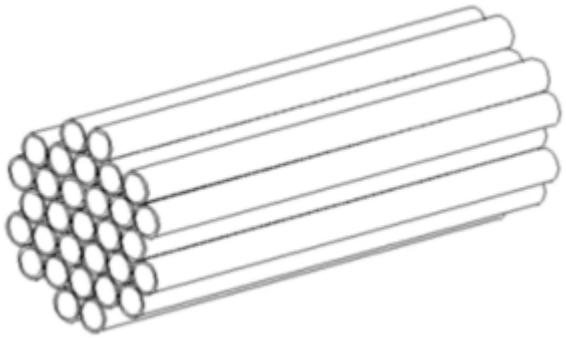
Laminar Flow Element (LFE)

The gas flows through a laminar flow element, which consists of a densely packed bundle of very fine tubes (Figure).

This creates an absolutely laminar flow regime within the measuring cell.

The pressure difference between the inlet and outlet of the measuring cell is proportional to the flow velocity, i.e., to the flow volume. Due to the linear Q/dp characteristic, high measurement accuracy can be achieved.



Tube package, core of the LFE measuring cell
The flow measurement of gases using laminar flow elements offers a number of advantages compared to other methods:

- High measurement accuracy can be achieved.
- The measured value is available almost instantaneously.
- The method is suitable for a wide measuring range.
- The pressure of the flowing gas is only slightly affected.
- Alarm thresholds can be set across the entire range and very close to each other.
- The measuring element is completely wear-free.

Laminar flow sensor

- Measuring ranges from 0.3 to 125 l/min
- Special measuring ranges on request

- Accuracy up to 2%
- Factory certificate available

Technical Data

Type	Measuring range* [l/min]	Effective pressure [mbar]	max. System pressure [bar]
1.77.4	0,3 ... 3	70	2
1.77.3	1,5 ... 15	70	2
1.77.5	3 ... 30	70	2
1.77.1	5 ... 50	70	2
1.77.2	12,5 ... 125	70	2

* Other measuring ranges available on request

Information Sheet