

Impulse Lubricator

ALIP1000/1100 Series

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



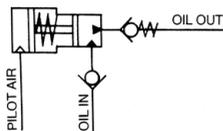
ALIP1000-01



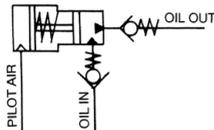
ALIM1000-2

Symbol

ALIP1000-01



ALIP1100-01



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

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

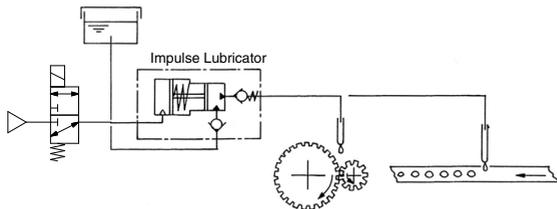
1000	ALIP1000-01
1100	ALIP1100-01

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 1071.)

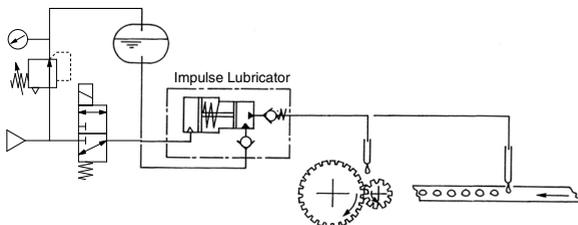
Piping Example

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

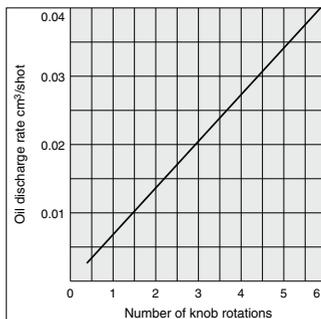
- No pressurized tank



- Pressurized tank



Oil Discharge Rate (Representative Value)



AL800
AL900

ALF
ALT

ALD

ALB

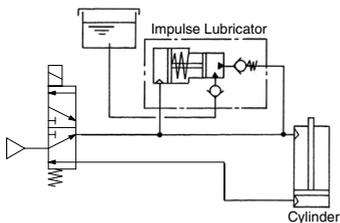
LMU

ALIP

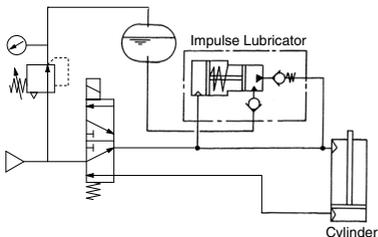
AEP
HEP

Lubrication to pneumatic equipment such as air cylinders

- No pressurized tank

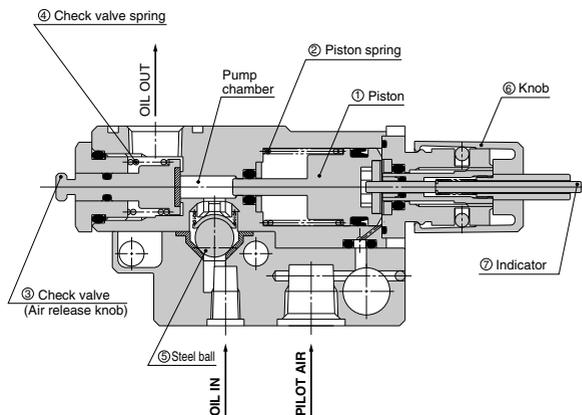


- Pressurized tank



ALIP1000/1100 Series

Working Principle

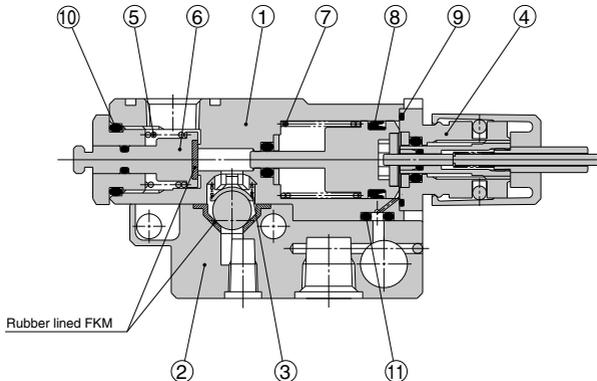


In the figure to the left, when pilot air enters the inlet side of the piston (1), the piston (1) overcomes the piston spring (2) and pushes oil into the pump chamber. At this time the steel ball (5) is pushed downward and closes the oil entry passage. The volume of oil in the pump chamber, equivalent 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 knob (6) and change the stroke of the piston (1) to adjust the volume of oil discharged. Turning the knob 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

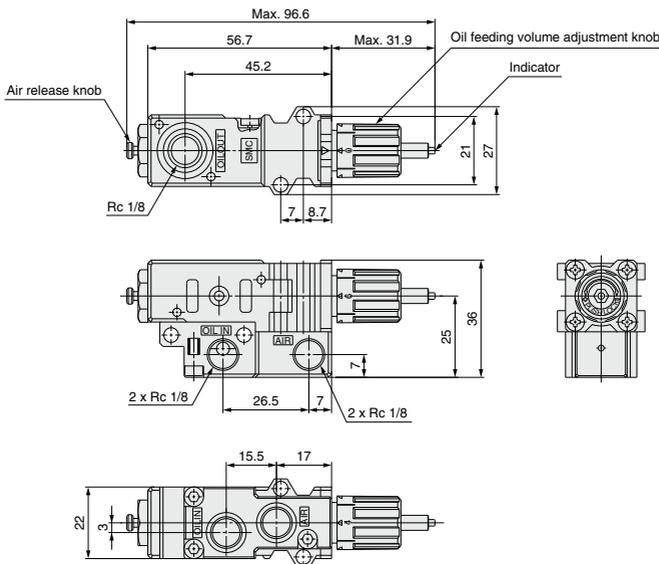
No.	Description	Material	Note
1	Body	Zinc die-casted	Platinum silver coated
2	Base B	Zinc die-casted	Platinum silver coated

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	KB00207	
9	O-ring	NBR	KA00288	
10	O-ring	NBR	KA00066	
11	O-ring	NBR	KA02133	

Dimensions

Impulse lubricator: ALIP1□00-01



AL800
AL900

ALF
ALT

ALD

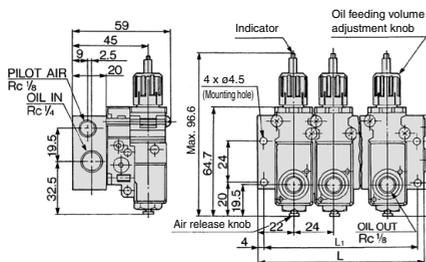
ALB

LMU

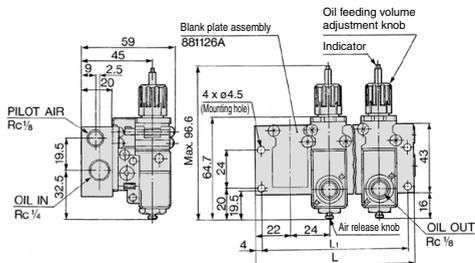
ALIP

AEP
HEP

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



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



Part no.	Impulse lubricator part no.	Stations	L	L ₁
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			

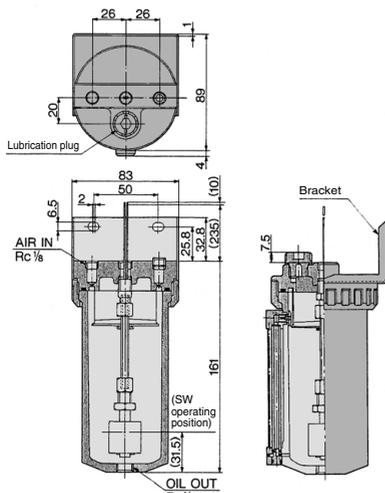
Part no.	Impulse lubricator part no.	Stations	L	L ₁
ALIM1000-3	ALIP1000-01	3	116	108
ALIM1100-3	ALIP1100-01			
ALIM1000-5	ALIP1000-01	5	164	156
ALIM1100-5	ALIP1100-01			
ALIM1000-7	ALIP1000-01	7	212	204
ALIM1100-7	ALIP1100-01			
ALIM1000-9	ALIP1000-01	9	260	252
ALIM1100-9	ALIP1100-01			

Note) Specifications are the same as impulse lubricator specifications.

ALIP1000/1100 Series

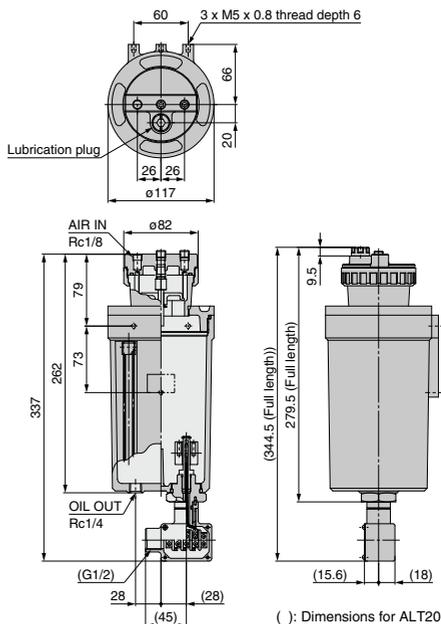
Option/Dimensions

Oil tank: ALT10



() : Dimensions for ALT10-S₁

Oil tank: ALT20

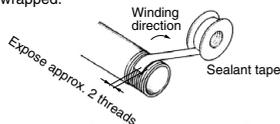


() : Dimensions for ALT20-S₁

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 winding with sealant tape, be sure to leave 1.5 to 2 threads remaining unwrapped.



3. To screw a piping material into a component, tighten it by hand while holding the female thread side, and then tighten it two or three turns with an appropriate tool. For a tightening torque guide, refer to the table on the right. Excessive tightening may damage the threads or internal parts, and insufficient tightening may cause seal failure or loosen the threads. Furthermore, tightening without holding the female thread side can cause damage due to the excessive force that is applied directly to the bracket.

Recommended tightening torque (N·m)

Connecting thread size	1/8	1/4
Recommended tightening torque	3 to 5	8 to 12

- Additionally, the screw-in depth of the fitting to the oil outlet should be 6 mm or less. If the fitting is screwed in 6 mm or more, the internal parts may be broken, causing malfunction.
4. Mount the ALIP1000-01 with the OIL OUT side facing upwards.
 5. When using the oil tank while exposing it to the outside air, mount it in a higher position than the impulse lubricator.
 6. Provide enough space above the air release knob of the impulse lubricator to release the air.
 7. For ALT10 series, a slight clearance is provided between the product and bracket. If this clearance is not allowable, contact SMC.

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 knob to release the lock, then rotating the knob.
2. Rotating the knob to the right will reduce the volume of discharge, while rotating it to the left will increase it. One revolution of the knob will change the discharge volume by only about 0.007 cm³. After adjustment, push the knob 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. Never screw any plug, etc. into the OIL OUT side of the impulse lubricator.