspection flow rate) is also adjusted within the range of +0.7 to -1.5.

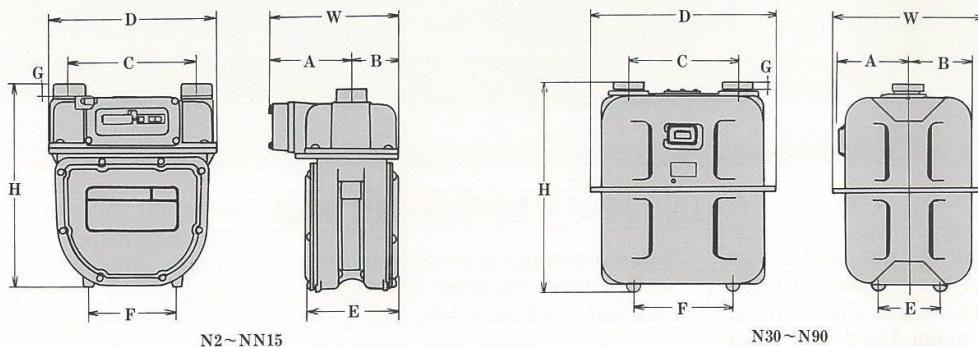
| Flow rate range | Instrumental error | |
|--|---------------------|----------------------|
| | Japanese regulation | Type N specification |
| Small flow rate range | — | ±3.0% |
| Below ½ of max. flow | ±2.5% | ±2.0% |
| Not less than ½ and below ¾ of max. flow | ±1.5% | ±1.0% |
| Not less than ¾ of max. flow | ±2.5% | ±1.5% |



OUTER DIMENSIONS

Unit : mm

| Item | Model | N2(1) | N3 | N5 | N7 | NN10 | NN15 | N30 | N50 | N90(120) |
|-------------------|-------|------------|------------|------------|------------|------------|------------|------------|----------|----------------|
| H | | 212 | 232 | 262 | 262 | 341 | 341 | 452 | 574 | 728 |
| D | | 174 | 174 | 195 | 195 | 300 | 300 | 418 | 513 | 639 |
| C | | 130 | 130 | 130 | 130 | 220 | 220 | 220 | 320 | 380 |
| W | | 133 | 138 | 156 | 156 | 214 | 214 | 368 | 423 | 519 |
| G | | 12 | 12 | 12 | 12 | 20 | 20 | 20 | 20 | 25 |
| A | | 85 | 86 | 96 | 96 | 122 | 122 | 181 | 206 | 244 |
| B | | 48 | 52 | 60 | 60 | 92 | 92 | 156 | 181 | 220 |
| F | | 90 | 100 | 120 | 120 | 190 | 190 | 260 | 260 | 340 |
| E | | 94 | 102 | 120 | 120 | 168 | 168 | 200 | 200 | 220 |
| Weight (kg) | | 2.2 | 2.6 | 3.6 | 3.6 | 9.1 | 9.1 | 22.0 | 35.0 | 66.0 |
| Dia. | | ½ B (15A) | ½ B (15A) | ¾ B (20A) | ¾ B (20A) | 1¼ B (32A) | 1½ B (40A) | 1½ B (40A) | 2B (50A) | 3B (80A) |
| Connecting thread | | W28.3×12 | W28.3×12 | M34×1.5P | M34×1.5P | M56×2P | M64×2P | M64×2P | M72×3P | M110×4P |
| | | | | W36.3×11.5 | W36.3×11.5 | | | | M72×2P | Special flange |
| | | | | W36.9×11 | W36.9×11 | | | | W76.2×11 | |
| Dia. | | ¾ B (20A) | ¾ B (20A) | | | | | 2B (50A) | | |
| Connecting thread | | M34×1.5P | M34×1.5P | | | | | M72×3P | | |
| | | W36.3×11.5 | W36.3×11.5 | | | | | W76.2×11 | | |
| | | | W36.9×11 | | | | | | | |



INSTALLATION

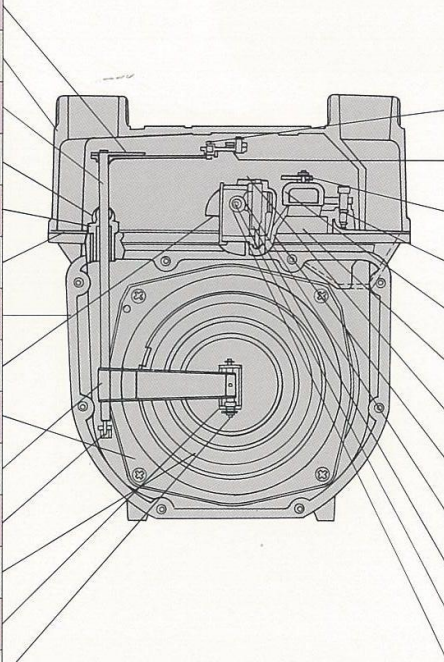
Various installation methods must have been adopted by gas companies, which will remain as usual. When installing a gas meter, apply grease to the connection thread.

| Model | Installation method |
|---------|---------------------|
| N1~N50 | Suspension mounting |
| N90·120 | On-floor mounting |

COMPONENT NAMES AND MATERIALS

N1~NN15

| Extra specification | Standard specification | Component name |
|---|---------------------------|--------------------------|
| Brass plate | Steel plate | Large arm |
| Aluminum die casting with coated internal surface | Aluminum die casting | Upper casing |
| Sainless steel bar | Free-cutting steel | Flag Rod |
| | Synthetic rubber | Flag Rod packing |
| | Polyacetal resin | Flag rod box |
| | Cork rubber | Upper casing Packing |
| Aluminum die casting with coated internal surface | Aluminum die casting | Casing |
| | Polyacetal resin | Reverse rotation stopper |
| Color galvanized steel plate | Galvanized steel plate | Diaphragm setting plate |
| Galvanized steel plate with coated cut surfaces | Galvanized steel plate | Flag |
| | Brass bar (nickel plated) | Flag bearing |
| Color galvanized steel plate | Galvanized steel plate | Diaphragm disc |
| | Polyacetal resin | Hinge support |
| Stainless steel bar | Free-cutting steel | Hinge shaft |

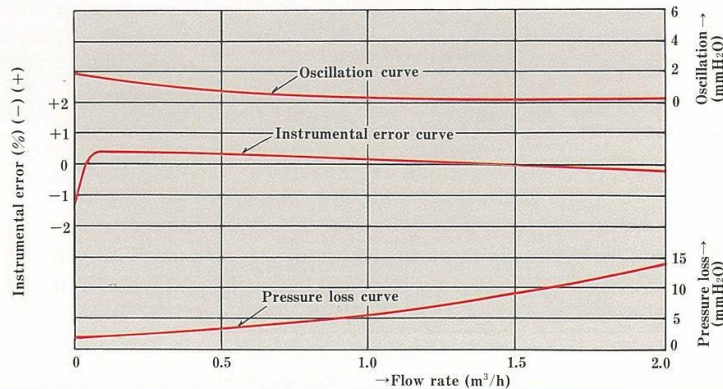


| Component name | Standard specification | Extra specification |
|-------------------|--|---------------------|
| Arm pin | Brass bar (nickel plated) | Stainless steel bar |
| Adjustment collar | Sintered stainless steel alloy | |
| Crank rod | Polyacetal resin | |
| Valve guide | Brass bar | Stainless steel bar |
| Valve | Fluorographeite impregnated phenol resin | |
| Division chamber | Fluorographeite impregnated phenol resin | |
| Crank arm | Brass plate (nickel plated) | |
| Crank base | Polyacetal resin | |
| Worm | Polyacetal resin | |
| Crankshaft | Brass bar | Stainless steel bar |
| Worm wheel shaft | Brass wire (nickel plated) | |
| Worm wheel | Polyacetal resin | |

() shows the standard specification.
Blank Extra specifications are the same as standard

PERFORMANCE CURVE

Standard performance of N2 Gas Meter

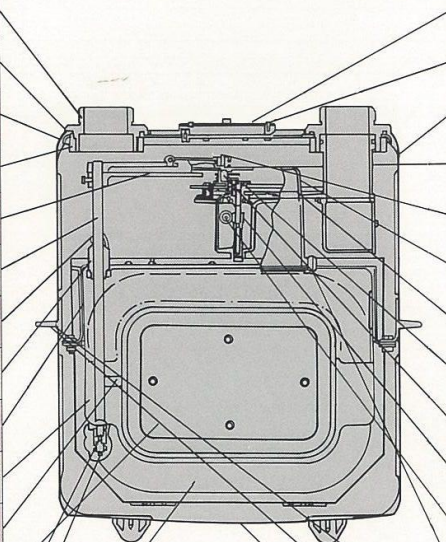


Note:
Gas used for measurement:
Air

COMPONENT NAMES AND MATERIALS

| Extra specification | Standard specification | Component name |
|--------------------------------|-----------------------------------|------------------------------|
| | Bronze casting | Mouth ring |
| | Synthetic rubber | O-ring |
| Coated galvanized steel plated | Galvanized steel plate | Ring supporting plate |
| | Bronze casing | Ring securing nut |
| N30 brass plate | N50, 90 Bronze casting N30 plate | Large arm |
| | Steel bar | Flag rod |
| | Synthetic rubber | Flag rod packing |
| | Brass bar | Flag rod box |
| Coated galvanized steel plate | Galvanized steel plate | Internal unit mounting plate |
| Coated galvanized steel plate | Galvanized steel plate | Diaphragm setting plate |
| Anti-corrosion treatment | Carbon steel N30 galvanized plate | Flag |
| Coated galvanized steel plate | Galvanized steel plate | Diaphragm |
| | Stainless steel | Flag shaft ball bearing |
| | Brass bar | Flag ball bearing |
| Coated galvanized steel plate | Galvanized steel plate | Measurement box |

N30 ~ N120

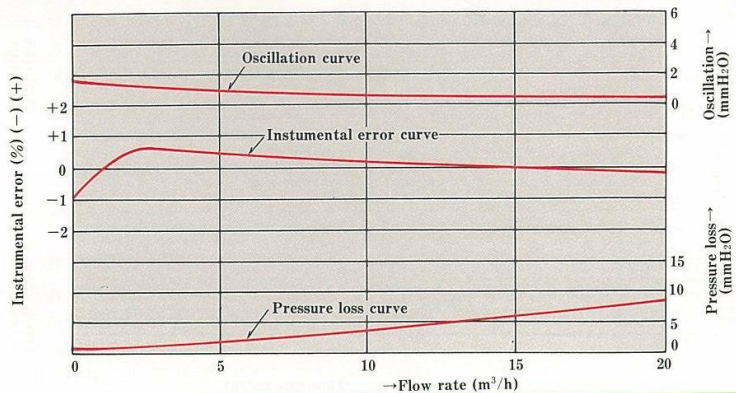


Blank E specifications are the same as standard specifications.

| Component name | Standard specification | Extra specification |
|--------------------------------|--|--|
| Top plate | Galvanized steel plate | Powder coated galvanized steel plate |
| Top plate gasket | Cork rubber | |
| Top casing | Galvanized steel plate | Galvanized steel plate with powder coated interior |
| Exhaust guide | N90 PVC coated aluminum die casting and polyacetal resin | |
| Adjustment collar | Sintered stainless steel alloy | |
| Valve | Fluorograpthite impregnated phenol resin | |
| Valve seat | White metal | |
| Shaft reverse rotation stopper | Polyacetal resin | |
| Crankshaft | Brass bar | Stainless steel bar |
| Worm | Polyacetal resin | |
| Worm wheel | Polyacetal resin | |
| Division chamber | Aluminum die casting | PVC coated aluminum die casting |
| Casing fitting metal | Galvanized steel plate | |
| Casing gasket | Synthetic rubber | |
| Lower casing | Galvanized steel plate | Galvanized steel plate with powder coated interior |

PERFORMANCE CURVE

Standard performance of N30 Gas Meter



Note:
Gas used for measurement:
Air