

FLMTR Series

Flow Meter Kits for Boiler Commissioning or Flow Totalization



Product Description

The Flow Meter Kits reliably measure and display the instantaneous flow of natural gas or propane. A commissioning kit is available to display the current gas flow in SCFH for accurate commissioning of a boiler. Flow totalization kits are available to measure gas flow and transmit the information to either an LMV52 controller or a PLC.

Features

- Measures and displays the instantaneous flow of natural gas or propane
 - Automatically compensates for temperature and pressure of the gas
 - Mounts on pipe sizes ranging from 1" to 6"
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Product Part Numbers

Table 1: Available Natural Gas Flow Meter Kits

| Part Number | Description |
|--------------------|--|
| FLMTR-0.75-6.0KIT | Natural gas flow meter kit for boiler commissioning |
| KT-LMV52-PIK-100 | Natural gas flow meter kit for measurement and totalization of flow through a 1" pipe on an LMV52 controller |
| KT-LMV52-PIK-125 | Natural gas flow meter kit for measurement and totalization of flow through a 1-1/4" pipe on an LMV52 controller |
| KT-LMV52-PIK-150 | Natural gas flow meter kit for measurement and totalization of flow through a 1-1/2" pipe on an LMV52 controller |
| KT-LMV52-PIK-200 | Natural gas flow meter kit for measurement and totalization of flow through a 2" pipe on an LMV52 controller |
| KT-LMV52-PIK-250 | Natural gas flow meter kit for measurement and totalization of flow through a 2-1/2" pipe on an LMV52 controller |
| KT-LMV52-PIK-300 | Natural gas flow meter kit for measurement and totalization of flow through a 3" pipe on an LMV52 controller |
| KT-LMV52-PIK-400 | Natural gas flow meter kit for measurement and totalization of flow through a 4" pipe on an LMV52 controller |
| KT-LMV52-PIK-500 | Natural gas flow meter kit for measurement and totalization of flow through a 5" pipe on an LMV52 controller |
| KT-LMV52-PIK-600 | Natural gas flow meter kit for measurement and totalization of flow through a 6" pipe on an LMV52 controller |
| KT-BMK-PLC-100 | Natural gas flow meter kit for measurement and totalization of flow through a 1" pipe on a PLC |
| KT-BMK-PLC-125 | Natural gas flow meter kit for measurement and totalization of flow through a 1-1/4" pipe on a PLC |
| KT-BMK-PLC-150 | Natural gas flow meter kit for measurement and totalization of flow through a 1-1/2" pipe on a PLC |
| KT-BMK-PLC-200 | Natural gas flow meter kit for measurement and totalization of flow through a 2" pipe on a PLC |
| KT-BMK-PLC-250 | Natural gas flow meter kit for measurement and totalization of flow through a 2-1/2" pipe on a PLC |
| KT-BMK-PLC-300 | Natural gas flow meter kit for measurement and totalization of flow through a 3" pipe on a PLC |
| KT-BMK-PLC-400 | Natural gas flow meter kit for measurement and totalization of flow through a 4" pipe on a PLC |
| KT-BMK-PLC-500 | Natural gas flow meter kit for measurement and totalization of flow through a 5" pipe on a PLC |
| KT-BMK-PLC-600 | Natural gas flow meter kit for measurement and totalization of flow through a 6" pipe on a PLC |

Product Part Numbers (continued)

Table 2: Available Propane Flow Meter Kits

| Part Number | Description |
|--------------------|--|
| KT-BMK-PLC-100-PRO | Propane flow meter kit for measurement and totalization of flow through a 1" pipe on a PLC |
| KT-BMK-PLC-125-PRO | Propane flow meter kit for measurement and totalization of flow through a 1-1/4" pipe on a PLC |
| KT-BMK-PLC-150-PRO | Propane flow meter kit for measurement and totalization of flow through a 1-1/2" pipe on a PLC |
| KT-BMK-PLC-200-PRO | Propane flow meter kit for measurement and totalization of flow through a 2" pipe on a PLC |
| KT-BMK-PLC-250-PRO | Propane flow meter kit for measurement and totalization of flow through a 2-1/2" pipe on a PLC |
| KT-BMK-PLC-300-PRO | Propane flow meter kit for measurement and totalization of flow through a 3" pipe on a PLC |
| KT-BMK-PLC-400-PRO | Propane flow meter kit for measurement and totalization of flow through a 4" pipe on a PLC |
| KT-BMK-PLC-500-PRO | Propane flow meter kit for measurement and totalization of flow through a 5" pipe on a PLC |
| KT-BMK-PLC-600-PRO | Propane flow meter kit for measurement and totalization of flow through a 6" pipe on a PLC |

Accessories

FLWMTR-ACC-1



Replacement packing gland for FLMTR-0.75-6.0KIT. Includes packing body, two O-rings, two washers, and packing nut.

Specifications

| | | |
|----------------------------------|--------------------------------------|--|
| Operating characteristics | Media to be measured | Natural gas, propane |
| | Units for flow | SCFH |
| | Maximum flow | See Table 3 |
| | Calibrated operating gas pressure | 5 psig [0.3 bar] ¹ |
| | Calibrated operating gas temperature | 55°F [13°C] ¹ |
| | Ambient temperature | -40 to 120°F [-40 to 49°C] |
| | Gas pressure operating range | 0 to 120 psig [0 to 8.3 bar] |
| | Accuracy | ±1% of full scale plus 3% of reading (correlation) |
| Repeatability | ±0.24% of full scale | |

Table 3: Pipe Size vs. Maximum Flow Rate

| Pipe Size | Max Flow (SCFH) | Approx. Boiler Horsepower at Max Flow of Natural Gas (BHP) ² | Approx. Boiler Horsepower at Max Flow of Propane (BHP) ³ |
|-----------|---------------------|---|---|
| 1" | 3601 | 91 | 229 |
| 1-1/4" | 6232 | 158 | 396 |
| 1-1/2" | 8483 | 215 | 538 |
| 2" | 13982 | 355 | 887 |
| 2-1/2" | 19949 | 507 | 1266 |
| 3" | 30803 | 782 | 1955 |
| 4" | 53042 | 1347 | 3390 |
| 5" | 83358 | 2117 | 5291 |
| 6" | 120376 ⁴ | 3057 ⁴ | 7641 |

Notes:

1. Meter automatically compensates for temperature and pressure of the gas
2. Boiler Horsepower numbers assume a natural gas heating value of 1000 BTU / SCF and a boiler efficiency of 85%.
3. Boiler Horsepower numbers assume a propane heating value of 2500 BTU / SCF and a boiler efficiency of 85%.
4. When using commissioning kit FLMTR-0.75-6.0KIT on a 6" pipe, max flow is 99912 SCFH which is approximately 2537 BHP for natural gas.

Components

Figure 1 shows the components included with the FLMTR-0.75-6.0KIT commissioning kit. See Installation Instructions LV5-4050 for more information.



Figure 1: Components Included in the FLMTR-0.75-6.0KIT Commissioning Kit

1. Enclosure with remote display and convenience outlet
2. Flow meter
3. Interconnecting cable, 25 feet long
4. Brass packing gland for 3/8" tube, 1/2" NPT connection, with O-rings and washers installed
5. Spare O-rings, Dash 204 (qty 4)
6. 120 VAC power cord, 10 feet long, 10A max

Components (continued)

Figure 2 shows the components included with a KT-LMV52-PIK... totalization kit. See Installation Instructions LV5-4150 for more information.



Figure 2: Components Included in a KT-LMV52-PIK... Totalization Kit

1. Flow meter with $\frac{1}{2}$ " NPT conduit connection
2. Milliamp-to-pulse converter
3. 115 / 230 VAC to 15 VDC power supply
4. 100 / 240 VAC to 24 VDC power supply
5. 4 pin plug for LMV52 connection
6. Stainless steel tubing adapter for $\frac{3}{8}$ " tube, $\frac{1}{2}$ " NPT connection, with stainless steel ferrule installed

Components (continued)

Figure 3 shows the components included with a KT-BMK-PLC... totalization kit. See Installation Instructions LV5-4250 for more information.



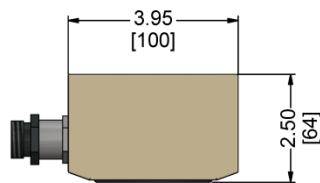
Figure 3: Components Included in a KT-BMK-PLC... Totalization Kit

1. Flow meter with $\frac{1}{2}$ " NPT conduit connection
2. 115 / 230 VAC to 15 VDC power supply
3. Stainless steel tubing adapter for $\frac{3}{8}$ " tube, $\frac{1}{2}$ " NPT connection, with stainless steel ferrule installed

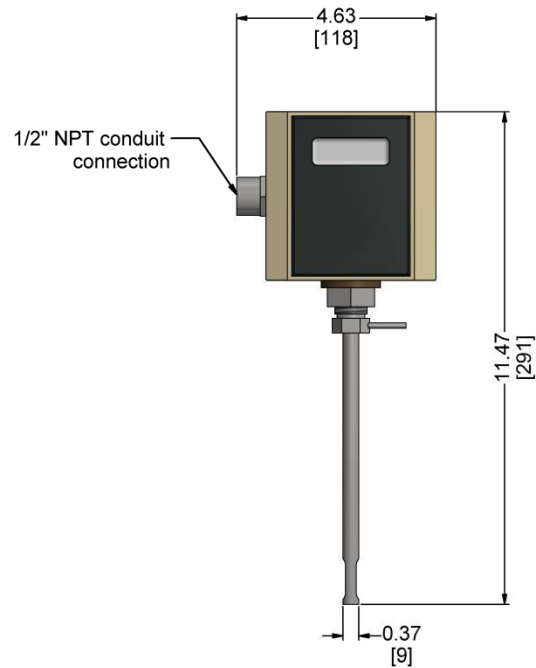
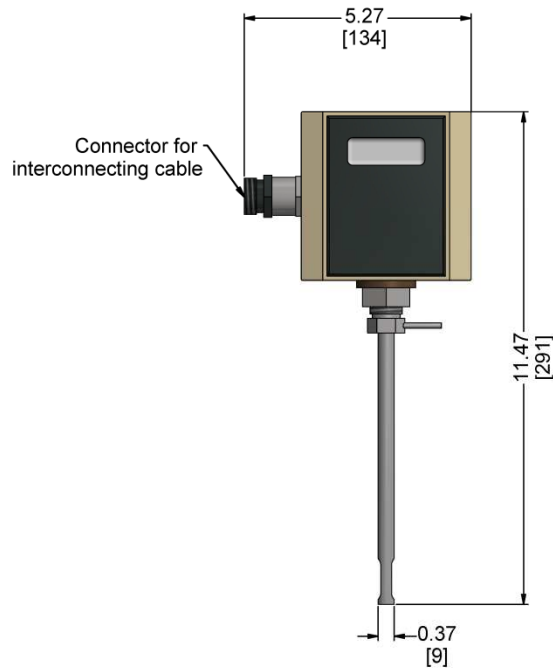
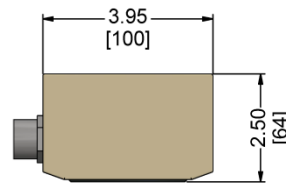
Dimensions

Dimensions in inches; millimeters in brackets

FLMTR-0.75-6.0KIT



KT-LMV52-PIK..., KT-BMK-PLC...



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