



A REVOLUTION IN CENTRIFUGAL BLOOD PUMPING





HAS REVOLUTIONIZED IMPELLER CENTRIFUGAL PUMPING

Safety is paramount at Sorin Group. This is evident in RevOlution's™ unique design. RevOlution™ offers many safety features which include:

- excellent air handling capability
- low prime volume
- low heat generation
- lower index of hemolysis

RevOlution™ is **easy to prime and de-bubble** because of its **open impeller design**. With its unprecedented **flow efficiency**, you can achieve desired flow rates with minimal revolutions per minute.



SIMPLE DESIGN

RevOlution's™ simple design supports its unsurpassed flow efficiency. The balance of magnetic and hydrodynamic forces allows the impeller to "float" which increases pump-head efficiency. The injection molded magnet offers high reliability and improved magnetic coupling. RevOlution's state-of-the-art design helps protect against thrombus formation due to its:

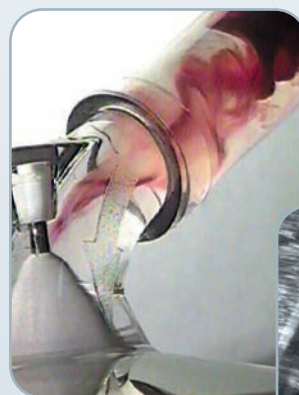
- minimal surface area
- large washout holes
- low blood transit time
- no stagnant areas

Patented seal-less, low friction stainless steel bearings improve pump reliability. The blood actually serves to lubricate and cool the bearings which results in lower heat generation throughout the pump-head and less blood trauma overall.

RevOlution's™ **patented "spin-inducer"** impeller design contributes to lower shear and lower hemolysis. The impeller helps create a rotational flow upstream of the inlet. The **patented curved inlet port** reduces the acceleration of red blood cells as the blood enters the pump-head.

Both of these features resulting lower shear and **less blood trauma**: RevOlution's™ unique impeller design maintains a consistent blood flow path free of vane vortices and **no re-circulation zones**.

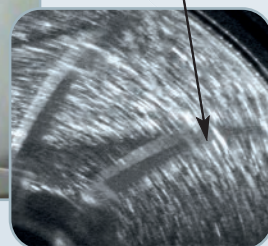
The velocity contours of RevOlution™ indicate absolutely no vortices within the pump-head or in the outlet. This means **low shear**. We even went a step further to prove it using flow visualization, an advanced high-speed video technique. (see photo at right)



Flow Visualization

**Rotational Flow
Prior to Inlet**

Vane



REVOLUTION™ WAS DESIGNED WITH SIMPLICITY IN MIND.

THE STATE OF THE ART MANUFACTURING PROCESS COMBINED WITH REVOLUTION'S MINIMAL PARTS ENSURE A HIGH QUALITY AND RELIABLE PUMP-HEAD.

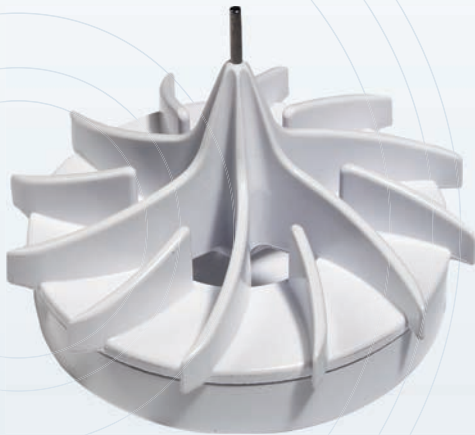
THE UPPER AND LOWER HOUSING ARE ULTRASONICALLY WELDED TOGETHER TO PROVIDE A ROBUST AND LEAK-PROOF SEAL.

REVOLUTION™
PROVIDES
SUPERIOR
PERFORMANCE

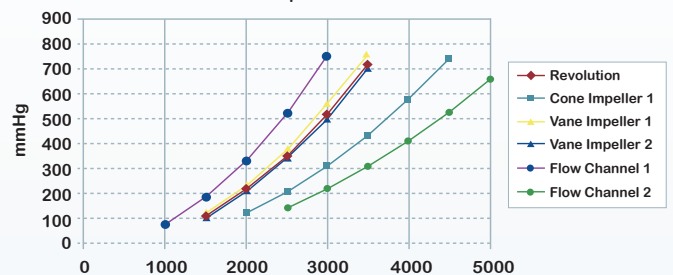
- Reduced blood trauma
- Low heat generation
- High operational efficiency
- Reduced RPM to generate a given output and pressure
- Lower shear

REVOLUTION™
UNDERGOES
PC COATING

- The blood contact surfaces treatment based on phosphorylcholine which, by reducing the protein and platelet aggregation, guarantees a high level of biocompatibility

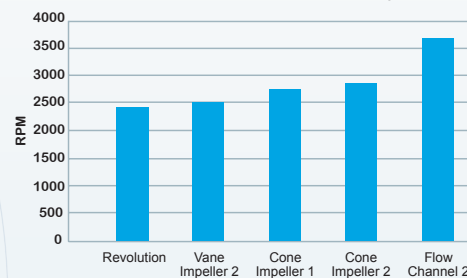


Pressure vs. Speed at 5LPM



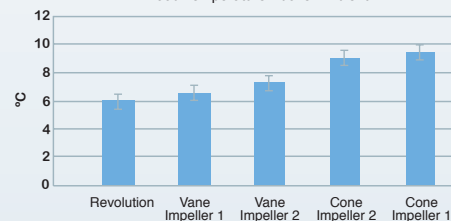
RPM

Speed Required @ 5 LPM 350 mmHg

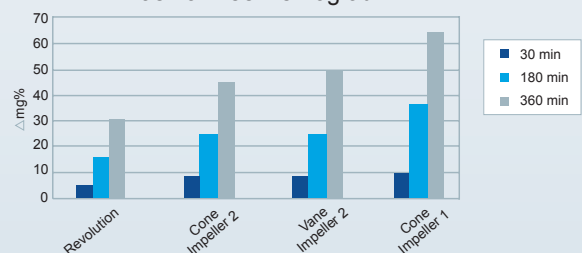


Temperature Change at 360 min

Blood Temperature Above Ambient



Plasma Free Hemoglobin



Revolution™ Undergoes PC coating, the blood contact surfaces treatment based on phosphorylcholine which, by reducing the protein and platelet aggregation, guarantees a high level of biocompatibility.

The RevOlution™ Centrifugal Blood Pump utilizes a rotating, vaned impeller design to move blood by centrifugal force. The pump is intended for use with Stöckert Instrumente Centrifugal Pump Consoles in cardiopulmonary bypass procedures for periods of up to 6 hours.

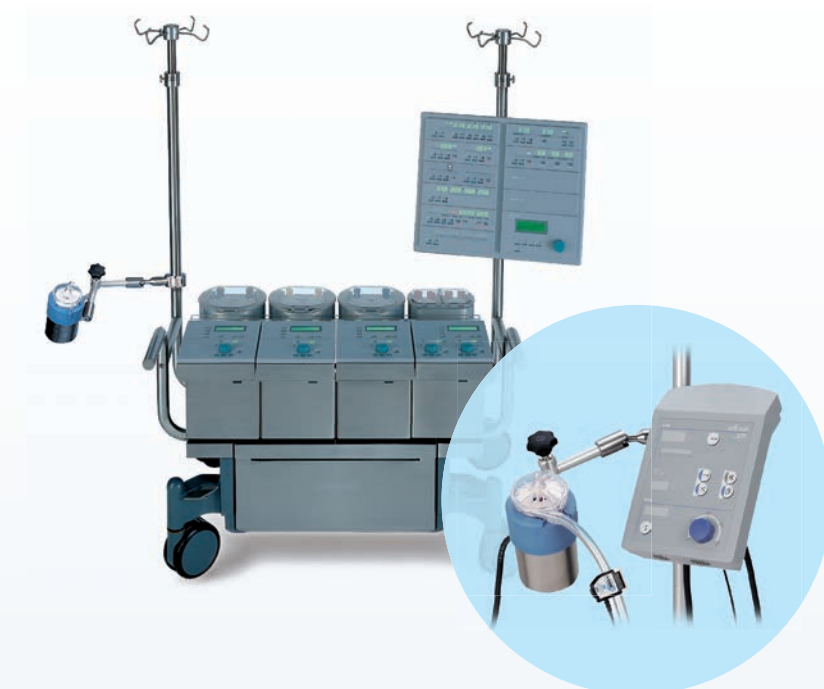
SPECIFICATIONS

Priming Volume	57ml
Maximum Flow Rate	8 lpm
Maximum Outlet Pressure	800 mmHg
Inlet/Outlet Port	3/8 in. (9.5 mm)
Pump Casing	Polycarbonate
Shaft	Stainless Steel
Impeller & Magnet Housing	ABS
Bearings	HDPE
Magnet	Nylon NdFeB Blend



SCPC + SCP CENTRIFUGAL PUMP SYSTEM

SCP INTEGRATED CENTRIFUGAL PUMP SYSTEM



ORDER GUIDE

CATALOG NUMBER

PRODUCT DESCRIPTION

050-300-000

RevOlution™ Centrifugal Blood Pump

050-300-700

RevOlution™ Centrifugal Blood Pump PC Coated

SORIN GROUP
AT THE HEART OF MEDICAL TECHNOLOGY

CE 0123 according to MDD 93/42/ECC emended by Directive 2007/47/EC

The Sorin Group Italia Quality System complies with:
EN ISO 13485:2003/AC:2007

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