Self-priming centrifugal pumps







experience of a lifetime // innovation for tomorrow





High and dry with j self-priming centrifugal pumps

J pumps are self-priming centrifugal pumps with open impeller handling large diameter solids and

replaceable wear plates. They have easily opened inspection covers and externally lubricated mechanical seals.

- · Simple construction. Only one moving part: the impeller
- · Easy inspection of impeller
- Quick self-priming without foot valves. The pump self-primes automatically to heights of up to 7.5 m
- Large diameter solids handled
- High resistance to abrasive liquids. The wear plate is easily replaced and can be covered with an abrasion and oil resistant rubber facing.
- Externally lubricated mechanical seal. Lubrication prevents damage during dry running and stops leaks of air or liquid along the shaft.
- Easy to install. Only the suction hose is immersed in the liquid. The pump can be set up high and dry in the most convenient position for inspection and maintenance.
- Long life. The parts subject to wear can be easily replaced one or more times to restore the original performance.

Applications

J pumps are used when one or more of the following are required:

- self-priming
- solids handling
- resistance to abrasion

J pumps can handle liquids up to a viscosity of about 50 mm2/s (cSt).

Industry: Transfer of clean or dirty neutral, acid or alkali liquids; liquids containing sand, mud or solids in suspension; clean or dirty low viscosity petroleum products or solvents; milk of lime, caustic soda; washing. cooling, circulation; smoke scrubbing; emergency duty.

Civil engineering: Flood drainage; sewage pumping; fire fighting; recovery of dangerous liquids.

Naval duty: Loading and unloading; bilge pumping; washing, fire fighting, stripping, sanitary duty and circulation.

Waste treatment: Pumping polluted, hot or corrosive waste water containing sand, mud or solids in suspension; dosing neutralising liquids; pumping out settled sludge.

Construction industry: Dewatering excavations, canals or ponds; ground water dewatering with wellpoint systems or drains; water supply from wells or canals; hosing down concrete castings.

Agriculture: Surface irrigation; liquid manure oxygenation; transfer and spraying liquid manure or fertilisers; distribution of liquid animal feed; transfer of must; washing.









Self-priming principle

Air (white arrows) is drawn into the pump by the vacuum produced as the impeller rotates and is emulsioned with the liquid (blue arrows) contained in the pump casing. The air/ liquid mixture is driven into the priming chamber where the air, which is less dense, separates out and vents through the delivery line while the liquid, due to the higher density, falls back and is recirculated. When all the air has been evacuated from the suction line, the pump primes and operated like a normal centrifugal pump. It can also handle a mixture of air and liquid. The check valve mounted in the pump suction port serves two purposes: it prevents the liquid from draining out of the suction line when the pump is not in operation, and if the suction line is drained by accident, enough liquid is retained in the pump casing for the pump to reprime. The delivery line must allow the air drawn from the suction line to vent to atmosphere.







JV SERIES

The JV (Fast) series comprises the J 40, J 50, J 3-140 and J 90-4 models which are mainly used in industry, and the J 90-2 and J 120-2 which are used in construction. The ports range from 11/2" to 5". Close-coupled versions use 2 pole motors while pedestal versions can be coupled to various types of motors. Cast iron casings (G). Certain models are available with bronze (B) or stainless steel (K) casings.

Pump	Sin	E.,			Cap	sacity		and the second		Hea	id m.v	ic.	RPM	Motor	7000
type	mm	10			m∛n			Vmin					ti/mn	HP	kW
J40	40	1 1/2"	20	24	15	5	400	250	83	4	11	15	2900	1,5	1,1
J50	50	2"	25	44	30	10	730	500	165	5	12	18	2900	3	2,2
J3-140	80	3"	28	70	40	20	1160	665	330	13	18	20	2900	5,5	4
J90-2	100	4"	45	150	105	54	2500	1700	900	4	17	19	2500**	15	11
J90-4	100	4"	45	150	100	40	2500	1665	665	12	22	25	2900	15	11
J120-2	125	5"	60	210	144	72	3500	2400	1200	4	15	18	2300**	25	18,5

* Solids handling (mm) ** Coupled by belt and poulley

For more precise performance data reference should be made to the individual performance curves for each pump.



Cast iron, bronze or stainless steel casing and wetted castings facing

JL SERIES

JL (Slow) series are used for heavy duty applications in industry, construction and agriculture and have a robust construction with thick walls. The ports range from 3" to 12". Close-coupled versions use 4 pole motors while pedestal versions can be coupled to various types of motors. Cast iron casings (G). Certain models are available with bronze (B) or stainless steel (K) casings.

Priming cover

ł	Pump	Siz				C	spacity				He	ad mo	N/C:	RPM	Motor	
	type	mme	IN I			man			Vinn					_ Willin	HIP	NW
	J85	80	3"	40	80	45	25	1330	750	415	8	13	15	1450	5,5	124
	. J4-250	100	- 74	50	150	95	45	2500	1600	750	6	- 14	18	1450	10	7.5
	J6-250	150	6"	76	260	200	90	4330	3300	1500	6	10	15	1450	15	11
	J6-350	150	6*	37	300	180	90	5000	3000	1500	19	30	35	1450	40	30
	J6-355	150	6"	47	330	220	96	5150	3650	1600	16	25	32	1450	40	30
	J8-300	200	87	60	480	320	120	8000	5330	2000	8	15	20	1450	30	22
	J8-305	200	8"	76	400	200	100	6665	3330	1665	6	13	17	1450	25	18,5
	J10-305	250	10*	76	600	500	200	10000	8333	3333	6	12	18,5	1450	40	30
	J300	300	12"	70	1200	800	300	20000	13300	5000	9	13	17	975	75	55

* Solids handling (mm)

For more precise performance data reference should be made to the individual performance curves for each pump.

Casing with studs to avoid damage to tapped holes

Oil resistant nitrile rubber check valve canvas reinforcement

.

Clean out cover

Impeller inspection cover.

Permits rapid access to

the impeller to remove

obstructions.

Large capacity priming chamber

Easily replaced wear plate with oil and abrasion-resistant rubber facing



Standard diameter shaft extension bored and tapped to facilitate assembly of couplings or pulleys

Bearing housing with heavy duty bearings suitable for direct or V belt drive

Open impeller handling large diameter spherical solids

Grease lubricated carbide mechanical seal. Can run dry on high vacuum even when pumping highly abrasive liquids

JP SERIES

The JP (High Head) series comprises models with port sizes from 11/2" to 6". They are mainly used in industry for applications where, in addition to high heads, solids handling is required.

Cast iron casings (G). Certain models are available with bronze (B) or stainless steel (K) casings.

Pump type	Size mm in				Ci m ³ /h	apacity		1/mn		He	ad m.v	×c.	RPM Inimit	Motor HP	I W
J1-180	40	13"	11	25	15	5	420	250	83	22	32	34	2900	5,5	4
J2-180	50	2"	15	50	30	10	835	500	165	19	30	34	2900	7,5	5,5
J60-220	50	2"	12	42	26	10	700	430	165	42	51	57	2900	15	11
J70-250	80	3"	12	65	40	15	1085	665	250	45	60	68	2900	25	18,5
J4-316	100	4"	38	160	110	60	2665	1830	1000	21	26	29	1450	25	18,5"
J6-400	150	6"	45	360	200	80	6000	3330	1330	22	34	37	1450	60	45

* Solids handling (mm) For more precise performance data reference should be made to the individual performance curves for each pump. # 22 kW for close coupled version



extension bored and tapped to facilitate assembly of couplings

GILKES

Clean out cover

Versions

JV, JL, JP	Construction	Typical application
TWGS TWGMC	Cast iron pump with nitrile rubber gaskets	Liquids containing sand, mud or solids in suspension with pH from 5-13; smoke scrubbing; water emulsion circulation for machine tools or grinders; cutting or quenching fluid circulation; cooling water circulation in steel mills or drawing mills; neutralising liquid dosage;
TCWGS	Cast iron pump with nitrile rubber gaskets. Cartridge seal.	pumping out settled sludge, sump pumping: liquid manure transfer and circulation
TCBWGS	Cast iron pump with nitrile rubber gaskets. Double back to back cartridge seal.	
TWGS+V	Cast iron pump with Viton gaskets	Water circulation in paint spray booths; stripping fuel tanks
T4WGS	Cast iron pump with PTFE and Centellen gaskets	Recovery of dirty solvents.
TPS	Cast iron pump with Viton and Centellen gaskets	Transfer of light petroleum products such as diesel fuel, paraffin, kerosene and petrol (gasoline)
TWFS	Stainless steel fitted cast iron pump with PTFE and Centellen gaskets	Liquid fertiliser transfer, circulation and spraying; brackish or sea water containing sand
TWQS	Bronze fitted cast iron pump with zinc anode nitrile and rubber gaskets	Brackish or sea water; washing, cooling or fire fighting in ports; auxiliary duties on board
TWBS	Bronze pump with nitrile rubber gaskets	Marine duty; brine; sea intake and circulation of sea water in swimming pools
TWKS	Stainless steel pump with Viton and Centellen gaskets	• Manuscher beschichte in eine Verstellt werden ist der sichten im der stehen der der Bertre verstellt.
TCWKS	Stainless steel pump with Viton and Centellen gaskets. Cartridge seal.	fluid food products
TC8WKS	Stainless steel pump with Viton and Centellen gaskets. Double back to back cartridge seal.	
T4WKS	Stainless steel pump with PTFE and Centellen gaskets	Recovery of spills from chemical plants; transfer or circulation of caustic soda or potash

Special versions

J50TWJGT, J50TWJBT, J50TWKMT Stainless steel pump driven by water turbine. Typical applications: transfer of dangerous liquids in areas where explosions are possible. Used by the Fire Brigade in case of road accidents or accidents in chemical plants.



J 50 TWKMT



Key to symbols



Shaft seal

т

Mechanical seal mounted on stainless steel shaft slerve. Graphite rotating seat, silicon carbide stationary seat. No lubrication. Only for "P" version.

TW

Mechanical seal mounted on stainless steel shaft sleeve. Tungsten or silicon carbide rotating seat and tungsten or silicon carbide stationary seat. Nitrile rubber gaskets unless indicated otherwise. Nitrile rubber back up lip seal. Grease lubrication.

T4W

TCW *

TC8W *

Mechanical seal mounted on stainless steel shaft sleeve. Silicon (or tungsten) carbide rotating and stationary seats and PTFE gaskets. Nitrile rubber back up lip seal. Grease lubrication. When these seals are fitted all elastomer components are replaced by PTFE or fibre gaskets.

T4W

т

TW





Double back to back cartridge mechanical seal mounted on stainless steel shaft sleeve. Front seal with silicon carbide faces and Viton gaskets. Rear seal with silicon carbide/graphite faces and Viton gaskets. Grease lubrication.

Cartridge mechanical seal mounted on stainless steel shaft sleeve. Main seal

with silicon carbide faces and Viton gaskets. Grease lubrication.

Available for models J1-180, J2-180 and J 4-316.



Materials

В

Bronze or marine alloy wetted parts; stainless steel shaft and internal and external hardware; wear plate without rubber facing; nitrile rubber gaskets.

F

All iron construction; stainless steel impeller, shaft and internal and external hardware; wear plate without rubber facing; Viton gaskets.

G

All iron construction; rubber faced wear plate (J 40, J 70-250, J 6-350, J 300 have wear plate without rubber facing); stainless steel internal hardware; nitrile rubber gaskets.

HC

Hastelloy wetted parts and internal hardware: AISI 316 stainless steel external hardware; duplex alloy shaft; Hastelloy wear plate; Centellen gaskets.

Arrangements

- Pedestal bearing housing with free shaft 8
- MC Pump close coupled to a three phase TEFC electric motor
- MM Pump close coupled to a single phase TEFC electric motor
- Pump close coupled to a petrol (gasoline) or diesel engine M
 - e.g.: MLD: LOMBARDINI diesel engine
 - MJD: LISTER diesel engine
 - MVM: VM diesel ongine
 - MZD: DEUTZ diesel engine
- 8/.... Pump coupled with flexible coupling to various types of motors or engines.
 - e.g.: S/MC: three phase TEFC electric motor
 - S/MD: three phase explosion proof motor
 - S/LD: LOMBARDINI diesel engine
 - S/VM: VM diesel engine
 - S/ZD: DEUTZ diesel engine

Pump with SM close-coupling bearing housing and SAE flange. Magnetic drive pump. Complete liquid containment without the risk SMA TRM of leaks and consequent environmental pollution.

The construction materials of the magnetic drive are AISI 316 stainless steel or Hastelloy C depending on the liquid to be pumped.

K

AISI 316 stainless steel wetted parts including internal and external hardware; Viton gaskets; wear plate without rubber facing.

Ρ

All iron construction; wear plate without rubber facing; Viton gaskets (canvas reinforced nitrile rubber check valve for pumps over 4").

Q

Cast iron construction; aluminium bronze impeller and wear plate (without rubber facing); stainless steel shaft and internal and external hardware; covers with zinc anodes; marine brass suction and delivery flanges (if tapped); nitrile rubber gaskets.

Options

- + EC Electromagnetic clutch (12V or 24V) with 6" 2A pulley suitable for J 1-180, J 2-180, J 3-140 B, F, K or Q.
- ¥Ε DIN 2533 ND 16 flanged suction and discharge ports.
- +FA ANSI #125/150 RF flanged suction and discharge ports.
- +P Automatic grease lubricator (to be used with grease lubricated seals).
- ٠V Viton elastomers.



Overall dimensions



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	ø	A		81	B2	Bj	0	DI	F	Ft	F2	Fg	н	H	H ₂	Hj	К2	K3	L	M	M2	N	N	5	51	52	T	U	W	z	kg
J40	11	1	-6	30	87	171	19	MS.	2673	80	364	-	90	73	165	227	10	-	40	50	+	80	+	16		1	215	6	35	-	15
JADK	13*	4	ж.	30	80.5	179	19	M	267.3	80	34)	2	00	71	105	227	14	-	40	50		80		10		-	21.5		25	1	15
J1-180	11.	230	-	112	120	258.5	28	ME	342.5	135.5	494.5	35.5	135	78	260	338	-	-	称	229.5	45	90	500	14	14	-	31	8	108	-	45
J50	T		5	36	54	188	19	MB.	296.5	112.5	428.5		110	92	215	328		•	41	50		1025		12			21.5	6	35	-	24
JSOK	z	-	1	75	38	219	19	88	257	147	406.5	1	ttö	-99	204	285	1		41	50	-	102.5	-	12	-		21.5	8	35	4	27
J2-180	2	240		120	123	298	23	MB	350	187.5	554	127.5	150	96	303	399	R	-	60	222	80	90	200	14	14	-	31	\$	100	1	-90
J3-140G	3	240	10	37	131	264	28	M8	386.5	152	548.5	128.5	135	94	290	384	-	-	60	222	80	90	200	14	14	1	31	8	108	4	42
J3-140B/K	r	240	15	40	139	278	28	MB	385.5	136	531.5	111.5	135	151	235	396	3		60	222	80	90	200	14	14	1	21	8	108	È.	43
,485	3	-	16	70	158	316	28	MS	458.5	155	624	1.4	160	94	310	419	1	-	60	125	-	150	4	14		-	31	8	50	G	72
J90-24	5	12	12	27	149.5	299	28	108	442.5	180	626.5	1	160	119	346	474		-	60	125		150		14		-	21		49	-	71
J4-250	*	340	1	160	180	421	32	M12	408.5	276	740.5	176	200	131	359	490	14	÷	78	355,5	100	110	295	15	14	-	35	10	129	4	124
J4-316G	5	450		220	230	531	42	M16	821.5	266.5	896	154.5	290	127	430	557	18		110	423.5	150	260	400	18	14	-	45	坟	168	3	193
J4-316K	5	450	-	220	234	535	42	Mtő	621.5	312	333.5	192	280	129	528	657	14	+	110	423.5	150	150	400	18	14	-	45	12	168	4	218
J120-2	5	+	(÷)	45	182	357	32	M12	497.5	233	732.5	-	200	253	280	539	(e	+	80	150	+	150	+	14		-	35	10	55	-	116
J6-250	150	410	20	90	237,5	475	32	M12	\$81.5	271	872		225	145	445	619	240	276	78	330,5	170	110	350	15	18	18	35	10	129	6	203
J5-350	150	540	18.5	90	289	578	40	M12	835	243	895	1	290	145	510	684	245	276	纺	369	200	150	460	15	22	18	43	12	161	đ	220
J6-355	150	410	18.5	90	289	576	40	M12	630	243	895		290	145	510	684	240	276	95	369	200	150	460	15	22	18	43	12	165	-6	220
J5-400	150	510	20	280	307.5	730	55	M16	698.5	374	1095	214	350	150	645	821	240	276	110	477.5	200	150	450	17	18	19	59	15	181	6	420
J8-300.5	200	510	-	80	295.5	591	42	MIE	783.5	289.5	1088.5	209.5	310	172	530	702	280	310	110	495.5	200	150	450	18	18	18	45	12	168		305
J10-305	250	530	-	255	298	758	55	M16	7185	478.5	1291.5	278.5	350	251	687	945	350	400	110	487.5	250	150	450	17	18	22	刧	15	181	8	550
J300	300	630	-	319	374	920	部	M20	537.5	605.5	1168.5	4	450	267	800	1200	395	440	100		464	300	500	35	26	22	64	信	87	12	706

G = Cast iron

K - Stainless steel

Be Bronze

						liose	coup	led to	elec	tric m	notor						_			(fig.	2)							
	ø	Α.	Aş	8	81	82	83	F	F1	F2	Fg	H	Ht	H2	Hz	Hş	К2	K ₂	м	B ₁	M2	N	N2	8	81	92	2	¥g.
J40G	130	+		6	30	87.5	208	360	80	460	- 258	80	73	156	254		4	- 41	100	+2		. 43	125	10		+ 1	5	21
J40K	18*	*1	10	5	30	89.5	208	360	80	460	256	80	71	156	234	10	14	100	100	• 1		-	125	10	κ.	12	1	21
J1-180	33"	230	280		110	120	268.5	477.5	135.5	615	95	135	78	260	336	-	54	1.	143	195.5	45	200	240	12	14	+	-	60
J50	2	+	-	9	36	94	190	420	112.5	680	314	90	92	197	307		1.1	1.00	100	1	+		140	10		+	-	24
J2-180	z	240	310		120	133	298	479	187.5	669	127.5	150	96	305	399	14	14	165	140	195	80	200	270	12	14		2	106
J3-140G	3	240	280	10	37	131	264	519.5	152	671.5	128.5	135	94	290	384				140	188	80	200	240	12	14			65
J3-140B K	r	245	280	15	40	139	278	520.5	136	651.5	=	135	181	235	396			1.6	140	188	80	200	240	12	14	1	1	63
J85	3			18	70	158	316	514	155	694		180	94	310	435	500		-	140				270	12				94
J90-4	5	1	124	12	37	149.5	299	587.5	180	770.5	375.5	157	119	343	471	-	1	1.9	230	121			206	12	5	1	1	95
J4-250	4	345	-		155	180	421	591.5	275	9415	175	200	131	359	490	580			222	258.5	100	305	345	15	14			184
J4-316G	5	450	450		220	230	531	829.5	368.5	1009	154.5	260	127	430	557	640		1.	279	307.5	150	400	405	15	14			349
J4-316K	5	450	450		220	234	535	829.5	312	1126.5	102	280	129	526	657	615			278	307.5	150	400	405	15	14			347
35-250	150	415		20	90	217.5	475	730.5	271	1051 5		225	145	445	619	625	240	276	220	279.5	170	305	340	15	18	18		237
15-350.5	155	545		185	- 40	285	578	829.8	243	1122.5		290	145	510	484	775	240	278	254	293.5	200	375	420	15	22	18		275
18,300.5	200	510	450		80	1965.5	401	-	299.5	1296.5	209.5	310	172	530	705	7775	280	310	040	379.5	200	450	405	15	10	12		477
115,305	260	535	1000		265	2005	764	000	478.5	1407	278.6	360	211	447	140		350	400	100	327 6	240	450	480	10	22	22		780
G. Casti		444	0.00	-	K.	Sh	intern 1	thei		1401	2.93	330	6.23	-		Ronth	-		000	41.2	2.30	-00	-00				2	100

G = Cast iron



Overall dimensions



		Arra	ingi	ian)	nt wit	h SN	l type b	earin	ig hi	nusin	ig an	d SAI	Ettan	90												(fi	g. 3	1				
Model	ø		B	81	82	83	61	02	0	D1	F	F1	F2	Ħ	H ₁	Hz	Hz	Kz	83	1	M	M2	81	51	82	\$3	T	U	W	1	21	10
J4-250 SAE4	r	340		150	180	421	361.95	301	32	MB	4335	21%	723,5	200	131	359	407	+		-80	448.5		295	14	-	TT.	35	10	56	-	12	131
J4-250 SAE5	5	340	4	160	180	421	314.30	3335	22	MI	433.5	276	723.5	200	131	359	497	+	1	80	448.5		295	14	-	11	35	10	26		8	137
J6-250 SAE4	150	430	22	-90	237.5	475	361,95	381	32	MI2	5465	271	837	225	145	445	619	240	276	80	514.5		350	18	19	11	35	10	56	6	12	250
J6-250 SAE5	150	410	20	90	237.5	475	314.30	1115	32	M12	546.5	271	837	225	145	445	619	240	276	80	514,5		350	18	19	11	35	10	26	6		236
J6-400 SAE4"	150	510	+	290	307.5	730	361.95	381	55	Mth	5785	374	.975	350	150	645	821	240	276	115	\$38.5	200	450	18	19	11	59	26	09	6	12	400
J10-305 SAE4	250	530	-	255	298	758	361,95	381	55	MIS	529.5	478.5	1171	350	231	687	946	350	400	110	438.5	250	450	18	22	11	55	16	69	8	12	560



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(fig. 5)

		_			_	P	edes	al be	aring	a hiau	sing				_		(11	g. 4)	_		_		-		
Model	ø	81	82	83		01		F1	F2		#1	Hz	Hg	K2	K3	L	м		\$	\$2	T	U	W	2	kg .
J68-220	21	227.5	174	227.5	28	MB	303	117	556	160	224	160	405	+	1.00	60	125	150	14	1	31	E.	50	-	题
J70-250	T	302	197.5	30	12	M12	368	153.5	677.5	200	149	329	485	54		BD	150	150	14	-	25	10	55	-	-91
		-	1.1		_													_					11 11		

			C	lase ce	upled	to elect	ric me	tor					0	ig. 5)				
Model	ø	81	82	83		F1	12	13	н	81	82	Hg	м	Nz	\$	52	1	43
J60-220	τ.	228	200	226	465	117	720	375	155	225	155	43	330	210	12	- 47 L	÷.	105





Industrial Pump Sales

Wilf Curwen	Stuart Bold	Alan Cooper	Adrian Slack
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