

Carbon based centrifugal pump

For more than 60 years, SGL Carbon has been designing centrifugal process pumps from its wide range of impregnated, impervious carbon and graphite materials. These materials offer an excellent corrosion resistance and an unmatched thermal stability at temperatures up to 200 °C.

SGL Carbon is offering a full product portfolio with international manufacturing standards compliance and customization possibilities of the massive base construction.

Distributed worldwide, these heavy-duty motor-pump groups ensure an extended service life and stand for an indisputable alternative to thermoplastic, metallic or ceramic pumps at our valued customer's production plants.

Customer benefits

Extreme corrosion resistance

A range of carbon and graphite qualities, impregnated with first-class phenolic resins: this tailored solution guarantees a perfect chemical compatibility.

Total life-cycle costs under control

Robust construction and the ability of graphite to endure accidental overtemperature or vacuum enables increased service life. Additionally, graphite parts can be repaired and tolerate several overhauls.

Constant efficiency

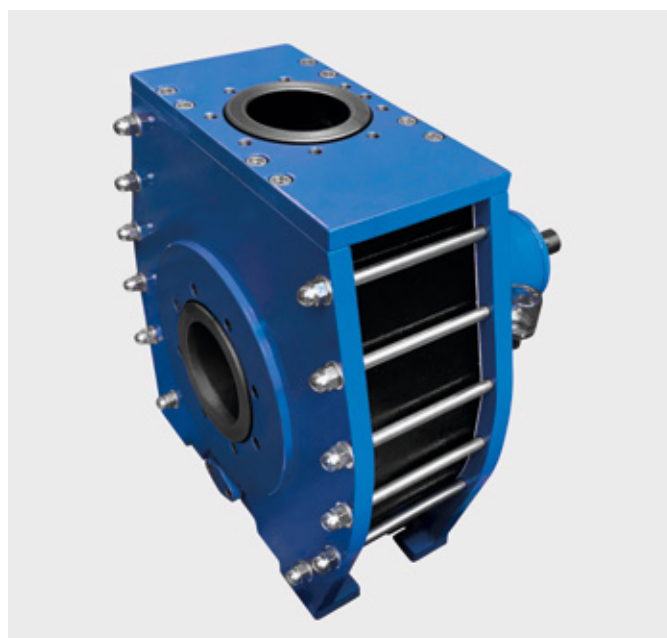
The dimensional stability of carbon up to high temperatures allows low internal clearances for enhanced performances.

Unique durability

There is no diffusion through impregnated carbon and graphite: chemical and mechanical properties are unaffected by time. Most of our units have operated since decades.

Applications examples

- Base and fine chemicals, hydrometallurgy, mining, fertilizer, food, paper, resins or plastic industries
- Hydrochloric, sulfuric, phosphoric, sulfonic acids, pickling liquors, chlorinated organics and even more



↑ DIABON® NG 150-125-315 bare-shaft pump

Product information

- Design according ISO 2858 and ISO 5199
- Outstanding shaft rigidity preventing deflection at seal and vibrations: safe and reliable operation
- Three standardized mechanical seal sizes for easier maintenance and spare part management
- Magnetic drive, seal-less option
- Several construction materials available to refine corrosion and abrasion resistance
- Vortex and free-flow range developed for slurry pumping
- Compliance with ATEX 2014/34/UE directive
- Multiple motor-pump group arrangements: ground-based baseplate or anti-vibrating stands, direct flexible or rigid coupling, V-belts transmission

By the way: DIABON® centrifugal pumps are manufactured in sizes going beyond the range defined by ISO 2858. Please also ask for our specific documentation, available for capacities up to 13,000 gpm.

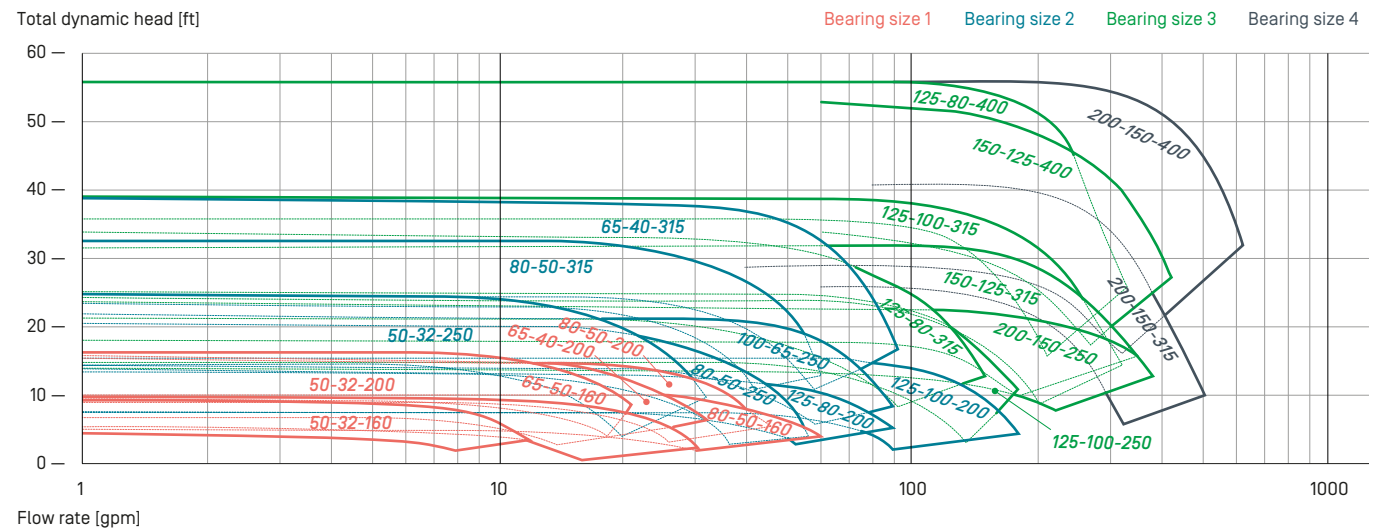
Data of graphite centrifugal pump

Technical specification	Units	Types NG 50-32-160 to NG 350-350-450
Assembly		back-pullout unit into pump head
Impeller diameters	in	from 4 to 22 [closed, semi open or free flow]
Flow rates	gpm	from 8 to 13,000
Total Dynamic Heads	ft	from 9 to 590
Rotation speeds	min ⁻¹	1500 or 3000 [customisable with variable frequency drive]
Operating temperatures	°F	from -40 to +390
Design pressures	psig	up to 230 [carbon fiber wrapping option for higher values]
Flanges standards		ISO PN metric, ANSI 150 lbs metric, ANSI 150 lbs UNC
Materials		DIABON® graphite, DURABON® carbon, SIGRASIC® SiC
Sealing technologies		balanced component or cartridge mechanical seal, magnetic drive



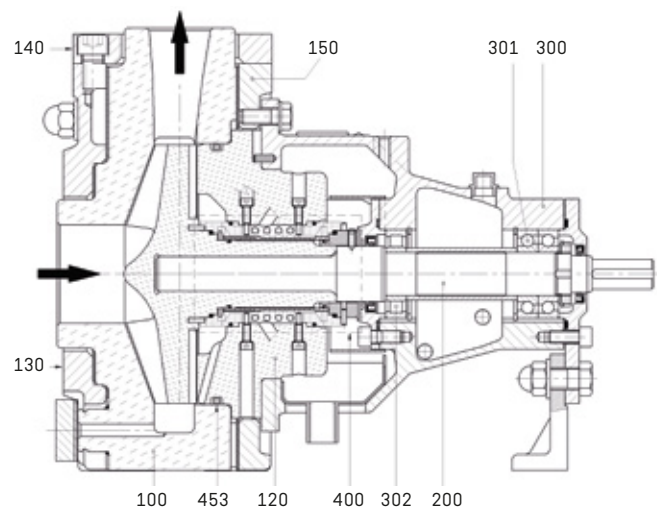
↑ DIABON NG 300-250-450 motor-pump group

ISO 2858/5199 DIN carbon composite pumps @ 1450 rpm



Typical graphite centrifugal pump – bill of material

Item	Description	Material
100	volute casing	DIABON, DURABON, SIGRASIC
120	seal casing	DIABON, DURABON, SIGRASIC
130	suction flange	steel, stainless steel
140/150	discharge rear flange	steel, stainless steel
200	impeller-shaft assembly	DIABON, DURABON, SIGRASIC
300	bearing housing	cast iron
301/302	bearings	steel
400	mechanical seal	SiC-SiC, SiC-Carbon
453/460/461	O-rings	FKM, FFKM



↑ DIABON NG 80-50-200 cross-sectional drawing



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