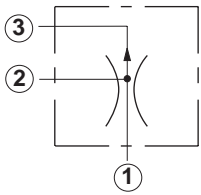


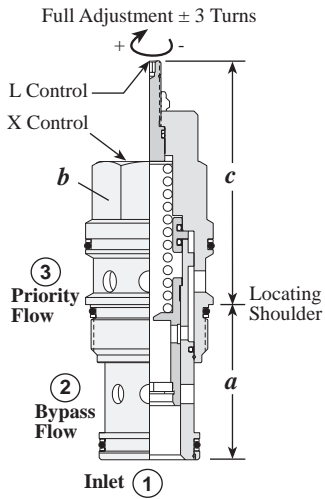
# Priority Flow Control Valves

## BYPASS / RESTRICTIVE, FIXED ORIFICE



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions					Installation Torque (lb. ft.)
			a	b	c			
					X	L	K	
.1-3 GPM	<b>FRBA – LAN</b>	T - 163A	1.22	3/4"	1.25	2.55	2.77	25/30
.1-6.0 GPM	<b>FRCA – LAN</b>	T - 11A	1.38	7/8"	1.19	2.50	2.75	30/35
.1-12.0 GPM	<b>FRDA – LAN</b>	T - 2A	1.38	1 1/8"	1.38	2.81	3.06	45/50
.2-25 GPM	<b>FREA – LAN</b>	T - 17A	1.81	1 1/4"	1.81	3.28	3.53	150/160
.2-50 GPM	<b>FRFA – LAN</b>	T - 19A	2.50	1 5/8"	2.75	3.94	4.19	350/375

### OPTION ORDERING INFORMATION



**FR \* A - \* A \***

<p><b>Nominal Capacity</b></p> <p><b>B</b> .1-3 GPM</p> <p><b>C</b> .1-6.0 GPM</p> <p><b>D</b> .1-12.0 GPM</p> <p><b>E</b> .2-25 GPM</p> <p><b>F</b> .2-50 GPM</p>	<p><b>Control**</b></p> <p><b>X</b> Non-adjustable Factory set at customer specified flow</p> <p><b>L</b> Tuning Adjustment ±25% of customer specified flow</p> <p><b>K</b> Handknob for L control</p>	<p><b>Adjustment Range</b></p> <p><b>A</b> Fixed Orifice</p> <p><b>Customer must specify flow</b></p>	<p><b>Seal</b></p> <p><b>N</b> Buna-N</p> <p><b>V</b> Viton</p>
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*Maximum Inlet Flow:*  
FRBA: 7.5 GPM  
FRCA: 15 GPM  
FRDA: 30 GPM  
FREA: 60 GPM  
FRFA: 120 GPM

*Priority Flow ranges:*  
FRBA: .1 - 3 GPM  
FRCA: .1 - 6.0 GPM  
FRDA: .1 - 12.0 GPM  
FREA: .2 - 25 GPM  
FRFA: .2 - 50 GPM

*\*\* See page 244 for information on Control Options*

# TECHNICAL TIPS / PERFORMANCE CURVES

## Priority Flow Control Valves, Fixed Orifice, Bypass / Restrictive

### Applications

These combination priority and bypass flow control valves may be used to establish the flow to the priority or controlled flow circuit, and either bypass the remaining flow to tank at the load induced pressure of the system or use it in a secondary system.

### Application Notes

- Valve will not bypass unless priority flow is satisfied.
- Bypass pressure may exceed priority pressure.
- Blocking the controlled flow path will also block the bypass flow path.**
- Note factory set point conditions.

### Design Concepts and Features

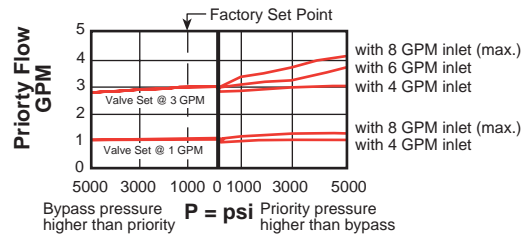
- Customer specified, fixed orifice for priority flow. (Flow setting accuracy  $\pm 10\%$ .)
- Tunable control option to provide  $\pm 25\%$  variation of the customer specified flow at factory preset conditions.

**Note:** Tunable adjustment range follows performance curve profile.

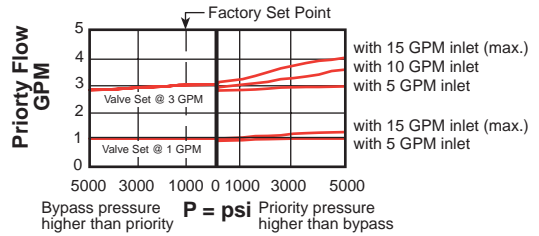
### Performance Curves

#### Typical Performance

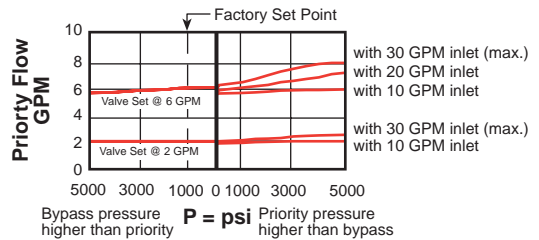
#### FRBA-LAN



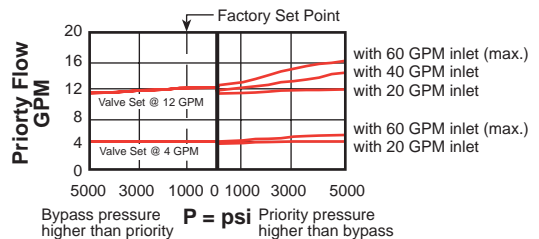
#### FRCA-LAN



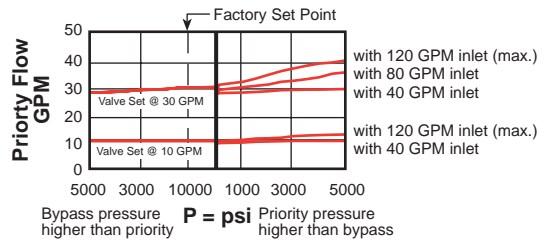
#### FRDA-LAN



#### FRFA-LAN



#### FRFA-LAN



## General Application Requirements

- Operating Temperature Range: Buna-N seals -50° F to 200° F, Viton seals 0° F to 250° F.
- Viscosity Range: 60-3000 SUS.
- Fluid Contamination Level: ISO 4406 18/15 or better; Recommend  $\beta_{10} \geq 75$  to achieve ISO 18/15 or better in most systems.