

Pump Controls



Some of the most important contributions to pump performance and safety are made by components you hardly ever notice. NLB pump controls can keep your unit operating reliably, year after year. They have earned a reputation for precision, durability and — wherever possible — ease of replacement.

In this section of the catalog you'll find **by-pass valves** and **pulsation dampeners** to regulate and

cushion the flow of high-pressure water, **gauges** to monitor operating pressure, and **snubbers** to enhance gauge accuracy.

Rupture disc assemblies relieve pressure in the event of a spike, while **shut-off valves** quickly close line flow. We also offer engine **throttle controls**, **filters** to keep pumps free of dirt, and **system valves** for remote control of water flow.

EASY ON, EASY OFF

NLB by-pass valves let you adjust the pressure on your pump unit with a simple turn of the T-bar handle... much like opening and closing a faucet. They are hydraulically

cushioned for smooth pressure adjustment, and field repairable. Models are available to handle all common operating pressures.

The housing and all major

components are precision machined of rugged stainless steel. We also offer simple conversion kits that allow older pump units to accept newer by-pass valves.

By-Pass Valves



BV10-400

The advantages of NLB by-pass valves can be retrofitted to older NLB pump units. Our convenient conversion kits include everything you need.

By-Pass Valve	Conversion Kit
BV10-400	DM11267
BV10-650	DM12744
BV20-260	DM12699
BV24-350	N/A
BV40-010	N/A

Max. Pressure	Flow	Inlet Connection	Outlet Connection	Rebuild Kit
BV10-400				
10,000 psi (700 bar)	2-40 gpm (8-151 lpm)	1" NPT	1/2" NPT	BV11316
BV10-650				
10,000 psi (700 bar)	35-65 gpm (133-246 lpm)	1" NPT	1" NPT	BV12635
BV20-260				
20,000 psi (1,400 bar)	2-26 gpm (8-100 lpm)	1" MP	1/2" NPT	BV11317
BV24-350				
24,000 psi (1,680 bar)	2-35 gpm (8-132 lpm)	1" MP	1/2" NPT	BV18102
BV40-010				
40,000 psi (2,800 bar)	10 gpm (38 lpm)	1-1/8"-12 HPM	1/2" NPT	BV2180
BV36-115				
40,000 psi (2,800 bar)	15 gpm (57 lpm)	1-1/8"-12 HPM	1/2" NPT	BV2180

Pressure Gauges

NLB's high-pressure, heavy-duty pressure gauges are oil-filled and hermetically sealed. A throttle screw helps protect the gauge from erratic pressure surges. Standard gauges have bottom-mount connection with 4-1/4" (11 cm) faces. Certified gauges are available.

All display both English and metric units of measurement.



Model	Working Pressure	Connection
2009	5,000 psi (345 bar)	1/2" NPT
2008	10,000 psi (700 bar)	1/2" NPT
3008	20,000 psi (1,400 bar)	1/4" MP
5008	40,000 psi (2,800 bar)	1/4" HP

Note: NLB recommends that every pump be equipped with both a pressure gauge and a snubber.

Snubbers

NLB Snubbers absorb the system pressure pulses that can cause gauge fluctuations. This enhances accuracy and prolongs gauge life.



Model	Max. Pressure	Inlet Connection	Outlet Connection	Use with Gauge
2010	10,000 psi (700 bar)	1/2" NPT Male	1/2" NPT Female	2008, 2009
BM13613*	10,000 psi (700 bar)	1-1/8" - 12	1/2" NPT Female	2008, 2009
3010	20,000 psi (1,400 bar)	9/16" MP Nipple	1/4" MP port	3008
BM13614*	20,000 psi (1,400 bar)	1-1/8" - 12	1/4" MP port	3008
4010	40,000 psi (2,800 bar)	1/4" HP	1/4" HP	5008
BM13615	40,000 psi (2,800 bar)	1-1/8" - 12	1/4" HP	5008

*Snubber kit used with discharge manifolds or pressure reducing stations featuring NLB's "BV" family of By-Pass Valves.

Pump Controls






Rupture Disc Assemblies and Discs

Every NLB high-pressure pump unit is equipped with a rupture disc to relieve system pressure in the event of a spike above the unit's maximum operating pressure. The replaceable discs are available with pressure ratings from 1,000 psi to 40,000 psi (70 to 2,800 bar).

Rupture disc assemblies should always be used with a primary pressure relief or by-pass valve (page 56).

(Note: Only NLB pump units built before September, 1996 use NSP-2000.)



	Model No.	Color	Operating Pressure	
 <p>NSP-2000</p>	NSP-2002-2	Orange	2,000 psi (140 bar)	
	NSP-2002-3	Green	3,000 psi (210 bar)	
	NSP-2002-4	White	4,000 psi (275 bar)	
	NSP-2002-5	Red	5,000 psi (345 bar)	
	NSP-2002-6	Pink	6,000 psi (415 bar)	
	NSP-2002-8	Black	8,000 psi (550 bar)	
	NSP-2002-10	Silver	10,000 psi (700 bar)	
	NSP-3002-8	Black	8,000 psi (550 bar)	
	NSP-3002-10	Silver	10,000 psi (700 bar)	
	NSP-3002-12	Yellow	12,000 psi (840 bar)	
 <p>NSP-3000</p>	NSP-3002-15	Brown	15,000 psi (1,035 bar)	
	NSP-3002-20	Gold	20,000 psi (1,400 bar)	
	NSP-3002-24	Copper	24,000 psi (1,680 bar)	
	NSP-4002-30	Red	30,000 psi (2,070 bar)	
	 <p>NSP-4000</p>	NSP-4002-34	Lt. Blue	34,000 psi (2,350 bar)
		NSP-4002-36	Tan	36,000 psi (2,500 bar)
		NSP-4002-40	Lime Green	40,000 psi (2,800 bar)
		NSP-4002-42	Navy Blue	42,000 psi (2,900 bar)
	 <p>BM 22093</p>	PM 22088	—	6,000 psi (415 bar)
		PM 22089	—	8,000 psi (550 bar)
PM 22090		—	10,000 psi (700 bar)	
 <p>BM 22095</p>	PM 22091	—	15,000 psi (1,035 bar)	
	PM 22092	—	20,000 psi (1,400 bar)	

Throttle Controls

Throttle controls help reduce fuel consumption and pump engine wear and tear. They advance a pump's engine speed when a dump-style lance or foot control is activated, and return it to idle when the trigger or pedal is released. We offer three throttle controls, all with a common design, for 10,000 psi, 20,000 psi, 24,000 psi, and 40,000 psi applications (700, 1,400, 1,680, and 2,800 bar).

- Quick-change adapter fits all NLB pump units
- Long seal life

- Brass stop eliminates galling
- Stainless steel spring resists corrosion
- Rebuild with replacement seal PM14983.

Model No.	Max. Pressure	Rebuild Kit
4071-10	10,000 psi (700 bar)	PM14983
4071-20	20,000 psi (1,400 bar)	PM14983
4071-24	24,000 psi (1,680 bar)	PM14983
4071-40	40,000 psi (2,800 bar)	PM14983



4071

Shut-Off Valves

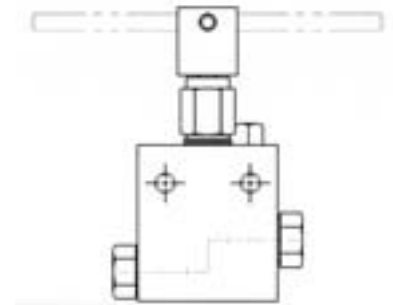
The quickest way to completely close line flow is with a shut-off valve. NLB has ball valves for 10,000 psi (700 bar) applications and needle valves for 20,000 psi (1,400 bar). All are silicone-free. Repair kits are available for the ball valves.

Model No.	Thread Size	Rebuild Kit
VRG-08	1/2" NPT	VRG-8RBKT
VRG-12	3/4" NPT	VRG-12RBKT
VRG-16	1" NPT	VRG-16RBKT
VRG-14	1-1/2" NPT	N/A



VRG

Model No.	Thread Size
PM2889	1" MP



PM2889

Pulsation Dampeners

- Reduce pulsations in permanent piping systems
- No moving parts
- No gas charging
- Can be permanently mounted



Model No.	Max. Pressure	Thread Size
PM8576	3,000 psi (210 bar)	1" NPT
PDS2-16T	3,000 psi (210 bar)	2" NPT
PDS3-16T	5,000 psi (345 bar)	2" NPT
PDS1-16T	10,000 psi (700 bar)	1" NPT
DM9570	20,000 psi (1,400 bar)	1" MP port
DM7831	40,000 psi (2,800 bar)	9/16" HP Male