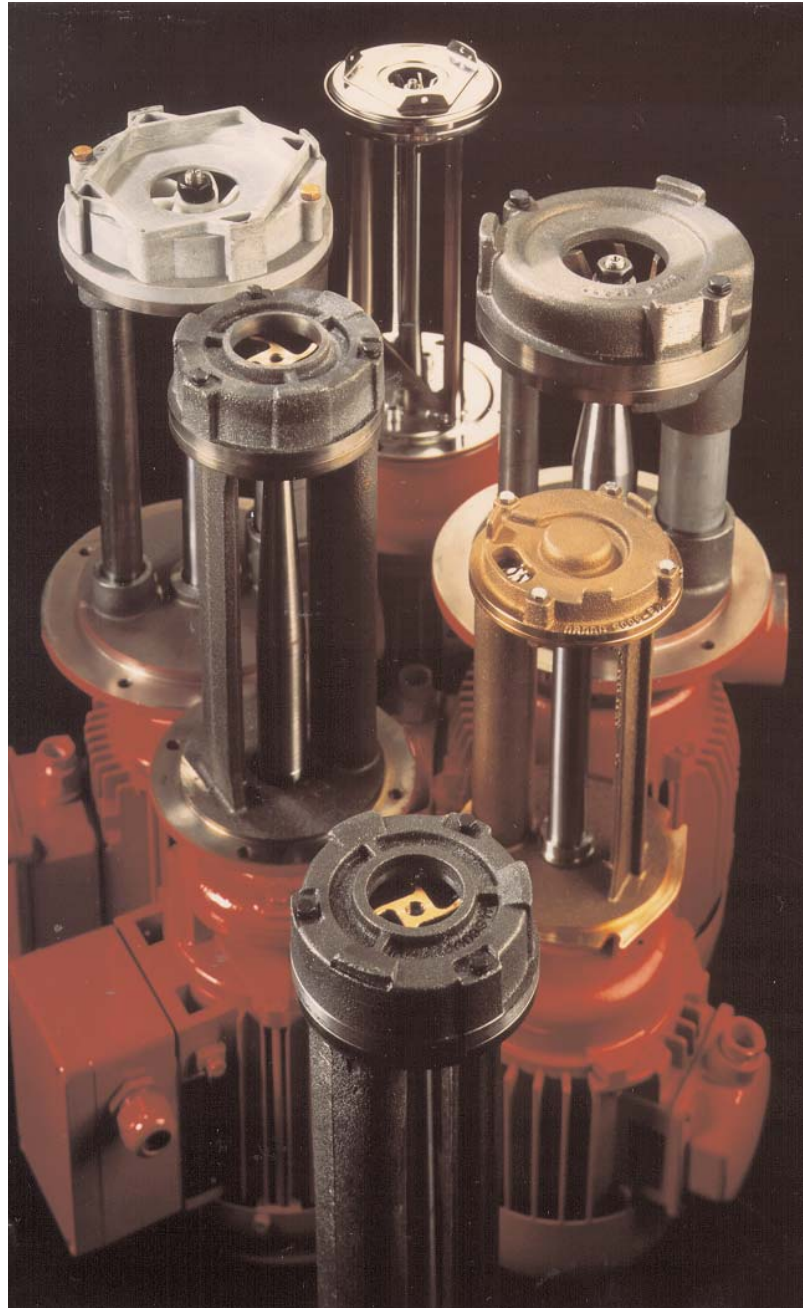


Sealless Immersion Pumps for Industrial Applications

1-6000-US

Low-, medium- and high-pressure pumps of high-tech plastic or metal

- Centrifugal pumps
- Peripheral impeller pumps
- Multi-section pumps
- Block pumps
- Screw pumps
- Flameproof pumps



Quality Management
DIN EN ISO 9001:2000
Environmental Management
DIN EN ISO 14001

www.vogelag.com

VOGEL®
**Spandau
pumps**

Main applications

Machine tools, filtration systems	Printing industry	Optical industry	Cooling, heating, wetting	Welding and laser technology	Surface and process engineering
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Immersion pumps of high-tech plastic	H _{max} [m]	Q _{max} [l/min]						
PR	4	30	■		■	■	■	■
PRG	32	60	■		■	■	■	■
PRT	32	120	■		■			
PRA	32	120		■	■	■	■	■
HCT	32	120				■		■
PT	35	23	■			■	■	■

Immersion pumps of metal	H _{max} [m]	Q _{max} [l/min]						
ES	6	70		■	■	■		■
PMS	48	400	■	■	■	■		■
PSH	55	800	■					
PS	105	1250	■		■			
PSL	105	1250	■					

High-pressure immersion pumps	H _{max} [m]	Q _{max} [l/min]						
PXK	70	185	■		■	■	■	■
PXA	250	185	■		■	■	■	■
HPS	800	238	■					

Flameproof immersion pumps	H _{max} [m]	Q _{max} [l/min]						
PAB <i>ATEX 95</i>	20	290		■				■
PNB <i>ATEX 95</i>	20	830		■				■

Block pumps	H _{max} [m]	Q _{max} [l/min]						
PVBC / PVBS	26 / 45	12 / 30				■	■	

Our range of products is based on 7 decades of experience building pumps and motors. The research and development department makes every effort to find solutions to all requirements encountered in the delivery of industrial liquids. Spandau Pumps are available as standard and user-specific models. We can also design pumps to meet individual needs, the choice of materials being left up to you. And our national and international agencies can provide customers with a flexible range of advice. VOGEL supplies high-quality pumps that provide a high degree of efficiency and reliability. Let us know your job, and we'll send you an offer.

Some applications for Spandau Pumps:

- Air-conditioning
- Beverage cooling
- CNC, NC machine tools
- Degreasing facilities
- Dental equipment
- Electroplating equipment
- Eroding machines
- Filling installations
- Filtration systems
- Freon, Frigen systems
- Glass-processing machines
- Humidifiers
- Impregnators
- Industrial furnaces
- Laboratory equipment
- Lapping machines
- Laser installations
- Medical equipment
- Optical machines
- Paper-processing machines
- Paraffin plants
- Photographic equipment
- Pressure booster systems
- Printing machines
- Recycling systems
- Refrigeration systems
- Sawing machines
- Surface-coating equipment
- Temperature control units
- Test stands
- Washing/cleaning installations
- Welding equipment
- Wire drawing machines

Motors are also available with industrial plug-in connectors conforming to DESINA specifications



The performance data apply to a density of 1 kg/dm³ and a viscosity of 1 mm²/s. HPS high-pressure pump: the performance relates to a viscosity of 40 mm²/s.

PRG
Immersion Pumps – High-tech Plastic

Features

sealless
 port dimensions
 to DIN EN 12157
 common
 motor/pump shaft
 1 to 4 stages
 max. immersion
 depth 320 mm

Materials

POM / PEI
 shaft: stainless steel 1.4122

Performance

delivery rate Q_{max} 60 l/min
 delivery head H_{max} 32 m
 max. temperature +60 °C



Leaflet 1-6007-US

PRA / PRT / HCT
Immersion Pumps – High-tech Plastic

Features

sealless
 port dimensions
 to DIN EN 12157
 common
 motor/pump shaft
 1 to 5 stages
 max. immersion
 depth 350 mm

Materials

PRA / PRT: PPU
 max. temperature +60 °C
HCT: LCP
 max. temperature +150 °C
 shaft: stainless steel 1.4571

Performance

delivery rate Q_{max} 120 l/min
 delivery head H_{max} 32 m



Leaflets 1-6001-US (PRT / PRA), 1-6004-US (HCT)

PT
Immersion Pumps – High-tech Plastic

Features

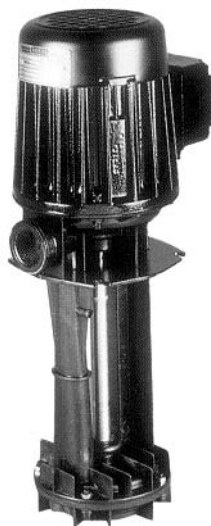
sealless
 port dimensions
 to DIN EN 12157
 common shaft
 centrifugal pump, 1 stage
 peripheral impeller
 max. immersion
 depth. 270 mm

Materials

PEI / GF
 shaft: stainless steel 1.4122

Performance

delivery rate Q_{max} 23 l/min
 delivery head H_{max} 35 m
 temperature range
 -60 °C to +120 °C



**Highly resistant to chemicals throughout
 a broad range of temperatures.**

Leaflet 1-6017-US

PVBC / PVBS
Block Pumps – High-tech Plastic
(for installation outside reservoir)

Features

peripheral impeller
 shaft seal or
 mechanical seal

Materials

PVBC: PPS
 shaft: stainless steel 1.4122
PVBS: PEI
 shaft: stainless steel 1.4028
 other shaft materials
 on request

Performance

delivery rate Q_{max} 30 l/min
 delivery head H_{max} 45 m
 temperature range
 -10 °C to +110 °C



Leaflet 1-6009-US

PSH Immersion Pumps

Features

sealless
common
motor/pump shaft
1 to 2 stages
max. immersion
depth 550 mm

Materials

cast iron / steel

Performance

delivery rate Q_{max} 800 l/min
delivery head H_{max} 55 m

**Preferred pump for
waste water and very dirty liquids,
filtration and hydrocyclone systems.**



Leaflet 1-6005-US

PS and PSL Immersion Pumps

Features

sealless
common
motor/pump shaft
1 to 7 stages
max. immersion
depth 670 mm
all frame sizes have the
same port dimensions

Materials

cast iron / steel

Performance

delivery rate Q_{max} 1250 l/min
delivery head H_{max} 105 m

**Centrifugal pump with closed
impeller for high delivery rates.**

**PSL: “System Spandau” slurp pump
for liquids containing trapped air.**



Leaflet 1-6014-US; 1-6019-US (slurp pump)

PXA and PXX High-Pressure Immersion Pumps

Features

multi-section pump,
sealless
for very high pressures:
with mechanical seal
port dimensions
to DIN EN 12 157
pressure port located
above the reservoir cover
variable immersion depths
standard motors

Materials

stainless steel / cast iron
shaft: stainless steel 1.4305

Performance

delivery rate Q_{max} 185 l/min
delivery head H_{max} 250 m

**PXX – the compact version
for applications up to 70 m.**



Leaflets 1-6062-US; 1-6203-US

HPS High-Pressure Screw Pumps

Features

positive-displacement pump:
3-spindle type
pressure port located
above the reservoir cover
packing:
shaft seal for
installation inside reservoir;
mechanical seal for
installation outside reservoir
variable immersion depths
by suction tube
standard motors

Materials

cast iron / steel
screw housing with
special antifriction coating/
hardened screw spindles

Performance

delivery rate Q_{max} 238 l/min
delivery head H_{max} 800 m

Leaflets 1-6063-US; 1-6204-US



PMS Immersion Pumps

Features

sealless
port dimensions to DIN EN 12157
common motor/pump shaft
1 to 4 stages
max. immersion depth 560 mm

Materials

cast iron / steel
bronze
stainless steel

Performance

delivery rate Q_{max} 400 l/min
delivery head H_{max} 48 m

“System Spandau” slurp pumps are designed to deliver small amounts of fluids containing trapped air.



Leaflet 1-6033-US

ES Immersion Pumps – Stainless Steel

Features

sealless
port dimensions to DIN EN 12157
centrifugal pump, 1 stage
max. immersion depth 270 mm
low weight: approx. 10 kg

Types of drives

- standard motor to DIN EN 60034;
- on request: type of protection “increased safety” (EExe) or “flameproof enclosure” (EExd)
- pneumatic motor

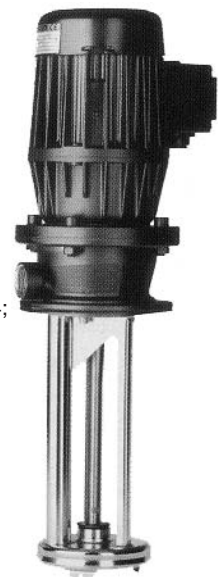
Materials

pump parts: stainless steel 1.4301
shaft: stainless steel 1.4122

Performance

delivery rate Q_{max} 70 l/min
delivery head H_{max} 6 m

Corrosion-proof – resistant to chemicals – light – silent – easy to clean.



Leaflet. 1-6018-US

PNB ATEX 95 Immersion Pumps – Flameproof

Features

sealless
common motor/pump shaft
1 to 2 stages
motor in type of protection “increased safety” (EExe) or “flameproof enclosure” (EExd)
max. immersion depth 700 mm

Materials

cast iron / steel
hard chrome plating

Performance

delivery rate Q_{max} 830 l/min
delivery head H_{max} 20 m

Centrifugal pump for even, nearly pulsation-free delivery of ink and paint.



Leaflet 1-6036-US

PAB ATEX 95 Immersion Pumps – Flameproof (with detachable motor)

Features

shaft coupled to motor
1 to 2 stages
motor in type of protection “increased safety” (EExe) or “flameproof enclosure” (EExd)
pump section resistant to machine washing
max. immersion depth 440 mm

Materials

cast iron / steel
hard chrome plating

Performance

delivery rate Q_{max} 290 l/min
delivery head H_{max} 20 m

Simple detachment of motor from pump section permits fast ink changes.



Leaflet 1-6036-US

**(++ 49) 30-7 20 02-261
by fax for the right pump**

Sender company, city, person to contact

Your reference: _____ Date: _____

Application: _____ **Quantity:** _____

Operating point

Delivery head [m]: _____ Delivery rate [l/min]: _____

Fluid

Type: _____ Temperature [°C]: _____

Density [kg/dm³]: _____ Viscosity at operating temperature [mm²/s]: _____

pH value: _____ Chemical analysis (separate page if necessary): _____

Percentage of solid particles [ppm]: _____ Grain size [µm]: _____

Special features: _____

Immersion depth [mm]: _____

Materials requested (if medium is not specified)

Housing: _____ Impeller: _____

Shaft: _____ Seals: _____

Other parts: _____

Electrical parameters

Europe Δ/Y 230/400 V, 50 Hz ⊥ 230 V, 50 Hz Δ 400 V, 50 Hz

USA Δ/Y 265/460 V, 60 Hz YY/Y 230/460 V, 60 Hz (optional)

Japan Δ 200 V, 50 Hz Δ 200-220 V, 60 Hz

Insulation class: F.B _____ Type of enclosure IEC 34: IP 55 _____

Other mains voltages: _____

Ambient temperature [°C] (if > 40 °C): _____

Options

Motor protection (thermistors in the winding/PTC): _____ Fan cowl, with canopy: _____

Special operating conditions: _____

Additional information: _____

We would like to have brochures on:

- Centrifugal pumps
- Peripheral impeller pumps
- Multi-section pumps
- Block pumps
- Screw pumps
- Flameproof pumps



A brand of the SKF Group

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