Green Lubricator for Green Future

ISHAN PRECISION IND. CO., LTD.
No.5, Alley 28, Lane 256, Tai Si S.Rd., Lung Ching Dist.,
Taichung City,Taiwan 43445
TEL:+886-4-26302881 ext.71 FAX:+886-4-26302880
E-mail:overseas.dp@ishan.com.tw http://www.smuslube.com

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CE ISO-9001

About ISHAN

Ishan Precision Industrial Co., Ltd. was established in Taichung, Taiwan in 1992, has been continuously researching and developing centralized lubrication system, become the leading manufacturer in Taiwan. Ishan Precision provides lubrication system is widely applied on industrial machinery.

Quality, Service ,and Innovation are always our consistence. Ishan quality assurance program is approved by ISO-9001 standards, and SST- lubricator lines are certified with CE safety certification via SGS.

After continuous innovations and development in the past 20 years, we upgrade our product line to meet the requirement of global customers by a brand-new product line SMUS. SMUS series have the dedicated product line for differential market segmentation to grab the demand from different market.

SMUS centralized lubrication system is developed and produced in Taiwan, just as Taiwan machinery industry for global customers. Ishan expects to become a partner for global customers, and contribute to mutual success, as well as constructs global sales network of SMUS products. We look forward to building business relationship with you with our best pleasure, and please contact us.

Enterprise History

1992 ISHAN PRECISION IND.CO.,LTD was founded in Taichung, Taiwan.

1993 ISHAN cooperated with Taiwan Industrial Technology Research Institute and developed new lubricators.

1997 ISHAN built partnership with a US well-known brand to provide OEM & ODM service with CE certification.

1999 ISHAN won ISO-9002 approval.

2001 ISHAN established new factory, SUNSHINE in China to cultivate China domestic market.

2003 ISHAN won ISO-9001 approval.

2007 For China's increasing demand, SUNSHINE moved to the new production site.

2008 ISHAN expanded the Taichung Production site.

2010 The year of global expansion for ISHAN, and the Overseas Sales Dept is set up.

2011 SMUS was unpacked for the application on high performance machinery.

2013 SMUS-SST series was certified with CE Safety Certification via SGS.

Index

Features of SST-B2-4L Piston Oil Lubrication Systems

Green Packaging
- Environment-friendly carton
- Compact and anti-impact design

Aluminum Body
- Enlarged robust aluminum cover
- Enhance heat dissipation to prolong product life

Feed Button
- User can discharge more lubricant when needed
- Embossed button helps easier operation
- Embedded spark reducer improves reliability

Oil Meter
- Aesthetic and flat surface design
- Avoid collision during transportation
- Easier for lubricant level checking

Stainless Pressure Gauge
- Durable and reliable body
- Color marked meter helps easier identification

Widened Fix-Holes
- Provide compatibility for machinery maintenance

Output Bore
- Ambidextrous design contributes to the set-up flexibility

Push-On Tank Cap
- Easy to fasten in tight sealing
- One-body design secure the cap without missing at refilling

Well-Sealed Tank

Design

Features of SSG-D Series (Grease Cup Type) Centralized Grease Lubrication Systems

- Vertical motor layout minimizes the installation space
- Powerful DC motor enhances the performance
- Aesthetic and compact design
- Easy maintenance and leakage-proof structure
- Green Packaging and anti-impact carton

Strong Cover

- Protect the motor well and reduce the volume at operation
- Water-proof and dust-proof

Fixing Holes

- The fixing design is compatible with other popular models in the market
- Easy for customer at replacement

Motor Wires

- Red Wire (+) / Black Wire (-)

Output Bore

- Ø6

Grease Cup Set

- Strong and Transparent

Warning! Never refill from the top of the grease cup

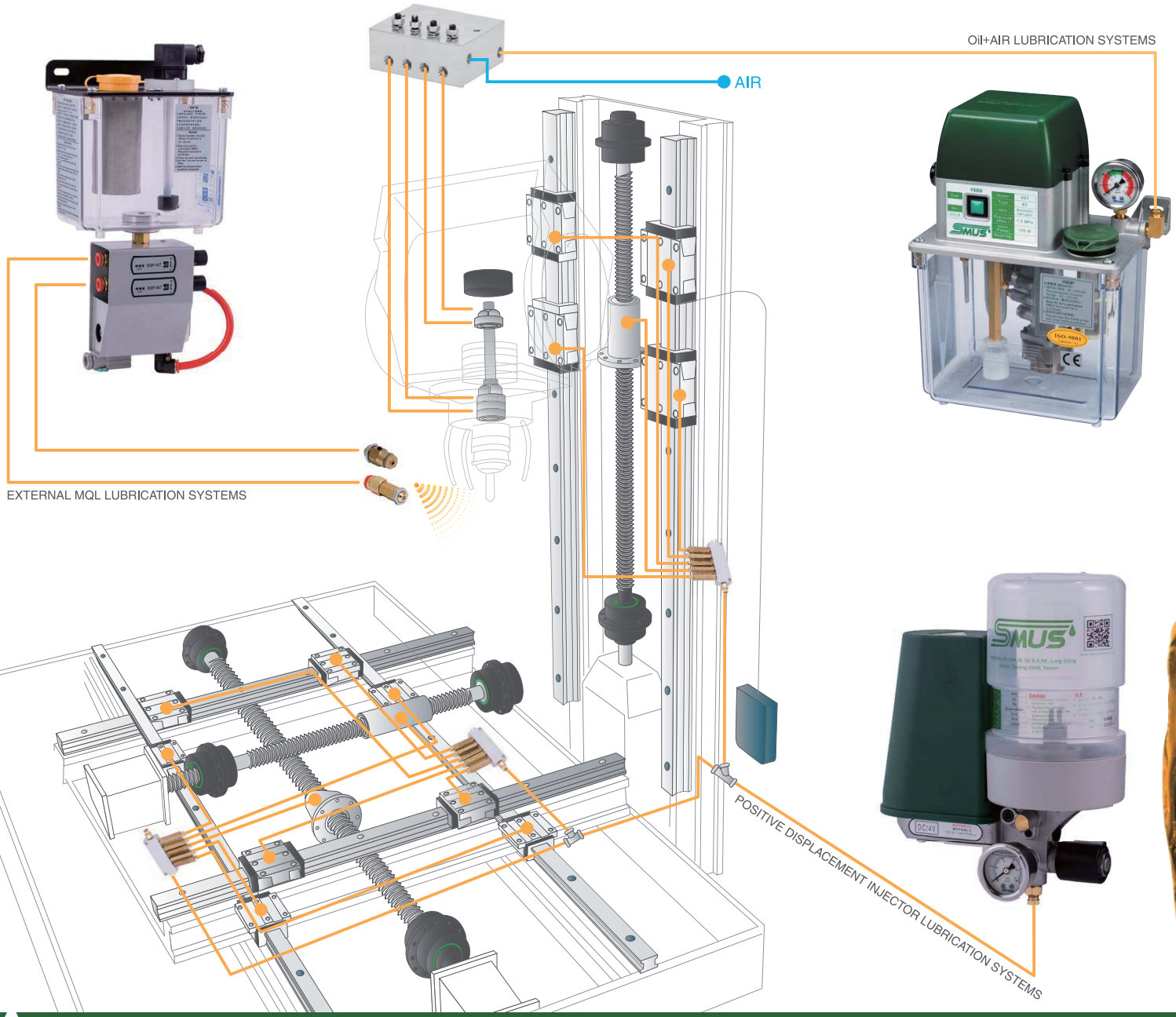
Grease Nozzle

- For grease gun refilling
- NLGI No.000-0

Stainless Pressure Gauge

- Durable and Reliable body
- MPa & kgf/cm^2 scale

Design

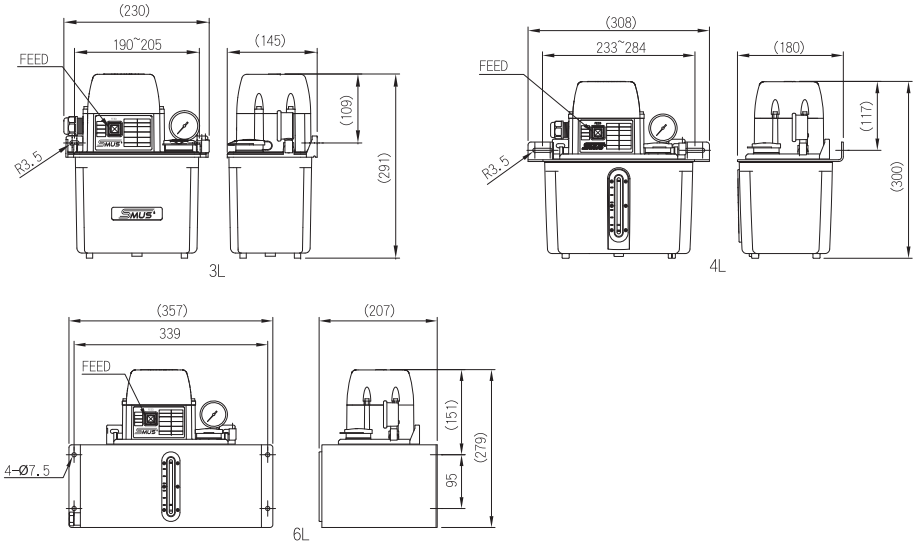

AIR
Oil+AIR LUBRICATION SYSTEMS
EXTERNAL MQL LUBRICATION SYSTEMS
POSITIVE DISPLACEMENT INJECTOR LUBRICATION SYSTEMS
SMUS

Layout

Oil Positive Displacement Injector Lubrication Systems

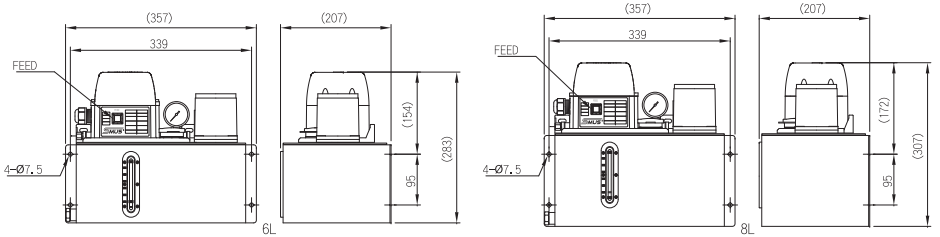
SST-B2

Series	SST
Model	B2P2
Voltage (single phase)	110V/60Hz or 220V/60Hz
Consumption Power(W)	100
Output Power (W)	10
Capacity of Terminal Output(A)	0.3(Float Switch) 5(Pressure Switch)
Lubrication Time	Cooperate with PLC control system
Intermittent Time	Cooperate with PLC control system
Direction of Output	Left or Right
Output Bore	Ø4 or Ø6
Max. Output Pressure (MPa)	1.5
Output Volume (cc/mim)	150
Pressure Release Device	O
Float Switch	O(NC)
Pressure Switch (kgf/cm²)	12-9(NC)
Pressure Gauge	O
Tank Capacity	3L(P)/4L/6L



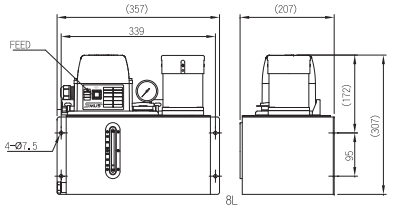
SST-J2

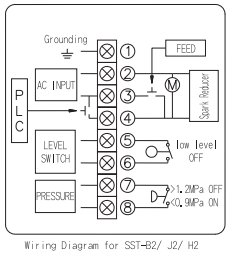
Series	SST
Model	J2P2
Voltage (single phase)	110V/60Hz or 220V/60Hz
Consumption Power(W)	56
Output Power (W)	25
Capacity of Terminal Output(A)	0.3(Float Switch) 5(Pressure Switch)
Lubrication Time	Cooperate with PLC control system
Intermittent Time	Cooperate with PLC control system
Direction of Output	Left
Output Bore	Ø4 or Ø6
Max. Output Pressure (MPa)	2
Output Volume (cc/mim)	150
Pressure Release Device	O
Float Switch	O(NC)
Pressure Switch (kgf/cm²)	12-9(NC)
Pressure Gauge	O
Tank Capacity	6L/ 8L



SST-H2

Series	SST
Model	H2P2
Voltage (single phase)	110V/60Hz or 220V/60Hz
Consumption Power(W)	210
Output Power (W)	90
Capacity of Terminal Output(A)	0.3(Float Switch) 5(Pressure Switch)
Lubrication Time	Cooperate with PLC control system
Intermittent Time	Cooperate with PLC control system
Direction of Output	Left
Output Bore	Ø4 or Ø6
Max. Output Pressure (MPa)	3
Output Volume (cc/mim)	600
Pressure Release Device	O
Float Switch	O(NC)
Pressure Switch (kgf/cm²)	12-9(NC)
Pressure Gauge	O
Tank Capacity	8L





Wiring Diagram for SST-B2/ J2/ H2

Note: 1. (P): Plastic Oil Tank
2. Oil viscosity : 30~150 cSt.
3. The output volume and max. output pressure as above is based on oil viscosity 68cSt.
4. The output volume standard is based on the current of 60Hz at 110V or 220V.

Series

Because of continuous improvements, above specifications are subject to change without prior notice.

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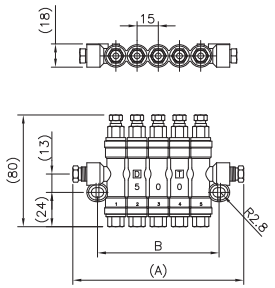
Oil Positive Displacement Injector Lubrication Systems

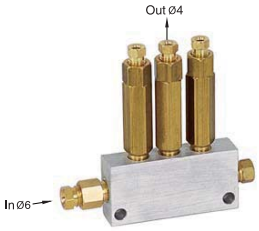
DT-Series

DT-0500

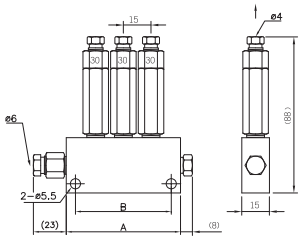


Model	Numbers of output	A	B	Metered quantity (c.c.)
DT-0200	2	75	39-43	0.1
DT-0300	3	90	54-58	0.16
DT-0400	4	105	69-73	0.2
DT-0500	5	126	84-88	0.3
DT-0600	6	135	99-103	0.4
				0.5

DX-Series

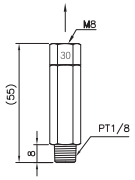


DXV11-03



Model	Numbers of output	A	B	Metered quantity (c.c.)
DXV11-01	1	32	22	0.02
DXV11-02	2	47	37	0.06
DXV11-03	3	62	52	0.1
DXV11-04	4	77	67	0.16
DXV11-05	5	92	82	0.2
DXV11-06	6	107	97	0.3
DXV11-07	7	122	112	0.4
DXV11-08	8	137	127	0.5
DXV11-09	9	152	142	

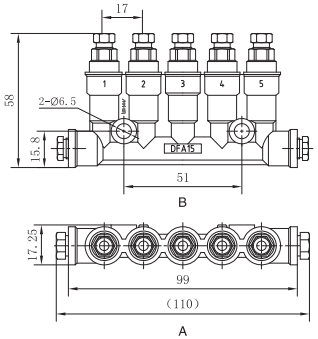
DX1-0000-30



Model	Mark	Metered quantity (c.c.)
DX1-0000-02	2	0.02
DX1-0000-06	6	0.06
DX1-0000-10	10	0.1
DX1-0000-16	16	0.16
DX1-0000-20	20	0.2
DX1-0000-30	30	0.3
DX1-0000-40	40	0.4
DX1-0000-50	50	0.5

DFA-Series

DFA-0500



Model	Numbers of output bores	A	B	Output Volume (cc/stroke)
DFA-0200	2	76	34	0.03
DFA-0300	3	93	17	0.06
DFA-0400	4	96	34	0.1
DFA-0500	5	110	51	0.16
DFA-0600	6	127	68	
DFA-0800	8	160	102	
DFA-1000	10	195	136	

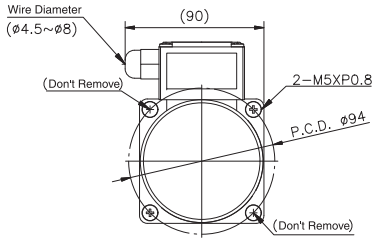
SSC-L Electric Continuous Gear Pump

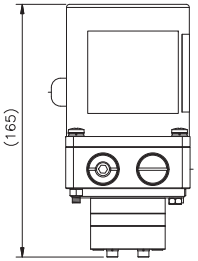
SSC-L

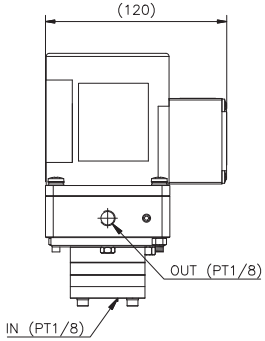
The SSC-L series is electrically operated gear pump and desgined to work with positive displacement injector lubrication systems and single line resistance lubrication systems. The pump comes with integrated pressure relief and venting. In case of trapped air, the venting valve opens. In case of excess pressure, oil is relieved to the return oil connection via the pressure relief valve. The pump is vertically mounted on the reservoir.

Features:
1.CE certs approval.
2.Compact, rugged and reliable design for use in oil circulation lubrication systems.
3.Modular design with integrated pressure relief valve and venting valve for various demand of lubrication connection.
4.Two-Way options for oil outlet (side or down)
5.Can operate for PDI or SLR lubrication systems. (Specifications need to be confirmed with order)
6.Two flow rate options (250 c.c. or 400 c.c.) for single line resistance lubrication systems.
7.Due to suction capacity, the height of the reservoir ranges from 100mm to 400mm max..
8.Operating pressure can be adjusted from 1 to 10 kgf/cm² for SLR lubrication systems.
9.Pressure switch can be ordered for monitoring lubricatin systems.
10.Cable gland for motor wire connection.
11.Permissiable operating viscosity ranges from 30 to 250 cSt.
12.Only use new lubricant or filtered circulating oil.
13.Filtration accuracy : 100 mesh above.

Model	SSC			
Type	L1	L1P1	L2	L2P2
Voltage(V) Single Phase	100 or 220			
Consumption Power (W)	56			
Output Power (W)	25			
Inlet Diameter	PT1/8"			
Outlet Diameter	PT1/8"			
Max. Output Pressure MPa(kgf/cm²)	1.0(10)		2.0(20)	
Discharge Volume (c.c./min)	250 or 400		150	
Dump Valve	X		O	
Float Switch	X			
Pressure Switch	X	O(NC) (2.1/OFF)	X	O(NC) (11/OFF-9/ON)
Pressure Gauge	X			
Alarm	X			
Weight (kg)	2.5			
Dimension (mm) (L x W x H)	90x120x165			







Series

SSP-MT Pneumatic Minimal Quantity Oil & Air Lubricator

SSP-MT

System instructions regarding external minimal quantity lubrication (MQL):

A pneumatically actuated, positive displacement micropump with adjustable and precise metered quantity control is the clean, economical, energy-efficient and reliable alternative to wet machining and the ideal supplement to dry machining and can be used in many areas : machining - Sawing, drilling, tapping, milling, drawing, cutting, punching, stamping, components assembling and lubrication of conveyor chain and so on.

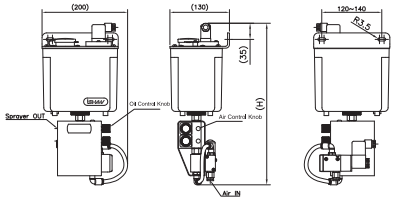
Advantage:
1.Exact adjustment of delivery rate saves lubricant: 0.003~0.03 c.c./cycle.
2.Less lubricant – as much as needed, as little as possible: approximately consumption 2.5~5.0 c.c./hr.
3.Improving production efficiency: better machining performance due to better speed characteristics.
4.Long tool life: reducing the loss mainly when high-frequency machining is involved.
5.Cost effective: reducing consumption of energy and power and high efficiency with low wear and long service.
6.Intended use: ideal for use in the areas without electricity.
7.Greater safety and environment friendly at the workplace: no mist, clean air to breath.
8.Higher machining performance: better surface finish thanks to lower (friction-induced) temperature.

Information regarding system installation:
1.Add new lubricant without any foreign particles to avoid the damge in the systems. Used lubricant is banned.
2.Minimal quantity lubrication unit with up to 3 outlets and each distance up to 1 meter max. from the nozzle to the friction area.
3.Pneumatic pulse generator and electric solenoid must be away from any air or fluid polution and air venting outlet keeps clear.
4.Permissible viscosity range: 10~68 cSt.
5.Reservoir 2L and 800 c.c. available. Consult iSHAN for other sizes of capacity.
6.Pressurized air control valve with air filter and water separator is required to install and filter precision 3 μm.
7.Stardard nozzle of SP-00 is attached for delivery.

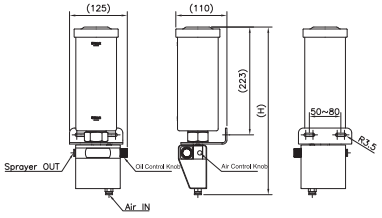
Model		SSP-MT (Solenoid)	SSP-MT
Number of Outlet		1~3	
Air Inlet		Ø8 (Air)	
Outlet Diameter	Oil	Ø4 (Oil)	
	Air	Ø8 (Air)	
Reservoir		2L	800c.c.
Discharge (c.c./cycle)		Approx. 0.003 ~ 0.03 (Adjustable)	
Cycle Number (Sec.)		Approx. 5~20 (Adjustable)	
Viscosity (cSt)		10 ~ 68	
Air Operating Pressure (kgf/cm²)		3 ~ 8	
Air Flow Adjustable		O	
Oil Refilling Filter		O	
Solenoid		O (DC24V)	X
Float Switch		O	X

SSP-MT2 2L

SSP-MT1 800 c.c.



SSP-MT (2L)

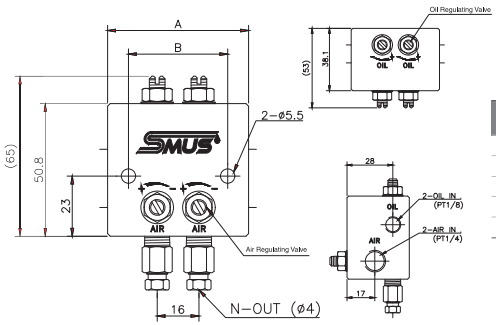


SSP-MT (800cc)

Distributor and Sprayer for Oil + Air Lubrication Systems

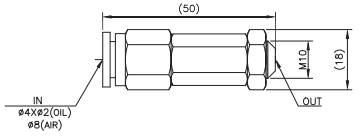
MIS-R

MIS-R-06

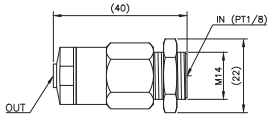


MIS-R-02

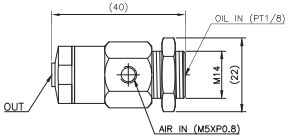
Number of Outlet	A	B
2	54	38
3	70	54
4	86	70
5	102	86
6	118	102



SP-00



SP-C



SP-E

MIS-R

1.Adjustable air + oil mixers with fine regulating vavles.
2.Oil and air flow volume can be adjusted to fine tune the spray to your specific needs.
3.Suitable to install resistant type lubricator with gear pump.
4.Design to reduce oil reverse flow for the stability of oil + air performance.
5.The regulating valves are adjusted and screwed in and fixed by washer.
6.Can be assembled up to a maximum of 6 outlets.
7.Ideal for the field of cooling and lubrication of machining.
8.Required compresed air supply : 3 to 7 kg/cm².
9.Installing SP series nozzles to improve oil + air performance.

SP-00

1.SP-00 is precise nozzle of micro lubrication spray.
2.Design of inside filter to lift the effective of lubrication spray.
3.Required compresed air supply : 3 to 7 kg/cm².
4.Standard tube connection : air inlet of quick connector, Ø8
5.Support mounting of M10-1.0 screw to fasten.
6.Averiage mircrodroplet size about 40μm.
7.Angle of spray : ca. 40°
8.Suitable to install SSP-MT pnumatic lubricator.
9.Great effective of atomization and cooling due to fast and forcely thrust.

SP-C

1.Bi-fluid nozzle ideal for small space of installation.
2.An air flow conducted through the coaxial tube at Ø8 is swirled at the lubricant outlet zone.(lubricant coming out from the capillary tube at Ø4).
3.Suitable to install SSP-MT pnumatic lubricator.
4.Support mounting of M14-1.0 screw to fasten.
5.To ensure stability of lubricant being transported separately and effective of tomization, the required operating pressure of lube pump must be min. 5 kgf/cm². (the value varies with different conditions)

SP-E

1.Bi-fluid nozzle ideal for small space of installation.
2.Individual air & fluid tubes design ideal for single line resistance lubrication systems or positive displacement injector lubrication systems for continuous or interval spray over small or large areas.
3.Suitable to install YET & YA series electric lubricators.
4.Support mounting of M14-1.0 screw to fasten.
5.To ensure stability of lubricant being transported separately and effective of tomization, the required operating pressure of lube pump must be min. 5 kgf/cm². (the value varies with different conditions)

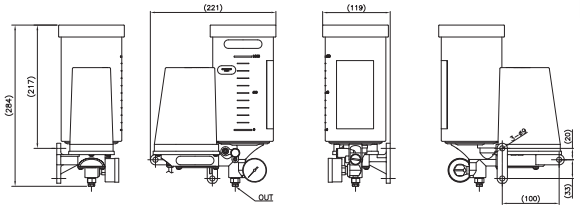
Series

Because of continuous improvements, above specifications are subject to change without prior notice.

1. Dimension is in "mm".
2. Option of the Ø6 outlet is available.

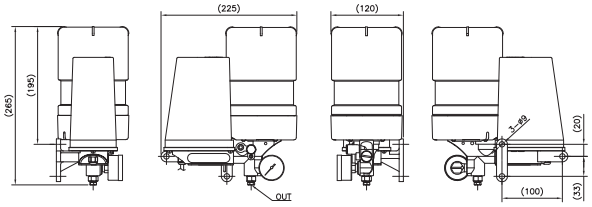
SSG-D1(Grease Cup)

Series	SSG
Type	D1
Distributor	DU-series
Voltage (single phase)	24V DC
Consumption Power(W)	93
Output Power (W)	45
Current Consumption(A)	4.0 Max
Output Bore	Ø6
Discharging Pressure in MPa (kgf/cm²)	Maximum15(150)
Discharging Capacity (cc/mim)	Above 20
Float Switch	x(Option)
Pressure Switch	x
Pressure Gauge	o(MPa & kgf/cm²)
Cup Capacity (c.c.)	1000
Accepted Grease	No. 000,No.00,No.0



SSG-D1(Grease Cartridge)

Series	SSG
Type	D1
Distributor	DU-series
Voltage (single phase)	24V DC
Consumption Power(W)	93
Output Power (W)	45
Current Consumption(A)	4.0 Max
Output Bore	Ø6
Discharging Pressure in MPa (kgf/cm²)	Maximum15(150)
Discharging Capacity (cc/mim)	Above 20
Float Switch	x(Option)
Pressure Switch	x
Pressure Gauge	o(MPa & kgf/cm²)
Cup Capacity (c.c.)	700
Accepted Grease	No. 000,No.00,No.0

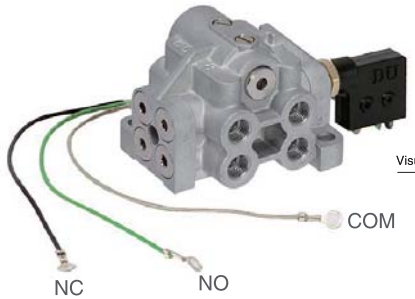


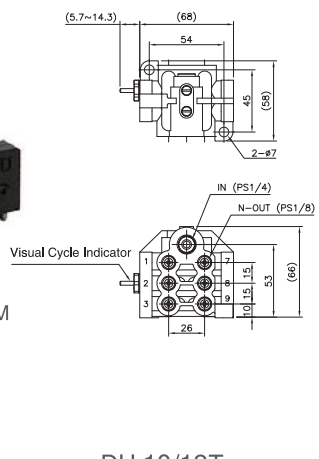
SSG-D1(Spring Type)

Series	SSG
Type	D1 with spring
Distributor	DU-series
Voltage (single phase)	24V DC
Consumption Power(W)	93
Output Power (W)	45
Current Consumption(A)	4.0 Max
Output Bore	Ø6
Discharging Pressure in MPa (kgf/cm²)	Maximum15(150)
Discharging Capacity (cc/mim)	Above 20
Float Switch	x(Option)
Pressure Switch	x
Pressure Gauge	o(MPa & kgf/cm²)
Cup Capacity (c.c.)	1000
Accepted Grease	No. 2

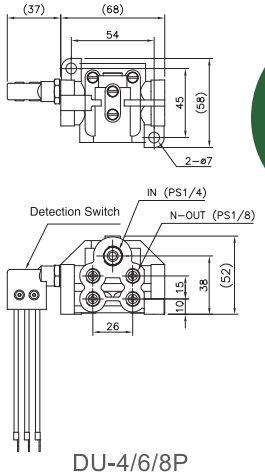
Note: Dimension is as same as SSG-D1.

DU-Series





DU-10/12T



DU-4/6/8P

Model	Detection Switch	Number of Outlet (N)	Metered Quantity (cc/stroke)	Max. Output Pressure MPa (kgf/cm²)	Weight (g)
DU-4T	X	4	0.33	15(150)	350
DU-4P	O				
DU-6T	X	6			350
DU-6P	O				
DU-8T	X	8			320
DU-8P	O				
DU-10T	X	10			440
DU-10P	O				
DU-12T	X	12			440
DU-12P	O				

Warning! Closing any outlet result in system failure.
Note. Odd number of outlet is available for option.

Series

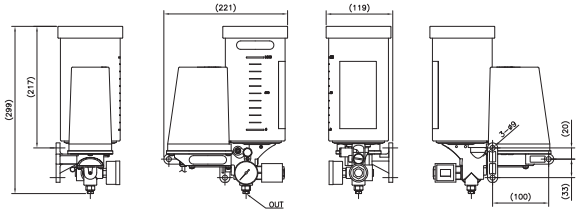
Because of continuous improvements, above specifications are subject to change without prior notice.

1. Dimension is in "mm".
2. Option of the Ø6 outlet is available.

Grease Positive Displacement Injector Lubrication Systems

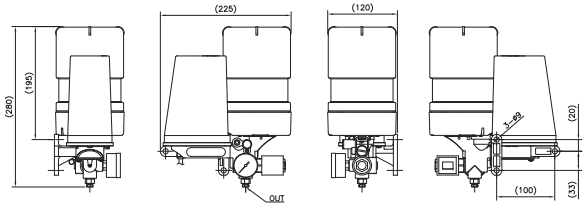
SSG-D2 (Grease Cup)

Series	SSG
Type	D2
Distributor	DMT/DTH-series
Voltage (single phase)	24V DC
Consumption Power(W)	93
Output Power (W)	45
Current Consumption(A)	4.0 Max
Output Bore	Ø6
Discharging Pressure in MPa (kgf/cm²)	Maximum10(100)
Discharging Capacity (cc/mim)	Above 20
Float Switch	x(Option)
Pressure Switch	x(Option/External)
Pressure Gauge	o(MPa & kgf/cm²)
Cup Capacity (c.c.)	1000
Accepted Grease(40˚C)	No. 000,No.00,No.0



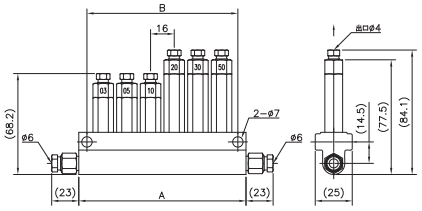
SSG-D2 (Grease Cartridge)

Series	SSG
Type	D2
Distributor	DG-series
Voltage (single phase)	24V DC
Consumption Power(W)	93
Output Power (W)	45
Current Consumption(A)	4.0 Max
Output Bore	Ø6
Discharging Pressure in MPa (kgf/cm²)	Maximum10(100)
Discharging Capacity (cc/mim)	Above 20
Float Switch	x(Option)
Pressure Switch	x(Option/External)
Pressure Gauge	o(MPa & kgf/cm²)
Cup Capacity (c.c.)	700
Accepted Grease(40˚C)	No. 000,No.00,No.0



DMT-Series

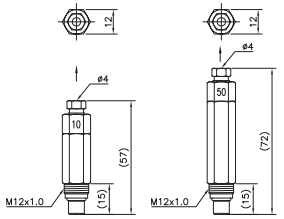
DMT-0600



DMT-31-06

Model	Number of Outlet (N)	A (mm)	B (mm)	Output Volume (c.c./stroke)
DMT31-01	1	33	22	0.03
DMT31-02	2	49	38	0.05
DMT31-03	3	65	54	0.1
DMT31-04	4	81	70	0.2
DMT31-05	5	97	86	0.3
DMT31-06	6	113	102	0.5

DM3-0000



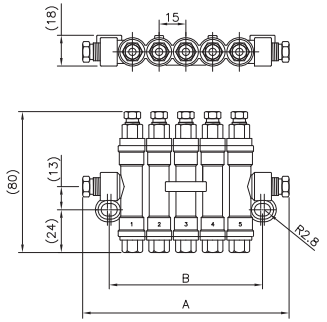
DM3-0000-03
DM3-0000-05
DM3-0000-10

DM3-0000-20
DM3-0000-30
DM3-0000-50

Model	Mark	Metered quantity (c.c.)
DM3-0000-03	1	0.03
DM3-0000-05	2	0.05
DM3-0000-10	3	0.1
DM3-0000-20	4	0.2
DM3-0000-30	5	0.3
DM3-0000-50	6	0.5

DTH-Series

DTH-0500



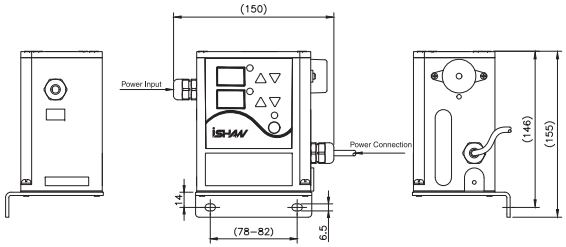
Model	Number of Outlet (N)	A (mm)	B (mm)	Metered quantity (c.c.)
DTH-0200	2	75	39-43	0.3
DTH-0300	3	90	54-58	0.4
DTH-0400	4	105	69-73	0.5
DTH-0500	5	120	84-88	
DTH-0600	6	135	99-103	

Series

1. Dimension is in "mm".
2. Option of the Ø6 outlet is available.

1. Dimension is in "mm".
2. Option of the Ø6 outlet is available.

CET-AI Digital Timer Control Unit



Model	CET-AI
Voltage	AC 110/220V or DC 24V
Lubrication Time	1-999 (0.1 Second/Second/Minute/Hour)
Intermittence Time	1-999 (0.1 Second/Second/Minute/Hour)
Boot Setting	Lubrication/Interval/Memory/Smart Start
Cycle Switch	O (for DU-P series)
Float Switch	O (Option)
Pressure Switch	O (Option)
Alarm	O

Feature：
1.Built-in Digital Timer Contrl Unit.
2.Press LUB/INT key to set up lubrication cycle.
3.Latest new boot of smart start for energe saving.
4.Mode of Cycle Counting can be activated for monitoring DU with micro switch.
5.Suitable for SSG series grease pump.
6.Alarm and error code function.

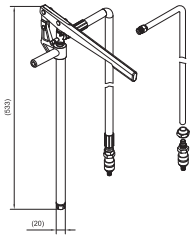
GREASE CARTRIDGE

Model	Capacity	NLGI No.	Thickener	Base Oil
GE-10	700ml	0	Lithium Soap	Mineral
GE-20	700ml	00	Lithium Soap	Mineral
GE-30	700ml	000	Urea Compound	Mineral

Feature：
GE-10、20：
1.Excellent water resistance, high temperature reistance and extreme pressure, stability characteristics.
2.Ingredient is a lithium grease and additives without hazardous substances (lead free).
3.Assures efficient distribution to lubrication parts during a long operation time resulting in improved of efficiency and exteneded lubrication life to prevent damage to mechanical equipment.

GE-30(Urea Compound)：
1.Excellent anti-wear property & lubricity.
2.Excellent pumpability and resistance against coolants.
3.Excellent resistance against fretting & adhesiveness (oil-film-retaining) .

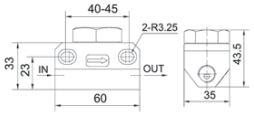
YGL-L



YGL-L
Performance & Characteristics:
1. Refill grease by manual to the reservoir or feed to lubrication points directly.
2. Easy to carry and operate for a wide range of applications.

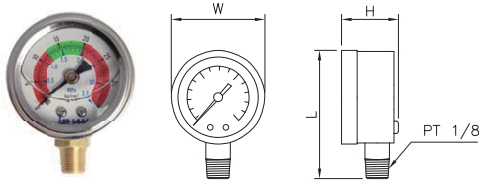
Model	Pressure	Grease	Output Volume (Theoretical)	Piping
YGL-L	4MPa	#000-#1	10ml/cyc	Nylon Pipe 10mm (with Quick Adapter)

GREASE FILTER



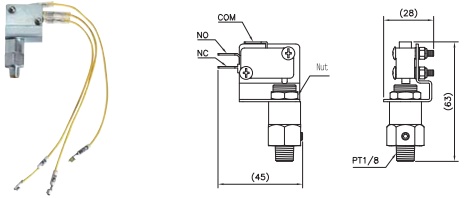
Model	Filter Precision (μm)	Rated Operation Pressure (Mpa)	INxOUT	A	Weight(g)
FL-H2120045A	110-120	10	Rp 1/8 Rp 1/4	40-45	332

VERTICAL PRESSURE GAUGE



Model	Specification MPa(kgf/cm²)	W	L	H	Weight(g)
327207	1.5(15)	42	58	24	53
327610	3.5(35)/Oil Charged	42	58	24	53

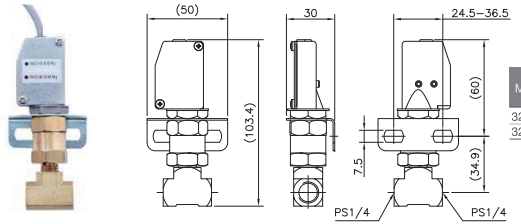
PRESSURE SWITCH (MECHANICAL OPERATION)



Remark:
1. The options of Normal Close and Normal Open.
2. Different Output wire length is available via customer's demand.
3. Capacity of Output is 5A. Max. CDA operation pressure is 3Mpa (30 kgf/cm²).

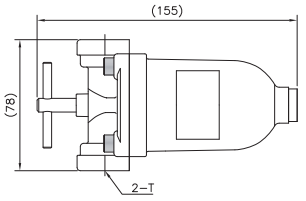
Model	Specification(kgf/cm²)	Weight(g)
321661	2.5—1.9	81
321660	12—9	81

PISTON GREASE PRESSURE SWITCH



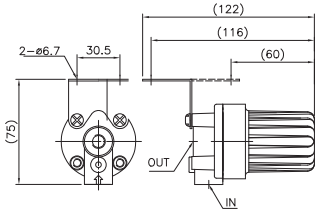
Model	Rated Voltage	Current	Max. Working Pressure MPa(kgf/cm²)	Operating Pressure MPa(kgf/cm²)	Reset Pressure MPa(kgf/cm²)
321700	AC 250V Max.	5.0A Max	10(100)	3(30)±20%	2.5(25)±20%
321701	AC 250V Max.	5.0A Max	10(100)	5.5(55)±20%	4.5(45)±20%

ADJUSTABLE OIL FILTER



Model	Inlet/Outlet Thread	Filter Precision(Mesh)	Max.Output volume(L/min)	Max. Preesure
PR-C1	PS1/4xPS1/4	60	20L/min	1.5MPa (15kgf/cm²)
PR-C2	PS3/8xPS3/8	60	30L/min	
PR-C3	PS1/2xPS1/2	60	30L/min	

FL OIL FILTER

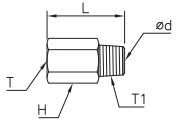


Model	Max.Operation Pressure(Kgf/cm²)	Max.Output Volume(L/min)	Filter Precision (μ)	IN+OUT	Weight (g)
FL-010025	25	2.5	10	PS1/8xPS1/8	30
FL-025030	25	3	25	PS1/4xPS1/4	30
FL-125035	25	3.5	125		30

Accessories

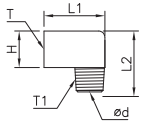
1. Dimension is in "mm".

STRAIGHT ADAPTER



Model	Bore	Ød	L	T	T 1	H	Weight(g)
PD0401	Ø4	3	18	M8x1.0	PT1/8	10	8
PD0402	Ø4	3.5	18	M8x1.0	PT1/4	14	17
PD0406-1	Ø4	2.5	18	M8x1.0	M6x0.75	10	6
PD0406	Ø4	2.5	18	M8x1.0	M6x1.0	10	6
PD0408	Ø4	3	18	M8x1.0	M8x1.0	10	6
PD0601	Ø6	4	18	M10x1.0	PT1/8	12	8
PD0602	Ø6	5	18	M10x1.0	PT1/4	14	14
PD0608	Ø6	3	18	M10x1.0	M8x1.0	12	8
PD0801	Ø8	5	26	M14x1.0	PT1/8	17	22
PD0802	Ø8	6	26	M14x1.0	PT1/4	17	26
PD1001	Ø10	5	28	M16x1.0	PT1/8	19	29
PD1002	Ø10	7	28	M16x1.0	PT1/4	33	33

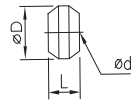
ELBOW ADAPTER



(Special Order)

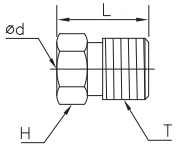
Model	Bore	Ød	L 1	L 2	T	T 1	H	Weight(g)
PH0401	Ø4	3	18	18	M8x1.0	PT1/8	10	13
PH0402	Ø4	4	20	22	M8x1.0	PT1/4	14	32
PH0406-1	Ø4	2	18	18	M8x1.0	M6x0.75	10	13
PH0406	Ø4	2	18	18	M8x1.0	M6x1.0	10	12
PH0408	Ø4	3	18	18	M8x1.0	M8x1.0	10	13
PH0601	Ø6	4	20	20	M10x1.0	PT1/8	12	20
PH0602	Ø6	4	20	22	M10x1.0	PT1/4	14	29
PH0608	Ø6	3	20	20	M10x1.0	M8x1.0	12	20
PH0801	Ø8	5	26	29	M14x1.0	PT1/8	17	52
PH0802	Ø8	6	26	29	M14x1.5	PT1/4	17	56
PH1001	Ø10	5	29	31	M16x1.5	PT1/8	19	70
PH1002	Ø10	7	29	31	M16x1.5	PT1/4	19	70

COMPRESSION SLEEVE



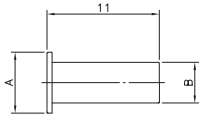
Model	Bore	Ød	ØD	L	Weight(g)
PB04	Ø4	4.1	6	4.5	0.3
PB06	Ø6	6.1	8	4.5	0.6
PB08	Ø8	8.1	11	7	2
PB10	Ø10	10.1	13.5	8	3

COMPRESSION BUSHING



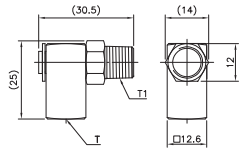
Model	Bore	Ød	L	T	H	Weight(g)
PA04	Ø4	4.1	12	M8x1.0	8	3
PA06	Ø6	6.1	12.5	M10x1.0	10	4
PA08	Ø8	8.1	14	M14x1.0	14	9
PA10	Ø10	10.1	15	M16x1.0	16	12

CONNECTOR INSERT



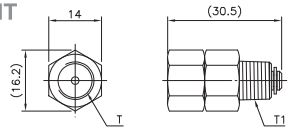
Model	A	B	Weight(g)
PPD04	Ø4	Φ2	
PPD06	Ø6	Φ4	0.2

SWIVEL ELBOW ADAPTER



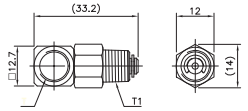
Model	Bore	T	T 1	Weight(g)
PC0401	Ø4	M8x1.0	PT1/8	38
PC0101		PT1/8	PT1/8	36

SWIVEL STRAIGHT ADAPTER



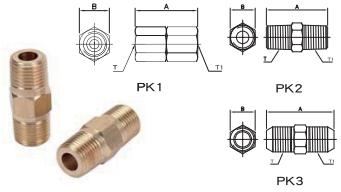
Model	Bore	T	T 1	Weight(g)
PM0401	Ø4	M8x1.0	PT1/8	28
PM0101		PT1/8	PT1/8	26

PLANE SWIVEL ELBOW ADAPTER



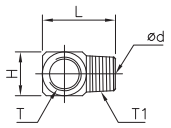
Model		T	T	Weight(g)
PE0101		PS1/8	PT1/8	25

CONNECTOR



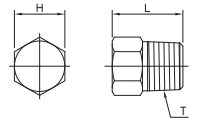
Model	A	B	T	T1	Weight(g)
PK10404	23	10	M8x1.0	M8x1.0	10
PK10606	25	12	M10x1.0	M10x1.0	115
PK20101	24.5	10	PT1/8	PT1/8	9
PK20102	27	14	PT1/8	PT1/4	17
PK20202	30	14	PT1/4	PT1/4	19
PK20203	30	17	PT1/4	PT3/8	26
PK31010	29	17	M10x1.0	M10x1.0	9

PLANE ELBOW ADAPTER



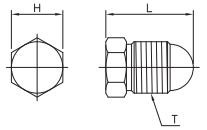
Model	Bore	Ød	L	T	T1	L	Weight(g)
PI0401	Ø4	2	21	M8x1.0	PT1/8"	12.7	17
PI0408	Ø4	2	21	M8x1.0	M8x1.0	12.7	15
PI0601	Ø6	2	22	M10x1.0	PT1/8"	14	15
PI0101		2.5	21	PS1/8	PT1/8"	12.7	15

CLOSURE PLUG



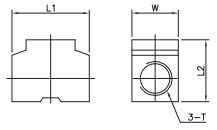
Model	L	T	H	Weight(g)
PG0408	12	M8x1.0	8	4.4
PG0601	14	PT1/8	10	7.6

PLUG



Model	L	T	H	Weight(g)
PG04	16	M8x1.0	8	5.4
PG06	17	M10x1.0	10	8.8

3-WAY T CONNECTOR



Model	T	L1	L2	W	Weight(g)
PT01	PS1/8"	27	21	14	34
PT02	PS1/4"	31	25	18	17
PT03	PS3/8"	40	31	21	86

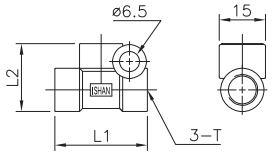
Accessories

1. Dimension is in "mm".
2. Option of the Ø6 outlet is available.

1. Dimension is in "mm".
2. Option of the Ø6 outlet is available.

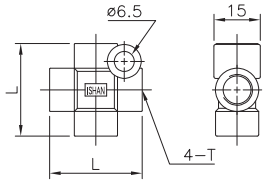
FITTINGS & ACCESSORIES

T-JUNCTION



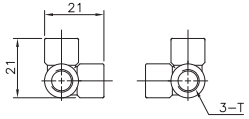
Model	Bore	T	L1	L2	Weight(g)
PKD04	Ø4	M8x1.0	28	19.5	15
PKD06	Ø6	M10x1.0	30	22	26

CROSS JUNCTION



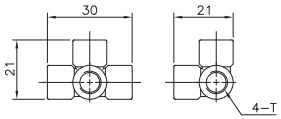
Model	Bore	T	L	Weight(g)
PJD04	Ø4	M8x1.0	28	15
PJD06	Ø6	M10x1.0	30	20

3-WAY JUNCTION



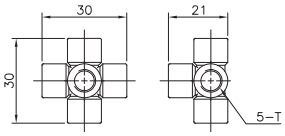
Model	Bore	T	Weight(g)
PHD0301	Ø4	M8x1.0	20

4-WAY JUNCTION



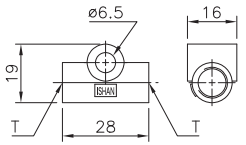
Model	Bore	T	Weight(g)
PHD0401	Ø4	M8x1.0	25

5-WAY JUNCTION



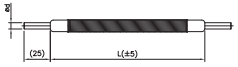
Model	Bore	T	Weight(g)
PHD0501	Ø4	M8x1.0	29

2-WAY JUNCTION



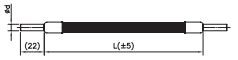
Model	Bore	T	L	Weight(g)
PJD0404	Ø4xØ4	M8x1.0	M8x1.0	23
PJD0406	Ø4xØ6	M8x1.0	M10x1.0	22
PJD0606	Ø6xØ6	M10x1.0	M10x1.0	20

FLEXIBLE HOSE



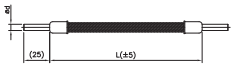
Model	Pipe Diameter	Pressure range (kgf/cm²)	Minimum bending radius(mm)
PST04	Ø4	0~40	R25
PST06	Ø6		

MEDIUM PRESSURE HOSE



Model	Pipe Diameter	Pressure range (kgf/cm²)	Minimum bending radius(mm)
PSM04	Ø4	0-150	R40
PSM06	Ø6		

STEEL WIRE SHIELD TUBE



Model	Pipe Diameter	Pressure range (kgf/cm²)	Minimum bending radius(mm)
P-SF04	Ø4	0~100	R25
P-SF06	Ø6		

Note:Length is available via customers demand.

PIPE

Description	Model	Specification			
Copper Pipe	P-CP	Bore	Ø4	Ø6	Ø8
		Minimum Bending Radius	R20	R30	R50
Aluminum Pipe	P-AP	Bore	Ø4	Ø6	Ø8
		Minimum Bending Radius	R20	R40	R40
Plastic Pipe	P-PP	Bore	Ø4	Ø6	Ø8
		Minimum Bending Radius	R20	R40	R40
Nylon Pipe	P-NP	Bore	Ø4	Ø6	Ø8
		Minimum Bending Radius	R20	R30	R50

Note:Plastic pipe is not recommended for pistion lubrication system.

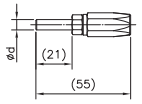
SPRING COIL

Description	Model	Specification	Length
Spring coil	NPS	Ø4、Ø6	1800±5mm

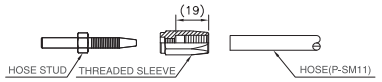
Note: To protect hoses used in demanding operating environments, consider equipping them with additional hose protection.

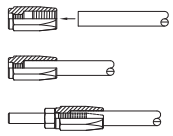
THREADED SLEEVE

HOSE STUD



Model	Ød
PSG04	Ø4
PSG06	Ø6





1.Hose inserts into threaded sleeve about 19 mm deep.

2.Hold hose and threaded sleeve tightly.

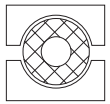
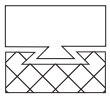
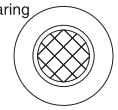
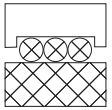
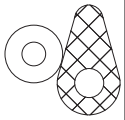
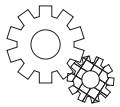
3.Then hose stud screws into threaded sleeve to stop (torque 8 N.m). In this process, hose and threaded sleeve can't move or slide to avoid any faliure of sealing.

Not: For medium-pressure hose

Accessories

1. Dimension is in "mm".

Calculation For The Lubrication Oil Capacity

OPERATING CASE	FORMULA(CM)	EXAMPLE(CM)
Ball Bearing 	F (required dose c.c. per hour) = 0.04 X bearing dia. X number of bearing	If there is one ball bearing and its bearing diameter is 8 cm, please calculat the required quantity of lubrication oil per hour. F = 0.04 X 8 X 1 = 0.32 c.c./hour
Slide Bearing 	F (required dose c.c. per hour) = 0.023 X bearing dia. X contact length	If there is one slide bearing and its shaft diameter is 8 cm and contact length is 10 cm, please calculat the required quantity of lubrication oil per hour. F = 0.023 X 8 X 10 = 1.84 c.c./hour
Rail slider 	Harozontal : F (required dose c.c. per hour) = 0.017 X slider length X slider width Vertical : F (required dose c.c. per hour) = 0.006 X slider length X slider width	If there is one rail slider positioned vertically and its length is 10 cm and width is 4 cm, please calculat the required quantity of lubrication oil per hour. F = 0.006 X 10 X 4 = 0.24 c.c./hour
Slide Bush Bearing 	F (required dose c.c. per hour) = 0.023 X shaft dia. X shaft length	If there is one slide bush bearing and its shaft diameter is 8 cm and length is 10 cm, please calculat the required quantity of lubrication oil per hour. F = 0.023 X 8 X 10 = 1.84 c.c./hour
Linear Bearing 	F (required dose c.c. per hour) = 0.012 X slider length. X number of slider	If there is two linear bearing and its length is 8 cm, please calculat the required quantity of lubrication oil per hour. F = 0.012 X 8 X 2 = 0.19 c.c./hour
Cam 	F (required dose c.c. per hour) = 0.013 X circumference X width	If there is one cam and its circumference is 20 cm and width is 2 cm, please calculat the required quantity of lubrication oil per hour. F = 0.013 X 20 X 2 = 0.52 c.c./hour
Gear 	F (required dose c.c. per hour) = 0.046 X pitch circle dia. X tooth width	If there is one gear and its pitch circle diameter is 8 cm and tooth width is 2 cm, please calculat the required quantity of lubrication oil per hour. F = 0.046 X 8 X 2 = 0.74 c.c./hour
Chain 	F (required dose c.c. per hour) = 0.008 X length X width	If there is one chain and its length is 30 cm and width is 0.8 cm, please calculat the required quantity of lubrication oil per hour. F = 0.008 X 30 X 0.8 = 0.19 c.c./hour

Unit conversion for lubrication systems:
PS (British Standard Pipe Parallel 90°): G / Rp
PT (British Standard Pipe Taper 55°): ZG / R (external thread) / Rc (internal thread)
Z (Standard Pipe Taper 60°) ; NPT (American , National Pipe Thread)
Pressure : 1kgf/cm^2 = 0.1 MPa = 1 Bar = 14.5 psi
Viscosity : 1 cSt = 1 mm^2/s

Approximate Viscosity & Degrees Celsius Temperature Conversions

cSt. Oil / °C	N32	N68	N100	N150	N220	N380	N460
0	265	880	1500	2700	4200	9000	13000
1	245	785	1390	2300			
2	226	715	1280	2100			
3	21	650	1170	1930			
4	195	590	1060	1780			
5	182	540	950	1650			
6	170	495	890	1520			
7	160	465	830	1400			
8	150	440	770	1300	2000		
9	142	410	710	1200	1800		
10	135	380	650	1100	1650	3500	4500
11	127	350	604	1000	1500		
12	121	330	558	900	1400		
13	116	315	512	850	1300		
14	108	290	466	800	1200		
15	102	270	420	750	1000		
16	98	250	400	700	950		
17	92	240	375	650	900	2000	2500
18	87	230	355	600	850	1800	2300
19	83	210	330	560	800	1600	2100
20	80	200	310	520	750	1500	1900
21	75	190	290	480	700	1350	1750
22	70	180	275	460	650	1250	1600
23	67	170	255	440	600	1150	1500
24	65	160	240	420	560	1050	1400
25	62	152	220	380	520	950	1300
26	58	144	210	360	490	900	1200
27	55	127	200	320	460	850	1100
28	52	120	190	300	430	800	1000
29	50	115	180	280	405	750	920
30	48	110	170	265	380	700	850
31	46	105	160	250	360	650	800
32	44	100	155	235	340	610	750
33	42	95	145	225	320	580	700
34	40	90	140	215	300	550	650
35	38	85	130	200	280	520	610
36	36	81	125	190	260	490	580
37	35	77	120	180	245	460	550
38	34	74	110	170	235	430	520
39	33	71	105	160	227	405	490
40	32	68	100	150	220	380	460
41	31	65		142	213	355	430
42	30	62		135	206	330	400
43	29	60		128	200	316	375

For better performance of iSHAN centralized lubrication systems, the user selects suitable viscosity of luricant based on the specifications and per their demands and assure that iSHAN lubrication pump can successfully carry out to lube point since the value of viscosity varies from different temperature.

1. Dimension is in "mm".