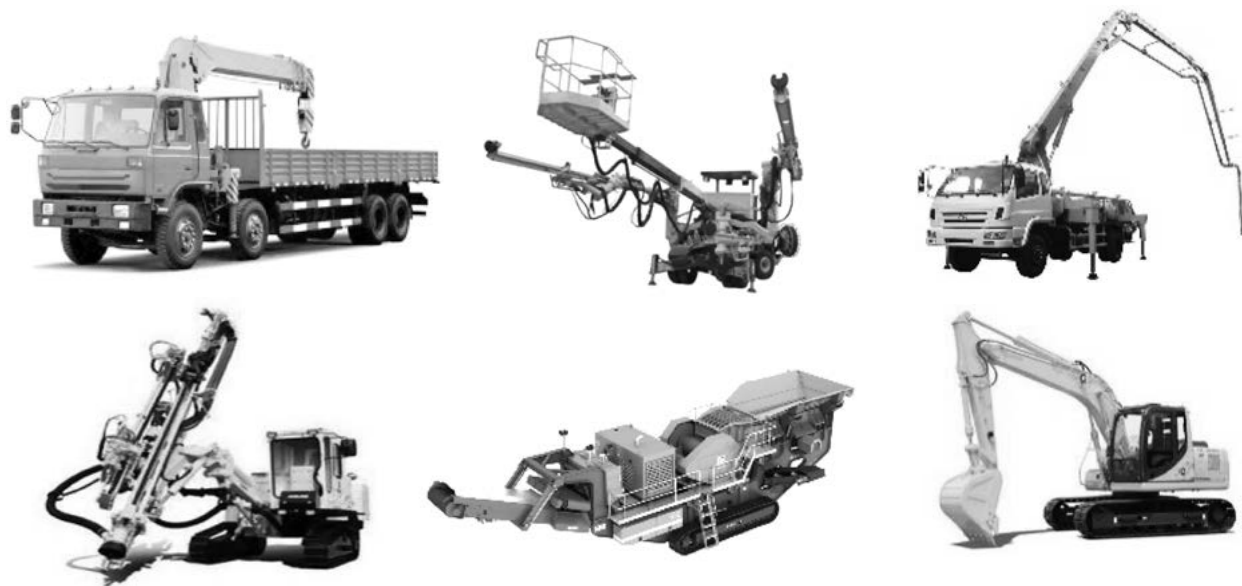


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Quick Reference Guide

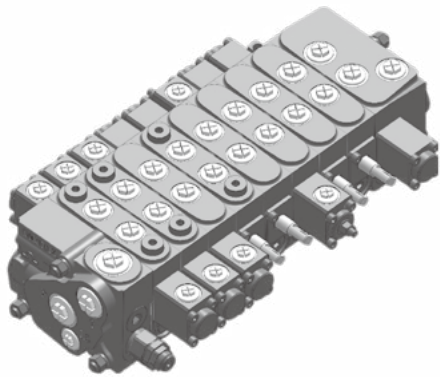
Valves series	TRM10	TRS10	TEV06	TRM15	TRM15A	TRM17	TRS15	TRM20	TRM20E
Number of working sections	1–10	1–10	1–10	1–10	1–10	1–10	1–10	1–10	1–10
Spool stroke (mm)	6	6	3	7	7	7	8	8	8
Working section thickness (mm)	32	32	46	38	42	42	38.6	50	46
Max. inlet flow (L/min)	80	90	90	120	120	140	140	180	180
Max. working flow (L/min)	50	50	65	100	100	120	110	160	160
Max. inlet pressure (bar)	320	320	320	320	320	320	320	320	320
Flow sharing type	●	●	●	●	●	●	●	●	●
Open centre type									
Load sensitive type									
Hydraulic control	●	●	●	●	●		●	●	●
Manual, mechanical control	●	●	●	●	●	●	●	●	●
Electrohydraulic control	●		●		●				●
Typical application	1.5–3.5t excavator	1.5–3.5t excavator	Aerial work platform	4–6t excavator	Electrical controlled construction machinery	Truck mounted crane	4–6t excavator	7–10t excavator	7–10t excavator

Quick Reference Guide

Valves series	TRS20	TRM25	TRM36	THD12	TET16	TRP12	TRP15	TRPA15F	TPSL3	TRP22
Number of working sections	1-10	1-6	1-6	1-12	1-12	1-12	1-12	1-12	1-12	1-6
Spool stroke (mm)	8	11	13	6	8	7	8	8	8	8
Working section thickness (mm)	60	72	82	31	38	48	51	44	49.5	70
Max. inlet flow (L/min)	280	420	700	50	80	120	200	170	120	550
Max. working flow (L/min)	250	400	700	50	80	100	160	170	100	330
Max. inlet pressure (bar)	320	380	380	320	320	320	320	250	420	350
Flow sharing type	●	●	●							
Open centre type				●	●					
Load sensitive type						●	●	●	●	●
Hydraulic control	●	●	●	●	●	●	●	●	●	●
Manual, mechanical control				●	●	●	●	●	●	●
electrohydraulic control	●	●	●			●	●	●	●	●
Typical application	10-15t excavator	Crane, rotary drilling machinery	Crane, rotary drilling machinery	1-2t excavator	5-8t excavator	Aerial work platform	Mining machinery	Tractor	Aerial work platform	Crane, rotary drilling machinery

TRM10 Series Flow Sharing Sectional Valve

TAIFENG®



Size: 10
Max. working pressure:
--On the pump side: 320bar
--On the consumer side : 350bar
Max flow :
--On the pump side: 80L/min
--On the consumer side : 50L/min
*High pressure type

Features:



- Sandwich structure, flexible combination on demand.
- Load pressure compensation, load pressure independent flow distribution.
- Hydraulic pilot control, electric proportional (or switch) control.
- Load holding function is available for boom and arm.
- Limit the maximum pressure of the system through the LS relief valve.
- Secondary relief valve to prevent the operative system from overload by setting the secondary pressure.
- Low pressure drop and less fuel consumption.
- Precise control, stable proportional control, comfortable maneuverability.
- High repetition accuracy and small hysteresis.

TRM10 Series Flow Sharing Sectional Valve	TAIFENG®
Main Application Fields: Small excavator, concrete pump truck, crane	
Ordering code: <div>TRM10 - B X E24 - 08 - XX - 01</div> <div>1 2 3 4 5 6 7</div> <div>1.Products series TRM10 (size 10), Max flow rate: inlet port 80L/min, working port 50L/min.</div> <div>2.Pump type: B.Load sensing variable displacement pump D.Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump</div> <div>3.Type of control: X. Pilot control S. Manual control H. Pilot and manual combination control</div> <div>4.Type of electric control: E24 electric proportional control 24V DC E12 electric proportional control 12V DC G24 electric switch control 24V DC G12 electric switch control 12V DC No electric control, omit</div> <div>5.Number of working sections, for example 08 stands for 8 working sections in the valve</div> <div>6.User identification</div> <div>7.Design series code</div>	

TRM10 Series Flow Sharing Sectional Valve			TAIFENG®	
Technical data				
Series	TRM10			
Number of Working sections	≤ 10			
Size	10			
Max. flow rate L/min	P port: 80 A/B port: 50			
Max. working pressure bar	P port: 320 A/B port: 350			
Pilot pressure bar	≤ 35			
Operating temperature range °C	-20 ... +90			
Working medium	Low freezing point anti-wear hydraulic lubricating oil			
Viscosity range mm²/s	2.8 ... 380			
Weight (Kg)	Inlet section: 3			
	Working section: 2.8			
	End section: 5			
Electric data				
	Switch pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			
Port connection size				
TRM10	Thread	Port Type		
P inlet port	G1/2	BSP (ISO1179-1,ISO228-1)		
T return port	G1/2			
A/B port	G3/8			
LS, M, a, b port	G1/4			

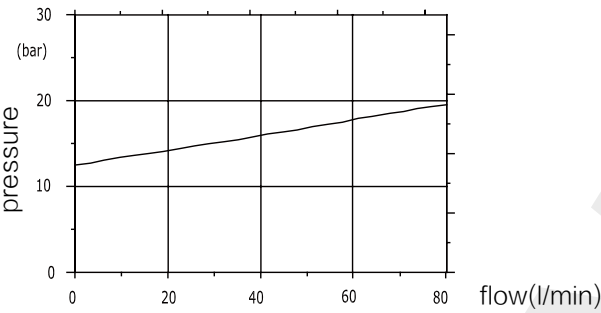
TRM10 Series Flow Sharing Sectional Valve

TAIFENG®

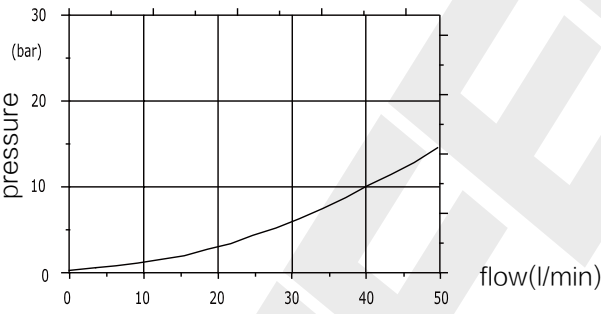
Metering Curve

Measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ\text{C}$

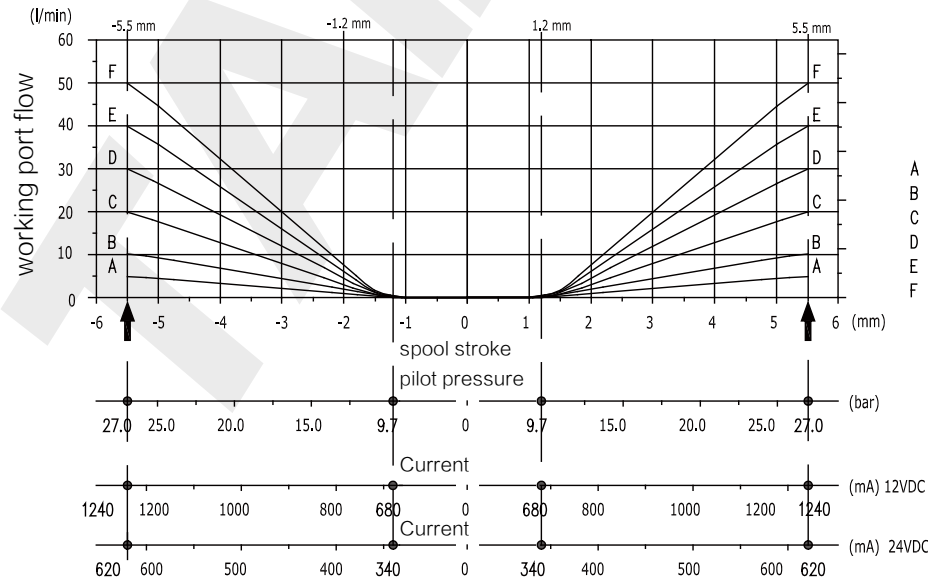
P-T pressure drop



A(B)-T pressure drop (Flow 50L/min spool test)



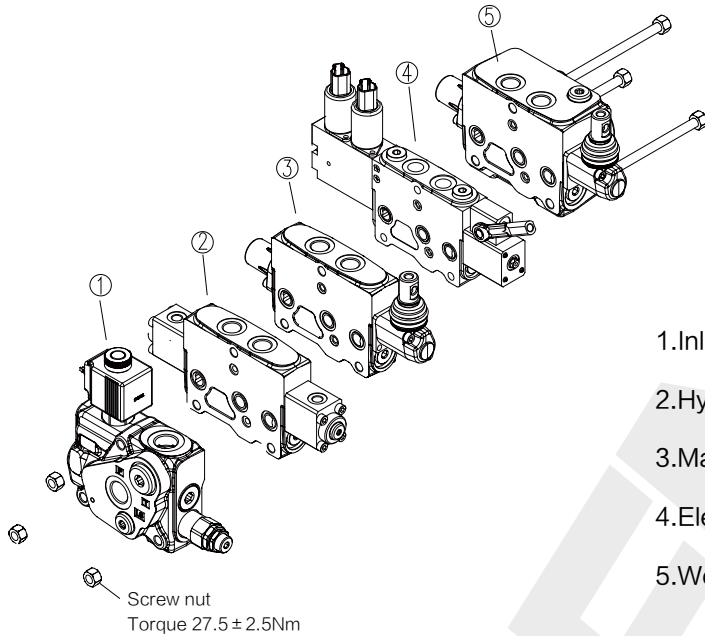
Metering curve of flow with spool stroke, pilot pressure, control current



TRM10 Series Flow Sharing Sectional Valve

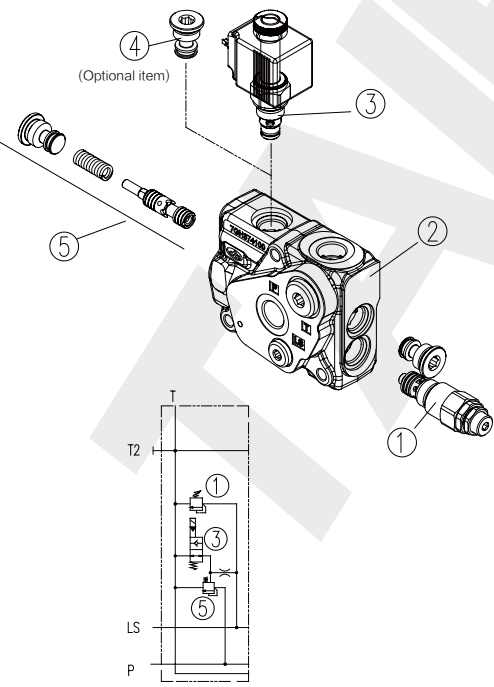
TAIFENG®

Valve sections description



1. Inlet section
2. Hydraulic control directional section
3. Manual control directional section
4. Electric proportional control section
5. Working section with return oil

Inlet section

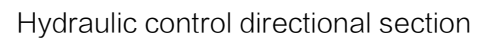
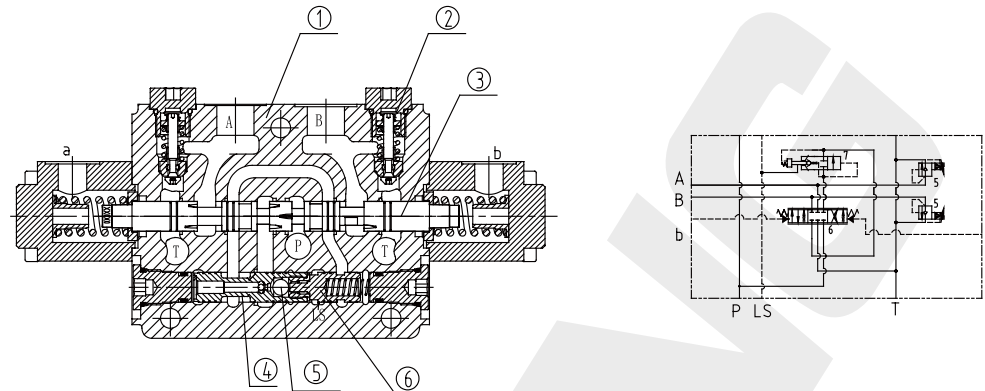


1. LS pressure relief valve
2. Inlet section
3. LS solenoid operated unloading valve
4. Screw plug (optional item, or this screw hole is not machined)
5. Differential pressure spool

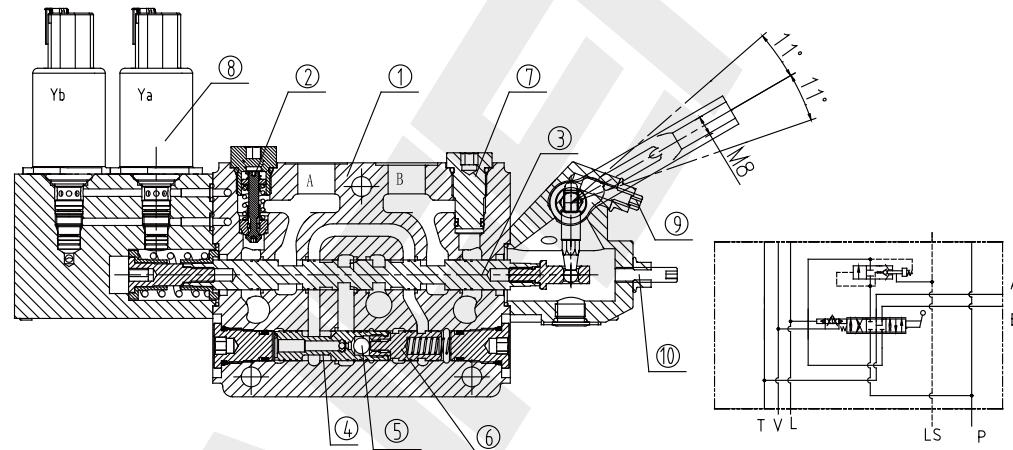
TRM10 Series Flow Sharing Sectional Valve

TAIFENG®

Sectional view of directional section



Electric proportional directional section

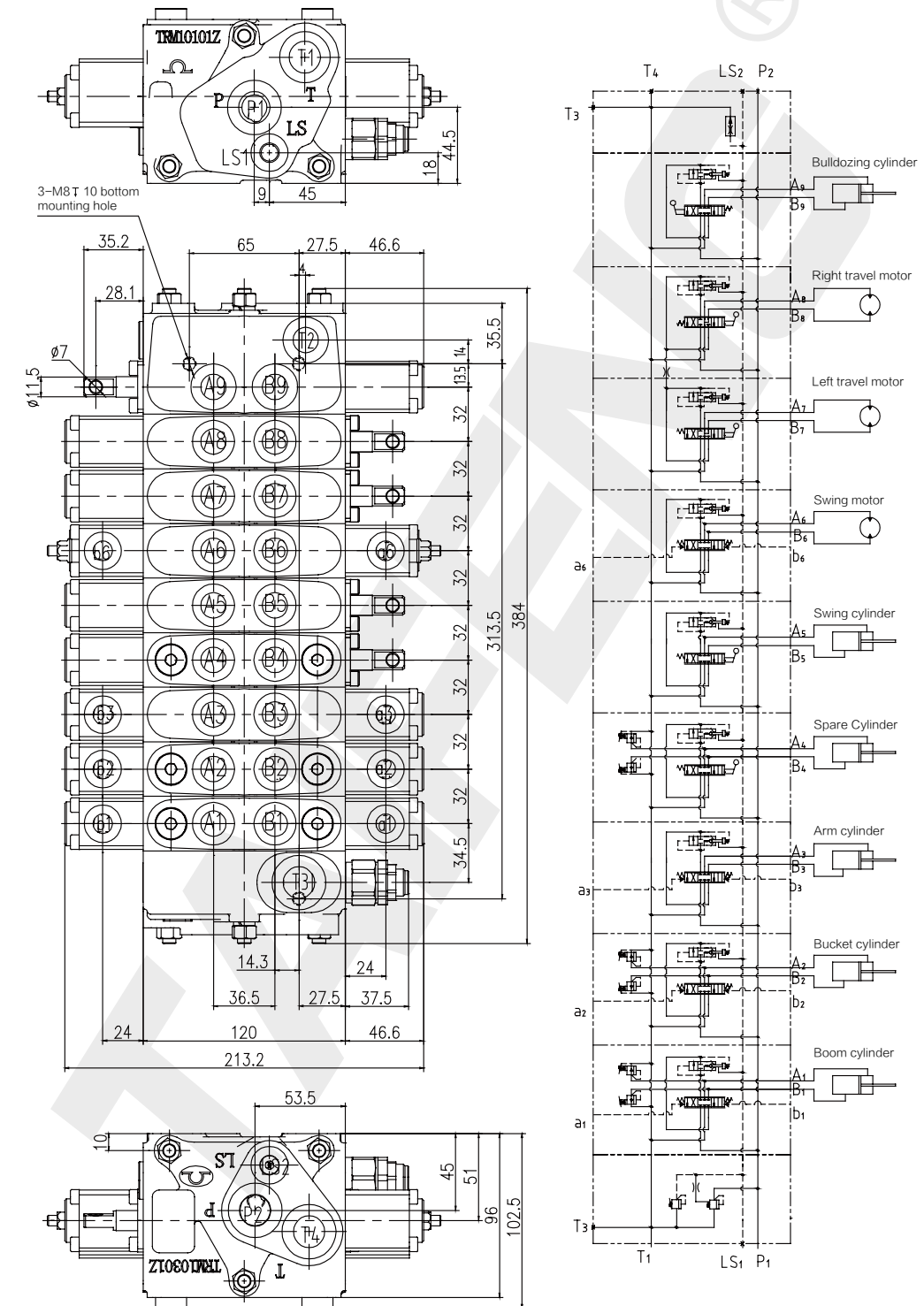


1. Directional section
2. Overload filling valve
3. Directional valve stem
4. Pressure compensation valve
5. $\Phi 6.5$ steel ball
6. Push rod
7. Screw plug
8. Proportional electric magnet
9. Stop screw (adjust B port flow rate)
10. Stop screw (adjust A port flow rate)

TRM10 Series Flow Sharing Sectional Valve

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Typical application schematic and outline drawing for 1.5–3.5t excavator

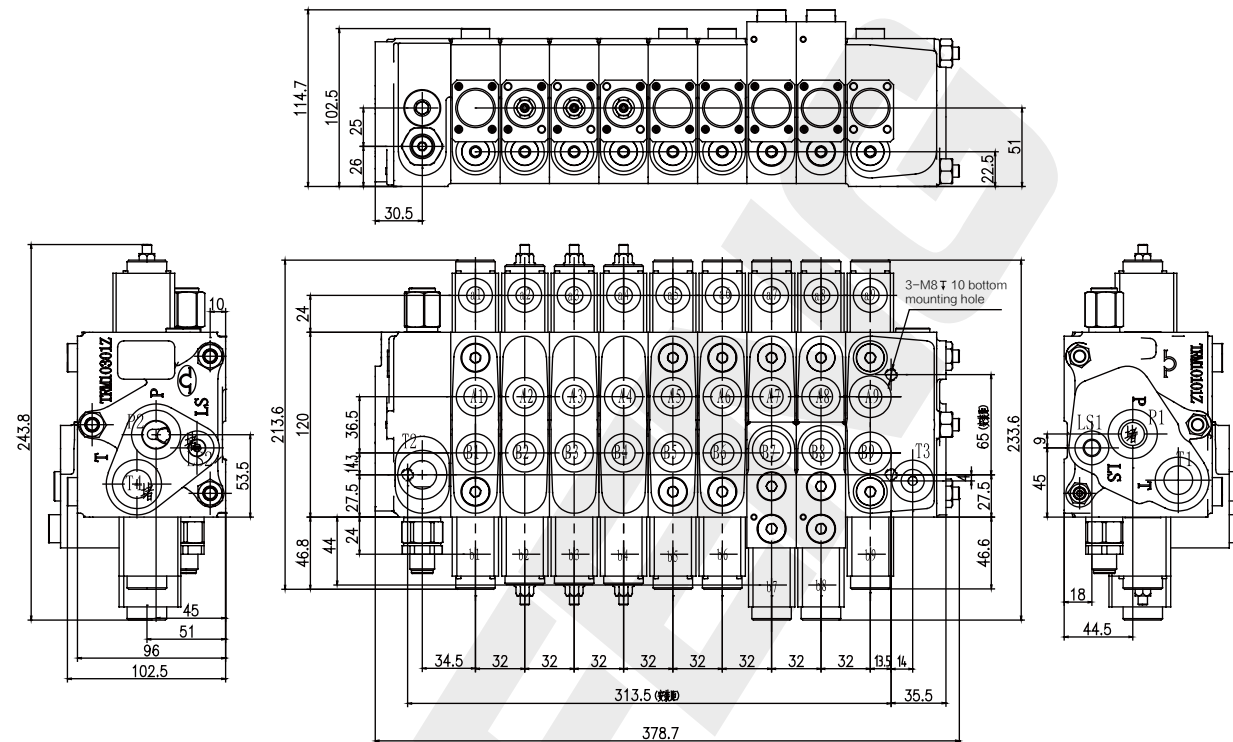


TRM10 Series Flow Sharing Sectional Valve

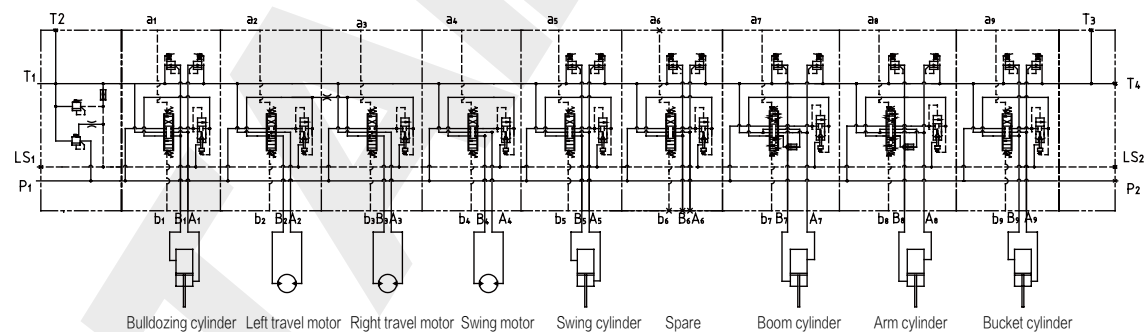
TAIFENG®

Typical application schematic and outline drawing for 1.5–3.5t excavator

(boom and arm directional valve body with load holding function)



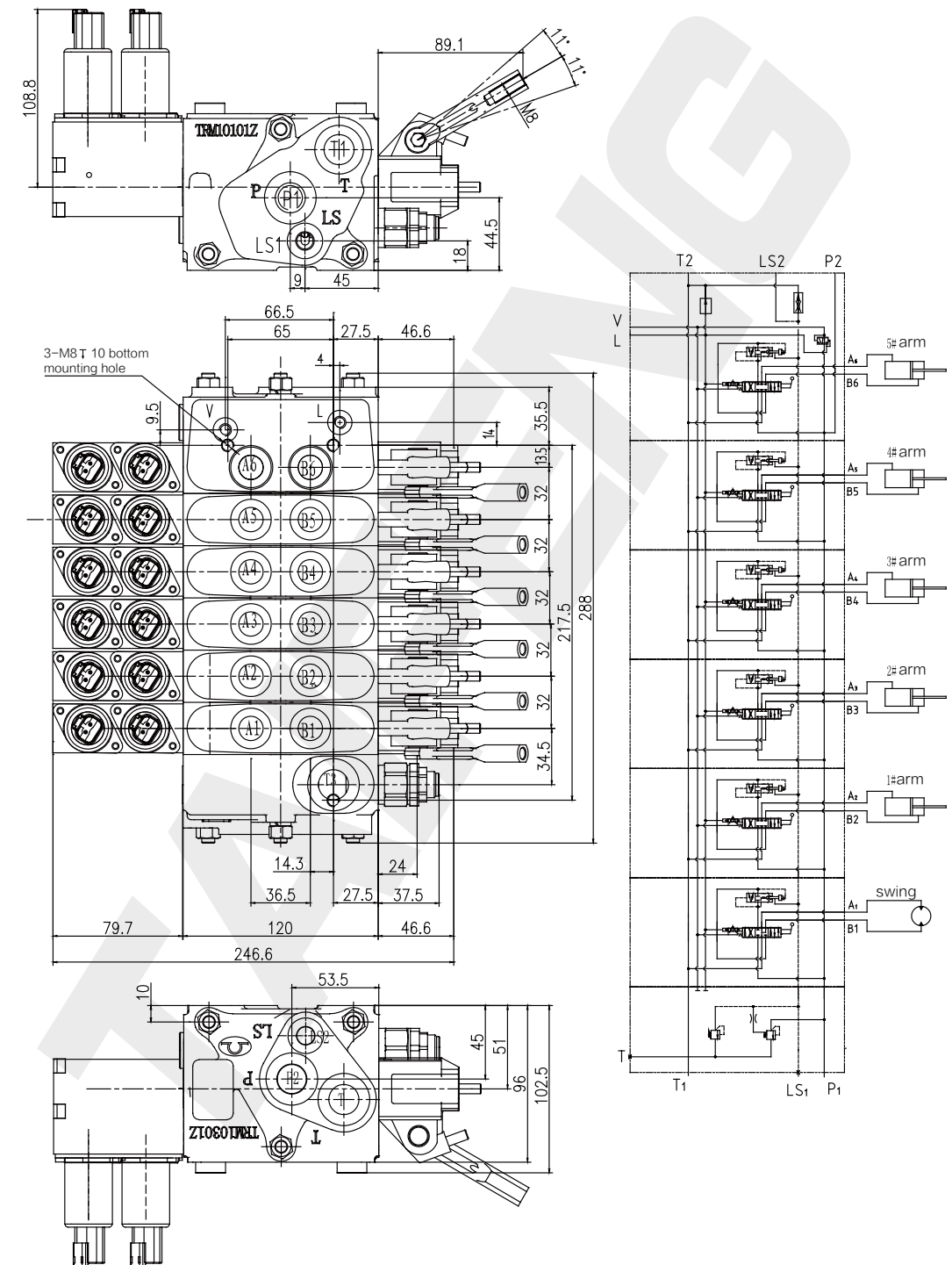
Hydraulic schematic diagram



TRM10 Series Flow Sharing Sectional Valve

TAIFENG®

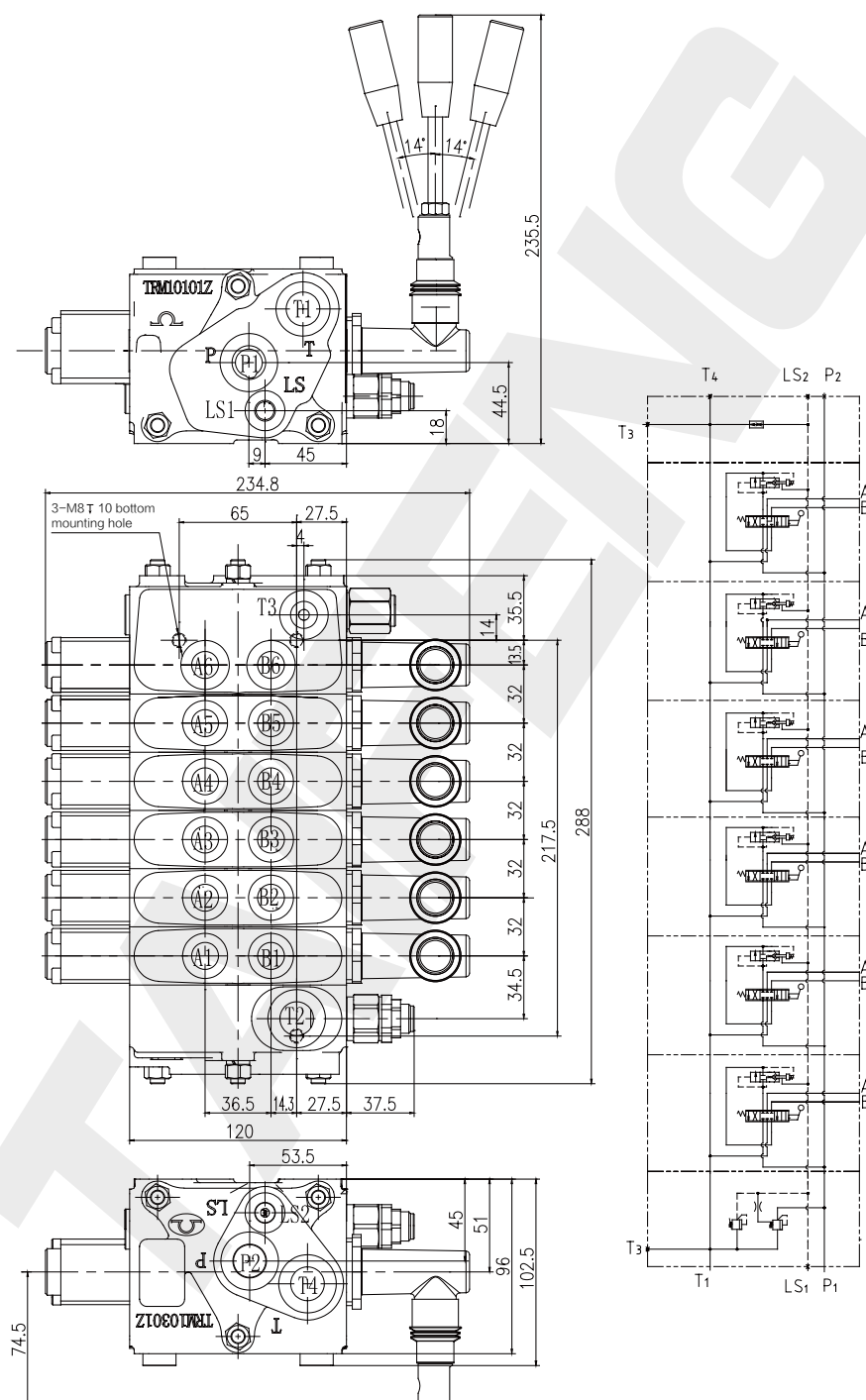
Typical application schematic and outline drawing of sectional valve for concrete pump truck arm frame



TRM10 Series Flow Sharing Sectional Valve

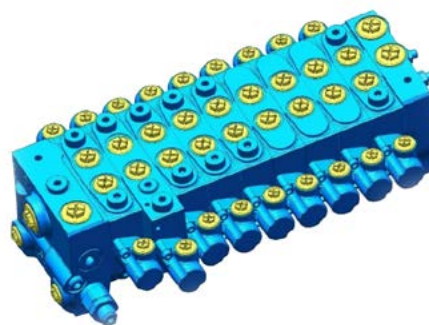
TAIFENG®

Typical application schematic and outline drawing for TRM10 manual operation



TRS10 Series Flow Sharing Sectional Valve

TAIFENG®



Size: 10
Max. Pressure:
P port 320bar
A/B port 350bar
Max. Flow Rate:
P port: 90L/min
A/B port: 50L/min
*High pressure type

Features

- Sandwich structure, flexible combination on demand
- Load sensitive and pressure compensation, flow distribution is independent to the load pressure
- Hydraulic pilot control, electric proportional (or switch) control
- Load holding function is available for boom and arm.
- Limit the maximum pressure of the system through the LS relief valve
- Secondary relief valve to prevent the operative system from overload by setting the secondary pressure.
- Low pressure drop and less fuel consumption.
- Precise control, outstanding inching performance, comfortable maneuverability
- High repetition accuracy and small hysteresis

Main Application

Small excavator, concrete pump truck, drilling machine, lifting machinery.

TRS10 Series Flow Sharing Sectional Valve	TAIFENG®
Ordering code	
<div><div>TRS10</div><div>-</div><div>B</div><div>X</div><div>E24</div><div>-</div><div>08</div><div>-</div><div>XX</div><div>-</div><div>01</div></div> <div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div>	
<div>1.Products series TRS10(size 10), max flow rate: inlet port 90L/min, working port 50L/min.</div> <div>2.Pump type:B Load sensing variable displacement pump, D Fixed pump, constant power pump, constant pressure pump, electric proportional pump.</div> <div>3.Type of control: X pilot control, S manual control, H pilot and manual combination control.</div> <div>4.Type of electric control:<div><div>E24 electric proportional control 24V DC</div><div>E12 electric proportional control 12V DC</div><div>G24 electric switch control 24V DC</div><div>G12 electric switch control 12V DC</div><div>No electric control, omit</div></div></div> <div>5.Number of working sections, for example 08 stands for 8 working sections</div> <div>6.User identification</div> <div>7.Design Series Code.</div>	

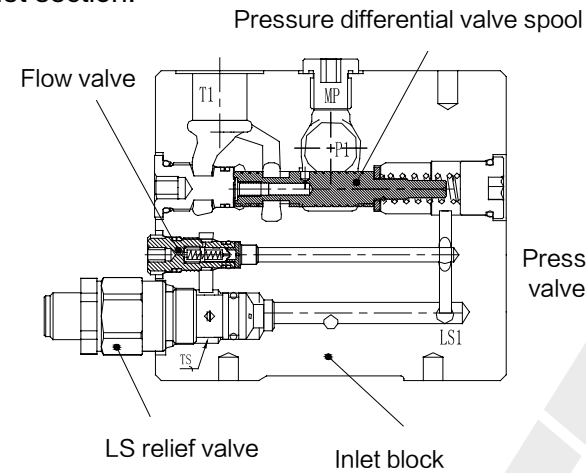
TRS10 Series Flow Sharing Sectional Valve			TAIFENG®	
Technical data				
Product series	TRS10			
Sections	≤ 10			
Size	10			
Max. flow rate L/min	P port: 90 A/B port: 50			
Max. working pressure bar	P port: 320 A/B port: 350			
Pilot pressure bar	≤ 35			
Operating temperature range °C	-20 ... +90			
Working medium	Low freezing point anti-wear hydraulic lubricating oil			
Viscosity range mm²/s	2.8 ... 380			
Electric data				
	Switch pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			
Port connection size				
TRS10	Thread	Port Type		
P inlet port	G1/2	BSP (ISO1179-1,ISO228-1)		
T return port	G1/2			
A/B port	G3/8			
LS, M, a, b port	G1/4			

TRS10 Series Flow Sharing Sectional Valve

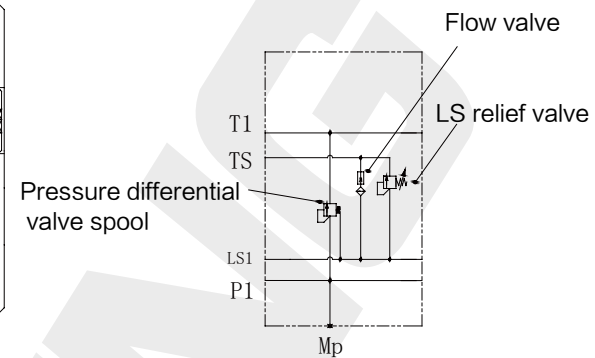
TAIFENG®

Sectional View

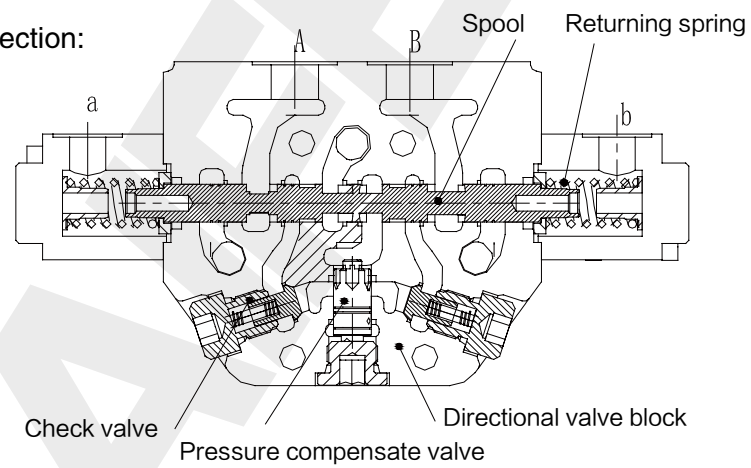
Inlet section:



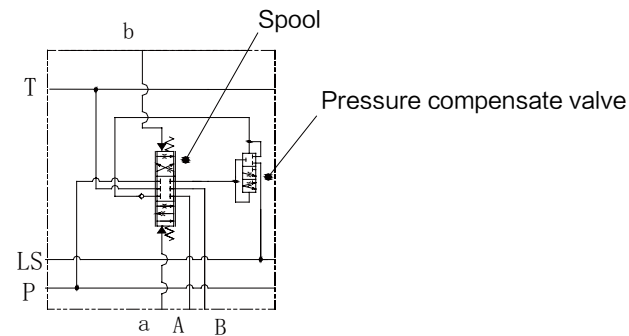
Hydraulic schematic diagram:



Directional valve section:



Hydraulic schematic diagram:

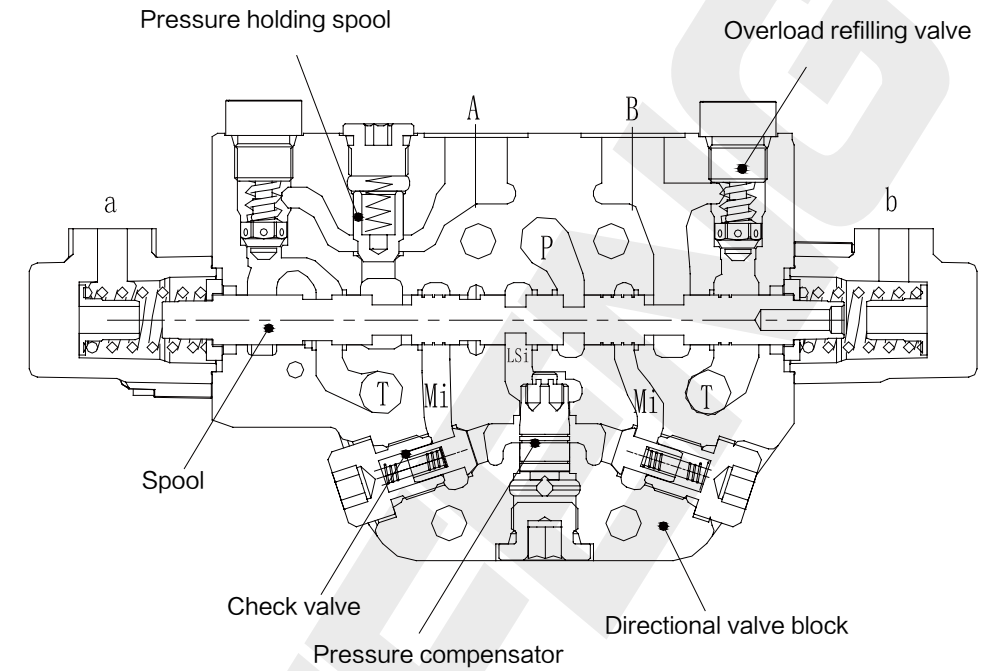


TRS10 Series Flow Sharing Sectional Valve

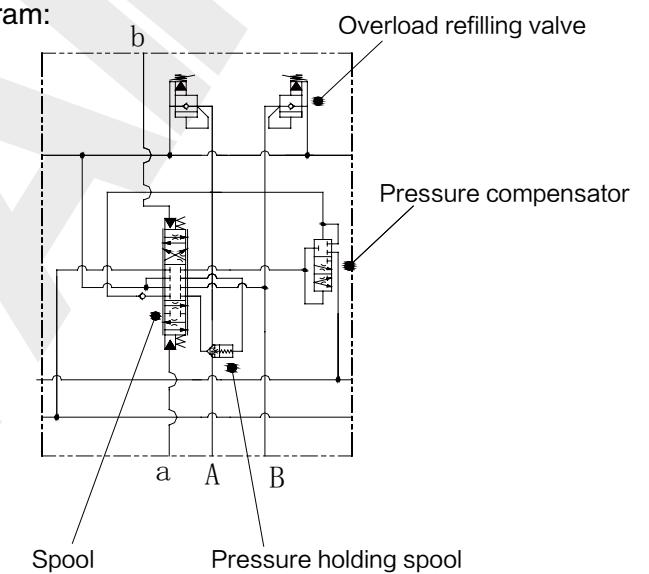
TAIFENG®

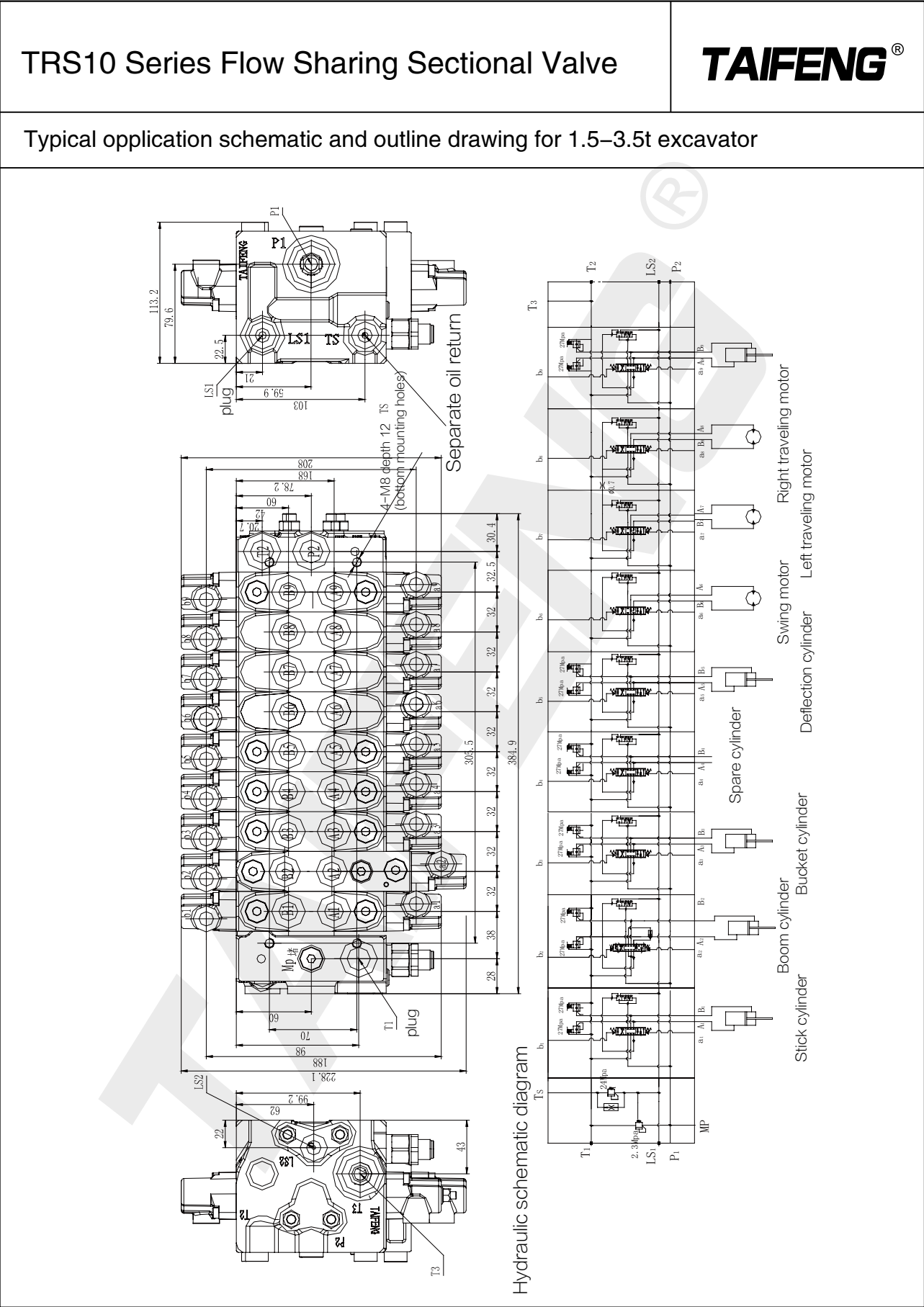
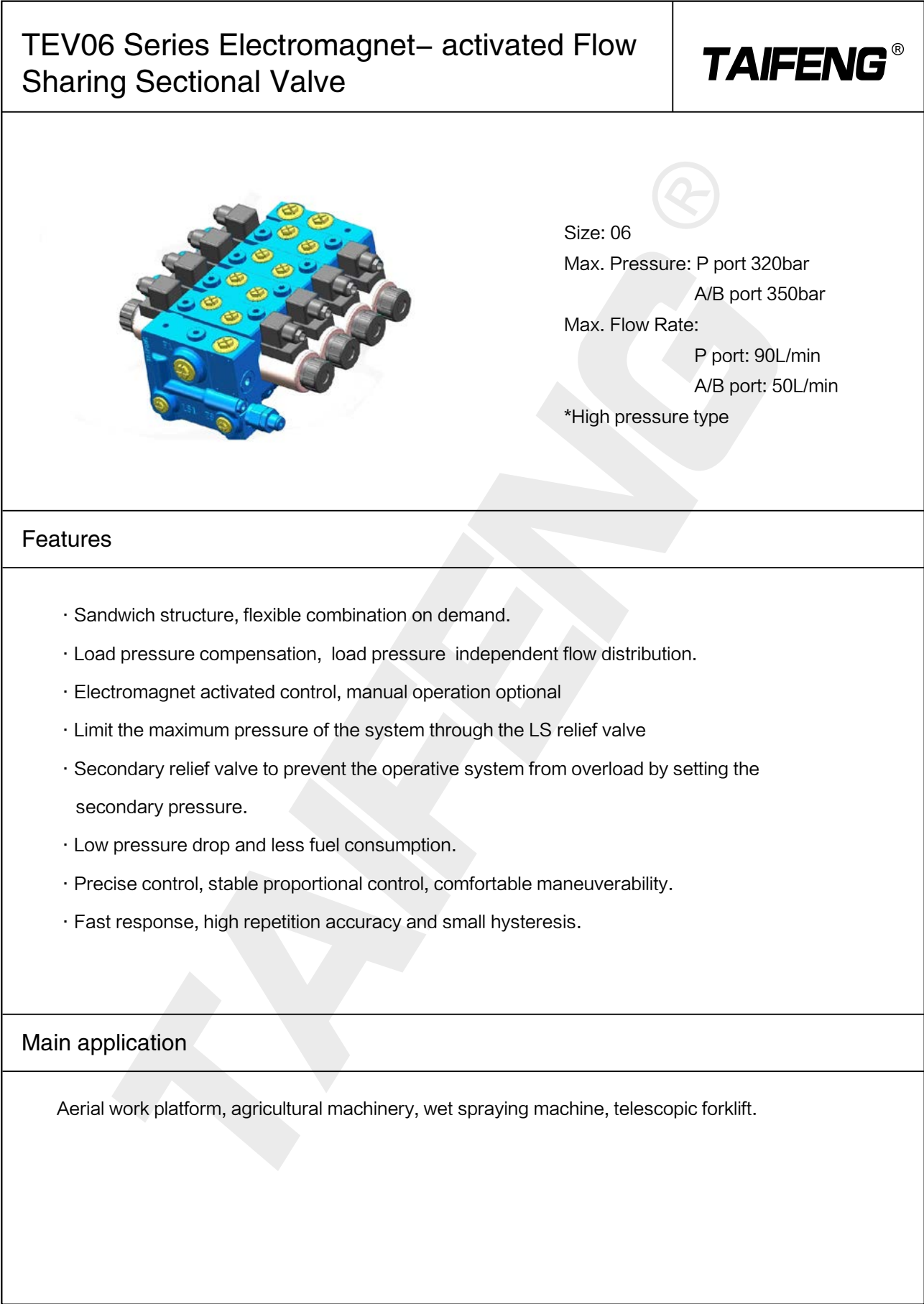
Sectional View

Directional valve with pressure holding:



Hydraulic schematic diagram:





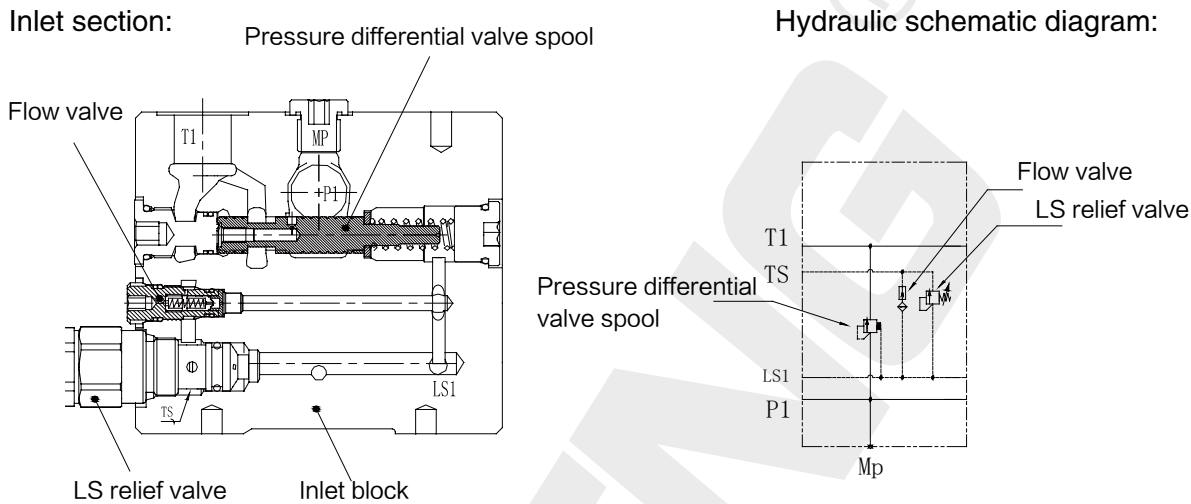
TEV06 Series Electromagnet– activated Flow Sharing Sectional Valve	TAIFENG®
Ordering code	
<div><div>TEV06</div><div>-</div><div>B</div><div>X</div><div>E24</div><div>-</div><div>08</div><div>-</div><div>XX</div><div>-</div><div>01</div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div> <div><div>1.Products series TEV06(size 06), Max flow rate: inlet port 90L/min, working port 50L/min.</div><div>2.Pump type: B Load sensing variable displacement pump, D Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump</div><div>3.Type of control: X pilot control, S manual control, H pilot and manual combination control</div><div>4.Type of electric control:<div><div>E24 electric proportional control 24V DC</div><div>E12 electric proportional control 12V DC</div><div>G24 electric switch control 24V DC</div><div>G12 electric switch control 12V DC</div><div>No electric control, omit</div></div></div><div>5. Number of working sections, for example 08 stands for 8 working sections</div><div>6.User identification</div><div>7.Design Series code.</div></div>	

TEV06 Series Electromagnet– activated Flow Sharing Sectional Valve				TAIFENG®	
Technical data					
Series		TEV06			
Number of working sections		≤ 10			
Size		06			
Max.flow rate L/min		P port: 90 A/B port: 50			
Max.working pressure bar		P port: 320 A/B port: 350			
Pilot pressure bar		≤ 35			
Operating temperature range °C		-20 ... +90			
Working medium		Low freezing point anti–wear hydraulic lubricating oil			
Viscosity range mm²/s		2.8 ... 380			
Electric data					
	Solenoid switch valve			Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC	
Control current			0~1800mA	0~1200mA	
Dither			120Hz		
Hysteresis			< 3%		
Plug	Deutsch DT04–2P				
Protection	IP69k				
Port connection size					
TEV06	Thread	Torque(Nm)	Port Type		
P inlet port	G1/2	50	BSP (ISO1179–1,ISO228–1)		
T outlet port	G1/2	50			
A/B port	G3/8	40			
LS, M Port	G1/4	25			

TEV06 Series Electromagnet- activated Flow Sharing Sectional Valve

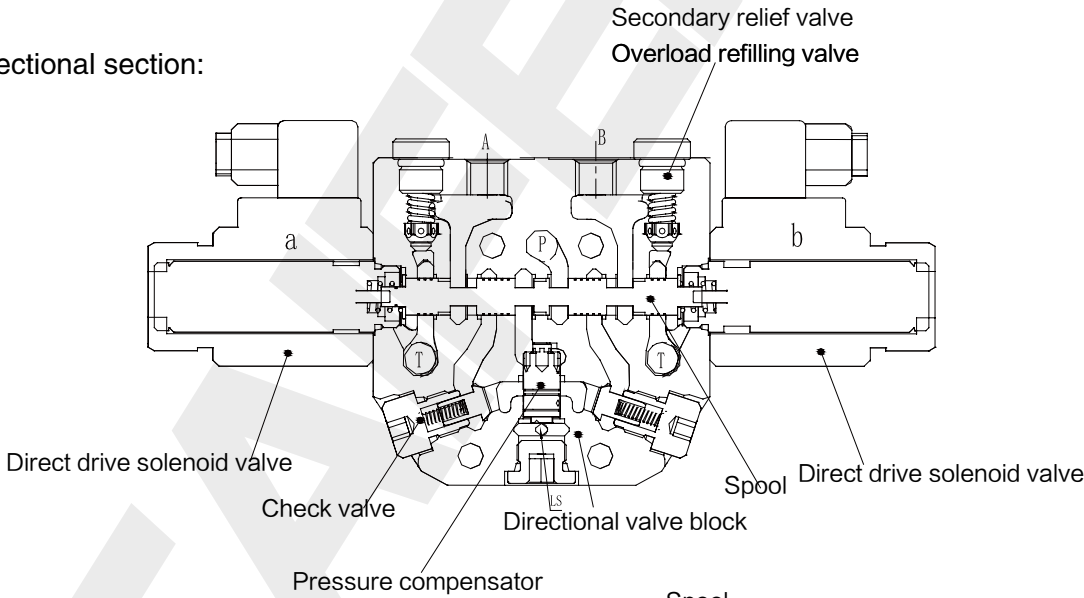
TAIFENG®

Sectional View

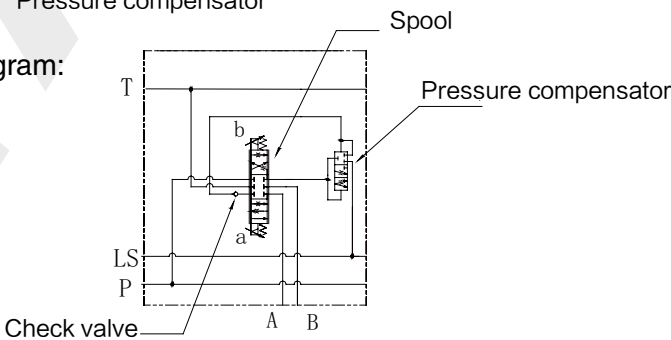


Note: Inlet section the same as TRS10

Directional section:

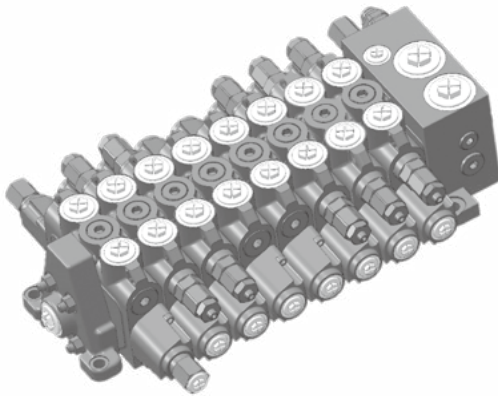


Hydraulic schematic diagram:



TRM15 Series Flow Sharing Sectional Valve

TAIFENG®



Size: 12

Max. working pressure:

- On the pump side: 320bar
- On the consumer side : 350bar

Max flow:

- On the pump side: 120L/min
- On the consumer side: 100L/min

*High pressure type

Features:

- Sandwich structure, flexible combination on demand.
- Load pressure compensation, load pressure independent flow distribution.
- Hydraulic pilot control, electric proportional (or switch) control.
- Limit the maximum pressure of the system through the LS relief valve.
- Secondary relief valve to prevent the operative system from overload by setting the secondary pressure.
- Low pressure drop and less fuel consumption.
- Precise control, stable proportional control, comfortable maneuverability.
- High repetition accuracy and small hysteresis.

Main Application Fields:

Excavator, loader, forklift, drilling machine, crane.

TRM15 Series Flow Sharing Sectional Valve	TAIFENG®
Ordering code:	
<div><div>TRM15</div><div>-</div><div>B</div><div>X</div><div>E24</div><div>-</div><div>08</div><div>-</div><div>XX</div><div>-</div><div>01</div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div> <div><div>1.Products series TRM15 (size 12), max flow rate: inlet port 120L/min, working port 100L/min</div><div>2.Pump type:<div>B.Load sensing variable displacement pump,</div><div>D. Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump</div></div><div>3.Type of control:<div>X. pilot control,</div><div>S. manual control,</div><div>H. pilot and manual combination control</div></div><div>4.Type of electric control:<div>E24 electric proportional control 24V DC</div><div>E12 electric proportional control 12V DC</div><div>G24 electric switch control 24V DC</div><div>G12 electric switch control 12V DC</div><div>No electric control, omit</div></div><div>5.Number of working sections, for example 08 stands for 8 working sections in the valve</div><div>6.User identification</div><div>7.Design Series code</div></div>	

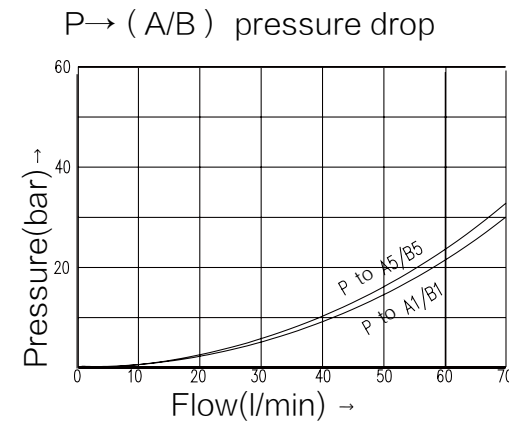
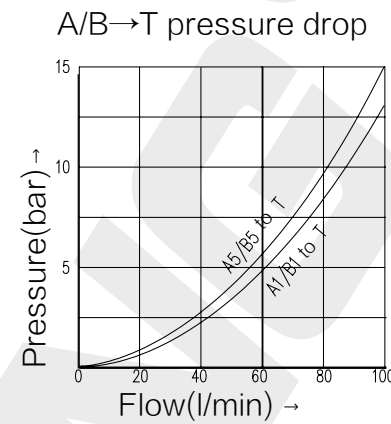
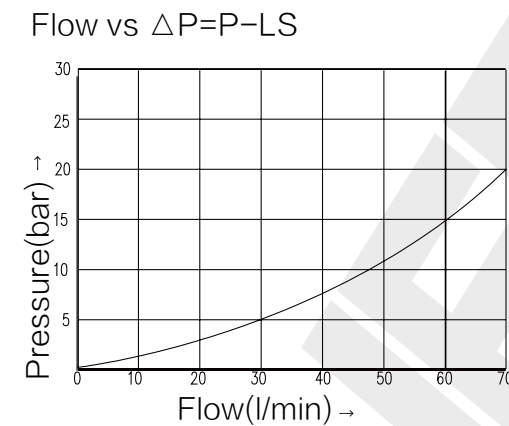
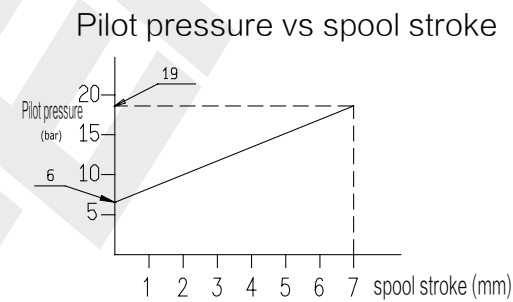
TRM15 Series Flow Sharing Sectional Valve		TAIFENG®	
Technical data			
Series	TRM15		
Number of working sections	≤ 10		
Size	12		
Max flow rate L/min	P port: 120 A/B port: 100		
Max working pressure bar	P port: 320 A/B port: 350		
Pilot pressure bar	≤ 35bar		
Operating temperature range °C	-20 ... +90		
Working medium	Low freezing point anti-wear hydraulic lubricating oil		
Viscosity range mm²/s	2.8 ... 380		
Weight (Kg)	Inlet section: 7		
	Working section: 4.5		
	End section: 1.5		
Port connection size			
TRM15	Thread	Port Type	
P inlet port	G3/4	BSP (ISO1179-1,ISO228-1)	
T return port	G3/4		
A/B port	G1/2		
LS, M, a, b port	G1/4		

TRM15 Series Flow Sharing Sectional Valve

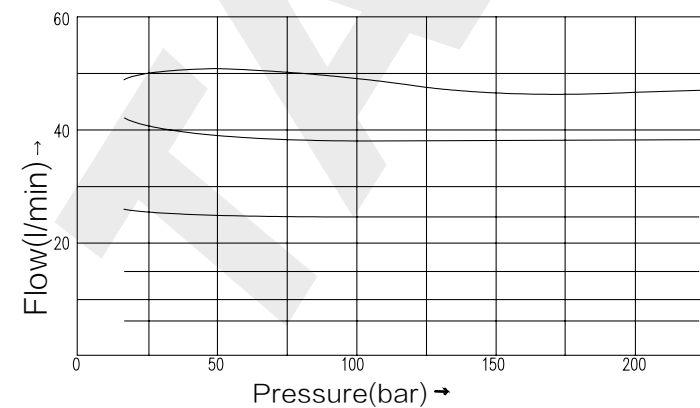
TAIFENG®

Metering Curve

Metering Curve (Measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50\text{ }^\circ\text{C}$)



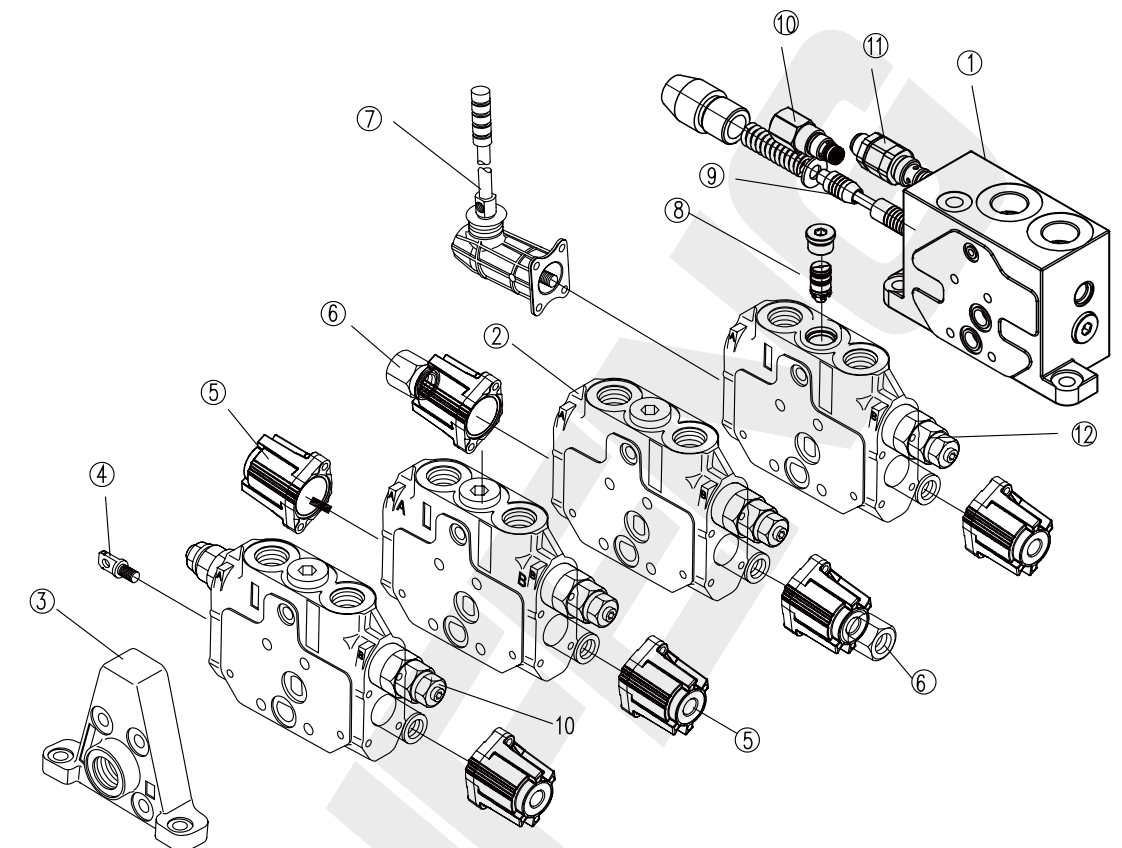
Flow control with individual pressure compensator



TRM15 Series Flow Sharing Sectional Valve

TAIFENG®

Valve sections description

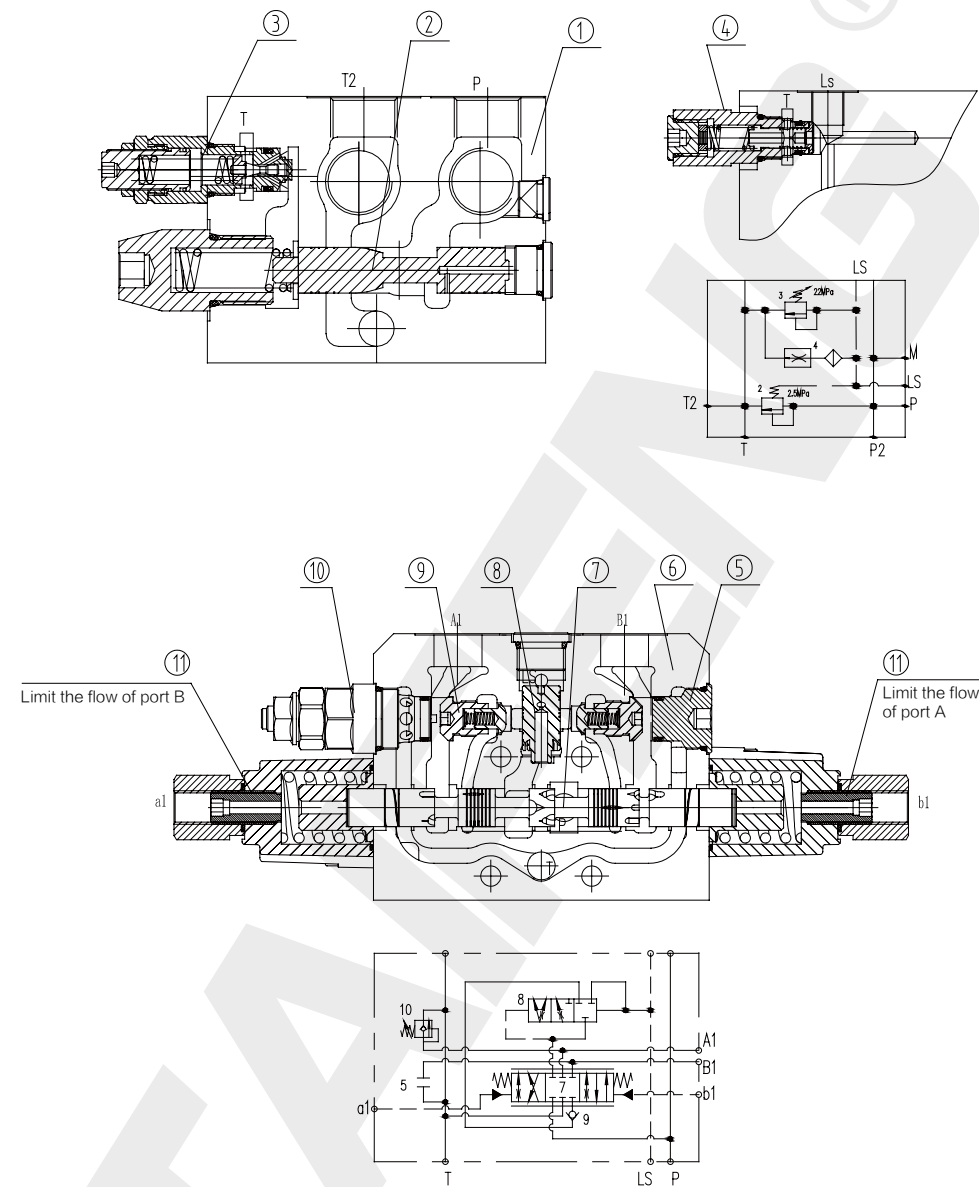


- | | |
|------------------------------------|--------------------------------|
| 1. Inlet section | 7. Manual operation |
| 2. Directional section | 8. Pressure compensation valve |
| 3. End section | 9. Differential pressure valve |
| 4. Mechanical connection operation | 10. LS flow valve |
| 5. Hydraulic control end cap | 11. LS pressure relief valve |
| 6. Stroke limitation bolt | 12. Overload filling valve |

TRM15 Series Flow Sharing Sectional Valve

TAIFENG®

Sectional View

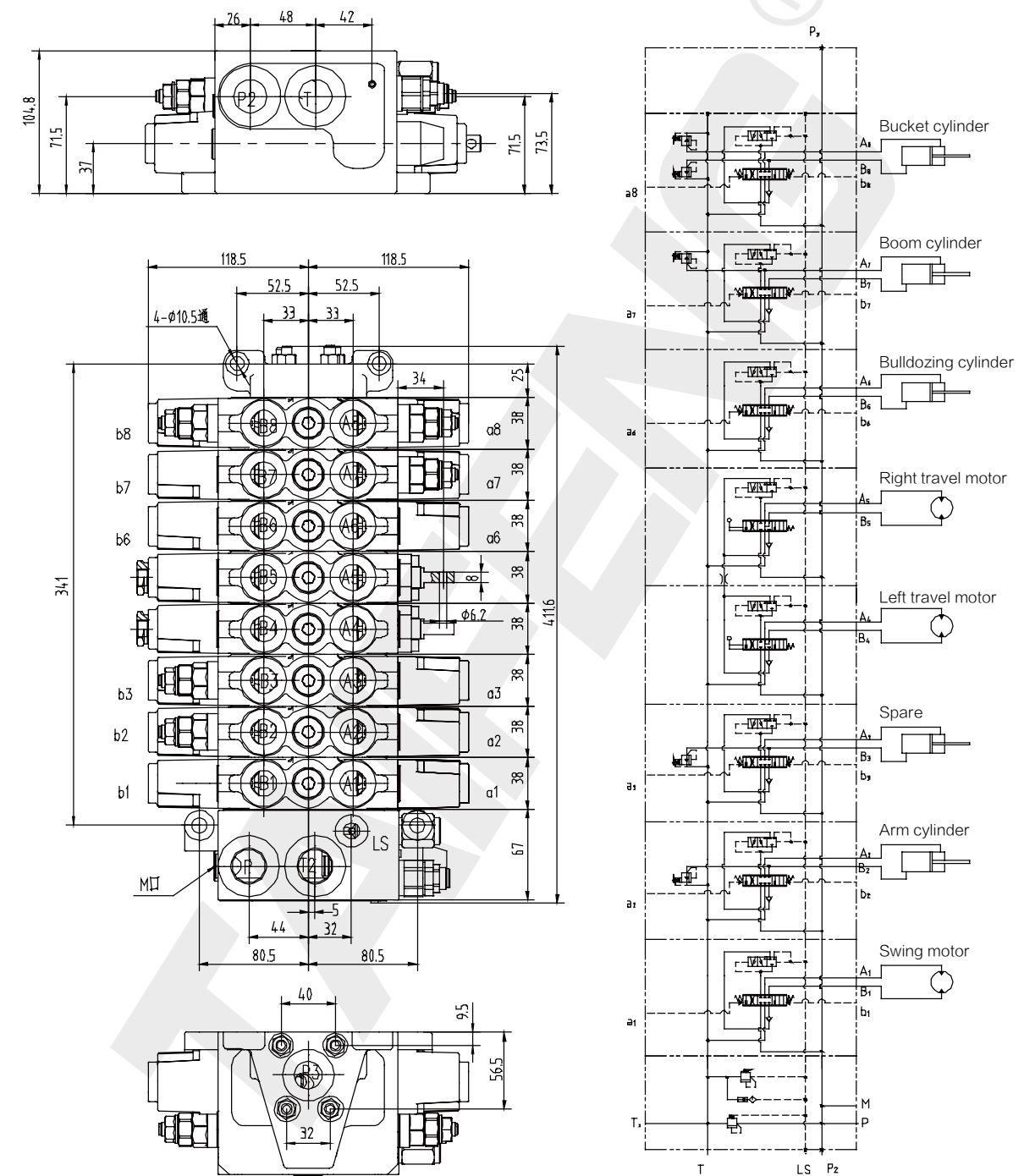


- 1.Inlet section
- 2.Differential pressure spool
- 3.LS pressure relief valve
- 4.LS flow valve
- 5.Screw plug
- 6.Direction section
- 7.Direction valve stem
- 8.Pressure compensation spool
- 9.Check valve
- 10.Overload filling valve
- 11.Stroke limitation bolt

TRM15 Series Flow Sharing Sectional Valve

TAIFENG®

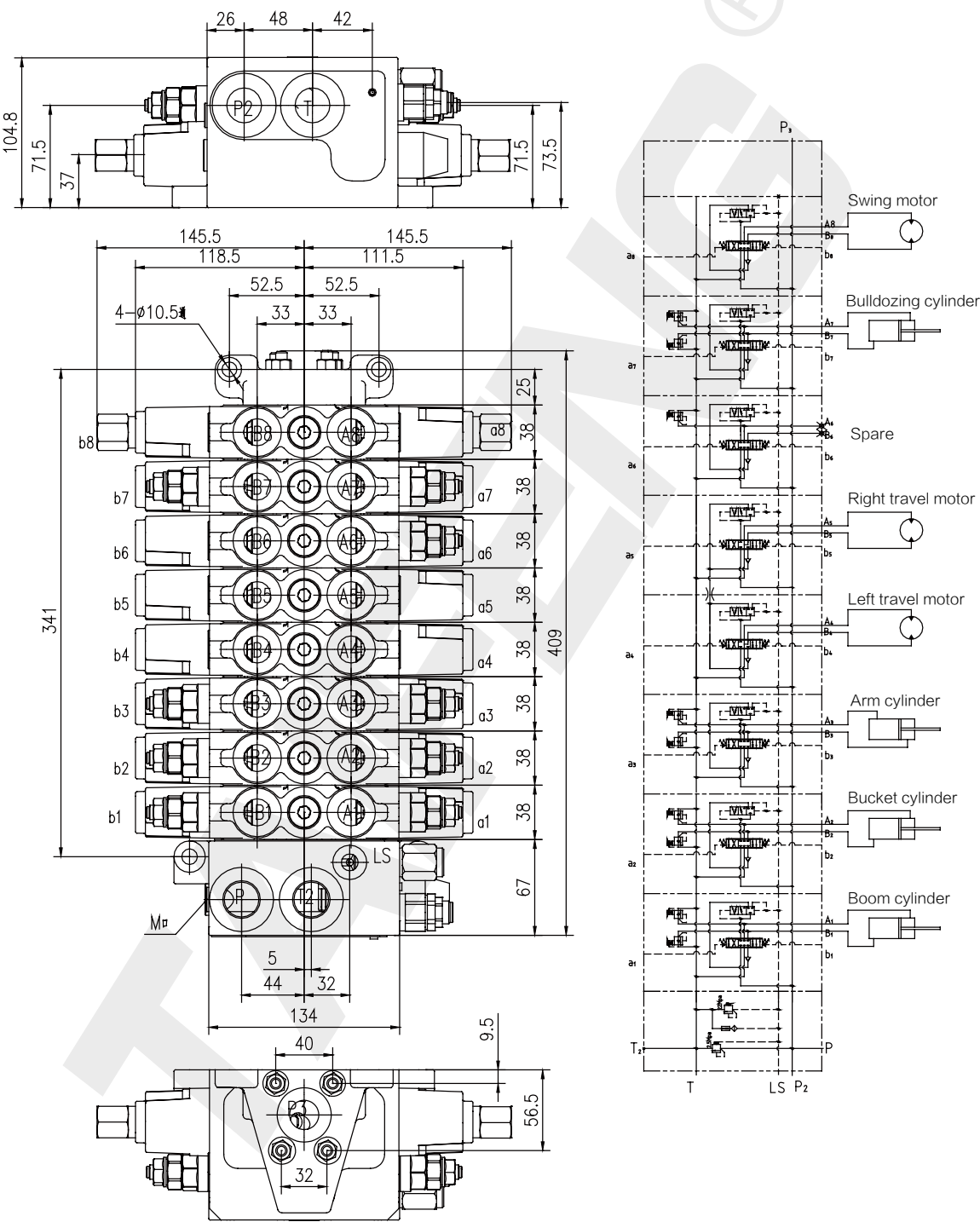
Typical application schematic and outline drawing for 1.5–3.5t excavator



TRM15 Series Flow Sharing Sectional Valve

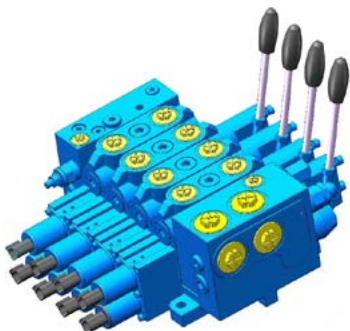
TAIFENG®

Typical application schematic and outline drawing for 4–6t excavator



TRM15A Series Flow Sharing Sectional Valve

TAIFENG®



Size: 12
Max. working pressure:
P port: 320bar
A/B port: 350bar
Max. flow:
P port: 120L/min
A/B port: 100L/min
*High pressure type

Note: TRM15A is an electric controlled sectional valve developed from TRM15 series.

Features

- Sandwich structure, flexible combination on demand.
- Load pressure compensation, load pressure independent flow distribution.
- Hydraulic pilot control, electric proportional (or switch) control.
- Load holding function is available for boom and arm.
- Limit the maximum pressure of the system through the LS relief valve
- Secondary relief valve to prevent the operative system from overload by setting the secondary pressure.
- Low pressure drop and less fuel consumption.
- Precise control, stable proportional control, comfortable maneuverability.
- High repetition accuracy and small hysteresis.

Main Application

Small excavator, loader, forklift, drilling machine, lifting machinery.

TRM15A Series Flow Sharing Sectional Valve	TAIFENG®
Ordering code	
<div><div>TRM15A</div><div>-</div><div>B</div><div>X</div><div>E24</div><div>-</div><div>08</div><div>-</div><div>XX</div><div>-</div><div>01</div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div></div> <div>1.Products series TRM15A(size 12), max flow rate: inlet port 120L/min, working port 100L/min.</div> <div>2.Pump type :</div> <div>B.Load sensing variable displacement pump</div> <div>D. Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump</div> <div>3.Type of control:</div> <div>X. pilot control,</div> <div>S. manual control,</div> <div>H. pilot and manual combination control</div> <div>4.Type of electric control:</div> <div>E24 electric proportional control 24V DC</div> <div>E12 electric proportional control 12V DC</div> <div>G24 electric switch control 24V DC</div> <div>G12 electric switch control 12V DC</div> <div>No electric control, omit</div> <div>5.Number of working sections number, for example 08 means 8 working sections in the valve.</div> <div>6.User identification</div> <div>7.Design series code</div>	

TRM15A Series Flow Sharing Sectional Valve			TAIFENG®	
Technical data				
Series	TRM15A			
Working sections number	≤ 10			
Size	12			
Max.flow rate L/min	P port: 120		A/B port: 100	
Max.working pressure bar	P port: 320		A/B port: 350	
Pilot pressure bar	≤ 35			
Operating temperature range °C	-20 ... 90			
Working medium	Low freezing point anti-wear hydraulic lubricating oil			
Viscosity range mm²/s	2.8 ... 380			
Electric data				
	Switch pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			
Port connection size				
TRM15A	Thread	Port type		
P inlet port	G3/4	BSP (ISO1179-1,ISO228-1)		
T outlet port	G3/4			
A/B port	G1/2			
LS, M, a, b port	G1/4			

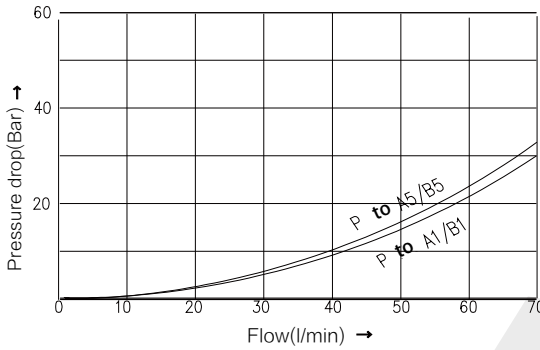
TRM15A Series Flow Sharing Sectional Valve

TAIFENG®

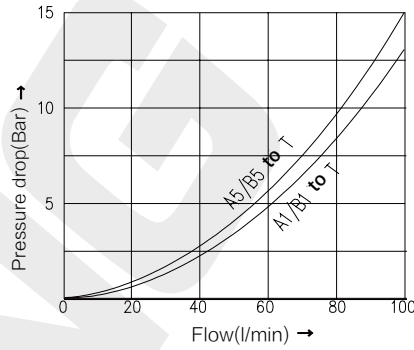
Metering Curve

Metering Curve (Measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ\text{C}$)

P → A/B pressure drop, spool flow 60L/min

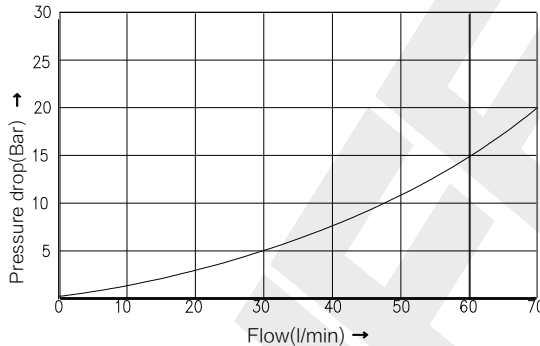


A/B → T pressure drop, spool flow 60L/min

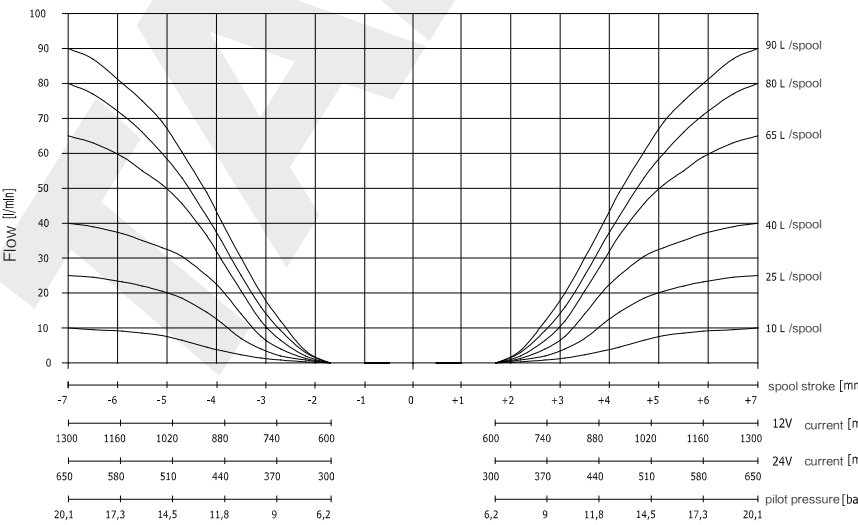


Relation curve between each directional section and adjustment

$\Delta P = P - LS$



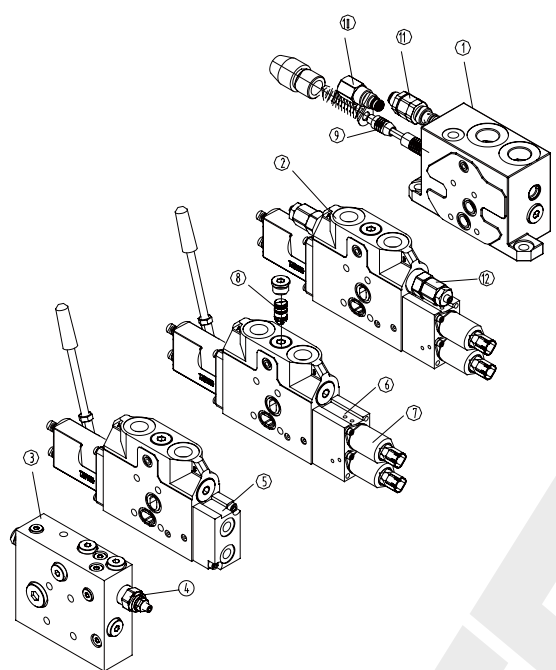
Characteristic curve of flow, stroke, control current and pilot pressure
pressure drop $\Delta P = 17\text{bar}$



TRM15A Series Flow Sharing Sectional Valve

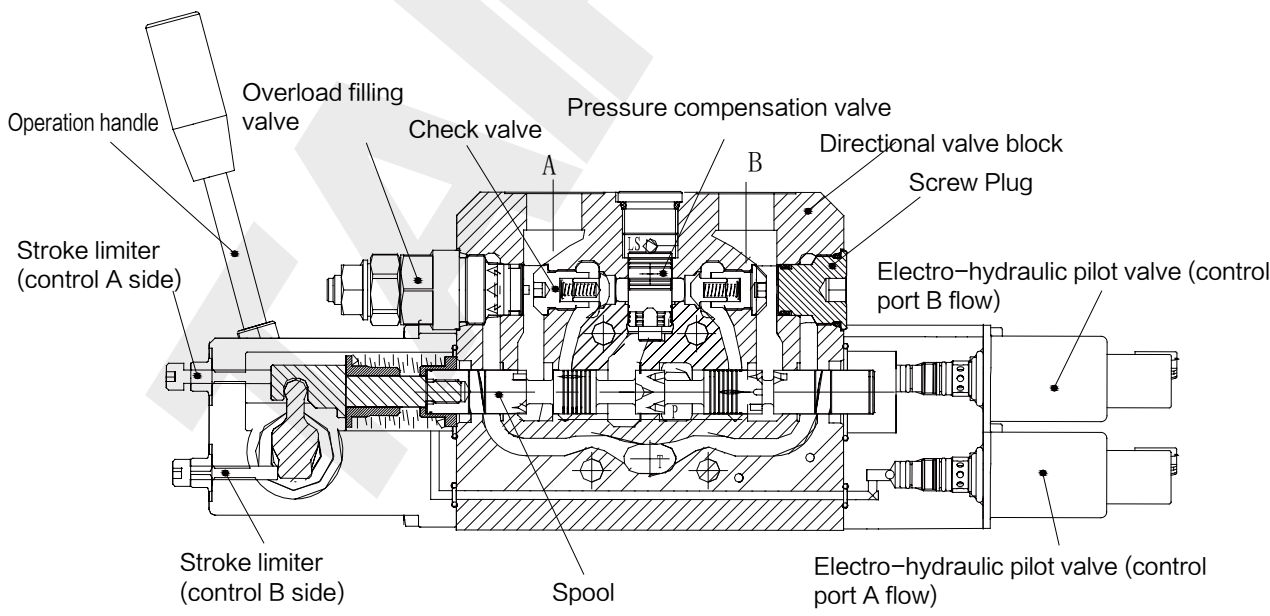
TAIFENG®

Sections description



1. Inlet block
2. Directional valve block
3. End section
4. Pressure reducing valve
5. Hydraulic control plate
6. Electrical control plate
7. Electro-hydraulic pilot valve
8. Pressure compensation valve
9. Pressure differential valve (flushing valve)
10. LS flow valve
11. LS relief valve
12. Overload filling valve

Sectional view

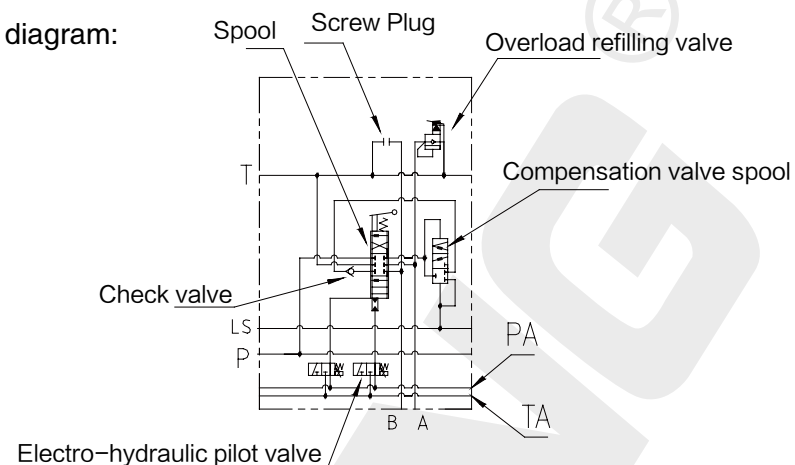


TRM15A Series Flow Sharing Sectional Valve

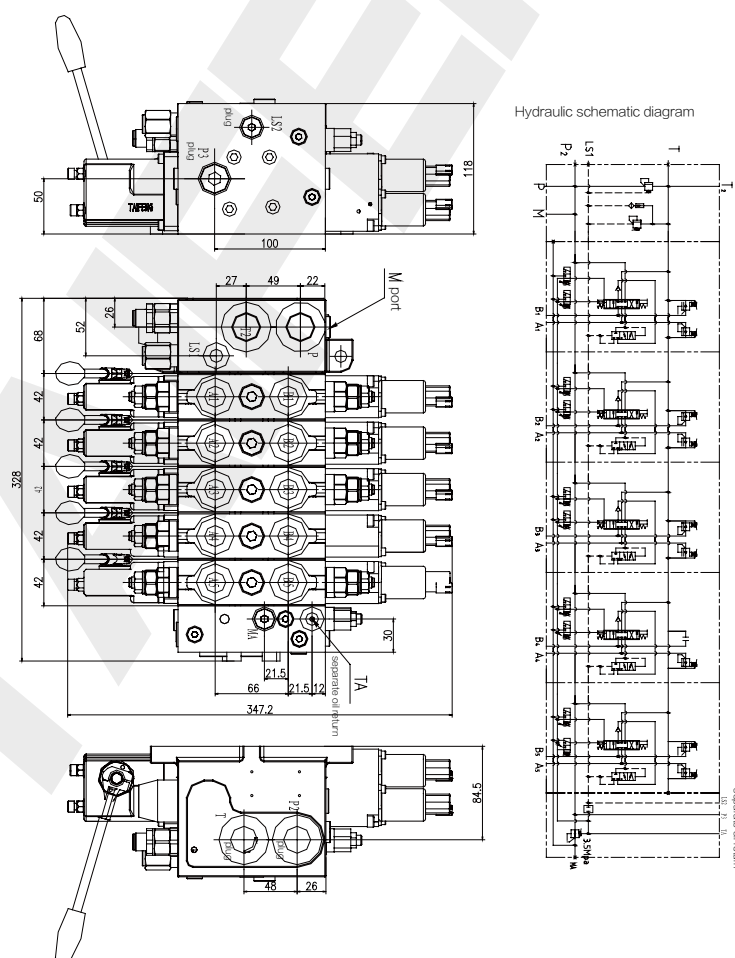
TAIFENG®

Sectional view

Hydraulic schematic diagram:



TRM15A typical application schematic and outline drawing



TRM17 Series Flow Sharing Sectional Valve

TAIFENG®



Size: 12
Max. working pressure:
P port: 320bar
A/B port: 350bar
Max flow:
P port: 120L/min
A/B port: 100L/min
*High pressure type

Note: TRM17 series is a kind of manual flow-sharing sectional valves redesigned from TRM15 series, the diameter of directional spool is changed from 12 to 17 resulting in greater oil flow capacity.

Features

- Sandwich structure, flexible combination on demand.
- Load pressure compensation, load pressure independent flow distribution.
- Manual control
- Limit the maximum pressure of the system through the LS relief valve.
- Secondary relief valve to prevent the operative system from overload by setting the secondary pressure.
- Low pressure drop and less fuel consumption.
- Small pressure loss and low energy consumption.
- Precise control, stable proportional control, comfortable maneuverability.
- High repetition accuracy and small hysteresis.

Main Application

Truck crane, loader, forklift, drilling machinery, lifting machinery.

TRM17 Series Flow Sharing Sectional Valve

TAIFENG®

Ordering Code

TRM17 - B S - 08 - XX - 01

1 2 3 4 5 6

- 1.Products series: TRM17 (size 12), Max. flow: inlet port 120L/min, working port 100L/min.
- 2.Pump type:
 - B. load sensing variable displacement pump
 - D.fixed displacement pump, constant power pump, constant pressure pump, electro-proportional pump.
- 3.Type of control:
 - X. pilot control
 - S. manual control
 - H. pilot and manual combination control
- 4.Number of working sections: for example, 08 stands for 8 working sections in the valve.
- 5.User Identification
- 6.Design series code

Technical data

Products Series	TRM17
Size	≤ 10
Nominal diameter	13
Max. flow rate L/min	P port: 140 A/B port: 120
Max. working pressure bar	P port: 320 A/B port: 350
Pilot pressure bar	≤ 35
Operating temperature range °C	−20 ... +90
Working medium	Low freezing anti-wear hydraulic oil
Viscosity range mm²/s	2.8 ... 380
ΔP (P-LS differential pressure) bar	12 ... 15

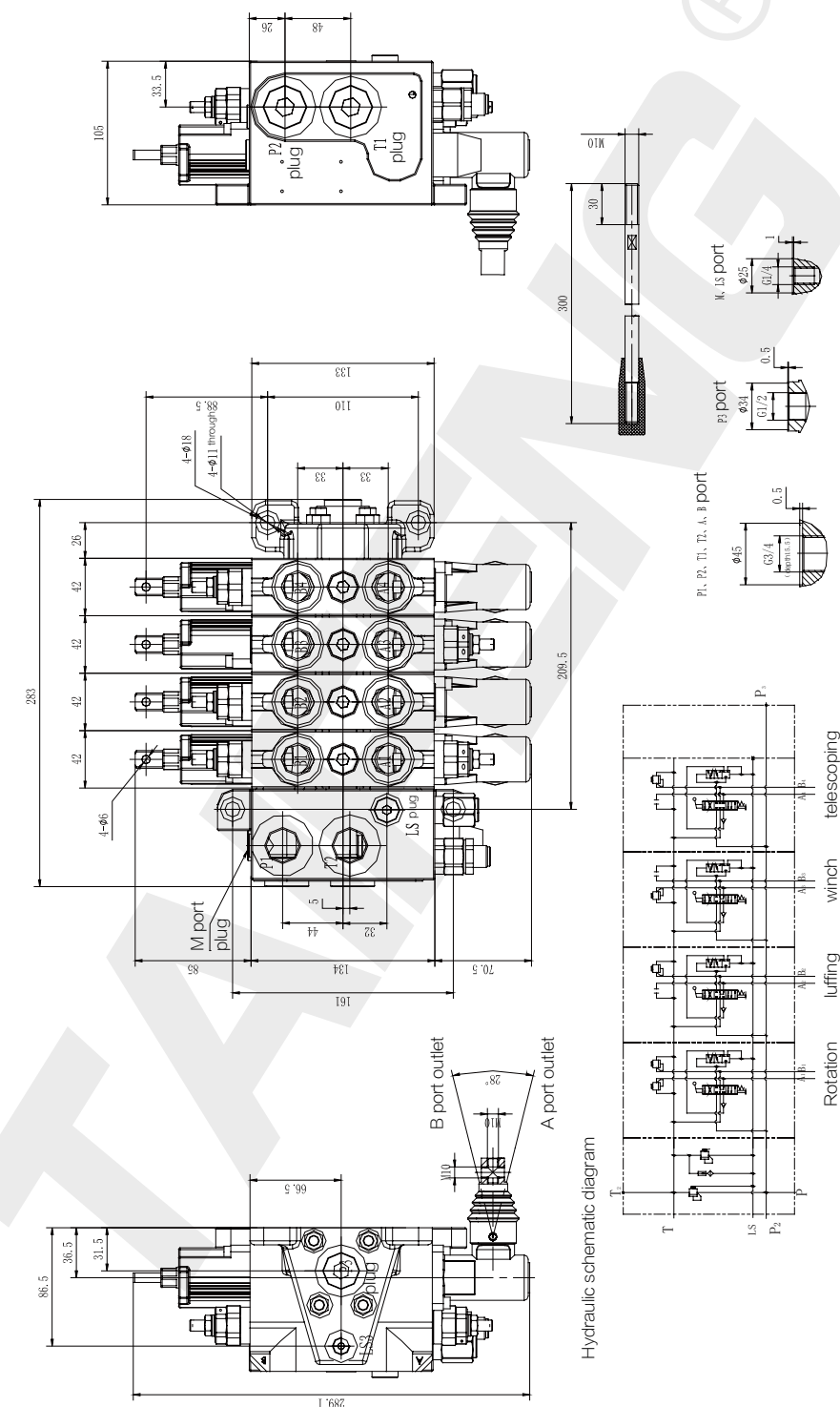
Port connection size

TRM17	Thread	Port type
P inlet port	G3/4	BSP (ISO1179-1,ISO228-1)
T return port	G3/4	
A/B port	G3/4	
LS, M, a, b port	G1/4	

TRM17 Series Flow Sharing Sectional Valve

TAIFENG®

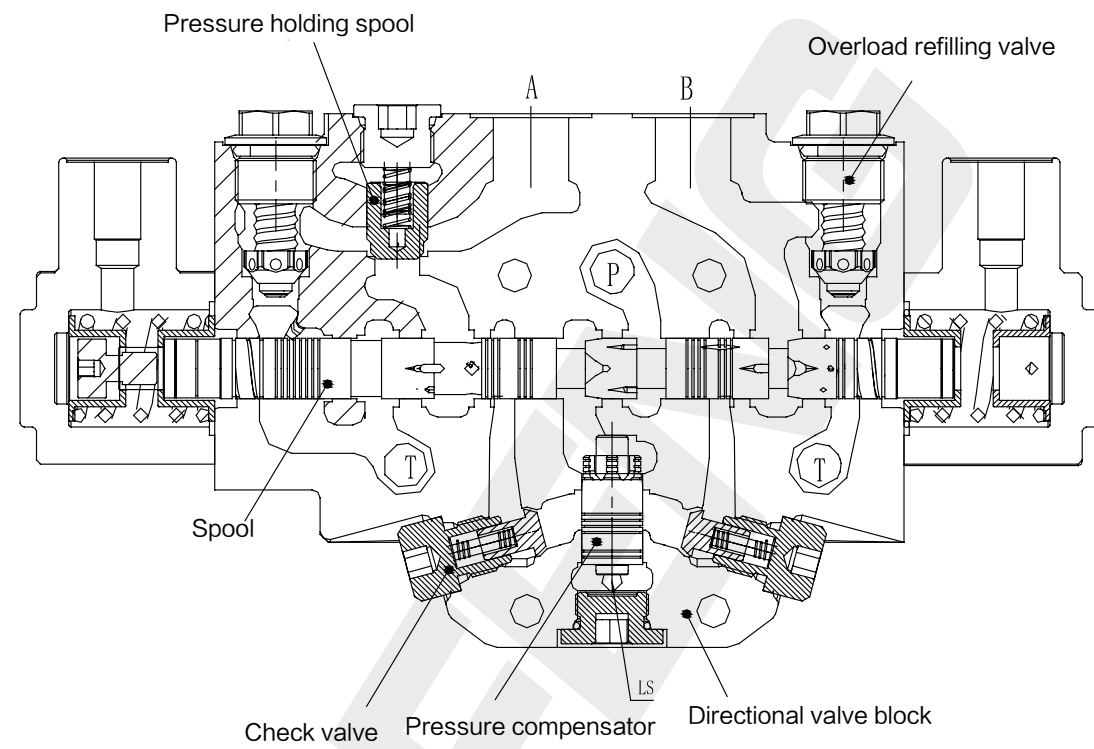
Sectional view



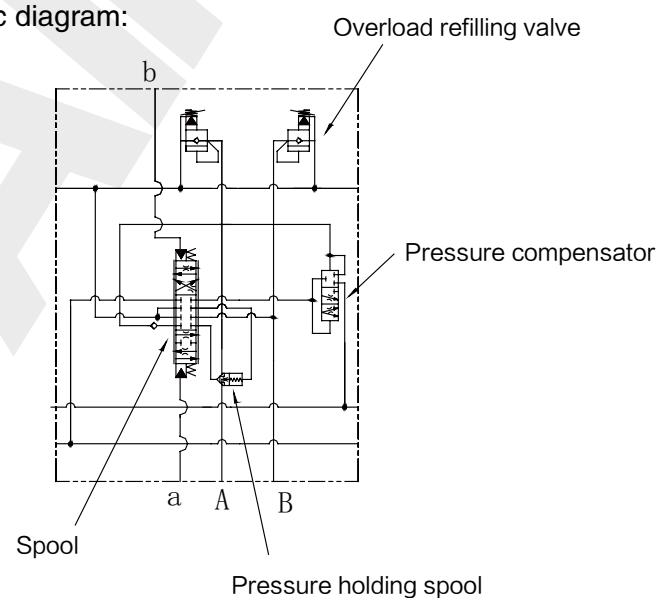
TRM17 Series Flow Sharing Sectional Valve

TAIFENG®

Sectional View



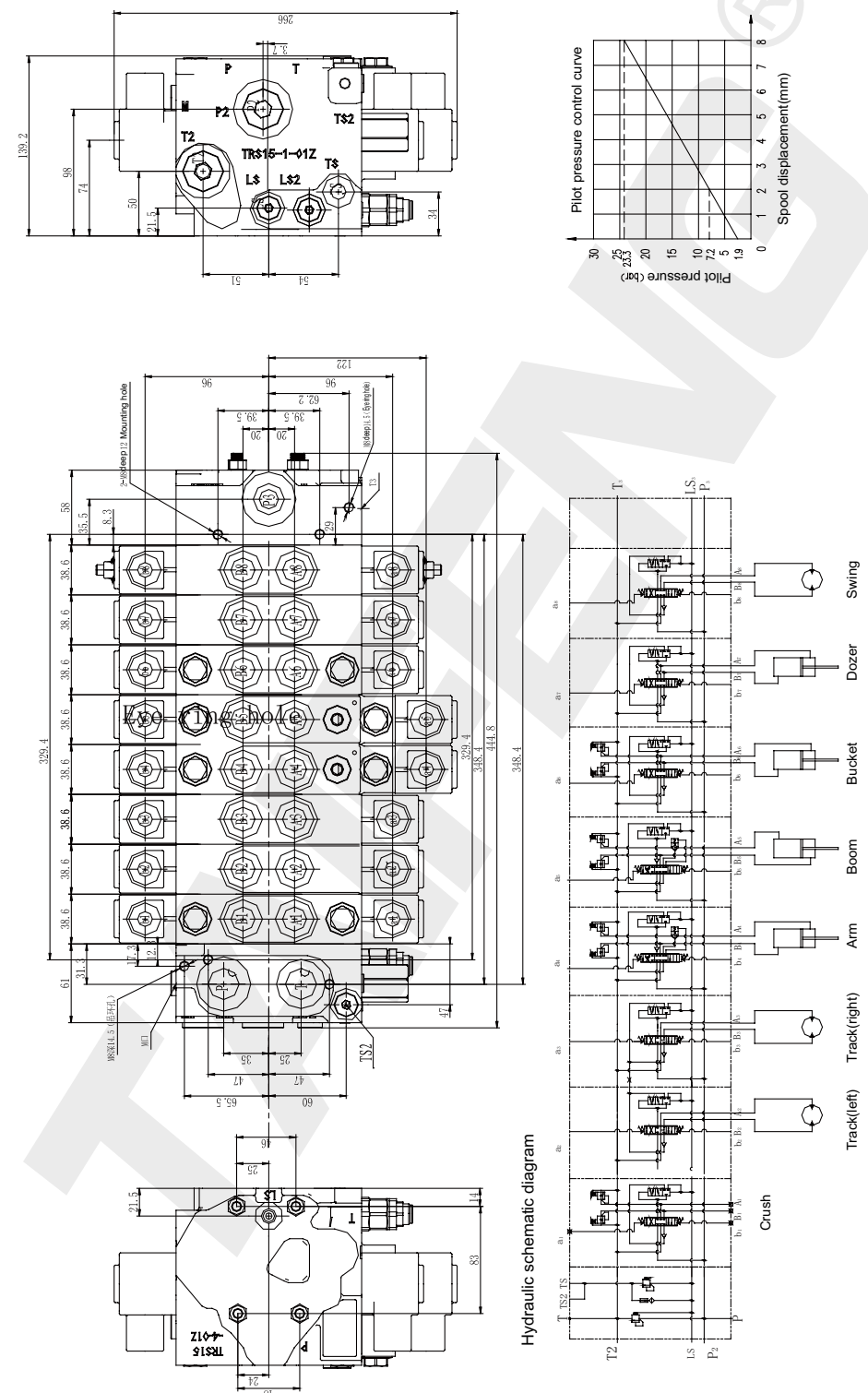
Hydraulic schematic diagram:



TRM17 Series Flow Sharing Sectional Valve

TAIFENG®

Typical application schematic and outline drawing for 4–6t excavator



TRS15 Series Flow Sharing Sectional Valve	TAIFENG®
<div>  <div> Size: 12 Max. working pressure: P port: 320bar A/B port: 350bar Max. flow: P port: 140L/min A/B port: 110L/min *High pressure type </div> </div>	
Features <ul style="list-style-type: none"> • Sandwich structure, flexible combination on demand. • Load pressure compensation, load pressure independent flow distribution. • Hydraulic pilot control, electric proportional (or switch) control. • Limit the maximum system pressure through the LS relief valve • Secondary relief valve to prevent the operative system from overload by setting the secondary pressure. • Low pressure drop and less fuel consumption. • Precise control, stable proportional control, comfortable maneuverability. • High repetition accuracy and small hysteresis. 	
Main application <p>Excavator, loader, forklift, drilling machinery, lifting machinery.</p>	

TRS15 Series Flow Sharing Sectional Valve	TAIFENG®
Ordering code <div> <div> <div>TRS15</div> <div>-</div> <div>B</div> <div>X</div> <div>E24</div> <div>-</div> <div>08</div> <div>-</div> <div>XX</div> <div>-</div> <div>01</div> </div> <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> </div> </div> <div> 1.Products series: TRS15 (Size 12), Max. flow rate:inlet port 120L/min, working port 100L/min. 2.Pump type: B. Load sensing variable displacement pump D. Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump 3.Type of control: X.pilot control S.manual control H.pilot and manual combination 4.Type of electric control E24 electric proportional control 24V DC E12 electric proportional control 12V DC G24 electric switch control 24V DC G12 electric switch control 12V DC No electric control, omit 5.Number of working sections, for example “08” stands for 8 working sections in the valve 6.User identification 7.Design series code </div>	

TRS15 Series Flow Sharing Sectional Valve		TAIFENG®	
Technical data			
Product series	TRS15		
Number of working sections	≤ 10		
Size	12		
Max. flow L/min	Port P:140 Port A/B:110		
Max. pressure bar	Port P:320 Port A/B:350		
Pilot pressure bar	≤ 35		
Temperature range °C	-20 ... +90		
Working medium	Low freezing anti-wear hydraulic oil		
Viscosity range mm²/s	2.8 ... 380		
Port connection size			
TRS15	Thread	Port type	
P inlet port	G3/4	BSP (ISO1179-1,ISO228-1)	
T return port	G3/4		
A,B port	G1/2		
LS, M, a, b port	G1/4		

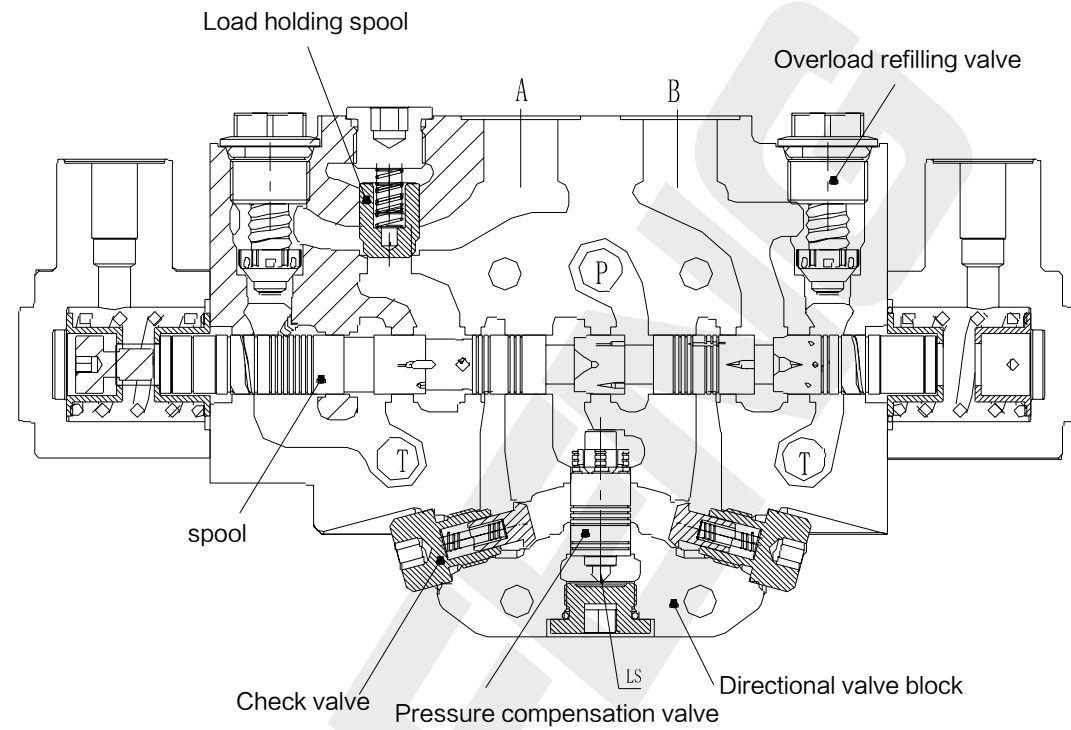
TRS15 Series Flow Sharing Sectional Valves		TAIFENG®
Sectional view		
<div> <div> <p>Inlet section:</p> </div> <div> <p>Hydraulic schematic diagram:</p> </div> </div> <div> <div> <p>Directional section:</p> </div> <div> <p>Hydraulic schematic diagram:</p> </div> </div>		

TRS15 Series Flow Sharing Sectional Valves

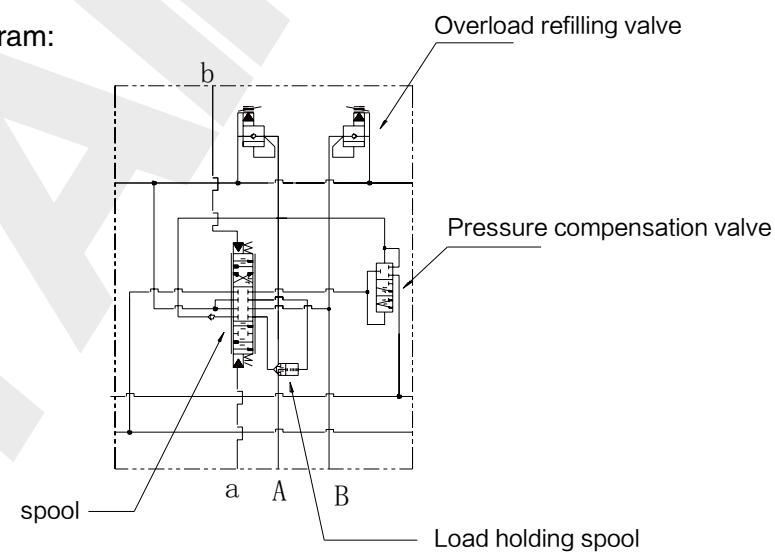
TAIFENG®

Sectional view

Directional valve with load holding:



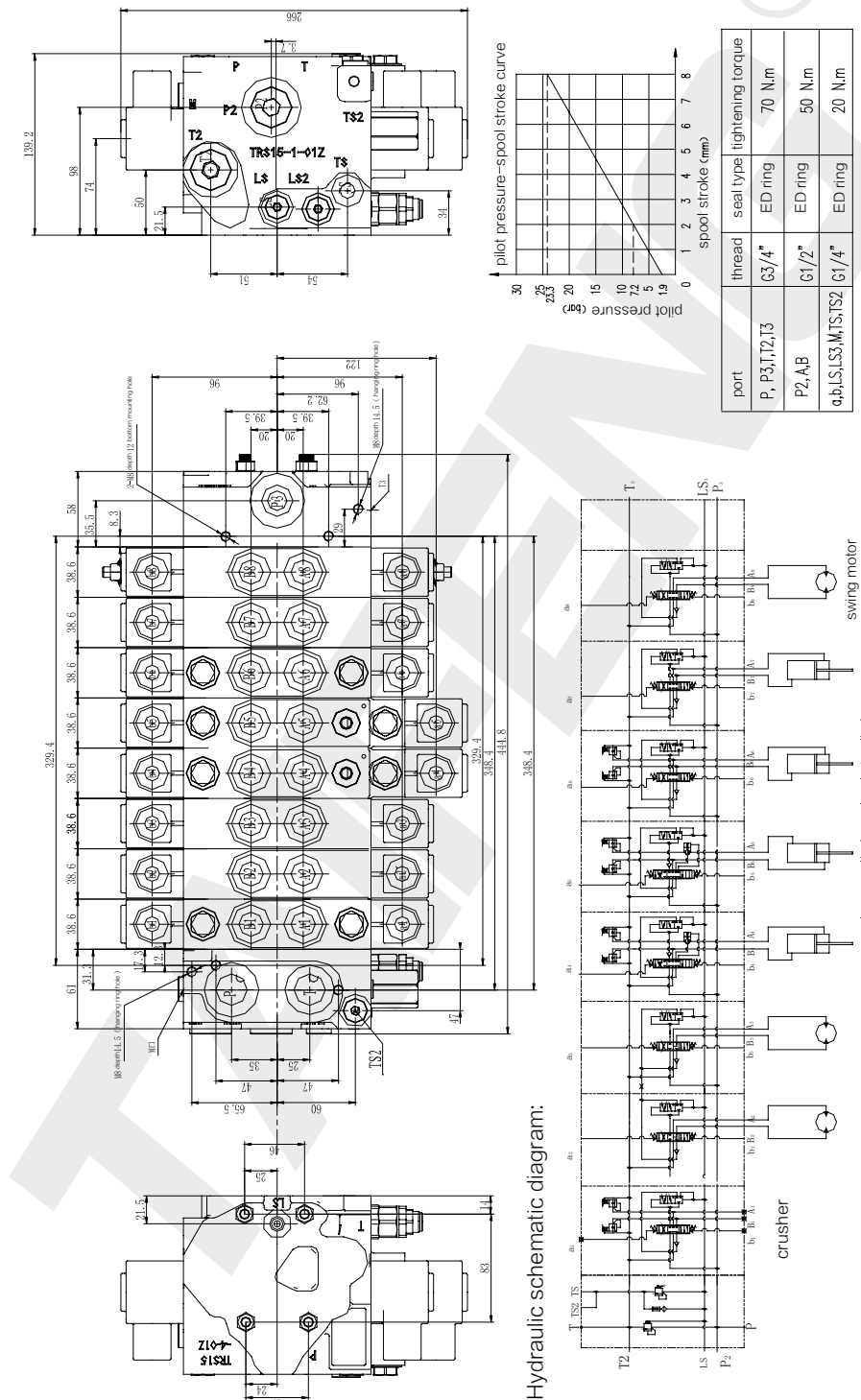
Hydraulic schematic diagram:

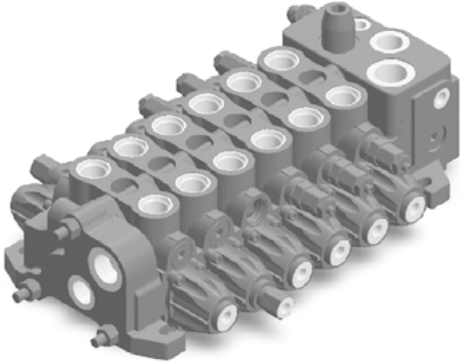


TRS15 Series Flow Sharing Sectional Valves

TAIFENG®

Typical application schematic and outline drawings of 4–6t excavators



TRM20 Series Flow Sharing Sectional Valve	TAIFENG®
<div>  <div> Size: 15 Max. working pressure: --On the pump side: 320bar --On the consumer side : 350bar Max flow: --On the pump side: 180L/min --On the consumer side : 160L/min </div> </div>	
Features: <ul style="list-style-type: none"> • Sandwich structure, flexible combination on demand. • Load sensitive and pressure compensation, load pressure independent flow distribution. • Hydraulic pilot control, electric proportional (or switch) control. • Limit the maximum pressure of the system through the LS relief valve. • Secondary relief valve to prevent the operative system from overload by setting the secondary pressure. • Low pressure drop and less fuel consumption. • Precise control, stable proportional control, comfortable maneuverability. • High repetition accuracy and small hysteresis. 	
Main application fields: <p>Excavators, loader, hammer drill, drilling machine, crane.</p>	

TRM20 Series Flow Sharing Sectional Valve	TAIFENG®
Ordering Code: <div> <div> <div>TRM20</div> <div>-</div> <div>B</div> <div>X</div> <div>E24</div> <div>-</div> <div>08</div> <div>-</div> <div>XX</div> <div>-</div> <div>01</div> </div> <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> </div> </div>	
<div> 1.Products series TRM20 （size15), max flow rate: inlet port 180L/min, working port 160L/min 2.Pump type: <div> B.Load sensing variable displacement pump D.Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump. </div> 3.Type of control: <div> X. Pilot control S. Manual control H. Pilot and manual combination </div> 4.Type of electric control: <div> E24 electric proportional control 24V DC E12 electric proportional control 12V DC G24 electric switch control 24V DC G12 electric switch control 12V DC No electric control, omit </div> 5.Number of working sections, for example "08" stands for 8 working sections in the valve 6.User identification 7.Design series code </div>	

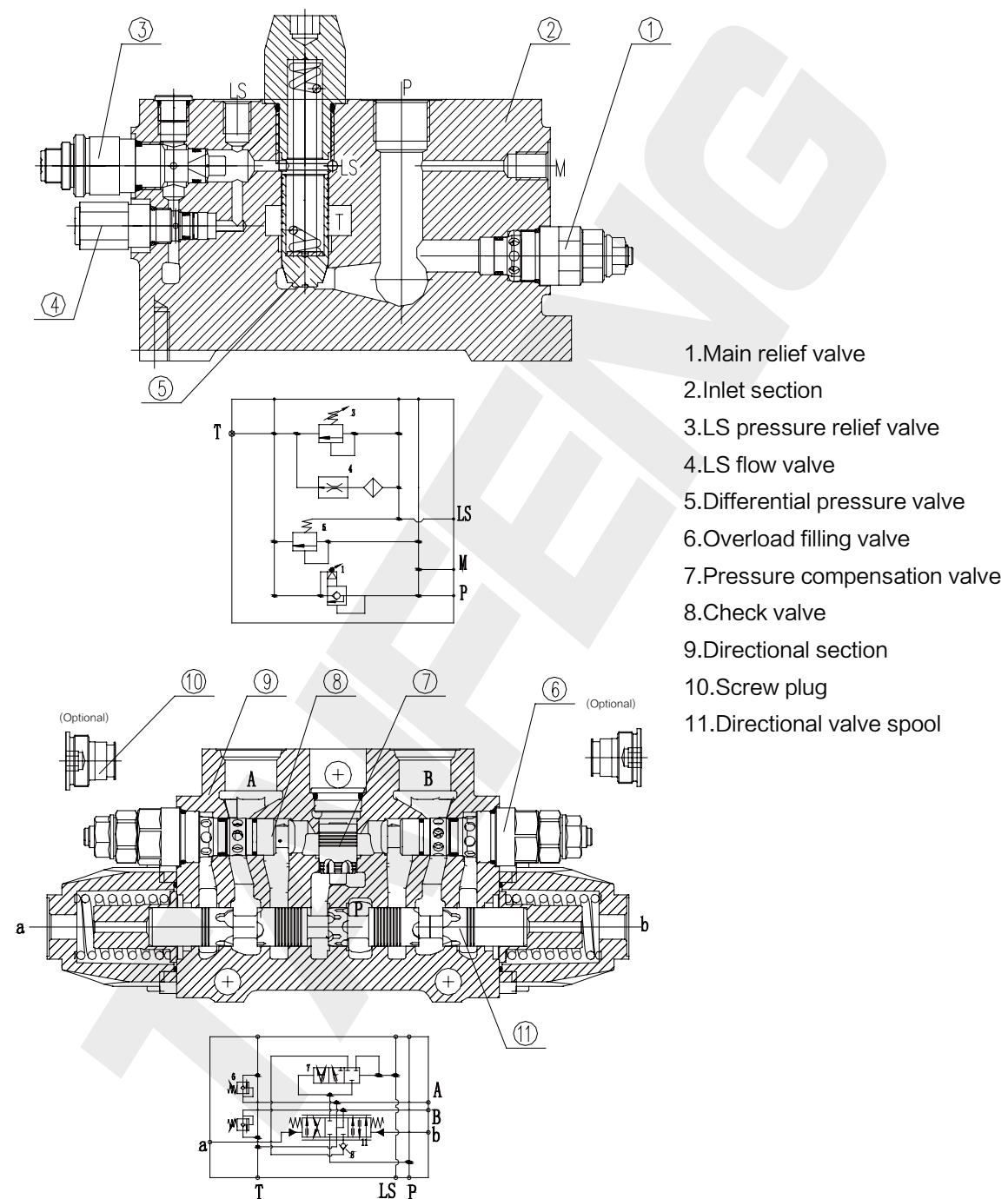
TRM20 Series Flow Sharing Sectional Valve			TAIFENG®		
Technical data					
Series		TRM20			
Number of working sections		≤ 10			
Size		15			
Max. flow rate L/min		P port: 180		A/B port: 160	
Max. working pressure bar		P port: 320		A/B port: 350	
Pilot pressure bar		≤ 35			
Operating temperature range °C		-20 ... +100			
Working medium		Low freezing point anti-wear hydraulic lubricating oil			
Viscosity range mm²/s		2.8 ... 380			
Weight (Kg)		Inlet section: 10			
		Working section: 6.5			
		End section: 3			
Port connection size					
TRM20		Thread		Port type	
P inlet port		G3/4		BSP (ISO1179-1,ISO228-1)	
T return port		G1			
A/B port		G3/4			
LS, M, a, b port		G1/4			

TRM20 Series Flow Sharing Sectional Valve		TAIFENG®
Metering Curve		
(Measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50\text{ }^{\circ}\text{C}$)		
<div> <div> Pressure characteristic Curve of directional valve (180LPM spool test) </div> <div> (180LPM spool test) </div> </div>		
<div> <div> Pressure characteristic curve of differential pressure valve </div> <div> Metering curve of pilot pressure control </div> </div>		
<div> Pressure and flow curve of overload valve A/B→T </div>		

TRM20 Series Flow Sharing Sectional Valve

TAIFENG®

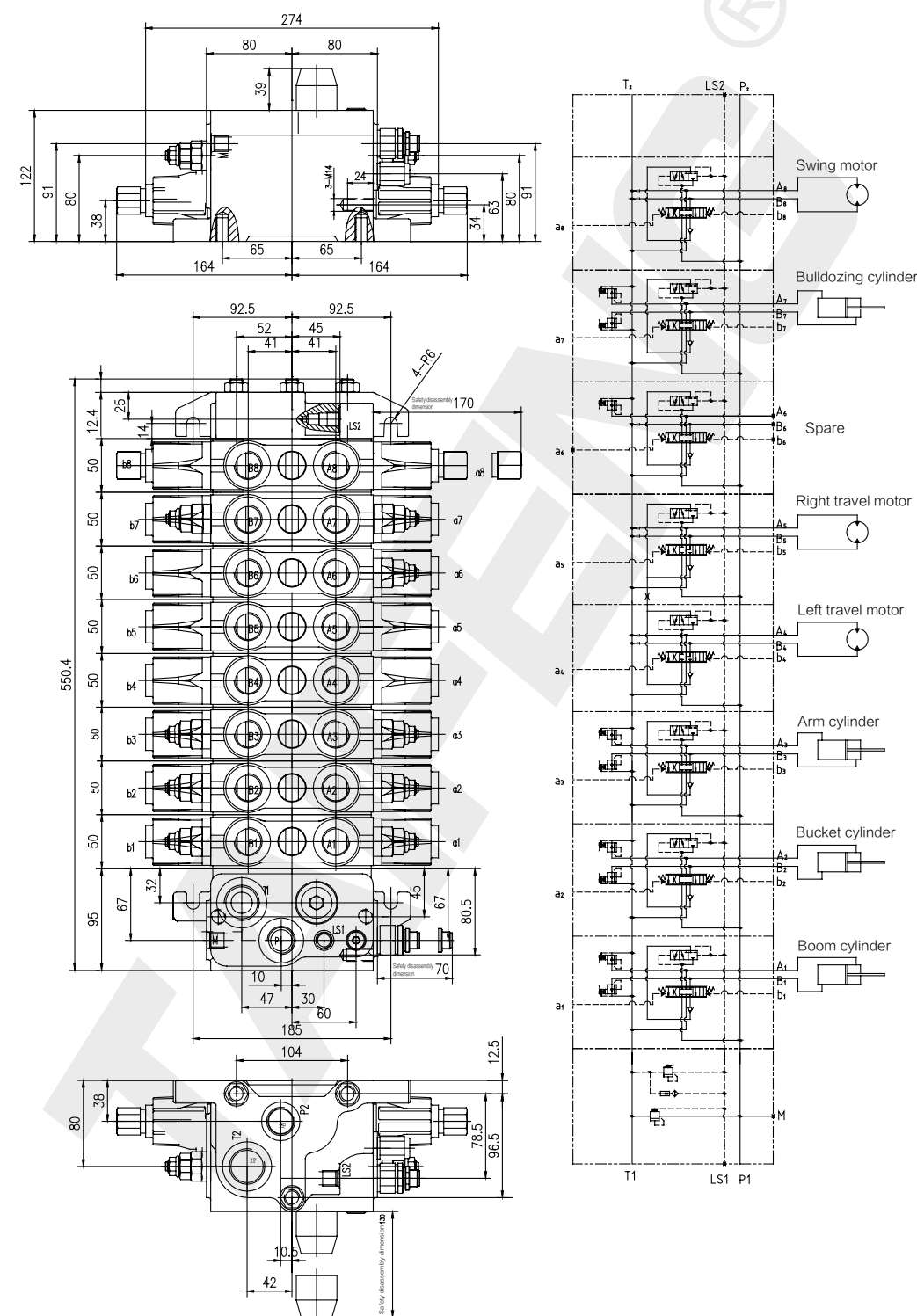
Sectional view



TRM20 Series Flow Sharing Sectional Valve

TAIFENG®

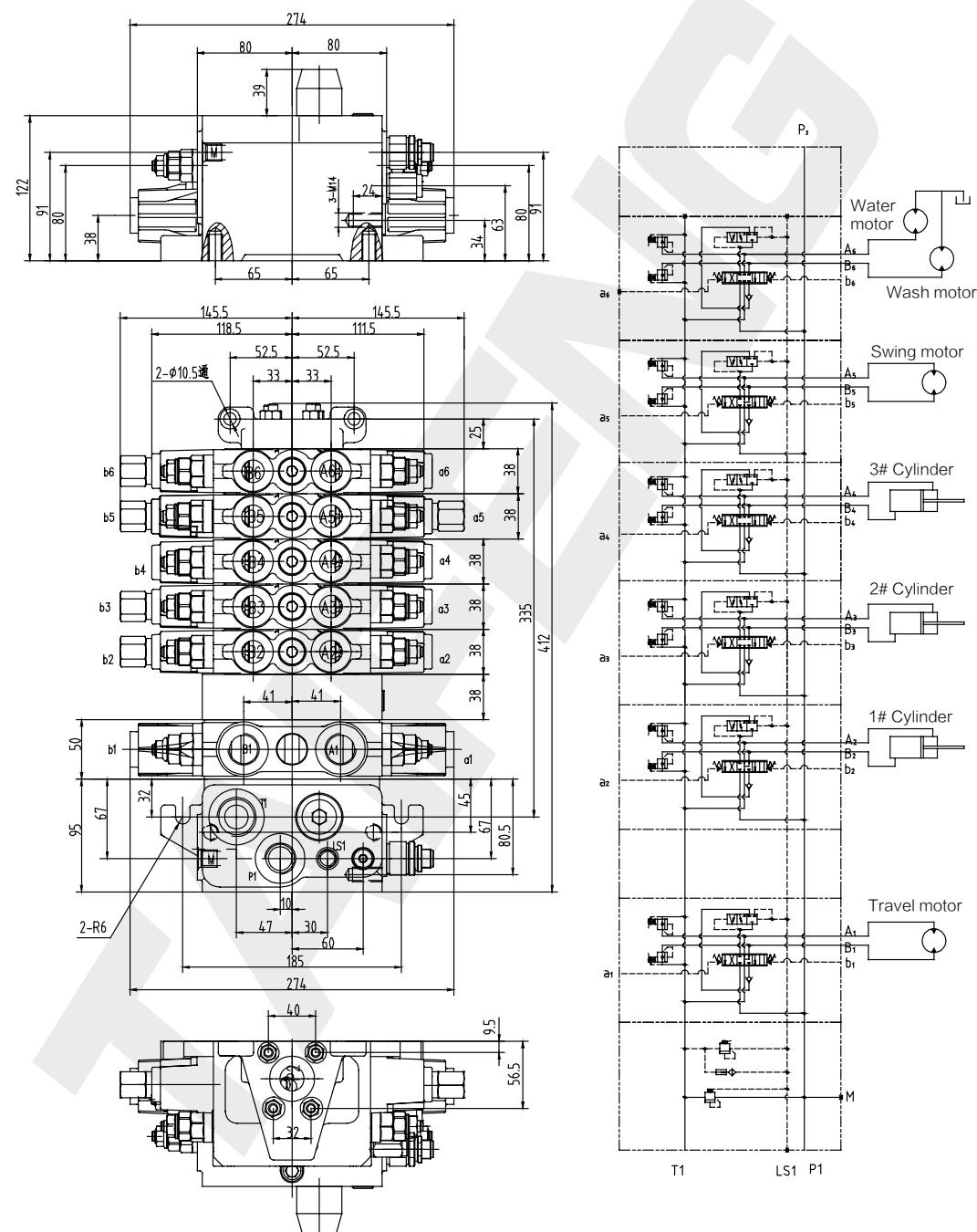
Typical application schematic and outline drawing for 7–10T excavator



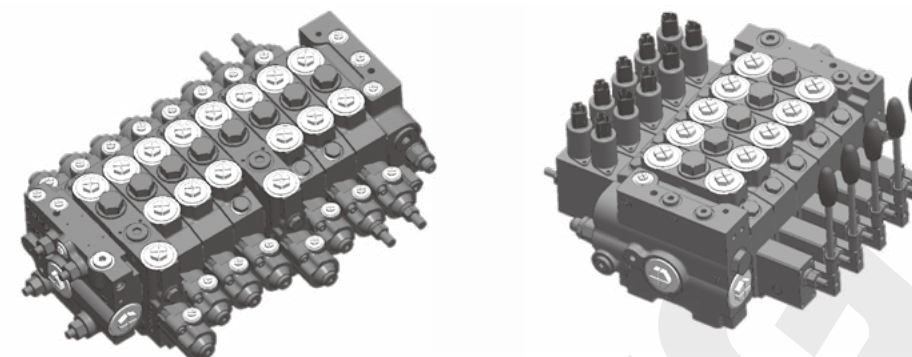
TRM20 Series Flow Sharing Sectional Valve

TAIFENG®

The application schematic and outline drawing of TRM 20 series and TRM15 series for automatic concrete loading mixer



TRM20E Series Hydraulic Control Flow Sharing Sectional Valve

TAIFENG®

Size: 15

Max. working pressure:

- On the pump side: 320bar

- On the consumer side : 350bar

Max. flow:

- On the pump side: 180 l/min

- On the consumer side : 160 l/min

Features

- Sandwich plate design, flexible combination on demand.
- Load pressure compensation, load pressure independent flow distribution.
- Hydraulic pilot control, electric proportional (or switch) control.
- Load holding function is available for boom and arm.
- Adjustable working priority sequence of each plate .
- Limitation of system maximum pressure via LS pressure relief valve.
- Limit the load of actuator system and set secondary pressure via pressure relief valve.
- Low pressure drop and less fuel consumption.
- Precise control, stable proportional control, comfortable operation.
- High repetition accuracy, small hysteresis.

Fields of application

- 7 to 10 tons excavator
- Mobile crusher
- Drilling machinery
- Crane

TRM20E Series Hydraulic Control Flow Sharing Sectional Valve	TAIFENG®
Ordering code	
<div>TRM20E - B X E24 - 08 - XX - 01</div> <div>1234567</div> <div>1. Product series TRM20E (size 15), maximum flow: inlet port 180 l/min, working port 160 l/min</div> <div>2. Pump type:<div>B. load sensitive variable displacement pump</div><div>D. fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump</div></div> <div>3.Type of control<div>X. pilot control</div><div>S. manual operated</div><div>H. pilot and manual combined control</div></div> <div>4. Type of electric control<div>E24 electric proportional control 24VDC</div><div>E12 electric proportional control 12VDC</div><div>G24 electric switch control 24VDC</div><div>G12 electric switch control 12VDC</div><div>E24MA ATEX electronic proportional control 24V DC</div><div>E12 MA ATEX electronic proportional control 12V DC</div><div>G24 MA ATEX electronic switch control 24V DC</div><div>G12MA ATEX electronic switch control 12V DC</div><div>Without electric control type, omitted</div></div> <div>5.Number of Working sections, for example "08" stands for 8 working sections in the valve.</div> <div>6.User identification</div> <div>7.Design series code</div>	

TRM20E Series Hydraulic Control Flow Sharing Sectional Valve			TAIFENG®	
Technical data				
Product series	TRM20E			
Number of working sections	≤ 10			
Size	15			
Port connection size	ISO BSP pipe threads			
Max. flow L/min	P port: 180 A/B port: 160			
Max. pressure bar	P port: 320			
	A/B port: 350			
	Port T: 20			
Pilot pressure bar	≤ 35			
Temperature range °C	-20 ... +90			
Working medium	Mineral oil (HL, HLP) according to DIN51 524			
Viscosity range mm²/s	2.8 ... 380			
Admissible degree of contamination	Maximum admissible degree of contamination: class 9 NAS1638			
Weight (Kg)	Inlet plate: 7.8			
	Common directional section: 8.1			
	Directional section with load holding: 9.6			
	Inlet return oil end section: 7.3			
Port BSP(ISO1179-1, ISO228-1)	P, T		G1	
	A,B		G3/4	
	a, b, LS, Pp, TS, PA ,TA		G1/4	
Electrical data				
	On-off pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Electric resistance (below 20℃)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Control current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			

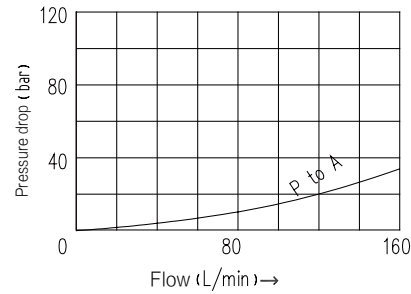
TRM20E Series Hydraulic Control Flow
Sharing Sectional Valve

TAIFENG®

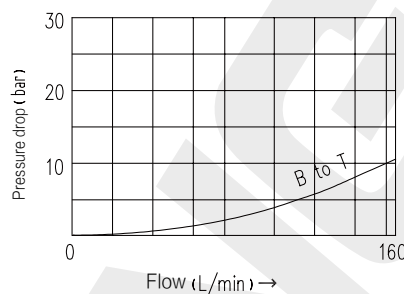
Metering curve

(measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ\text{C}$)

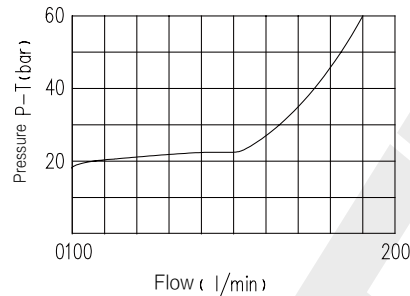
P to A/B pressure drop
(Max. flow 160L/min spool)



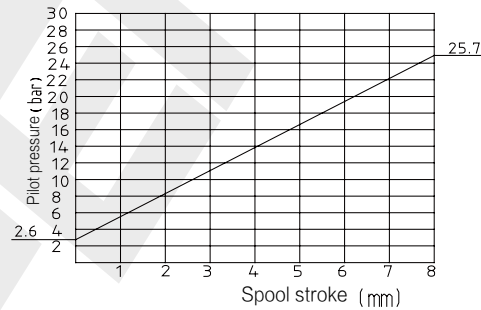
A/B to T pressure curve
(Max. flow 160L/min spool)



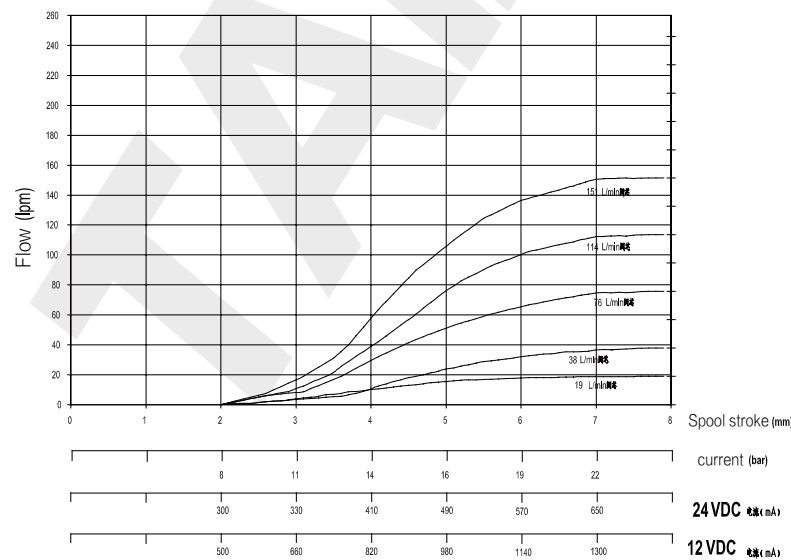
Neutral position P-T pressure curve



Metering curve of pilot pressure and spool stroke
(7-10t excavator application)



Flow characteristic curve of TRM20E electric proportional multiple sectional valve

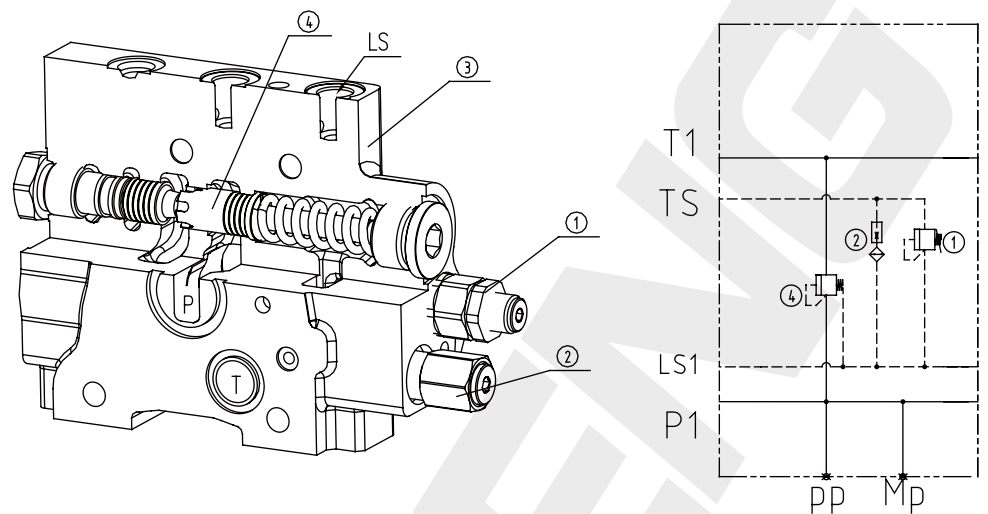


TRM20E Series Hydraulic Control Flow
Sharing Sectional Valve

TAIFENG®

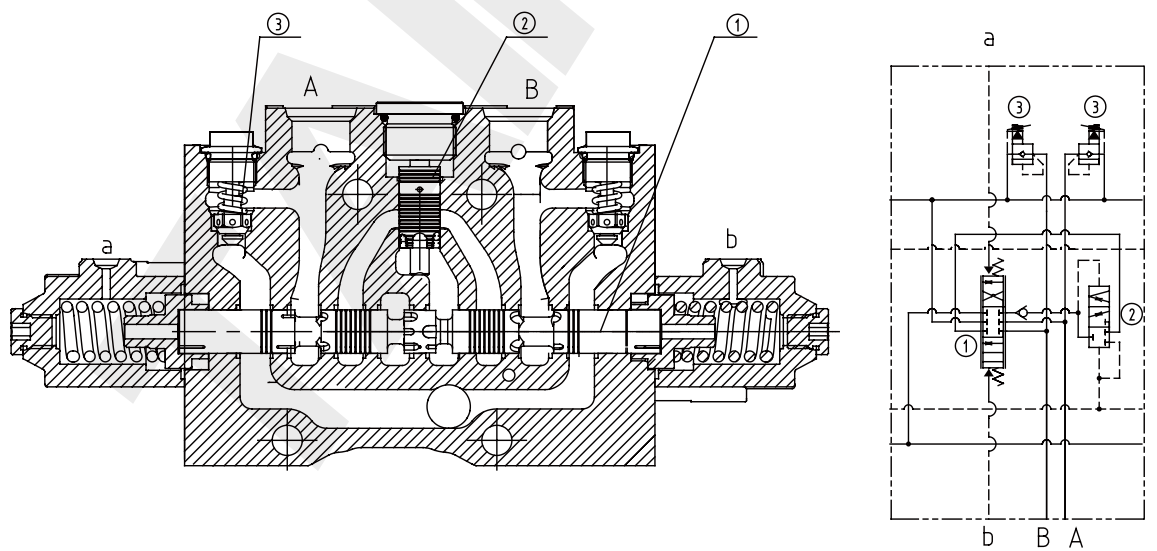
Description of TRM20E hydraulic control sectional valve inlet section and directional
section

Sectional view of inlet section



1. LS pressure relief valve 2. LS flow valve 3. Inlet section 4. Pressure differential spool
(Pls note: TS must have no pressure oil return)

Sectional view of common directional section



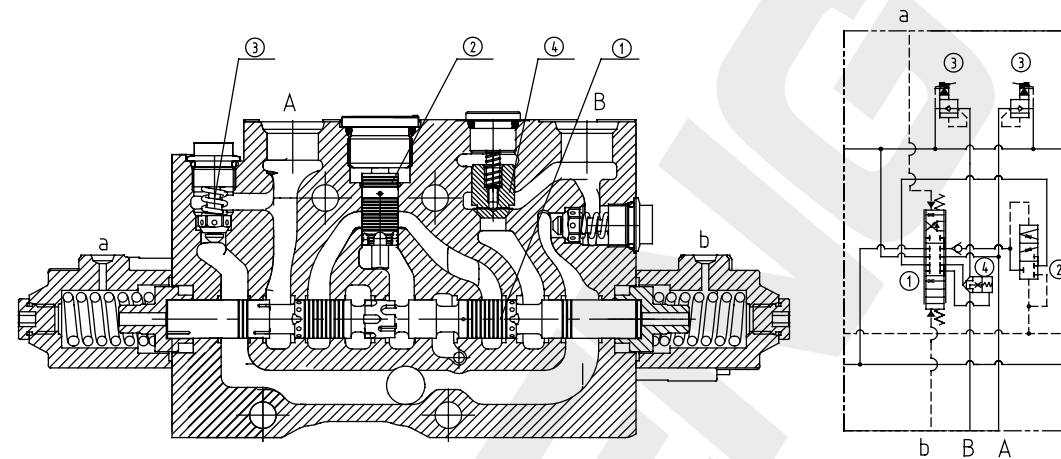
1. spool 2. pressure compensation valve 3. overload filling valve

TRM20E Series Hydraulic Control Flow Sharing Sectional Valve

TAIFENG®

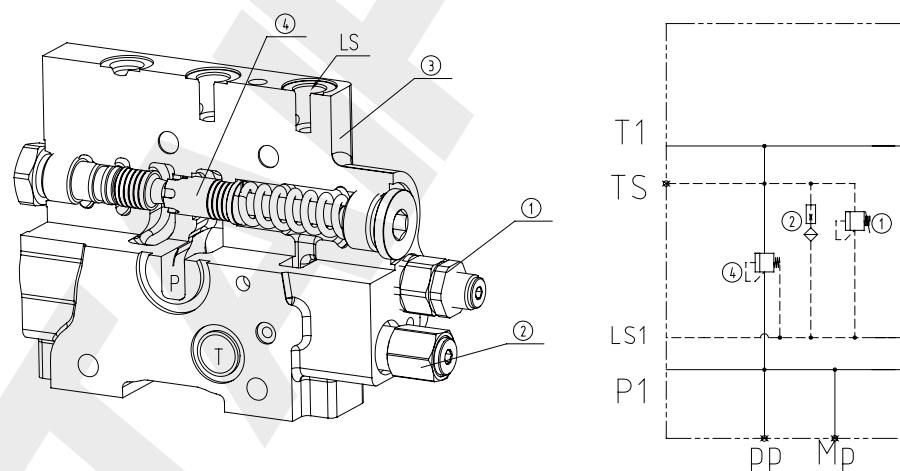
Description of TRM20E electrohydraulic sectional valve inlet section and directional section

Sectional view of directional section with load holding



1.spool 2.pressure compensation valve 3.overload filling valve 4. check valve with load holding

Sectional view of inlet section



1.LS pressure relief valve 2. LS flow valve
3. Inlet section 4. Differential pressure spool

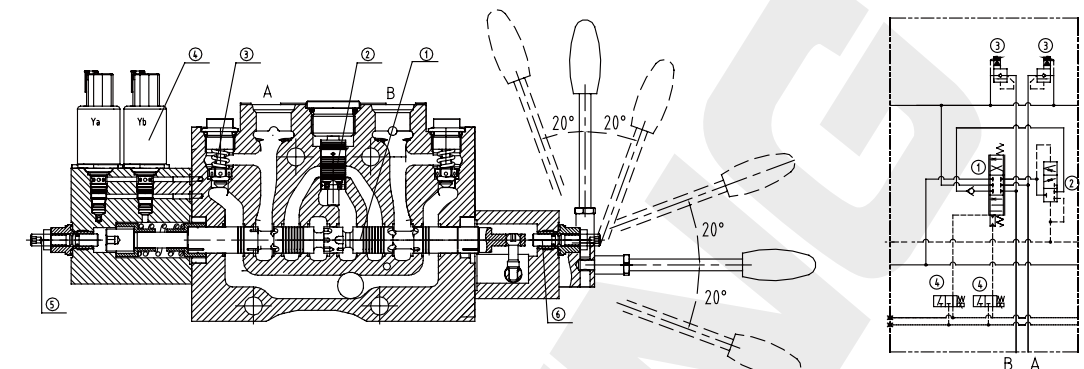
(Note: the shape of the electric proportional inlet block is the same as TRM20E-BX. The difference is that TS is internal oil return, with no separate external oil return)

TRM20E Series Hydraulic Control Flow Sharing Sectional Valve

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Description of TRM20E hydraulic control sectional valve inlet section and directional section

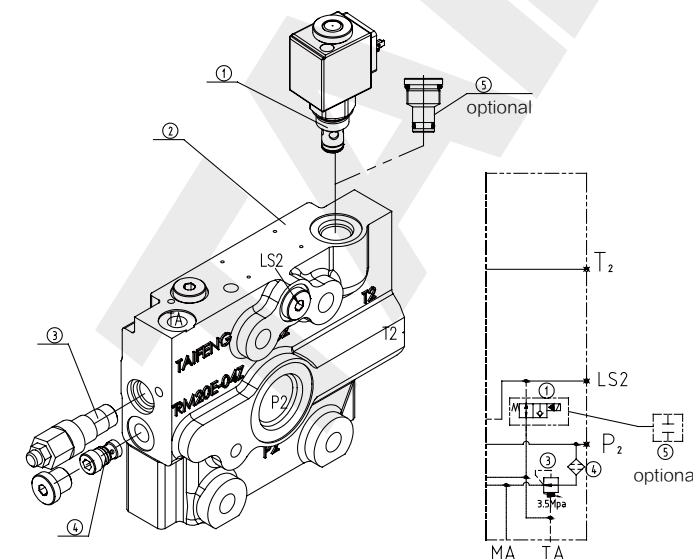
Sectional view of electrohydraulic directional section



1. Valve stem
2. Pressure compensation valve
3. Overload filling valve
4. Proportional pilot solenoid valve
5. Stroke limit bolt (adjust port B flow)
6. Stroke limit bolt (adjust port A flow)

Description of TRM20E electro-hydraulic sectional valve end section

Sectional view of end section with LS relief directional control valve



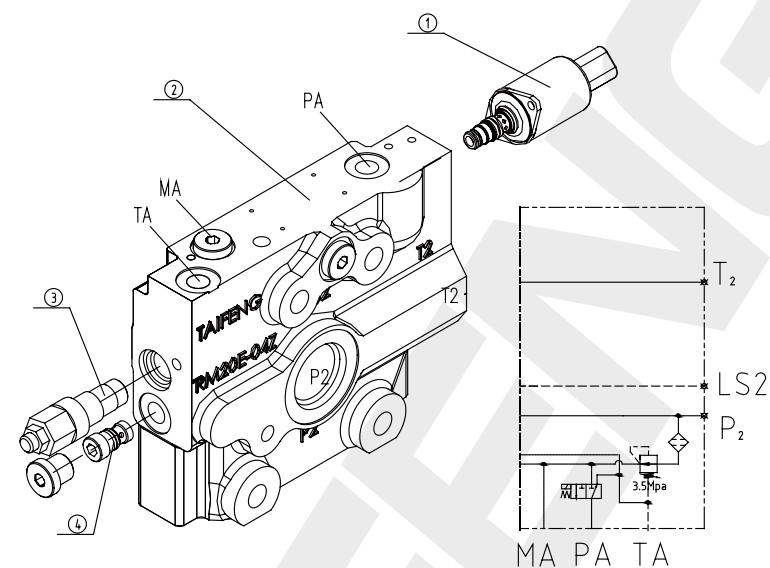
1.LS relief directional control valve (24VDC or 12VDC)
2.Inlet and return end block
3.Pressure reducing valve
4.Filter plug screw
5.Plug screw (TA must have no pressure return oil)

TRM20E Series Hydraulic Control Flow Sharing Sectional Valve

TAIFENG®

Description of TRM20E electrohydraulic sectional valve end section

Sectional view of end section with two-position three-way directional control valve

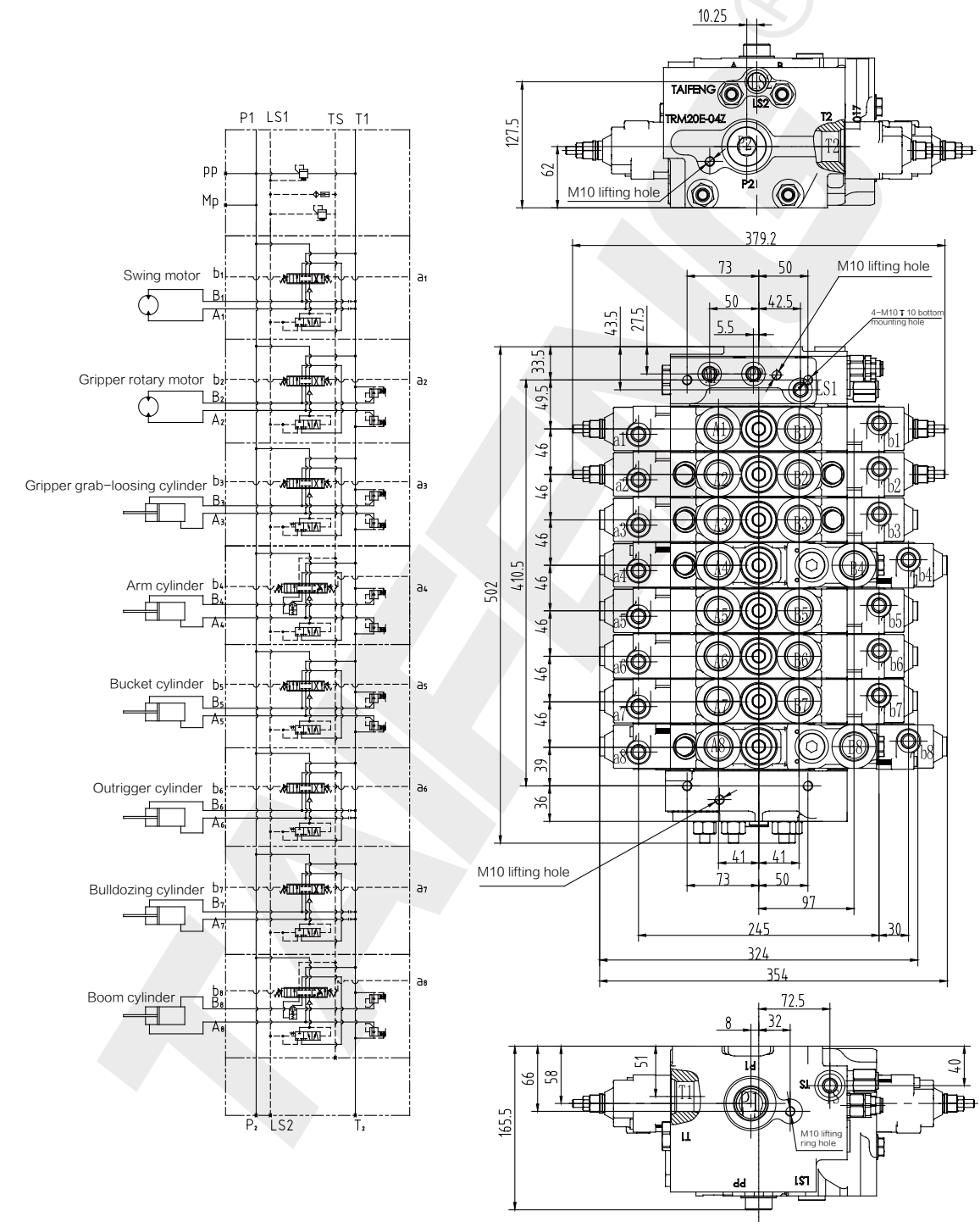


1. Two-position three-way directional control valve (24VDC or 12VDC)
2. Inlet return end block
3. Pressure reducing valve
4. Filter plug screw
5. Plug screw (Note: TA must no pressure oil return)

TRM20E Series Hydraulic Control Flow Sharing Sectional Valve

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Application schematic and outline drawing for 7–10t excavator

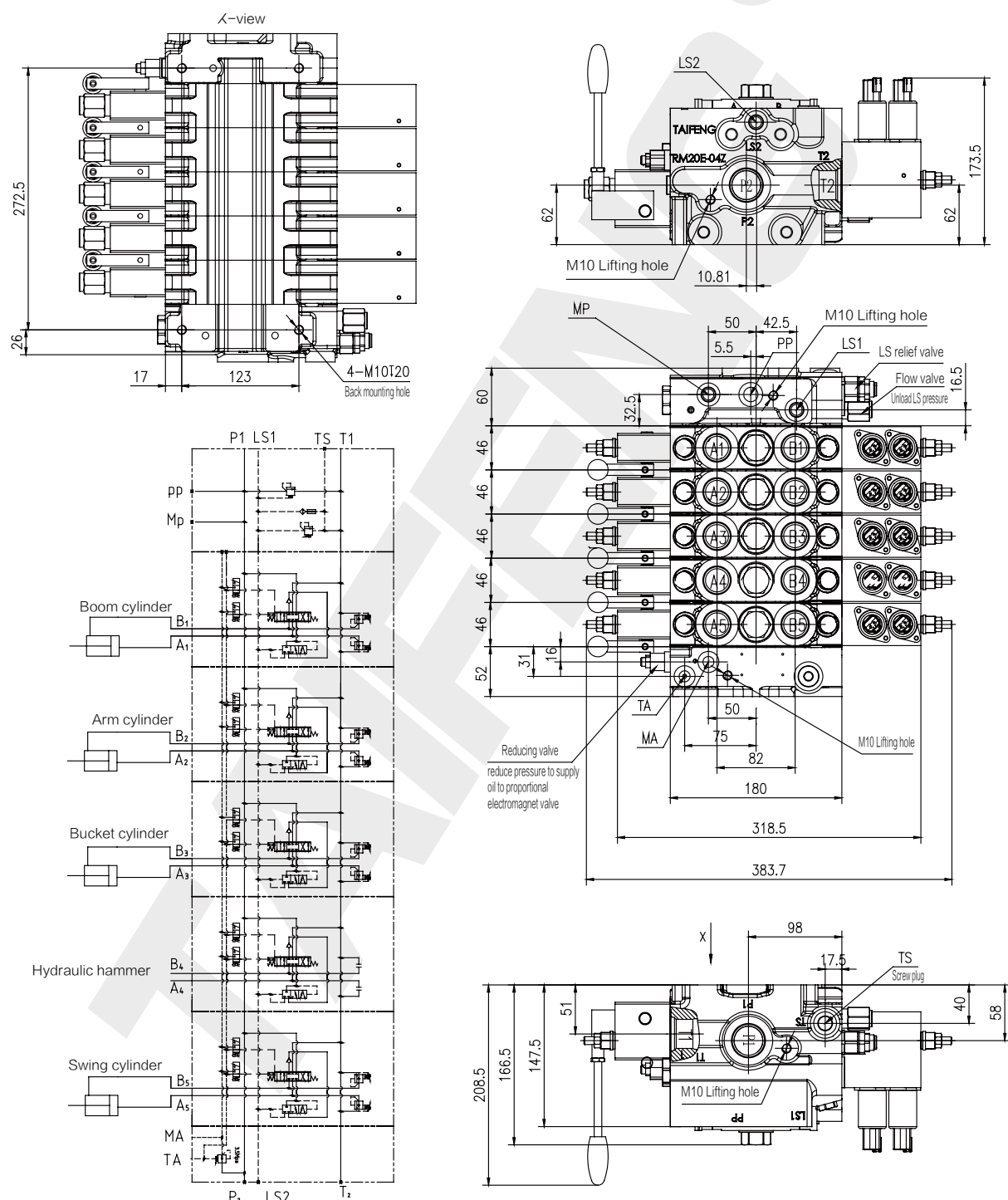


The technical parameter and sequence can be set and adjusted according to user's demand.

TRM20E Series Hydraulic Control Flow
Sharing Sectional Valve

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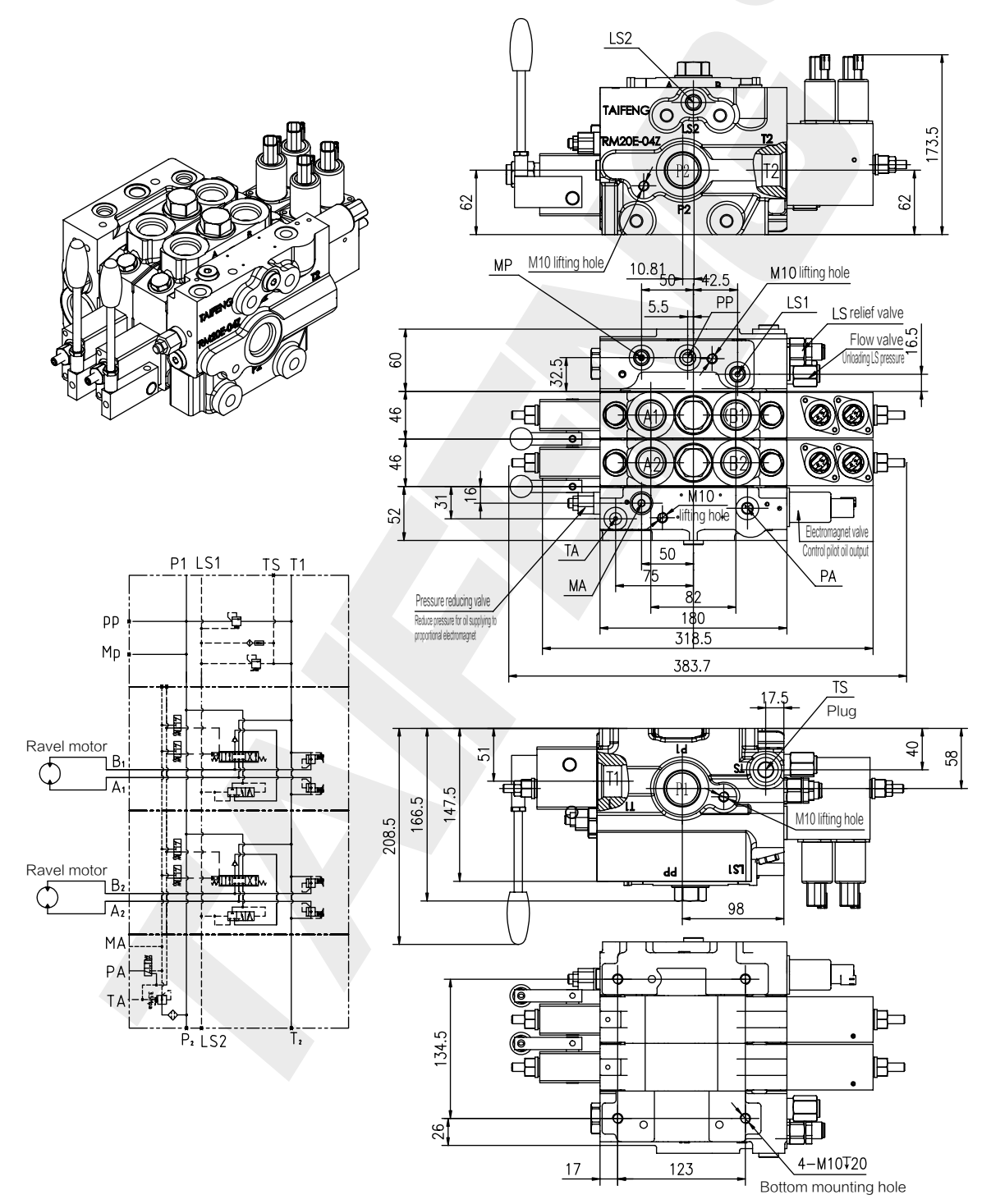
Application schematic and outline drawing for TRM20E electric proportional sectional valve



TRM20E Series Hydraulic Control Flow
Sharing Sectional Valve

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The application schematic and outline drawing for electric proportional mobile two plates valves used on mobile crusher (with high and low speed control)



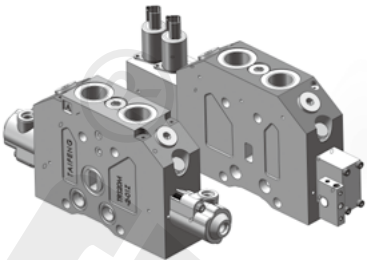
TRS20 Series Flow Sharing Sectional Valve

TAIFENG®

Size: 20

Max. Pressure: P port 320bar
 A/B port 350bar

P port: 280L/min
 A/B port: 250L/min



- Sandwich structure, flexible combination on demand
- Load sensitive and pressure compensation, Flow distribution is independent of the load pressure
- Hydraulic pilot control, electric proportional (or switch) control
- Load holding function is available.
- Adjustable priority of each section.
- Limit the maximum pressure of the system through the LS relief valve
- Secondary relief valve to prevent the operative system from overload by setting the secondary pressure.
- Low pressure drop and less fuel consumption.
- Precise control, outstanding inching performance, comfortable maneuverability
- High repetition accuracy and small hysteresis

Main Application Fields: 10 to 15 tons excavator, Mobile crusher, Drilling machinery,Crane

Ordering codes:

TRS20 - B X E24 - 08 - XX - 01
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Products series TRS20(DN 20), Max flow rate: inlet port 250L/min, working port 250L/min.
- ② Type of pump to be used, B Load Sensing Variable Pump, D Fixed pump, constant power pump, constant pressure pump, electric proportional pump
- ③ Type of control, X pilot control, S manual control, H pilot and manual combination control
- ④ Type of electronic control,
 E24 electronic proportional control 24V DC
 E12 electronic proportional control 12V DC
 G24 electronic switch control 24V DC
 G12 electronic switch control 12V DC
 E24MA ATEX electronic proportional control 24V DC
 E12 MA ATEX electronic proportional control 12V DC
 G24 MA ATEX electronic switch control 24V DC
 G12MA ATEX electronic switch control 12V DC
 No electronic control, omit
- ⑤ Working sections number, for example 08 means 8-joint sectional valves
- ⑥ Customer' s ID
- ⑦ Design Series No.

TRS20 Series Flow Sharing Sectional Valve

TAIFENG®

Technical data

Series	TRS20	
Number of working sections	≤ 10	
DN	20	
Max. flow rate	P port: 280L/min	
	A/B port: 250L/min	
Max.	P port: 320bar	
	A/B port: 350bar	
	T port: 20bar	
Working pressure	≤ 35bar	
Operating temperature range	-20℃ to +90℃	
Working medium	Mineral oil in accordance with DIN 51524 standard	
Viscosity range	2.8-380mm²/s	
Allowable pollution level	The maximum allowable pollution level is NAS 1638 level 9	
Weight (Kg)	Working section: 11.8	
port BSP(ISO1179-1, ISO228-1)	P, T	G1
	A,B	G1
	a, b, LS, Pp, TS, PA ,TA	G1/4

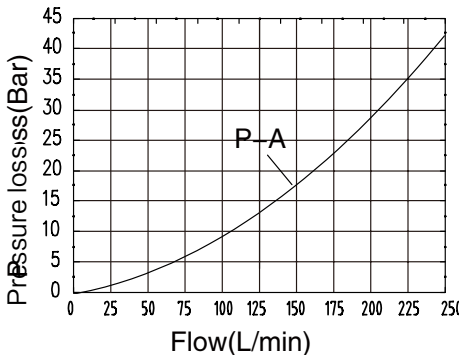
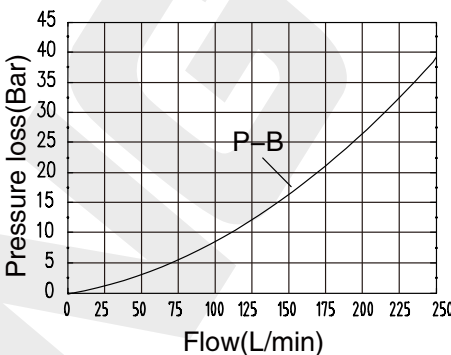
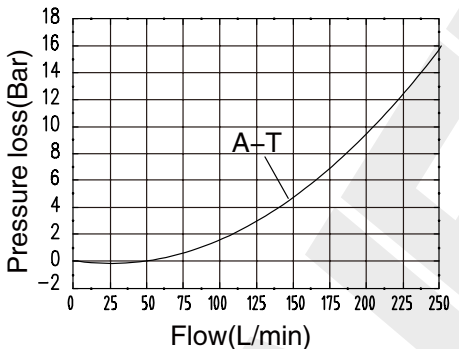
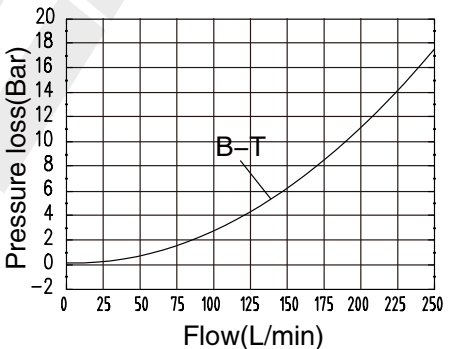
Electric data

	Switch pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15Ω ±5%	32.5Ω ±5%	4.72Ω ±5%	20.8Ω ±5%
Current	—	—	0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protect level	IP69k			

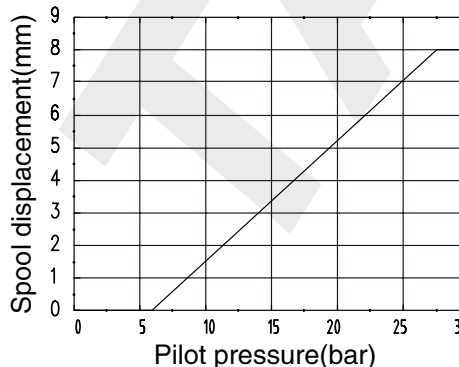
Metering Curve

Measured at $\nu = 41\text{mm}^2/\text{s}$ and $\theta = 50\text{ }^\circ\text{C}$)

Characteristic curve of pressure drop

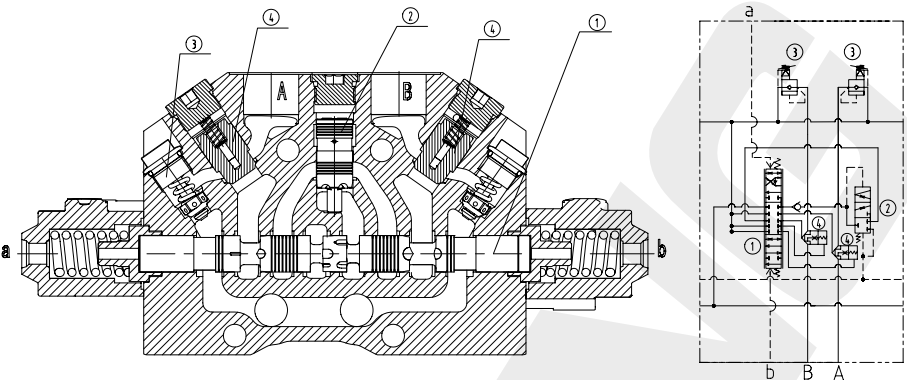


Characteristic curve of pressure loss



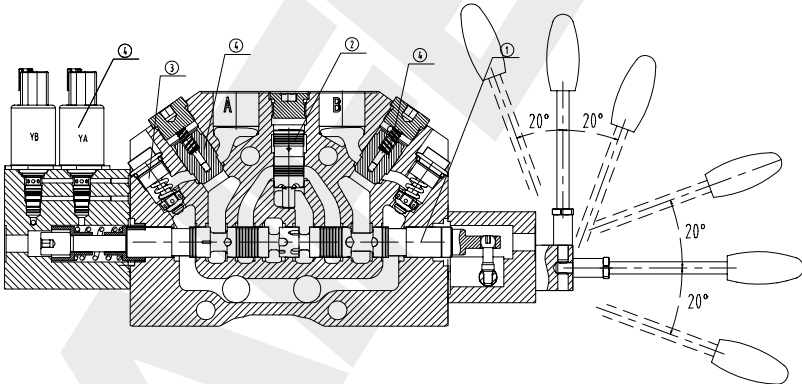
Valve sections description

View of electro-hydraulic directional valve:

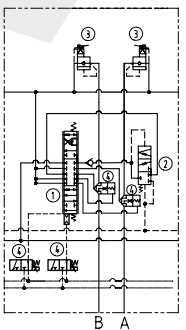


- 1.Spool 2.Pressure compensate valve 3.Overload feed valve 4.Load holding check valve

view of electro-hydraulic directional valve:



YA energized(operating the handle to the right or downwards),
Oil supplied from Port A, returns from Port B
YB energized(operating the handle to the left or upwards),
Oil supplied from Port B, returns from Port A

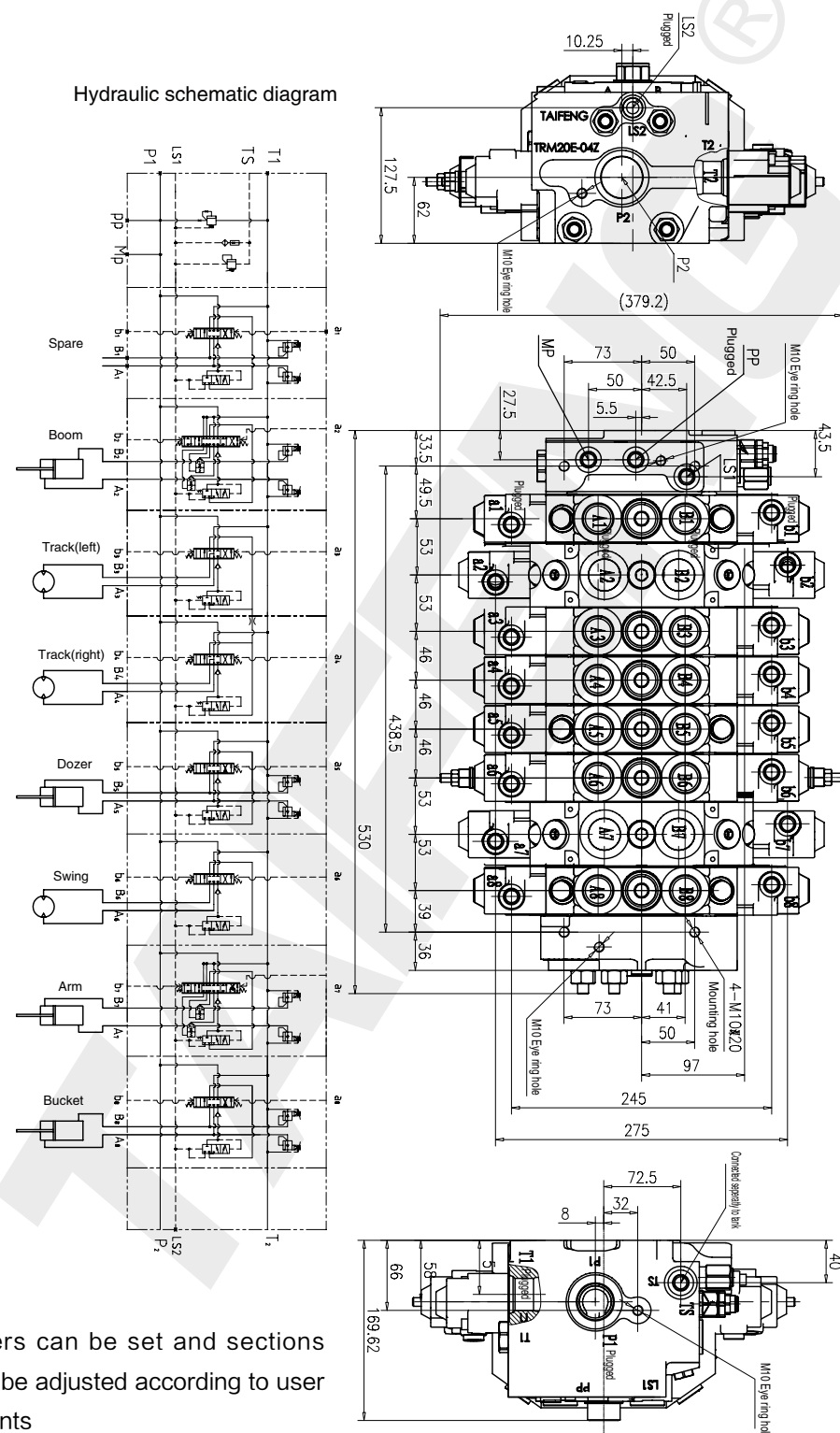


- 1.Spool 2.Compensate valve 3.Overload feed valve
4.Proportional pilot solenoid valve 5.Displacement limitation screw(adjust B flow)
6.Displacement limitation screw(adjust A flow)

TRS20 Series Flow Sharing Sectional Valves

TAIFENG®

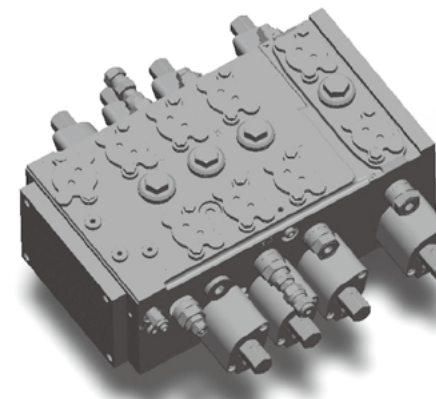
Typical application schematic and outline drawing in 10–15t excavator



Parameters can be set and sections order can be adjusted according to user requirements

TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®



Size: 22

Max. working pressure:

--On the pump side: 380bar

--On the consumer side : 420bar

Rated flow (L/min): 420 (inlet plate)

Features

- Mono block and sandwich combination structure, flexible combination on demand
- Load pressure compensation, load pressure independent flow distribution
- Hydraulic pilot control, electric proportional (or switch) control
- The operating priority sequence of each plate could be adjusted
- Limit the maximum pressure of system through LS pressure relief valve
- Limit the overload of actuator system and set the secondary pressure through secondary pressure relief valve
- Low pressure drop and less fuel consumption.
- Accurate control, stable proportional control, and comfortable maneuverability
- High repetition accuracy, small hysteresis

Fields of application

Crane, rotary drilling machinery and other construction machine

TRM25 (M7-22) Series Flow Sharing Mobile Control Block	TAIFENG®
Ordering code	
<div>TRM25 - B X E24 - 04 - XX - 01</div> <div>1 2 3 4 5 6 7</div> <div>1.Product series TRM25(size 22), max. flow: inlet port 420 l/min, working port 400 l/min</div> <div>2.Pump type:<div>B.load sensitive variable displacement pump</div><div>D. fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump</div></div> <div>3.Type of control:<div>X. pilot control</div><div>S. manual operated</div><div>H. pilot and manual combination control</div></div> <div>4. Type of electric control<div>E24 electric proportional control 24VDC</div><div>E12 electric proportional control 12VDC</div><div>G24 electric switch control 24VDC</div><div>G12 electric switch control 12VDC</div><div>Without electric control type, omitted</div></div> <div>5. Number of working sections: for example, "08" stands for 8 working sections in the valve</div> <div>6. User identification</div> <div>7. Design Series code</div>	

TRM25 (M7-22) Series Flow Sharing Mobile Control Block			TAIFENG®	
Technical data				
Product series	TRM25			
Combination	3 sections mono block and one single section combination			
Size	22			
Max. Flow L/min	P port: 420 A/B port: 400 (J function), 350 (E function)			
Max. Pressure bar	P port: 380			
	A/B port: 420			
	T Port : 30			
Pilot pressure bar	≤ 35			
Temperature range °C	-20 ... +90			
Working medium	Mineral oils (HL, HLP) according to DIN51 524			
Viscosity range mm²/s	2.8 ... 380			
Admissible degree of contamination	Max. admissible degree of contamination: class 9 NAS1638			
Weight kg	3 sections mono block: 64			
	Single section directional block: 19.5			
	Front and back cover: 3.7			
	Double pumps convened valve block: 20			
Port	P	SAE 1 1/4 in 6000PSI		
	T, K	SAE 1 1/4 in 3000PSI		
	A, B	SAE 1 in 6000PSI		
	a, b, LS, MP, MLS	G1/4		
Electrical data				
	On-off pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Electric resistance (below 20℃)	8.15Ω ±5%	32.5Ω ±5%	4.72Ω ±5%	20.8Ω ±5%
Control current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			

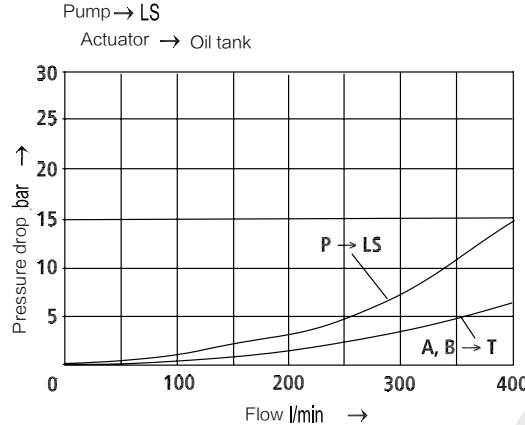
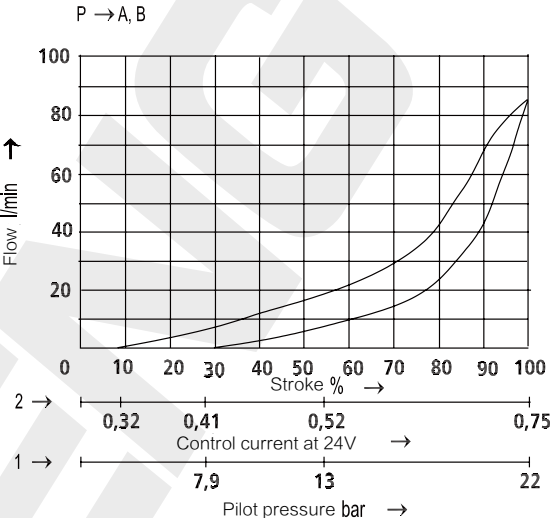
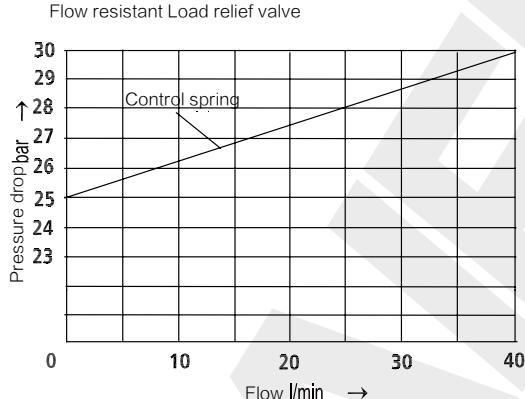
TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®

Metering curve

(measured at $\nu = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ\text{C}$)

Flow character curve

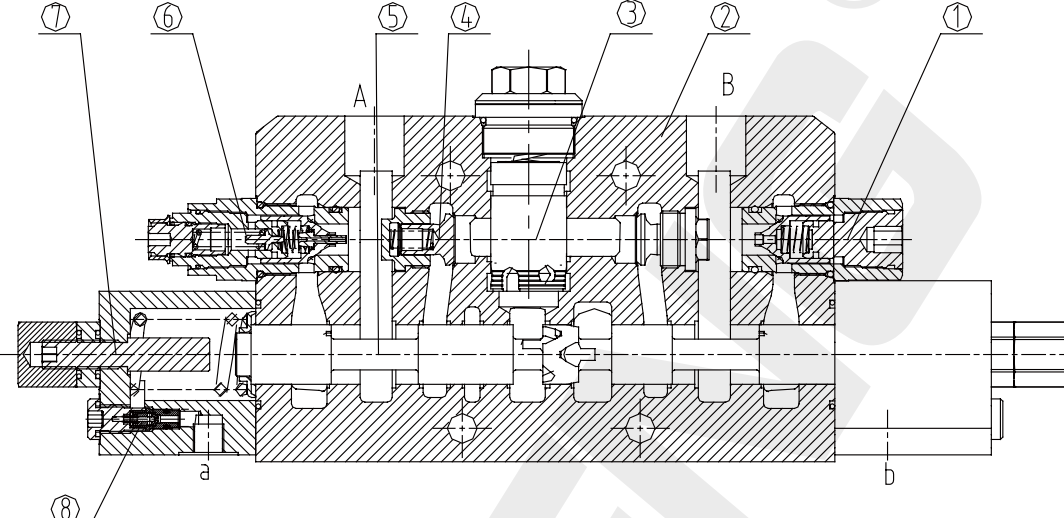
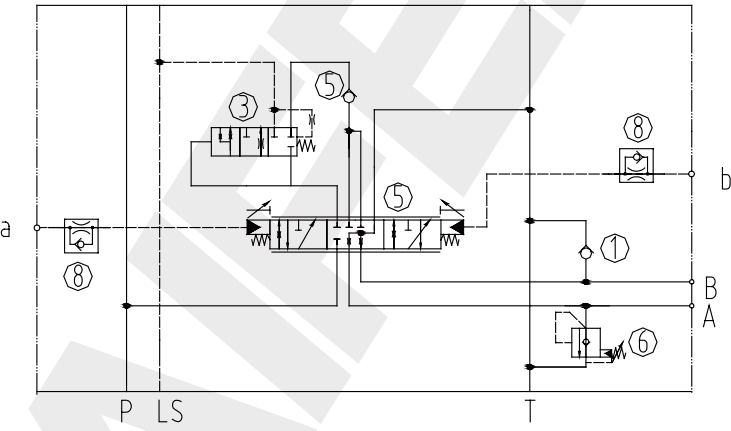


1. Hydraulic control
2. Electro-hydraulic control

TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®

Sectional view

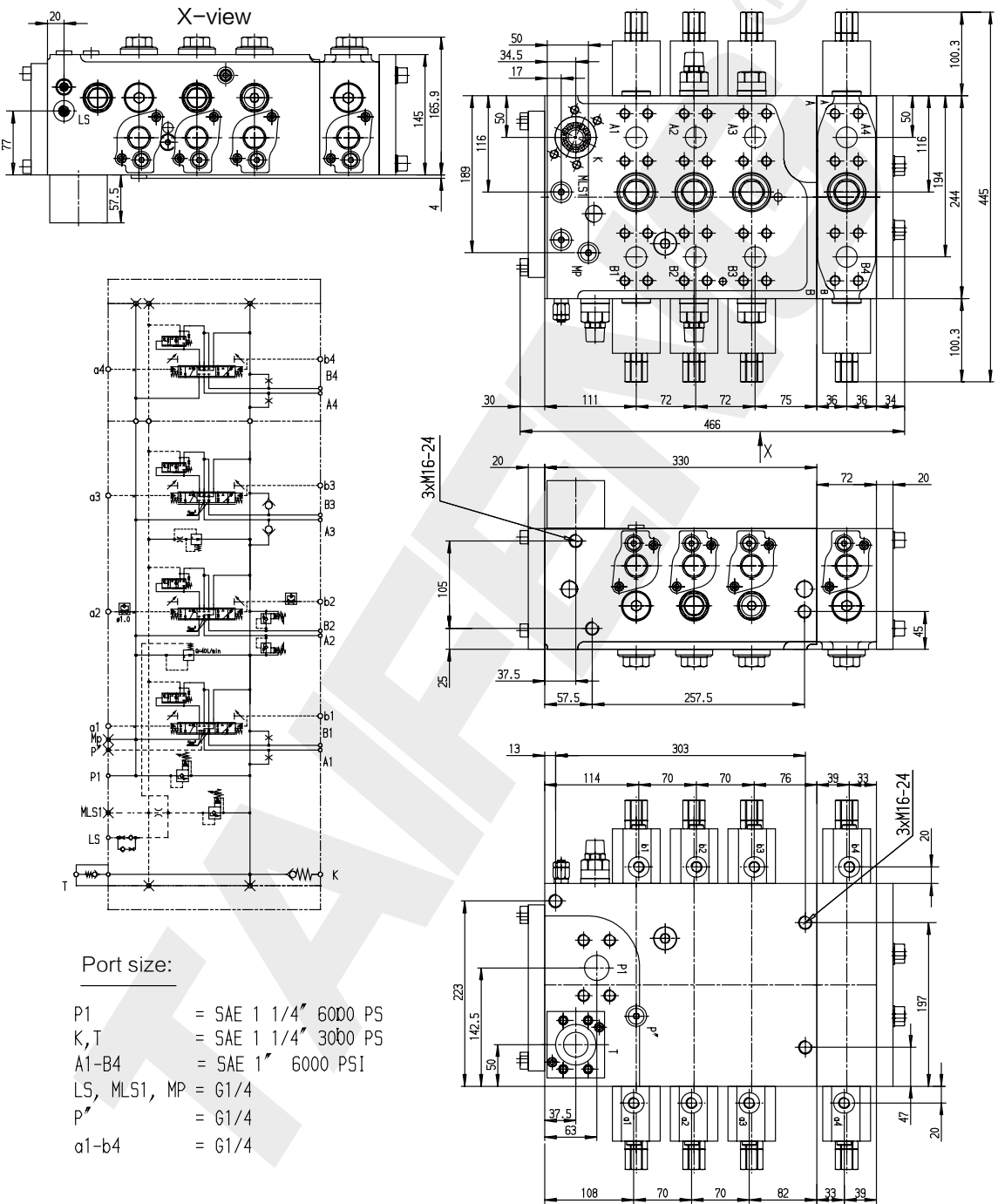


- 1. Filling valve
- 2. Block
- 3. Pressure compensation valve
- 4. Check valve
- 5. Spool
- 6. Overload filling valve
- 7. Stroke limit bolt
- 8. Check throttle valve

TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®

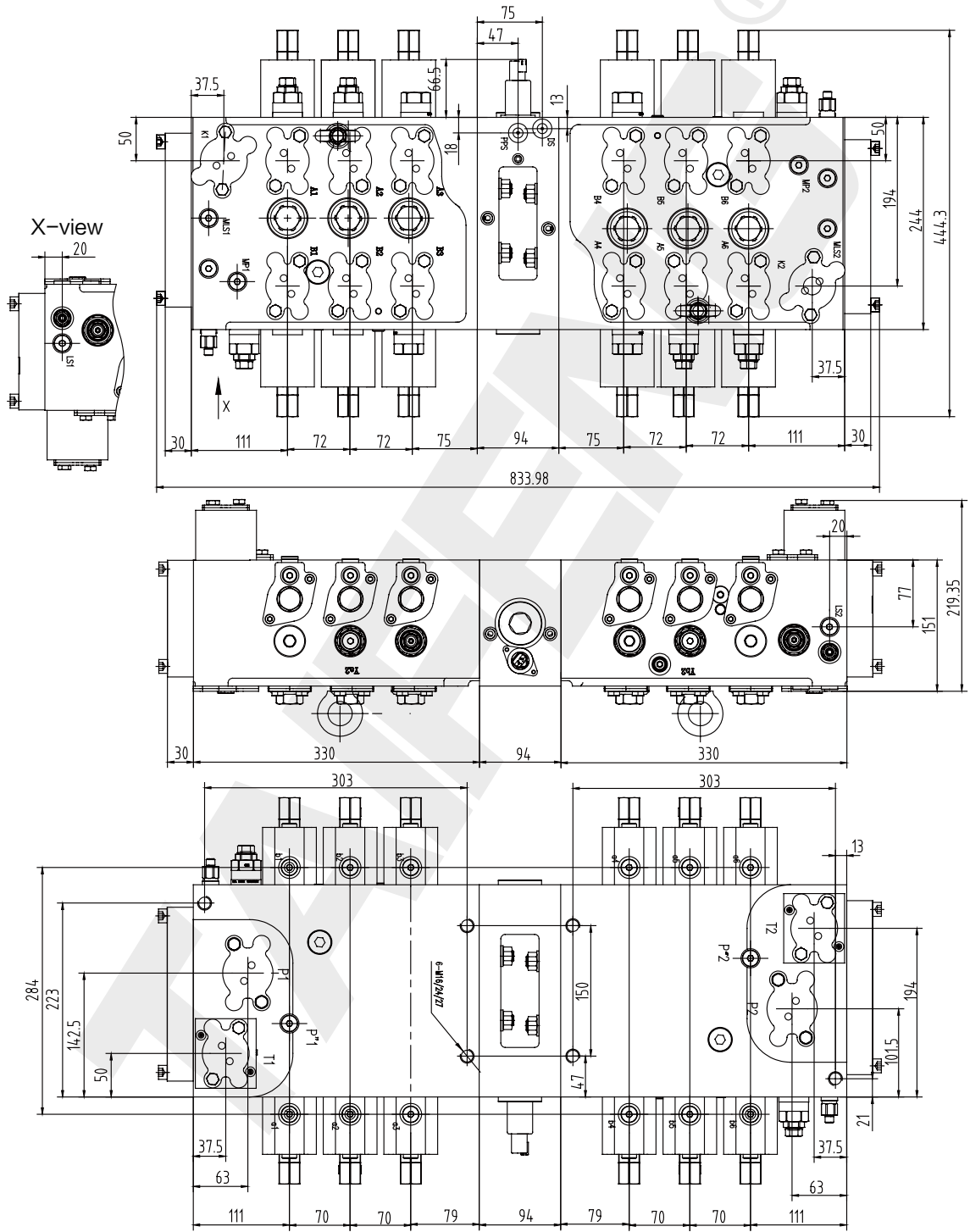
TRM25-BX-04 typical application schematic and outline drawing



TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®

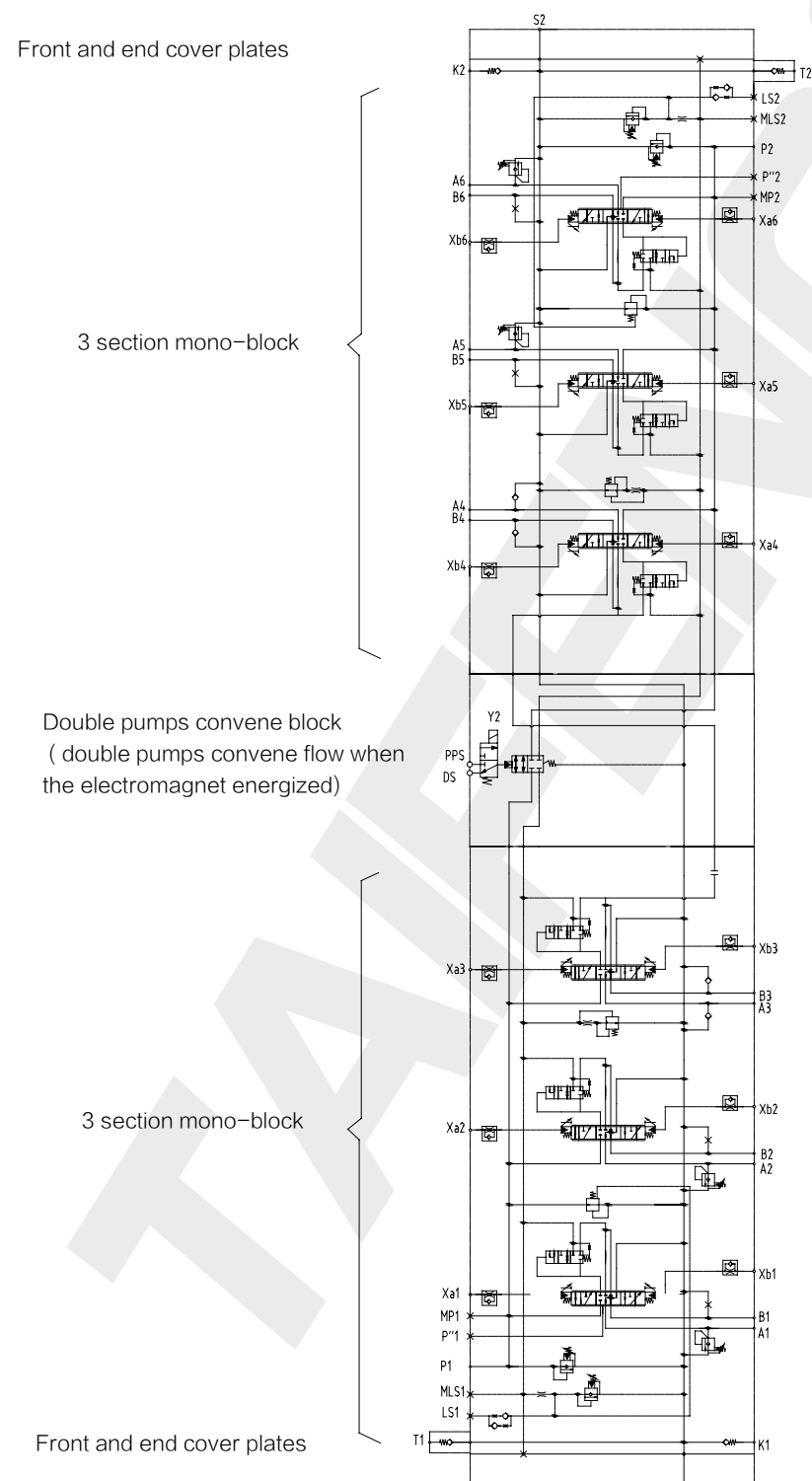
TRM25-BX-06 typical application outline drawing



TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®

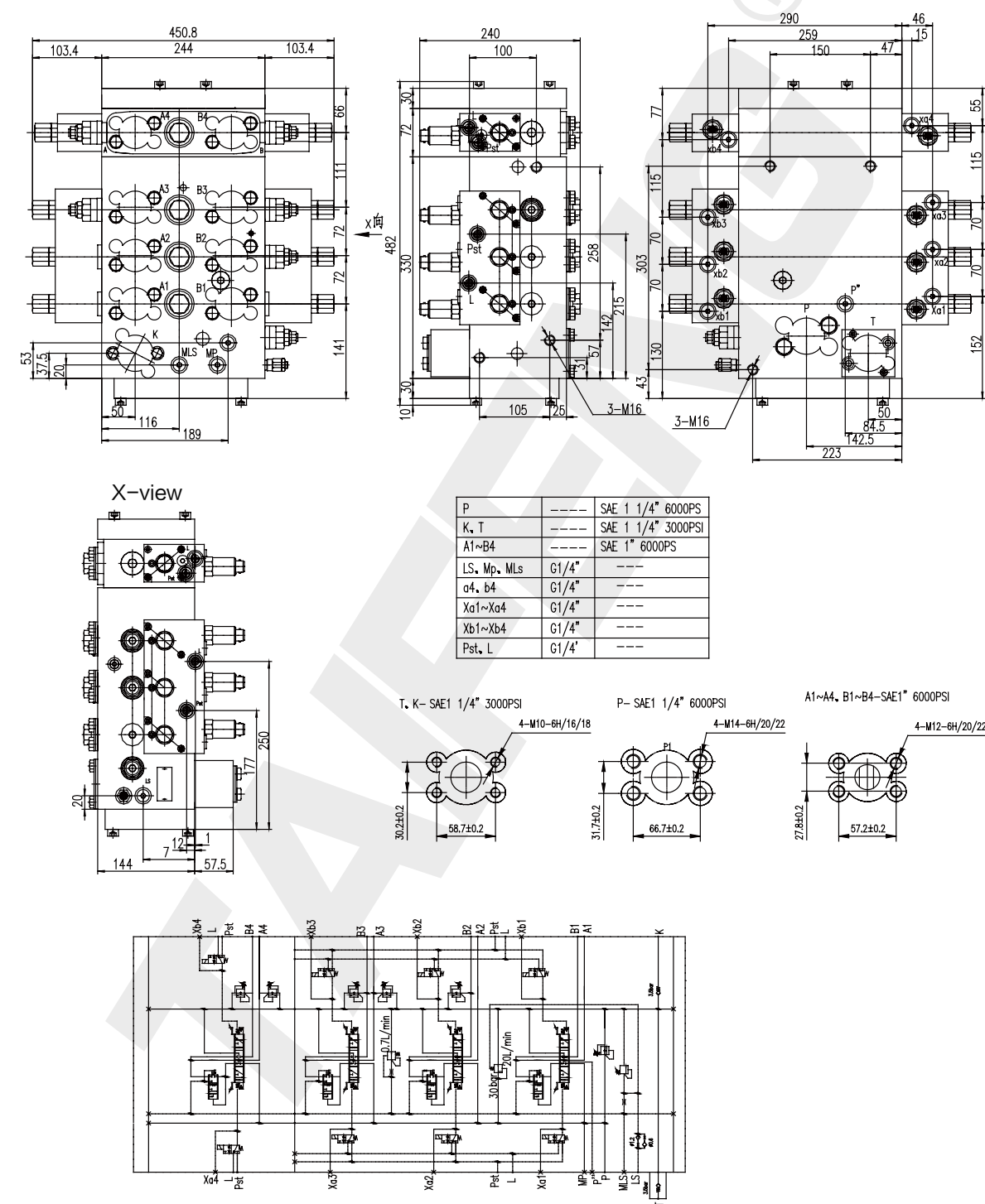
TRM25-BX-06 typical application schematic diagram



TRM25 (M7-22) Series Flow Sharing Mobile Control Block

TAIFENG®

TRM25-BG24-04 typical application schematic and outline drawing



TRM36 (M7–25) Series Flow Sharing Sectional Valves	TAIFENG®
<div>  <div> Size: 25 Maximum pressure(bar): P port: 380 A/B port: 420 Rated flow (L/min): 700 </div> </div>	
Features	
<ul style="list-style-type: none"> · Sandwich structure, flexible combination on demand. · Load pressure compensation, Load pressure independent flow distribution. · Hydraulic pilot control, electric proportional (or switch) control. · The work priority of each section can be adjusted. · Limit the maximum pressure of the system through the LS relief valve. · Secondary relief valve to prevent the operative system from overload by setting the secondary pressure. · Low pressure drop and less fuel consumption. · Precise control, stable proportional control, comfortable maneuverability. · High repetition accuracy and small hysteresis. 	
Main application	
Crane machinery, drilling machinery, etc	

TRM36 (M7–25) Series Flow Sharing Sectional Valves	TAIFENG®
Ordering code	
<div> <div> <div>TRM36</div> <div>-</div> <div>B</div> <div>X</div> <div>E24</div> <div>-</div> <div>04</div> <div>-</div> <div>XX</div> <div>-</div> <div>01</div> </div> <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> </div> </div>	
<div> 1.Products series: TRM36(DN25), maximum flow: inlet port 700 L/min, working port 700L/min 2.Pump type: B.load sensing variable displacement pump D.fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump 3.Control form: X. pilot control S. manual control H. pilot and manual combination control 4.Type of control: E24 electric proportional control 24V DC E12 electric proportional control 12V DC G24 electric switch control 24V DC G12 electric switch control 12V DC 5.Number of working sections, for example "04" stands for 4 working sections in the valve 6.User Identification 7.Design series code </div>	

TRM36 (M7–25) Series Flow Sharing Sectional Valves			TAIFENG®	
Technical data				
Product series	TRM36			
Combination type	Sectional			
Size	25			
Max. flow L/min	Port P:700 Port A/B:700			
Max. pressure bar	Port P: 380			
	Port A/B: 420			
	Port T: 30			
Pilot pressure bar	≤ 35 (6 ... 25bar)			
Temperature range °C	-20 ... +90			
Working medium	Mineral hydraulic oil (HL, HLP) conforming to DIN51 524.			
Viscosity range mm²/s	2.8 ... 380			
Allowable pollution degree	The maximum allowable contamination level is Class 9 of NAS 1638			
Port	P1		SAE 1 1/4 in 6000PSI	
	P1		SAE 1 1/2 in 6000PSI	
	T1		SAE 1 1/2 in 3000PSI	
	T2		SAE 2 in 3000PSI	
	A,B		SAE 1 1/4 in 6000PSI	
	b, LS, MP, MLS, MT, Pst, Ya, Yb		G1/4	
Electric data				
	Switch pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistant (under 20℃)	8.15Ω ±5%	32.5Ω ±5%	4.72Ω ±5%	20.8Ω ±5%
Control current			0~1500mA	0~750mA
Plug	Deutsch DT04–2P			
Protect class	IP69k			

TRM36 (M7–25) Series Flow Sharing Sectional Valves

TAIFENG®

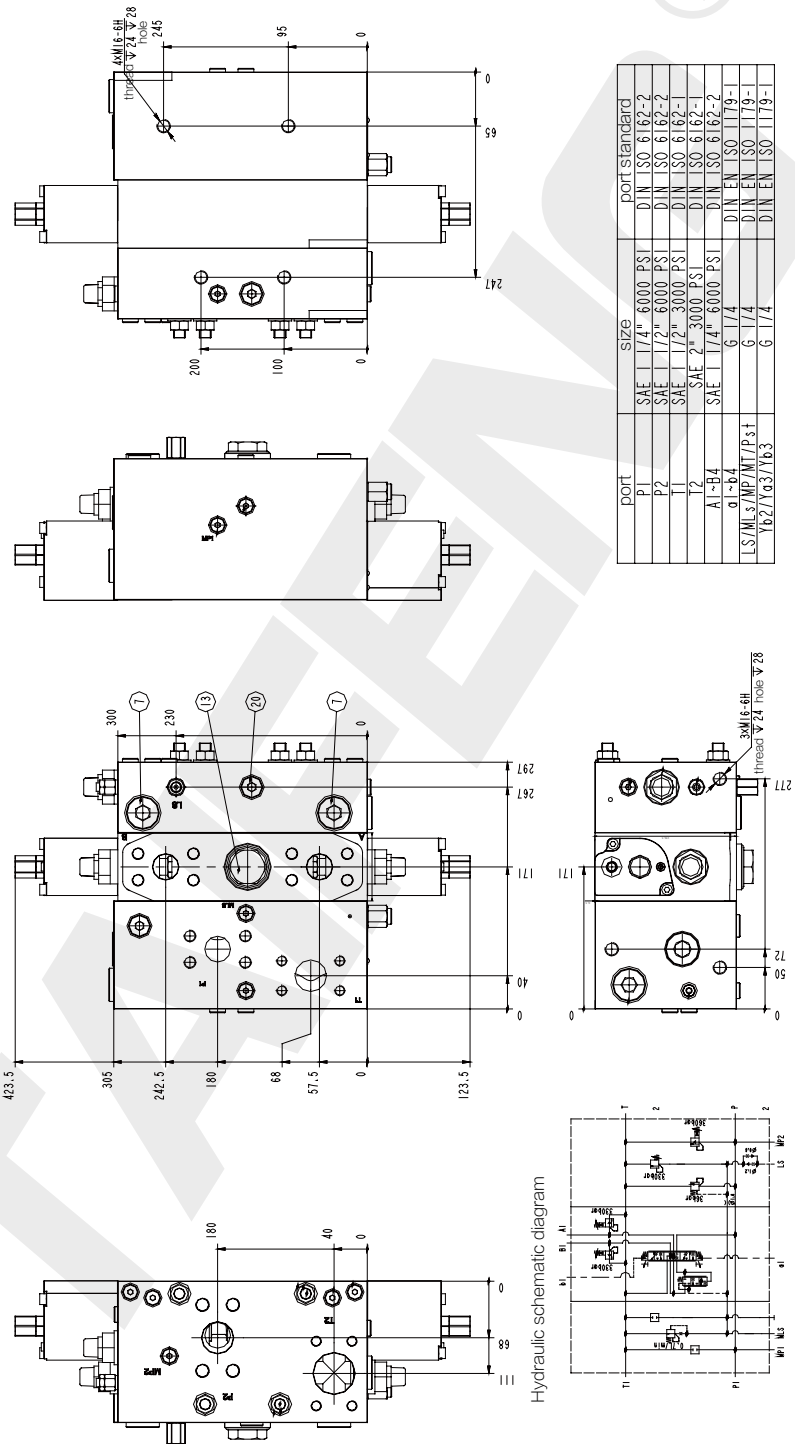
Sectional view (structure same as TRM25)

1. Oil supplementary valve	2. Valve block
3. Pressure compensation valve	4. Check valve
5. Valve spool	6. Overload filling valve
7. Stroke limit screw	8. One-way throttle valve

TRM36 (M7-25) Series Flow Sharing
Sectional Valves

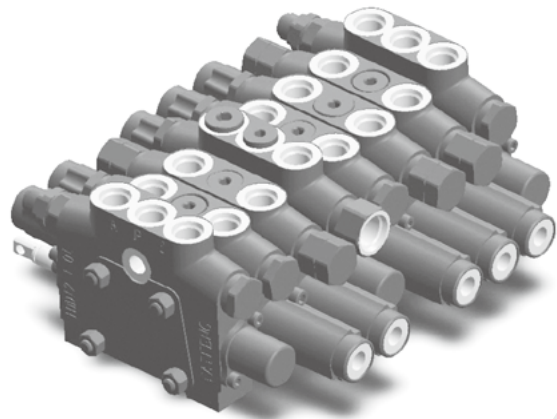
TAIFENG®

Typical application schematic and outline drawing



THD12 Series Open Centre Sectional Valve

TAIFENG®



Size: 9
Max. pressure : 320 bar
Max. flow: 50 L/min
High pressure type

Features:

- Compact sectional structure, available for different valve group combination to satisfy various machinery.
- Open centre independent folds control.
- Parallel circuit, series circuit, series and parallel circuit.
- Small internal leakage.
- Low pressure and less fuel consumption.
- Fine control groove is used to make it have good fine control function.
- Through primary and secondary relief valve to protect the system.

Main Application examples

Small excavator, forklift, drilling machine, crane.

THD12 Series Open Centre Sectional Valve	TAIFENG®
Ordering Code:	
<div><div>THD12</div><div>-</div><div>D</div><div>X</div><div>-</div><div>08</div><div>-</div><div>XX</div><div>-</div><div>01</div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div></div> <div><div>1.Product series THD12(size 9), maximum flow 50 L/min</div><div>2.Pump type:<div>D. Fixed displacement pump</div></div><div>3.Type of control:<div>X. Pilot control</div><div>S. Manual operated</div><div>H. Pilot and manual combination control</div></div><div>4.Number of working sections, for example "08" stands for 8 working sections in the valve.</div><div>5.User identification</div><div>6.Design series code</div></div>	

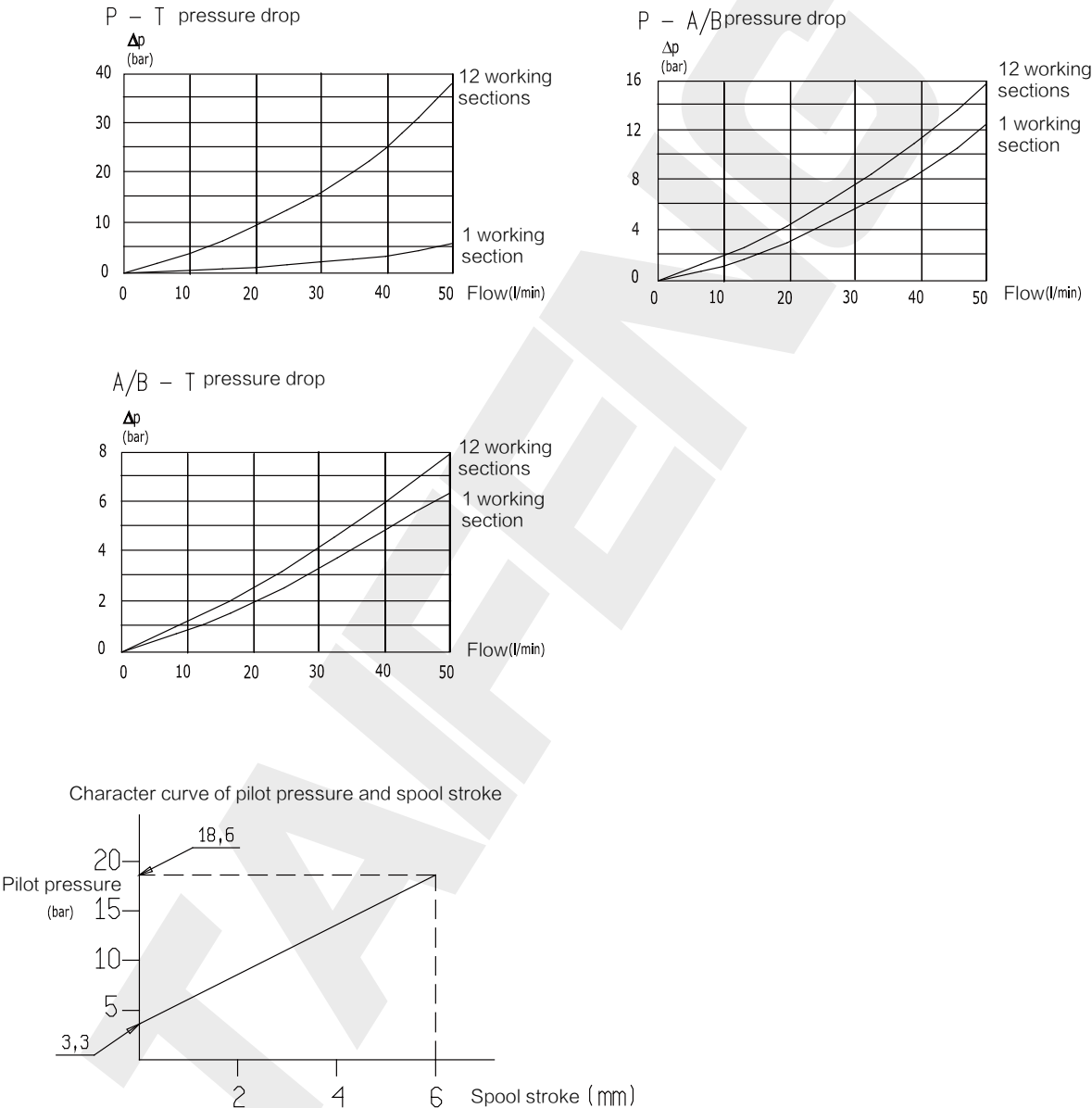
THD12 Series Open Centre Sectional Valve		TAIFENG®
Technical Data		
Product Series	THD12	
Number of working sections	≤ 12	
Size	9	
Max. allowable flow L/min	P port: 50 A/B port: 50	
Max. Pressure bar	P port: 320	
	A/B port: 350	
Pilot Pressure bar	≤ 35	
Temperature range °C	-20 ... +90	
Working medium	Low freezing point antiwear hydraulic lubricating oil	
Viscosity range mm ² /s	2.8 ... 380	
Weight (Kg)	Inlet section: 2.4	
	Working section: 2.4	
	Return section: 2.4	
Port Connection Size		
THD12	Thread	Port type
P inlet port	G3/8	BSP (JIS B2351-1)
T return port	G1/2	
A/B port	G3/8	
M, a, b Port	G1/4	BSP (ISO1179-1,ISO228-1)

THD12 Series Open Centre Sectional Valve

TAIFENG®

Metering curve

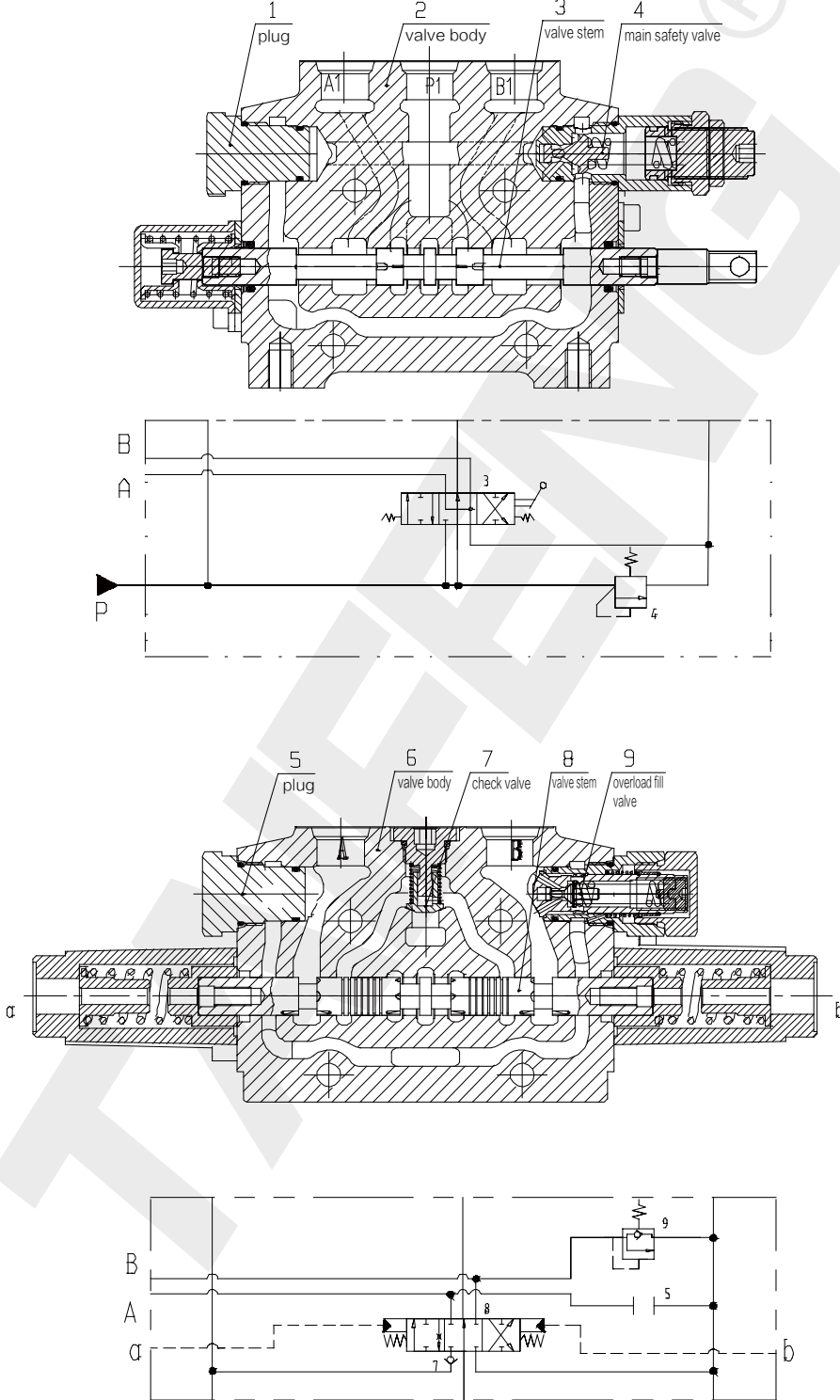
(measured at $\nu = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ\text{C}$)



THD12 Series Open Centre Sectional Valve

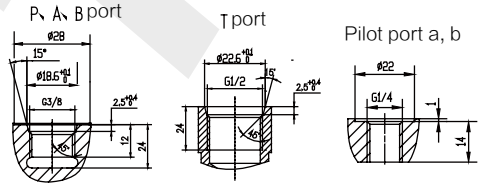
TAIFENG®

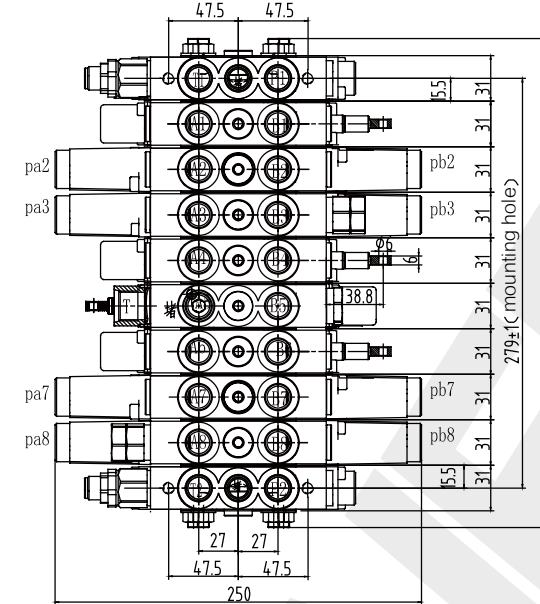
Sectionial view and Schematic diagram

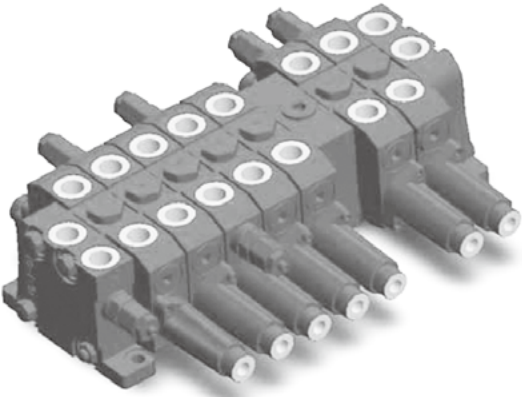


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TET16 Series Open Center Sectional Valve	TAIFENG®
<div>  <div> Size: 12 Max. Pressure: 320bar Max. flow: -- On the pump side: 80L/min -- On the consumer side: 80L/min </div> </div>	
Main application examples	
<ul style="list-style-type: none"> · Open center independent folds control valves · Compact fold structure, available for different valve combination to satisfy various machinery; · Load holding function for boom and arm is available, internal leakage is strictly controlled. · High reliability and durability · Overload filling valve can be added as required. · Double pumps oil supply with throttle control, soft movement and better control. 	
Main Application examples	
Excavator, loading machinery, forklift, drilling machine, lifting machinery.	

TET16 Series Open Center Sectional Valve	TAIFENG®
Ordering code:	
<div> <div> <div>TET16</div> <div>-</div> <div>D</div> <div>X</div> <div>-</div> <div>08</div> <div>-</div> <div>XX</div> <div>-</div> <div>01</div> </div> <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> </div> </div> <div> 1.Product series TET16(size 12) , maximum flow 80 L/min 2.Pump type D fixed displacement pump 3.Type of control: X. Pilot control, S. Manual control, H. Pilot and manual combination 4.Number of working sections, for example "08" stands for 8 working sections in the valve 5.User identification 6.Design series code </div>	

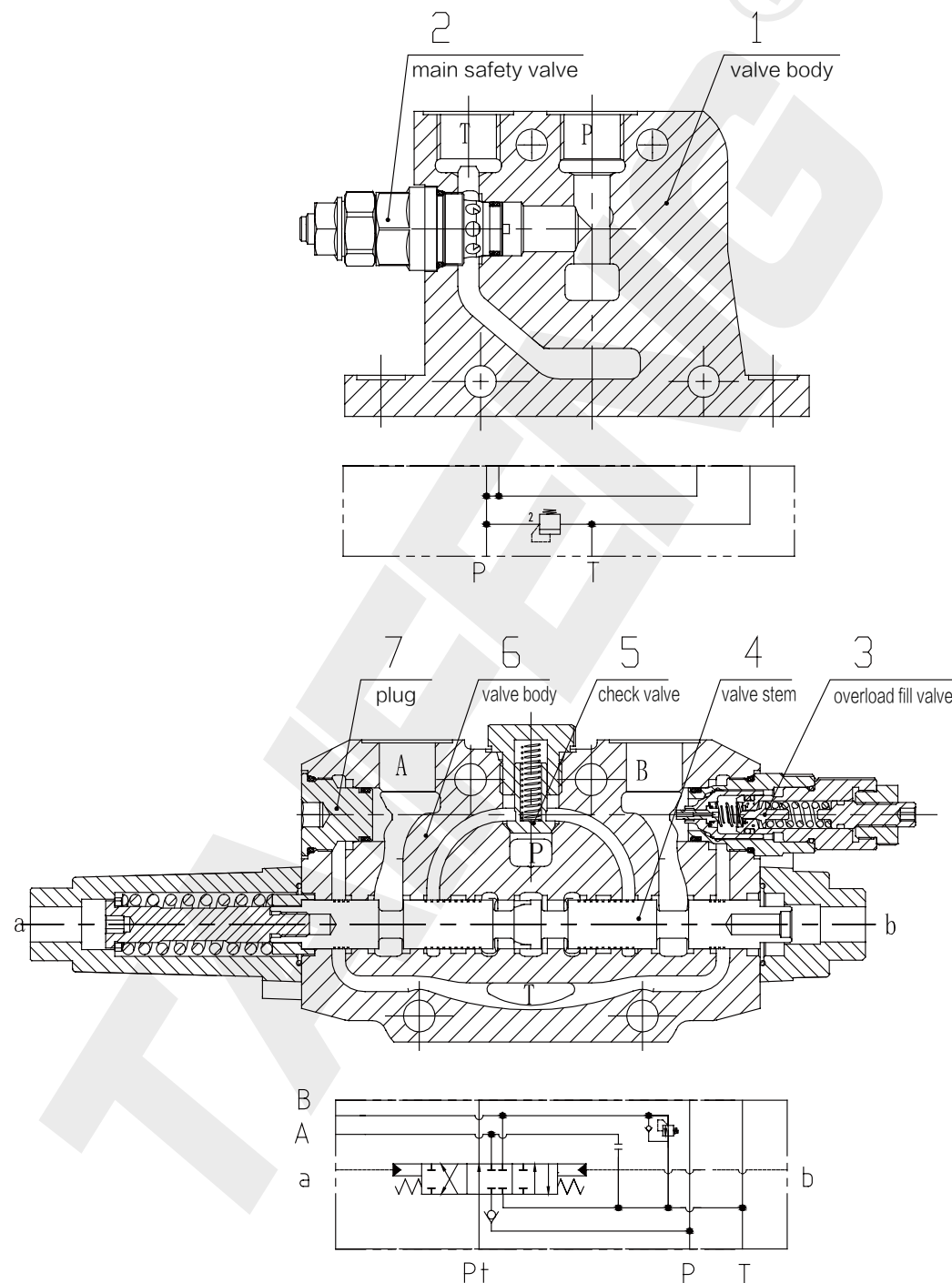
TET16 Series Open Center Sectional Valve		TAIFENG®	
Technical data			
Type	TET16		
Number of working sections	≤ 12		
Size	12		
Max. Flow L/min	P port: 80 A/B port: 80		
Max. Pressure bar	P port: 320		
	A/B port: 350		
Pilot pressure bar	≤ 35		
Temperature range ℃	-20 ... 90		
Hydraulic fluid	Low freezing point anti-wear hydraulic oil		
Viscosity mm²/s	2.8 ... 380		
Weight (Kg)	Inlet section : 2.5		
	intermediate inlet section : 3.3		
	Working section : 3.7		
	Convене block 2.3		
	Return block : 2.4		
Port connection size			
TET16	Port thread	Port type	
P inlet port	G1/2	BSP (ISO1179-1,ISO228-1)	
T return port	G1/2 (G3/4)		
A,B port	G1/2		
a,b port	G1/4		

TET16 Series Open Center Sectional Valve		TAIFENG®
Metering curve		
(measured at $\nu = 41\text{mm}^2/\text{s}$, $\theta = 50\text{ }^{\circ}\text{C}$)		
P-T pressure drop		P-A/B pressure drop
A/B - T pressure drop		
Pilot pressure characteristic curve(5-8t typical application in excavator)		

TET16 Series Flow Sharing Sectional Valve

TAIFENG®

Technical data

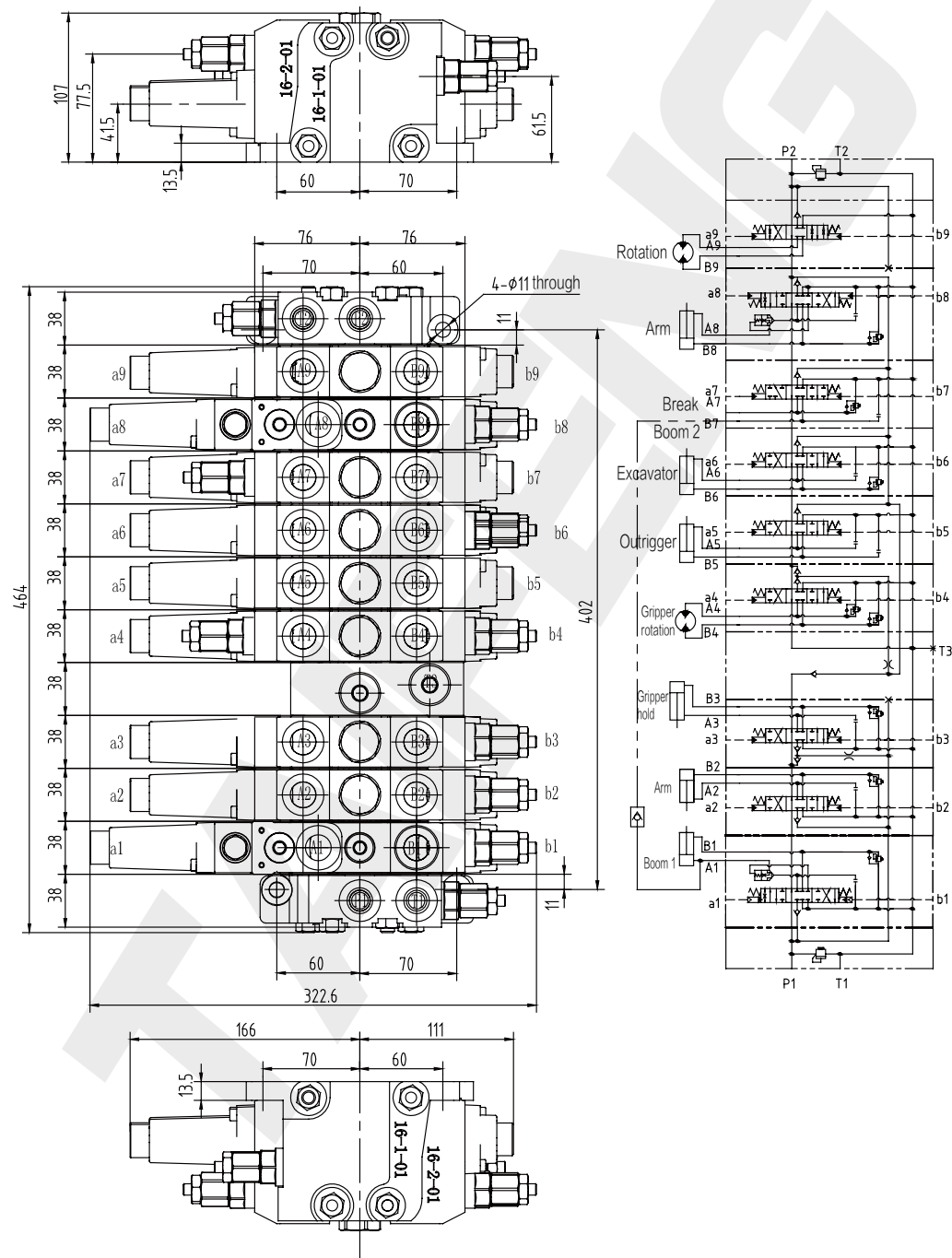


TET16 Series Flow Sharing Sectional Valve

TAIFENG®

Typical application schematic and outline drawing for 5–8t wood grabber

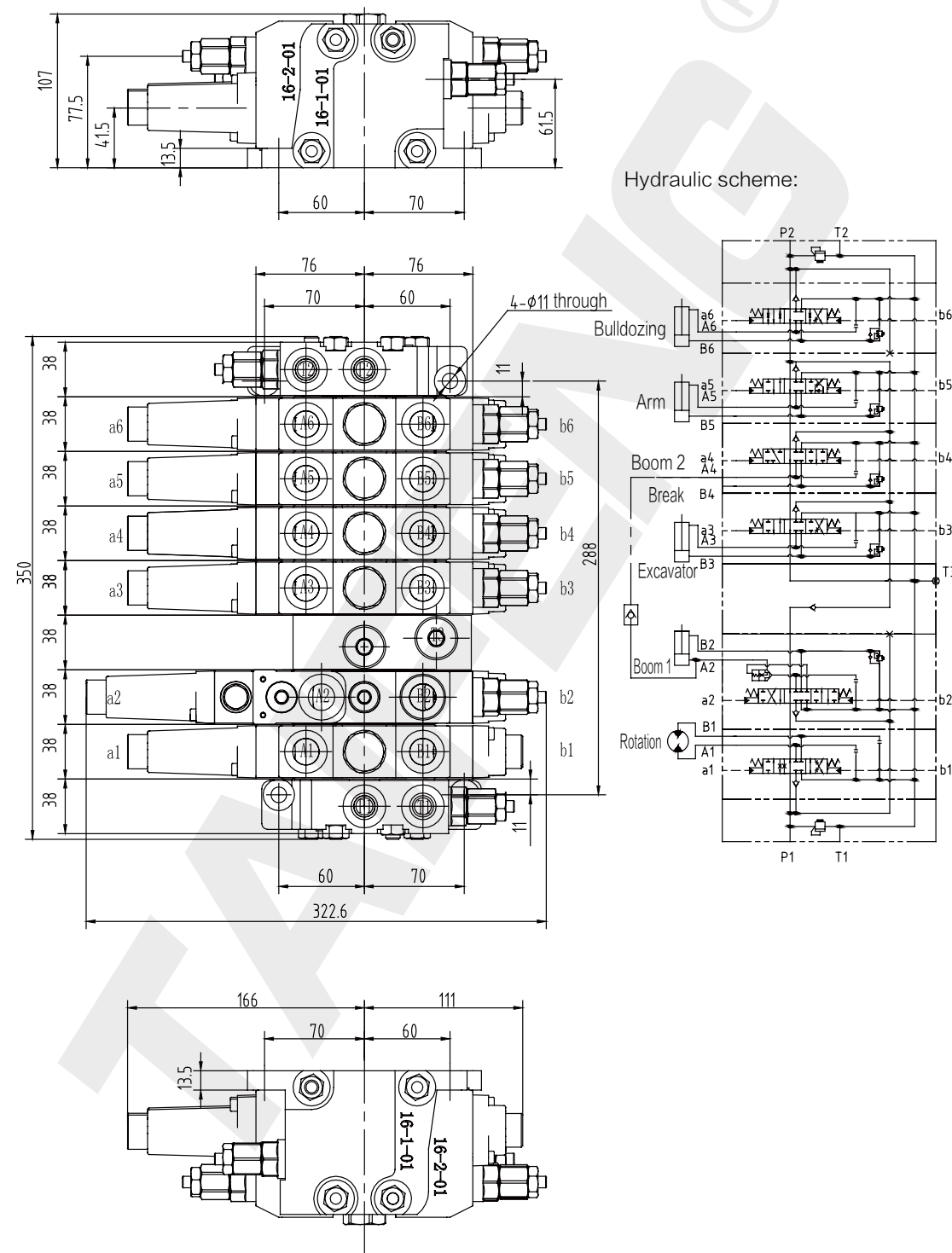
(load holding function is available for boom and arm)



TET16 Series Flow Sharing Sectional Valve

TAIFENG®

Typical application schematic and outline drawing for 5–8t excavator

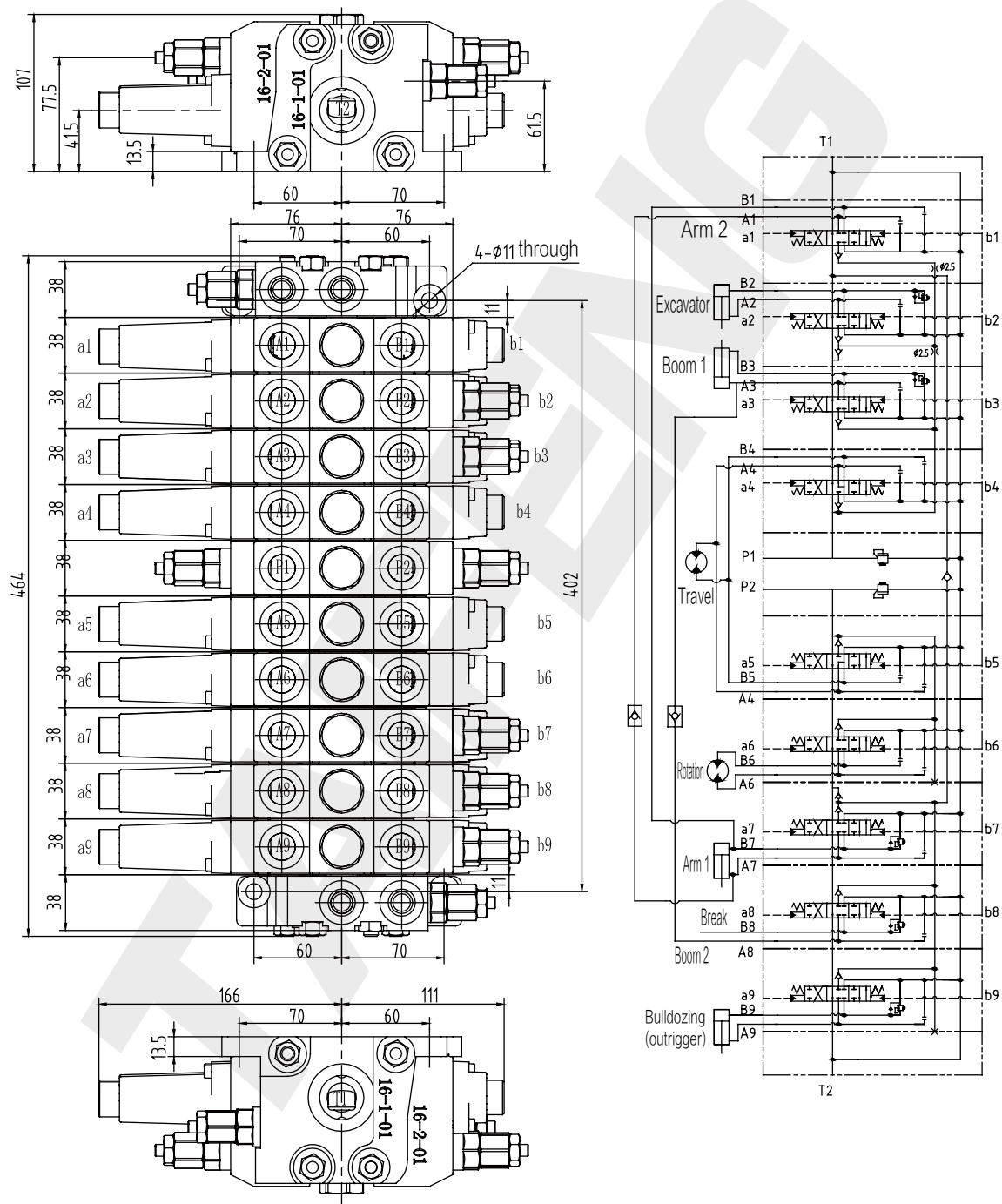


TET16 Series Flow Sharing Sectional Valve

TAIFENG®

Typical application schematic and outline drawing for 5–8t excavator

(Center inlet, full-hydraulic travel)



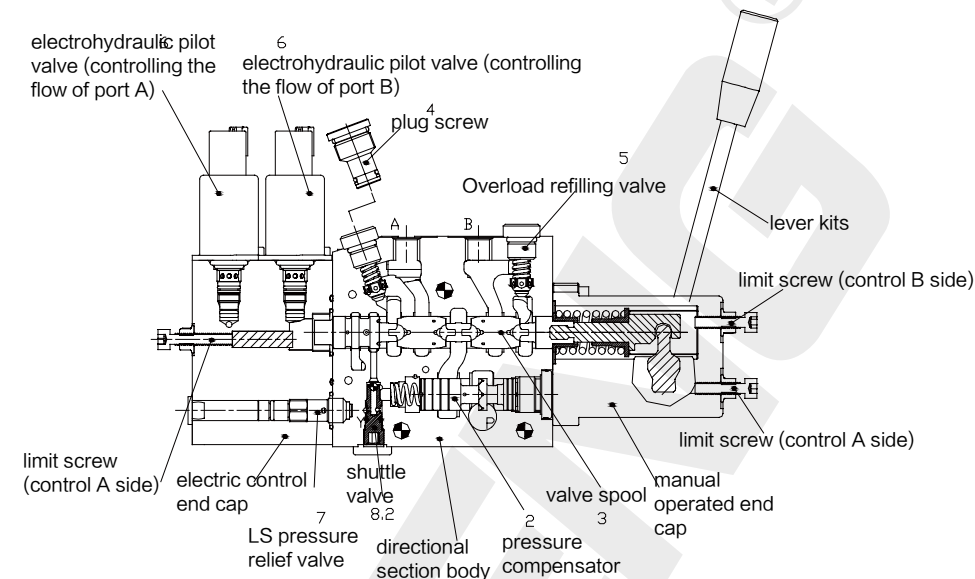
TRP12 Series Load Sensing Sectional Valve	TAIFENG®
<div> <div> Size: 12 Max. working pressure: P port: 350bar A/B port: 420bar Max. flow: 120L/min </div> <div> <ul style="list-style-type: none"> · Sandwich structure, flexible combination on demand. · Load pressure compensation, load pressure independent flow distribution. · Hydraulic pilot control, electric proportional (or switch) control. · Open center used for fixed displacement pump system. · Close center used for variable displacement pump system. · Primary and secondary safety valve (overload with feed function) · LS pressure relief valve (each section has the option of LS pressure relief valve, which can limit the port working pressure separately) · Precise control, stable proportional control, comfortable operation. · High repetition accuracy, small hysteresis. </div> <div> </div> </div> <div> Main application Aerial work platform, concrete pump truck, telescopic handler, agricultural machinery, coal mine machinery. </div> <div> Ordering code: <div> <div>TRP12</div> <div>-</div> <div>B</div> <div>X</div> <div>E24</div> <div>-</div> <div>08</div> <div>-</div> <div>XX</div> <div>-</div> <div>01</div> </div> <div> <div>①</div> <div>②</div> <div>③</div> <div>④</div> <div>⑤</div> <div>⑥</div> <div>⑦</div> </div> </div> <div> 1.Product series TRP12 (size 12),Max flow rate:inlet port 120L/min,working port 100L/min 2.Pump type: B.Load sensing variable displacement pump D.Fixed displacement pump,constant power pump,constant pressure pump,electric proportional pump 3.Type of control:X.Pilot control S.Manual control H.Pilot and manual combination control 4.Type of electric control: E24 electric proportional control 24V DC,E12 electric proportional control 12V DC G24 electric switch control 24V DC,G12 electric switch control 12V DC E24MA ATEX electronic proportional control 24V DC E12 MA ATEX electronic proportional control 12V DC G24 MA ATEX electronic switch control 24V DC G12MA ATEX electronic switch control 12V DC No electric control, omit 5.Number of working sections, for example 08 stands for "8" working sections in the valve 6.User identification 7.Design series code </div>	

TRP12 Series Load Sensing Sectional Valves			TAIFENG®	
Technical data				
Series	TRP12			
Number of working sections	≤ 12			
Size	12			
Port connection size	ISO BSP pipe thread			
Max. flow rate L/min	P port: 120 A/B port: 100			
Max.working pressure bar	P port: 350			
	A/B port: 420			
	T port: 20			
Pilot pressure bar	≤ 35			
Temperature range °C	-20 ... +90			
Working medium	Mineral oil conforming to DIN51 524 (HL, HLP)			
Viscosity range mm²/s	2.8 ... 380			
Allowable pollution degree	Maximum admissible degree of contamination: class 9 NAS1638			
Port BSP(ISO1179-1,ISO228-1)	P, T		G3/4	
	A,B		G1/2	
	a, b, LS, Mp, Ma, Mb, X, Y, LSZ		G1/4	
Electric data				
	On-off pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance (below 20°C)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Control current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			

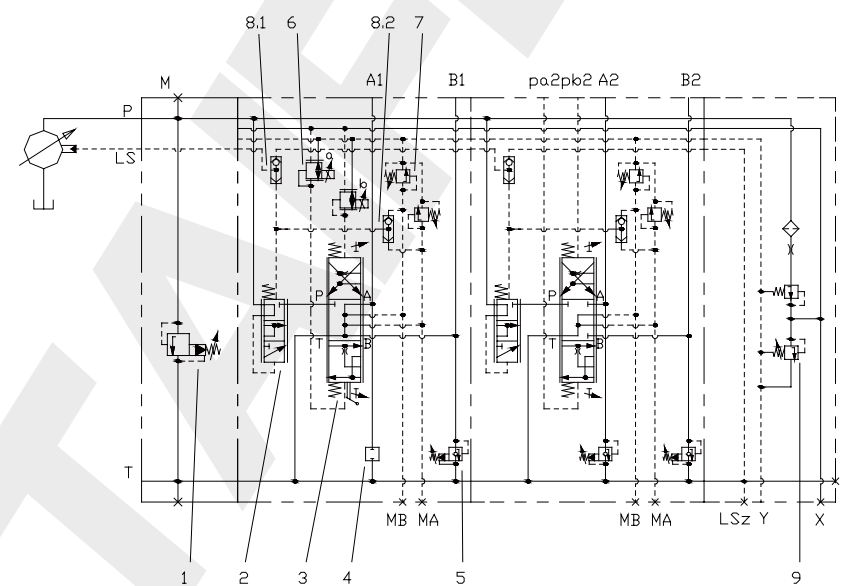
TRP12 Series Load Sensing Sectional Valves

TAIFENG®

Sectional view



Hydraulic schematic diagram:

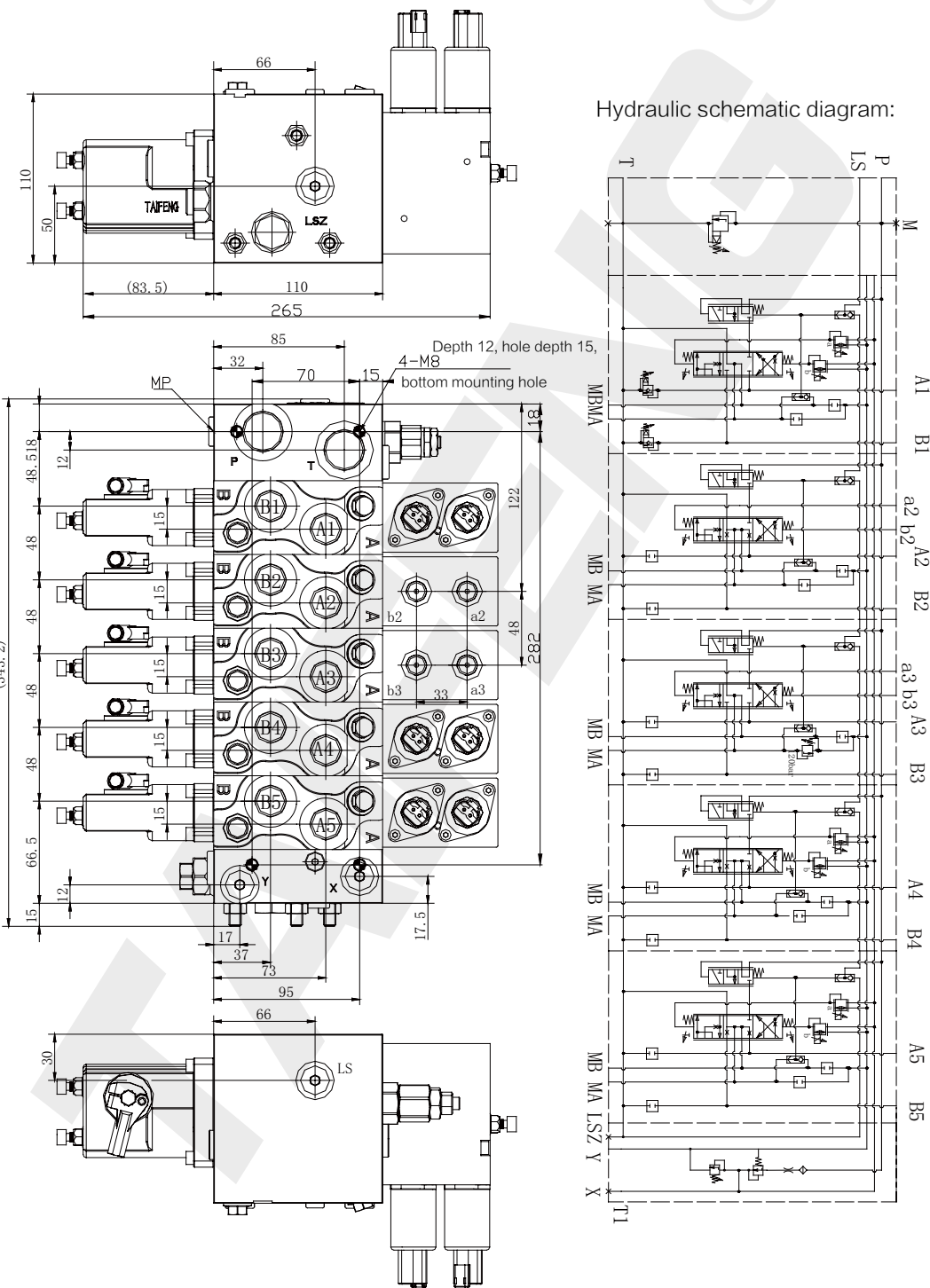


- | | | |
|----------------------------|----------------------------|---------------------------------|
| 1.primary safety valve | 2.pressure compensator | 3.valve spool |
| 4.plug screw | 5.Overload refilling valve | 6.electro-hydraulic pilot valve |
| 7.LS pressure relief valve | 8.shuttle valve | 9.pressure relief valve |

TRP12 Series Load Sensing Sectional Valves

TAIFENG®

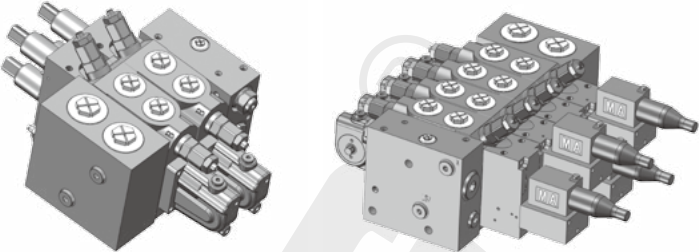
Typical application schematic and outline drawing



TRP15 Series Load Sensing Sectional Valve

TAIFENG®

Size: 15
Max. working pressure:
P port: 350bar
A/B port: 420bar
Max. flow: 200L/min



Features

- Sandwich structure, flexible combination on demand.
- Load pressure compensation, load pressure independent flow distribution.
- Hydraulic pilot control, electric proportional (or switch) control.
- Open centre for fixed displacement pump system.
- Close centre for variable displacement pump system.
- Primary and secondary safety valve (overload and with feed function).
- LS relief valve (each section has the option of LS relief valve, limiting the working pressure of port).
- Precise control, stable proportional control, comfortable operation.
- High repetition accuracy and small hysteresis.

Main application

Aerial wok platform, concrete pump truck, telescopic handler, agricultural machinery, and coal mine machinery.

Ordering code

TRP15

-

B

X

E24

-

08

-

XX

-

01

①

②

③

④

⑤

⑥

⑦

1.Product series TRP15(Size 15),Max flow rate:inlet port 200L/min, working port 160 L/min

2.Pump type:

B.Load sensing variable displacement pump,

D.Fixed displacement pump, constant power pump, constant pressure pump,electric proportional pump

3.Type of control: X. pilot control S. manual control H. pilot and manual combination control

4.Type of electric control:

E24 electric proportional control 24V DC

E12 electric proportional control 12V DC

G24 electric switch control 24V DC

G12 electric switch control 12V DC

E24MA ATEX electronic proportional control 24V DC

E12 MA ATEX electronic proportional control 12V DC

G24 MA ATEX electronic switch control 24V DC

G12MA ATEX electronic switch control 12V DC

No electric control, omit

5.Number of Working sections, for example "08" stands for 8 working sections in the valve

6.User identification

7.Design Series code

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TRP15 Series Load Sensing Sectional Valves

TAIFENG®

Technical data

Series	TRP15		
Number of working sections	≤ 12		
Size	15		
Port connection size	ISO BSP pipe thread		
Max. flow rate L/min	P port: 200 A/B port: 160		
Max.working pressure bar	P port: 350		
	A/B port: 420		
	T port: 20		
Pilot pressure bar	≤ 35		
Temperature range °C	-20 ... +90		
Working medium	Mineral oil conforming with DIN51 524(HL,HLP)		
Viscosity range mm²/s	2.8 ... 380		
Admissible degree of contamination	Maximum admissible degree of contamination: class 9 NAS1638		
Port BSP(ISO1179-1,ISO228-1)	P, T	G1	
	A,B	G3/4	
	a, b, LS, Mp, Ma, Mb, X, Y, LSZ	G1/4	

Electric data

	On-off pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance (below 20°C)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Control current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			

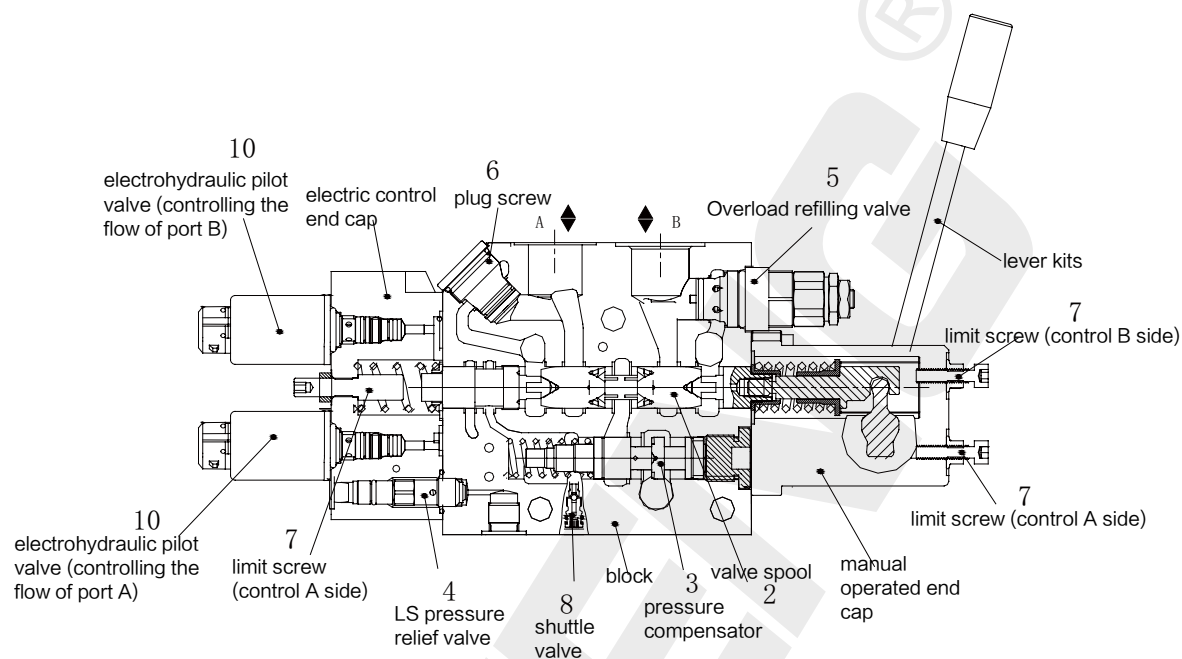
TAIFENG INTELLIGENT 2026-7

103

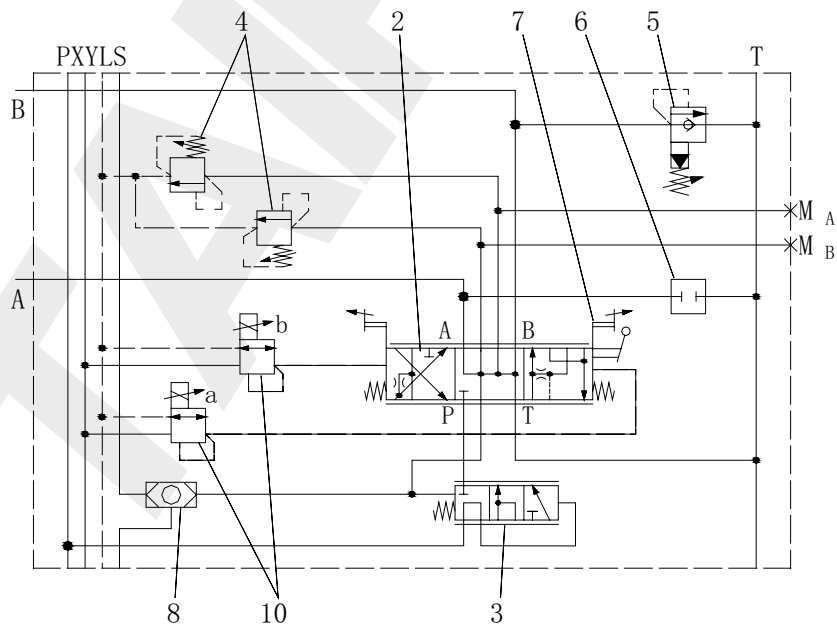
TRP15 Series Load Sensing Sectional Valves

TAIFENG®

Sectional view



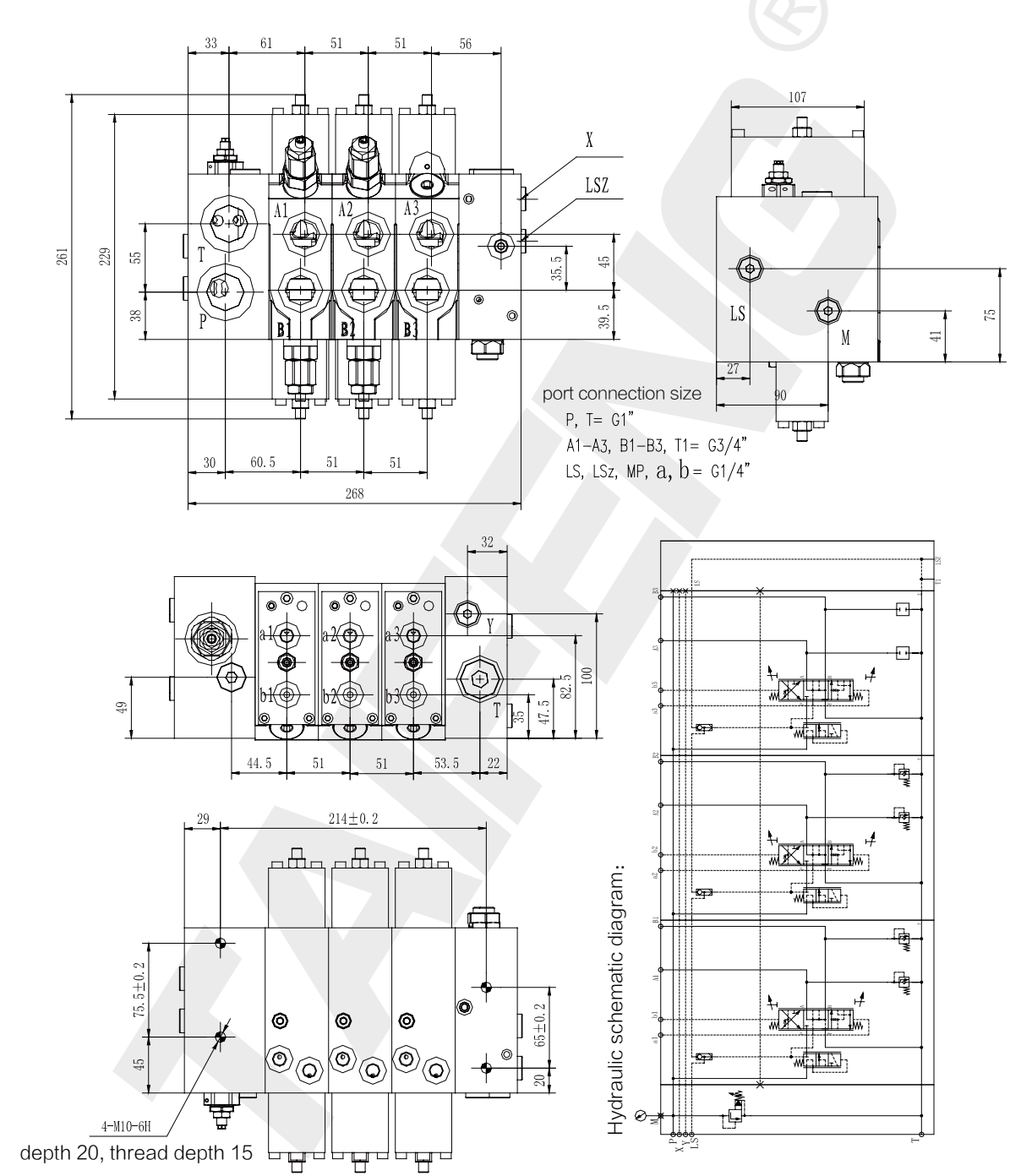
Hydraulic schematic diagram:



TRP15 Series Load Sensing Sectional Valves

TAIFENG®

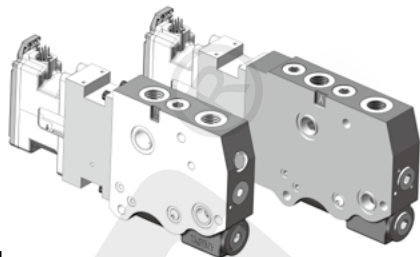
Typical application schematic and outline drawing (manual plus hydraulic control)



TRPA15 (F) Series Flow Sharing Sectional Valve

TAIFENG®

Nominal Diameter: 15
Rated Pressure: 250bar
Max. Flow Rate: 170L/min



Features:

- Sandwich structure, flexible combination on demand
- Load sensitive and pressure compensation, Flow distribution is independent of the load pressure
- Hydraulic pilot control, electric proportional (or switch) control
- Open center, suitable for fixed displacement pump system
- Open center, suitable for variable displacement pump system
- CAN bus control, with position detection
- Precise control, outstanding inching performance, comfortable maneuverability
- High repetition accuracy and small hysteresis

Main Application Fields:

Main Application Fields: Tractors, agricultural machinery.

Ordering code:

TRPA15(F) - B X E24 - 08 - XX - 01
① ② ③ ④ ⑤ ⑥ ⑦

① Max flow rate: inlet port 120L/min(TRPA15), working port 170L/min(TRPA15F)

② Type of pump to be used: B Load sensing variable displacement pump, D Fixed displacement pump, constant power pump, constant pressure pump, electric proportional pump

③ Type of control: X pilot control, S manual control, H pilot and manual combination control

④ Type of electronic control

E24 electronic proportional control 24V DC E12 electronic proportional control 12V DC
G24 electronic switch control 24V DC G12 electronic switch control 12V DC
C24 Bus control 24V DC C12 Bus control 12V DC
E24MA ATEX electronic proportional control 24V DC
E12 MA ATEX electronic proportional control 12V DC
G24 MA ATEX electronic switch control 24V DC
G12MA ATEX electronic switch control 12V DC
No electronic control, omit

⑤ Working sections number, for example 08 means 8 working sections sectional valves

⑥ Customer's ID

⑦ Design Series No.

TRPA15(F) Series Load Sensing Sectional Valve

TAIFENG®

Technical data

Series	TRPA15(F)	
Working sections number	≤ 12	
DN	15	
Port connection size	ISO BSP pipe thread	
Max flow rate	TRPA15:120L/min TRPA15F:170L/min	
Max working pressure	250bar	
Pilot pressure	≤ 35bar	
Operating temperature range	-20℃ to +90℃	
Working medium	Mineral oil in accordance with DIN 51524 standard	
Viscosity range	2.8-380mm²/s	
Allowable pollution level	The maximum allowable pollution level is NAS 1638 level 9	
Port BSP(ISO1179-1, ISO228-1)	P, T	M33x2(G3/4)
	A,B	M22x1.5 (G1/2)
	LS, Mp	M14x1.5 (G1/4)

Electric data

	Switch pilot valve		Proportional pilot valve	
	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Current	—	—	0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protect level	IP69k			

TRPA15(F) Series Load Sensing Sectional Valve

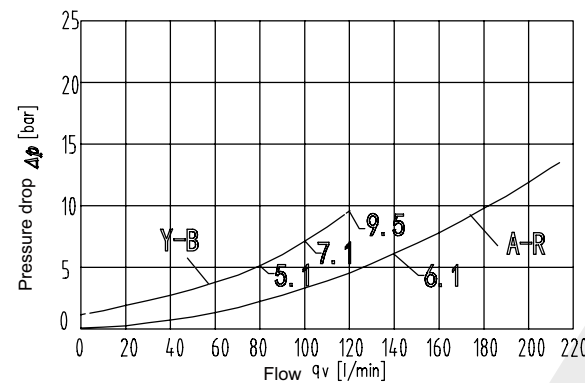
TAIFENG®

Metering Curve

(Measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ\text{C}$)

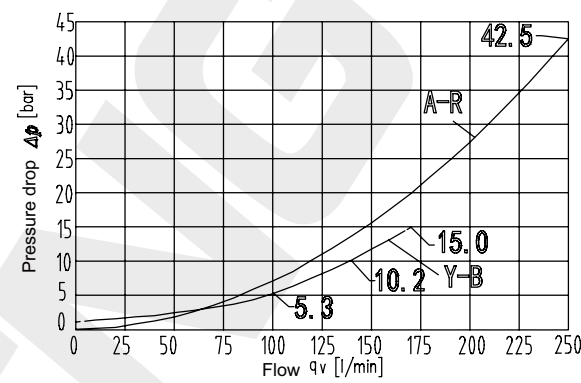
TRPA15 directional valve block, with 1 load holding check valve

▽ Ascend

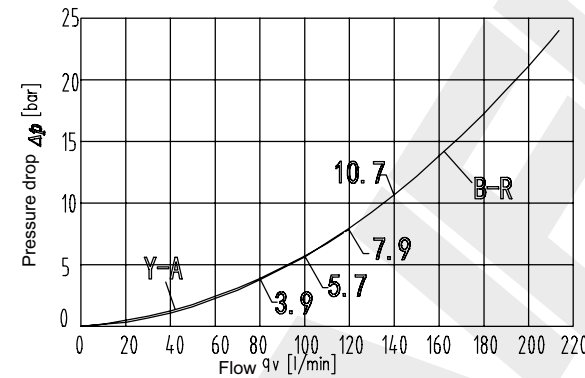


TRPA15 directional valve block, with 2 load holding check valves

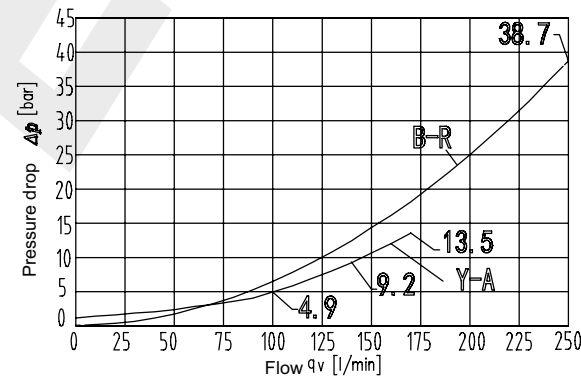
▽ Ascend



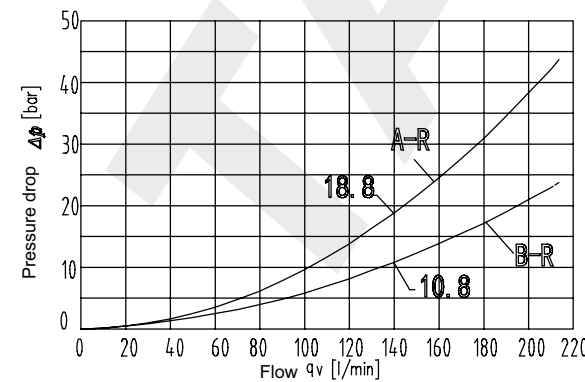
▽ Ascend



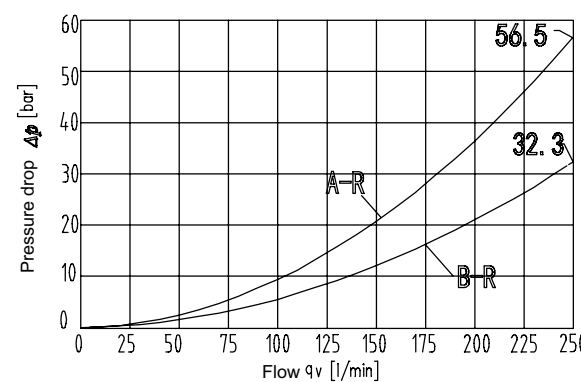
▽ Ascend



▽ Floating position



▽ Floating position



TRPA15(F) Series Load Sensing Sectional Valve

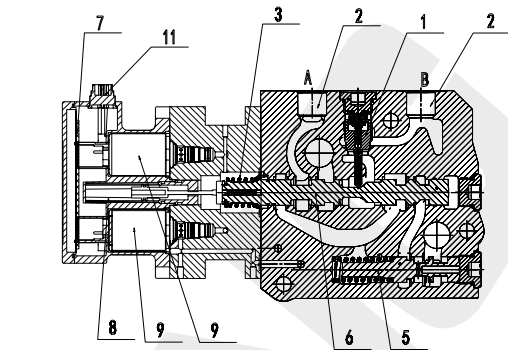
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TRPA15(F) Valve sections description

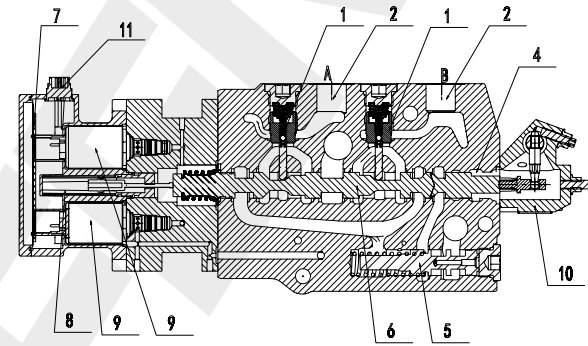
EHA Electro-Hydraulic Actuator

TRPA15 working section, with 1 load holding check valve

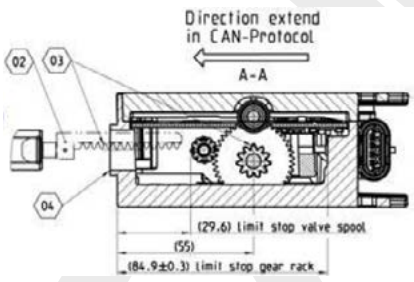
- 1-Check valve
- 2-Working port
- 3-Spring
- 4-Spool terminal cavity
- 5-Compensate valve
- 6-Spool
- 7-Circuit board
- 8-Position sensor
- 9-Proportional relief valve
- 10-Manual operation cover (optional)
- 11-Electrical connector (CAN bus control)



TRPA15F working section, with 2 load holding check valves



EMA Electro-Mechanical Actuator

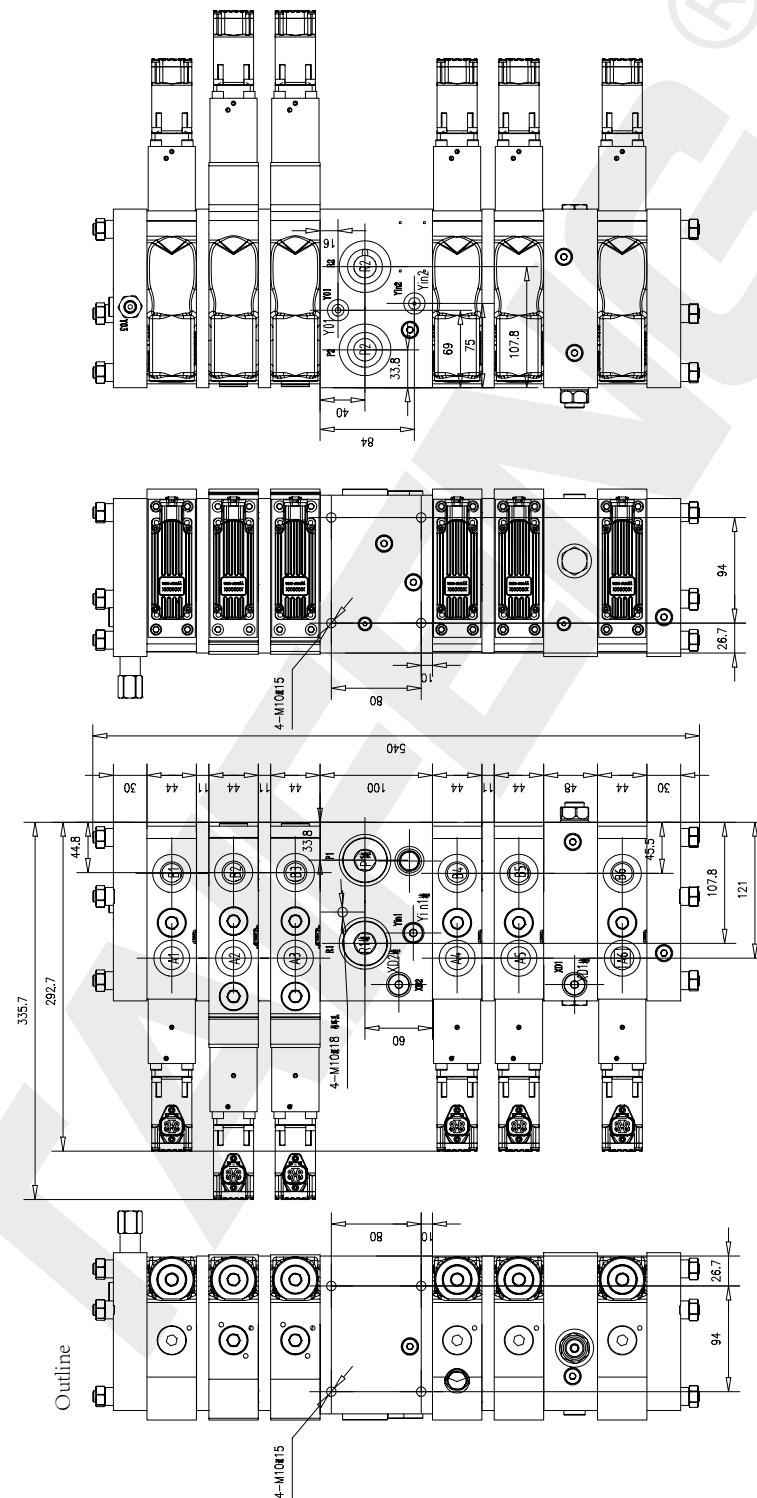


The stepping motor drives the main spool without any pilot jamming issues. No need for a pilot control circuit.
 Open loop control, simple control, and pollution resistant actuator.
 Controlled through CAN communication, with an accuracy of $6\text{ }\mu\text{m}$ and high control precision.
 Powerful diagnostic function, capable of real-time diagnosis; Integrate functional security policies to achieve system security monitoring.
 Digital communication control, easy to achieve remote control and signal transmission.

TRPA15(F) Series Load Sensing Sectional Valve

TAIFENG®

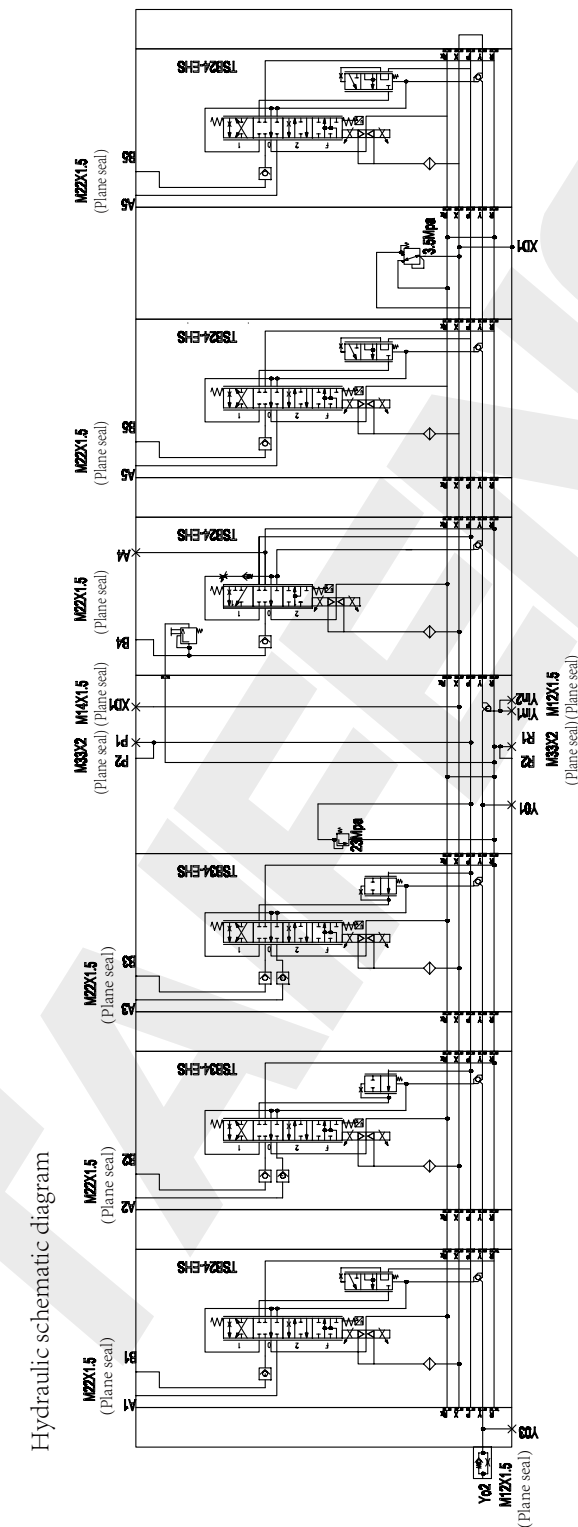
Typical outline and schematic diagram of large tonnage tractor applications



TRPA15(F) Series Load Sensing Sectional Valve

TAIFENG®

Hydraulic schematic diagram



TPLS3 Series Flow Sharing Sectional Valve

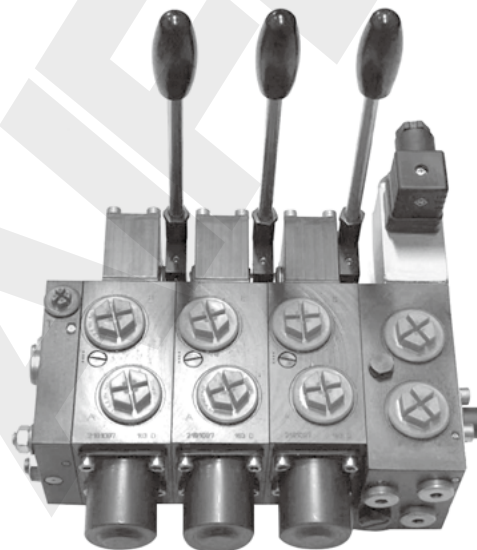
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Overview

TPSL and TPSV type load sensitive proportional multi way directional valves are mainly used in the field of electro-hydraulic control of construction machinery, controlling the direction and speed of movement of hydraulic cylinders or motors. It has functions such as electronic control, hydraulic control, and manual operation, and can achieve stepless speed regulation without being affected by load changes. The load sensitive characteristic allows multiple actuators to work simultaneously and independently at different speeds and pressures until the maximum flow rate of the pump is reached.

A pressure differential valve is installed before the valve section of the load sensitive valve. One side of the pressure differential valve is pushed by its spring force and load pressure from valve section outlet port while the other side by inlet port pressure of the valve section. Therefore, the pressure differential before and after the valve section is determined by the spring force. When the valve opening remains constant, the flow rate of the valve remains basically unchanged, so that the flow rate of the control actuator is not affected by the load pressure.

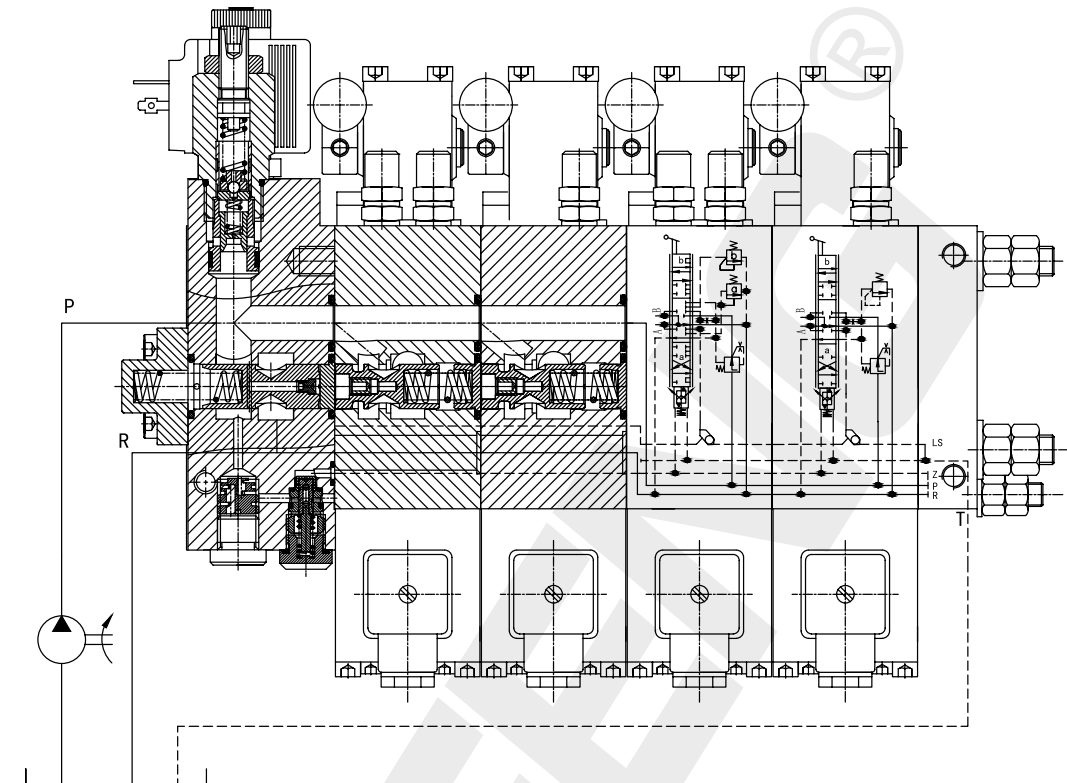
TPSL valves are used in fixed displacement pump systems, while TPSV valves are used in variable displacement pump systems. TPSV valves generally have a slower response, but their energy-saving effect is better. For TPSL type valves, the load pressure signal acts on the spring chamber of the differential relief valve through the shuttle valve and damper. The differential relief valve adjusts the system pressure to the pressure value of the sum of load pressure and spring force, so that the pump outlet pressure matches the load pressure. When the load pressure is low, the pump outlet pressure is low, and when the load pressure is high, the pump outlet pressure is high, thereby achieving energy saving in the system.



For the TPSV type load sensitive proportional multi way directional valve, the load pressure of each directional valve is selected by the shuttle valve and the highest load pressure signal is transmitted to the load sensitive port X of the variable pump. Then, the variable mechanism of the pump is adjusted to match the output pressure and flow rate of the variable pump with the system, thereby achieving energy saving in the system.

TPSL3 Series Load Sensing Sectional Valve

TAIFENG®



Load sensitive proportional multi way directional valve is a combination valve, generally composed of three functional components: connection block, valve section, and end plate. When needed, ancillary blocks can be added to the directional valve and intermediate blocks can be added between the valve sections.

Connection block

The inlet block of the multi way valve which contains a pressure oil inlet P and a return oil port R, as well as a control port LS and a measurement ports Z, M. (For details, see 3.1)

Versions

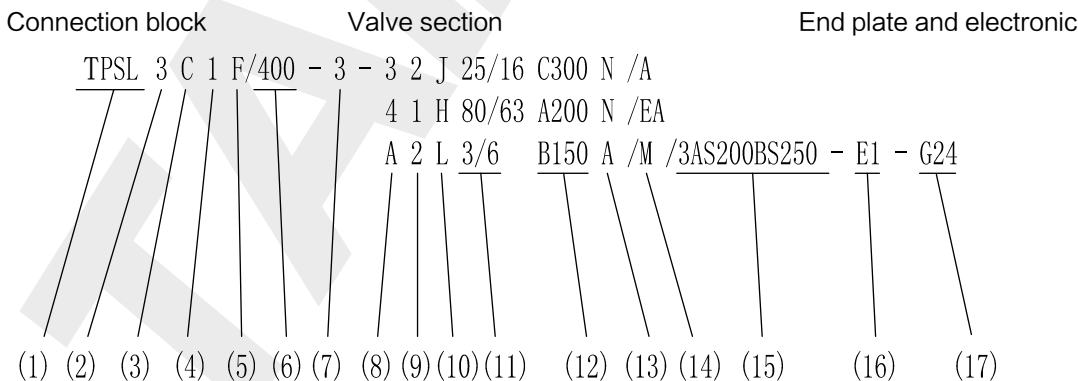
- Oil supply: fixed displacement pump and variable displacement pump
- P and R ports connection thread specifications: G1/2, G3/4, and G1
- With or without pilot oil
- With or without pressure limitation
- With or without pump electromagnetic unloading

Directional valve

Proportional directional valve, fixed between the connection block and the end plate with three tension rods, can accommodate up to 12 valve sections per set. Normally, the number of valve sections should not exceed 8. If the number of reversing valve connections is equal to or more than 9, it is recommended to divide it into two groups of multi way valves. When there are more than 9 directional valves, if the system cannot be divided into two groups of multi way valves, it is necessary to add a ZPL33/15 intermediate block between them or order reinforced tension rod accessories. (For detailed information, please refer to section 3.2)

- According to the working oil port A,B sizes of directional valve : G1/2、 G3/4
- According to the mid-position function and flow rate of the directional valve.
- With or without secondary pressure limiting, N: without pressure limiting, C: with pressure limiting, AB type pressure limiting
- According to the operation mode: manual, electric control, hydraulic control, friction positioning
- With or without ancillary functions

Order coding



A single manifold can merge up to 12 valve sections through the internal LS oil circuit. If more valve sections need to be connected in series, an external pipeline connection is required.

- (1) Connection blocks basic variants, details see 3.1 table 1
 - TPSL: Connection block for use in Open Center systems with constant pumps;
 - TPSV: Connection block with flow controller for use in Closed Center systems with variable pumps or for simultaneous supply of two or more manifolds from a shared constant pump.
- (2) Ports for P and R(according to ISO288/1 standard) , details see 3.1 table 1

3	G1/2
4	G3/4
5, 55	G1
UNF41	1/16-12UN-2B(SAE12)
- (3) Ancillary block, details see 3.1 table 2

C	Standard
G	Check valve(TPSL only)
S	With damping in LS line(only for TPSV,TPSL, standard)
B	With orifice in LS line(only for TPSV)
Z	One-way throttle valve+unloading valve(only for TPSL)
H	Differential relief valve increases circulation pressure (about 14 bar, TPSL)
Y	Differential relief valve (only for TPSL)
- (4) Control the oil supply pressure (see Table 3 in 3.1 for details)

0	When there is no three-way pressure reducing valve and the directional valve is operated purely manually, or when external pilot control oil is provided, pilot control pressure range from minimum 20 bar to maximum 40 bar
1	Equipped with a three-way pressure reducing valve, used for supplying pilot control oil (with a control pressure of approximately 20 bar)
2	Equipped with a three-way pressure reducing valve, used for supplying pilot control oil (with a control pressure of approximately 40 bar)
- (5) Two position two-way electromagnetic ball valves are used for system unloading (see Table 4 in 3.1 for details)

C	without electromagnetic ball valve
F	normally open electromagnetic ball valve, pump pressurizes when the ball valve is energized and unloads when the ball valve is de-energized.
D	normally closed electromagnetic ball valve, pump unloads when the ball valve is energized and pressurizes when the ball valve is de-energized.
D../F..	equipped with a pressure limiting valve, it can serve as a secondary pressure (F50) , indicate the pressure value

TPSL3 Series Load Sensing Sectional Valve

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- (6) Set the pressure of the pressure limiting valve in the connection block
 /... pressure regulating value of pressure limiting valve... bar, such as 63, 120, 210, 280, 315, 350, 400 bar
 NF without pressure limiting valve (only referring to TPSV type)

- (7) Specifications
 3 series

- (8) The thread size of control ports A and B of the directional valve complies with ISO228/1 standard (see Table 5 in 3.2 for details)
- | | |
|--------------------|--|
| 3 | G1/2 |
| 4 | G3/4 |
| UNF3 | 7/8-14UNF-2B(SAE10) |
| A | suitable for installing ancillary blocks or intermediate transition blocks (intermediate blocks) |
| Intermediate plate | ZPL 3S (V)/H hydraulic control cut-off valve |
| ZPL 3S(V)/E | electric control cut off valve |
| ZPL 3P/— | with pressure limiting valve (for all downstream functional pressure limiting) |
| ZPL 3D(S) | can reduce flow at any time |
| ZPL 3D(S)/— | capable of reducing flow at any time, with safety protection achieved by a pressure limiting valve |
| ZPL 33/5 | transition intermediate block, used for the installation of explosion-proof proportional valves |
| ZPL 33/15 | transition intermediate block, used for reinforcing 9-12 directional valves |
| ZPL 3VQ1-3.0/3Q | installation for flow priority allocation |

- (9) Valve section and differential pressure valve (see Table 6 in 3.2 for details)
- 1 without an inlet differential pressure valve, it can only be operated sequentially or operated valve sections at different times
- 2 standard type, equipped with inlet differential pressure valve, with load compensation function, can operate simultaneously with other sections with inlet/outlet differential pressure valves (only suitable for three-way directional valves, function N)
5. inlet differential pressure valve with reinforced spring to achieve higher flow output
- 8 Pre-selection valve (A port outlet; B port is closed to the outside to supply oil to the subsequent directional valve; without differential pressure valve)

- (10) Valve core function symbol (see Table 7 in 3.2 for function codes)
 There are several options available, including L, M, F, H, J, B, R, O, N, etc.

- (11) Output flow code for ports A and B (see Table 8 in 3.2 for details)
 The maximum flow rate output from ports A and B is generally selected as 3, 6, 10, 16, 25, 40, 63, 80 (L/min), Users can also choose the maximum flow rate within the range of 3-80 L/min according to their requirements.

TPSL3 Series Load Sensing Sectional Valve

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- (12) Secondary pressure limit (see Table 9 in 3.2 for details)
 N without pressure limitation
 C limit the pressure of ports A and B simultaneously
 A. .. B... limit the pressure of port A or B

- (13) Function on/off and pressure induce (see Table 10 in 3.2 for details)
 N Non functional on/off or pressure induce
 X C type pressure limiting, with pressure induce port X; oil port thread size is G1/8
 S AB type pressure limiting, with pressure induce port U, W; the thread size of the oil port is G1/8
 S1 AB type pressure limiting, with flange plate outlet U, W; the thread size of the oil port is G1/8
 F1 actuator port A side electrical on/off
 F2 actuator port B side electrical on/off
 F3 actuator port A and B side electrical on/off

- (14) Actuation types (see Table 11 in 3.2 for details)
 /A (1,2) manual operation with long handle (1-without handle, 2- with short handle)
 /E electric proportional control
 /EA (1,2) electric proportional control and manual operation (1-without handle, 2-with short handle)
 /D electric switch control
 /DA (1,2) electrical switch control and manual operation (1-without handle, 2- with short handle)
 /M manual friction positioning with long handle
 /H pure hydraulic control (two pilot oil ports in the same direction as A and B oil ports)
 /F pure hydraulic control (two pilot oil ports are perpendicular to A and B oil ports, facing outward respectively)
 /HA (1,2) hydraulic control and manual operation (two pilot ports in the same direction as ports A and B, 1-without handle, 2- with short handle)
 /FA (1,2) hydraulic control and manual operation (two pilot oil ports are perpendicular to A and B oil ports, facing outward respectively, 1- without handle, 2-with short handle)
 /A (H) manual control, which can be hydraulic control. Factory setting is manually control
 /P pneumatic control
 /PA (1,2) pneumatic control and manual operation (1-without handle, 2-with short handle)
 /P1A (1,2) pneumatic control and manual operation, with the pneumatic control port opposite the AB oil port (1-without handle, 2- with short handle)

- (15) Ancillary block (see Table 12 in 3.2 for details)
 3 and 4 ancillary blocks without additional functions, with oil port thread sizes of G1/2 and G3/4, respectively
 /3AS... BS... install limited pressure safety valves on ports A and B, with a thread size of G1/2 for the oil port, and limit pressure in bar
 /4AS.. BS. install limited pressure safety valves on ports A and B, with a thread size of G3/4 for the oil port, and limit pressure in bar
 /4AN BN ancillary block with anti-cavitation valve at ports A and B
 /4AN... BN.. equipped with shock valves and anti-cavitation valves at ports A and B, with an oil port size of G3/4, pressure limiting, bar

TPSL3 Series Load Sensing Sectional Valve

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/3AN... BN... equipped with shock valves and anti-cavitation valves at ports A and B, with an oil port size of G1/2, pressure limiting, bar
 14AN... equipped with a shock valve at port A and port B an ancillary block with anti-cavitation valve
 14BN... equipped with a shock valve at port B and port A an ancillary block with anti-cavitation valve
 /3AL, BL./3AL./3BL. ancillary blocks with balance valves at ports A and B, noted with pressure in bar.
 /3DRH ancillary block with hydraulic control check valve at ports A and B
 /3DRHA ancillary block with hydraulic control check valve at port A
 /3DRHB ancillary block with hydraulic control check valve at port B

(16) End plate (see Table 13 in 3.3 for details)

- E1 standard end plate, T port for external recirculation of control oil to tank
- E2 similar to E1, external recirculation of control oil, with additional Y port
- E3 external recirculation of control oil, with a two position three-way solenoid ball valve. When energized, the system pressure increases, up to the safety valve pressure
- E4 similar to E1, with internal recirculation of control oil, port T can be plugged
- E5 similar to E2, with internal recirculation of control oil, port T can be plugged
- E6 similar to E3, with internal recirculation of control oil, port T can be plugged
- E18 external recirculation of control oil, with additional port T, pressure port P, and return port R
- E19 internal recirculation of control oil, return oil pressure lower than 15bar, with additional port T, pressure port P, and return port R
- E20 internal recirculation of control oil, return oil pressure lower than 15bar, with additional port T, pressure port P, and return port R

(17) Rated voltage of electromagnet and length of explosion-proof cable

- G12 12VDC
- G24 24VDC
- G24Ex-3m 24VDC (explosion-proof type, wire length such as 5m, 10m, etc.)

Ordering Code:

3.1 connection block
 Example : TPSL4 C 1 F/ 210-3-32L80/40B250A/E-E1-G24
 Table1 Table2 Table3 Table4※

※ Regarding the pressure of the pressure limiting valve, please refer to previous section
 "Order coding (6)"

TPSL3 Series Load Sensing Sectional Valve

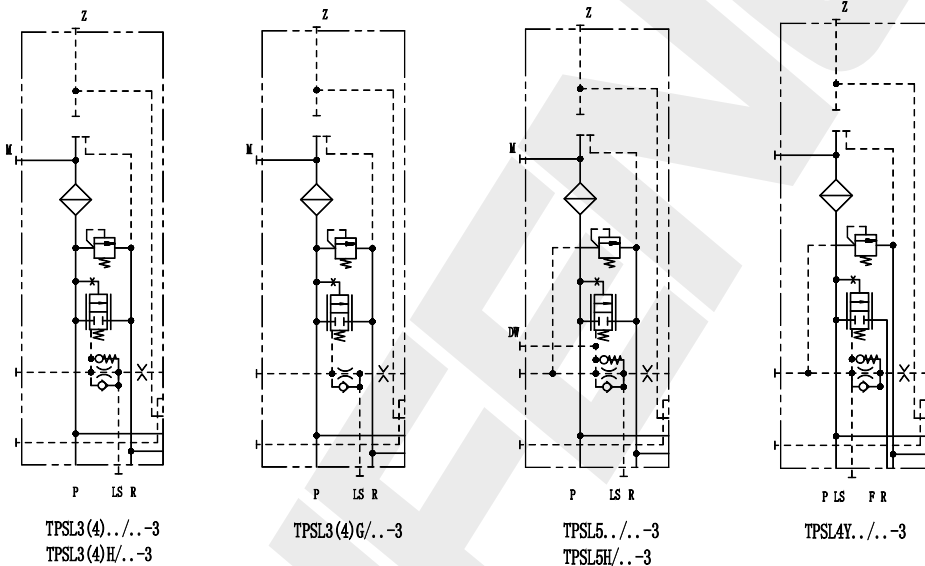
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Table 1 Connection block version and description of P and R port

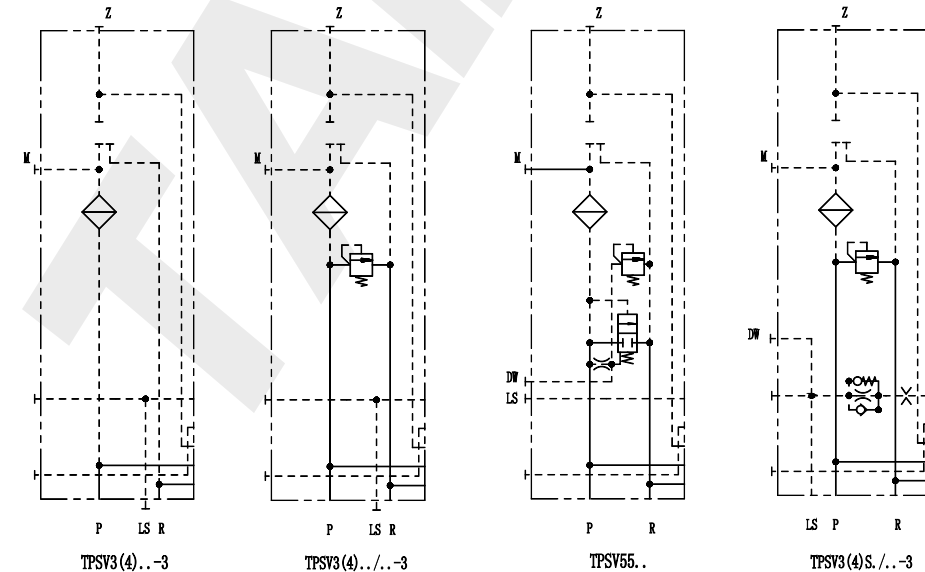
Version	Description of P and R port	Pump max. Flow
TPSL3, TPSV3	G 1/2	80L/min
TPSL4, TPSV4	G 3/4	100L/min
TPSVUNF4	1 1/16-12UN-2B(SAE-12)	130L/min
TPSL5, TPSV5	G 1	130L/min
TPSV55	G 1	200L/min

Note: If the connection block TPSL5 and TPSV55 are used and a valve section with ancillary block then follows, ZPL33/5 spacer is required in between. During assembly, this prevents a collision between the fitting on the R port and the ancillary block.

TPSL connection blocks



TPSV connection blocks



TPSL3 Series Load Sensing Sectional Valve

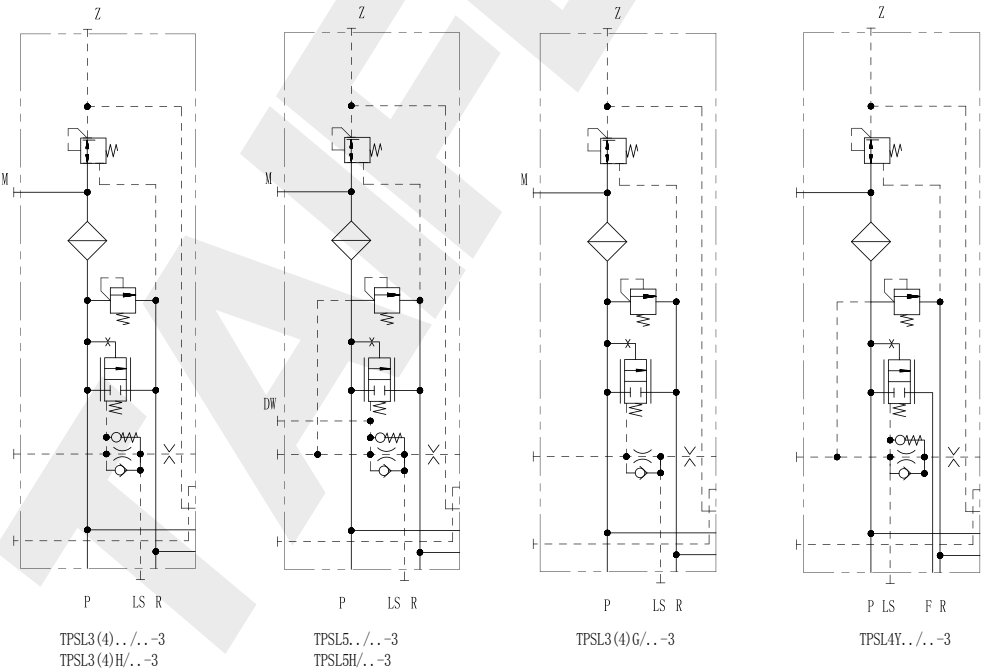
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Table 2 connection block additional elements codes

Code	Description
C	Standard
S	With damping in LS line(only for TPSV,TPSL, standard)
B	With 0.8mm orifice in LS line(only for TPSV)
G	Check valve(TPSL only)
Z	One-way throttle valve+unloading valve(TPSL)
H	Differential relief valve increases circulation pressure (about 14 bar, TPSL)
Y	Differential relief valve extra flow outlet (only for TPSL)

Table 3 Control oil code

Code	Description
0	Without three-way pressure reducing valve and the directional valve is operated purely manually, or when external pilot control oil is provided, pilot control pressure range from minimum 20 bar to maximum 40 bar
1	Equipped with a three-way pressure reducing valve, used for supplying pilot control oil (with a control pressure of approximately 20 bar)
2	Equipped with a three-way pressure reducing valve, used for supplying pilot control oil (with a control pressure of approximately 40 bar)



TPSL3 Series Load Sensing Sectional Valve

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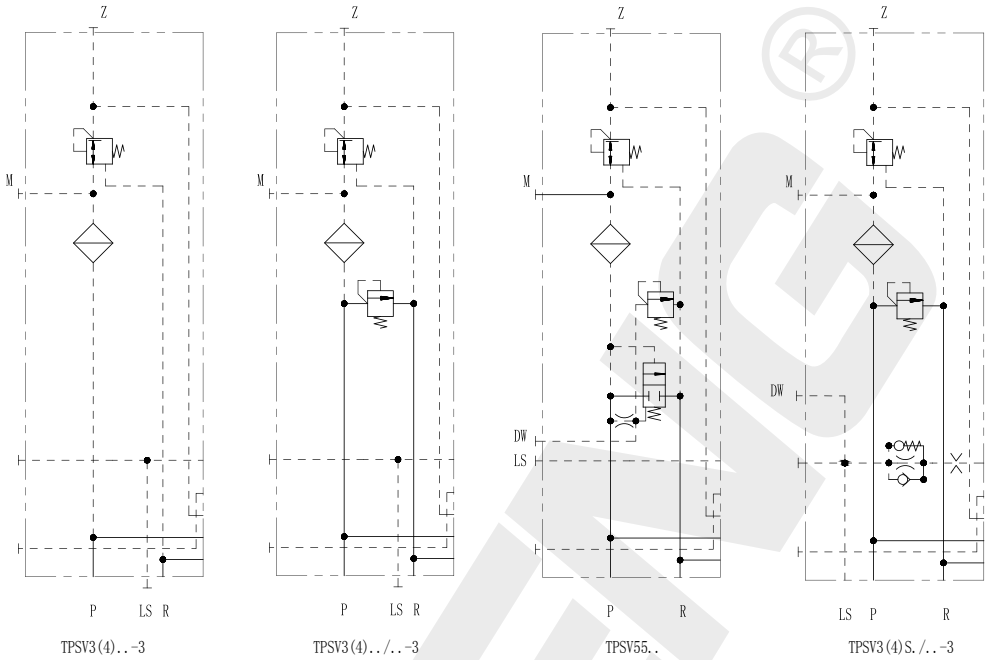
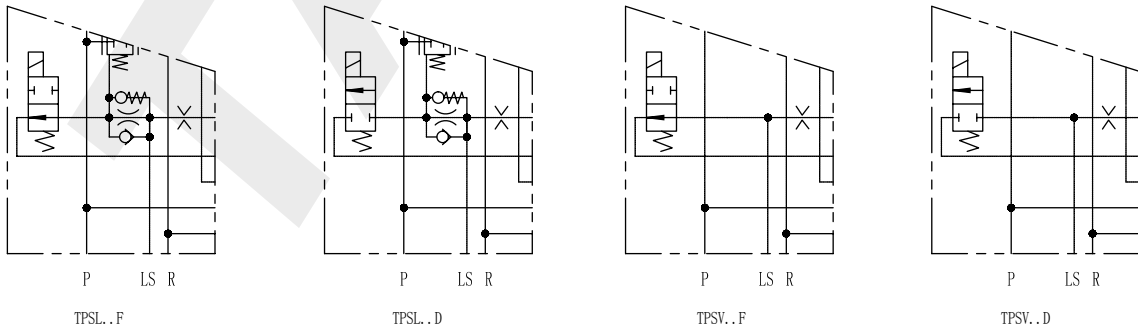


Table 4 System unloading electromagnetic ball valve and pilot pressure limiting valve

Code	Description
C	Without electromagnetic ball valve
F	Normally open electromagnetic ball valve, pump pressurizes when the ball valve is energized and unloads (emergency stop)when the ball valve is de-energized.
D	Normally closed electromagnetic ball valve, pump unloads when the ball valve is energized and pressurizes when the ball valve is de-energized.
D. . /F. .	Equipped with a pressure limiting valve, it can serve as a secondary pressure (F50) , indicate the pressure value. For example, TPSL41F100/350-3 type, when de-energized, Pmax=100bar; when energized, Pmax=350bar.



TPSL3 Series Load Sensing Sectional Valve

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3.2 Valve section

Example: TPSSL4 C 1 F/210-3 - 3 2 - L 80/40 B250 A/ EA1 /3DRHA- E1- G24
 Table5 Table6 Table7 Table8 Table9 Table10 Table11 Table12

Table 5 Valve section port size

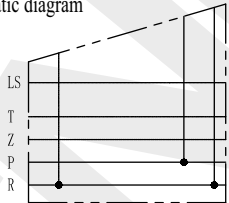
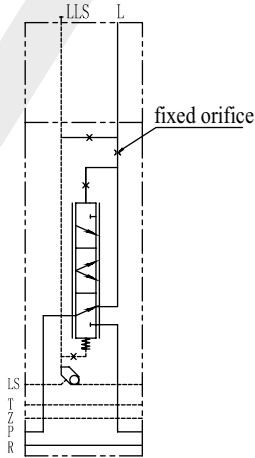
Port size code	Port A and B thread	Max. Flow and additional description
3	G 1/2	80L/min
4	G 3/4	100L/min
UNF3	7/8-14UNF-2B(SAE-10)	80L/min
A	Available for installation of ancillary block	80L/min
ZPL 33/5 ZPL 33/15	Transition intermediate plate ZPL 33/5 is used in explosive proof sectional valve; ZPL 33/15 is used for auxiliary installation of 9-12 valve section	Schematic diagram 
ZPL 3VQ1-3.0/3Q	Intermediate plate for prioritized oil supply, the actuator connected to L port has priority of oil supply. Without additional function, load feedback signal can pass through internal fixed orifice. Orifice and output flow: 2.0-Φ 2mm, Q _L about 8L/min 3.0-Φ 3mm, Q _L about 18L/min 4.0-Φ 4mm, Q _L about 30L/min 5.0-Φ 5mm, Q _L about 40L/min 6.0-Φ 6mm, Q _L about 60L/min Basic flow setting: 1-Q _L max ≤ 20L/min 2-Q _L max ≥ 50L/min 3-Q _L max > 50L/min	

Table 6 Valve section function

Code	Description
1	without an inlet differential pressure valve, it can only be operated sequentially or operated valve sections at different times
2	standard type, equipped with inlet differential pressure valve, with load compensation function, can operate simultaneously with other sections
4	with inlet/outlet differential pressure valves in a three position three-way directional valves, can realize adjustment of outlet/return flow independent to load.
5	inlet differential pressure valve with reinforced spring to achieve higher flow output
8	Pre-selection valve (A port outlet; B port is closed to the outside to supply oil to the subsequent directional valve; without differential pressure valve)

TPSL3 Series Load Sensing Sectional Valve

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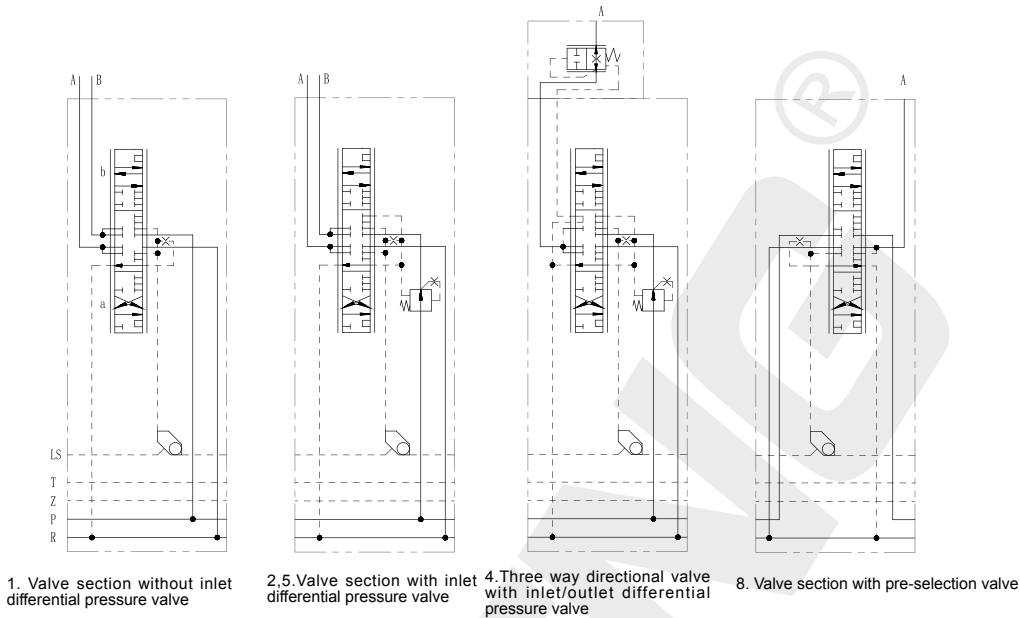


Table 7 Spool function symbol

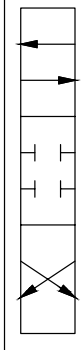
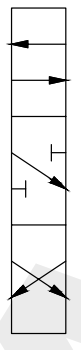
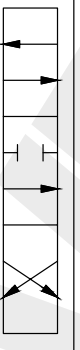
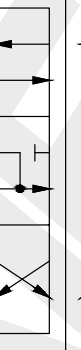
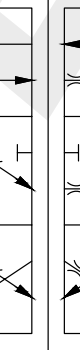
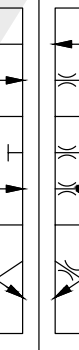
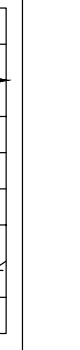
L	M	F	H	J	B	R	O	N
								

Table 8 Consumer Max. Flow P-A or P-B

Valve section	flow code							
	3	6	10	16	25	40	63	80
1, 5	4	9	14	22	34	54	85	107
2	3	6	10	16	25	40	63	80
4	3	6	10	16	25	40	63	80
8	Only refer to flow of A port, same with 1,5 in this table							

Table 9 Pressure limiting valve

Code	Description
N	without pressure limitation
C.....	limit the pressure of ports A and B simultaneously , bar
A.....B.....	limit the pressure of port A or B ,bar

TPSL3 Series Load Sensing Sectional Valve

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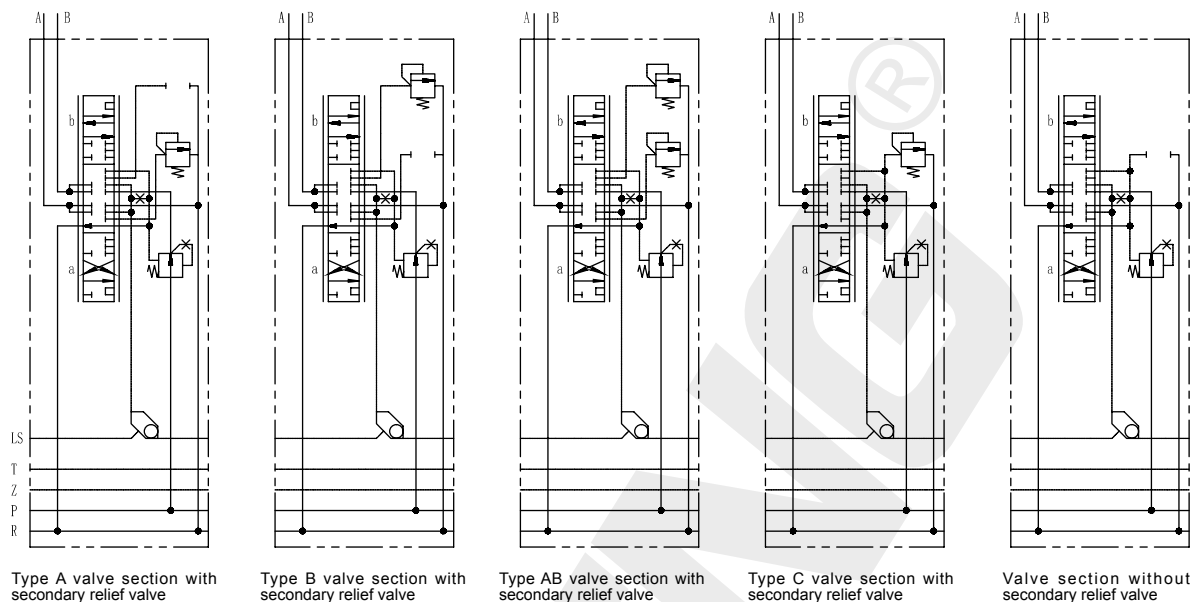
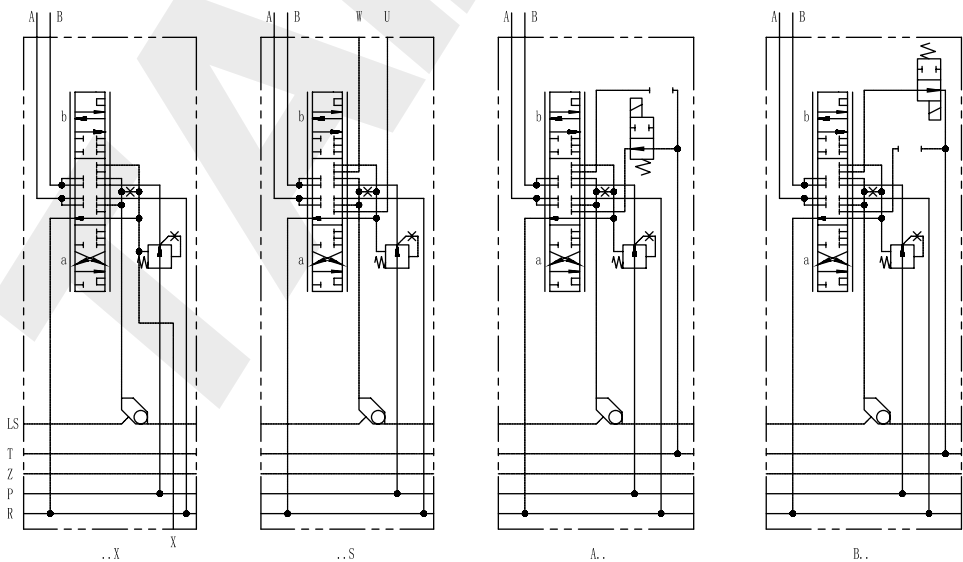


Table 10 Functional on/off or pressure induce

Code	Description
N	non functional on/off or pressure induce
X	C type pressure limiting, with pressure induce port X; oil port thread size is G1/8
S	AB type pressure limiting, with pressure induce port U, W; the thread size of the oil port is G1/8
S1	AB type pressure limiting, with flange plate outlet U, W; the thread size of the oil port is G1/8
F1	actuator port A side electrical on/off
F2	actuator port B side electrical on/off



TPSL3 Series Load Sensing Sectional Valve

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Table 11 Actuation types

Code	Actuation type
A	manual operation with long handle
A1	manual operation without long handle
A2	manual operation with short handle
M	manual friction positioning with long handle
E	electric proportional control
EA	electric proportional control and manual actuation , with long handle
EA1	electric proportional control and manual actuation , without handle
EA2	electric proportional control and manual actuation , with short handle
D	electric switch control
DA	electrical switch control and manual actuation ,with long handle
DA1	electrical switch control and manual actuation ,without handle
DA2	electrical switch control and manual actuation ,with short handle
H	pure hydraulic control , two pilot oil ports in the same direction as A and B oil ports
F	pure hydraulic control , two pilot oil ports are perpendicular to A and B oil ports, facing outward respectively
HA	hydraulic control and manual operation , two pilot ports in the same direction as ports A and B, with long handle
FA	hydraulic control and manual operation ,two pilot oil ports are perpendicular to A and B oil ports, facing outward respectively, with long handle
HA1	hydraulic control and manual operation , two pilot ports in the same direction as ports A and B, without handle
HA2	hydraulic control and manual operation , two pilot ports in the same direction as ports A and B, with short handle
FA1	hydraulic control and manual operation , two pilot oil ports are perpendicular to A and B oil ports, facing outward respectively, without handle
FA2	hydraulic control and manual operation ,two pilot oil ports are perpendicular to A and B oil ports, facing outward respectively, with short handle
P	pneumatic actuation
PA	pneumatic actuation and manual operation , with long handle
PA1	pneumatic actuation and manual operation , without handle
PA2	pneumatic actuation and manual operation , with short handle
PIA1	pneumatic actuation and manual operation , without handle, pneumatic control port opposite the AB oil port
PIA2	pneumatic actuation and manual operation , with short handle, pneumatic control port opposite the AB oil port

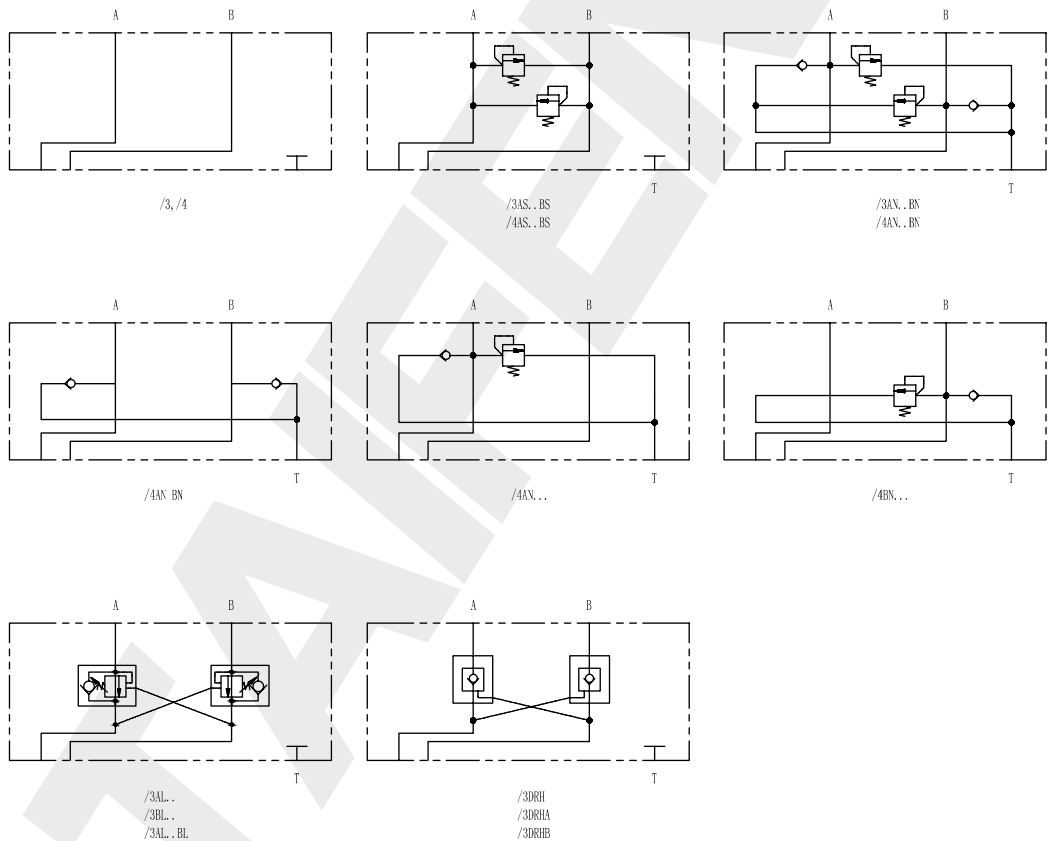
Name	Manual actuation		Electro-hydraulic actuation		hydraulic actuation		pneumatic actuation		
Name and symbol	Spring return A(1,2)	Friction positioning M	Electro-hydraulic actuation E	Electro-hydraulic actuation and manual actuation EA(1,2)	hydraulic actuation HA, FA	With manual actuation HA(1,2) FA(1,2)	pneumatic actuation P	With manual actuation PA(1,2)	With manual actuation PIA(1,2)
Parameter	Operation angle: Min. about 5 ° Max.about 30°		Control current ratio I/IN: Min. about 0.2 Max.about 1		Control pressure (bar): Min. about 5 , Max.about 18, Max. Allowed		Control pressure (bar): Min. About 2.5 , Max.about 7		

TPSL3 Series Load Sensing Sectional Valve

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Table 12 Ancillary block

Code	Description
/3 and /4	ancillary blocks without additional functions, with oil port thread sizes of G1/2 and G3/4
/3AS... BS...	install limited pressure safety valves on ports A and B, with a thread size of G1/2 for the oil port, and limit pressure in bar
/4AS... BS...	install limited pressure safety valves on ports A and B, with a thread size of G3/4 for the oil port, and limit pressure in bar
/4AN BN	ancillary block with anti-cavitation valve at ports A and B
/4AN	equipped with a shock valve at port A and port B an ancillary block with anti-cavitation valve
/4BN	equipped with a shock valve at port B and port A an ancillary block with anti-cavitation valve
/3AL, BL./3AL./3BL.	ancillary blocks with balance valves at ports A and B, noted with pressure in bar
/3DRH	ancillary block with hydraulic control check valve at ports A and B
/3DRHA	ancillary block with hydraulic control check valve at port A
/3DRHB	ancillary block with hydraulic control check valve at port B



3.3 End plate

Example: TPSL4 C 1 F/210–3–32L 80/40 B250 A /E– E1– G24

Table 13 Table14

TPSL3 Series Load Sensing Sectional Valve

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Table 13 End plate

Code	Pilot oil return	Description
E1	T port connected to tank	standard end plate, T port for external recirculaiton of control oil to tank
E2	T port connected to tank	similar to E1, external recirculaiton of control oil, with additional Y port
E3	T port connected to tank	external recirculaiton of control oil, with a two position three-way solenoid ball valve. When energized, the system pressure increases , up to the safety valve pressure
E4	internal recirculation	similar to E1, with internal recirculaiton of control oil, port T can be plugged
E5	internal recirculation	similar to E2, with internal recirculaiton of control oil, port T can be plugged
E6	internal recirculation	similar to E3, with internal recirculaiton of control oil, port T can be plugged
E18	T port connected to tank	external recirculaiton of control oil, with additional port T, pressure port P, and return port R
E19	internal recirculation	internal recirculaiton of control oil, return oil pressure lower than 15bar, with additional port T, pressure port P, and return port R
E20	internal recirculation	internal recirculaiton of control oil, return oil pressure lower than 15bar, with additional port T, pressure port P, and return port R

Note: Internal control oil recirculation through R line is permissible for return pressure < 10bar.

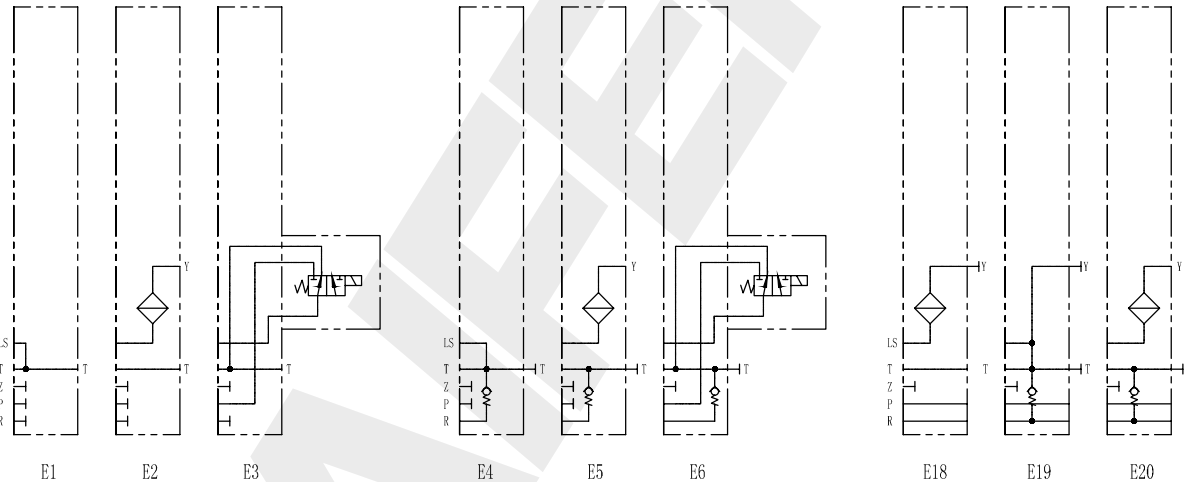
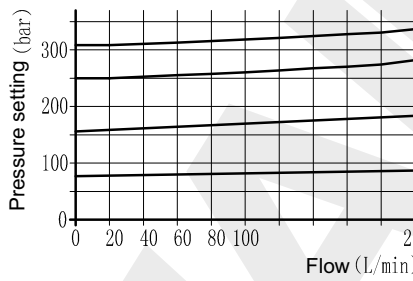
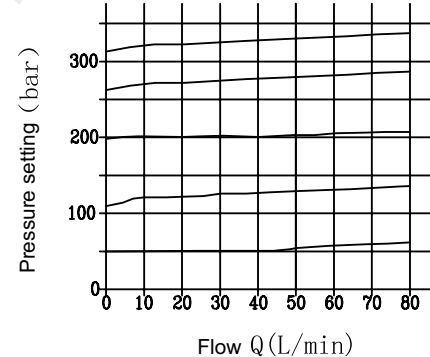
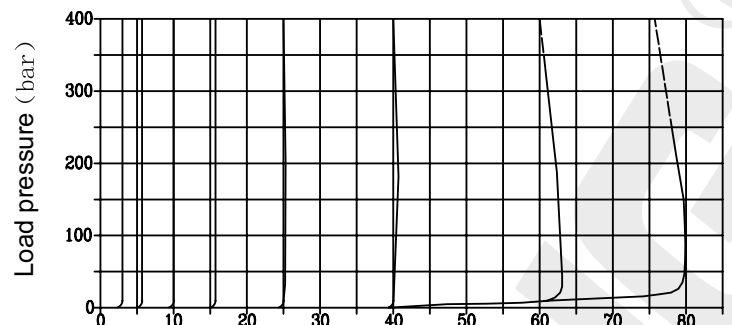
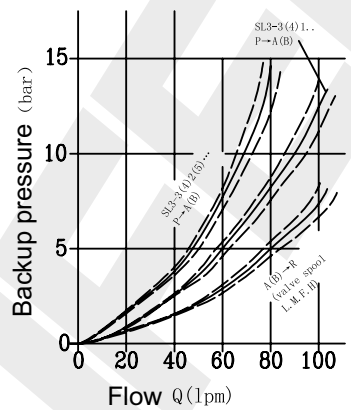
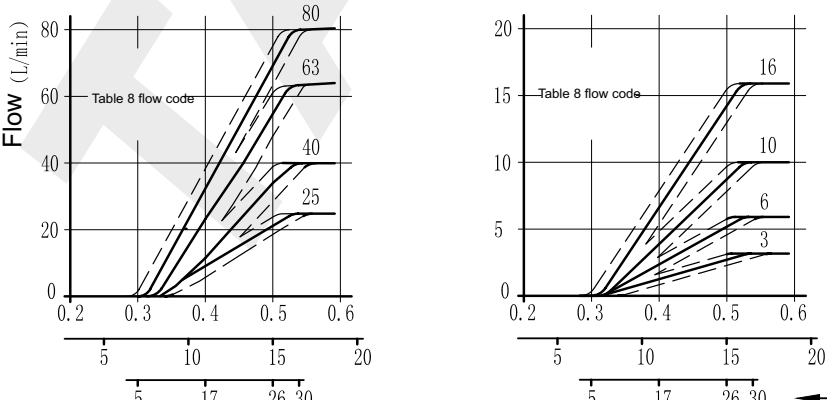


Table 14 Control voltage and length of explosion-proof cable

G12	12VDC	E actuation date is same to 4.3; for TPSL(V)-F or -D, the pump can unload at any time
G24	12VDC	
G24Ex-3m	24VDC, explosion-proof, wire length 3m	

TPSL3 Series Load Sensing Sectional Valve		TAIFENG®	
4. Other information			
4.1 General information and hydraulic			
Designation	TPSL, TPSV		
Design	manifold with up to 12 spool valve sections		
Attachment	mounting thread: M8		
Installation position	any		
Ports	P = pump M= pressure gauge connection R = reflux Z= pilot pressure (20 or 40bar) A,B = consumers T = tank line for control oil U,W,X = load pressure signals Y = load pressure inlet (end plate E2, E5, E18, E20) LS, DW = HLPSV type load output (Note: not pressure oil inlet)		
Threads	P, R, A, B = as per type designation M, LS, Z, T,Y,DW = G 1/4 (DIN ISO 228/1) U,W,X= G 1/8 (DIN ISO 228/1)		
Surface	Main surfaces undergo anti-corrosion surface phosphating treatment		
Weight	Connection block		End plate
	TPSV3, 4, 5 = about 3.5KG		E1, E2, E4, E5 =about 1.0KG
	TPSL3, 4, 5 = about 3.9KG		E3, E6 =about 1.7KG
	TPSV55 = about 4.5KG		E18, E19, E20 =about 2.2KG
	D../F.. with solenoid ball valve +0.5kg		
	Valve section		
	Actuation type		Standard type Additional function C, A..B..S
	A, E, H, F		about 3.4KG about 3.5KG
	EA		about 3.6KG about 3.7KG
	HA, FA		about 3.7KG about 3.8KG
HEA		about 4.2KG about 4.3KG	
Intermediate plate		Ancillary block	
ZPL33/5 = about0.3KG		/3, /4 = about 0.7KG	
ZPL33/15 =about0.8KG		/3AS..BS.. = about 0.9KG	
		/4AS..BS.. = about 1.8KG	
		/4AN BN = about0.9KG	
		/4AN.., /4BN.. = about1.7KG	
		/3AL..BL.. = about2.0KG	
		/3AL.., /3BL.. = about 1.7KG	
		/3DRH = about2.0KG	
		/3DRHA, /3DRHB = about 1.8KG	

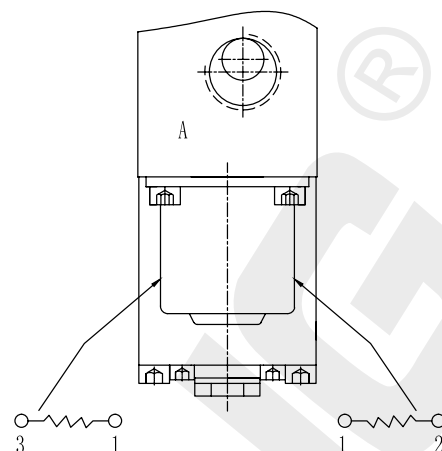
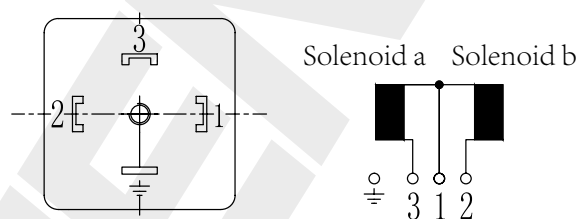
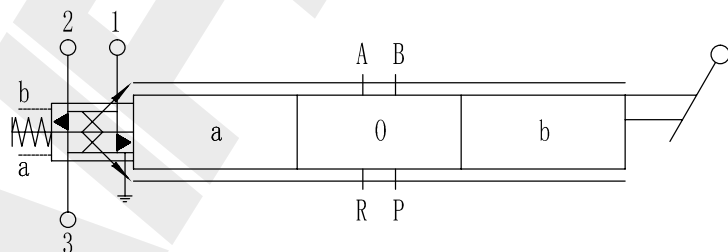
TPSL3 Series Load Sensing Sectional Valves		TAIFENG®	
Hydraulic fluid	Hydraulic fluid, according to DIN 51 519 ISO VG 10 to 68 Viscosity range: 4 - 1500 mm ² /s Optimal operating range: approx. 10 - 500 mm ² /s Also suitable for biologically degradable hydraulic fluids type HEPG (polyalkylene glycol) and HEES (synthetic ester) at operating temperatures up to approx. +70°C. Not suitable for HETG such as rapeseed oil .		
Temperatures	Environment: approx. -40 to +80 °C. (Note: approx. -40 to +40 °C for explosive-proof version) hydraulic fluid: -25 to +80 °C, pay attention to the viscosity range.(Note: approx. -25 to +70 °C for explosive-proof version). Start temperature down to -40 °C is permissible (take account of the start viscosity), as long as the steady-state temperature is at least 20 K higher during subsequent operation.		
Cleanliness level	ISO4406 18/14, NAS7-8		
Working pressure	P _{max} =420bar, port P, P _i , A, B, LS, M, Y, the spool valve consumers reach lower maximum pressure . The reduced value is equal to the internal control pressure drop of the HLPST type valve differential relief valve (see also the “Load pressure flow curve” below) or the internal control pressure drop at the pump flow control valve. Return port R50bar: use a separate pipeline pressurelessly to return the oil port T to the tank. However, when the return oil pressure is high, it is recommended to use E1, E2, E3 end plates with accessory oil discharge ports. Oil port Z is approximately 20 or 40 bar (depending on the code in Table 3) (outlet), 40 bar (inlet)		
Pilot control route	Internal pilot control oil is filtered by disc filter which prevents the fault caused by contamination.		
Flow	The consumers maximum flow is 3...80(120) L/min		
<div>4.2 Characteristic curve</div> <div>4.2.1 Pressure limiting valve P-F characteristic</div> <div>4.2.2 Secondary pressure limiting valve</div> <div>Series 3 connection block pressure limiting valve (pilot)</div> <div></div> <div></div>			

TPSL3 Series Load Sensing Sectional Valve	TAIFENG®
<p>4.2.3 Load pressure and flow</p> <p>Pressure differential valve</p>  <p>Flow Q (L/min)</p>	
<p>4.2.4 Backup pressure flow curve</p> <p>Valve section P→A (B) , A (B) →R</p>  <p>Backup pressure (bar)</p> <p>Flow Q (lpm)</p>	
<p>4.2.5 Input current- flow curve</p> <p>Consumer flow control curve (reference values measured with pressure differential valve)</p>  <p>Flow (L/min)</p> <p>Control current DC(A)</p> <p>Pilot control pressure (bar)</p> <p>Switching angle(°)</p>	

TPSL3 Series Load Sensing Sectional Valve		TAIFENG®																																	
4.3 Actuation parameters																																			
4.3.1 Actuation torque	Neutral	End position																																	
A type	about 1.3Nm	about 1.7Nm																																	
HA type	about 1.7Nm	about 3.3Nm																																	
EA type	about 1.3Nm	about 2.5Nm																																	
4.3.2 Actuation mode																																			
Friction positioning, spool can stops at any demanded position																																			
Actuation mode M																																			
Actuation mode E, EA																																			
<p>Twin solenoid with anchor chambers sealed on the outside and connected to return duct. The anchors in the chambers are thereby lubricated by the hydraulic fluid and protected against corrosion without the need for maintenance.</p> <table><tr><td>Limit voltage Un</td><td>24VDC</td><td>12VDC</td></tr><tr><td>Solenoid resistance R20</td><td>27.2 Ω</td><td>6.7 Ω</td></tr><tr><td>Limit control current Ig</td><td>0.63A</td><td>1.26A</td></tr><tr><td>Limit control power PG=Un*Ig</td><td>10.8W</td><td>10.6W</td></tr><tr><td>Switch energy Wa</td><td>≤0.3Ws</td><td>≤0.3Ws</td></tr><tr><td>Duty circle</td><td>100%</td><td>100%</td></tr><tr><td>Protection level (assembled)</td><td colspan="2">IP65(according to DIN VDE 0470/EN 60529/IEC529)</td></tr><tr><td>Dither frequency</td><td colspan="2">40···70Hz (optimum 55Hz)</td></tr><tr><td>Dither amplitude</td><td colspan="2">20%≤Ad≤35%</td></tr><tr><td>Electrical connection</td><td colspan="2">DIN 43650A</td></tr><tr><td>Electrical connection diagram</td><td colspan="2">Solenoid a Solenoid b</td></tr></table> <p>Current- spool stroke curve</p> <p>Measured at fluid viscosity≈ 60mm² /s</p>			Limit voltage Un	24VDC	12VDC	Solenoid resistance R20	27.2 Ω	6.7 Ω	Limit control current Ig	0.63A	1.26A	Limit control power PG=Un*Ig	10.8W	10.6W	Switch energy Wa	≤0.3Ws	≤0.3Ws	Duty circle	100%	100%	Protection level (assembled)	IP65(according to DIN VDE 0470/EN 60529/IEC529)		Dither frequency	40···70Hz (optimum 55Hz)		Dither amplitude	20%≤Ad≤35%		Electrical connection	DIN 43650A		Electrical connection diagram	Solenoid a Solenoid b	
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Duty circle	100%	100%																																	
Protection level (assembled)	IP65(according to DIN VDE 0470/EN 60529/IEC529)																																		
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Dither amplitude	20%≤Ad≤35%																																		
Electrical connection	DIN 43650A																																		
Electrical connection diagram	Solenoid a Solenoid b																																		

TPSL3 Series Load Sensing Sectional Valve

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Actuation type E,
EA(HEA)
Actuation type E,
EA explosive-proof
Voltage G24ex

Certification No.	CNEx16.4149X and CNEx16.4148X
Explosive -proof level	Ex mb I Mb and Ex mb IIC T4 Gb
Duty cycle(ED)	100% ED, each electromagnet has one coil energized
Protection level	IP67
Limit voltage Un	24VDC
Limit control current Ig	0.63A
Limit control power PG	10.8W
Residual pulsation of power supply voltage	15%

TPSL3 Series Load Sensing Sectional Valve

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Operation condition:
Max. environment temperature 40℃
Max. fluid temperature 70℃
Each electromagnet must be protect by fuse.
Surface treatment Galvanized shell, coil and wiring cavity wrapped and sealed
Attention: avoid direct sunlight exposure
Cable area 4×1mm²
Cable length 3m/5m
Electrical circuit see "Actuation type E, EA" standard

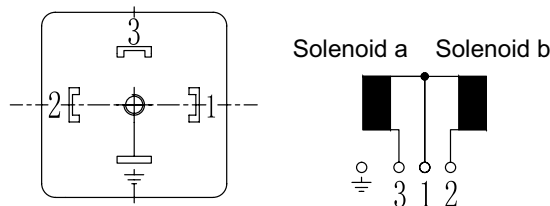
Actuation type H, F, HA, FA

Control pressure is about 5 bar (start stroke) to 18 bar (end stroke); Max. allowable pressure 50 bar; The remote control pipelines for oil ports 1 and 2 must be connected by external pipes; The control oil is provided through a proportional pilot valve.

4.4 Function on/off control

On/off solenoid with manual override

Limit voltage Un	24VDC	12VDC
Solenoid resistance R20	34.8Ω	8.7Ω
Current, cold I20	0.68A	1.38A
current gain I70	0.48A	0.97A
Power, normal temperature Pn=Un*I20	16.6W	16.6W
Protection level (assembled)	IP 65	
Electrical connection	DIN 43650A	
Switch energy consumption	≤0.3Ws	
Electrical connection diagram	Solenoid a Solenoid b	

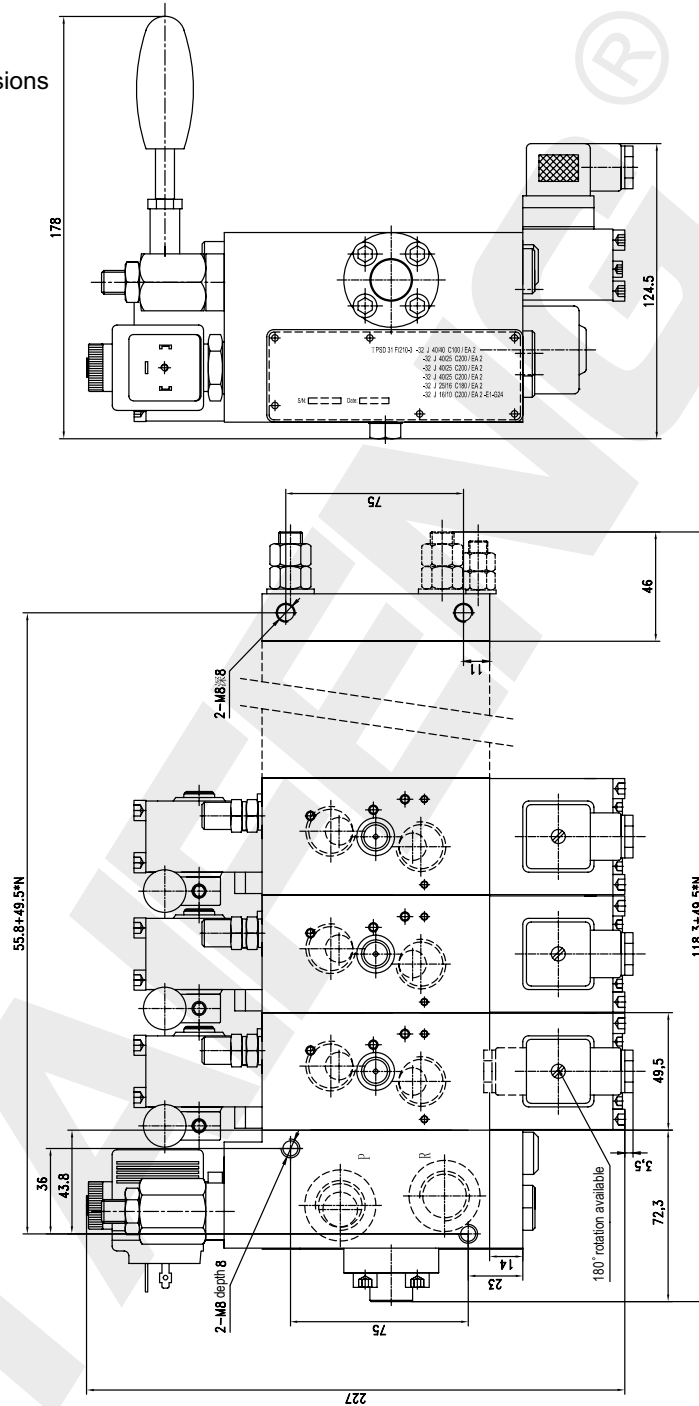


TPSL3 Series Load Sensing Sectional Valve

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5. Dimensions

5.1 Overall dimensions



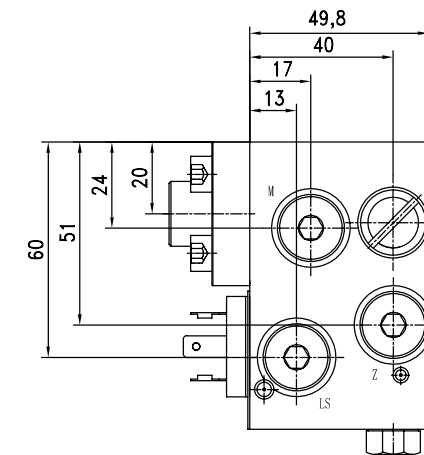
Note: mounting thread M8, In the dimensions “55.8+49.5*N” and “118.3+49.5*N”, “N” stands for the number of valve sections. Users can determine the installation size and external dimensions based on the actual number of valve sections needed .

TPSL3 Series Load Sensing Sectional Valve

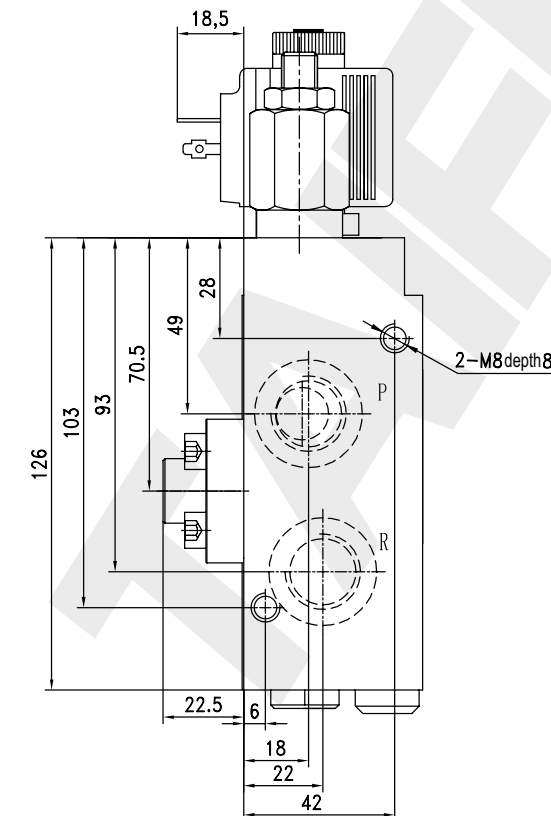
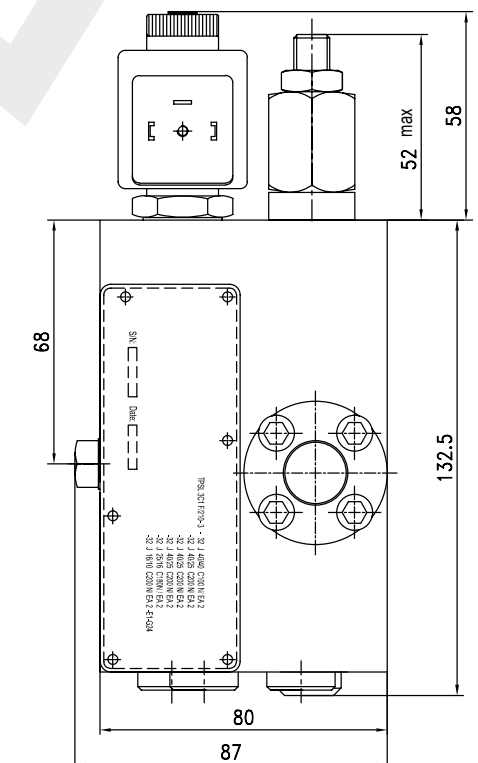
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5.2 Connection block

5.2.1 TPSL3 and TPSL4



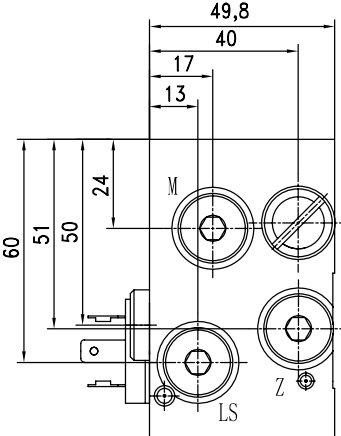
	TPSV3. .	TPSV4. .
a	126	126
b	93	93
c	18	21
d	22	22



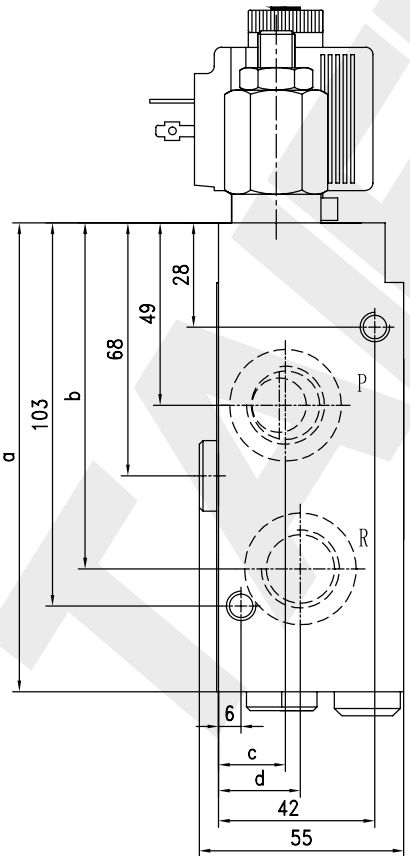
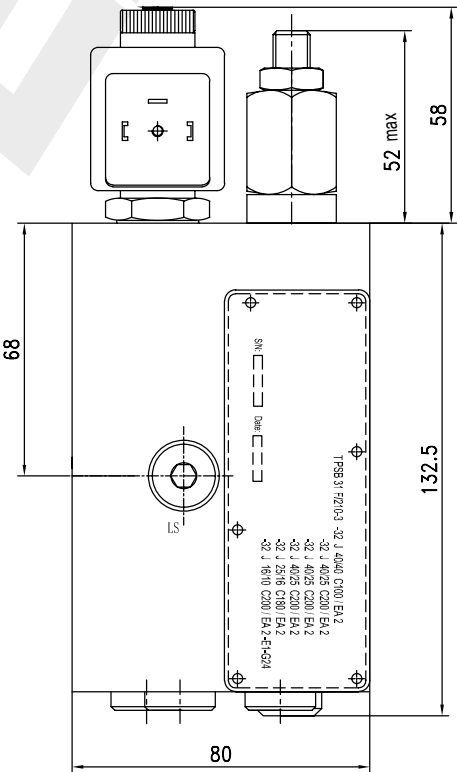
TPSL3 Series Load Sensing Sectional Valve

TAIFENG®

5.2.2 TPSV3 and TPSV4



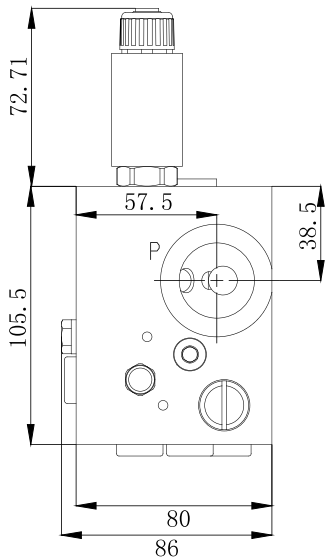
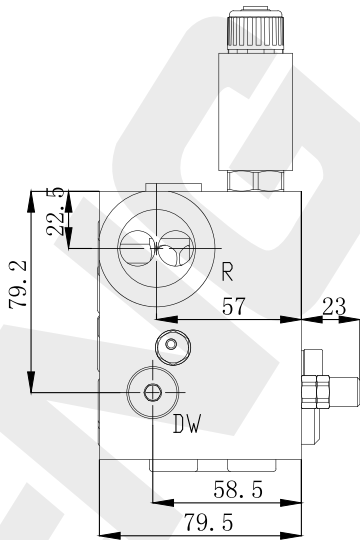
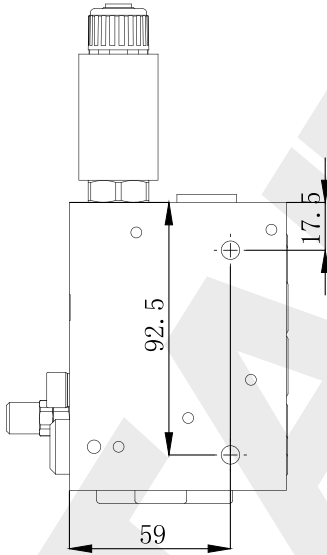
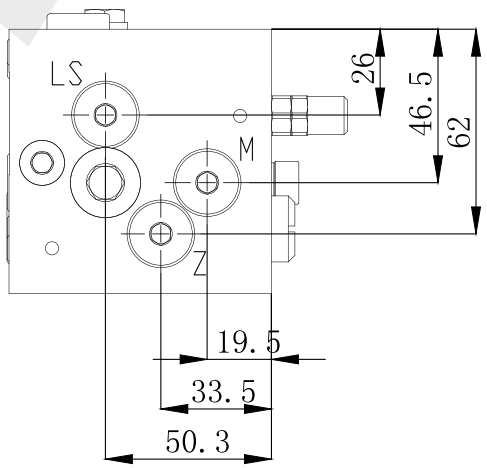
	P and R	LS, Z and M
TPSL3/TPSV3	G1/2	G1/4
TPSL4/TPSV4	G3/4	G1/4
TPSL5/TPSV5	G1	G1/4



TPSL3 Series Load Sensing Sectional Valve

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5.2.3 TPSL5 and TPSV55



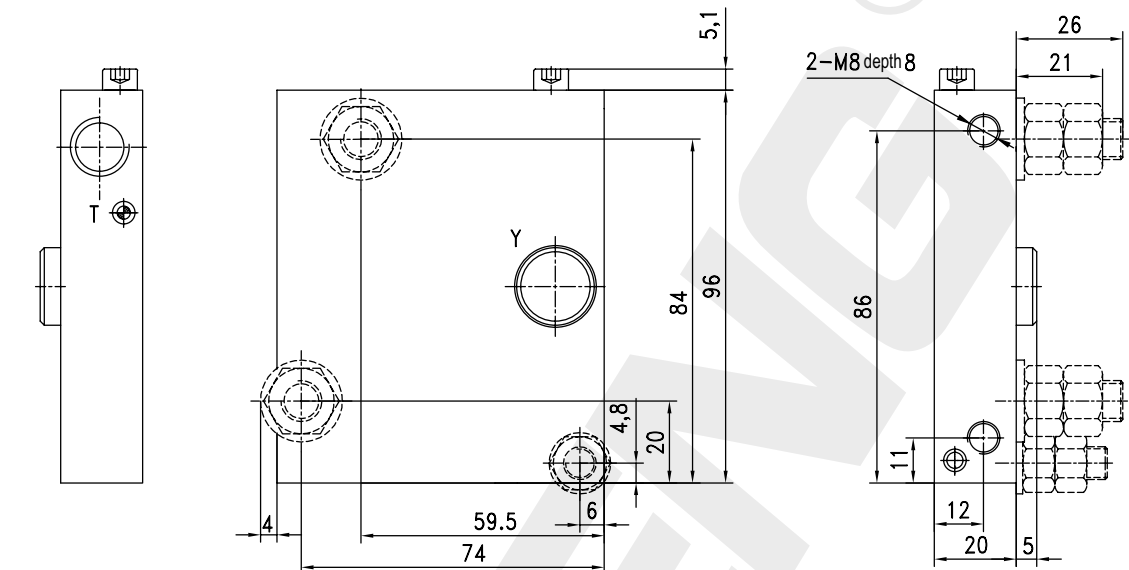
Note:mounting thread M8. If the connection block TPSL5 and TPSV55 are used and a valve section with ancillary block then follows, ZPL33/5 spacer is required in between. During assembly, this prevents a collision between the fitting on the R port and the ancillary block.

TPSL3 Series Load Sensing Sectional Valves

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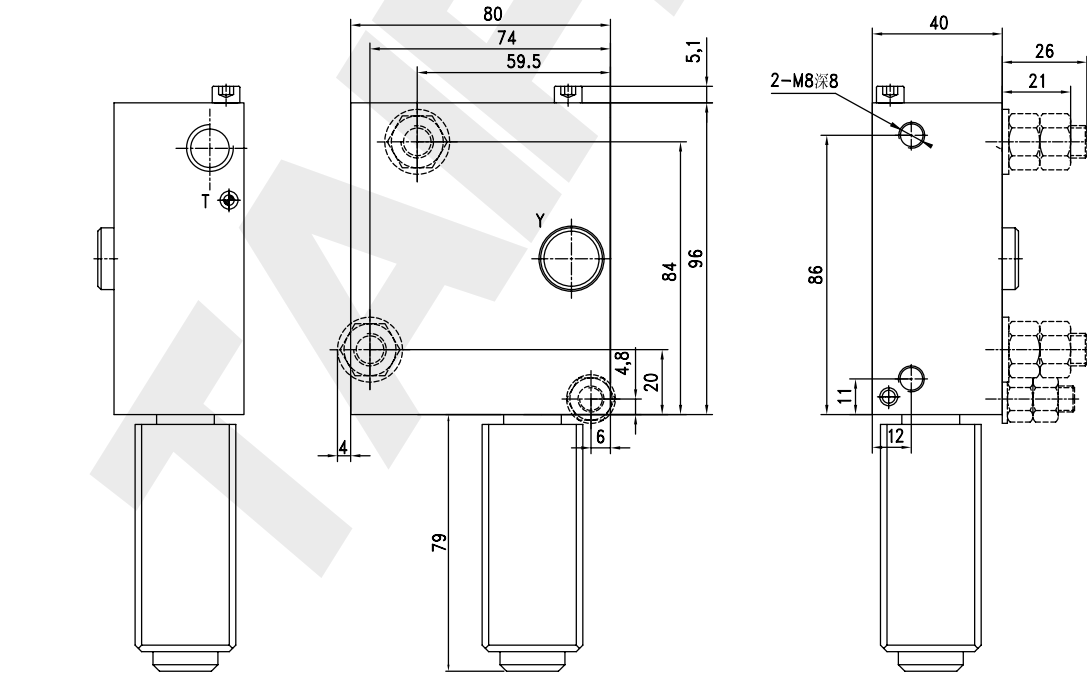
5.3 End plate

5.3.1 E1,E2,E4,E5 End plate



Port thread See DIN ISO 228/1(BSPP) T and Y=G1/4

5.3.1 E3,E6 End plate

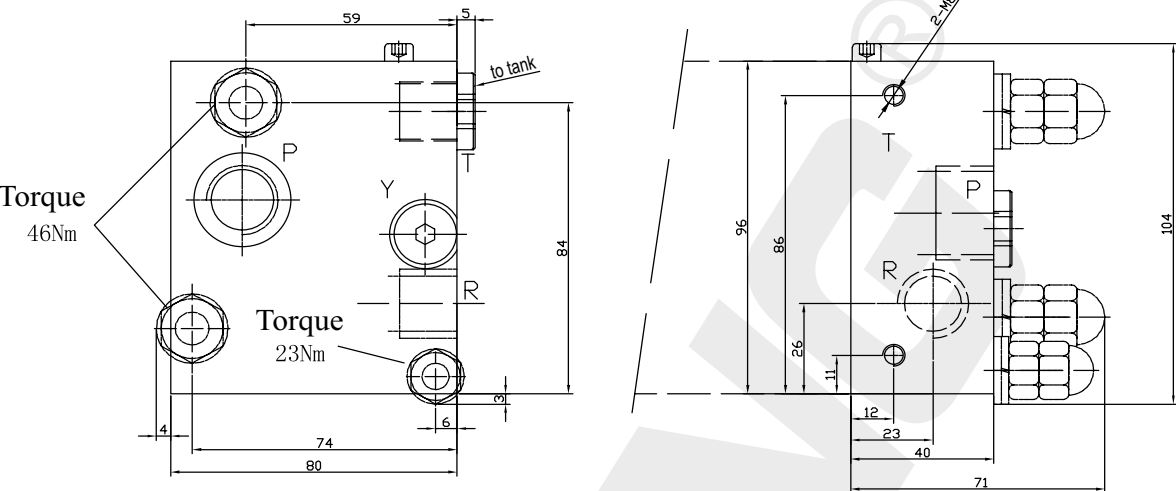


port thread See DIN ISO 228/1(BSPP) T and Y=G1/4

TPSL3 Series Load Sensing Sectional Valves

TAIFENG®

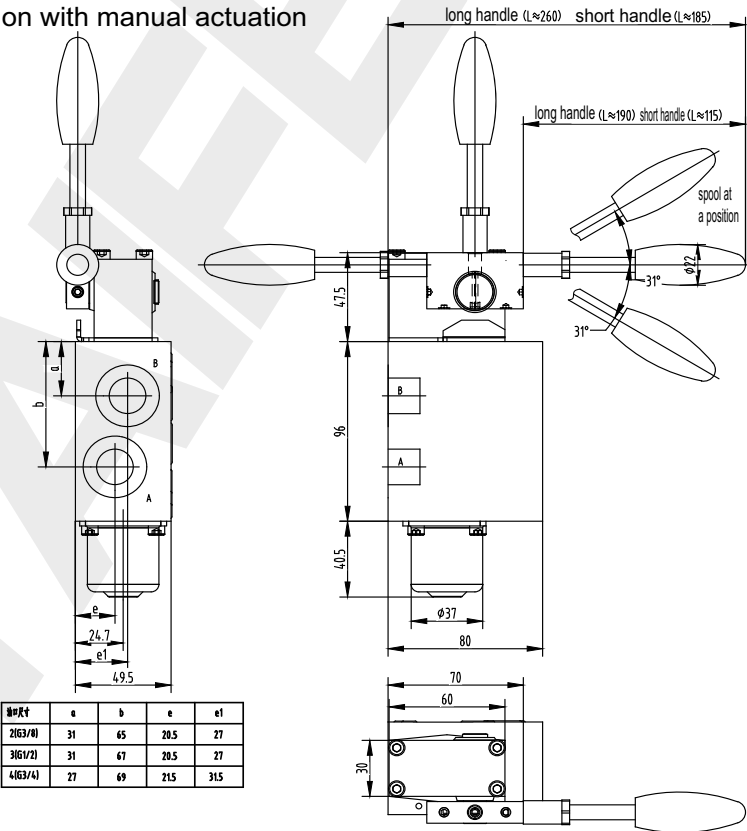
5.3.3 E18,E19,E20 End plate



Port thread See DIN ISO 228/1 (BSPP) T and Y=G1/4 Pand R=G3/4

5.4 valve section

5.4.1 A, M type valve section with manual actuation



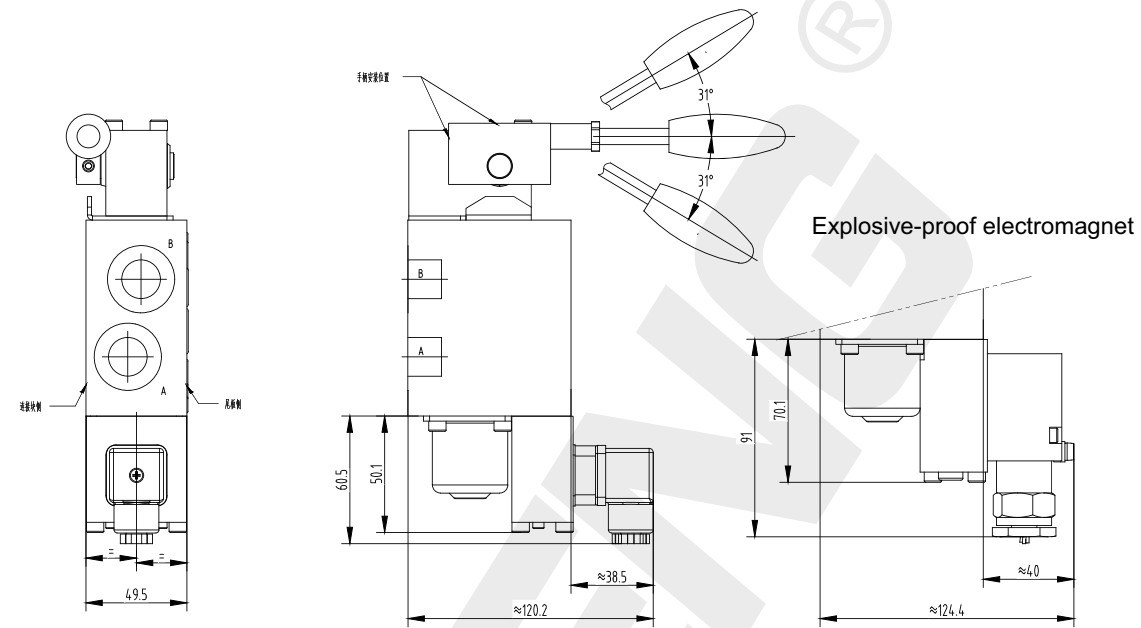
尺寸	a	b	c	d
2163/40	31	65	20.5	27
3163/21	31	67	20.5	27
4163/41	27	69	21.5	31.5

For sectional valve with manual handle, there are 3 directions for the installation of handle.

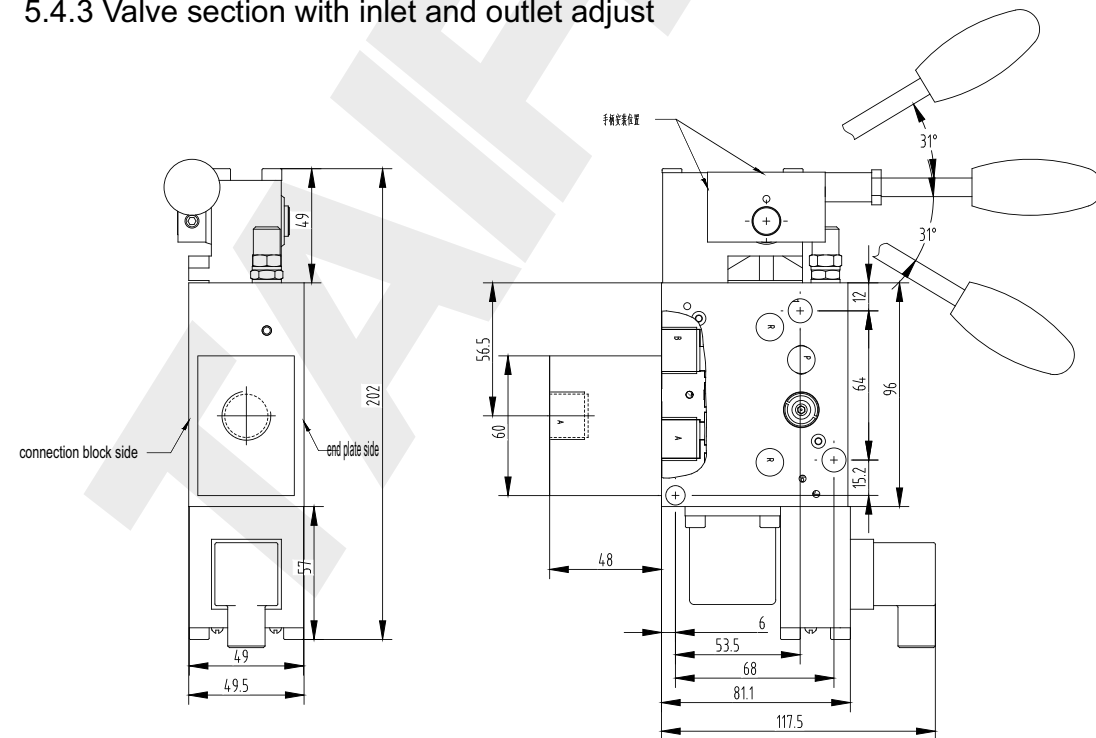
TPSL3 Series Load Sensing Sectional Valve

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5.4.2 E, EA type electro-hydraulic actuation valve section



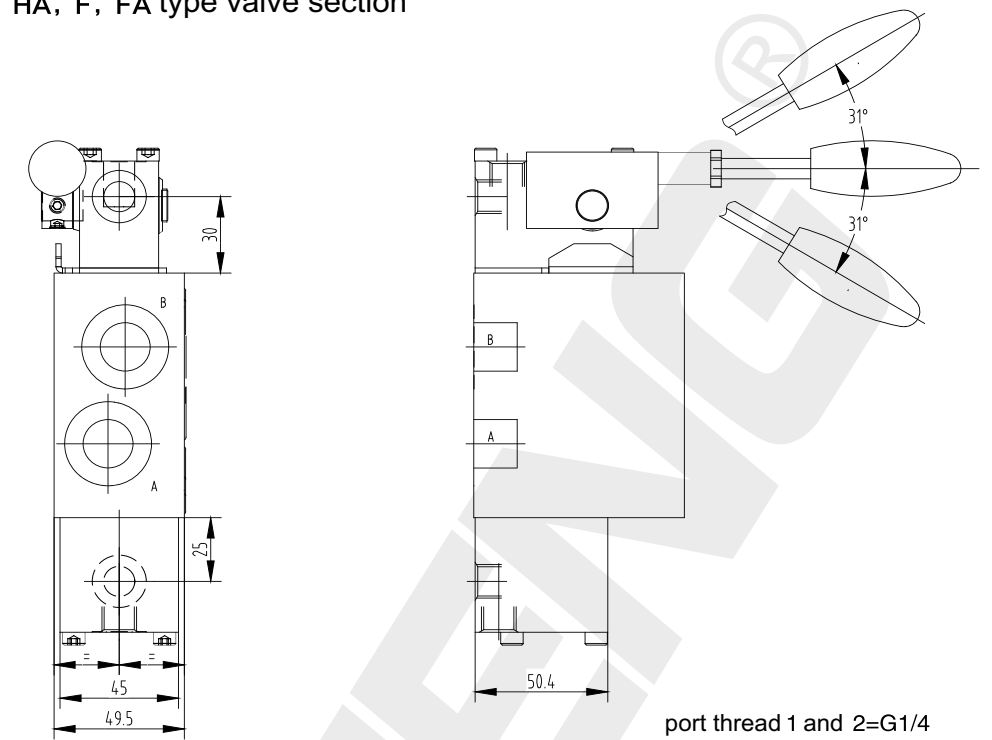
5.4.3 Valve section with inlet and outlet adjust



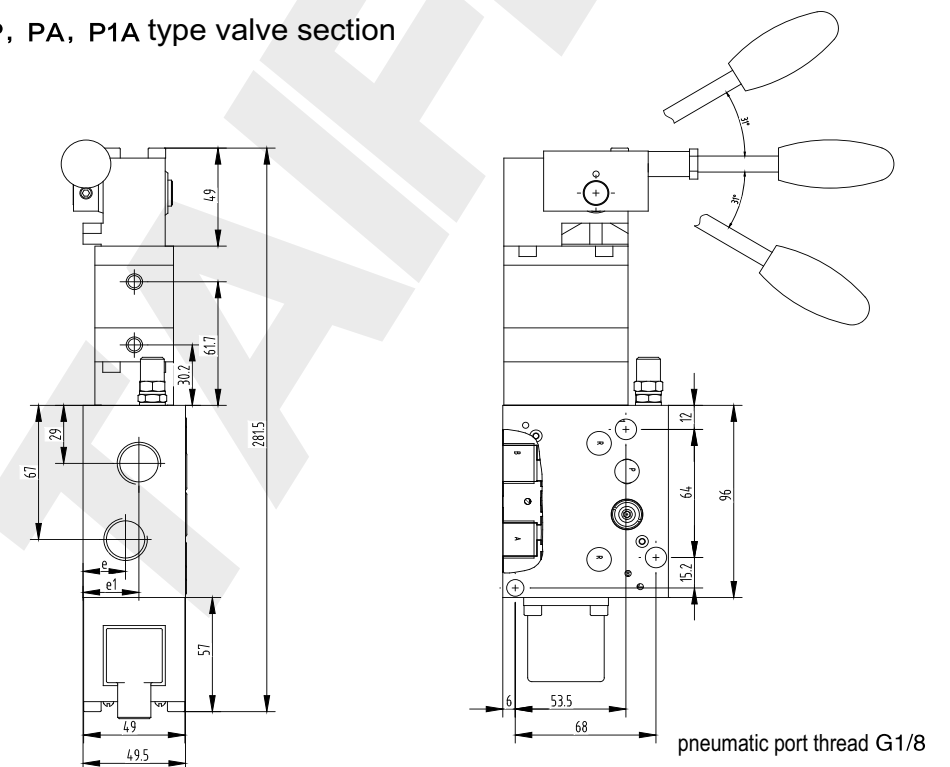
TPSL3 Series Load Sensing Sectional Valve

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5.4.4 H, HA, F, FA type valve section



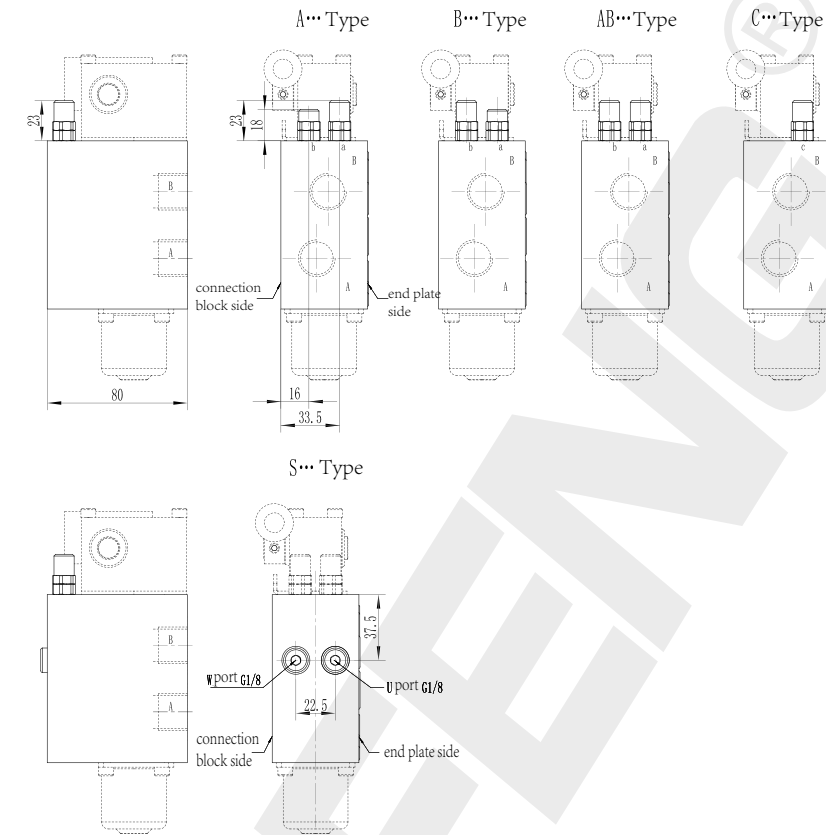
5.4.5 P, PA, P1A type valve section



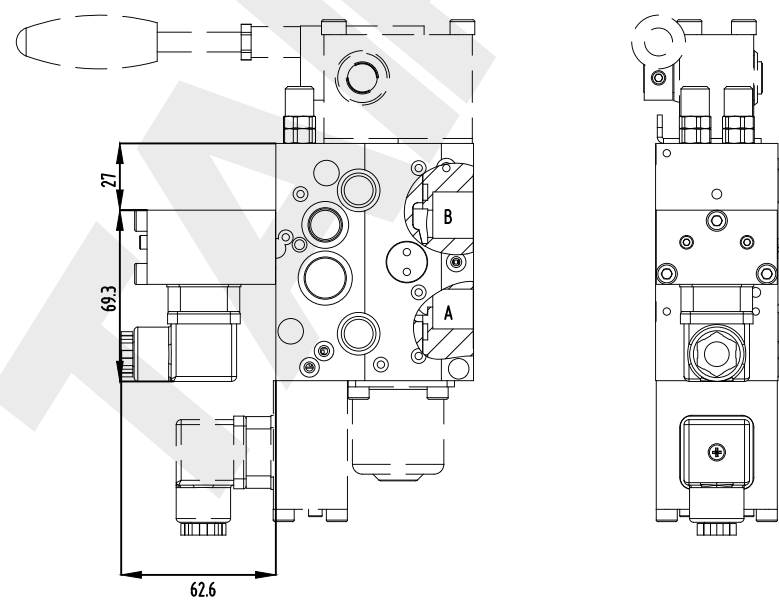
TPSL3 Series Load Sensing Sectional Valve

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5.4.6 Valve section with secondary pressure limiting valve, on/off valve and proportional pressure limiting valve



Type F1, F2, F3

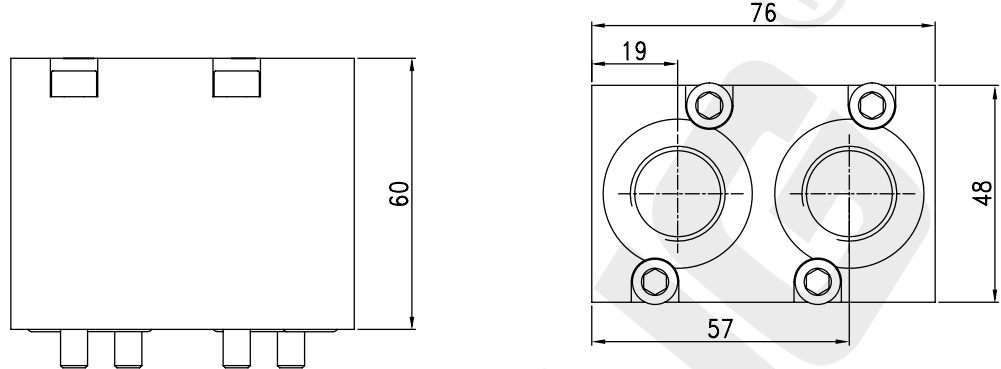


TPSL3 Series Load Sensing Sectional Valve

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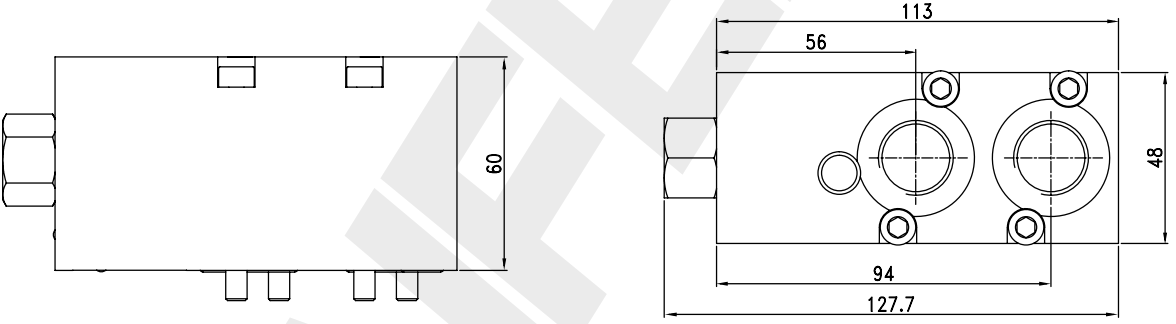
5.5 Ancillary block

5.5.1 /3



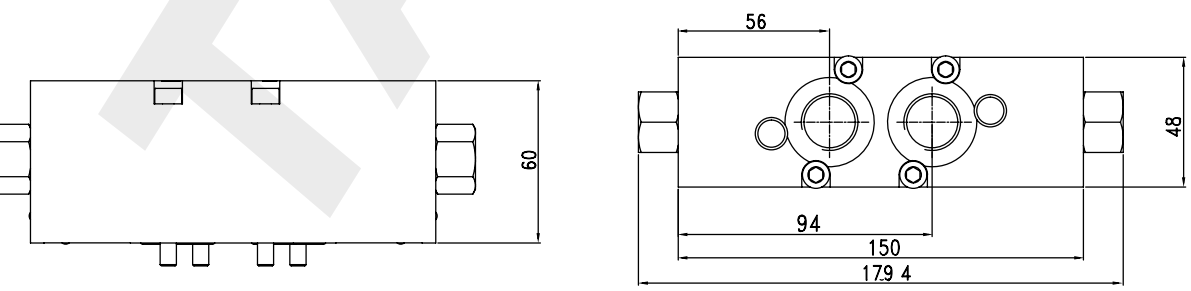
Port thread =G1/2

5.5.2 /3DRHA, 3DRHB, /3AL..., /3BL..



Port thread =G1/2

5.5.3 /3DRH, /3AL.. BL..

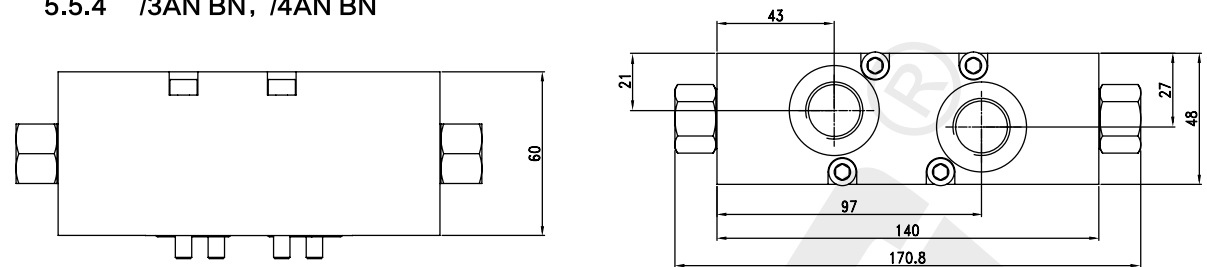


Port thread =G1/2

TPSL3 Series Load Sensing Sectional Valve

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5.5.4 /3AN BN, /4AN BN



/3AN BN Threaded interface=G1/2, /4AN BN Threaded interface=G3/4

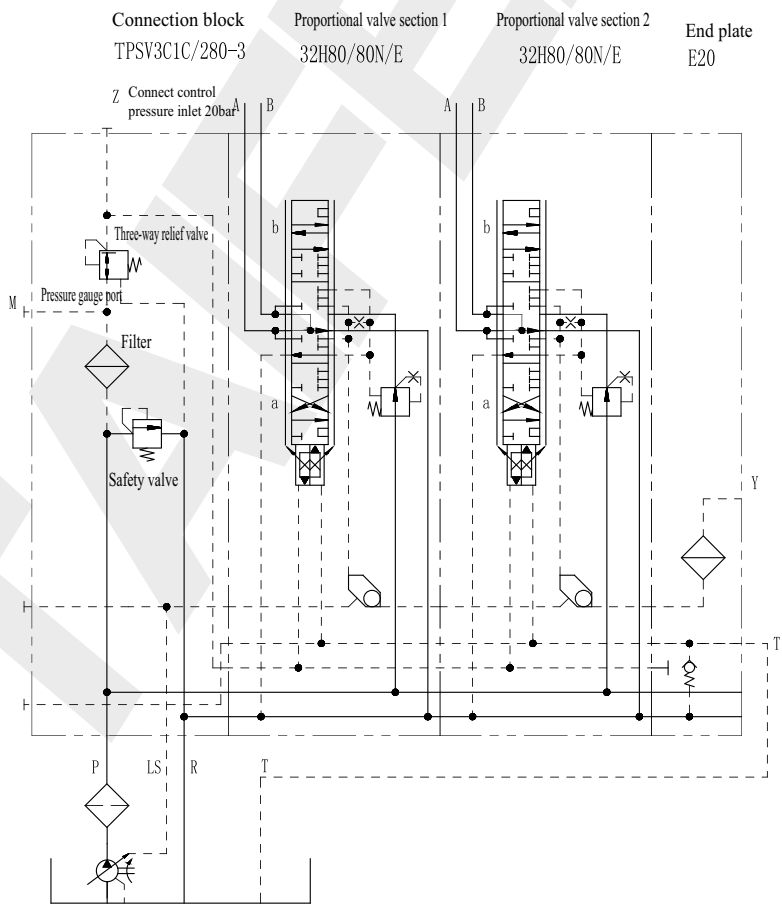
Application

6.1 LS proportional valve for flatbed trailer

Reference model for controlling turning:

TPSV3C1C/280-3-32H80/80NN/E

-32H80/80NN/E - E20-G24



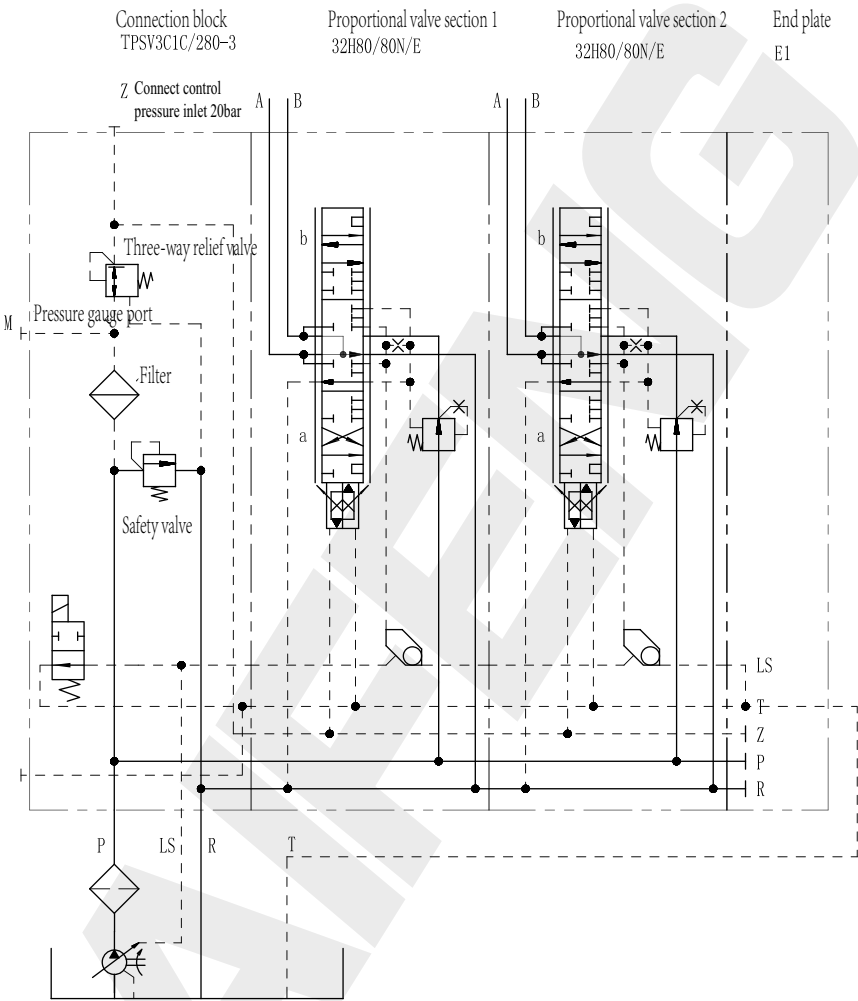
TPSL3 Series Load Sensing Sectional Valve

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Reference model for controlling flatbed up/down:

TPSV3C1F/280-3-32H80/80NN/E

-32H80/80NN/E - E1-G24



6.2 LS proportional valve for concrete pump

Reference model

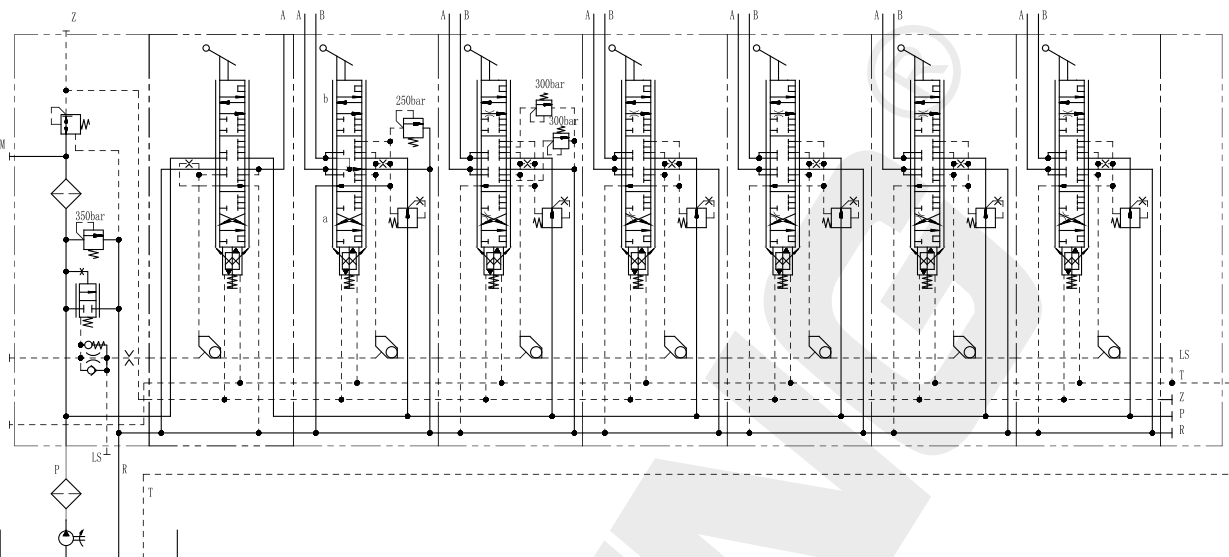
TPSL3C1C/350-3-38L63/80 NN/EA2

- 32H16/16 C250N/EA2
- 32J80/63 A300B300N/EA2
- 32J63/40 NN/EA2
- 32J40/25 NN/EA2
- 32J25/25 NN/EA2
- 32J16/16 NN/EA2
- E1-G24



TPSL3 Series Load Sensing Sectional Valve

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6.3 LS proportional valve for aerial work platform



- TPSL3C1F/210-3-32H40/40 C100N/EA2
- 32H40/25 C200N/EA2
 - 32H40/25 C200N/EA2
 - 32H40/25 C200N/EA2
 - 32H25/16 C200N/EA2
 - 32H16/10 C200N/EA2 - E1-G24

Similar hydraulic circuit with concrete pump

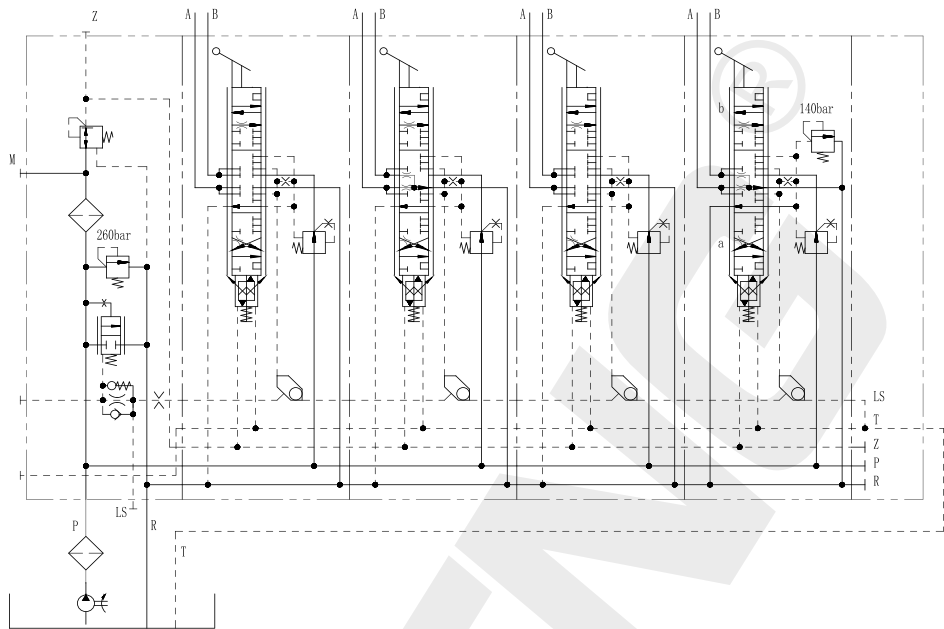
6.4 LS proportional valve for truck crane



- Reference model
- TPSL4C1C/260-3-32J80/63 NN/EA2 (Telescopic)
- 32O80/80 NN/EA2 (Hook)
 - 32J80/63 NN/EA2 (Boom)
 - 32O25/25C140N/EA2 (Swing)
 - E1-G24

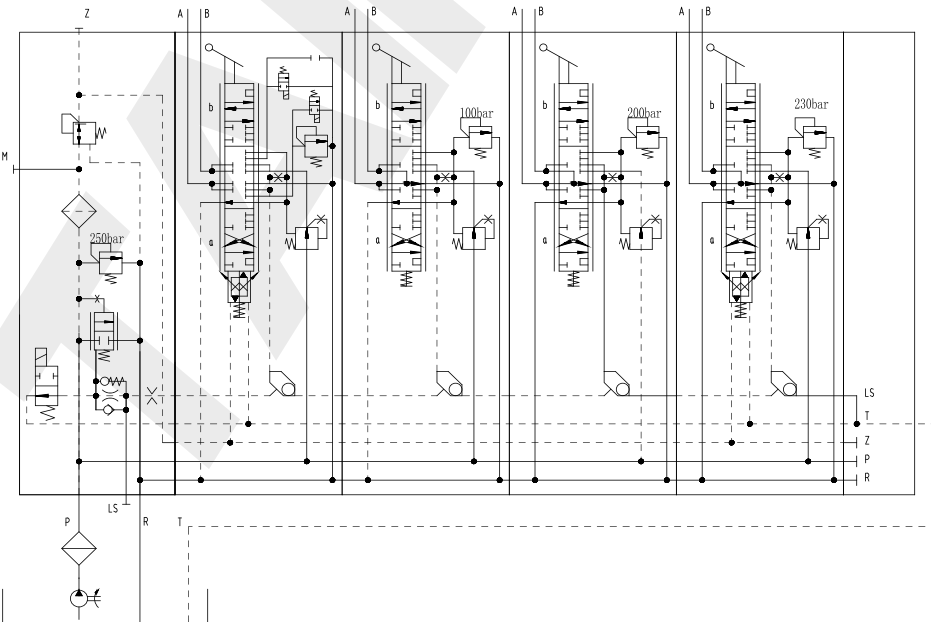
TPSL3 Series Load Sensing Sectional Valve

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6.5 LS proportional valve for bridge inspection vehicle

- Reference model
- TPSL3C1F/250-3-32L40/25A210F3/EA2
- 32H16/16C100N/A2
 - 32H25/25C200N/A2
 - 32H63/63C230N/EA2
 - E1-G24



7. Other features

7.1 Selection and design instructions

7.1.1 Variants for special conditions of use or requirements

Marine climate environment

The harsh marine climate requires that all moving parts of the manual control mode be fully anti-corrosion treated. For this purpose, the pin in the handle lever seat is made of stainless steel. All other parts are either gas nitrided for anti-corrosion or made of stainless steel.

Pressure shock in oil return line

Due to the high force shock (>150bar) generated in the circuit when the actuator is connected and disconnected, a small leak may occur at the control mode spring cover. This phenomenon can be prevented by using a reinforced spring cover.

Note: The return oil pressure is allowed to be below 50bar. For higher return oil pressures, the reliability of the control electromagnet is not guaranteed.

7.1.2 Use a variable displacement pump

When load-sensing control is used in combination with a variable displacement pump, the LS signal oil circuit of the pump's pressure-flow controller (load-sensing regulator) is unloaded in the idling state (when the actuator is not working) to reduce circulation losses. This constraint is achieved through the proportional reversing valve. Without this pressure relief, the pump will still work at the full residual flow and the pressure set by the pressure regulator safety valve when in the non-reversing position.

Since some reversing valves do not have this constraint, some types of pressure-flow controllers have an internal bypass hole or throttle valve between the LS signal inlet and the pressure relief oil outlet.

When using a TPSV type proportional reversing valve, it is not necessary to use the above controller, otherwise it will cause functional failure due to excessive discharge of control oil. For functional reasons, the flow rate of control oil is deliberately limited to 2L/min (actuator low speed operation) Note: Any bypass hole in the pressure-flow controller must be blocked.

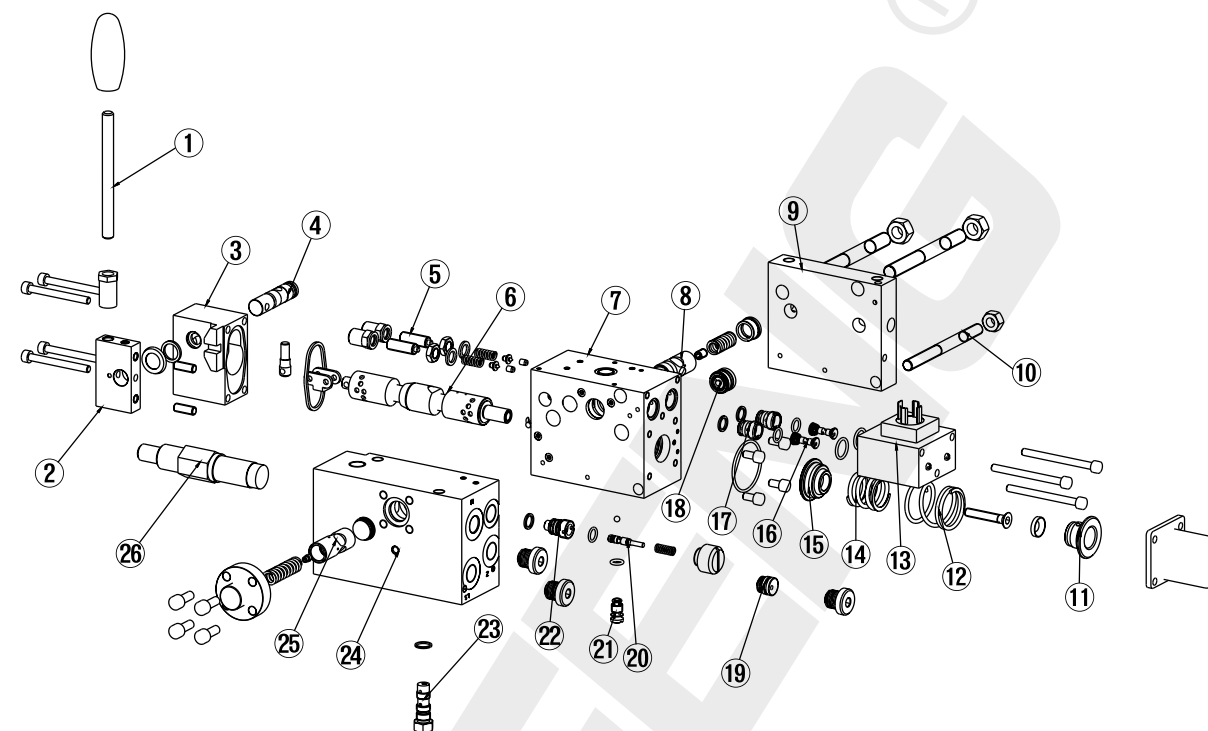
7.1.3 Combination with balancing valve

If three control elements (three-way flow control valve in pump or connection block, two-way flow control valve in reversing block plus balancing valve) are connected in series, the control system may vibrate due to external load changes and resonance.

7.1.4 Combination of more than 12 reversing blocks

A maximum of 12 valve sections can be connected together by sequentially connecting the LS signal oil circuit. This applies whether the valve sections are arranged in one valve group or in several valve groups. These restrictions are only due to the limited flow rate that can be provided (only low-speed movement can be guaranteed). If more than 12 valve sections are connected to several valve sections groups via the LS signal, an interlocking oil circuit consisting of an external shuttle valve must be used.

8. Exploded view



- | | |
|---|---|
| 1. Handle lever | 14. internal spring |
| 2. Limit stop | 15. Spring retaining ring B |
| 3. Handle seat | 16. Proportional pressure reducing valve spool |
| 4. Axis | 17. Proportional pressure reducing valve sleeve |
| 5. Secondary pressure limiting valve | 18. Pressure outlet plug |
| 6. Main spool | 19. filter |
| 7. Valve section | 20. Three-way pressure reducing valve spool |
| 8. Differential pressure reducing valve | 21. Shuttle valve |
| 9. End plate | 22. Three-way pressure reducing valve sleeve |
| 10. Connecting rod | 23. Throttle damper |
| 11. Spring retaining ring A | 24. Connection block |
| 12. External spring | 25. Differential relief valve |
| 13. Solenoid | 26. Main safety valve |

9. Precautions for use

9.1 A 5 μ precision high-pressure pipeline filter should be designed and installed between the hydraulic pump outlet and the P port of the load sensing proportional sectional valve! This is because the load sensing proportional sectional valve is composed of multiple hydraulic control components inserted on a valve block. Its system structure is complex, with many channels and high precision of the slide valve. Therefore, the load sensing proportional sectional valve has high requirements for the cleanliness of the hydraulic medium. In order to make the load sensing proportional sectional valve work reliably, the hydraulic medium pollution must be controlled. Normally, the hydraulic pipeline should be flushed in a cycle. If necessary, a set of ordinary multi-way valves should be used to connect the system, circulate the entire hydraulic system, thoroughly clean the system, eliminate early faults in the system, and then formally install the load-sensitive proportional multi-way valve, and conduct system debugging and factory acceptance.

9.2 For tail plate of models E1, E2, E3, E18, etc., the pilot oil return port T on the tail plate must be directly connected to the oil tank without back pressure! It must not be combined with the oil return line!

9.3 For tail plate of models E4, E5, E6, E19, E20, etc., it is recommended to connect the pilot oil return port T on the tail plate directly back to the oil tank without back pressure! This can improve working performance and extend service life.

9.4 When connecting and installing the load sensing proportional sectional valve pipeline in the system, the R oil port on the sectional valve connection block is the total return oil of the system. It should be connected back to the oil tank. Do not connect it wrongly! If the R oil port on the connection block is mistakenly connected to high pressure or the stop valve installed on the return oil pipeline is not opened, the load sensing proportional sectional valve will leak oil at the least, and burst in serious cases!

9.5 For load sensing sectional valves controlled by electric proportional or electric switching control, the two coils of the double-headed proportional solenoid must never be powered on and controlled at the same time. The two coil windings control the two directions of the sectional valve respectively.

9.6 For load sensing sectional valves controlled by electric proportional or electric switching, the control voltage and the current parameters must be checked first, and then control is performed according to the control voltage and current parameters of the sectional valve to prevent damage of the double-head proportional solenoid or electrical control equipment.

9.7 When installing and using a load sensing proportional sectional valve on a construction machinery vehicle, a rain and dust cover should be designed and installed for protection to avoid exposing the sectional valve directly to rain, wind and sand!

10. Handling of simple malfunctions

10.1 The entire system cannot establish pressure. Firstly, check the tank fluid level is 150mm higher above suction port and pump's rotation direction is correct. Secondly, check if the connection between pump and directional valve, if the high pressure filter is blocked. Thirdly, check if additional relief valves(safety valves) except the directional valve are in state of 0 pressure. For LS proportional valve(TPSL version) in LS variable pump system, the pipeline from connection block LS port to pump X port should be checked. If the safety valve in the connection block is in state of 0 pressure and the solenoid unloading valve energized. If the malfunction still exist after the above checking, the throttle check valve (throttle plug) in the flushing direction valve connection block can be checked. The valve should be returned to Shandong Taifeng Intelligent Control Co., Ltd for repairing if malfunction reason can not be defined.

10.2 One working section of the sectional valve cannot build pressure or the output pressure is lower than the set pressure value: For the reversing valve with secondary pressure limit, first check whether the secondary pressure limit valve is loose; then check and clean the shuttle valve of the sectional valve (between the AB oil ports), check whether the shuttle valve is contaminated, and whether the steel ball is stuck. If the fault cannot be eliminated, the throttle hole of the pressure lead plug should be blocked, and the sectional valve group needs to be disassembled for cleaning.

10.3 One side of the sectional valve (A or B port) cannot build pressure or the output pressure is lower than the set pressure value: first check whether the corresponding secondary pressure limiting valve is loose (the one near the tail plate is the A port secondary pressure limiting valve). If the fault cannot be eliminated, the throttle hole of the pressure outlet plug should be blocked, and the sectional valve group needs to be disassembled for cleaning.

10.4 Proportional control of the sectional valve is not sensitive, that is, the valve does not move when a small control signal is applied, and suddenly moves when a large signal is applied. This is because the pilot proportional pressure-reducing valve of the section is contaminated and the spool movement of the pilot proportional pressure-reducing valve is insensitive. Troubleshooting steps: a) Clear the dust on the proportional solenoid of the relevant sectional valve and its nearby outer surface, b) Remove the relevant proportional solenoid, and be careful not to lose the internal proportional pressure reducing valve spool and conical spring, c) Check: Use the index finger and middle finger to press the spool of the two proportional pressure reducing valves respectively, and check that the upper end surface of the spool is between flush with the plane of the valve body and sinking 1-2mm. It should move flexibly without any jamming, d) Remove the proportional pressure reducing valve spool and conical spring respectively, clean them, and then install them into the corresponding valve seat, e) Check again: Use the index finger and middle finger to press the spool of the two proportional pressure reducing valves respectively, and check that the upper end surface of the spool is between flush with the plane of the valve body and sinking 1-2mm. It should move flexibly without any jamming. f) Check the push rod of the proportional solenoid, it should move freely. g) Install the proportional solenoid onto the directional valve block. h) Perform the test again to verify and eliminate the fault.

10.5 When the load-sensitive sectional valve is controlled by an electric proportional or electric switch, the equipment is turned on without power supply, and the sectional valve handle moves by itself, that is, the sectional valve has output, and the oil cylinder or motor starts to move. This is because the pilot proportional pressure reducing valve spool of the section is stuck. See item 4 above for troubleshooting methods.

10.6 The load-sensitive sectional valve controlled by electric proportion or electric switch quantity is normal under manual control, but does not work properly under electric control, that is, each section of reversing valve does not work under electric operation. First check whether the control electric signal is normal. If the electric signal is normal, the spool of the three-way pressure reducing valve on the connecting block should be stuck. Unscrew the valve seat (slotted mouth) of the three-way pressure reducing valve on the connecting block, clean the spool of the three-way pressure reducing valve, and the fault can be eliminated.

TRP22 Series Flow Sharing Sectional Valve

TAIFENG®

Nominal Diameter (DN): 22

Rated pressure (bar) : 350 (P port) , 420 (A/B port) ;

Rated flow (L/min) : 550 (Inlet) , 330 (A/B port)

Features:

·Load sensitive and pressure compensation (pre-compensation)

·Hydraulic pilot control, electric proportional control

·System flow distribution independent of load pressure (pre-compensation)

·Low pressure loss and less energy consumption.

·Precise control, outstanding inching performance, comfortable maneuverability

·High repetition accuracy and small hysteresis

Application Fields: Crane, rotary drilling rig, breaker, agricultural machinery, mining machinery

Ordering codes:

TRP22

-

B

X

E24

-

02

-

XX

-

01

①

②

③

④

⑤

⑥

⑦

① Products series TRP22(DN 22), max flow rate: inlet port 550L/min, working port 330L/min.

② Type of pump : B Load sensing variable displacement pump, D Fixed pump, constant power pump, constant pressure pump, electric proportional pump

③ Type of control, X pilot control, S manual control, H pilot and manual combination control

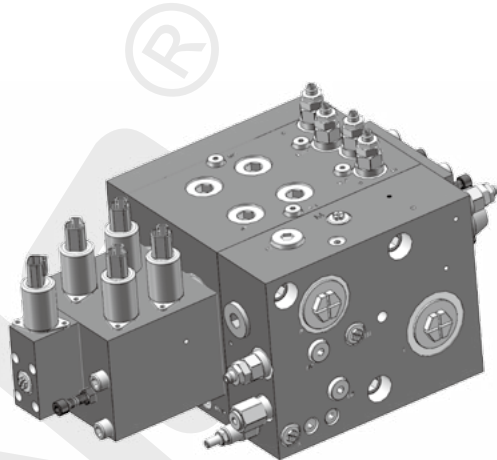
④ Type of electronic control

E24 electronic proportional control 24V DC, E12 electronic proportional control 12V DC, G24 electronic switch control 24V DC, G12 electronic switch control 12V DC, No electronic control, omit

⑤ Working sections number, for example "02" means 2 sectional valves

⑥ Customer's ID

⑦ Design Series No.



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TAIFENG INTELLIGENT 2026-7

TRP22 Series Flow Sharing Sectional Valve

TAIFENG®

Technical data

Series	TRP22		
DN (mm)	22		
Max. flow rate	P port: 550L/min A/B port: 330L/min		
Max. working pressure	P port: 350bar		
	A/B port: 420bar		
	Tport: 50bar		
Pilot pressure	≤ 35bar(5bar start, 19 bar in position)		
Operating temperature range	-20℃ to +90℃		
Working medium	Mineral oil in accordance with DIN 51524 standard		
Viscosity range	2.8-380mm²/s		
Allowable pollution level	The maximum allowable pollution level is NAS 1638 level 9		
Weight (Kg)	Inlet block: 17		
	2-section mono-block: 44.5		
	1-section working section: 23		
	End plate: 7.9		
Port BSP(ISO1179-1,ISO228-1)	P	G1 1/4	
	T	G1 1/2	
	A,B	G1 1/4	
	XL, X, Y, MP, MT, MX	G1/4 (Port Y return oil without pressure)	

Electric data

	Switch pilot valve		Proportional pilot valve	
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15 Ω ± 5%	32.5 Ω ± 5%	4.72 Ω ± 5%	20.8 Ω ± 5%
Current	—	—	0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection level	IP69k			

TAIFENG INTELLIGENT 2026-7

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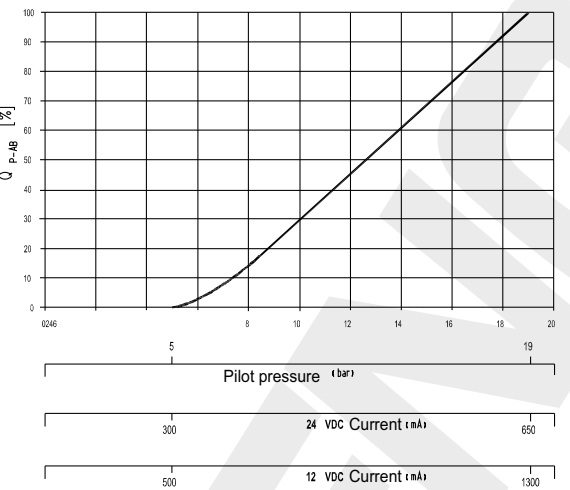
TRP22 Series Flow Sharing Sectional Valve

TAIFENG®

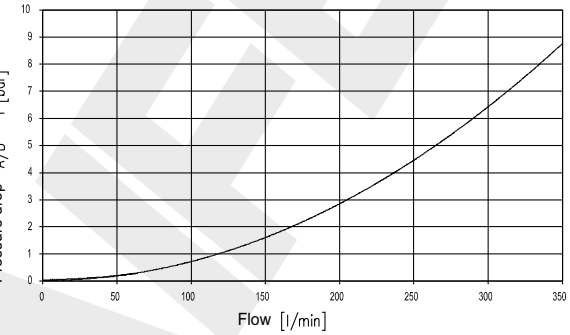
Metering Curve

(Measured at $v = 41\text{mm}^2/\text{s}$ and $\theta = 50^\circ \text{ C}$)

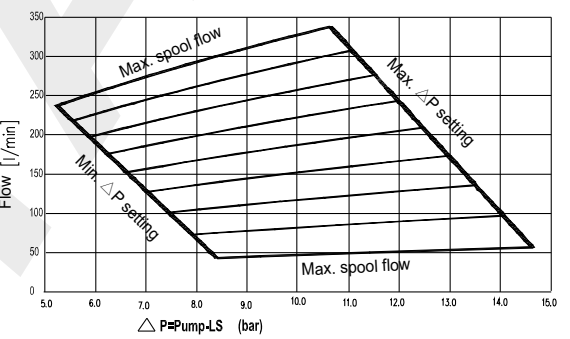
Characteristic curves of working port flow rate, pilot pressure, and current signals



A/B - T Pressure drop



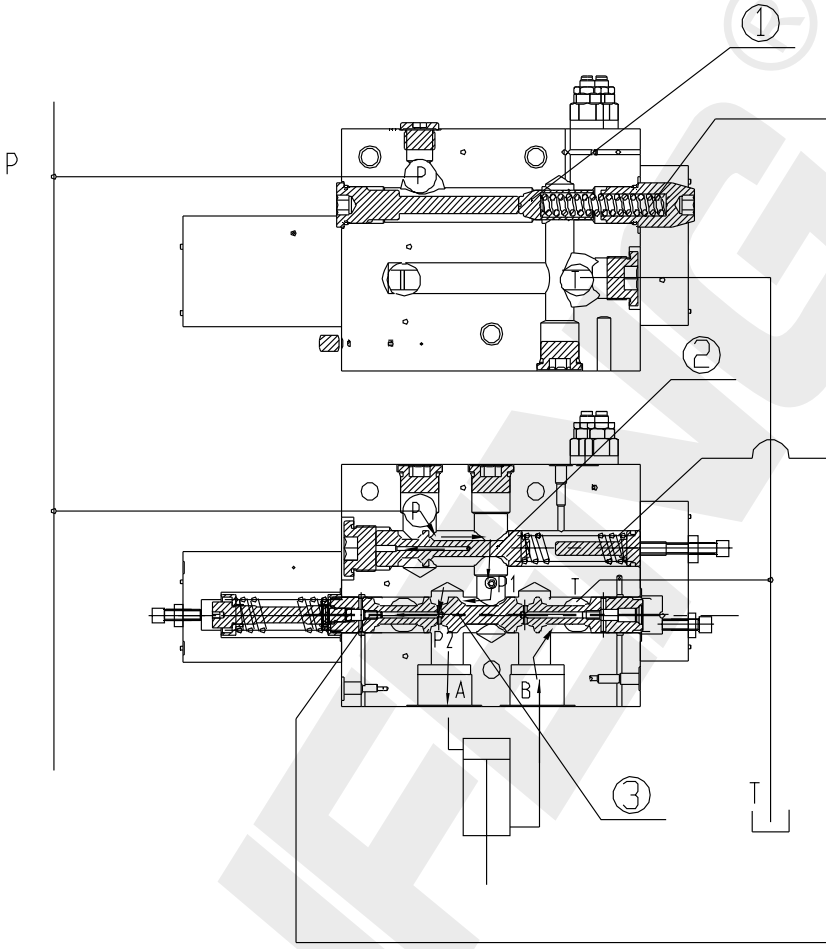
Characteristic curve of working port flow rate and ΔP



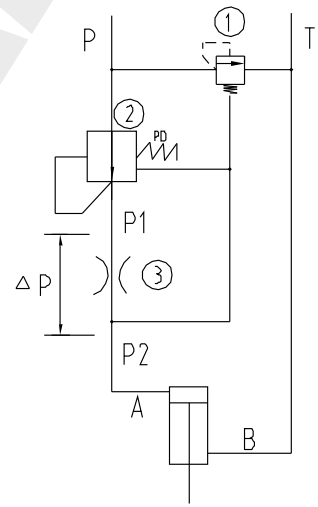
TRP22 Series Flow Sharing Sectional Valve

TAIFENG®

Sectional view



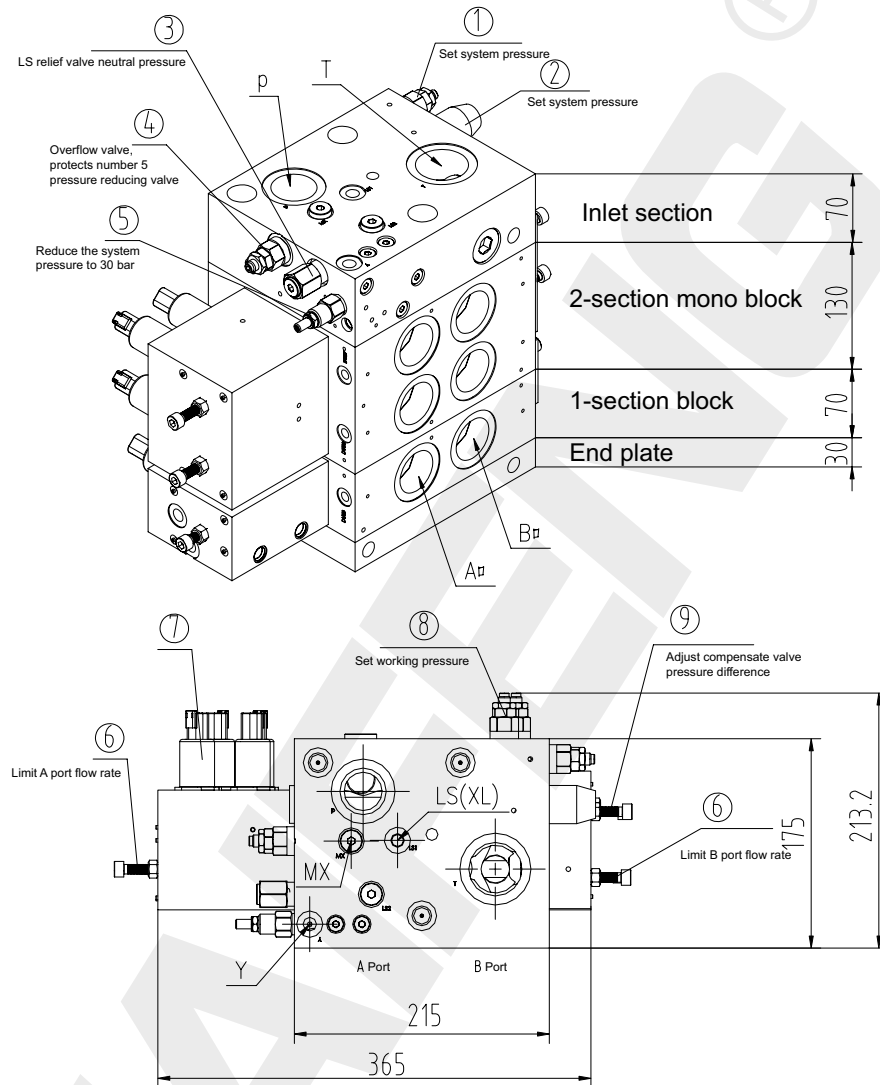
- 1. Pressure difference spool
- 2. Compensate valve spool
- 3. Main spool



TRP22 Series Flow Sharing Sectional Valve

TAIFENG®

Valve sections description

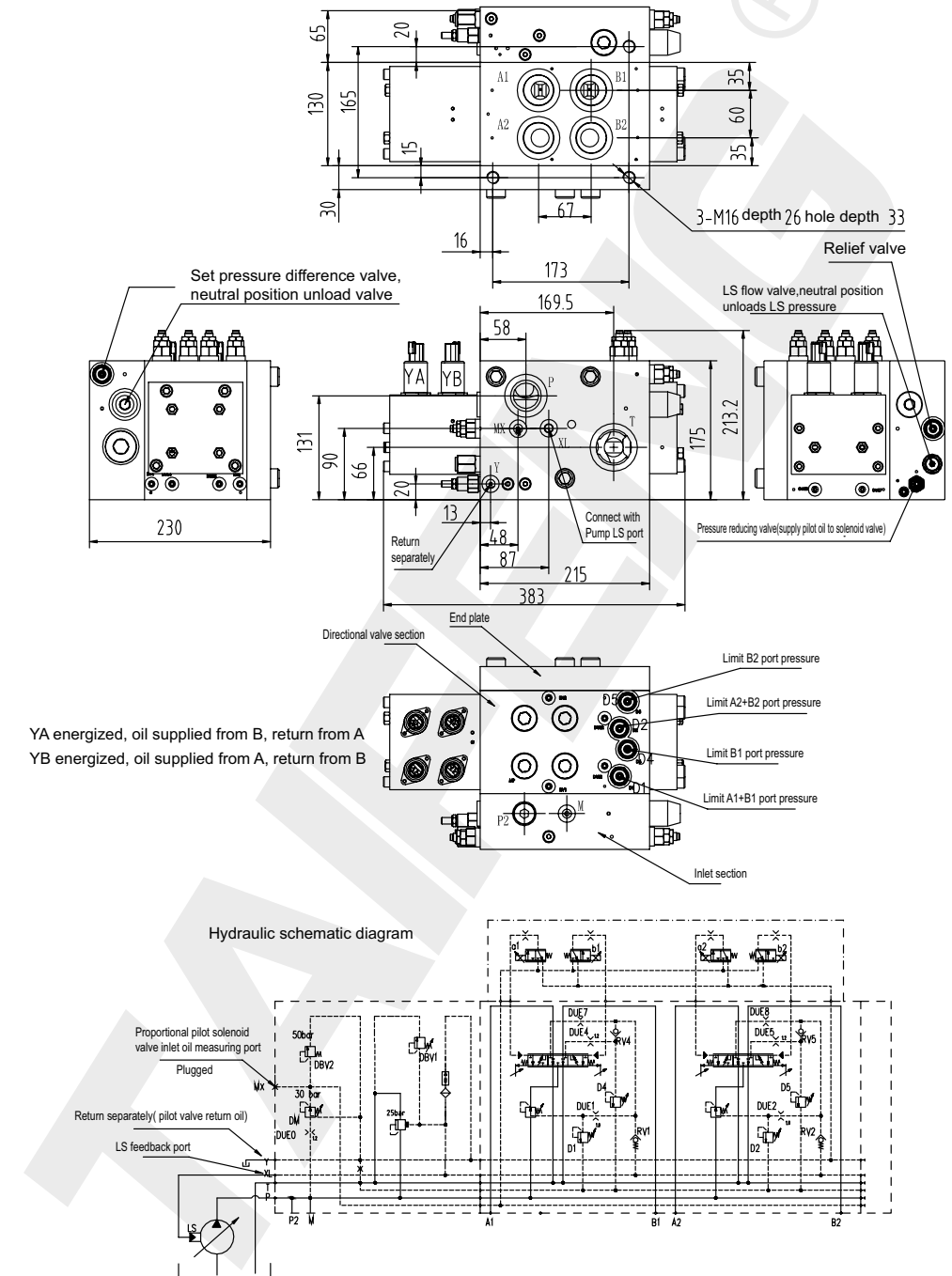


- ① Main LS relief valve
- ② Pressure difference valve
- ③ LS flow valve
- ④ Pilot oil relief valve
- ⑤ Reducing valve
- ⑥ Main Spool limitation screw
- ⑦ Pilot proportional solenoid valve
- ⑧ Working port LS relief valve
- ⑨ Compensate valve spool limitation screw

TRP22 Series Flow Sharing Sectional Valve

TAIFENG®

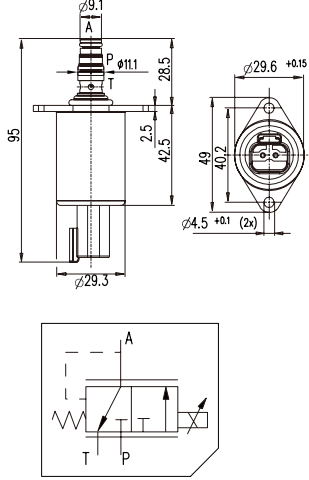
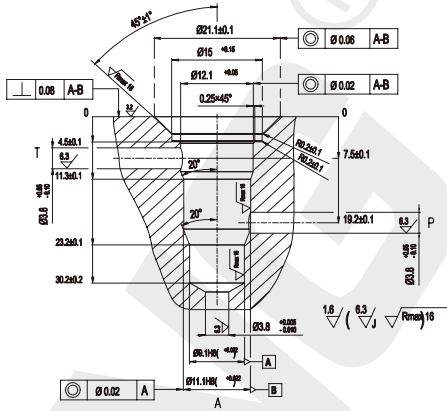
Typical application schematic and outline drawing in mobile crusher walking control



PPCD04 proportional pressure control valve
technical data

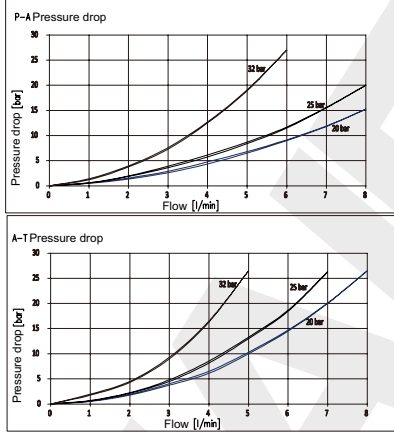
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PPCD04 proportional pressure control valve dimensions
(mm)

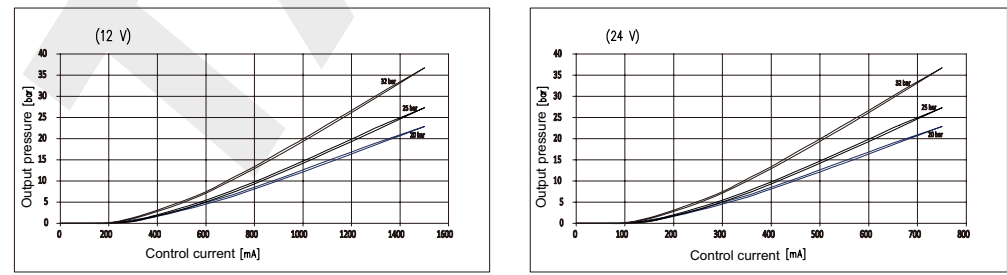


Hydraulic data		
DN	04	
Rated flow	5 l/min	
Max. pressure (P,T)	pP = 50 bar, pT = 30 bar, pA = 32 bar	
Hysteresis	< 0.4 bar (pA=20) < 0.5 bar (pA=25) < 0.7 bar (pA=32)	
Filter screen size (P port)	125 µm	
Contamination level	Min Filtration 20/18/15 According to ISO 4406	
Fluid	Mineral oil according to DIN 51524	
Temperature range fluid	-40 to +105°C	
Electrical Data		
Voltage	12V	24V
Current	1500 mA	750 mA
Resistance	4.72 Ω ± 5%	20.8 Ω ± 5%
Current consumption(idle)	24 mA (12V) 20 mA (24V)	
Type of control	Current control (recommend PWM 100-200 Hz)	
Connector	AMP Junior Timer Deutsch Connector DT04-2P Lead wires	
Protection class	IP6K6 / IPX9K	
Switching time	Ton <50ms Toff <50ms	

Flow characteristics



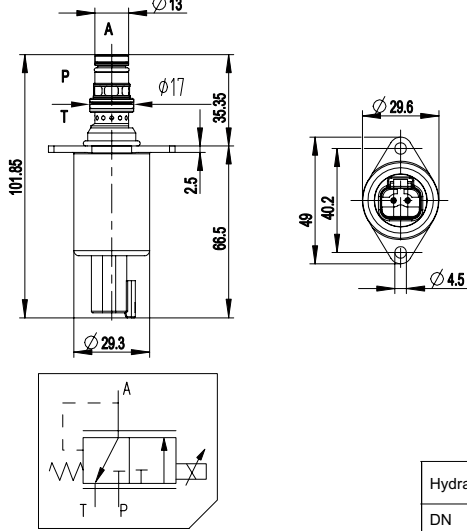
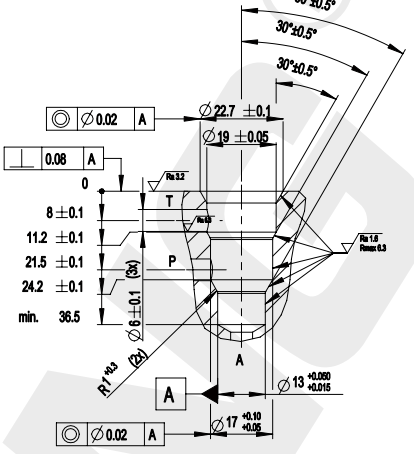
Current vs. Pressure



PPCD05 proportional pressure control valve
technical data

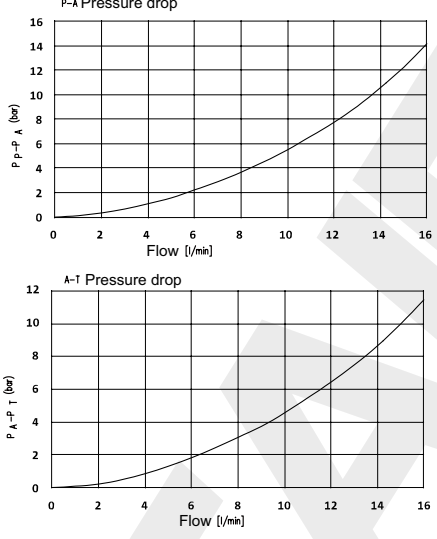
TAIFENG®

PPCD05 proportional pressure control valve dimensions
(mm)

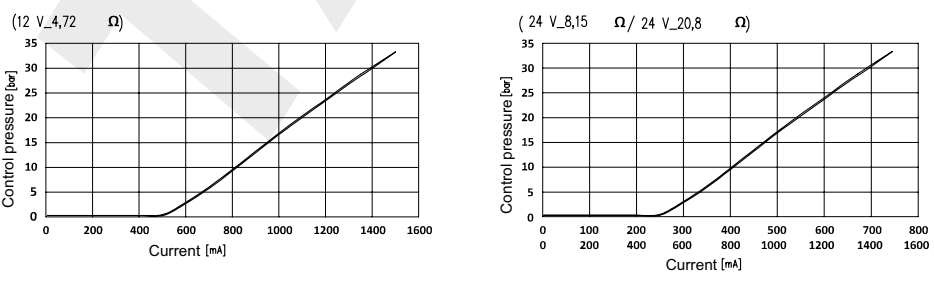


Hydraulic data			
DN	05		
Rated flow	10 L/min		
Max. pressure (P, T)	pP = 50 bar, pT = 30 bar, pA = 32 bar		
Hysteresis	PWM signal dither frequency 180HZ, hysteresis <3% max, operating pressure		
Filter screen size (P port)	140 μm		
Contamination level	Min Filtration; 20/18/15 According to ISO 4406		
Fluid	Mineral oil according to DIN 51524		
Temperature range fluid	-40 to +105°C		
Electrical Date			
Voltage	12V	24V	
Current	1500 mA		750 mA
Resistance	4.72 Ω ± 5%	8,15 Ω ± 5%	20.8 Ω ± 5%
Current consumption (idle)	24 mA (12V) 20 mA (24V)		
Type of control	Current control (recommend PWM 130–200 Hz)		
Connector	AMP Junior Timer Deutsch Connector DT04-2P Lead wires		
Protection class	IP6K6 / IPX9K		
Switching time	Ton <40ms Toff <40ms		

Flow characteristics



Current vs. Pressure



DTEBL21 Mining explosion proof sealed proportional electromagnet

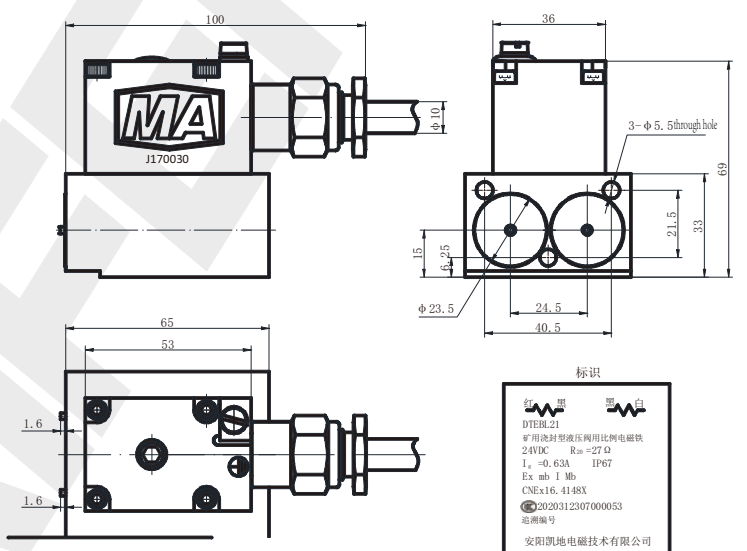
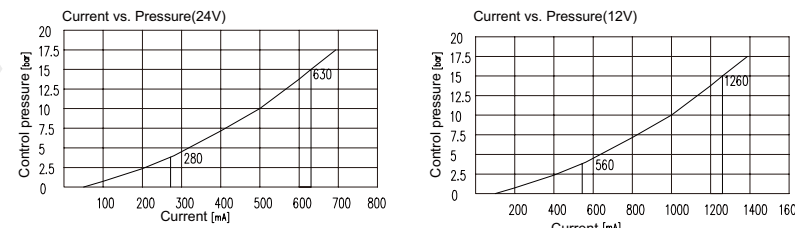


- Mining explosion proof sealed proportional electromagnet
- Within the effective working range, the electromagnetic force is linearly proportional to the coil current.The system is independent of displacement.
- Can be installed in any direction, it is recommended to install horizontally.
- Power on rate 100%
- The insulation level of the electromagnetic coil is H level
- Withstand a static pressure of 5MPa
- The protection level is IP67
- Explosion proof mark: Ex mb | Mb
- Explosion proof certificate number: CNEEx16.4148X
- Certificate number: 2020312307000053
- MA Certificate No.: MAJ170030

Item	Data	
Ambient Temperature (°C)	20~+40	
Rated Voltage (V)	24	12
Rated Stroke (mm)	1.2	
Total Stroke (mm)	≥1.7	
Rated Force (N)	21	
Force Lag Characteristic (%)	≤3	
Current Lag Characteristic (%)	≤6.5	
Repeat Accuracy (%)	≤1	
Rated Current (A)	0.63	1.33
Current (max) (A)	0.63	1.33
Rated Resistance 20°C (Ω)	27	6
Rated Power (W)	10.71	0.7
Power (max) (W)	15	15

Operational environment: :

- Ambient temperature: - 20 ~ +40℃
- The relative humidity of the air is not greater than 90% (when the air temperature is+25 ℃)
- Ex mb | Mb: Can be used in Class I explosive gas environments containing coal mine gas
- Environment without strong corrosion
- The area with atmospheric pressure ranging from 80 to 110kPa
- Dual electromagnets cannot be powered on simultaneously
- The electromagnet must be installed on the corresponding valve body for usage.
- The power supply end needs to be equipped with a current fuse of 3 * Imax
- The installation and usage should be strictly in accordance with the explosion proof standard requirements GB3836.9-2014, GB3836.1-2010.



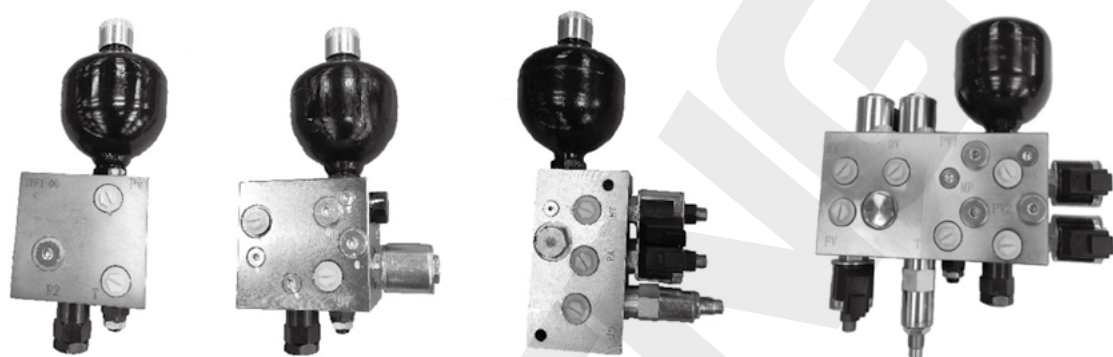
Note: The characteristic curve takes the output pressure of 15 bar as an example (output pressure of 30 bar is optional)

TYF Series Oil Source Valve



Description:

The oil source valve integrates pressure reducing and overflow functions to provide the required pressure and flow for the pilot hydraulic system, and is widely used in engineering, agriculture and forestry, environmental sanitation, mining machinery, etc.



Basic performance parameters

Size: 5 Rated flow: 20L/min Maximum pressure: 350bar
Accumulator: 0.32L Pre-charge pressure : 15bar Solenoid voltage: 12VDC, 24VDC

Features:

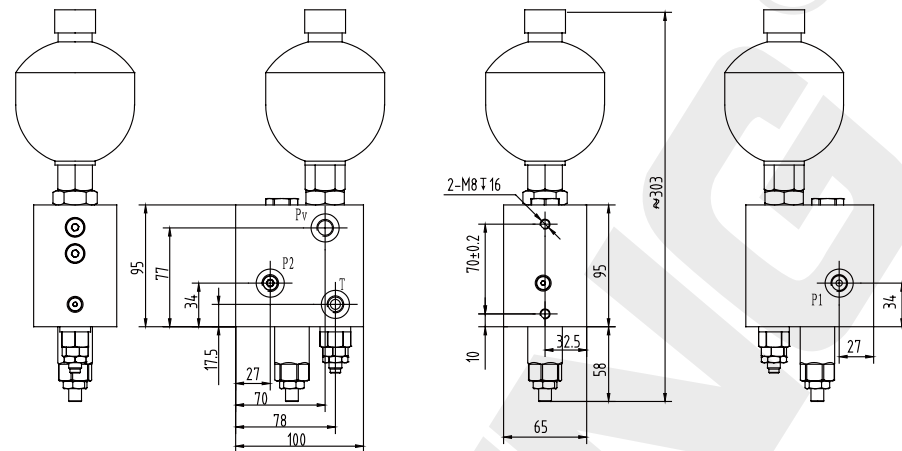
- Plug-in relief valve, pressure reducing valve, compact structure
- Multiple combination forms, optional solenoid valve voltage and quantity
- The oil inlet is equipped with a filter, which can withstand high pressure
- Stable and reliable

TYF Series Oil Source Valve

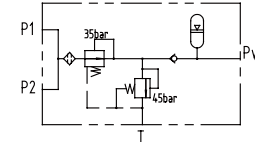
TAIFENG®

TYF1-00 outline drawing and schematic diagram

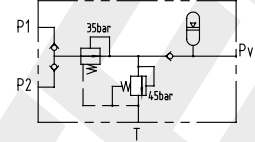
Port size P1、P2、PV、T: G1/4



Schematic diagram (with filter, without shuttle valve)

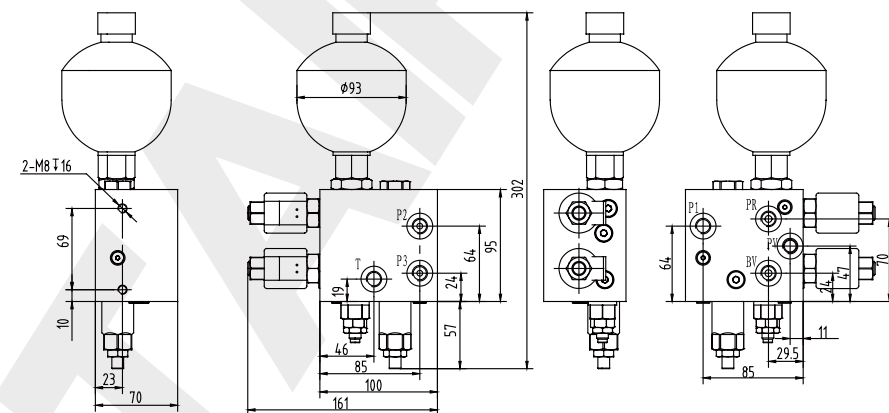


Schematic diagram (with shuttle valve, without filter)

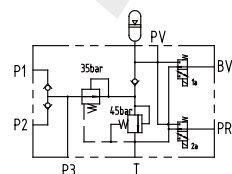


TYF2-00 outline drawing and schematic diagram

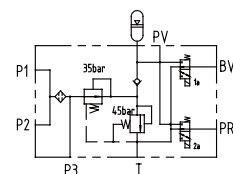
Port size P1、P2、P3、PV、BV、PR T: G1/4



Schematic diagram (with filter, without shuttle valve)



Schematic diagram (with shuttle valve, without filter)

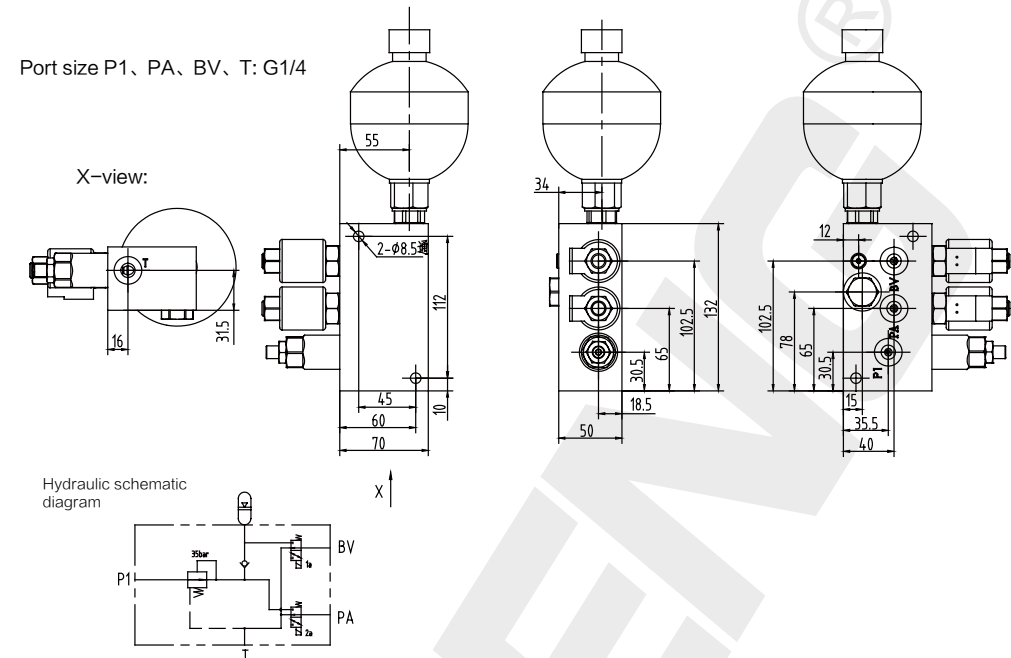


TYF Series Oil Source Valve

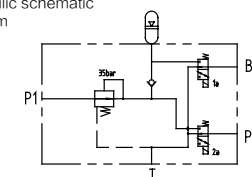
TAIFENG®

TYF6-00 outline drawing and schematic diagram

Port size P1、PA、BV、T: G1/4

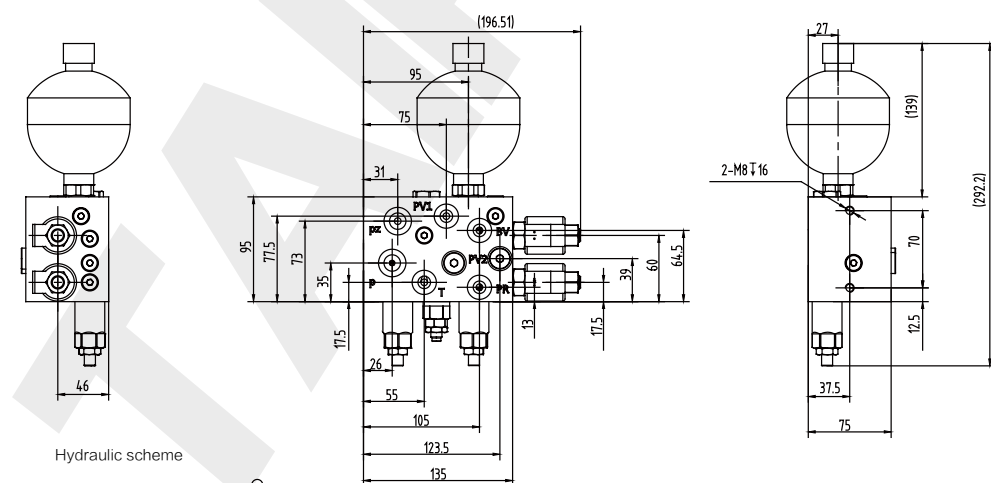


Hydraulic schematic diagram

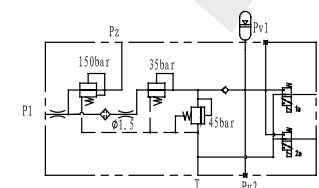


TYF5-12-00 outline drawing and schematic diagram

Port size P1、P2: G3/8; PV1、PV2、BV、PR、T: G1/4



Hydraulic scheme

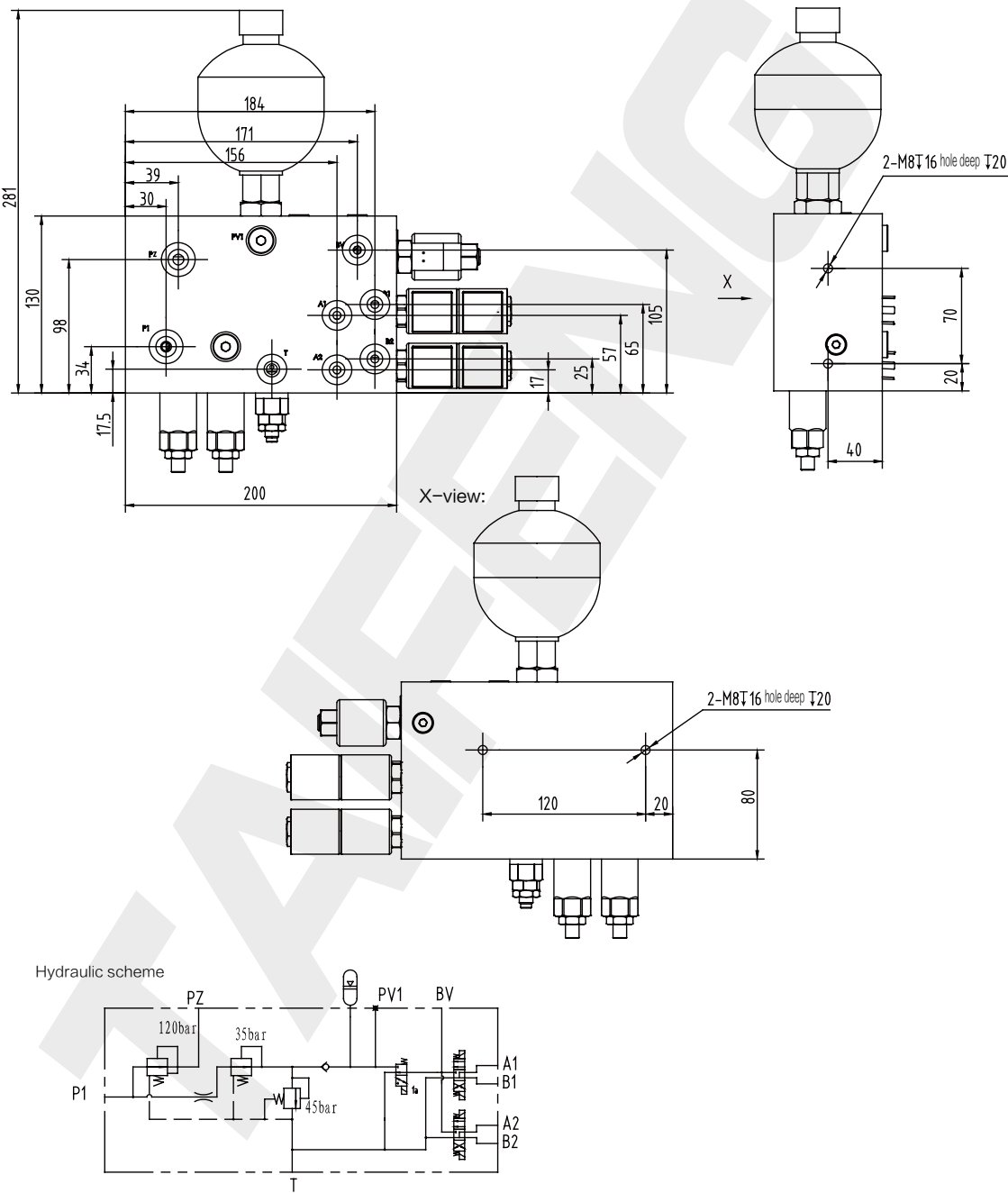


TYF Series Oil Source Valve

TAIFENG®

TYF5-3DC oil source valve outline drawing and schematic diagram

Port size P1、PZ: G3/8; PV1、BV、T、A、B: G1/ 4



TXD04 Pilot Electro-hydraulic Control Valve

TAIFENG®



Basic performance parameters:

Size: 4 Rated flow: 10L/min Maximum pressure:50bar
Solenoid voltage: 12VDC, 24VDC

Features:

- Sandwich structure, flexible combination as required, compact structure
- Built-in shuttle valve
- Proportional output pilot pressure, precise control
- Can be updated from hydraulic control to electro-hydraulic control

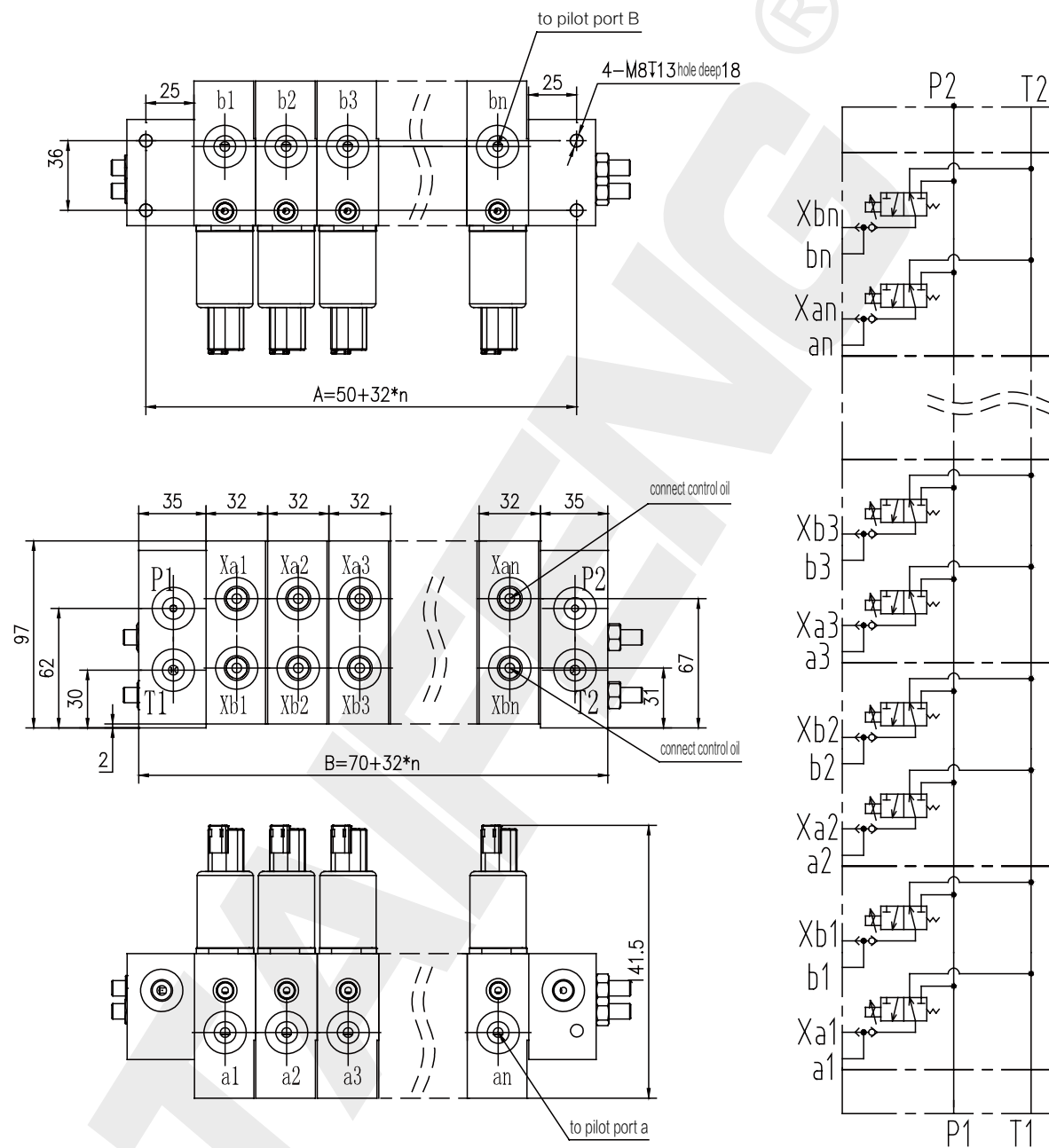
Technical parameters of solenoid valve

	Switch pilot valve		Proportional pilot valve	
	12VDC	24VDC	12VDC	24VDC
Voltage	12VDC	24VDC	12VDC	24VDC
Resistance(below 20℃)	8.15Ω ± 5%	32.5Ω ± 5%	4.72Ω ± 5%	20.8Ω ± 5%
Control current			0~1500mA	0~750mA
Plug	Deutsch DT04-2P			
Protection class	IP69k			

TXD04 Pilot Electro-hydraulic Control Valve

TAIFENG®

TXD04 outline drawing and schematic diagram



TMX04 Explosion-proof Pilot Electro-hydraulic Control Valves Group

TAIFENG®

Basic performance parameter:

Rated flow: 2L/min

Max. inlet pressure: 50bar

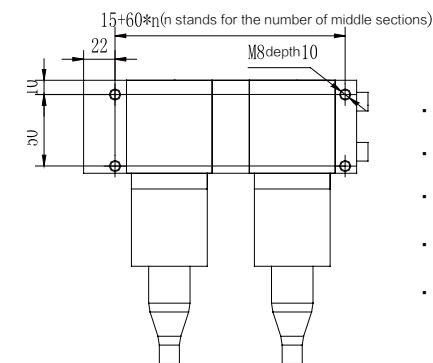
Rated voltage: 24VDC Rated current: 0-630mA

Electric proportional valve output pilot pressure

maximum: 30bar

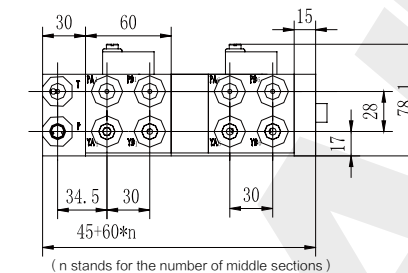
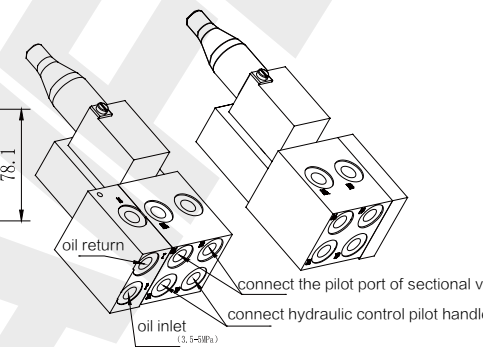
Each port dimension G1/4

Outline and schematic drawing

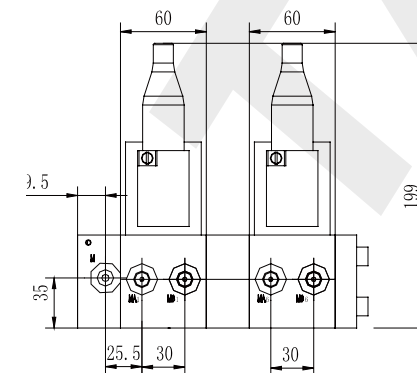
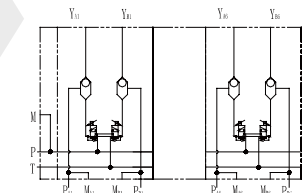


Features

- Sandwich structure, flexible combination on demand, compact structure.
- Built-in shuttle valve
- Proportional valve output pilot pressure, precise control
- Hydraulic control valve can be upgraded to electro-hydraulic control
- Explosion-proof in coal mine operating environment



Hydraulic schematic diagram:

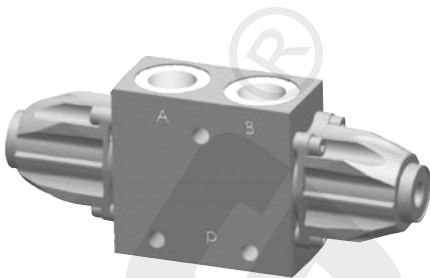


TSTF-00 Two-position Three-way Valve

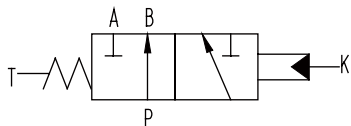
TAIFENG®

Basic performance parameters:

- Size: 15
- Working pressure: 30...350 bar
- Control pressure: ≤ 35bar
- Nominal flow: 180L/min
- Type of control: hydraulic control
- Typical application: selection switching valve and load relief valve

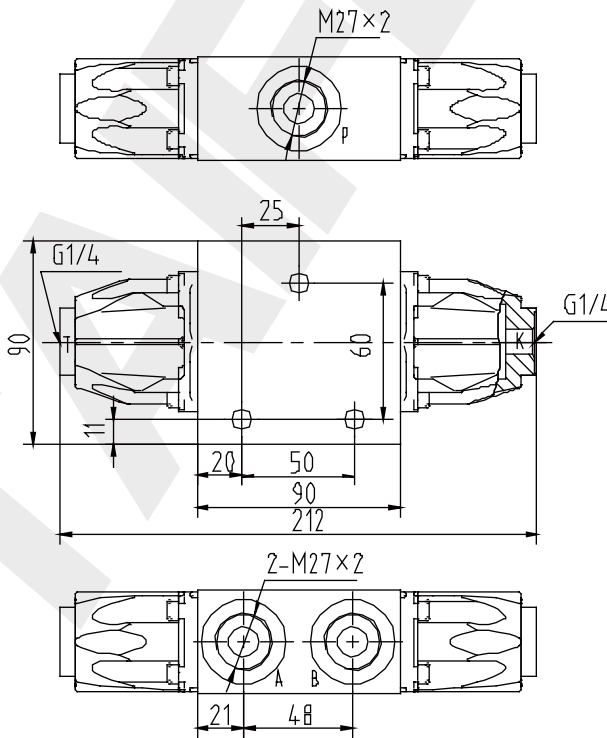


Function symbol:



Port size:

- P, A, B: M27×2(G3/4)
- K, T: G1/4



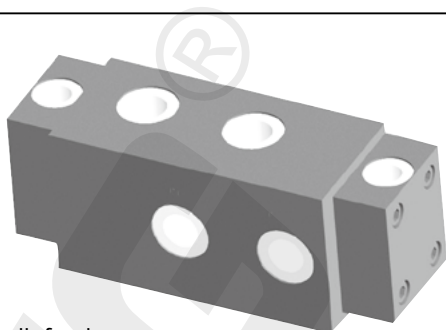
TRM15-DP2-00 Two-position Six-way Valve

TAIFENG®

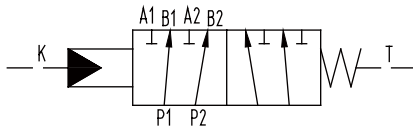
TXD04 outline drawing and schematic diagram

Basic performance parameters:

- Size: 12
- Working pressure: 30...350 bar
- Control pressure: ≤ 35bar
- Nominal flow: 120L/min
- Type of control: hydraulic control
- Typical application: selection switching valve and load relief valve

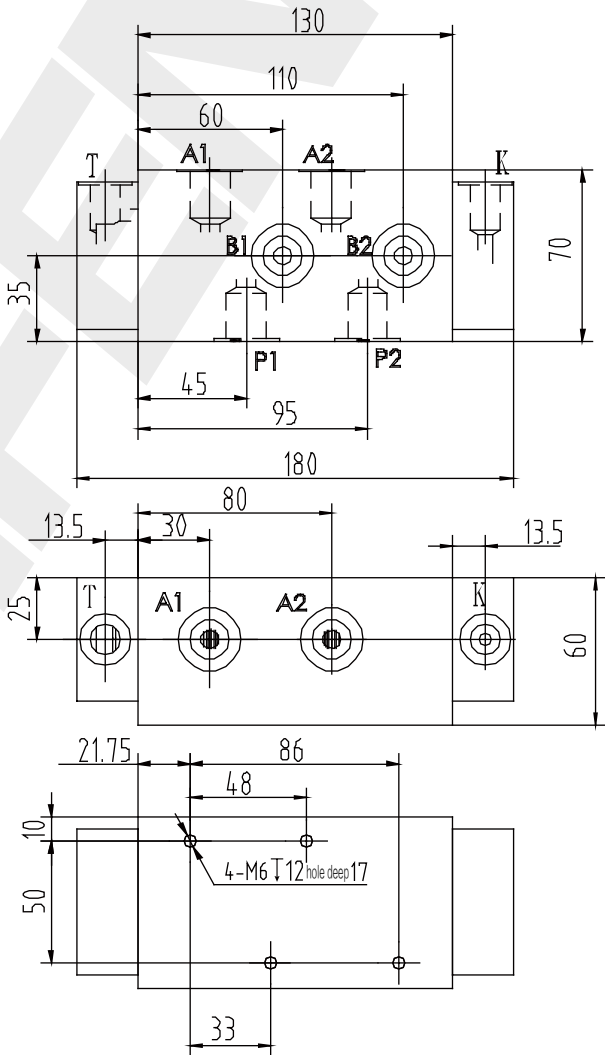


Function symbol:



Port size:

- P1, P2, A1, A2, B1, B2: M18x1.5
- K, T: M14x1.5



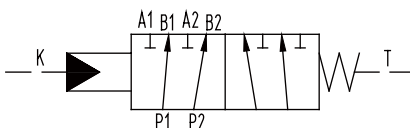
TRM18-DP2-00 Two-position Six-way Valve

TAIFENG®

Basic performance parameters:

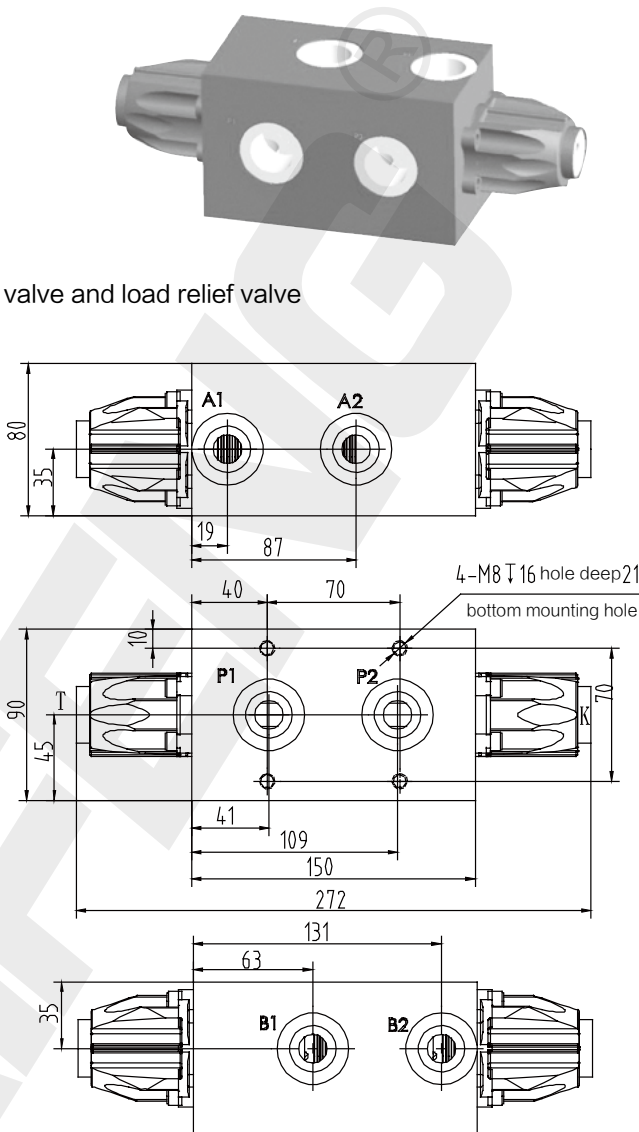
- Size: DG15
- Working pressure: 30...350 bar
- Control pressure: ≤ 35bar
- Nominal flow: 180L/min
- Type of control: hydraulic control
- Typical application: selection switching valve and load relief valve

Function symbol



Port size:

- P1、P2、A1、A2、B1、B2: G3/4
- K、T: G1/4



Mounting and usage

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1. During handling, mounting and storage, avoid scratches or damaging the machined surface.
2. Do not remove the seals at each port before mounting. It is not allowed to disassemble at will in dusty places to prevent dirt from entering inside.
3. Before use, check whether the technical parameters, spool valve function and oil circuit type of sectional valve meet the requirements.
4. The mounting surface should be flat and correctly connected to each port. The tightening torque of mounting screws, joints, etc. shall meet the requirements.
5. The hydraulic oil cleanliness of the hydraulic system should not be no less than NAS 1638 Grade 9.

