1.6.1

EHV SERIES

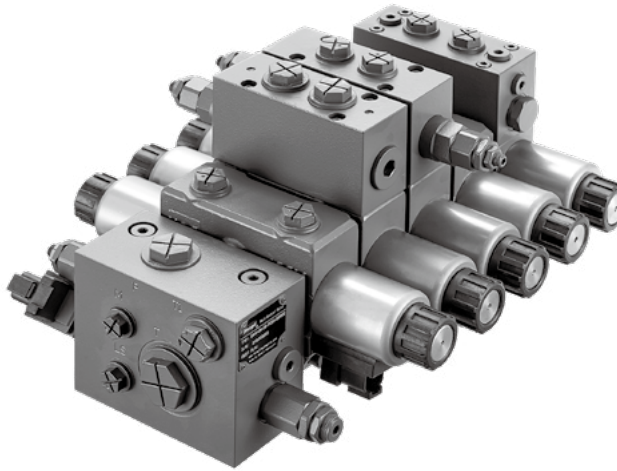
FLOW SHARING VALVE

EHV:

Nominal size:	06
Rated pressure(bar):	310
Rated flow(L/min):	60

Benefits:

- High efficiency
- Less volume, lighter weight
- Precise controllability
- Low pressure drop, less fuel consumption
- Quick response



Contents

Features

1. System:

Flow pressure independent flow distribution

Open center, for fixed displacement pump

Closed center, for load-sensing variable displacement pump

· Priority function

· Less control pressure, ΔP=15bar

· Each movements priorities adjustable

· Electrical switch and electrical proportional control

2. Structure

· Sandwich plate of design

· Max. 10 middle section

3. Pressure

· Primary and secondary pressure relief valve

· LS pressure relief valve

4.Flow

· Load pressure compensated

· High repeatability accuracy

· Low hysteresis

· Quick response

5. Applications

Aerial work platform

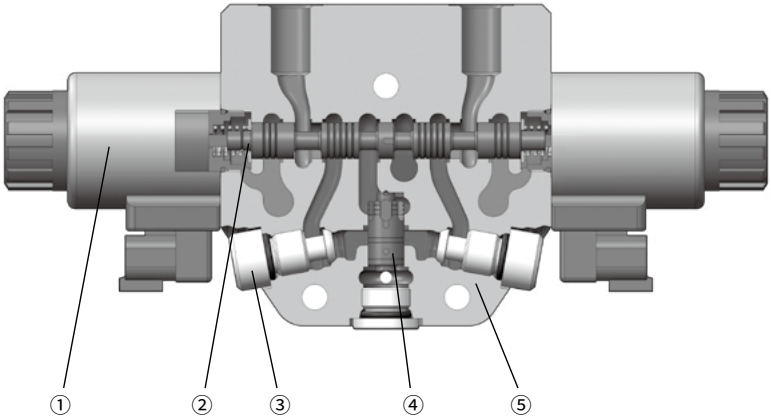
Agricultural machinery

Cranes

Telescopic handler

Wet spraying machine
(concrete machinery)

Section view



1. Solenoid
2. Main spool
3. Load check valve
4. Compensator valve
5. Valve block

Technical data

General

Structure	Stackable, load sensing, post pressure compensated		
Type of connection	ISO BSP thread, metric thread		
Mass (kg)	Inlet element		4.27/5.3
	Middle section	General	3.50
		With relief valve	5.58
		With hydraulic operated check valve	4.86
	End element		0.27

Hydraulic

Nominal size		06
Rated flow	P (L/min)	60
	A/B (L/min)	50
Rated operating pressure at port	P /LS (bar)	310
	A/B (bar)	310

Electric

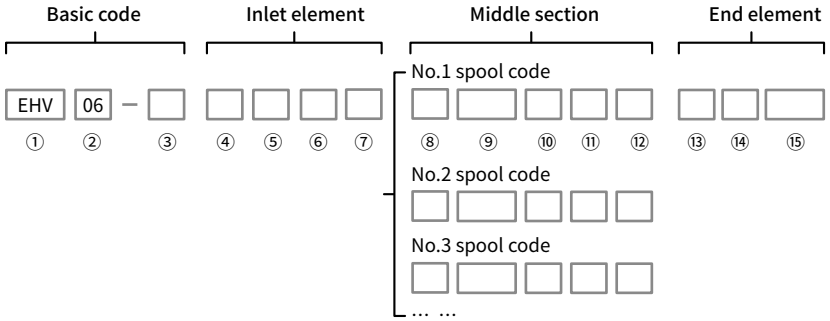
Electrical on/off: · Connection: Deutsch DT04-2P · Protection class: IP69k · Supply voltage: 12 or 24VDC	Electrical proportional: · Dither frequency required: 120Hz · Hysteresis: Less than 3% · Connection: Deutsch DT04-2P · Protection class: IP69k · Control current @12VDC: 0~1800mA, @24VDC: 0~1200mA

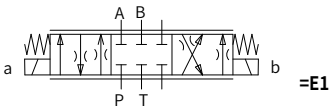
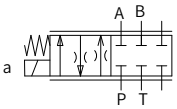
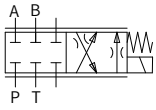
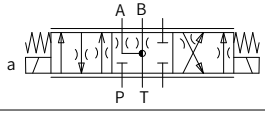
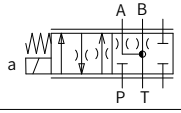
Using environment

Hydraulic fluid	Mineral oil (HL, HLP) according to DIN 51524. Other hydraulic fluids, such as HEES (Synthetic Ester) according to VDMA 24568.
Hydraulic fluid temperature range(°C)	-20 ~ +80
Viscosity range v (mm^2/s)	10 ~ 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 β10 ⩾ 70

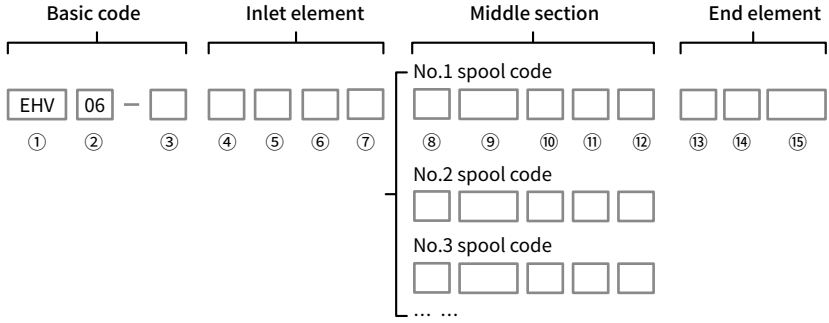
(For applications outside above mentioned parameters, please consult our sales dept.)

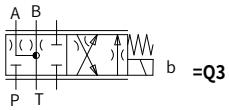
Ordering code



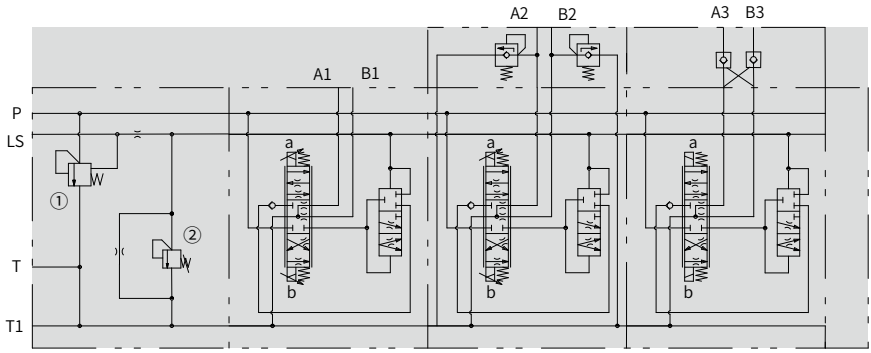
Basic code	① Structure	EHV	Stackable, load sensing, post pressure compensated
	② Nominal size		06
	③ Number of blocks	..	01~10
Inlet element	④ Circuit types	C	Closed center, for variable piston pump system
		O	Open center, for fixed displacement pump system
	⑤ Main relief valve	Q	Without main pressure relief valve
		P…	With main pressure relief valve, (pressure in bar, 3-digits)
	⑥ LS relief valve	Q	Inlet element without LS pressure relief valve (LS relief valve plug)
		S…	Inlet element with LS pressure relief valve (pressure in bar, 3-digits)
	⑦ LS unload	LZ	Without LS unload function
		LA	With LS unload function: normal open
		LB	With LS unload function: normal close
Middle section	⑧ Spool symbol	E1	 =E1
		E2	 =E2
		E3	 =E3
		Q1	 =Q1
		Q2	 =Q2

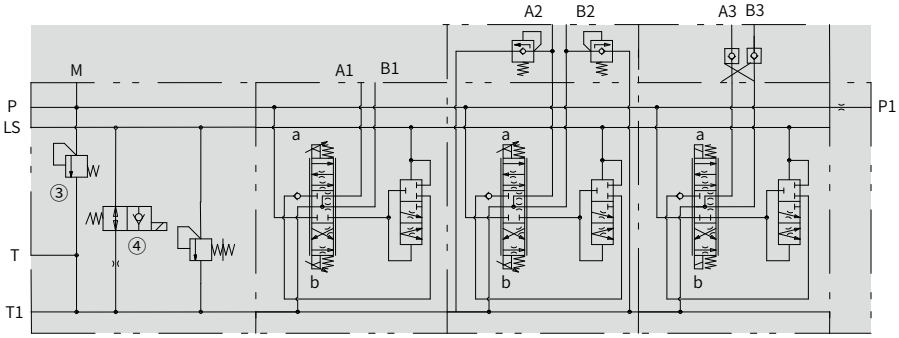
Ordering code



Middle section	⑧ Spool symbol	Q3	 =Q3
	⑨ A/B flow	..—..	Flow in l/min, 2-digits, e.g. 50-50
	⑩ Operator type	W21	Electrical proportional control, 24V, (optional with manual override button)
		W23	Electrical proportional control, 12V (optional with manual override button)
		W41	Electrical switch control, 24V (optional with manual override button)
		W43	Electrical switch control, 12V (optional with manual override button)
	⑪ A/B port relief valve	Blank	Without port relief valve
		QQ	Plug, without relief valve (port relief valve can be added)
		H...H...	H200H200, pressure in bar, pressure details of port relief valve in 3 digits
	⑫ AB hydraulic operated check valve	OO	Without hydraulic operated check valve
		AB	The AB port has a hydraulic operated check valve
		AO	Only A port has a hydraulic operated check valve
		OB	Only B port has a hydraulic operated check valve
End element	⑬ Additional P port	Blank	Without additional P port
		P	With additional P port
Others	⑭ Sealing type	V	FKM
		N	NBR
	⑮ Design code	001	
*	Other request	Further requirement in the clear text	

Hydraulic diagram





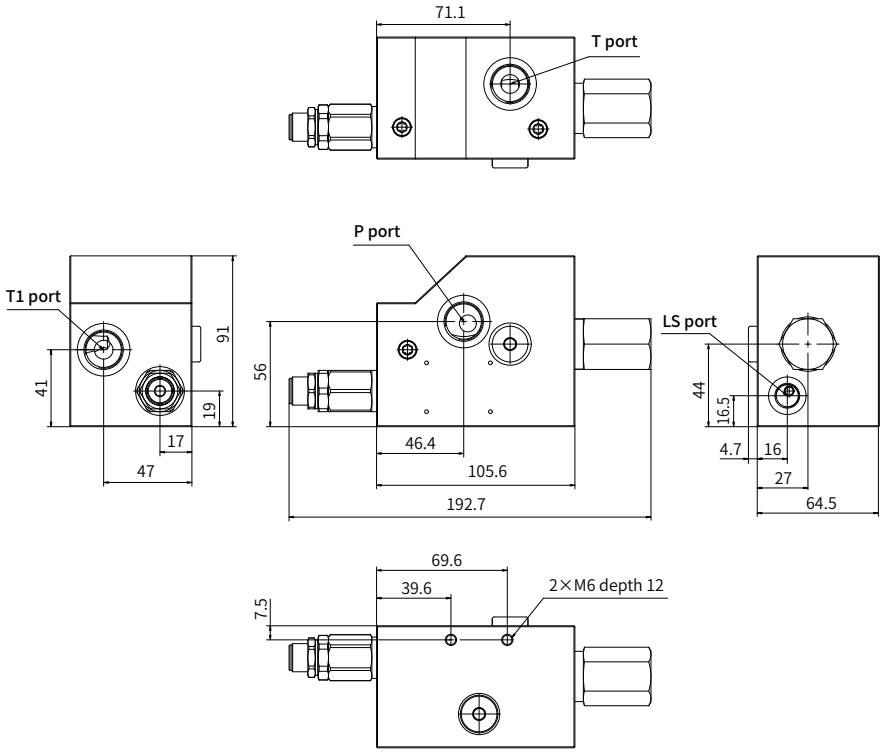
① Three-way flow unloading valve (suitable for quantitative pump system)

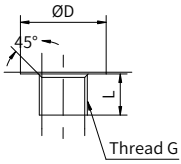
② LS relief valve

③ Main pressure relief valve（suitable for variable pump system）

④ LS unload valve

Inlet section assembly

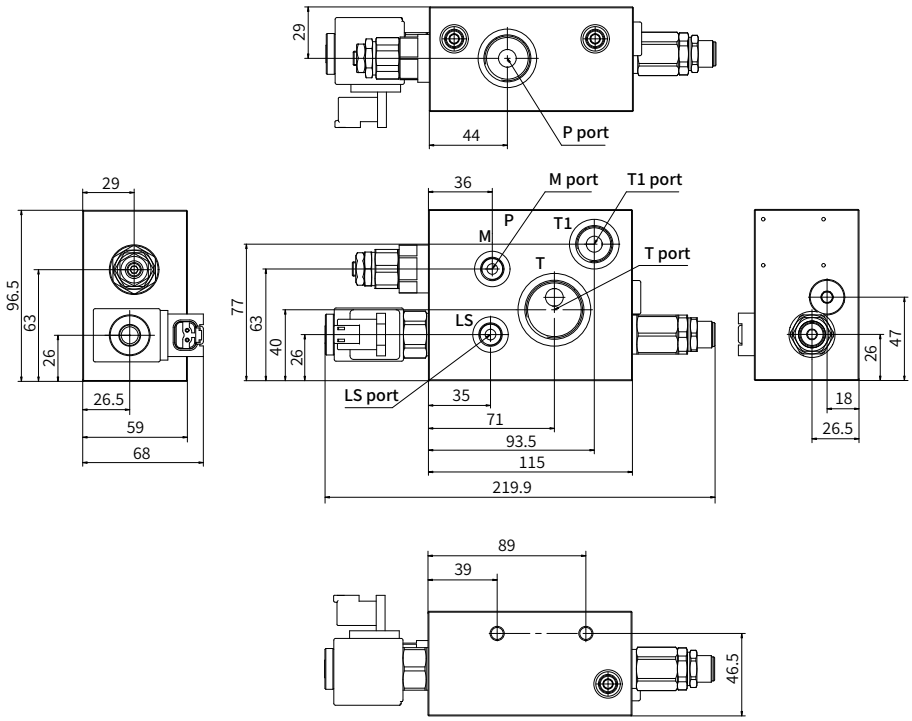


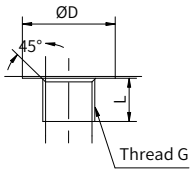


Port dimension		Thread dimensions		
P port:	G1/2	G1/2:	∅ D 28	L 15
T、T1 port:	G1/2	G1/4:	∅ D 20	L 12.5
LS port:	G1/4			

01

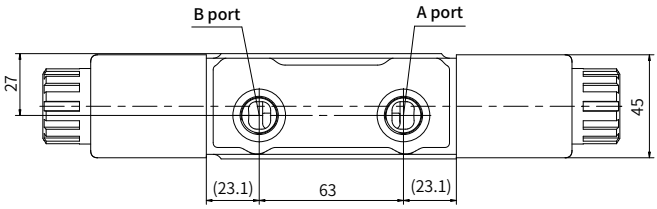
Inlet section assembly-With LS solenoid operated unloading valve

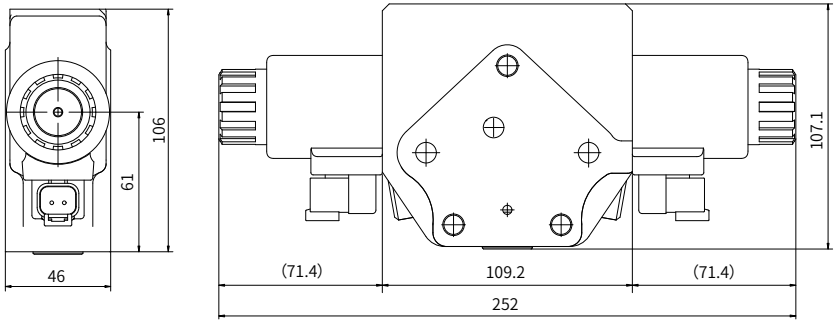


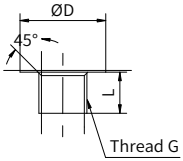


Port dimension		Thread dimensions		
P port:	G3/4	G3/4:	∅ D 33	L 16.5
T port:	G1	G1:	∅ D 41	L 19
T1 port:	G1/2	G1/2:	∅ D 28	L 15
LS port:	G1/4	G1/4:	∅ D 20	L 12.5
M port:	G1/4			

Middle section assembly

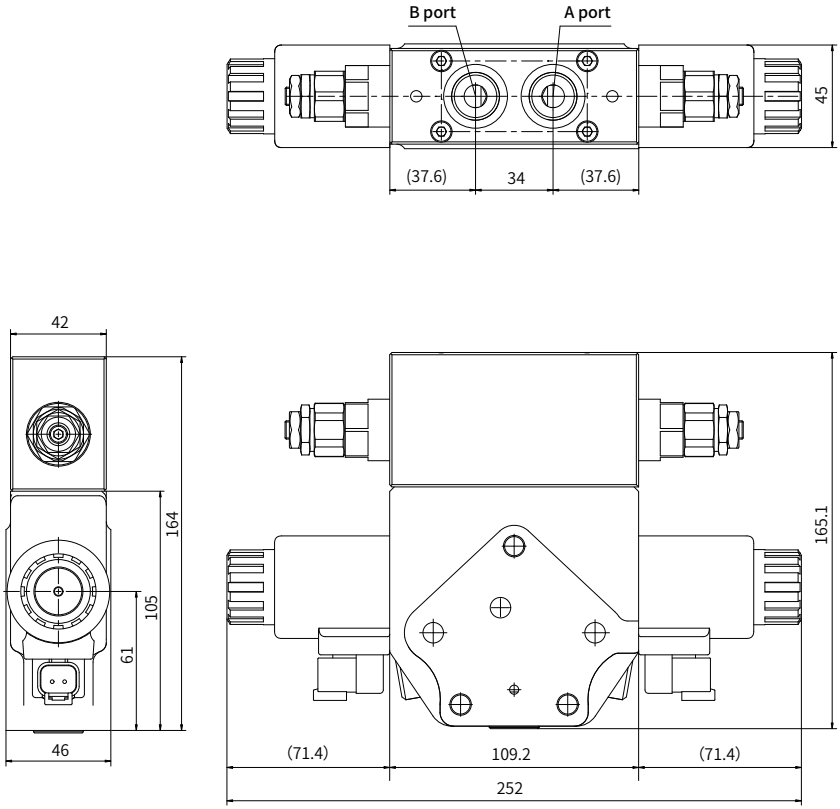


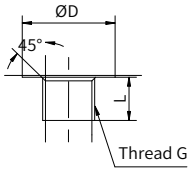




Port dimension		Thread dimensions		
A/B port:	G3/8	G3/8:	Ø D 23	L 12.5
	or G1/2	G1/4:	Ø D 20	L 12.5

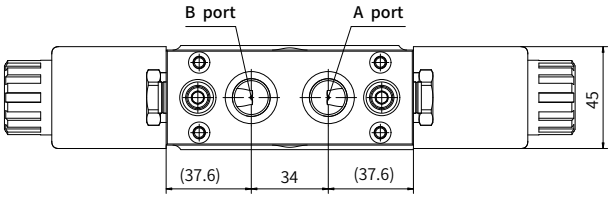
Middle section assembly-With relief valve

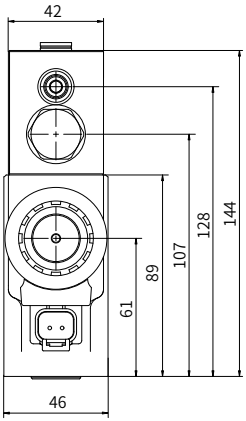


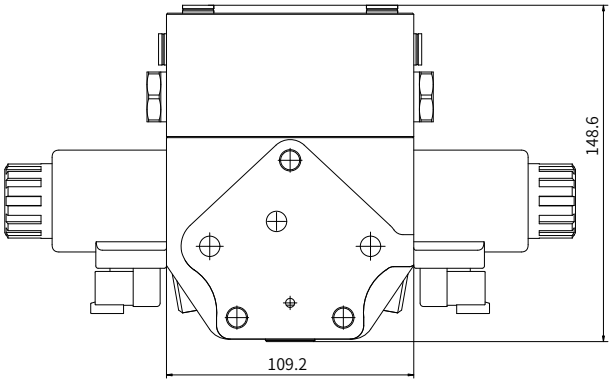


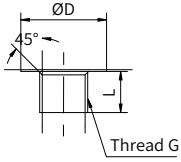
Port dimension		Thread dimensions		
A/B port:	G3/8	G3/8:	Ø D 23	L 12.5
	or G1/2	G1/2:	Ø D 28	L 15

Middle section assembly-With hydraulic operated check valve





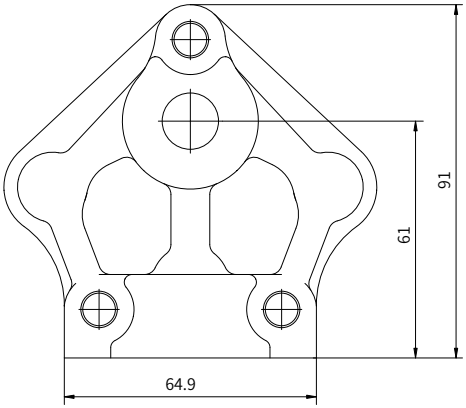


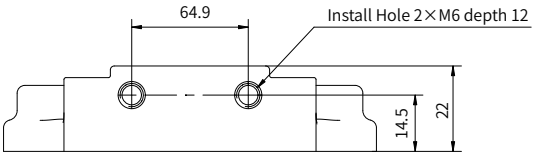


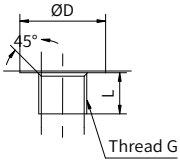
Port dimension
A/B port: G3/8

Thread dimensions
G3/8: Ø D 23 L 12.5

Endlet section assembly







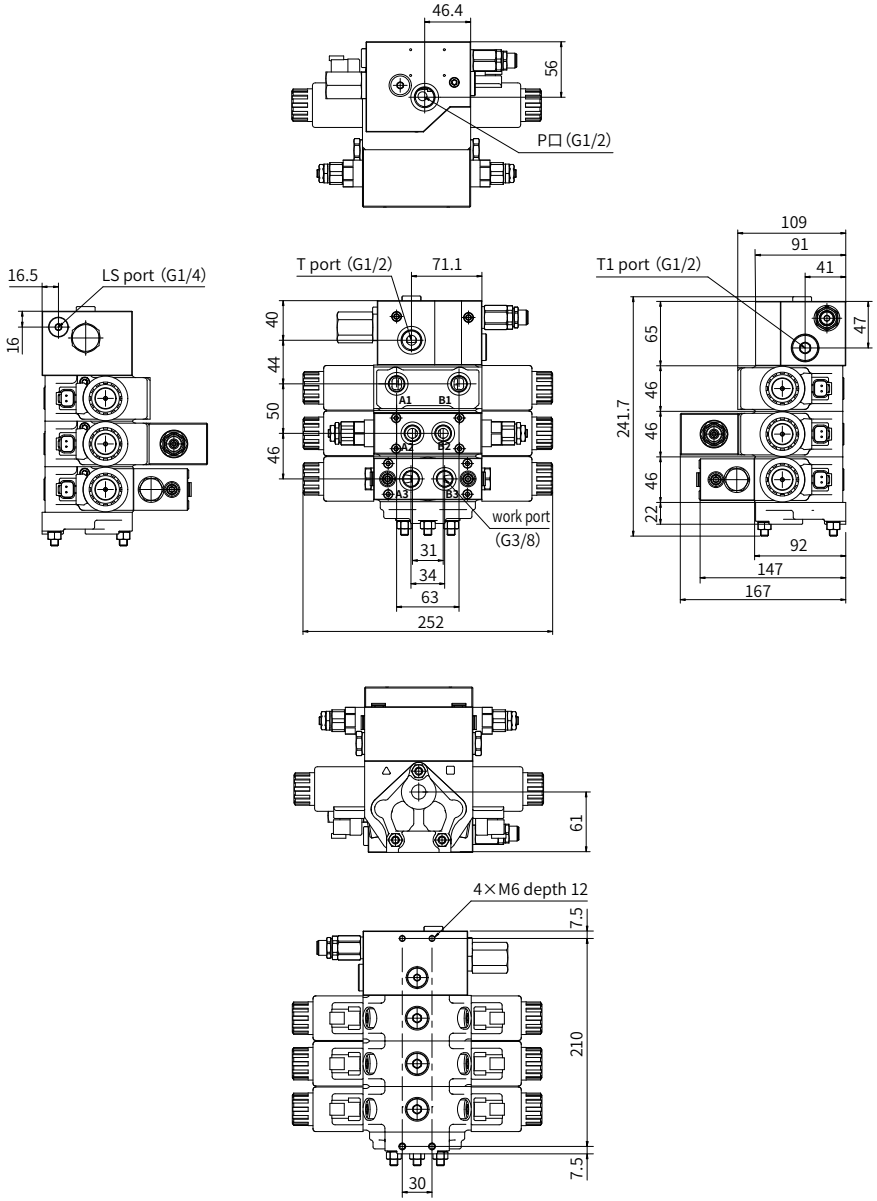
Port dimension

P port: G3/8

Thread dimensions

G3/8: Ø D 23 L 12.5

Unit dimensions



1.6.2

EHV SERIES

FLOW SHARING VALVE

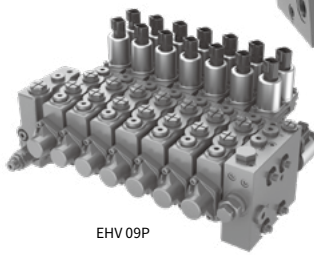
EHV:

Nominal size	09S	09P	12	18
Rated pressure(bar) pump side/actuator side	280/320	280/340	320/340	320/340
Rated flow(L/min)	90	90	120	180

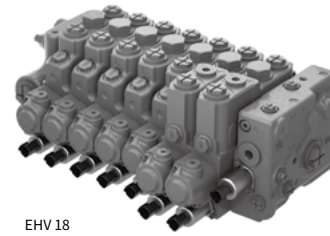
Benefits:

- High efficiency
- Less volume, lighter weight
- Precise controllability
- Low pressure drop, less fuel consumption
- Comfort and coordination

EHV 12



EHV 09P



EHV 18

Contents

Features

1. System:

Load pressure independent flow distribution

·Anti-drop valve

·Regeneration capability

·Low control pressure, ΔP=15bar

·Adjustable priority order of each movement

·Hydraulic pilot control，Electrical switch and electrical proportional control

2. Structure:

·Sandwich plate of design

3. Pressure:

·LS relief valve

·Secondary pressure relief valve

4. Flow:

·Load pressure compensated

·High repeatability accuracy

·Low hysteresis

5. Applications:

Excavators

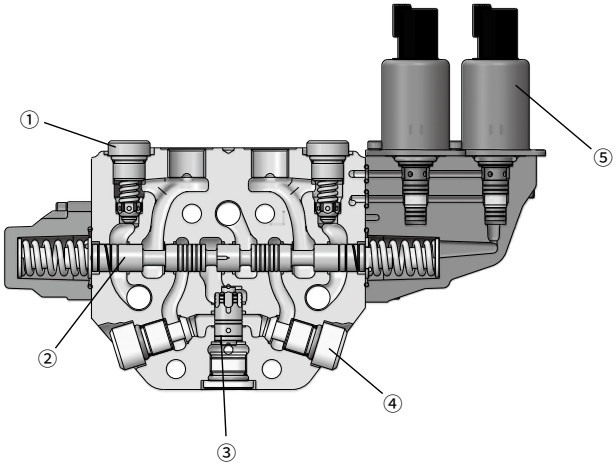
Telescopic handler

Aerial work platform

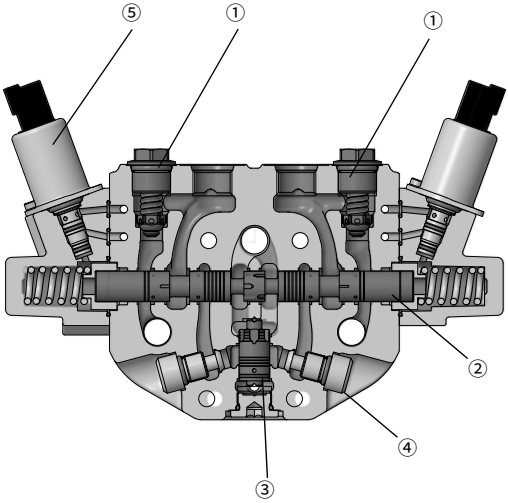
Drilling rigs

Section view

· EHV 09P/09S

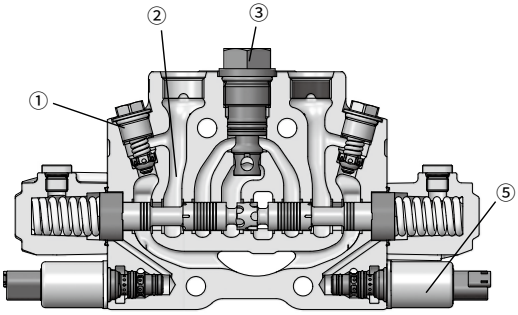


· EHV 12



Section view

· EHV 18



1. Relief valve
2. Spool
3. Compensator valve
4. Load check valve
5. Solenoid Valve

Technical data

General

Structure	Stackable, proportional, load sensing, post pressure compensated					
			09S	09P	12	18
Connection type			ISO1179-1		JISB2351-1	
Mass (kg)	Inlet element		3.4		7.92	9.2
	Middle section	Hydraulic operation	3.4	2.7	3.97	7.5
		E-H operation	2.9	3.3		7.8
	End element		3.2		7.04	5.7

Hydraulic

Nominal Size		09S	09P	12	18
Rated flow	Q (L/min)	90 (ΔP=15bar)	90 (ΔP=15bar)	120 (ΔP=15bar)	180 (ΔP=15bar)
Max. operating pressure at port	P /LS (bar)	280	280	320	320
	A/B (bar)	320	340	340	340
	T (bar)	30			
	TS (bar)	Less than 2			
Pilot pressure	a/b (bar)	Less than 35			
	X (bar)	35~50bar			

Electric

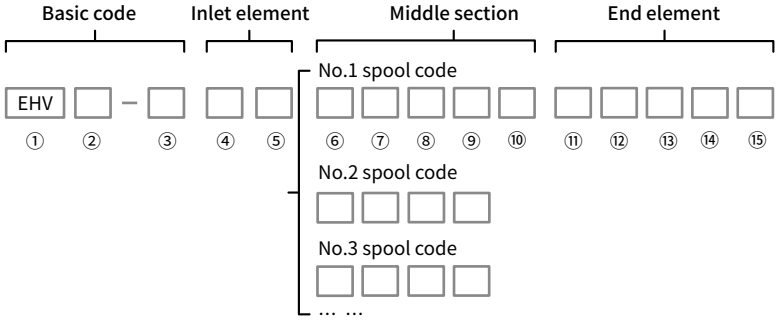
Electrical on/off: · Connection: Deutsch DT04-2P · Protection class: IP69k · Supply voltage: 12 or 24VDC	Electrical proportional: · Dither frequency required: 100-200Hz · Connection: Deutsch DT04-2P/AMP Junior-Timer · Protection class: IP69k · Control current @12VDC：0~1500mA; @24VDC：0~750mA

Using environment

Hydraulic fluid	Mineral oil (HL, HLP) according to DIN 51524. Other hydraulic fluids,such as HEES (Synthetic Ester) according to VDMA 24568.
Hydraulic fluid temperature range(°C)	-20 to +90
Viscosity range v (mm2/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 β10 ⩾ 75

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

Ordering code



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	② Nominal size		09S	09P	12	18
	③ Number of blocks	..	01~10			
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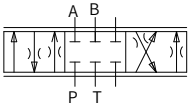
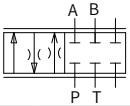
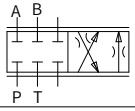
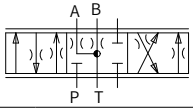
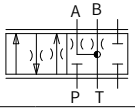
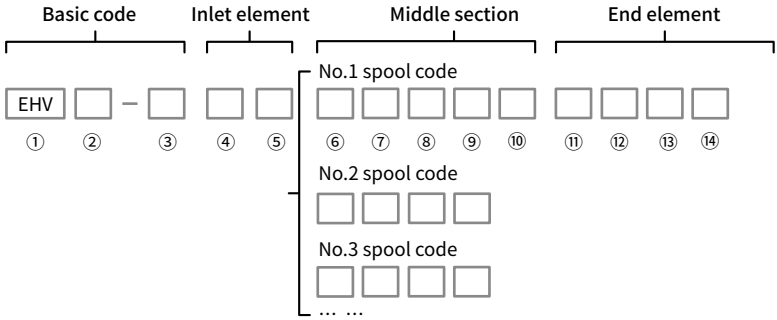
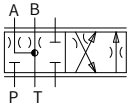
		O	Open center, for fixed displacement pump system			
	⑤ LS relief valve	Q	Without LS pressure relief valve			
		S…	with LS pressure relief valve (pressure in bar, 3-digits)			
Middle section	⑥ Spool symbol	E1	 =E1			
		E2	 =E2			
		E3	 =E3			
		Q1	 =Q1			
		Q2	 =Q2			

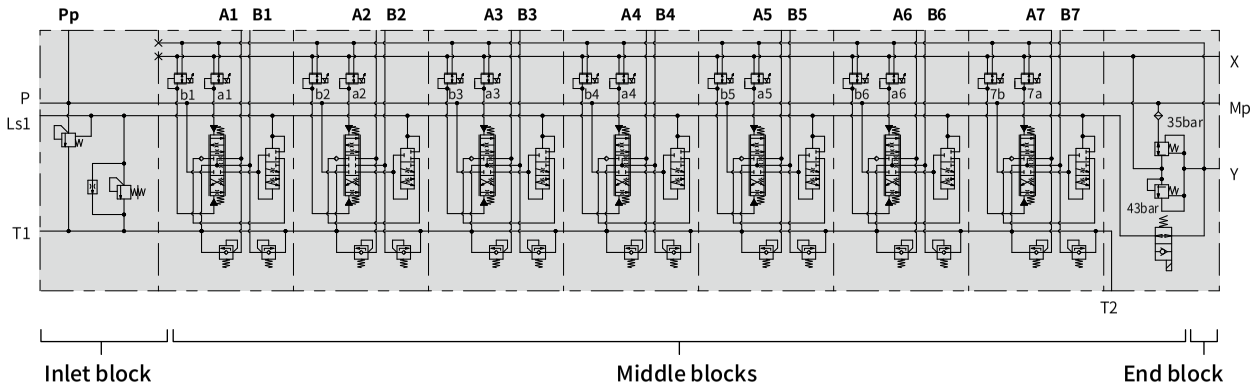
Ordering code



Middle section	⑥ Spool symbol	Q3	 =Q3		
	⑦ A/B flow	..—..	Flow in l/min, 2-digits, e.g. 50-50		
	⑧ Pipe Burst Safety Valve	Q	Without anti-drift valve		
		L	With anti-drift valve		
	⑨ Operator type	H	Hydraulic		
		W21	Electrical proportional control, 24V		
		W23	Electrical proportional control, 12V		
		W41	Electrical switch control, 24V		
		W43	Electrical switch control, 12V		
	⑩ A/B port relief valve	Blank	Without port relief valve		
		QQ	Plug, without relief valve (port relief valve can be added, Maximum flow: 09 series 55L/min，18 series 100L/min)		
		G...G...	G200G200, pressure in bar, pressure details of port relief valve in 3 digits		
End element	⑪ LS unload	LZ	Without LS unload function		
		LA	With LS unload function		
	⑫ Pilot pressure supply	X	Internal pilot pressure supply		
		Y	External pilot pressuresupply		
Others	⑬ Sealing type	V	FKM		
		N	NBR		
	⑭ Design code	001			
	⑮ Special application	Blank	Without special requirement	-450	Without aluminum material
*	Other request	Further requirement in the clear text			

Hydraulic diagram

· EHV 09P



Inlet block

- Unload valve
- LS relief valve
- LS constant flow valve

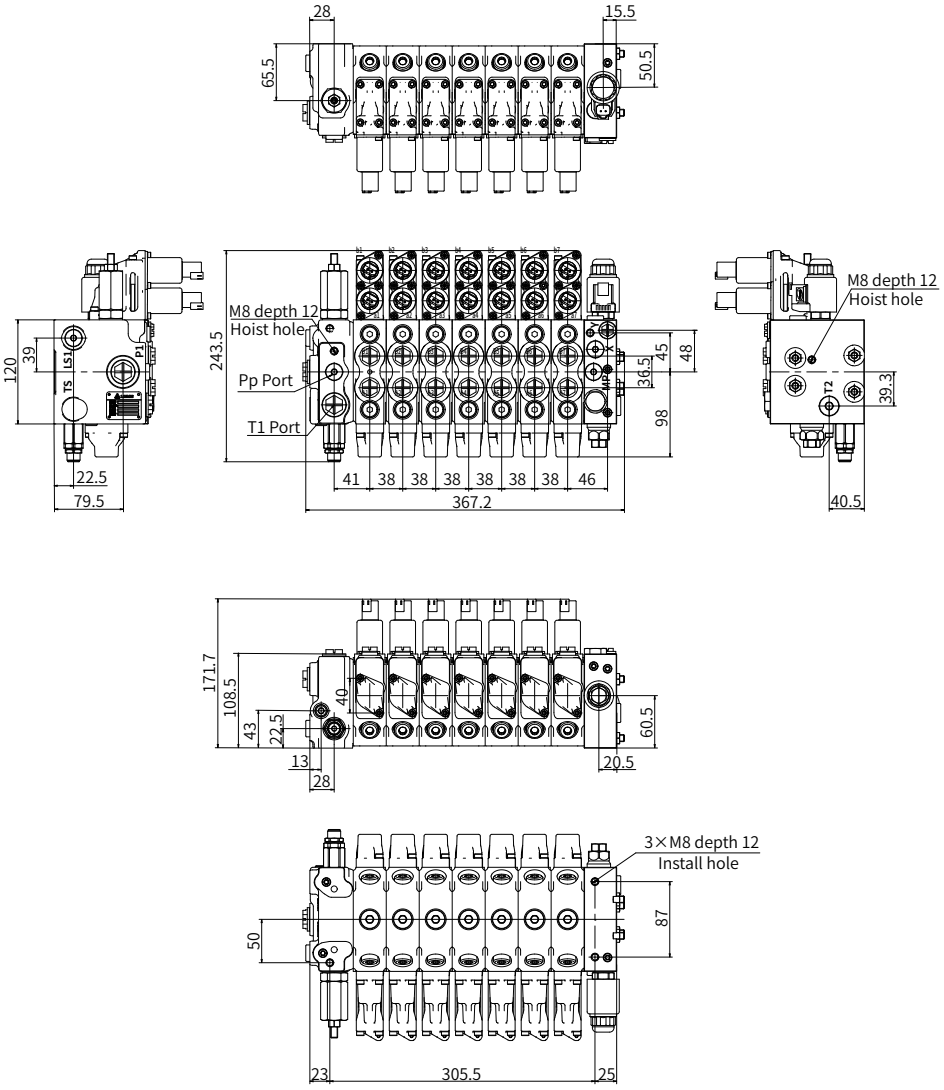
End block

- LS unload valve
- Pressure reducing valve

If need to adjust the order of the blocks, please consult us.

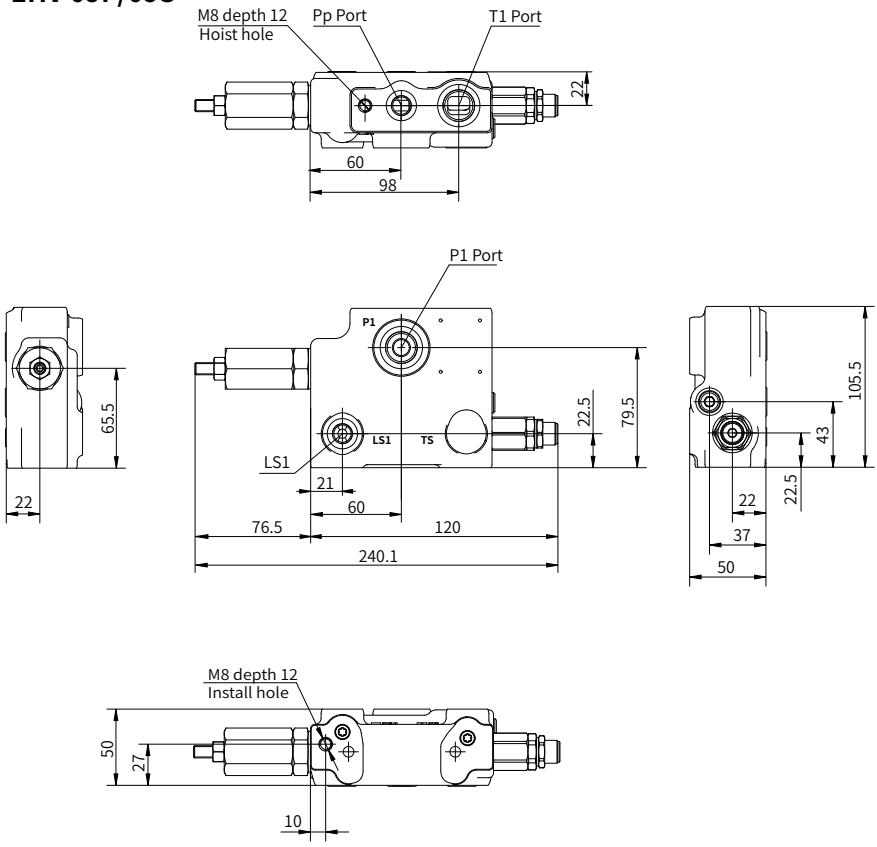
Unit dimensions

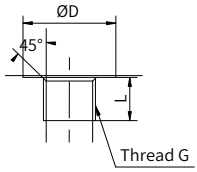
· EHV 09P



Inlet section assembly

· EHV 09P/09S

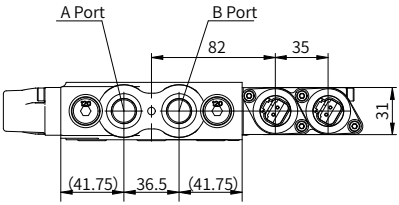


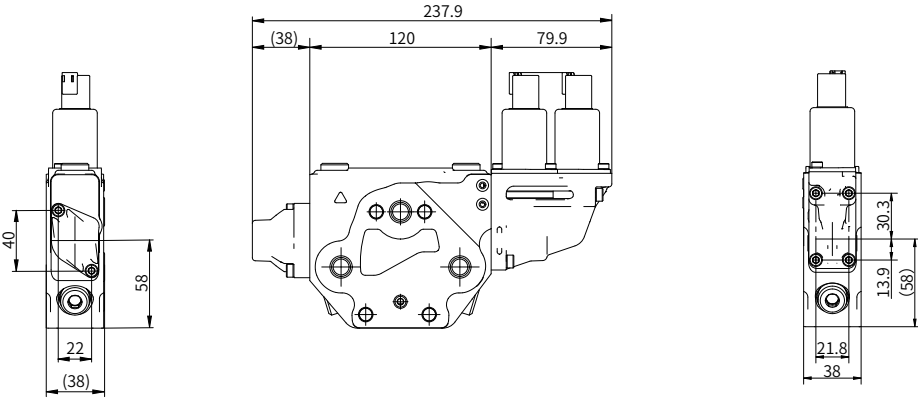


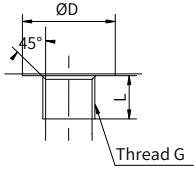
Port dimension	Thread dimensions
P1 port: G1/2	G1/2: Ø D 28 L 15
T1 port: G1/2	G1/4: Ø D 20 L 12.5
LS port: G1/4	

Middle section assembly

· EHV 09P







Port dimension

A/B port：G3/8 or G1/2

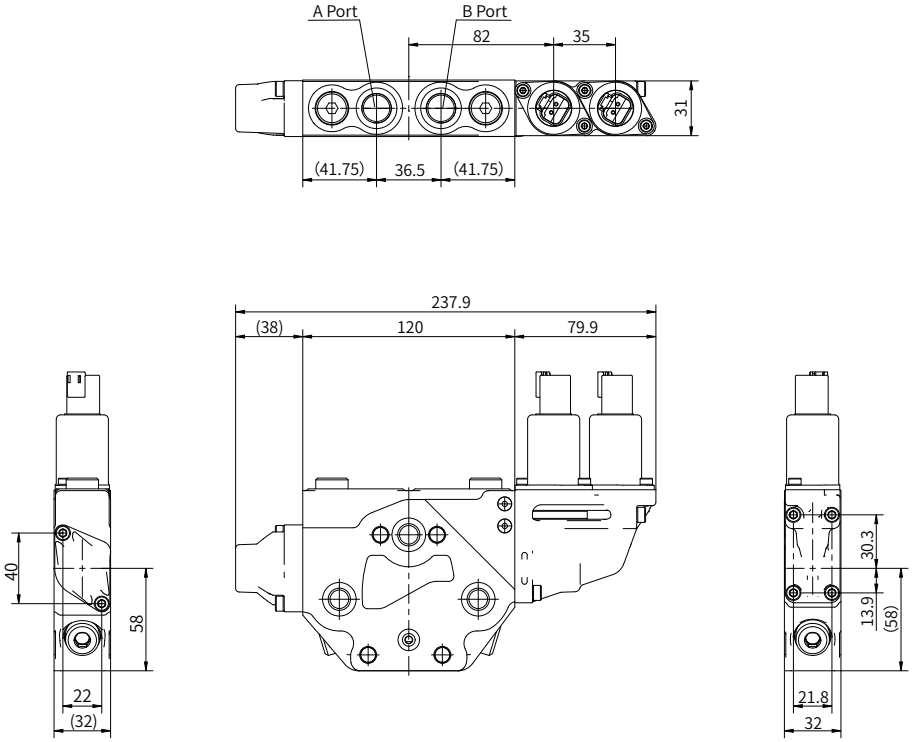
Thread dimensions、

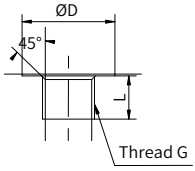
G3/8：	∅ D 23	L 12.5
G1/2：	∅ D 28	L 15

/22

Middle section assembly

· EHV 09S





Port dimension

A/B port：G3/8 or G1/2

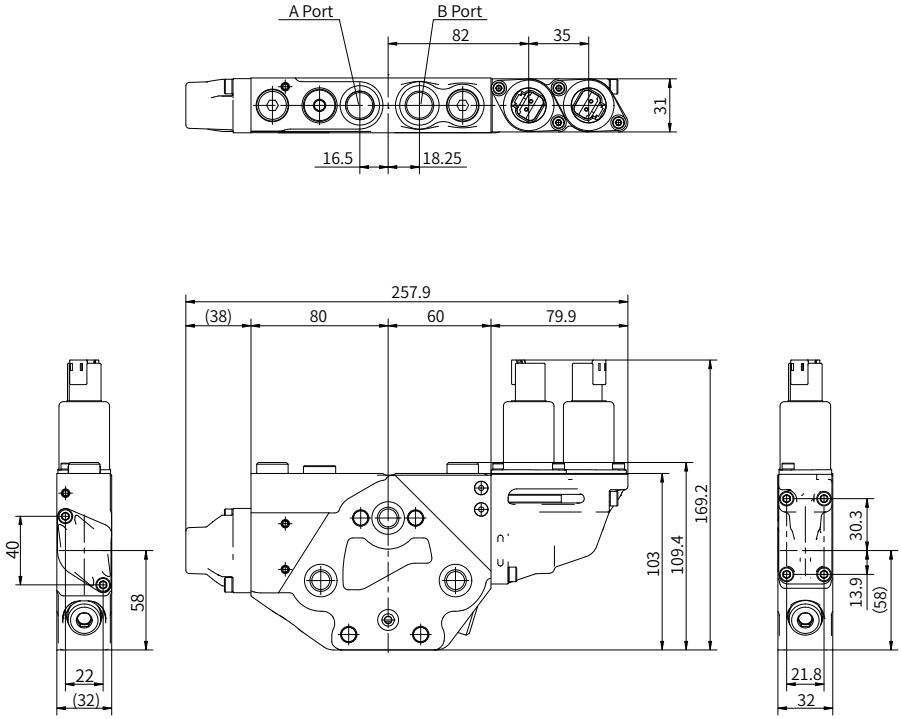
Thread dimensions、

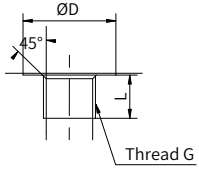
G3/8： Ø D 23 L 12.5

G1/2： Ø D 28 L 15

Middle section assembly （With holding valve）

·EHV 09S





Port dimension

A/B port：G3/8 or G1/2

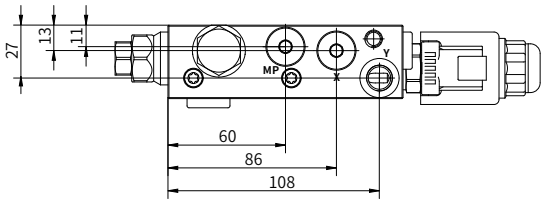
Thread dimensions、

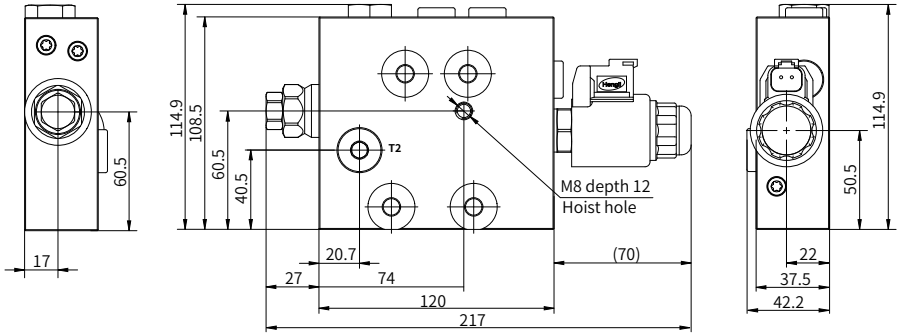
G3/8： Ø D 23 L 12.5

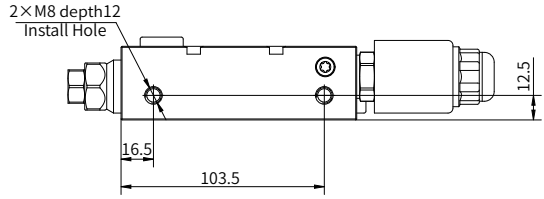
G1/2： Ø D 28 L 15

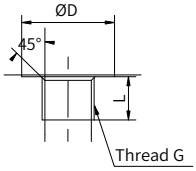
Endlet section assembly

·EHV 09P/09S









Port dimension

T2 port：G1/2

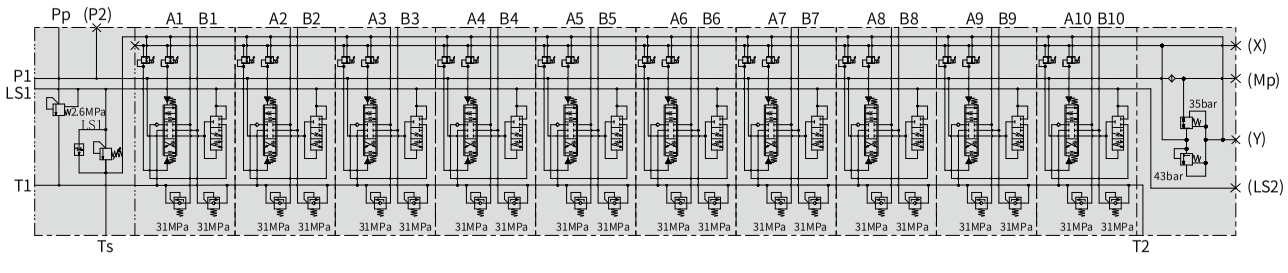
X, Y, MP port：G1/4

Thread dimensions

G1/2:	Ø D 28	L 15
G1/4:	Ø D 20	L 12.5

Hydraulic diagram

· EHV 12



Inlet block

- Unload valve
- LS relief valve
- LS constant flow valve

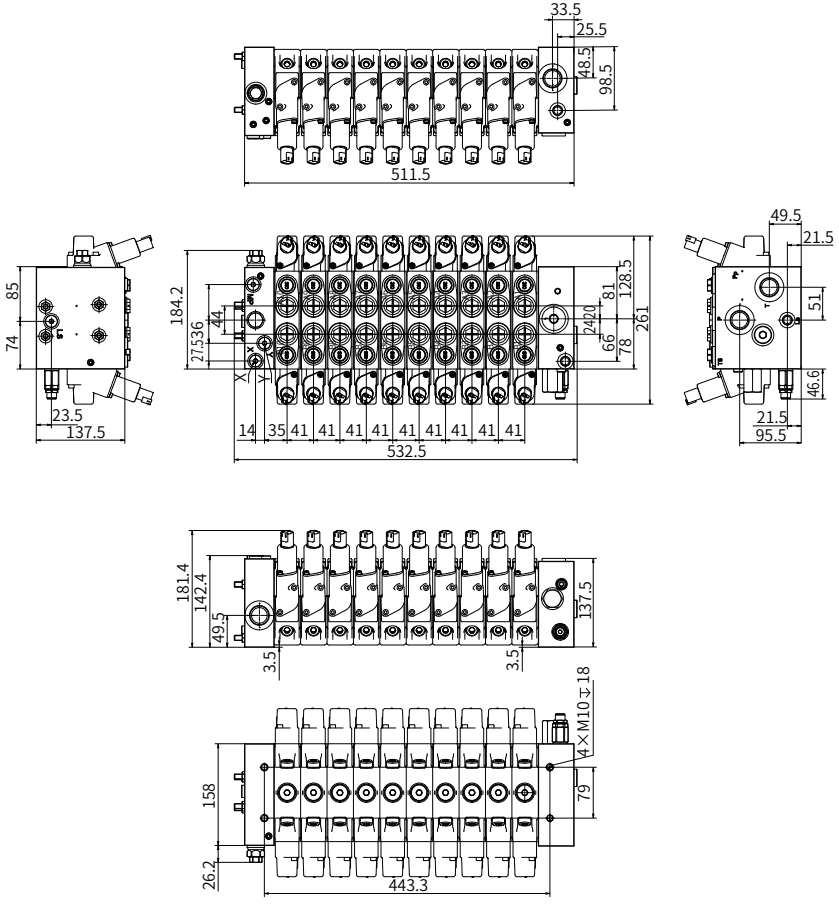
End block

- LS unload valve
- Pressure reducing valve

If need to adjust the order of the blocks, please consult us.

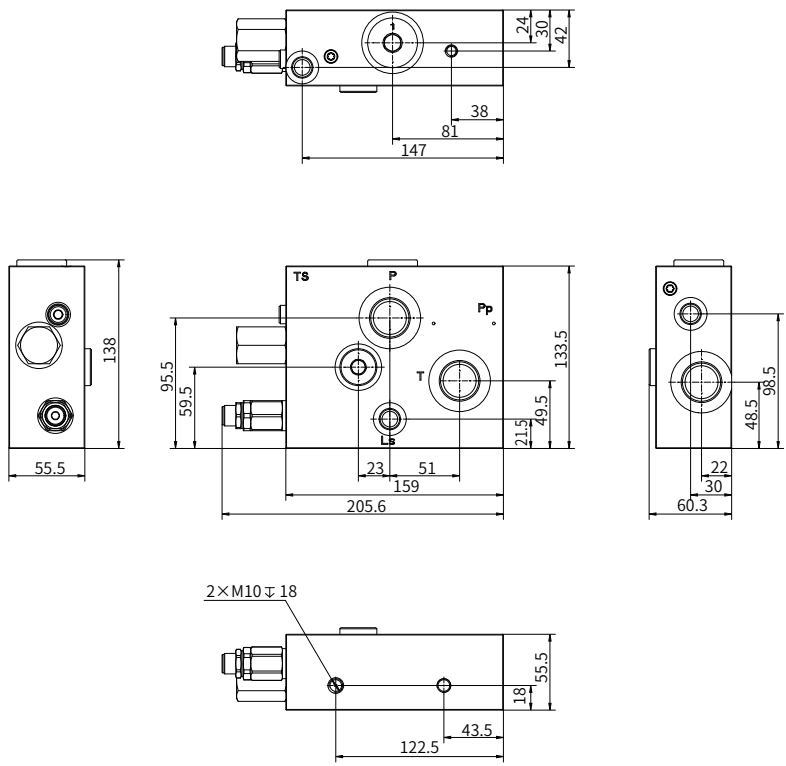
Unit dimensions

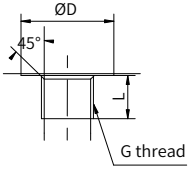
·EHV 12



Inlet section assembly

· EHV 12

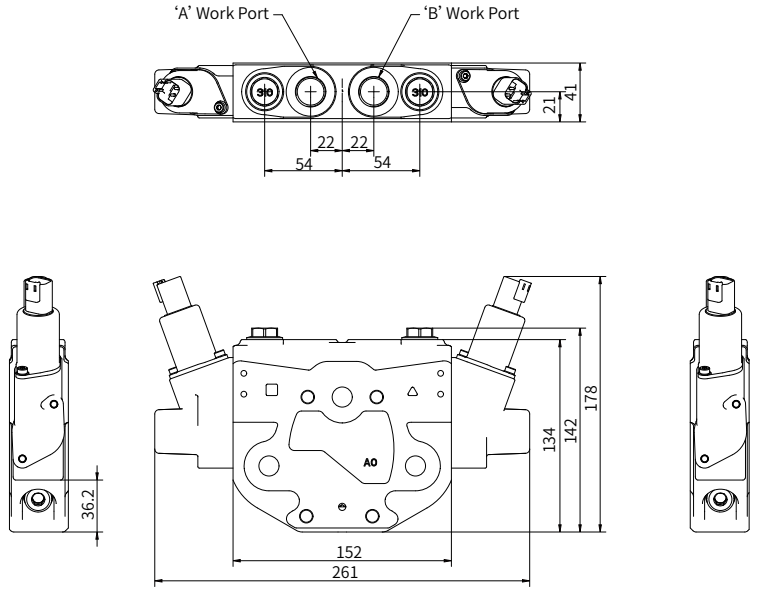


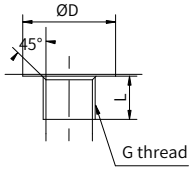


Port dimension	Thread dimensions
P/T port: G3/4	G3/4: Ø D 45 L 20
PP/LS port: G1/4	G1/4: Ø D 24 L 12

Middle section assembly

·EHV 12

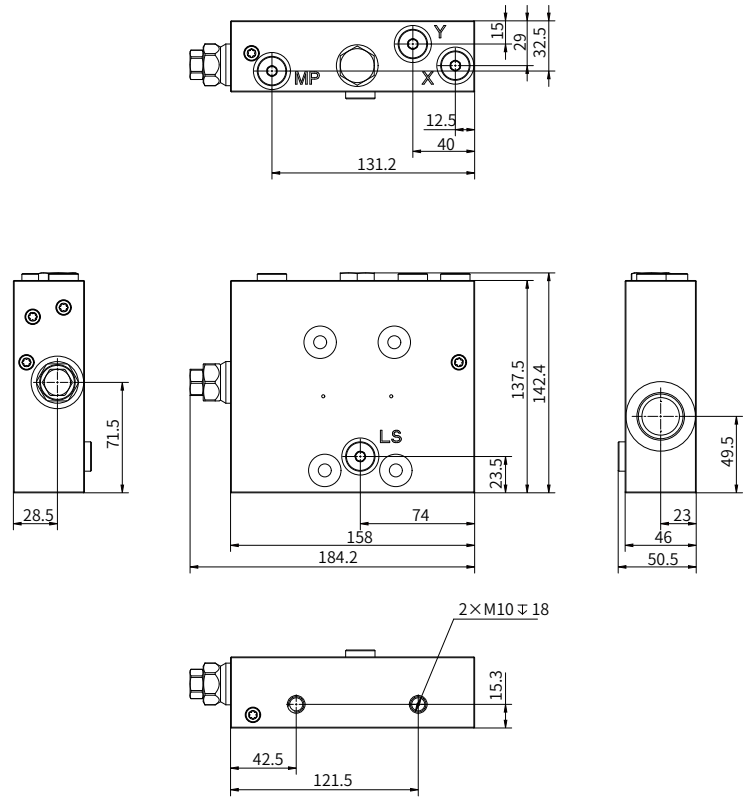


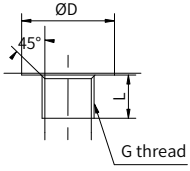


Port dimension	Thread dimensions
A/B port: G1/2	G1/2: Ø D 34 L 16

Endlet section assembly

· EHV 12





Port dimension	Thread dimensions
X/Y/LS/MP port：G1/4	G1/4: Ø D 24 L 12
T port：G3/4	G3/4: Ø D 45 L 20

Hydraulic diagram

· EHV 18

Inlet block

· Unload valve
· LS relief valve
· LS constant flow valve

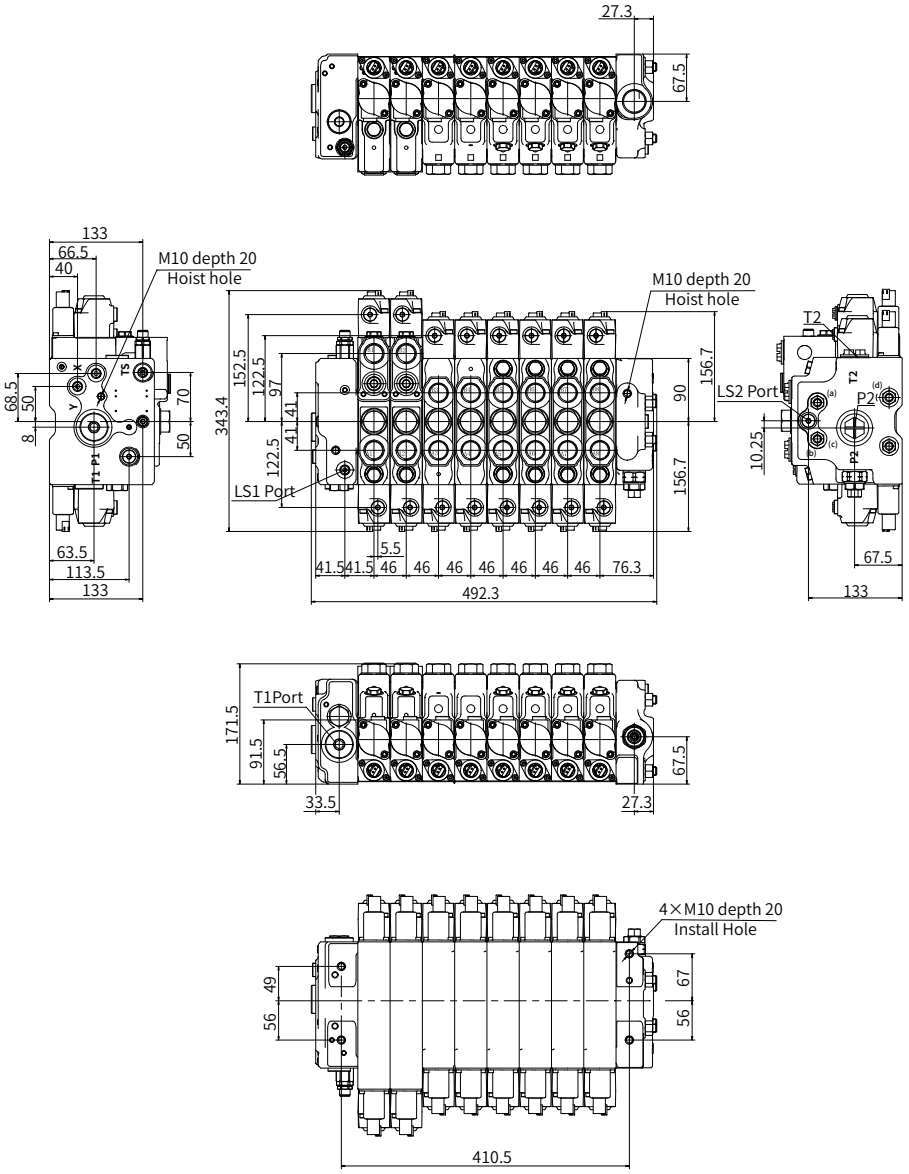
End block

· Main pressure relief valve

If need to adjust the order of the blocks, please consult us.

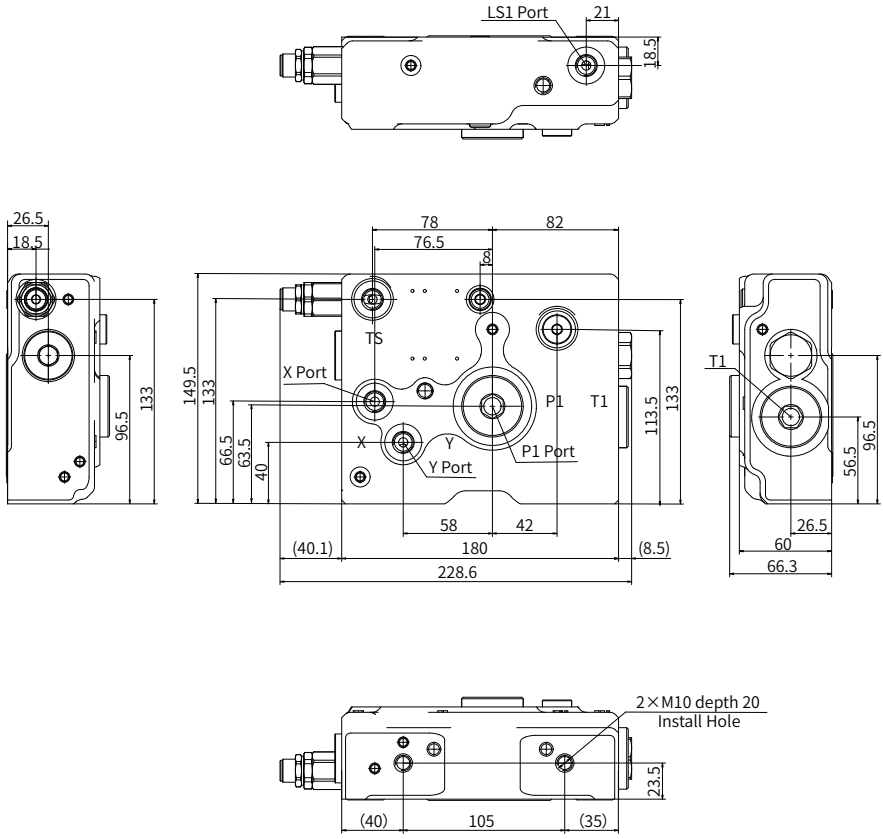
Unit dimensions

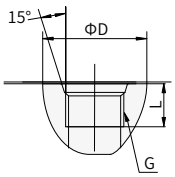
·EHV 18



Inlet section assembly

·EHV 18





Port dimension

P port：G1

T port：G1

LS1, TS port：G1/4

X, Y, MP port：G1/4

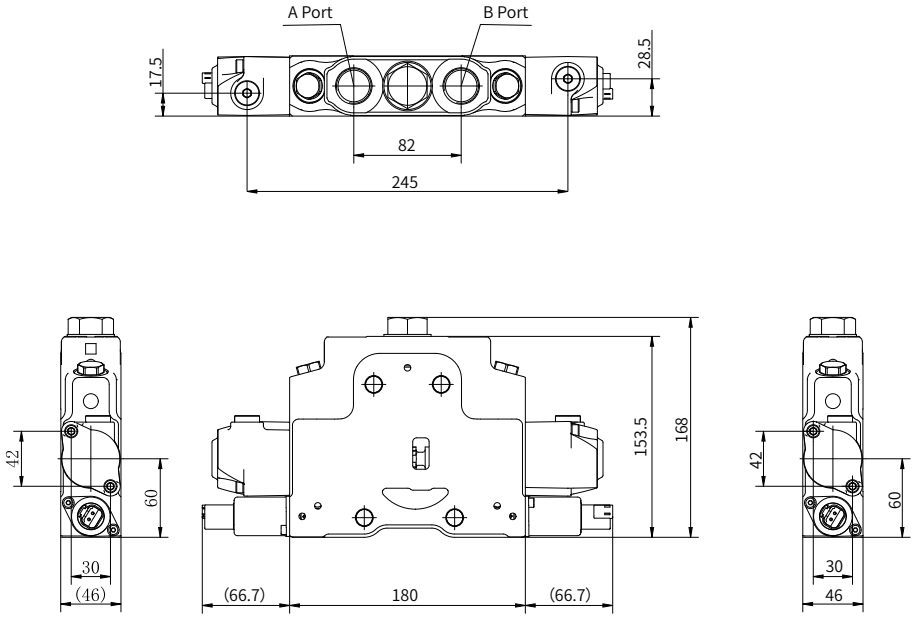
Thread dimensions

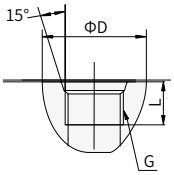
G1： Ø D 51 L 21

G1/4： Ø D 24 L 12

Middle section assembly

· EHV 18

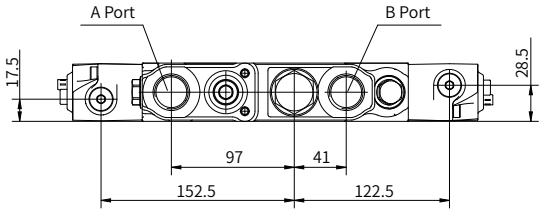


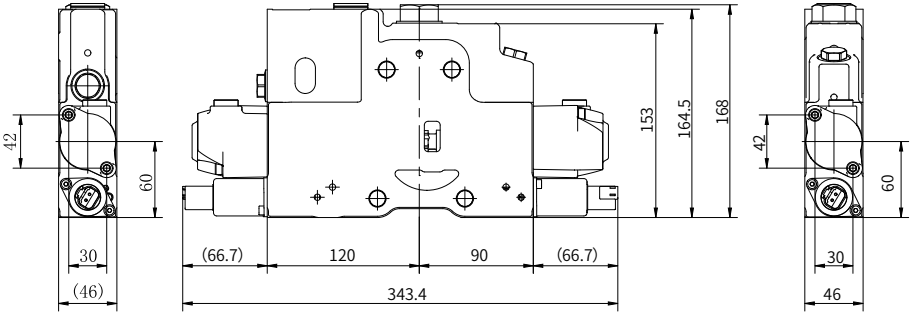


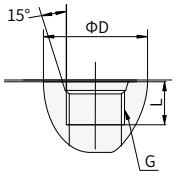
Port dimension	Thread dimensions
A/B port: G3/4	G3/4: ∅ D 45 L 20

Middle section assembly（With holding valve）

·EHV 18







Port dimension

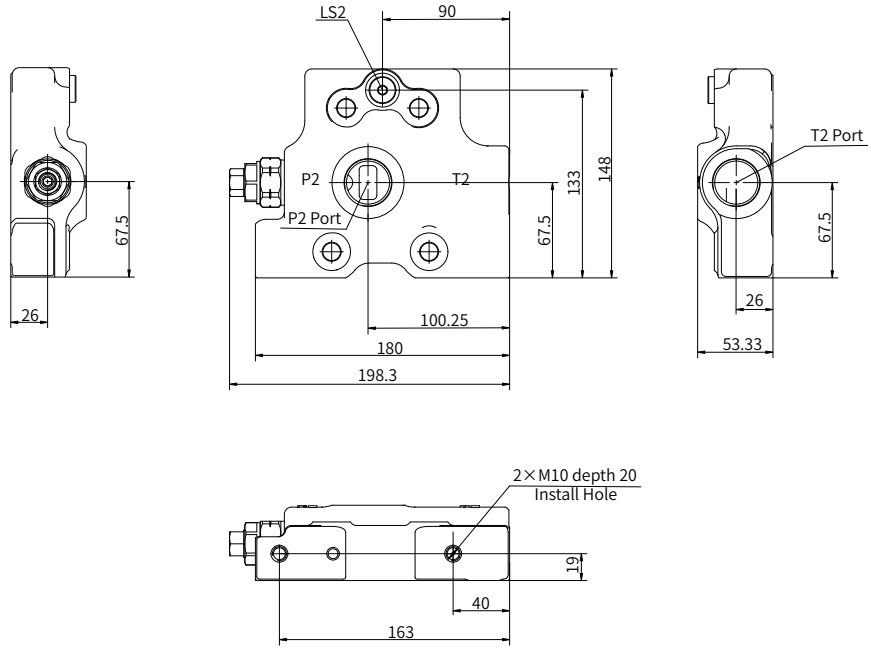
A/B port：G3/4

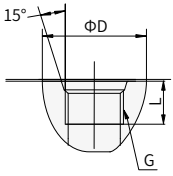
Thread dimensions

G3/4： ∅ D 45 L 20

Endlet section assembly (With main pressure relief valve)

· EHV 18





Port dimension	Thread dimensions
P2, T2 port: G1	G1: ∅ D 51 L 21
LS2 port: G1/4	G1/4: ∅ D 24 L 12

Endlet section assembly （With pressure reducing valve）

·EHV 18