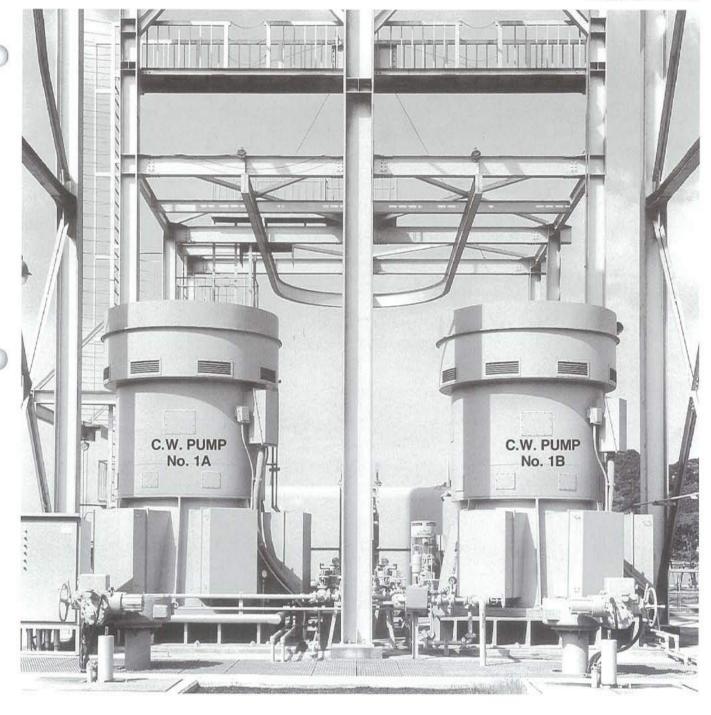


VERTICAL MIXED FLOW PUMP

Model: DF-V



New Series of Improved Vertical

Kubota Vertical Mixed Flow Pump

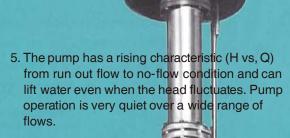
Through detailed research into the discharge bowl, lifting pipe and discharge elbow utilizing technical data gained from many years of experience, Kubota has succeeded in developing a new series of pumps capable of meeting a wider range of requirements.

Kubota's new series is characterized by pumps of simple structure, light weight and ease of handling. Parts are completely interchangeable.

Mixed Flow Pumps

Features

- The motor is installed on the discharge elbow and so the pump requires less space than for the horizontal type thereby reducing installation costs.
- The motor is installed at a high elevation making it safe from flooding even during times of emergency.
- 3. Because the impeller is located in the water, the pump is free from cavitation and can lift water from deep wells, something which is not possible with a horizontal pump.
- Because the impeller is submerged, priming devices such as a vacuum pump are not required. Automatic operation is, therefore, very simple.



- 6. Unlike for axial flow pumps, shut-off operation is possible at start-up.
- 7. Kubota's new series of vertical mixed flow pumps have the following advantages.
 - a) Structures and materials to best suit a variety of different fluids.
 - b) Improved efficiency and reliability.
 - c) Easy maintenance because of simple structure and interchangeability of parts.
 - d) Readily available spare parts.





Standard materials

No.	Class	1	2	3	4	5	6
140.	Parts						
212	Suction bell	FC200	FC200	FC200	FC200	2% NiFC	SCS13
207	Discharge bowl	FC200	FC200	FC200	FC200	2% NiFC	SCS13
301	Bearing spider	FC200	FC200	FC200	FC200 or 2% NiFC	2% NiFC or D2	SCS13
209	Lifting pipe	SS400	SS400	FC200	FC200	2% NiFC	SUS304
204	Discharge casing	SS400 or FC200	SS400 or FC200	FC200	FC200	2% NiFC	SUS304+SS400
208	Discharge elbow		_	FC200	FC200	2% NiFC	· ·
230	Impeller	CAC402	CAC402	SCS13	SCS13	SCS13	SCS14
283	Casing ring	CAC406	CAC406	SUS403 or SUS304	SUS304	SUS316	SUS316
240	Pump shaft	S45C	SUS403	SUS403 or SUS304	SUS304 or SUS316	SUS316	SUS316L
244	Intermediate coupling	CAC702	CAC702	CAC702	CAC702	CAC702	CAC702
251	Packing sleeve	SUS403 or SCS2	SUS403 or SCS2	SUS304 or SCS13	SUS316 or SCS14	SUS316 or SCS14	SUS316L or SCS16
252	Bearing sleeve	CAC406	SUS403 or SCS2	SUS304 or SCS13	SUS316 or SCS14	SUS316 or SCS14	SUS316L or SCS16
261	Impeller nut	CAC502A	CAC502A	CAC502A or SCS13	SCS13	SCS14	SCS16
300	Submerged bearing	Rubber	Rubber	Rubber	Rubber	Rubber	Rubber
302	Shaft enclosing tube	SGPW	SGPW or SUS304	SUS304	SUS304 or SCS316	SUS316L	SUS316L
305	Frame		_	SS400	SS400	SS400	SS400
309	Bearing box	FC200	FC200	FC200	FC200	FC200	FC200
328 284	Bearing Stuffing box	FC200	FC200	FC200	FC200 or 2% NiFC	2% NiFC or D2	D2 or SCS13
304	Driver pedestal	SS400	SS400	SS400	SS400	SS400	SS400
606	Sole plate	SS400	FC200	FC200	FC200	FC200	FC200
608	Cupling	FC200	FC200	FC200	FC200	FC200	FC200
	Standard liquid		water		e water	Sea	water
	River water	0	0	0			
Use	Rain water	0	0	0			
USE	Agricultural water	0	0	0			
	Industrial water		0	0	0		
	Sewerage			0	0		
	Sea water				0	0	0

Material Comparison Tables JIS and ASTM

JIS	ASTM
FC200	A48 NO.30A
SCS13	A296, A351, CF8, A283
SS400	A283 Grade D
SUS304	A473 304
CAC402	B584, C90300

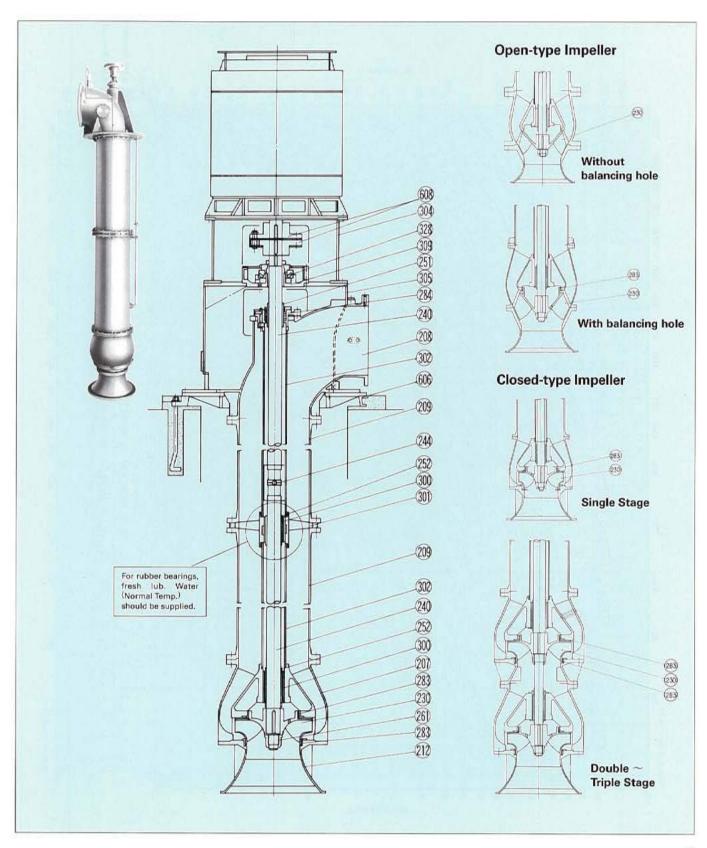
JIS	ASTM
SUS14	A296, A351 CF8M
CAC406	B584, C83600
SUS403	A473 403
SUS316	A473 316
S45C	A29, A322 1045

JIS	ASTM
SUS316L	A473 316L
CAC702	B148 954
SCS2	A296, A351 CA40
SCS16	A296, A351 CF3M
SGPW	A120 Hot-dipped Galvanized Steel Pipe

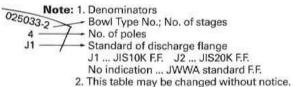
Standard structure

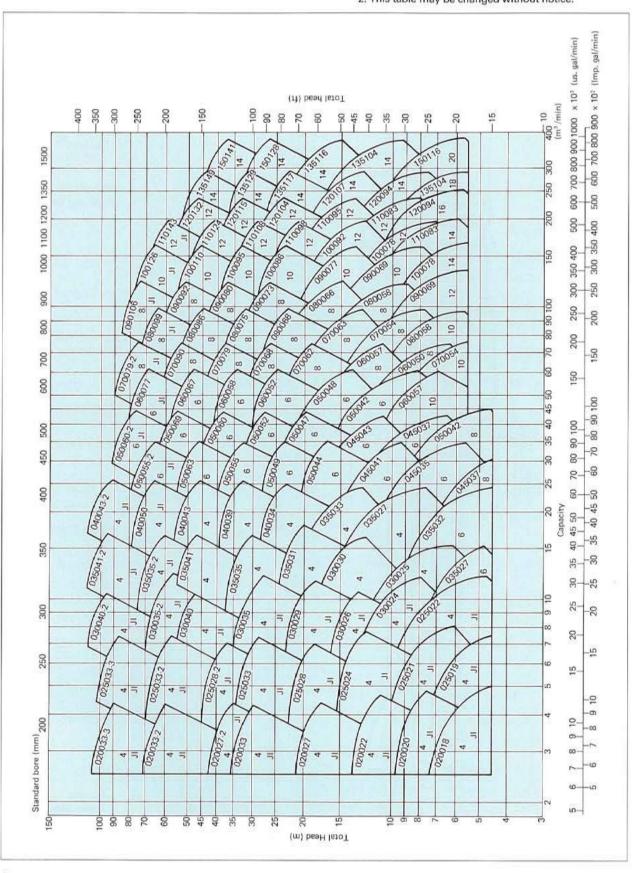
Kubota Vertical Mixed Flow Pumps are assembled with standard parts.

- A standard motor can be used since pump axial thrust is carried by bearings on the pump side.
 - If required, axial thrust can be carried by the motor.
- A pump with oil lubricated intermediate bearings and a pump having no protective tube are available.
- 3. The pump floor can be water sealed.

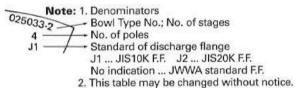


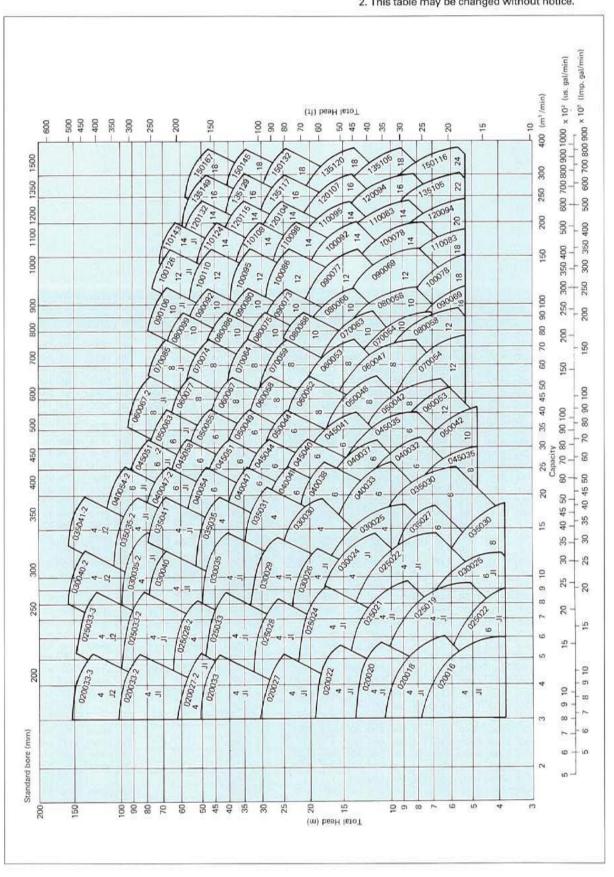
Performance curves 50Hz

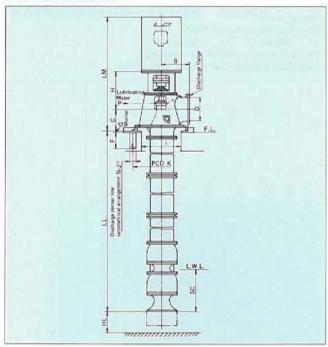




Performance curves 60Hz







- Note:
 1. For the dimensions of the discharge flange, refer to the appropriate standards.
- standards.The above floor dimensions are those for a motor which matches the maximum to minimum bowl types.Some parts of the external dimensions of the pump are subject to changes according to the type of motor.Before making foundations, please request a drawing for approval.

Bowl types		Exte	External and foundation dimensions								Reference dimensions				Above floor dimensions (approximate) with completely-closed cage-type motor					
Minimum to maximum	D	С	В	1	K	N	J	F	G	HL	SC	Р	Н	KW	LM	KW	LM	KW	LM	of Pole
020018~020027	200	230	350	450	-		110	300			and a discount	3/8B	650	7.5	1325	11	1370	-	manufacture Total of the last	-
020033~020027-2	200	230	400	520	780		120				(1/2B	700	710	1020	30	-	37		4
020033-2~020033-3	200	280	450	550	880	-	120	-	-		440	1/2B	800			75	mahangana bakasa		2285	-
025019~025024	250	260	370	500	710		110	activities Mades in No.	The second second	in the second second	and the same of the same of	1/2B	700	11	1450	15	7 9 80 9	22	and the latest and th	
025028~025033	250	260	400	540	780	_	120	-	-	(360	1/2B	730	4/4	1450	30	CONTRACTOR AND ADDRESS OF THE PARTY NAMED IN	55	-	4
025028-2~025033-3	250	300	470	550	880		120	***	-		550	3/4B	820	75	2005	110	THE PERSON NAMED IN	150	eminorary metal size in bullion	
025028-2 -025033-3	300	300	400	540	780	-	120	a free promoversion	description of	- I manufacture to	CONTRACTOR CONTRACTOR	1/2B	730	18.5	1570	30	AND REAL PROPERTY.	37	and the second second	
030029~030035	300	*****	- Company of the Comp	580	880		-	-	-	300	/30	1/2B	800		and the second second	30	1680			4
	-	310	450		0.000,000,000		120	-	-	300)			55	1810	100	0500	75	amely indicate house of the	4
030040~030040-2	300	330	500	650	980	-	120	arrest accordes	minor	- The second	650	3/4B	880	110	2375	incompanies (Alberta	2530	224	Enteropy to the second	
035027~030030	350	335	450	580	880	-	120	and the latest tentre in the l	-		200	1/2B	770	22×6P	1685	37	1775	55		112
035031~035035	350	335	500	650	980		120	****	-		5	1/2B	820	7.070		90		110	mention destroyed which	4
035041~035041-2	350	375	600	700	1080		120	environmentum	-	The second secon	760	3/4B	920	180	2530	224	Inches and the later of the lat	manufacture distribution and	2765	
035032~035033	400	360	500	680	980	Administration of the Party of	120	Lattice Address of the	and the second second	the second second	890	1/2B	820	30×6P	1875	55	and the same of the same of		2065	951
040034~040039	400	400	630	750	and the same of the same of	-	120	-	-		5	3/4B	900			132	and the same of the same of the same of	190	2625	4
040043~040043-2	400	400	630	870	1220	8	140	460	40	450	850	3/4B	980	265	2755	375	2850	530	3380	
045037~045041	450	405	550	720	1080	8	120	360	30	550	1000	1/2B	830	37×8P	2120	55	2310	75	2310	
050044~050049	450	427	650	820	1220	8	140	460	40	5	5	3/4B	940			132	2690	180	2740	6
050055~050055-2	450	440	650	980	1370	8	140	460	40	460	950	3/4B	990	250	2900	335	2930	500	3530	
050042~050047	500	450	600	820	1220	8	140	460	40	600	1100	3/4B	870	75	2395	110	2555	190	2695	
050052~050060-2	500	480	700	980	1370	8	140	460	40	500	1050	1B	1020	265	2970	530	3600	750	3600	6
060057~050048	600	510	700	980	1370	8	140	460	40	650	1300	3/4B	900	110×10P	2785	140	2785	200	2785	
060052~060058	600	554	800	1000	1540	8	140	460	40	((3/4B	1000	- Indiana Indiana		315	distributativa actualistississi	450	antelescobstanceine	6
060067~060077	600	570	800	1200	1690	-	140	model and records	40	580	1240	1B	1250			630	2920		4120	ँ
070054~060057	700	634	870	1000	1540		140		-	-	1500	3/4B	1000	110×10P	3010	132	3010	- restricted	3105	
070062~070079	700	650	870	1200	1690	_	140	and the state of the last	-	((1B	1160	300	3810	425	es reconsideral and an accompanie	600	and the local designation of the local designa	8
070090~070079-2	700	650	870	1300	entreprise (and and an	-	180	Income temporary	and the same	650	1450	1B	1310	300	3010	850	and the second second	1220	minimum and anim	0
080058~080086	800	740	950	1350	interference in the best of the later of		180	Annual Control of the	-		1800	1B	1200	210	3410	475		950		
- 080099	800	750	950		2140	_	180	-	-		1600	1B	1300	210	3410	4/5	3940	1320	introduction and married to	8
090069~090080	900	810	980	CONTRACTOR OF THE PARTY OF THE	contractoristic and	_	distribution in the lateral	all more tenants from	The section is	A SECURITION OF	and the second	1B	properties of entirely	200×12P	4440	405	4440	almost party bearing a	and the state of the state of	10.00
THE RESIDENCE OF THE PARTY OF T		- interiornal	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN	1350	Links Admiration to the Control of t		180		-		1800		1300	200×12P	4110	425	4110	950	4510	8
090092~090106	900	820	980	1580	the state of the state of		180		-	- Contractor Contract	1800	1B	1340		1000	1320	4960	1900	5160	
100078~100095	1000	920	1150	1580	- International Contract Contr		180	erlementers v	meterialen	980	2080	1B	1350	355	4320	800	4770	1120	5070	15Vs
- 100110	1000	920	Committee of the Commit	constraint account to contract to be	2350	-	ten bolisinas bardadi	and designation of	- Annanie)	5	1B	1420					1600	5340	10
- 100126	1000	annual balance and		1900	-	-	-	-	-		1980	1B	1520					2240	6250	
110083~100092	1100	-	1150	-	2140					1000	2350	1B	1400			375	4600	600	4900	E PERMIT
110098~110108	1100	makes process and some	THE RESERVE AND PARTY AND PARTY.	1800	2350	8	180	560	50	5	5	1B	1460			880	5260	1200	5460	12
110124~110143	1100	1010	1150	2000	2600	10	180	560	50	950	2200	1B	1570			1700	6330	2430	6180	
120094~110095	1200	1060	1250	1800	2350	8	180	560	50	1650	2500	1B	1470			530	4880	750	5330	
- 120104	1200	1070	1250	1900	2600	10	180	560	50	5	5	1B	1540		-	1		1180	5610	1:
120115~120132	1200	1070	1250	2100						1360	2200	1B	1640			1600	6460	2300	6310	
135104~135129	1350	1200		1950						1200		1B	1770	600	6020	1360	6470	1900	6770	1
- 135149	1350	1200	manufacture from below	2200	congression and the best being being being	-	-	THE RESERVE AND PARTY.	-	1100	resissant recibios	1B	1820	-32			-	2650	6770	14
150116~135116	1500	1280	AND DESCRIPTION OF THE PARTY OF	2300						1300		1B	1720			950	6300	1320	6500	
150128~150141	1500	1290	The second second second	2500	3150	and the last	Marian States	-	-	and the second process	Charles of the Section 1	1B	1810			2120	THE PERSON NAMED IN	2900	6850	14

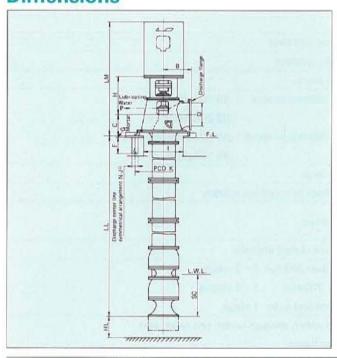
Note:

1. For the dimensions of the discharge flange, refer to the appropriate standards.

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Bowl types External and foundation dimensions							ns	Ref	erence	dimens	ions	Above floor dimensions (approximate) with completely-closed cage-type motor								
Minimum to maximum	D	С	В	1	K	N	J	F	G	HL	SC	P	Н	KW	LM	KW	LM	KW	LM	Pole
020016~020027	200	230	350	450	660	6	110	300	30	260	480	3/8B	660	7.5	1350	15	1450	37	1550	
020033~020027-2	200	230	400	520	780	6	120	360	30	1	1	1/2B	720	45	1650	55	1650	75	1850	4
020033-2-020033-3	200	280	450	550	880	6	120	360	30	220	440	1/2B	820	90	2150	110	2250	180	2450	100
025022~025024	250	260	370	500	710	6	110	300	30	310	580	1/2B	710	11×6P	1500	22	1550	37	1650	
025028-025033	250	260	400	540	780	6	120	360	30	1	5	1/2B	750	55	1650	75	1850	90	2050	4
025028-2-025033-3	250	300	470	550	880	6	120	360	30	280	550	3/4B	840	110	2300	180	2450	265	-	1.00
030025~030026	300	300	400	540	780	6	120	360	30	380	730	The second district of the last of the las	735	18.5×6P	and the best of the best of the best of		1700	55		
030029-030035	300	310	450	580	880	4	120	right in the second sec	30	1	5	1/2B	805	75	2000	110	2300	132		4
030040-030040-2	300	330	500	650	980	-	120	in the state of th	and department of the latest	330	650		900	190	2600	The second line of the second	2600	400	The second second second	1 8
035030~030030	350	335	450	580	880		120		Access to the	400	800		780	37×6P	1800		1800	90		_
035031~035035	350	335	500	650	980	_	120	the state of the last	-	1	1	1/2B	820	110	2300	-	2350	190	-	4
035041~035041-2	350	375	600	700	1080	-	120	-	-	370	760		940	300	2650		2750	600	THE RESERVE OF THE PARTY OF THE	1 1
035030~040038	400	360	500	680	980	-	120	-		500	890		820	45	2050	Annual State of the Control of	2200	110	INCHESTOR PRODUCTION	-
040041~040047	400	400	630	750		_	120		-	1	(3/4B	900	40	2000	140	2500	190	THE RESERVE OF THE PERSON NAMED IN	6
040054~040054-2	400	400	630	870	Contraction and the Parket	-	140	CONTRACTOR OF THE	-	450	850		980	280	2750	- Contract Contract of	2850	560	month below in the large Total State	- 0
045035-045040	450	405	550	720	and the second second second	-	120	in commonwhile	-	The second second	1000	- Control of the Control	840	45×8P	1300	- ANNOUNCE	2400	150	2450	_
045044~045051	450	427	650	820	matchings replied persons	-	140	the temperature of the temperature of	and the second	330	1000	3/4B	950	40/01	1300	200	2700	280	2750	-
045044 -045051	450	427	650	020	1220	0	140	400	40	- 3	3	3/40	950		-	200	3050	260	2/50	- 6
045058-045051-2	450	440	650	980	1370	33	140	100		460	950		990			400	-3450	560	3550	
050042~050044	500	450	600	820	1220	8	140	460	40	600	1100	3/4B	870	90	2450	132	2550	224	2650	
050049~050063	500	480	700	980	1370	8	140	460	40	500	1050	3/4B	1020	300	3000	425	3200 ~3500	630	3600	6
060053-050048	600	510	700	980	1370	8	140	460	40	650	1300	3/4B	890	75×12P	2600	110	2700	150	2800	
060052~060058	600	554	800	1000	1540	8	140	460	40	1	1	3/4B	990	185	2900	250	3000	335	3550	8
060067~060067-2	600	570	800	1200	1690	8	140	460	40	580	1240	1B	1200	475	3750	670	3900	950	4100	1000
070054~060053	700	634	870	1000	1540	8	140	460	40	700	1500	3/4B	980	110×12P	3000	180	3000	250	2800 -3050	
070059~070074	700	650	870	1200	1690	8	140	460	40	5	- 1	1B	1140	400	3750	560	3750	750	3950	8
- 070085	700	650	870	1300	1930	8	180	560	50	650	1450	1B	1280	800	4100	950	4250	1090	4350	
080058-080086	800	740	950	1350	1930	8	180	560	50	850	1800	1B	1200	150×12P	3300	280	3850	850	4350	
- 080099	800	750	950	1500	2140	THE REAL PROPERTY.	180	and the second	50	700	1600	1B	The second second	The state of	12/25/00	-	- XXXIIIX.	1180	4850	10
090069~090080	900	810	980	1350	1930	8	180	560	50	800	1800	1B	and the same of	265	4100	375	4100	850	4600	
090092~090106	900	820	980		2140	Manager and	180	A STATE OF THE PARTY OF THE PAR	de balance de	800	1800	1B	-			1180	4750	1650	5150	10
100078~100095	1000	920	eminuneration and factor	manhahamamings Anthresi	encirculate action and	And Designation of the local division in the	180	and the second section is	and the same	-	2080	1B		355	4350		4600	1120	5250	
- 100110	1000	920	1150	1750	2350	8	180	560	50	(1	1B		7.7.7	1	1320	5300	1600	5800	12
- 100126	1000	930	and the second second	- Anna Principal	All hard programmed and the later	-	180	-	-	880	1980	1B	-			1800	6150	2240	6050	13.77
110083~100092	1100	1000		1600	-	-	180	-		-	THE RESERVE AND ADDRESS OF THE PERSON.	1B	THE RESERVE AND PERSONS NAMED IN			425	5000	630	5400	
110098~110108	1100	and the second second second	and the local designation of the local			-	180	and the lateral party of the l	e ramamatouri	1	(1B	many popular market and			950	5750	1320	5800	14
110124~110143	1100	_	1150	-		-	-	560	nine lines	950	2200	1B	PERSONAL PROPERTY.			1850	6300	2650	6400	0.00
120094~110095	1200	CONTRACTOR OF STREET	1250	tention Marchael Marchael	Marie San Property Control of the	-		560		1650	2500	1B	AUTHORIS STATES AND COLORS	400	5050	and the second second second	5450	800	5650	
- 120104	1200	CONTRACTOR CONTRACTOR	1250	market and the later than	and control in the Santon	HISTORY TO SERVICE AND ADDRESS OF THE PARTY	# contract formulati	diministration in	GENERAL	(1	1B	- areta sinisis	400	3000	1000	6050	1320	6200	14
120115~120132	1200	emperovision (setubol)	1250	column to marriage	include and invital about	etilandoosid	A CONTRACTOR AND	wines (Anthrope)	and the same	1360	2200	1B	the second second second			1750	6300	2500	6450	1.7
135105~135129	1350	end Armina phospholica	1380	Annier's Levis Andrews	INTERNACIONAL VOINGS LA LI	Annand Service	Statement of the last	The best of the	-	1200	2500	1.75		670	6200	1000	6600	2180	6600	_
- 135149	1350	contract was techniques	1380	Committee of the Commit	SECURITION PROGRAMMENT STATES	and a series of the	A CONTRACTOR AND ADDRESS OF	and the same	-	1100	A STATE OF THE PARTY OF THE PAR	1-1/4B		070	0300	2360	6650	3070	7000	16
150116~150132	1500	THE RESIDENCE OF THE PARTY OF T	1530	Company and Associated Services	and the second section	and the same	A Company	Section Security	-	Chicago Carlotte	3000	1-1/4B	-	850	6500		6850	terminates/antales and	- Contract C	1,000
The state of the s	THE RESIDENCE AND ADDRESS.	and the ball of th	Commission of Complete Special	Completed with a service and the	annual backbackgroups with	and the later	-	-	-	-	-		-	850	0500		-	1950	and the second second second	18
150145~150167	1500	1290	1530	2500	3150	10	210	700	100	1200	2850	1-1/4B	1840			2650	7250	3750	7650	CA1191

Standard specification

Bore	200mm and over
Installation place	Indoor, outdoor
Pump location	In the sump
Connecting flange	Bore 300mm or less : JIS 10Kgf/cm ² FF or JIS 20Kgf/cm ² FF
	Bore 350mm or more : JWWA Standard FF or JIS 10Kgf/cm² FF
Direction of discharge	Horizontal
Method of installation	One-floor or two-floor system
Pump rotation direction	Clariforda
(As viewed from driven end)	Clockwise
Impeller-system	Open or closed impeller
Number of stages	Less than 300mm 1~3 stages
	300 - 700mm 1~ 2 stages
المناحد والأحاد والبيجادات	800mm and over 1 stage
Fluid	Fresh water, sewage water, sea water and
	similar liquid
Temperature	Temperature of liquid : 0 ~ 65℃
	Atmospheric temperature : -20°C ~ 40°C
	Anti-freeze treatment is required for
	use at temperatures below 0°C.
Support method for pump axial thrust	On pump or on driver
Lubrication	Submerged bearing is water lubricated
	Thrust bearing is oil bath lubricated
Shaft sealing	Gland packing

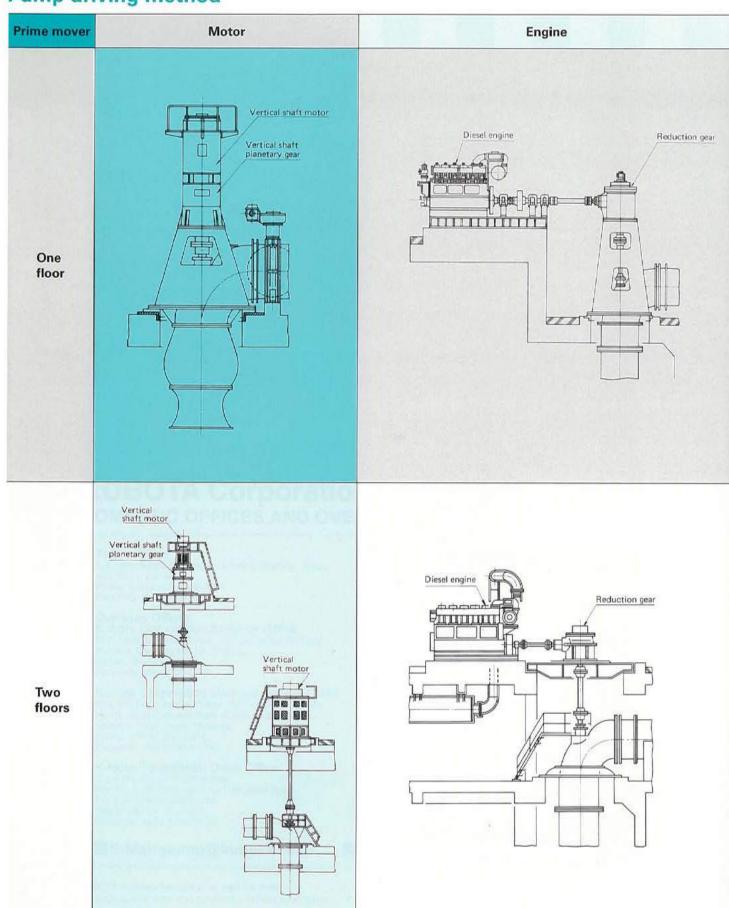
Standard attachments

1, Coupling	1 set
2. Sole plate	1
3. Foundation bolts & nuts	1 set
4. Gland drain pipe	1 set

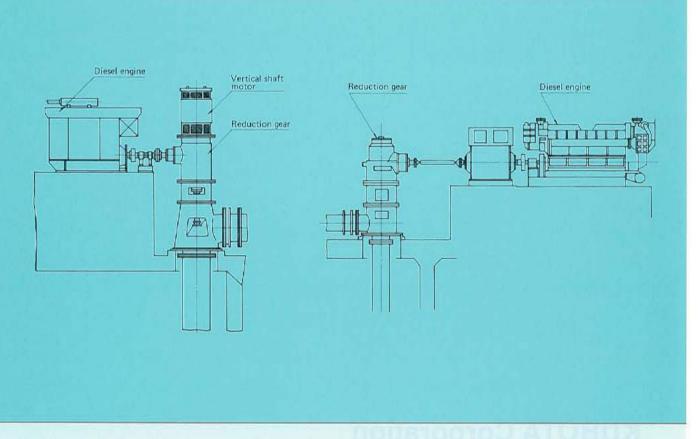
The following attachments are also available on request.

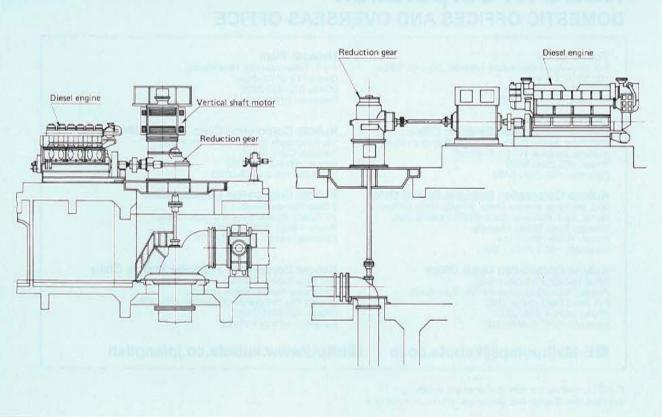
Compound gauge (with cock, conduit), automatic air release valve, suction strainer, intermediate bearing lubricating devices (solenoid valve, flow switch, strainer, stop valve, etc.) disassembling tools and tool box, companion flange to discharge flange.

Pump driving method



Motor & Engine





KUBOTA Corporation DOMESTIC OFFICES AND OVERSEAS OFFICES

Tokyo Office

1-3, Nihombashi-Muromachi 3-chome, Chuo-ku, Tokyo, 103-8310, JAPAN

Phone: +81-3-3245-3444 Facsimile: +81-3-3245-3454

Overseas Offices:

Kubota Corporation Bangkok Office 25th Floor, Serm-Mit Tower, 159 Sukhumvit 21 Road, Wattana, Bangkok 10110, Thailand

Phone: +66-2260-6590 Facsimile: +66-2260-6589

Kubota Corporation Malaysia Branch Office

903, 9th Floor, Amcorp Tower, Amcorp Trade Center, No.18, Jalan Persiaran Barat 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia Phone: +60-3-7954-2334 Facsimile: +60-3-7954-1335

Kubota Corporation Dubai Office Office No.002, G+3 Office Bldg. Plot No. S10122A1 Jebel Ali Free Zone South PO. Box 17440, Dubai, UAE

Phone: +971-4-8857033 Facsimile: +971-4-8857032

Kubota Pump (Anhui) Co., Ltd.

China, Ma'anshan City, Anhui Province Hexun Economic Development District TEL.0555-5338010

■E-Mail:pump@kubota.co.jp

Hirakata Plant

1-1-1, Nakamiya-Oike, Hirakata-city, Osaka 573-8573, Japan Phone: +81-72-890-2228 Facsimile: +81-72-840-1413

Kubota Corporation Cairo Liaison Office Flat No.5, 2nd Floor, No.1 Aden street,

Mohandeseen, Giza, Egypt Phone: +20-(0)2-37481645 Phone/Facsimile:+20-(0)2-33352943.

Kubota Corporation London Office

7 Suilz Eisinore House 77 Fulham Palace Road,W6,8JA,London Phone: +44(0)20-8741-5262 Facsimile: +44(0)20-8563-1616

Kubota Corporation Philippine Branch Office

2nd Floor Kubota Building 155 Panay Avenue, South Triangle, Quezon City Philippines Contact No.410-2428 Phone: +63-2410-2428

Facsimile: +63-2410-2428

http://www.kubota.co.jp/english

KUBOTA reserves the right to change the design, technical specification and dimensions without prior notice.