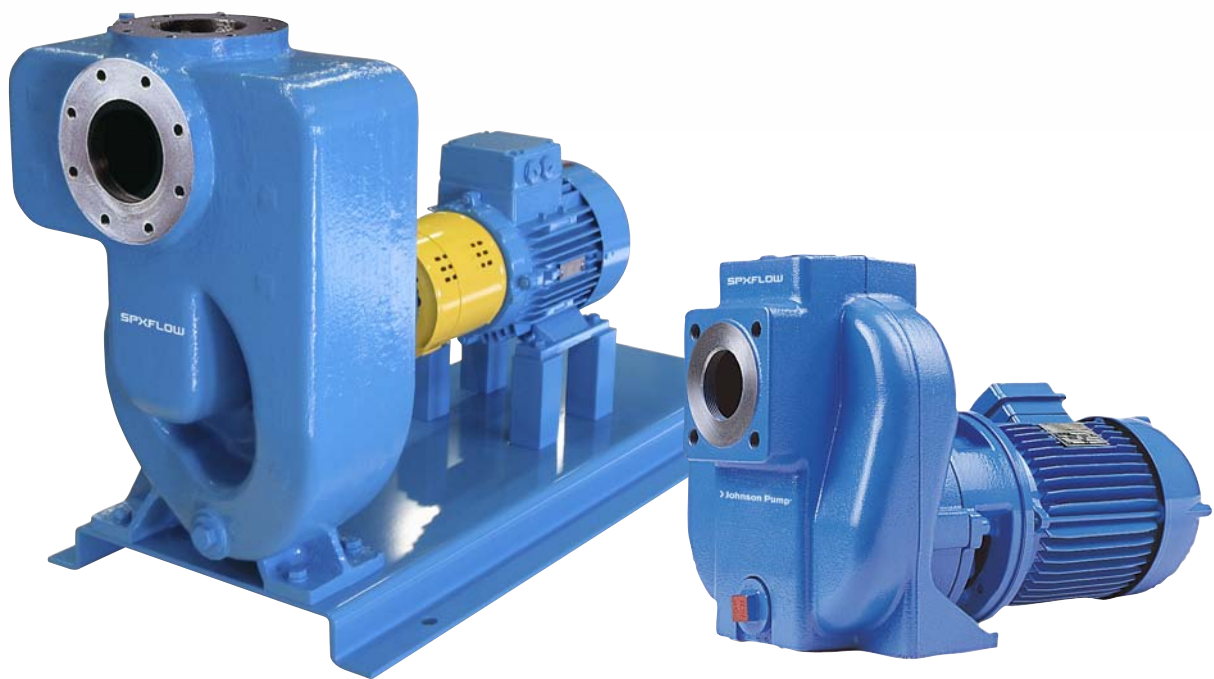


FreFlow

Self-priming centrifugal pumps



SPX FLOW has many years experience in designing, manufacturing and maintaining self-priming centrifugal pumps for contaminated liquids. On the basis of this experience, the FreFlow pumps were developed to cover a broad field of applications. High priority has been given to the design ensuring easy operation and amazing reliability.

Based in Charlotte, North Carolina, SPX FLOW (NYSE: FLOW) is a multi-industry manufacturing company with operations in more than 35 markets worldwide. SPX FLOW's innovative, world-class products and highly-engineered solutions are helping to meet the needs of a constantly developing world and growing global population. You'll find our innovative solutions in everything from dairy plants and power plants to oil and gas pipelines, and the power grid. SPX FLOW is really everywhere you look.

We help our customers around the globe expand and enhance their food and beverage, power and energy and industrial production processes. For more information, please visit www.spxflow.com

FreFlow – Self-priming centrifugal pumps for various applications

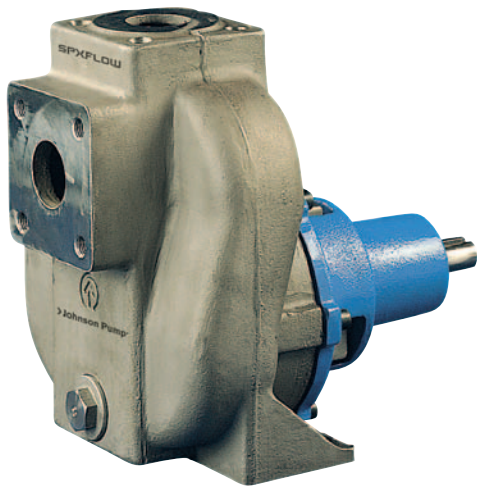
FreFlow pumps are self-priming centrifugal pumps suitable for handling contaminated and low-viscosity liquids. Its innovative design, eliminating the need for a non-return valve, results in less maintenance. Oil bath lubrication on the atmospheric side of the mechanical seal prevents dry running during the self priming period. The capability of handling gaseous liquids ensures smooth and continuous operation.

The basic pump is available in cast iron, bronze or stainless steel. Thanks to its high-quality material, the stainless steel version is excellent for handling aggressive, corrosive and environmentally harmful liquids.

Typical industries are: chemical, petro-chemical and pharmaceutical industry, oil, gas and electricity generation, paper, plastic, paint and metal finishing industry and shipbuilding.

The combination of its easy maintenance and operation, make the FreFlow a suitable pumping solution for a large number of applications.





KEY FEATURES

- Excellent self-priming ability
- No non-return valve required in inlet
- Oil bath for the mechanical seal
- Ideal for handling contaminated liquids
- Outstanding qualities for liquids containing gas or air
- Easy maintenance (back pull-out)
- Easy operation
- Mechanical seals to EN 12756 (DIN 24960)

The FreFlow has been designed to meet the customer's needs for handling contaminated liquids as well as liquids containing air or gas.

The compact design makes the FreFlow easy to handle, whilst its robust design ensures a life-long durability.

The FreFlow is frequently used on sumps or gullies where its high level of performance and self-priming ability ensure outstanding reliability in operation.

Thanks to its excellent self-priming characteristics, the FreFlow is a typical marine pump for example bilge and ballast pumping as well as for fire fighting.

The FreFlow is the sensible alternative to submersible pumps.

Typical product applications

From know-how to finding solutions

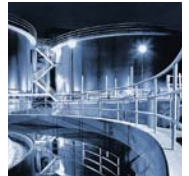
PETROCHEMICAL



CHEMICAL



INDUSTRIAL WATER



GENERAL INDUSTRY



SHIPBUILDING



Features and *Benefits*

NO NON-RETURN VALVE REQUIRED IN THE INLET

- *Easy operation*
- *Less maintenance*

EXCELLENT SELF-PRIMING ABILITIES

- *Ability to handle liquids containing air or gas*
- *A separate vacuum pump nor any other equipment is required*

MODULAR DESIGN

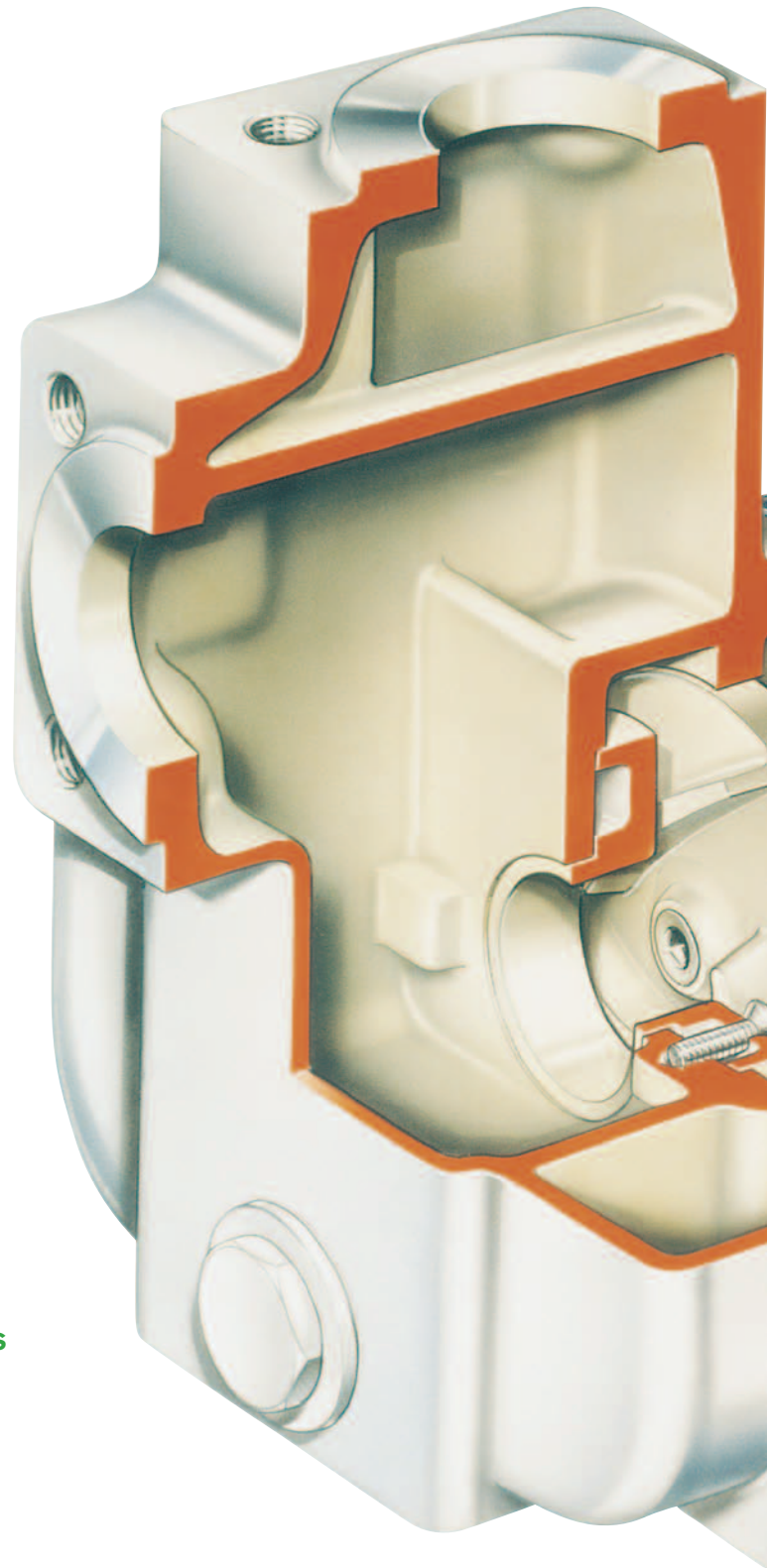
- *4 bearing bracket groups*
- *Fewer parts thanks to high interchange-ability of parts within the range*
- *Rugged construction*

DIFFERENT DRIVE POSSIBILITIES

- *Flexible operation*
- *Adaptable to your systems*

INSPECTION AND CLEANING COVER

- *Easy maintenance and cleaning*



VARIOUS SEAL OPTIONS

- Including double mechanical seals
- Suitable for a variety of applications

WEAR PLATE

- Easily replaceable
- Simple and inexpensive maintenance
- Extend pump life at maximum performance

BACK-PULL-OUT SYSTEM

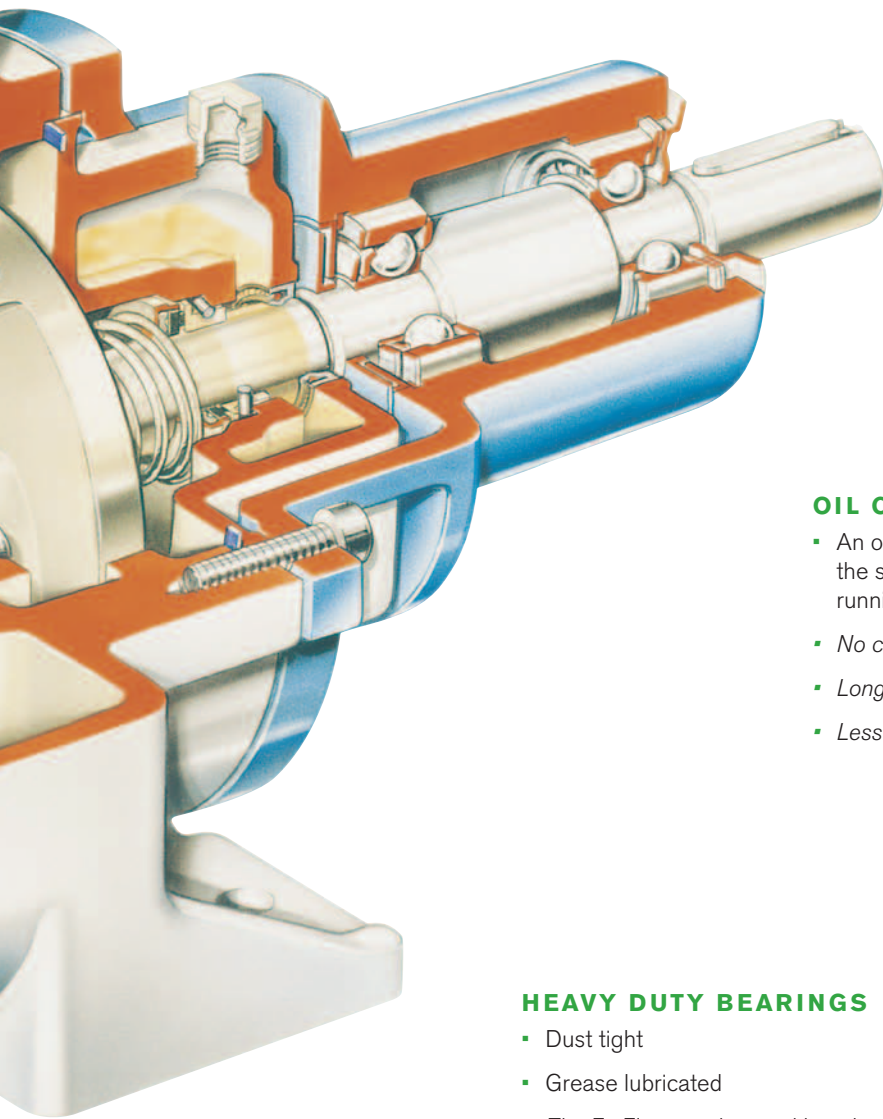
- Easy maintenance
- No need to remove from pipework

OIL CHAMBER

- An oil chamber located behind the mechanical seal lubricates the seal faces when priming – thus preventing the seal from running dry
- No crystallization between the seal faces
- Longer seal life
- Less risk of process downtime

HEAVY DUTY BEARINGS

- Dust tight
- Grease lubricated
- The FreFlow can be used in a dusty and dirty environment
- Longer mean-time between failure



Technical data

The FreFlow range consists of 19 pumps with connections from 1.26 inches to 5.91 inches, with a capacity of up to 1321 gal/min and a delivery head of up to 230 feet. The self-priming ability is 23 feet. The maximum system pressure is 131 psi and the pumps can transport liquids with a viscosity of max 150 mPas. The pumps in the FreFlow program offer flexible operation thanks to the different drive possibilities.



FRE
Pumps with bearing bracket



FREF
Pumps coupled to a flange motor on extended shaft



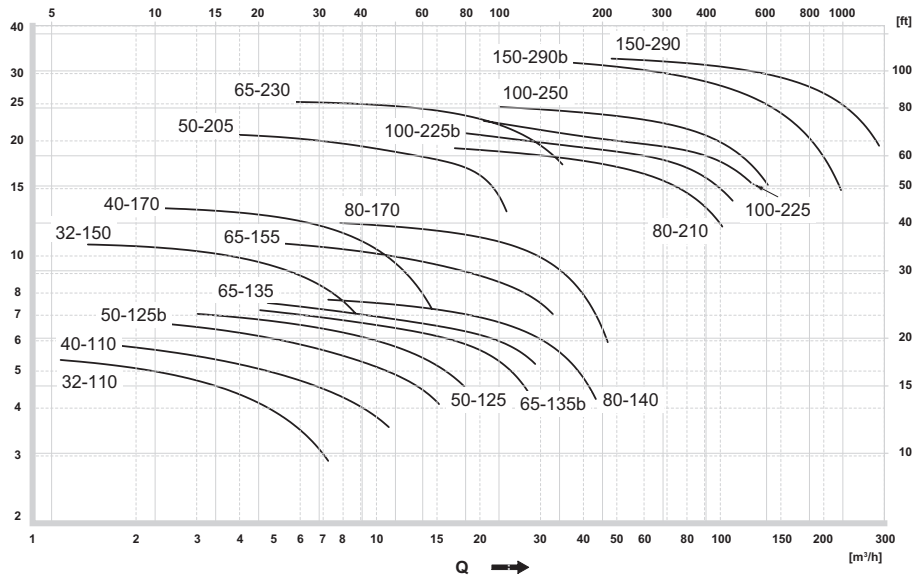
FRES
Pumps coupled to IEC 60Hz motor



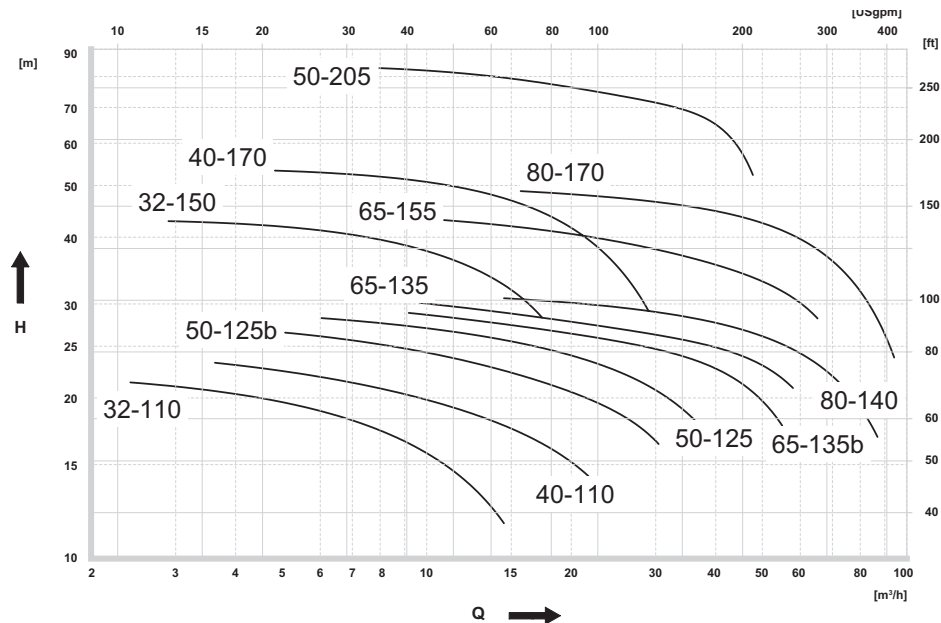
FREM
Pumps coupled to a petrol or Hatz diesel engine

Performance overview

**1750 rpm
60 Hz**



**3500 rpm
60 Hz**

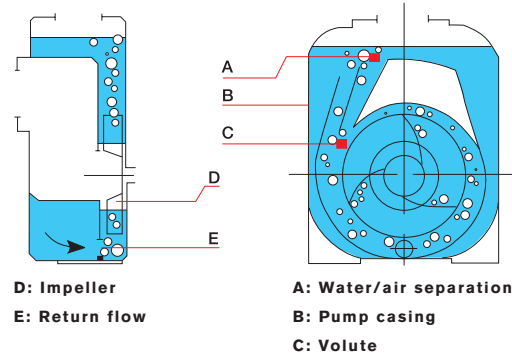


Operating principle

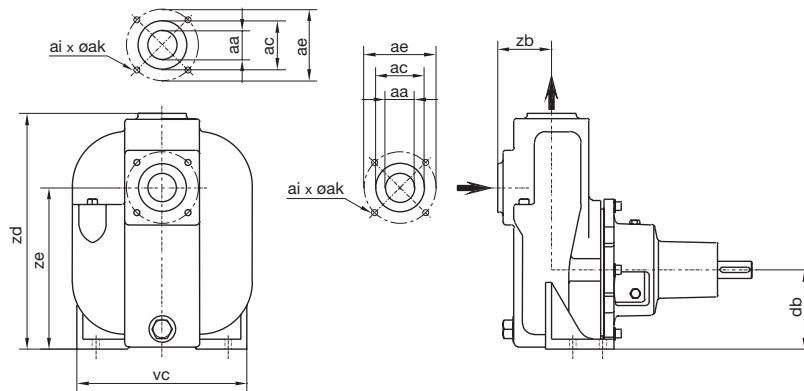
The self-priming operation of the FreFlow is based on the injection principle.

On start-up the air in the suction pipe is drawn into the pump, with the air and liquid mixture being compressed in the pump. This mixture flows to the top of the pump casing where the air separates from the liquid and is removed through the discharge pipe. The liquid recirculates in the pump casing until all air is evacuated from the suction pipe. The pump functions thereafter as a conventional centrifugal pump.

Before first start-up, the pump casing must be filled once with liquid. The special design prevents the pump emptying after it has stopped pumping. In that way there is enough liquid in the pump for the next start-up.



Dimensions and weights



MODEL	AA	AC	AE	AI	AK	DB	VC	ZB	ZD	ZE	WEIGHT, LB.		
											FRE	FRES	FREM
32-110	BSP 1¼"	-	-	-	-	3.15	8.98	2.87	10.63	7.28	44.09	66.14	68.34
32-150	BSP 1¼"	-	-	-	-	3.94	9.45	2.87	11.81	8.07	66.14	110.23	94.80
40-110	BSP 1½"	-	-	-	-	3.15	8.98	3.07	10.83	7.48	48.50	83.77	70.55
40-170	BSP 1½"	-	-	-	-	6.30	11.50	3.07	15.55	11.22	132.28	198.41	-
50-125	BSP 2"	3.94	4.92	4	M16	3.94	10.24	3.94	12.99	8.66	88.18	132.28	110.23
50-125B	BSP 2"	3.94	4.92	4	M16	3.94	10.24	3.94	12.99	8.66	88.18	132.28	110.23
50-205	BSP 2"	3.94	4.92	4	M16	6.30	12.20	4.13	17.32	11.81	176.37	308.64	-
65-135	65 MM	4.72	5.71	4	M16	4.41	10.24	4.21	14.37	9.92	99.21	165.35	136.69
65-135B	65 MM	4.72	5.71	4	M16	4.41	10.24	4.21	14.37	9.92	99.21	143.30	114.64
65-155	65 MM	4.72	5.71	4	M16	5.20	11.50	4.21	15.55	11.10	114.64	231.48	202.82
65-230	65 MM	4.72	5.71	4	M16	6.30	14.02	4.49	18.70	12.80	198.41	473.99	-
80-140	80 MM	5.31	6.30	8	M16	5.20	11.50	4.96	16.14	11.10	136.69	198.41	167.55
80-170	80 MM	5.31	6.30	8	M16	6.30	14.17	4.96	18.50	13.39	220.46	462.97	-
80-210	80 MM	5.43	6.30	8	M16	8.66	15.75	5.12	24.41	18.90	286.60	-	-
100-225	100 MM	6.10	7.09	8	M16	7.87	17.32	6.14	23.43	16.93	319.67	440.92	-
100-225B	100 MM	6.10	7.09	8	M16	7.87	17.32	6.14	23.43	16.93	319.67	440.92	-
100-250	100 MM	6.22	7.09	8	M16	11.02	15.75	5.71	28.74	23.23	330.69	-	-
150-290	150 MM	8.35	9.45	8	M20	9.84	19.29	7.28	28.15	21.26	595.24	-	-
150-290B	150 MM	8.35	9.45	8	M20	9.84	19.29	7.28	28.15	21.26	595.24	-	-

measurements in inches unless specified otherwise

FreFlow

Self-priming centrifugal pumps

SPXFLOW

Your local contact:

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

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JP_432_US Version: 02/2015 Issued: 10/2015

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