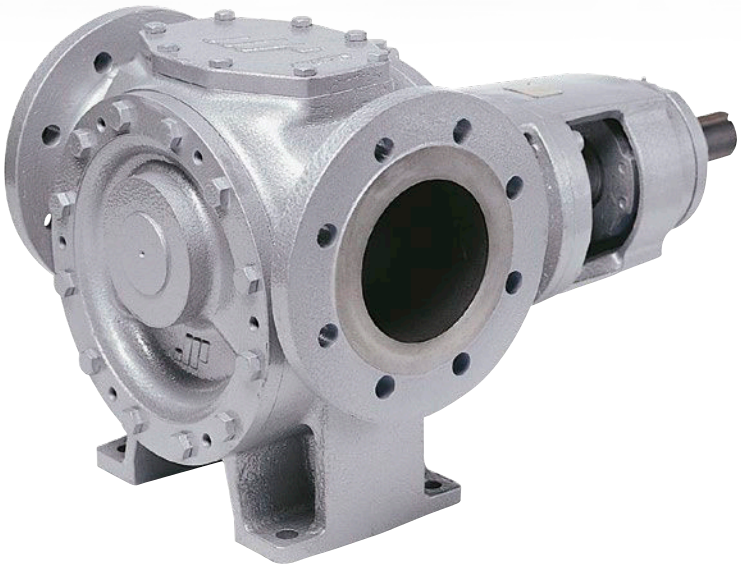
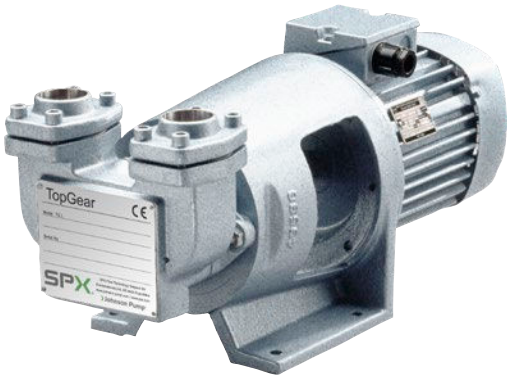
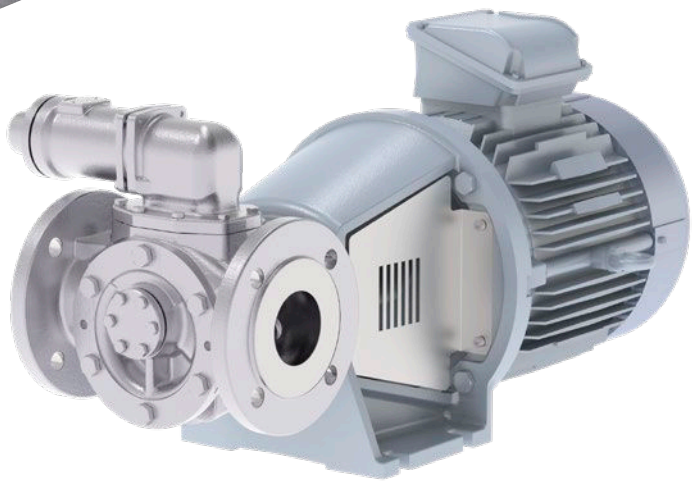
SPXFLOW®

TopGear

INTERNAL GEAR PUMPS







Johnson Pump®

Gear pumps are used in all types of manufacturing industries for the transportation of both thin and thick liquids, from diesel fuels to chocolate. Johnson Pump's heavy duty pumps are designed around high reliability as well as long life.

TopGear offers a combination of strong design with small or large clearances, unique gear tooth profile and options such as electrical heating and built-on safety relief valves.

The extensive TopGear series is divided into five ranges;



- TG G-range for general purposes



- The TG H-range for high demanding applications



- The TG L-range that offers high efficiency when transporting low viscosity fluids.



- The TG BLOC range that offers a compact, low cost design for transporting low viscosity, clean fluids



- For applications demanding leak-free operation a magnetically driven, TG MAG, is available.

TopGear
When reliability is the priority

TG G & TG H ranges

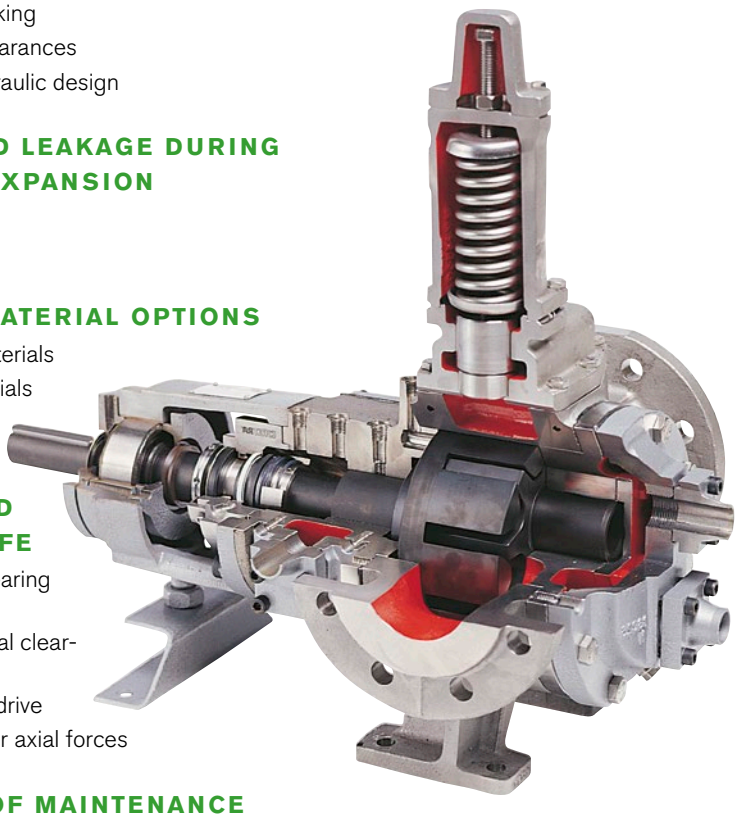
IMPROVED PRIMING, LOW NPSHR
- Ports above centerline
- Oversized ports for better efficency

IMPROVED DESIGN FOR LOW AND HIGH VISCOUS MEDIA
- Optimized gear tooth profile
- Smooth flow

HIGH EFFICIENCY
- Axial rotor locking
- Adjustable clearances
- Balanced hydraulic design

ELIMINATED LEAKAGE DURING THERMAL EXPANSION
- Pin cover
- Safety sealed

SEVERAL MATERIAL OPTIONS
- Shaft seal materials
- Bearing materials
- Hydraulic parts



PROLONGED SERVICE LIFE
- Double ball bearing design
- Adjustable axial clearance
- Allows V-belt drive
- Accepts higher axial forces

MINIMUM OF MAINTENANCE
- Cartridge design
- Simple design

MAXIMIZED LIFETIME
- Compact rotor
- Strong shafts
- Maximized bearing design
- Possibility for selection of hardmetal bearings
- On seals thanks to seal relief channel



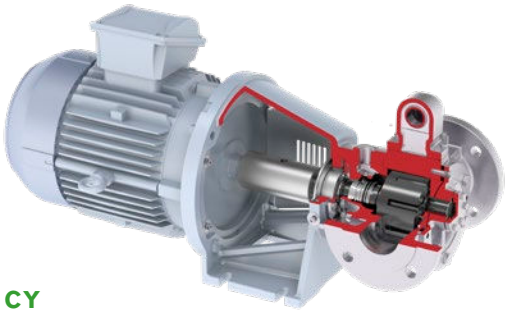
LESS DOWNTIME
- Front and back pull-out

FLANGE CONNECTIONS OPTIONS
- EN
- ANSI

TG BLOC range

PROVEN TOPGEAR HYDRAULICS
- TG Bloc utilizes the proven TopGear hydraulics for high reliabilty

STRONG SHAFT DESIGN
- ΔP 16 bar



COMPACT DESIGN
- Suitable for areas with space restrictions (OEM)

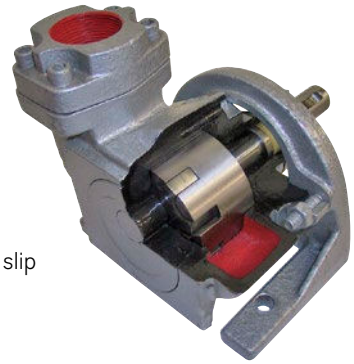
LONG SERVICE LIFE
- Perfect pump-motor alignment by design

HIGH OVERALL EFFICIENCY
- Designed for low viscous media

EASY TO MAINTAIN
- Simple design, few components

HIGH LEVEL OF INTERCHANGEABILITY WITH TG RANGE
- Less spares on stock

TG L range



LARGE VERTICAL PORTS
- Improved priming capability
- Reduced risk of cavitation

HIGH VOLUMETRIC EFFICIENCY
- Small radial and axial clearances – reduced slip
- Optimized rotor/gear shape

LESS DOWN TIME
- Pumps and motors flanged to pedestals – correct alignment between pump and drive shaft
- Compact units easy to assemble

PROLONGED SEAL LIFE
- Pressure relief channel from the seal area back to the suction side

LONG SERVICE LIFE
- Large bearing diameters
- Rotors are machined from solid bar stock material.
- Hardened interior parts

TECHNICAL DATA	TG L	BLOC	TG G			TG H
			TG GS	TG GP	TG GM	
PUMP CASING	CAST IRON	CAST IRON STAINLESS STEEL	CAST IRON			STAINLESS STEEL CAST STEEL DUCTILE IRON
IDLER	STEEL	CAST IRON STEEL STAINLESS STEEL				
ROTOR	STEEL	NODULAR IRON SS STEEL	CAST IRON NODULAR IRON STAINLESS STEEL			
MAX CAPACITY (M³/H)	8	50	80	130*		130
MAX DIFFERENTIAL PRESSURE (BAR)	25	16	10	16		16
MAX TEMPERATURE (°C)	250	180	200	300		300
MAX VISCOSITY (M.PAS)	60 000	7 500	5 000	80 000		80 000

*Flow rates up to 260 m³/hr with SRT on request

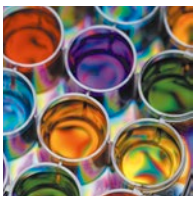
Typical product applications

TopGear pumps are used in various industries and environments, which have thousands of liquids that need to be pumped.

PETROCHEMICALS
Pure or filled bitumen, pitch, diesel oil, crude oil, lube oil



CHEMICALS
Sodium silicate, acids, plastics, mixed chemicals, isocyanates



PAINT AND INK

RESINS AND ADHESIVES

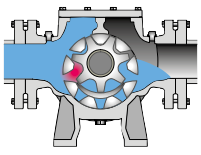


PULP & PAPER
Acid, soap, lye, black liquor, kaolin, lime, latex, sludge

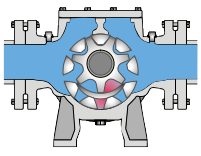
FOOD
Chocolate, cacao butter, fillers, sugar, vegetable fats and oils, molasses, animal feeds



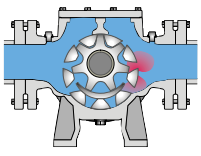
OPERATING PRINCIPLE



As the rotor and idler unmesh, an under-pressure is created and the liquid enters the newly created cavities.



Liquid is transported in sealed pockets to the discharge side. The walls of the pump casing and the crescent create a seal, that separates suction from discharge side.



The rotor and idler mesh and liquid is pushed into the discharge line.

SPXFLOW®

Internal Gear Pumps - TopGear Range

Options

SHAFT SEAL OPTIONS

Shaft seal options include packed gland, single and double mechanical seals, lip seals and cartridge seals. Magnetic drive available as the TG MAG.



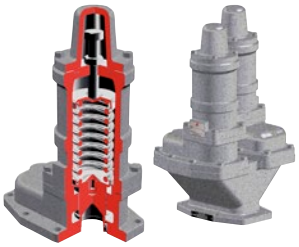
JACKET OPTIONS

Heating and cooling jackets guarantee the performance of the pump in a start-up or a shut-down procedure. They also provide the pump with the best condition for the seals during operation. Different options: thermal oil, steam or electrical heating.



SAFETY RELIEF VALVE OPTIONS

Built-on safety relief valves protect the pump, as well as other equipment in the system, from over pressure. When the pump is used bi-directionally, a double safety relief valve is available.



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www.spxflow.com/en/johnson-pump/where-to-buy/

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