

Carbon based axial flow pump

For nearly 50 years, SGL Carbon has been developing axial flow pumps able to deliver the highest flow rates required by the chemical process and wastewater industries.

SGL Carbon is uniquely capable of manufacturing such pumps from massive blocks of impervious and fully corrosion-resistant graphite, and offers a complete product range with design stability and customization.

Installed all over the world – typically on evaporation, crystallization or distillation loops – these heavy-duty motor-pump groups ensure an extended level of reliability at our valued customer's production plants.

Customer benefits

Extreme corrosion resistance

A wide range of graphite qualities fully impregnated with first-class phenolic resins: the perfect chemical compatibility even at high temperatures.

Total life-cycle costs under control

Robust construction and the exceptional dimensional stability of graphite enable increased service life even at higher temperatures. Additionally, graphite can be easily repaired.

High flexibility

Multiple design options available to optimize performance of both new plants as well as existing installations.

Unique durability

There is no diffusion through graphite, its chemical and mechanical properties are unaffected by time. Most of our references have operated since decades.

Applications examples

- Circulation of corrosive fluids at high flow rates in loops with reduced head losses.
- Hydrochloric, sulfuric, phosphoric, sulfonic, hydrofluoric, fluosilicic acids, pickling liquors, chlorinated organics, industrial effluents, wastewaters and even more...



↑ DIABON®/DURABON® C400 bare-shaft pump

Product information

- Outstanding shaft rigidity preventing deflection at seal and vibrations, also allowing the lowest hydraulic gaps for enhanced efficiencies
- Steep and continuous decline of performance curve for operating stability
- Customized propeller blades to fit with customers operating conditions
- Several carbon-based materials available to achieve corrosion and abrasion resistance
- Replaceable wearing sleeve permitting easy maintenance
- Compliance with ATEX 2014/34/UE directive
- Multiple motor-pump group arrangements: ground-based baseplate, spring-mounted, suspended, V-belts transmission, gear-box, cardan or direct coupling

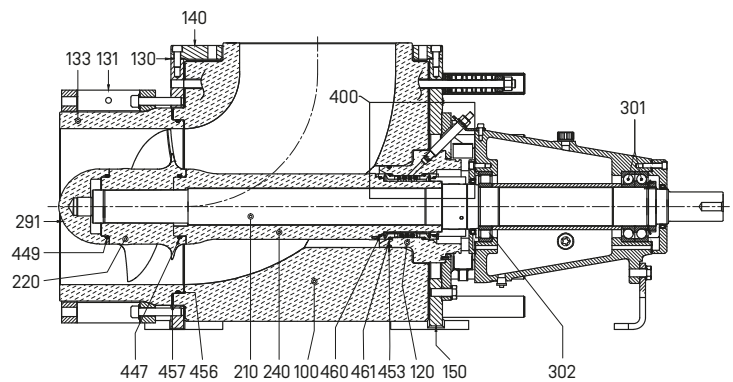
By the way: Axial flow pumps are also available in exotic metals, offering flow rates up to 35000 m³/h and chemical compatibility with chlor-alkaly applications. See TIS EM C pump.

Data of graphite axial flow pump

Technical specification	Units	Type C200 to C600
Propeller diameters	mm	from 200 to 600
Flow directions		top suction or end suction
Flow rates	m ³ /h	from 120 to 5500
Total Dynamic Heads	mlc	up to 10
Rotation speeds	min ⁻¹	from 500 to 2100
Operating temperatures	°C	from -40 to +200
Design pressures	barg	up to 10
Flanges standards		ISO PN metric, ANSI 150 lbs metric, ANSI 150 lbs UNC
Materials		DIABON® graphite, DURABON®, SIGRASIC®
Sealing technologies		component or cartridge mechanical seals (balanced single or double, tandem)

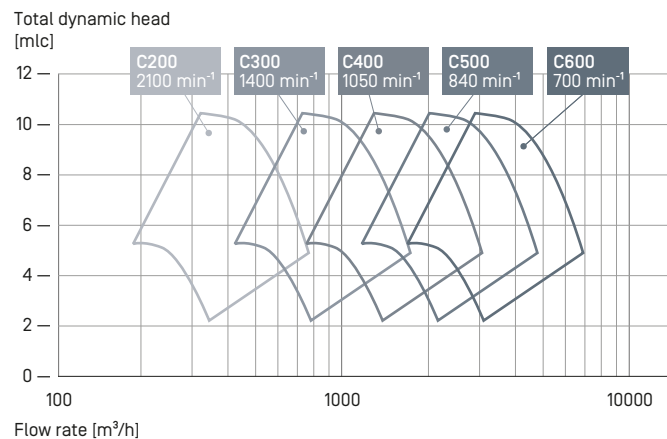
Typical graphite axial flow pump – bill of material

Item	Description	Material
100	elbow housing	DIABON, DURABON
120	seal casing	DIABON, DURABON
130/131		
140/150	flanges	steel, stainless steel
133	wearing sleeve	DIABON, DURABON, SIGRASIC
210	shaft	carbon steel
220	propeller 0°	DIABON, DURABON, SIGRASIC
240	shaft sleeve	DIABON, DURABON
291	propeller nose	DIABON
301/301	bearings	steel
400	mechanical seal	SiC-SiC, SiC-Carbon
447/449/456		
453/460/461	O-rings	FKM, FFKM
457	gasket	SIGRAFLEX®



↑ DIABON C400 cross sectional drawing

Graphite axial flow pumps performance chart



↑ DIABON C500 motor-pump groups



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