Model 500XL3

High Capacity Commercial Grade Water Pressure Reducing Valve with Venturi

TAG

Application

WILKINS model 500XL3 is designed for installation on potable water lines to reduce high inlet pressure to a lower outlet pressure. The patented integral venturi enables the valve to have best-in class flow performance. The high flow capacity makes this device most suitable for commercial plumbing systems and Industrial water lines. The direct acting integral by-pass design prevents buildup of excessive system pressure caused by thermal expansion (1" - 2"). The balanced piston design enables the pressure reducing valve to react in a smooth and responsive manner to changes in system flow demand, while at the same time, providing protection from inlet pressure changes. Includes a removable cartridge and corrosion resistant materials.



Standards Compliance

- ASSE® Listed 1003
- cUPC® Listed
- CSA® Certified B356
- Meets the requirements of NSF/ANSI/CAN 61 and 372*

*(LESS THAN 0.25% WEIGHTED AVERAGE LEAD CONTENT)

Materials

Main Valve Body	Low Lead Cast Bronze ASTM B806
Bell Housing	Low Lead Cast Bronze ASTM B806
	Cast Bronze ASTM B584 (2-1/2" - 4")
Cartridge	NORYL™
Elastomers	Buna Nitrile (FDA approved)
	EPDM (FDA approved)
Fasteners	300 series Stainless Steel
Plunger	300 series Stainless Steel
	Low Lead Cast Bronze ASTM B806 (2-1/2" - 4")
Springs	300 series Stainless Steel
	Chrome Silicon Epoxy Coated (2-1/2" - 4")
Stems	300 series Stainless Steel

Features

Sizes 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4"

Maximum working water pressure	400 psi
Maximum working water temperature	140° F
Reduced pressure range	15 psi to 75 psi
Factory preset	50 psi
Threaded connections (FNPT)	ANSI B1.20.1
Copper connections (Female)	ANSI B16.22
Flanged connections	ANSI B16.24 Class 150



500XL3 (Single Union 1" - 2")



500XL3 (Less Union 2 1/2" - 3")



500XL3F (2 1/2" - 4")

Now Tapped and Plugged for Gauge Standard

Options (Suffixes can be combined)

	Standard with single union FNPT inlet x FNPT outlet (1" thru 2") or less union (2-1/2" - 3")
HR	High range, outlet adjust from 60 psi to 125 psi
C	Single union copper sweat x FNPT (1" - 2")
DU	Double union FNPT x FNPT (1" - 2")
DUC	Double union Copper Sweat x Sweat (1"-2")
F	Flanged Class 150 (2-1/2" - 4")
Y	With lead-free bronze wye strainer on inlet (1" - 3") (300 psi strainer rating)
G	With gauge
FY	With ductile iron wye flanged strainer, fusion epoxy coated, inside and out (2-1/2" - 4") (200 psi strainer rating)

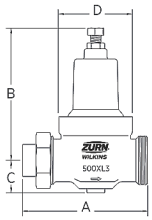
Accessories

- Repair Kits (1" - 4")
- 1" 500XL3 Bypass Kit **1-500XL3BPK**
- 1" 500XL3HR Bypass Kit **1-500XL3HRBPK**
- 1" 500XL3DUBP Valve Only **1-500XL3DUBP**
- 1" 500XL3DUHRBP Valve Only **1-500XL3DUHRBP**

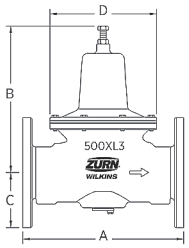
Suggested Pairing

- Double Check 950XL3
- Reduced Pressure Principle 975XL3

Design and dimensional data (inches and [mm]) are subject to manufacturing tolerances and change without notice.



1" - 2"



2 1/2" - 4"

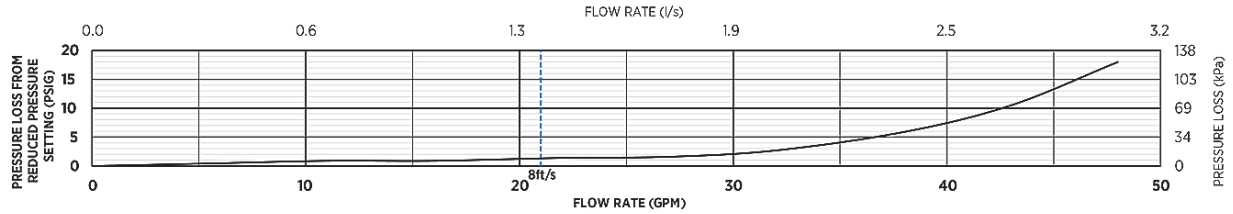
Dimensions & Weights (do not include pkg.)

SIZE		CONNECTIONS	DIMENSIONS (approximate)								WEIGHT	
			A		B		C		D			
in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
1	25	SINGLE UNION	4 5/8	117	5 3/8	137	1 3/8	35	2 3/4	70	3	1.4
1	25	LESS UNION	3 3/4	95	5 3/8	137	1 3/8	35	2 3/4	70	2.6	1.2
1	25	DOUBLE UNION	5 1/2	140	5 3/8	137	1 3/8	35	2 3/4	70	3.4	1.5
1	25	SINGLE UNION W/STRAINER	9	228	5 3/8	137	1 3/8	35	2 3/4	70	4.8	2.2
1 1/4	32	SINGLE UNION	5	127	6 7/16	164	1 3/16	30	2 3/4	70	3.8	1.7
1 1/4	32	LESS UNION	3 7/8	98	6 7/16	164	1 3/16	30	2 3/4	70	3.1	1.4
1 1/4	32	DOUBLE UNION	6 1/8	156	6 7/16	164	1 3/16	30	2 3/4	70	4.5	2.0
1 1/4	32	SINGLE UNION W/STRAINER	10 1/2	267	6 7/16	164	1 3/16	30	2 3/4	70	6.5	2.9
1 1/2	40	SINGLE UNION	7 1/16	179	7 1/2	191	1 3/4	44	4 9/16	116	9.6	4.4
1 1/2	40	LESS UNION	5 13/16	148	7 1/2	191	1 3/4	44	4 9/16	116	8.5	3.9
1 1/2	40	DOUBLE UNION	8 5/16	211	7 1/2	191	1 3/4	44	4 9/16	116	10.7	4.9
1 1/2	40	SINGLE UNION W/STRAINER	13 11/16	347	7 1/2	191	1 3/4	44	4 9/16	116	13.1	6
2	50	SINGLE UNION	7 3/16	183	9 1/4	235	1 3/4	44	4 9/16	116	11.3	5.1
2	50	LESS UNION	6	152	9 1/4	235	1 3/4	44	4 9/16	116	9.8	4.4
2	50	DOUBLE UNION	8 3/8	213	9 1/4	235	1 3/4	44	4 9/16	116	12.9	5.9
2	50	SINGLE UNION W/STRAINER	15 1/4	133	9 1/4	235	1 3/4	44	4 9/16	116	17.3	7.8
2 1/2	65	LESS UNION	8 13/16	224	10 1/4	260	2 5/8	67	7 5/16	186	25	11.3
2 1/2	65	FLANGED	10 3/8	264	10 1/4	260	2 5/8	67	7 5/16	186	35.6	16.1
2 1/2	65	LESS UNION W/SXL STRAINER	19 3/8	492	10 1/4	260	2 5/8	67	7 5/16	186	34.3	15.5
3	80	LESS UNION	8 13/16	224	10 1/4	260	2 13/16	71	7 5/16	186	27.1	12.3
3	80	FLANGED	11	279	10 1/4	260	2 13/16	71	7 5/16	186	40.7	18.5
3	80	LESS UNION W/SXL STRAINER	20	507	10 1/4	260	2 13/16	71	7 5/16	186	41.1	18.7
4	100	FLANGED	11 7/8	302	10 1/4	260	4 1/2	114	7 5/16	186	48.1	21.9

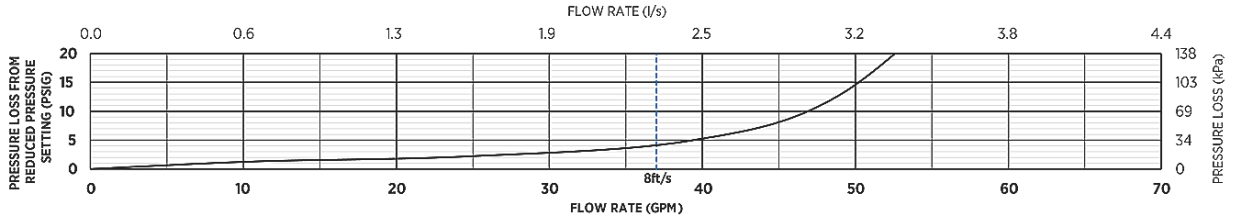
Flow Characteristics

Flow curves are based on a 50 psi pressure reduction. Pressure loss will be less with higher pressure reduction.

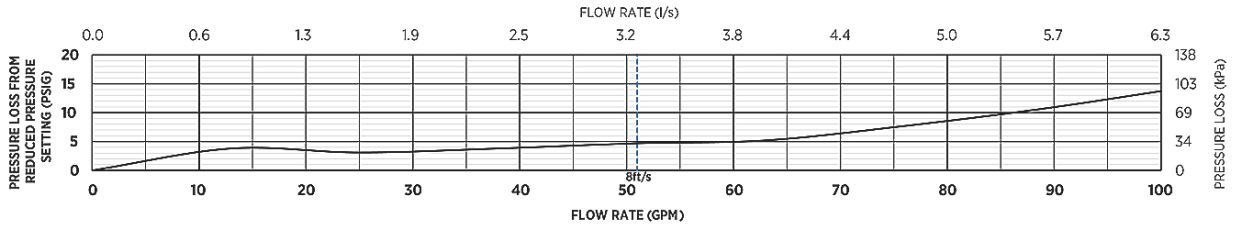
1" MODEL 500XL3 (STANDARD AND METRIC)



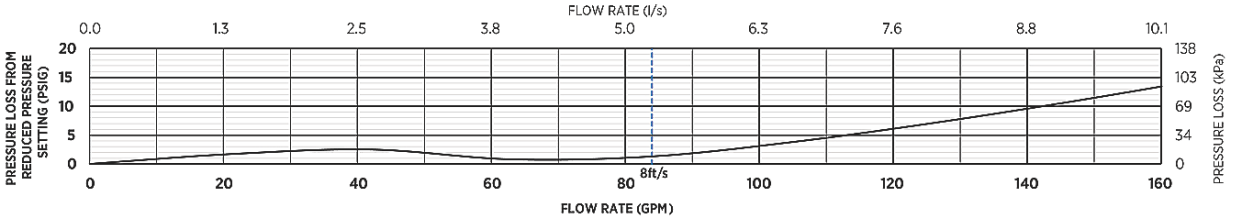
1-1/4" MODEL 500XL3 (STANDARD AND METRIC)



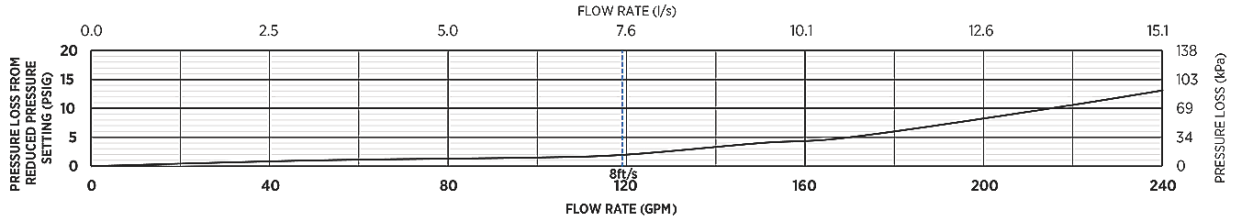
1-1/2" MODEL 500XL3 (STANDARD AND METRIC)



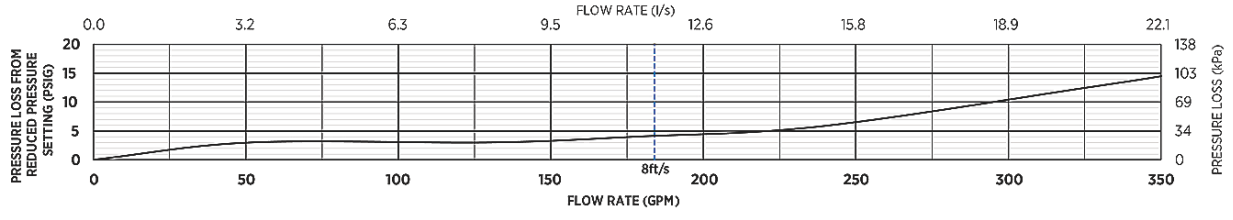
2" MODEL 500XL3 (STANDARD AND METRIC)



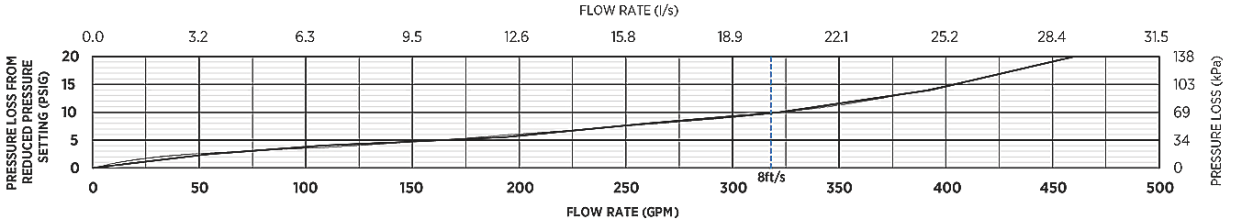
2-1/2" MODEL 500XL3 (STANDARD AND METRIC)



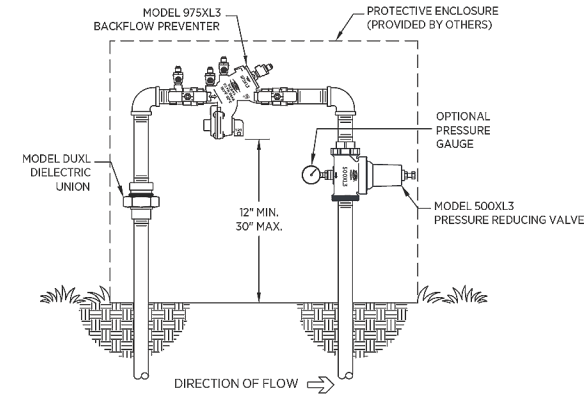
3" MODEL 500XL3 (STANDARD AND METRIC)



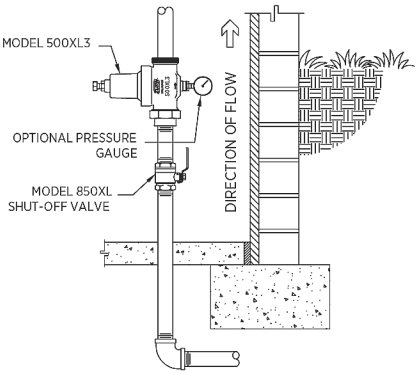
4" MODEL 500XL3 (STANDARD AND METRIC)



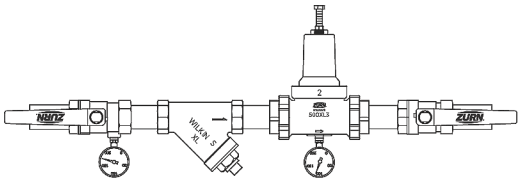
Typical Installation



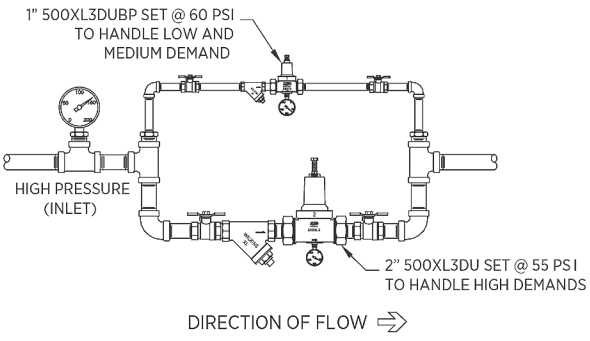
OUTDOOR INSTALLATION



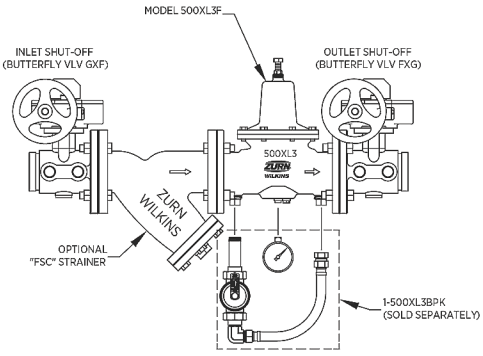
VERTICAL INSTALLATION



HORIZONTAL INSTALLATION



PARALLEL INSTALLATION



TYPICAL INSTALLATION

SIZE		CONNECTIONS	DIMENSIONS				WEIGHT	
			E		F		(W/FSC STRAINER)	
in	mm		in.	mm	in.	mm	lbs	kg
2 1/2	65	FLANGED	20.3	516	11.3	287	70.6	32.1
3	80	FLANGED	21.6	549	11.7	297	85.7	39
4	100	FLANGED	26.9	760	12.1	306	109.1	49.4

Typical Installation

Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted in accordance with the manufacturer's instructions and the latest edition of the Uniform Plumbing Code. The assembly shall be installed with sufficient side clearance for testing and maintenance. The Model 500XL3 may be installed in any position. Multiple installations in series are required when the desired pressure reduction is more than 3 to 1 (i.e. 150 psi inlet reduced to 50 psi outlet). If using a 2-1/2", 3" or 4" valve at low flows and higher pressure reduction ratios above 3 to 1, you may need a low flow bypass to handle flows under 10 gpm. Set the bypass valve approximately 5 to 10 psi higher than the large valve. This is easily accomplished with the 500XL3F and the low flow bypass kit, 1-500XL3BPK, or the 500XL3 and 1-500XL3DUBP. Due to highly efficient flow performance, only use the 500XL3BPK or 500XL3DUBP as low flow bypass valve options.

Caution: Anytime a pressure reducing valve is adjusted, a pressure gauge must be used downstream to verify correct pressure setting. Do not bottom-out adjustment bolt on bell housing

Installation and Maintenance Instructions - 500XL3 (1in – 2in)

Installation and Maintenance Instructions - 500XL3 (2-1/2in - 4in)

Installation and Maintenance Instructions - 500XL3BP (1in - 2in)

Plumbing Schedule - 500XL3

Specifications (500XL3 Written Specification)

The Pressure Reducing Valve shall be certified to NSF/ANSI/CAN 61 & 372, consisting of a low lead cast bronze body and bronze bell housing, and a bolt to adjust the downstream pressure. The bronze bell housing shall be threaded to the body on the 1"-2" sizes or affixed to the body with stainless steel bolts on the 2 1/2", 3" or 4" sizes. The assembly shall be of the balanced piston design and shall reduce pressure in both flow and no-flow conditions with integral venturi for improved flow performance. The assembly shall be accessible for maintenance without having to remove the body from the line. Shall include a removable cartridge and corrosion resistant materials. The Pressure Reducing Valve shall be a WILKINS Model 500XL3.