

# INSTRUMENTATION REGULATORS

## PRESSURE REGULATORS

### IR4000 SERIES

- Internally threadless design
- Convoluted Hastelloy C-22<sup>®</sup> diaphragm
- Available in 316L SST, Brass, Hastelloy C-22<sup>®</sup>, Monel<sup>®</sup>, and 316L SST Welded body
- Seals available for nitrous oxide and hydrocarbon applications
- Low dead volume
- General purpose for instrument/analyser and semiconductor applications



### IR6000 SERIES

- Dual stage regulator
- Internally threadless design
- Convoluted Hastelloy C-22<sup>®</sup> diaphragm
- Available in 316L SST, Brass, Hastelloy C-22<sup>®</sup>, Monel<sup>®</sup>, and 316L SST Welded body
- Virtually eliminates supply pressure effect
- Provides cylinder gas pressure reduction in refineries, process analytical systems and specialty gases



### IR5000 SERIES

- Internally threadless design
- Large convoluted Hastelloy C-22<sup>®</sup> diaphragm
- Available in 316L SST, 316L SST Welded body
- Greater sensitivity for precise pressure control
- For analyser system gas management and instrument calibration



### HFR900

- High flow regulator
- Self-contained replaceable valve seat
- For corrosive and non-corrosive fluid applications
- Available in 316L SST and Brass



### HF1200

- High flow regulator
- Inlet pressure up to 1,250 psig (86 barg)
- Available welded and threaded
- 1.2 Cv
- Large convoluted diaphragm provides stable pressure control



### APR66

- High pressure piston sensing regulator
- Low actuating torque
- Pressures up to 6,000 psig (413.7 barg)
- Available in 316L SST and brass



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### HPR 800

- High pressure diaphragm regulator
- For corrosive and non-corrosive applications
- Inlet pressure up to 5,000 psig (345 barg)
- Low actuating torque
- Available in 316L stainless steel and brass
- Outlet pressures up to 2,500 psig (172 barg)



### MIR700

- Compact single stage regulator
- For low to medium pressure applications that require pressure control in a compact space
- Available in 316L stainless steel and brass
- Precise flexing Hastelloy C-22 diaphragm



### NPR4100

- Negative pressure regulation
- Internally threadless design
- Convoluted Hastelloy C-22<sup>®</sup> diaphragm
- For delivery of low pressure gases from liquid sources
- White knob indicates negative pressure



### INSTRUMENT PRESSURE REGULATORS

- All models are direct acting, non-relieving and cleaned for analytical instrument service
- Designed specifically to provide high resolution control at the low flow rates typical in instrumentation applications
- Available with special port locations, manifold mount configurations or with the regulator integrated into a larger, multi-functional package



Valve groups		Single stage								Dual stage
Model series		IR4000	IR500	HFR900	APR66	HPR800	MIR700	NPR4100	HF1200	IR6000
Type		General purpose	Sensitive	High flow	High pressure	High pressure	Low pressure	Absolute pressure	High flow	High pressure
Pressure	Min inlet pressure	4,000 psig 276 barg	3,500 psig 241 barg	500 psig 35 barg	6,000 psig 414 barg	5,000 psig 345 barg	3,000 psig 207 barg	250 psig 17 barg	1,250 psig 86 barg	4,000 psig 276 barg
	Max outlet pressure	500 psig 35 barg	250 psig 17 barg	150 psig 10 barg	6000 psig 414 barg	2500 psig 172 barg	200 psig 14 barg	-26 in Hg to 10 psig -1.8 in Hg to .7 barg	200 psig 14 barg	250 psig 17 barg
CV	Min	0.02	0.02	0.85	0.05	0.02	0.02	0.02	1.2	0.02
	Max	0.15	0.15					0.15		
Body material	316L SS	X	X	X	X	X	X	X	X	X
	Brass	X		X	X	X	X	X		X
	Hastelloy C-22 <sup>®</sup>	X	X					X		x
	Monel <sup>®</sup>	X	X					X		x
Connection	Min FNPT	1/8 in	1/8 in	1/4 in	1/8 in	1/4 in	1/8 in	1/8 in	1/2 in	1/8 in
	Max FNPT	1/2 in	1/2 in	1/2 in	1/4 in	1/4 in	1/4 in	3/8 in	3/4 in	1/2 in
	Compression	X	X	X				X	X	X
	Face Seal / Tube						X		X	



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## BACK PRESSURE REGULATORS

### ABP1

- Reduce contamination and accurately control back pressure
- Internally threadless design
- Convoluted Hastelloy C-22<sup>®</sup> diaphragm
- Integral diaphragm stop
- Available in 316L SST, Hastelloy C-22<sup>®</sup>, Monel<sup>®</sup>



### ABP3

- Internally threadless design
- Provides sensitive pressure adjustments
- Large convoluted Hastelloy C-22<sup>®</sup> diaphragm
- Integral diaphragm stop
- Available in 316L SST, Hastelloy C-22<sup>®</sup>



### BPR50

- For use with corrosive and non-corrosive fluids
- Adjustable from 100 psi (7 bar) to 2,000 psi (138 bar)
- Piston sensed high pressure back pressure regulator
- Available in 316L SST



Valve groups		Back pressure		
Model series		ABP1	ABP3	BPR50
Pressure	Max inlet pressure	Up to 500 psig 35 barg	Up to 60 psig 4 barg	Up to 2,500 psig 172 barg
	CV	Min	0.06	0.06
Max		0.30	0.30	
Body material	316L SS	X	X	X
	Hastelloy C-22 <sup>®</sup>	X	X	
	Monel <sup>®</sup>	X		
Connection	Min FNPT	1/8 in	1/8 in	1/4 in
	Max FNPT	1/4 in	1/4 in	1/4 in



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# INSTRUMENTATION REGULATORS

## VAPORIZING REGULATORS

### AVR3

- Steam heat design
- Internally threadless design
- Available in 316L SST, Monel®, Hastelloy C-22®
- Internal liquid volume only .5cc
- Convoluted Hastelloy C-22® diaphragm



### AVR4

- Electrical heat design
- Field serviceable heat transfer element
- CSA, Cenelec, and ATEX certified
- Internally threadless design
- 120v or 240v, 50 / 60 Hz
- Convoluted Hastelloy C-22® diaphragm
- Available in 316L SST, Monel®, Hastelloy C-22®



Regular groups		Vaporizing regulators	
Model series		AVR3	AVR4
Type		Steam heated	Electrically heated
Pressure	Max inlet pressure	4,000 psig 276 barg	4,000 psig 276 barg
	Max outlet pressure	500 psig 34 barg	500 psig 34 barg
CV	Min	0.06	0.06
	Max		
Body material	316L SS	X	X
	Hastelloy C-22®	X	X
	Monel®	X	X
Connection	Min FNPT	1/8 in	1/8 in
	Max FNPT	1/8 in	1/8 in



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# INSTRUMENTATION REGULATORS

## TIED DIAPHRAGM REGULATORS

### 735 SERIES

- Dual stage tied diaphragm regulator
- Greater consistency in outlet pressure regardless of inlet pressure fluctuations
- Provides shut off of corrosive or hazardous gases for added safety
- Available in 316L SST or Hastelloy C-22®



### 959 SERIES

- Tied diaphragm design to minimize regulator creep
- Internally threadless design
- Metal to metal diaphragm seal
- Available in 316L SST and Hastelloy C-22®



Regular groups		Tied Diaphragm regulators	
Model series		735	959
Type		Two stage	Single stage
Pressure	Max inlet pressure	3,500 psig 240 barg	3,500 psig 240 barg
	Max outlet pressure	100 psig 7 barg	150 psig 10 barg
CV	Min	0.04	0.04
	Max		0.20
Body material	316L SS	X	X
	Hastelloy C-22®	X	X
Connection	Min FNPT	1/4 in	1/4 in
	Max FNPT	1/4 in	1/4 in



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