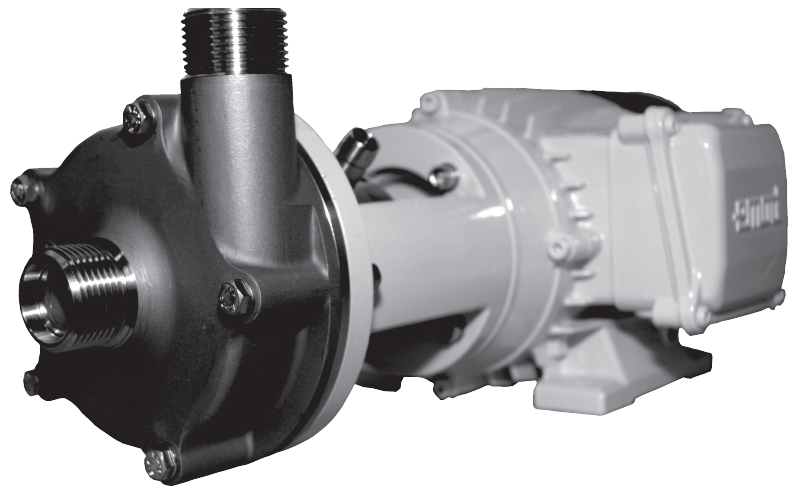


**SCHMITT**  
Kreiselpumpen

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

## **product information**



### **UP - DO Pump Series**

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

**materials: stainless steel 1.4581**

- normal priming centrifugal pumps with a double mechanical seal
- materials:           **Stainless steel 1.4581**
- non-slip torque transfer
- completely dry run safe with connected seal water circle
- for high media temperatures
  
- max. output rate:           **460 l/min, 28 m<sup>3</sup>/h, 122 US-Gal/min**
- max. discharge head:       **39 m, 128 ft**
- motor power:               **0,18 - 5,5 KW**

In the UP-Do Pump Series, the motor power is transmitted without slip directly to the pump impeller with a rigid shaft (no magnetic coupling). A double mechanical seal (back to back) prevents the leakage of the media to be pumped and ensures the leak proof sealing of the centrifugal pump. All parts that are in contact with the medium are made solid of stainless steel (1.4581). The cooling and lubrication of the mechanical seals is carried out through a separate seal water circle.

## Advantages of the UP - DO Pump Series:

- with a connected seal water circuit (circulation system), the pump cannot be damaged through an operating error or through malfunctions in the plant (dry run safe under certain conditions).
- applicable also for media to be pumped that do not have any lubricating properties (e.g. varnishes and paints)
- also applicable for higher viscosities or metallic particles in the medium
- the highest chemical resistance also at high temperatures up to +150° C
- robust, thick-walled design, solid stainless steel fine cast (no thin-walled deep-drawing sheet metal)
- 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)
- 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

The UP-DO Pump Series is designed for all sorts of applications and is perfectly suitable for the transmitting operation in stainless steel plants as well as for severe thermal stress environments.

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

Circulation pump for heat exchanger, electro-plating technology, varnish processing operations, use for very hot alkaline liquids, airplane jet engine cleaning plants, laboratory applications, filtration, environment engineering, for soiled and metallurgically contaminated media, food industry, paper manufacturing.

## Materials and Components:

- Hauptwerkstoff: Teile massiv aus Edelstahl 1.4581
- Elastomere wahlweise aus FKM, EPDM, FEP oder Kalrez ®
- Welle aus Edelstahl
- Gleitringdichtungen aus PTFE, Keramik, Kohle oder SiC
- Die doppelwirkende Gleitringdichtung ist federbelastet (Feder aus Hastelloy C4)
- Hochwertige Elektromotoren aus deutscher Herstellung

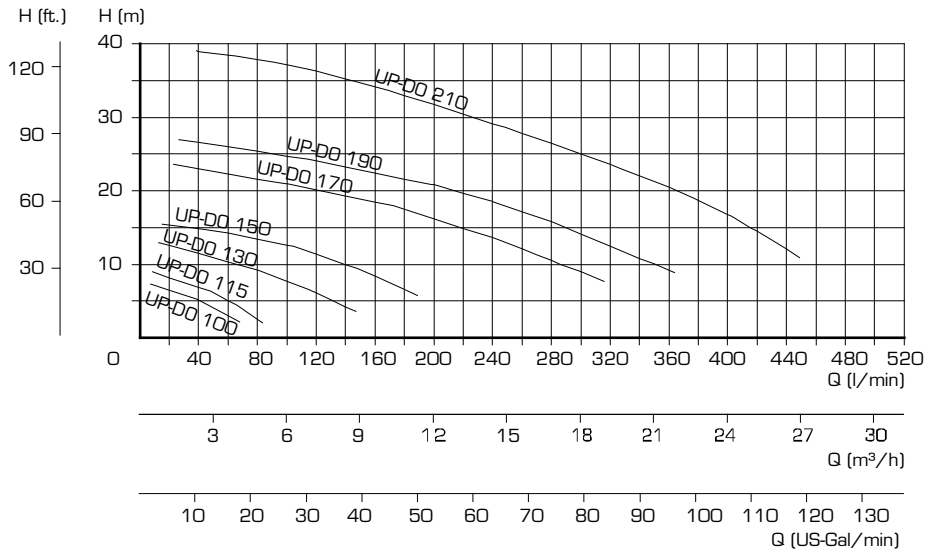
## Material details:

- Stainless steel: 1.4571 or stainless steel fine cast 1.4581 (A4) (up to +150° 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 Al<sub>2</sub>O<sub>3</sub>-ceramic 99,7%
- SiC: silicon carbide, without free silicon, sintered
- Carbon: carbon, impregnated with synthetic resin, food-safe
- 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 UP - DO Pump Series



UP - DO 100 bis UP - DO 210  
Pump Series

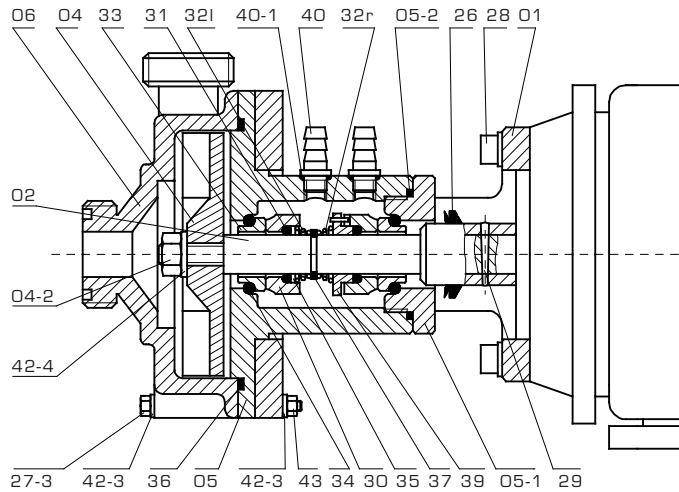
Motor power

UP - DO 210	5,50 kw
UP - DO 190	3,00 kw
UP - DO 170	2,20 kw
UP - DO 150	1,10 kw
UP - DO 130	0,55 kw
UP - DO 115	0,25 kw
UP - DO 100	0,18 kw

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

# Parts Description of the UP - DO Pump series <sup>5</sup>

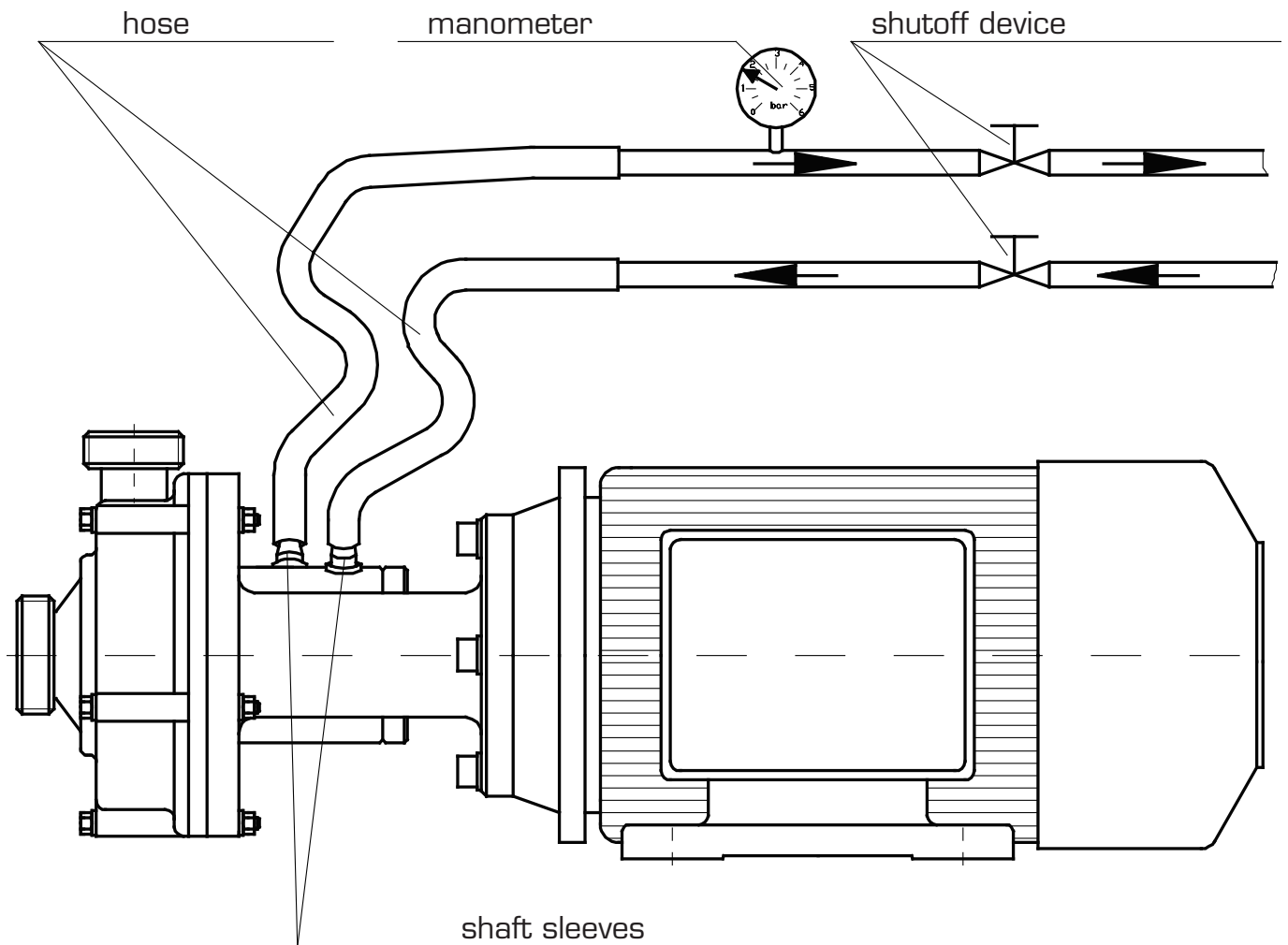
## Design C



part-no.	part	materials	
		standard	on request
01	mounting flange	Aluminium	
02	shaft extension	1.4581	Hastelloy C
04	impeller	PVDF	1.4581
04 - 2	locking nut	1.4751	Hastelloy C
05	backplate	PVDF	1.4581
05 - 1	inset	PVDF	1.4581
05 - 2	O -Ring	Viton	
06	pump housing	PVDF	1.4581
26	flinging disc	rubber	
27 - 3	hexagon bolt	A4	
28	bolt + washer	A4	
29	cotter pin	1.4305	
30	rotating seal	carbon	SiC
31	o-ring seal	Viton	FEP or EPDM
32	coil spring	Hastelloy C	
33	stationary seal	ceramic	SiC
34	o-ring seal	Viton	FEP or EPDM
35	thrust washer	1.4751	Hastelloy C
36	pump housing seal	Viton	FEP or EPDM
37	lockwasher	A4	
39	spacer ring	1.4305	
40	hose nozzle	1.4305	
40 - 1	O -Ring	Viton	
42 - 3	washer	A4	
42 - 4	locking washer	1.4751	Hastelloy C
43	hexagon nut	A4	

# Seal water - wiring diagram

for pumps with double mechanical seal



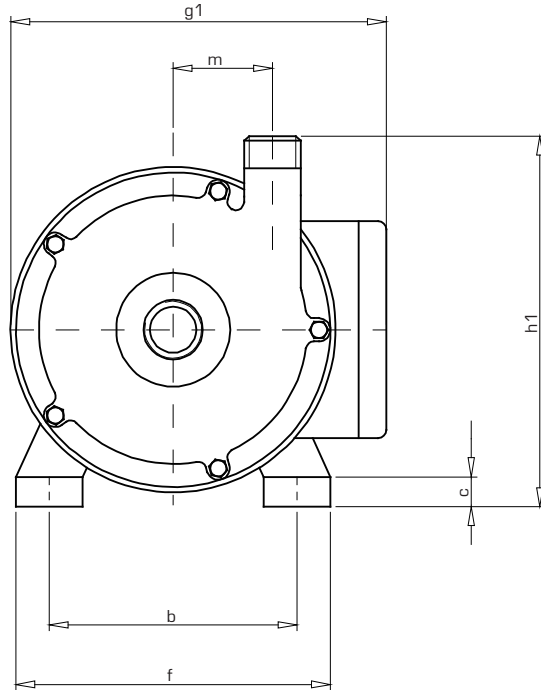
The necessary barrier pressure can be determined after following rules:

$$P_{\text{sperr}} \text{ (bar)} = H/20 \times p + 1 \text{ to } 1,5 \text{ bar}$$

$p \text{ (kg/dm}^3\text{)}$  = specific gravity of the medium to be pumped

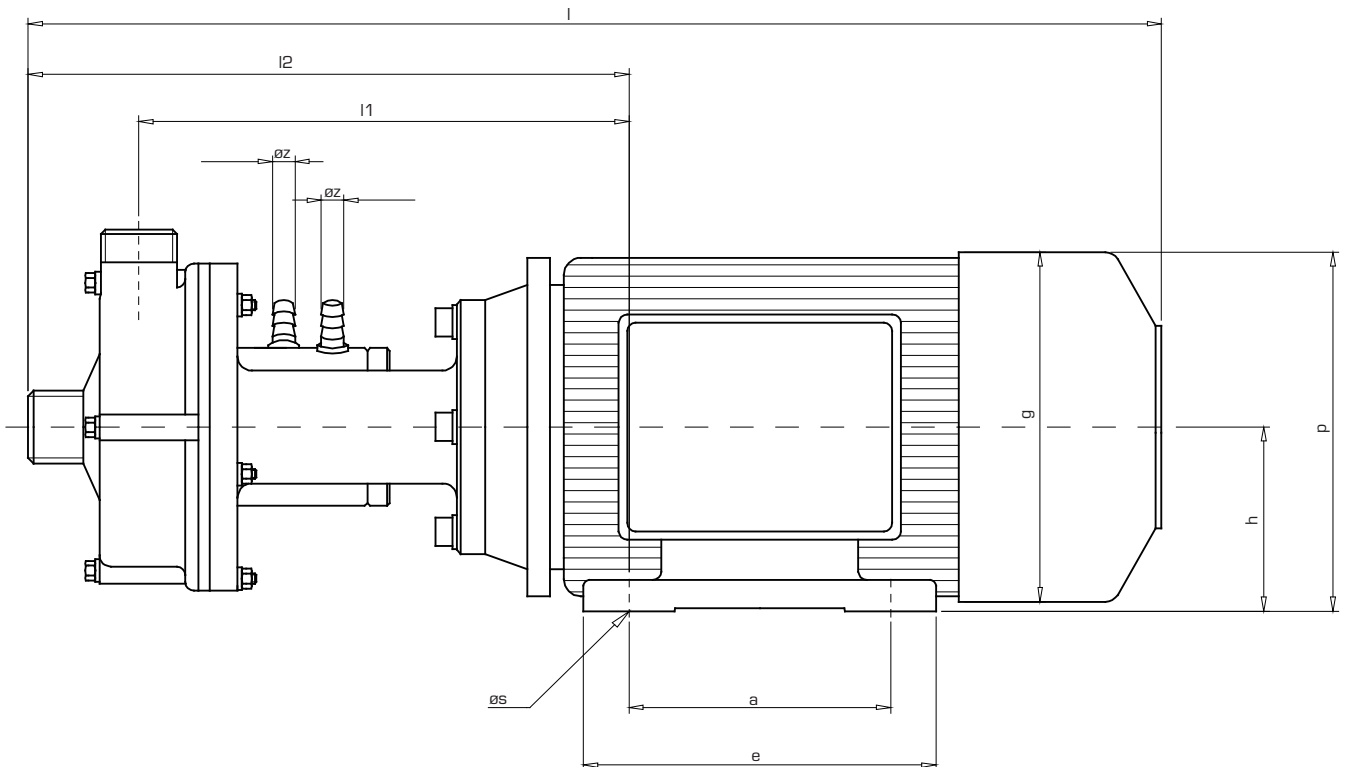
$H$  = max. discharge head

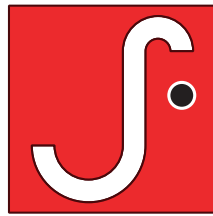
# Specification of the UP - DO Pump Series



type	h	p	g	a	e	ø s	b	f	c	g1	ø z	l	l1	l2	m	h1	suction conn.		pressure conn.		weights kg
																	nom. bore	male thread	nom. bore	male thread	
U-DO 100	56	112	111	71	90	6	90	110	9	146	13	321	146	187	35	126	15	G3/4"	15	G3/4"	6,7
U-DO 115	63	125	123	80	100	7	100	125	10	158	13	367	171	216	35	140	15	G3/4"	15	G3/4"	8,0
U-DO 130	71	140	139	90	108	8	112	140	11	182	13	393	177	222	42	157	20	G1"	20	G1"	13,0
U-DO 150	80	157	154	100	125	10	125	160	11	187	13	436	200	251	47	176	25	G1 1/4"	20	G1"	18,7
U-DO 170	90	180	177	125	152	11	140	180	14	240	13	520	242	301	55	200	32	G1 1/2"	25	G1 1/4"	28,0
U-DO 190	100	197	194	140	170	12	160	200	15	258	13	548	249	308	60	220	32	G1 1/2"	25	G1 1/4"	39,0
U-DO 210	112	260	224	140	180	12	190	235	16	296	13	575	256	320	70	242	40	G2"	32	G1 1/2"	61,0

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





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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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