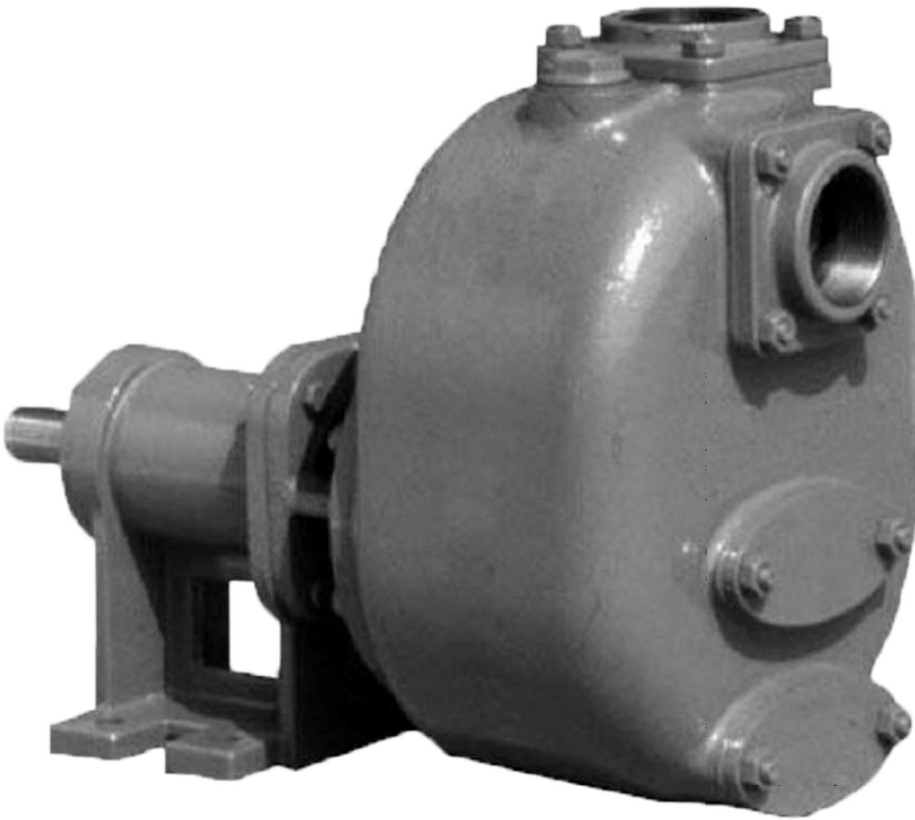




APEC-SUN

High Quality Self-Priming Pump



General description

Description

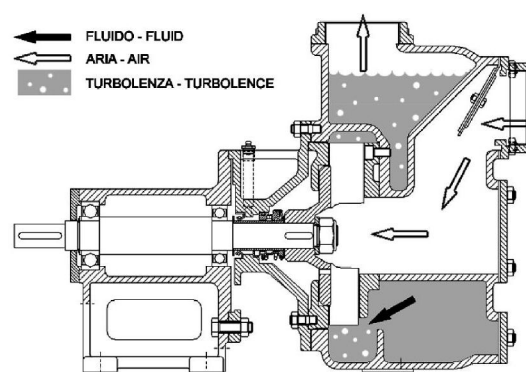
The SPCS series are self-priming centrifugal pumps, with open impeller and interchangeable wear plate. The special design of the pump casing allows a quick priming up to 7,5 m of depth. A non return valve is incorporated into the body and avoids its emptying when the pump is stopped, so it can start quickly again. No return valve is needed along the suction pipe. The mechanical seal is abrasion-resistant and grease lubricated.

Advantages

Because of its self-priming capacity the pump can be used without filling up the suction pipe and without other valves except the one incorporated in the body of the pump. For this reason, it can be easily used as portable pumps driven by electric motors or endothermic engines. The open impeller with large thickness blades and the interchangeable wear plates give a good abrasion resistance against sand, marble dust, gravel, etc... The impeller can be inspected by opening the specific covers without disassembling the pump.

Self-Priming

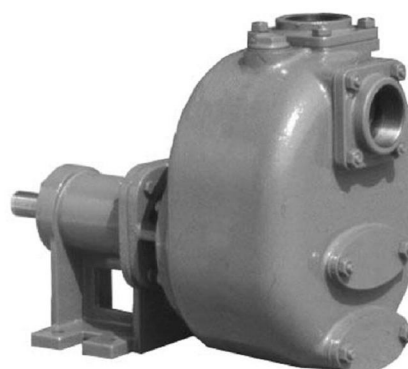
It's the capacity of the pump to evacuate the air in the suction pipe when started. This is possible making in turbulence the fluid inside the body; so it is necessary firstly to fill the body of the pump with liquid using the specific upper cover. When started the impeller creates a turbulence that allows the passage of the air from the suction to the delivery port. All the self pumps are able to create a depression of 0,8 bar at least; this is enough to grant during the utilization of the pump a correct functioning.



Applications

Typical applications

The SPCS pumps are properly used for pumping dirty liquids also with filamentous substances in many industrial fields, in the civil engineering works for flood land drainage or water table lowering, and in ecology for water treatment, sewage pumping, fumes exhaustion.



Operating conditions

Version	Seal	Temperature	pH	Viscosity
G	11-12-31-32-34	-20+110 °C	6-14	max 20 cSt
G	14	-20+150 °C	6-14	max 20 cSt
Q/F	11-12-31-32-34	-20+80 °C	6-14	max 20 cSt
K	14-142-17-31-38	-40+110 °C	2-14	max 20 cSt

Performance

Ports inc/mm	Model SPCS	Power kW	RPM 1/min	m ³ /h	3	6	9	12	15	18	21	24
				l/min	50	100	150	200	250	300	350	400
1"½ /40	40	1.1	2900	m	17	16	15	13	11,5	10	7,5	5
	45	2.2	2900		31	29	25,5	22	19	15,5	12	7

Ports inc/mm	Model SPCS	Power kW	RPM 1/min	m ³ /h	10	15	20	25	30	35	40	45
				l/min	166	250	333	416	500	583	666	750
2"/50	50	2.2	2900	m	17	15	14	12	10	8	5	-
	60	4	2900		32	29	26	24	20	17	12	8
	63	7.5	2900		48	46	44	42	39	36	33	30
	65	2.2	1450		14	13	12	11	9	7	5	-
	68	11	2900		59	56	53	50	46	42	37	33

Ports inc/mm	Model SPCS	Power kW	RPM 1/min	m ³ /h	20	30	40	50	60	70	80	90
				l/min	333	500	666	833	1000	1166	1333	1500
3"/80	80	4	2900	m	20	19	16	15	12	9	6	-
	83	7.5	2900		35	33	30	27	24	20	16	-
	85	4	1450		15	14	13	12	11	9	6	-
	88	15	2900		56	53	51	48	45	41	37	32

Ports inc/mm	Model SPCS	Power kW	RPM 1/min	m ³ /h	40	60	80	100	120	140	160	180
				l/min	666	1000	1333	1666	2000	2333	2666	3000
4"/100	100	11	2900	m	27	25	23	20	15	8	-	-
	105	5.5	1450		14	13	12	10	8	6	-	-
	108	22	3600		52	51	49	47	44	39	30	-
	121	11	1450		26	25	23	22	20	18	15	10

Ports inc/mm	Model SPCS	Power kW	RPM 1/min	m ³ /h	60	100	140	180	220	260	300	340
				l/min	1000	1666	2333	3000	3666	4333	5000	5666
6"/150	150	11	1450	m	14	12,5	11,5	10	8	5	-	-
	161	22	1450		22	21	19,5	18	16	13	11	8
	170	11	960		16	15,5	14	15	11	9	6	-
	180	30	1450		34	33	31	29	27	24	21	18

Ports inc/mm	Model SPCS	Power kW	RPM 1/min	m ³ /h	100	200	300	350	400	450	500	600
				l/min	1666	3333	5000	5833	6666	7500	8333	10000
8"/200	201	22	1450	m	20	17,5	15	13	11,5	7	-	-
	220	22	960		16	15	13	12	10,5	9	7	-
	230	55	1450		38	36	34	33	31	30	28	23

Technical data

Model SPCS	Ports (1)	Solid pass.	Impeller	RPM	Power (2)	Absorption Electric motor (3)		RPM continuous service		Noise dB(A) (4)	
	inc/mm	mm	mm	1/min	kW	Volt	Amp	MIN	MAX	MIN	MAX
40	1"½ (40)	20	110	2900	1.1	400	2,5	2400	3600	74	75
45	1"½ (40)	20	172	2900	2.2	400	4,8	2000	3600	74	75
50	2" (50)	25	120	2900	2.2	400	4,8	2400	3600	75	76
60	2" (50)	17	172	2900	4	400	8,2	2400	3600	73	75
63	2" (50)	22	193	2900	7.5	400	15,6	2400	3600	80	83
65	2" (50)	25	220	1450	2.2	400	6,0	1200	2200	64	66
68	2" (50)	25	220	2900	11	400	22,6	2400	3600	78	80
80	3" (80)	32	140	2900	4	400	8,2	2400	3600	77	80
83	3" (80)	27	170	2900	7.5	400	15,6	2400	3600	77	83
85	3" (80)	40	220	1450	4	400	9,2	1200	2200	66	71
88	3" (80)	30	220	2900	15	400	30,5	2400	3600	79	83
100	4" (100)	45	160	2900	11	400	22,6	2100	3600	85	90
105	4" (100)	45	220	1450	5.5	400	11,8	1300	2200	67	84
108	4" (100)	35	220	2900	22	400	41	2400	3200	75	82
121	4" (100)	50	280	1450	11	400	22,3	1200	2700	72	85
150	6" (150)	60	220	1450	11	400	22,3	1200	2200	74	82
161	6" (150)	63	280	1450	22	400	43	1200	2200	78	87
170	6" (150)	54	346	960	11	400	25	800	1200	81	86
180	6" (150)	40	342	1450	30	400	58	1200	2200	83	90
201	8" (200)	40	305	1450	22	400	43	1200	2200	76	85
220	8" (200)	72	352	960	22	400	44,5	800	1200	77	83
230	8" (200)	72	352	1450	50	400	102	1200	2000	77	80

(1) Suction and delivery ports diameter.

(2) Electric motor power to be installed at the rated rotation speed.

(3) Max. voltage and absorption of electric motor at the rated rotation speed.

(4) Min. and max. noise measured at the distance of 1 m, at the rated rotation speed.

Materials

verion	boby	impeller	plate	head	shaft	coupling	nuts and bolts
G	G	G	S	G	H	G	S
F	G	K	K	G	H	G	K
Q	G	BA o K	BA o K	G	H	G	K
K	K	K	K	K	K	G	K

G cast iron

BA bronze aluminium

S steel

K AISI 316

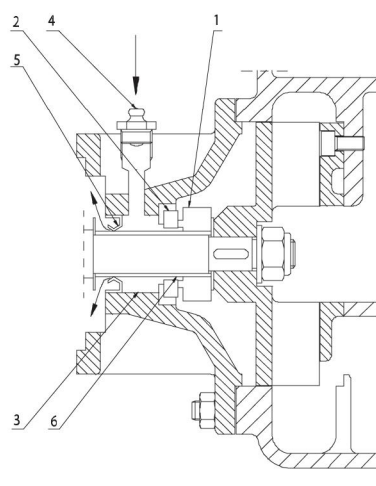
H AISI 420

Mechanical seal

code	rotary ring	stationery ring	gaskets
11	silicon (tungsten) carbide	ceramic	NBR
12	silicon (tungsten) carbide	silicon (tungsten) carbide	NBR
14	tungsten carbide	silicon carbide	PTFE
142	tungsten carbide	ceramic	PTFE
16	graphite	ceramic	FPM
17	silicon carbide	ceramic	FPM
18	silicon (tungsten) carbide	silicon (tungsten) carbide	FPM
31	silicon carbide	ceramic	NBR
32-34	silicon carbide	silicon carbide	FPM
38	tungsten carbide	ceramic	PTFE

NBR : nitril rubber FPM: viton® or equivalent PTFE:Teflon

A grease chamber is located in the back of the seal for its lubrication dry running (priming). The seal lubrication can be internal or external (see image).



Name

1 rotary ring

2 stationery ring

3 grease chamber

4 greaser

5 lip seal

6 stainless steel bush

Standard execution on all models if not differently specified.

Versions and variants

The self-priming pumps SPCS are made in 4-standard versions and many internal and external variants. The internal-variants are made in the factory during the pump's assembling. The external variants can be applied even later by the Customer.

Code	Main feature	Typical utilizations
G	cast iron construction	turbid, basic, sandy liquids and various.
Q-F	cast iron body, stainless.steel impeller,shaft, and plate,anodic protection, S.S. screws.	sea, sality water, a.s.o
K	stainless steel construction	acid fluids.

Internal variants

C	cutting system
E	stainless steel impeller

External variants

+F	flanged ports DIN PN16, available for pumps with threaded ports.
+O	oilier for the seal instead of greaser.
+T	two wheels trolley.
+G	frame for handling use.
+R	external washing of the seal

Versions availability

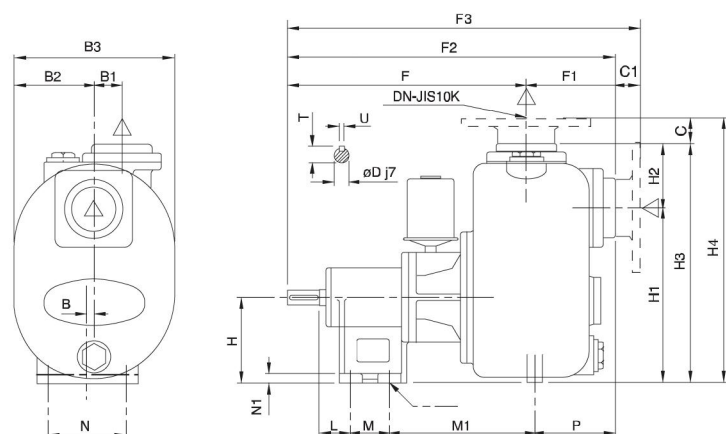
	40	45	50	60	63	65	68	80	83	85	88	100	105	108	121	150	161	170	180	200	220	230
G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Q-F	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X			
K	X	X	X	X				X		X	X		X	X	X							

C	X		X					X				X				X						
E	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X			
N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

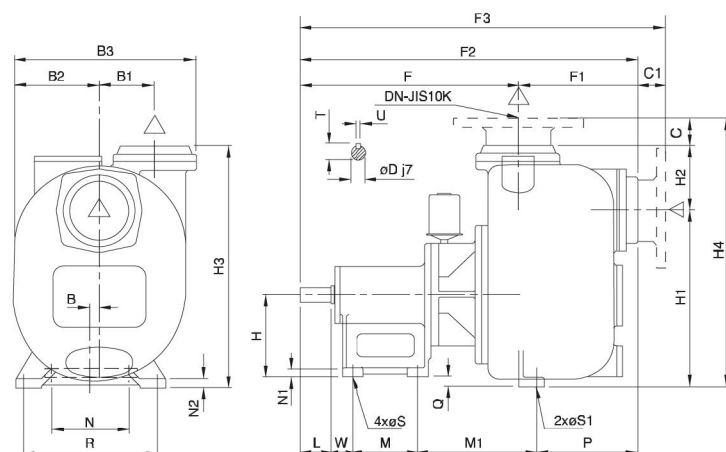
+F	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
+R	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
+O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

+T	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
+G	X	X	X	X		X		X														

Dimensions table

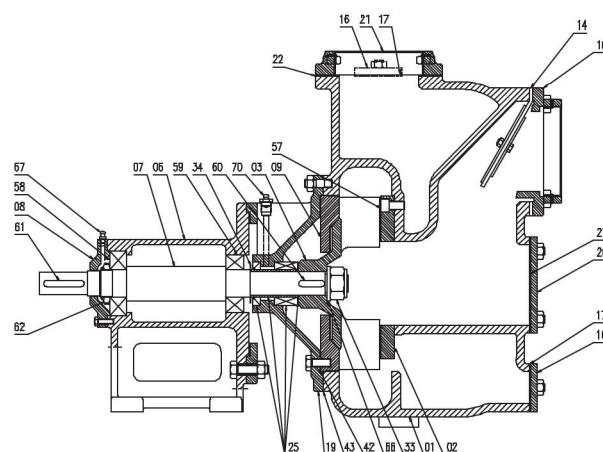
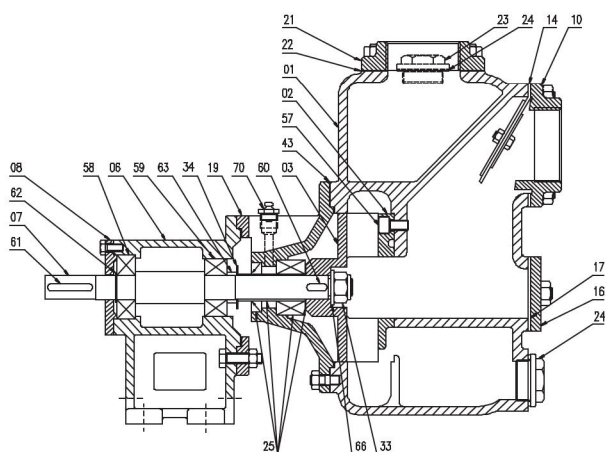


Model SPCS	Dimensions (mm)																								Weight Kg				
	DN	B	B1	B2	B3	C	C1	D	F	F1	F2	F3	H	H1	H2	H3	H4	L	M	M1	N	N1	P	S		T	U	W	
40	1½"	40	7	29	89	178	39	35	19	267	97	364	399	90	187	70	257	296	40	50	152	80	10	87	10	21.5	6	35	17
45	1½"	40	7	80	111	231	39	35	19	270	122	392	426	110	237	75	312	351	40	50	150	100	12	111	12	21.5	6	40	28
50	2"	50	9	36	103	206	48	45	19	305	113	418	463	110	225	83	308	356	40	50	185	100	12	103	12	21.5	6	40	26
60	2"	50	9	36	129	258	48	45	28	361	113	474	519	132	267	83	350	398	60	70		125	15		14	31	8	45	39
63	2"	50	9.5	94	131	275	48	45	28	329	144	473	518	132	272	83	355	403	60	70	164	125	15	134	14	31	8	45	42
80	3"	80	13	40	130	260	55	48	28	369	140	509	557	132	277	101	378	433	60	70	209	125	15	125	14	31	8	45	46
83	3"	80	12	85	133	278	55	48	28	339	170	509	557	132	277	101	378	433	60	70	174	125	15	158	14	31	8	45	50



Model SPCS	Dimensions (mm)																													Weight Kg			
	DN	B	B1	B2	B3	C	C1	D	F	F1	F2	F3	H	H1	H2	H3	H4	L	M	M1	N	N1	N2	P	Q	R	S	S1	T		U	W	
65	2"	50	9.5	60	154	308	47	45	28	420	113	533	578	160	310	84	394	441	60	125	228	150	18	18	89	0	260	14	14	31	8	41	67
68	2"	50	9.5	60	154	308	47	45	28	420	113	533	578	160	310	84	394	441	60	125	228	150	18	18	89	0	260	14	14	31	8	41	67
85	3"	80	16	106	160	326	55	48	28	399	195	594	642	160	310	101	411	466	60	125	228	150	18	18	150	0	260	14	14	31	8	41	78
88	3"	80	16	106	160	326	55	48	28	399	195	594	642	160	310	101	411	466	60	125	228	150	18	18	150	0	260	14	14	31	8	41	82
100	4"	100	17.5	50	162	319	72	65	28	439	158	597	662	160	320	130	450	522	60	125	228	150	18	18	153	0	260	14	14	31	8	41	77
105	4"	100	17	107	167	354	72	65	28	409	230	639	704	180	345	126	471	543	60	125	228	150	18	18	195	20	260	14	14	31	8	41	97
108	4"	100	17	107	167	354	72	65	32	486	230	716	781	180	345	126	471	543	80	150	236	150	20	18	195	20	260	14	14	35	10	55	95
121	4"	100	19	143	203	426	72	65	32	496	250	746	811	220	390	121	511	583	80	150	242	150	20	18	210	20	295	14	14	35	10	55	132
150	6"	150	26	109	194	443	103	103	32	546	237	783	896	200	380	140	520	623	80	150	296	150	20	18	236	0	295	14	14	35	10	55	145
161	6"	150	26	139	225	504	103	103	32	556	237	793	896	230	410	140	550	653	80	150	296	150	20	18	236	30	315	14	14	35	10	55	189
170	6"	150	26	173	264	577	103	103	42	602	279	881	984	280	490	146	636	739	110	180	309	260	20	25	263	0	380	18	18	45	12	77	257
180	6"	150	26	173	264	577	103	103	42	602	279	881	984	280	490	146	636	739	110	180	309	260	20	25	263	0	380	18	18	45	12	77	257
201	8"	200	36	140	271	571	132	132	42	617	339	956	1088	280	461	168	629	761	110	180	309	260	20	25	329	0	410	18	18	45	12	77	256
220	8"	200	36	179	291	630	123	123	42	622	340	962	1085	310	530	160	690	813	110	180	329	260	20	25	324	30	450	18	18	45	12	77	325
230	8"	200	36	179	291	630	123	123	42	622	340	962	1085	310	530	160	690	813	110	180	329	260	20	25	324	30	450	18	18	45	12	77	325

Spare parts list



No.	Part name	No.	Part name	No.	Part name
01	Body	19	Head	43	Body gasket
02	Front wear plate	21	Out flange	57	Screws
03	Impeller	22	Gasket	58	Back bearing
06	Bearing housing	23	Fill cap	59	Front bearing
07	Shaft	24	Discharge cap	60	Impeller key
08	Bearing cover	25	Mechanical seal	61	Shaft key
09	Rear wear plate	26	Square cover	62	Bearing ring nut
10	Valve seat	27	Gasket	66	Impeller washer
14	Valve	33	Impeller nut	67	Bearing lubricator
16	Inspection cover	34	Water ring separator	70	Seal lubricator
17	Gasket	42	Plate gasket		

Suggested spare parts			
description	1600 hours	3200 hours	4800 hours
Impeller	1	2	4
Wear plate	1	2	4
Seal	2	5	7
Gaskets set	2	5	7
Valve	1	3	4
Body	-	-	1
Shaft	-	1	2