

# THE TSI ELECTROMAGNETIC FLOWMETER FOR FIRE APPLIANCES

The Ultimate Solution to Water Management, Safety and Environmental issues.

The TSI/KGK model EMF-300 Flowmeter is an innovative solution to the measurement of the flow rate of water on fire appliances. It gives a readout of instantaneous flow rate up to 3,000lpm and calculates the total volume discharged. It is highly recommended by Greater Manchester Fire and Rescue Service as a cost saving and environmental protection device.

Fitting TSI Flowmeters to fire appliances significantly improves the efficiency of use of the No. 1 fire fighting resource – water. Innovative Fire Services throughout the UK are using TSI Flowmeters to help reduce their carbon footprint and improve the working environment of their fire fighters as well as reduce costs.



## BENEFITS OF FITTING TSI FLOWMETERS

### Efficient use of water - the No. 1 fire fighting resource:

- Efficient management of all available water supplies
- Optimum operating performance for all branches
- Ideal water droplet size for compartment fire fighting
- Quality information available to assist the pump operator
- Ability to utilize all delivery outlets regardless of individual branch sizes.



### Improvements to fire fighters safety:

- Pump operator can respond to each branch operator's needs
- Maximize the pump output
- Ability to gather exact data on pump performance and water





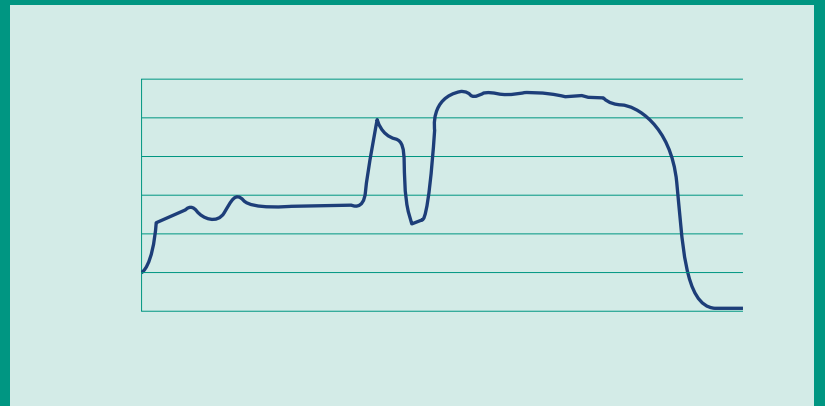
GMFRS Fire Service Year 2008 fire appliance pump bay.

The TSI Flowmeter is of electromagnetic type and was designed specifically for use in the robust environment that is a pumping appliance. With no moving parts and nothing projecting into the flow channel the TSI flowmeter has unrivalled robustness and reliability. Sensor dimensions match those of the pump and there is no pressure loss. In use at Greater Manchester Fire and Rescue Service since 1993, the TSI Flowmeter is fitted on all GMFRS pumping appliances.



East Sussex Fire and Rescue Service Year 2007 fire appliance pump bay.

The TSI Flowmeter can be installed on hydrant to tank intake pipe-work and on high pressure hose reel lines as well as the low pressure deliveries. TSI supply the necessary adaptors. The volume of water passing through the TSI Flowmeter is totalled and this number can be recorded post incident. TSI Flowmeters have supplied data loggers for use with flow meters on GMFRS fire appliances to track the volume of water used at incidents and are currently integrating the model EMF-300E flow meter with the vehicle management systems of two innovative Fire Services in England.



## FLOWMETER SPECIFICATIONS MODEL EMF-300E Art. No. 33-1001

### GENERAL

**Range:** 30 – 3,000lpm  
Can be extended to 5,000lpm.  
**Resolution:** 50 – 750lpm:  $\pm 15$ lpm  
> 750lpm:  $\pm 2\%$   
**Supply Voltage:** DC 24V DC  $+20\% - 10\%$   
Negative Chassis Earth.  
**Supply Current:** 0.35A  
**Operating Temp:** -10 to  $+50^{\circ}\text{C}$   
**Standard Functions:**  
Flow reading, Volume used reading.

### SENSOR

**Measurement Principle:** Electromagnetic  
**Casing Material:** JIS ADC6, marine grade aluminium, hard anodized.  
**Pressure rating:** 49 bar  
**Protection level:** IP65  
**Inner pipe diameter:** 60mm  
**Dimensions:**  $\varnothing 140 \times 210 \times 100$ mm  
**Weight:** 3.0kg  
**Adaptor:** Matched to low pressure delivery of Godiva pump manifold.

### READOUT

**Digital readout of flow rate.**

- 4-digit backlit LCD display
- Large 17.6mm digit size
- Bar chart of flow reading
- LPM or US GPM display.

**Casing material:** Polycarbonate  
**Protection level:** IP65  
**Colour:** Black  
**Dimensions:**  $127 \times 111 \times 61$ mm  
**Weight:** 0.5kg