

## FLMTR Series

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### Flow Meter Kits for Boiler Commissioning or Flow Totalization



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### 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.

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### 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**

<b>Part Number</b>	<b>Description</b>
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

## Specifications

<b>Operating characteristics</b>	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] <sup>1</sup>
	Calibrated operating gas temperature	55°F [13°C] <sup>1</sup>
	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) <sup>2</sup>	Approx. Boiler Horsepower at Max Flow of Propane (BHP) <sup>3</sup>
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 <sup>4</sup>	3057 <sup>4</sup>	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

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## 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 ½" 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 3/8" tube, ½" NPT connection, with stainless steel ferrule installed

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## Components (continued)

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



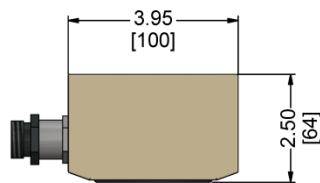
**Figure 3: Components Included in a KT-BMK-PLC... Totalization Kit**

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

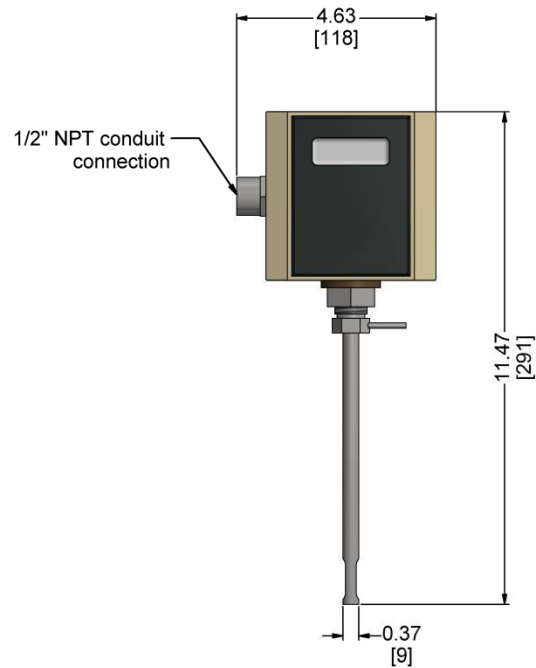
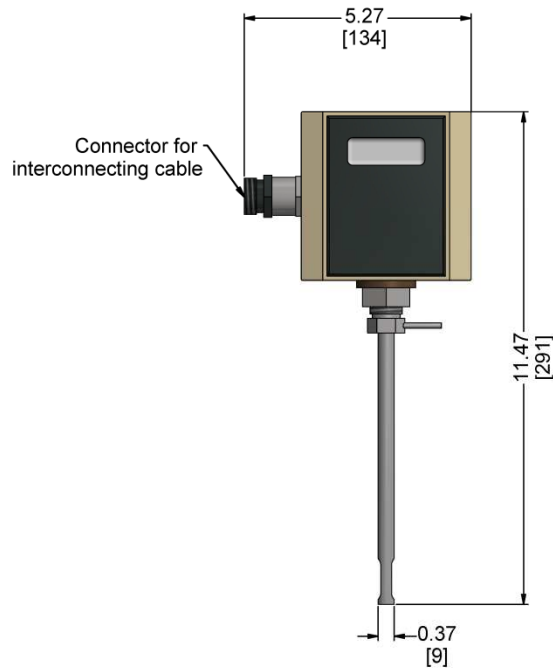
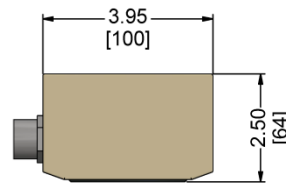
## Dimensions

Dimensions in inches; millimeters in brackets

**FLMTR-0.75-6.0KIT**



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



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