

Product overview

Chemical resistant pumps for corrosive
and hazardous media

SCHMITT

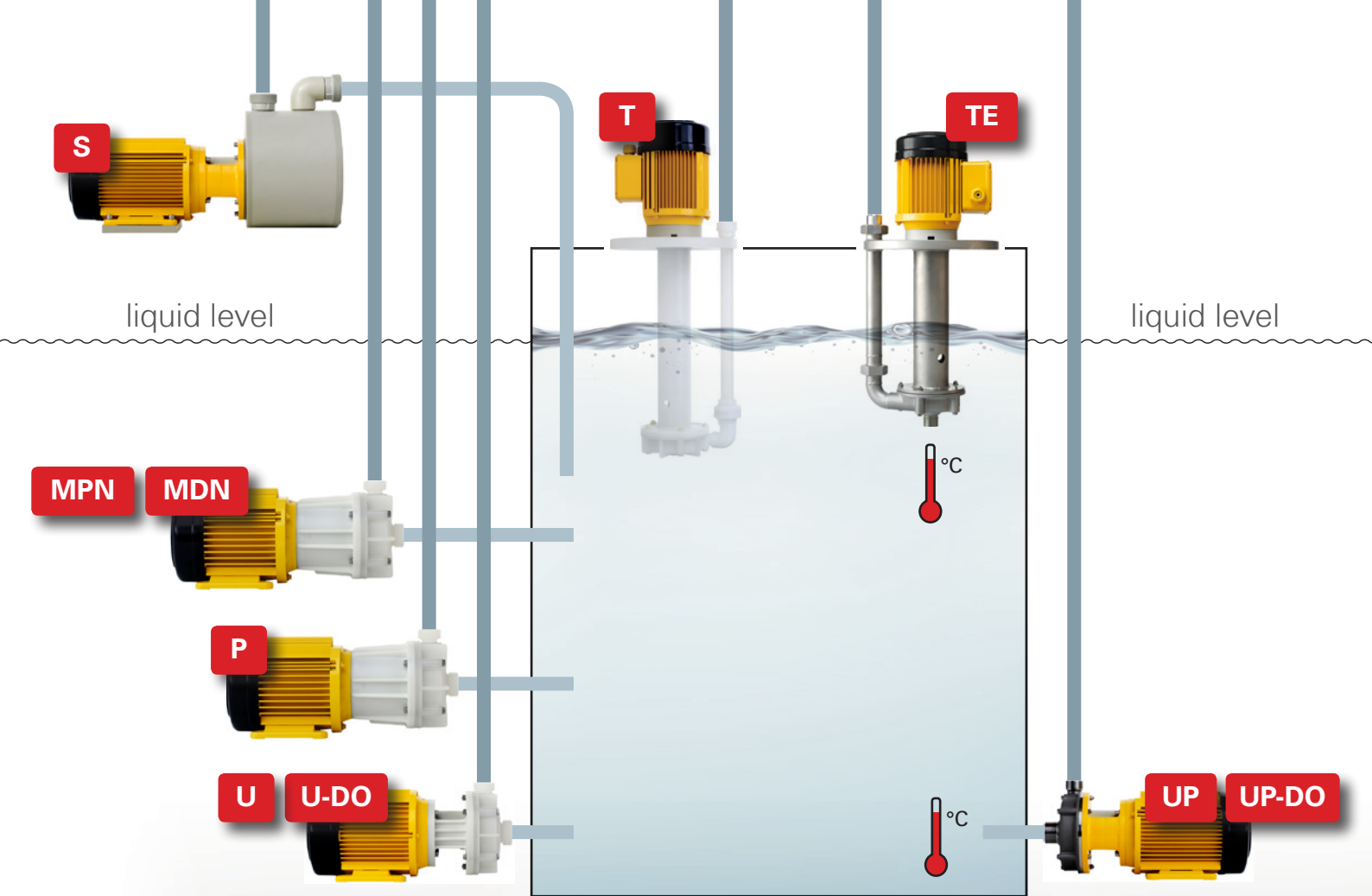
chemical resistant pumps

Product overview

Chemical resistant pumps for corrosive and hazardous media

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non-metallic Pumps

stainless steel pumps

Series	Type	Material	T _{max}	Q _{max}	H _{max}
MPN	Hermetically sealed, magnetic drive, non-metallic centrifugal pumps	PP PVDF	+80° C (175° F) +95° C (200° F)	35 m ³ /h (154 gpm)	32 m (105 ft)
MDN	Hermetically sealed, magnetic drive, non-metallic centrifugal pumps, dry-run safe	PVDF	+60° C (140° F)	8,7 m ³ /h (38 gpm)	14 m (46 ft)
P	Hermetically sealed, magnetic drive, non-metallic regenerative turbine pumps	PVDF	+60° C (140° F)	2,7 m ³ /h (12 gpm)	35 m (115 ft)
U	Non-metallic centrifugal pumps, single mechanically sealed	PVDF	+95° C (200° F)	30 m ³ /h (132 gpm)	40 m (131 ft)
U-DO	Non-metallic centrifugal pumps, double mechanically sealed	PVDF	+95° C (200° F)	30 m ³ /h (132 gpm)	40 m (131 ft)
S	Non-metallic centrifugal pumps, self-priming, single mechanically sealed	PP PVC	+50° C (120° F) +50° C (120° F)	12 m ³ /h (53 gpm)	27 m (89 ft)
UP	Stainless steel centrifugal pumps, single mechanically sealed	stainless steel	+150° C (300° F)	28 m ³ /h (122 gpm)	39 m (128 ft)
UP-DO	Stainless steel centrifugal pumps, double mechanically sealed	stainless steel	+150° C (300° F)	28 m ³ /h (122 gpm)	39 m (128 ft)
T	Vertical non-metallic centrifugal pumps, sealless, dry-run safe	PP PVDF	+80° C (175° F) +95° C (200° F)	30 m ³ /h (132 gpm)	28 m (92 ft)
TE	Vertical stainless steel centrifugal pumps, sealless, dry-run safe	stainless steel	+150° C (300° F)	35 m ³ /h (154 gpm)	28 m (92 ft)

MPN Series

Hermetically sealed, magnetic drive, non-metallic centrifugal pumps



MPN

Housing and impeller materials: PVDF, PP

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Bushing materials: PTFE-GF, Al₂O₃-ceramics, SiC (silicon carbide), graphite carbon

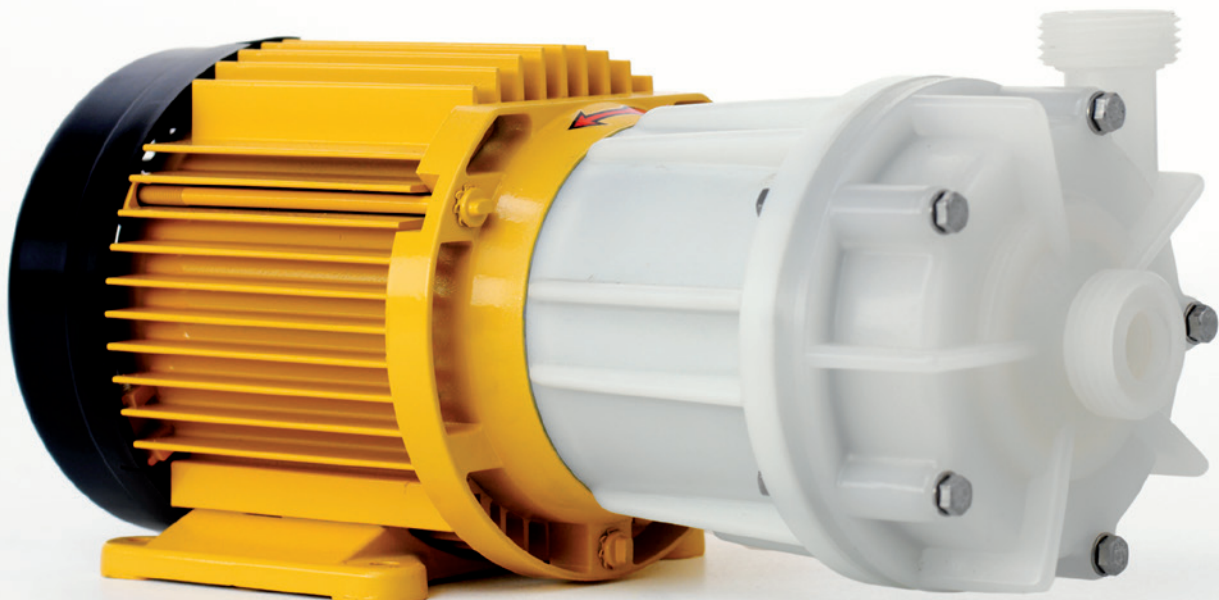
The MPN series is one of the most proven plastic magnetic drive pumps in the industry. Having been continuously improved over the decades, there are some ten thousand MPN pumps worldwide in use. The MPN series features a contact- and abrasion-free magnetic drive system, so that no mechanical seal is required to seal the pump.

Advantages:

- » hermetically sealed, no mechanical seals
- » particularly suited for toxic, environmentally harmful and corrosive media

Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 95°C / 200°F. On request, some MPN types are available in ATEX-certified versions made of electrically conductive plastic materials.

Type	Capacity		Head		Motor		Weight	
	m ³ /h	US-gpm	m	ft	kW	HP	kg	lbs
MPN 80	2.3	10	4	13	0.18	0.25	5	11
MPN 101	5.1	22	7	23	0.18	0.25	5	11
MPN 115	5.7	25	10	33	0.25	0.35	6	13
MPN 130	8.7	38	14	46	0.55	0.75	9	20
MPN 150	13.2	58	19	62	1.1	1.50	15	33
MPN 170	19.8	87	26	85	2.2	3.00	24	53
new MPN 180H	35.0	154	23	75	3.0	4.00	27	60
MPN 190	24.0	106	32	105	3.0	4.00	30	66



MDN Series

Hermetically sealed, magnetic drive,
non-metallic centrifugal pumps, dry-run safe



MDN

Housing and impeller material: PVDF

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

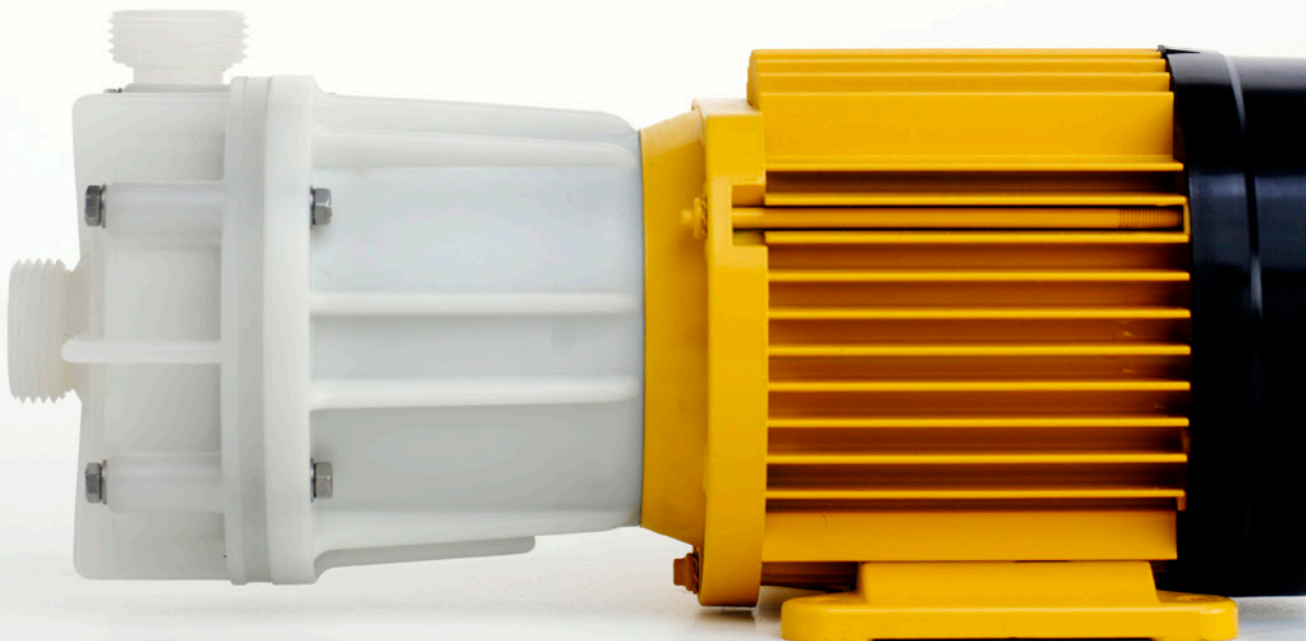
The MDN 130 is the dry-run safe version of the proven MPN series. The MDN series features our contact-free and abrasion-free magnetic drive system, so that no mechanical seal is required to seal the pump. The impeller rotates in chemical resistant, ceramic ball bearings.

Advantages:

- » hermetically sealed, no mechanical seals
- » particularly suited for toxic, environmentally harmful and corrosive media
- » dry-run safe

The MDN series is used in clean liquids that do not contain larger particles. The maximum allowed temperature is 60°C / 140°F.

Type	Capacity		Head		Motor		Weight	
	m ³ /h	US-gpm	m	ft	kW	HP	kg	lbs
MDN 130	8.7	38	14	46	0.55	0.75	9	20



P Series

Hermetically sealed, magnetic drive,
non-metallic regenerative turbine pumps



P

Housing and impeller materials: PVDF

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Bushing materials: PTFE-GF, Al₂O₃-ceramics, SiC (silicon carbide)

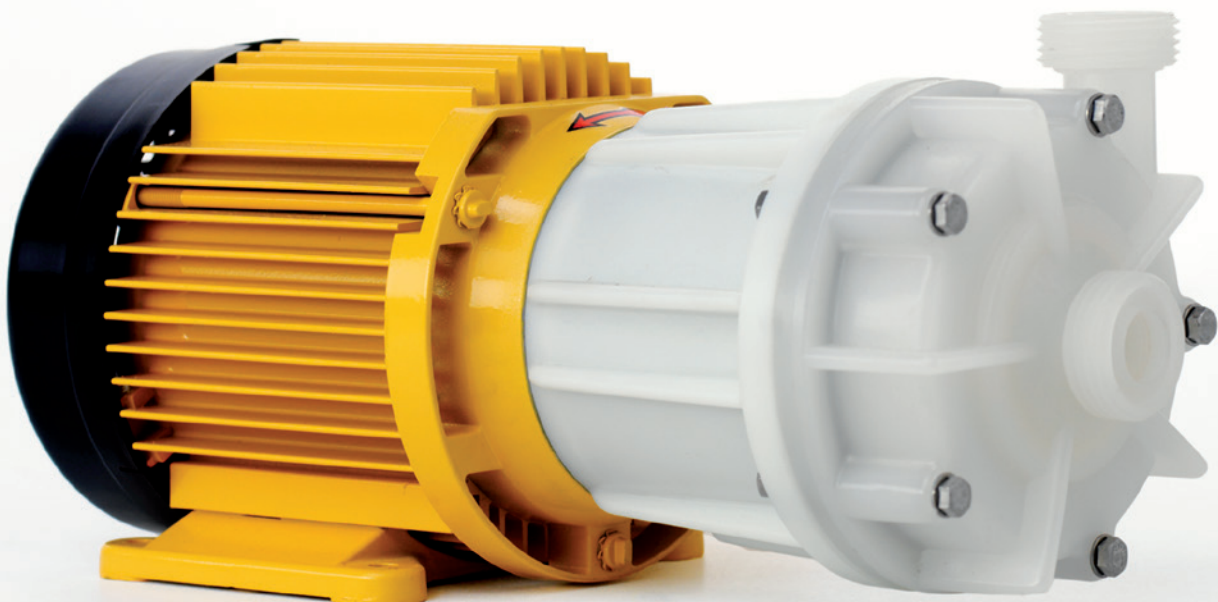
The P Series is designed for applications in which a high delivery head is required, but a relative low flow is sufficient. The impeller is designed as a regenerative turbine wheel, which allows for higher pressure and almost linear head-flow-characteristics. The P series features our contact-free and abrasion-free magnetic drive system, so that no mechanical seal is required to seal the pump.

Advantages:

- » hermetically sealed, no mechanical seals
- » particularly suited for low flows and high delivery heads up to 35 m / 115 ft
- » linear characteristic, precisely controllable
- » particularly suited for toxic, environmentally harmful and corrosive media

The P series is used in clean liquids that do not contain larger particles. The maximum allowed temperature is 60°C / 140°F.

Type	Capacity		Head		Motor		Weight	
	m ³ /h	US-gpm	m	ft	kW	HP	kg	lbs
P 130	2.7	12	35	115	0.9	1.20	11	24



U Series

Non-metallic centrifugal pumps, single mechanically sealed



U

Housing and impeller material: PVDF

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Mechanical seal materials: SiC (silicon carbide), graphite carbon, PTFE-GF, Al₂O₃-ceramics

Metal parts: Stainless steel ANSI 316Ti (1.4571), Hastelloy® C4

The U series is the SCHMITT entry model to cope with corrosive media. The impeller is directly mounted on the motor shaft extension. The pump is sealed with a single mechanical seal that is cooled and lubricated by the fluid. The mechanical seal is available in different versions, featuring FKM bellows, Hastelloy® C4-springs and PVDF shaft sleeves.

Advantages:

- » compact close-coupled design
- » suited for corrosive media

Different versions and materials available allow for a perfect match to many operating conditions. Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 95°C / 200°F.

Type	Capacity		Head		Motor		Weight	
	m ³ /h	US-gpm	m	ft	kW	HP	kg	lbs
U 80	1.5	7	4	13	0.18	0.25	4	9
U 100	4.8	21	7	23	0.18	0.25	4	9
U 115	6.0	26	10	33	0.25	0.35	5	11
U 130	8.4	37	14	46	0.55	0.75	8	18
U 150	13.2	58	17	56	1.1	1.50	13	29
U 170	20.4	90	25	82	2.2	3.00	21	46
U 190	22.2	98	32	105	3.0	4.00	26	57
U 210	30.0	132	40	131	5.5	7.50	35	77



U-DO Series

Non-metallic centrifugal pumps, double mechanically sealed



U-DO

Housing and impeller material: PVDF

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Mechanical seal materials: SiC (silicon carbide), graphite carbon, PTFE-GF, Al₂O₃-ceramics

Metal parts: Stainless steel ANSI 316Ti (1.4571), Hastelloy® C4

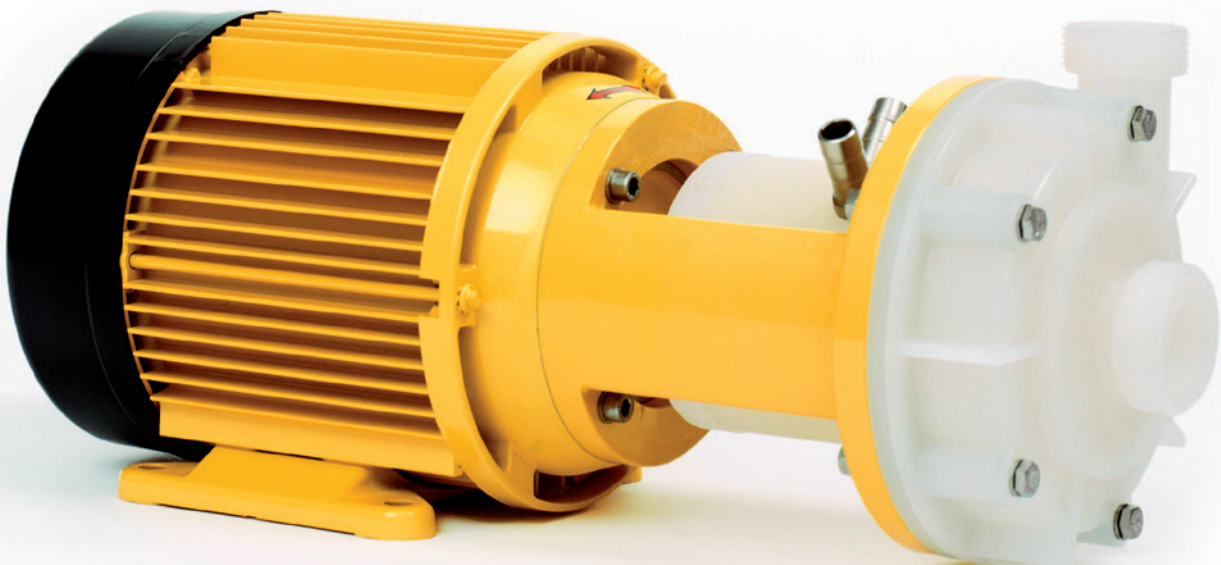
For the U-DO series, the impeller is directly mounted on the motor shaft extension. A double mechanical seal in back-to-back configuration seals the pumps and prevents harmful media from entering the atmosphere. The double seal is cooled and lubricated by a barrier fluid, for which a separate seal support system is required. The mechanical seal is available in different versions, featuring FKM bellows, Hastelloy® C4-springs and PVDF shaft sleeves.

Advantages:

- » dry-run safe when using a pressurized seal support system
- » no evaporation of harmful media into the atmosphere
- » suited for media with poor lubricating characteristics

Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 95°C / 200°F.

Type	Capacity		Head		Motor		Weight	
	m ³ /h	US-gpm	m	ft	kW	HP	kg	lbs
U-DO 100	4.8	21	7	23	0.18	0.25	5	11
U-DO 115	6.0	26	11	36	0.25	0.35	6	13
U-DO 130	8.4	37	14	46	0.55	0.75	10	22
U-DO 150	13.8	61	17	56	1.1	1.50	15	33
U-DO 170	22.8	100	25	82	2.2	3.00	22	49
U-DO 190	25.2	111	32	105	3.0	4.00	32	71
U-DO 210	30.0	132	40	131	5.5	7.50	52	115



S Series

Non-metallic centrifugal pumps, self-priming, single mechanically sealed



S

Housing materials: PP or PVC

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Mechanical seal materials: SiC (silicon carbide), graphite carbon, PTFE-GF, Al₂O₃-ceramics

Metal parts: Stainless steel ANSI 316Ti (1.4571), Hastelloy® C4

The S series features a specially designed housing that allows the pump to self-prime the suction line and to lift the fluid from a level as deep as 5 m / 16.5 ft below the pump. The impeller is directly mounted on the motor shaft extension. The pump is sealed with a single mechanical seal that is cooled and lubricated by the fluid being pumped.

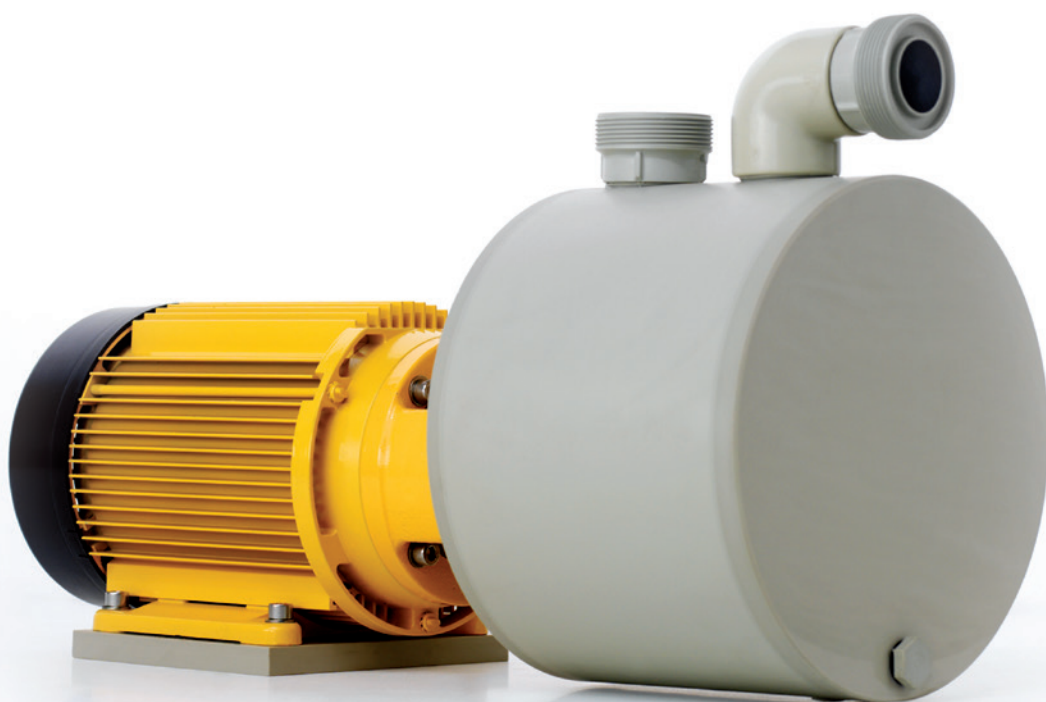
Advantages:

» self-priming from up to 5 m / 16.5 ft below the level

The S series has been specially designed for self-priming operation. It is particularly suited in situations where the suction line can frequently run dry or air and gases can enter the suction line.

The S series can be used in clean liquids that do not contain larger particles. The maximum allowed temperature is 50°C / 120°F.

Type	Capacity		Head		Lift height		Motor		Weight	
	m ³ /h	US-gpm	m	ft	m	ft	kW	HP	kg	lbs
S 115	4.2	18	10	33	3	10	0.25	0.35	7	15
S 130	6.0	26	13	43	3	10	0.55	0.75	10	22
S 150	9.0	40	19	62	4	13	1.1	1.50	16	35
S 170	12.0	53	27	89	5	16	2.2	3.00	24	53





UP

UP Series

Stainless steel centrifugal pumps, single mechanically sealed

Housing and impeller materials: Stainless steel ANSI 316Ti (1.4581)

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Mechanical seal materials: SiC (silicon carbide), graphite carbon, PTFE-GF, Al₂O₃-ceramics

Metal parts: Stainless steel ANSI 316Ti (1.4571)

The UP series is for those applications, in which a non-metallic pump cannot be used or is not desired, e.g. for temperatures up to 150°C / 300°F. The impeller is directly mounted on the motor shaft extension. The pump is sealed with a single mechanical seal that is cooled and lubricated by the fluid.

Advantages:

- » compact close-coupled design
- » suited for high temperatures

Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 150°C / 300°F.

Type	Capacity		Head		Motor		Weight	
	m³/h	US-gpm	m	ft	kW	HP	kg	lbs
UP 80	1.8	8	5	16	0.18	0.25	5	11
UP 100	4.5	20	7	23	0.18	0.25	6	13
UP 115	5.4	24	9	30	0.25	0.35	7	15
UP 130	9.9	44	12	39	0.55	0.75	10	22
UP 150	13.2	58	15	49	1.1	1.50	16	35
UP 170	21.6	95	23	75	2.2	3.00	24	53
UP 190	24.0	106	27	89	3.0	4.00	30	66
UP 210	27.6	122	39	128	5.5	7.50	39	86



UP-DO Series

Stainless steel centrifugal pumps, double mechanically sealed



UP-DO

Housing and impeller materials: Stainless steel ANSI 316Ti (1.4581)

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

Mechanical seal materials: SiC (silicon carbide), graphite carbon, PTFE-GF, Al₂O₃-ceramics

Metal parts: Stainless steel ANSI 316Ti (1.4571)

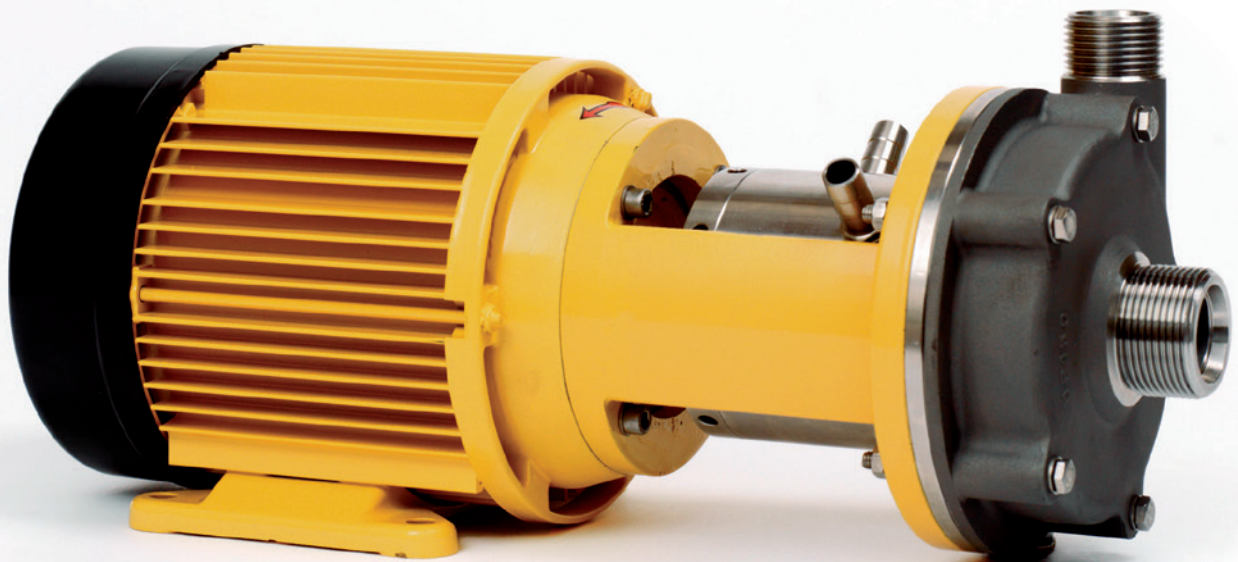
The UP series is for those applications, in which a non-metallic pump cannot be used or is not desired, e.g. for temperatures up to 150°C / 300°F. A double mechanical seal in back-to-back configuration seals the pumps and prevents harmful media from entering the atmosphere. The double seal is cooled and lubricated by a barrier fluid, for which a separate seal support system is required. Seals and elastomers are available in many materials.

Advantages:

- » dry-run safe when using a pressurized seal support system
- » no evaporation of harmful media into the atmosphere
- » suited for high temperatures

Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 150°C / 300°F.

Type	Capacity		Head		Motor		Weight	
	m ³ /h	US-gpm	m	ft	kW	HP	kg	lbs
UP-DO 100	4.2	18	7	23	0.18	0.25	7	15
UP-DO 115	4.8	21	9	30	0.25	0.35	8	18
UP-DO 130	9.0	40	13	43	0.55	0.75	13	29
UP-DO 150	11.4	50	15	49	1.1	1.50	19	42
UP-DO 170	18.9	83	23	75	2.2	3.00	28	62
UP-DO 190	21.6	95	27	89	3.0	4.00	39	86
UP-DO 210	27.0	119	39	128	5.5	7.50	61	134





T

T Series

Vertical sealless non-metallic centrifugal pumps, dry-run safe



Housing and impeller materials: PVDF, PP

Elastomers: EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®)

The T series features a massive vertical shaft extension that directly drives the impeller. The rotating shaft is solely supported by the motor bearings and therefore runs completely contact- and abrasion-free inside the housing. This design concept eliminates the need for shaft seals and additional bearings. Optionally, the T series can be ordered with a shaft seal as a vapor barrier.

Advantages:

- » dry-run safe
- » no abrasion into the fluid, therefore well suited for high-purity applications

Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 95°C / 200°F.

Type	Capacity		Head		Motor		Immersion depth	
	m³/h	US-gpm	m	ft	kW	HP	mm	in.
T 100	3.0	13	7	23	0.12	0.16	200	8
T 115	5.1	22	10	33	0.25	0.35	200-300-400	8-12-16
T 130	7.2	32	13	43	0.55	0.75	200-300-400	8-12-16
T 150	9.6	42	17	56	0.75	1.00	300-400-500	12-16-20
T 170	14.4	63	21	69	1.5	2.00	400-600-800	16-24-32
new T 180H	30.0	132	14	46	2.2	3.00	300-400-600	12-16-24
T 190	16.8	74	28	92	2.2	3.00	400-600-800	16-24-32

TE Series

Vertical sealless stainless steel centrifugal pumps, dry-run safe



TE



Housing and impeller: Stainless steel ANSI 316Ti (1.4571)

Elastomers: PTFE

The TE series is for those applications, in which a non-metallic pump cannot be used or is not desired, e.g. for temperatures up to 150°C / 300°F.

It features a massive vertical shaft extension that directly drives the impeller. The rotating shaft is solely supported by the motor bearings and therefore runs completely contact- and abrasion-free inside the housing. This design concept eliminates the need for shaft seals and additional bearings.

Optionally, the TE series can be ordered with a shaft seal as a vapor barrier.

Advantages:

- » dry-run safe
- » no abrasion into the fluid, therefore well suited for high-purity applications
- » suited for high temperatures

Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 150°C / 300°F.

Type	Capacity		Head		Motor		Immersion depth	
	m ³ /h	US-gpm	m	ft	kW	HP	mm	in.
TE 115	5.7	25	8	26	0.25	0.35	200-300-400	8-12-16
TE 130	8.4	37	11	36	0.55	0.75	200-300-400	8-12-16
TE 150	10.2	45	15	49	0.75	1.00	300-400-500	12-16-20
TE 170	16.2	71	20	66	1.5	2.00	400-600-800	16-24-32
new TE 180H	35.0	154	15	51	2.2	3.00	300-400-600	12-16-24
TE 190	18.0	79	28	92	2.2	3.00	400-600-800	16-24-32



Motors and fittings

Motors

As a standard, SCHMITT pumps are equipped with three-phase asynchronous motors that are "Made in Germany": 230/400V, 50/60Hz, IP55, IE2.

Also available are:

- » single-phase asynchronous motors 115 V or 230 V (up to 1,1 kW / 1,5 HP)
- » with PTC resistors to be used in inverter operations
- » IE3 or IE4 efficiency classes
- » integrated inverter drive
- » multi-range and customized voltages
- » special frequencies
- » Atex versions
- » UL, CSA, NEMA, CCC certified versions

Other versions are available on request.



Fittings

SCHMITT offers an extensive range of fittings to facilitate the installation of the pump into your system:

- » flange adaptors
- » hose connectors
- » welding connectors for stainless steel pipes
- » reducers
- » NPT threaded adaptors
- » inlet strainers for vertical pumps
- » extension pipes for vertical pumps



About SCHMITT



Since its foundation in 1964, SCHMITT has established a firm place in the global market of industrial pumps for corrosive and hazardous liquids. All SCHMITT pumps are engineered and "Made in Germany" in our plant in Ettlingen in the southwestern state of Baden-Württemberg. In the last 50 years, we have been servicing more than 5000 satisfied customers around the world.

Specialized

Some ten thousand magnetic drive pumps from the MPN series have made the SCHMITT name well-known in many industries worldwide. However, we do have many other pump types in our program, including vertical sealless pumps and horizontal stainless steel and non-metallic pumps with single and double mechanical seals. SCHMITT specializes on pumps with a maximum motor power of 5,5 kW (7.5 HP) and flows up to 35 m³/h (155 US-gpm). The chemical resistant pumps are manufactured from stainless steel, PVDF and PP.

Fast and flexible

SCHMITT customers can rely on quick delivery. Due to our highly integrated manufacturing, our smart modular design concept and the consistent application of lean manufacturing and warehousing, we can offer very short delivery times. Over 90% of our products are available in less than 2 weeks. On top of that, we offer a 24-hour express shipment option for many of our pumps.

In case something should break, we have all common spare parts on stock. Spare parts shipment within 24 hours is common practice for us.

Reliable and competent

Reliability begins with the selection of the right pump type and the right materials. Our experts offer you friendly and competent advice with your pump application.

In the early stages of each new development, reliability is on the very top of our priority list. Thus, SCHMITT pumps are manufactured to a robust and simple design concept, ensuring a long field life. Before a pump is shipped, it goes through a test procedure to guarantee that all mechanical, hydraulic and electric functions are as specified. This is why SCHMITT pumps are renowned for their quality and long-life cycle. Many of our pumps have been in service for decades before overhaul or replacement was required.

Our quality management system has been certified according to ISO 9001 since 1998 and is being continuously improved.

SCHMITT

chemical resistant pumps

www.schmitt-pumpen.de

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Last update 07/2015

