

# LGL 2-4 Sliding Vane Pumps

MULTI-PURPOSE LPG PUMPS | PRODUCT BROCHURE



*Blackmer*

Where Innovation Flows

# MULTI-PURPOSE PROPANE PUMPS FOR BULK PLANTS, TERMINALS & TRUCK SYSTEMS

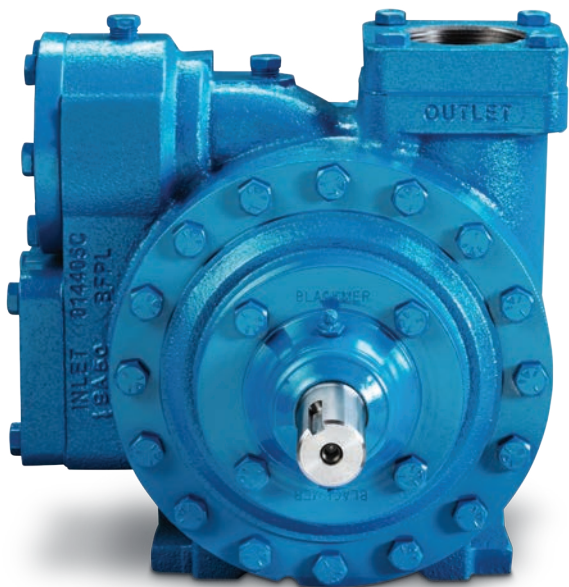
The Blackmer logo is written in a stylized, blue, cursive font with a registered trademark symbol (®) at the end.

All LPG bulk plants have one thing in common, a Blackmer® LGL Pump working tirelessly loading and unloading tanks, bobtails and transport trucks. Chip away the white paint and you are guaranteed to find our iconic Blackmer blue pump at almost every tank farm. The reason why? Blackmer LGL 2-4 Sliding Vane Pumps have been the industry standard for generations due to their reliability, efficiency and quiet operation.

## Blackmer® LGL 2-4 | Sliding Vane Pumps

UL listed for use in LPG, butane, and anhydrous ammonia, these rugged ductile iron sliding vane pumps offer flexibility and can be used for a wide range of applications -bulk plant service, multiple cylinder filling applications, vaporizers, bobtails and transports.

Offered in 2-, 3- and 4-inch sizes, LGL Pumps have 90 degree porting, internal relief valve, and come in single-ended (LGL) and double-ended (LGLD) pump shafts models. LGL 2-4 Sliding Vane Pumps feature flow capacities ranging from 30 to 370 U.S. gpm (114 – 1,400 L/min) and speeds up to 980 rpm (LGL2, LGL3) and 800 rpm (LGL4). Maximum internal relief valve pressure for all models is 150 psi (10.3 bar) differential. Companion flanges available for NPT or butt-welded connections. The Cavitation Suppression Liner, non-metallic duravanes, and end discs are wear components that can be easily replaced. By replacing these wear components, the pumping chamber can be rebuilt to like new condition providing longevity and a substantial return on investment for your LGL Pump.



LGL2

LGL 2-4 Sliding Vane Pumps provide numerous benefits to LPG operators, such as:

- Handling thin liquefied gases like LPG since sliding vane pumping technology is well suited for the task
- Easy maintenance, since these pumps can be rebuilt to like new condition with Blackmer rebuild kits
- Consistent flow rates due to self-adjusting non-metallic duravanes, that maintain flow rates even as they wear
- Cavitation reduction with the Blackmer Cavitation Suppression Liner that mitigates the harmful effects of cavitation
- Dry run ability, that enables priming of liquefied gas applications
- High rpm speeds allowing for higher flow rates and quicker fill times

# Blackmer® LGL 2-4 Series Sliding Vane Pumps | Design Features

## End Discs

Replaceable end discs allow for easy rebuilding of the pump to new condition without changing the pressure containing components.

## Threaded Lock Collars

The two-piece threaded lock collars precisely position the rotor and shaft, allowing the pump to operate under high inlet pressures. In addition, this positive lock thrust control helps prevent premature wear to internal components, because it features no metal to metal contact.

## Double-Ended Drive Shaft

Allows the pumps to be mounted in multiple ways to enhance mounting flexibility, and allow for clockwise or counter-clockwise rotation. Single-ended drive shafts are also available.

## External Roller Ball Bearings

Low friction grease-lubricated ball bearings are completely isolated from the pumpage by mechanical seals for trouble-free service and long life.

## Duravanes

Non-metallic duravanes are designed to resist wear under non-lubricating conditions. They provide exceptional sealing which maintains performance over the operating life of the pump. These self-adjusting and easily replaceable vanes provide the best technology solution for pumping thin liquefied gases like LPG.

## Discharge Port

90° porting features either NPT or butt-welded connections.

## Cavitation Suppression Liner

Specifically designed to mitigate the negative effects of cavitation – such as excessive noise, vibration, and deterioration of the pump internals, the Cavitation Suppression Liner allows for the transfer of multi-phase liquids with high vapor pressures and zero NPSH. The liner can be easily replaced.

## Internal Relief Valve

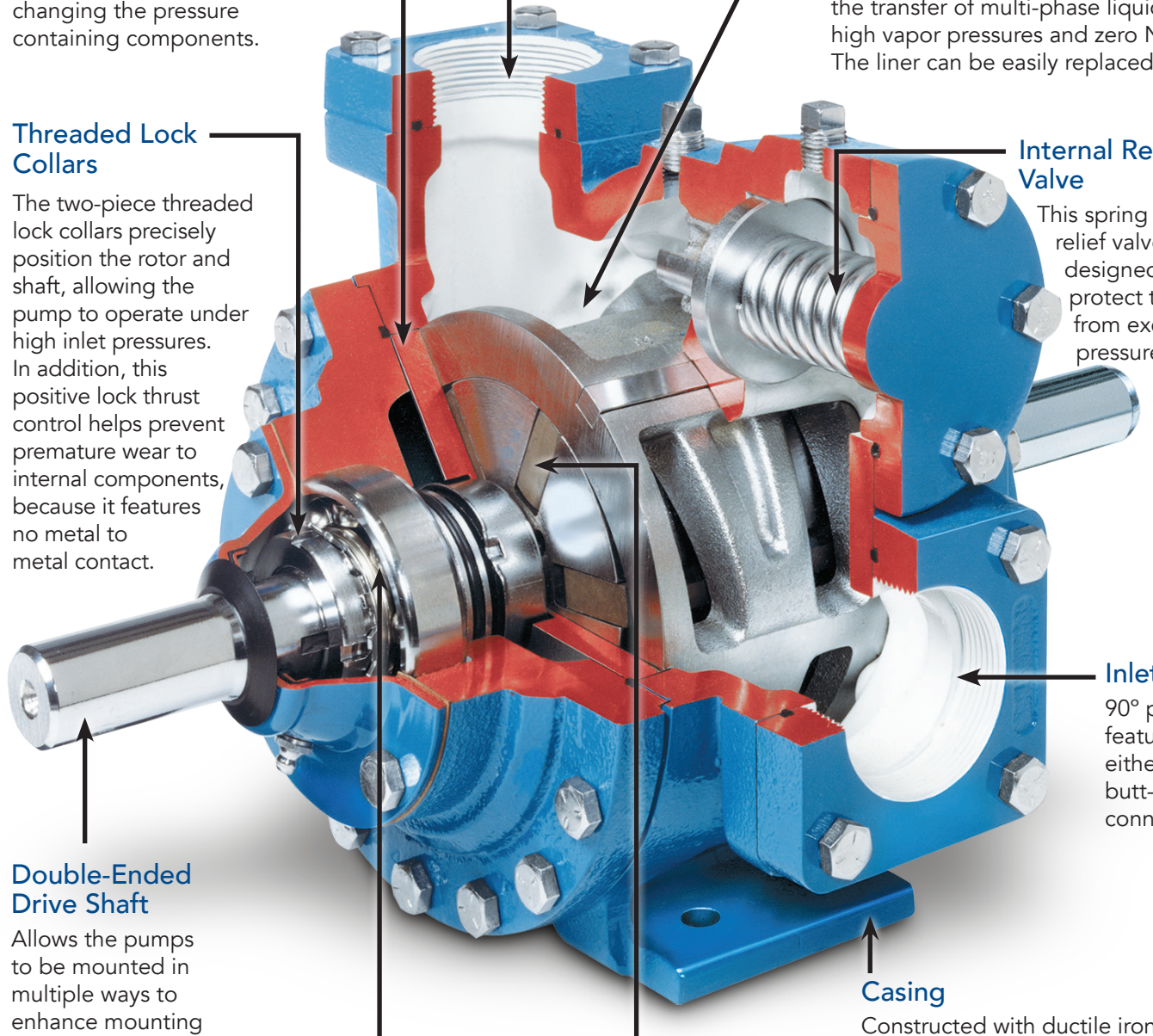
This spring actuated relief valve is designed to protect the pump from excessive pressure.

## Inlet Port

90° porting features either NPT or butt-welded connections.

## Casing

Constructed with ductile iron, like all pressure parts in the LGL 2-4 models, provides greater resistance to both thermal and mechanical shock.



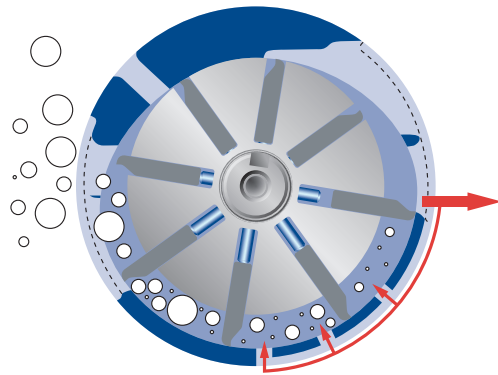
# BLACKMER® LGL 2-4 SLIDING VANE PUMPS

## Cavitation Suppression Liners Reduce Harmful Effects

Blackmer® LGL 2-4 pumps feature Cavitation Suppression Liners. This technology mitigates cavitation by reducing the amount of cavitation in the pump. Reducing the cavitation level reduces vibration, noise and wear.

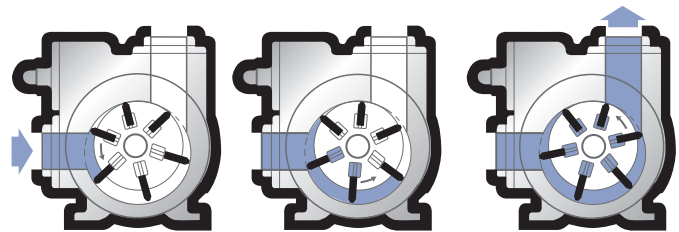
The sudden collapse of vapor bubbles inside the pump is known as cavitation. By allowing a controlled amount of fluid at discharge pressure to bleed back toward the suction of the pump, the vapor bubbles are collapsed over a longer period time. The net result is less noise, less vibration and less wear.

Cavitation can be devastating for pump components and can even lead to system failure. To learn how Blackmer LGL 2-4 Sliding Vane Pumps incorporate a revolutionary Cavitation Suppression Liner that mitigates and even eliminates the harmful effects of pump cavitation visit [blackmer.com/cavitation](http://blackmer.com/cavitation).



## Sliding Vane Benefits

Blackmer positive displacement pumps have revolutionized the pumping industry with their unique sliding vane technology. This revolutionary rotary vane design allows the pumps to self-adjust for wear to help maintain flow rates. This sliding vane pump design creates excellent self-priming and dry-run capabilities, while also providing sustained performance and trouble-free operation.

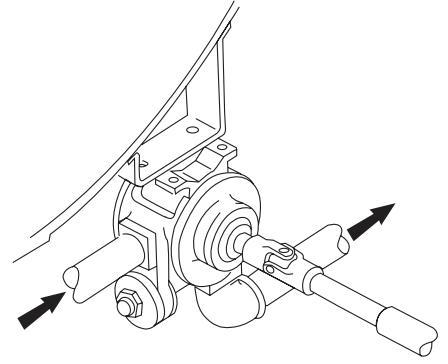


- Unique sliding vane pump design self-adjusts for wear to maintain flow rates
- Excellent at self-priming, eliminates expensive priming systems
- Extended dry-run capability, eliminates nuisance current monitoring systems
- Sliding vane design provides sustained performance and trouble-free operation
- Easy maintenance: vanes, liners, and discs can be easily replaced without removing the pump from the piping system
- High suction lift abilities that exceed 25 feet (7.6 meters)
- Low maintenance and low life-cycle costs, pumps are renewable and repairable
- Highly efficient, sliding vane pumps require less horsepower than other pumps, meaning spending less on motors initially and less on electricity to power the pump

## Truck Mounted Drive

Blackmer® Pumps are often mounted to the frame rail, or to a steel pad that is welded to the tank.

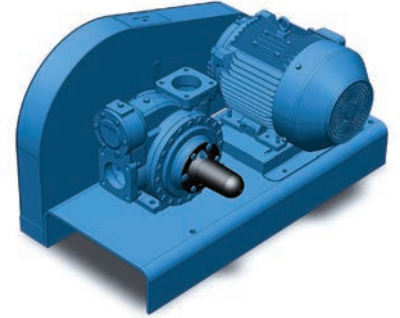
Truck mounted pumps are normally driven through a P.T.O. or hydraulic drive system. Refer to the [Blackmer Liquefied Gas Handbook](#) for various types of bobtail and transport pump systems.



## Assembled Pump Units

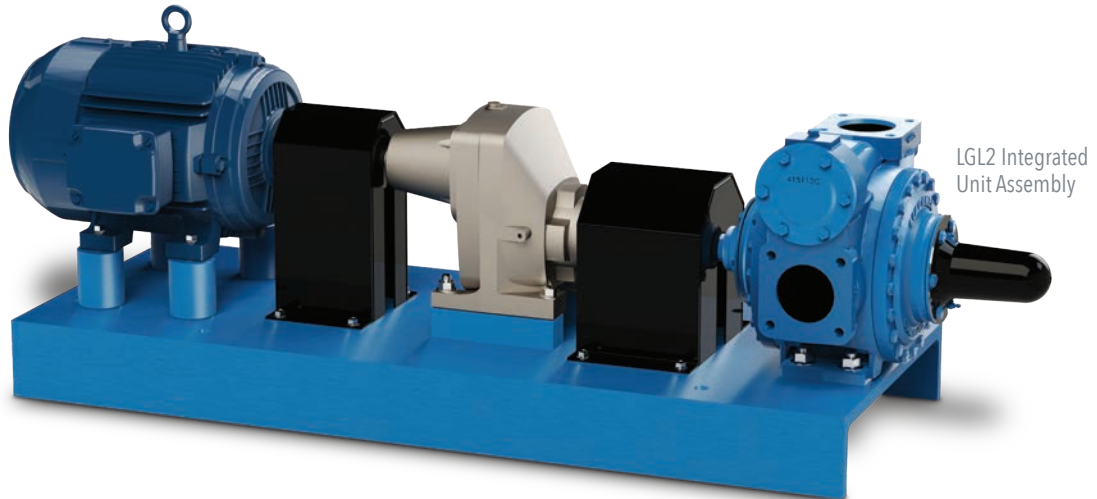
### V-Belt Drive

Standard base-mounted VB units are available, complete with pump, hubs, sheaves, high torque V-belts and belt guard, mounted on a common base, ready to accept a standard NEMA motor. All VB units are available with or without motors.



### Integrated Unit Assembly

Blackmer fully Integrated Unit Assemblies are the pre-engineered and pre-designed drop-in pumping solution. These unit assemblies, include motor, gearbox, baseplate, LGL(D) 2-, 3- and 4-inch Pump and coupling safety covers. No alignment required with these pre-configured fully Integrated Unit Assemblies as they are ready for immediate drop-in installation.



## Pump Speed

Blackmer LGL 2-4 Sliding Vane Pumps feature some of the highest rpm speeds in the industry, allowing for higher flow, shorter fill time, and quicker deliveries.

Model	Minimum RPM Speed	Maximum RPM Speed
LGL(D)2	350	980
LGL(D)3	350	980
LGL(D)4	350	800

## Warranty & Performance Assurance

Blackmer stands behind the quality of our LGL 2-4 Sliding Vane Pumps and BV Bypass Valves, with an unmatched extended five-year Product Warranty and two-year Performance Assurance Guarantee.

### Product Warranty

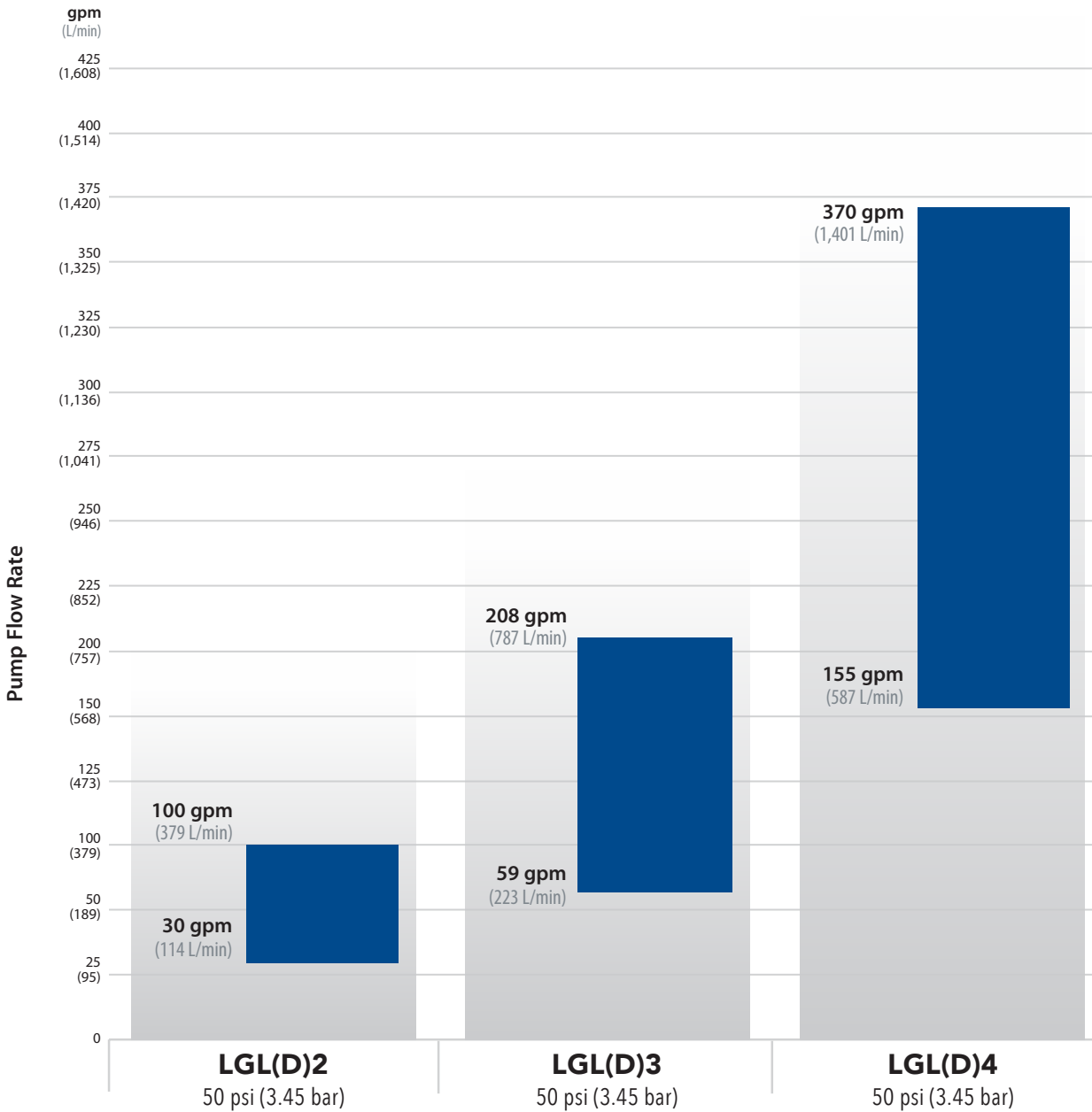
When working with propane, butane and propane/butane mixtures, Blackmer LGL 2-4 Pumps and BV Bypass Valves will be free from defects in materials and workmanship under normal use and service for five years.

### Performance Assurance Guarantee

Should a Blackmer LGL 2-4 Pump or BV Bypass Valve fail in the performance of its duties when handling propane, butane, and propane butane mixtures, within two years, free replacement components will be provided to return the pump or valve to like-new condition.

Learn more at [blackmer.com/LGLwarranty](http://blackmer.com/LGLwarranty)

## Nominal Flow Rate Range



**Maximum Differential Pressure 150 psi (10.3 bar)**  
(Internal relief valve setting)

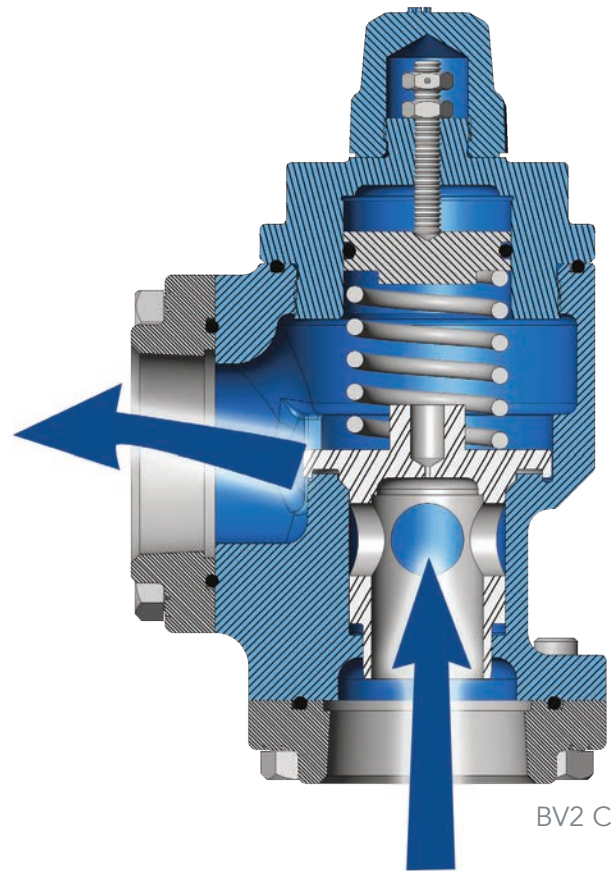
MODEL(S)	DESCRIPTION	PART NUMBER
LGLD2, LGL2	Kit - Maintenance	898979
LGLD2	Kit - Rebuild	899079
LGLD3, LGL3	Kit - Maintenance	898981
LGLD3	Kit - Rebuild	899081
LGLD4, LGL4	Kit - Maintenance	898922
LGLD4	Kit - Rebuild	899022

# Blackmer® BV Bypass Valves | Precise, On-Line Pressure Protection

Blackmer® BV Differential Bypass Valves provide primary pressure control and are designed to maximize the dispensed flow rate of the overall system. When downstream connections restrict the flow of product less than what is displaced by the pump, the remaining liquid flow is safely returned to the supply tank through the bypass valve connection which avoids damage to the pump. The valve design also maximizes dispensed flow rate by having a narrow pressure band between initial cracking pressure and full pump flow when the delivery line is closed.



BV2



BV2 Cutaway

MODEL	CONNECTIONS	120 psi (8.27 bar)
<b>BV1.25/1.5</b>	NPT	125 (473)
<b>BV2</b>	NPT, NPT Elbow, Weld, Weld Elbow	250 (946)



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