

## Pumps for applying grease in consistent amounts

# Versatile Dispensing Pump

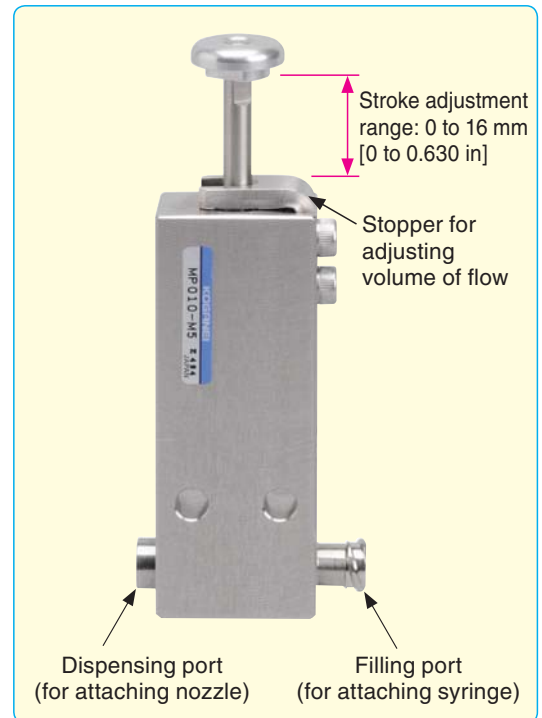
*Dispensing by applying air pressure to the syringe!*  
*Highly consistent and repeatable volumes*  
*Flow control built into the same unit*



## Pumps for applying grease in consistent amounts

# Versatile Dispensing Pump

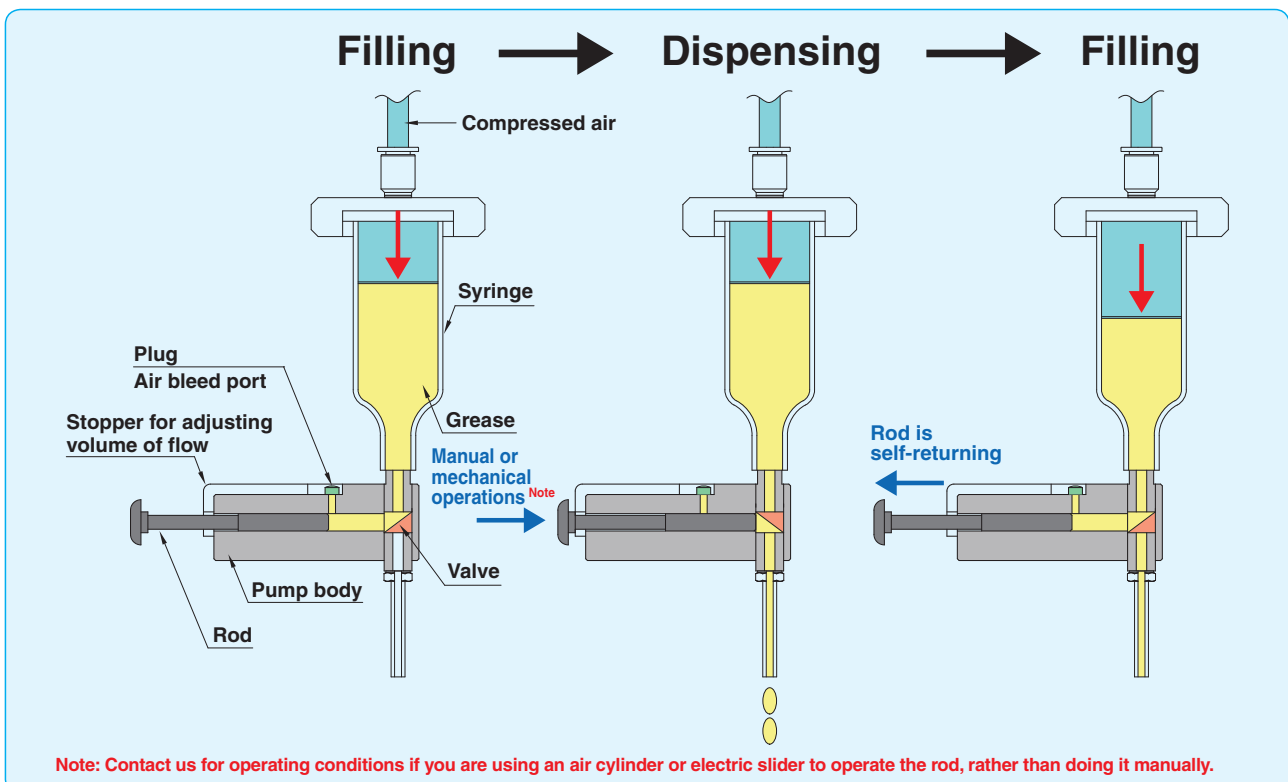
- Dispensing can be done by applying air pressure to the syringe
- Simple construction is easy to handle and the amount dispensed can be adjusted by moving the stopper.
- Proprietary valve construction and plunger system provide extremely uniform volume.
- Combinations of electric sliders, air cylinders, and of course manual operation for fully flexible coating application.
- Fast and easy to bleed air from the pump.



## Operation principle

- ① Supply compressed air to the syringe.
- ② Grease fills the rod side.
- ③ Press the rod to switch the valve and dispense grease.
- ④ Release the rod to switch the valve again, and the pump fills.

Note: Initial settings require bleeding all air from inside the pump.



## Order Codes

MP  -  - M5

**Dispensing volume**

010: 0.014mℓ [0.00085 in<sup>3</sup>]  
250: 0.307mℓ [0.01873 in<sup>3</sup>]

**O-ring/packing material**

Blank: NBR

F : FKM (Note: MP010 type has no FKM specifications)

**\* User must prepare syringes and nozzles.**

## Specifications

Item	Model	MP010	MP250
Outside Dimensions	mm [in]	83×14×32 [3.268×0.551×1.260]	
Medium <sup>Note 1</sup>		Grease or oil	
Suitable viscosity (grease) <sup>Note 1</sup>		NLGI. No.0 to 2	NLGI. No.0 to 3
Material of wetted parts		SUS303, NBR	SUS303, NBR, FKM
Stroke adjustment range	mm [in]	0 to 16 [0 to 0.630]	
Maximum dispensing volume <sup>Note 2</sup>	mℓ [in <sup>3</sup> ]	0.014 [0.00085]	0.307 [0.01873]
Deviation	mℓ [in <sup>3</sup> ]	Dispensing volume ±0.002 [±0.00012]	Dispensing volume ±0.003 [±0.00018]
Operating pressure range	MPa [psi]	0.1 to 0.5 [15 to 73]	
Force to press rod (reference value) <sup>Note 3</sup>	N [lbf]	4.2 [0.94]	13.3 [2.99]
Temperature of operating environment	°C [°F]	5 to 60 [41 to 140]	
Mass	g [oz]	135.2 [4.769]	135.5 [4.780]

Note 1: Some mediums cannot be used, contact us for information.

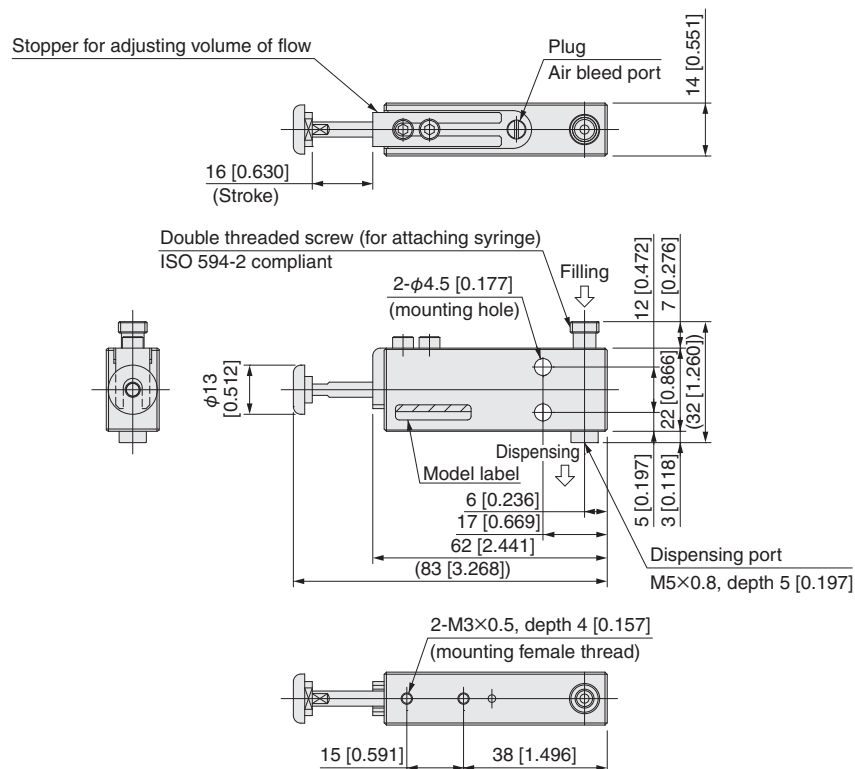
2: Maximum dispensing volume is a value measured under Koganei measurement conditions. Values vary depending on medium and shape of nozzle being used, contact us for information.

3: Reference values are measured under Koganei measurement conditions using grease, at operating pressure of 0.5 MPa [73 psi], and a 2 mm [0.079 in] diameter nozzle.

## Dimensions mm [in]

### Versatile Dispensing Pump

MP--M5



## Handling instructions and precautions



### General precautions

#### Piping

Before performing piping work, thoroughly flush the inside of the pipes with compressed air. Machining chips, sealing tape, rust and other debris may get into the syringe. If anything gets into the syringe, it will contaminate the medium being used, cause the medium to leak from the product, or cause malfunctions.

#### Air supply

Compressed air applied to the syringe should be clean dry air that contains no degraded compressor oil, etc. Install an air filter (filtration of 40  $\mu\text{m}$  or less) near the Versatile Dispensing Pump or valve to remove dust and accumulated liquid. Also, drain the filter element periodically. Contact us about using a medium other than compressed air.



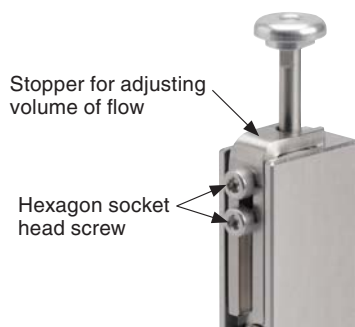
### Mounting

#### Installing the main unit

1. The Versatile Dispensing Pump has two female threads (M3 $\times$ 0.5, depth 4 mm [0.157 in]) for mounting, and 2 through holes of  $\phi$ 4.5 [0.177 in] (M4) to use for mounting. Tightening torque for screws used for mounting is a maximum of 1.14 N $\cdot$ m [10.09 in $\cdot$ lbf] for the M3 and a maximum 2.7 N $\cdot$ m [23.9 in $\cdot$ lbf] for the M4 screws.
2. If you are using an air cylinder or other mechanism to operate the Versatile Dispensing Pump, install it so it presses on the center of the rod, do not apply any off-centered load. An off-centered load could result in breakage or defective rod returns.

#### Stopper for adjusting volume of flow

You can adjust the Versatile Dispensing Pump's volume of flow with the stopper. Loosen the 2 hexagon socket head screws (M3) holding the stopper, then adjust the stopper to the desired flow volume. After adjusting the volume of flow, tighten the hexagon socket head screws (M3, 2 screws) to secure the stopper in place. The correct tightening torque is a maximum of 0.63 N $\cdot$ m [5.58 in $\cdot$ lbf].



#### Dispensing port

The dispensing port of the Versatile Dispensing Pump is M5 $\times$ 0.8, at a depth of 5 mm [0.197 in]. The correct tightening torque for attaching a nozzle etc to the dispensing port of the Versatile Dispensing Pump is a maximum of 3 N $\cdot$ m [27 in $\cdot$ lbf]. (Refer to photo below)

#### Attaching a syringe

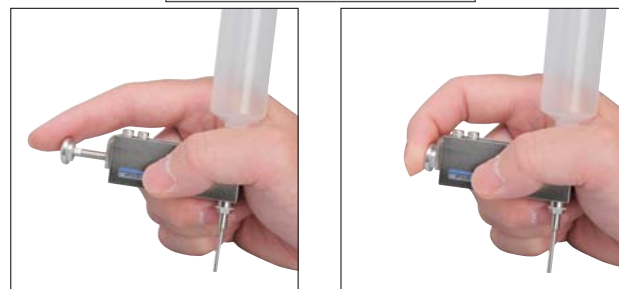
The filling port is double threaded screw (ISO 594-2 compliant). A syringe with a double threaded connector can be attached. Lightly tighten the syringe by hand when you attach it.



#### Method of use

1. Attach a syringe to the filling port and a nozzle to the dispensing port.
2. Supply compressed air to the syringe. Be careful when you apply compressed air, the rod will pop out (pressure range: 0.1 to 0.5 MPa [15 to 73 psi]).
3. Remove the plug that is below the stopper.
4. Press on the rod to bleed the air in the pump out through the plug hole port. Press the rod until the medium comes out of this port (prime the pump).
5. When the medium comes out of the port, wipe off the medium that comes out, and put in the plug. The tightening torque for attaching the plug is a maximum of 0.7 N $\cdot$ m [6.2 in $\cdot$ lbf].
6. Press the rod again to continue priming the pump until the medium comes out of the nozzle.
7. Preparations are finished when the medium comes out of the nozzle.
8. Apply the medium to the target object.
9. You can adjust the volume of the medium being dispensed by adjusting the stopper. Refer to the "Stopper for adjusting volume of flow" section for the adjustment procedure.
10. Contact us for operating conditions if you are operating the rod some way other than manually. The pressure or other condition may damage the valve seating if it is done incorrectly.

#### Image of operation



\* Before use, be sure to read the "Safety Precautions" and "General Precautions" in the general catalog.

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