

## Controlling Control valve



### High Quality and Reliability

- Decades of experience in supplying reliable & long lasting products to the market.

### Superior Operability and Productivity

- Recommended hydraulic circuit optimized for the operation of various actuators.

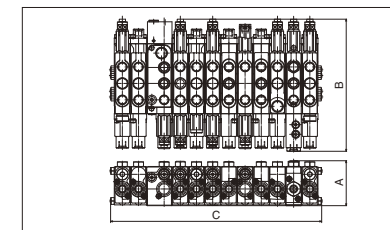
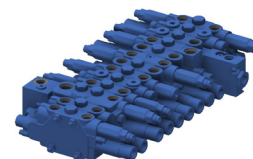
### Low Energy Consumption

- Minimal pressure drop achieved by optimizing the internal passages

### Customization

- A variety of options and features available to meet customer requirements

## NSC/BCV Series



### [Main Application]

- Main control valves for mini hydraulic excavators

### [Features]

- Supports complex operations required of a mini hydraulic excavator
- Compact design with highly flexible layout

### ■ Specification

		NSC10	BCV35	BCV65
Structure		Sectional Type	Sectional Type	Sectional Type
Number of Pumps		2 or 3	2 or 3	3
Max. Pressure	MPa	20.6	24.5	24.5
Rated Flow Rate	L/min	15	35	65
Spool Operation	Manual	✓	✓	✓
	Pilot	✓	✓	✓
	Solenoid	-	-	-
Applicable Excavator Weight (ref.)	ton	0.5~1.9	2~4	4~6

✓ : Available

### ■ Optional Functions

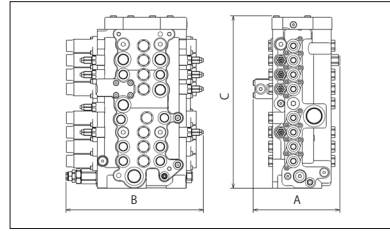
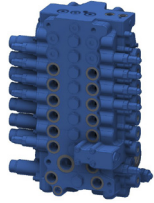
		NSC10	BCV35	BCV65
Pump Unload		✓	✓	✓
Travel	Straight	✓*	✓	✓
	Independent	✓*	✓	✓
Confluence	Option Section	✓	✓	✓
	Arm	✓	✓	✓
	Boom	✓	✓	✓
Floating	Dozer	-	✓	-
Holding Valve	Boom	✓	✓	✓
Signal Circuit	Auto Idling	-	✓	✓
	Travel Signal	-	✓	✓

\* Some exceptions exist ✓ : Available

### ■ Outline Dimensions

		NSC10	BCV35	BCV65
A	mm	73.5	86	107
B	mm	234	253	315
C	mm	Depends on number of blocks	Depends on number of blocks	Depends on number of blocks
Bank Width	mm	24	31	38

## IB Series



### [Main Application]

- Main control valve for small construction machinery

### [Features]

- Utilization of proprietary road sensing system
- Energy savings through efficient regeneration and bleeding circuit

### ■ Specification

		IB18
Structure		Mono-block Type
Number of Pumps		1
Max. Pressure	MPa	32
Rated Flow Rate	L/min	190
Spool Operation	Manual	-
	Pilot	✓
	Solenoid	-
Standard Number of Blocks		9
Additional Blocks		✓
Applicable Excavator Weight (ref.)	ton	7~9

✓: Available

### ■ Optional Functions

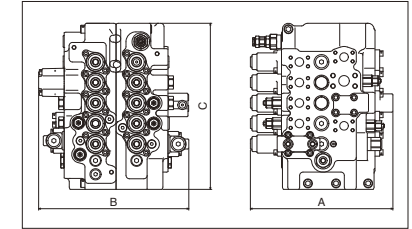
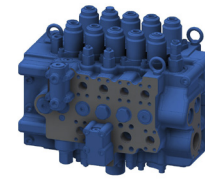
		IB18
Regeneration	Boom	✓
	Arm	✓
Pressure Rise		✓
Holding Valve	Boom	✓
Signal Circuit	Auto Idling	✓

✓: Available

### ■ Outline Dimensions

		IB18
A	mm	229.5
B	mm	364
C	mm	455

## UN (UK) Series



### [Main Application]

- Main control valve for medium and large construction machinery

### [Features]

- High flow rate and minimal pressure drop are realized by optimizing the internal passage.
- Playback function, priority function, and other functions are available to meet customer needs

### ■ Specification

		UN22	UN28	UN32	UK36
Structure		2 Blocks	2 Blocks	2 Blocks	3 Blocks
Number of Pumps		2	2	2	2
Max. Pressure	MPa	36	36	36	35
Rated Flow Rate	L/min	160×2	260×2	330×2	540×2
Spool Operation	Manual	-	-	-	-
	Pilot	✓	✓	✓	✓
	Solenoid	-	-	-	-
Standard Number of Blocks		9	9	9	9
Additional Blocks		✓	✓	-	-
Applicable Excavator Weight (ref.)	ton	11~16	16~24	24~36	36~

✓: Available

### ■ Optional Functions

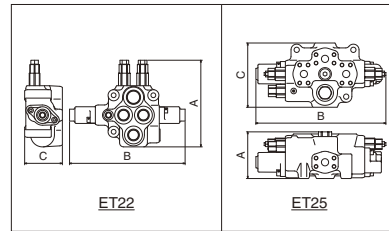
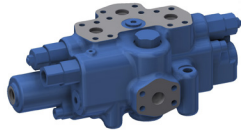
		UN22	UN28	UN32	UK36
Priority	Boom	✓	✓	✓	✓
	Swing	✓	✓	✓	✓
Travel	Straight	✓	✓	✓	✓
	Regeneration	✓	✓	✓	✓
Pressure Rise	Boom	✓	✓	✓	✓
	Arm	✓	✓	✓	✓
Holding Valve	Boom	✓	✓	✓	✓
	Arm	✓	✓	✓	✓
Signal Circuit	Auto Idling	✓	✓	✓	✓
	Travel Independent	✓	✓	✓	✓

✓: Available

### ■ Outline Dimensions

		UN22	UN28	UN32	UK36
A	mm	369	381.5	431	504.5
B	mm	386	431	454	656
C	mm	432.5	470.5	502	588

## ET Series



### [Main Application]

- Optional control valve for medium-sized construction machinery

### [Features]

- Ideal as an additional optional control valve for bulldozers, etc.
- Compact monoblocking with each port
- Pressure-resistant performance in line with that of the main control valve

### ■ Specification

		ET22	ET25
Structure		Mono-block Type	Mono-block Type
Number of Pumps		1	1
Max. Pressure	MPa	34.3	34.3
Rated Flow Rate	L/min	160	260
Spool Operation	Manual	-	-
	Pilot	✓	✓
	Solenoid	-	-
Standard Number of Blocks		1	1
Additional Blocks		-	-
Applicable Excavator Weight (ref.)	ton	11~16	16~24

✓ : Available

### ■ Optional Functions

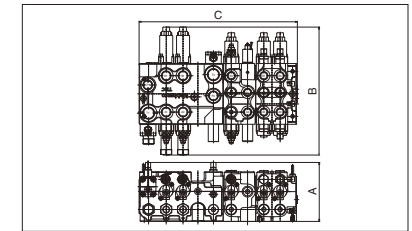
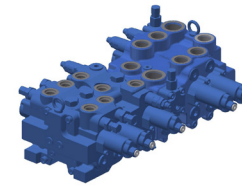
	ET22	ET25
Port Relief Valve	✓	✓
Signal Circuit	✓	-
Additional Pump	-	✓
Carry-over	-	✓

✓ : Available

### ■ Outline Dimensions

		ET22	ET25
A	mm	218.2	123.5
B	mm	291	344
C	mm	96	170

## TRC Series



### [Main Application]

- Main control valves for rough terrain cranes, truck cranes, etc.

### [Features]

- Pressure compensation function enables stable operation regardless of load fluctuation.
- Winch confluence circuit is available

### ■ Specification

		TRC200
Structure		Semi/Mono-block Type
Number of Pumps		2
Max. Pressure	MPa	27.5
Rated Flow Rate	L/min	200×2
Spool Operation	Manual	-
	Pilot	✓
	Solenoid	-

✓ : Available

### ■ Optional Functions

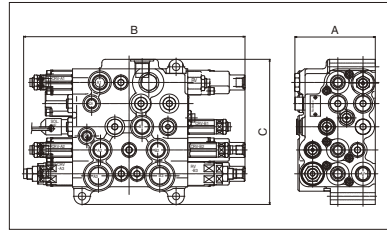
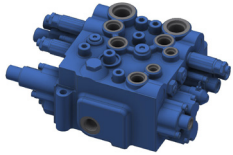
	TRC200
Pressure Compensator	✓
Winch Confluence	✓
Accessory Valve	✓
Relief Valve with Vent Port	✓

✓ : Available

### ■ Outline Dimensions

		TRC200
A	mm	218
B	mm	472
C	mm	584

## SLV Series



### [Main Application]

- Main control valves for skid steer loaders, compact track loaders, etc.

### [Features]

- Integration of arm and bucket operation valves and horizontal control valve
- Realization of bucket leveling operation by arm operation only

### ■ Specification

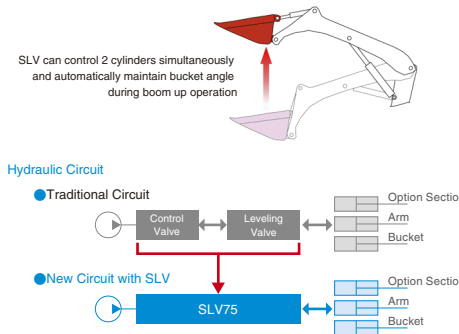
		SLV75
Structure		Mono-block Type
Number of Pumps		1
Max. Pressure	MPa	24.5
Rated Flow Rate	L/min	75
Spool Operation	Manual	-
	Pilot	✓
	Solenoid	-
Self Leveling	Up	✓
	Down	-
	Cancellation	-
	Divider Ratio Adjustment	✓

✓ : Available

### ■ Optional Functions

		SLV75
Accessory Valve		✓
Option Section		✓
Floating	Arm	✓
	Bucket	G1/2
Port Size	Arm	G1/2
	Option Section	G3/4

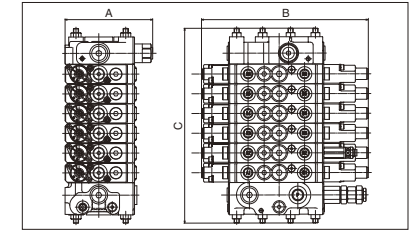
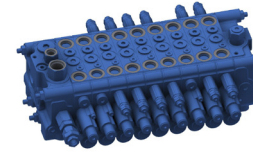
✓ : Available



### ■ Outline Dimensions

		SLV75
A	mm	118
B	mm	325
C	mm	213

## NLSV Series



### [Main Application]

- Main control valves for elevated work vehicles, mini hydraulic excavators, etc.

### [Features]

- Utilization of proprietary road sensing system
- Excellent combined operability with pressure compensation and anti-saturation function
- Selectable hydraulic pilot operation and electromagnetic proportional operation

### ■ Specification

		NLSV14
Structure		Sectional Type
Number of Pumps		1
Max. Pressure	MPa	29.4
Rated Flow Rate	L/min	80
Spool Operation	Manual	-
	Pilot	✓
	Solenoid	✓
Standard Number of Blocks		6
Additional Blocks		✓

✓ : Available

### ■ Optional Functions

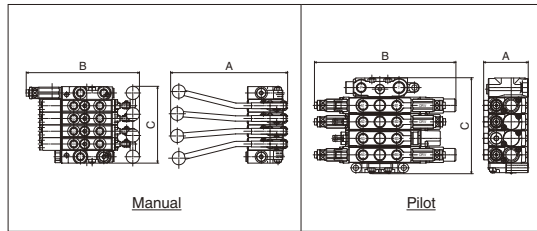
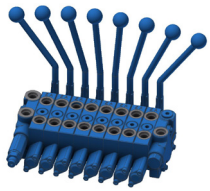
		NLSV14
Pressure Compensator		✓
Anti-saturation		✓
Regeneration		✓
Pressure Rise (M/R)		✓

✓ : Available

### ■ Outline Dimensions

		NLSV14
A	mm	169
B	mm	321.9
C	mm	Depends on number of blocks
Bank Width	mm	38

## NSC/SC/BCV Series (Manual/hydraulic pilot operation)



### [Main Application]

- Control valves for truck-mounted cranes, agricultural machinery, various special purpose vehicles, etc.

### [Features]

- Combination of 1 to 10 series is possible.
- Parallel and tandem circuit configurations are possible

### ■ Specification

		NSC10	SC3A	BCV35
Structure		Sectional Type	Sectional Type	Sectional Type
Number of Pumps		1	1	1
Max. Pressure	MPa	20.6	20.6	24.5
Rated Flow Rate	L/min	15	50	35
Spool Operation	Manual	✓	✓	✓
	Pilot	✓	-	✓
	Solenoid	-	-	-

✓: Available

### ■ Optional Functions

		NSC10	SC3A	BCV35
Pump Unload		✓*	✓*	-
Manual Lever		✓	✓	-
Carry-over		✓	✓	✓
Accessory Valve		✓	✓*	✓
Detent		✓*	✓*	✓*
Circuit Type	Parallel	✓	✓	✓
	Tandem	✓*	✓*	✓
	Series	-	-	-

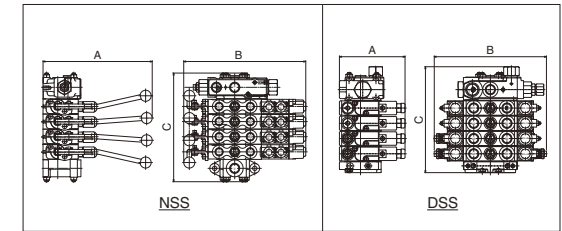
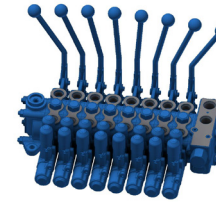
\*Depends on circuit structure ✓: Available

### ■ Outline Dimensions

		NSC10	SC3A	BCV35
A	mm	221*	246*	84
B	mm	213	220	266
C	mm	Depends on number of blocks	Depends on number of blocks	Depends on number of blocks
Bank Width	mm	24	34	31

\*Including lever

## NSS/DSS Series (Electromagnetic operation)



### [Main Application]

- Control valves for truck-mounted cranes, agricultural machinery, various special purpose vehicles, etc.

### [Features]

- In addition to electromagnetic operation, emergency operation by lever or manual operation pin is also possible
- Parallel and tandem circuit configurations are possible

### ■ Specification

		NSS50	DSS50
Structure		Sectional Type	Sectional Type
Number of Pumps		1	1
Max. Pressure	MPa	20.6	20.6
Rated Flow Rate	L/min	50	50
Spool Operation	Manual	✓	✓
	Pilot	✓	✓*
	Solenoid	-	-

\*Enable to change-over by push-pin in emergency ✓: Available

### ■ Optional Functions

		NSS50	DSS50
Pump Unload		✓*	-
Manual Lever		✓	-
Accessory Valve		-	✓
Circuit Type	Parallel	✓	✓
	Tandem	✓	✓
	Series	-	-

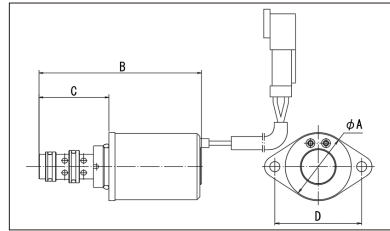
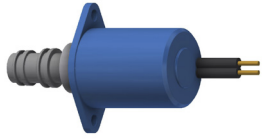
\*Depends on circuit structure ✓: Available

### ■ Outline Dimensions

		NSS50	DSS50
A	mm	246*	146
B	mm	274	250
C	mm	Depends on number of blocks	Depends on number of blocks
Bank Width	mm	34	34

\*Including lever

## EPRV Series



### [Main Application]

- Solenoid proportional pressure reducing valve for main spool control and pump regulator control of control valve

### [Features]

- Removable structure of the secondary pressure tip allows for space saving of the oil channel.
- Superior controllability due to low hysteresis
- Easier maintenance due to cartridge structure

### ■ Specification

		EPRV
Structure		Cartridge Type
Max. Primary Pressure	MPa	6
Max. Back Pressure	MPa	1
Max. Flow Rate	L/min	10
Secondary Pressure	MPa	2.8
Solenoid Rated Voltage	V	24
	V	12
Pressure Control Type		Positive Control
		Negative Control

### ■ Outline Dimensions

		EPRV
A	mm	35
B	mm	94
C	mm	37
D	mm	46