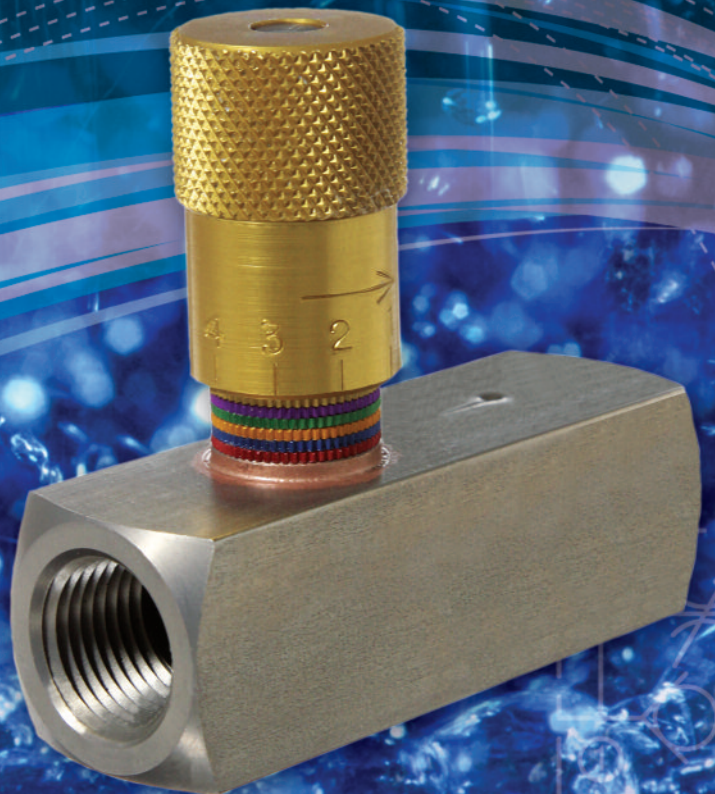
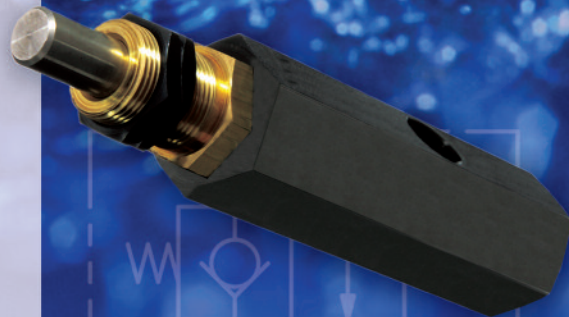


# In-Line Hydraulic and Pneumatic Valves



## FEATURING:

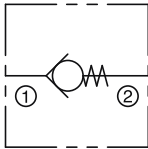
- **Easy Read®**  
Flow, Needle & Check Valves in  
Brass, Steel & Stainless
- **Pneu-Trol®**  
Flow, Needle & Check Valves in  
Brass, Aluminum, Steel & Stainless
- BSP and SAE port threads available  
on selected valves
- Pressure Compensated Flow  
Controls
- Quick Exhaust Valves



*Solution Specialists  
to the Fluid Power Industry*

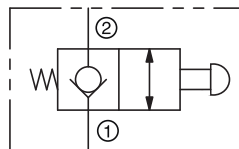
<b>0.00.0</b>	<b>INTRODUCTION</b>	
	World Class Performance .....	0.01.1
	Table of Contents .....	0.02.1

## 1.00.0 CHECK & SHUTTLE



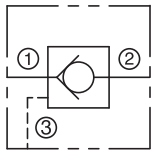
### Check, Direct-Acting

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Easy Read</b>	Female-to-Female NPTF	3.0 to 55.0	11.4 to 208.2	2000	138	Brass	EC**B EDC**B	1.01.1
		6.0 to 55.0	22.7 to 208.2	5000	345	Carbon Steel	EC**S EDC**S	
		6.0 to 20.0	22.7 to 75.7	5000	345	Stainless Steel	EC**SS EDC**SS	
	Female-to-Female BSP Taper	3.0 to 20.0	11.4 to 75.7	5000	345	Carbon Steel	ECB**S	
	Female-to-Female BSP Parallel	6.0 to 20.0	22.8 to 75.7	5000	345	Carbon Steel	ECBP**S	1.01.1
<b>Pneu-Trol</b>	Female-to-Female NPTF	1.5 to 12.0	5.7 to 45.4	60	4	Brass	CP**B	1.02.1
				2000	138	Brass	C**B	
				5000	345	Carbon Steel	C**S	
		1.5 to 8.0	5.7 to 30.3	5000	345	Stainless Steel	C**SS	
		1.5 to 3.0	5.7 to 11.4	60	4	Stainless Steel	CP**SS	
	Male-to-Female NPTF 1/4"	2.5	9.5	60	4	Brass	CPMF20B	1.03.1
	Male-to-Male NPTF	1.0 to 10.0	3.8 to 37.9	2000	138	Brass	CMM**B	1.04.1
		2.5 to 10.0	9.5 to 37.9	3000	207	Carbon Steel	CMM**S	
		2.5	9.5			Stainless Steel	CMM20SS2	
	Male-to-Male NPTF (Soft Seat)	1.0 to 15.0	3.8 to 56.8	2000	138	Brass	CMM***B	1.04.1
2.5 to 10.0		9.5 to 37.9	3000	207	Carbon Steel	CMM***S		
2.5 to 6.0		9.5 to 22.8			Stainless Steel	CMM***SS		



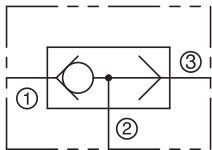
### Check, Plunger-Operated

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF 1/4"	5.0	18.9	3000	207	Carbon Steel	MOC20S	1.10.1



**Check, Pilot-To-Open**

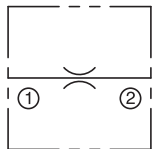
Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF	6.0	22.7	3000	207	Carbon Steel	PIC-20S	1.20.1
		10.0	37.9					
		12.0	45.4					
	Female-to-Female NPTF (Air Pilot)	12.0	45.4	3000	207	Carbon Steel	APIDC-30S	1.20.1
	Female-to-Female BSP Taper	6.0	22.7	3000	207	Carbon Steel	PICB-20S	1.20.1
		10.0	37.9					



**Shuttle, Ball-Type**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF	Cv = .74	-	200	14	Brass	SV10B	1.30.1
		Cv = 1.35	-				SV20B	

**2.00.0 FLOW CONTROL**

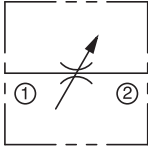


**Orifice, Gauge Snubber**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Male-to-Female NPTF 1/4"	-	-	2000	138	Brass	GS20B	2.01.1
		-	-	5000	345	Carbon Steel	GS20S	

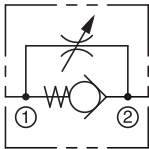
# Table of Contents

(continued)



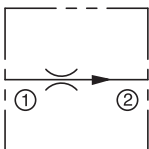
## Needle Valve, Restrictive, Adjustable

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Easy Read</b>	Female-to-Female NPTF	4.5 to 100.0	17.1 to 378.5	2000	138	Brass	EN***B	2.10.1
				5000	345	Carbon Steel	EN***S	
		10.0	37.9	5000	345	Stainless Steel	EN20SS	
	Female-to-Female BSP Taper	4.5 to 40.0	17.1 to 151.4	2000	138	Brass	ENB**B	2.10.1
				5000	345	Carbon Steel	ENB**S	
		10.0 to 18.0	37.9 to 68.1	2000	138	Brass	ENBP**B	
Female-to-Female BSP Parallel	4.5 to 40.0	17.1 to 151.4	5000	345	Carbon Steel	ENBP**S		
<b>Pneu-Trol</b>	Female-to-Female NPTF	3.2 to 34.0	12.1 to 128.7	2000	138	Brass	N**B	2.11.1
		3.2 to 34.0	12.1 to 128.7	5000	345	Carbon Steel	N**S	
		3.2 to 22.5	12.1 to 85.2	5000	345	Stainless Steel	N**SSK	
	Female-to-Female BSP Taper	3.2 to 13.5	12.1 to 51.1	2000	138	Brass	NB**BK	2.11.1
		3.2 to 34.0	12.1 to 128.7	5000	345	Carbon Steel	NB**SK	
	Female-to-Female SAE	7.0 to 34.0	26.5 to 128.7	5000	345	Carbon Steel	NM***SK	2.11.1
	Male-to-Female NPFT Model 01	Cv = .67 to 1.89	-	10,000	690	Carbon Steel	S*01S1	2.15.1
	Female-to-Female NPTF Model 02	Cv = .85 to 3.70	-	10,000	690	Carbon Steel	S*02S1	2.15.1
		Cv = .85	-	10,000	690	Carbon Steel	SM202S1	
	Female-to-Female BSPT Model 02	Cv = .85 to 3.70	-	10,000	690	Carbon Steel	SB*02S1	2.15.1
	Female-to-Female NPTF Model 50	Cv = .37 to 4.65	-	10,000	690	Carbon Steel	S*50S1	2.15.1
		Cv = .37 to .47	-	10,000	690	Carbon Steel	SM*50S1	
	Female-to-Female BSPT Model 50	Cv = .47 to 2.65	-	10,000	690	Carbon Steel	SB*50S1	2.15.1
	Female-to-Female BSPP Model 50	Cv = .47 to 2.65	-	10,000	690	Carbon Steel	SBP*50S1	2.15.1
	Male-to-Female NPTF	3.2 to 7.0	12.1 to 26.5	2000	138	Brass	NMF**BK	2.16.1
7.0 to 13.5		26.5 to 51.1	5000	345	Carbon Steel	NMF**SK		
Male-to-Female NPTF	3.2	12.1	5000	345	Steel	NMF20-10S	2.17.1	
Female-to-Female NPTF	3.2	12.1	5000	345	Steel	N20-10S	2.18.1	



**Flow Control, Free Reverse Flow, Adjustable**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF	1.5	5.7	1000	69	Stainless Steel	SFP10SSB	2.21.1
		3.0	11.5	500	34		SFP20SSB	
	Female-to-Female NPTF	1.5 to 5.0	5.7 to 18.9	60	4	Brass	FP**B	2.22.1
		1.5 to 12.0	5.7 to 45.4	2000	138	Brass	F**B	
		1.5 to 12.0	5.7 to 45.4	5000	345	Carbon Steel	F**S	
		1.5 to 8.0	5.7 to 30.3	5000	345	Stainless Steel	F**SSK	
	Female-to-Female BSP Taper	1.5 to 5.0	5.7 to 18.9	2000	138	Brass	FB**BK	2.22.1
		1.5 to 12.0	5.7 to 45.4	5000	345	Carbon Steel	FB**SK	
	Female-to-Female SAE	5.0	18.9	5000	345	Carbon Steel	FM620S	2.22.1
	Male-to-Female NPFT	1.5 to 8.0	5.7 to 30.3	2000	138	Brass	FMF**BK	2.23.1
Female-to-Female NPTF	3.0	11.4	5000	345	Stainless Steel	F20SS316K	2.24.1	
	8.0	30.3				F30SS316K		
<b>Easy Read</b>	Female-to-Female NPTF	3.0 to 55.0	11.4 to 208.2	2000	138	Brass	EF**B	2.25.1
				5000	345	Carbon Steel	EF**S	
		3.0 to 12.0	11.4 to 45.4	5000	345	Stainless Steel	EF**SS	
	Female-to-Female BSP Taper	3.0 to 20.0	11.4 to 75.7	2000	138	Brass	EFB**B	2.25.1
				5000	345	Carbon Steel	EFB**S	
	Female-to-Female BSP Parallel	3.0 to 12.0	11.4 to 45.4	2000	138	Brass	EFBP**B	2.25.1
		3.0 to 20.0	11.4 to 75.7	5000	345	Carbon Steel	EFBP**S	
	Female-to-Female SAE	6.0 to 20.0	22.7 to 75.7	5000	345	Carbon Steel	EFM****S	2.25.1

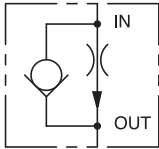


**Flow Regulator, Restrictive, Pressure-Compensated, Fixed**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF	0.1 to 2.0	0.4 to 7.6	3000	207	Steel	PC3	2.30.1
		0.5 to 30.0	1.9 to 113.6			Alum. / Steel	PC4	
	Female-to-Female SAE	0.1 to 2.0	0.4 to 7.6	3000	207	Steel	PCM63	2.30.1
		0.5 to 5.0	1.9 to 18.9			Aluminum	PCM44	
		1.0 to 10.0	3.8 to 37.9			Aluminum	PCM64	
		1.5 to 15.0	5.7 to 56.8			Steel	PCM84	
		2.0 to 30.0	7.6 to 113.6			Steel	PCM124	

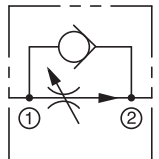
# Table of Contents

(continued)



## Flow Regulator, Free Reverse Flow, Pressure-Compensated, Fixed

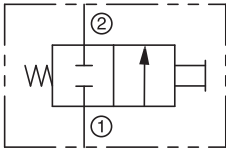
Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
In-line	Male-to-Female #8 SAE to #8 SAE	1.0 to 10.0	3.8 to 37.9	3000	207	Carbon Steel	PCM88	2.40.1



## Flow Regulator, Free Reverse Flow, Pressure-Compensated, Adjustable

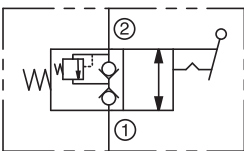
Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
◀ <b>Pneu-Trol</b>	Female-to-Female NPTF	0.75 to 15.0	2.8 to 56.8	3000	207	Carbon Steel	PC5	2.51.1
	Female-to-Female BSP Taper	0.75 to 15.0	2.8 to 56.8	3000	207	Carbon Steel	PCB5	2.51.1
	Female-to-Female #8 SAE	1.0 to 10.0	3.8 to 37.9	3000	207	Carbon Steel	PCM85-3	2.51.1
		1.5 to 15.0	5.7 to 56.8				PCM85-4	
◀ <b>Easy Read</b>	Female-to-Female NPTF	0.5 to 30.0	1.9 to 113.6	3000	207	Carbon Steel	EPC5	2.51.1
	Female-to-Female BSP Taper	0.5 to 30.0	1.9 to 113.6	3000	207	Carbon Steel	EPCB5	2.51.1

**3.00.0 DIRECTIONAL VALVES**



**Directional, Two-Way, Two-Position, Normally-Closed, Plunger-Operated**

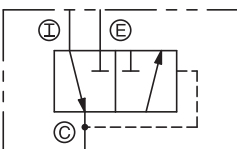
Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF 1/2"	Cv = 2.6	-	3000	207	Steel	POV32S	3.01.1



**Directional, Two-Way, Two-Position, Normally-Closed, Toggle-Operated**

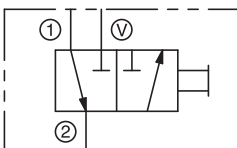
Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF 1/4"	5.0	18.9	2000	138	Brass	TV20B	3.02.1

**4.00.0 ACCESSORIES**



**Quick Exhaust, 2-Position 3-Way**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF	Cv = .50 to 5.32	-	20 to 125	1.0 to 9.0	Aluminum	EV	4.10.1

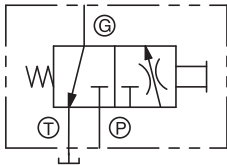


**Slide Valve, 2-Position, 3-Way, Manually Operated**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF	Cv = .98 to 3.26	-	250	17	Steel / Brass	SL	4.20.1

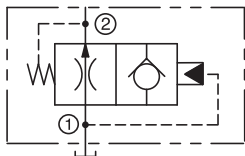
# Table of Contents

(continued)



**Gauge Isolator**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF 1/4"	-	-	3000	207	Steel	GI21S	4.25.1



**Air Bleed Valve**

Series	Threads (ports)	Flow		Pressure		Material	Model	Page
		gpm	lpm	psi	bar			
<b>Pneu-Trol</b>	Female-to-Female NPTF 1/4"	-	-	5000	345	Carbon Steel	AB20S	4.30.1

## 5.00.0 TECHNICAL DATA

### FLOW CURVES

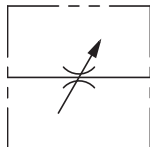
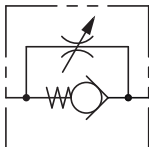
Needle Valve: EN, ENB, ENM, ENBP

Flow Control Valve : EF, EFB, EFM, EFBP .....5.01.1

## 6.00.0 MINIATURE SERIES

LFC, LFV and LNB Series Miniature Flow Control and

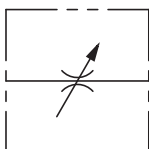
Needle Valves – MBV Series Miniature Ball Valves .....6.00.0



**Flow Control & Needle Valve**

LFC and LFV Series Miniature Flow Control .....6.01.1

LNB Series Miniature Needle Valve .....6.01.1



**Ball Valve**

MBV Series Miniature Ball Valve .....6.02.1

## 7.00.0 WARRANTY AND DISCLAIMER

.....7.99.1