

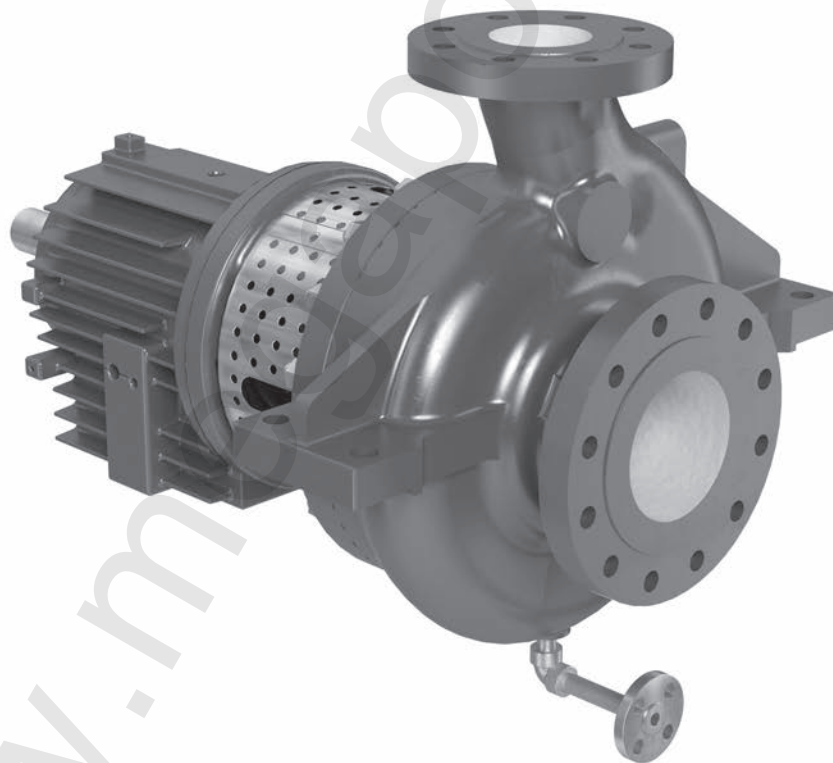


Grupa Powen-Wafapomp SA

PROCESS PUMPS

A-P10

A-P10 pumps are end suction, single stage, horizontal process pumps compliant with 11th edition of API 610 standard.



Process pumps compliant with 11th edition of API 610 standard

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APPLICATION

The A-P10 pumps are designed to handle petrochemical and chemical products of high temperature and pressure. Due to the robust design, apart from the basic application in petrochemical and chemical plants the A-P10 pumps can be applied in any industry where hot or toxic fluids under high pressure are to be pumped, such as, for example, power plants or district heating plants. Due to the compliance with Atex directive the A-P10 pumps can operate in areas where hazard of explosion is present.

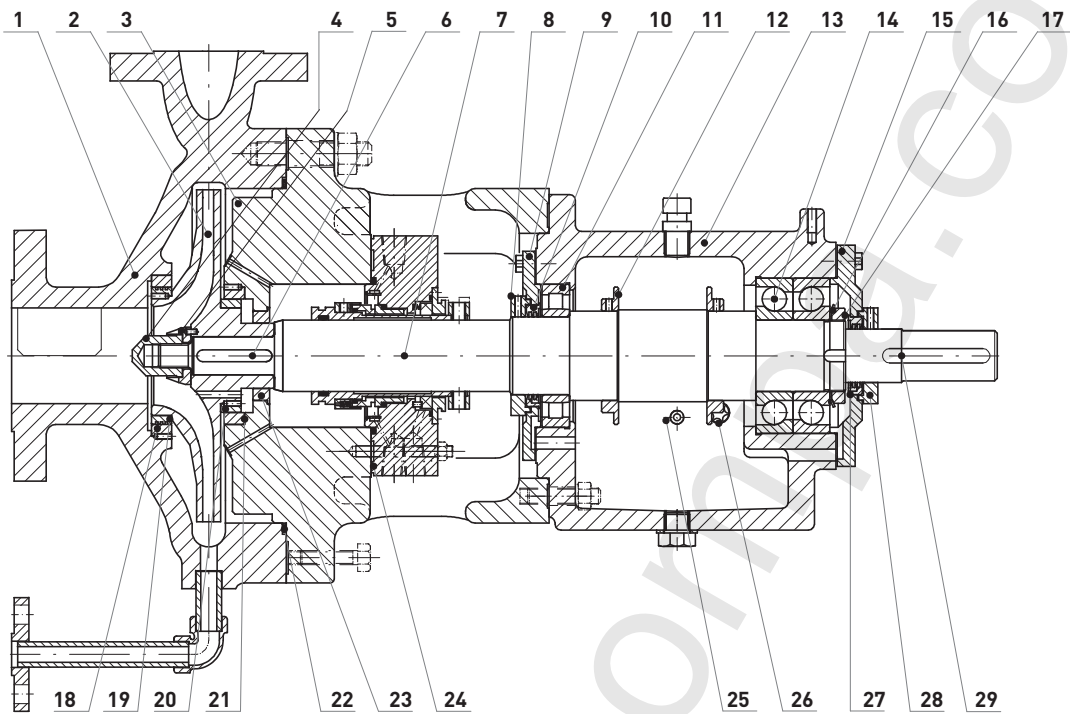
DESIGN

Single stage, horizontal, end suction pumps with own bearings designed according to API 610 standard 11th edition – OH2 type. All the dimensions and design features are compliant with the standard. The design is also in compliance with Atex directive. The A-P10 pumps are equipped with large seal chamber providing space to install any required mechanical seal configuration (API plan). If necessary the pumps can be equipped with heating or cooling jackets or with inducers to improve the suction properties. The design of the pumps of different sizes is unified – there are four standard bearings assemblies and seal chambers which can be combined with different wet ends. Such a unification reduces the quantity of spare parts to be stored and eases the maintenance.

MATERIALS OF CONSTRUCTION

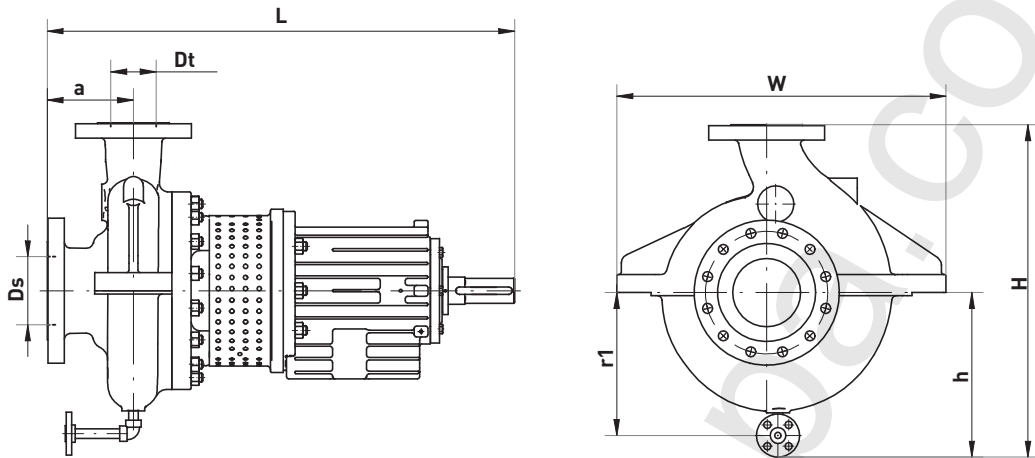
A-P10 pumps are available in material classes according to API 610 standard, including stainless steel, stainless cast steel, duplex, superduplex and hastalloy. The materials of construction are selected individually for each application according to the recommendations included in the API 610 standard and following the client's suggestions.

CROSS-SECTION / LIST OF PUMP PARTS



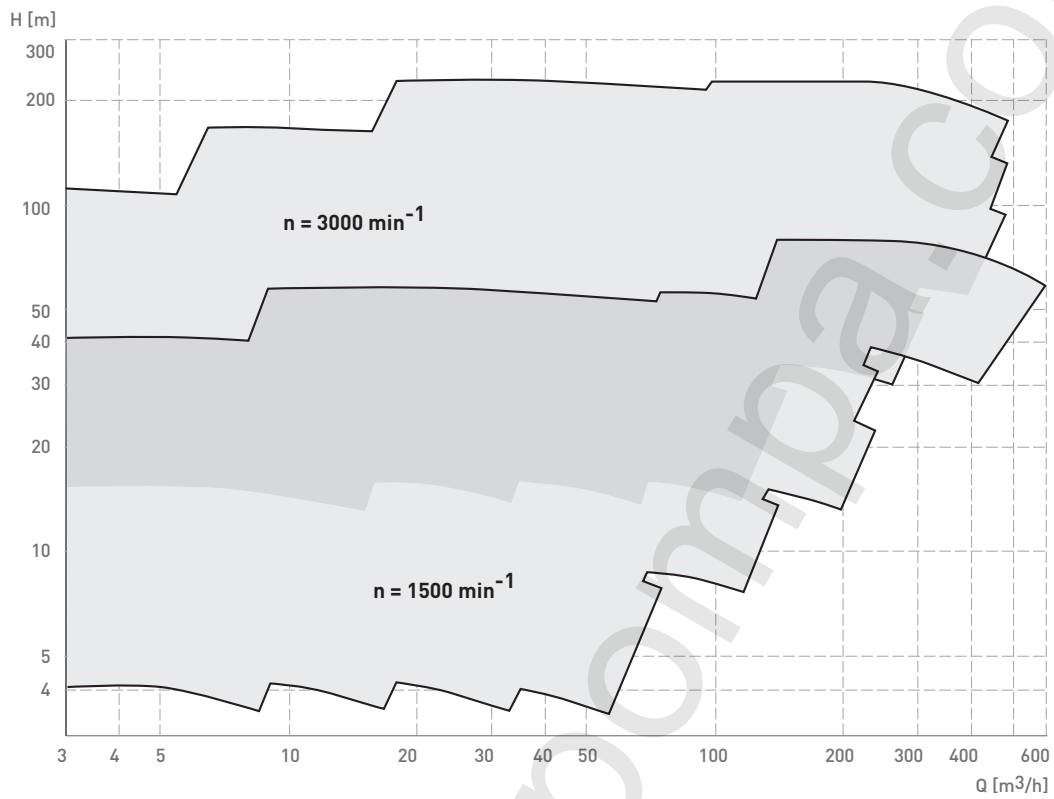
No.	Part name	No.	Part name
1	Pump casing	16	Toothed washer
2	Impeller	17	KM bearing nut
3	Casing cover	18	Casing sealing ring
4	Impeller nut	19	Impeller sealing ring
5	Impeller washer	20	Impeller sealing ring
6	Parallel key	21	Gland sealing ring
7	Shaft	22	Spiral gasket
8	Deflector	23	Stuffing box insert
9	Radial Thrust bearing cover	24	Mechanical seal
10	Labyrinth	25	Constant level oil
11	Radial bearing	26	Oil level indicator
12	Expeller ring	27	Labyrinth
13	Bearing housing	28	Expeller
14	Thrust bearing	29	Parallel key
15	Thrust Thrust bearing cover		

DIMENSIONS



Pump type	Dimensions [mm]							
	D_s	D_t	L	a	W	H	h	r_1
3A16-P10	50	40	710	130	365	440	225	195
3A20-P10			725	145	430	490	275	220
3A25-P10			805	145	520	560	305	250
4A16-P10	80	40	710	130	430	440	255	195
4A20-P10			725	145	430	490	275	220
4A25-P10			805	145	520	560	305	250
4A32-P10			805	145	580	612	327	275
5A16-P10	80	50	710	130	430	470	270	210
5A20-P10			725	145	430	500	275	220
5A25-P10			825	165	520	560	305	250
5A32-P10			825	165	580	622	337	280
5A38-P10			825	165	680	715	375	320
6A16-P10	100	80	725	145	470	522	287	230
6A20-P10			825	165	520	560	305	245
6A25-P10			825	165	580	620	335	275
6A32-P10			1030	190	660	665	340	285
6A38-P10			1050	210	740	760	375	320
10A20-P10	150	100	825	165	580	630	330	270
10A25-P10			1030	190	660	710	360	305
10A32-P10			1030	190	395-330	745	375	320
10A38-P10			1050	210	405-355	835	415	360
12A25-P10	200	150	1050	210	395-330	775	380	325
12A32-P10			1050	210	395-330	830	410	355
12A38-P10			1050	210	425-375	920	460	405
20A45-P10	250	200	1090	250	515-430	1080	530	470

RANGE OF OPERATION



NOMINAL PARAMETERS

Pump type	Rotation speed n=3000 [rpm]			Rotation speed n=1500 [rpm]			Weight m [kg]
	Capacity Q [m ³ /h]	Head H [m]	Shaft power P [kW]	Capacity Q [m ³ /h]	Head H [m]	Shaft power P [kW]	
3A16-P10	12,5	32	2,3	6,3	8	0,3	129
3A20-P10	12,5	50	4,4	6,3	12,5	0,6	154
3A25-P10	12,5	80	10,1	6,3	20	1,5	230
4A16-P10	25	32	3,6	12,5	8	0,5	125
4A20-P10	25	50	6,2	12,5	12,5	0,9	140
4A25-P10	25	80	24,8	12,5	20	0,4	232
4A32-P10	25	128	22,6	12,5	32	2,7	267
5A16-P10	50	32	6,2	25	8	0,9	136
5A20-P10	50	50	9,2	25	12,5	1,2	161
5A25-P10	50	80	17,3	25	20	2,4	240
5A32-P10	50	128	33,5	25	32	4,4	276
5A38-P10	50	200	56,8	25	50	7,7	354
6A16-P10	100	32	11,5	50	8	1,5	164
6A20-P10	100	50	17,7	50	12,5	2,3	239
6A25-P10	100	80	30,7	50	20	3,9	237
6A32-P10	100	128	56,3	50	32	7,3	416
6A38-P10	100	200	94	50	50	12,2	543
10A20-P10	250	50	43,7	125	12,5	5,5	233
10A25-P10	250	80	66,5	125	20	8,5	416
10A32-P10	250	128	122,8	125	32	15,6	425
10A38-P10	250	200	189,2	125	50	24,0	559
12A25-P10	400	80	110,4	200	20	14,0	469
12A32-P10	400	128	178,9	200	32	22,9	506
12A38-P10	400	200	307,0	315	50	62,2	621
20A45-P10	-	-	-	500	70	117,7	775

The parameters are specified for clean water of density $\rho = 1000 \text{ kg/m}^3$ and temperature $T = 15^\circ\text{C}$.