



PRICE LIST 2019
effective January 1, 2019

SENTINELTM

BACK PRESSURE VALVES
PRESSURE RELIEF VALVES
CALIBRATION COLUMNS
INJECTION QUILLS



BLACOHTM
INDUSTRIES

601 Columbia Ave, Bldg. D
Riverside, California 92507
(951) 342-3100 or (800) 603-7867
Sales@Blacoh.com www.Blacoh.com



Part Number = * body material followed by ** diaphragm (example -PVC-T).

Back Pressure Valves: NPT or Socket (-SW)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
BP-025-*-**	1/4"	\$ 149	\$ 215	\$ 155	\$ 320	\$ 299	\$ 437	\$ 923	\$ 1,273
BP-038-*-**	3/8"	\$ 149	\$ 215	\$ 155	\$ 320	\$ 299	\$ 437	\$ 923	\$ 1,273
BP-049-*-**	1/2" mini	\$ 162	\$ 293	\$ 167	\$ 466	\$ 404	\$ 485	\$ 1,007	\$ 1,427
BP-050-*-**	1/2"	\$ 274	\$ 346	\$ 287	\$ 594	\$ 482	\$ 568	\$ 1,285	\$ 2,067
BP-075-*-**	3/4"	\$ 304	\$ 389	\$ 313	\$ 620	\$ 502	\$ 587	\$ 1,297	\$ 2,114
BP-100-*-**	1"	\$ 394	\$ 539	\$ 401	\$ 754	\$ 657	\$ 758	\$ 1,597	\$ 2,278
VBP-150-*-**	1.5"	\$ 865	\$ 1,304	\$ 914	\$ 2,032	\$ 1,707	\$ 1,918	\$ 5,593	\$ 6,932
VBP-200-*-**	2"	\$ 978	\$ 1,439	\$ 1,032	\$ 2,108	\$ 1,779	\$ 2,005	\$ 6,822	\$ 6,932

Back Pressure Valves: Flanged ANSI 150# (-F)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
BP-049-***-F	1/2" mini	\$ 206	\$ 346	\$ 572	\$ 845	\$ 1,963	\$ 1,423	CF	CF
BP-050-***-F	1/2"	\$ 313	\$ 400	\$ 676	\$ 960	\$ 2,000	\$ 1,466	CF	CF
BP-075-***-F	3/4"	\$ 346	\$ 448	\$ 689	\$ 1,057	\$ 2,000	\$ 1,495	CF	CF
BP-100-***-F	1"	\$ 444	\$ 603	\$ 806	\$ 1,350	\$ 2,000	\$ 1,892	CF	CF
VBP-150-***-F	1.5"	\$ 900	\$ 1,369	CF	\$ 2,857	NA	\$ 3,358	CF	CF
VBP-200-***-F	2"	\$ 1,025	\$ 1,472	CF	\$ 3,351	NA	\$ 3,775	CF	CF

Back Pressure Valves 3" & 4": Flanged ANSI 150# (-F)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
VBP-300-***-F	3"	\$ 2,531	\$ 3,666	CF	CF	NA	\$ 8,283	CF	CF
VBP-400-***-F	4"	\$ 2,531	\$ 3,666	CF	CF	NA	\$ 8,283	CF	CF

CF - Consult Factory, NA - Not Available

Valve Notes:

- Standard valve top PVC except 50-350 PSI valves. Stainless Steel and CPVC tops available on request.
- Standard spring 5-150 PSI. For low or medium pressure springs add -L (5-50 PSI) or -M (5-250 PSI) to the end of the part number.
- Diaphragm materials **: PTFE (-T), Viton (-V) and EPDM (-E). Buna (-B) available on select models.
- BSP and Union connections available on select models.



Part Number = * body material followed by ** diaphragm (example -PVC-T).

Back Pressure Valves High Pressure 50-350 PSI: NPT or Socket (-SW)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
BP-025-*--H	1/4"	NA	NA	NA	NA	NA	\$ 632	\$ 1,091	\$ 1,431
BP-038-*--H	3/8"	NA	NA	NA	NA	NA	\$ 632	\$ 1,091	\$ 1,431
BP-049-*--H	1/2" mini	NA	NA	NA	NA	NA	\$ 679	\$ 1,173	\$ 1,579
BP-050-*--H	1/2"	NA	NA	NA	NA	NA	\$ 851	\$ 1,530	\$ 2,288
BP-075-*--H	3/4"	NA	NA	NA	NA	NA	\$ 870	\$ 1,542	\$ 2,334
BP-100-*--H	1"	NA	NA	NA	NA	NA	\$ 1,042	\$ 1,833	\$ 2,493

Back Pressure Valves Right Angle 90°: NPT or Socket (-SW)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
BP90-025-*--	1/4"	\$ 165	\$ 237	\$ 170	\$ 340	\$ 325	\$ 455	\$ 952	\$ 1,277
BP90-038-*--	3/8"	\$ 165	\$ 237	\$ 170	\$ 340	\$ 325	\$ 455	\$ 952	\$ 1,277
BP90-049-*--	1/2" mini	\$ 170	\$ 299	\$ 181	\$ 454	\$ 407	\$ 498	\$ 1,039	\$ 1,493
BP90-050-*--	1/2"	\$ 294	\$ 376	\$ 299	\$ 603	\$ 515	\$ 601	\$ 1,310	\$ 2,067
BP90-075-*--	3/4"	\$ 325	\$ 412	\$ 330	\$ 629	\$ 541	\$ 623	\$ 1,342	\$ 2,110
BP90-100-*--	1"	\$ 402	\$ 541	\$ 412	\$ 773	\$ 696	\$ 812	\$ 1,656	\$ 2,315

Back Pressure Valves Right Angle 90°: Flanged ANSI 150# (-F)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
BP90-049-*--F	1/2" mini	\$ 245	\$ 407	\$ 799	\$ 1,046	\$ 2,751	\$ 1,915	CF	CF
BP90-050-*--F	1/2"	\$ 366	\$ 485	\$ 917	\$ 1,175	\$ 2,838	\$ 1,937	CF	CF
BP90-075-*--F	3/4"	\$ 392	\$ 521	\$ 989	\$ 1,309	\$ 2,838	\$ 2,012	CF	CF
BP90-100-*--F	1"	\$ 495	\$ 665	\$ 1,072	\$ 1,705	\$ 2,838	\$ 2,478	CF	CF

CF - Consult Factory, NA - Not Available

Valve Notes:

- Standard valve top PVC except 50-350 PSI valves. Stainless Steel and CPVC tops available on request.
- Standard spring 5-150 PSI. For low or medium pressure springs add -L (5-50 PSI) or -M (5-250 PSI) to the end of the part number.
- Diaphragm materials **: PTFE (-T), Viton (-V) and EPDM (-E). Buna (-B) available on select models.
- BSP and Union connections available on select models.



Part Number = * body material followed by ** diaphragm (example -PVC-T).

Pressure Relief Valves: NPT or Socket (-SW)

1/4 - 1" Valves are 3 Port; 1.5" & 2" Valves are 2 Port

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR-025-*-**	1/4"	\$ 168	\$ 239	\$ 175	\$ 347	\$ 329	\$ 454	\$ 960	\$ 1,282
PR-038-*-**	3/8"	\$ 168	\$ 239	\$ 175	\$ 347	\$ 329	\$ 454	\$ 960	\$ 1,282
PR-049-*-**	1/2" mini	\$ 170	\$ 318	\$ 180	\$ 476	\$ 423	\$ 509	\$ 1,047	\$ 1,503
PR-050-*-**	1/2"	\$ 300	\$ 394	\$ 304	\$ 607	\$ 524	\$ 611	\$ 1,320	\$ 2,067
PR-075-*-**	3/4"	\$ 328	\$ 424	\$ 331	\$ 634	\$ 560	\$ 634	\$ 1,350	\$ 2,114
PR-100-*-**	1"	\$ 423	\$ 554	\$ 428	\$ 785	\$ 726	\$ 824	\$ 1,663	\$ 2,278
VPR-150-*-**	1.5"	\$ 865	\$ 1,304	\$ 914	\$ 2,032	\$ 1,707	\$ 1,918	\$ 5,593	\$ 6,932
VPR-200-*-**	2"	\$ 978	\$ 1,439	\$ 1,032	\$ 2,108	\$ 1,779	\$ 2,005	\$ 6,822	\$ 6,932

Pressure Relief Valves: Flanged ANSI 150# (-F)

1/4 - 1" Valves are 3 Port; 1.5" & 2" Valves are 2 Port

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR-049-***-F	1/2" mini	\$ 245	\$ 407	\$ 799	\$ 1,046	\$ 2,751	\$ 1,858	CF	CF
PR-050-***-F	1/2"	\$ 361	\$ 475	\$ 897	\$ 1,148	\$ 2,838	\$ 1,892	CF	CF
PR-075-***-F	3/4"	\$ 390	\$ 517	\$ 969	\$ 1,278	\$ 2,838	\$ 1,965	CF	CF
PR-100-***-F	1"	\$ 491	\$ 655	\$ 1,047	\$ 1,663	\$ 2,838	\$ 2,414	CF	CF
VPR-150-***-F	1.5"	\$ 900	\$ 1,369	CF	\$ 2,857	NA	\$ 3,358	CF	CF
VPR-200-***-F	2"	\$ 1,025	\$ 1,472	CF	\$ 3,351	NA	\$ 3,775	CF	CF

Pressure Relief Valves 2 Port 3" & 4": Flanged ANSI 150# (-F)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
VPR-300-***-F	3"	\$ 2,531	\$ 3,666	CF	CF	NA	\$ 8,283	CF	CF
VPR-400-***-F	4"	\$ 2,531	\$ 3,666	CF	CF	NA	\$ 8,283	CF	CF

CF - Consult Factory, NA - Not Available

Valve Notes:

- Standard valve top PVC except 50-350 PSI valves. Stainless Steel and CPVC tops available on request.
- Standard spring 5-150 PSI. For low or medium pressure springs add -L (5-50 PSI) or -M (5-250 PSI) to the end of the part number.
- Diaphragm materials **: PTFE (-T), Viton (-V) and EPDM (-E). Buna (-B) available on select models.
- BSP and Union connections available on select models.



Part Number = * body material followed by ** diaphragm (example -PVC-T).

Pressure Relief Valves 3 Port High Pressure 50-350 PSI: NPT or Socket (-SW)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR-025-*-*-H	1/4"	NA	NA	NA	NA	NA	\$ 648	\$ 1,127	\$ 1,438
PR-038-*-*-H	3/8"	NA	NA	NA	NA	NA	\$ 648	\$ 1,127	\$ 1,438
PR-049-*-*-H	1/2" mini	NA	NA	NA	NA	NA	\$ 704	\$ 1,211	\$ 1,654
PR-050-*-*-H	1/2"	NA	NA	NA	NA	NA	\$ 895	\$ 1,565	\$ 2,288
PR-075-*-*-H	3/4"	NA	NA	NA	NA	NA	\$ 917	\$ 1,593	\$ 2,334
PR-100-*-*-H	1"	NA	NA	NA	NA	NA	\$ 1,108	\$ 1,897	\$ 2,493

Pressure Relief Valves 2 Port: NPT or Socket (-SW)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR2P-025-*-*-	1/4"	\$ 149	\$ 215	\$ 155	\$ 320	\$ 299	\$ 437	\$ 923	\$ 1,273
PR2P-038-*-*-	3/8"	\$ 149	\$ 215	\$ 155	\$ 320	\$ 299	\$ 437	\$ 923	\$ 1,273
PR2P-049-*-*-	1/2" mini	\$ 162	\$ 293	\$ 167	\$ 466	\$ 404	\$ 485	\$ 1,007	\$ 1,427
PR2P-050-*-*-	1/2"	\$ 274	\$ 346	\$ 287	\$ 594	\$ 482	\$ 568	\$ 1,285	\$ 2,067
PR2P-075-*-*-	3/4"	\$ 304	\$ 389	\$ 313	\$ 620	\$ 502	\$ 587	\$ 1,297	\$ 2,114
PR2P-100-*-*-	1"	\$ 394	\$ 539	\$ 401	\$ 754	\$ 657	\$ 758	\$ 1,597	\$ 2,278

Pressure Relief Valves 2 Port: Flanged ANSI 150# (-F)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR2P-049-*-*-F	1/2" mini	\$ 206	\$ 346	\$ 572	\$ 845	\$ 1,963	\$ 1,423	CF	CF
PR2P-050-*-*-F	1/2"	\$ 313	\$ 400	\$ 676	\$ 960	\$ 2,000	\$ 1,466	CF	CF
PR2P-075-*-*-F	3/4"	\$ 346	\$ 448	\$ 689	\$ 1,057	\$ 2,000	\$ 1,495	CF	CF
PR2P-100-*-*-F	1"	\$ 444	\$ 603	\$ 806	\$ 1,350	\$ 2,000	\$ 1,892	CF	CF
VPR2P-150-*-*-F	1.5"	CF	CF	CF	CF	CF	CF	CF	CF
VPR2P-200-*-*-F	2"	CF	CF	CF	CF	CF	CF	CF	CF

CF - Consult Factory, NA - Not Available

Valve Notes:

- Standard valve top PVC except 50-350 PSI valves. Stainless Steel and CPVC tops available on request.
- Standard spring 5-150 PSI. For low or medium pressure springs add -L (5-50 PSI) or -M (5-250 PSI) to the end of the part number.
- Diaphragm materials **: PTFE (-T), Viton (-V) and EPDM (-E). Buna (-B) available on select models.
- BSP and Union connections available on select models.



Part Number = * body material followed by ** diaphragm (example -PVC-T).

Pressure Relief Valves 2 Port Right Angle 90°: NPT or Socket (-SW)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR90-025-*-**	1/4"	\$ 149	\$ 215	\$ 155	\$ 320	\$ 299	\$ 437	\$ 923	\$ 1,273
PR90-038-*-**	3/8"	\$ 149	\$ 215	\$ 155	\$ 320	\$ 299	\$ 437	\$ 923	\$ 1,273
PR90-049-*-**	1/2" mini	\$ 162	\$ 293	\$ 167	\$ 466	\$ 404	\$ 485	\$ 1,007	\$ 1,427
PR90-050-*-**	1/2"	\$ 274	\$ 346	\$ 287	\$ 594	\$ 482	\$ 568	\$ 1,285	\$ 2,067
PR90-075-*-**	3/4"	\$ 304	\$ 389	\$ 313	\$ 620	\$ 502	\$ 587	\$ 1,297	\$ 2,114
PR90-100-*-**	1"	\$ 394	\$ 539	\$ 401	\$ 754	\$ 657	\$ 758	\$ 1,597	\$ 2,278

Pressure Relief Valves 2 Port Right Angle 90°: Flanged ANSI 150#(-F)

Part No.	Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)	Alloy 20 (A20)	Hast C (H276)
PR90-050-***-F	1/2"	\$ 313	\$ 400	\$ 676	\$ 960	\$ 2,838	\$ 1,466	CF	CF
PR90-075-***-F	3/4"	\$ 346	\$ 448	\$ 689	\$ 1,057	\$ 2,838	\$ 1,495	CF	CF
PR90-100-***-F	1"	\$ 444	\$ 603	\$ 806	\$ 1,350	\$ 2,838	\$ 1,892	CF	CF

CF - Consult Factory, NA - Not Available

Valve Notes:

- Standard valve top PVC except 50-350 PSI valves. Stainless Steel and CPVC tops available on request.
- Standard spring 5-150 PSI. For low or medium pressure springs add -L (5-50 PSI) or -M (5-250 PSI) to the end of the part number.
- Diaphragm materials **: PTFE (-T), Viton (-V) and EPDM (-E). Buna (-B) available on select models.
- BSP and Union connections available on select models.



PVC Calibration Columns: NPT or Socket (-SW)

Part No.	Size	Capacity	Connection	Sealed (S)	Loose Top (L)	Removable (R)
CP-100_	100 mL	3.2 GPH	1/2"	\$ 75	\$ 75	\$ 83
CP-200_	200 mL	6.4 GPH	1/2"	\$ 87	\$ 87	\$ 96
CP-500_	500 mL	16 GPH	3/4"	\$ 100	\$ 100	\$ 108
CP-1000_	1000 mL	32 GPH	3/4"	\$ 121	\$ 121	\$ 128
CP-2000_	2000 mL	64 GPH	1"	\$ 185	\$ 185	\$ 195
CP-4000_	4000 mL	127 GPH	1"	\$ 257	\$ 257	\$ 278
CP-10K_	10000 mL	320 GPH	2"	\$ 586	\$ 586	NA
CP-20K_	20000 mL	640 GPH	2"	\$ 702	\$ 702	NA

PVC Calibration Columns: Flanged ANSI 150# (-F)

Part No.	Size	Capacity	Connection	Flanged (-F)
CP-100-F	100 mL	3.2 GPH	1/2"	\$ 114
CP-200-F	200 mL	6.4 GPH	1/2"	\$ 126
CP-500-F	500 mL	16 GPH	3/4"	\$ 143
CP-1000-F	1000 mL	32 GPH	3/4"	\$ 163
CP-2000-F	2000 mL	64 GPH	1"	\$ 237
CP-4000-F	4000 mL	127 GPH	1"	\$ 309
CP-10K-F	10000 mL	320 GPH	2"	\$ 663
CP-20K-F	20000 mL	640 GPH	2"	\$ 779

GLASS Calibration Columns: NPT or Socket (-SW)

Part No.	Size	Capacity	Connection	PVC (PVC)	CPVC (CPVC)	PP (PP)	PTFE (PTFE)	PVDF (PVDF)	316 SS (SS)
CG-__100	100 mL	3.2 GPH	1/2"	\$ 260	\$ 335	\$ 273	\$ 384	\$ 468	\$ 485
CG-__200	200 mL	6.4 GPH	1/2"	\$ 271	\$ 349	\$ 285	\$ 394	\$ 479	\$ 497
CG-__500	500 mL	16 GPH	3/4"	\$ 373	\$ 536	\$ 389	\$ 529	\$ 827	\$ 670
CG-__1000	1000 mL	32 GPH	3/4"	\$ 415	\$ 594	\$ 432	\$ 569	\$ 878	\$ 720
CG-__2000	2000 mL	64 GPH	1"	\$ 661	\$ 1,127	\$ 711	\$ 985	\$ 1,679	\$ 1,326
CG-__4000	4000 mL	127 GPH	1"	\$ 732	\$ 1,216	\$ 780	\$ 1,054	\$ 1,760	\$ 1,389
CG-__10K	10000 mL	320 GPH	2"	\$ 3,217	\$ 3,555	\$ 3,217	\$ 4,485	\$ 6,897	\$ 5,498
CG-__20K	20000 mL	640 GPH	2"	\$ 3,661	\$ 4,480	\$ 3,661	\$ 5,449	\$ 7,231	\$ 6,522

CF - Consult Factory, NA - Not Available

Calibration Column Notes

- Glass columns and PVC removable (R) columns come with Viton O-Rings. For EPDM O-Ring add -E to the end of the part number.
- BSP and Union connections available on select models.
- Maximum column pressure 15 PSI.



Injection Quills (Serviceable)

Part No.	Length	Quill Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)
IQ-_050	4"	1/2"	\$ 155	\$ 185	\$ 170	\$ 380	CF	\$ 392
IQ-_075	4"	3/4"	\$ 169	\$ 196	\$ 180	\$ 645	CF	\$ 460
IQ-_100	4"	1"	\$ 169	\$ 196	\$ 180	\$ 645	CF	\$ 480
IQ-_150	6"	1.5"	\$ 563	\$ 766	CF	\$ 2,239	CF	CF
IQ-_200	6"	2"	\$ 595	\$ 795	CF	\$ 2,749	CF	CF

Adder for Longer Quills (\$ per inch)

Quill Size	PVC (PVC)	CPVC (CPVC)	PP (PP)	PVDF (PVDF)	PTFE (PTFE)	316 SS (SS)
1/2"	\$ 2.00	\$ 2.00	\$ 2.00	\$ 5.00	CF	\$ 5.00
3/4"	\$ 2.00	\$ 2.00	\$ 2.00	\$ 6.00	CF	\$ 6.00
1"	\$ 2.00	\$ 2.00	\$ 2.00	\$ 6.00	CF	\$ 6.00
1.5"	\$ 3.00	\$ 3.00	CF	CF	CF	CF
2"	\$ 4.00	\$ 4.00	CF	CF	CF	CF

CF - Consult Factory, NA - Not Available

Injection Quill Notes

- All quills come with Hastelloy C spring loaded PTFE ball check, removable valve seat, tru-union body connection with O-ring seal, and 1/2" inlet.
- BSP connections available on select models.
- Add -V (Viton) or -E (EPDM) for O-ring to the end of the part number.
- Add -X to the end of the part number to remove Hastelloy C spring for peristaltic pump applications.
- Maximum quill injection pressures up to 1,000 PSI.