

Ws+ Self-Priming Pumps

Sanitary Centrifugal Pumps



The APV Ws+ uses a unique design that combines the abilities of most liquid ring pumps with the efficiencies of the W+ centrifugal series. As a result customers can now handle entrained air and lift requirements with lower horsepower, less noise and at lower cost.

SPX FLOW, Inc. (NYSE:FLOW) is a leading manufacturer of innovative flow technologies, many of which help define the industry standard in the market segments they serve. From its headquarters in Charlotte, North Carolina, it operates a sales and support network, centers of manufacturing excellence, and advanced engineering facilities, throughout the world. Its cutting-edge flow components and process equipment portfolio includes a wide range of pumps, valves, heat exchangers, mixers, homogenizers, separators, filters, UHT, and drying technology that meet many application needs. Its expert engineering capability also makes it a premium supplier of customized solutions and complete, turn-key packages to meet the most exacting of installation demands.

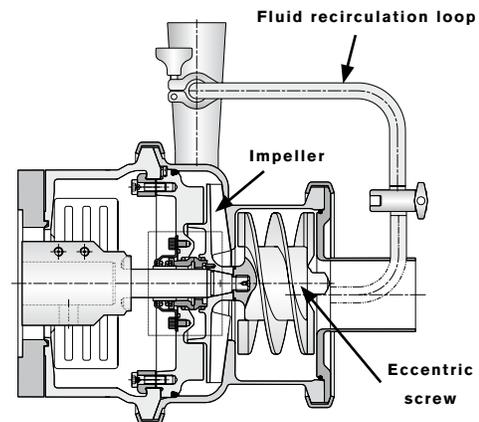
Incorporating many leading brands, SPX FLOW has a long history of serving the food and beverage, power and energy, and industrial market sectors. Its designs and engineered solutions help customers drive efficiency and productivity, increase quality and reliability, and meet the latest regulatory demands. In-depth understanding of applications and processes, state-of-the-art Innovation Centers, and advanced pilot/testing technology further assist in optimizing processes and reducing timescales to reliably meet production targets.

To learn more about SPX FLOW capabilities, its latest technology innovations and complete service offerings, please visit www.spxflow.com.

New revolutionary technology

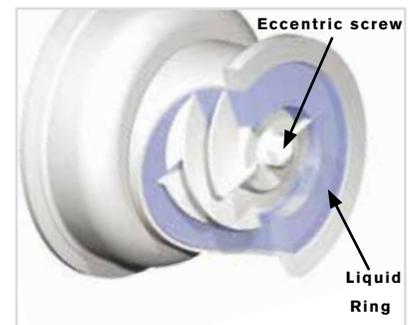
PRODUCT DESCRIPTION

The Ws+ employs a unique eccentric screw and recirculation loop to generate the liquid ring required to handle aerated product and produce a vacuum. The design allows the use of standard centrifugal components to match the pump to a specific duty point to produce efficiencies previously unobtainable with liquid rings. Impellers can be trimmed to further reduce horsepower requirements. The result is higher efficiency, decreased power consumption, simpler components and less noise.



FEATURES AND BENEFITS

- **Ideal for CIP Return:** The ability to pump both fluid and entrained gas makes the Ws+ ideal for difficult CIP return applications
- **Extremely Clean Design:** Authorized to carry the 3-A symbol per Sanitary Standard 02-10. Certified by the European Hygienic Equipment Group. Can be used for product as well as CIP.
- **Higher Efficiency:** The efficiency is 25-90% higher than other self-priming pumps. Performance is similar to the W+ centrifugal series due to the ability to match impeller size to required duty.
- **Noise Reduction:** Has demonstrated noise reductions to 75% over other liquid ring pumps.
- **Parts Interchangeability:** Shares most wear parts with W+ centrifugal series. Commonality of shaft seals and o-rings reduces inventory.
- **Particle Friendly Design:** Because of the open impeller design, small objects can pass through the pump with minimal damage.



Eccentric screw forms liquid ring

PUMP SPECIFICATIONS

MATERIALS	
CASING	SS 316L
FRONT COVER	SS 316L
IMPELLER	SS 316L
AIR SCREW AND RECIRCULATION PIPE	SS 316L
BACK PLATE	SS 316L
SHAFT	SS 316L
CLAMP RINGS	SS 304
ADAPTOR	SS 304
SUPPORT	SS 304
SHAFT SEAL	Carbon/Silicon Carbide Optional: Silicon Carbide/Silicon Carbide
ELASTOMERS	FKM Optional: EPDM

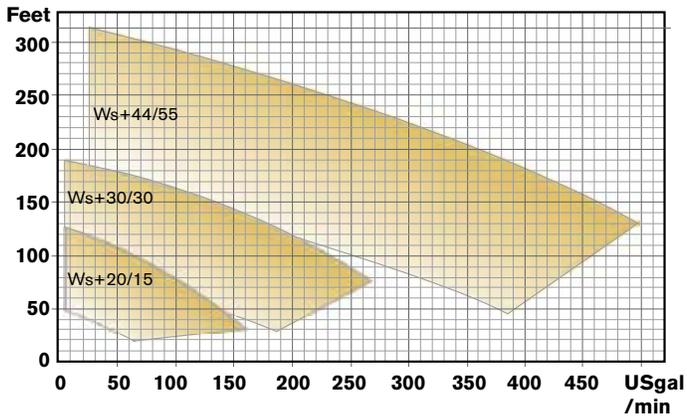
PORT CONNECTIONS

S-Line connections are standard.
Bevel seat, I-line, ISO and other standard fittings are available.

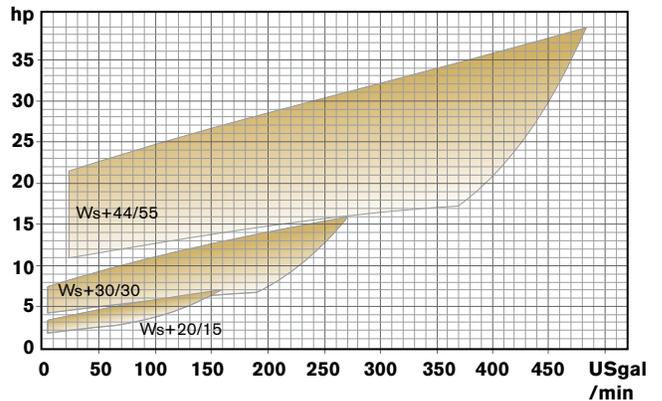
MOTOR

TEFC or Washdown enclosures available. Energy-efficient, Chem-duty, Explosion Proof and stainless steel also available, as well as single phase or three phase, 60 or 50 Hertz.

COMPOSITE PERFORMANCE CURVES (60 HZ)



COMPOSITE HORSEPOWER CURVES (60 HZ)

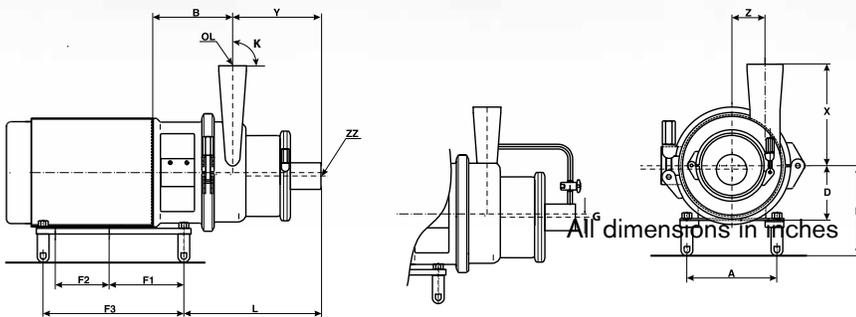


Ws+ Self-Priming Pumps

SANITARY CENTRIFUGAL PUMPS



PRODUCT DIMENSIONS



PUMP	MOTOR FRAME	B	ZZ	OL	Y	F1	F2	F3	L	Z	X	D	A	E	G	K
WS+20/15	182 TC	7.00	2.5	2	7.48	4.01	4.49	8.50	14.13	2.60	8.46	4.49	9.01	7.17	0.32	90°
	184 TC	7.00	2.5	2	7.48	4.01	5.51	9.53	14.13	2.60	8.46	4.49	9.01	7.17	0.32	
	213 TC	7.00	2.5	2	7.48	4.01	5.51	9.53	15.04	2.60	8.46	5.24	10.51	7.91	0.32	
	215 TC	7.00	2.5	2	7.48	2.52	7.00	9.53	16.54	2.60	8.46	5.24	10.51	7.91	0.32	
WS+30/30	213 TC	6.14	2.5	2	7.60	4.01	5.51	9.53	14.29	3.27	9.05	5.24	10.51	7.91	0.39	90°
	215 TC	6.14	2.5	2	7.60	2.52	7.00	9.53	15.79	3.27	9.05	5.24	10.51	7.91	0.39	
	254 TC	6.77	2.5	2	7.60	0	8.27	8.27	19.13	3.27	9.05	6.26	12.52	8.62	0.39	
	256 TC	6.77	2.5	2	7.60	0	10.00	10.00	19.13	3.27	9.05	6.26	12.52	8.62	0.39	
WS+44/50	254 TC	7.28	3	2	9.88	0	8.27	8.27	24.80	3.94	8.66	6.26	12.52	8.62	0.51	90°
	256 TC	7.28	3	2	9.88	0	10.00	10.00	24.80	3.94	8.66	6.26	12.52	8.62	0.51	
	284 TC	6.61	3	2	9.88	0	9.49	9.49	24.13	3.94	8.66	7.00	14.02	9.37	0.51	
	286 TC	6.61	3	2	9.88	0	10.98	10.98	24.13	3.94	8.66	7.00	14.02	9.37	0.51	
	324 TC	7.68	3	2	9.88	0	10.51	10.51	25.67	3.94	8.66	8.00	15.98	10.35	0.51	
326 TC	7.68	3	2	9.88	0	11.89	11.89	25.67	3.94	8.66	8.00	15.98	10.35	0.51		
TOLERANCE INCHES		0.197 -0	Nominal	Nominal	0 -0.197	± 0.079	± 0.079	± 0.079	0 -0.197	± 0.079	± 0.079	± 0.079	± 0.079	± 0.079	± 0.020	0.098 0



SPX FLOW, Inc. 611 Sugar Creek Road, Delavan, WI 53115

P: (262) 728-1900 or (800) 252-5200, F: (262) 728-4904 or (800) 252-5012

E: answers.us@spxflow.com • www.spxflow.com

SPX FLOW reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region. For more information visit www.spxflow.com. The green ">" is a trademark of SPX FLOW, Inc. ISSUED 10/2015 7001-02-08-2010-US

COPYRIGHT © 2015 SPX FLOW, Inc.