

OIL- SYSTEM

SYSTEMS

- PDI (Positive Displacement Injector)
 - SLR (Single Line Resistance)
 - Pneumatic (biodegradable oil)
 - Progressive
-

LUBFIT OIL SERIES

ACCESSORIES

PDI System

AMZ-III (Automatic intermittent gear pump)

Model Reference

AMZ-III - [] - [] - []

Voltage

1	AC100Vφ1
2	AC200Vφ1
23	AC230Vφ1

Reservoir Mounting Position

Blank	Resin
F	Foot Mount
B	Wall Mount

*Metal reservoir only

Reservoir capacity

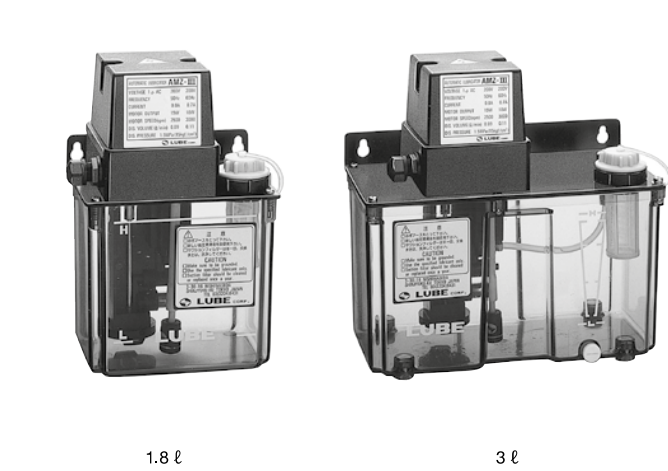
Blank	1.8 ℓ Resin reservoirs
3	3 ℓ Resin reservoirs
30	3 ℓ Metal reservoirs
40	4 ℓ Metal reservoirs
80	8 ℓ Metal reservoirs

*Pump is installed on the right side, if a metal reservoir is selected.

Model	Part Number
AMZ-III -1	285017
AMZ-III -1-3	285024
AMZ-III -2	285016
AMZ-III -2-3	285023

Low viscosity oil pump

	Model	Part No.	Voltage	Tank capacity	Working viscosity range
1	AMZ-3-100SL-18LP	285224	100V	1.8L	22 ~ 800 mm ² /S
2	AMZ-3-100SL-18LP	285426	200V	1.8L	22 ~ 800 mm ² /S
3	AMZ-3-23	285433	250V	1.8L	22 ~ 800 mm ² /S



Specifications

Pump	Discharge volume	90 ml/min (50Hz), 110 ml/min (60Hz)
	Discharge pressure	1.5 MPa/217.5psi (safety valve set pressure)
Motor	Voltage / current	AC100V/1.5A, AC200V/0.8A (50Hz) AC100V/1.3A, AC200V/0.7A (60Hz)
	Output	19W (50Hz), 18W (60Hz) Shading motor
Emergency detection	Oil level switch	Contact type (NO) ON at low level Contact capacity 0.5A, AC DC200V/30W smaller
	Pressure switch	Contact type (NO) Operating pressure: 1.3M ON Reset pressure: 0.9MPa OFF Contact capacity AC DC250V/2A
Max. Min.	Operation	Discharge time: 1 min. Interval time: 3 min.
Working viscosity range		50-1300 mm ² /S (50Hz)
Reservoir capacity		1.8ℓ, 3ℓ (plastic) 3ℓ, 4ℓ, 8ℓ (sheet metal)
Weight		1.8ℓ: 2.7kg 3ℓ: 3.6kg
External fuse		100V/2.0A, 200V/1.0A

Related parts



M02(C) Metering valve
P. 101



JVPA Junction
P. 102



MO Metering valve
P. 100



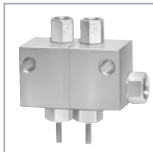
PV Junction
P. 97



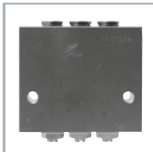
MOS Metering valve
P. 102



PVS Junction
P. 98



MB Metering valve
P. 104



MIX-S Metering valve
P. 108



F-3D Filter
P. 166



Pressure gauge
P. 163



Tubing
P. 190



Compression parts
P. 188



Adapters
P. 194



Metal reservoirs
P. 174

Pneumatic System

PM-8S (piston pump)

Model Reference

PM-8S-

Oil level switch

BlankWithout

LWith(Acontact)

Reservoir capacity

Blank1.8ℓ Resin reservoirs

33ℓ Resin reservoirs

303ℓ Metal reservoirs

404ℓ Metal reservoirs

808ℓ Metal reservoirs

Reservoir Mounting Position

Blank1.8ℓ Resin

FFoot Mount

BWall Mount

Pump Position

L Pump position-Left

R Pump position-Right

*Metal reservoir only

**Except 1.8ℓ reservoir.

*Pump is installed on the right side, if a metal reservoir is selected.

*Specify the pump location (right or left) if 13L reservoir is selected.

Model	Part Number
PM-8S	102660
PM-8S-L	102754

PM-8S

Specifications

Pump ratio	1:5 (under air pressure of 0.5 MPa)
Discharge volume	8mℓ/shot (6mℓ, 7mℓ: available by special order)
Working viscosity	Spray method: Oil shot 10-100cSt Oil/air 10-1800cSt Contact us when a special lubricant is required.
Air pressure vs. air consumption	0.4 MPa - 0.27NI/shot; 0.5 MPa - 0.3NI/shot Total valve discharge: Approx. 5mℓ
System capacity	When using 0.5mℓ valve, up to 10 points.
Reservoir capacity	1.8ℓ, 3ℓ resin reservoir (standard) 3ℓ resin reservoir, 3ℓ, 4ℓ, 81 metal reservoir (optional)
Options	3-way solenoid valve Voltage: AC100V, AC200V, DC24V
	Oil level switch (NO) ON at low level
	Contact capacity AC, DC200V 30W or resistance load 0.5A, whichever smaller
Weight	1.8ℓ reservoir: 1.2 kg, 8ℓ reservoir: 11.0 kg

Hydraulic circuit drawing

Related parts

M02(C) Metering valve
P. 101

JVPA Junction
P. 102

MO Metering valve
P. 100

PV Junction
P. 97

MOS Metering valve
P. 102

PVS Junction
P. 98

MB Metering valve
P. 104

DVR Metering valve
P. 106

MIX-S Metering valve
P. 108

F-3D Filter
P. 106

Pressure gauge
P. 163

Tubing
P. <?>

Compression parts
P. 188

Adapters
P. 194

Metal reservoirs
P. 174

Flexible pipe nozzle
P. 192

86

PDI System

AMO-III DS (Automatic intermittent gear pump)

Model Reference

AMO-III DS - [] - [] - []

Voltage

1	AC100Vφ1
2	AC200Vφ1

Reservoir Mounting Position

Blank	Resin
F	Foot Mount
B	Wall Mount

*Metal reservoir only

Reservoir capacity

Blank	1.8ℓ Resin reservoirs
3	3ℓ Resin reservoirs
30	3ℓ Metal reservoirs
40	4ℓ Metal reservoirs
80	8ℓ Metal reservoirs

* Pump is installed on the right side, if a metal reservoir is selected.

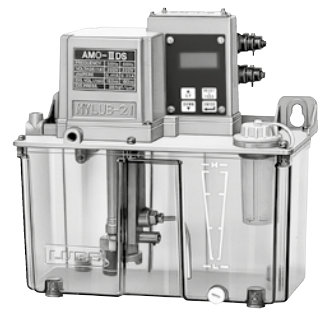
Model	Part Number
AMO-III DS-1	285301
AMO-III DS-1-3	285303
AMO-III DS-2	285302
AMO-III DS-2-3	285304

Low viscosity oil pump

No.	Model	Part No.	Voltage	Tank capacity	Working viscosity range
1	AMO-III DSL-1	285331	100V	1.8L	10~1800 mm ² /S
2	AMO-III DSL-2	285332	200V	1.8L	10~1800 mm ² /S
3	AMO-III DSL-2	285333	100V	3.0L	10~1800 mm ² /S
4	AMO-III DSL-2	285334	200V	3.0L	10~1800 mm ² /S



1.8 ℓ

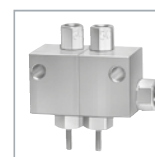
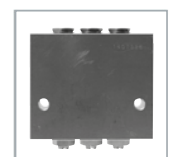


3 ℓ

Specifications

Pump	Discharge volume	150 ml/min (50Hz), 180 ml/min (60Hz)	
	Discharge pressure	2.0 MPa/284psi (safety valve setting)	
Motor	Power	AC100V/0.83A, AC200V/0.41A (50Hz) AC100V/0.64A, AC200V/0.33A (60Hz)	
	Output	20W (50Hz/ 60Hz) Capacitor motor	
Controller	Timer Counter	Discharge time adjustable range: 1 - 99 sec. Interval time adjustable range: 1 - 9999 min. 1 - 9999 counts	
	Emergency output	Contact type (NO)	
		Contact capacity AC250V 1.5A	
	Emergency detection	Oil level switch	Contact type (NO) ON at low level
		Pressure switch	Contact type (NC) Operating pressure: 1.7 MPa OFF Reset pressure: 0.9 MPa ON
	Liquid crystal display	INTERVAL	display: 'INT'
		DIS-CHARGE	display: 'DIS'
		ALARM	Low oil level: 'OILLEVEL ERR' Low pressure: 'PRESSURE ERR'
Working viscosity range	68—1800 mm ² /S (50Hz)		
Reservoir capacity	1.8ℓ, 3ℓ (plastic) 3ℓ, 4ℓ, 8ℓ (sheet metal)		
Weight	1.8ℓ Reservoirs: 3.2kg 3ℓ Reservoirs: 4kg		

Related parts

M02(C) Metering valve
P. 101JVPA Junction
P. 102MO Metering valve
P. 100PV Junction
P. 97MOS Metering valve
P. 102PVS Junction
P. 98MB Metering valve
P. 104MIX-S Metering valve
P. 108F-3D Filter
P. 166Pressure gauge
P. 163Tubing
P. 190Compression parts
P. 188Adapters
P. 194Metal reservoirs
P. 174

PDI System

AMO-II-150S (Automatic intermittent gear pump)

Model Reference

AMO-II-150S- - -
Voltage

1	AC100Vø 1
2	AC200Vø 1

Pressure Switch

Blank	Without Pressure Switch
P	With Pressure Switch

Reservoir Mounting Position

Blank	Resin
F	Foot Mount
B	Wall Mount

*Metal reservoir only

Reservoir capacity

Blank	1.8ℓ Resin reservoirs
3	3ℓ Resin reservoirs
30	3ℓ Metal reservoirs
40	4ℓ Metal reservoirs
80	8ℓ Metal reservoirs

*Pump is installed on the right side, if a metal reservoir is selected.



1.8 ℓ

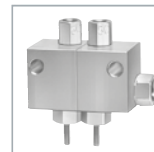
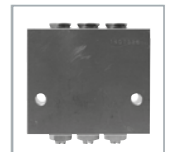
3 ℓ

Model	Part Number
AMO-II-150S-1	202067
AMO-II-150S-1-3	202069
AMO-II-150S-1-P	202071
AMO-II-150S-1-P-3	202073
AMO-II-150S-2	202068
AMO-II-150S-2-3	202070
AMO-II-150S-2-P	202072
AMO-II-150S-2-P-3	202074

Specifications

Pump	Discharge volume	150 ml/ min (50Hz), 180 ml/ min (60Hz)
	Discharge pressure	2.0 Mpa (20kgf/cm2) 284psi
Motor	Voltage/ current	AC100Vø1/0.83A, AC200Vø1/0.41A (50Hz) AC100Vø1/0.64A, AC200Vø1/0.33A (60Hz)
	Output	20W (50Hz/ 60Hz) Condenser Motor
Emergency detection	Oil level switch	Contact type (NO) ON at low level Contact capacity 0.5A AC DC200V/30W smaller
	Pressure switch	Contact type (NC) Operating pressure: 1.7MPa OFF Reset pressure: 0.9MPa ON Contact capacity AC DC250V/3A
	Discharge time	Max. Discharge time: 99sec Min. Interval time: 1min
Working viscosity range		68-1800 mm ² /S (50Hz)
Reservoir capacity		1.8ℓ, 3ℓ (plastic) 3ℓ, 4ℓ, 8ℓ (sheet metal)
Weight		1.8ℓ Reservoirs: 3.2kg 3ℓ Reservoirs: 4kg (plastic)

Related parts

M02(C) Metering valve
P. 101JVPA Junction
P. 102MO Metering valve
P. 100PV Junction
P. 97MOS Metering valve
P. 102PVS Junction
P. 98MB Metering valve
P. 104MIX-S Metering valve
P. 108F-3D Filter
P. 166Pressure gauge
P. 163Tubing
P. 190Compression parts
P. 188Adapters
P. 194Metal reservoirs
P. 174

PDI System

AMI-300S AMI-1000S (Automatic intermittent gear pump)

Model Reference

AMI-□S-□□□□□□

Discharge volume
(50Hz/60Hz)

300	300mL/min / 330mL/min
1000	1000mL/min / 1100mL/min

Voltage

1	AC100Vø 1
2	AC200Vø 3

Reservoir capacity

2	2L Metal
3	3L Resin reservoirs
30	3L Metal reservoirs
40	4L Metal reservoirs
80	8L Metal reservoirs

Oil level switch

Blank	Without
L	With

*If the controller is used,
please select "With".

Reservoir Mounting Position

Blank	Resin reservoirs
F	Foot Mount
B	Wall Mount

Pump Position

L	Pump position-Left
R	Pump position-Right

*Except 2L reservoir.



AMI-300S



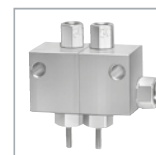
AMI-1000S

Model	Part Number
AMI-1000S-1	202103
AMI-1000S-2	202101
AMI-300S-1	202033
AMI-300S-2	202034

Specifications

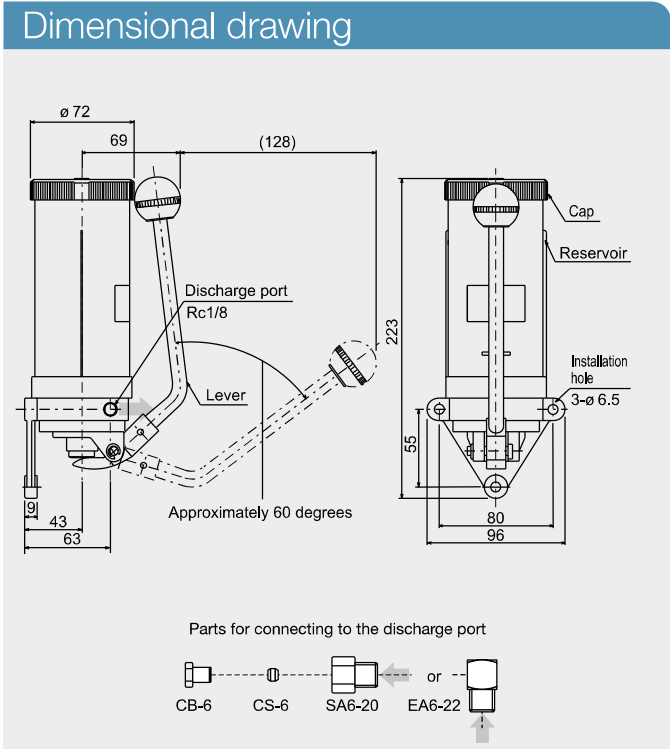
		AMI-300S	AMI-1000S
Pump	Discharge volume	300 mL/min (50Hz) 330 mL/min (60Hz)	1000 mL/min (50Hz) 1100 mL/min (60Hz)
	Discharge pressure	2.5 MPa (25kgf/cm ²) 362.5 psi	
Motor	Power	AC100Vø 1/0.76/0.74A (Condenser 11 µF)	AC100Vø 1/1.2/1.19A (50Hz) (Condenser 20 µF)
	Output	AC200Vø 3/0.32A/0.3A	AC200Vø 3/0.5/0.43A
Operation rate		40W Induction motor	
Working viscosity range		65-1300 mm ² /S (50Hz)	
Reservoir capacity		Max. Discharge time: 3min Min. Interval time: 3min	
Weight		Standard reservoir up to 50 liters available.	
Others		4.4 kg	
External fuse		7.1 kg	
		With Pressure relief mechanism, Motor rotation: Clockwise	
		Meca-tron controller is available.	
		100V/2A 200V/1A	100V/3A 200V/1A

Related parts

MO2, MO2C Metering valve
P. 101JVPA Junction
P. 102MO Metering valve
P. 100For MO Valve
P. 97MOS Metering valve
P. 102PVS Junction
P. 98MB Metering valve
P. 104F-3D Filter
P. 166Pressure gauge
P. 163Tubing
P. 190Compression parts
P. 188Adapters
P. 194Metal reservoirs
P. 174

PDI System

LT-S (Manually operated intermittent piston pump)



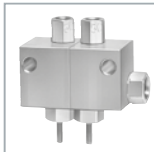
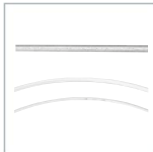
LT-S

Specifications

Pump	Discharge volume	8 ml/Shot
	Discharge pressure	3.4 MPa (Safety valve set pressure)
Working viscosity range		65–1300 mm ² /s
Reservoir capacity		260 ml (Resin)
Weight		1.2 kg
Others		Depressurizing mechanism is built-in

Model	Part Number
LT-S	103421

Related parts

 MO Metering valve P. 100	 PV Junction P. 97	 MOS Metering valve P. 102	 For MOS Valve P. 98	 MB Metering valve P. 104	 F-3D Filter P. 166	 Pressure gauge P. 163	 Tubing P. 190
 Compression parts P. 188	 Adapters P. 194	 M02, M02C Metering valve P. 101	 JVPA junction P. 102				

PDI System

JVPA (Junctions and special fittings for MO2 series valve installation)

Model	Part Number
SCP	619803

Material: Brass (C3604)

Model	Part Number
BPP	619802

Material: Steel (SUM24)

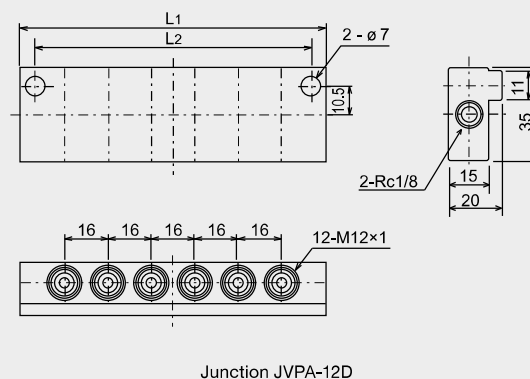
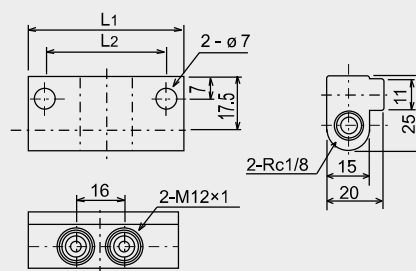
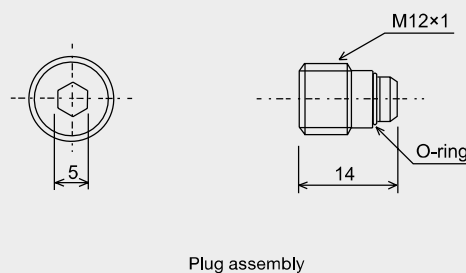
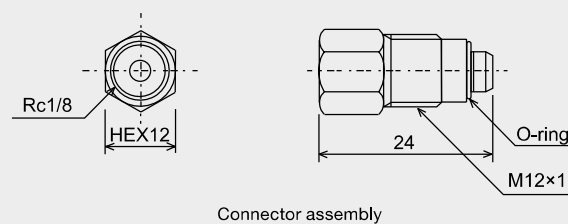
Model	Part No.	Specifications	L ₁	L ₂
JVPA-1S	216001	Single type for 1 port	33	22
JVPA-2S	216002	Single type for 2 ports	49	38
JVPA-3S	216003	Single type for 3 ports	65	54
JVPA-4S	216004	Single type for 4 ports	81	70
JVPA-5S	216005	Single type for 5 ports	97	86
JVPA-6S	216006	Single type for 6 ports	113	102
JVPA-7S	216007	Single type for 7 ports	129	118
JVPA-8S	216008	Single type for 8 ports	145	134
JVPA-9S	216009	Single type for 9 ports	161	150
JVPA-10S	216010	Single type for 10 ports	177	166
JVPA-11S	216011	Single type for 11 ports	193	182
JVPA-12S	216012	Single type for 12 ports	209	198

Model	Part No.	Specifications	L ₁	L ₂
JVPA-2D	216021	Double type for 2 ports	33	11
JVPA-4D	216022	Double type for 4 ports	49	38
JVPA-6D	216023	Double type for 6 ports	65	54
JVPA-8D	216024	Double type for 8 ports	81	70
JVPA-10D	216025	Double type for 10 ports	97	86
JVPA-12D	216026	Double type for 12 ports	113	102
JVPA-14D	216027	Double type for 14 ports	129	118
JVPA-16D	216028	Double type for 16 ports	145	134

Material: Aluminum A6063S-T5

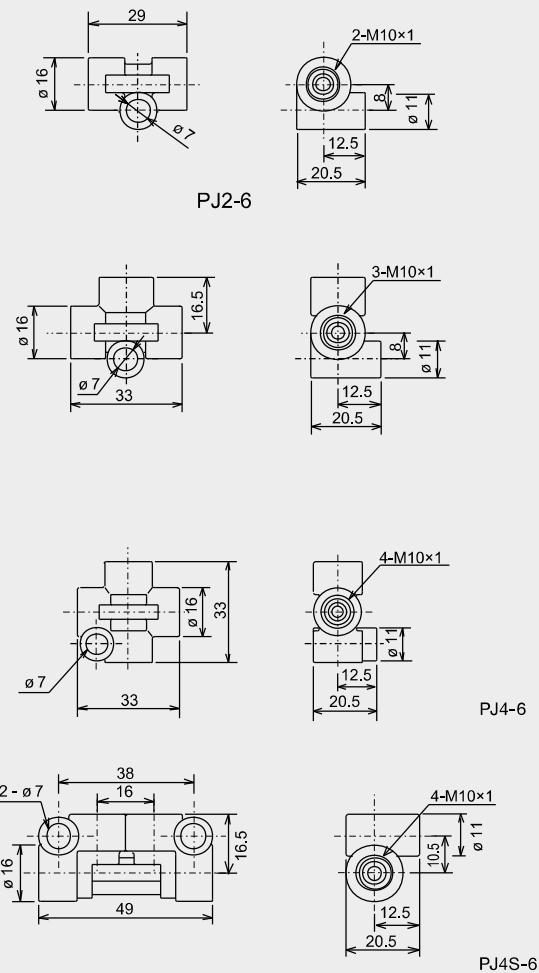


Dimensional drawing



PJ (Junction for main tubing)

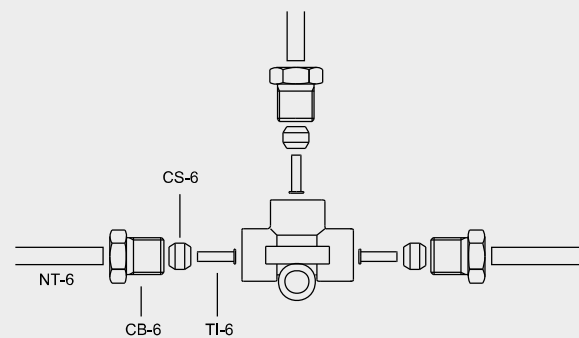
Dimensional drawing



Model	Part No.	Specifications
PJ2-6	206452	Two-way
PJ3-6	206453	Three-way
PJ4-6	206454	Four-way
PJ4S-6	206461	Four-way

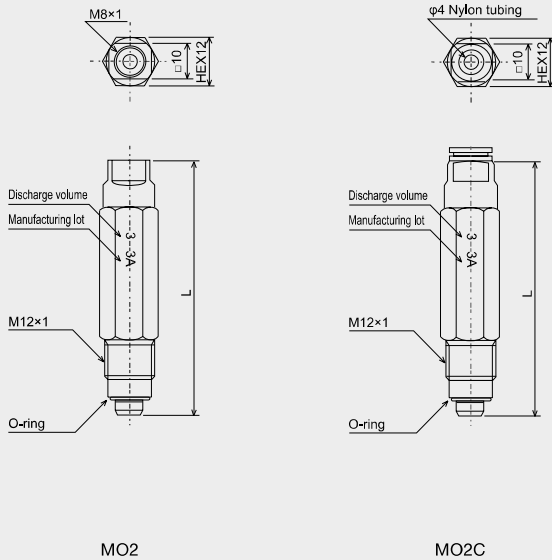
Material: Zink Die Casting (ZDC)

Example of connecting nylon tubing



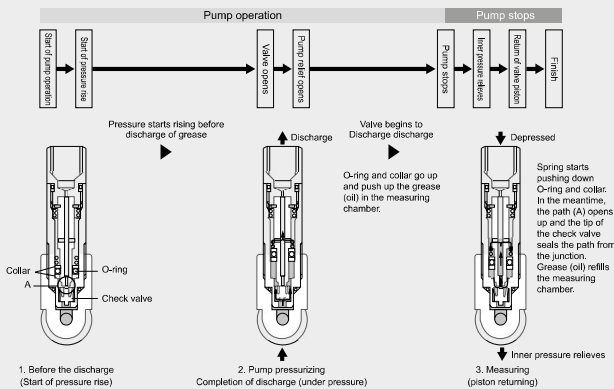
MO2 • MO2C (Metering valve)

Specifications



MO2		MO2C		
Model	Part No.	Discharge volume (mℓ)	L (mm)	Mark
MO2-3	205761	0.03	3	HEX12
MO2-5	205762	0.05	48	
MO2-10	205763	0.1	10	
MO2-20	205764	0.2	20	
MO2-30	205765	0.3	64	
MO2-50	205766	0.5	50	
MO2C-3	205751	0.03	3	
MO2C-5	205752	0.05	53.5	
MO2C-10	205753	0.1	10	
MO2C-20	205754	0.2	20	
MO2C-30	205755	0.3	69.5	
MO2C-50	205756	0.5	50	

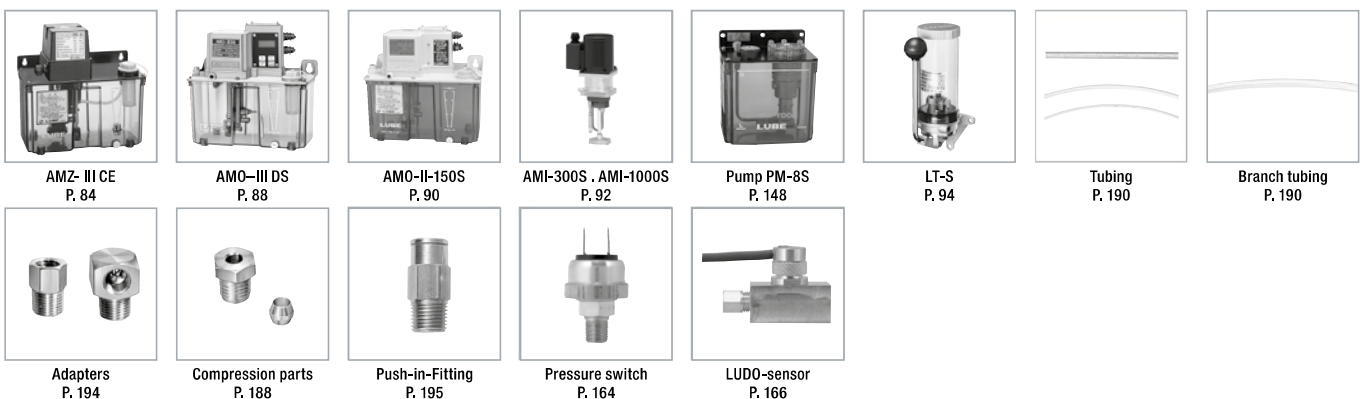
Operation Sequence



Specifications

Discharge volume	0.03, 0.05, 0.1, 0.2, 0.3, 0.5 mℓ/stroke
Operating pressure	1.0 MPa
Reset pressure	0.3 MPa

Related parts

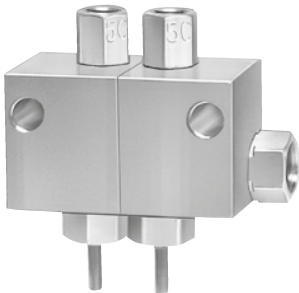


PDI System

MB (Spring piston metering valve)

		MB-L	MB-C	MB-R
Discharge volume	Mark	Model	Model	Model
0.03	3	MB-L-3	MB-C-3	MB-R-3
0.05	5	MB-L-5	MB-C-5	MB-R-5
0.1	10	MB-L-10	MB-C-10	MB-R-10
0.2	20	MB-L-20	MB-C-20	MB-R-20
0.3	30	MB-L-30	MB-C-30	MB-R-30
0.5	50	MB-L-50	MB-C-50	MB-R-50

Material: brass



Number of port	Size	
	A	B
1	25	—
2	39	50
3	54	65
4	69	80
5	84	95
6	99	110
7	114	126
8	129	140
9	144	155
10	159	170

Specifications	
Discharge volume	0.03, 0.05, 0.1, 0.2, 0.3, 0.5 ml/stroke
Working pressure	0.6 MPa
Reset pressure	0.25 MPa
Normal pressure for operation	1.5–2.5 MPa
Permissible range of discharge volume	± 20 %

* Model of MB valves depend on the number of port and discharge volume. Please contact LUBE for consultation when selecting model.

Related parts



AMZ-III CE
P. 84



AMO-III DS
P. 88



AMO-II-150S
P. 90



AMI-300S . AMI-1000S
P. 92



LT-S
P. 94



Tubing
P. 190



Branch tubing
P. 190



Adapters
P. 194



Compression parts
P. 188



Push-in-Fitting
P. 195



Pressure switch
P. 164



LUDO-sensor
P. 166

PDI System

MIX • MIX-S (Air-oil metering valve)

Model Reference

Fill the blanks with the valve marking from the left to right.

* Markings designate discharge volume. (Ex: 5->0.05 ml/ stroke)

Example

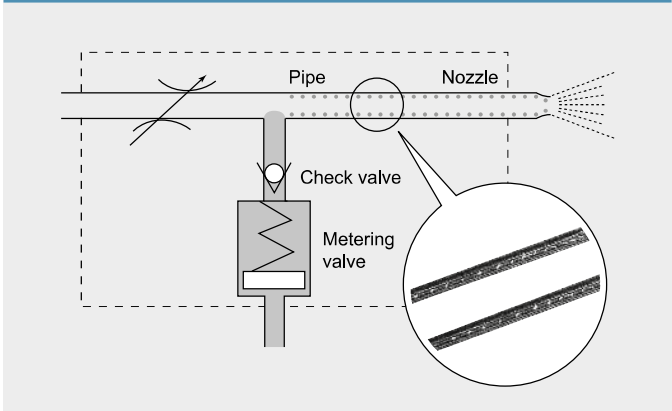
Discharge port Valve marking (From left to right)

MIX-S 3 3 5 5 ...

When ordering Mix-S, use the order sheet on P. 115

* Please contact LUBE when specifying MIX valves.

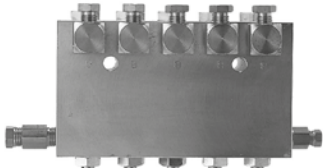
Air Oil system



Specifications	
Discharge volume	MIX: 0.01, 0.03, 0.05, 0.1, 0.2 MIX-S: 0.005, 0.01, 0.015, 0.03, 0.05 ml/Stroke
Operating pressure	1.0 MPa
Reset pressure	0.3 MPa



MIX-S



MIX

		MIX	MIX-S
Discharge volume (ml)	Mark	Model	Model
0.005	05	—	MIX-S-05
0.01	1	MIX-1	MIX-S-1
0.015	1.5	—	MIX-S-1,5
0.03	3	MIX-3	MIX-S-3
0.05	5	MIX-5	MIX-S-5
0.1	10	MIX-10	—
0.2	20	MIX-20	—

Combination dimension list

Number of port	1 port	2 ports	3 ports	4 ports	5 ports	6 ports
L ₁	—	50	70	90	110	130
L ₂	—	40	60	40	60	80

Material: Aluminum

Number of port	1 port	2 ports	3 ports	4 ports	5 ports	6 ports
L ₁	38	54	70	86	102	118
L ₂	22	38	54	70	86	102

Material: Aluminum

Related parts



AMZ-III CE
P. 84



AMO-III DS
P. 88



AMO-II-150S
P. 90



Main tubing
P. 190



Branch tubing
P. 190



Adapters
P. 194



Compression parts
P. 188



Push-in fitting
P. 195



Pressure switch
P. 164



O/A sensor
P. 168



LUBE OIL / AIR MIXING Valve STANDARD PRODUCT INQUIRY&ORDER SHEET

L-MIX-S CODE NO. SL4020

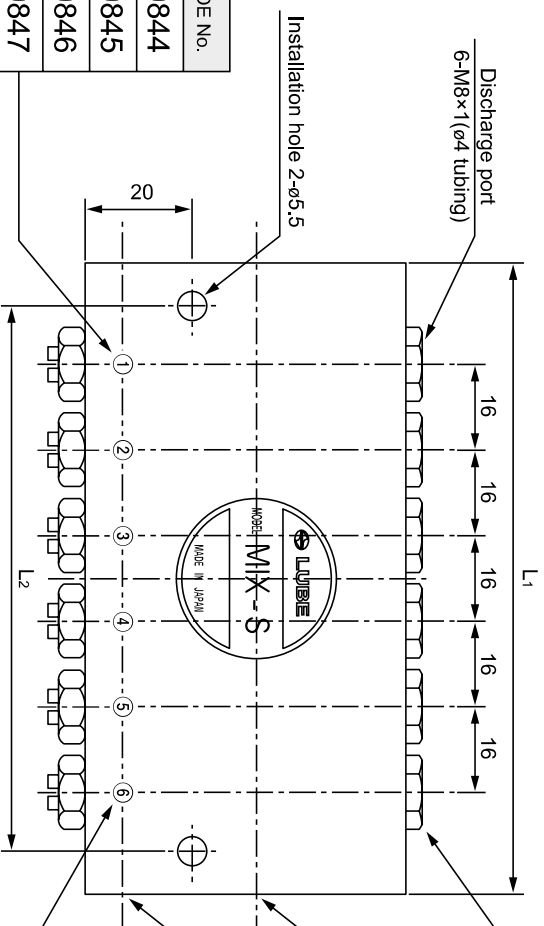
Block assembly		Valve assembly					
Number of port	CODE No.	①	②	③	④	⑤	⑥
1	619861		x				
2	619862			x			
3	619863				x		
4	619864					x	
5	619865						x
6	619866						

Visitor order affirmation	sign					
LUBE affirmation	sign					

Mounting pitch						
Number of port	1	2	3	4	5	6
mm	22	38	54	70	86	102

Size (mm)						
Number of port	1	2	3	4	5	6
L1	38	54	70	86	102	118
L2	22	38	54	70	86	102

Valve block assembly	
No.	Discharge volume (m ³)
05	0.005
1	0.01
15	0.015
3	0.03
5	0.05



Accessory	
Model	Part Number
CB-4-8	106253
CS-4	106254

SLR-System

MLZ (Automatic intermittent piston pump)

Model Reference

MLZ-CE-

Interval (50Hz/60Hz)

A	6min/4min48sec
B	15min/12min
C	30min/24min
D	60min/48min
E	120min/96min

Oil level switch

Blank	Without
L	With

Voltage

1	AC100V ø1
2	AC200V ø1



Model	Part Number	Model	Part Number
mIZ-CE-A-1	367201	mIZ-CE-C-2	367208
mIZ-CE-A-1L	367216	mIZ-CE-C-2L	367223
mIZ-CE-A-2	367206	mIZ-CE-D-1	367204
mIZ-CE-A-2L	367221	mIZ-CE-D-1L	367219
mIZ-CE-B-1	367202	mIZ-CE-D-2	367209
mIZ-CE-B-1L	367217	mIZ-CE-D-2L	367224
mIZ-CE-B-2	367207	mIZ-CE-E-1	367205
mIZ-CE-B-2L	367222	mIZ-CE-E-1L	367220
mIZ-CE-C-1	367203	mIZ-CE-E-2	367210
mIZ-CE-C-1L	367218	mIZ-CE-E-2L	367225

Specifications		
Pump	Discharge volume	1.5-2.5 ml/stroke
	Discharge pressure	0.3 MPa
Motor	Voltage/ current	AC100V ø1/50mA AC200V ø1/25mA (50Hz) AC100V ø1/42mA AC200V ø1/18mA (60Hz)
	Output	3W Synchronous
Emergency detection	Oil level switch	Contact type A contact (NO) ON at low level Contact capacity 0.5A, AC DC200V/30W smaller
Operation rating	Continuous	
Working viscosity range	30-1300 mm²/s	
Reservoir capacity	0.8 ℓ	
Weight	1.2 kg	
Protection class	IP54 (CE Approved Typ)	

Related parts

Flow unit
P. 134

PJ junction
P. 139

Tubing
P. 190

Pressure gauge
P. 163

Filter FX1
P. 166

Filter FY20
P. 166

Druckschalter PS
P. 164

Compression parts
P. 188

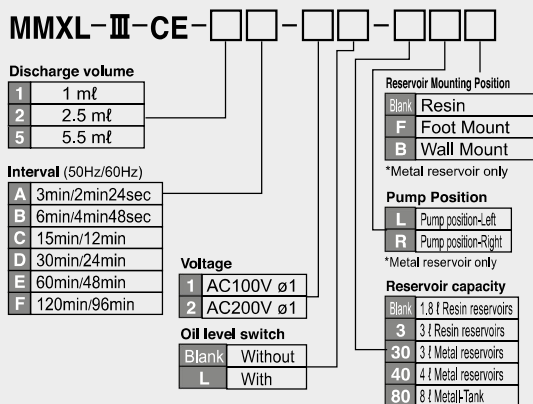
Adapters
P. 194

Reservoir
P. 170

SLR-System

MMXL-III (Automatic intermittent piston pump)

Model Reference



Model Part No.

MMXL-III-CE-1A-1	367001
MMXL-III-CE-1A-1L	367055
MMXL-III-CE-1A-2	367007
MMXL-III-CE-1A-2L	367061
MMXL-III-CE-1B-1	367002
MMXL-III-CE-1B-1L	367056
MMXL-III-CE-1B-2	367008
MMXL-III-CE-1B-2L	367062
MMXL-III-CE-1C-1	367003
MMXL-III-CE-1C-1L	367057
MMXL-III-CE-1C-2	367009
MMXL-III-CE-1C-2L	367063
MMXL-III-CE-1D-1	367004



CE

Specifications

Pump	Discharge volume	0.2-1.0 ml/stroke 1.5-2.5 ml/stroke 2.5-5.5 ml/stroke
	Discharge pressure	0.3 MPa
Motor (Other voltages available)	Power	AC100V ø1/50mA, AC200V ø1/25mA (50Hz) AC100V ø1/42mA, AC200V ø1/18mA (60Hz)
	Output	3W Synchronous Motor
Emergency detection	Oil level switch	Contact type A contact (NO) ON at low level Contact capacity 0.5A, AC DC200V/30W smaller
Operation rating	Continuous	
Working viscosity range	32-1300mm ² /s	
Reservoir capacity	1.8l, 3l (plastic) 3l, 4l, 8l (sheet metal)	
Weight	1.8kg (With 1.8l Reservoirs)	
Protection class	IP54 (CE Approved Typ)	

Model Part No.

MMXL-III-CE-2A-2	367025
MMXL-III-CE-2A-2L	367079
MMXL-III-CE-2B-1	367020
MMXL-III-CE-2B-1L	367074
MMXL-III-CE-2B-2	367026
MMXL-III-CE-2B-2L	367080
MMXL-III-CE-2C-1	367021
MMXL-III-CE-2C-1L	367075
MMXL-III-CE-2C-2	367027
MMXL-III-CE-2C-2L	367081
MMXL-III-CE-2D-1	367022
MMXL-III-CE-2D-1L	367076
MMXL-III-CE-2D-2	367028

Model Part No.

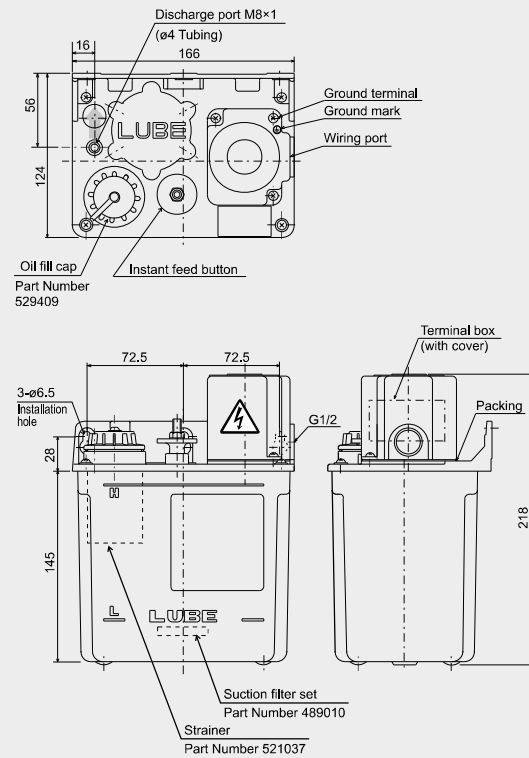
MMXL-III-CE-1D-1L	367058
MMXL-III-CE-1D-2	367010
MMXL-III-CE-1D-2L	367064
MMXL-III-CE-1E-1	367005
MMXL-III-CE-1E-1L	367059
MMXL-III-CE-1E-2	367011
MMXL-III-CE-1E-2L	367065
MMXL-III-CE-1F-1	367006
MMXL-III-CE-1F-1L	367060
MMXL-III-CE-1F-2	367012
MMXL-III-CE-1F-2L	367066
MMXL-III-CE-2A-1	367019
MMXL-III-CE-2A-1L	367073

Related parts

Flow unit
P. 134PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Adapters
P. 194Reservoir
P. 170

Model	Part No.	Model	Part No.
MMXL-■CE-2D-2L	367082	MMXL-■CE-5B-2L	367098
MMXL-■CE-2E-1	367023	MMXL-■CE-5C-1	367039
MMXL-■CE-2E-1L	367077	MMXL-■CE-5C-1L	367093
MMXL-■CE-2E-2	367029	MMXL-■CE-5C-2	367045
MMXL-■CE-2E-2L	367083	MMXL-■CE-5C-2L	367099
MMXL-■CE-2F-1	367024	MMXL-■CE-5D-1	367040
MMXL-■CE-2F-1L	367078	MMXL-■CE-5D-1L	367094
MMXL-■CE-2F-2	367030	MMXL-■CE-5D-2	367046
MMXL-■CE-2F-2L	367084	MMXL-■CE-5D-2L	367100
MMXL-■CE-5A-1	367037	MMXL-■CE-5E-1	367041
MMXL-■CE-5A-1L	367091	MMXL-■CE-5E-1L	367095
MMXL-■CE-5A-2	367043	MMXL-■CE-5E-2	367047
MMXL-■CE-5A-2L	367097	MMXL-■CE-5E-2L	367101
MMXL-■CE-5B-1	367038	MMXL-■CE-5F-1	367042
MMXL-■CE-5B-1L	367092	MMXL-■CE-5F-1L	367096
MMXL-■CE-5B-2	367044	MMXL-■CE-5F-2	367048
		MMXL-■CE-5F-2L	367102

Dimensional drawing



⚠ Improper handling can result in a death or serious injury

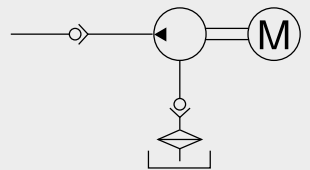
⚠ Electrical shock may be received under certain conditions

⚡ Be sure to ground.

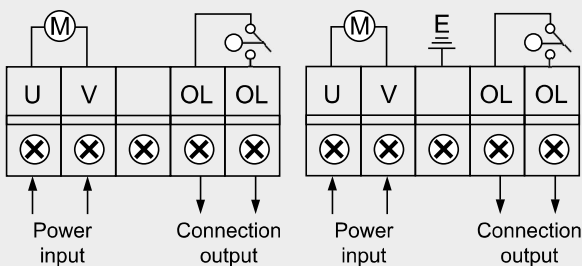
Replacement Motor Model

Interval		3 min	6 min	15 min	30 min	60 min	120 min	
Motor RPM (50Hz)		20	10	4	2	1	1/2	
Replace- ment Motor Model	100V	Model	M-A1	M-B1	M-C1	M-D1	M-E1	M-F1
		Part No.	521210	521194	521193	520062	520061	520060
	200V	Model	M-A2	M-B2	M-C2	M-D2	M-E2	M-F2
		Part No.	521328	521196	521195	520067	520066	520065

Hydraulic circuit drawing

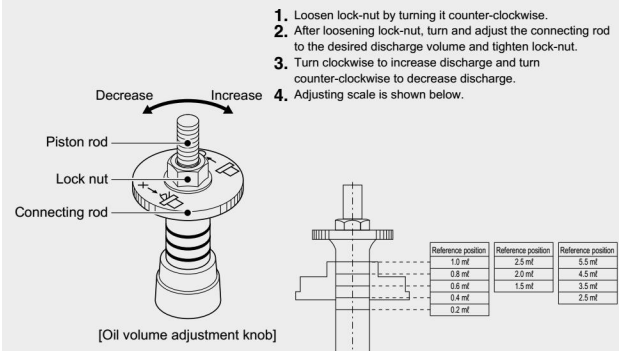


Wiring diagram



CE

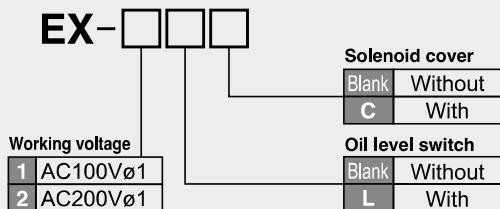
Discharge Volume Adjustment



SLR-System

EX (Solenoid driven intermittent piston pump)

Model Reference



Model	Part Number	Model	Part Number
EX-1	102703	EX-2	102702
EX-1C	102701	EX-2C	102700
EX-1L	102707	EX-2L	102706
EX-1LC	102705	EX-2LC	102704

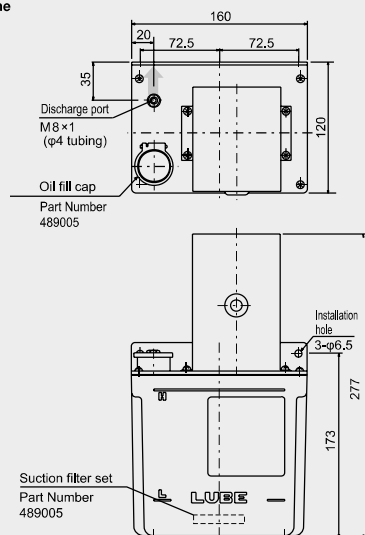
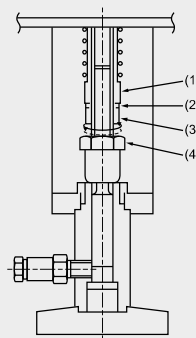
Specifications

Pump	Discharge volume	0.4 - 0.9 ml/Stroke (adjustable)	
	Discharge pressure	0.4 MPa (maximum)	
	Working voltage / Working current	AC100V 1 AC200V 1 50/60Hz	
Working voltage/ Working current	AC 100V	50Hz 0,5A	Start-up 5,8A
		60Hz 0,52A	Start-up 6,0A
	AC 200V	50Hz 0,25A	Start-up 2,9A
		60Hz 0,26A	Start-up 3,0A
Working viscosity range	32–1300mm ² /s		
Reservoir capacity	1.8 l		
Weight	1.85 kg		

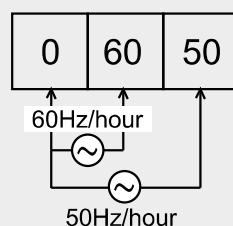
Dimensional drawing

How to change the oil discharging volume

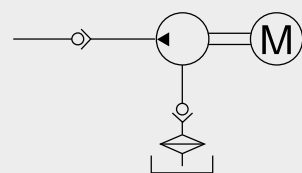
1. Hold the connecting hexagonal rod (1), and loosen the lock-nut (3) till the spring washer (2) moves freely.
2. To increase the discharging volume, roll the adjusting screw (4) according to the solid arrow. After setting the volume, fix the screw with (2) and (3).
3. To decrease the discharge volume, roll the adjusting screw (4) according to the dotted arrows. After setting the volume, fix the screw with (2) and (3).
4. One revolution of the adjusting screw (4) roll makes 0.06ml of discharge volume difference.



Wiring diagram



Hydraulic circuit drawing



Improper handling can result in a death or serious injury



Electrical shock may be received under certain conditions



Be sure to ground.

Related parts

Flow unit
P. 134PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Adapters
P. 194

SLR-System

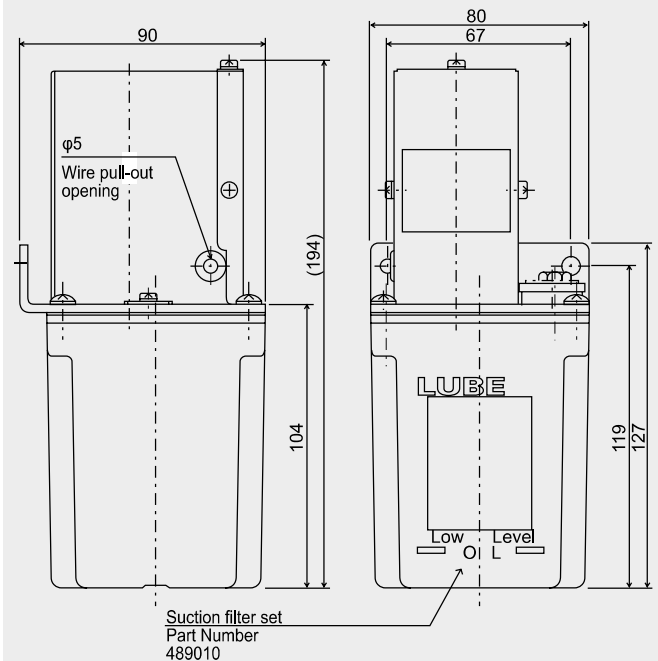
EX-5 (Solenoid driven intermittent piston pump)

Model	Part Number
EX-5	112828

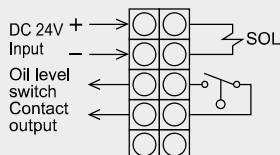
Specifications		
Pump	Discharge volume	0.5 ml/Stroke
	Discharge pressure	0.2 MPa
Working voltage/Working current	DC24V 3.0A	
Energization time	2 seconds (Max. below 30 seconds)	
Interval time	Min. 3 Minutes (Current rate: below 1%)	
Anomaly detection	Oil level switch	Contact type (NO) ON at low level
		Contact capacity 0.5A,AC DC200V/30W Smaller one
Working viscosity range	32–1300mm ² /s	
Reservoir capacity	400 ml	
Weight	1 kg	



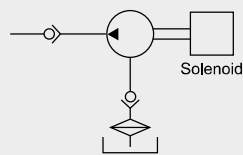
Dimensional drawing



Wiring diagram



Hydraulic circuit drawing



Improper handling can result in a death or serious injury



Electrical shock may be received under certain conditions



Be sure to ground.

Related parts



Flow unit
P. 134



PJ junction
P. 139



Tubing
P. 190



Pressure gauge
P. 163



Filter FX1
P. 166



Filter FY20
P. 166



Pressure switch
P. 164



Compression parts
P. 188



Adapters
P. 194



Reservoir
P. 170

SLR-System

AMR-III DS (Automatic intermittent gear pump)

Specifications		
Pump	Discharge volume	150 ml/min (50Hz) 180 ml/min (60Hz)
	Discharge pressure	0.8 MPa (safety valve set pressure)
Motor	Power	AC100V ø1/0.83A, AC200V ø1/0.41A (50Hz) AC100V ø 1/0.64A, AC200V ø1/0.33A (60Hz)
	Output	20W (50Hz/60Hz) Capacitor motor
Controller	Timer counter	Discharge time adjustable range: 1-99 seconds (2.5-247.5 ml) 50Hz, (3-297 ml) 60Hz Interval time adjustable range: 1 to 9999 minutes 1 to 9999 counts
	Emergency output	Contact type A contact (NO) Contact capacity AC250V 1.5A
	Emergency detection	Oil level switch Contact type A contact (NO) ON at low level
		Pressure switch Contact type A contact (NO) ON at low pressure
	Liquid crystal display	INTERVAL display 'INT'
		DIS-CHARGE display 'DIS'
		ALARM When oil side decreases, display 'OILLEVEL ERR' When pressure is abnormal, display 'PRESSURE ERR'
Working viscosity range	68–1300mm ² /s (50Hz)	
Reservoir capacity	1.8ℓ, 3ℓ (plastic) 3ℓ, 4ℓ, 8ℓ (sheet metal)	
Weight	1.8ℓ Reservoirs: 3.2kg, 3ℓ Reservoirs: 4kg	



1.8 ℓ Reservoir



3 ℓ Reservoir

Model Reference

AMR-III DS---

Voltage

1

AC100Vø1

2

AC200Vø1

Reservoir Mounting Position

Blank	Resin
F	Foot Mount
B	Wall Mount

*Metal reservoir only

Reservoir capacity

Blank	1.8 ℓ Resin reservoirs
3	3 ℓ Resin reservoirs
30	3 ℓ Metal reservoirs
40	4 ℓ Metal reservoirs
80	8 ℓ Metal reservoirs

*Pump is installed on the right side, if a metal reservoir is selected.

Model	Part Number
AMR-III DS-1	112141
AMR-III DS-1-3	112143
AMR-III DS-2	112142
AMR-III DS-2-3	112144

Related parts



Flow unit
P. 134



PJ junction
P. 139



Tubing
P. 190



Pressure gauge
P. 163



Filter FX1
P. 166



Filter FY20
P. 166



Pressure switch
P. 164



Compression parts
P. 188



Adapters
P. 194

SLR-System

L3 • L5 (Manually operated piston pump)

Model Reference

Model	Part No.	Discharge volume ml/Stroke	Discharge pressure (MPa)	Reservoir capacity (ml)	Weight (kg)
L3-2	103031	2	0.3	220	0.34
L3-3	103030	3	0.3	220	0.34
L5-3	103051	3	0.3	400	0.4
L5-4	103052	4	0.3	400	0.4
L5-5	103053	5	0.3	400	0.4

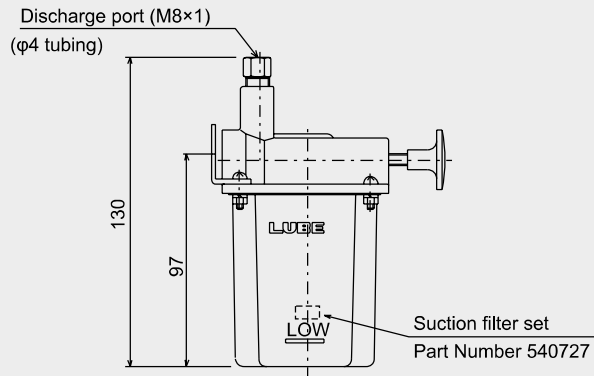
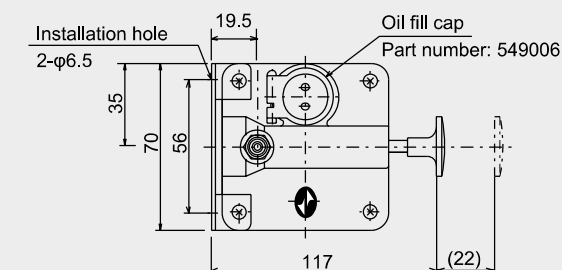


L3

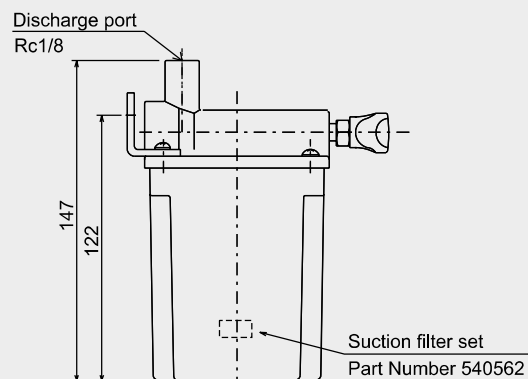
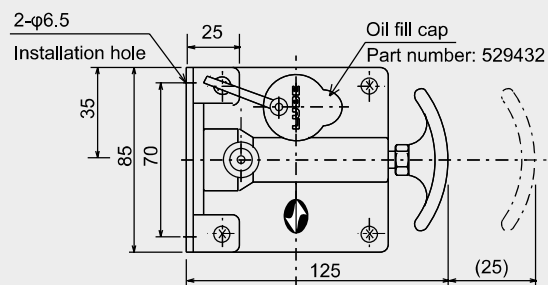


L5

Dimensional drawing



L3-3



L5-5

Related parts

Flow unit
P. 134PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Reservoir
P. 170

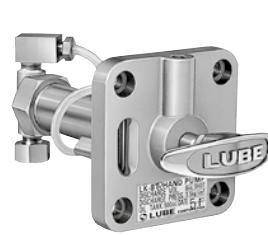
SLR-System

LK (Manually operated piston pump)

Model	Part Number	Reservoir
LK-8	103401	—
LK-8TL	103402	○
LK-8TR	103403	○

Specifications

Discharge volume	8 ml/Stroke
Discharge pressure	0.35 MPa
Weight	0.32 kg (LK), 0.75 kg (LK-8T)

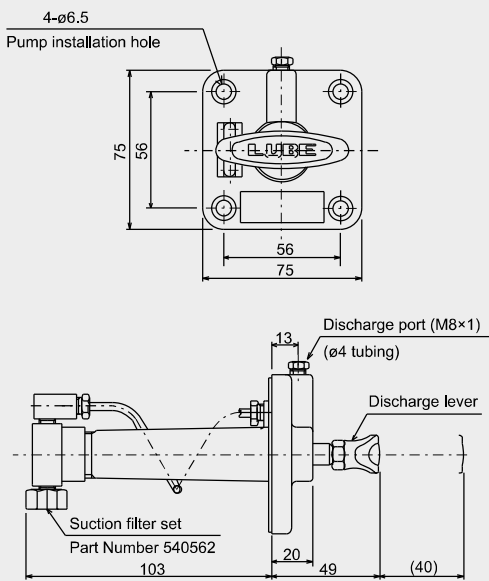


LK-8

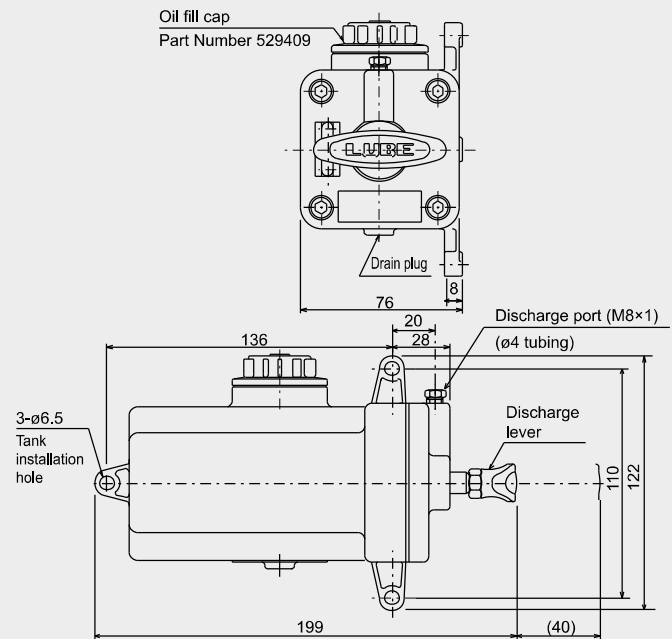


LK-8TR

Dimensional drawing



LK-8



LK-8TR

Related parts



Flow unit
P. 134



PJ junction
P. 139



Tubing
P. 190



Pressure gauge
P. 163



Filter FX1
P. 166



Filter FY20
P. 166



Pressure switch
P. 164



Compression parts
P. 188

SLR-System

L8 • L20 (Manually operated piston pump)**Specifications**

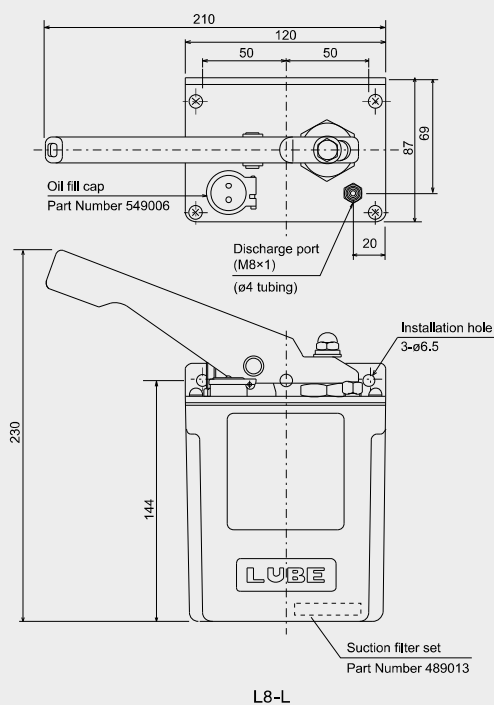
Discharge volume	2 - 7 ml/Stroke (Changeable)
Discharge pressure	0.5 MPa
Working viscosity range	32 – 1300 mm ² /s
Reservoir capacity	0.8 l (L8), 1.8 l (L20)
Weight	1.2 kg (L8), 1.8 kg (L20)

Model	Part Number	Lever direction	Reservoir capacity
L8-L	103111	Left	0.8 l
L8-R	103112	Right	
L20-L	103211	Left	1.8 l
L20-R	103212	Right	

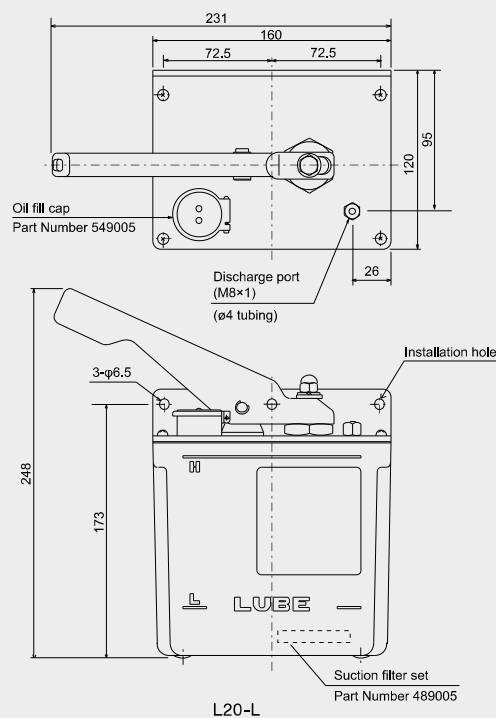


L20-R

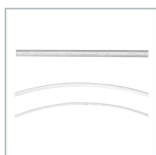
L20-R

Dimensional drawing

L8-L



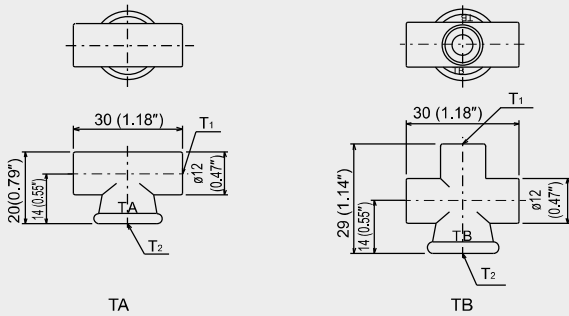
L20-L

Related partsFlow unit
P. 134PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Adapters
P. 194Reservoir
P. 170

SLR System

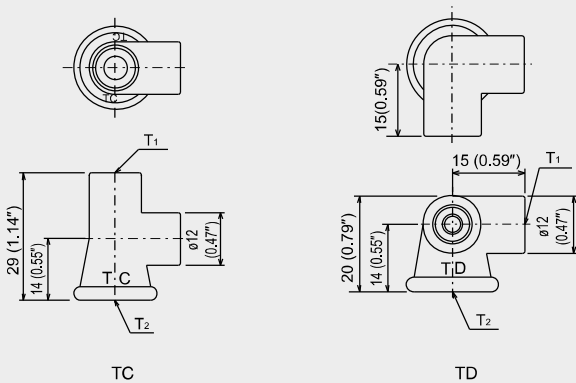
TA · TB · TC · TD · TH · TK · TL (Junction header)

Dimensional drawing

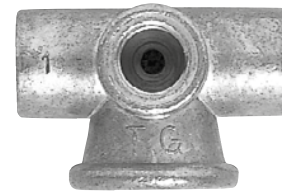


Model	Part No.	T ₁	T ₂
TA	106431	2-M8×1	Rc 1/8
TA	186431	2-5/16-24 UNF	1/8 NPT
Model	Part No.	T ₁	T ₂
TB	106432	3-M8×1	Rc 1/8
TB	186432	3-5/16-24 UNF	1/8 NPT

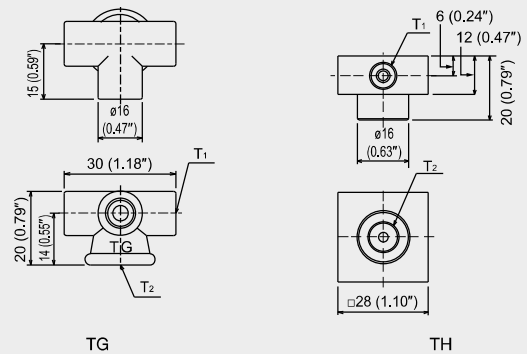
Dimensional drawing



Model	Part. No.	T ₁	T ₂
TC	106433	2-M8×1	Rc 1/8
TC	186433	2-5/16-24 UNF	1/8 NPT
Model	Part. No.	T ₁	T ₂
TD	106434	2-M8×1	Rc 1/8
TD	186434	2-5/16-24 UNF	1/8 NPT

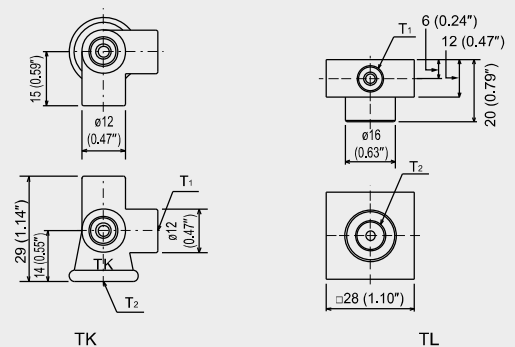


Dimensional drawing



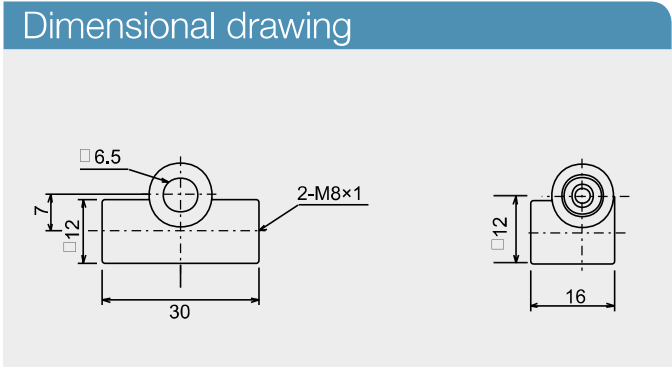
Model	Part No.	T ₁	T ₂
TG	106435	3-M8×1	Rc 1/8
TG	186435	4-5/16-24 UNF	1/8 NPT
Model	Part No.	T ₁	T ₂
TH	106436	4-M8×1	Rc 1/8
TH	186436	4-5/16-24 UNF	1/8 NPT

Dimensional drawing



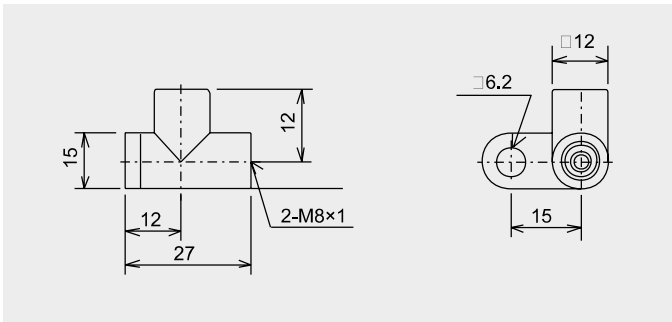
Model	Part. No.	T ₁	T ₂
TK	106437	3-M8×1	Rc 1/8
TK	186437	3-5/16-24 UNF	1/8 NPT
Model	Part. No.	T ₁	T ₂
TL	106438	4-M8×1	Rc 1/8
TL	186438	4-5/16-24 UNF	1/8 NPT

SLR System
PJ (Junction)

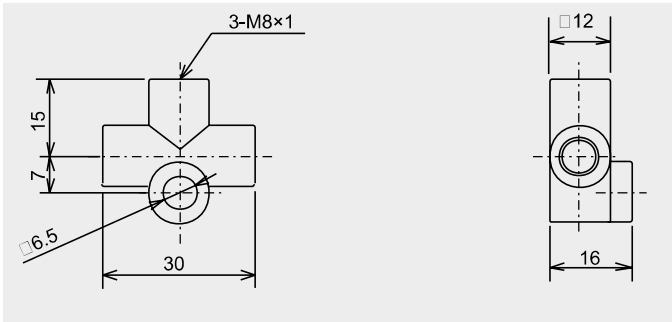


For 4mm (5/32) tubing

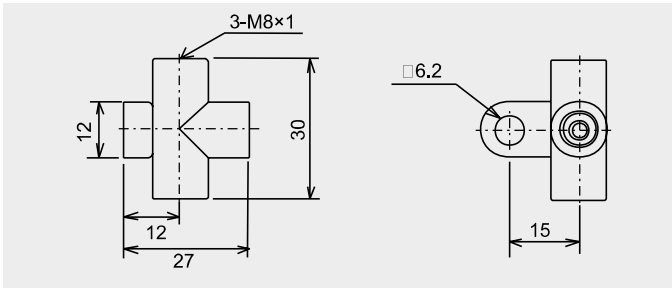
Model	Part Number	Specifications
PJ-2	106421	Two-way Material: ZDC



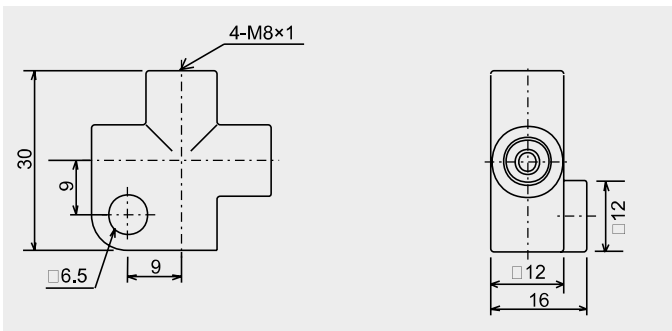
Model	Part Number	Specifications
PJ-2F	106424	Two-way Material: ZDC



Model	Part Number	Specifications
PJ-3	106420	Three-way Material: ZDC



Model	Part Number	Specifications
PJ-3F	106425	Three-way Material: ZDC

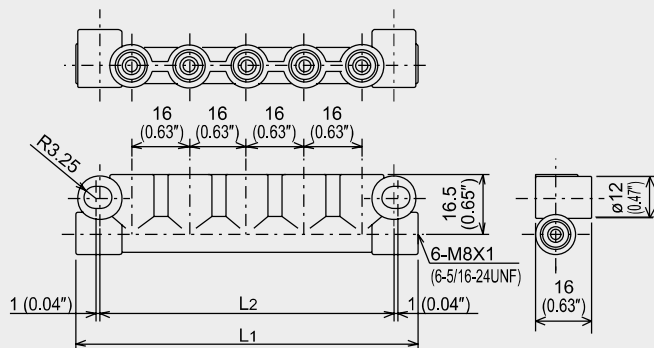


Model	Part Number	Specifications
PJ-4	106423	Four-way Material: ZDC

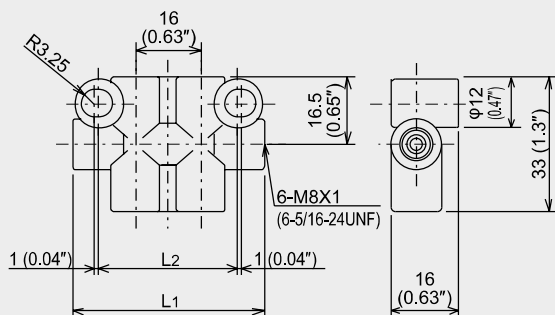
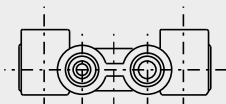
SLR System

PJ (Junction)

Dimensional drawing



PJ-7S



PJ-6D



Model	Part Number	Specifications	Size	
	M8×1	5/16-24 UNF	L ₁	L ₂
PJ-4S	106401	186401	Single type for 2 ports	47 (1.85") 34 (1.34")
PJ-5S	106402	186402	Single type for 3 ports	63 (2.48") 50 (1.97")
PJ-6S	106403	186403	Single type for 4 ports	79 (3.11") 66 (2.60")
PJ-7S	106404	186404	Single type for 5 ports	95 (3.74") 82 (3.23")
PJ-8S	106405	186405	Single type for 6 ports	111 (4.37") 98 (3.86")
PJ-9S	106406	186406	Single type for 7 ports	127 (5.00") 114 (4.49")
PJ-10S	106407	186407	Single type for 8 ports	143 (5.63") 130 (5.12")
PJ-12S	106408	186408	Single type for 10 ports	175 (6.89") 162 (6.38")

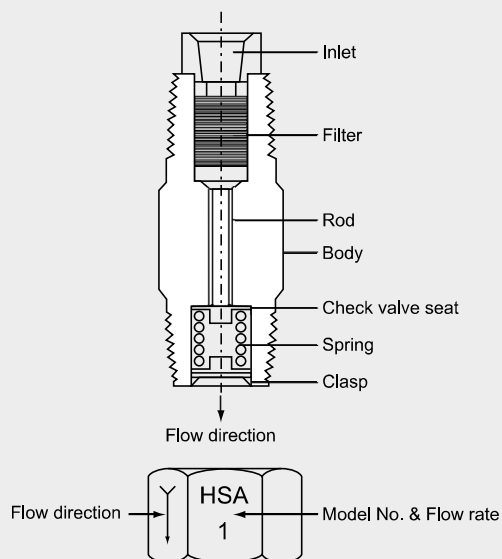
Model	Part Number	Specifications	Size	
	M8×1	5/16-24 UNF	L ₁	L ₂
PJ-6D	106411	186411	Double type for 4 ports	47 (1.85") 34 (1.34")
PJ-8D	106412	186412	Double type for 6 ports	63 (2.48") 50 (1.97")
PJ-10D	106413	186413	Double type for 4 ports	79 (3.11") 66 (2.60")

Model	Part Number	Specifications	Size	
			L ₁	L ₂
PJ-12D	106414	Double type for 10 ports	82 (3.23")	94 (3.70")
PJ-14D	106415	Double type for 12 ports	98 (3.86")	110 (4.33")
PJ-16D	106416	Double type for 14 ports	114 (4.49")	126 (4.96")

SLR-System (intermittent)

HSA · HJB · HTA · HTD · HTC · HTB (Flow unit)**Specifications**

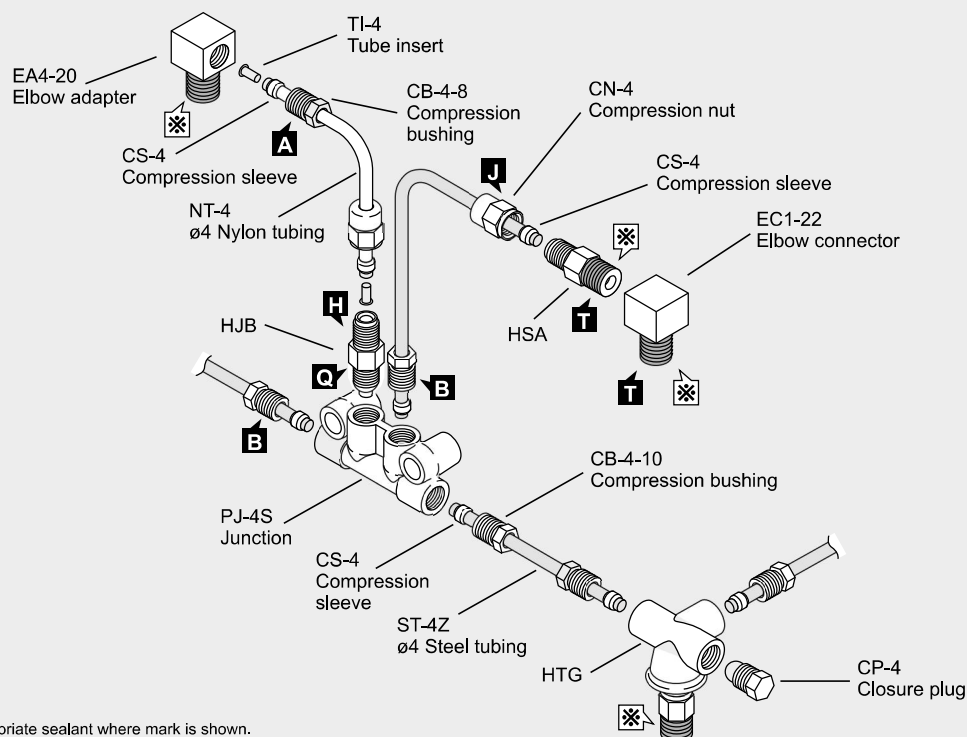
Normal working pressure	Under 0.8 MPa
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Internal construction

HSA-1

HTU-02

HJB-1

Piping layout (Example)

✱ Use an appropriate sealant where mark is shown.

■ Mark denote tightening torque. See the tightening torque list P.234.

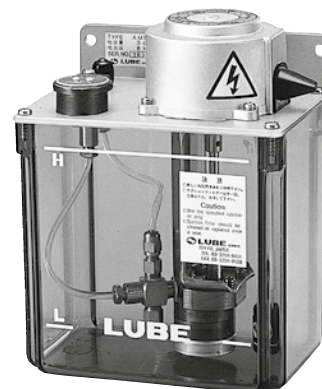
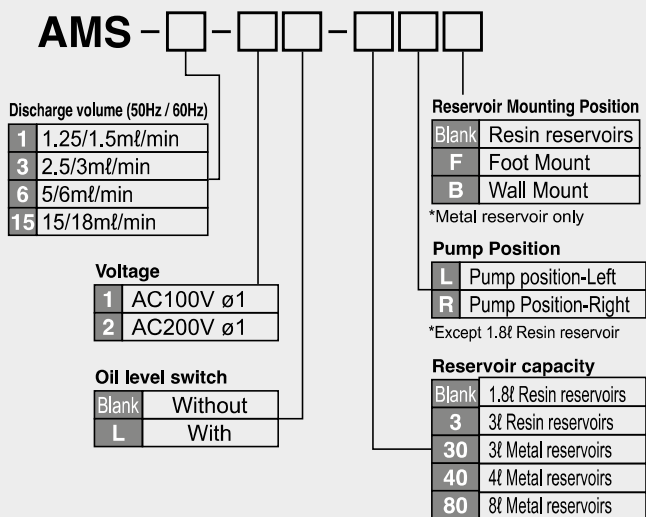
RoHS compliant products are also available.
Please contact us for details.

Part Number			Model	Dimensional drawing	Part Number			Model	Dimensional Drawing
Metric	Inch				Metric	Inch			
105501	185501	HSA	03		105513	185513	HTU	03	
105001	185001		02		105072	185072		02	
105002	185002		0		105073	185073		0	
105003	185003		1		105074	185074		1	
105004	185004		2		105075	185075		2	
105005	185005		3		105076	185076		3	
105006	185006		4		105077	185077		4	
105007	185007		5		105078	185078		5	
105502	185502	HJB	03		105507	185507	HTK	03	
105008	185008		02		105043	185043		02	
105009	185009		0		105044	185044		0	
105010	185010		1		105045	185045		1	
105011	185011		2		105046	185046		2	
105012	185012		3		105047	185047		3	
105013	185013		4		105048	185048		4	
105014	185014		5		105049	185049		5	
105503	185503	HTA	03		105508	185508	HTG	03	
105015	185015		02		105051	185051		02	
105016	185016		0		105052	185052		0	
105017	185017		1		105053	185053		1	
105018	185018		2		105054	185054		2	
105019	185019		3		105055	185055		3	
105020	185020		4		105056	185056		4	
105021	185021		5		105057	185057		5	
105504	185504	HTD	03		105509	185509	HTH	03	
105022	185022		02		105058	185058		02	
105023	185023		0		105059	185059		0	
105024	185024		1		105060	185060		1	
105025	185025		2		105061	185061		2	
105026	185026		3		105062	185062		3	
105027	185027		4		105063	185063		4	
105028	185028		5		105064	185064		5	
105505	185505	HTC	03		105510	185510	HTL	03	
105029	185029		02		105065	185065		02	
105030	185030		0		105066	185066		0	
105031	185031		1		105067	185067		1	
105032	185032		2		105068	185068		2	
105033	185033		3		105069	185069		3	
105034	185034		4		105070	185070		4	
105035	185035		5		105071	185071		5	
105506	185506	HTB	03						
105036	185036		02						
105037	185037		0						
105038	185038		1						
105039	185039		2						
105040	185040		3						
105041	185041		4						
105042	185042		5						

SLR-System (continuous)

AMS (Automatic small discharge volume gear pump)

Model Reference



Specifications

AMS-1, AMS-3

Pump	Discharge volume	AMS-1: 1.25 ml/min (50Hz), 1.5 ml/min (60Hz) AMS-3 : 2.5 ml/min (50Hz), 3 ml/min (60Hz) AMS-6 : 5 ml/min (50Hz), 6 ml/min (60Hz)
	Discharge pressure	0.8 MPa (safety valve setting)
Motor (Other voltages available)	Power	AC100V ø1/50mA AC200V ø1/25mA (50Hz) AC100V ø1/42mA AC200V ø1/18mA (60Hz) AC100V ø1/25mA (50Hz) AC200V ø1/18mA (60Hz)
	Output	3W Synchronous Motor
Emergency detection	Oil level switch	Contact type A contact (NO) ON at low level Contact capacity 0.5A. AC DC200V/30W smaller
Operation rate		Continuous
Working viscosity range		32-1300 mm ² /s
Reservoir capacity		1.8l, 3l (plastic) 3l, 4l, 8l (sheet metal)
Weight		1.8 kg

Model	Part Number	Model	Part Number
AMS-1-1	102401	AMS-3-1	102405
AMS-1-1L	102403	AMS-3-1L	102407
AMS-1-2	102402	AMS-3-2	102406
AMS-1-2L	102404	AMS-3-2L	102408
AMS-15-1	102416	AMS-6-1	102489
AMS-15-1L	102418	AMS-6-1L	112094
AMS-15-2	102417	AMS-6-2	102490
AMS-15-2L	102419	AMS-6-2L	112095

Related parts

Control unit
P. 142PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Adapters
P. 194Metal reservoir
P. 174

SLR System (continuous)

ACM-II · AMI-300 · AMI-1000 (Motor driven gear pump)

Model Reference

ACM-II**AMI-300****AMI-1000**

Voltage

1	AC100V ø1
2	AC200V ø3
3	AC200V ø3 With needle valve

*AC200V ø3 Needle valve available only with AMI-1000

Reservoir capacity

30	3ℓ Metal reservoirs
40	4ℓ Metal reservoirs
80	8ℓ Metal reservoirs

Oil level switch

Blank	Without
L	With

Reservoir Mounting Position

Blank	Resin reservoirs
F	Foot mount
B	Wall mount

Reservoir Mounting Position

L	Pump position-Left
R	Pump Position-Right



ACM-II



AMI-300



AMI-1000

Model	Part Number
ACM-II-1	102484
ACM-II-2	102486

Specifications

		ACM-II	AMI-300	AMI-1000
Pump	Discharge volume	60 ml/min (50Hz) 70 ml/min (60Hz)	300 ml/min (50Hz) 330 ml/min (60Hz)	1000 ml/min (50Hz) 1100 ml/min (60Hz)
	Discharge pressure	0.8 MPa (safety valve setting)	0.5 MPa (safety valve setting)	1.2 MPa (safety valve setting)
Motor (Other voltages available)	Voltage / Current	AC100V ø1/0.51/0.52A (Kondensator: 8µF) AC200V ø3/0.23/0.21A	AC100V ø1/0.76/0.74A (Kondensator: 11µF) AC200V ø3/0.32A/0.3A	AC100V ø1/1.2/1.19A (Kondensator: 20µF) AC200V ø3/0.50/0.43A
	Output	25W Induction motor	40W Induction motor	60W Induction motor
Operation rate		Continuous		
Working viscosity range		32–1300 mm ² /s		
Reservoir capacity		2ℓ, 3ℓ, 4ℓ, 8ℓ (sheet metal)		
Weight		4.0 kg	4.4 kg	7.1 kg
Other		Motor rotary direction: Counter-clockwise	Motor rotary direction: Clockwise	Motor rotary direction: Counter-clockwise
External fuse		100V/1A 200V/0.5A	100V/2A 200V/1A	100V/3A 200V/1A

Related parts

Control unit
P. 142PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Adapters
P. 194Metal reservoir
P. 174

SLR System (continuous)

AM (Automatic intermittent gear pump)

Model Reference

AM - [] - [] - [] - []

Voltage

1	AC100V ø1
2	AC200V ø3

Tank capacity

20	2ℓ Metal reservoirs
30	3ℓ Metal reservoirs
40	4ℓ Metal reservoirs
80	8ℓ Metal reservoirs

Oil level switch

Blank	Without
L	With

*Except 2L metal reservoir

Reservoir mounting position

F	Foot mount
B	Wall mount

Pump position

L	Pump position-left
R	Pump position-right

*Except 2L metal reservoir



AM

Model Part Number

AM-1 102054

AM-2 102050

Specifications

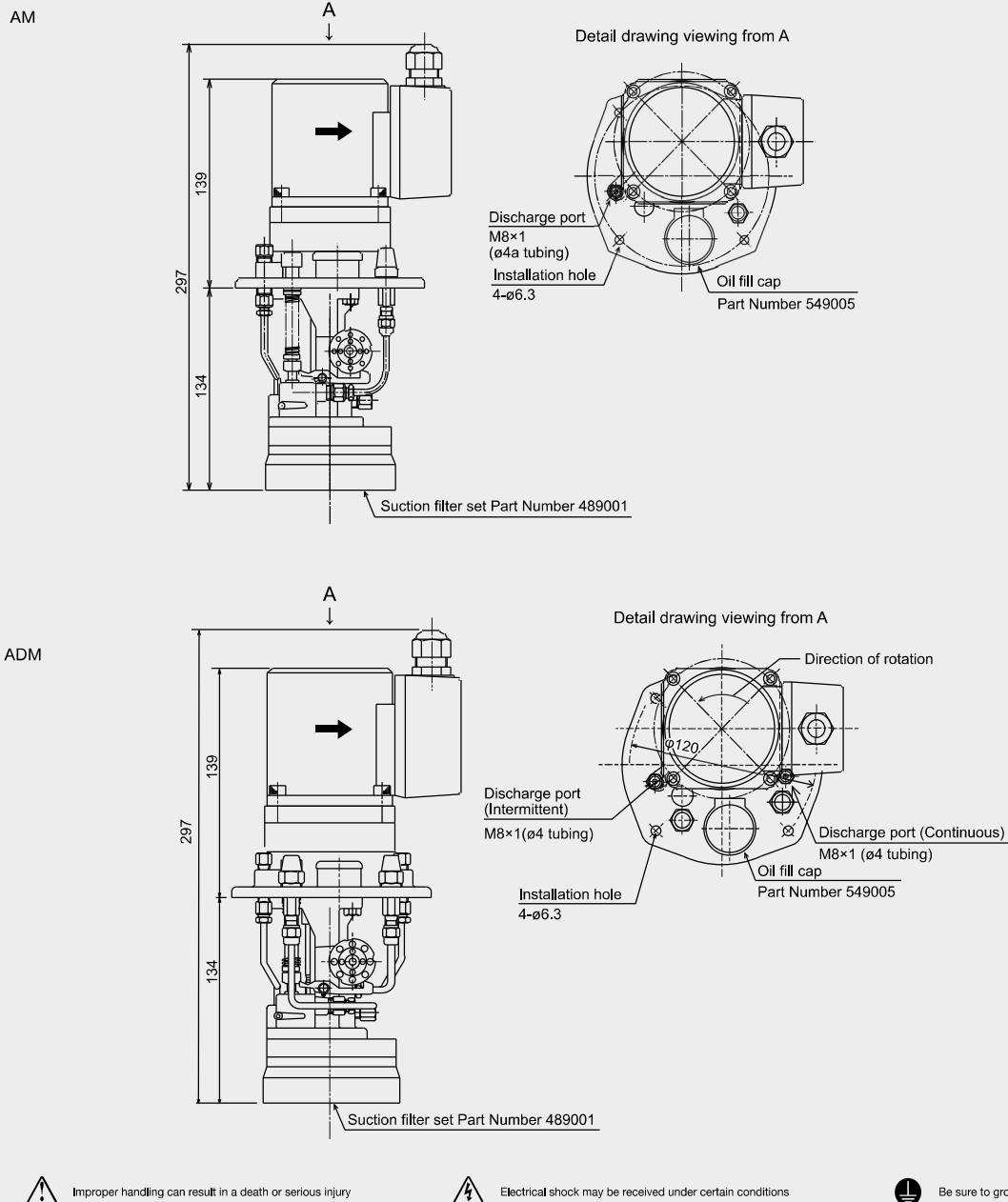
Pump	Discharge volume	50 ml/min(50HZ), 60 ml/min(60HZ) 10 - 300ml/hour Changeable by adjusting the cam
	Discharge pressure	0.8MPa (Safety valve set pressure)
Motor (Capable of coping with a different voltage)	Working voltage/ Working current	AC100V ø1 25W: 0.51/0.52A AC200V ø3 25W: 0.23/0.21A
	Output	Induction generator B-class, 4P 25W
Oil level switch		Optional on the reservoirs flange
Rated operation		Continuous
Working viscosity range		32-1300 mm ² /s
Weight		AM: 5.4 kg ADM: 5.9 kg
Others		Direction of rotation: CCW
		Condenser 100V 8μF
External fuse		100V/1A 200V/0.5A

Cam No.	Interval time		Discharge volume per a cycle (ml)	Discharge volume per hour (ml)		Required time to discharge 1L	
	50Hz	60Hz		50Hz	60Hz	50Hz	60Hz
1	30 min	25 min	5	8	10	125 hour	100 hour
2	30 min	25 min	10	15	20	66 hour 40 min	50 hour
3	30 min	25 min	15	23	30	43 hour 28 min	35 hour
4	30 min	25 min	20	30	40	33 hour 20 min	25 hour
5	7 min 30 sec	6 min 15 sec	10	75	100	13 hour 20 min	10 hour
6	7 min 30 sec	6 min 15 sec	15	113	150	8 hour 50 min	7 hour
7	7 min 30 sec	6 min 15 sec	20	150	200	6 hour 40 min	5 hour
8	7 min 30 sec	6 min 15 sec	30	225	300	4 hour 26 min	3 hour

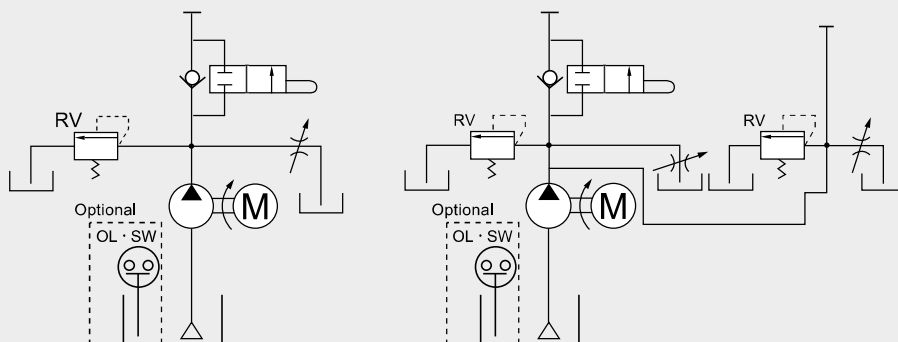
Related parts

Flow unit
P. 134PJ junction
P. 139Tubing
P. 190Pressure gauge
P. 163Filter FX1
P. 166Filter FY20
P. 166Pressure switch
P. 164Compression parts
P. 188Adapters
P. 194Metal reservoir
P. 174

Dimensional drawing

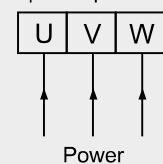


Hydraulic circuit drawing

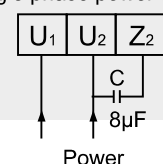


Wiring diagram

Three phase power supply



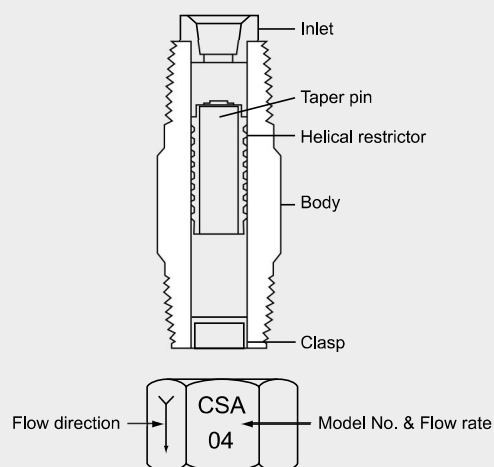
Single phase power supply



SLR System (continuous)

CSA · CJB · CTA · CTD · CTC · CTB (Control unit)

Internal construction



CSA-04

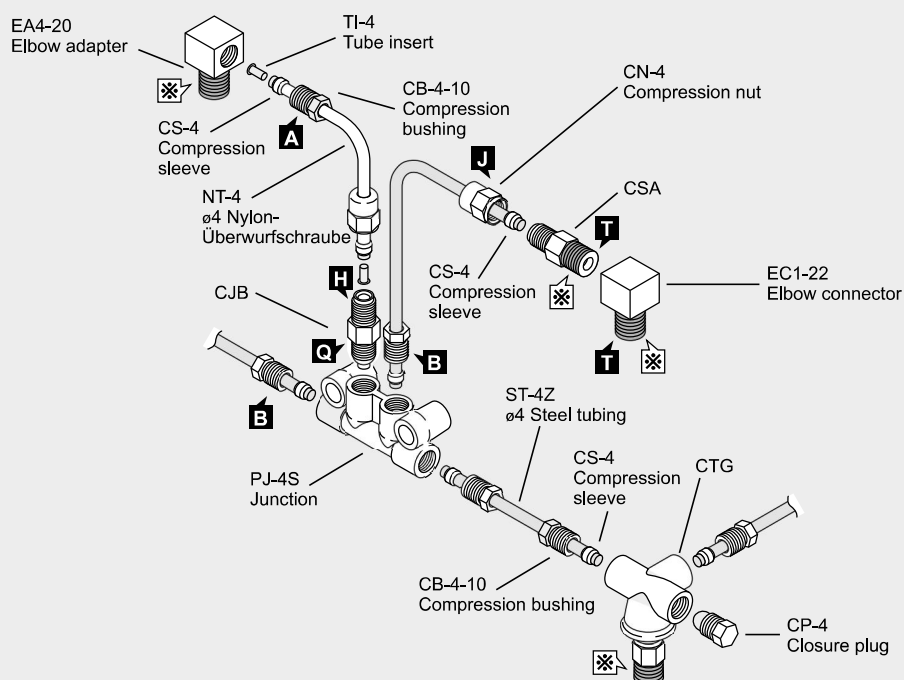
CTU-2

CJB-04

Specifications

Normal working pressure Under 0.8 MPa

Tubing connection (Example)



⊗ Use an appropriate sealant where mark is shown.

■ Mark denote tightening torque. See the tightening torque list P.234.

Part No.			Mo- del	Dimensional drawing		Part No.			Mo- del	Dimensional drawing		
Metric	Inch					Metric	Inch					
105201	185201	05	CSA		105201	185201	05	CTU		105201	185201	05
105202	185202	04			105202	185202	04			105202	185202	04
105203	185203	03			105203	185203	03			105203	185203	03
105204	185204	02			105204	185204	02			105204	185204	02
105205	185205	0			105205	185205	0			105205	185205	0
105206	185206	1			105206	185206	1			105206	185206	1
105207	185207	2			105207	185207	2			105207	185207	2
105208	185208	3			105208	185208	3			105208	185208	3
105209	185209	4			105209	185209	4			105209	185209	4
105210	185210	5			105210	185210	5			105210	185210	5
105211	185211	05	CJB		105211	185211	05	CTK		105211	185211	05
105212	185212	04			105212	185212	04			105212	185212	04
105213	185213	03			105213	185213	03			105213	185213	03
105214	185214	02			105214	185214	02			105214	185214	02
105215	185215	0			105215	185215	0			105215	185215	0
105216	185216	1			105216	185216	1			105216	185216	1
105217	185217	2			105217	185217	2			105217	185217	2
105218	185218	3			105218	185218	3			105218	185218	3
105219	185219	4			105219	185219	4			105219	185219	4
105220	185220	5			105220	185220	5			105220	185220	5
105221	185221	05	CTA		105221	185221	05	CTG		105221	185221	05
105222	185222	04			105222	185222	04			105222	185222	04
105223	185223	03			105223	185223	03			105223	185223	03
105224	185224	02			105224	185224	02			105224	185224	02
105225	185225	0			105225	185225	0			105225	185225	0
105226	185226	1			105226	185226	1			105226	185226	1
105227	185227	2			105227	185227	2			105227	185227	2
105228	185228	3			105228	185228	3			105228	185228	3
105229	185229	4			105229	185229	4			105229	185229	4
105230	185230	5			105230	185230	5			105230	185230	5
105231	185231	05	CTD		105231	185231	05	CTH		105231	185231	05
105232	185232	04			105232	185232	04			105232	185232	04
105233	185233	03			105233	185233	03			105233	185233	03
105234	185234	02			105234	185234	02			105234	185234	02
105235	185235	0			105235	185235	0			105235	185235	0
105236	185236	1			105236	185236	1			105236	185236	1
105237	185237	2			105237	185237	2			105237	185237	2
105238	185238	3			105238	185238	3			105238	185238	3
105239	185239	4			105239	185239	4			105239	185239	4
105240	185240	5			105240	185240	5			105240	185240	5
105241	185241	05	CTC		105241	185241	05	CTL		105241	185241	05
105242	185242	04			105242	185242	04			105242	185242	04
105243	185243	03			105243	185243	03			105243	185243	03
105244	185244	02			105244	185244	02			105244	185244	02
105245	185245	0			105245	185245	0			105245	185245	0
105246	185246	1			105246	185246	1			105246	185246	1
105247	185247	2			105247	185247	2			105247	185247	2
105248	185248	3			105248	185248	3			105248	185248	3
105249	185249	4			105249	185249	4			105249	185249	4
105250	185250	5			105250	185250	5			105250	185250	5
105251	185251	05	CTB		105251	185251	05	CTL		105251	185251	05
105252	185252	04			105252	185252	04			105252	185252	04
105253	185253	03			105253	185253	03			105253	185253	03
105254	185254	02			105254	185254	02			105254	185254	02
105255	185255	0			105255	185255	0			105255	185255	0
105256	185256	1			105256	185256	1			105256	185256	1
105257	185257	2			105257	185257	2			105257	185257	2
105258	185258	3			105258	185258	3			105258	185258	3
105259	185259	4			105259	185259	4			105259	185259	4
105260	185260	5			105260	185260	5			105260	185260	5

Pneumatic System

VBP (Air-driven pump for delivering small volumes of biodegradable oil)

Model Reference

VBP—□—□—□

Tank capacity

Blank	1.8ℓ
3	3.0ℓ

Pulse generator

Blank	Without
G	With

Number of pumps

Note: Max. 3 pumps for 1.8L reservoir
Max. 5 pumps for 3.0L reservoir



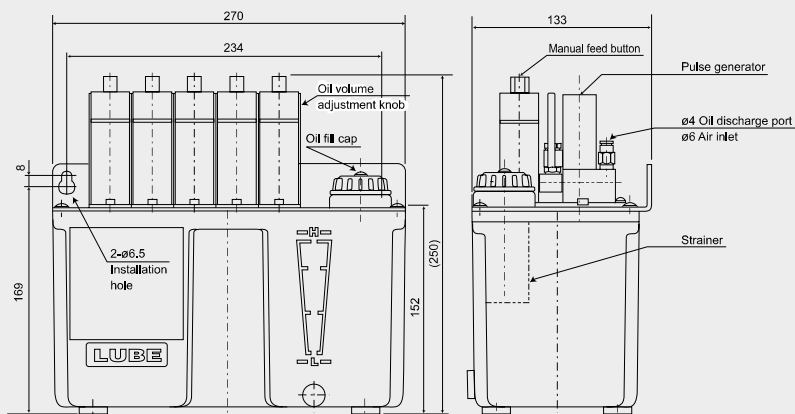
VBP-3

Model	Part No.	Number of pump unit	Generator	Reservoir
				1.8ℓ 3.0ℓ
VBP-1	112740	1		○
VBP-2	112741	2		○
VBP-3	112742	3		○
VBP-1-G	112746	1	○	○
VBP-2-G	112747	2	○	○
VBP-3-G	112748	3	○	○
VBP-1-3	112752	1		○
VBP-2-3	112753	2		○
VBP-3-3	112754	3		○
VBP-4-3	112755	4		○
VBP-5-3	112756	5		○
VBP-1-G-3	112762	1	○	○
VBP-2-G-3	112763	2	○	○
VBP-3-G-3	112764	3	○	○
VBP-4-G-3	112765	4	○	○
VBP-5-G-3	112766	5	○	○

Specifications

Discharge volume	0 - 0.07 mL/shot
Discharge cycle	2 shot / sec (MAX)
Effective pump ratio	1 : 5 (Discharge pressure 1.5 Mpa when air pressure 0.3 Mpa discharge volume 0.05 mL/shot)
Air pressure range	0.3 - 0.7 MPa 0.4 - 0.7 MPa (with pulse generator)
Working viscosity range	2 - 180 mm ² /s
Number of pump units (Standard spec.)	1.8ℓ reservoir : 3 pumps 3ℓ reservoir : 5 pumps
Reservoir capacity	1.8ℓ, 3ℓ resin reservoir (standard)

Dimensional drawing



VBP-5-G

Pneumatic System

PM-8S (Piston pump)

Model Reference

PM-8S - [] - [] - []

Oil level switch

Blank	Without
L	With (A contact)

Reservoir capacity

Blank	1.8ℓ Resin reservoirs
3	3ℓ Resin reservoirs
30	3ℓ Metal reservoirs
40	4ℓ Metal reservoirs
80	8ℓ Metal reservoirs

Reservoir Mounting Position

Blank	1.8ℓ Resin
F	Foot Mount
B	Wall Mount

*Metal reservoir only

Pump Position

L	Pump position-Left
R	Pump position-Right

**Except 1.8ℓ reservoir.

*Pump is installed on the right side, if a metal reservoir is selected.

*Specify the pump location (right or left) if 13ℓ reservoir is selected.

Model	Part No.
PM-8S	102660
PM-8S-L	102754

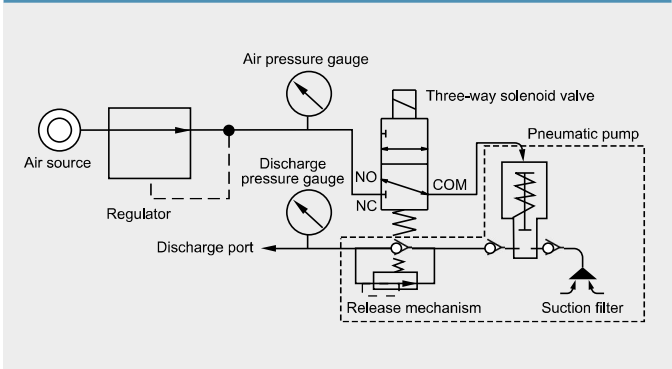


PM-8S

Specifications

Pump ratio	1:5 (under air pressure of 0.5 MPa)
Discharge volume	8 ml/shot (6 ml, 7 ml: available by special order)
Working viscosity	Spray method: Oil shot 10-100 cSt Oil/air 10-1800 cSt Contact us when a special lubricant is required.
Air pressure vs. air consumption	0.4 MPa - 0.27 NI/shot; 0.5 MPa - 0.3 NI/shot Total valve discharge: Approx. 5 ml
System capacity	When using 0.5 ml valve, up to 10 points.
Reservoir capacity	1.8ℓ, 3ℓ resin reservoir (standard) 3ℓ resin reservoir, 3ℓ, 4ℓ, 8ℓ metal reservoir (optional)
Options	3-way solenoid valve Voltage: AC100V, AC200V, DC24V
	Oil level switch (NO) ON at low level
	Contact capacity AC, DC200V 30W or resistance load 0.5A, whichever smaller
Weight	1.8ℓ reservoir: 1.2 kg, 8ℓ reservoir: 11.0 kg

Hydraulic circuit drawing

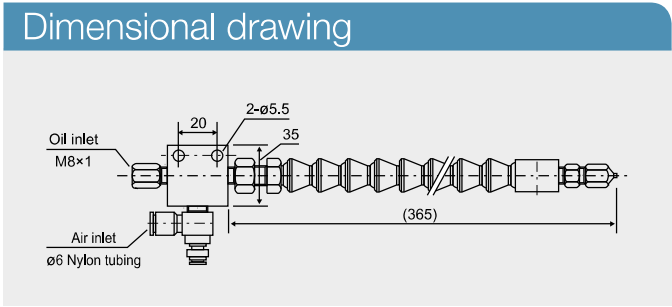


Related parts

M02(C) Metering valve P. 101	JYPA Junction P. 102	MO Metering valve P. 100	PV Junction P. 97	MOS Metering valve P. 102	PVS Junction P. 98	MB Metering valve P. 104	DVR Metering valve P. 106
MIX-S Metering valve P. 108	F-3D Filter P. 166	Pressure gauge P. 163	Tubing P. 190	Compression parts P. 188	Adapters P. 194	Metal reservoirs P. 174	Flexible pipe nozzle P. 192

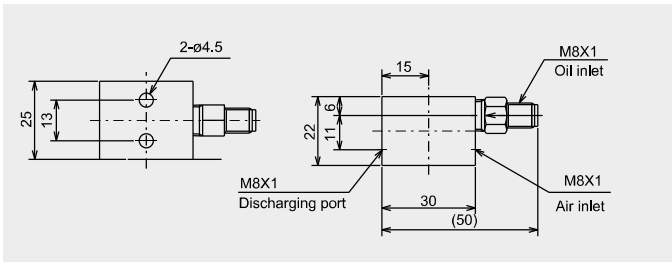
Pneumatic System

VOA (Flexible Spray nozzle for VBP-Pump)



Model	Part Number
VOA-365	112786

MIB (Mixing block for VBP-Pump)

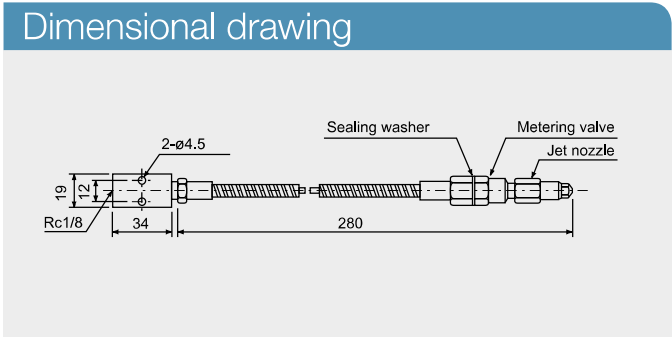


Model	Part Number
MIB	559271

FDM (Flexible pipe nozzle with metering valve)



FDM



Model	Part Number	Discharge volume (ml/shot)
FDM-3	225022	0.03
FDM-5	225023	0.05
FDM-10	225024	0.1
FDM-20	225025	0.2
FDM-30	225026	0.3
FDM-50	225027	0.5

Related parts



VBP Pump
P. 146

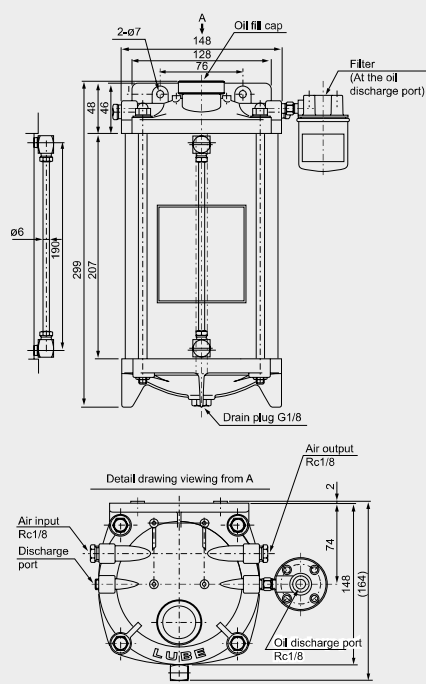


PM Pump
P. 148

Pneumatic System

MH-20D-A (Spray cooling system)

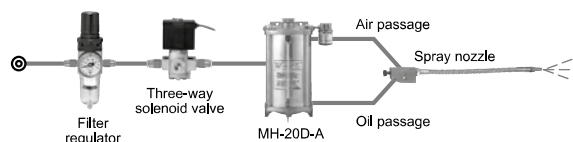
Dimensional drawing



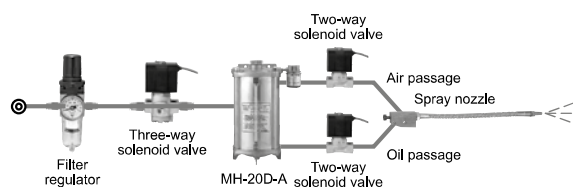
MH-20D-A

Model	Part Number	Oil level switch
MH-20D-A	222138	Without
MH-20D-A-L	222195	With

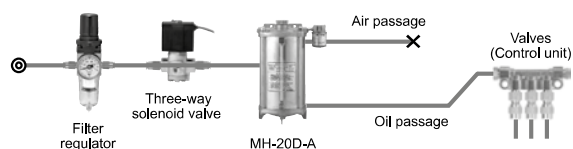
1. In order to stop the oil flow, use a three-way solenoid valve on the air supply. By stopping air flow quickly, oil flow will be stopped well.



- 2-A. By using each pieces of two-way solenoid valve for air hose and oil hose, switching oil fog On and OFF can be done quickly. By switching the solenoid valve for air hose OFF, only oil can be discharged from the spray nozzle.
- 2-B. If the oil fog is not used, plug the air hose instead of using the two-way solenoid valve.



3. Instead of spray nozzle, control units can be used, so this system becomes oil pump run by air.

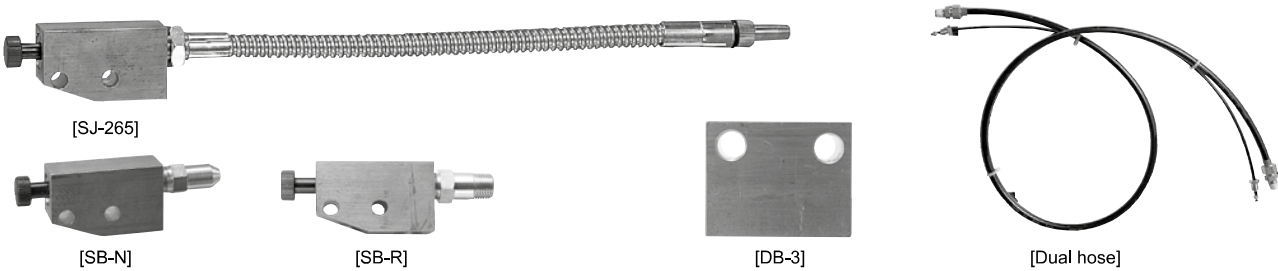


Specifications

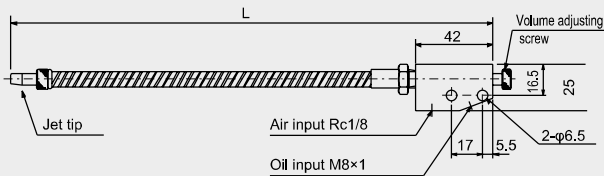
Air input pressure		0.7 MPa (Maximum)
Normal working air pressure		0.1 - 0.3 MPa
Working viscosity range		2 - 100 mm ² /s
Reservoir capacity		2ℓ
Filter (At the oil discharge port)		Filtration accuracy: 40μ
Number of available spray nozzle		1 to 4 pieces
Material of the reservoirs		A5052TD-H34
Weight		3.3 kg
Optional	Oil level switch	Contact capacity AC · DC200V 0.5A 30W Contact type NO
	Solenoid	Two-way/Three-way AC100V / AC200V DC24V

Pneumatic System

Accessories for MH-20D-A pump

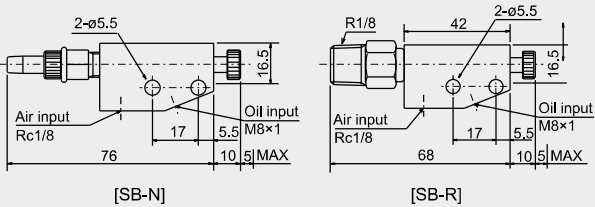


Dimensional drawing (Flexible spray nozzle)



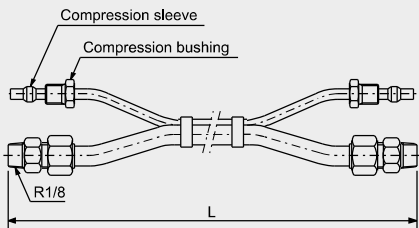
Model	Part Number	L
SJ-265	225011	265
SJ-410	225012	410
SJ-500	225013	500
SJ-600	225016	600

Dimensional drawing (Block type spray nozzle)



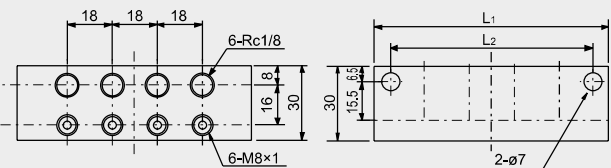
Model	Part Number	Top
SB-N	225001	Nozzle shape
SB-R	225002	R1/8

Dimensional drawing (Dual hose)



Model	Part Number	L
DH-500	226710	500
DH-1000	226711	1000
DH-1500	226712	1500
DH-2000	226713	2000
DH-2500	226714	2500

Dimensional drawing (Dual block)



Model	Part No.	L ₁	L ₂	Number of nozzle installation
DB-3	226403	38	25	3 way
DB-5	226405	76	63	5 way
DB-6	226406	94	81	6 way

Pneumatic System

LF 53 · LF 55 · LF 60 · LF 65 (LUBFIT Oil Series)

Specifications

	LF-53	LF-55	LF-60	LF-65
Color	Colorless and transparent liquid	Colorless and transparent liquid	Colorless and transparent liquid	Colorless and transparent liquid
Density (g/cm³)	0.76	0.79	0.79	0.90
Viscosity (mm²/s, 40°C)	1.5	2.2	2.2	27
Flash point (°C)	> 70°	> 80°	> 80°	> 150°
Copper Corrosion (100°C/h)	No change of color	No change of color	No change of color	No change of color

* Numeric value is a measured one. It is not the standard one.

Model	Capacity
LF-53-5	5 ℓ
LF-55-5	
LF-60-5	
LF-65-5	
LF-53-20	20 ℓ
LF-55-20	
LF-60-20	
LF-65-20	



[LF-53-20]

[LF-53-5]



[LF-55-20]

[LF-55-5]



[LF-60-20]

[LF-60-5]



[LF-65-20]

[LF-65-5]

Accessories

Proximity sensor for series progressive valve

Electrically monitors the movement of the indicator pin of progressive valve.

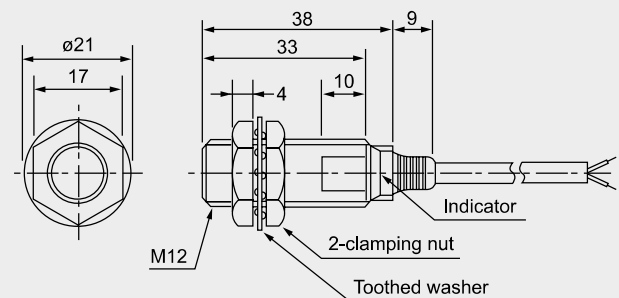
Proximity sensor can be used to monitor for a Progressive Valve or system failure, and can also be used to monitor pump discharge time.

Specifications

	E2E-X2E1	E2F-X2E1	E2F-X2Y1
Power voltage	DC10-24V		AC24-240V
Working voltage range	DC10-40V	DC10-30V	AC20-264V
Output Form	DC 3 leads NPN		AC 2 leads
Detecting Distance	2 mm $\pm$ 10%		
Setting Distance	0 -1.6 mm		
Detecting Object	Iron 12×1 mm		
Protection class	IEC Standards IP67	IEC Standards IP68	

Model	Part Number
E2E-X2E1	733225
E2F-X2E1	730797
E2F-X2Y1	730721

Dimensional drawing



SDM-72 (Steel dust meter)

The New Cosmos SDM-72 steel dust meter employs a magnetic balance type electromagnet induction method for measuring.

The SDM-72 is a useful and simple diagnostic tool for inspecting the abrasion status of bearings and gears.



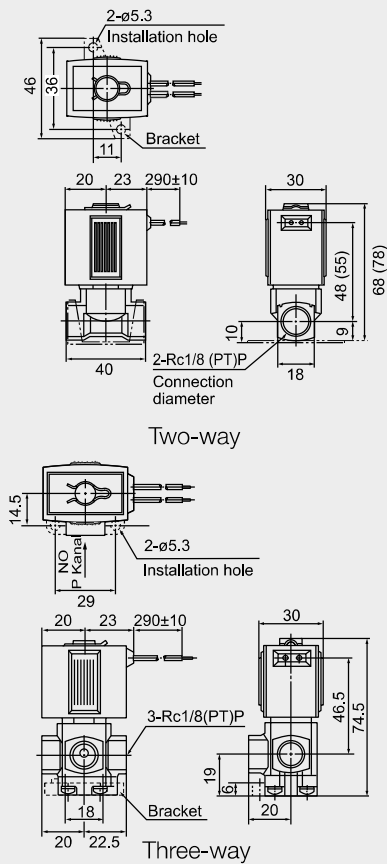
Specifications

Measurement principle	Magnetic balance type electromagnetic
Substance measured	Steel dust concentration in grease
Measurement range	0 to 19999 ppm (Wt)
Zero adjustment	Automatic adjustment
Amount of sample	1.5 ml
Power	4× AA (R6) alkaline dry cells or AC adaptor
Battery life	Up to 30 hours by alkaline cells
Operating temperature	0 to 40 °C
Dimensions	W 84 × H 190 × D 40mm
Weight	Approx. 500g (including batteries)

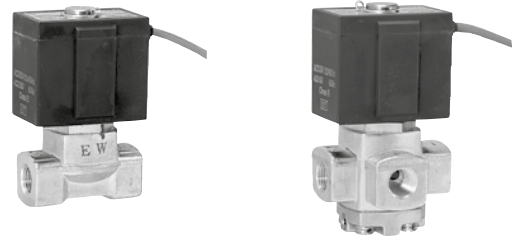
Model	Part Number
SDM-72	—

AB · VX (Solenoid valve)

Dimensional drawing

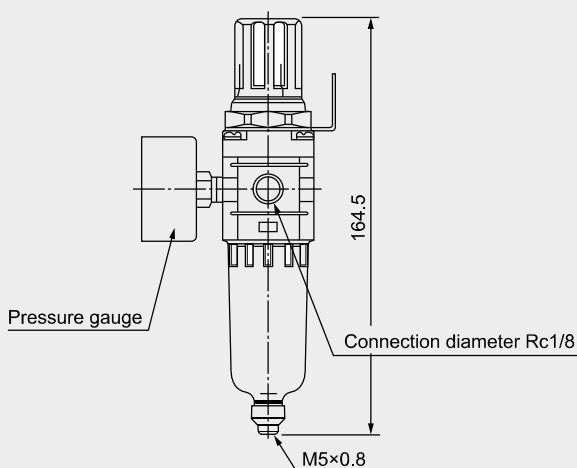


Model	Part No.	Speci- fications	Working voltage	Maximum working pressure difference
AB31013	229439	Two-way	AC100V	0.7 MPa
AB31013	229440		AC200V	
AB31013	229438		DC24V	
VX3114-1G	229548	Three-way	AC100V	
VX3114-2G	229549		AC200V	
VX3114-5G	229550		DC24V	



AW-20 (Filter regulator)

Dimensional drawing



Model	Part Number
AW20-01BG	229570



Accessories

W-105・WL・WTL (Oil level switch)

Float

●1 Float

Terminal box	
Without marking	Non existence
T	Existence

W

L

Type of contact point for lower limit	
Without marking	NO

-

U

Type of contact point for upper limit	
B	NC

BS

S	Single float (1 float)
---	------------------------

Contact point for lower limit
Operating position unit / mm

Contact point for upper limit
Operating position unit / mm

●2 Float

Terminal box	
Without marking	Non existence
T	Existence

W

L

Type of contact point for lower limit	
Without marking	NO
B	NC

-

U

Type of contact point for upper limit	
Without marking	NO
B	NC

Contact point for lower limit
Operating position unit / mm

Contact point for upper limit
Operating position unit / mm

W-105-02 W-105B

Specifications	
Contact type	(NO) On at low level (NC) Off at low level
Contact capacity	0.5A, AC DC200V/30W smaller
Working temperature range	-10 - 80°C (limited to liquid in nonfreezing condition)
Working liquid specific gravity	over 0.7
Max. pressure	0.1 MPa

Model	Part No.	Contact type	Specification
W-105-02	109704	NO	Without terminal box Cord length 20 cm
W-105-02 (B)	109705	NC	
W-105B	109706	NO	With terminal box
W-105B (B)	109707	NC	

Model	Part Number	Terminal box
WL-100-U30BS	109221	—
WL-105-U32BS	109222	
WL-120-U50BS	109223	
WL-150-U35BS	109224	
WL-150-U50BS	109225	
WL-160-U80BS	109226	
WL-190-U80BS	109227	
WL-210-U50BS	109228	○
WTL-100-U30BS	109271	
WTL-105-U32BS	109272	
WTL-120-U50BS	109273	
WTL-150-U35BS	109274	
WTL-150-U50BS	109275	
WTL-160-U80BS	109276	
WTL-190-U80BS	109277	
WTL-210-U50BS	109278	

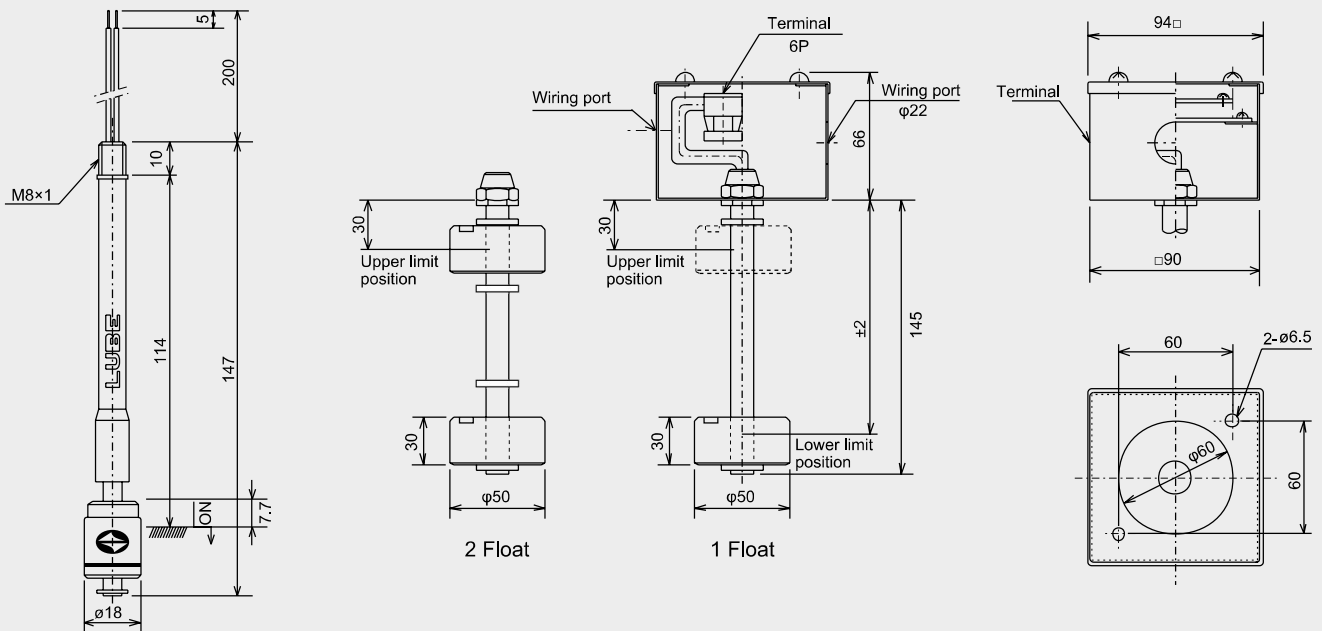
Example for using oil level switch

158

Dimensional drawing

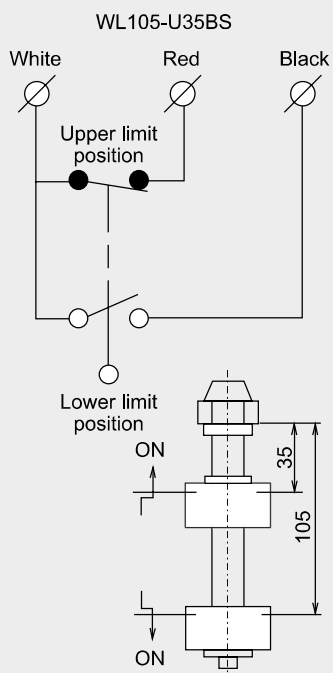
W-105-02

WTL

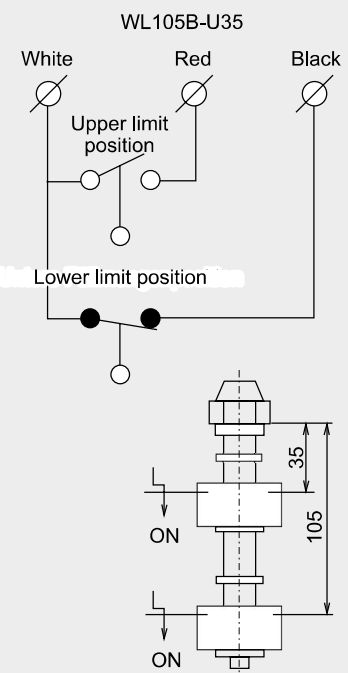
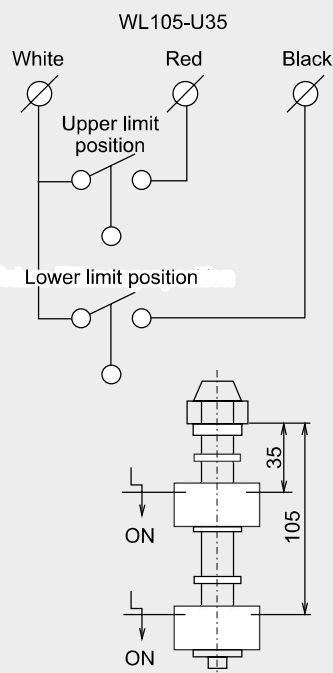


Float Positions

Example : 1 float



Example : 2 float



Accessories

FXE · F3E · FYE · RF (Filter / Strainer)

Model	Part Number	Filtration rating
FXE	259304	40μ
F3E-125	259311	125μ
F3E-40	259312	40μ
F3E-10	259313	10μ

Model	Part Number	Filtration rating	Material
FYE	650147	20μ	BC3

Model	Part Number	Filtration rating
RF-250	109317	250μ

Model	Part No.	D	H	L	d	d1	P	Installation Screw
SAB-30	259353	56	33	44	30	35	48	4-M4
SAB-40	259354	65	34	69	40	45	57	
SAB-50	259355	80	34	135	50	56	75	4-M5
SAB-70	259358	108	70	120	70	80	100	6-M6

Model	Part No.	Connecting port	Normal working pressure (MPa)	Pressure Loss	Filtration rating	Additional parts
FX1-4	109311	M8×1	1.0	0.1	40μ	SA4-16
FX1-6	209311	M10×1				SA6-20
F3-4-125	109308	M8×1	Max. 2.9		125μ	SA4-16
F3-6-125	209308	M10×1				SA6-20
F3-6-40	209310				40μ	
F3-6-10	209309			0.15	10μ	
FY20	109313	Rc1/8	2.5	0.1	20μ	—



FX1-4



FY20

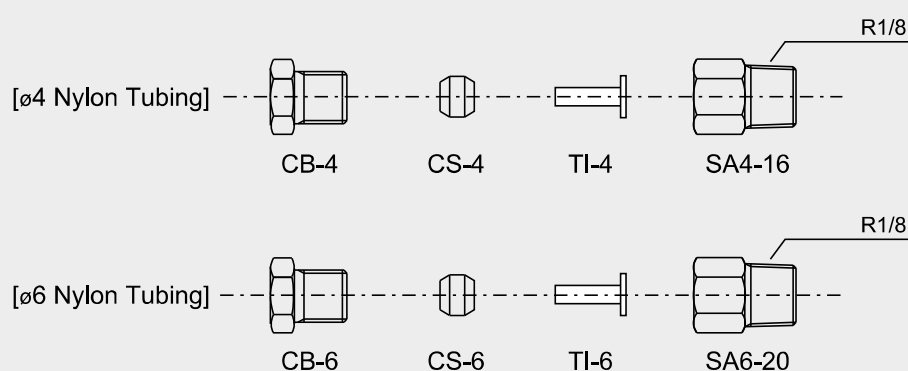


RF-250



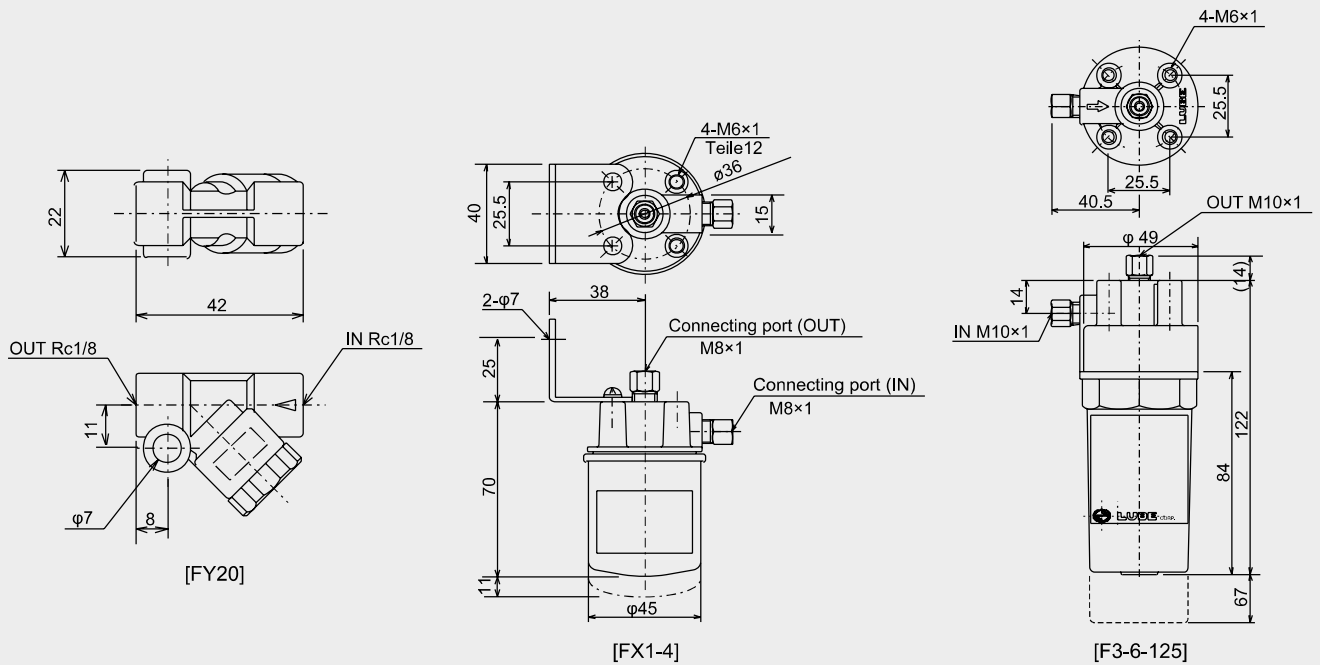
F3-6-125

Connecting parts

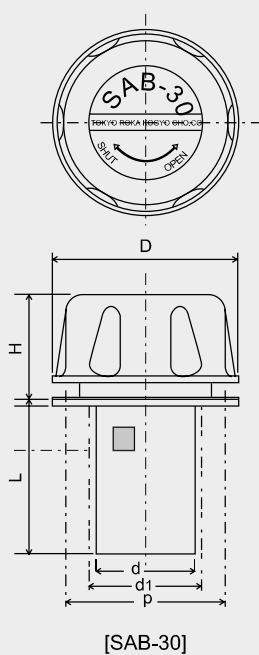


Dimensional drawing

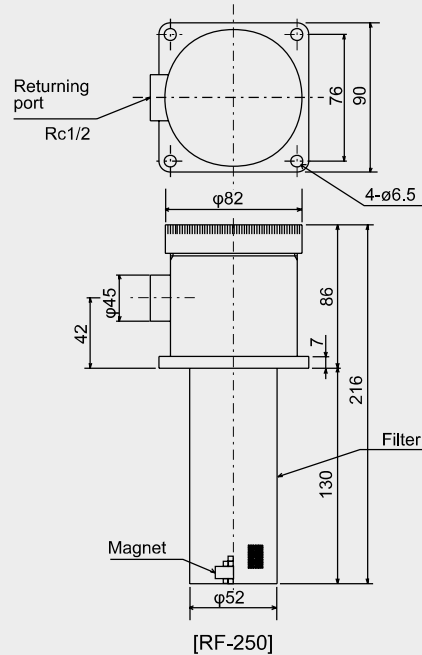
[[Line filter]]



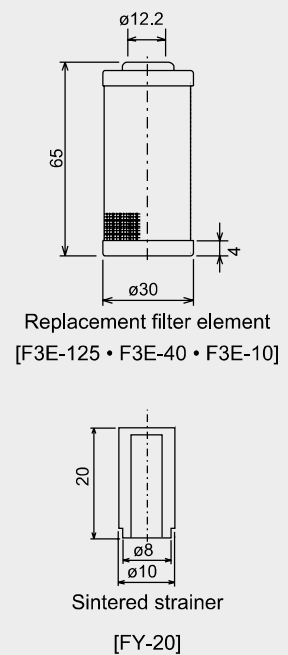
[Strainer]



[Recirculation filter]



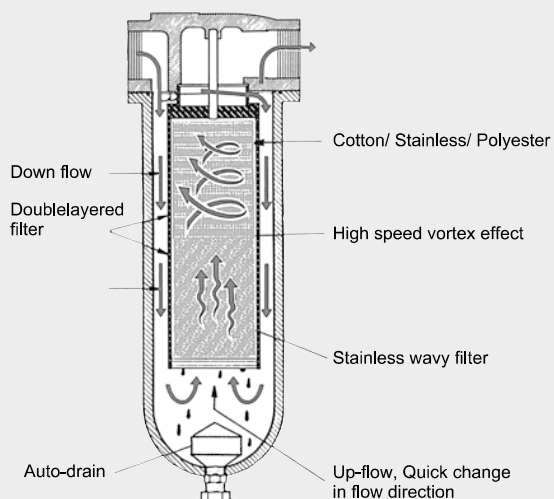
[Element / Strainer]



Accessories

3P • 3M (Eliminator)

Principle of operation and feature



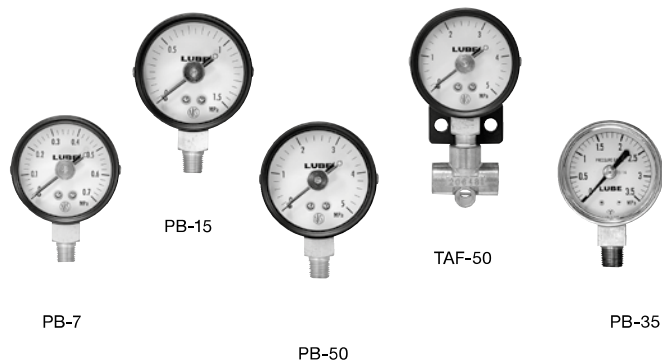
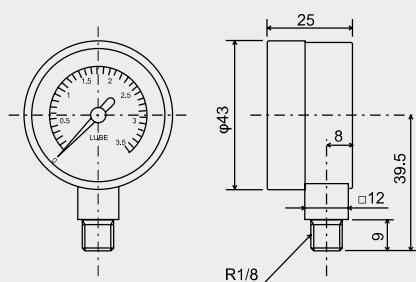
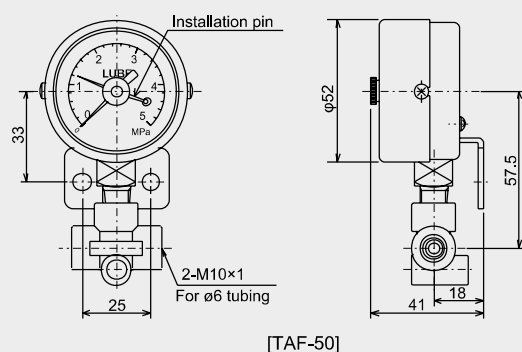
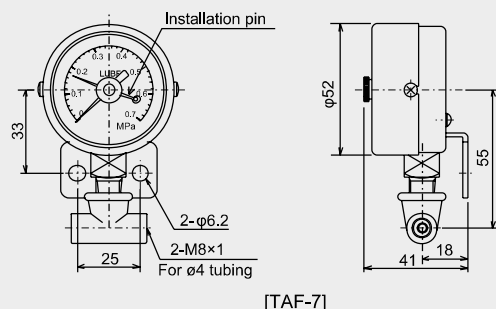
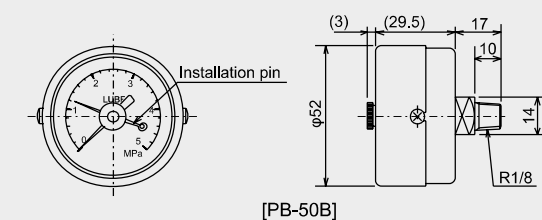
Specifications

Filtration	Particles down to 1 micron in size
Max. working atmosphere	Plastic bowl= 1.0 MPa Metal bowl= 1.7 MPa
Max. working temperature	Plastic bowl = 52 Metal bowl = 80
Applicable flow rate	76ℓ/min.-19,800ℓ/min.

	Model	Flow rate (l/min)		Bore (Rc)	Outside dimension (mm)			Weight (kg)	Material	
		Max.	Min.		Overall height	Overall width	Depth		Head	Bowl
Plastic bowl type	3P-020-PT2-Fi	560	170	1/4	190	76	76	1.5	Zinc diecast	Polycarbonate
	3P-035-PT2-Fi	980	300		290	95	95	1.5		
	3P-060-PT4-Fi	1,750		1/2						
	3P-090-PT6-Fi	2,450	850	3/4	390	127	127	2.5		
	3P-150-PT8-Fi	4,250	1,275	1						
Metal bowl type	3P-020-PT2-Fi	560	170	1/4	190	75	66	1	Zinc diecast	Aluminum
	3P-035-MT2-Fi	980	300		290	95	95	1.5		
	3P-060-MT4-Fi	1,75	300	1/2						
	3P-090-MT6-Fi	2,450	850	3/4	490	127	127	2.5	Aluminum diecast	
	3P-150-MT8-Fi	4,250	1,275	1						
	3M-400-M12-Fi	11,300	3,400	1-1/2	770	217	217	217		
	3M-700-M16-Fi	19,600	5,950	2						

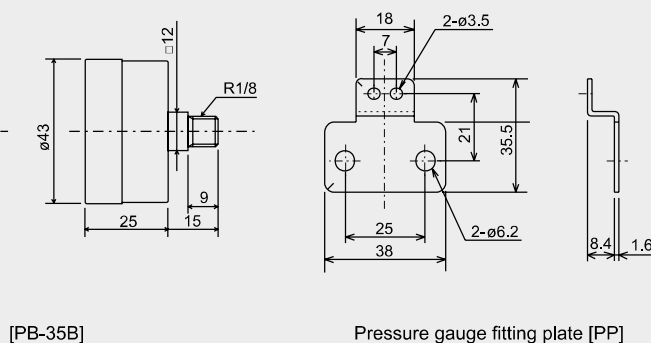
Pressure gauge

Dimensional drawing



Specifications

Accuracy	± 3% F.S
Temperature range	15°C–40°C
Material	Bourdon tube C6872T (Min.10 MPa C5191T) Frame SPCC steel plate



Model	Part No.	Pressure range (MPa)	Connection	Installation pin
PB-7	109166	0.7	R1/8	Available
PB-15	109167	1.5		
PB-50	109161	5		
PB-50B	109162			
TAF-7	109154	0.7	M8 x 1	—
TAF-15	109155	1.5		
TAF-50	209117	5		
PB-35	209136	3.5	R1/8	Not available
PB-35B	209137			

Model	Part No.
PP	109102

Accessories

PS (Pressure switch)

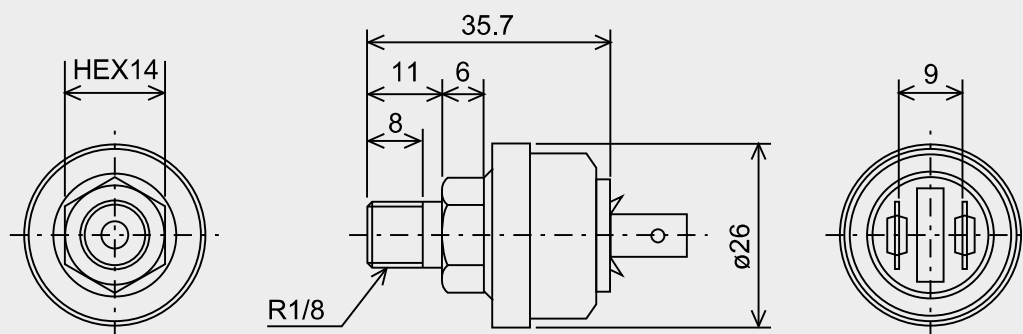
Model	Part No.	Contact type	Upper limit pressure (MPa)	Lower limit pressure (MPa)
PS-B170	209170	NC	1.667±0.049	0.883±0.147
PS-A170	209171	NO	1.667±0.049	0.883±0.147
PS-B014	209172	NC	0.137±0.029	0.069±0.029
PS-B150	209173		1.471±0.049	0.883±0.147
PS-B021	209174		0.206±0.029	0.147±0.029
PS-B015	209175		0.147±0.029	0.098±0.029
PS-A115	209176	NO	1.128±0.049	0.441±0.098
PS-A011	209177		0.108±0.029	0.049±0.029
PS-A150	209178		1.471±0.049	0.883±0.147
PS-A014	209203		0.137±0.029	0.069±0.029
PS-A180	209204		1.765±0.049	0.883±0.147
PS-A110	209205		1.079±0.049	0.558±0.147



PS

Specifications

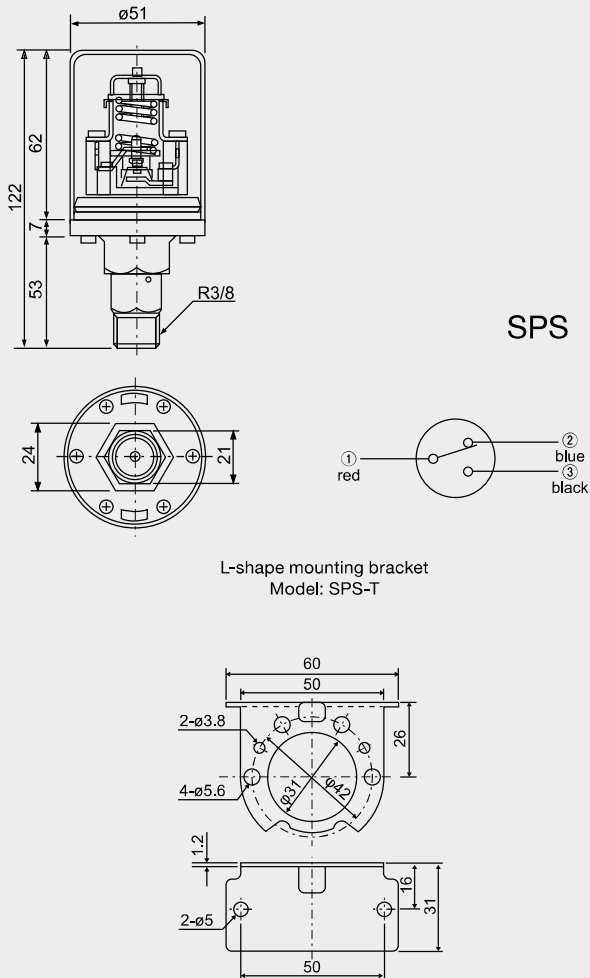
Electrical ratings	AC120/240V 135VA (AC240V for nonelectrical appliance application) DC28V 2A
Operating pressure	See left
Proof pressure	4.4 MPa
Burst Pressure	14.7 MPa

Dimensional drawing

PS

SPS (Pressure switch)

Dimensional drawing



SPS

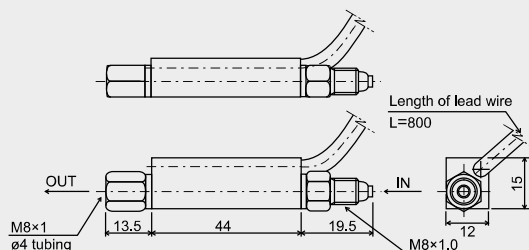
Specifications

Rating	250V, 5A 125V, 10A
Contact type	Switch OFF on pressure rise in red-blue circuit Switch ON on pressure rise in red-black circuit

Model	Part No.	Upper limit pressure (MPa)	Lower limit pressure (MPa)	Durable pressure (MPa)
SPS-8TP-1.7-1.4-3/8	209181	1.7	1.4	21
SPS-8T-0.1-0.05-1/4	109181	0.1	0.05	1
SPS-8T-0.25-0.2-1/4	109182	0.25	0.2	2
SPS-8T-0.4-0.35-1/4	109183	0.4	0.35	
SPS-8T-1.2-0.9-1/4	109184	1.2	0.9	

OIL-SYSTEM

Dimensional drawing



Pressure sensor

Specifications

Maximum contact capacity	50W (Pure resistance)
Maximum working voltage / Maximum working current	DC200V/1.0A, AC200V/0.6A
Maximum conduction current	DC, AC, 2.0A
Maximum initial resistance	0.1 Ω
Insulation resistance	10 ⁹ Ω

Model	Contact type	Remarks
OFS-A	NO	Lead wire drawing direction IN side
OFS-B	NC	Lead wire drawing direction OUT side

Accessories

LS (LUDO-sensor)

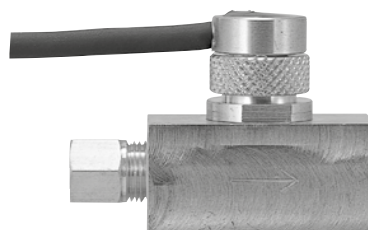
Model Reference

■ LUDO-sensor

LS  **M**

The length of cable (1m increme)

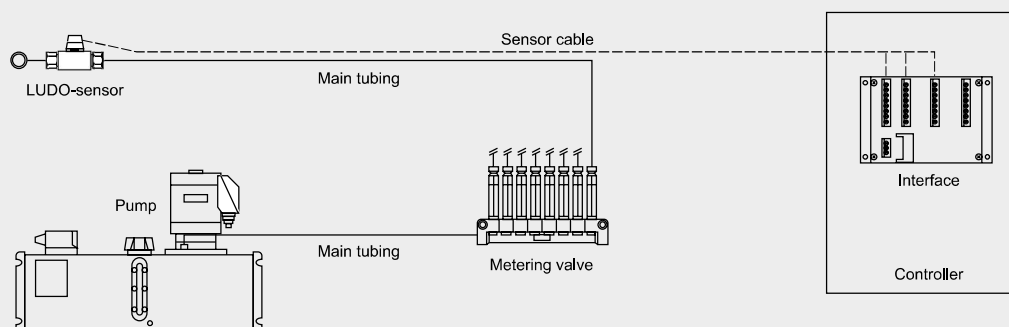
■ Interface

IF – 8CH

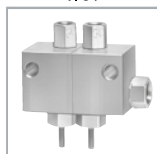
Specifications

LUDO-sensor**Detection capacity** 1 mL/cycle (working viscosity 65mm²/s)**Working viscosity range** 65 – 1300mm²/s

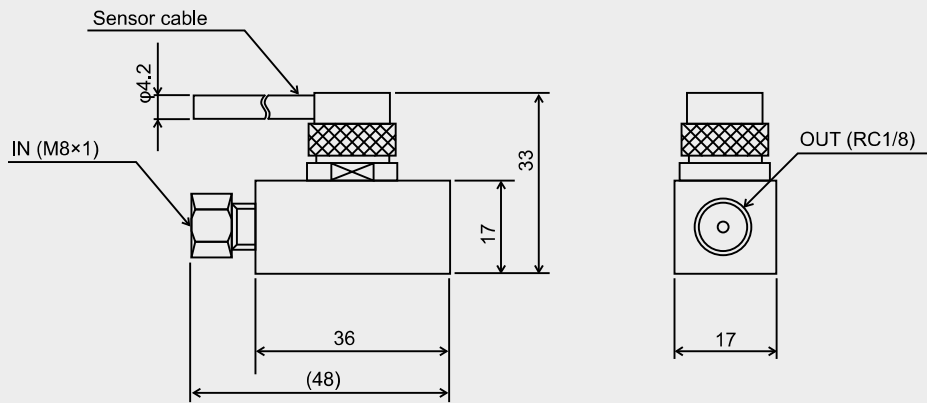
System Planning



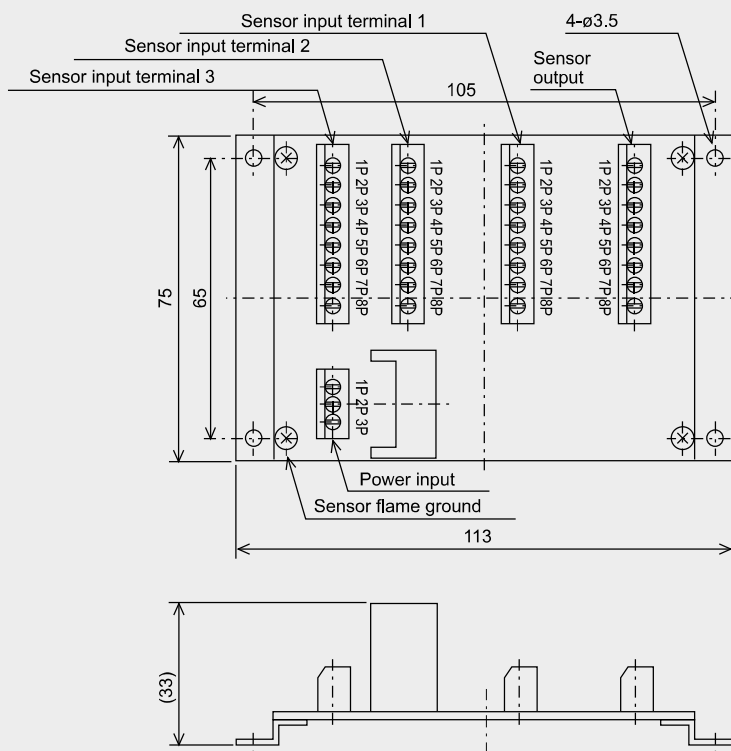
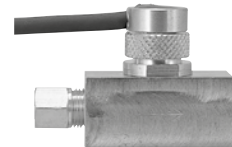
Related parts

**AMZ-III CE**
P. 84**AMO-III DS**
P. 88**AMO-II-150S**
P. 90**AMI-300S, AMI-1000S**
P. 92**MO Metering valve**
P. 100**PV Junction**
P. 97**MOS Metering valve**
P. 102**PVS Junction**
P. 98**MB Metering valve**
P. 104

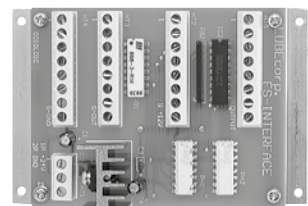
Dimensional drawing



LUDO-sensor

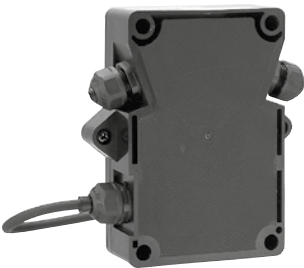
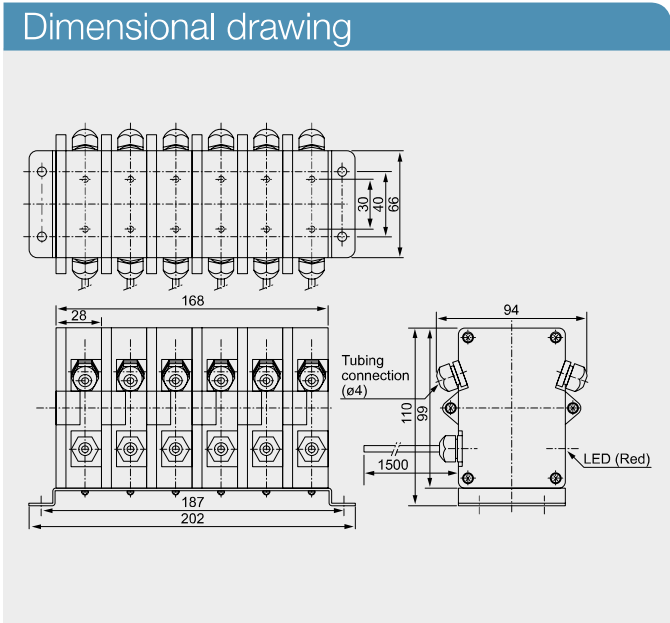


Interface



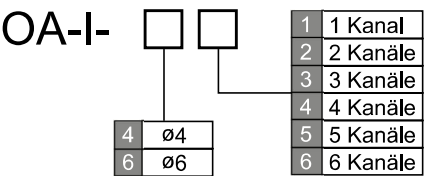
Accessories

OA- I (Air-Oil sensor)

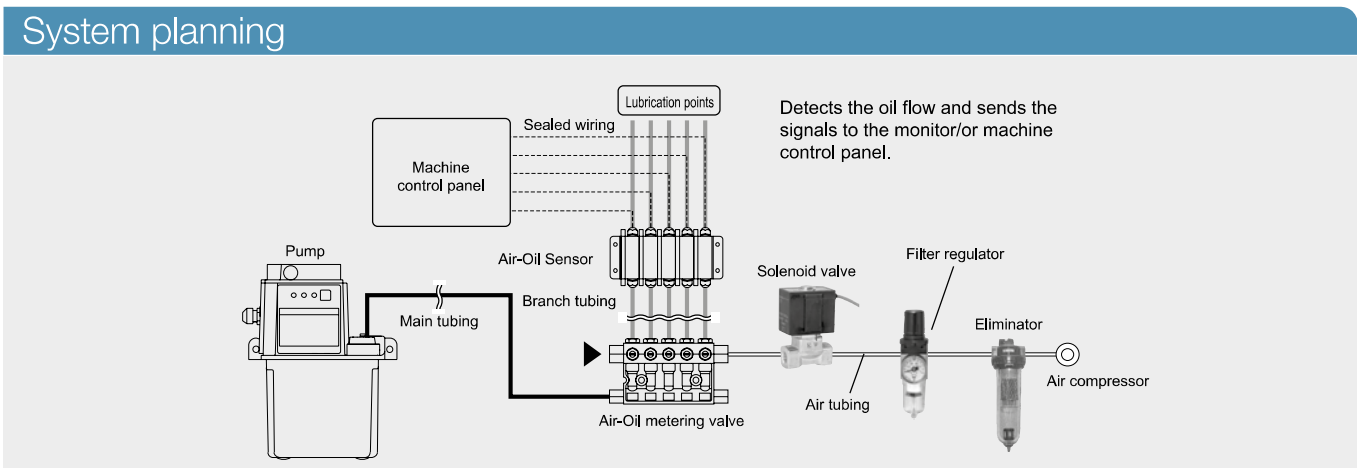
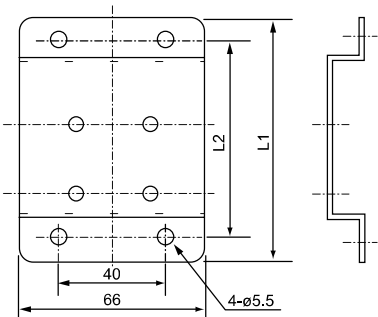


Specifications	
Power/Voltage	DC24 ± 10 %
Abnormal output	Photo coupler (open collector)
Working tempeature range	0-+50°C (no sweating)
Working ambient humidity	35-85 %RH

Sequential number	L ₁	L ₂	Part Number
1	60	44	613011
2	88	72	613012
3	116	100	613013
4	144	128	613014
5	172	156	613015
6	200	184	613016



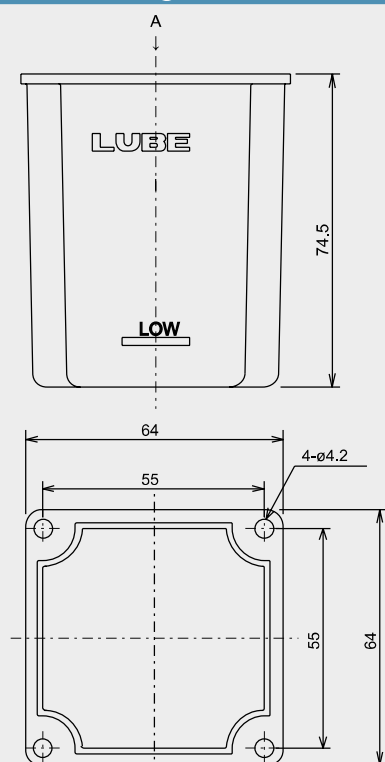
Part Number	Pipe O.D (ø)
420031	4
420032	6



Resin reservoirs

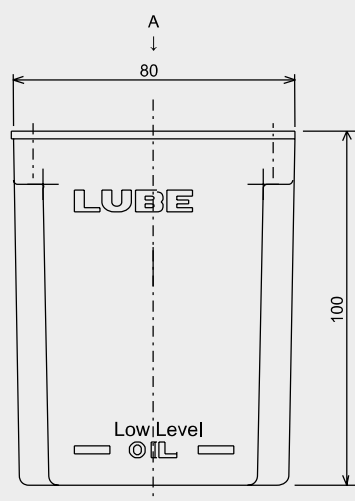
0.2 • 0.4ℓ

Dimensional drawing



Top view

T-4LP Part Number 254106



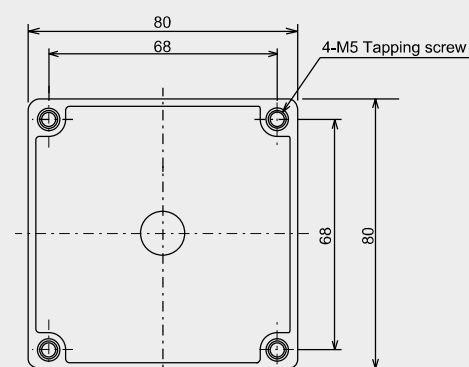
T-2LP Part Number 254104



T-2LP



T-4LP



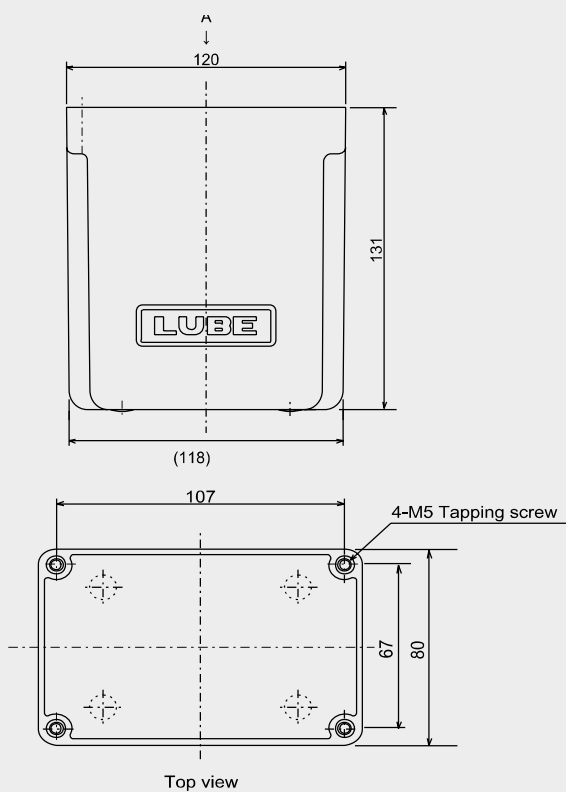
Top view

Applicable pump	Model	Part Number	Useful capacity	Total capacity
L3	T-2LP	254104	0.2ℓ	0.22ℓ
EX-5, L5	T-4LP	254106	0.4ℓ	0.5ℓ

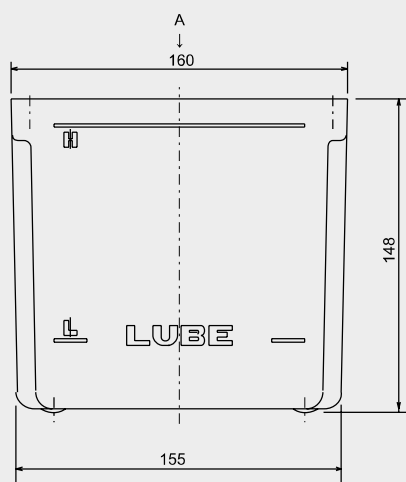
Resin reservoirs

0.8ℓ · 1.8ℓ

Dimensional drawing



T-8LP Part Number 254102



T-18LP Part Number 609576



T-18LP



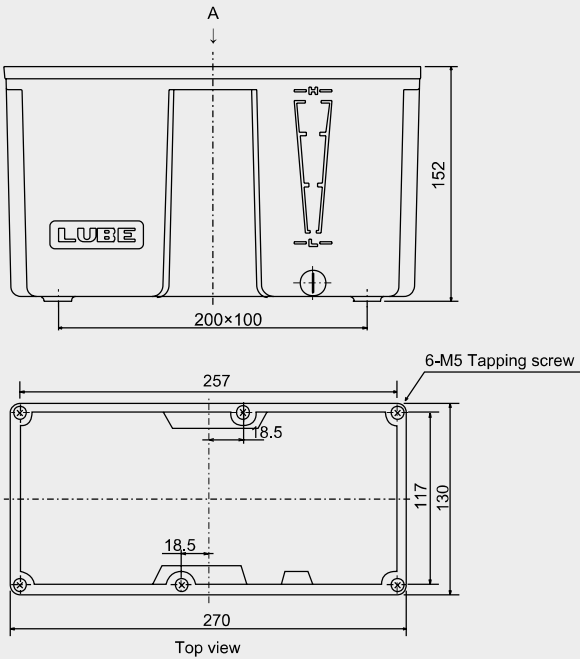
T-8LP

Applicable pump	Model	Part Number	Useful capacity	Total capacity
L8 mIZ	T-8LP	254102	0.8ℓ	1.0ℓ
AMZ-III , AMZ100S, AMO, MMXL-III , MMX- II, EX, AMR-III -150, L20, AMS, PM-8S	T-18LP	609576	1.8ℓ	2.0ℓ

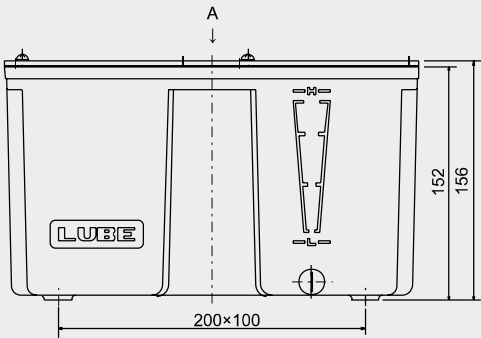
Resin reservoirs

3ℓ

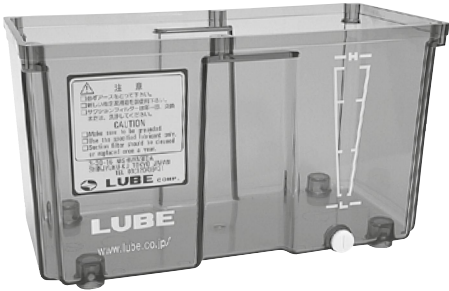
Dimensional drawing



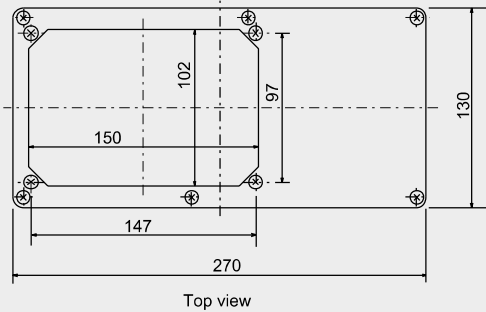
T-30LP Part Number 609583



T-30LP-LX Part Number 104657



T-30LP

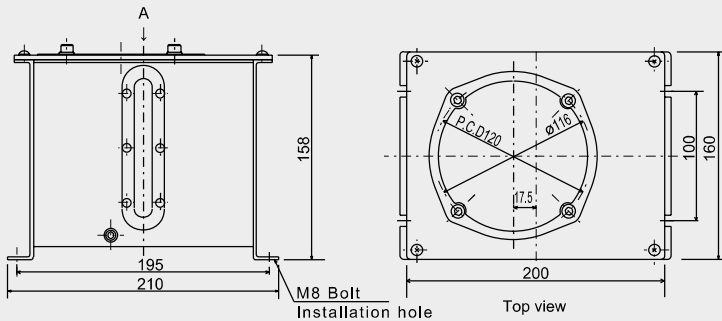


Applicable pump	Model	Part Number	Pump position
AMZ100S, AMO, MMXL-III, MMX-II, AMR-III -150, AMS, PM-8S	T-30LP	609583	—
	T-30LP-LX	104657	Left
	T-30LP-RX	104658	Right

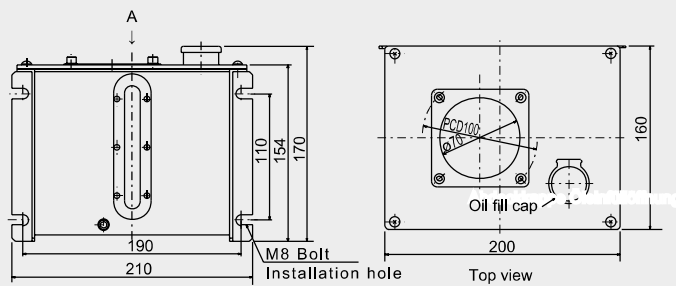
Metal reservoirs

2ℓ

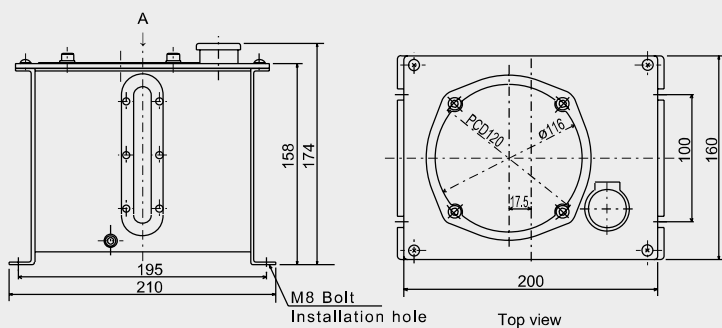
Dimensional drawing



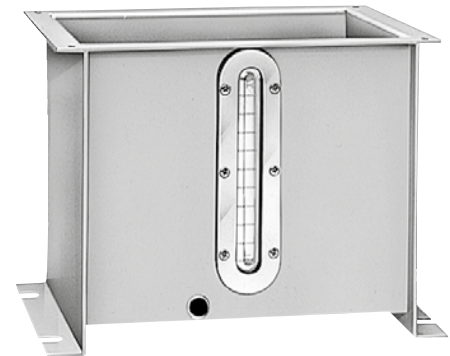
T-20L-AF Part Number 104301



T-20L-HB Part Number 104403



T-20L-KF Part Number 104302



OIL-SYSTEM

Applicable pump	Model	Part Number	Mounting
ACM-II, AM, ADM	T-20L-AF	104301	Foot
	T-20L-AB	104401	Back
AMI-300S, AMI-300	T-20L-HF	104303	Foot
	T-20L-HB	104403	Back
AMI-1000S, AMI-1000	T-20L-KF	104302	Foot
	T-20L-KB	104402	Back

Metal reservoirs

3ℓ

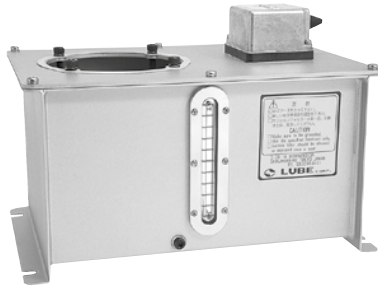


T-30L-OLH

Applicable pump	Model	Part Number	Pump position	Mounting	Oil level switch
AMZ100S	T-30L-AOF	104326	Right	Foot	—
AMO					
AMR-III -150	T-30L-AOB	104426	Right	Back	—
MMXL-III MMX-II AMS PM-8S	T-30L-LXF	104313	Left	Foot	—
	T-30L-LXB	104413	Left	Back	—
	T-30L-RXF	104314	Right	Foot	—
	T-30L-RXB	104414	Right	Back	—
AMI-300S AMI-300	T-30L-LHF	104318	Left	Foot	Without
	T-30L-LHB	104418	Left	Back	Without
	T-30L-RHF	104319	Right	Foot	Without
	T-30L-RHB	104419	Right	Back	Without
	T-30L-OLHF	104324	Left	Foot	With
	T-30L-OLHB	104424	Left	Back	With
	T-30L-ORHF	104325	Right	Foot	With
	T-30L-ORHB	104425	Right	Back	With
AMI-1000S AMI-1000	T-30L-LKF	104316	Left	Foot	Without
	T-30L-LKB	104416	Left	Back	Without
	T-30L-RKF	104317	Right	Foot	Without
	T-30L-RKB	104417	Right	Back	Without
	T-30L-OLKF	104322	Left	Foot	With
	T-30L-OLKB	104422	Left	Back	With
	T-30L-ORKF	104323	Right	Foot	With
	T-30L-ORKB	104423	Right	Back	With
ACM-II AM ADM	T-30L-LAF	104311	Left	Foot	Without
	T-30L-LAB	104411	Left	Back	Without
	T-30L-RAF	104312	Right	Foot	Without
	T-30L-RAB	104412	Right	Back	Without
	T-30L-OLAF	104320	Left	Foot	With
	T-30L-OLAB	104420	Left	Back	With
	T-30L-ORAF	104321	Right	Foot	With
	T-30L-ORAB	104421	Right	Back	With

Metal reservoirs

4ℓ



Applicable pump	Model	Part Number	Pump position	Mounting	Oil level switch
AMZ100S	T-40L-AOF	104356	Right	Foot	—
AMO					
AMR-III-150	T-40L-AOB	104456	Right	Back	—
MMXL-III MMX-II AMS PM-8S	T-40L-LXF	104343	Left	Foot	—
	T-40L-LXB	104443	Left	Back	—
	T-40L-RXF	104344	Right	Foot	—
	T-40L-RXB	104444	Right	Back	—
AMI-300S AMI-300	T-40L-LHF	104348	Left	Foot	Without
	T-40L-LHB	104448	Left	Back	Without
	T-40L-RHF	104349	Right	Foot	Without
	T-40L-RHB	104449	Right	Back	Without
	T-40L-OLHF	104354	Left	Foot	With
	T-40L-OLHB	104454	Left	Back	With
	T-40L-ORHF	104355	Right	Foot	With
	T-40L-ORHB	104455	Right	Back	With
AMI-1000S AMI-1000	T-40L-LKF	104346	Left	Foot	Without
	T-40L-LKB	104446	Left	Back	Without
	T-40L-RKF	104347	Right	Foot	Without
	T-40L-RKB	104447	Right	Back	Without
	T-40L-OLKF	104352	Left	Foot	With
	T-40L-OLKB	104452	Left	Back	With
	T-40L-ORKF	104353	Right	Foot	With
	T-40L-ORKB	104453	Right	Back	With
ACM-II AM ADM	T-40L-LAF	104341	Left	Foot	Without
	T-40L-LAB	104441	Left	Back	Without
	T-40L-RAF	104342	Right	Foot	Without
	T-40L-RAB	104442	Right	Back	Without
	T-40L-OLAF	104350	Left	Foot	With
	T-40L-OLAB	104450	Left	Back	With
	T-40L-ORAF	104351	Right	Foot	With
	T-40L-ORAB	104451	Right	Back	With

Metal reservoirs

8ℓ



Applicable pump	Model	Part Number	Pump position	Mounting	Oil level switch
AMZ100S	T-80L-AOF	104386	Right	Foot	—
AMO					
AMR-III -150	T-80L-AOB	104486	Right	Back	—
MMXL-III MMX-II AMS PM-8S	T-80L-LXF	104373	Left	Foot	—
	T-80L-LXB	104473	Left	Back	—
	T-80L-RXF	104374	Right	Foot	—
	T-80L-RXB	104474	Right	Back	—
AMI-300S AMI-300	T-80L-LHF	104378	Left	Foot	Without
	T-80L-LHB	104478	Left	Back	Without
	T-80L-RHF	104379	Right	Foot	Without
	T-80L-RHB	104479	Right	Back	Without
	T-80L-OLHF	104384	Left	Foot	With
	T-80L-OLHB	104484	Left	Back	With
	T-80L-ORHF	104385	Right	Foot	With
	T-80L-ORHB	104485	Right	Back	With
AMI-1000S AMI-1000	T-80L-LKF	104376	Left	Foot	Without
	T-80L-LKB	104476	Left	Back	Without
	T-80L-RKF	104377	Right	Foot	Without
	T-80L-RKB	104477	Right	Back	Without
	T-80L-OLKF	104382	Left	Foot	With
	T-80L-OLKB	104482	Left	Back	With
	T-80L-ORKF	104383	Right	Foot	With
	T-80L-ORKB	104483	Right	Back	With
ACM-II AM ADM	T-80L-LAF	104371	Left	Foot	Without
	T-80L-LAB	104471	Left	Back	Without
	T-80L-RAF	104372	Right	Foot	Without
	T-80L-RAB	104472	Right	Back	Without
	T-80L-OLAF	104380	Left	Foot	With
	T-80L-OLAB	104480	Left	Back	With
	T-80L-ORAF	104381	Right	Foot	With
	T-80L-ORAB	104481	Right	Back	With