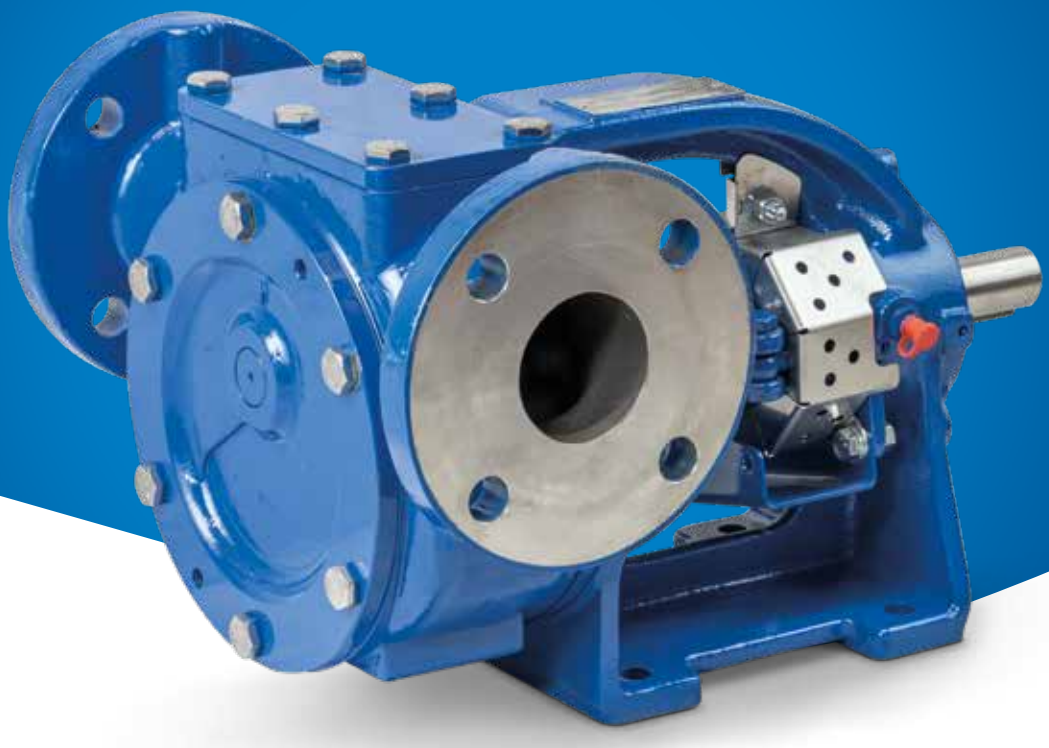
Product information

varisco
solid pumping solutions



Positive displacement internal gear pumps

V Series and SAXMAG V Series

variscopumps.com



Solid Pumping Solutions

Varisco is committed to providing innovative, durable and efficient solutions for industrial pumps intended for complex applications. Our pumps are designed for strength, reliability and durability, ensuring consistent performance even in the most challenging environments.

Our pumps are recognized and used globally, particularly in handling abrasive and solids-laden fluids in the water treatment, chemical, and food industries. Varisco is part of Atlas Copco Group.



Where reliability meets innovation

Active since 1932, Varisco boasts long and consolidated experience in the design and production of pumps for use in industrial processes. All products are distinguished by reliability and quality, and are tested at the internal Research and Development center.

We assist you in selecting your pump

From expert assistance with pump configurations to providing competitive quotes, our team is committed to supporting you through every stage of your project.

Optimize the performance of your pump with our after-sales service

Varisco is always at your side for pump assistance and repair services, anytime, anywhere. Thanks to scheduled maintenance, original spare parts and specialized technicians, we guarantee competence and professionalism to extend the life cycle of the pump.

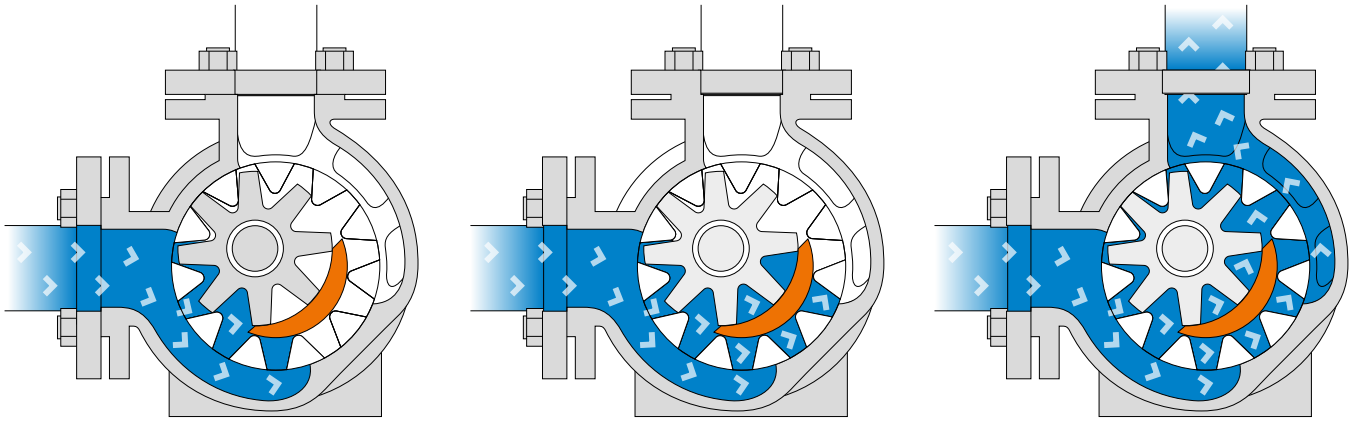
V and SAXMAG V Series
Internal gear pumps

The V and SAXMAG V series internal gear pumps are designed to work in demanding environments and are used to transport viscous liquids even if they contain abrasive powders, as long as they do not contain solids.



Working principle

V pumps are internal gear positive displacement rotary pumps. The flow is generated by two gears: the rotor and idler, one inside the other, separated by a crescent. As the gears rotate, liquid is drawn into the spaces created between the gears and the crescent. When the gears mesh, the liquid is forced out of the pump. The result is a smooth flow of liquid and high capacity combined with compact size.



Applications



Chemicals:

Solvents, acids, alkalis, polyols, filled polyols, isocyanates, rubbers, latex and polyester resins



Petroleum products:

diesel, fuel oil, lubricating oil, additives and crude oil



Soaps and cleaning products:

surfactants, liquid cleaning products, products for personal hygiene



Adhesives:

glues, epoxy resins



Paints and inks:

printing ink, lacquers, linings, automotive paint, additives



High temperature liquids:

bitumen, pitch, tar, bitumen emulsions and dia-thermic oil



Animal feed products:

food pastes, liquid feed, vegetable oil and animal fats



Food industry:

molasses, chocolate*, cocoa butter and glucose

*CHOCO series with FCM certification available - regulation no. 1935/2004

V Series
Main features of the range

V volumetric internal gear pumps are used in applications where the management of clean fluids with high viscosities is required.
They are used in all industrial applications where a delicate treatment of the pumped product is required, preventing chemical-physical alterations.
Volumetric rotary, they ensure flow rates proportional to the rotational speed and con-stant pulse-free flows, regardless of the back pressure.

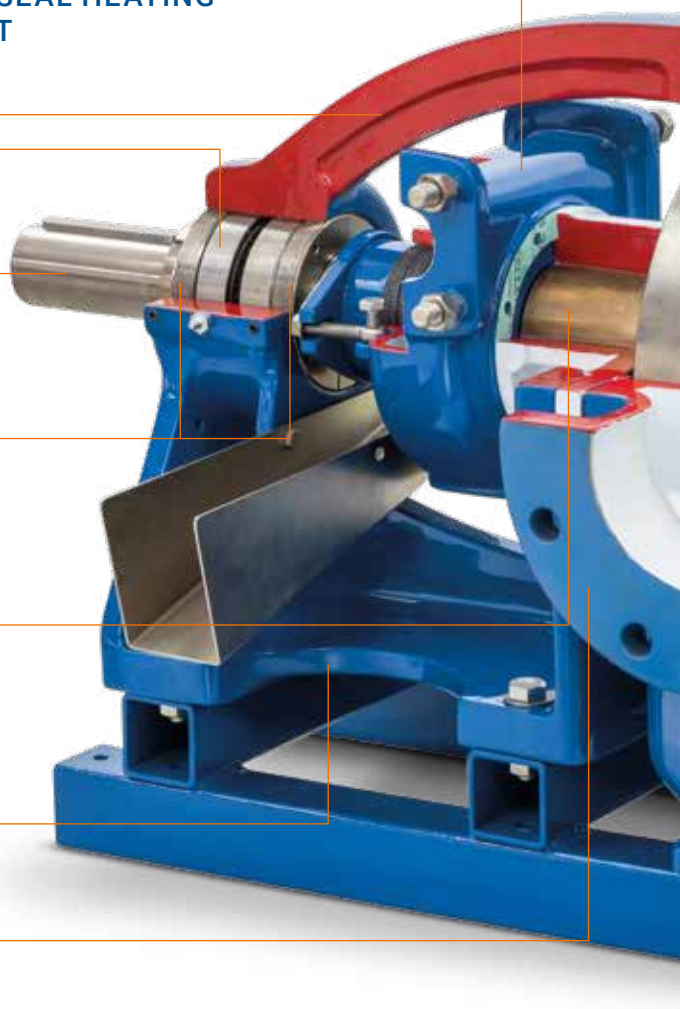
Materials
Cast iron
Hardened cast iron
Carbon steel
Stainless steel

Viscosity
Standard versions from 20 up to 60.000 mm^2/s
Versions over 60.000 mm^2/s upon request

Temperature
200°C max (HT version: 300°C)
392°F max (HT version: 572°F)

Max Pressure
16 bar - 232 psi

Max Flow
4000 l/min - 1.057 US GPM





GENTLE HANDLING OF SHEAR-SENSITIVE FLUIDS

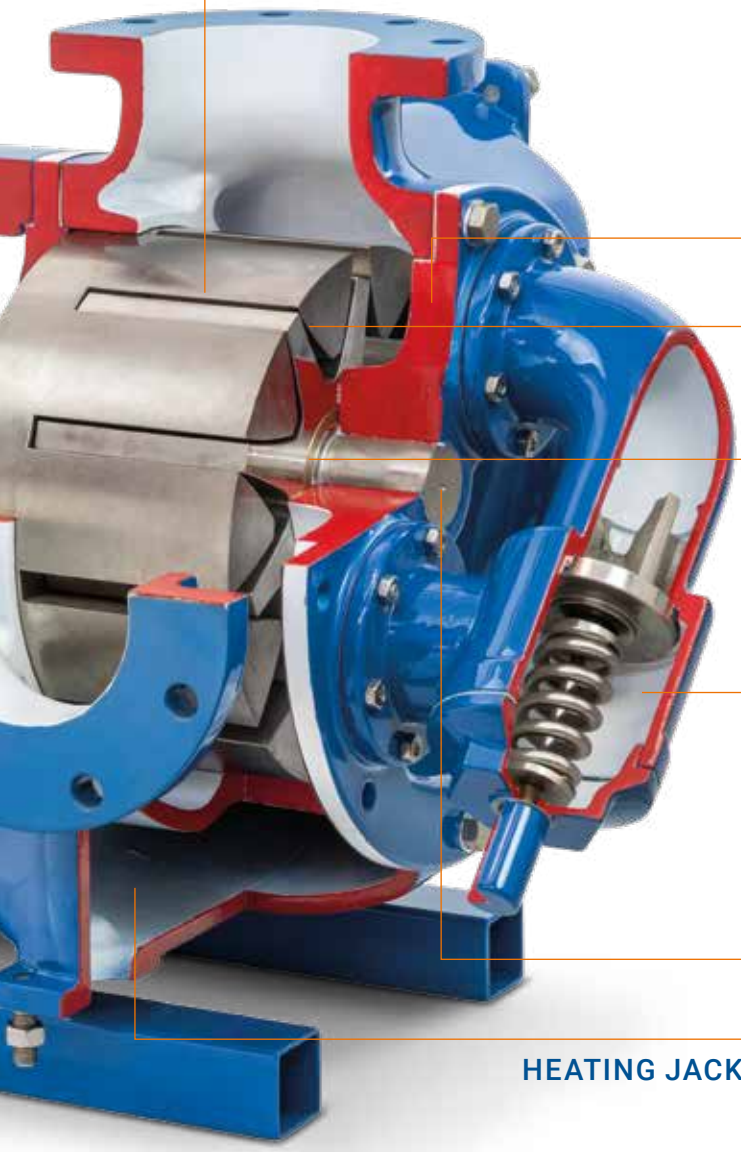
Transfer of the pumped product without crushing or agitation.

MINIMAL AND SIMPLE MAINTENANCE

Inspections and adjustments can be performed without removing the pump, piping, or motor.

CERTIFIED PRODUCT

- ATEX 2014/34/UE
- EC N. 1935 / 2004
- API 676 (with exception)







V Series
Design features

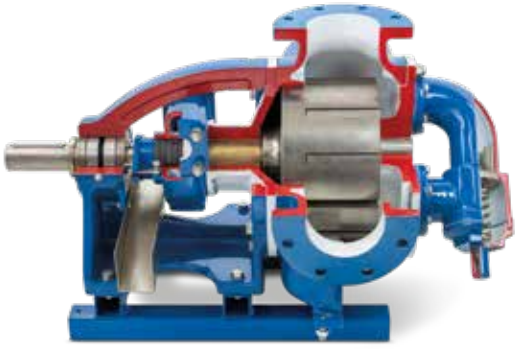
- **Axial packing,** mechanical, lip, single or double seals
- **Double shaft** support through large bearings for axial and radial loads and shaft and idler bushings available in cast iron, bronze, graphite, tungsten carbide
- **Dedicated ring** nuts for tolerance axial adjustment
- Hardened steel or stainless steel **shaft**
- Hardened steel, stainless steel or tungsten carbide **pin**

Advantages

- Designed for **heavy-duty service** (HEAVY DUTY PUMPS)
- **Constant flow rate**, proportional to the number of revolutions, regardless of back pressure
- **Gentle treatment** of shear-sensitive fluids (transfer of the pumped product without crushing or mixing)
- **Continuous flow**, pulse-free and no pressure peaks, hence no system vibrations
- **Versatility**. With the same pump, use the rotor axis adjustment device to pump liquids with viscosities lower than water or high viscosity liquids
- **Reversible**. By changing the direction of rotation you change the direction in which the liquid flows, keeping the features and performance unchanged.
- The high degree of vacuum that can be obtained enables **rapid self-priming**
- **Low NPIPr** (NPSHr)
- **Simple construction**, sturdiness, long lifespan, low peripheral rotor speeds for greater reliability
- **Limited and compensated wear**.
- **Simple minimal maintenance**. Inspections and adjustments can be performed without removing the pump, the pipes or the motor
- **UNI EN 12756** standard dimension mechanical seals (former DIN 24960 - K)
- **Interchangeability** of components with others, having different characteristics or alternative materials.
- **The inlets can be set up in different ways**, by turning the casing on the support.

Optionals

- **Heating jackets** for pump casing and seal holder that can be supplied with fluid, steam and electric resistances
- Single, double and heated **by-pass pressure relief valve**



V Series
Standard set-ups



1

BARE SHAFT
V*



2

BASE AND JOINT
V... BP*



3

VERTICAL
V... V... BP

* ATEX version available

Technical data

V Series	Ports		Displace-ment	Max Flow		Max Pressure		Speed	Ductile iron Ports position		Stainless steel Ports position	
Model	mm	in	l/rev	l/min	US GPM	bar	psi	rpm	90°	180°	90°	180°
V25-2	40	1" 1/4	0,045	75	20	16	232	1750	✓	✓	✓	✗
V30-2	40	1" 1/4	0,082	140	37	16	232	1750	✓	✓	✓	✗
V50-3	50	2"	0,23	260	69	16	232	1150	✓	✓	✓	✓
V60-2	50	2"	0,5	367	97	16	232	750	✓	✓	✗	✓
V70-2	80	3"	0,8	467	123	16	232	600	✓	✓	✗	✓
V80-2	80	3"	1,2	700	185	16	232	600	✓	✓	✗	✓
V85-2	100	4"	1,6	900	238	12	174	600	✓	✗	✗	✗
V90-2	100	4"	2,2	900	238	12	174	425	✓	✓	✓	✗
V100-2	100	4"	3,2	1300	343	12	174	425	✓	✓	✓	✗
V120-2	125	5"	6,5	1950	515	8	116	320	✓	✗	✗	✗
V151	150	6"	6,5	1950	515	8	116	320	✗	✗	✓	✓
V150-2	150	6"	7,8	2400	633	8	116	320	✓	✗	✗	✗
V180	200	8"	12	2833	748	8	116	240	✗	✗	✗	✓
V200	200	8"	16,7	4000	1057	8	116	240	✗	✓	✗	✓

✓ Available ✗ Not available

SAXMAG V
Internal gear pumps with magnetic coupling

The need to ensure enhanced containment of contaminant fluid leakage within working environments, combined with the requirement for extended maintenance intervals, is effectively addressed through the implementation of magnetically coupled internal gear pumps.

Magnetic coupling construction materials:
- cobalt samarium magnets
- internal stainless steel shaft with overlay - ceramic
- tungsten carbide bushings (standard version) or bronze (high-temperature version)
- stainless steel containment shell

Viscosity
From 200 up to 20.000 mm^2/s

Max Flow
82 m^3/h - 361 USGPM

Max Pressure
12 bar - 174 psi

Temperature
Standard version: max 80°C (176 °F)
High temperature version: max 200°C (392 °F)



SAXMAG HEATING JACKET



SAMARIUM–COBALT PERMANENT MAGNETS

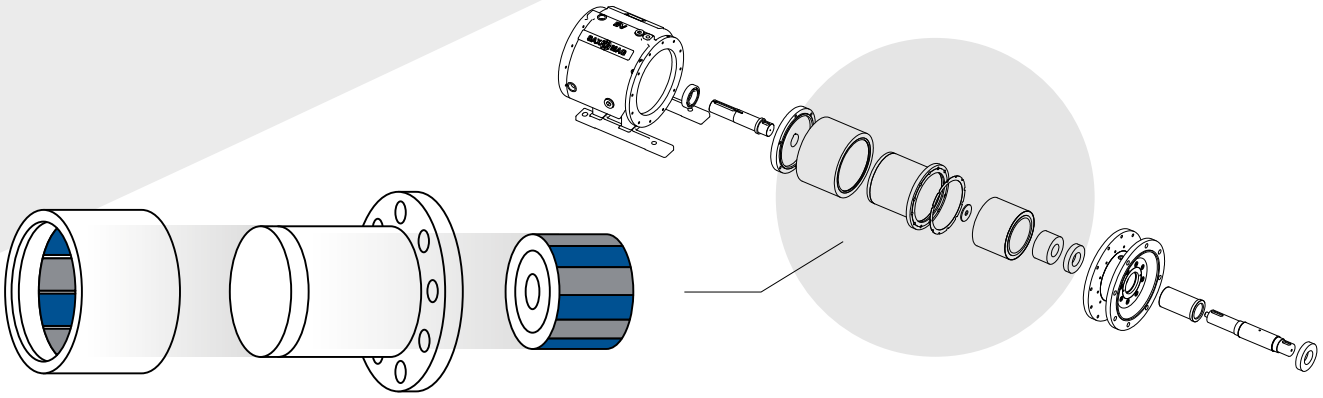
They ensure excellent corrosion resistance.

GUARANTEED PROTECTION AGAINST HAZARDOUS LEAKS

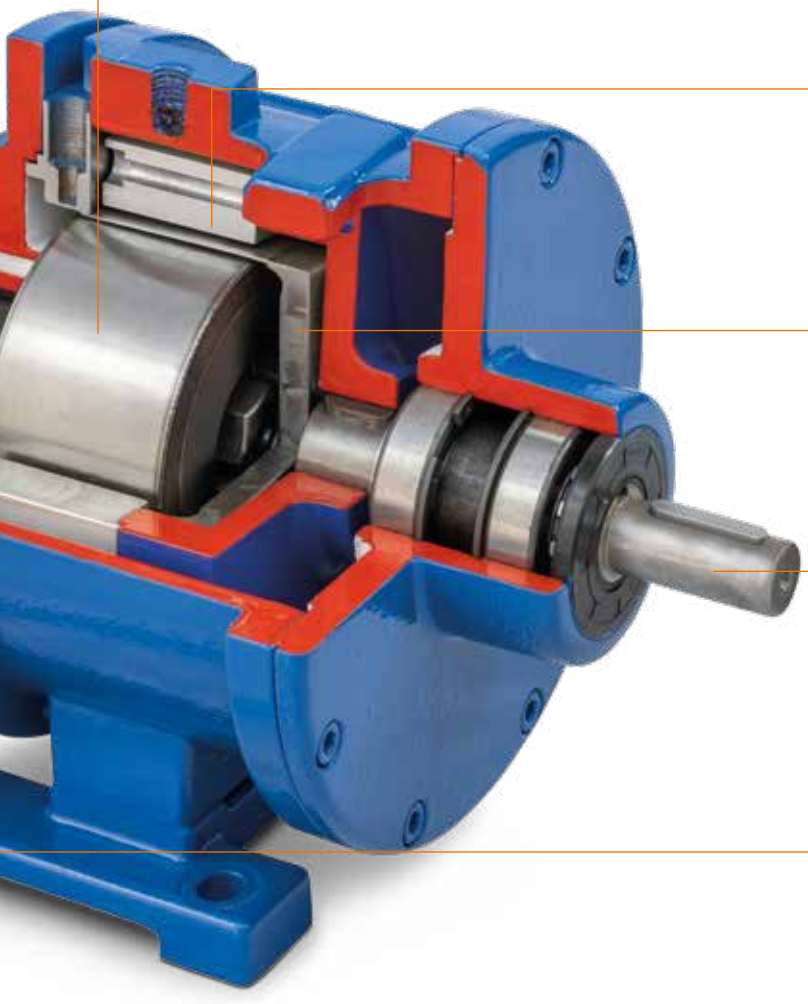
High safety standards even in ATEX environments.

CERTIFIED PRODUCT

- ATEX 2014/34/UE
- API 676 (with exceptions)



EXTERNAL MAGNET CONTAINMENT SHELL INTERNAL MAGNET



INTERNAL MAGNET

EXTERNAL MAGNET

CONTAINMENT SHELL

EXTERNAL SHAF

INTERNAL SHAFT

SAXMAG V
Working principle

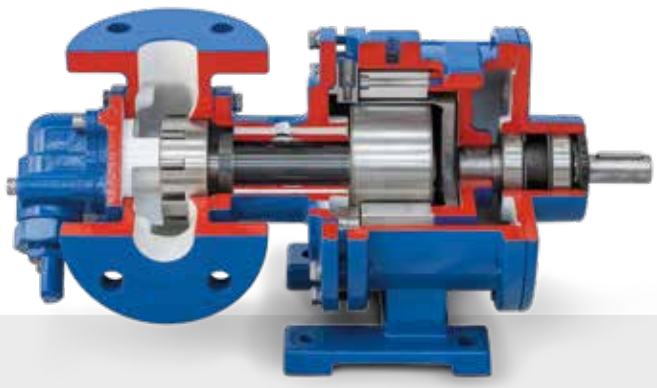
The magnetic coupling allows power to be transmitted without contact and with absolutely no leaks, thanks to the static seal. The coupling consists of an inner magnet (rotor side) and an external magnet (drive-motor side) separated from each other by a stainless steel containment shell. The pump shaft in the magnetic coupling is in stainless steel with a ceramic lining and is mounted on a solid carbide sliding bearing, lubricated by the pumped fluid. The heat generated by leakage through eddy currents is dissipated through dedicated cooling and lubricating grooves.

Advantages

- **No mechanical fluid seal systems**, no leaks or losses, no contact between driving part and pumping part
- **Shorter maintenance intervals** and system downtimes compared to versions with mechanical seal
- **Cost-effectiveness and simple handling** compared with pressurised double mechanical seal solutions
- **Magnetic couplings** designed for fluids with large viscosity variations
- Permanent magnets made of samarium cobalt: very good **corrosion resistance transmission of high torques**, even at high temperatures

Optional magnetic joint

- **Atex** (PT 100 mandatory and available with or without transmitter)
- **Driver with heating and/or cooling jacket** (standard on 550 and 850 Nm)



Fluids conveyed

- Additives
- Bitumen emulsions
- Chloro-paraffin
- Epoxy resins
- Varnishes
- Glycerine
- Glues
- Adhesives
- Synthetic resins
- Polyols
- Isocyanate
- Phenolic resins
- Sulphates
- Acids
- Impregnating resins
- Vinyl acetate

* Max viscosity fluid: 20.000 cSt

SAXMAG V
Main set-ups



1

BARE SHAFT
SAXMAG... VS



2

BASE AND JOINT
SAXMAG... VE... BP

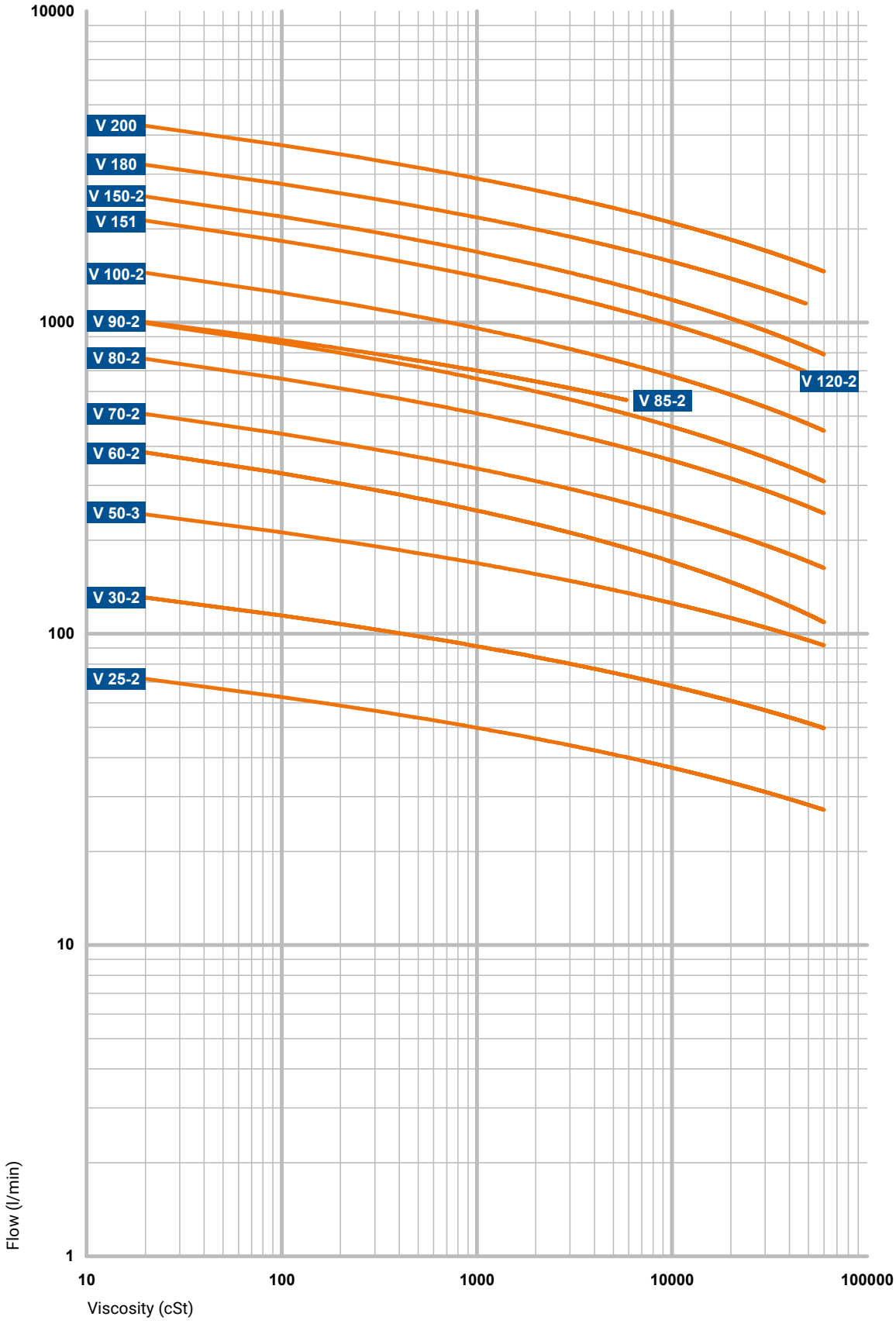
Technical data

SAXMAG V	Ports		Max Flow		Max Pressure		Torque	Ductile iron ports position		Stainless steel ports position	
Model	mm	in	l/min	US GPM	bar	psi	Nm	90°	180°	90°	180°
V 25-2	40	1" 1/4	75	20	12	174	50	✓	✓	✓	✗
V 30-2	40	1" 1/4	120	32	12	174	50	✓	✓	✓	✗
V 50-3	50	2"	172	45	12	174	50 / 110	✓	✓	✓	✗
V 60-2	50	2"	375	99	12	174	110 / 320	✓	✓	✗	✓
V 70-2	80	3"	440	116	12	174	180 / 850	✓	✓	✗	✓
V 80-2	80	3"	660	174	12	174	180 / 850	✓	✓	✗	✓
V 85-2	100	4"	900	238	8	116	320 / 850	✓	✗	✗	✗
V 100-2	100	4"	1376	363	12	174	550 / 850	✓	✓	✓	✗

* Temperature: Standard version max. 80 °C (176 °F) - High temperature version max. 200 °C (392 °F) Viscosity: 20.000 cSt (max)

✓ Available ✗ Not available

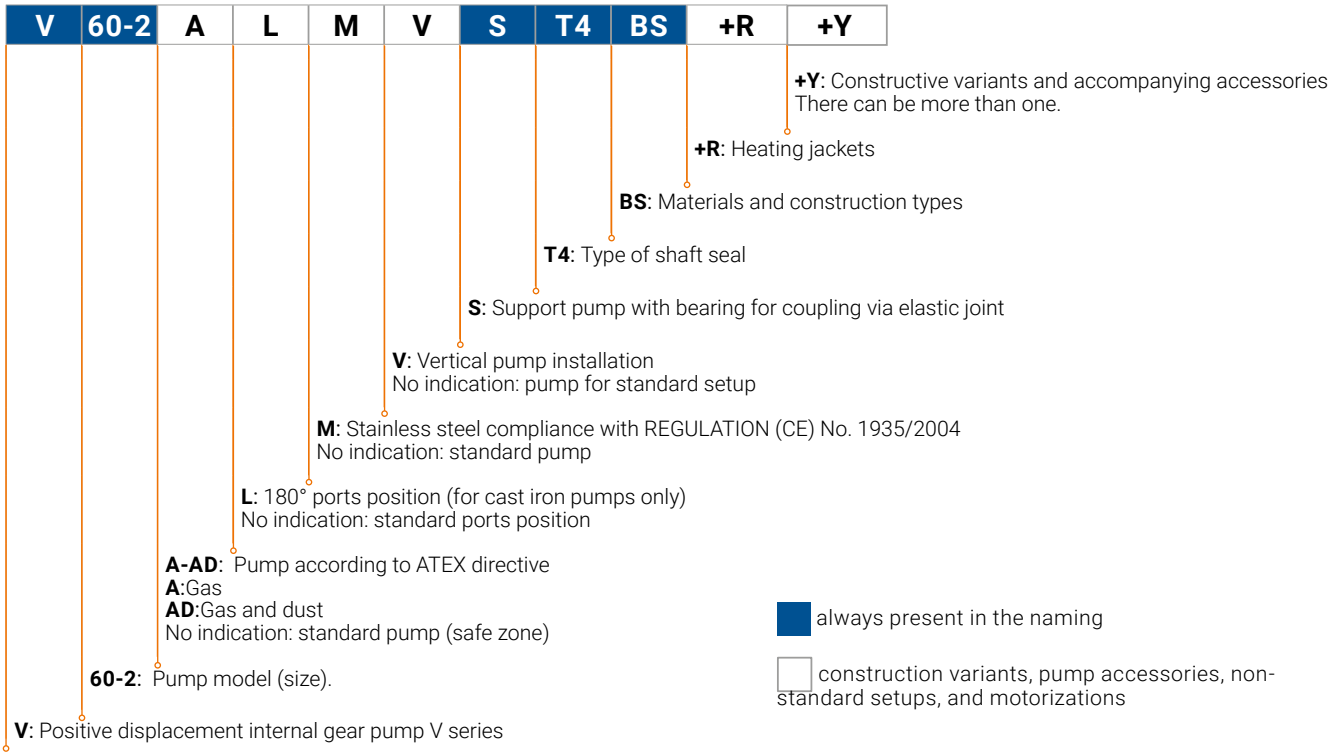
V and SAXMAG V Series
Performance curves



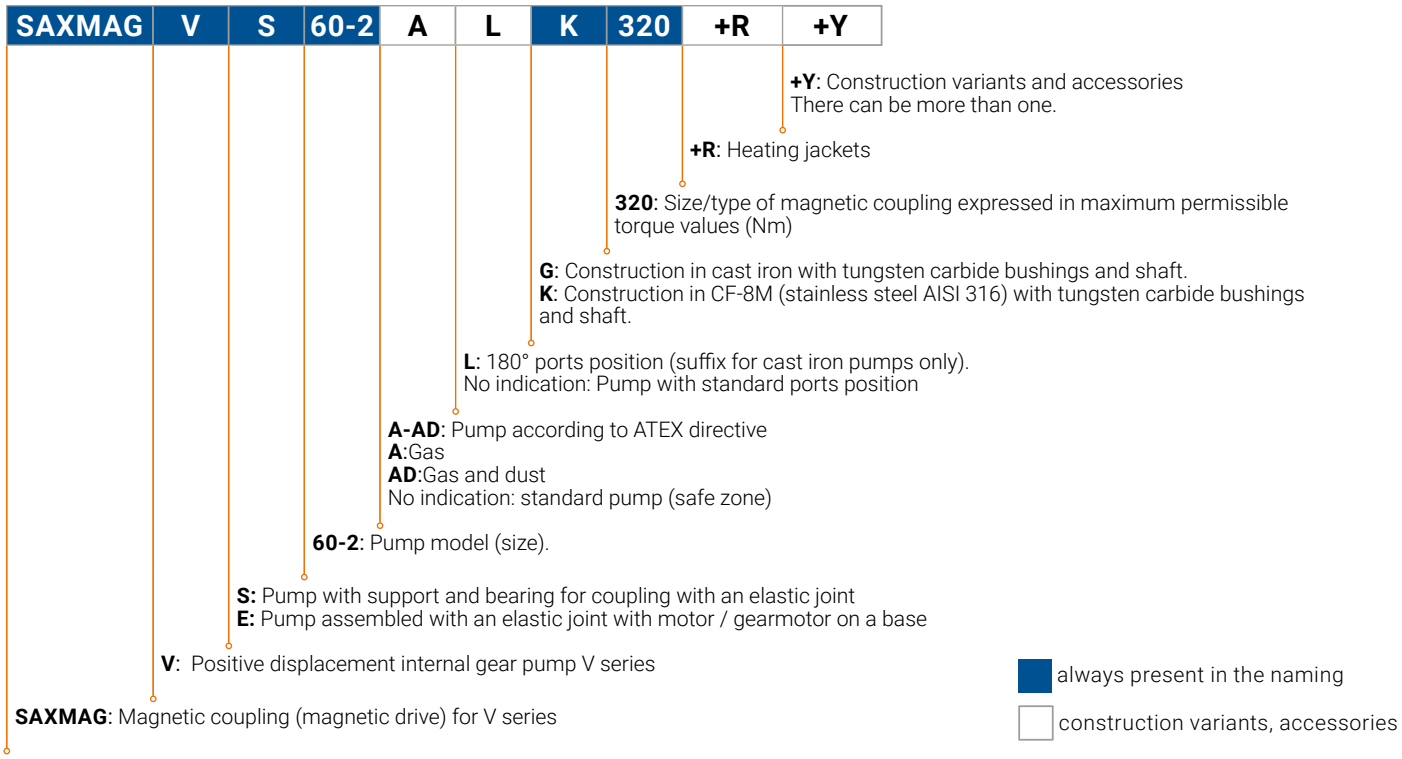
* For the SAXMAG V Series, performance curves are available up to and including model V100-2.

V and SAXMAG V Series
Product naming

V Series - Bare shaft pump naming (with support -S)



SAXMAG V Series - Bare shaft pump naming (with support -S)



V/SAXMAG V 2025
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