

Alfa Laval SolidC

Centrifugal pumps

Introduction

The Alfa Laval SolidC Centrifugal Pump is designed for basic transport of fluids in hygienic applications. It provides reliable, low-maintenance operation. With its hygienic design, cost-effective operation and quick, easy maintenance, the SolidC offers excellent value for money.

Applications

Designed for Cleaning-in-Place (CIP), the Alfa Laval SolidC is ideal for basic duties across the dairy, food, beverage and personal care industries in which hygienic treatment is required. Typical applications are pumping of CIP solutions, utilities, cooling or heating water, and other simple transport duties.

The SolidC pump is available in four sizes to handle capacities up to 75 m³/hour and differential pressures up to 8 bar at 50Hz.

Benefits

- Hygienic: designed according to international hygienic design standards and with verified effective CIP cleanability.
- Cost-effective operation: consistent performance ensured.
- Quick and easy maintenance: wear parts changed in just a few minutes.

Standard design

All media contacting steel components like pump casing, impeller, impeller nut and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the motor and four adjustable stainless steel legs support the complete unit.

The semi-open impeller with a special vane design and balance holes enhance circulation around the shaft seal and reduce axial forces. This maximizes cleanability while minimizing wear on the shaft seal and motor bearings.

As standard, the SolidC pump is equipped with a single mechanical shaft seal, but is also available with a single flushed mechanical shaft seal. The secondary seal of the flushed seal is a long-lasting lip seal. The front-loading shaft seal, with the spring and washers mounted on the



atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced design minimizes the risk of seal opening during unforeseen pressure shock.

TECHNICAL DATA

Materials	
Product wetted steel parts:	AISI 316L and AISI 329L
Other steel parts:	Stainless steel AISI 304
Inside surface finish:	3A polish Ra 32 µin
Product wetted elastomers:	EPDM.
Rotary seal face:	Carbon
Stationary seal face:	Silicon Carbide

Motor	
Standard C-faced, foot mounted motor according to NEMA standard. 3500 RPM or 1750 RPM. Premium efficiency, Class F. Note frame size per horsepower.	

Motor sizes	
60 Hz:	1, 1½, 2, 3, 5, 7.5, 10, 15, 20, 25, 30 Hp.

OPERATING DATA

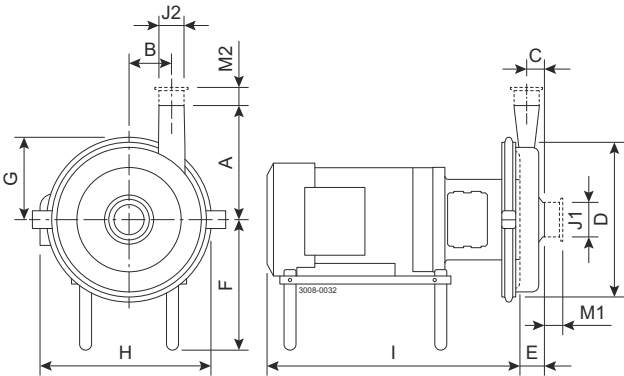
Max inlet pressure	
SolidC 1 - 4:	58 PSI (4 bar)

Temperature	
Temperature range:	14°F to +248°F (EPDM)
Flush media:	Max 158°F

Flushed shaft seal	
Water pressure inlet:	14.5 PSI
Water consumption:	4-8 usgph

Connections for flushed shaft seal	
SolidC 1 - 4:	1/8" G

Dimensions (inch)



Pump specific measures (inch)				
Pump Model	SolidC-1	SolidC-2	SolidC-3	SolidC-4
A	7.087	7.874	8.268	9.055
B	2.638	3.701	4.764	4.724
C	1.102	1.378	1.220	1.063
D	9.370	8.937	12.244	13.110
E	1.575	1.850	1.732	1.732

Motor specific measures (inch)

Motor TC/TSC	143TC	145TC	182TC	184TC	213TC	215TC	254TC	256TC	284TSC	286TSC
Motor HP	1.5	2.0	3.0	5.0	7.5	10.0	15.0	20.0	25.0	295
F(max) ¹	8.110	8.110	9.094	9.094	9.843	9.843	10.866	10.866	11.614	11.614
G	3.504	3.504	4.370	4.488	5.394	5.394	6.772	6.772	7.677	7.677
H	9.094	9.094	11.102	11.102	13.071	13.071	452725.400	17.795	20.945	20.945
I	15.669	16.220	18.543	18.701	22.480	22.480	26.417	28.189	29.055	30.512

¹ Possible to reduce dimension F by min. 0.59 inch for all pump models. For smaller models it will be possible to reduce dimension F even further.

Motor overview

Pump Model	SolidC-1	SolidC-2	SolidC-3	SolidC-4
Motor range (TC/TSC)	143TC-215TC	182TC-256TC	184TC-286TSC	215TC-286TSC



Note! Dimensional data are based on 2 pole, Sterling motors.

Connections (inch)

Pump Model		SolidC-1	SolidC-2	SolidC-3	SolidC-4
Tri-Clamp	M1	0.50	0.50	0.50	1.13
	M2	0.50	0.50	0.50	0.50
J1 ¹		2.00"	2.50"	3.00"	3.00"
J2 ¹		1.50"	1.50"	1.50"	2.00"

¹ Other dimensions available on request.

Options

- Impeller with reduced diameter.
- Flushed shaft seal.
- Rotating seal face of Silicon Carbide.
- Product wetted elastomers NBR or FPM.
- Product wetted surface finish mechanically polished to $Ra \leq 0.8 \mu m$.
- Surface finish measurement with certificate ($Ra \leq 0.8 \mu m$).
- Motor for other voltage and/or frequency.
- Half speed motor.

Ordering

Please state the following when ordering:

- Pump size.
- Connections. (Tri-Clamp®)
- Impeller diameter.
- Motor size.
- Seal and Elastomer Type
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.



Note! For further details, see also ESE00797.

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200006098-1-EN-US

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