Pascal pump

model

X63

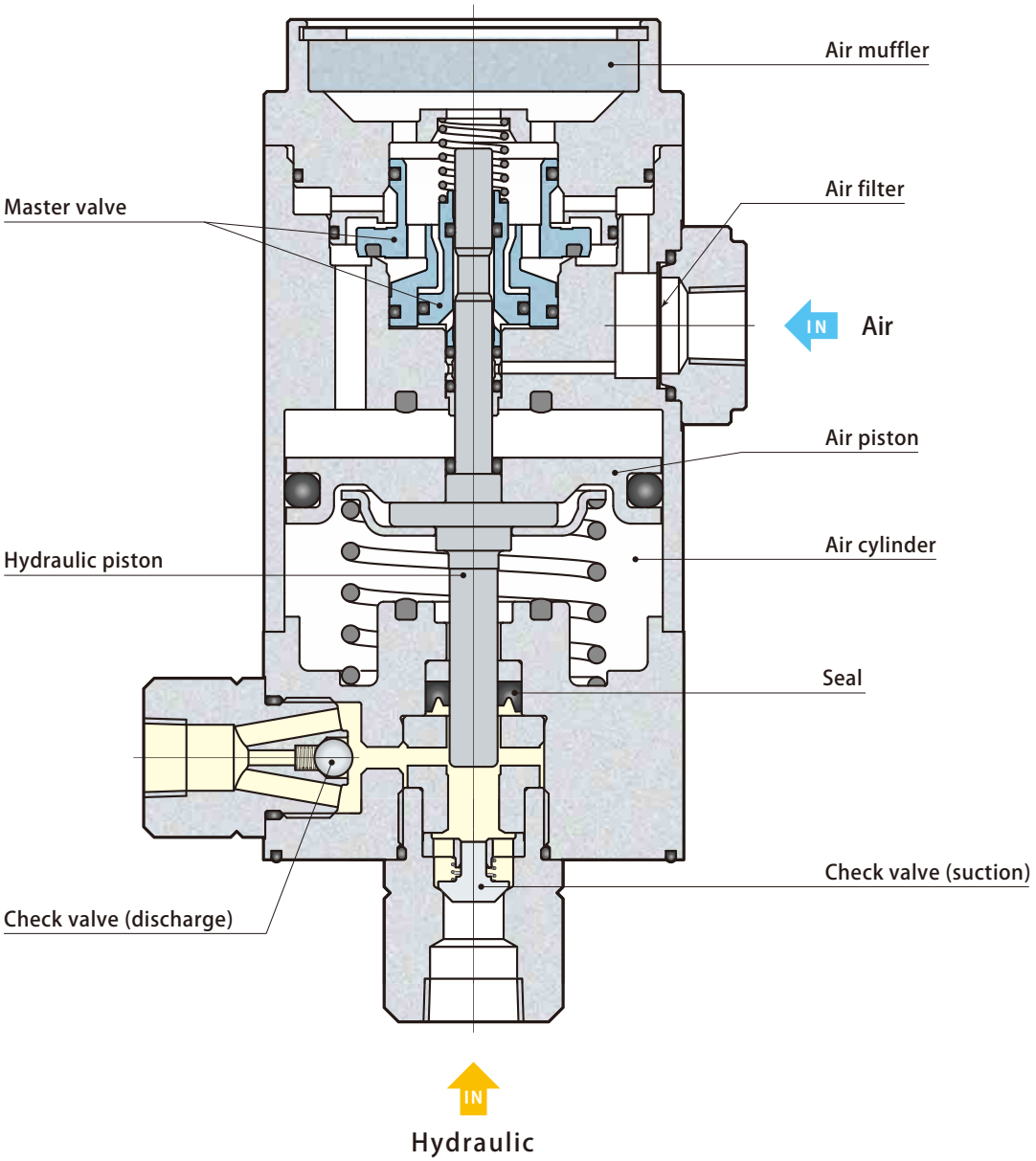
New series of Pascal pump model X63 which pursues more reliability.

Air-driven, Compact, High performance hydraulic pump

High cycle, reliable reciprocation of air and hydraulic piston ensures a repetitive suction and discharge oil process. As discharge pressure hikes up to the circuit set pressure, reciprocation goes slow eventually. Pascal pump stops at the time the discharge pressure reaches the set pressure then keeps balancing air and oil discharge pressure.

At the balanced condition, Pascal pump never consumes air and there is no power loss or oil temperature rise unlike an ordinary electric motor pump.

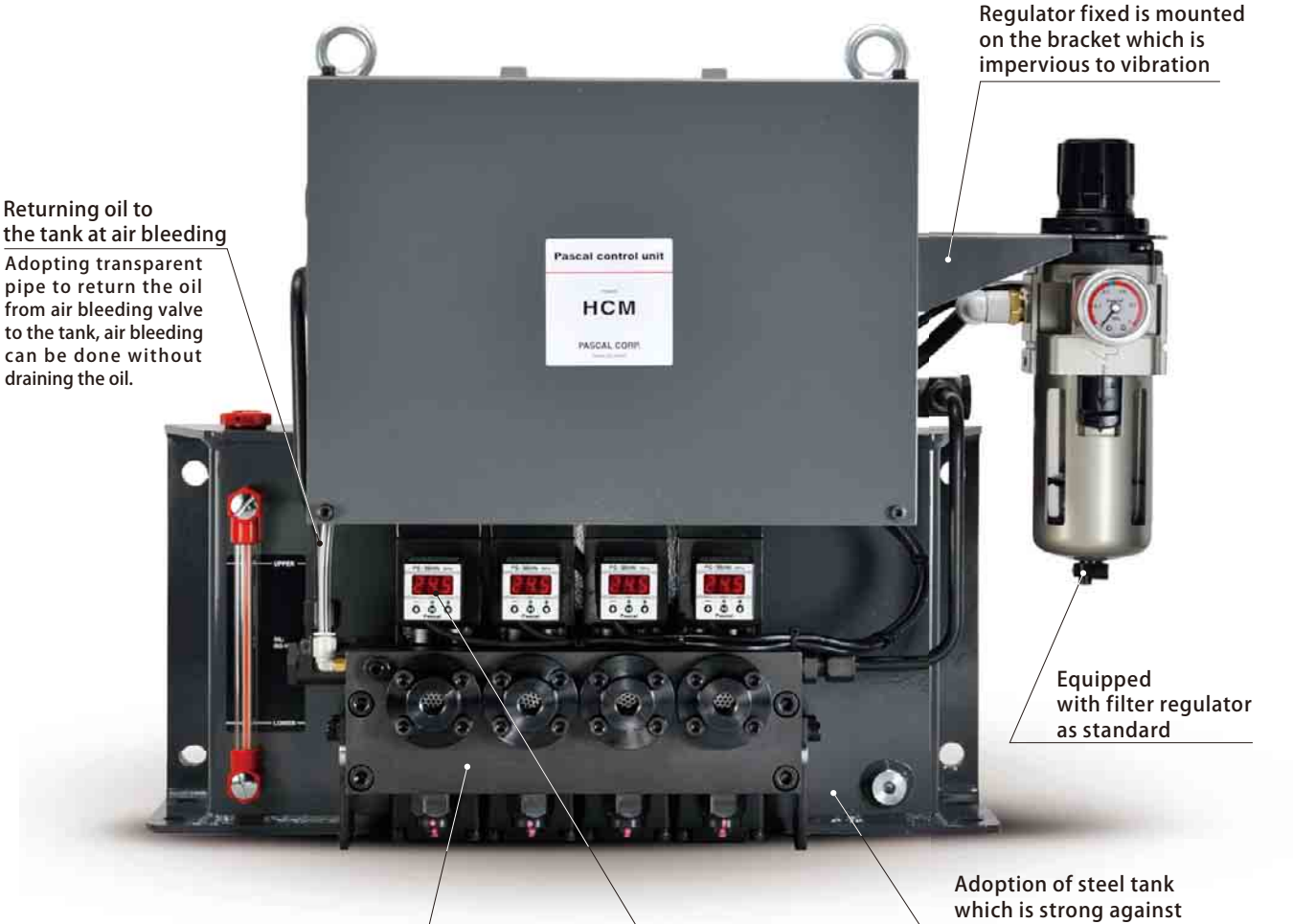
In the event of pressure drop (oil leakage) in the circuit , the pump immediately reacts to start pumping for recovering the pressure loss. When leaking oil, the pump restarts pumping and the sound of pumping is like an alarm for leakage to call operator for servicing.



Pascal control unit

model

HCM



Returning oil to the tank at air bleeding

Adopting transparent pipe to return the oil from air bleeding valve to the tank, air bleeding can be done without draining the oil.

Regulator fixed is mounted on the bracket which is impervious to vibration

Equipped with filter regulator as standard

Adoption of steel tank which is strong against impact and heat

Digital pressure switch

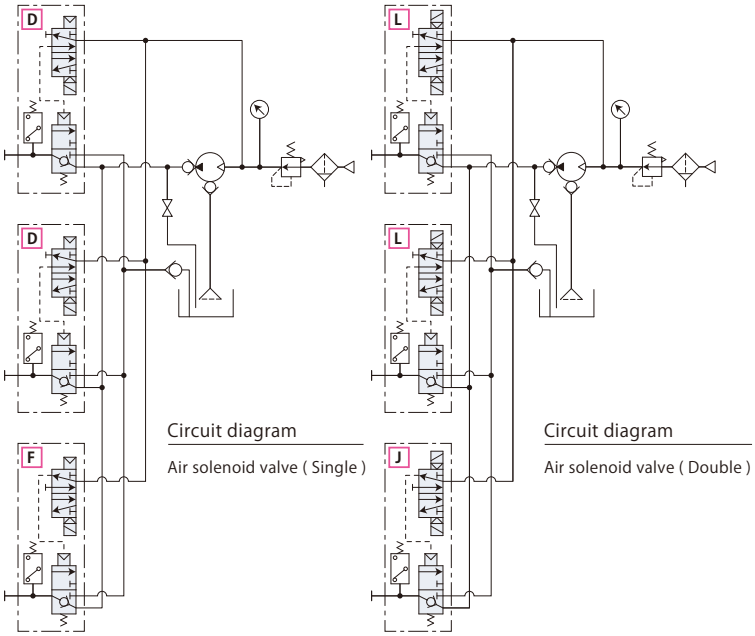
User-friendly display with 7 segments. It can also show abnormal pressure sign which allows hydraulic control unit to be compact.

1 Block-type Valve unit

Independent circuit valves have been configured as a block valve, improving maintainability.

New control unit **HCM**
with excellent maintenance

Air-driven hyd. control unit integrating electric control (solenoid operated), combined with Pascal pump and Pascal non-leak valve for medium and large-sized IMM.



Circuit diagram
Air solenoid valve (Single)

Circuit diagram
Air solenoid valve (Double)

Model designation

HCS **A** – H2 **D** **D** **F** – **U**

1 Control voltage

2 Hydraulic circuits
＊Indicated in 1-4 alphabets

3 Oil pressure gauge for each circuit

1 Discharge pressure × Pump quantity

H2 : 24.5MPa × 1 unit **H3** : 15.6MPa × 1 unit

2 C port (with in-line filter)

／ : No **C** : Yes

It corresponds only to HCSD-H3.

3 Hydraulic circuit

S
Clamp circuit
Double solenoid valve + Relief valve for excessive high pressure

4 With hydraulic gauge for each circuit

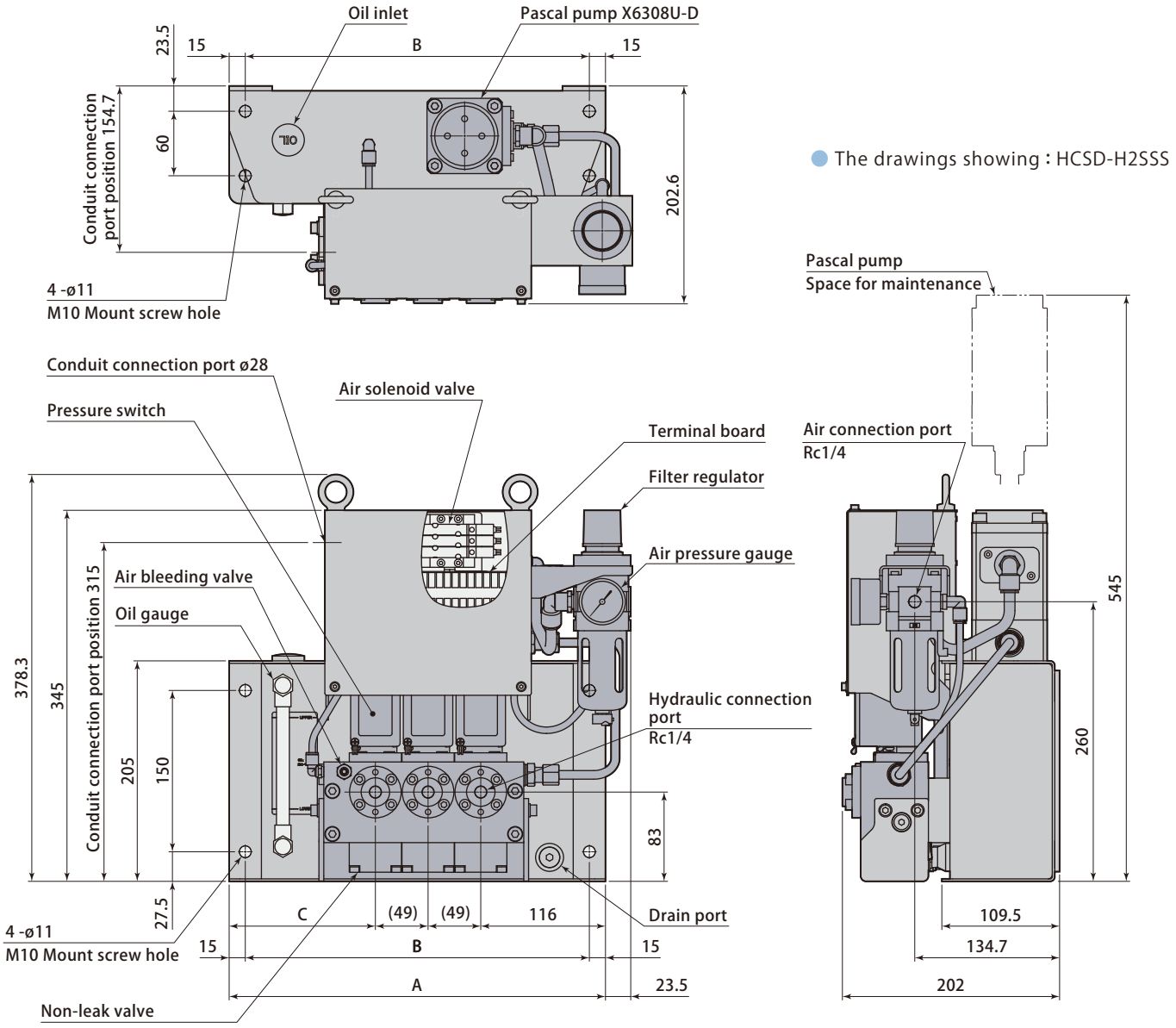
／ : No

U : Yes

Specifications

Model		HCSD-H2□-□	HCSD-H3□-□
Pump quantity		1 unit	1 unit
Valve switching system		Pilot air	
Discharge pressure	MPa	24.5	15.6
Driving air pressure	MPa	0.47	0.47
Discharge volume (at no load)	L /min	1.3	2
Oil tank capacity	L	HIGH-LEVEL ：3.5 ／ LOW-LEVEL ：1.5	
Set pressure of pressure switch	MPa	14.7 (INC.)	8.8 (INC.)
Set pressure of relief valve	MPa	27.9	17.6
Air consumption rate	Nm^3/min	Max. 0.4	Max. 0.4
Operating temperature	℃	0 ～ 50℃ (No freezing)	
Applications (Example)	Clamp model × Quantity	TYA100 × 8 unit	TME025 × 8 unit
	HCS model	HCSD-H2SSS	HCSD-H3CSS

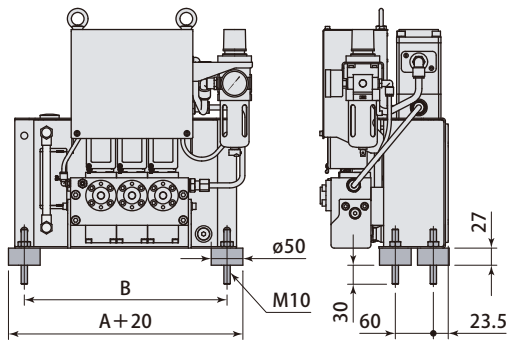
● Fluid used : General mineral based hydraulic oil (ISO-VG32 equivalent) ● It does not correspond to automatic slider/ air circuit for centering cylinder, and digital pressure gauge. If necessary, select model HCM page → 77.



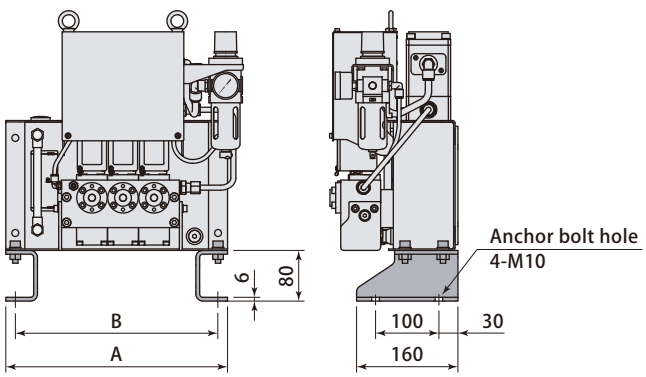
● The drawings showing : HCSD-H2SSS

Number of hydraulic circuit		3	4
A	mm	350	400
B	mm	320	370
C	mm	136	137
Weight	kg	22	25

Orifice diameter (Option 4 pieces)
model **ZPS-B5**

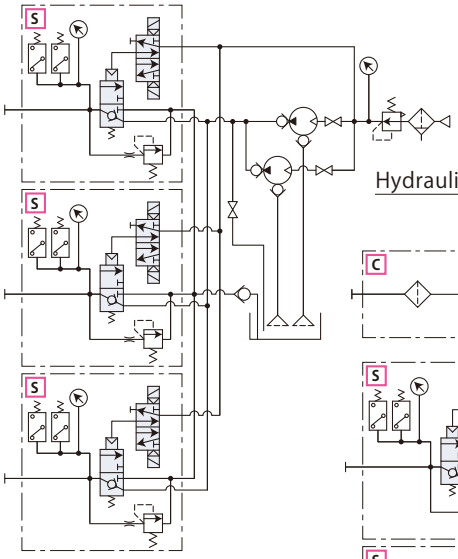


Stand (Option)
model **ZPS-S0**



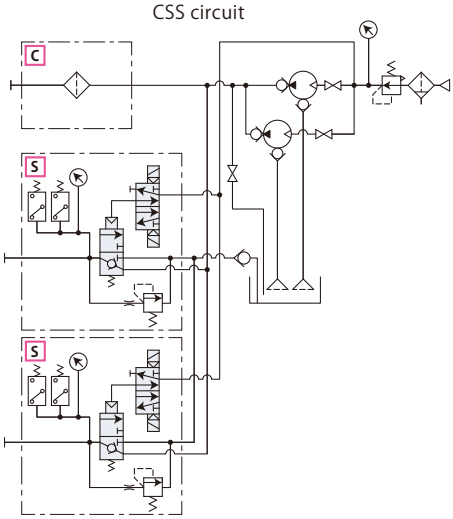
Hydraulic and air pressure circuit

SSS circuit



Hydraulic and air pressure circuit

CSS circuit



Model designation

HCM D – H3 C S S – L

Control voltage DC24V

＊It can not correspond to voltage other than DC24V.

1 Discharge pressure and Pascal pump quantity

2 C port

3 Number of hydraulic circuit

＊Indicated in 2-4 alphabets.

4 Special type

1 Discharge pressure × Pump quantity

H2	: 24.5MPa×1unit
H3	: 15.6MPa×1unit
H22	: 24.5MPa×2units
H33	: 15.6MPa×2units

2 C port (with in-line filter)

／ : No　C : Yes

It corresponds only to HCMD-H3 ／ HCMD-H33

3 Hydraulic circuits

S
Clamp circuit
Double solenoid valve ＋ Relief valve for excessive high pressure

4 Special type

／ : No

L : Equipped with oil level sensor (Lower level detection)

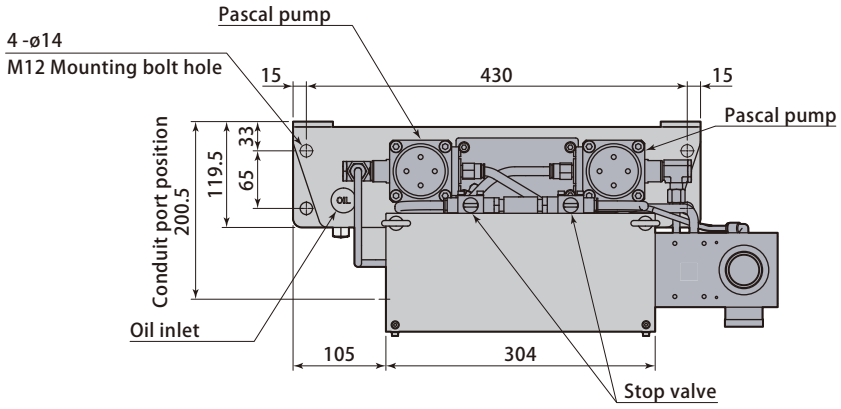
T2 : Auto slider for vertical stroke /centering cylinder 2-position double air solenoid valve equipped

T3 : Auto slider for horizontal stroke 3-position center exhaust air solenoid valve equipped

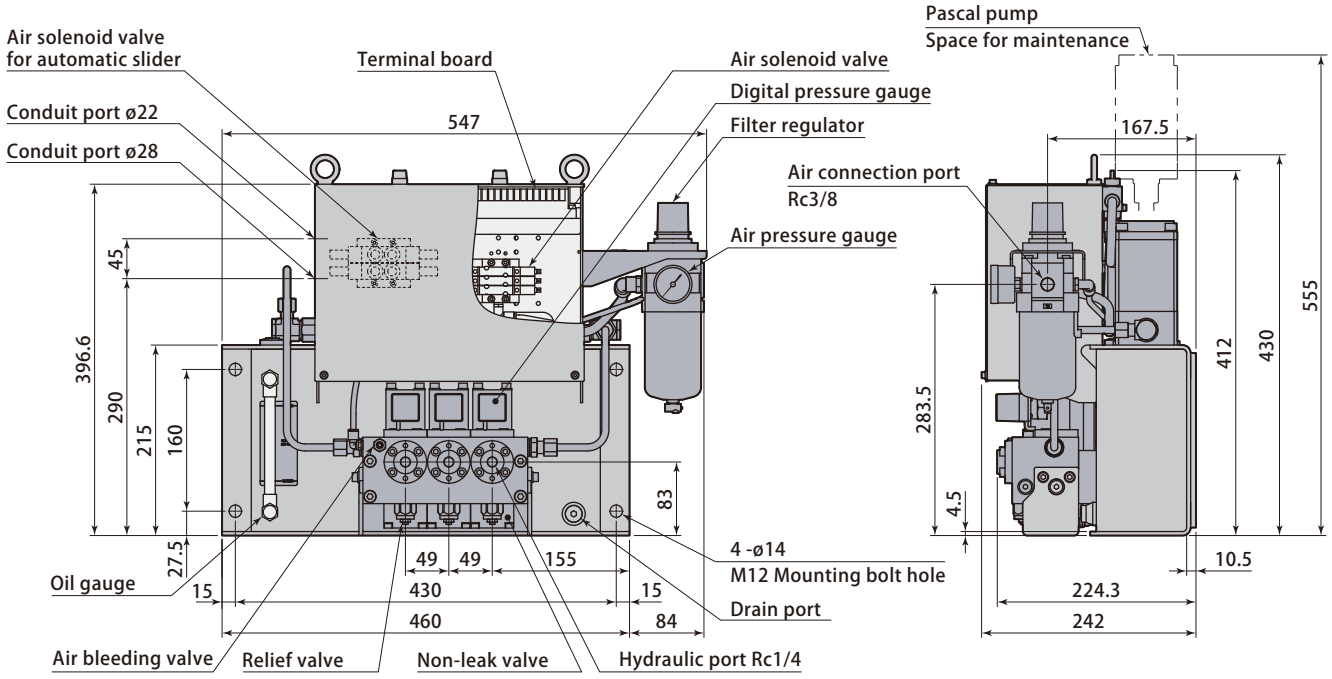
Specifications

Model		HCMD-H2□-□	HCMD-H22□-□	HCMD-H3□-□	HCMD-H33□-□
Pump quantity		1 unit	2 units	1 unit	2 units
Valve switching system		Pilot air			
Discharge pressure	MPa	24.5		15.6	
Driving air pressure	MPa	0.47		0.47	
Discharge volume (at no load)	L /min	1.3	2.6	2	4
Oil tank capacity	L	HIGH-LEVEL : 5.4 ／ LOW-LEVEL : 2.2			
Set pressure of digital pressure gauge	MPa	14.7 (INC.) ／ 30.8 (at excessively high pressure)		8.8 (INC.) ／ 19.6 (at excessively high pressure)	
Set pressure of relief valve	MPa	27.9		17.6	
Air consumption rate	Nm³/min	Max. 0.4	Max. 0.8	Max. 0.4	Max. 0.8
Operating temperature	℃	0 ～ 50℃ (No freezing)			
Applications (Example)	Clamp model × Quantity	TYA100 × 8 units TYC100 × 8 units	TYA160 × 8 units TYC160 × 8 units	TME025 × 8 units	TME040 × 8 units
	HCM model	HCMD-H2SSS	HCMD-H22SSSS	HCMD-H3CSS	HCMD-H33CSS

● Fluid used : General mineral based hydraulic oil (ISO-VG32 equivalent)



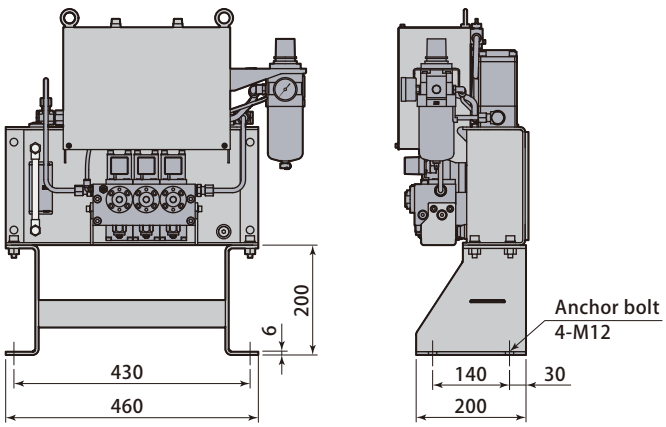
● The drawings showing : HCMD-H22SSS.



Number of hydraulic circuit		3	4
Weight	kg	32	34

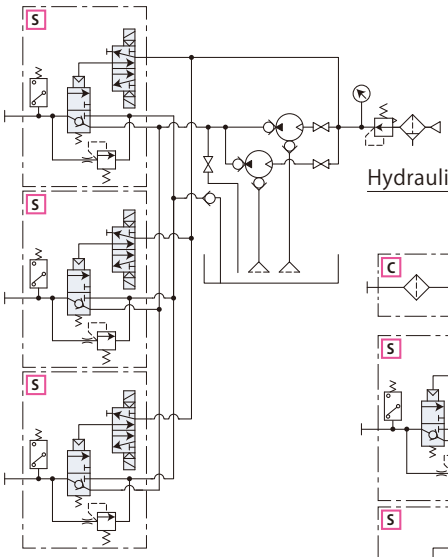
Self-stand (Option)

model ZPS-S4



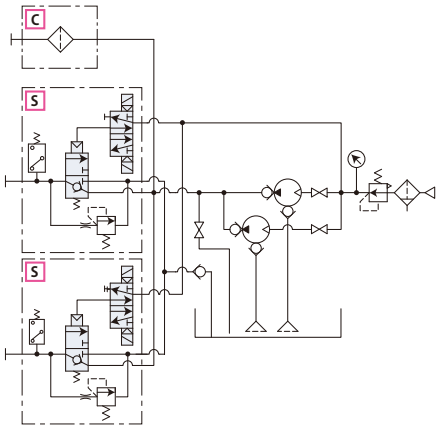
Hydraulic and air pressure circuit

SSS circuit



Hydraulic and air pressure circuit

CSS circuit



Model designation

HCP D – H3 C S S – U

Control voltage DC24V

＊It can not correspond to voltage other than DC24V.

1 Discharge pressure and Pascal pump quantity

2 C port

3 Number of hydraulic circuit

＊Indicated in 2-4 alphabets.

4 Special type

1 Discharge pressure × Pump quantity

H2	: 24.5MPa×1unit	H3	: 15.6MPa×1unit
H22	: 24.5MPa×2units	H33	: 15.6MPa×2units

2 C port (with in-line filter)

／ : No C : Yes

It corresponds only to HCPD-H3 ／ HCPD-H33

3 Hydraulic circuits

S
Clamp circuit
Double solenoid valve + Relief valve for excessive high pressure

4 Special specifications

／ : Without

L : Low oil level detection switch

T2 : For auto slider
2-position double air solenoid valve equipped

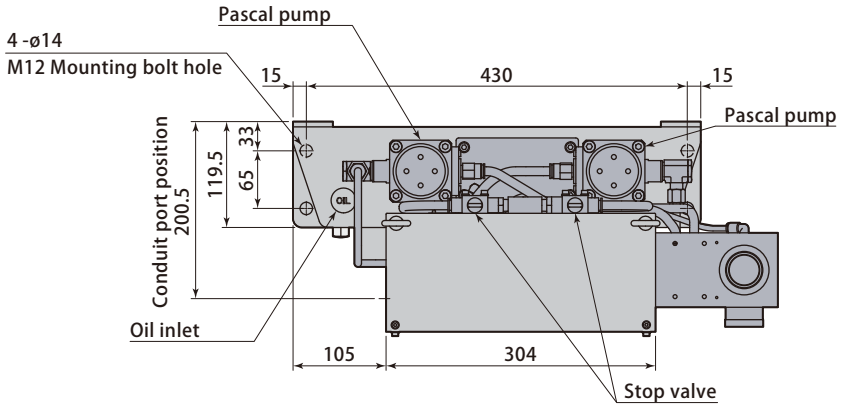
T3 : For auto slider
3-position center exhaust air solenoid valve equipped

U : Oil pressure gauge for each circuit

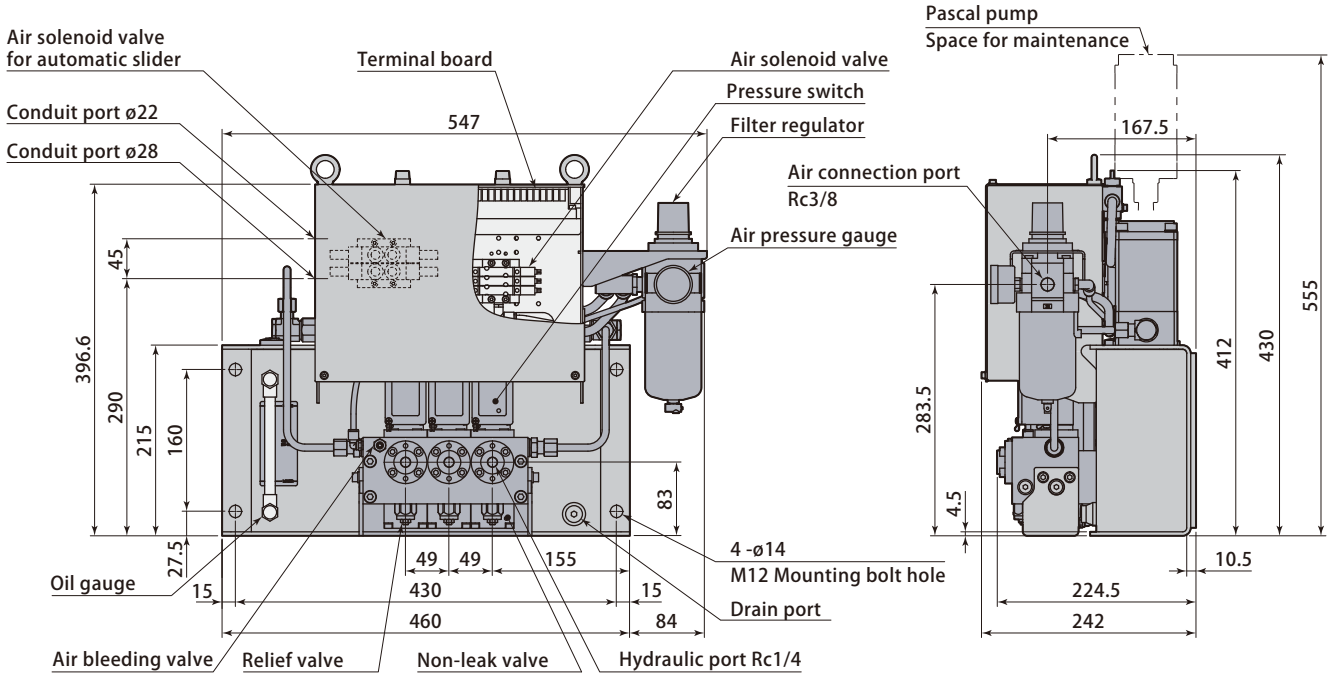
Specifications

Model		HCPD-H2□-□	HCPD-H22□-□	HCPD-H3□-□	HCPD-H33□-□
Pump quantity		1 unit	2 units	1 unit	2 units
Valve switching system		Pilot air			
Discharge pressure	MPa	24.5		15.6	
Driving air pressure	MPa	0.47		0.47	
Discharge volume (at no load)	L /min	1.3	2.6	2	4
Oil tank capacity	L	HIGH-LEVEL : 5.4 ／ LOW-LEVEL : 2.2			
Set pressure of pressure switch	MPa	14.7 (INC.)		8.8 (INC.)	
Set pressure of relief valve	MPa	27.9		17.6	
Air consumption rate	Nm³/min	Max. 0.4	Max. 0.8	Max. 0.4	Max. 0.8
Operating temperature	℃	0 ～ 50℃ (No freezing)			
Applications (Example)	Clamp model × Quantity	TYA100 × 8 units TYC100 × 8 units	TYA160 × 8 units TYC160 × 8 units	TME025 × 8 units	TME040 × 8 units
	HCP model	HCPD-H2SSS	HCPD-H22SSSS	HCPD-H3CSS	HCPD-H33CSS

- Fluid used : General mineral based hydraulic oil (ISO-VG32 equivalent)
- It does not correspond to digital pressure gauge. If necessary, select model HCM page → 77.



● The drawings showing : HCPD-H22SSS.

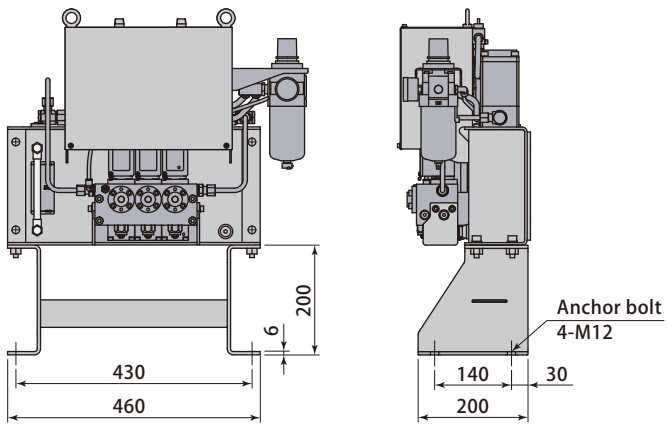


Number of hydraulic circuit		3	4
Weight	kg	35	37

● For the case of double pumps. 3kg to be decreased in case of single pump.

Self-stand (Option)

model **ZPS-S4**



It is utilized to select the hydraulic clamp TKB and to supply the hydraulic pressure source from machine.

Specifications

Model		VSED-H3C□K
Working hydraulic pressure (Hydraulic pressure source : IMM)	MPa	13.7
Operating temperature	℃	0 ~ 50 (No freezing)

- Fluid used : General mineral based hydraulic oil (ISO-VG32 equivalent)
- The working hydraulic pressure required for TME is 15.6MPa.
- In case of utilizing Pascal pump in the hydraulic pressure source, select non-leak valve VSB.

Model designation

VSE **D** – H3 **C** **S** **S** **K** – **U**

- D: Control voltage DC24V
  ＊Contact Pascal for other voltage.
- C: C port with inline filter
- 3: Number of hydraulic circuit
  ＊Indicated in 1-2 alphabets.
- K: With check valve
- 4: Hydraulic gauge for each circuit

3 Hydraulic circuits

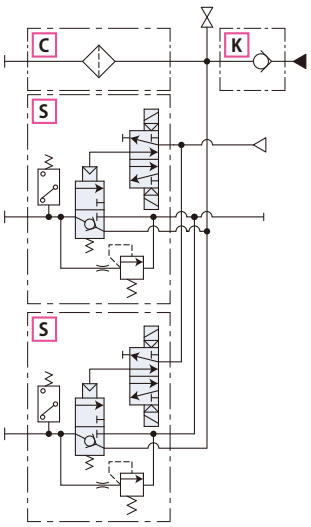
S
Clamp circuit
Double solenoid valve + Relief valve for excessive high pressure

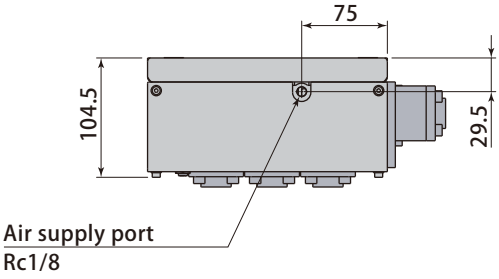
4 With hydraulic gauge for each circuit

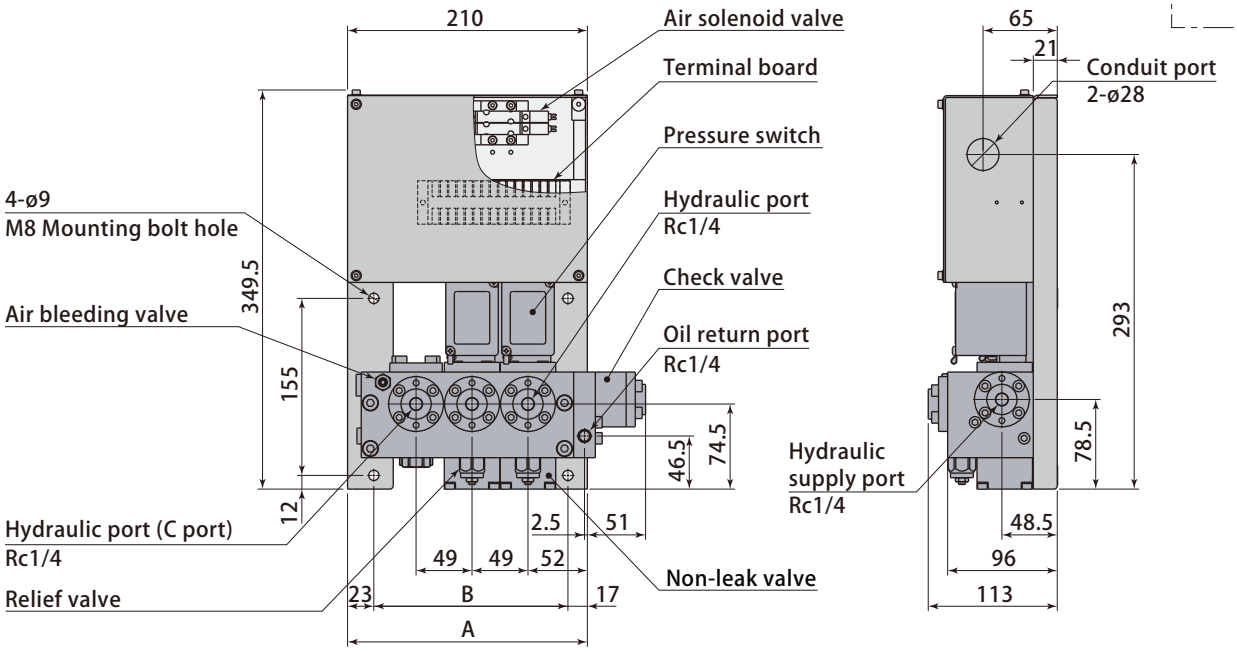
- ／ : No
- U : Yes

Number of hydraulic circuit		1	2
A	mm	160	210
B	mm	120	170
Weight	kg	11.5	15.5

Hydraulic and air pressure circuit







For large volume oil circuit

It is utilized to select the hydraulic clamp TKB and to supply the hydraulic pressure source from machine.

Specifications

Model		VSL3D-LR-CK
Working hydraulic pressure (hydraulic pressure source : IMM)	MPa	13.7
Operating temperature	℃	0 ～ 50 (No freezing)
Orifice area	mm^2	Discharge : 78.5 ／ Return : 55

- Fluid used : General mineral based hydraulic oil (ISO-VG32 equivalent)
- The working hydraulic pressure required for TME is 15.6MPa.

Model designation

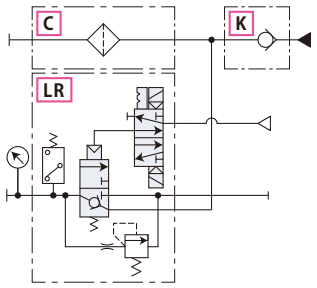
VSL 3 **D** – **LR** – **C** **K**

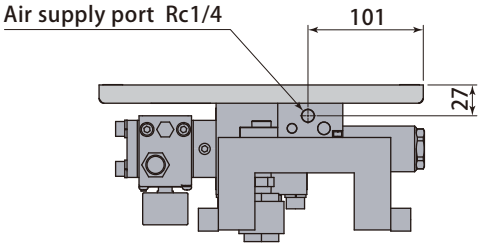
- Control voltage DC24V
  ＊Contact Pascal for other voltage.
- 3 Number of hydraulic circuit
- C port with inline filter
- With check valve

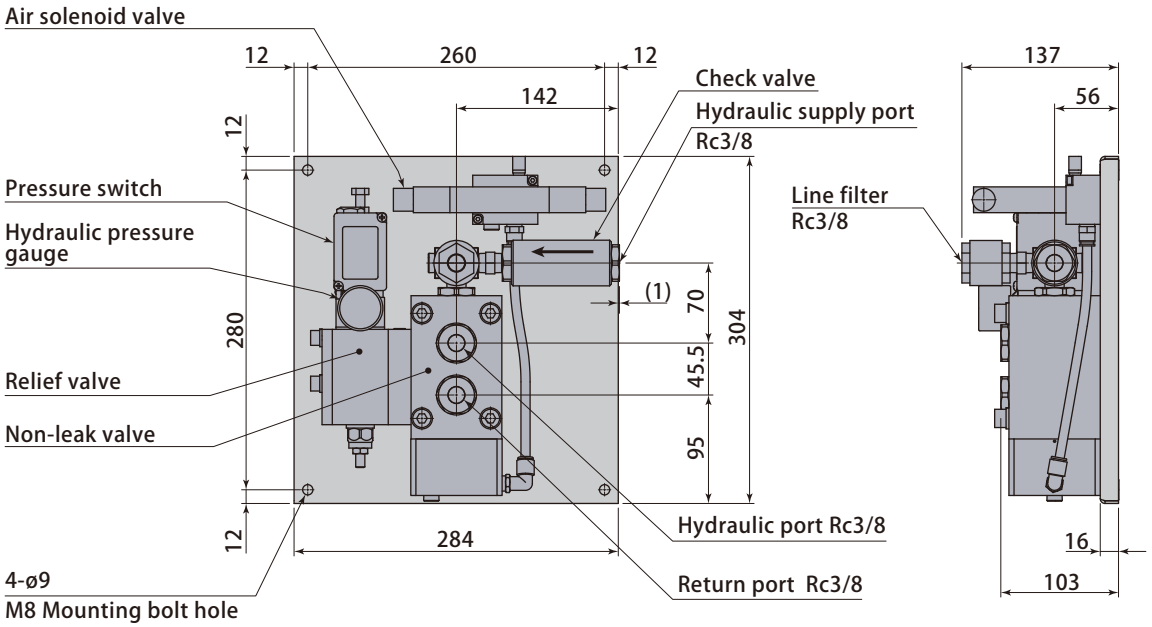
3 Hydraulic circuit

Symbol	LR
Number of circuit	1
Clamp circuit	Double solenoid valve + Relief valve for excessive high pressure

Hydraulic and air pressure circuit







Model designation

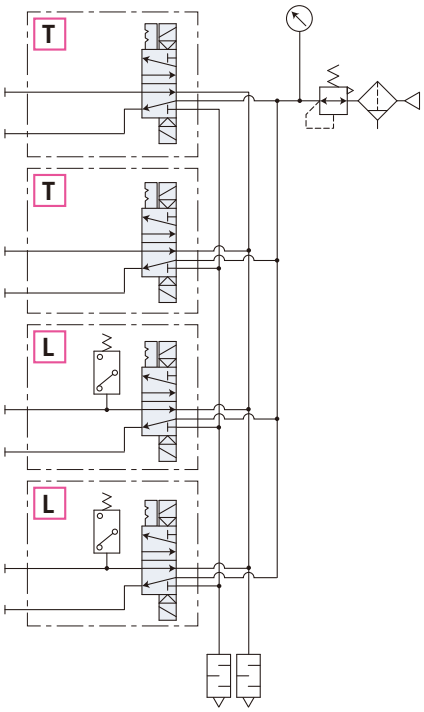
GSC D – 1 L L T T

Control voltage DC24V
＊Contact Pascal for other voltage.

1 Air clamp model (size)

2 Pneumatic circuit
＊Indicated in 1-4 alphabets.

Air pressure circuit



1 Air clamp model (size) ＊

1 : 010 016 025 040 063

2 : 100 160 250

＊ Applicable clamp size shown are for the case when 4 clamps are used per one circuit. When 5 clamps are being used per one circuit, contact Pascal for details.

2 Pneumatic circuit

Number of pneumatic circuit		Pneumatic circuit symbol
Clamp circuit	Slider circuit	
1	–	L
2	–	LL
3	–	LLL
2	2	LLTT

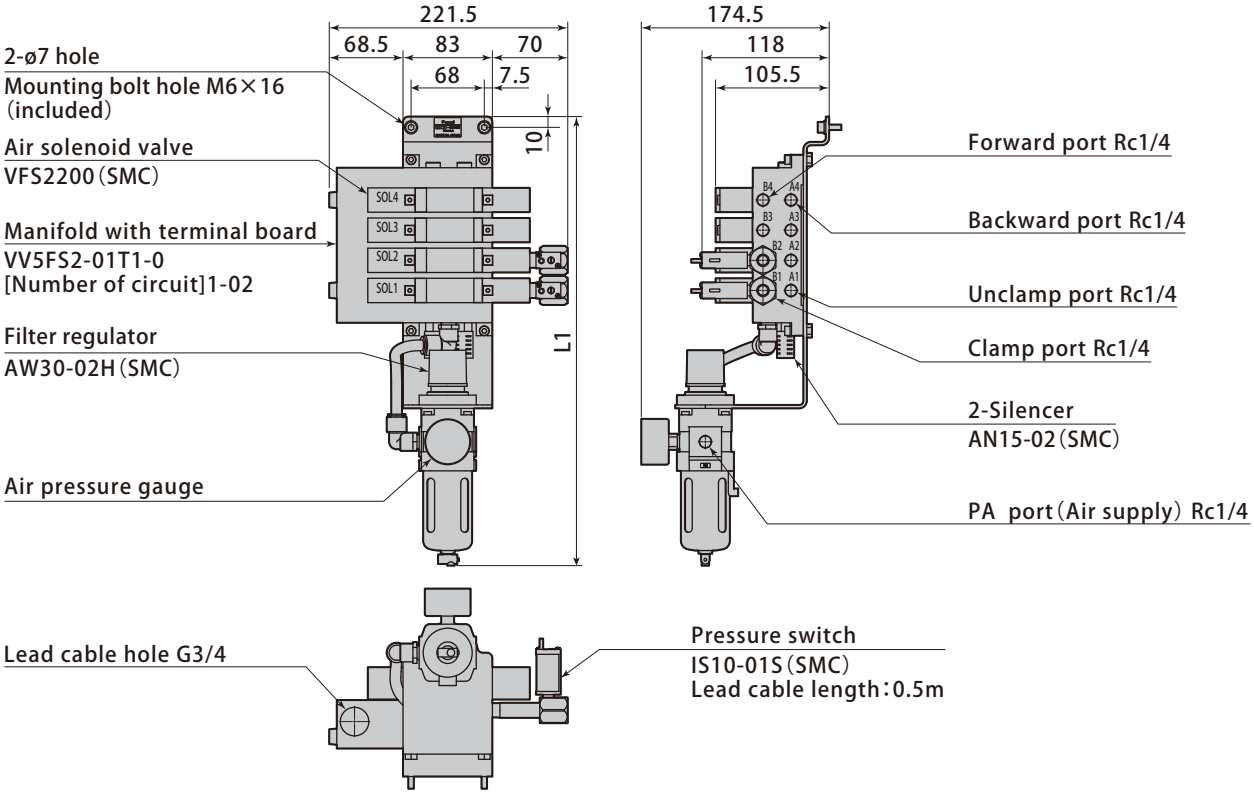
Clamp circuit ：L　　Slider circuit：T

Specifications

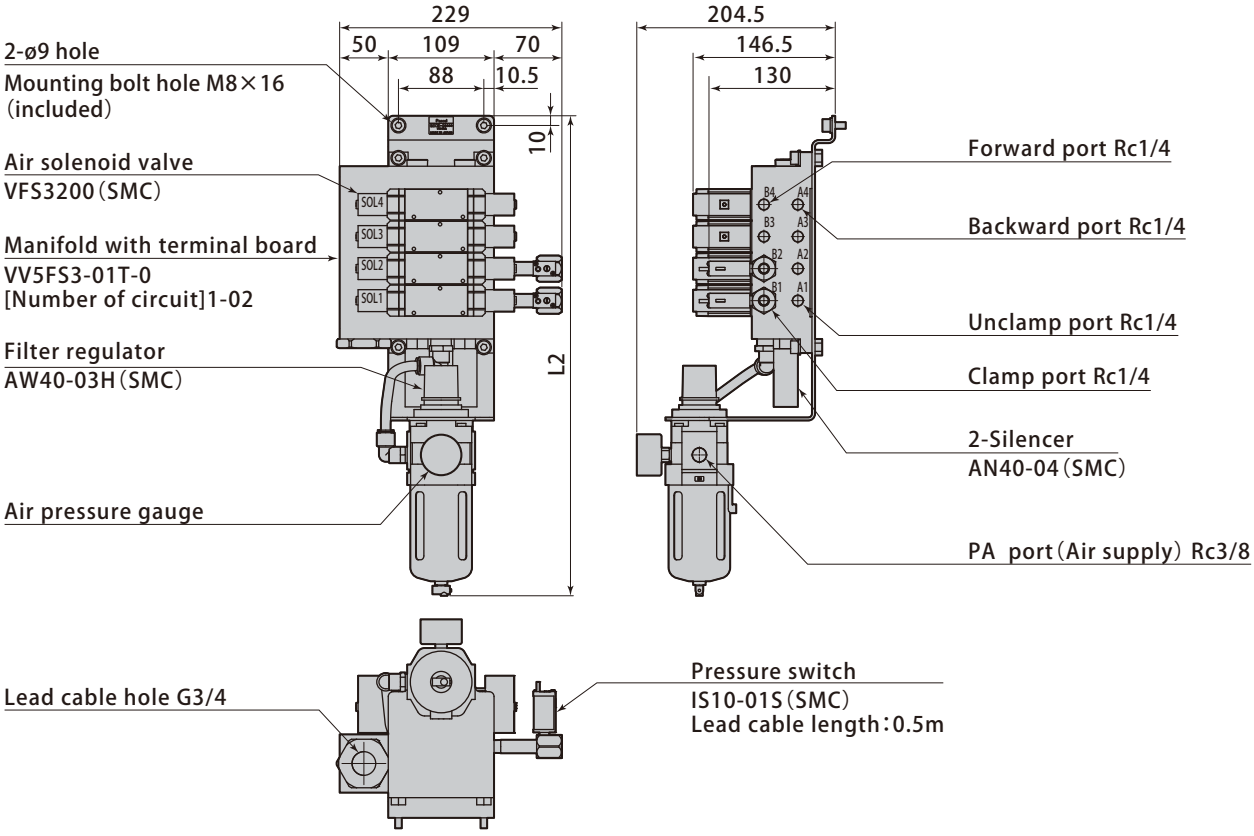
Model		GSC□-1□	GSC□-2□
Fluid used		Air	
Type of seal		Metal seal	
Solenoid valve		2 Position Double	
Max. operating pressure	MPa	0.7	
Proof pressure	MPa	1	
Fluid temperature range	℃	5 ～ 50	
Orifice area	mm^2	15	32.4
Air piping diameter		ø6	ø10
Protection structure		Dust Proof	
Oil supply		Nil	

● The minimum air pressure necessary for unclamp action is 0.39 MPa. Be sure to use at more than 0.39 MPa air pressure.

GSC□-1□



GSC□-2□



Number of pneumatic circuit			1	2	3	4
GSC□-1□	L1	mm	361	361	389	417
	Weight	kg	3.8	4	4.3	4.7
GSC□-2□	L2	mm	429	429	462	495
	Weight	kg	5.5	5.7	6.5	6.9