

MULTI STAGE HIGH PRESSURE CENTRIFUGAL PUMPS TYPE MS - E

Applications

In waterworks, in irrigation and sprinkler installations. As a recirculating pump for cooling and heating water, and also as a fire fighting, boiler feed or pressure boosting pump.

The pumps are used for handling clean or only lightly contaminated media, for oils up to 150 mm²/sec (cst) and for non-aggressive liquids.

Hydraulic Data

Capacity up to 100 m³/h

Total head up to 400 m

Max casing pressure (suction pressure + closed valve head) 40 bar.

Temperature -20° C to 140° C.

Maximum number of stages and motor size:

Design

The pump casing consists of a number of sectional stages, held together by large diameter tie bolts. All impellers are balanced. Axial thrust is compensated for by balance holes in each impeller.

The pump shaft is protected against wear by sleeves through the stuffing box. It is supported in amply dimensioned, externally housed, heavy duty bearings.

All wearing parts such as impellers, diffusers, diffuser plates, and shaft sleeves are easily renewable and the glands are readily accessible.

The by-pass arrangement relieves the pressure in the delivery stuffing box and provides a perfect water seal in the suction stuffing box, even at maximum suction lift.

Sealing with packing or mechanical seal.

Pump type	Shaft 1.4021				Shaft 1.4401			
	Speed no. of stages	1450 RPM KW	Speed no. of stages	2900 RPM KW	Speed no. of stages	1450 RPM KW	Speed no. of stages	2900 RPM KW
32 H+V	14 (14)	4 (7,5)	14 (10)	30 (30)	14 (14)	4 (7,5)	14 (10)	30 (30)
40 V	14 (14)	11 (15)	12 (7)	45 (45)	14 (14)	11 (15)	12 (7)	30 (37)
40 H	14 (14)	11 (15)	12 (7)	55 (55)	14 (14)	11 (15)	12 (7)	30 (37)
50 H+V	13 (13)	18,5 (30)	8 (6)	75 (75)	13 (13)	18,5 (30)	8 (6)	55 (55)
65 H+V	11 (11)	30 (45)	7 (4)	110 (110)	11 (11)	30 (45)	7 (4)	90 (110)

The values in the parentheses are valid for 60 Hz, 1750 and 3450 RPM respectively.



DP DRAKOS-POLEMIS INC

Pump Manufacturers

Kryoneri - Attiki

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Parts List

Form H / HORIZONTAL

Item No	No req. per pump	Part Name	Material
106	1	suction casing	Cl
107	1	delivery casing	Cl
108	x-1	interstage casing	Cl
173	1	diffuser plate	Cl
174.1	x-1	diffuser	Cl
174.2	1	diffuser discharge casing	Cl
210.1	1	shaft	Stainless Steel
230	x	impeller	Cl
321	2	grooved ball bearing	St
332	1	bearing housing	Cl
332.1	1	bearing housing	Cl
360.1	1	bearing cover, N.D.E.	Cl
360.2	1	bearing cover, D.E.	Cl
412.1	2	O-ring	Rubber
412.2	x*1	O-ring	Rubber
507	2	thrower ring	Plastic
524.1	1	shaft sleeve	Brass
703	1	bypass pipe	St
903.1	2	plug (gauge/vent/filler)	Brass
903.2	2	drain plug	Brass
905	4	tie bolt	St
920.2	8	hexagon nut	St
932.1	4	circlip	Spring steel
940.1	1	key	St
940.2	x	key	St
940.3	3	pin	St

Only for stuffing box with packing

452	2	gland	CL
459	2	lantern ring	CL
461	2	gland packing	TEFLON
524.2	2	shaft sleeve	Stainless Steel
550	3	distance ring	Spring steel
550.1	1	distance ring	Stainless Steel
902	4	stud	Stainless Steel
920.1	4	hexagon nut	Brass

Only for mechanical seal unbalanced

400.2	2	gasket	Hydroloid
433.1	2	mechanical seal unbalanced	Chromium Cast Carbon
471.1	2	seal cover	Cl
542.2	2	shaft sleeve	Stainless Steel
525	2	shaft sleeve	Stainless Steel
550	3	distance ring	Spring steel
550.1	1	distance ring	Stainless steel
932.2	2	circlip	Spring steel

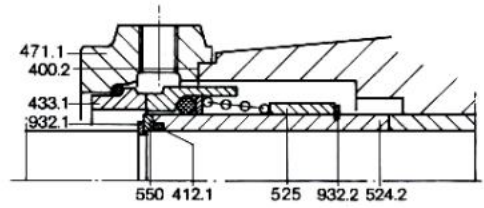
Only for mechanical seal balanced

400.2	2	gasket	Hydroloid
433.2	2	mechanical seal balanced	Hard metal Cast/Carbon
471.1	2	seal cover	Cl
524.3	2	shaft sleeve	Stainless Steel
524.4	2	shaft sleeve	Stainless Steel
550	2	distance ring	Spring steel

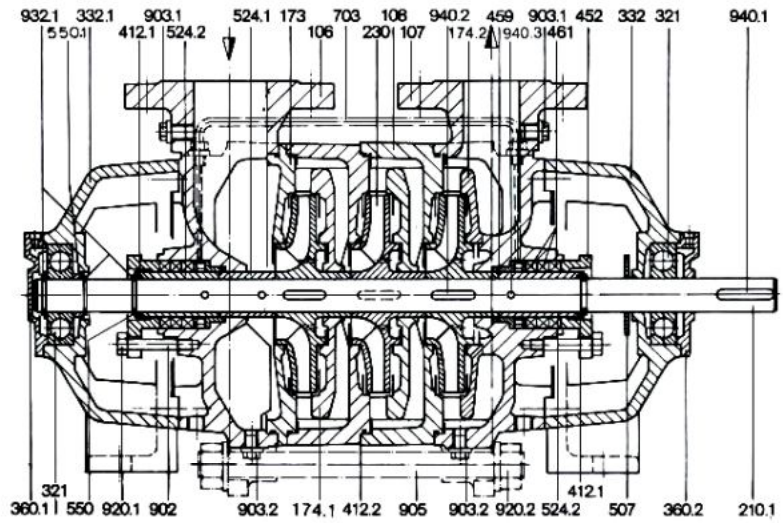
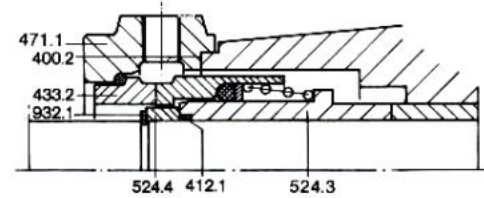
Pumps can also be manufactured in other material executions such as all - bronze (G - CuSn 10) castings with wear rings and 1.4401 shaft as well as all - stainless steel (SS - 316) castings with 1.4401 shaft.

Mechanical seal

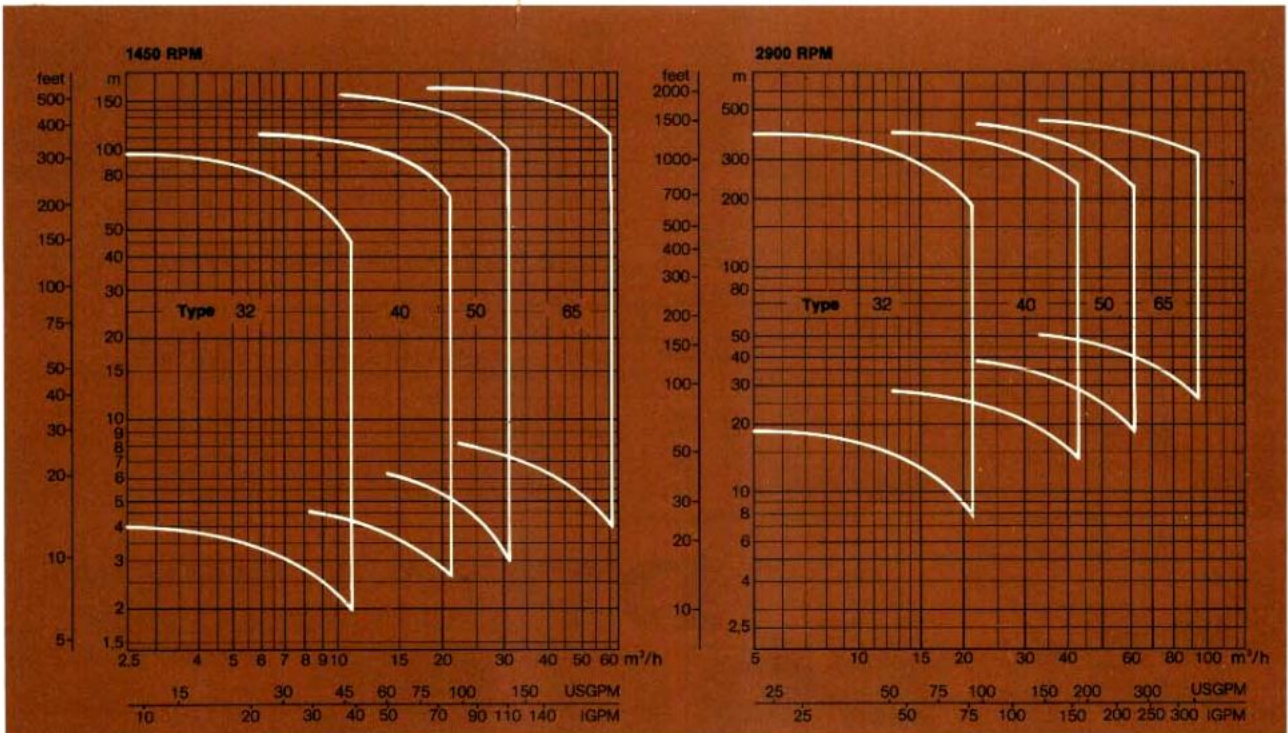
Standard (unbalanced)



Balanced



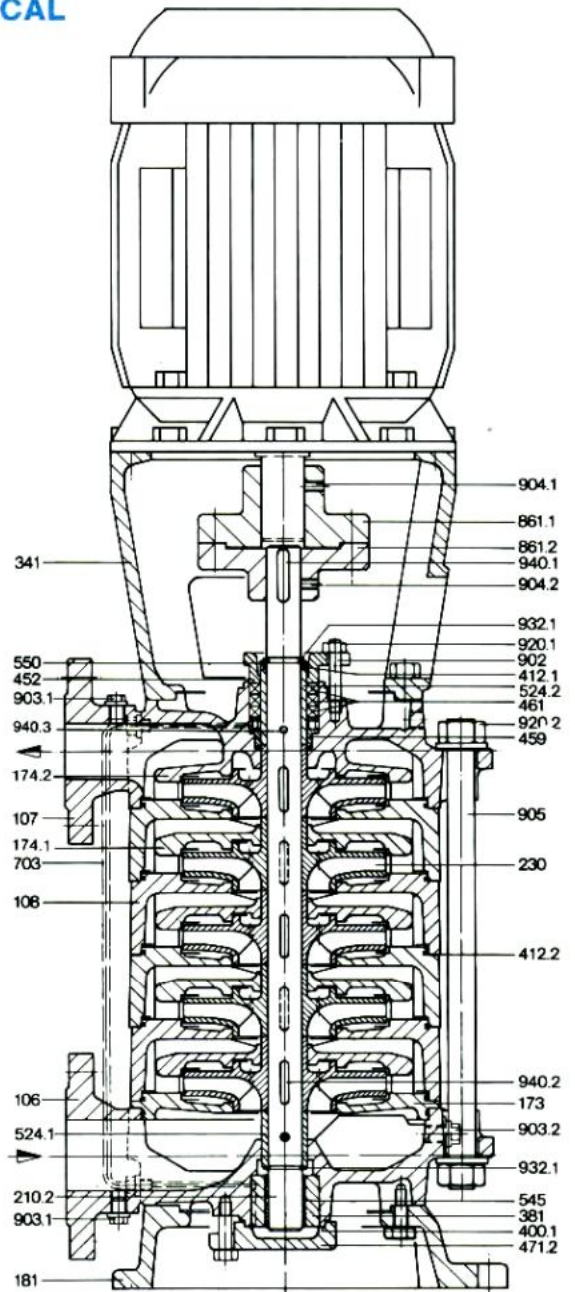
Selection chart



Form V / VERTICAL

Parts List

Item No	No req. per pump	Part Name	Material
106	1	suction casing	CI
107	1	delivery casing	CI
108	x-1	interstage casing	CI
173	1	diffuser plate	CI
174.1	x-1	diffuser	CI
174.2	1	diffuser discharge casing	CI
181	1	pump base	CI
210.2	1	shaft	Stainless Steel
230	x	impeller	CI
341	1	motor stool	CI
381	1	bearing cartridge	CI
400.1	1	gasket	Hydroloid
412.1	1	O-ring	Rubber
412.2	x+1	O-ring	Rubber
471.2	1	seal cover	CI
524.1	1	shaft sleeve	Brass
545	1	bearing bush	DU (Pb Bz)
703	1	bypass pipe	Steel
861.1	1	coupling, motor half	CI
861.2	1	coupling, pump half	CI
903.1	2	gauge plugs	Brass
903.2	2	drain plug	Brass
904.1	1	dog end grub screw	Steel
904.2	1	dog end grub screw	Steel
905	4	tie bolt	Steel
920.2	8	hexagon nut	Steel
932.1	1	circlip	Spring steel
940.1	1	key	Steel
940.2	x	key	Steel
940.3	2	pin	Steel
Only for stuffing box with packing			
452	1	gland	CL
459	1	lantern ring	CL
461	1	gland packing	TEFLON
524.2	1	shaft sleeve	Stainless Steel
550	1	distance ring	Spring steel
902	2	stud	Stainless Steel
920.1	2	hexagon nut	Brass
Only for mechanical seal unbalanced			
400.2	1	gasket	Hydroloid
433.1	1	mechanical seal unbalanced	Chromium C./Carbon
471.1	1	seal cover	CI
524.2	1	shaft sleeve	Stainless Steel
525	1	shaft sleeve	Stainless Steel
550	1	distance ring	Spring steel
932.2	1	circlip	Spring steel
Only for mechanical seal balanced			
400.2	1	gasket	Hydroloid
433.2	1	mechanical seal balanced	Hard metal/Carbon
471.1	1	seal cover	CI
524.3	1	shaft sleeve	Stainless Steel
524.4	1	shaft sleeve	Stainless Steel



Pumps can also be manufactured in other material executions such as all - bronze (G-CuSn 10) castings with wear rings and 1.4401 shaft as well as all - stainless steel (SS - 316) castings with 1.4401 shaft.

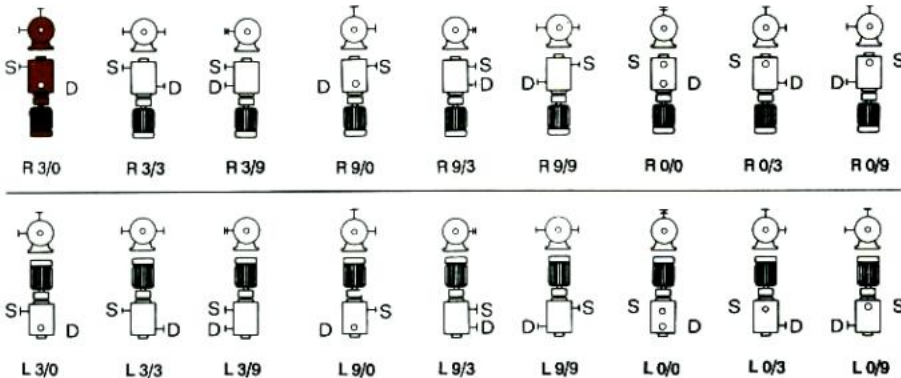
Form H / HORIZONTAL

Installation

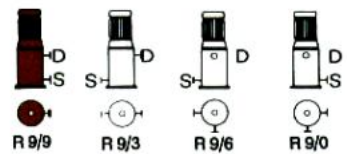
Form V / VERTICAL

Pump for clockwise rotation as seen from driver.

Branch position
Unless otherwise specified, branch arrangement R 3/0 will be supplied.



Branch arrangement



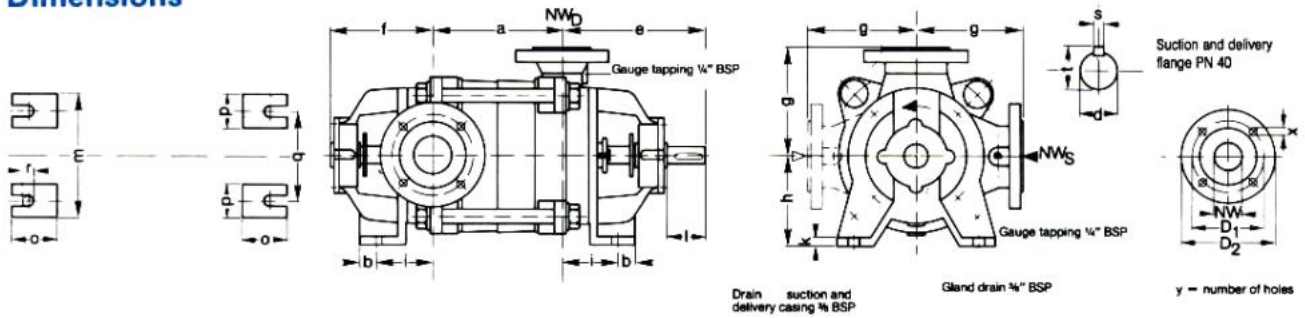
In the absence of specific instructions pumps are supplied with the following branch arrangements:
1 and 2 stage: as R 9/3, i.e. opposite to each other.
3 stages and up: as R 9/9, i.e. delivery branch above the suction branch.

Pump for counter - clockwise rotation as seen from driver.

Parallel branches are only possible with 3 or more stages (model 65, 2 stages)

Dimensions

Form H



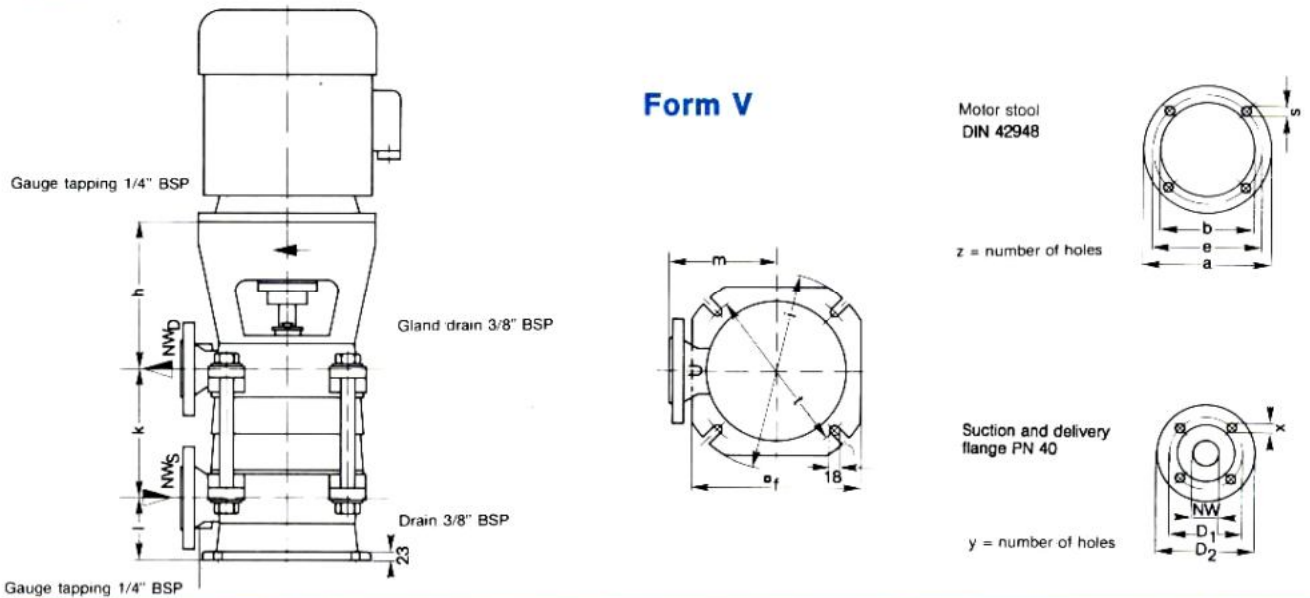
Dimension 'a' with number of stages

Shaft end

Type	NW _S	NW _D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	b	e	f	g	h	i	k	m	q	o	p	r	l	d	t	s
32	40	32	83	131	179	227	275	323	371	419	467	515	563	611	659	707	20	215	150	165	132	78	16	260	200	60	60	14	65	25	28	8
40	50	40	90	145	200	255	310	365	420	475	530	585	640	695	750	805	20	215	150	170	132	78	16	260	200	60	60	14	65	25	28	8
50	65	50	102	169	236	303	370	437	504	571	638	705	772	839	906		30	250	180	190	160	98	16	280	220	80	60	18	70	30	33	8
65	80	65	125	200	275	350	425	500	575	650	725	800	875				30	275	195	210	180	108	16	330	270	80	60	18	80	35	38	10

Flange connections to DIN 2501 page 1 PN 40	NW	D ₁	D ₂	x	y
	32	100	140	18	4
	40	110	150	18	4
	50	125	165	18	4
	65	145	185	18	8
	80	160	200	18	8

Form V



Dimension 'K' with number of stages

motorstool flange DIN 42948

Type	NW _S	NW _D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	□ _f	i	l	m	t	a	b	e	h	s	z
32	40	32	83	131	179	227	275	323	371	419	467	515	563	611	659	707	300	350	105	165	300	200	130	165	220	M 10	4
																						250	180	215	230	M 12	4
																						300	230	265	250	M 12	4
																						350	250	300	280	18	4
																						400	300	350	280	18	4
40	50	40	90	145	200	255	310	365	420	475	530	585	640	695	750	805	300	350	105	170	300	200	130	165	220	M 10	4
																						250	180	215	230	M 12	4
																						300	230	265	250	M 12	4
																						350	250	300	280	18	4
																						400	300	350	280	18	4
450	350	400	280	18	8																						
50	65	50	102	169	236	303	370	437	504	571	638	705	772	839	906		350	400	120	190	350	250	180	215	245	M 12	4
																						300	230	265	265	M 12	4
																						350	250	300	295	M 16	4
																						400	300	350	295	18	4
																						450	350	400	295	18	8
550	450	500	325	18	8																						
65	80	65	125	200	275	350	425	500	575	650	725	800	875				350	400	130	210	350	250	180	215	245	M 12	4
																						300	230	265	265	M 12	4
																						350	250	300	295	M 16	4
																						400	300	350	295	18	4
																						450	350	400	295	18	8
550	450	500	325	18	8																						
660	550	600	325	23	8																						

The technical data of this leaflet are subject to change without notice

Συγχρηματοδότηση από το Π.Ε.Π. Αττικής

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