Standard **Mass Flow Controller**
MODEL 3660 SERIES

Model 3660 Series Mass Flow Controller has been developed centering the focus on compactness and low cost and is being acclaimed by a wide range of users for diverse applications, including from laboratory research and development activities to the use as a standard mass flow control model for various types of analyzers and vacuum devices in the production line. Varieties of derived models and options are available.

Features

- Equipped with an advanced flow sensor of constant-current temperature difference detection type to ensure high-speed response
- Use of a normally closed valve to ensure safety
- High reliability ensured using a solenoid actuator
- Low differential pressure type control available for combustible gases (LP option)

Standard Specifications

Flow range (at N_2 calibration conditions)	10SCCM-20SLM (30SLM-100SLM)
Valve types*	Normally closed solenoid poppet valve
Control range	2%-100%F.S. (5%-100%F.S.)
Response	2 sec. or less to within ±2% of full scale of final value typical for 0-100% response
Accuracy	Within ±1.5% F.S. (Within ±2.0% F.S.)(@20°C)
Repeatability*	Within ±0.5% F.S.(@20°C)
Operating differential pressure	F.S.≤5SLM 49kPa-294kPa * Low differential pressure specification depends on types of gas and flow rates to be used.
	5<F.S.≤20SLM 98kPa-294kPa (147kPa-294kPa)
Proof pressure*	980kPa
Leak rate*	1x10^{-8} Pa·m^3/s or less (excluding transmission of He)
Working temperature range	5-45°C (Accuracy guaranteed within 15-35°C)
Materials of parts in contact with gases	Body: SUS 316
	Valve seat: Viton® (Optional: Neoprene™ or NBR)
	Seals: Viton® (Optional: Neoprene® or NBR)
Joint*	Standard: 1/4SWL® (3/8SWL)
	Optional: 1/8SWL®, 1/4VCR®, Rc 1/4, etc.
Electrical connections*	Dsub 9-pin male connector per KFC/SEMI standards
Flow rate input signals	0-5VDC
Flow rate output signals*	0-5VDC
Required power supply*	+15VDC (±5%) 100mA –15VDC (±5%) 200mA
Weight	Approx. 800 g

Items marked with an asterisk (*) indicate common specifications.
Values indicated in ( ) denote the specifications for Model 3665.

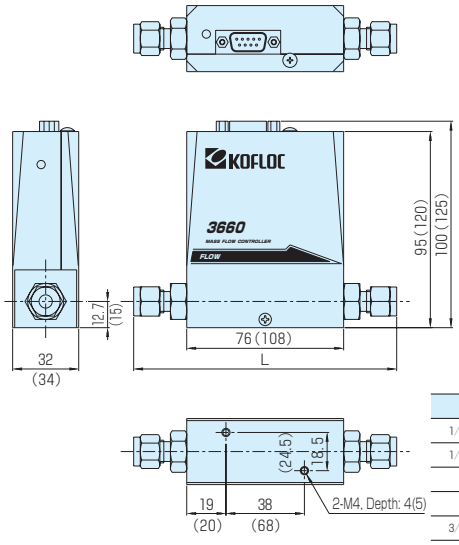
Harness Layout

Pin Assignment of Dsub 9-pin Connector per KFC Standard

Pin No.	Signal	Pin No.	Signal
1	Input valve open/close operation	6	Flow input Hi
2	Flow output 0-5 V	7	Flow output COM
3	+15 VDC Power source	8	Flow input Lo
4	Power source COM	9	Output valve voltage
5	-15 VDC Power source		

* Because a differential input system is used for the product, pin 4 (Power source COM) and pin 7 (Flow output COM) are connected inside the mass flow controller while pin 8 (Flow input Lo) is isolated. In case of a single-ended connection, connect pin 8 to pin 4.

Dimensions



Joint	Dimension L (mm)
1/8 Swagelok®	122.8 (—)
1/4 Swagelok®	127.4 (159.4)
1/4 VCR®	123.8 (155.8)
Rc 1/4	102 (134)
3/8 Swagelok®	130.4 (162.4)

* Values indicated in ( ) denote the dimensions for Model 3665.

Ordering

Model { 3660: Standard
3665: Large flow type

Joint { 1/4SWL:1/4Swagelok®
1/8SWL:1/8Swagelok®
1/4VCR:1/4VCR®
1/4:1/4RC
Optional

Option { 0: No option
Option name

NR–Neoprene seal
MP–294kPa-784kPa
LP–Low differential pressure specification

	❶	❷	❸	❹	❺
MODEL	3660 3665	1/4SWL 1/8SWL 1/4VCR 1/4 3/8SWL Optional	Fluid	Flow rate	0 Option name
Illustrative example	❶	❷	❸	❹	❺
MODEL	3660	1/4SWL	N_2	100SCCM	0

* Refer to “Ordering” and “Illustrative Example” when placing an order or requesting a quotation. Fill in the blanks in the “Order/Quotation Request Card” at the end of the catalog, and send the card by fax.