



1.3

# HVSM25(WL) SERIES

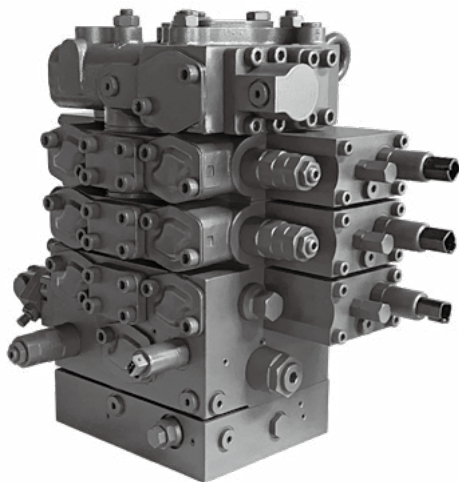
## FLOW SHARING VALVE

### HVSM25(WL):

Nominal size	28
Rated pressure(bar)	350
Rated flow(L/min)	400

### Benefits:

- High efficiency
- Less volume,  
lighter weight
- Precise controllability
- Less pressure drop,  
low fuel consumption
- Perfect flow distribution



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## Features

### 1. System:

#### Flow pressure independent flow distribution

Open center, for fixed displacement pump.

Closed center, for load-sensing variable displacement pump.

- Load holding function
- Regeneration function
- Priority function
- Less control pressure,  $\Delta P=15\text{bar}$
- Each movements priorities adjustable
- Hydraulic control, Electro-hydraulic control

### 2. Structure

- Sandwich plate of design
- Max. 8 sectional blocks (Other forms please contact our sales dept.)

### 3. Pressure

- Primary and secondary pressure relief valve
- LS relief and throttle valve

### 4. Flow

- Load pressure compensated
- High repeatability accuracy
- Low hysteresis

### 5. Applications



Horizontal  
directional drilling



Cranes

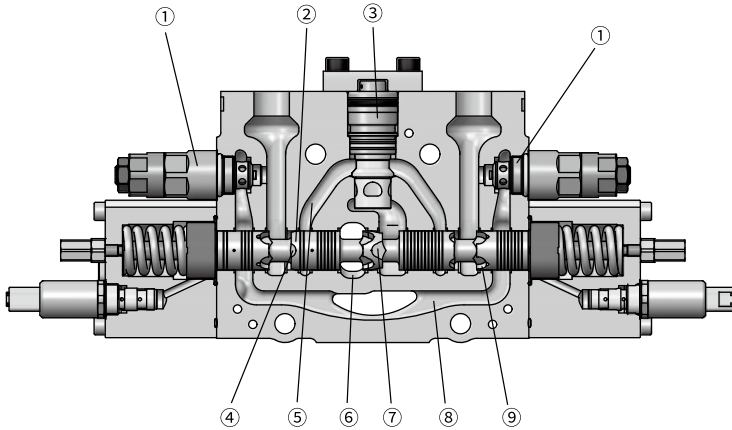


Backhoe loaders



Wheel loaders

## Section view



1. Secondary pressure/anti-cavitation valve
2. Main spool
3. Pressure compensator
4. Meter-in control (M/I → A/B)
5. M/I flow channel
6. Pump port
7. Metering control
8. Tank port
9. Meter-out control
10. Plug for relief valve cavity

## Technical data

### General

Structure	Sandwich plate design	
Connection type	BSP Pipe thread (JIS B2351-1)	
Mass (kg)		Nominal Size
		25
	Inlet section	21
	Spool section hydraulic control	18.1
	Spool section E - H control	19

### Hydraulic

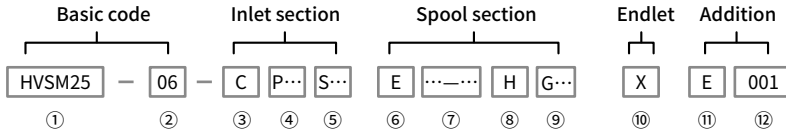
Nominal size		28
Rated flow	Q (L/min)	400
Max. operating pressure at port	P /LS (bar)	320
	A/B (bar)	350
	T (bar)	30
	TS (bar)	Less than 2
Pilot pressure	a/b (bar)	Less than 35
Pilot control pressure range		8 to 22 bar

### Using environment

Hydraulic fluid	Mineral oil (HL, HLP) according to DIN 51524. Other hydraulic fluids, such as HEES (Synthetic Ester) according to VDMA 24568.
Pressure fluid temperature range (°C )	-20 to +90
Viscosity range $\nu$ (mm <sup>2</sup> /s)	10 to 380
Maximum permissible degree of contamination of the pressure fluid cleanliness class to ISO 4406 (C)	Class 20/18/15, we therefore recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$

(For applications outside above mentioned parameters, please consult our sales dept.)

## Ordering code



① Structure	HVSM (general), Sandwich plate design, post pressure compensated HVSM25WL (special for loaders), Sandwich plate design, post pressure compensated
② Number of blocks	06
③ Circuit types	C Closed center, for variable piston pump system O Open center, for fixed displacement pump system
④ Main relief valve	Blank Without pump relief valve P... Setting pressure value, P320, Max pressure in bar of pump relief valve
⑤ LS relief valve	S... Setting pressure value, S280, Max pressure in bar of LS relief valve
⑥ Spool function code	E Please refer to "Page 11/14" J Please refer to "Page 11/14"
⑦ Flow of 'A/B' port	...-...- Flow in L/min of 'A/B' port
⑧ Operator type	H Hydraulic proportional W21 Electro-hydraulic proportional, 24V W23 Electro-hydraulic proportional, 12V W41 Electro-hydraulic on/off, 24V W43 Electro-hydraulic on/off, 12V
⑨ Second relief valve	Blank Without second relief valve G... G320G320, pressure details of second relief valve in 3 digits (bar) Q Plug
⑩ Pilot pressure supply	X Internal pilot pressure supply Y External pilot pressure supply
⑪ Connection dimensions types	E English BSP Pipe thread (JIS B2351-1) M Other connection versions please contact us.
⑫ Design code	001

## Ordering details

- Example:**
- Pump flow  $Q_{max}=380L/min$
  - 2 actuators
  - Hydraulic proportional control and electro-hydraulic control

**Basic code** — 

HVSM25	-02
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**Inlet section** — 

C	P300	S280
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- Closed center, for load-sensing variable displacement pump
- With pump relief valve of pressure value 300bar
- With LS relief valve of pressure value 280bar

### Spool section

**NO.1** — 

E	200-200	H	G220	G200
---	---------	---	------	------

- Spool function 'E'
- Flow in L/min of 'A/B' port: 200L/min
- Operator type 'H': Hydraulic pilot control
- With second relief valve: A port: 220bar, B port: 200bar

**NO.2** — 

J	200-180	W21	Q
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- Spool function 'J'
- Flow in L/min of 'A/B' port: A-200L/min; B-180L/min
- Operator type 'W21':  
electro-hydraulic proportional control of 24V
- With plug replace of second relief valve

**Outlet section** — 

X
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Internal pilot pressure supply

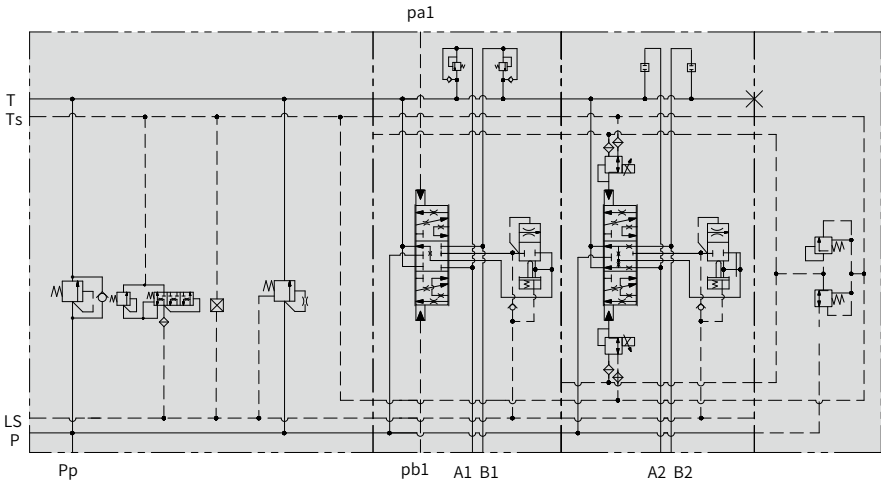
**Addition** — 

E001
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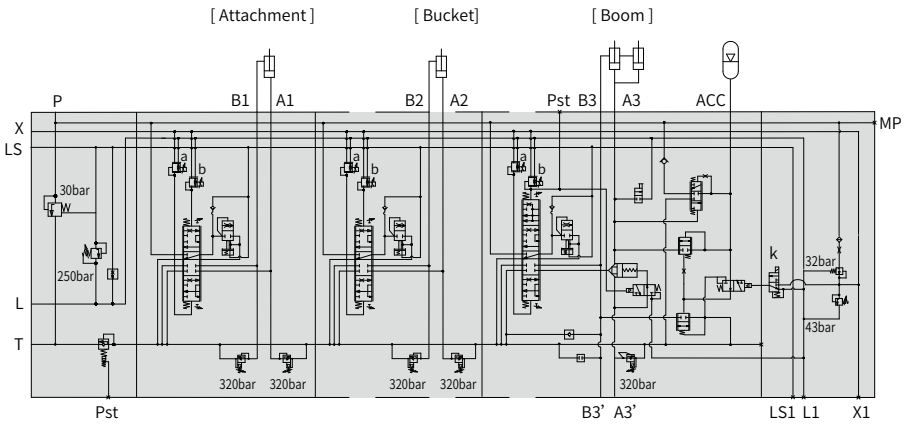
English BSP Pipe thread (JIS B2351-1)

# Principle

## · General

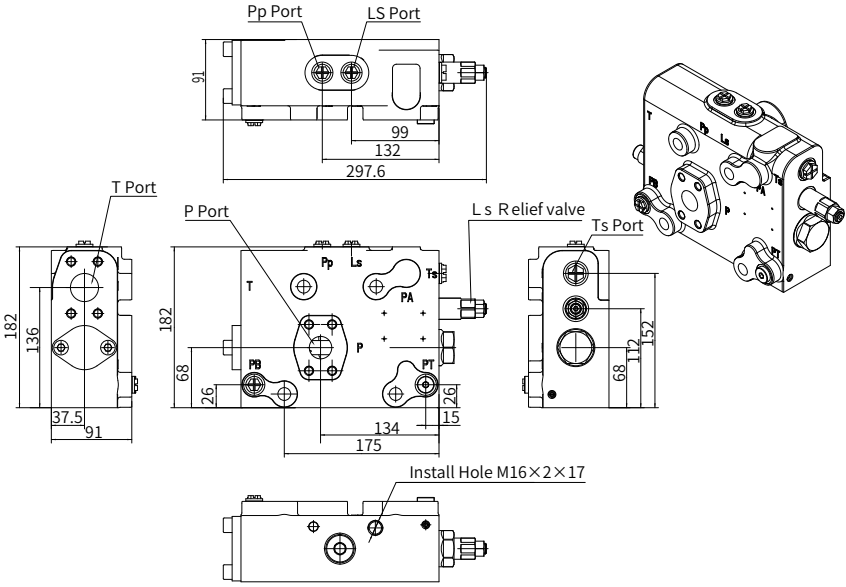


## · Special for loaders

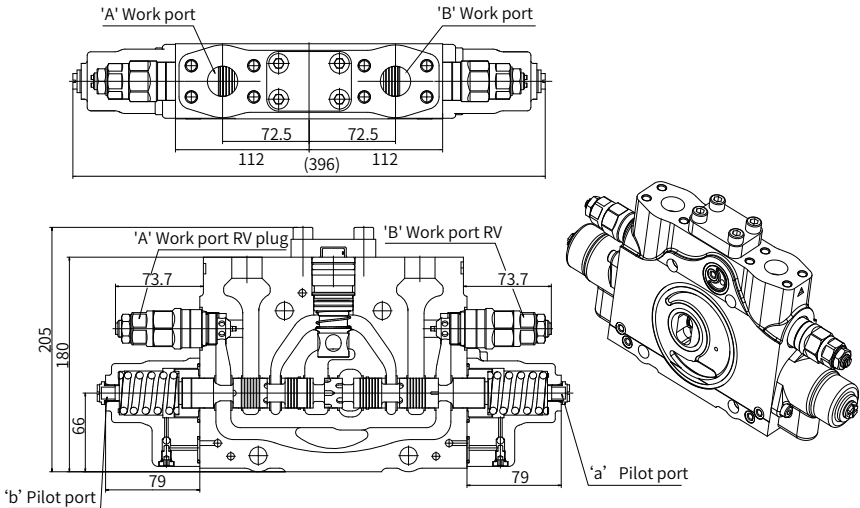




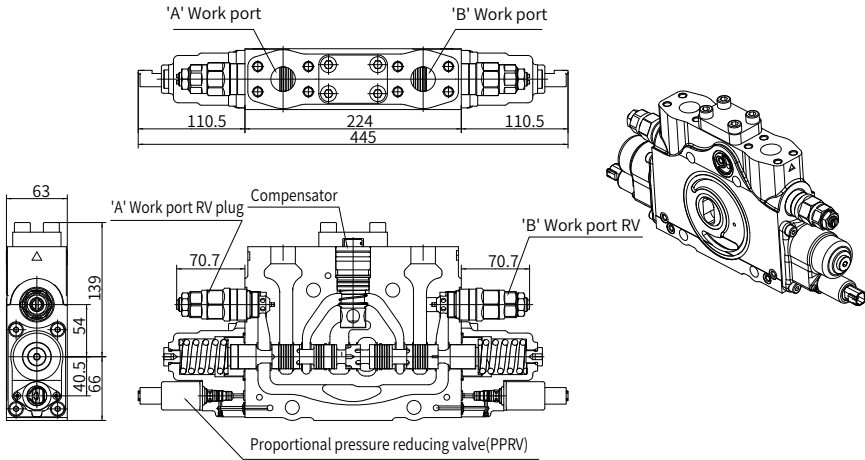
### Inlet section assembly



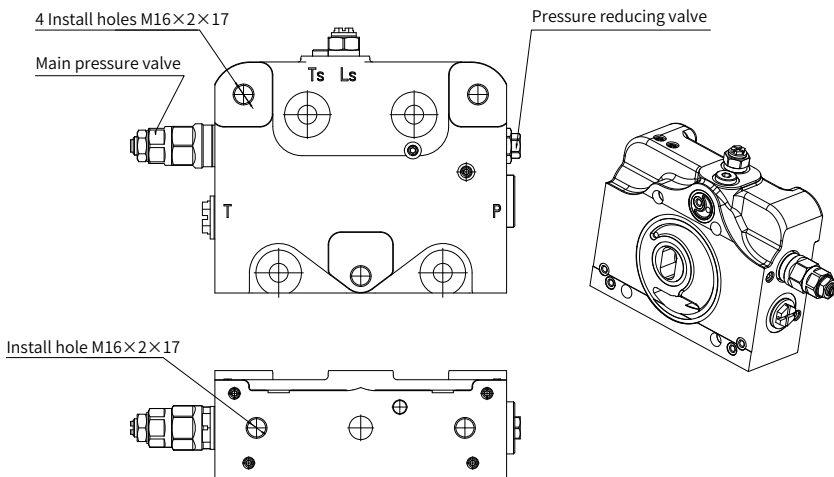
### Spool section assembly—hydraulic



## Spool section assembly—electro-hydraulic



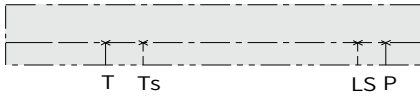
## Endlet section assembly



## Endlet option

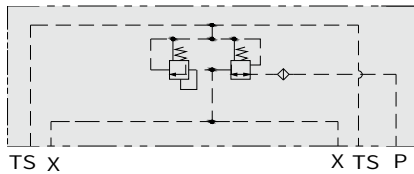
### 'Y' type : External pilot pressure supply

- Need external pilot pressure supply; Max: 35bar.



### 'X' type : Internal pilot pressure supply

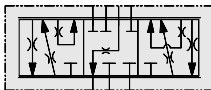
- The pilot pressure is generated by pressure reducing valve which reduces inlet pressure down to lower pressure pilot pressure, 30bar.



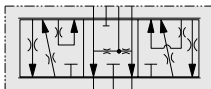
## Spool type

<b>Spool type</b>	<b>Spool function type</b>
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E



J

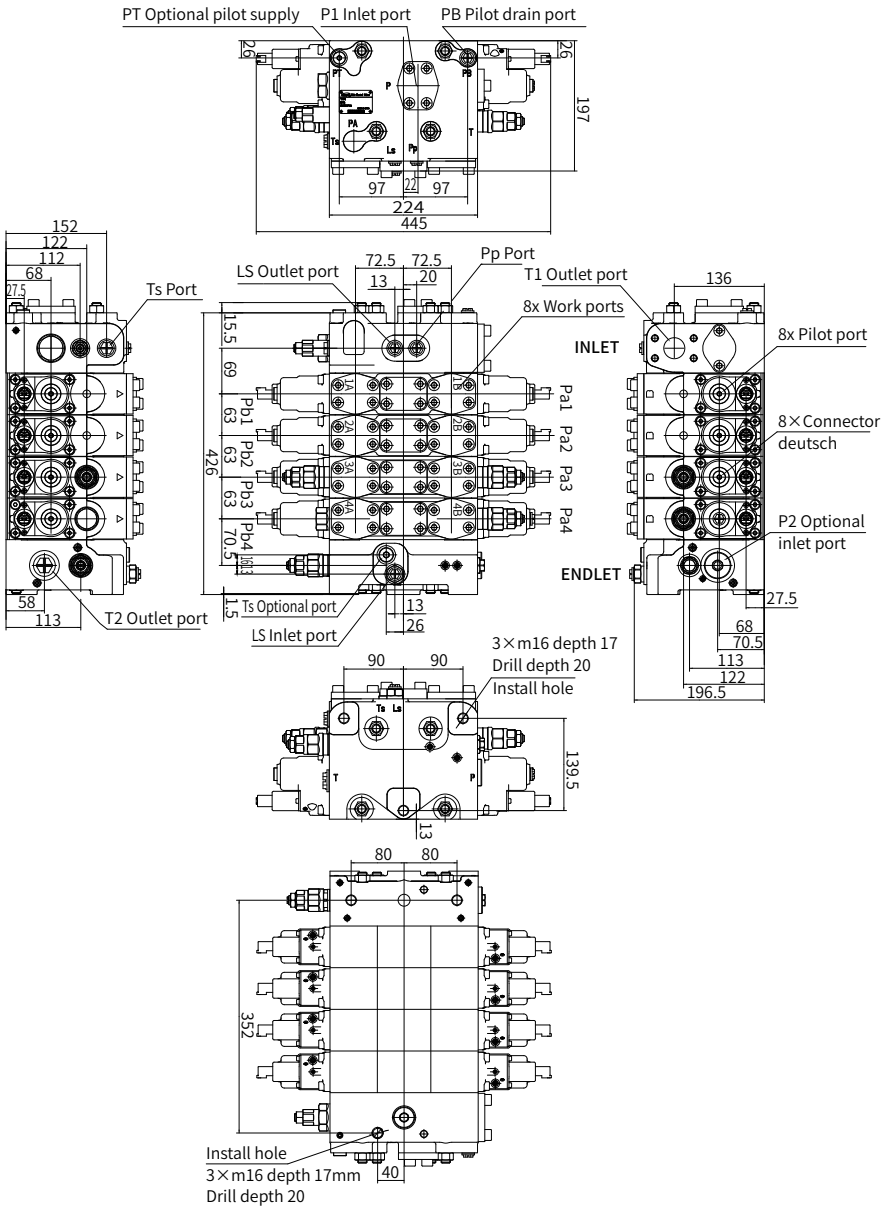


Note:  
Please contact us for more information regarding spool flow data.

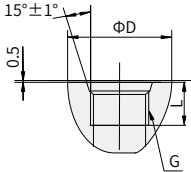
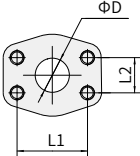
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# Unit dimensions

## HVSM 25



## Port connection

	<b>Port JIS B2351-1</b>		<b>Thread</b>	<b>ΦD</b>	<b>L</b>	
	T2	Outlet Port	G3/4	45	20	
	Ts	Outlet Port	G3/8	28	12	
	a/b Port LS Port Pp, Px Pc1, Pc2 PA Port PB Port PT Port	Pilot port Load sense Port Pp Port, Px Port Pc1 Port, Pc2 Port PA Port PB Port PT Port	G1/4	24	12	
	<b>Port SAE J518</b>		<b>Nominal Flange Size</b>	<b>ΦD</b>	<b>L1</b>	<b>L2</b>
	A/B Port P1(P2)	Work port Inlet port	1'	25.4	52.4	26.2
	T1	Outlet Port	1-1/4	31.8	58.7	30.2

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