

SPX FLOW

WILLIAMS
WC
CARVER CO.

S200 Series

CENTRIFUGAL PUMPS - DESIGNED FOR THE BIO-PHARMACEUTICAL INDUSTRY



A₃ CE

› **Waukesha Cherry-Burrell®**

The Waukesha Cherry-Burrell brand S200 series pumps, are ideal for pharmaceutical applications. The pumps come standard with a machined from solid stainless steel bar body eliminating "rouging" typically associated with cast pumps, material heat numbers and a documentation package. The unique design of the pump mounted to a JM pump motor provides a short over-hung load with a one size seal that fits in all models, reducing maintenance and increasing the flexibility of your inventory. SPX FLOW offers a complete range of centrifugal pumps to meet your needs. When it comes to know-how, experience and vast product range within the field of hygienic pumps, look to SPX FLOW to help solve your toughest application challenges.

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 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.

S200 Series Centrifugal Pumps

Product contact components are machined from wrought less than 5% ferrite level, 316L SS and feature a 20 Ra product contact surface finish. Material heat numbers are available on all product contact components.

FEATURES AND BENEFITS

STANDARD

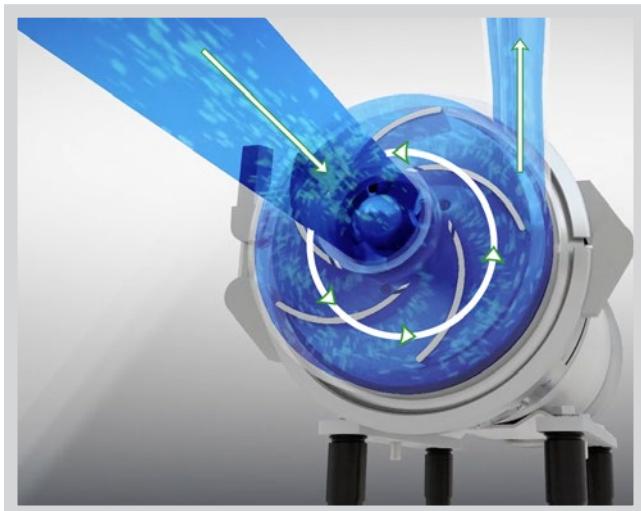
- Designed to be Cleanable-in-Place (CIP)
- High efficiency, low NPSHR design for a wide variety of applications.
- One size mechanical seal for all S200 Series models; reducing parts inventory and cost (commercial seals available)
- Integral impeller/shaft design for fewer parts, greater concentricity and easy maintenance
- Close coupled pumps use NEMA JM Frame motors with larger diameter shafts and bearings (compared to C Frame motors)
- Horizontal, vertical and 45° angle discharge port orientation available
- Impellers, casing, and backplate are machined from wrought 316L SS
- Stainless steel motor adapters
- Reduced validation time
- Documentation package
- FDA approved fluoroelastomers
- USP Class VI elastomers
- 3-A approved and EHEDG certified

OPTIONS

- 15 or 20 Ra, electropolish and passivation product contact surface finishes
- Double mechanical seals
- Casing drain
- SS motors
- USP Class VI elastomers
- Stainless steel motors
- SS Leg Kits
- Ra Mapping
- Certified and witness performance testing
- Pedestal mounted pumps
- Stainless steel bases and coupling guards

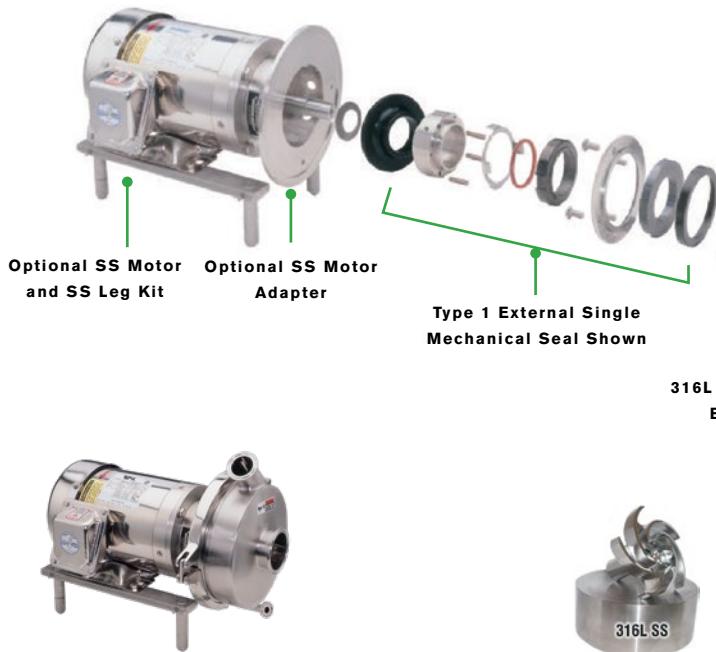
THEORY OF OPERATION

Low viscous fluids enter through the center inlet and flow around the impeller which turns at various speeds based on application requirements. The fluid then moves to the outer extents of the impeller vanes by centrifugal force and is directed through the outlet. As with other SPX FLOW centrifugal pumps, impeller and casing designs are optimized to perform more efficiently over a wide range of operating conditions. The casing and port are further designed to maximize performance under low NPSH conditions.



MATERIAL SPECIFICATIONS

S200 Exploded View



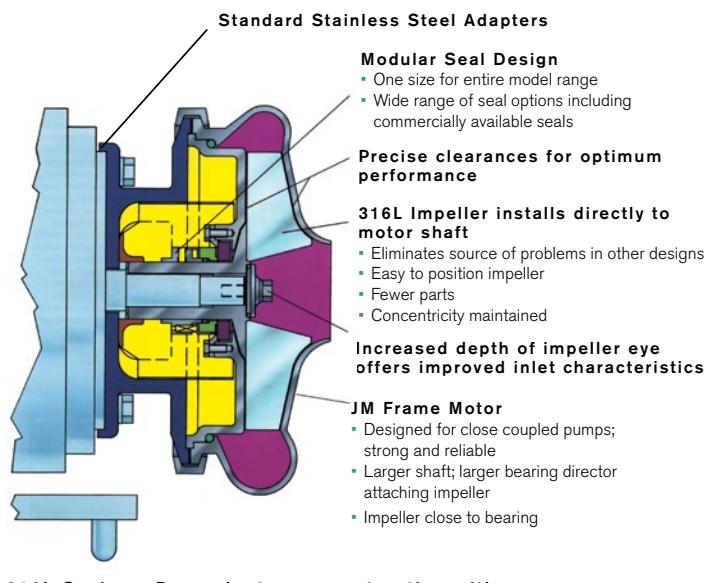
Close coupled Model S2065LV with optional SS Motor, Adapter and Leg Kit shown.

Wet-end components are made from wrought 316SS, (UNS 31603) bar or flat stock with composition and manufacturing process controls that limit delta ferrite content to less than 5%.

Typical product applications

Pharmaceutical Processing

USP Purified Water
USP Water for Injection
Buffer Distribution & Transfer
Low Viscosity Product Transfer
CIP Solutions



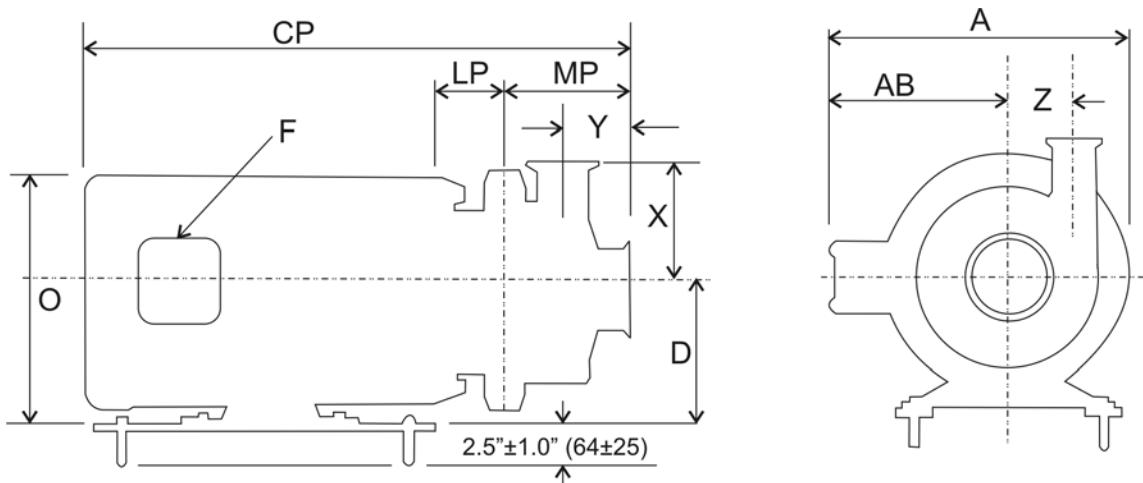
316L Casing - Rugged, strong construction with consistent dimensions



PRODUCT SPECIFICATIONS

MODEL	INLET SIZE INCHES (mm)		OUTLET SIZE IMPELLER SIZE INCHES (mm)	MAXIMUM IMPELLER SIZE INCHES (mm)	MAXIMUM CAPACITY GPM (M ³ /HR)		MAXIMUM HEAD FEET FEET (METERS)	
	1750 RPM	3500 RPM			1750 RPM	3500 RPM	1750 RPM	3500 RPM
S2045	1.5 (40)	2.0 (50)	1.5 (40)	4.5 (114)	97 (22)	190 (43)	22 (6)	88 (27)
S2065LV	1.5 (40)	2.5 (65)	1.5 (40)	6.5 (165)	100 (23)	195 (44)	44 (13)	173 (53)
S2065	2.5 (65)		2.0 (50)	6.5 (165)	245 (56)	450 (102)	46 (14)	180 (55)
S2065HV	3.0 (75)		2.0 (50)	6.5 (165)	230 (52)	500 (114)	44 (13)	180 (55)
S2075	3.0 (75)		1.5 (40)	8.7 (221)	125 (28)	300 (68)	79 (24)	320 (97)
S2085	3.0 (75)	4.0 (100)	2.5 (65)	8.7 (221)	490 (111)	900 (204)	80 (24)	312 (95)
S2085LV	2.0 (50)		1.5 (40)	8.7 (221)	70 (16)	140 (32)	81 (24)	310 (94)
S2092	3.0 (75)		2.0 (50)	9.25 (235)	380 (86)	700 (159)	90 (27)	362 (110)

PRODUCT DIMENSIONS



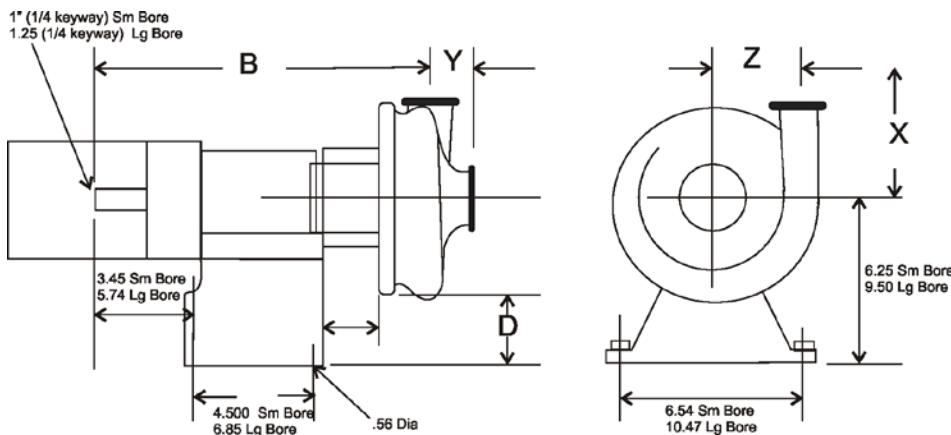
FRAME	A INCH (MM)	O INCH (MM)	D INCH (MM)	F INCH (MM)	AB INCH (MM)
145JM	9.32 (237)	7.1 (180)	3.5 (89)	0.88 (22)	5.73 (145)
182JM	9.32 (237)	8.1 (206)	4.5 (114)	0.88 (22)	5.73 (145)
184JM	11.11 (282)	8.49 (216)	4.5 (114)	1.09 (28)	6.87 (174)
213JM	13.18 (335)	10.39 (264)	5.25 (133)	1.38 (35)	8.04 (204)
215JM	13.18 (335)	10.39 (264)	5.25 (133)	1.38 (35)	8.04 (204)
254JM	15.34 (390)	11.39 (289)	6.25 (159)	1.38 (35)	9.40 (239)
256JM	15.34 (390)	11.39 (289)	6.25 (159)	1.38 (35)	9.40 (239)
284JM	20.78 (528)	14.44 (367)	7.0 (178)	2.0 (51)	13.12 (333)
286JM	20.49 (520)	14.44 (367)	7.0 (178)	2.0 (51)	13.12 (333)
324JM	23.05 (585)	16.25 (413)	8.0 (203)	2.5 (63)	14.61 (371)
326JM	23.05 (585)	16.25 (413)	8.0 (203)	2.5 (63)	14.61 (371)

FRAME	PUMP SIZE							
	S2045		S2065		S2065LV		S2065HV	
	LP	CP	LP	CP	LP	CP	LP	CP
145JM	2.92 (74)	18.18 (461)	2.71 (69)	18.43 (468)	2.71 (69)	17.93 (455)	2.71 (69)	18.85 (479)
182JM	2.92 (74)	19.56 (497)	2.71 (69)	19.81 (503)	2.71 (69)	19.31 (490)	2.71 (69)	20.23 (514)
184JM	2.92 (74)	20.81 (529)	2.71 (69)	21.01 (534)	2.71 (69)	20.56 (522)	2.71 (69)	21.43 (544)
213JM	--	--	2.97 (75)	22.81 (579)	2.97 (75)	22.31 (567)	2.97 (75)	23.23 (590)
215JM	--	--	2.97 (75)	23.94 (608)	2.97 (75)	23.44 (595)	2.97 (75)	24.36 (618)
254JM	--	--	3.97 (101)	26.07 (662)	3.97 (101)	25.57 (649)	3.97 (101)	26.49 (673)
256JM	--	--	3.97 (101)	27.83 (707)	3.97 (101)	27.33 (694)	3.97 (101)	28.25 (718)
284JM	--	--	3.97 (101)	31.43 (798)	3.97 (101)	30.93 (786)	3.97 (101)	31.85 (809)
286JM	--	--	3.97 (101)	31.64 (804)	3.97 (101)	31.14 (791)	3.97 (101)	32.06 (814)
324JM	--	--	--	--	--	--	--	--
326JM	--	--	--	--	--	--	--	--

FRAME	PUMP SIZE							
	S2075		S2085		S2085LV		S2092	
	LP	CP	LP	CP	LP	CP	LP	CP
145JM	2.75 (70)	18.17 (461)	2.75 (70)	18.84 (478)	2.75 (70)	18.17 (461)	2.75 (70)	18.78 (477)
182JM	2.75 (70)	19.55 (497)	2.75 (70)	21.21 (513)	2.75 (70)	19.55 (497)	2.75 (70)	20.16 (512)
184JM	2.75 (70)	20.80 (528)	2.75 (70)	21.46 (545)	2.75 (70)	20.80 (528)	2.75 (70)	21.41 (544)
213JM	2.84 (72)	22.39 (569)	2.84 (72)	23.06 (586)	2.84 (72)	22.39 (569)	2.84 (72)	23.00 (584)
215JM	2.84 (72)	23.52 (597)	2.84 (72)	24.19 (614)	2.84 (72)	23.52 (597)	2.84 (72)	24.13 (613)
254JM	3.84 (98)	25.65 (651)	3.84 (98)	26.32 (668)	3.84 (98)	25.65 (651)	3.84 (98)	26.26 (667)
256JM	3.84 (98)	27.41 (696)	3.84 (98)	28.08 (713)	3.84 (98)	27.41 (696)	3.84 (98)	28.02 (712)
284JM	3.84 (98)	31.01 (788)	3.84 (98)	31.68 (805)	3.84 (98)	31.01 (788)	3.84 (98)	31.62 (803)
286JM	3.84 (98)	31.22 (793)	3.84 (98)	31.89 (810)	3.84 (98)	31.22 (793)	3.84 (98)	31.83 (808)
324JM	3.84 (98)	33.11 (841)	3.84 (98)	33.78 (858)	3.84 (98)	33.11 (841)	--	--
326JM	3.84 (98)	33.11 (841)	3.84 (98)	33.78 (858)	3.84 (98)	33.11 (841)	--	--

MODEL	INLET INCH (MM)	OUTLET INCH (MM)	X INCH (MM)	Y INCH (MM)	Z INCH (MM)	MP INCH (MM)
S2045	1.5 (38)	1.5 (38)	3.88 (99)	2.56 (65)	1.99 (51)	4.08 (104)
	2.0 (51)	1.5 (40)	3.88 (99)	2.56 (65)	1.99 (51)	4.08 (104)
S2065	2.5 (64)	2.0 (51)	4.94 (125)	2.68 (68)	2.88 (73)	4.53 (115)
S2065LV	1.5 (38)	1.5 (38)	4.94 (125)	2.43 (62)	3.13 (79)	4.03 (102)
	2.0 (51)	1.5 (38)	4.94 (125)	2.43 (62)	3.13 (79)	4.03 (102)
	2.5 (64)	1.5 (38)	4.94 (125)	2.43 (62)	3.13 (79)	4.03 (102)
S2065HV	3.0 (76)	2.0 (51)	4.94 (125)	3.04 (77)	2.88 (73)	4.96 (126)
S2075	3.0 (76)	1.5 (40)	6.69 (170)	2.70 (69)	4.32 (110)	4.24 (108)
S2085	3.0 (76)	2.5 (64)	5.75 (146)	2.93 (74)	3.82 (97)	4.91 (125)
	4.0 (102)	2.5 (64)	5.75 (146)	2.93 (74)	3.82 (97)	4.91 (125)
S2085LV	2.0 (51)	1.5 (40)	6.69 (170)	2.70 (69)	4.32 (110)	4.24 (108)
S2092	3.0 (76)	2.0 (51)	6.64 (169)	3.09 (78)	4.62 (117)	4.85 (123)

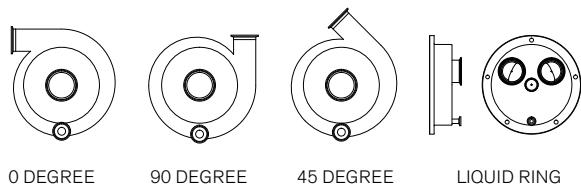
PRODUCT DIMENSIONS CONT.



MODEL	INLET INCH (MM)	OUTLET INCH (MM)	B		D	
			SM BORE INCH (MM)	LG BORE INCH (MM)	SM BORE INCH (MM)	LG BORE INCH (MM)
PS2045	1.5 (40)	1.5 (40)	15.0 (381)	--	2.7 (69)	--
	2.0 (50)	1.5 (40)	15.0 (381)	--	2.7 (69)	--
PS2065LV	1.5 (40)	1.5 (40)	14.9 (378)	18.6 (472)	1.7 (43)	4.9 (124)
	2.0 (50)	1.5 (40)	14.9 (378)	18.6 (472)	1.7 (43)	4.9 (124)
	2.5 (65)	1.5 (40)	14.9 (378)	18.6 (472)	1.7 (43)	4.9 (124)
PS2065	2.5 (65)	2.0 (50)	15.1 (384)	18.9 (480)	1.7 (43)	4.9 (124)
PS2065HV	3.0 (75)	2.0 (50)	15.2 (386)	18.9 (480)	1.7 (43)	4.9 (124)
PS2075	3.0 (75)	1.5 (40)	14.7 (373)	18.4 (472)	.6 (15)	3.9 (99)
PS2085LV	2.0 (50)	1.5 (40)	14.7 (373)	18.4 (472)	.6 (15)	3.9 (99)
PS2085	3.0 (75)	2.5 (65)	15.1 (384)	18.9 (480)	.6 (15)	3.9 (99)
	4.0 (100)	2.5 (65)	15.1 (384)	18.9 (480)	.6 (15)	3.9 (99)
PS2092	3.0 (75)	2.0 (50)	14.9 (378)	18.6 (472)	.6 (15)	3.9 (99)

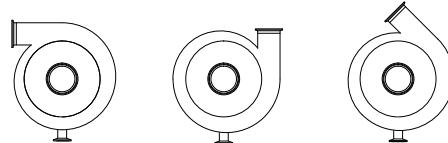
CASING DRAIN OPTIONS

FRONT FACING - MODELS S2065-S2092



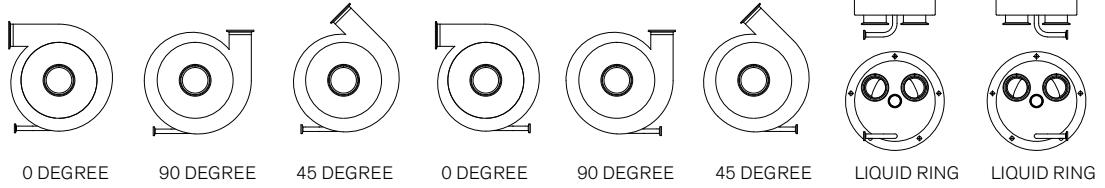
0 DEGREE 90 DEGREE 45 DEGREE LIQUID RING

BOTTOM FACING - MODELS S2045-S2092



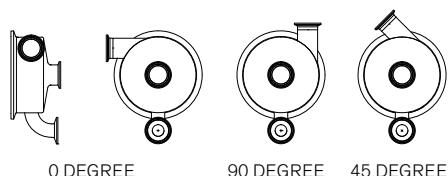
0 DEGREE 90 DEGREE 45 DEGREE

TANGENTIAL - MODELS S2045-S2092



0 DEGREE LEFT FACING 90 DEGREE LEFT FACING 45 DEGREE LEFT FACING 0 DEGREE RIGHT FACING 90 DEGREE RIGHT FACING 45 DEGREE RIGHT FACING LIQUID RING LEFT FACING LIQUID RING RIGHT FACING

FRONT FACING WITH 90 DEGREE ELBOW - MODELS S2045-S2092



0 DEGREE 90 DEGREE 45 DEGREE

SUPPORT TOOLS

SPX FLOW is experienced with components utilized in the bio-pharmaceutical industry and the part traceability required with every pump we manufacture. SPX FLOW supplies this stringent documentation in an attractive, easy to navigate PDF package so you can easily archive this information for future reference. This important, critical information is also available 24/7 on our material test reports/certification documentation website tool. In addition to these services SPX FLOW also wants to ensure you size and order the correct pump based on your application needs. We have partnered with PUMP-FLO® to bring our customers a straightforward sizing program that can be accessed by simply creating and registering an account.

EXTRACTS FROM SUPPLIED DOCUMENTATION:

SPXFLOW 

Documentation Package
Centrifugal Pumps

Model No:	[Abstract]	Part No:	[Category]
Sales Order:	[Keywords]	Serial No:	[Subject]
Work Order:	[Title]	Date:	June 2, 2020



Prepared By: _____

SPXFLOW, Inc. | 611 Sugar Creek Road Delavan, WI 53115 | Tel: 800.252.5200 or 262.728.1900
[Material Test Results \(MTR\) Search](#)
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SPXFLOW 

Documentation Package
Centrifugal Pumps

Model No:	[Abstract]	Part No:	[Category]
Sales Order:	[Keywords]	Serial No:	[Subject]
Work Order:	[Title]	Date:	June 2, 2020

QA 05CF
 Issue Date: 07/25/20
 Revision Date: 6/2/2020

Material Heat Certification

Item	Material (316, 304, etc.)	Part #	Heat# Inspection
Casing			
Fitting Inlet			
Tube Inlet			
Flange Inlet			
Fitting Outlet			
Tube Outlet			
Filler Rod Outlet			
Flange Outlet			
Impeller			
Impeller Nut			
Backplate			
Drain			
Drain Tube			
Inspect Port			
Drain Fill Rod			

QA 15CFSFM
 Issue Date: 07/1/2022
 Revision Date: 6/2/2020

Surface Finish Map Certification

Item	1	2	3	4
Casing				
Backplate				
Impeller				
Impeller Nut				
Drain				
Drain Tube				
Inspect Port				
Drain Fill Rod				

Reading taken 90% apart per BPE Specification Surface Finish tables SF-1 through SF-8
 *All Surface finish readings taken as Ra micro-inches

Authorized Signature: 
 Jake Dobratz, Quality Manager

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Documentation Package
Centrifugal Pumps

Model No:	[Abstract]	Part No:	[Category]
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Surface Finish Map Certification

Item	1	2	3	4
Casing				
Backplate				
Impeller				
Impeller Nut				
Drain				
Drain Tube				
Inspect Port				
Drain Fill Rod				

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MATERIAL TEST REPORTS / CERTIFICATION DOCUMENTATION LOOK UP TOOL:

SPXFLOW Material Test Reports/
Certification Documents

Have a question or need assistance,
please contact customer service
866.252.5200 or 262.728.1900

MTR / Elastomer Certificate Lookup

Please enter either your SPX FLOW Part Number, Heat Number or Lot /
Batch Number for a copy of the MTR or Elastomer Certificate(s)

SPX Flow Part Number
Heat Number
Lot / Batch Number

Search

Search Equipment Certification Document Packets

Serial Number
Sales Order Number

Search

BACK TO SPXFLOW.COM

**SCAN FOR
LOOK UP TOOL**



PUMP SIZING AND SELECTION WEBSITE:

SPXFLOW

Storefront > Criteria
 Calculators Advanced Criteria Manual Selection

Search

Rated Design Point

Flow rate	US gpm	Change Units
Total head	ft	
Static head	ft	

BEP: No Preference
 Near max: % of head

Operating Points

Additional Operating Points
 Default Head Rates
 User Specified Flow Rates
 User Specified Flow Rates, Total Heads & Static Heads

Fluid & NPSH

Water @ 60 °F Change Fluid
 NPSHr: ft
 Margin ratio: ft

Types & Speeds

Type	Speeds
200 Series	3000
C-Series	1800
Liquid Ring	
S200 Series	

Motors

Standard: NEMA
 Enclosure: IP65
 Sizing Criteria: Max power on design curve



**SCAN FOR
SIZING AND
SELECTION
WEBSITE**



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Based in Charlotte, North Carolina, SPX FLOW, Inc. (NYSE: FLOW) is a multi-industry manufacturing leader. For more information, please visit www.spxflow.com

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SPX FLOW, Inc. reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction, dimensional data and certifications 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.

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WCB-Pumps-S200-FH-1910-BRO-US

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