Mist Spray Unit

LMU100/200 Series

 Intermittent spray to cutting and press gear chains, etc.



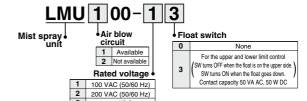
Standard Specifications

otandara opecinications					
Model		LMU100	l .	LMU200	
Inlet air pressure	0.1 to 1.0 MPa			.0 MPa	
Oil tank set pressure range			0.05 to (0.2 MPa	
Oil	Tu	rbine oil, Non-	water solul	ble cutting oil (JIS, N1 type)	
Dynamic viscosity of oil (40°C)			2 to 200) mm ² /s	
Oil tank capacity (cm³)			Total capa	acity: 3000	
	Effective capacity: 2500				
Ambient and fluid temperature	5 to 50°C			50°C	
Solenoid valve voltage		100 VAC 50	/60Hz, 200	VAC 50/60Hz, 24 VDC	
	SUP	Rc 1/4			
Port size			AIR	: T0604 (ø6 tube) applicable	
FOIL SIZE	OUT	3 x Rc 1/4	OIL	: T0425 (ø4 tube) applicable	
	AIR BLOW: T0806 (ø8 tube) appli			V : T0806 (ø8 tube) applicable	
Weight (kgf)	8.4 7.9			7.9	

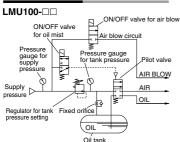
AL800
AL900
ALF
ALT
ALD
ALB

LMU
ALIP
AEP
HEP

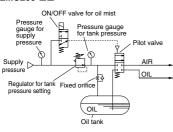
How to Order



Control Circuit



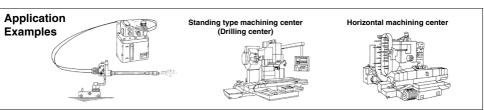
LMU200-□□



Recommended Equipment

It is recommended to use each mist spray unit type with the mixing valves, magnet holders, branch pipes and nylon tubes listed in the table below.

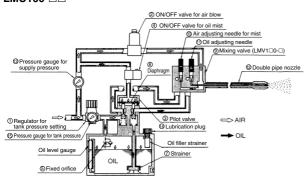
Mist spray unit	Mixing valve	Magnet holder	Branch pipe	Nylon tube
This unit, with an	This valve adjusts	This magnet holder	This pipe is used	This tube is used
oil tank and a spray	the amounts of oil	enables the mixing	to separate oil and	for the air piping
ON/OFF control	and air from the	valve installed on	air from the mist	and oil piping
unit, sends oil and	mist spray unit	the arm end to be	spray unit when	between the mist
air to the mixing	using built-in oil	freely attached to	using several	spray unit and the
valve.	and air needles,	the iron and steel	mixing valves.	mixing valve.
	and also	parts such as		
	discharges oil mist	machining tools,		
	from the nozzle.	etc.		
	LMV110-□□			OIL→T0425□
LMU100-□□		LMH10	LMD1-□	AIR→T0604□
	LMV120-□□			AIR BLOW→T0806□
I MILIONO DD	LMV210-□□	1.841100	I MDo 🗆	OIL→T0425□
LMU200-□□	LMV220-□□	LMH20	LMD2-□	AIR→T0604□



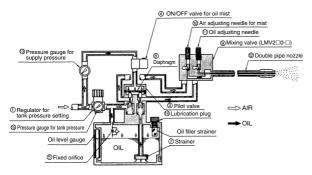
LMU100/200 Series

Construction/Working Principle

LMU100-□□



LMU200-□□



Working Principle

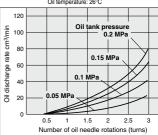
Of the compressed air from the air source, part is directed to the regulator for tank pressure setting (1), while the rest is directed to the ON/OFF valve for oil mist (4), which operates the ON/OFF valve for the air blow circuit (2) and the pilot valve for the mixing circuit (3). Compressed air at a prescribed setting determined by the regulator for tank pressure setting (1) passes through the fixed orifice (5) and gradually fills the oil tank (6), applying pressure to the OIL surface. The OIL in the tank passes through the strainer (7) and is drawn into the pilot valve (3). Operating the ON/OFF valve for oil mist (4) at this point will cause operating signal pressure to be conducted into the pilot valve (3), pushing the diaphragm (8) downwards, and as a result the compressed air from pilot valve (3) and oil from the opened valve will flow through their respective conduits and be drawn into the mixing valve (9).

Air and oil are adjusted with varying quantities by the air for mist from the mixing valve (9) and oil adjustment needles (10) and (11). With dual piping from the mixing valve (9) to the dual pipe nozzle (12), compressed air passes through the outside while oil passes through the inside, and at the tip of the dual pipe nozzle (12) they are sprayed out as a fine mist by the discharged air.

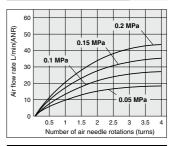
To remove cutting chips, operate the ON/OFF valve for air blow (2), which will cause the supplied compressed air to be drawn directly into the mixing valve (9) and blown out as air through the external piping of the dual pipe nozzle (12). To replenish oil, loosen the oil supply plug (14) to discharge the compressed air from inside the tank through the oil supply plug's side hole. Since it flows gradually from the fixed orifice (5) into the interior of the tank, it is easy to replenish oil from the oil supply hole.

Oil Discharge Rate (Representative Value)

Conditions Oil: Turbine oil class 1 ISO VG32 Oil temperature: 26°C



Air flow rate (Representative Value)



Handling Precautions

Mounting

 Be sure to mount an air filter corresponding to 5mm (equivalent to the SMC AF20) on the SUP side of the mist spray unit.

Adjustment

1. After loosening the tank's pressure-setting knob (by rotating it to the left), introduce air from the air source. Use the tank's pressure-setting knob and set the range from 0.05 to 0.2 MPa, set each control valve to ON (manual operation or energized), and inspect carefully to make sure there is no looseness in the fittings at each connecting point. At this time, be sure the air and oil adjustment needles of the mixing valve are in a completely closed position (by rotating it to the right.)

Lubrication

1. Completely release air in the OIL pipe. Even small amounts of air in the OIL pipe will cause oil to dribble. Fully open the oil adjustment needle of the mixing valve, and turn the ON/OFF valve for oil mist generation to the ON position, or press and hold down the manual button to release all air from inside the OIL pipe. If air buildup from use of branching pipes, etc. takes place inside the OIL pipe, mount an air release valve at the highest position and let the air out.

Be sure to carry out this operation when replenishing the oil after the oil tank becomes empty.



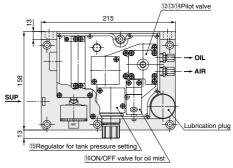
Mist Spray Unit LMU100/200 Series

Dimensions/Parts List

15 Regulator for tank pressure setting

LMU100 1213 14 Pilot valve 23.1 AIR BLOW Lubrication plug

LMU200

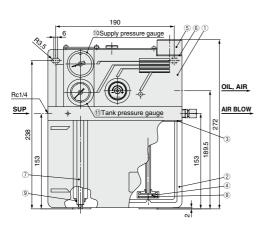


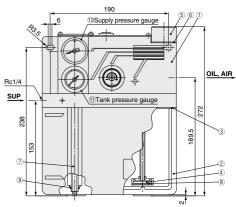


ALD ALB

LMU

ALIP AEP HEP





Main Parts List

No.	Description	Material	Note
1	Mist spray body	Aluminum die-casted	Platinum silver coated
2	Mist spray tank	Aluminum die-casted	Platinum silver coated

Spare Parts/Replacement Parts Part No.

No.	Description	Material	ا	Part no.	
IVO.	No. Description	Material	Qty.	LMU100	LMU200
3	Body seal	NBR	1	810	21-3
4	Element	Bronze	1	810	21-6
5	Lubrication plug	Brass	1	810	21-7
6	Filler seal	_	1	810	21-8
7	Level gauge	Hard glass	1	810	21-9
8	Type C retaining ring for hole	Stainless steel	1	FG00193	
9	O-ring	FKM	2	KA00622	
10	Pressure gauge	_	1	G46-10-01	
11	Pressure gauge	_	1	G46-4-01-L	
12	Pilot valve	_	1	81022P	
13	O-ring	NBR	1	KA00078	
14	O-ring	FKM	2	KA00099	
15	Regulator	_	1	INA-13-717	
16	Solenoid valve	_	1	VO307K-2G1-X328	
17	Solenoid valve	_	1	VO315-00 gG	_
18	O-ring	NBR	4	KA00087	_

LMU100/200 Series

Related Products

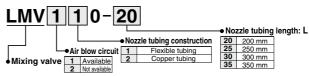


Mixing Valve: LMV Series

Specifications

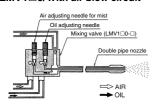
Inlet air pressure		0.3 MPa Max.	
Ambient and fluid temperature		5 to 60°C	
Port size	AIR	T0604 (ø6 tube) applicable	
	OIL	T0425 (ø4 tube) applicable	
	AIR BLOW	T0806 (ø8 tube) applicable	

How to Order

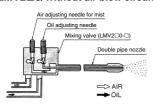


Construction

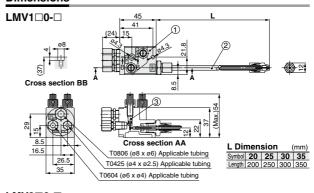
LMV1□0/With air blow circuit

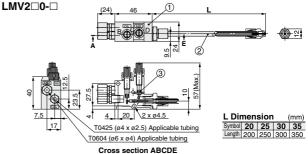


LMV2□0/Without air blow circuit



Dimensions





Main Parts List

No.	Description	Material	Note
1	Mixing valve body	Aluminum die-casted	Platinum silver coated

Spare Parts/Replacement Parts Part No.

		Material	Qty.	Part no.	
		wateriai		LMV□10	LMV□20
_	Flexible nozzle assembly	_	1	81023-2A-1 to 4 Note 1)	_
2	Copper piping nozzle assembly	_	1	_	81023-31A-1 to 4 Note 1)
3	O-ring	FKM	2	123116-2	

Note 1) Numbers indicate nozzle lengths. -1: 200 mm, -2: 250 mm, -3: 300 mm, -4: 350 mm



Mist Spray Unit LMU100/200 Series



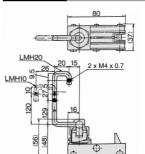
Magnet Holder: LMH Series

How to Order

LMH 1 0

		Air blow circuit
Symbol	Construction	Applicable mixing valve model LMV1 □ 0
1	Available	LMV1□0
2	Not available	LMV2□0

Dimensions



ALIP AEP HEP

AL800 AL900

ALD

ALB

Branch Pipe: LMD Series

How to Order



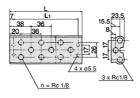


Air blow circuit 1 Available 2 Not available



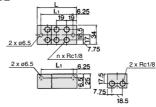
Dimensions





		r	: Stations
Model	n	L	L ₁
LMD1-1	3	58	44
LMD1-2	6	94	80
LMD1-3	9	130	116
LMD1-4	12	166	152
LMD1-5	15	202	188
LMD1-6	18	238	224





		r	: Stations
Model	n	L	L ₁
LMD2-1	2	38	25.5
LMD2-2	4	57	44.5
LMD2-3	6	76	63.5
LMD2-4	8	95	82.5
LMD2-5	10	114	101.5
LMD2-6	12	133	120.5