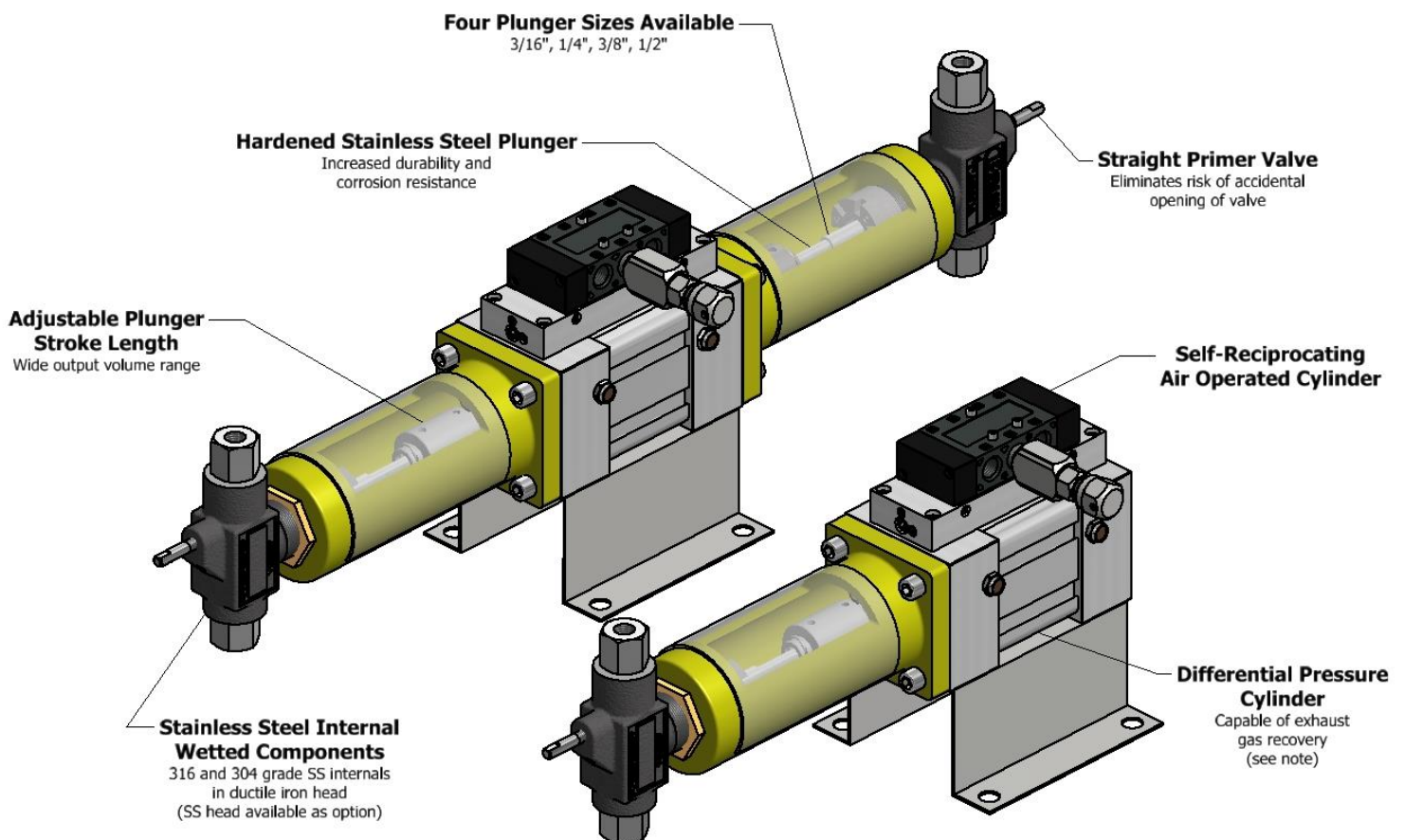


# BRX3

## Pneumatically Operated Chemical Injection Pump

The BRX3 Chemical Injector Pump is a double acting, positive displacement, plunger type pump. Pump operation is powered with air/gas pressure (250 psig-max.) acting onto a cylinder resulting in plunger displacement. Continuous operation is achieved with an internal switching system which switches the main spool valve when full cylinder stroke (1 inch-max.) is reached in both cylinder stroke directions. The pump is available in both a single or double head configuration and available in 4 plunger sizes, the pump is capable of handling volume output up to 60 imperial gallons per day per head and discharge pressures up to 6000 psig. It is designed for ease of operation and maintenance under varied pumping applications at the field level. Conversion for handling of various chemicals is easily accomplished by the change out of the packing set and fluid end seals. Since the cylinder requires only a differential pressure across the cylinder to operate, the pump is capable of fully operating with significant back pressure placed on the exhaust port as long as sufficient differential pressure is present. This allows the pump to exhaust into a point that has a lower pressure than the pump supply pressure (dependant on the differential pressure required to operate the pump at the required discharge pressure) and recover the majority of the exhaust gas used by the pump for further applications or sale.



# Performance Specifications

	Plunger sizes			
	3/16"	1/4"	3/8"	1/2"
<b>Standard Model</b>				
Model Number	BRX304	BRX301	BRX303	BRX305
Maximum Discharge Pressure (psig) <sup>1</sup>	3000	3000	3000	3000
Maximum Volume per head @ 0 psig discharge pressure*	8.5 gpd	15.1 gpd	34.0 gpd	60.0 gpd
Max. Recommended strokes/min @ 0-1500 psig discharge pressure	60	60	60	60
<b>High Pressure Model</b>				
Model Number	BRX314	BRX311	BRX313	BRX315
Maximum Discharge Pressure (psig) <sup>2</sup>	6000	6000	6000	3500
Maximum Volume per head @ 3000 psig discharge pressure**	5.1 gpd	9.0 gpd	20.3 gpd	36.2 gpd
Max. Recommended strokes/min above 1500 psig discharge pressure	45	45	45	45
<b>Plunger Packing - Maximum Discharge Pressure (psig)</b>				
Buna N (standard model)	3000	3000	3000	3000
Buna Hard (high pressure model)	6000	6000	6000	3500
Viton	3000	3000	3000	3000
Teflon	3000	3000	3000	3000
Fluorosilicone	3000	3000	3000	3000
Bruez (FFKM)	3000	3000	3000	3000

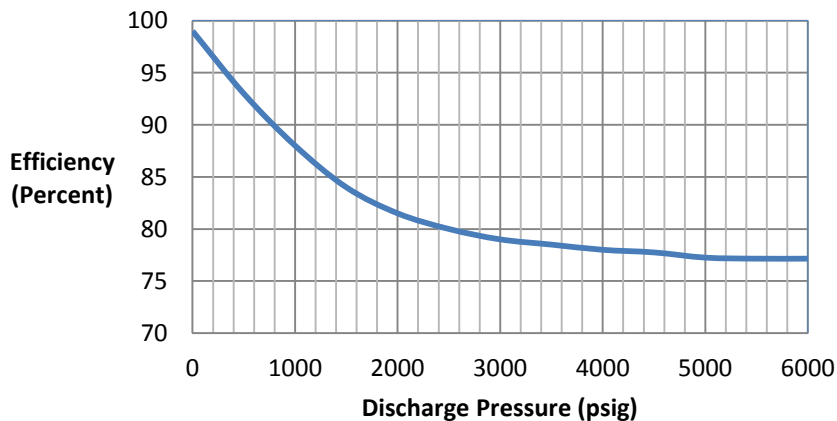
\* Volumes shown for standard model with standard packing are at zero PSIG discharge pressure

\*\* Volumes shown for high pressure model with hard packing are at 3000 PSIG discharge pressure

1 Maximum discharge pressure for standard model is shown with Buna packing, other packing types are available and may contain different maximum discharge pressures, refer to Plunger packing - maximum discharge pressures chart

2 Maximum discharge pressure for high pressure model is shown with Buna Hard packing

## Discharge Head Efficiency



NOTE: With an increase in discharge pressure, the volumetric pumping efficiency of the pump head decreases as shown in the graph.

EXAMPLE: A 3/8" plunger will provide approximately 34 imperial gallons per day (99% efficiency) maximum at 0 psig discharge pressure running at 60 spm. If the discharge pressure increases to 1000 psig, the pump runs at approximately 88% efficiency, so the maximum volume is reduced to 30.2 imperial gallons per day running at 60 spm. If the discharge pressure is increased to 3000 psig, the pump efficiency is approximately 79% and the resulting maximum volume is reduced to 20.3 imperial gallons per day running at 45 spm.

NOTE: Discharge head efficiency is theoretically determined based on testing and may vary between applications and assemblies.

**NOTE:** The BRX3 pump operates on differential pressure, therefore supply pressure above the differential pressure required to produce the discharge pressure can be recovered.

$$\text{Exh. Press.} = \text{Sup. Press} - \text{Diff. Press.}$$

EXAMPLE: Cylinder differential pressure required for a discharge pressure of 3000 psig on a 3/8" plunger, model BRX303 pump is 92 psig. If a cylinder supply pressure of 150 psig is used in the application, there will be (150 psig minus 92 psig) 58 psig recovered on the cylinder exhaust for reuse.