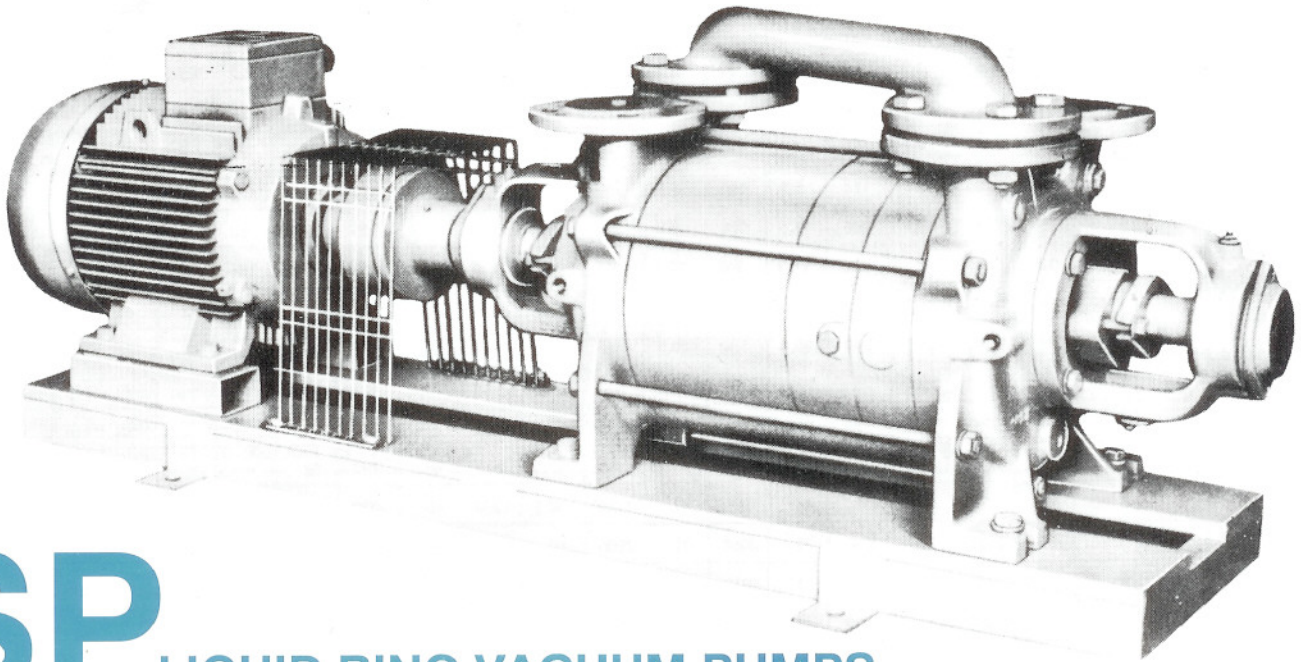




SOUTHERN PUMPS
SOUTH AFRICA (PTY) LTD



SP LIQUID RING VACUUM PUMPS

APPLICATIONS

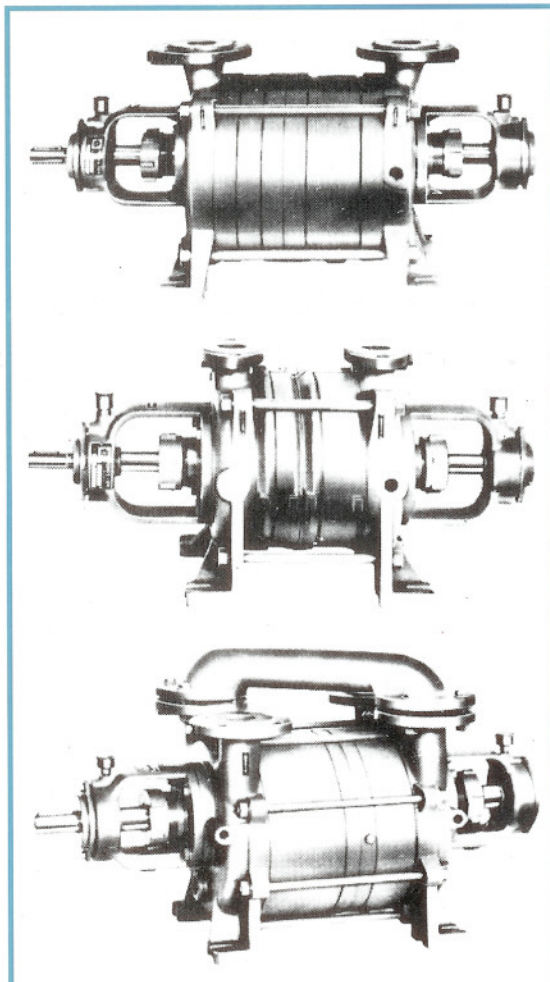
These pumps are designed to handle air, gas, vapours also with liquid parts in suspension. They are used in chemical, pharmaceutical, food, textile, oil and paper industries and everywhere there is necessity of evaporation, drying, pulverization or impregnation under vacuum and so on.

OPERATION

Two stages liquid ring vacuum rotating pumps for high and middle vacuum.

ROTATION

Clockwise, viewed from drive end.
For P300 size rotation is anticlockwise.



STANDARD CONSTRUCTION

Casings, plates and impeller housings in high quality cast iron; impellers in gun-metal; 13% chromium stainless steel shaft (AISI 420); seals by packing rings, with easily adjustable glands, complete with lantern ring device for flushing and hydraulic barrage (with exception of P200 and P300 sizes).

BEARING

Two grease lubricated bearings, mounted in substantial cast iron bearing housings at both pump ends.

FLANGES

For P200 size: oval flanges with 1 1/4" Gas threaded counter-flanges; for other sizes: round flanges in compliance with UNI 2223-29 PN 10 standards.

SIZE	Ø Branches	R.P.M.	Vacuum (mmHg) measured on pump suction flange and relative to a barometric pressure of 760 mmHg. Capacity (m ³ /h) of rarified clean air, sucked using as service liquid water at temperature of 15 °C. Absorbed power (HP) measured at pump spindle.																(*) Service liquid capacity liters/min		
			500 mmHg		600 mmHg		650 mmHg		680 mmHg		700 mmHg		720 mmHg		730 mmHg		735 mmHg				
			m ³ /h	HP	m ³ /h	HP	m ³ /h	HP	m ³ /h	HP	m ³ /h	HP	m ³ /h	HP	m ³ /h	HP	m ³ /h	HP			
SP 202	32	1450	13	0.95	14	0.95	14	0.95	15	1.05	14	1.05	9.5	1.05	6	1	-	-	2.5	4	
SP 204	32		33	1.6	34	1.6	33	1.4	30	1.35	25.5	1.35	18.5	1.35	13	1.35	-	-	6	8	
SP 304	40		53	3.3	53	3.3	52	3.3	51	3.3	47	3.3	38	3.3	29	3.3	22	3.3	12	19	
SP 308	40		100	4.4	100	4.4	97	4.4	94	4.2	90	4	80	3.9	65	3.8	52	3.8	14	24	
SP 412	40		130	4.8	132	4.8	138	4.8	140	4.6	143	4.5	122	4.4	95	4.2	76	4.2	19	30	
SP 416	40		140	6	150	6	174	5.9	180	5.8	185	5.7	160	5.6	128	5.5	100	5.5	24	35	
SP 512	50		275	10	285	9.8	285	9.5	275	9.3	255	9.3	220	9.2	185	9.1	162	9	32	50	
SP 516	50		315	12	340	12	350	11.3	340	10.7	325	10.4	280	10.3	230	10.1	185	10	37	58	
SP 520	50		380	14.7	415	14.7	420	13.6	415	13.2	390	12.7	330	12.6	265	12.1	213	12	45	75	
SP 616	80		510	21	540	21	540	20.5	530	20.5	495	20.5	420	20	330	19.5	-	-	70	110	
SP 624	80		720	30	780	28	785	27.5	750	27	690	26	530	26	415	25.5	-	-	90	130	
SP 720	100		960	800	34	880	33	895	31.5	860	31	825	29.5	735	29	640	28	-	-	95	115
SP 730	100			1200	47	1270	45	1270	43	1230	43	1180	42.5	970	40	780	39	-	-	110	140
SP 740	100	1270		52	1470	51	1620	49	1620	47	1530	46.5	1280	45	1030	44.5	-	-	120	150	
SP 835	150	735	1780	79	2020	78	2050	75	2050	70	2000	68	1770	64	1390	62	-	-	160	230	
SP 845	150		2100	97	2410	94	2650	91	2610	87	2470	83	2100	79	1760	76	-	-	190	260	
SP 855	150		2450	113	3000	113	3180	106	3160	100	3020	95	2650	90	2170	89	-	-	230	300	

SPECIAL CONSTRUCTIONS

Main materials in contact with gas and service liquid:

B* = «304» stainless steel

C = «316» stainless steel

D* = Gunmetal with AISI 316 stainless steel shaft

E* = Tin bronze with AISI 316 stainless steel shaft

F = All cast iron and steel (copper and its alloys excluded)

G = Nodular cast iron

L = Alloy «20» (ASTM A296 CN-7M) with shaft in ASTM B425

M = Alloy «C» (ASTM A494 CW-12M-1)

Z = Other materials available

(*) Available from P500 size on

The powers stated on the table refer to operation with service liquids having specific gravity = 1Kg/dm³ and viscosity = 1° Engler ; stated values increase using service liquids with higher specific gravity and viscosity and in case of removal of both air and liquid. Capacities decrease if the temperature of service liquid is higher than 15 °C, if barometric pressure is lower than 760 mmHg and if there is removal of both air and liquid.

During operation the service liquid must be sent to the pump continuously. For the construction « B » - « C » - « L » - « M », the capacity values stated on the table bear an average decrease of 10%.

SPECIAL FEATURES

b = Impellers in « 316 » with shaft in AISI 420 stainless steel

f = Special packing

g = Chromium plated shaft

h = Single mechanical seal

i = Double mechanical seal

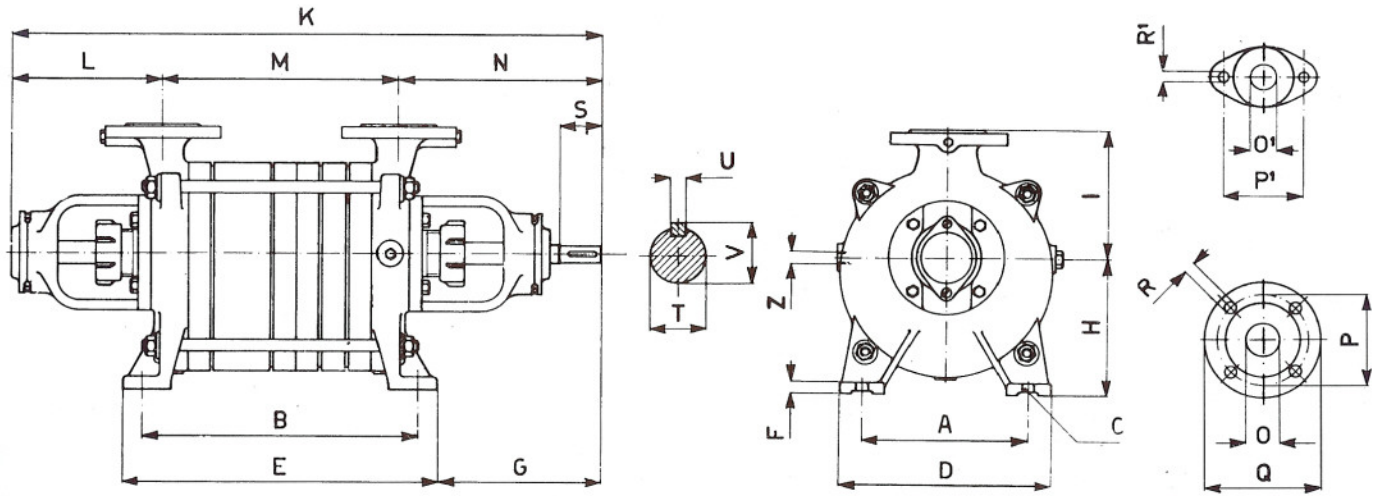
n = Special flanges

p = Double drive shaft

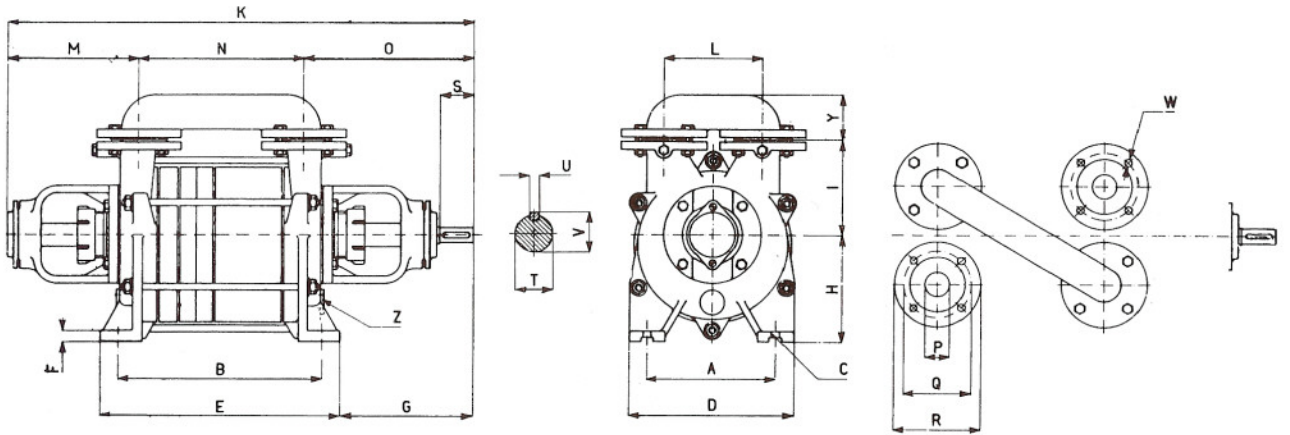
z = Other features on request

(*) N.B.: The values (i/i') stated on the table are respectively referred to: max fresh liquid consumption in case of partial re-circulation of service liquid (on the left); max fresh liquid consumption in case of direct feed with service liquid to lose (on the right).

Overall dimensions



SIZE	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q	R	O'	P'	R'	N.*	S	T	U	V	Z	kg. Weight
SP 202	180	196	14	220	240	16	178	132	135	548	183	134	231	-	-	-	-	32	95	14	2	45	18	6	20.5	3/8"	34
SP 204	180	226	14	220	270	16	178	132	135	578	183	164	231	-	-	-	-	32	95	14	2	45	18	6	20.5	3/8"	38
SP 304	200	290	14	250	340	16	191	165	155	664	181	244	239	40	110	150	18	-	-	-	4	50	22	6	24.5	1/2"	63
SP 308	200	330	14	250	380	16	191	165	155	704	181	284	239	40	110	150	18	-	-	-	4	50	22	6	24.5	1/2"	73



SIZE	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q	R	S	T	U	V	W	N.*	Y	Z	kg. Weight
SP 412	210	334	14	270	394	18	213	175	155	762	160	217	270	275	40	110	150	55	25	8	28	18	4	75	3/4"	97
SP 416	210	394	14	270	454	18	213	175	155	822	160	217	330	275	40	110	150	55	25	8	28	18	4	75	3/4"	111
SP 512	240	376	15	300	432	20	269	210	180	885	230	241	318	326	50	125	165	70	35	10	38.5	18	4	89	1"	155
SP 516	240	436	15	300	492	20	269	210	180	945	230	241	378	326	50	125	165	70	35	10	38.5	18	4	89	1"	171
SP 520	240	476	15	300	532	20	269	210	180	985	230	241	418	326	50	125	165	70	35	10	38.5	18	4	89	1"	180
SP 616	340	504	18	400	564	20	292	250	220	1049	290	255	440	354	80	160	200	90	45	14	49	18	4	120	1 1/4"	264
SP 624	340	624	18	400	684	20	292	250	220	1169	290	255	560	354	80	160	200	90	45	14	49	18	4	120	1 1/4"	278
SP 720	400	640	20	480	710	25	352	320	275	1285	370	306	545	434	100	180	220	120	60	18	65	18	8	150	1 1/2"	510
SP 730	400	790	20	480	860	25	352	320	275	1435	370	306	695	434	100	180	220	120	60	18	65	18	8	150	1 1/2"	600
SP 740	400	890	20	480	960	25	352	320	275	1535	370	306	795	434	100	180	220	120	60	18	65	18	8	150	1 1/2"	685
SP 835	520	960	24	650	1080	30	511	440	380	1939	500	473	830	636	150	240	285	160	80	18	85	22	8	204	2 1/2"	1460
SP 845	520	1110	24	650	1230	30	511	440	380	2089	500	473	980	636	150	240	285	160	80	18	85	22	8	204	2 1/2"	1580
SP 855	520	1210	24	650	1330	30	511	440	380	2189	500	473	1080	636	150	240	285	160	80	18	85	22	8	204	2 1/2"	1700

Approximate dimensions (in mm). * Holes

Cape Town (Head Office)

Physical Address :
48 Marconi Road
Montague Gardens
7441

Postal Address :
P.O.Box 519
Milnerton
Cape Town
7435

Telephone : (+27) 21 551-2490
Fax : (+27) 21 551-3088 / 551-5346
E-mail : info@southernpumps.co.za



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