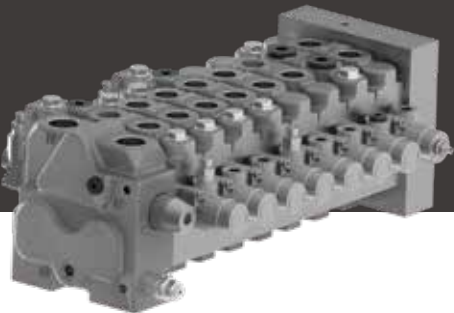


Flow Sharing Valve FS Series 1*

Size: 09/12/18
Rated pressure: 32/35 MPa
Rated flow: 90/120/180 L/min



Features

- Load pressure independent flow distribution
- Boom and Arm anti-drop valve
- Regeneration capability
- Low control pressure, $\Delta p=1.7\text{MPa}$
- Adjustable priority order of each movement
- Hydraulic pilot control

Contents

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> Model Code

	A	E	F	J	K	L	P	R	S	T	H	M	N	U	V	W	X	Y	Z	AA
FS	—	1*	—	225	—						B1						—	—		—
* * * 1-10 blocks																				
											B1									

Structure

—	Suitable for small excavators,flow sharing,post pressure compensated,sandwich plate design	FS
---	--	----

Nominal size

A	90L/min	09
	120L/min	12
	180L/min	18

Series

E		09	12	18	
	series 1*	●	●	●	1*

Inlet block

F		09	12	18	
	Open center	○	○	○	P
	Closed center	●	●	●	S

LS pressure relief valve¹⁾

J		09	12	18	
	Pressure to be specified in bar, 3-digit	●	●	●	225

Number of blocks

K		09	12	18	
	no more than 10 ²⁾	●	●	●	

Valve body

L		09	12	18	
	Without retaining valve	●	●	●	N
	With retaining valve	●	●	●	Q
	Travel 1	●	●	●	S
	Travel 2(Adjacent travel 1 and must be close to the End block)	●	●	●	T

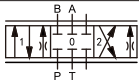
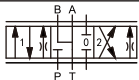
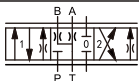
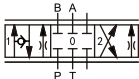
¹⁾ LS setting pressure:225bar,Three way spoolsetting pressure: 25bar,system pressure:250bar.

²⁾ Fill in number of blocks, no more than 10 blocks,2-digit,for example: 8 blocks=08.

Model Code

	A	E	F	J	K	L	P	R	S	T	H	M	N	U	V	W	X	Y	Z	AA
FS		1*		225							B1									
* * * 1-10 blocks																				
											B1									

Spool type

P		O-type function	09	12	18	
		Y-type function without throttle	●	●	●	EA
		Y-type function with throttle	●	●	●	JA
		O-type function with Regeneration capability	●	●	●	QA
			●	●	●	RA

Flow P-A

R		09	12	18	
	Flow P-A, L/min ³⁾	●	●	●	

Flow P-B

S		09	12	18	
	Flow P-B, L/min ³⁾	●	●	●	

Control mode⁴⁾

T		09	12	18	
	Hydraulic	●	●	●	H200
	Hydraulic spool limitation	●	●	●	H300

Spool installation direction

H		09	12	18	
	Side B	●	●	●	B1

3) : Fill in flow value,3-digit,for example: 045, 145.

4) : When the control methods on both sides are different,The format is " Control mode A-Control mode B,for example: H200-H300.

> Model Code

	A	E	F	J	K	L	P	R	S	T	H	M	N	U	V	W	X	Y	Z	AA
FS		1*		225							B1									
* * * 1-10 blocks																				
											B1									

Secondary valves at actuator ports A

M			09	12	18	
		Pressure relief/anti-cavitation valve, adjustable (pressure to be specified in bar, 3-digit)	●	●	●	H280
		Unidirectional oil replenishment	●	●	●	E
		Plug	●	●	●	Q
		Valve body is not machined ⁵⁾	○	○	○	M

Secondary valves at actuator ports B

N			09	12	18	
		Pressure relief/anti-cavitation valve, adjustable (pressure to be specified in bar, 3-digit)	●	●	●	H280
		Unidirectional oil replenishment	●	●	●	E
		Plug	●	●	●	Q
		Valve body is not machined ⁵⁾	○	○	○	M

Pilot port

U			09	12	18	
			●	●	●	1
			●	●	●	2
			●	●	●	3
			●	●	●	4

Pilot operated check valve, one-sided, at port A

V			09	12	18	
	With		●	●	●	Y
	Without		●	●	●	N

⁵⁾ Suitable for walking and turning motors, Please contact our.

> Model Code

	A	E	F	J	K	L	P	R	S	T	H	M	N	U	V	W	X	Y	Z	AA
FS	—	1*	—	225	—						B1						—	—		—
* * * 1-10 blocks																				
											B1									

Pilot operated check valve, one-sided, at port A

W		09	12	18	
	With	●	●	●	Y
	Without	●	●	●	N

End block

X		09	12	18	
	Without internal tank connection	●	●	●	R
	With internal tank connection	●	●	●	T

Sealing material

Y		09	12	18	
	NBR	●	●	●	N
	FKM	●	●	●	F

Port

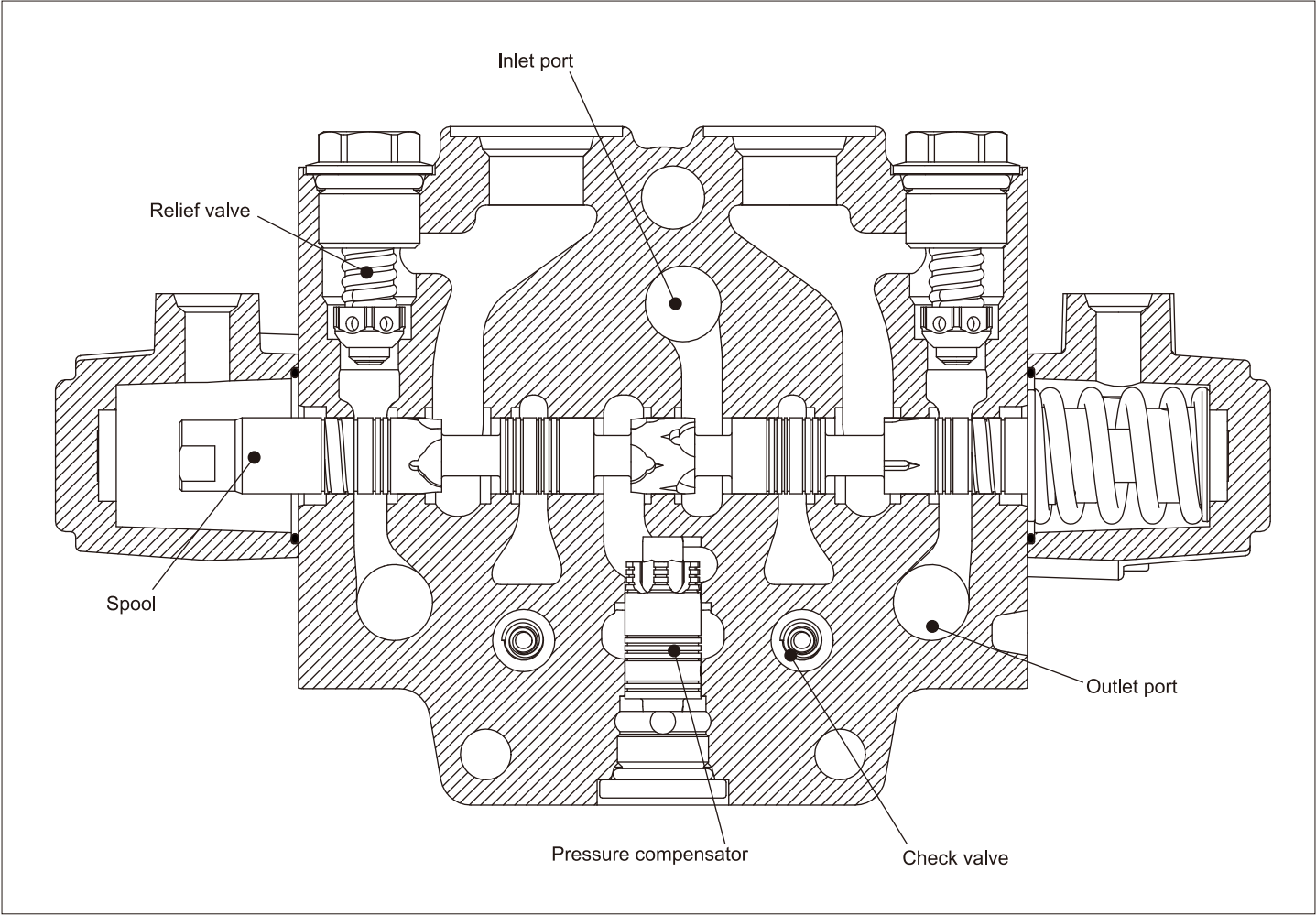
Z		09	12	18	
	ISO 1179-1 A, B = G 3/8 P, T = G 1/2 LS, M = G 1/4	●	○	○	4
	JIS B2351-1 A, B = G 1/2 P, T = G 3/4 LS, M = G 1/4	—	●	○	5
	ISO 1179-1 A, B = G 3/4 P, T = G 1 LS, M = G 1/4	—	—	●	6

Number

AA		09	12	18	
	Further details in the plain tex, 2-digit				

● Available ○ On request — Not available ■ Recommended model

> Structure

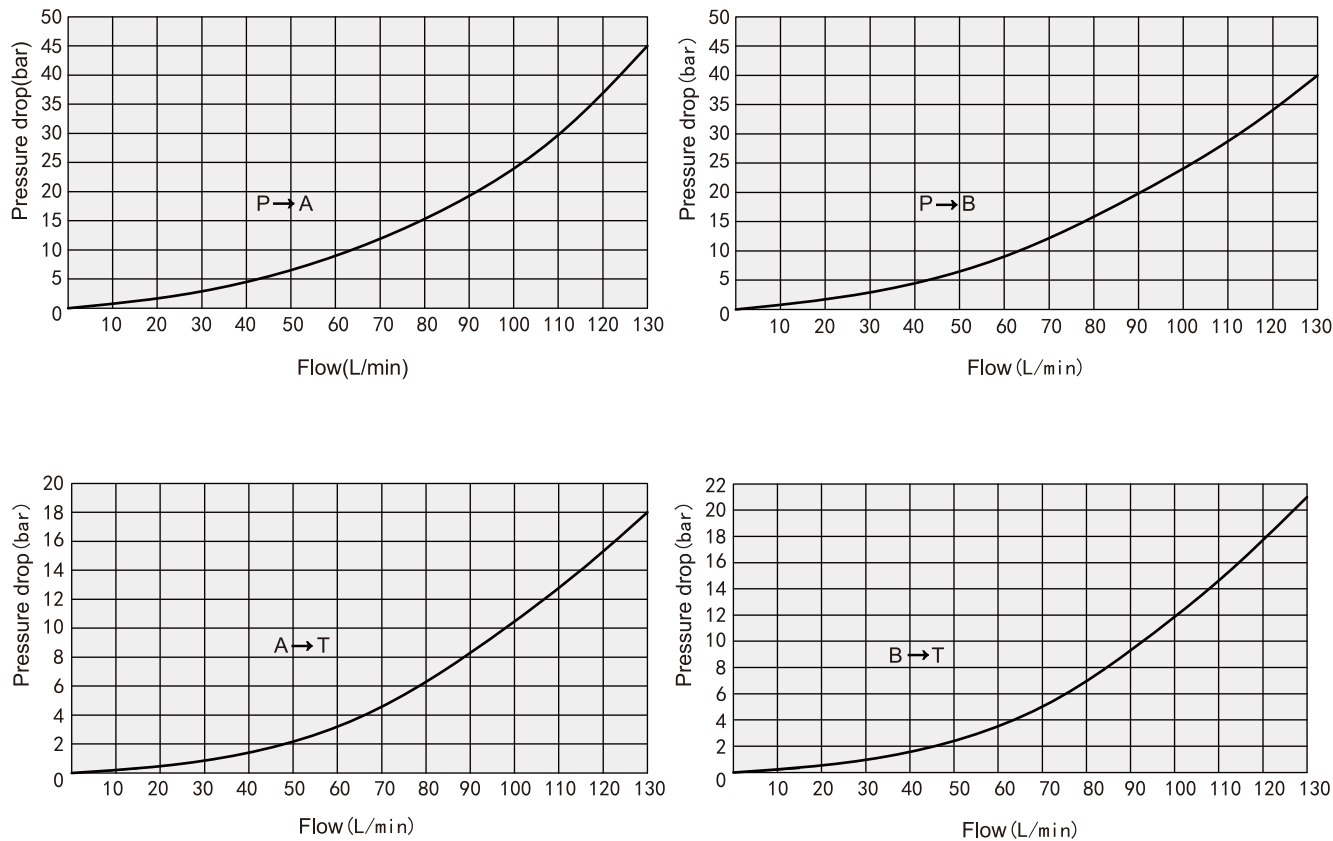


➤ Technical data

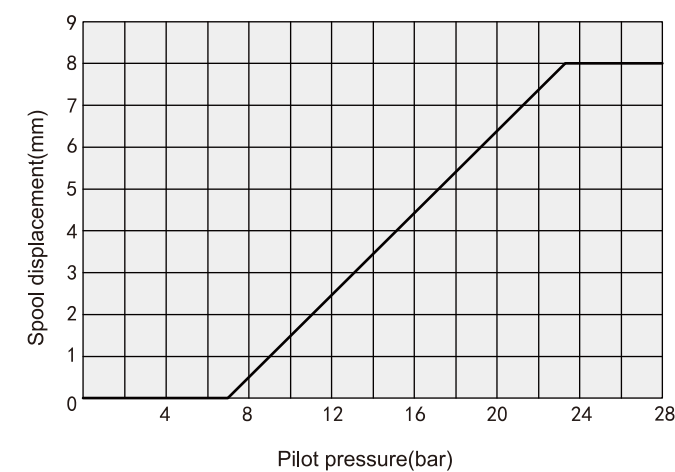
				09	12	18
Structure				Sandwich plate design		
Connection type				ISO 1179-1	JIS B2351-1	
Rated flow	$\Delta p=17\text{bar}$	Q	L/min	90	120	180
Max. operating pressure at port	P/LS		bar	320		
	A/B		bar	350		
	T		bar	30		
	TS		bar	<3		
Pilot pressure	a/b		bar	<35		
Hydraulic fluid	HL/HLP			according to DIN51 524		
	HEES(Synthetic Ester)			according to VDMA 24568		
Temperature range	°C			-20 to +90		
Viscosity range	v		mm ² /s	10 to 380		
Maximum permissible degree of contamination of the pressure fluid	Cleanliness class to ISO 4406 (C)			Class 20/18/15		
Unit dimensions	mm			350x220x112	429x274x139	524x321.8x181
Weight	8 blocks		KG	22	46	78.2

Differential pressure characteristic curve

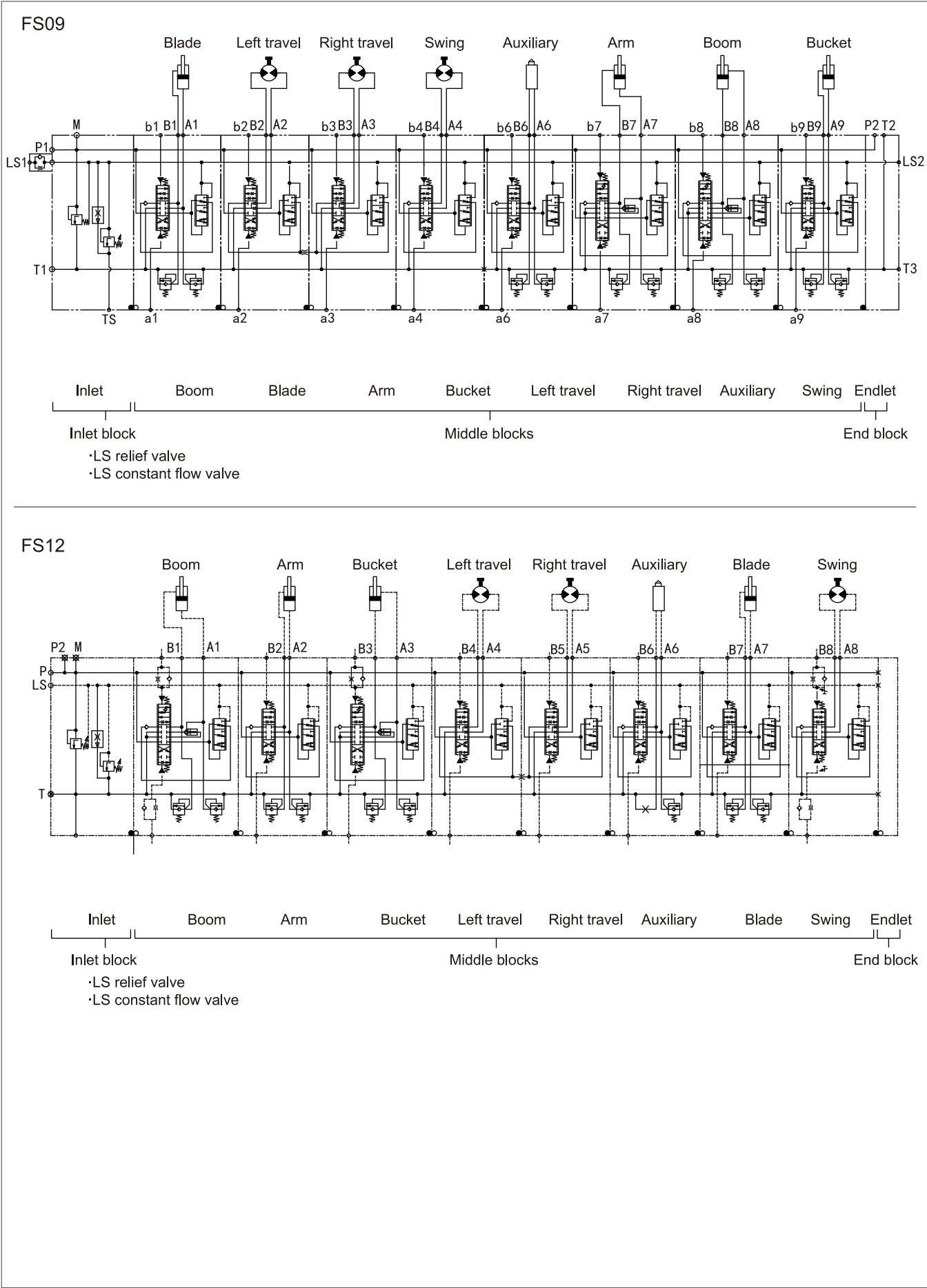
Hydraulic oil: ISO VG46, T=50°C



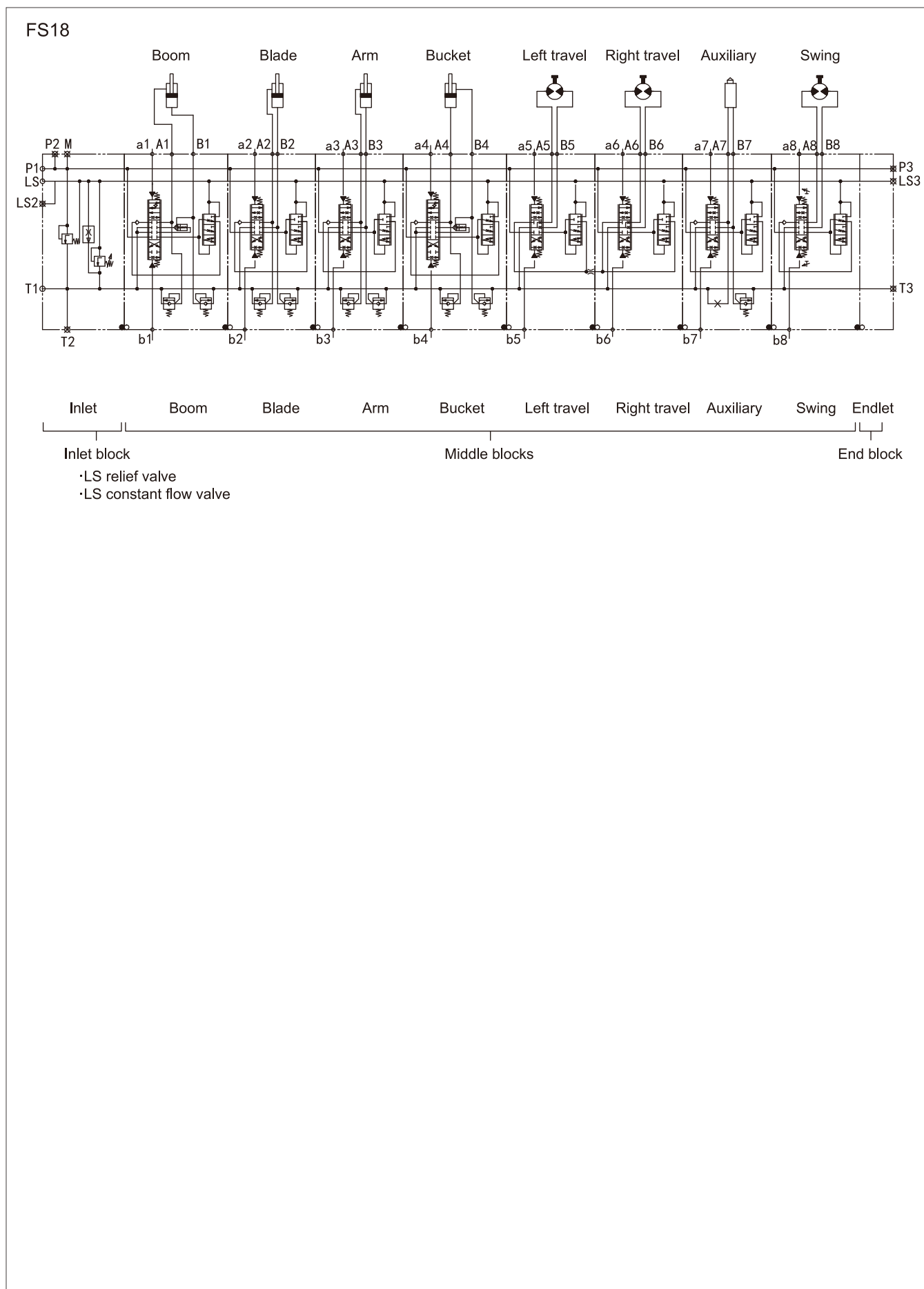
Pilot pressure control curve



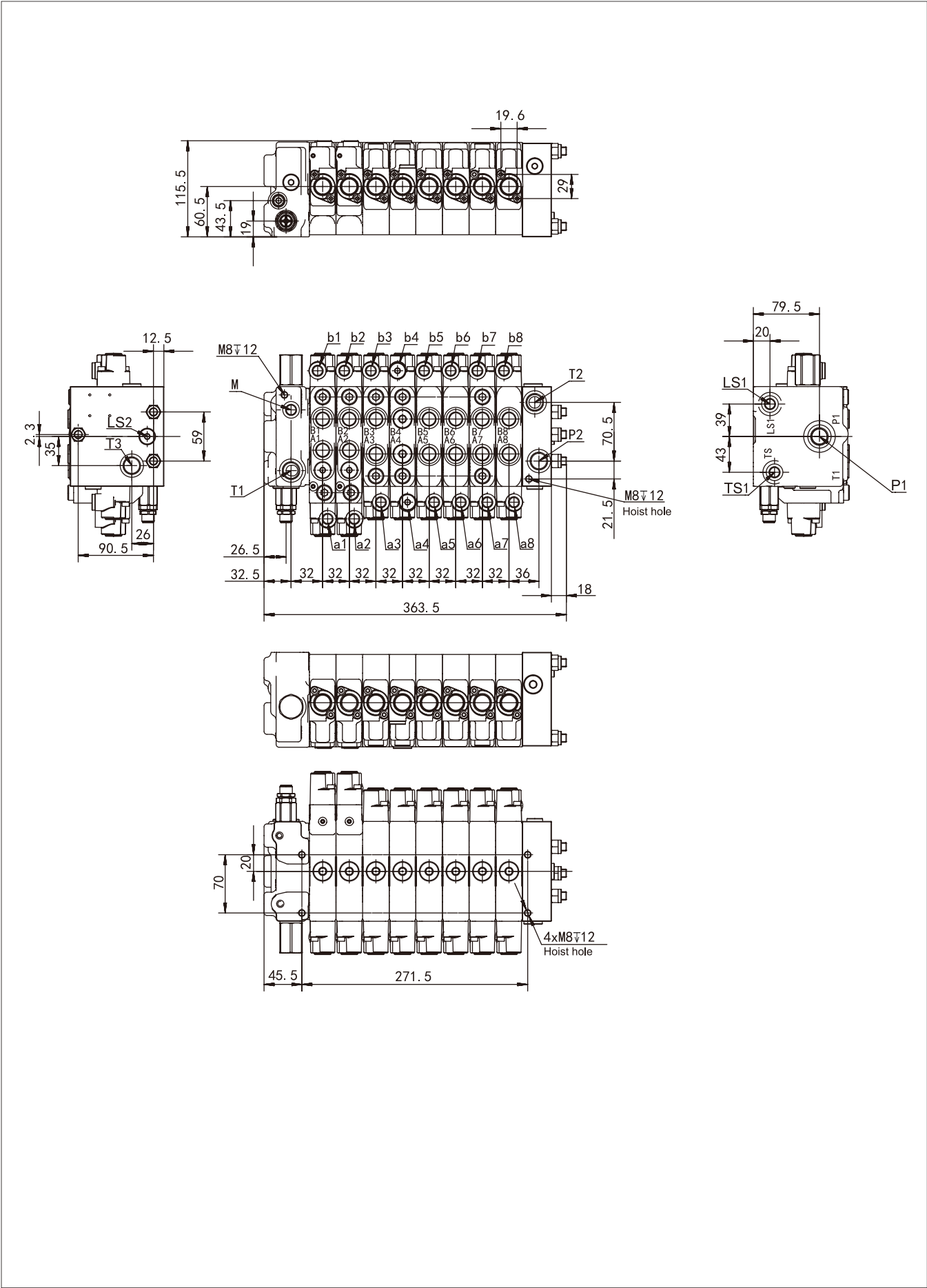
Hydraulic diagram



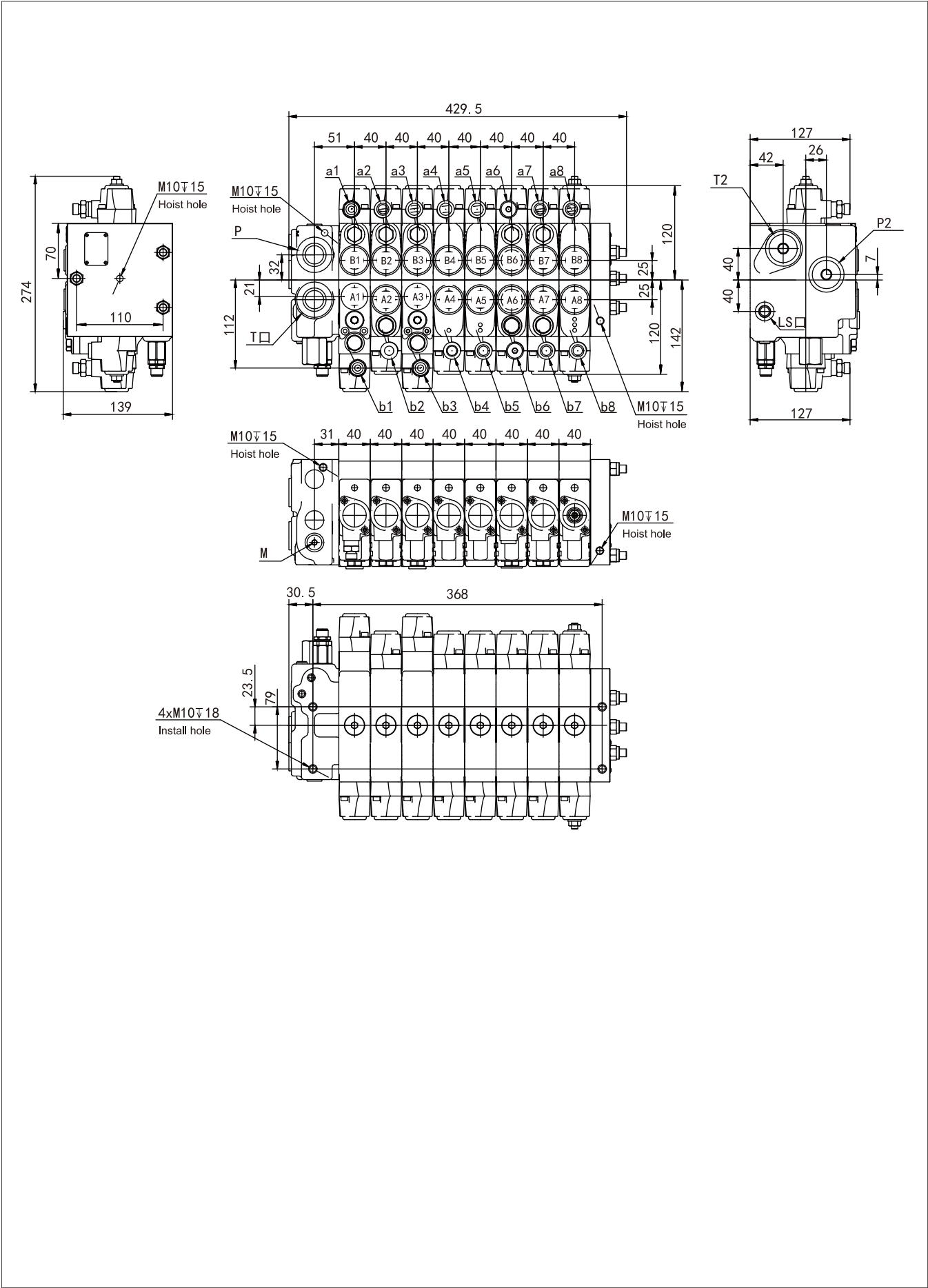
Hydraulic diagram



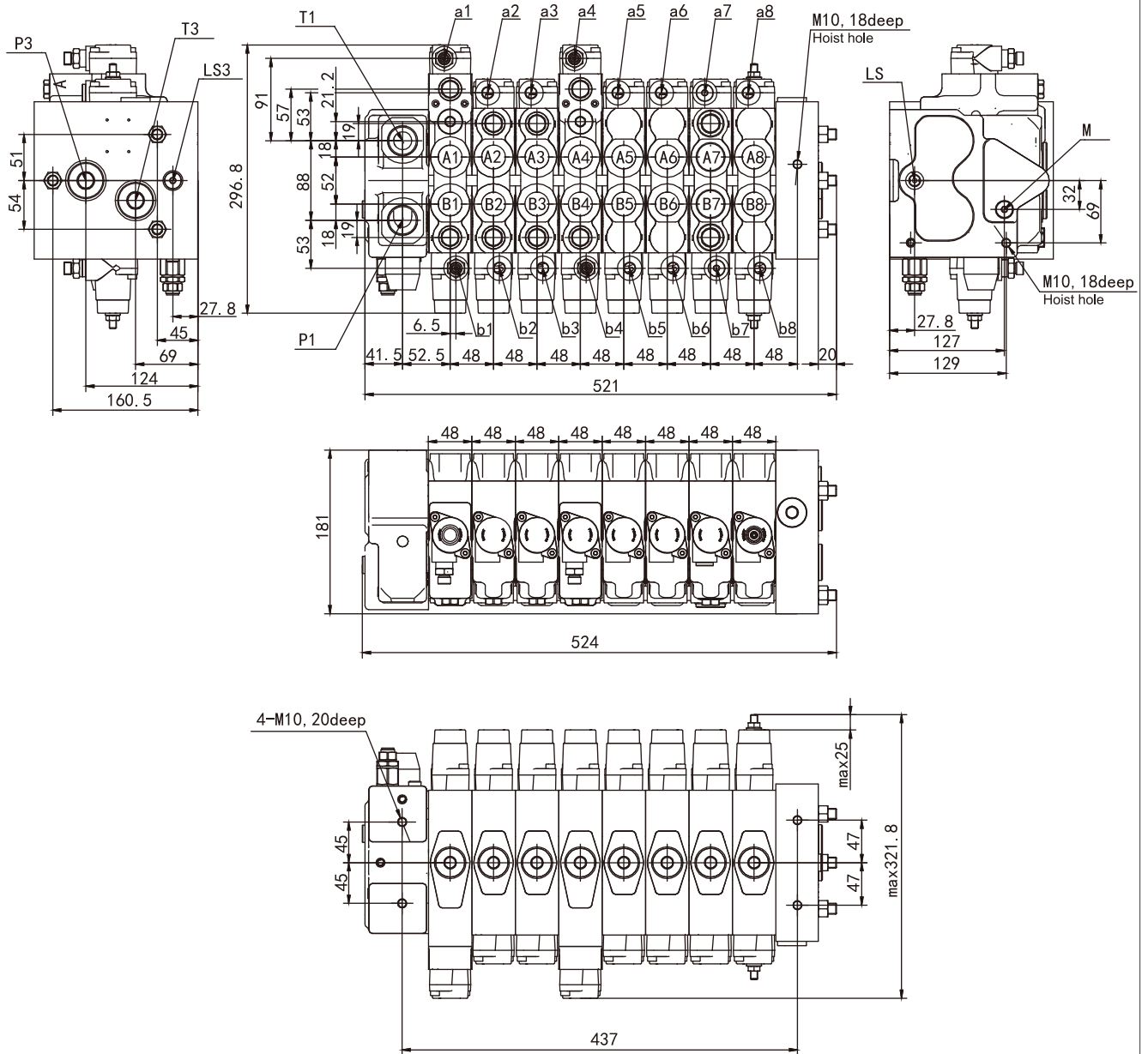
Installation Dimensions, FS09



➤ Installation Dimensions, FS12

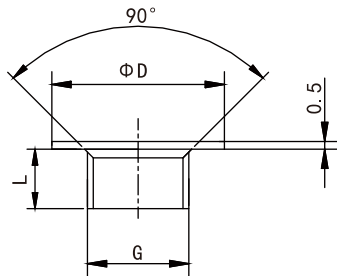


➤ Installation Dimensions, FS18

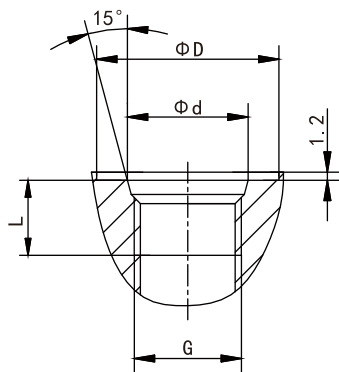


Installation Dimensions

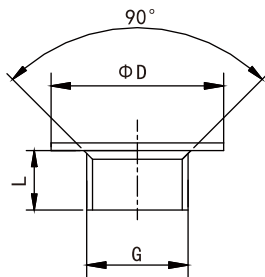
Port connection



FS09	Port ISO 1179-1		Thread	ΦD	L
	P,T1,T2,T3	Inlet port	G1/2	28	15
		Outlet port			
	A/B	Work port	G3/8	23	12.5
	a/b	Pilot port	G1/4	20	12.5
	LS1,LS2	Load sense port			
	TS1,TS2	TS Port			
	Pp	Pp Port			



FS12	Port JIS B2351-1		Thread	ΦD	L
	P,T	Inlet port	G3/4	45	20
		Outlet port			
	A/B	Work port	G1/2	34	16
	a/b	Pilot port	G1/4	24	12
	LS	Load sense port			
	TS	TS Port			
	Pp	Pp Port			



FS18	Port JIS B2351-1		Thread	ΦD	L
	P,T	Inlet port	G1	50	24
		Outlet port			
	A/B	Work port	G3/4	45	20
	a/b	Pilot port	G1/4	20	12.5
	LS	Load sense port			
	TS	TS Port			
	Pp	Pp Port			

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- | | | | |
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| ● Hydrostatic Transmission Unit | ● Internal Gear Pump | ● Vane Pump | ● Proportional valve/
Industrial Hydraulic Valve |

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If there are any other modifications,no further notice will be given.