

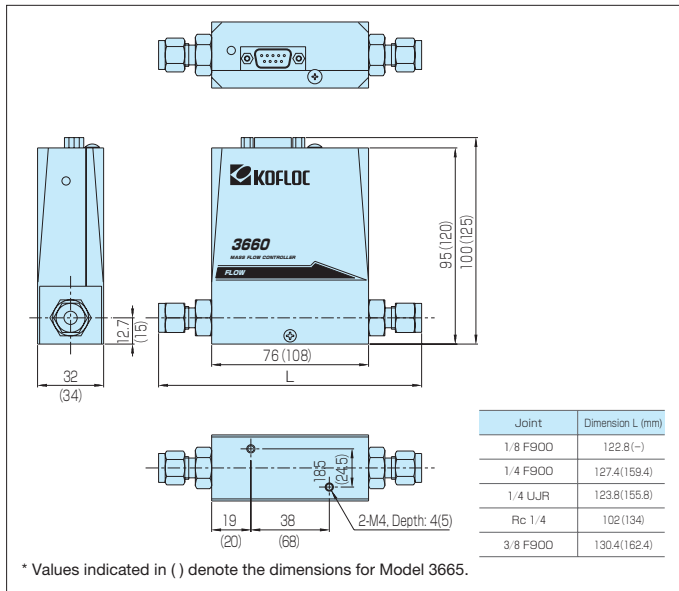
Standard Mass Flow Controller

# MODEL 3660 SERIES

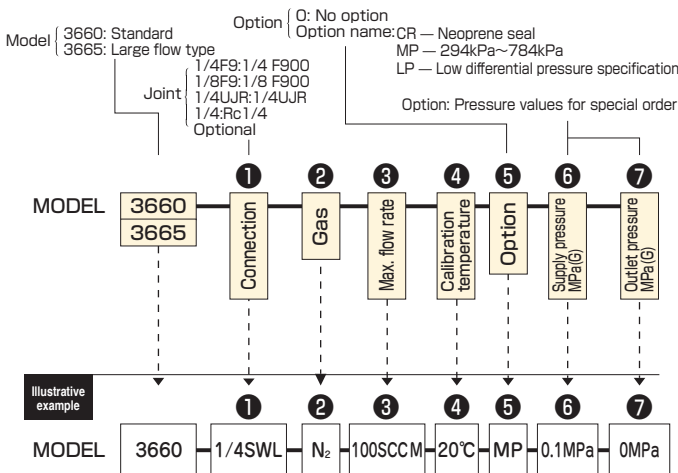
Model 3660 Series Mass Flow Controller has been developed centering the focus on compactness and low cost and is being acclaimed by a wide range of users for diverse applications, including from laboratory research and development activities to the use as a standard mass flow control model for various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

- 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)

**Dimensions**



**Ordering**



\* 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.



**Standard Specifications**

Model	3660	3665
Flow range (N <sub>2</sub> equivalent, 20°C/1 atm)	10 SCCM–20 SLM (freely selectable)	30 SLM–100 SLM (freely selectable)
Sensor	Thermal mass flow sensor	
Valve type	Proportional solenoid valve (closed when not energized)	
Control range	2–100% (F.S.)	5–100% (F.S.)
Response	2 sec. or less (0–100% within ±2% typical)	3 sec. or less (0–100% within ±2% typical)
Accuracy	±1.0% F.S. (25°C)	±1.5% F.S. (25°C)
Temperature coefficient	±0.1 F.S./°C (15–35°C)	±0.2 F.S./°C (15–35°C)
Repeatability	±0.5% F.S.	
Operating differential pressure	F.S. ≤ 50 SLM: 50–300 kPa (G)	F.S. ≤ 50 SLM: 150–300 kPa (G)
	F.S. > 50 SLM: 100–300 kPa (G)	F.S. > 50 SLM: 200–300 kPa (G)
Option: Medium differential pressure (MP) and low differential pressure (LP) specifications are available.		
Allowable operating pressure	980 kPa (G)	
He Leak rate (*1)	1 × 10 <sup>-8</sup> Pa·m <sup>3</sup> /s or less	
Allowable ambient temperature	5–45°C	
Allowable ambient humidity	10–90% (No condensation allowed)	
Materials of parts in contact with gases	Body: SUS316, SUS316L, Magnetic stainless steel	
	Valve seat: FKM (option: CR or NBR)	
	Sealing: FKM (option: CR or NBR)	
Electric connection	Dsub 9-pin connector as per KFC Standard (Compliant with SEMI Standard)	
Flow rate input signals	0–5 VDC (Input impedance: 1 MΩ or more)	
Flow rate output signals	0–5 VDC (External load resistance: 250 kΩ or more)	
Required power supply	+15 VDC (±5%) 100 mA, -15 VDC (±5%) 250 mA	
Joint (Main unit bore)	1/4SWL type (standard), 1/4VCR type, RC1/4, 1/8SWL type, etc.	3/8SWL type (standard), 3/8VCR type, RC3/8, 1/2SWL type, etc.
Weight	Approx. 1000 g	Approx. 1500 g

(\*1) Permeation is not included. The leakage by prolonged permeation shall not exceed 1x10<sup>-6</sup>Pa·m<sup>3</sup>/sec

⚠ Note  
Specifications relating to the flow range (e.g., flow range, accuracy and response) are expressed in N<sub>2</sub> or air equivalent. The product will be built with the primary pressure of 300 kPa or less and the secondary side open to the atmosphere. For details on the pressure requirements, please contact us.

**Harness Layout**

D-sub 9pin Kofloc standard  
(See Fig.6 in page.12)

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Mass flow meters and Controllers

MODEL 3660 SERIES