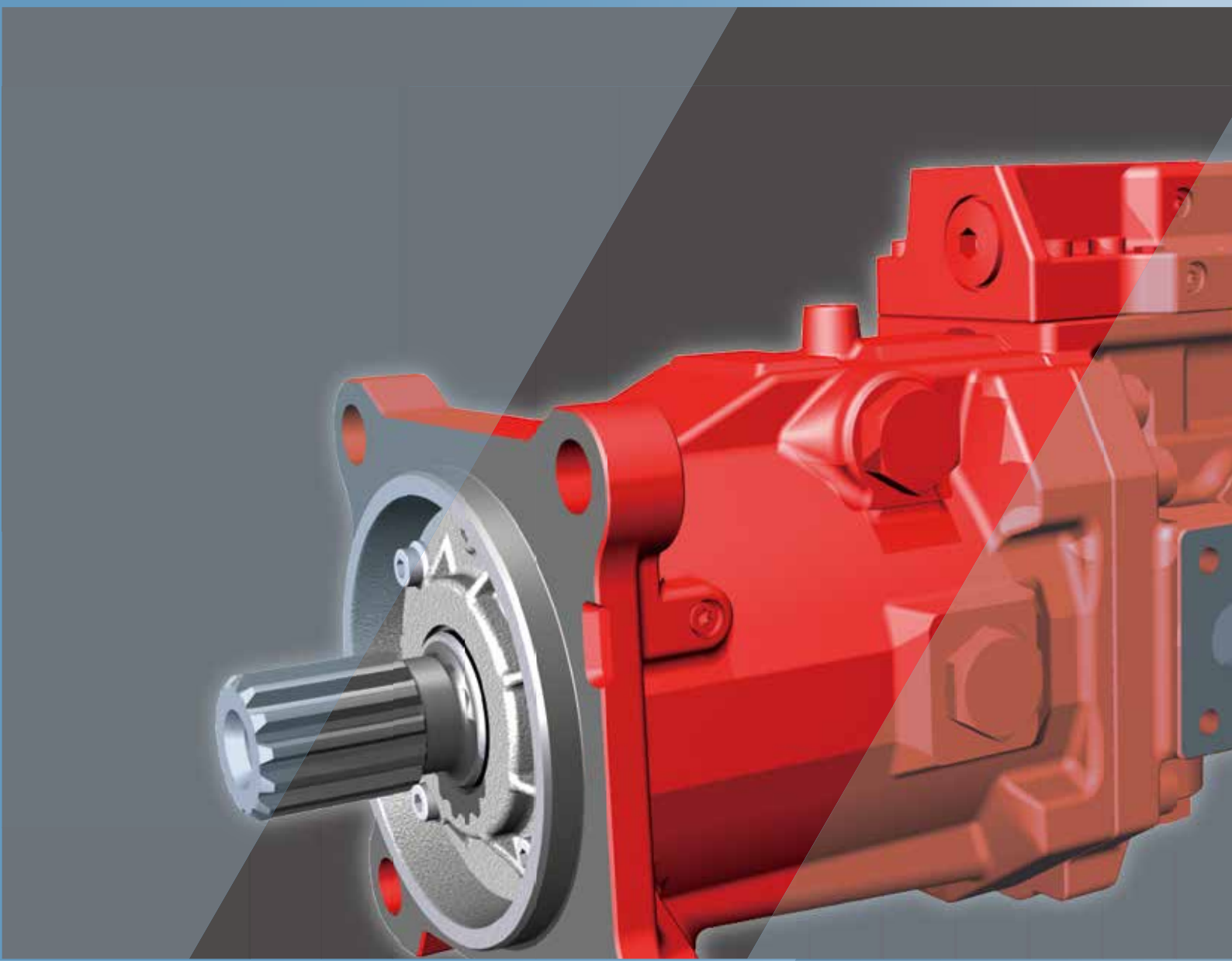
Регулируемые аксиально-поршневые гидромоторы KAWASAKI серии M7VC

Технические характеристики



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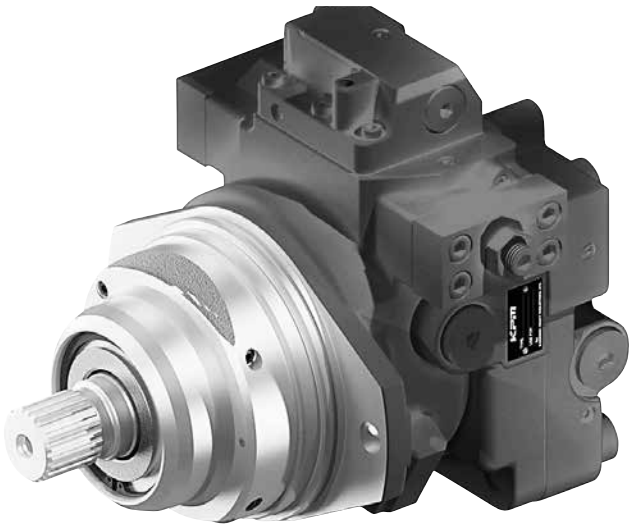
M7VC Series

Variable Displacement Type Axial Piston Motors (Cartridge type)



■Specifications

Size : 160

Nominal Pressure : 42MPa (6,090 psi)
Maximum Pressure : 50MPa (7,250 psi)

■General Descriptions

- Applicable to an open circuit and closed circuit.
- Applicable to construction machinery and industrial vehicles.
- Swash plate design allows for a compact motor.
- High power density.

■Features

Superior performance at High and Low speed

Optimized rotary balance design enables high speed perfomance and excellent low speed characteristics.

Low noise

Swash plate configuration provides the low noise.

Compact size

Swash plate configuration provides the more compact structure and flexibility in system design.

Long bearing life

Swash plate configuration results in longer bearing life.

Cartridge type

Space saving configuration, easy to install into the gearbox.

Technical Information

Specifications

M7VC Series

Size		160
Min. Displacement : q_{min}	cm^3 (in^3)	0 to 128 (0 to 7.9)
Max. Displacement : q_{max}	cm^3 (in^3)	128 to 160 (7.9 to 9.8)
Max. Speed : N_{nom} / N_{max} *1	min^{-1} (rpm)	3,100 / 4,900
Nominal pressure : P_{nom} *2	MPa (psi)	42 (6,090)
Max. Pressure : P_{max}	MPa (psi)	50 (7,250)
Theoretical output torque	Nm (lbf ft)	1,070 (789)
Power	kW (hp)	347 (465)
Max. Flow : Q	L/min (gallon/min)	496 (131)
Moment of inertia	$kg \cdot m^2$	0.030
Volume in the case	L (gallon)	2.5 (0.66)
Mass	kg (lb)	72 (158)
Temperature	℃ (°F)	−20 to +115 (−4 to +239) at drain port −20 to +90 (−4 to +194) at inlet port
Coating		Red synthetic resin primer

Values shown in the table above are theoretical values.

∗1 : N_{nom} : Max. speed at q_{max}.
N_{max} : Max. speed at $q < 0.6q_{max}$.
(In case that 1 is selected at ordering code [12] , N_{max} goes down up to N_{nom} regardless of displacement of the motor.)

∗2 : Nominal pressure corresponds to the design pressure to provide proper performance, function, and service life.

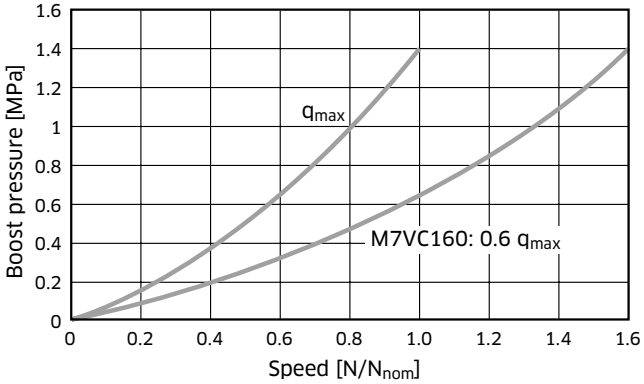
Precautions for System Design

M7VC series

Minimum Boost Pressure

To prevent cavitation when the motor is operating in a pumping mode, a positive pressure is required at the suction port.
The figure on the right shows the minimum boost pressure requirement based on the regular operation. In case of a rapid change of the flow volume, more boost pressure must be applied.

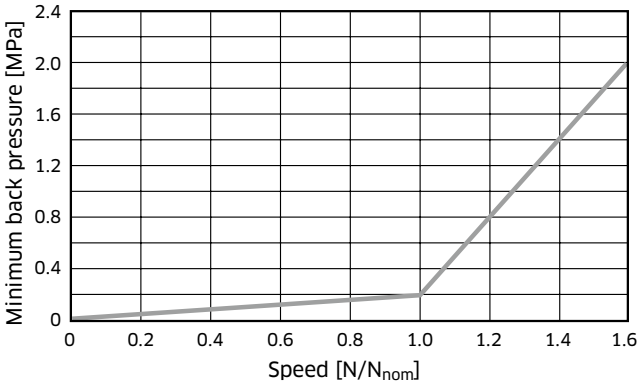
Minimum boost pressure



Minimum Back Pressure

To ensure the optimal performance and life time the back pressure is required at the lower pressure port.
Motor casing pressure must be ≦ 0.2 MPa.

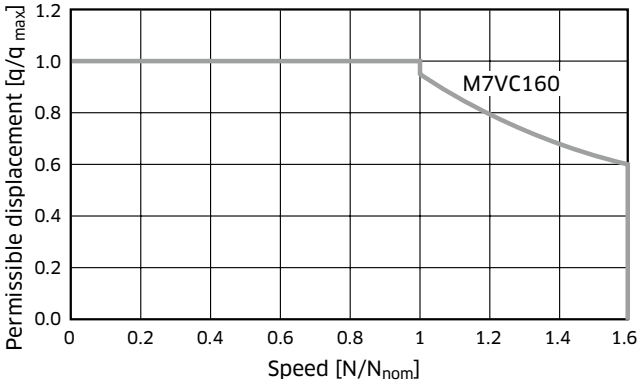
Minimum back pressure



Permissible Displacement, Speed Related

The figure on the right shows permissible displacement in relation to the motor operating speed. Design the system not to exceed this requirement.

Permissible displacement



Beginning of Control for Winch Device

For the safety reasons, winch devise are not permissible with beginning control at q_{min}.

Speed Sensor

Ordering Code [9] : 1, 2

◆ 1 : w/o Speed Sensor

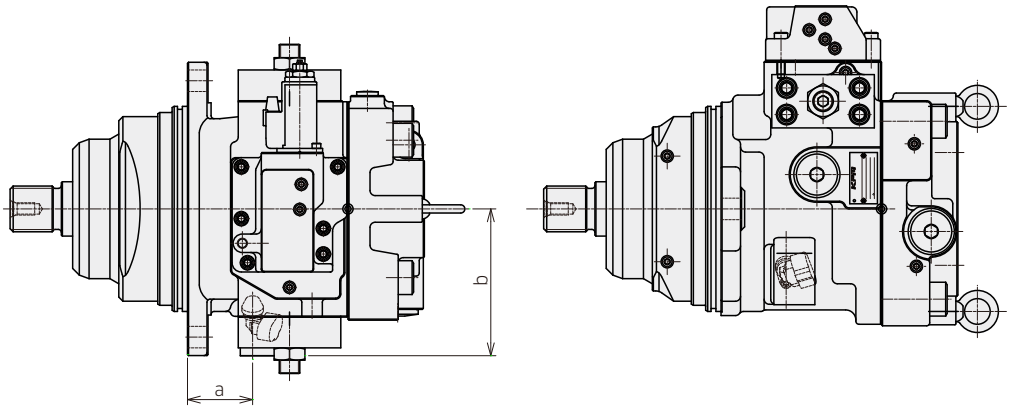
●A speed sensor is not installed.

◆ 2 : w/ Speed Sensor

●A speed sensor that detects the motor direction and measures the rotational speed of the motor is installed at the position as below figure.

Specification

Supply Voltage : 4.5V ~ 26V DC
Mating Connector : TE Connectivity AMP Superseal 1.5 series, 4 positions(part number : 282088)
IP Protection Rating : IP69K



	M7VC160
a [mm]	63.5
b [mm]	143
Pulse Frequency [pulse/rev]	87

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