

Valves



DIRECTIONAL CONTROL VALVES

Program description

The hydraulic directional control valves program is very ample and has plenty of options. Basically consists of a robust made valve bodies and well machined spools, along with a choice of controls, spool positions configuration that fit to a multiple mechanical functions, lines the Monoblock and the Sectional control valves.

The monoblock valve line covers flows from 40 lpm up to 120 lpm structured in different series, all of them with options of number of spools, working ports, valve options, spool control and spool positions.

The sectional or bankable valve lines covers flows from 50 lpm up to 400 lpm with different model lines all of them with a wide choice of options, number of banks, working ports, valve options spool control and spool positions.

We incorporate new versions, applications and valve options responding to needs of customers in different fields of hydraulic, agriculture, mobile applications, extracting industries, food, lifting and moving loads and others.

DIRECTIONAL CONTROL VALVE TYPES

Monoblock types. Flows from 40 lpm to 120 lpm

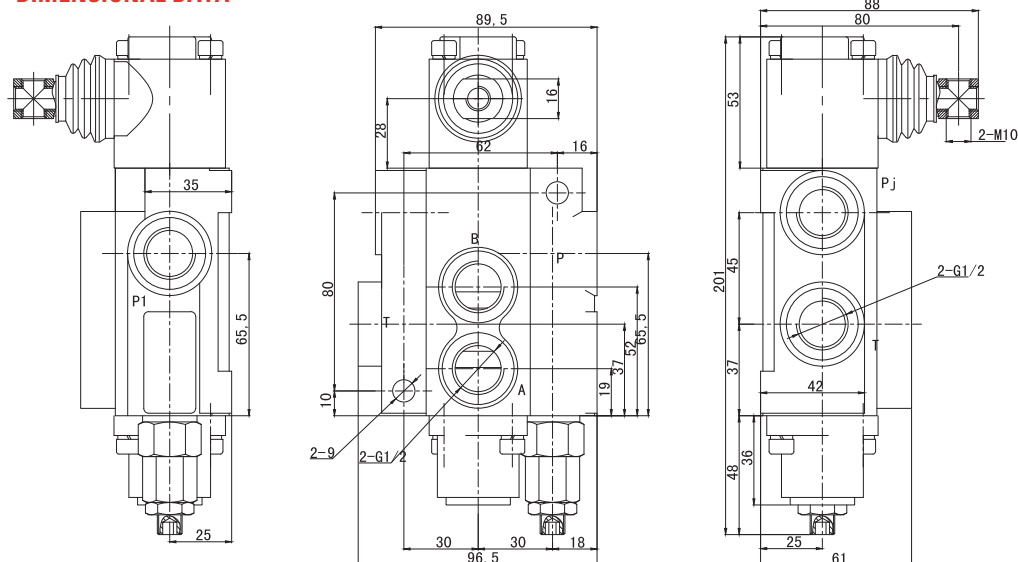
SERIES TL-P40

40 lpm (10,57 gpm)

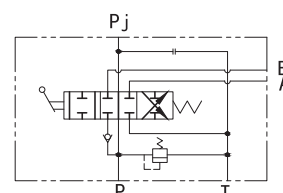
Up to six spools, either manual or piloted, pneumatic and electric.
Connecting ports, BSP, SAE, NPT, Metric.
Standard ports G 1/2".
General pressure relieve valve and check valve.
Open center.
Closed center plug and seals.

Power beyond plug and seals (also named high pressure carry over).
Spool control, manual, electric, pneumatic.
Spool function. Wide choice of spool position devices.
Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.

DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
20	31,5	40/10,57	≤ 1	-20 to +80°C	10 ~ 400 cts



SERIES TL-P60

60 lpm (15,85 gpm)

Up to seven spools.

Connecting ports, BSP, SAE, NPT, Metric.

Standard port M18x1,5.

General pressure relieve valve and check valve.

Open center.

Closed center plug and seals.

Power beyond plug and seals (also named High pressure carry over).

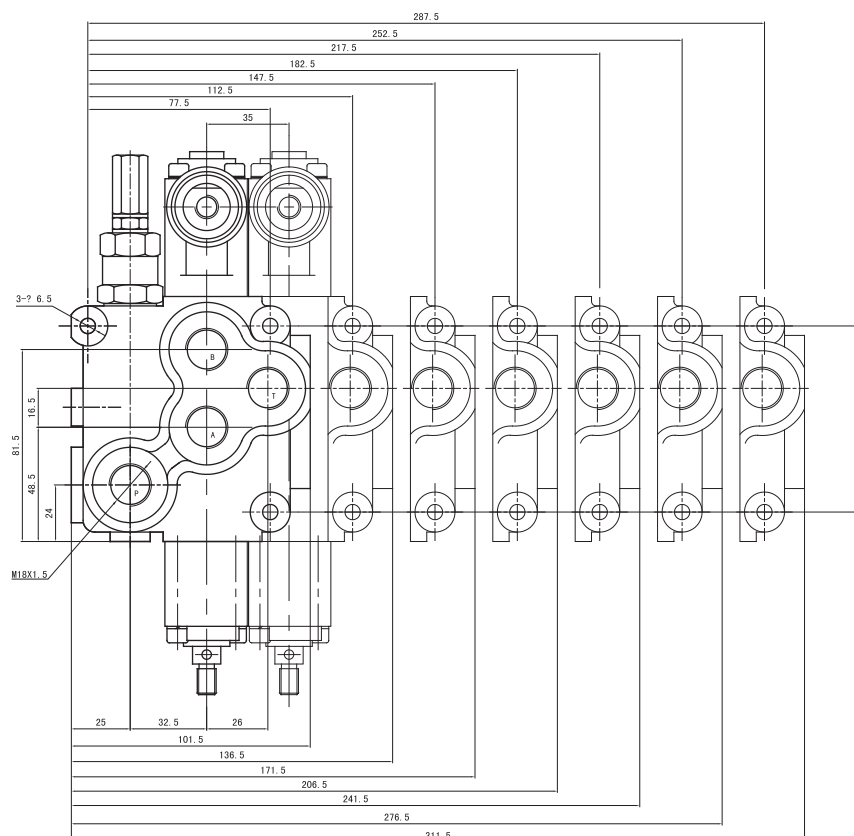
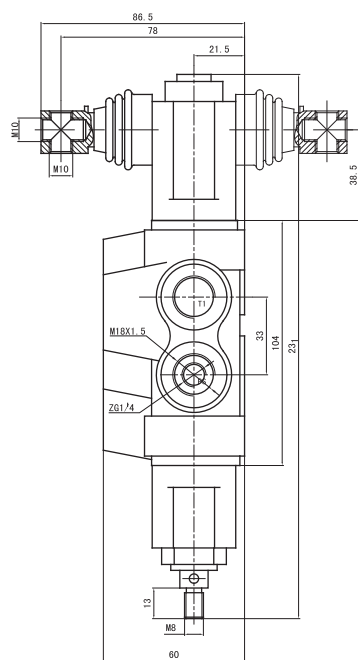
Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices.

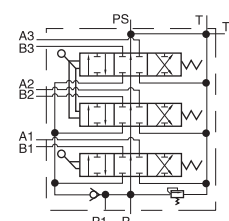
Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.



DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
16	31,5	63/16,64	≤ 1	-20 to + 80°C	10 ~ 400 cts



SERIES TL-P80

80 lpm (21,13 gpm)

Up to six spools, either manual or piloted, pneumatic and electric.

Connecting ports, BSP, SAE, NPT, Metric.

Standard ports G 3/4".

General pressure relieve valve and check valve.

Individual spool check valve as option.

Open center.

Closed center plug and seals.

Power beyond plug and seals (also named high pressure carry over).

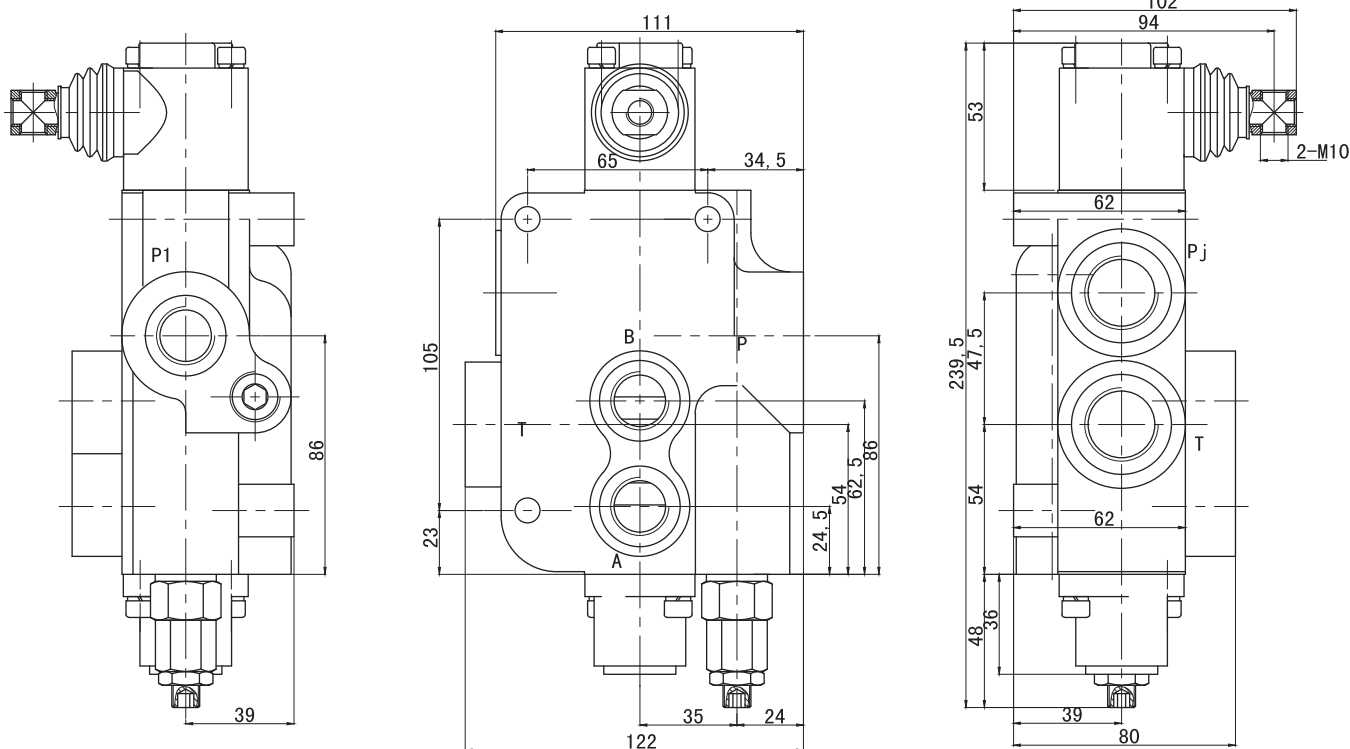
Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices.

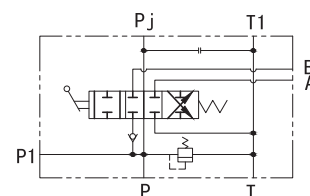
Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.



DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
20	31,5	80/21,13	≤ 1	-20 to +80°C	10 ~ 400 cts



SERIES TL-RD5200

100 lpm (26,41 gmp)

Up to six spools, either manual or piloted, pneumatic and electric.

Connecting ports, BSP, SAE, NPT, Metric.

Standard ports G 3/4".

General pressure relieve valve and check valve.

Individual spool check valve as option.

Open center.

Closed center plug and seals.

Power beyond plug and seals (also named high pressure carry over).

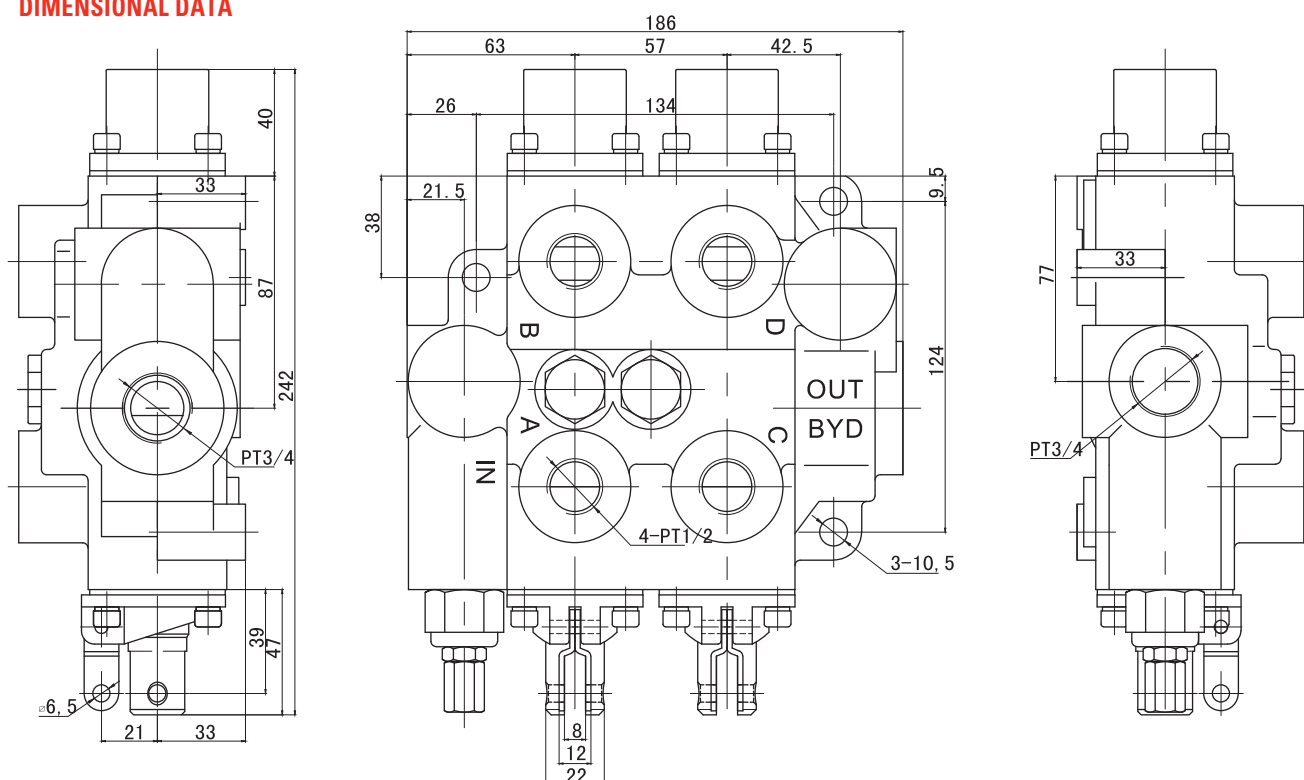
Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices.

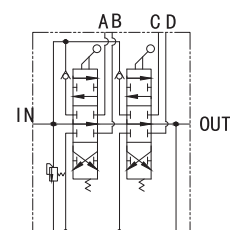
Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.



DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
20	31,5	100/26,42	≤ 1	-20 to +80°C	10 ~ 400 cts



SECTIONAL TYPES. FLOWS FROM 50 LPM TO 400 LPM

SERIES TL-DF50

50 lpm (13,21 gpm)

Open and closed center.

Up to 10 banks. Bank width 41,2 mm.

Bank working ports standard M18x1,5. Ports BSP, SAE, NPT.

P and T ports standard M22x1,5. Ports BSP, SAE and NPT available.

Inner check valve.

Adjustable pressure relief valve.

Different valve options.

Nominal pressure: 16 Mpa (2320 psi).

Maximum pressure: 25 Mpa (3626 psi).

Nominal flow: 50 lpm (13,21 gpm).

Back pressure < 1Mpa.

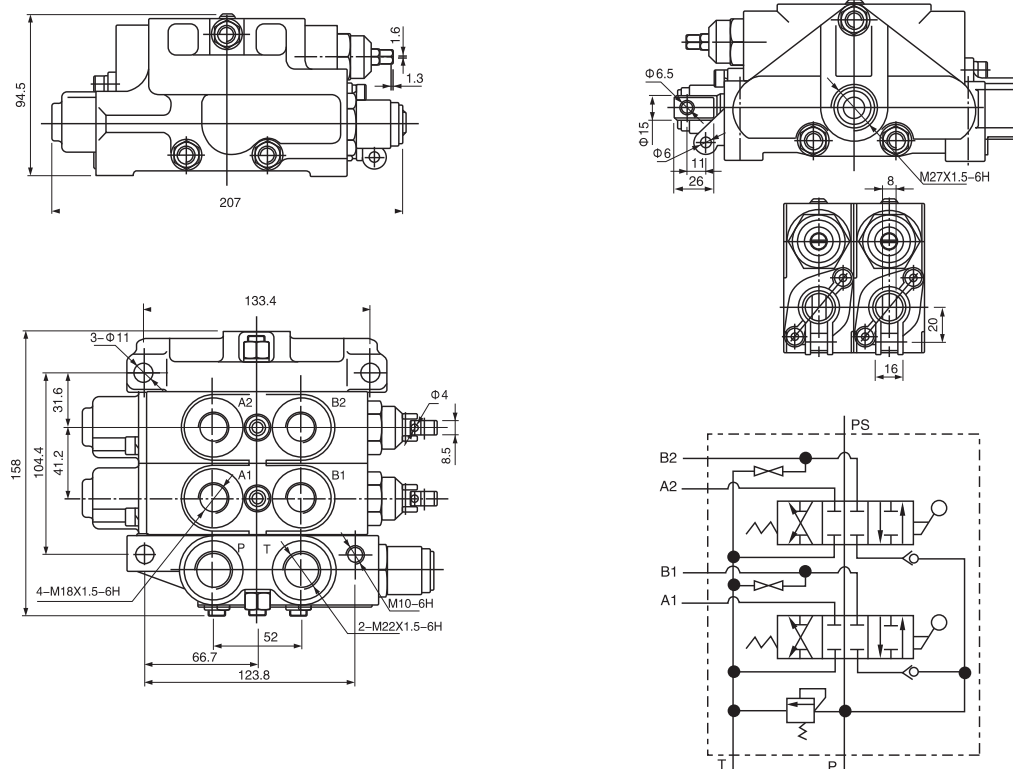
Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices.

Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.

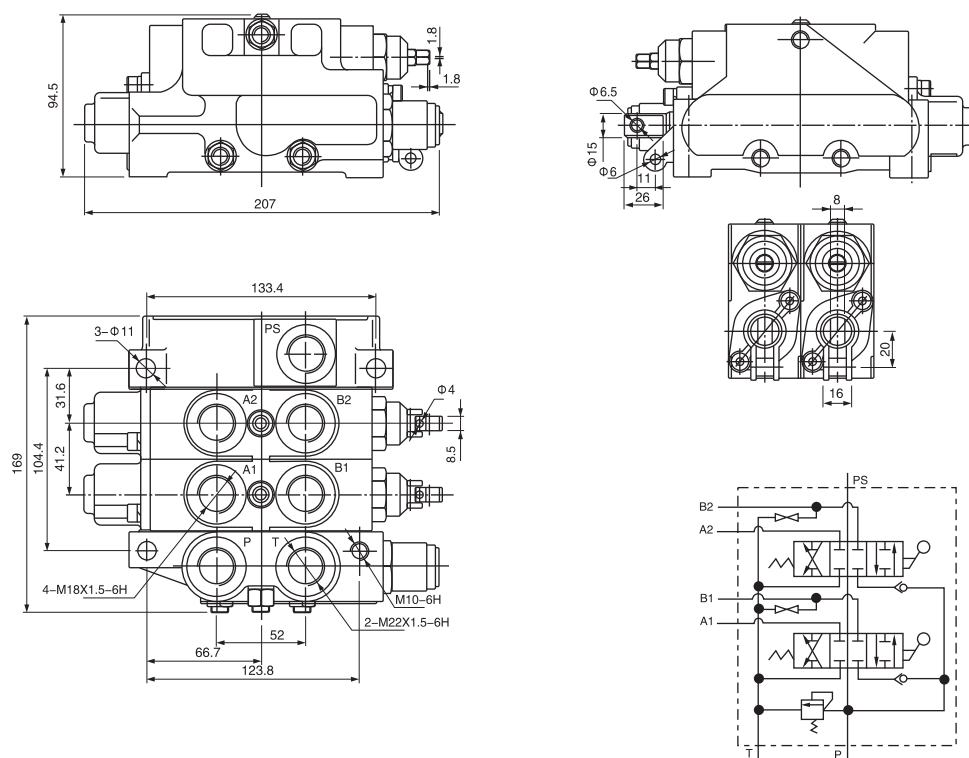


MODEL TL-DF-250 DIMENSIONAL DATA

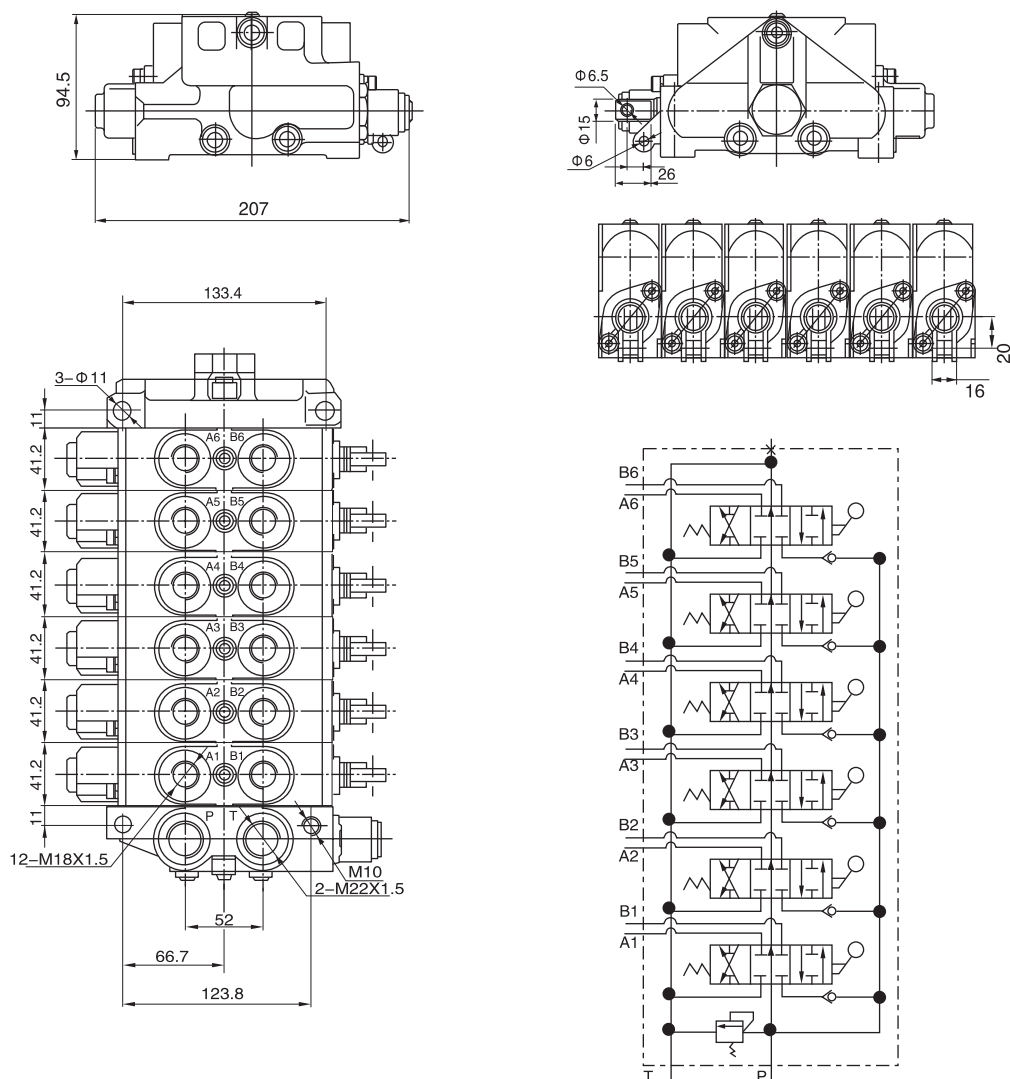


NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
16	25	50/13,21	≤ 1	-20 to + 80°C	10 ~ 400 cts

MODEL TL-DF-250-F1 DIMENSIONAL DATA



MODEL TL-DF-650 DIMENSIONAL DATA



SERIES TL-SD8

80 lpm (21,13 gpm)

Open and closed center.

Up to 14 banks. Bank width 41,2 mm.

Bank working port standards BSP 1/2". Ports Metric, SAE and NPT available.

P and T ports. P port 1/2" BSP. T port 3/4" BSP.

Inner check valve.

Adjustable pressure relief valve.

Different valve options.

Nominal pressure: 16 Mpa (2320 psi).

Maximum pressure: 31,5 Mpa (4570 psi).

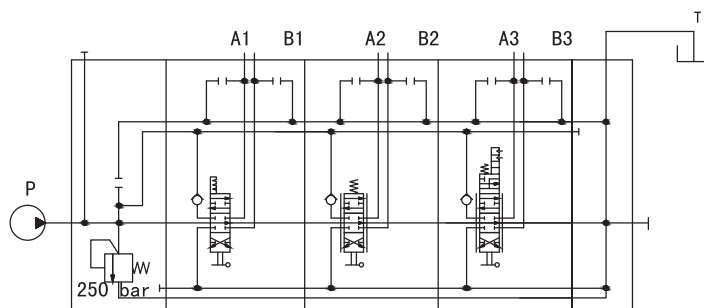
Nominal flow: 80 lpm (21,13 gpm).

Back pressure < 1Mpa.

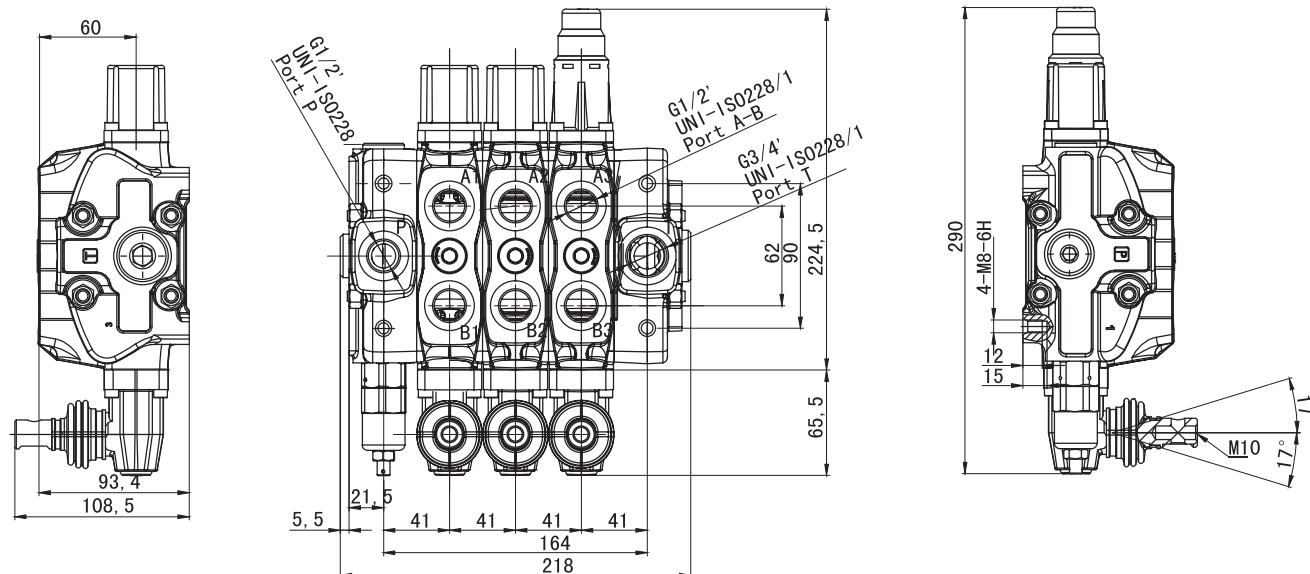
Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices.

Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.



DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
16	31,5	80/21,13	≤ 1	-20 to +80°C	10 ~ 400 cts

SERIES TL-SDS180

160 lpm (42,27 gpm)

Open and closed center.

Up to 12 banks. Bank width 48 mm.

Ports. P and working ports Standard BSP 3/4". T port BSP 1". Ports Metric, SAE and NPT available.

Parallel, tandem or series circuit.

Adjustable pressure relief valve.

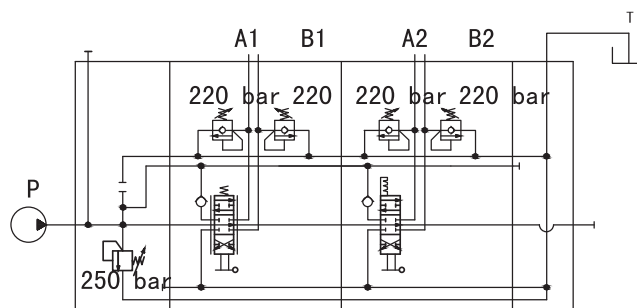
Individual check valve for every bank.

Different valve options, antishock, anticavitation, power beyond.

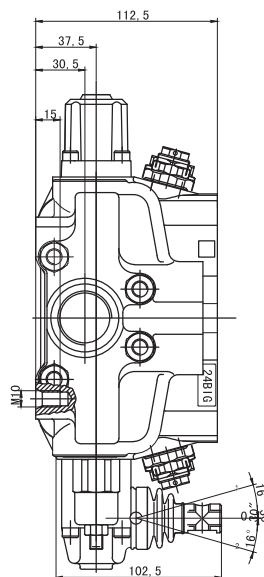
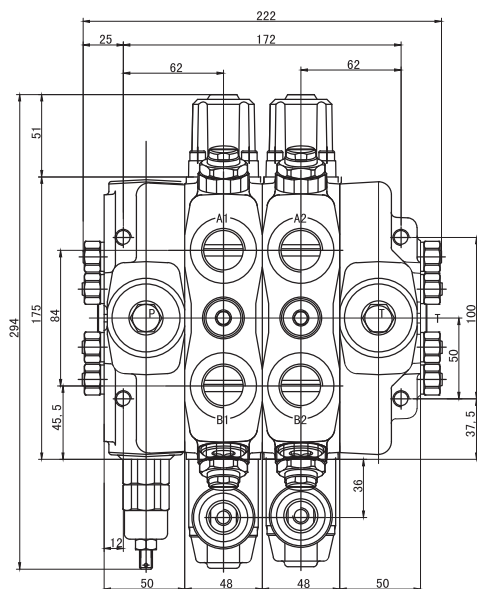
Nominal pressure: 16 Mpa (2320 psi).

Maximum pressure: 31,5 Mpa (4570 psi).

Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.



DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
16	31,5	160/42,27	≤ 1	-20 to + 80°C	10 ~ 400 cts

SERIES TL-SD25

240 lpm (63,40 gpm)

Open and closed center.

Up to 12 banks. Bank width 124 mm.

Bank working ports Standard 1" BSP. Ports Metric, SAE and NPT available.

Parallel, tandem or series circuit.

Adjustable pressure relief valve.

Individual check valve for every bank.

Different valve options, antishock, anticavitation, power beyond.

Nominal pressure: 16 Mpa (2320 psi).

Maximum pressure: 31,5 Mpa (4570 psi).

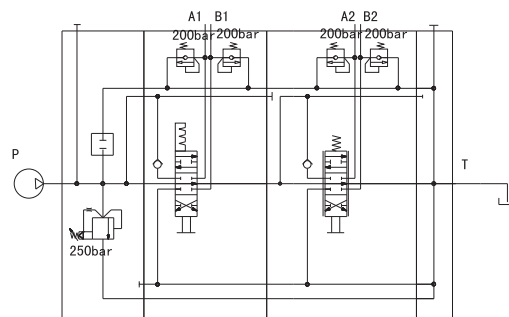
Nominal flow: 240 lpm (63,40 gpm).

Back pressure < 1Mpa.

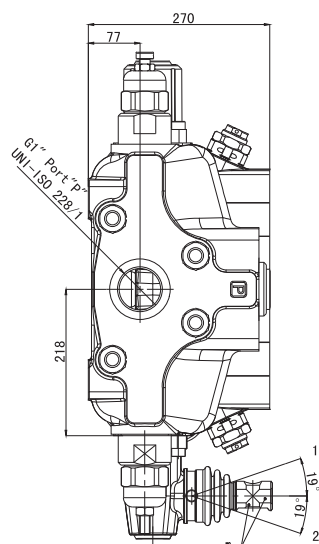
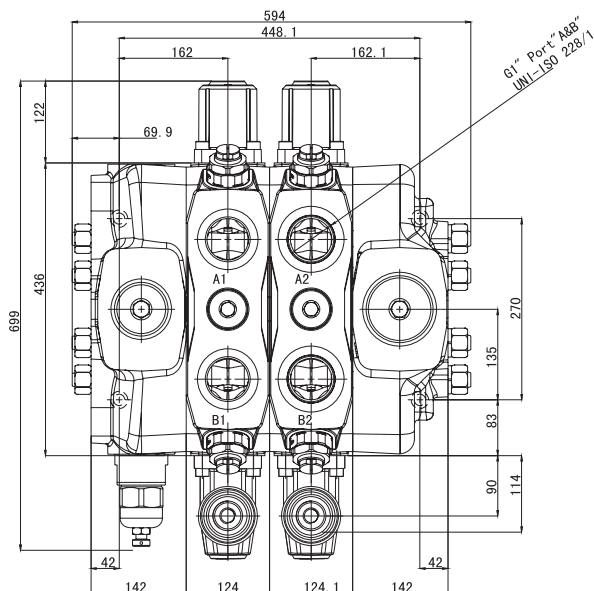
Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices.

Control handle. Wide choice, standard, lever turn, handle 180°, cable control, joystick, closed center plug and seals.



DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
16	31,5	240/63,40	≤ 1	-20 to +80°C	10 ~ 400 cts

SERIES TL-SDS400

400 lpm (105,68 gpm)

Open and closed center.

Up to 10 banks. Bank width 74 mm.

Bank working ports. P and T ports 1 1/2" BSP. Working ports 1 1/4" BSP. Ports Metric, SAE and NPT available.

Parallel, tandem or series circuit.

Adjustable pressure relief valve.

Individual check valve for every bank.

Different valve options, antishock, anticavitation, power beyond.

Nominal pressure: 16 Mpa (2320 psi).

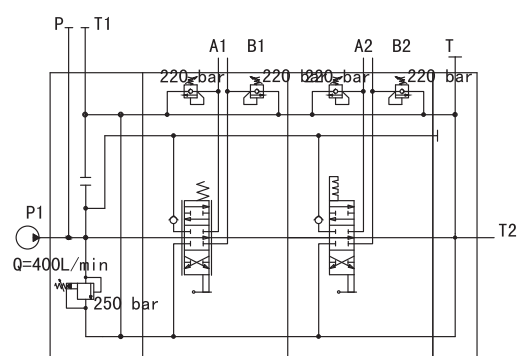
Maximum pressure: 31,5 Mpa (4570 psi).

Nominal flow: 400 lpm (105,68 gpm).

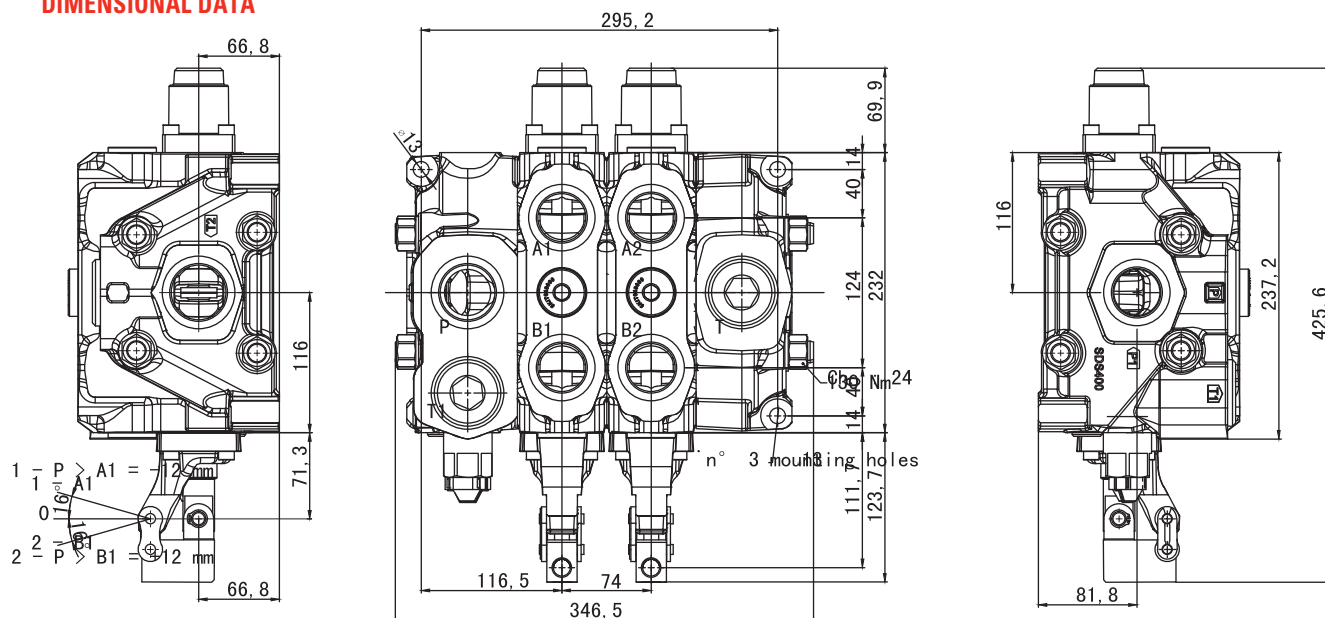
Back pressure < 1Mpa.

Spool control, manual, electric, pneumatic.

Spool function. Wide choice of spool position devices Control handle. Wide choice. Standard. 180°, cable control, joystick closed center plug and seals.



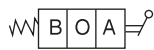
DIMENSIONAL DATA



NOMINAL PRESSURE Mpa	MAX PRESSURE Mpa	NOMINAL FLOW lpm/gpm*	BACK PRESSURE Mpa	HYDRAULIC OIL	
				temp range	viscosity range
16	31,5	400/105,67	≤ 1	-20 to + 80°C	10 ~ 400 cts

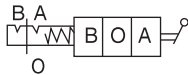
SPOOL POSITION DEVICES CHOICE

A1



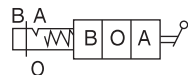
3 positions.
Spring centred spool.

A2



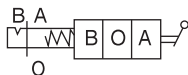
3 positions.
Spring centred spool.
Detent in A and B.

A3



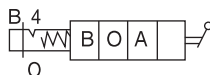
3 positions.
Spring centred spool.
Detent in A.

A4



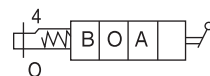
3 positions.
Spring centred spool.
Detent in B.

A5



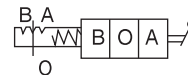
4 positions.
Spring centred spool.
Detent in 4th position.

A6



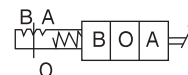
4 positions. Spring centred spool.
Sensitive in 4th position without detent.

A7



3 positions.
Spring centred spool.
Detent in A, and B.

A7



3 positions.
Detent in A, B and O.
Without spring centred.

A8



2 positions (O and B), spring centred spool.

A9



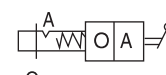
2 positions (O and A), spring centred spool.

A10



2 positions (O and B), spring centred spool, detent in B.

A11



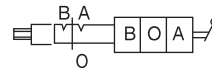
2 positions (O and A), spring centred spool, detent in A.

A13



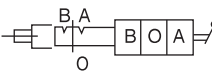
Prearranged for double control.

A713



3 positions. Detent in A, B and O.
Prearranged for double control.
Without spring centred.

A713N



3 positions. Detent in A, B and O.
Prearranged for double control.
Without spring centred.

A14



ON-OFF pneumatic control.

A15



Electrohydraulic control ON-OFF.
Voltage 12 Volt c.c.

A16



Electrohydraulic control ON-OFF.
Voltage 24 Volt c.c.

A171



ON-OFF electropneumatic, 12 Volt.

A172



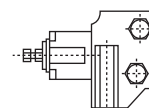
ON-OFF electropneumatic, 24 Volt.

A18



3 positions. Spring centred spool.
Several micro switch applications are available.

A20



Spool stroke adjustment.

A24

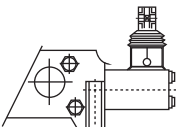


ON-OFF hydraulic control.

SPOOL CONTROL HANDLE CHOICE

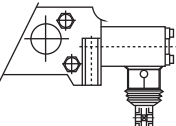
- A Standard
- B Handle 180°
- C No handle
- D Hydraulic control
- E Spool stroke adjustment
- F Spool stroke Handle 180°
- G Safety handle
- H Cable control
- I Joystick

A



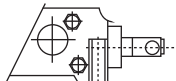
Standard

B



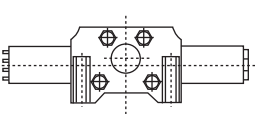
Handle at 180°

C



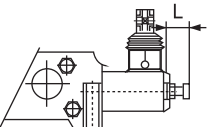
Without handle.

D



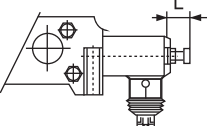
Hydraulic control.

E



Spool stroke adjustment.
DCV35:L=26 DCV100, 140:L=31
DCV60:L=27 DCV200:L=33

F



Spool stroke adjustment.
Handle at 180°
DCV35:L=26 DCV100, 140:L=31
DCV60:L=27 DCV200:L=33

G



a

 Safety handle locked in neutral position.

b

 Safety handle in position A.

c

 Safety handle in position B.

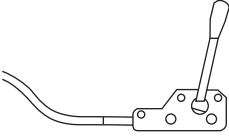
d

 Safety handle in position A and B.

e

 Safety handle locked in 4th position.

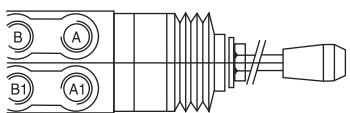
H

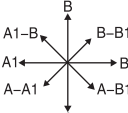


Flexible cable control,contact our commercial department

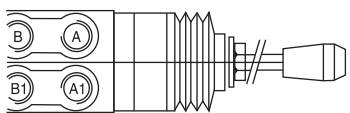


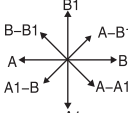
I



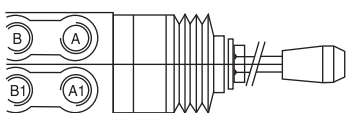


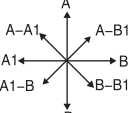
Cloche control at 90° with fulcrum on the downstream section.



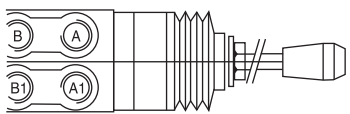


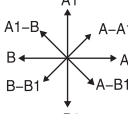
Cloche control at 90° with fulcrum on the upstream section.





Cloche control at 90° with fulcrum on the downstream section. Handle at 180°.





Cloche control at 90° with fulcrum on the upstream section. Handle at 180°.

OTHER VALVES

Ball valves

TL-KHB

HP Ball valve. DN 4-25. Metric-Metric. BSPP-BSPP. NPT-NPT. 24° Metric-24° Metric

TL-KHM

HP Ball valve. DN 32-50. Metric-Metric. BSPP-BSPP. NPT-NPT. 24° Metric-24° Metric

MODEL CODE

TL-KHB - M27x1.5 - 10 - 1 1 1 1 - 01 - 1
1 2 3 4 5 6 7 8 9

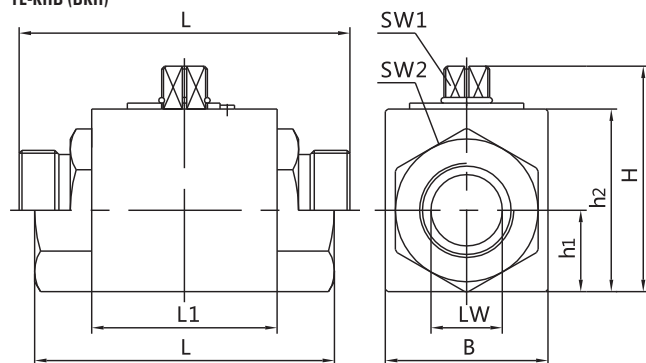
- 1 Series code: TL-KHB (BKH) Series Valve block ball valve DN04-25
 TL-KHM (MKH) Series Sleeve type ball valve DN32-50
 - 2 Joint code: M**, G**, **LR, **SR, PT**, NPT**
 - 3 Nominal diameter: 04, 06, 08, 10, 13, 16, 20, 25, 32, 40, 50
 - 4 Valve body / Joint material: 1-carbon steel, 3-316 stainless steel
 - 5 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
 - 6 Ball sealing material: 1-POM 2-PTFE
 - 7 Sealing material (sealing material of joint/valve lock): 1-NBR 2-FPM/FKM
 - 8 Handle type: 01-C type zinc alloy crooked handle
 02-B type zinc alloy crooked handle
 03-B type casting steel crooked handle
 09-without handle
 - 9 Surface treatment: 1-Silver zinc plated
- PS** The material pressure parameters corresponding to the product is carbon steel.
 1111 is the normal mix, the PN no more than 100bar when using PTFE.
 (other specifications please contact us)

SYMBOL

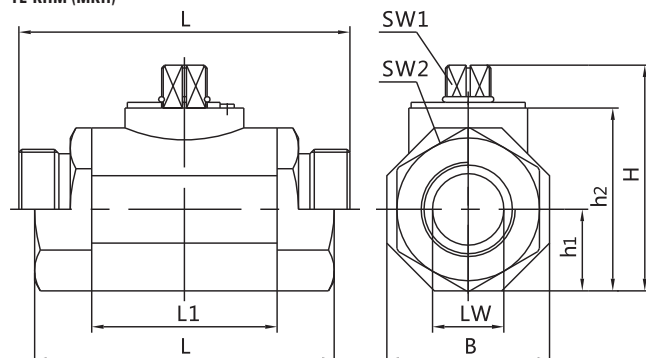


OVERALL DIMENSIONS

TL-KHB (BKH)



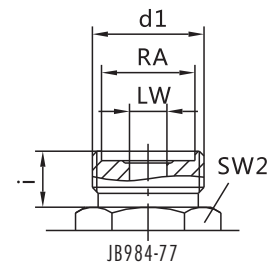
TL-KHM (MKH)



M

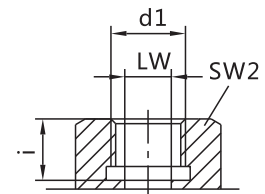
BRIEF MODEL	PN (bar)	DN	LW	RA	d1	i	L	L1	B	H	h1	h2	SW1	SW2
TL-KHB-M16x1.5	500	06	06	11	M16x1.5	11	69	40	26	45	13.5	33	09	22
TL-KHB-M22x1.5	500	10	08	16	M22x1.5	12	76	42	32	49	16	36	09	27
TL-KHB-M27x1.5	500	10	10	20	M27x1.5	12	76	42	32	49	16	36	09	27
TL-KHB-M30x1.5	400	16	15	24	M30x1.5	13	84	48	38	61	19	45	09	32
TL-KHB-M36x2	400	20	20	30	M36x2	15	103	60	48	70	25	55	12	41
TL-KHB-M42x2	350	25	25	35	M42x2	18	116	65	57	79	28.5	64	12	50
TL-KHM-M52x2	350	32	30	40	M52x2	20	149	84	75	101	37.5	84	14	60
TL-KHM-M60x2	350	40	38	45	M60x2	22	174	91	85	112	42.5	95	14	70

CONNECTION PORT SKETCH



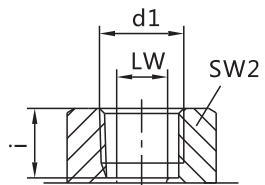
G

TL-KHB-G1/8	500	04	06	-	G1/8	14	69	40	26	45	13.5	33	09	22
TL-KHB-G1/4	500	06	06	-	G1/4	14	69	40	26	45	13.5	33	09	22
TL-KHB-G3/8	500	10	10	-	G3/8	14	72	42	32	49	16	36	09	27
TL-KHB-G1/2	500	13	12	-	G1/2	14	83	47	35	49	18	38	09	30
TL-KHB-G1/2	400	16	15	-	G1/2	16	83	48	38	61	19	45	09	32
TL-KHB-G3/4	400	20	20	-	G3/4	18	95	60	48	70	25	55	12	41
TL-KHB-G1	350	25	25	-	G1	21	113	65	57	79	28.5	64	12	50
TL-KHM-G1 1/4	350	32	32	-	G1 1/4	22	110	84	75	101	37.5	84	14	60
TL-KHM-G1 1/2	350	40	38	-	G1 1/2	24	130	91	85	112	42.5	95	14	70
TL-KHM-G2	350	50	48	-	G2	26	140	100	104	131	52	112.5	14	90



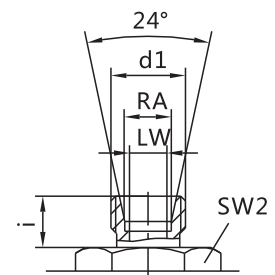
NPT (PT)

TL-KHB-NPT 1/8	500	04	06	-	NPT 1/8	11	69	40	26	45	13.5	33	09	22
TL-KHB-NPT 1/4	500	06	06	-	NPT 1/4	11	69	40	26	45	13.5	33	09	22
TL-KHB-NPT 3/8	500	10	10	-	NPT 3/8	11	72	42	32	49	16	36	09	27
TL-KHB-NPT 1/2	500	13	12	-	NPT 1/2	14	83	47	35	49	18	38	09	30
TL-KHB-NPT 1/2	400	16	15	-	NPT 1/2	14	83	48	38	61	19	45	09	32
TL-KH B-NPT 3/4	400	20	20	-	NPT 3/4	15	95	60	48	70	25	55	12	41
TL-KB-NPT1	350	25	25	-	NPT1	17	113	65	57	79	28.5	64	12	50
TL-KHM-NPT1 1/4	350	32	30	-	NPT1 1/4	18	110	84	75	101	37.5	84	14	60
TL-KHM-NPT1 1/2	350	40	38	-	NPT1 1/2	18	130	91	85	112	42.5	95	14	70
TL-KHM-NPT2	350	50	48	-	NPT2	18	140	100	104	131	52	112.5	14	90



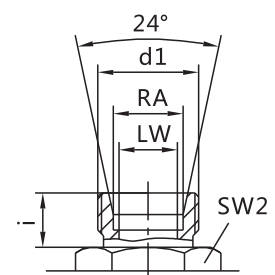
LR

TL-KHB-06LR	500	04	04	06	M12x1.5	10	67	40	26	45	13.5	33	09	22
TL-KHB-08LR	500	06	06	08	M14x1.5	10	67	40	26	45	13.5	33	09	22
TL-KHB-10LR	500	06	08	10	M16x1.5	11	74	40	26	45	13.5	33	09	22
TL-KHB-12LR	500	10	10	12	M18x1.5	11	74	42	32	49	16	36	09	27
TL-KHB-15LR	500	13	12	15	M22x1.5	12.5	82	47	35	53	18	38	09	30
TL-KHB-15LR	400	16	12	15	M22x1.5	12	82	48	38	61	19	45	09	32
TL-KHB-18LR	500	13	12	18	M26x1.5	12.5	82	47	35	53	18	38	09	30
TL-KHB-18LR	400	16	15	18	M26x1.5	12	82	48	38	61	19	45	09	32
TL-KHB-22LR	400	20	19	22	M30x2	14	101	60	48	70	25	55	12	41
TL-KHB-28LR	350	25	25	28	M36x2	14	108	65	57	79	28.5	64	12	50
TL-KHM-35LR	350	32	30	35	M45x2	16	141	84	75	101	37.5	84	14	60
TL-KHM-42LR	350	40	36	42	M52x2	16	162	91	85	112	42.5	95	14	70



SR

TL-KHB-08SR	500	04	05	08	M16x1.5	12	73	40	26	45	13.5	33	09	22
TL-KHB-10SR	500	06	06	10	M18x1.5	12	73	40	26	45	13.5	33	09	22
TL-KHB-12SR	500	06	08	12	M20x1.5	12	76	40	26	45	13.5	33	09	22
TL-KHB-14SR	500	10	10	14	M22x1.5	14	80	42	32	49	16	36	09	27
TL-KHB-16SR	400	13	12	16	M24x1.5	14	86	47	35	53	18	38	09	30
TL-KHB-16SR	500	16	12	16	M24x1.5	14	86	48	38	61	19	45	09	32
TL-KHB-20SR	500	13	13	20	M30x2	16	90	47	35	53	18	38	09	30
TL-KHB-20SR	400	16	15	20	M30x2	16	90	48	38	61	19	45	09	32
TL-KHB-25SR	400	20	20	25	M36x2	18	109	60	48	70	25	55	12	41
TL-KHB-30SR	350	25	25	30	M42x2	20	120	65	57	79	28.5	64	12	50
TL-KHM-38SR	350	32	30	38	M52x2	22	153	84	75	101	37.5	84	14	60



TL-KHB3K

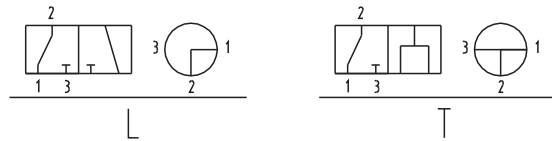
Two position three-way ball valve. Metric. BSPP. NPT. 24° Seat Metric

MODEL CODE

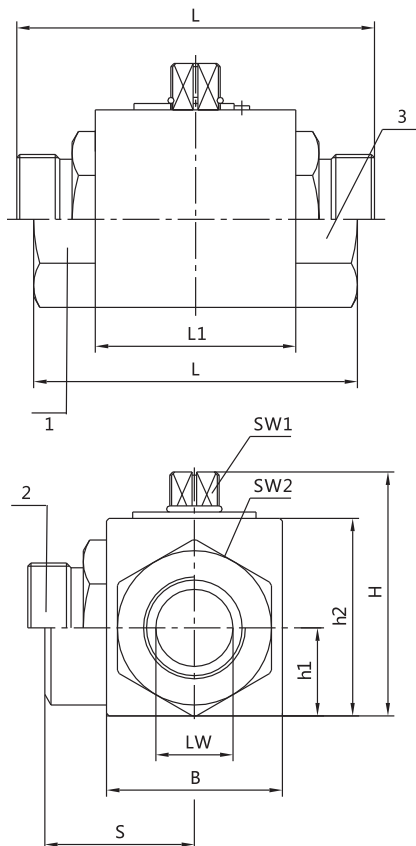
TL-KHB3K - G1/2 - 13 - L N - 1 1 1 1 - 01 - 1
1 2 3 4 5 6 7 8 9 10 11

- 1 Series code: TL-KHB3K Two-position Three-way high pressure ball valve
 - 2 Joint code: G**, M**, **LR, **SR, PT**, NPT**
 - 3 Nominal diameter: 04, 06, 08, 10, 13, 16, 20, 25, 32, 40, 50
 - 4 Ball valve enginery: L-L Type, T-T Type
 - 5 Working oil port (difference between three way to straight way) join thread:
N-female / W-male thread
 - 6 Valve body / Joint material: 1-carbon steel, 3-316 stainless steel
 - 7 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
 - 8 Ball sealing material: 1-POM 2-PTFE
 - 9 Sealing material (linking valve body/joint/valve lock): 1-NBR 2-FPM/FKM
 - 10 Handle type: 01-C type zinc alloy crooked handle
02-B type zinc alloy crooked handle
03-B type casting steel crooked handle
09-without handle
 - 11 Surface treatment: 1-Silver zinc plated
- PS** The material pressure parameters corresponding to the product is carbon steel.
1111 is the normal mix, the PN no more than 100bar when using PTFE.
(other specifications please contact us)

SYMBOL



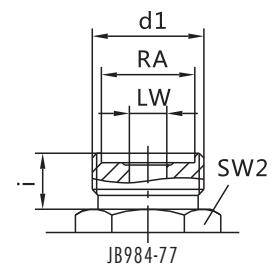
OVERALL DIMENSIONS



M

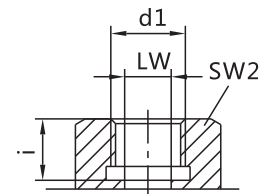
BRIEF MODEL	PN (bor)	DN	LW	RA	d1	i	L	L1	B	H	h1	h2	SW1	SW2	S
TL-KHB3K-M16x1.5	500	06	06	11	M16x1.5	11	69	40	26	45	13.5	33	09	22	27.5
TL-KHB3K-M22x1.5	500	08	08	16	M22x1.5	12	76	42	32	49	16	36	09	27	33
TL-KHB3K-M27x1.5	500	10	10	20	M27x1.5	12	76	42	32	49	16	36	09	27	33
TL-KHB3K-M30x1.5	400	16	15	24	M30x1.5	13	84	48	38	61	19	45	09	32	37
TL-KHB3K-M36x2	400	20	20	30	M36x2	15	103	60	48	70	25	55	12	41	45.5
TL-KHB3K-M42x2	350	25	25	35	M42x2	18	116	65	57	79	28.5	64	12	50	54
TL-KHB3K-M52x2	350	32	30	40	M52x2	20	149	84	75	101	37.5	84	14	60	62.5
TL-KHB3K-M60x2	350	40	38	45	M60x2	22	174	91	85	112	42.5	95	14	70	84

CONNECTION PORT SKETCH



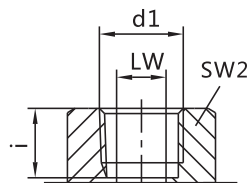
G

TL-KHB3K-G1/8	500	04	06	-	G1/8	14	69	40	26	45	13.5	33	09	22	34.5
TL-KHB3K-G1/4	500	06	06	-	G1/4	14	69	40	26	45	13.5	33	09	22	34.5
TL-KHB3K-G3/8	500	10	10	-	G3/8	14	72	42	32	49	16	36	09	27	36
TL-KHB3K-G1/2	500	13	12	-	G1/2	14	83	47	35	49	18	38	09	30	34
TL-KHB3K-G1/2	400	16	15	-	G1/2	16	83	48	38	61	19	45	09	32	42
TL-KHB3K-G3/4	400	20	20	-	G3/4	18	95	60	48	70	25	55	12	41	49
TL-KHB3K-G1	350	25	25	-	G1	21	113	65	57	79	28.5	64	12	50	56.5
TL-KHB3K-G1 1/4	350	32	30	-	G1 1/4	22	110	84	75	101	37.5	84	14	60	62.5
TL-KHB3K-G1 1/2	350	40	38	-	G1 1/2	24	130	91	85	112	42.5	95	14	70	61
TL-KHB3K-G2	350	50	48	-	G2	26	140	100	104	131	52	112.5	14	90	66



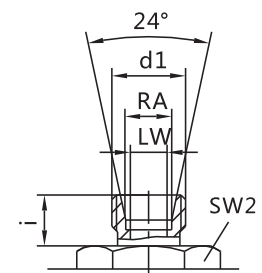
NPT (PT)

TL-KHB3K-NPT 1/8	500	04	06	-	NPT 1/8	11	69	40	26	45	13.5	33	09	22	34.5
TL-KHB3K-NPT 1/4	500	06	06	-	NPT 1/4	11	69	40	26	45	13.5	33	09	22	34.5
TL-KHB3K-NPT 3/8	500	10	10	-	NPT 3/8	11	72	42	32	49	16	36	09	27	36
TL-KHB3K-NPT 1/2	500	13	12	-	NPT 1/2	14	83	47	35	49	18	38	09	30	34
TL-KHB3K-NPT 1/2	400	16	15	-	NPT 1/2	14	83	48	38	61	19	45	09	32	42
TL-KHB3K-NPT 3/4	400	20	20	-	NPT 3/4	15	95	60	48	70	25	55	12	41	49
TL-KHB3K-NPT1	350	25	25	-	NPT1	17	113	65	57	79	28.5	64	12	50	56.5
TL-KHB3K-NPT1 1/4	350	32	30	-	NPT1 1/4	18	110	84	75	101	37.5	84	14	60	66
TL-KHB3K-NPT1 1/2	350	40	38	-	NPT1 1/2	18	130	91	85	112	42.5	95	14	70	61
TL-KHB3K-NPT2	350	50	48	-	NPT2	18	140	100	104	131	52	112.5	14	90	62.5



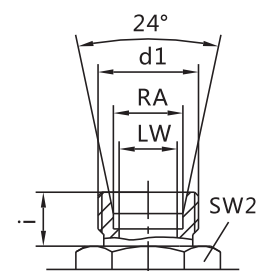
LR

TL-KHB3K-06LR	500	04	04	06	M12x1.5	10	67	40	26	45	13.5	33	09	22	33.5
TL-KHB3K-08LR	500	06	06	08	M14x1.5	10	67	40	26	45	13.5	33	09	22	33.5
TL-KHB3K-10LR	500	06	08	10	M16x1.5	11	74	40	26	45	13.5	33	09	22	36
TL-KHB3K-12LR	500	10	10	12	M18x1.5	11	74	42	32	49	16	36	09	27	36
TL-KHB3K-15LR	500	13	12	15	M22x1.5	12.5	82	47	35	53	18	38	09	30	40
TL-KHB3K-15LR	400	16	12	15	M22x1.5	12	82	48	38	61	19	45	09	32	40
TL-KHB3K-18LR	500	13	12	18	M26x1.5	12.5	82	47	35	53	18	38	09	30	42
TL-KHB3K-18LR	400	16	15	18	M26x1.5	12	82	48	38	61	19	45	09	32	42
TL-KHB3K-22LR	400	20	19	22	M30x2	14	101	60	48	70	25	55	12	41	49
TL-KHB3K-28LR	350	25	25	28	M36x2	14	108	65	57	79	28.5	64	12	50	54
TL-KHB3K-35LR	350	32	30	35	M45x2	16	141	84	75	101	37.5	84	14	60	66
TL-KHB3K-42LR	350	40	36	42	M52x2	16	162	91	85	112	42.5	95	14	70	78



SR

TL-KHB3K-08SR	500	04	05	08	M16x1.5	12	73	40	26	45	13.5	33	09	22	34.5
TL-KHB3K-10SR	500	06	06	10	M18x1.5	12	73	40	26	45	13.5	33	09	22	34.5
TL-KHB3K-12SR	500	08	08	12	M20x1.5	12	76	40	26	45	13.5	33	09	22	36
TL-KHB3K-14SR	500	10	10	14	M22x1.5	14	80	42	32	49	16	36	09	27	36
TL-KHB3K-16SR	500	13	12	16	M24x1.5	14	86	47	35	53	18	38	09	30	44
TL-KHB3K-16SR	400	16	13	16	M24x1.5	14	86	48	38	61	19	45	09	32	37
TL-KHB3K-20SR	500	13	12	20	M30x2	16	90	47	35	53	18	38	09	30	44
TL-KHB3K-20SR	400	16	15	20	M30x2	16	90	48	38	61	19	45	09	32	37
TL-KHB3K-25SR	400	20	20	25	M36x2	18	109	60	48	70	25	55	12	41	49
TL-KHB3K-30SR	350	25	25	30	M42x2	20	120	65	57	79	28.5	64	12	50	60
TL-KHB3K-38SR	350	32	30	38	M52x2	22	153	84	75	101	37.5	84	14	60	76.5



TL-VH2V

HP Ball valve. DN 6-25. Metric-Metric. BSPP-BSPP. NPT-NPT. 24° Metric-24° Metric

MODEL CODE

TL-VH2V - G3/8 - 10 - 1 1 1 1 - 01 - 1
1 2 3 4 5 6 7 8 9

- 1 Series code: TL-VH2V Series
- 2 Joint code: G**, M**, **LR **SR, PT**, NPT**
- 3 Nominal diameter: 06, 10, 13, 16, 20, 25
- 4 Valve body / Joint material: 1-carbon steel, 3-316 stainless steel
- 5 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
- 6 Ball sealing material: 1-POM 2-PTFE
- 7 Sealing material (sealing material of joint/valve lock): 1-NBR 2-FPM/FKM
- 8 Handle type: 01-C type zinc alloy crooked handle
02-B type zinc alloy crooked handle
03-B type casting steel crooked handle
09-without handle

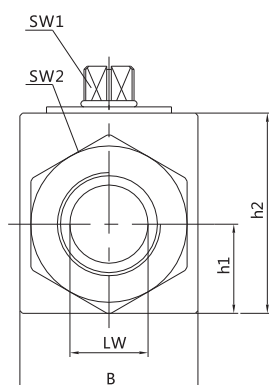
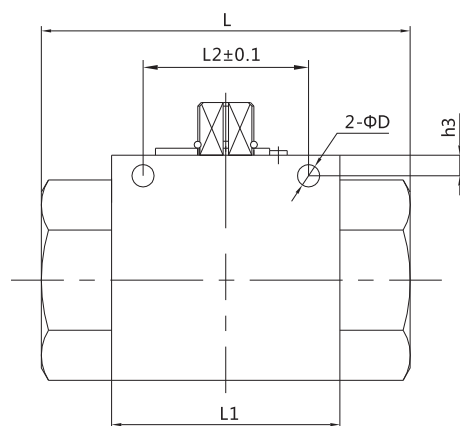
- 9 Surface treatment: 1-Silver zinc plated

PS The material pressure parameters corresponding to the product is carbon steel.
1111 is the normal mix, the PN no more than 100bar when using PTFE.
(other specifications please contact us)

SYMBOL

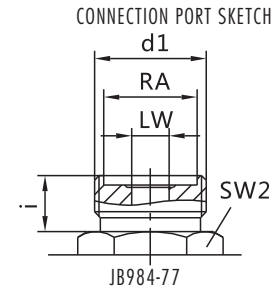


OVERALL DIMENSIONS



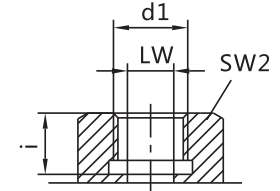
M

BRIEF MODEL	PN (bar)	DN	LW	RA	d1	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3
TL-VH2V-M16x1.5	500	06	06	11	M16x1.5	11	69	40	26	31.5	13.5	35	09	22	4.5	4.8
TL-VH2V-M27x1.5	500	10	10	20	M27x1.5	12	76	42	32	31.5	16	40	09	27	5.3	5.8
TL-VH2V-M36x2	400	20	20	30	M36x2	15	103	60	48	48.5	25	58	12	41	6.5	6
TL-VH2V-M42x2	350	25	23	35	M42x2	18	116	65	57	50.5	28.5	65	12	50	8.5	7



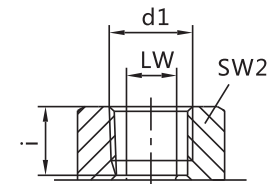
G

BRIEF MODEL	PN (bar)	DN	LW	RA	d1	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3
TL-VH2V-G 1/4	500	06	06	-	G1/4	14	69	40	26	31.5	13.5	35	09	22	4.5	4.8
TL-VH2V-G 3/8	500	10	10	-	G3/8	14	72	42	32	31.5	16	40	09	27	5.3	5.8
TL-VH2V-G 1/2	500	13	13	-	G1/2	16	83	48	35	38.5	18	45	09	30	6.5	6
TL-VH2V-G 3/4	400	20	20	-	G3/4	18	93	60	50	48.5	23	58	12	41	6.5	6
TL-VH2V-G1	350	25	25	-	G1	21	115	65	57	50.5	27.5	65	12	46	8.5	7
TL-VH2V-G1 1/4	350	25	25	-	G1 1/4	21	115	65	57	44	27.5	65	12	55	6.3	6
TL-VH2V-G1 1/2	350	25	25	-	G1 1/2	21	115	65	57	44	27.5	65	12	60	6.3	6



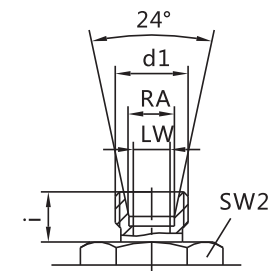
NPT (PT)

BRIEF MODEL	PN (bar)	DN	LW	RA	d1	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3
TL-VH2V-NPT 1/4	500	06	06	-	NPT 1/4	14	69	40	26	31.5	13.5	35	09	22	4.5	4.8
TL-VH2V-NPT 3/8	500	10	10	-	NPT 3/8	14	72	42	32	31.5	16	40	09	27	5.3	5.8
TL-VH2V-NPT 1/2	500	13	12	-	NPT 1/2	16	83	48	35	38.5	18	45	09	30	6.5	6
TL-VH2V-NPT 3/4	400	20	20	-	NPT 3/4	18	95	60	50	48.5	23	58	12	41	6.5	6
TL-VH2V-NPT1	350	25	25	-	NPT1	21	113	65	57	50.5	27.5	65	12	46	8.5	7



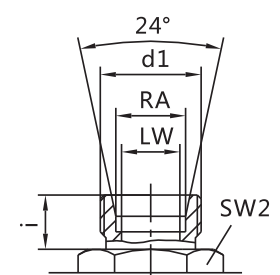
LR

BRIEF MODEL	PN (bar)	DN	LW	RA	d1	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3
TL-VH2V-08LR	500	06	06	08	M14x1.5	10	67	40	26	31.5	13.5	35	09	22	4.5	4.8
TL-VH2V-10LR	500	08	08	10	M16x1.5	11	74	42	32	31.5	16	40	09	27	5.3	5.8
TL-VH2V-12LR	500	10	10	12	M18x1.5	11	74	42	32	31.5	16	40	09	27	5.3	5.8
TL-VH2V-15LR	500	13	12	15	M22x1.5	12	83	48	35	38.5	18	45	09	30	6.5	6
TL-VH2V-18LR	500	13	12	18	M26x1.5	12	82	48	35	38.5	18	45	09	30	6.5	6
TL-VH2V-22LR	400	20	19	22	M30x2	14	101	60	50	48.5	23	58	12	41	6.5	6
TL-VH2V-28LR	350	25	24	28	M36x2	14	108	65	57	50.5	27.5	65	12	46	8.5	7



SR

BRIEF MODEL	PN (bar)	DN	LW	RA	d1	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3
TL-VH2V-10SR	500	06	06	10	M18x1.5	12	73	40	26	31.5	13.5	35	09	22	4.5	4.8
TL-VH2V-14SR	500	10	10	14	M22x1.5	14	80	42	32	31.5	16	40	09	27	5.3	5.8
TL-VH2V-16SR	500	13	13	16	M24x1.5	14	86	48	35	38.5	18	45	09	30	6.5	6
TL-VH2V-20SR	500	13	12	20	M30x2	16	90	48	35	38.5	18	45	09	30	6.5	6
TL-VH2V-25SR	400	20	20	25	M36x2	18	109	60	50	48.5	23	58	12	41	6.5	6
TL-VH2V-30SR	350	25	25	30	M42x2	20	120	65	57	50.5	27.5	65	12	46	8.5	7



TL-VH3V

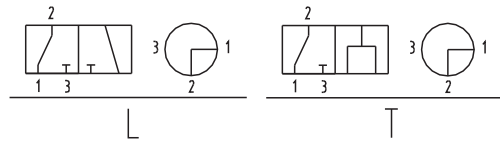
HP Ball valve. DN 6-25. Metric-Metric. BSPP-BSPP. NPT-NPT. 24° Metric-24° Metric

MODEL CODE

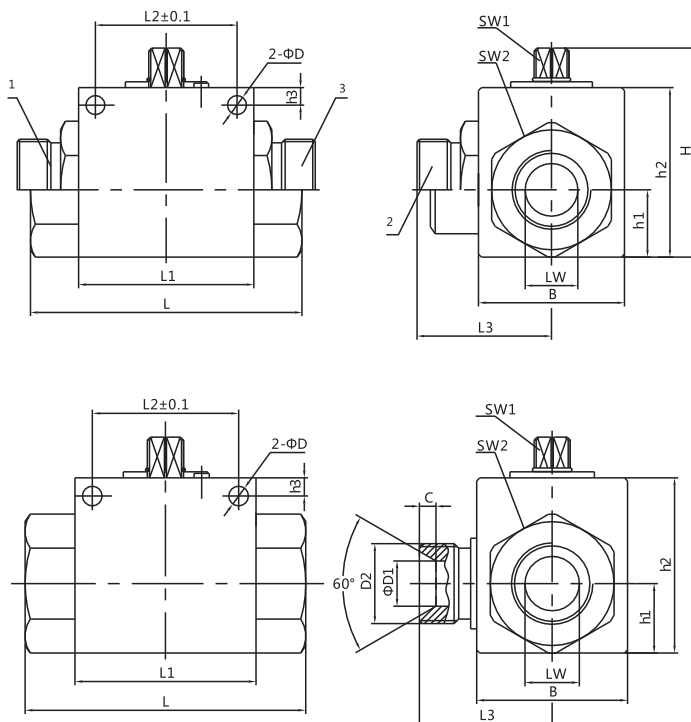
TL-VH3V - G1/2 - 13 - L N - 1 1 1 1 - 01 - 1
1 2 3 4 5 6 7 8 9 10 11

- 1 Series code: TL-VH3V Series
 - 2 Joint code: G**, M**, **LR **SR, PT**, NPT**
 - 3 Nominal diameter: 06, 10, 13, 16, 20, 25
 - 4 Ball valve enginery: L-L Type, T-T Type
 - 5 Working oil port (differentiate between three way to straight way) join thread
 - 6 Valve body / Joint material: 1-carbon steel, 3-316 stainless steel
 - 7 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
 - 8 Ball sealing material: 1-POM 2-PTFE
 - 9 Sealing material (sealing material of joint/valve lock): 1-NBR 2-FPM/FKM
 - 10 Handle type: 01-C type zinc alloy crooked handle
02-B type zinc alloy crooked handle
03-B type casting steel crooked handle
09-without handle
 - 11 Surface treatment: 1-Silver zinc plated
- PS** The material pressure parameters corresponding to the product is carbon steel.
1111 is the normal mix, the PN no more than 100bar when using PTFE.
(other specifications please contact us)

SYMBOL

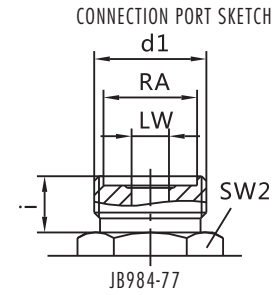


OVERALL DIMENSIONS



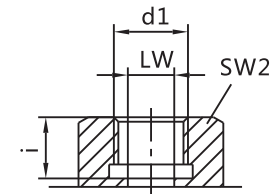
M

BRIEF MODEL	PN (bar)	DN	LW	RA	d1 (D2)	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3	L3	D1	C
TL-VH3V-M16x1.5	500	06	06	11	M16x1.5	11	69	40	26	31.5	13.5	35	09	22	4.5	4.8	26	6	4
TL-VH3V-M27x1.5	500	10	10	20	M27x1.5	12	76	42	32	31.5	16	40	09	27	5.3	5.8	31	8	4
TL-VH3V-M36x2	400	20	20	30	M36x2	15	103	60	48	48.5	25	58	12	41	6.5	6	44	15	5.5
TL-VH3V-M42x2	350	25	23	35	M42x2	18	116	65	57	50.5	28.5	65	12	50	8.5	7	53.5	22	5



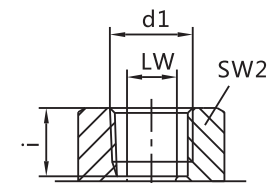
G

BRIEF MODEL	PN (bar)	DN	LW	RA	d1 (D2)	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3	L3	D1	C
TL-VH3V-G1/4	500	06	06	-	G1/4	14	69	40	26	31.5	13.5	35	09	22	4.5	4.8	26	6	-
TL-VH3V-G3/8	500	10	10	-	G3/8	16	72	42	32	31.5	16	40	09	27	5.3	5.8	31	8	-
TL-VH3V-G1/2	500	13	12	-	G1/2	18	83	48	35	38.5	18	45	09	30	6.5	6	35	12	-
TL-VH3V-G3/4	400	20	20	-	G3/4	21	93	60	50	48.5	23	58	12	41	6.5	6	44	15	-
TL-VH3V-G1	350	25	25	-	G1	24	115	65	57	50.5	27.5	65	12	46	8.5	7	53.5	22	-



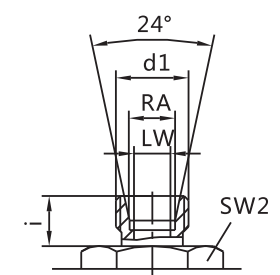
NPT (PT)

BRIEF MODEL	PN (bar)	DN	LW	RA	d1 (D2)	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3	L3	D1	C
TL-VH3V-NPT1/4	500	06	06	-	NPT1/4	14	69	40	26	31.5	13.5	35	09	22	4.5	4.8	26	6	4
TL-VH3V-NPT3/8	500	10	10	-	NPT3/8	14	72	42	32	31.5	16	40	09	27	5.3	5.8	31	8	4
TL-VH3V-NPT1/2	500	13	12	-	NPT1/2	16	83	48	35	38.5	18	45	09	30	6.5	6	35	12	3
TL-VH3V-NPT3/4	400	20	20	-	NPT3/4	18	95	60	50	48.5	23	58	12	41	6.5	6	44	15	5.5
TL-VH3V-NPT1	350	25	25	-	NPT1	21	113	65	57	50.5	27.5	65	12	46	8.5	7	53.5	22	5



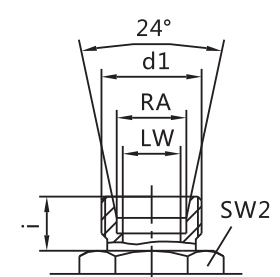
LR

BRIEF MODEL	PN (bar)	DN	LW	RA	d1 (D2)	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3	L3	D1	C
TL-VH3V-08LR	500	06	06	08	M14x1.5	10	67	40	26	31.5	13.5	35	09	22	4.5	4.8	26	6	4
TL-VH3V-10LR	500	08	08	10	M16x1.5	11	74	42	32	31.5	16	40	09	22	5.3	5.8	31	8	4
TL-VH3V-12LR	500	10	10	12	M18x1.5	11	74	42	32	31.5	16	40	09	27	5.3	5.8	31	8	4
TL-VH3V-15LR	500	13	12	15	M22x1.5	12.5	82	48	35	38.5	18	45	09	30	6.5	6	35	12	3
TL-VH3V-18LR	500	13	12	18	M26x1.5	12	82	48	35	38.5	18	45	09	30	6.5	6	35	12	3
TL-VH3V-22LR	400	20	19	22	M30x2	14	101	60	50	48.5	23	58	12	41	6.5	6	44	15	5.5
TL-VH3V-28LR	350	25	24	28	M36x2	14	108	65	57	50.5	27.5	65	12	46	8.5	7	53.5	22	5



SR

BRIEF MODEL	PN (bar)	DN	LW	RA	d1 (D2)	i	L	L1	B	L2	h1	h2	SW1	SW2	D	h3	L3	D1	C
TL-VH3V-10SR	500	06	06	10	M18x1.5	12	73	40	26	31.5	13.5	35	09	22	4.5	4.8	26	6	4
TL-VH3V-14SR	500	10	10	14	M22x1.5	14	80	42	32	31.5	16	40	09	27	5.3	5.8	31	8	4
TL-VH3V-16SR	500	13	12	16	M24x1.5	14	86	48	35	38.5	18	45	09	30	6.5	6	35	8	4
TL-VH3V-20SR	500	13	12	20	M30x2	16	90	48	35	38.5	18	45	09	30	6.5	6	35	12	3
TL-VH3V-25SR	400	20	20	25	M36x2	18	109	60	50	48.5	23	58	12	41	6.5	6	44	15	5.5
TL-VH3V-30SR	350	25	25	30	M42x2	20	120	65	57	50.5	27.5	65	12	46	8.5	7	53.5	22	5



TL-KHB-B

High pressure ball valve. DN 13-25. PT Female thread

TL-KHB-C

High pressure ball valve. DN 13. PT Female thread

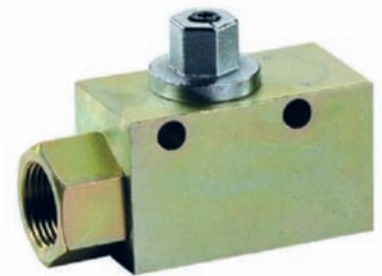
MODEL CODE

TL-KHB-B - PT1/2 - 13 - 1 1 1 1 - 01 - 4
1 2 3 4 5 6 7 8 9

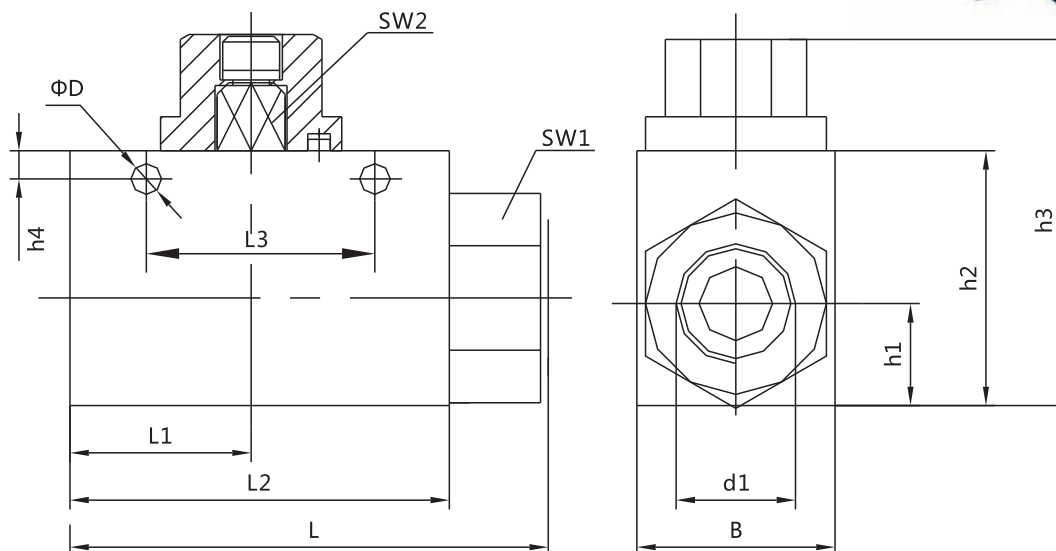
- 1 Series code: TL-KHB-B series, TL-KHB-C series
 - 2 Joint code: PT1/2, PT3/4, PT1
 - 3 Nominal diameter: 13, 20, 25
 - 4 Valve body / Joint material: 1-carbon steel, 3-316 stainless steel
 - 5 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
 - 6 Ball sealing material: 1-POM
 - 7 Sealing material (sealing material of joint/valve lock): 1-NBR 2-FPM/FKM
 - 8 Handle type: 01-with spindle cap
02-without spindle cap
 - 9 Surface treatment: 4-Yellow zinc plated
- PS** 1114 is the normal mix
(more specifications please call us)



SYMBOL



OVERALL DIMENSIONS



PT

BRIEF MODEL	DN	d1	L1	L2	L3	L	B	h1	h2	h3	h4	SW1	SW2	SW3	ΦD
TL-KHB-B-PT1/2	13	PT1/2	32	67	38.5	84.5	35	18	45	65.5	6	32	09	22	6.5
TL-KHB-B-PT3/4	20	PT3/4	55	95	48.5	120	50	23	58	83.5	6	41	12	22	6.5
TL-KHB-B-PT1	25	PT1	55	95	48.5	120	50	23	58	83.5	7	41	12	22	10.5
TL-KHB-C-PT3/4	13	PT3/4	32	67	38.5	89	35	18	45	65.5	6	35	09	22	6.5

* means joint by screw thread

TL-BKH-SAE-FS

High pressure ball valve. DN 13-25. Male SAE-FS. Male SAE-FS

TL-MKH-SAE-FS

High pressure ball valve. DN 32-50. Male SAE-FS. Male SAE-FS

MODEL CODE

TL-BKH-SAE-FS - **210** - **13** - **1 1 1 1** - **01** - **1**
1 **2** **3** **4 5 6 7** **8** **9**

- 1 Series code: TL-BKH-SAE-FS(DN13-25), TL-MKH-SAE-FS(DN32-50), with SAE J518C joint standard
 - 2 Pressure grade: 210, 420 (bar)
 - 3 Nominal diameter: 13, 20, 25, 32, 40, 50
 - 4 Valve body / Joint material: 1-carbon steel, 3-316 stainless steel
 - 5 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
 - 6 Ball sealing material: 1-POM 2-PTFE
 - 7 Sealing material (sealing material of joint/valve lock): 1-NBR 2-FPM/FKM
 - 8 Handle type: 01-C type zinc alloy crooked handle
 02-B type zinc alloy crooked handle
 03-B type casting steel crooked handle
 09-without handle
 - 9 Surface treatment: 1-Silver zinc plated
- PS** 1111 is the normal mix, the PN no more than 100bar when using PTFE.
 (more specifications please call us)

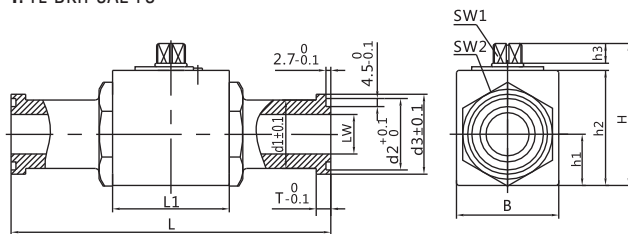


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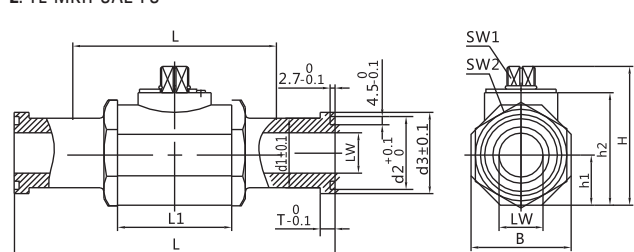


OVERALL DIMENSIONS

1. TL-BKH-SAE-FS



2. TL-MKH-SAE-FS



MODEL	bar	DN	LW	L	L1	B	H	h1	h2	h3	SW1	SW2	T	d1	d2	d3	US Stan-O-ring
TL-BKH-SAE-FS-210-13	210	13	13	151	47	35	49	18	38	10	09	30	6.8	24	25.5	30.2	18.6x3.5
TL-BKH-SAE-FS-420-13	420	13	13	151	47	35	49	18	38	10	09	30	7.9	24	25.5	31.8	18.6x3.5
TL-BKH-SAE-FS-210-20	210	20	19	162	60	48	70	25	55	11	12	41	6.8	31.7	31.9	38.1	25x3.5
TL-BKH-SAE-FS-420-20	420	20	19	174	60	48	70	25	55	11	12	41	8.9	32	31.9	41.3	25x3.5
TL-BKH-SAE-FS-210-25	210	25	24	178	65	57	79	28.5	64	11	12	50	8.1	38	39.8	44.4	32.9x3.5
TL-BKH-SAE-FS-420-25	420	25	22	198	65	57	79	28.5	64	11	12	50	9.6	38	39.8	47.6	32.9x3.5
TL-MKH-SAE-FS-210-32	210	32	30	191	84	75	101	37.5	84	12	14	60	8.1	43	44.6	50.8	37.7x3.5
TL-MKH-SAE-FS-420-32	420	32	27	223	84	75	101	37.5	84	12	14	60	10.4	44	44.6	54	37.7x3.5
TL-MKH-SAE-FS-210-40	210	40	36	231	91	85	112	42.5	95	12	14	70	8.1	50	54.1	60.3	47.2x3.5
TL-MKH-SAE-FS-420-40	420	40	32	281	91	85	112	42.5	95	12	14	70	12.7	51	54.1	63.5	47.2x3.5
TL-MKH-SAE-FS-210-50	210	50	48	232	100	104	131	62	112.5	12	14	90	9.6	62	63.6	71.4	56.7x3.5
TL-MKH-SAE-FS-420-50	420	50	45	316	100	104	131	62	112.5	12	14	90	12.7	67	63.6	79.4	56.7x3.5

TL-KHP

Two way valve for manifold. DN 6-50

MODEL CODE

TL-KHP(PKH) - 10 - 1 1 1 2 - 01 - 1
1 2 3 4 5 6 7 8

- 1 Series code: TL-KHP(PKH) Series ball valve for manifold mounting
 - 2 Nominal diameter: 06, 10, 16, 20, 25, 32, 40, 50
 - 3 Valve body material: 1-carbon steel, 3-316 stainless steel
 - 4 Ball body / Valve lock material: 1-carbon steel, 3-316 stainless steel
 - 5 Ball sealing material: 1-POM 2-PTFE
 - 6 Sealing material (sealing material of joint/valve lock): 1-NBR 2-FPM/FKM
 - 7 Handle type: 01-C type zinc alloy crooked handle
02-B type zinc alloy crooked handle
03-B type casting steel crooked handle
09-without handle
 - 8 Surface treatment: 1-Silver zinc plated
- PS 1111 is the normal mix, the PN no more than 100bar when using PTFE.
(more specifications please call us)



SYMBOL

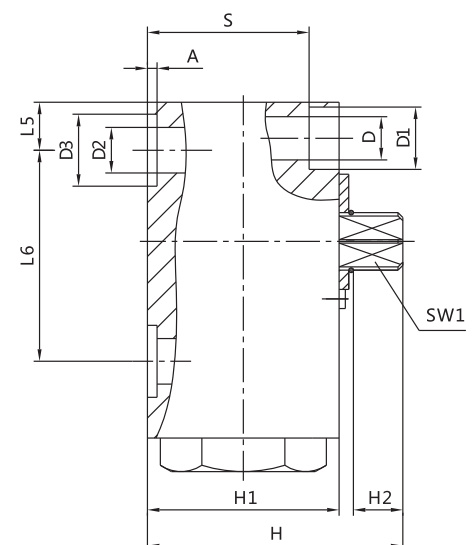
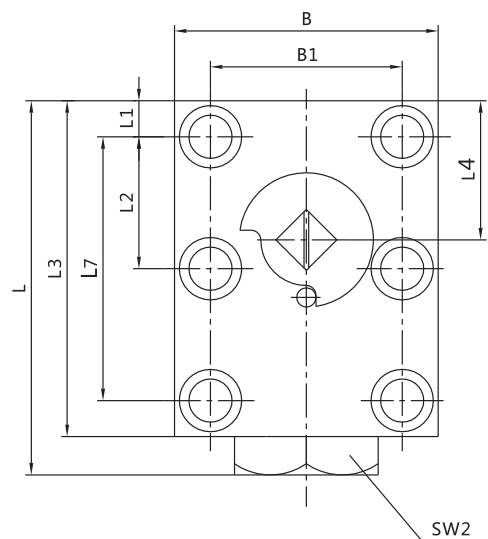


BRIEF MODEL	PN (bar)	DN	LW	L	L1	L2	L3	L4	L5	L6	L7	B	B1
TL-KHP-06	500	06	06	64	8.5	17.5	59	25	8.5	35	35	40	27
TL-KHP-10	500	10	9.5	77	7.5	27.5	70	29	10	44	55	55	40
TL-KHP-16	400	16	16	110	8.5	41.5	100	43	17	58	83	60	45
TL-KHP-20	400	20	20	126	10	48.5	117	54	20	69	97	70	51
TL-KHP-25	350	25	23.5	145	10	57.5	135	64.5	24	81	115	80	60
TL-KHP-32	350	32	30	177	12	68	165	75.5	29	96	136	100	78
TL-KHP-40	350	40	38	200	30	56	185	80	30	112	112	130	95
TL-KHP-50	350	50	48	245	38	68	220	106	38	136	136	149	112

BRIEF MODEL	SW1	SW2	H	H1	H2	D	D1	D2	D3	A	S	O-RING
TL-KHP-06	06	22	37.5	30	7	6.6	10.5	6	11.7	1.6	23.5	8x2
TL-KHP-10	09	30	54.3	40	10.5	9	13	9.5	15	2	31	10x2.6
TL-KHP-16	09	41	66.3	52	10.5	9	13	16	25	2	43	20.29x2.62
TL-KHP-20	12	41	76.3	60	10.3	10.5	16.5	20	30	2.5	50	23.39x3.53
TL-KHP-25	12	46	81	65	10.8	10.5	17	23.5	35	2.5	55	28.17x3.53
TL-KHP-32	14	55	96.5	80	10.8	13	19	30	40	2.5	67	32.92x3.53
TL-KHP-40	14	65	117.5	93	12.8	17	25	38	48	3	77	42x3.5
TL-KHP-50	14		129	110	12	22	33	48	55.4	2.9	88.5	49x3.5

BRIEF MODEL	INNER HEXAGON SCREW THREAD	TORQUE Nm (Rub Coefficient $\mu=0.14$ Time)
TL-KHP-06	M6-10.9	13
TL-KHP-10	M8-10.9	30
TL-KHP-16	M8-12.9	35
TL-KHP-20	M10-12.9	60
TL-KHP-25	M10-12.9	60
TL-KHP-32	M12-12.9	110
TL-KHP-40	M16-12.9	300
TL-KHP-50	M20-12.9	600

OVERALL DIMENSIONS



TL-KHBc/w Actuator

High pressure ball valve. Pneumatic actuator. DN 4-50

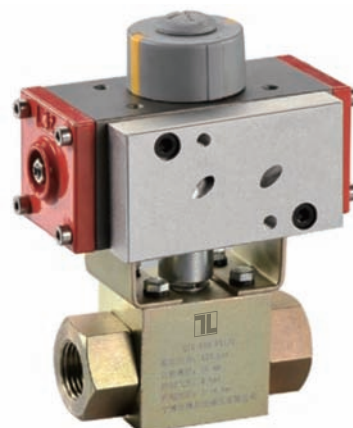
TECHNICAL SPECIFICATIONS

Control medium: compressed air

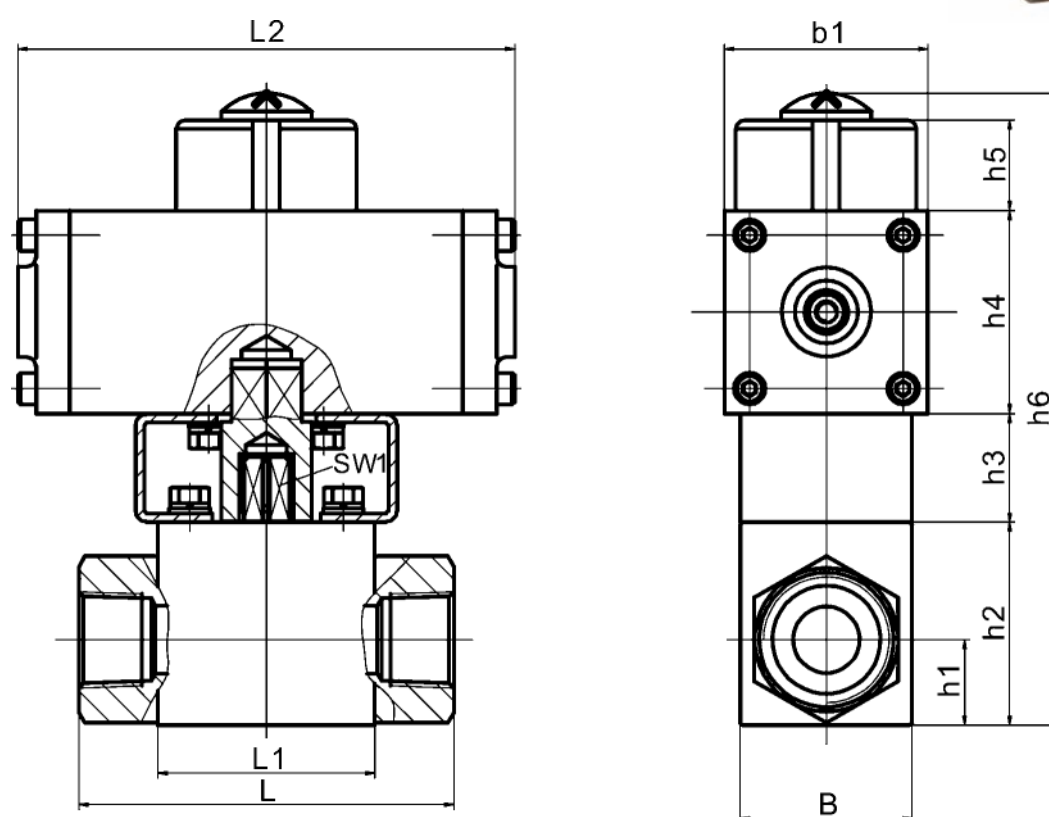
Control pressure: 0.6~0.8 MPa

Ball valve standard: the same as TL-KHB series

Applicable medium: hydraulic oil



OVERALL DIMENSIONS



MODEL	DN	PN (bar)	L	L1	L2	B	b1	h1	h2	h3	h4	h5	h6	SW1
TL-Q04-KHB-*	04	500		40	174	26	60	13.5	33	40	60	20	153	09
TL-Q06-KHB-*	06	500		40	174	26	60	13.5	33	40	60	20	153	09
TL-Q08-KHB-*	08	500		42	198	32	70	16	36	60	70	20	186	09
TL-Q10-KHB-*	10	500		42	198	32	70	16	36	60	70	20	186	09
TL-Q13-KHB-*	13	500		47	198	35	70	18	38	60	70	20	188	09
TL-Q16-KHB-*	16	400		48	237	38	84	19	45	60	84	20	209	09
TL-Q20-KHB-*	20	315		60	237	48	84	25	55	60	84	20	219	12
TL-Q25-KHB-*	25	315		65	237	57	84	28.5	64	60	84	20	228	12
TL-Q32-KHB-*	32	315		84	290	75	108	37.5	84	60	108	30	282	14
TL-Q40-KHB-*	40	315		91	290	85	108	42.5	95	60	108	30	293	14
TL-Q50-KHB-*	50	315		100	290	104	108	52	112.5	60	108	30	310.5	14

TL-1PC

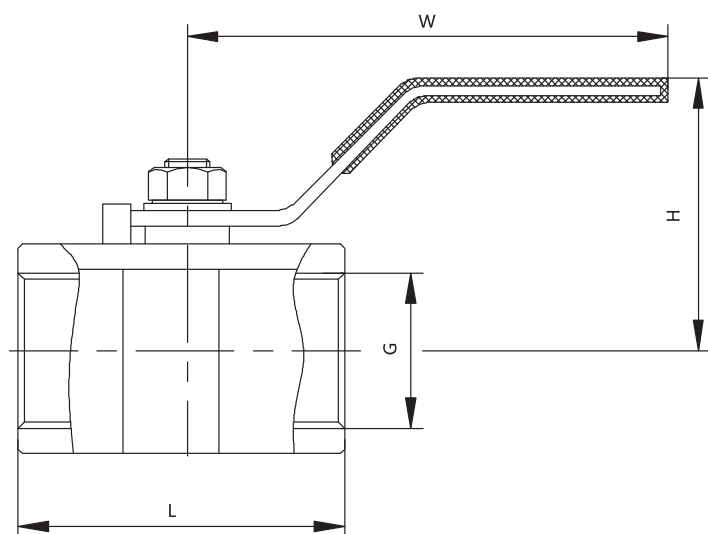
Ball valve. BSPP

TECHNICAL SPECIFICATIONS

Nominal pressure: PN1.6, 2.5, 4.0, 6.4 MPa
 Strength testing pressure: PT2.4, 3.8, 6.0, 9.6 MPa
 Seat testing pressure (low pressure): 0.6 MPa
 Applicable media: Q11F-(16-64)C Water, oil, gas
 Q11F-(16-64)P Nitric acid
 Q11F-(16-64)R Acetic acid
 Applicable temperature: -40~180°C



MAIN OUTER SIZE



MATERIALS OF PARTS

DESCRIPTION OF PARTS	Q11 F-(16-64)C	Q11 F-(16-64)P	Q11 F-(16-64)R
BODY	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BALL	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
STEM	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
SEALRING	Polytetrafluorethylene (PTFE)		
PACKING	Polytetrafluorethylene (PTFE)		

DN	G	L	H	W
8	1/4'	40	28	70
10	3/8'	45	30	70
15	1/2'	55	34	90
20	3/4'	60	38	90
25	1'	70	50	110
32	1 1/4'	80	56	120
40	1 1/2'	86	60	130
50	2'	101	65	140
65	2 1/2'	117	72	170
80	3'	140	105	185

TL-2PC

Ball valve. BSPP

TECHNICAL SPECIFICATIONS

Nominal pressure: PN1.6, 2.5, 4.0, 6.4 MPa
 Strength testing pressure: PT2.4, 3.8, 6.0, 9.6 MPa
 Seat testing pressure (low pressure): 0.6 MPa
 Applicable media: Q11F-(16-64)C Water, oil, gas
 Q11F-(16-64)P Nitric acid
 Q11F-(16-64)R Acetic acid
 Applicable temperature: -40~180°C

MATERIALS OF PARTS

DESCRIPTION OF PARTS	Q11 F-(16-64)C	Q11 F-(16-64)P	Q11 F-(16-64)R
BODY	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BONNET	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BALL	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
STEM	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
SEALRING	Polytetrafluorethylene (PTFE)		
PACKING	Polytetrafluorethylene (PTFE)		

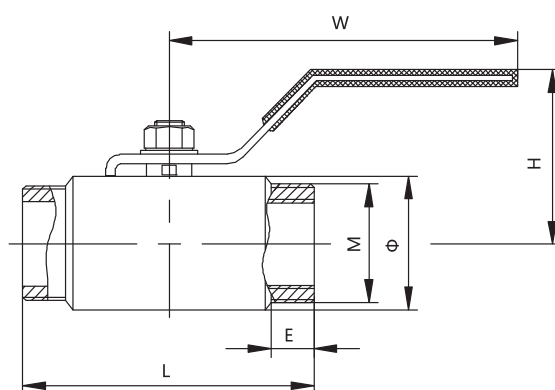
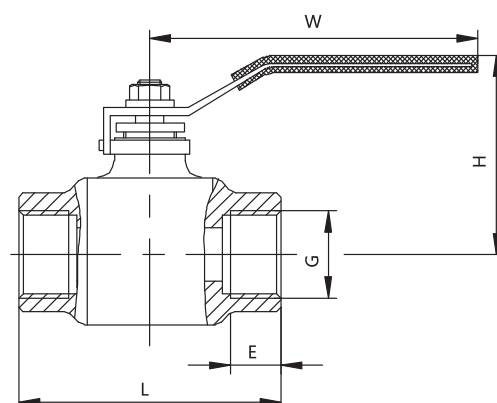
DN	G	L		E	H	W
		①DIN3202	②DIN3202			
8	1/4'	55	55	11.5	50	90
10	3/8'	55	60	11.5	50	90
15	1/2'	63	75	14	58	90
20	3/4'	73	80	15	62	110
25	1'	84	90	15	72	120
32	1 1/4'	98	110	18	80	130
40	1 1/2'	106	120	19	90	150
50	2'	106	140	19	98	170
65	2 1/2'	106	185	23	125	220
80	3'	106	205	25	138	240
100	4'	106	240	28	156	300

DN	G	L	E	H	W
8	1/4'	57	14	58	80
10	3/8'	57	14	58	80
15	1/2'	57	14	58	90/80
20	3/4'	65	15	62	110/90
25	1'	76/79	15	72	120/110
32	1 1/4'	88/90	18	80	130/120
40	1 1/2'	97/98	19	90	150/130
50	2'	118/116	19	98	170/150

DN	L	M	E	Φ	H	W
8	85	20x1.5	15	22	40	105
10	85	24x1.5	16	26.5	42	105
15	85	30x2	18	31	45	110
20	90	36x2	18	37	48	110
25	100	42x2	20	43	43	110
32	120	52x2	20	53	64	135
40	135	60x2	25	62	75	160
50	140	72x2	25	73	79	170



MAIN OUTER SIZE



TL-3PC

Ball valve. BSPP

TECHNICAL SPECIFICATIONS

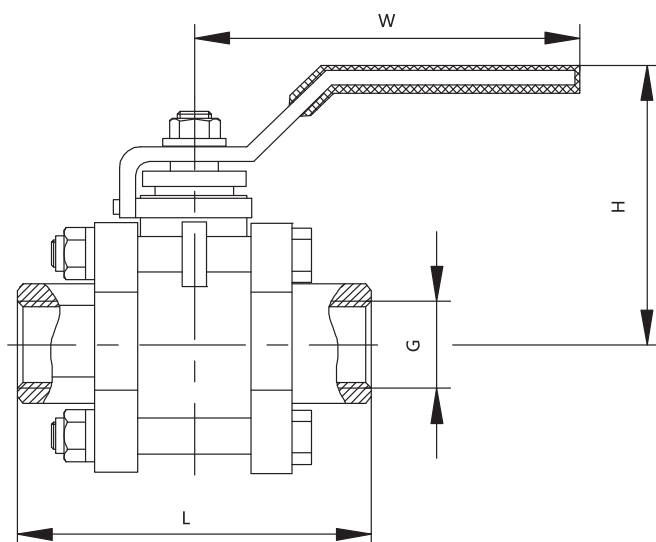
Nominal pressure: PN1.6, 2.5, 4.0, 6.4 MPa
 Strength testing pressure: PT2.4, 3.8, 6.0, 9.6 MPa
 Seat testing pressure (low pressure): 0.6 MPa
 Applicable media: Q11F-(16-64)C Water, oil, gas
 Q11F-(16-64)P Nitric acid
 Q11F-(16-64)R Acetic acid
 Applicable temperature: -40~180°C

MATERIALS OF PARTS

DESCRIPTION OF PARTS	Q11 F-(16-64)C	Q11 F-(16-64)P	Q11 F-(16-64)R
BODY	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BONNET	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BALL	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
STEM	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
SEALRING	Polytetrafluorethylene (PTFE)		
PACKING	Polytetrafluorethylene (PTFE)		



MAIN OUTER SIZE



DN	G	L	H	W
8	1/4'	65	50	90
10	3/8'	65	50	90
15	1/2'	70/75/61	55	90
20	3/4'	80/80/69	60	120
25	1'	90/90/80	70	140
32	1 1/4'	110/110/96	82	140
40	1 1/2'	120/120/104	90	180
50	2'	140/140/125	105	200
65	2 1/2'	160/185	120	220
80	3'	180/205	132	240
100	4'	215/240	160	300

TL-F3

Three way ball valve. BSPP

TECHNICAL SPECIFICATIONS

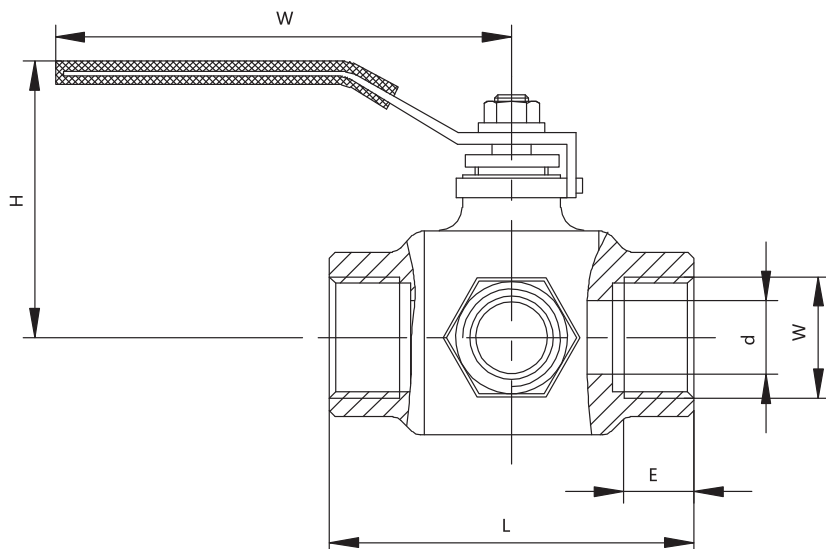
Nominal pressure: PN1.6, 2.5, 4.0, 6.4 MPa
 Strength testing pressure: PT2.4, 3.8, 6.0, 9.6 MPa
 Seat testing pressure (low pressure): 0.6 MPa
 Applicable media: Q14F/Q15F-(16-64)C Water, oil, gas
 Q14F/Q15F-(16-64)P Nitric acid
 Q14F/Q15F-(16-64)R Acetic acid
 Applicable temperature: -40~180°C



MATERIALS OF PARTS

DESCRIPTION OF PARTS	Q14F-(16-64)C Q15F-(16-64)C	Q14F-(16-64)P Q15F-(16-64)P	Q14F-(16-64)R Q15F-(16-64)R
BODY	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BONNET	WCB	ZG1Cr18Ni9Ti CF8	ZG1Cr18Ni12Mo2Ti CF8M
BALL	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
STEM	1Cr18Ni9Ti 304	1Cr18Ni9Ti 304	1Cr18Ni12Mo2Ti 316
SEALRING	Polytetrafluorethylene (PTFE)		
PACKING	Polytetrafluorethylene (PTFE)		

MAIN OUTER SIZE



DN	G	L	d	H	W
8	1/4'	74	10	58	110
10	3/8'	74	12	58	110
15	1/2'	74	12	58	110
20	3/4'	88	15	60	120
25	1'	92	20	70	140
32	1 1/4'	124	25	82	140
40	1 1/2'	138	32	95	180
50	2'	154	38	100	200

TL-VU

Check valve. BSPP-NPT

MODEL CODE

TL-VU - 08 - G 1/4

- 1 Series code: TL-VU type check valve
 - 2 Nominal diameter: 08, 10, 12, 16, 20, 25, 30, 40
 - 3 Thread code: G, NPT
 - 4 Nominal diameter: 1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 inch
- PS Hydraulic oil as the medium is preferable

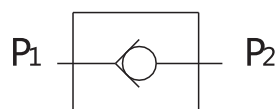


TECHNICAL SPECIFICATIONS

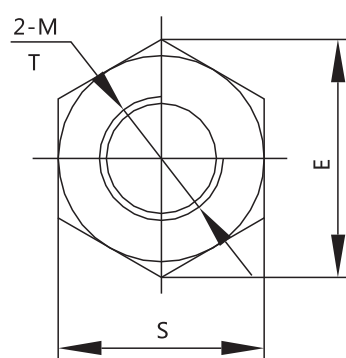
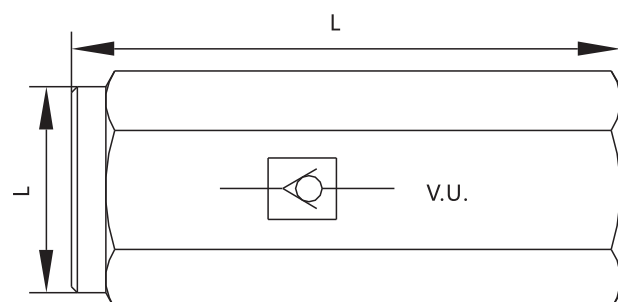
Valve body material: 45#
Surface treatment: Silver zinc plated



SYMBOL



OVERALL DIMENSION



MODEL	NOMINAL DIAMETER	(L/min)	PN (bar)	OPENING PRESSURE (MPa)	Size (mm)					
					L	E	S	D	T	M (G NPT)
TL-VU-08-*1/4	08	30	500	0.05	62	21.5	19	19	12	1/4"
TL-VU-10-*3/8	10	45	500	0.05	68	27.5	24	24	14	3/8"
TL-VU-12-*1/2	12	70	500	0.05	77	34.5	30	30	15	1/2"
TL-VU-16-*3/4	16	110	400	0.05	88	41.5	36	36	16	3/4"
TL-VU-20-*1	20	160	350	0.05	105	47	41	41	18	1"
TL-VU-25-*1 1/4	25	210	350	0.05	130	63	55	55	20	1 1/4"
TL-VU-30-*1 1/2	30	320	350	0.05	138	75	65	65	22	1 1/2"
TL-VU-40-*2	40	460	250	0.05	160	92	80	80	24	2"

TL-DPOCV

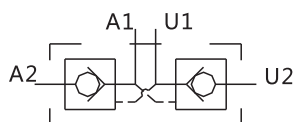
Dual pilot operating check valve

TECHINICAL SPECIFICATIONS

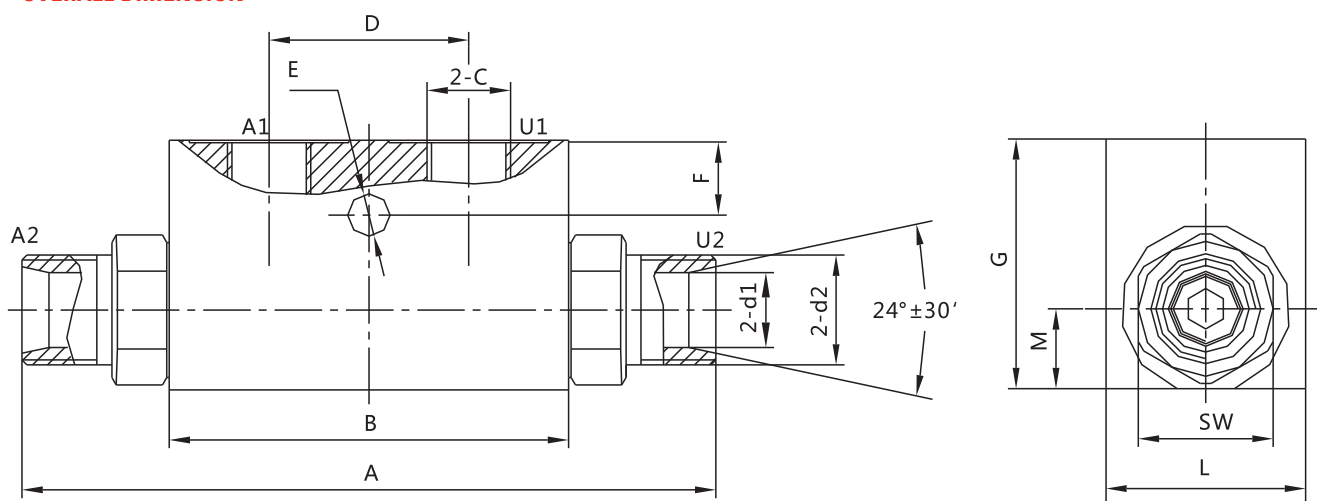
MODEL	TL-DPOCV-G1/4-12L	TL-DPOCV-G3/8-12L	TL-DPOCV-G3/8-15L	TL-DPOCV-G1/2-15L	TL-DPOCV-G1/2-18L
MPa	35	35	35	35	30
L/min	20	20	50	50	80
Area ratio	1:45	1:45	1:4	1:4	1:4
MPa	0.35	0.35	0.35	0.35	0.35
Applicable medium	Hydraulic oil				
Valve body material	45#				
Surface treatment	Silver zinc plated				



SYMBOL



OVERALL DIMENSION



MODEL	A	B	C	D	E	F	G	L	M	SW	d1	d2
TL-DPOCV-G1/4-12L	115	68	G1/4 NPT1/4	38	7	7	40	30	13	24	12.3	M18X1.5
TL-DPOCV-G3/8-12L	115	68	G3/8 NPT3/8	38	7	7	40	30	13	24	12.3	M18X1.5
TL-DPOCV-G3/8-15L	139	80	G3/8 NPT3/8	40	8.5	15	50	40	16	27	15.3	M22X1.5
TL-DPOCV-G1/2-15L	139	80	G1/2 NPT1/2	40	8.5	15	50	40	16	27	15.3	M22X1.5
TL-DPOCV-G1/2-18L	163	90	G1/2 NPT1/2	40	8.5	15	60	40	20	30	18.3	M26X1.5

TL-STB

Throttle valve. BSPP-NPT

MODEL CODE

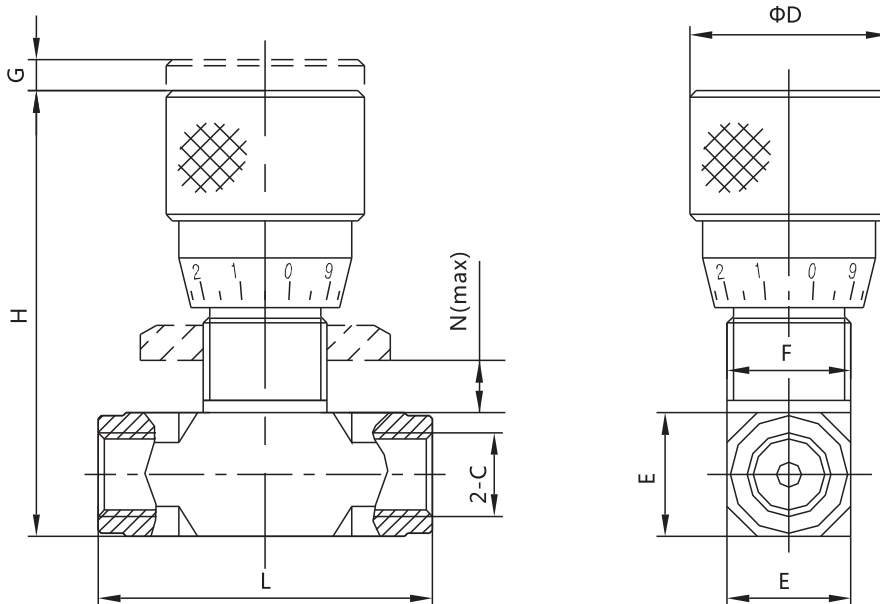
TL-STB - G 1 - L - 11 - 1
1 2 3 4 5 6 7

- 1 Series code: TL-STB throttle valve
- 2 Thread code: G, NPT
- 3 Nominal diameter: 1/4, 3/8, 1/2, 3/4, 1 inch
- 4 Structure: L-with impacted nut
blank-without impacted nut
- 5 Valve body material: 1-carbon steel
- 6 Stem material: 1-carbon steel
- 7 Surface treatment: 1-Silver zinc plated

TECHNICAL SPECIFICATIONS

MODEL	TL-STB-G1/4-11-1	TL-STB-G3/8-11-1	TL-STB-G1/2-11-1	TL-STB-G3/4-11-1	TL-STB-G1-11-1
Mpa	40	40	40	40	32
L/min	12	30	50	85	150
Applicable medium	Hydraulic Oil				

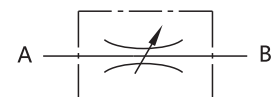
OVERALL DIMENSION



MODEL	C		L	H	D	E	F*	G	N
TL-STB-G1/4-11-1	G1/4	NPT1/4	54	72	32	20	M20x1	5	7
TL-STB-G3/8-11-1	G3/8	NPT3/8	62	80	32	25	M25x1.5	9	7
TL-STB-G1/2-11-1	G1/2	NPT1/2	73	92	45	30	M30x1.5	9	9
TL-STB-G3/4-11-1	G3/4	NPT3/4	84	100	45	40	M35x1.5	10	11
TL-STB-G1-11-1	G1	NPT1	102	122	45	45	M40x1.5	12	15



SYMBOL



TL-STU

Throttle valve. BSPP-NPT

MODEL CODE

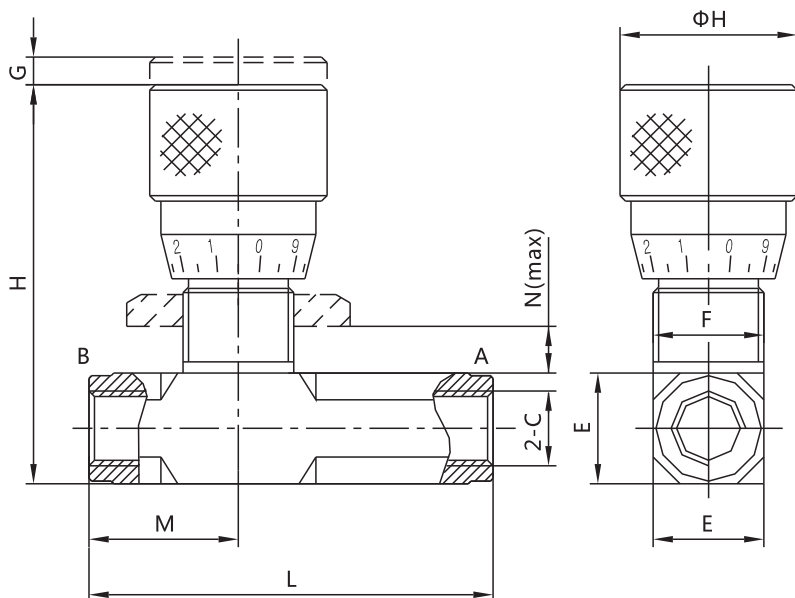
TL-STU - G 1 - L - 1 1 1 1 - 1
1 2 3 4 5 6 7 8 9

- 1 Series code: TL-STU throttle check valve
- 2 Thread code: G, NPT
- 3 Nominal diameter: 1/4, 3/8, 1/2, 3/4, 1 inch
- 4 Structure: L-with impacted nut
blank-without impacted nut
- 5 Valve body material: 1-carbon steel
- 6 Stem material: 1-carbon steel
- 7 Valve core material: 1-400Cr
- 8 Spring material: 1-SWP-B
- 9 Surface treatment: 1-Silver zinc plated

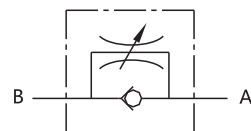
TECHNICAL SPECIFICATIONS

MODEL	TL-STU-G1/4-1111-1	TL-STU-G3/8-1111-1	TL-STU-G1/2-1111-1	TL-STU-G3/4-1111-1	TL-STU-G1-1111-1
Mpa	40	40	40	40	32
L/min	12	30	50	85	150
Applicable medium	Hydraulic Oil				

OVERALL DIMENSION



SYMBOL



MODEL	C		L	H	D	E	F*	G	M	N
TL-STU-G1/4-1111-1	G1/4	NPT1/4	73	72	32	20	M20x1	5	27	7
TL-STU-G3/8-1111-1	G3/8	NPT3/8	82	80	32	25	M25x1.5	9	31	7
TL-STU-G1/2-1111-1	G1/2	NPT1/2	98	92	45	30	M30x1.5	9	36.5	9
TL-STU-G3/4-1111-1	G3/4	NPT3/4	112	100	45	40	M35x1.5	10	42	11
TL-STU-G1-1111-1	G1	NPT1	142	122	45	45	M40x1.5	12	51	15



TL-VRFB

tubular throttle valve

MODEL CODE

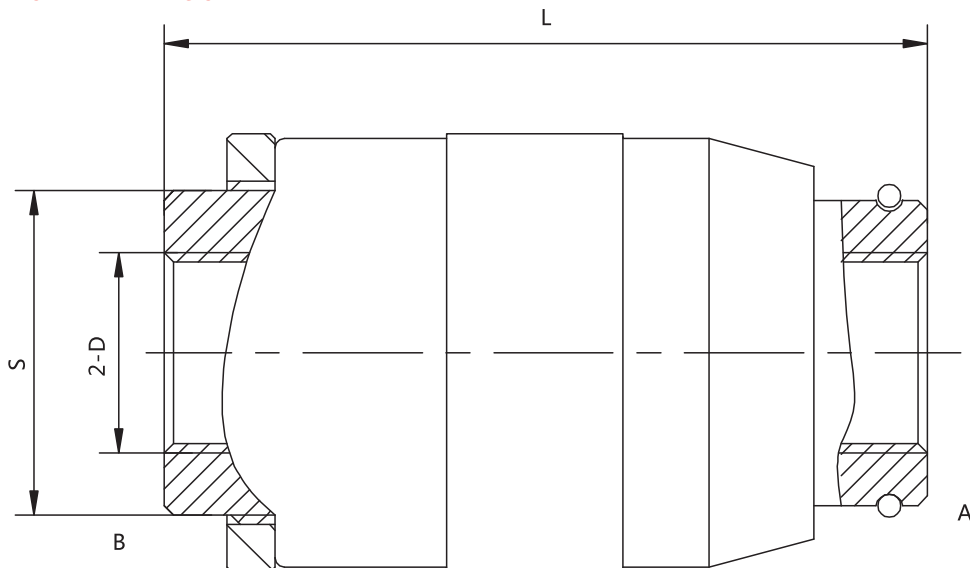
TL-VRFB - G 1 - 1 1 1 - 1
1 2 3 4 5 6 7

- 1 Series code: TL-VRFB tubular throttle valve
- 2 Thread code: G, NPT
- 3 Nominal diameter: 1/4, 3/8, 1/2, 3/4, 1 inch
- 4 Adjust bush material: 1-carbon steel
- 5 Valve body material: 1-carbon steel
- 6 The positioning nut material: 1-carbon steel
- 7 Surface treatment: 1-Silver zinc plated

SYMBOL



OVERALL DIMENSION



MODEL	DN	PN	L	D		S	APPLICABLE MEDIUM
TL-VRFB-G1/4-111-1	06	32	62	G1/4	NPT1/4	21	Hydraulic Oil
TL-VRFB-G3/8-111-1	08	32	78	G3/8	NPT3/8	26	
TL-VRFB-G1/2-111-1	10	32	80	G1/2	NPT1/2	30	
TL-VRFB-G3/4-111-1	15	28	100	G3/4	NPT3/4	36	
TL-VRFB-G1-111-1	20	25	118	G1	NPT1	41	



TL-VRFU

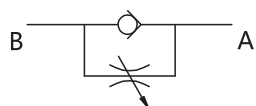
Tubular throttle valve

MODEL CODE

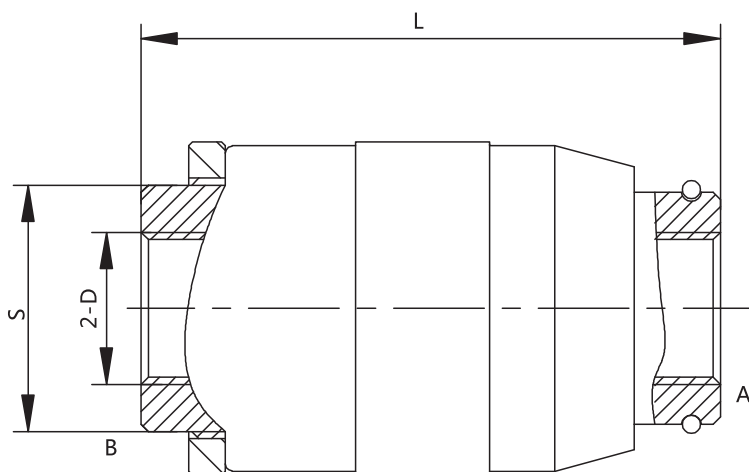
TL-VRFU - G1 - 11111 - 1
1 23 45678 9

- 1 Series code: TL-VRFU tubular throttle check valve
- 2 Thread code: G, NPT
- 3 Nominal diameter: 1/4, 3/8, 1/2, 3/4, 1 inch
- 4 Adjustable sleeve material: 1-carbon steel 2-stainless steel
- 5 Valve body material: 1-carbon steel 2-stainless steel
- 6 The positioning nut material: 1-carbon steel 2-stainless steel
- 7 Valve core material: 1-400Cr 2-stainless steel
- 8 Spring material: 1-SWP-B 2-stainless steel
- 9 Surface treatment: 1-Silver zinc plated

SYMBOL



OVERALL DIMENSION



MODEL	DN	PN	L	D		S	ONE-WAY BURST PRESSURE	APPLICABLE MEDIUM
TL-VRFU-G1/4-11111-1	06	32	62	G1/4	NPT1/4	21	0.5 bar	Hydraulic Oil
TL-VRFU-G3/8-11111-1	08	32	78	G3/8	NPT3/8	26	0.5 bar	
TL-VRFU-G1/2-11111-1	10	32	80	G1/2	NPT1/2	30	0.5 bar	
TL-VRFU-G3/4-11111-1	15	28	100	G3/4	NPT3/4	36	0.5 bar	
TL-VRFU-G1-11111-1	20	25	118	G1	NPT1	41	0.5 bar	



TL-HRS-03

Foot valve. Two-way three-position

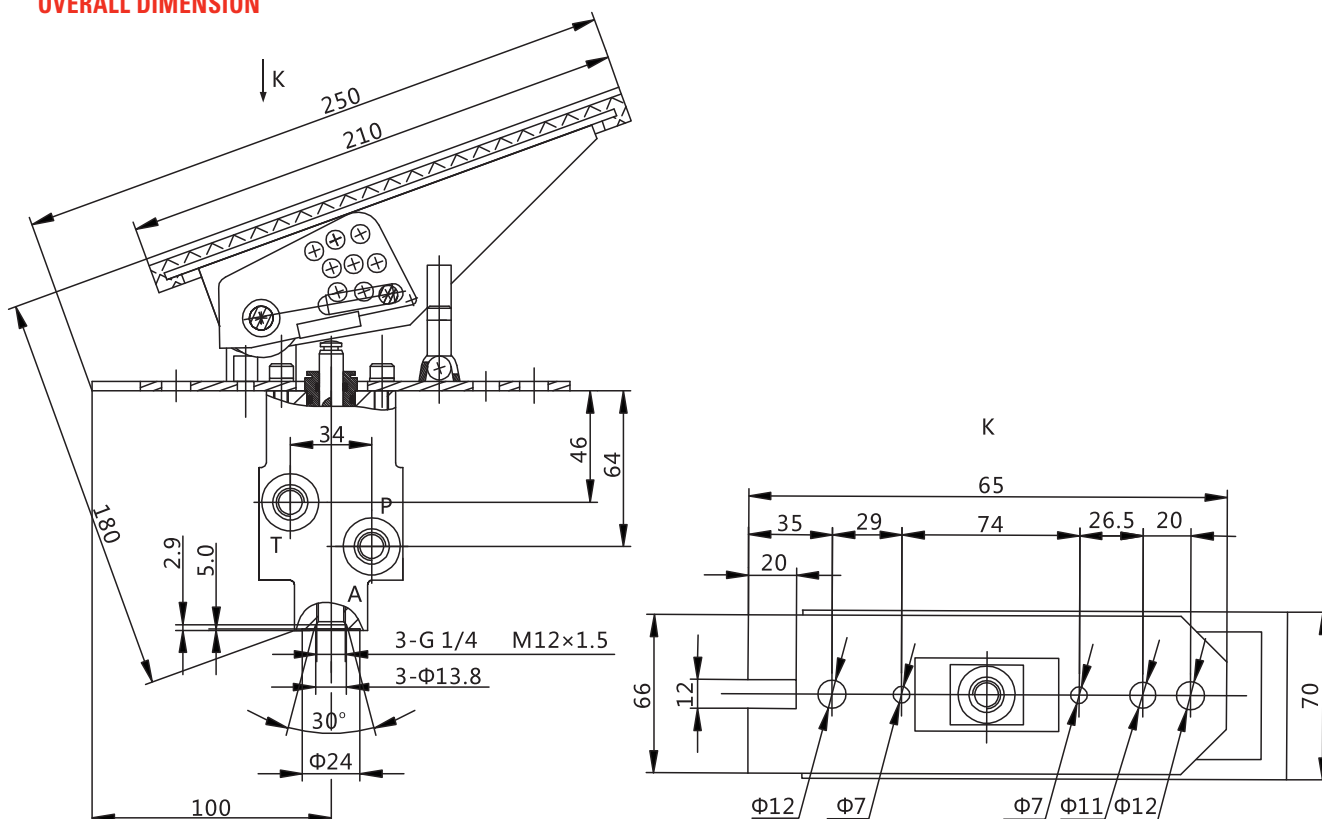
TECHNICAL SPECIFICATIONS

Pilot system pressure: 10Mpa
 Secondary output pressure:
 0.6Mpa~1.9Mpa
 0.6Mpa~2.2Mpa
 0.6Mpa~2.6Mpa
 Applicable medium: Hydraulic oil



NAME	MODEL	GRAPHICAL SYMBOLS	EXPLAIN
Two-way Three-position Foot Valve	TL-HRS-030K		Normally open, No secondary Pressure output
	TL-HRS-030B		Normally closed, no secondary pressure output
	TL-HRS-031B		Normally closed, secondary pressure 0.6Mpa-1.9MPa
	TL-HRS-032B		Normally closed, secondary pressure 0.6Mpa-2.2MPa
	TL-HRS-033B		Normally closed, secondary pressure 0.6Mpa-2.6MPa

OVERALL DIMENSION



TL-WE6

Electrovalve

MODEL

TL -		WE		6		- 6X /			
The company code: TL									
3=3-way (A, A9, B, B9) 4=4-way		=3 =4							
Electromagnetic reversing valve									
Size 6									
Graphic symbols									
60-69= 6x									
No code= With spring return 0= Without spring return 0F= With spring return with detent									
Ordinary electromagnets Wide voltage electromagnets (only for DC 12V and DC 24V)								=E =N	

No code= NBR seals for petroleum oils
V= FPM seals for phosphate ester

No code= Without orifice insert
B08= Orifice size 0.8mm
B10= Orifice size 1.0mm
B12= Orifice size 1.2mm
B15= Orifice size 1.5mm
B20= Orifice size 2.0mm
B25= Orifice size 2.5mm
B30= Orifice size 3.0mm

Z4= Square plug
Z5L= Square plug with light
ZC= pin waterproof plug
Z5L= Large quadrate plug with light
No code= Without manual override
N= With manual override

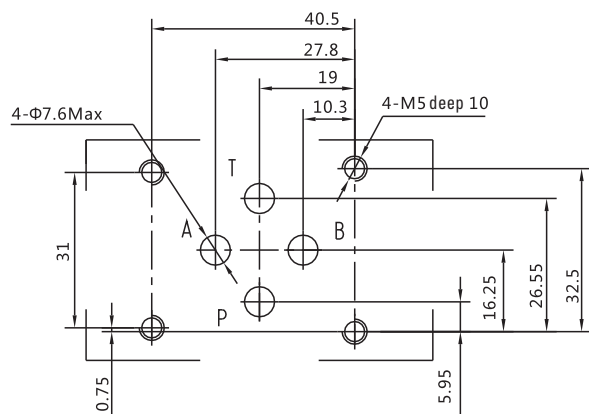
N= With manual emergency action button

DC24V= G24
AC220V 50Hz= W220-50
AC220V with rectifier= W220R

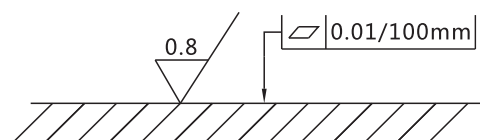
GRAPHIC SYMBOLS

TRANSITION SPOOL	SLIDE VALVE SPOOL	TRANSITION SPOOL	SLIDE VALVE SPOOL	

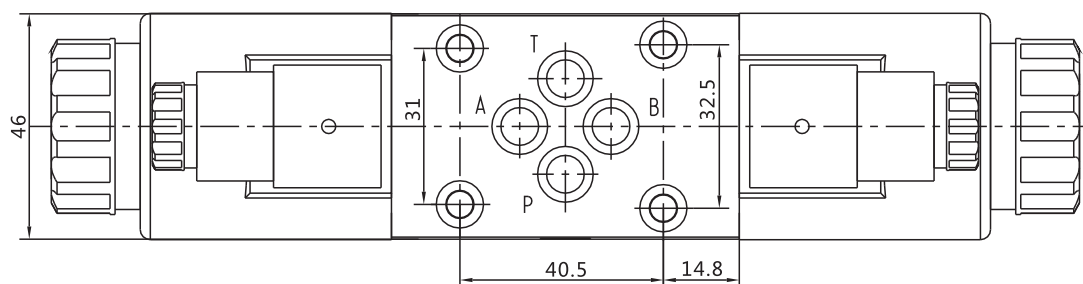
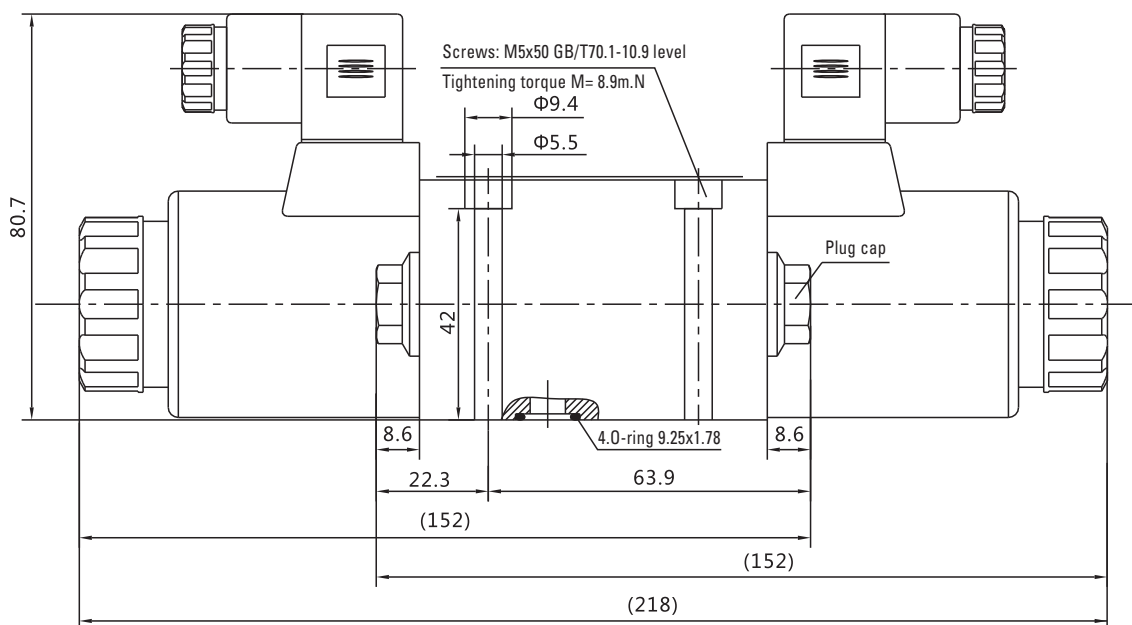
MOUNTING DIMENSIONS



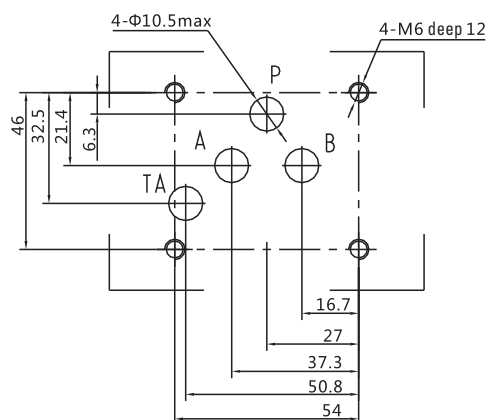
GROUND REQUIREMENT FOR INSTALLATION



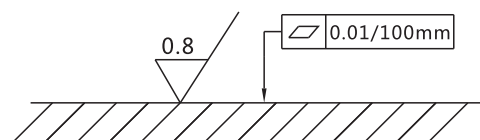
MEASUREMENTS



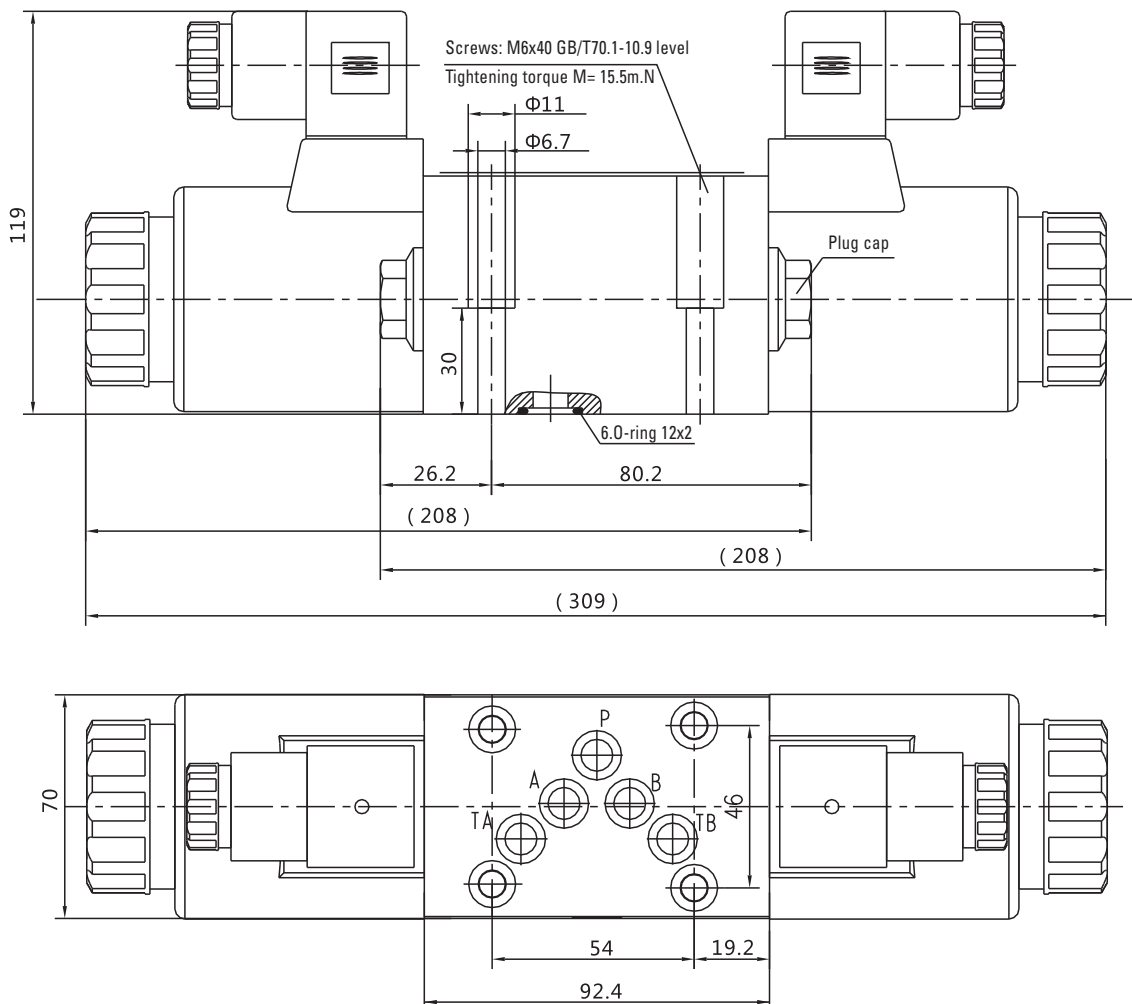
MOUNTING DIMENSIONS



GROUND REQUIREMENT FOR INSTALLATION



MEASUREMENTS





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