

Impulse Lubricator

Series *ALIP1000/1100*

- Intermittent discharge of small, constant amounts to the sliding parts
- Directly supplies a constant amount of oil just before the lubrication point



ALIP1000-01



ALIM1000-2

Standard Specifications

| Model | ALIP1000-01 | ALIP1100-01 |
|--|---------------------------|-----------------|
| Port size Rc (Nominal size) | 1/8 (6A) | |
| Proof pressure | 1.0 MPa | |
| Operating pressure range for signal pressure | 0.25 to 0.7 MPa | |
| Pressure range for oil ^{Note 1)} | 0 to 0.4 MPa | 0.15 to 0.4 MPa |
| Oil viscosity ^{Note 1)} | 2 to 460 cst (40°C) | |
| Ambient and fluid temperature | 5 to 50°C | |
| Oil feeding volume (1 shot) ^{Note 2)} | 0 to 0.04 cm ³ | |
| Weight (kg) | 0.22 | |
| Mounting orientation | OIL OUT upward | No restriction |

Note 1) Determine the oil pressure and port size based on the piping length and oil viscosity, referring to the operation manual.

Note 2) The oil feeding volume adjustment range is 0.003 to 0.04 cm³. The set oil feeding volume at the time of shipment is 0.02 cm³.

Oil Tank (Option)/Part No.

| Part no. | Operating pressure range | Tank capacity | Float switch | Max. operating voltage | Max. contact point capacity |
|-----------------|--------------------------|----------------------|------------------|------------------------|-----------------------------|
| ALT10 | 0 to 0.4 MPa | 160 cm ³ | — | — | — |
| ALT10-S1 | | | Bottom limit ON | 200 VAC | 50 VA AC |
| ALT10-S2 | | | Bottom limit OFF | 200 VDC | 50 W DC |
| ALT20 | 0 to 0.4 MPa | 1000 cm ³ | — | — | — |
| ALT20-S1 | | | Bottom limit ON | 200 VAC | 50 VA AC |
| ALT20-S2 | | | Bottom limit OFF | 200 VDC | 50 W DC |

How to Order

ALIP 1000-01

Impulse lubricator

Port size

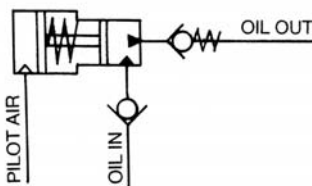
01 Rc 1/8

Applicable oil and oil supply pressure

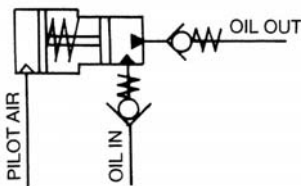
| Symbol | Applicable oil | Oil supply pressure |
|-------------|----------------|-----------------------------|
| 1000 | Oil | No pressurized, Pressurized |
| 1100 | Oil | Pressurized |

JIS Symbol

ALIP1000-01



ALIP1100-01



ALIM 1000-2

Impulse lubricator manifold

No. of stations

| | |
|-----------|-------------|
| 2 | 2 stations |
| 3 | 3 stations |
| 4 | 4 stations |
| 5 | 5 stations |
| 6 | 6 stations |
| 7 | 7 stations |
| 8 | 8 stations |
| 9 | 9 stations |
| 10 | 10 stations |

Impulse lubricator model

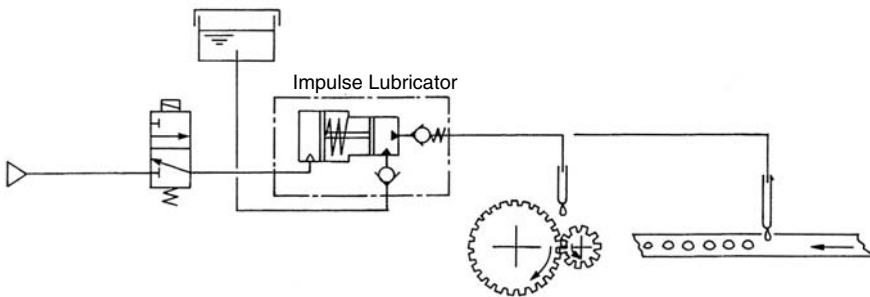
| | |
|-------------|-------------|
| 1000 | ALIP1000-01 |
| 1100 | ALIP1100-01 |

Note) If an odd number of stations are used, a base for even number of stations is used with a blanking plate installed on one of the stations. (Refer to dimensions on page 789.)

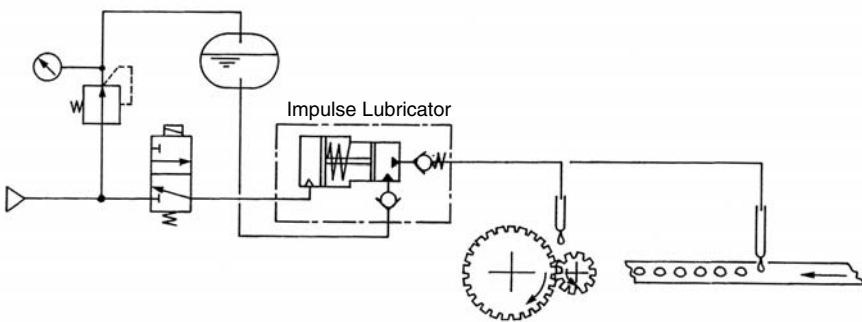
Piping Example

Intermittent lubrication and constant amount of oil dropping to the friction part of machines, such as gears.

- No pressurized tank

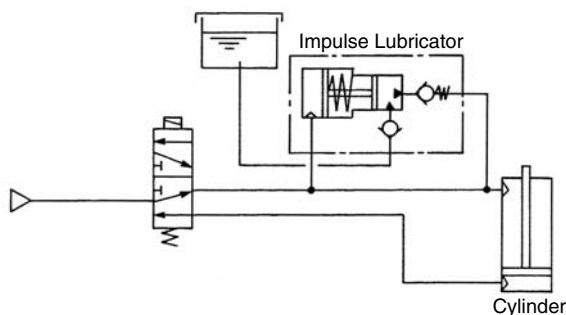


- Pressurized tank

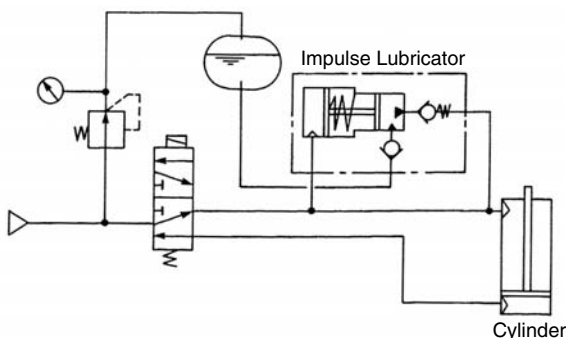


Lubrication to pneumatic equipment such as air cylinders

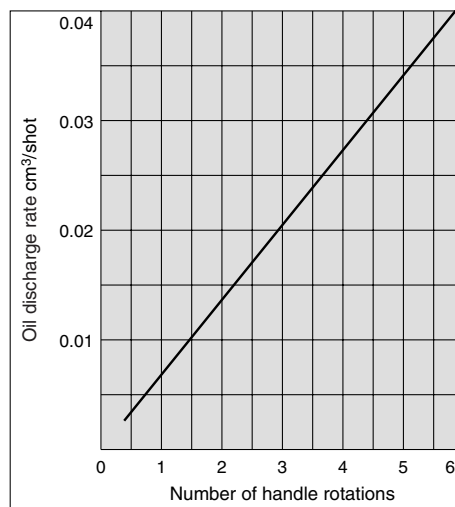
- No pressurized tank



- Pressurized tank



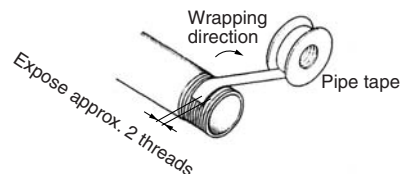
Oil Discharge Rate (Representative Value)



Handling Precautions

Mounting

1. Mount the air pipes after sufficiently flushing them.
2. When screwing in pipes or fittings, be careful to avoid letting cutting chips from pipe screws, sealant, etc. get mixed in. When wrapping with pipe tape, be sure to leave 1.5 to 2 threads remaining unwrapped.



3. Mount the ALIP1000-01 with the OIL OUT side facing upwards.
4. When using the oil tank while exposing it to the outside air, mount it in a higher position than the impulse lubricator.
5. Be sure there is enough space above the air release knob to release the air.

Adjustment

1. At the time of shipment, the impulse lubricator is set for an oil discharge volume of 0.02 cm³, but when necessary, this can be adjusted by pulling the handle to release the lock, then rotating the handle.
2. Rotating the handle to the right will reduce the volume of discharge, while rotating it to the left will increase it. One revolution of the handle will change the discharge volume by only about 0.007 cm³. After adjustment, push the handle back in to lock it.

Lubrication

1. After supplying oil to the oil tank, a large volume of air bubbles will be mixed in with the oil, so either wait for the air bubbles to dissipate, or use vacuum suction to remove the bubbles before using the equipment.
2. If air enters the interior of the impulse lubricator pump chamber, oil will cease to be discharged; if this happens, be sure to release the air.
3. Be absolutely sure not to screw plugs, etc. into the OIL OUT side.

AL800
AL900

ALF
ALT

ALD

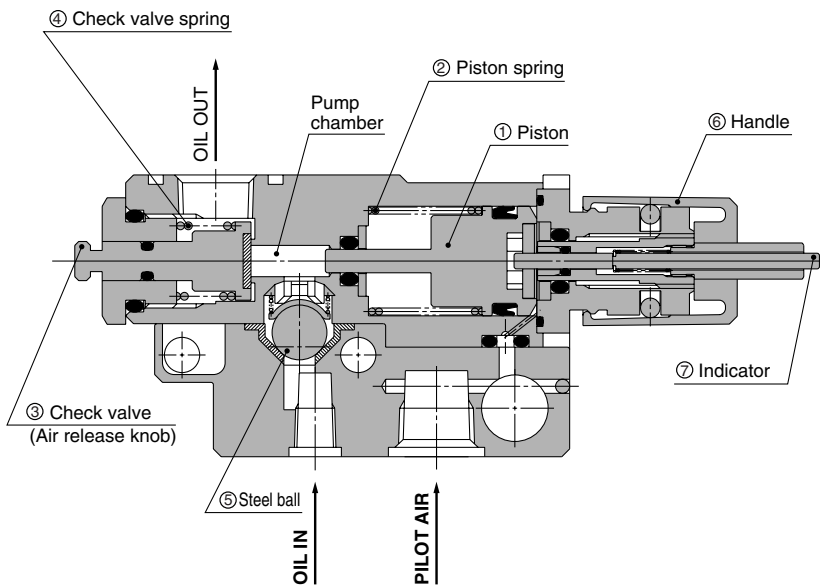
ALB

LMU

ALIP

Series ALIP

Working Principle

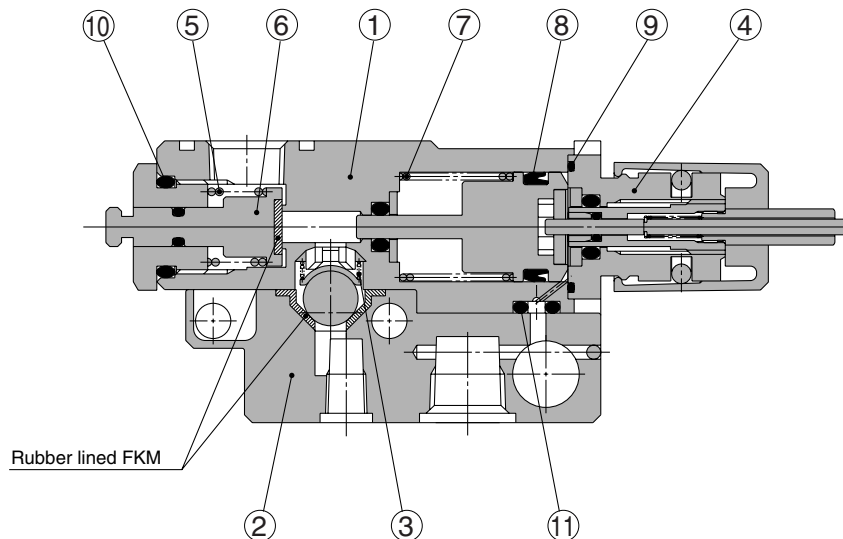


In the figure to the left, when pilot air enters the inlet side of the piston (1), the piston (1) overcomes the piston spring (2) and pushes oil into the pump chamber. At this time the steel ball (5) is pushed downward and closes the oil entry passage. The volume of oil in the pump chamber, equivalent to (the cross sectional area of the pump chamber intrusion piston) x (the piston stroke), pushes open the check valve (3) and is discharged from the outlet side. After the oil discharge finishes, the check valve (3) closes the outlet side passage using the check valve spring (4).

After the pilot air is released, the piston (1) recovers by using the piston spring (2), the steel ball (5) is pulled upward, and new oil flows into the pump chamber from the oil entry passage.

Rotate the handle (6) and change the stroke of the piston (1) to adjust the volume of oil discharged. Turning the handle left will increase the discharge volume, while turning to the right will decrease it. The movement of the piston can be confirmed visually by using the indicator (7).

Construction/Parts List



Main Parts List

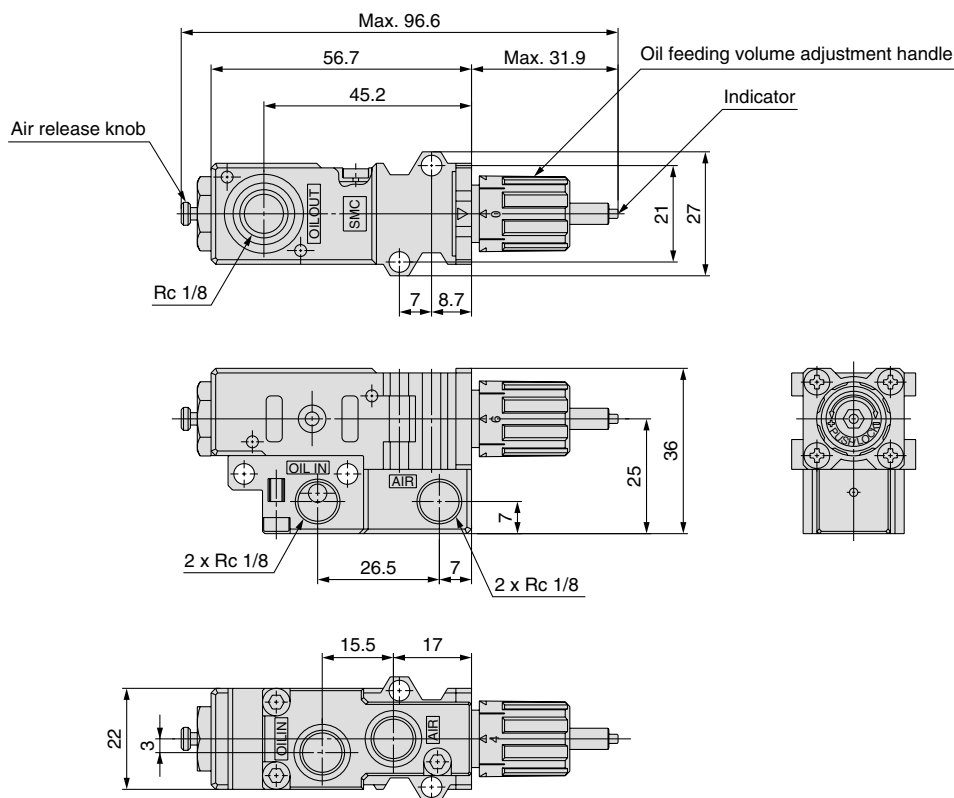
| No. | Description | Material | Note |
|-----|-------------|-----------------|------------------------|
| 1 | Body | Zinc die-casted | Platinum silver coated |
| 2 | Base B | Zinc die-casted | Platinum silver coated |

Spare Parts/Replacement Parts Part No.

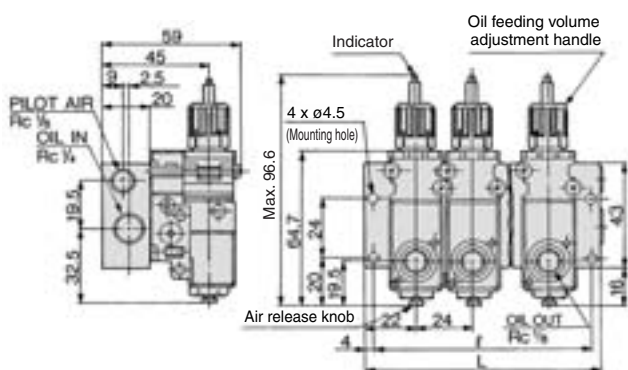
| No. | Description | Material | Part no. | |
|-----|----------------------|-----------------|----------------------|-------------|
| | | | ALIP1000-01 | ALIP1100-01 |
| 3 | Check spring | Stainless steel | — | 881128 |
| 4 | Bonnet assembly | — | 88117-1A | 88117-3A |
| 5 | Check spring | Stainless steel | 881118-1 | |
| 6 | Check valve assembly | — | 881115-2A | |
| 7 | Piston spring | Stainless steel | 881117 | |
| 8 | DY seal | NBR | DYP-14 | |
| 9 | O-ring | NBR | ø16.9 x ø14.9 x 1W | |
| 10 | O-ring | NBR | JIS B2401 P10 | |
| 11 | O-ring | NBR | ø6.15 x ø2.75 x 1.7W | |

Dimensions

Impulse lubricator: ALIP1□00-01

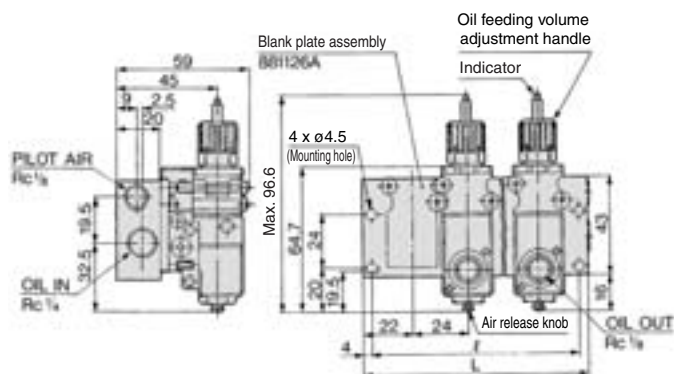


Impulse lubricator manifold: ALIM1□00-2, 4, 6, 8, 10



| Part no. | Impulse lubricator part no. | Stations | L | ℓ |
|-------------|-----------------------------|----------|-----|-----|
| ALIM1000-2 | ALIP1000-01 | 2 | 68 | 60 |
| ALIM1100-2 | ALIP1100-01 | | | |
| ALIM1000-4 | ALIP1000-01 | 4 | 116 | 108 |
| ALIM1100-4 | ALIP1100-01 | | | |
| ALIM1000-6 | ALIP1000-01 | 6 | 164 | 156 |
| ALIM1100-6 | ALIP1100-01 | | | |
| ALIM1000-8 | ALIP1000-01 | 8 | 212 | 204 |
| ALIM1100-8 | ALIP1100-01 | | | |
| ALIM1000-10 | ALIP1000-01 | 10 | 260 | 252 |
| ALIM1100-10 | ALIP1100-01 | | | |

Impulse lubricator manifold: ALIM1□00-3, 5, 7, 9



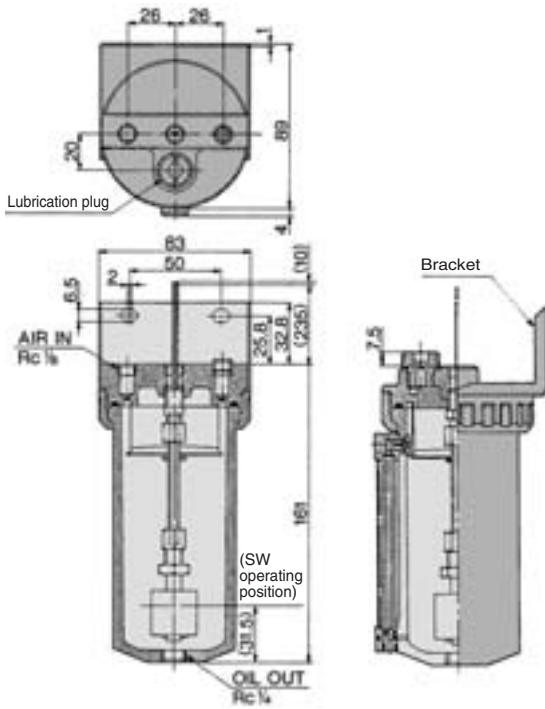
| Part no. | Impulse lubricator part no. | Stations | L | ℓ |
|------------|-----------------------------|----------|-----|-----|
| ALIM1000-3 | ALIP1000-01 | 3 | 116 | 108 |
| ALIM1100-3 | ALIP1100-01 | | | |
| ALIM1000-5 | ALIP1000-01 | 5 | 164 | 156 |
| ALIM1100-5 | ALIP1100-01 | | | |
| ALIM1000-7 | ALIP1000-01 | 7 | 212 | 204 |
| ALIM1100-7 | ALIP1100-01 | | | |
| ALIM1000-9 | ALIP1000-01 | 9 | 260 | 252 |
| ALIM1100-9 | ALIP1100-01 | | | |

Note) Specifications are the same as impulse lubricator specifications.

Series ALIP

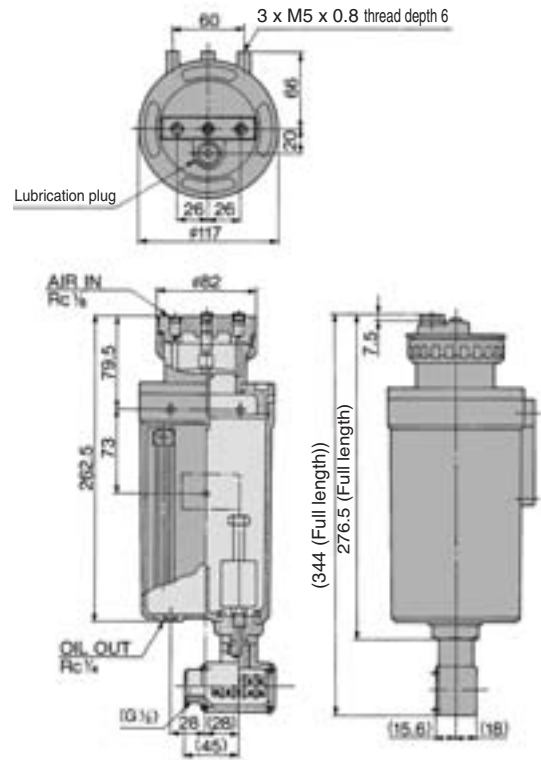
Option/Dimensions

Oil tank: ALT10



(): Dimensions for ALT10-S₂¹

Oil tank: ALT20



(): Dimensions for ALT20-S₂¹