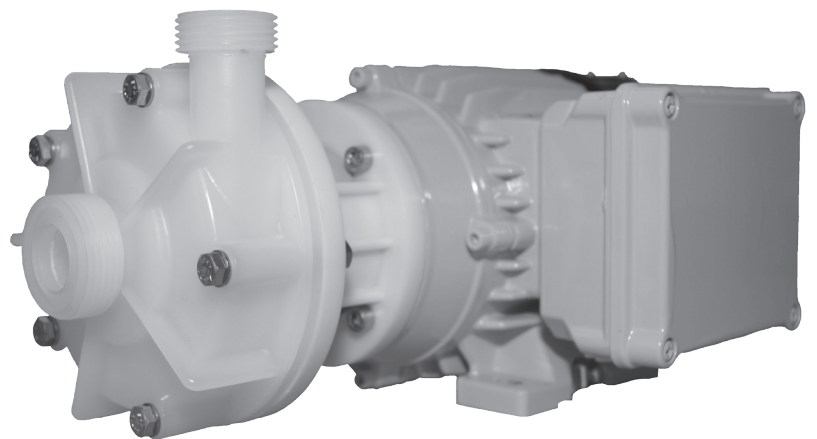


SCHMITT
Kreiselpumpen

**chemical resistant pumps
for corrosive and highly pure media**

product information



U Pump Series

**normal priming,
centrifugal pumps
with a single mechanical seal**

materials: PVDF

Description of the U Pump Series

- normal priming centrifugal pumps with a single mechanical seal
- materials: **PVDF (polyvinylidene fluoride)**
- non-slip torque transfer
- particularly suitable for viscous or solid particle laden media to be pumped

- max. output rate: **500 l/min, 30 m³/h, 132 US-Gal/min**
- max. discharge head: **40 m, 131 ft**
- motor power: **0,18 - 5,5 KW**

In the U Pump Series, the motor power is transmitted without slip directly to the pump impeller with a rigid shaft (no magnetic coupling). A mechanical seal prevents the leakage of the media to be pumped and ensures the leak proof sealing of the centrifugal pump.

Advantages of the MPN Pump Series:

- also applicable for higher viscosities or metallic particles in the medium
- the highest chemical resistance
- robust, thick-walled design
- low-maintenance through an optimal adaptation to the medium to be pumped
- long-lasting and wear resistant, various types of designs for almost all operating conditions
- open impeller (i.e. solids up to 3 mm grain size and 10 Vol. % possible)
- models are also available, where no metal parts are in contact with the medium
- easy to maintain (wear parts and the mechanical seal can be changed swiftly)
- universally applicable, quiet and compact
- various chemical resistant materials can be supplied as stock items
- available as explosion proof version for combustible environments (ATEX)

The U Pump Series is universally applicable. The design and manufacturing materials allow for optimization for many operating conditions and media to be pumped.

This results in **application possibilities, amongst others, for the following application fields:**

Wastewater treatment, electro-plating technology, laboratory applications, filtration, environment engineering, photographic chemicals, exhaust air scrubbers, textile industry, purifying plants, applications also for dirty and metallically contaminated media, outer side set up with fluctuating viscosities.

Types of the U Pump Series

Materials and Components:

- main material: Parts solid made of PVDF (up to +95°C)
- elastomere alternatively made of FKM, EPDM, FEP or Kalrez®
- shafts are made of stainless steel or Hastelloy C4
- mechanical seals made of PTFE, ceramic, carbon or SiC
- structure in the designs A, B and C:
 - Design A: No metal parts in the pump are in contact with the medium. The impeller is equipped with a shaft sleeve. The face pressure is achieved with a thrust-collar-loaded mechanical seal.
 - Design B: The mechanical seal is spring-loaded. The impeller is equipped with a shaft sleeve. The spring is made of Hastelloy and in contact with the medium; however, the shaft is not.
 - Design C: The mechanical seal is spring-loaded. The impeller does not have a shaft sleeve. Simple, robust structure.
- the metal parts that are in contact with the medium (shaft sleeve, impeller insert and locking nut) are available in stainless steel or Hastelloy.
- high-quality electric motors made in Germany
- also available with a double mechanical seal

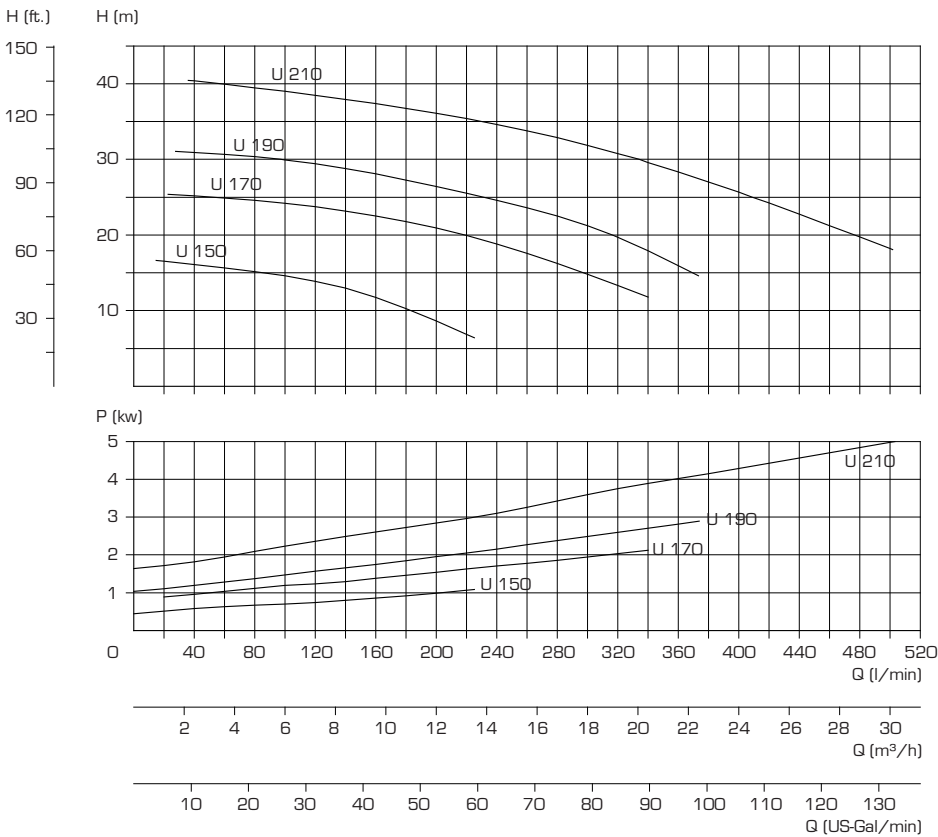
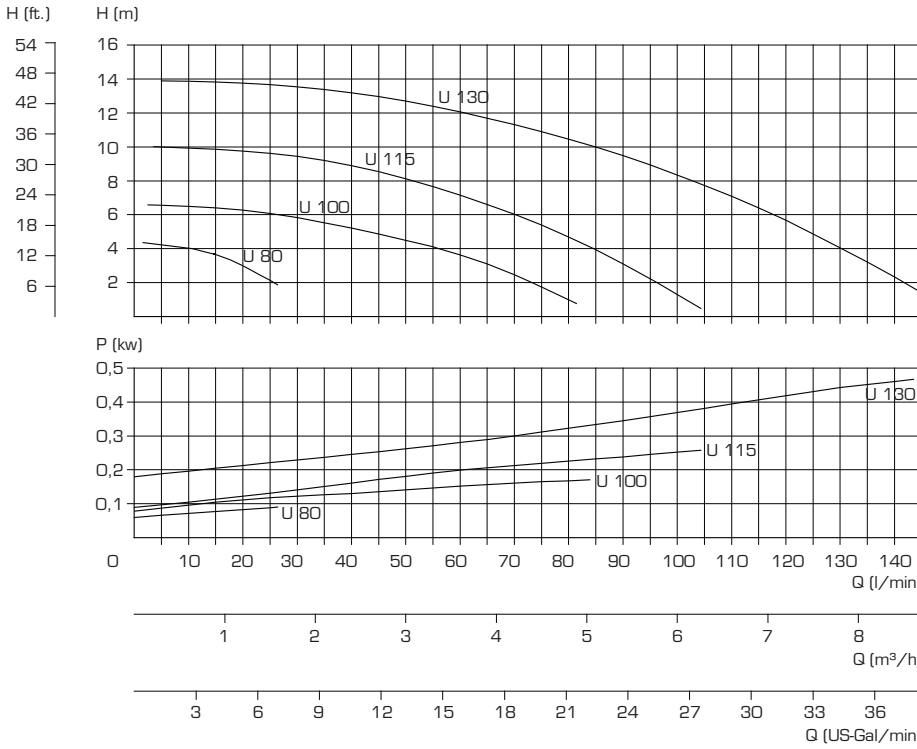
Material details:

- PVDF: polyvinylidene fluoride, pure, milky white, not colored (up to +95° C)
- FKM: Viton ® quality, -20...+200 °C
- EPDM: ethylene propylene diene M-class rubber, food-safe (FDA, KTW, WRC), -40...+160° C
- FEP: fluorinated ethylene propylene with Viton® or silicone core, -60...+200° C
- Kalrez ®: high performance elastomere up to +315° C
- PTFE: pure Teflon ®, fiber glass or carbon fiber reinforced
- Ceramic: highly pure Al₂O₃-ceramic 99,7%
- SiC: silicon carbide, without free silicon, sintered
- Carbon: carbon, impregnated with synthetic resin, food-safe
- Stainless steel: 1.4571 or stainless steel fine cast 1.4581 (A4) (up to +150° C)
- Hastelloy C4: 2.4610

Motor details:

- standard motors (stock items):
 - three-phase motors: 230/400 V 3ph, 50 Hz, IP 55, insulation class F or 277/480 V 60 Hz also with PTC thermistor
 - alternating current motors: 230 V 1ph, 50/60 Hz, IP 55, insulation class F
 - three-phase motors: spark arrested for combustible environments, explosion proof: EEx e II T3
- special design models (available):
 - three-phase motors, explosion proof, flameproof enclosure, EEx de II CT4
 - special voltages and frequencies
 - 2-, 4- and 8-pole
 - UL- and CSA execution
 - special protection types (e.g. IP 65)
 - high temperature designs
 - special insulation classes (e.g. tropical insulations)
 - multi area voltage (e.g. 220-290 / 380-500 V 50 Hz; 220-332 / 380-575 V 60 Hz.)
 - additional designs upon enquiry

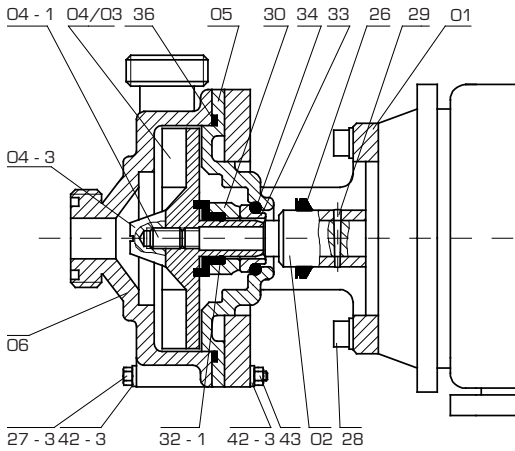
Characteristics of the U Pump Series



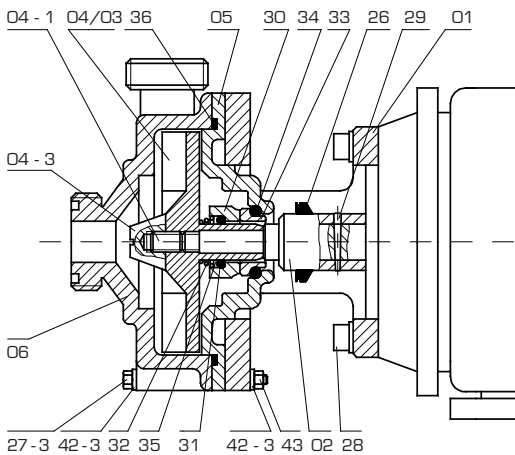
Characteristic lines measured with water, 20° C and 2900 Rpm (50 Hz.)

Parts Description of the U Pump series

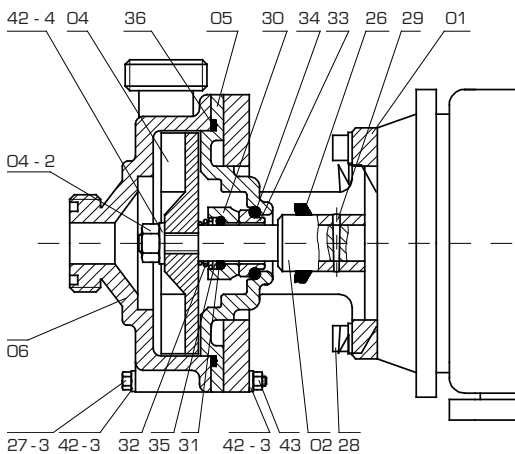
Design A
with rubber spring



Design B
with coil spring instead of rubber spring



Design C
with coil spring instead of rubber spring
without shaft protector



Parts for design: A, B, C

part-no.	part	materials	
		standard	on request
01	mounting flange	AL or PP	stainless steel
05	backplate	PVDF	
06	pump housing	PVDF	
36	pump housing seal	FKM	FEP / EPDM
26	flinging disc	rubber	Hastelloy C
28	bolt + washer	A4	
29	cotter pin	1.4305	Hastelloy C
42 - 3	washer	A4	
27 - 3	hexagon bolt	A4	PVC
43	hexagon nut	A4	

*FKM = e.g. Viton®

Parts for design: A, B (Edelstahl) or
A, B (Hastelloy C)

part-no.	part	materials	
		standard	on request
02	shaft extension	1.4571	Hastelloy C
04 / 03	impeller (PVDF), inset	1.4571-inset	Hastelloy-inset
04 - 1	locking screw	1.4571	Hastelloy C
04 - 3	cap	PVDF	

Parts for design: C (Edelstahl) or
C (Hastelloy C)

part-no.	part	materials	
		standard	on request
02	shaft extension	1.4571	Hastelloy C
04	impeller / PVDF	1.4571-inset	Hastelloy-inset
04 - 2	locking nut	1.4571	Hastelloy C
42 - 4	locking washer	1.4571	Hastelloy C

Parts for axial face seal of design: A

part-no.	part	materials	
		standard	on request
30	rotating seal	Carbon	SiC
32 - 1	rubber spring	FKM	
33	stationary seal	Ceramic	SiC
34	o-ring seal	FKM	

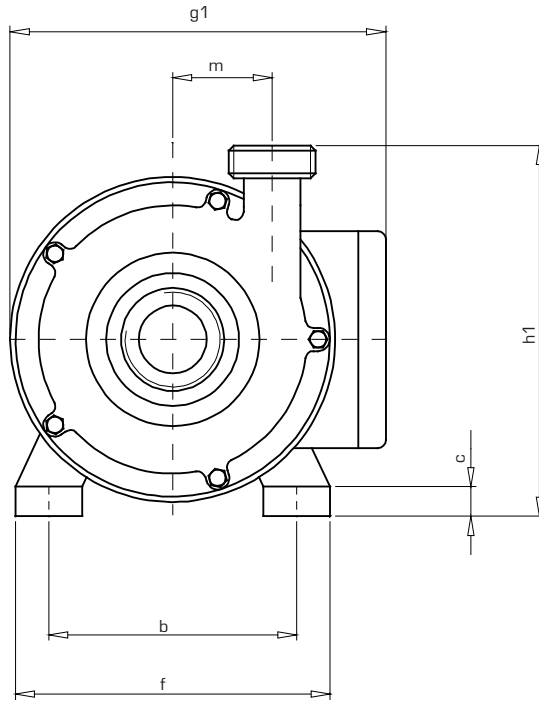
*FKM = e.g. Viton®

Parts for axial face seal of design: B

part-no.	part	materials	
		standard	on request
30	rotating seal	Carbon	SiC
31	o-ring seal	FKM*	FEP / EPDM
32	coil spring	Hastelloy C	
33	stationary seal	Ceramic	SiC
34	o-ring seal	FKM*	FEP / EPDM
35	thrust washer	1.4571	Hastelloy C

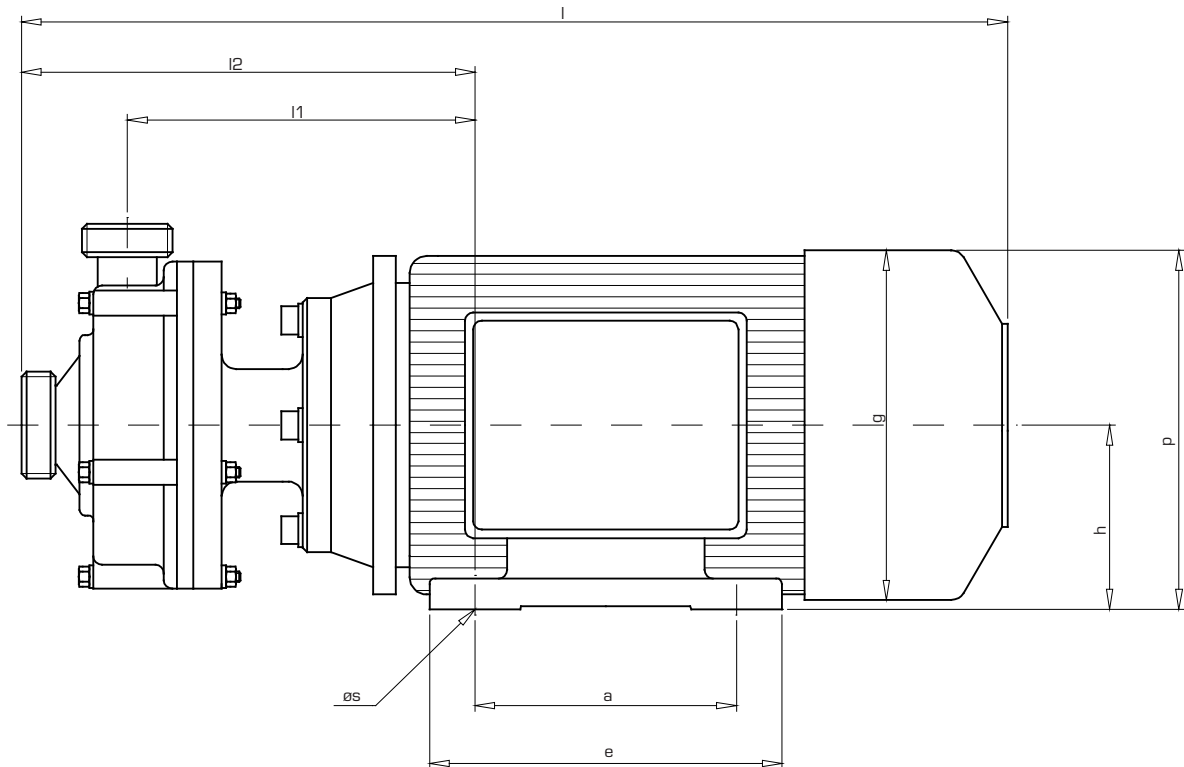
*FKM = e.g. Viton®

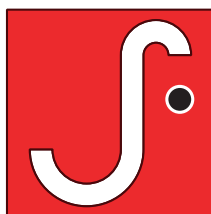
Specification of the U Pump Series



Type	h	h1	l	l1	l2	g	g1	p	a	b	e	f	c	ø s	m	suction conn.		pressure conn.		weights kg
																nom. bore	male thread	nom. bore	male thread	
U 80	56	107	282	110	145	111	140	112	71	90	90	106	5,5	6	25	10	G ¾"	10	G ¾"	4,1
U 100	56	118	284	111	147	111	140	112	71	90	90	106	5,5	6	31	15	G 1"	15	G 1"	4,2
U 115	63	131	312	125	162	126	150	125	80	100	97	116	6	7	37	15	G 1"	15	G 1"	4,5
U 130	71	149	342	130	172	141	167	141	90	112	109	136	7	7	42	20	G 1¼"	15	G 1"	7,7
U 150	80	171	388	152	203	157	209	159	100	125	125	160	11	10	47	25	G 1½"	20	G 1¼"	13,1
U 170	90	189	448	175	229	177	235	179	125	140	152	180	14	11	58	32	G 2"	25	G 1½"	20,7
U 190	100	213	494	185	244	198	253	199	140	160	170	200	15	12	65	32	G 2"	25	G 1½"	25,6
U 210	112	234	509	192	244	224	288	224	140	190	180	235	16	12	74	40	G 2¼"	32	G 2"	34,6

The dimensions of the motors refer to three-phase standard motors.





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**chemical resistant pumps
for corrosive and highly pure media**

Motors: - all driving motors are to IEC standard operating on 230/400 volts 50 cycles.
 - single phase A.C. motors are also available up to 1,10 kW.
 - explosionproof motors can be supplied to the whole range of pumps.
 - special voltages, frequencies and types of protection can be delivered on request.

Note: - upon request all motors can be supplied for USA standard (UL proof).
 - for each pump also detail handouts are available.

We reserve the right to alter the technical details.
Dimensions and performance details without guarantee.

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