Kawamoto

CONSTANT PRESSURE AUTOMATIC PUMP

"PUMPER" KB

Silent & Clean

STAINLESS STEEL PRECISION CASTING PUMP

KAWAMOTO PUMP MFG.CO.,LTD.

Silent & Clean
Stainless series

1. Automatic operation constant pressure pump

1.1 Operation type
S type = Single operation of 1 pump
A type = Alternate operation of 2 pumps
P type = Alternate/parallel operation of 2 pumps

1.2 Contactless pressure sensor to start pump, flow sensor to stop pump, specially designed low noise type electric motor and multi-stage pump with double volute casing realized silent operation.

1.3 High efficiency is obtained by multi-stage centrifugal pump and three dimensional impeller.

1.4 Energy-saving effect is realized by operation time adjustment function with alternate and alternate/parallel operation type.

2. Packaged pump unit complete with pump(s), control panel, precharged pressure tank(accumulator), valves, switches etc., ready for installation

2.1 Compact type close coupled multi-stage high head centrifugal pump reduced total height of pump unit.

2.2 Stainless steel precision casting is adopted for pump casing and flanges, so no fear of strain.

2.3 Specially designed impact relief type stainless steel check valve is adopted to prevent from water hammer.

3. Suitable for drinking water as it is no fear of making red discoloument of water

3.1 Stainless steel, bronze and reinforced resin are adopted for the portion contacting with water, so, no fear of making red discolourment of water.

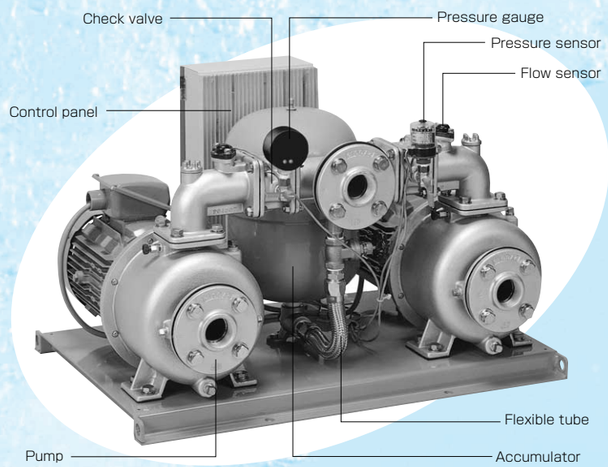
3.2 For accumulator, harmless diaphragm conforming to Notice No.434 of the Ministry of Welfare of Japan is adopted.

■Specifications

Control system	Constant pressure water supply by optoelectronic pressure sensor and flow sensor
Operation	Single, Alternate and Alternate/parellel
Installation	Indoor
Liquid	Clean water, 0～40℃
Pump	Stainless steel multi-stage centrifugal pump Impeller:Resin or Bronze（※See Page 9 Pump data） Casing:SCS13 Shaft:SUS304
Motor	Type :TEFC, Indoor 50Hz:3,000rpm 60Hz:3,600rpm
Suction	Negative suction:Max total suction head －6m Positive suction:0～5m
Colour	Pump & piping:Silver Control box & accumulator:Gray

■Standard accessory

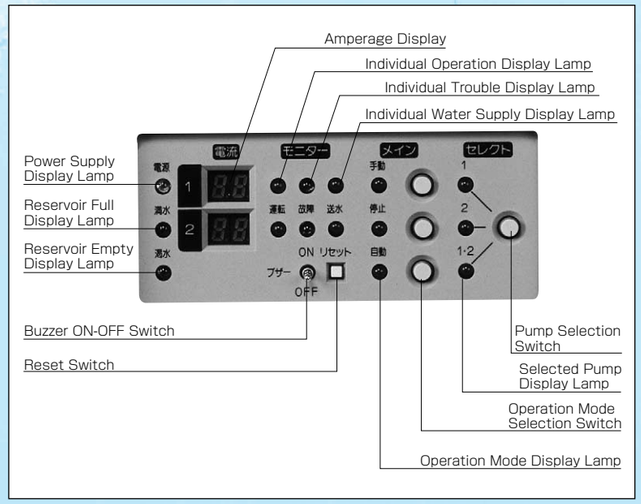
1set Foundation bolts(M12×160)
1pc. Suction mating flange threaded to PT with packing & bolts
1pc. Discharge mating flange threaded to PT with packing & bolts



Micro-computer monitoring (alternate and alternate/parallel operation type)

1 Pump operation statuses is individually displayed on control panel and if trouble occures, such trouble is displayed with trouble display function.

2 If a trouble occures in one of two pumps, starting of such pump will be tested up to two times(re-try function), and if trouble is still not eliminated, operation will automatically be transferred to the other pump for continuous water supply.

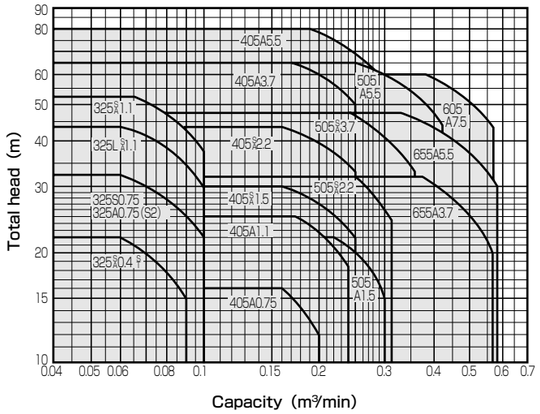


■Statuses of individual display

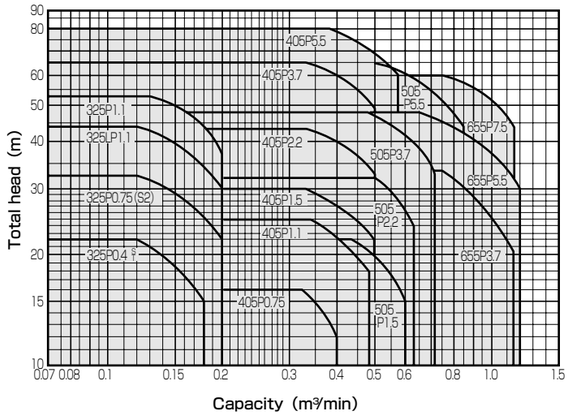
Condition	Digital display	Display contents	Note
Power input	**F4** **F5**	No trouble at initial condition	Any trouble is checked by micro-computer about power supply, and if there is no abnormality, F4 and F5 is displayed.
Stop	**00**	Stopping	
Operate	**0.1~9.9**	Current	When less than 9.9A
	10~99	Current	Between 10A and 100A
	up	Current	More than 100A
	Current	When decreasing operating number of pumps, flushes right side	When the number of operating pump decreases, the lamp lit for more than 3 seconds. (If parallel operation continues, the lamp lits within 3 seconds.)
Trouble	**00**	Abnormality at power supply end	S-phase failure or frequency abnormality
	01	Reverse phase at power supply end	
	10	Overloading	Detect between 105% and 400% of rated current
	11	Locking	Detect at the current more than 400% of rated current
	20	MC open	No working of magnetic contactor
	21	MC short	Short circuit of magnetic contactor
	30	No discharging	Althogh pump is operating but no discharge of water
	40	Abnormality of flow sensor	Defective connection of sensor

50Hz SELECTION

●SINGLE OR ALTERNATE OPERATION



●ALTERNATE/PARALLEL OPERATION



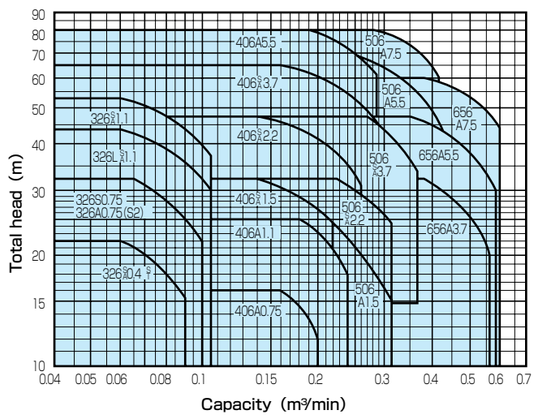
■SPECIFICATIONS <Applicable for Negative and Positive suction>

Unit bore	Suction bore	Operation	Model	Motor	Performance				ON adjust-※3 able ramge	Accumulator	Noise
					Capacity	Total head	ON pressure	OFF pressure			
mm	mm			kW	m³/min	m	MPa{kgf/cm²}	MPa{kgf/cm²}	MPa{kgf/cm²}	MPa{kgf/cm²}	dB(A)
40	32	Single	KB2-325S0.4S (※1)	0.4 (※2)	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	44
			KB2-325S0.4T (※1)	0.4	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	42
			KB2-325S0.75	0.75	0.06	32	0.31 {3.2}	0.39 {4.0}	0.22 {2.2}	0.17 {1.7}	50
			KB2-325LS1.1	1.1	0.06	44	0.43 {4.4}	0.52 {5.3}	0.29 {3.0}	0.25 {2.5}	49
			KB2-325S1.1	1.1	0.065	53	0.52 {5.3}	0.65 {6.6}	0.36 {3.7}	0.29 {3.0}	51
40	40		KB2-405S1.5	1.5	0.16	30	0.29 {3.0}	0.35 {3.6}	0.22 {2.2}	0.17 {1.7}	53
			KB2-405S2.2	2.2	0.16	44	0.43 {4.4}	0.51 {5.2}	0.32 {3.3}	0.25 {2.5}	50
40	50		KB2-505S2.2	2.2	0.25	32	0.31 {3.2}	0.44 {4.5}	0.24 {2.4}	0.20 {2.0}	51
			KB2-505S3.7	3.7	0.24	48	0.47 {4.8}	0.59 {6.0}	0.32 {3.3}	0.27 {2.8}	55
40	32	Alter-nate	KB2-325A0.4S (※1)	0.4 (※2)	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	44
			KB2-325A0.4T (※1)	0.4	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	42
			KB2-325A0.75S2	0.75 (※2)	0.06	32	0.31 {3.2}	0.39 {4.0}	0.22 {2.2}	0.17 {1.7}	52
			KB2-325A0.75	0.75	0.06	32	0.31 {3.2}	0.39 {4.0}	0.22 {2.2}	0.17 {1.7}	50
			KB2-325LA1.1	1.1	0.06	44	0.43 {4.4}	0.52 {5.3}	0.29 {3.0}	0.25 {2.5}	49
			KB2-325A1.1	1.1	0.065	53	0.52 {5.3}	0.65 {6.6}	0.36 {3.7}	0.29 {3.0}	51
40	40		KB2-405A0.75 (※1)	0.75	0.16	16	0.16 {1.6}	0.24 {2.4}	0.12 {1.2}	0.088{0.9}	46
			KB2-405A1.1	1.1	0.17	25	0.25 {2.5}	0.31 {3.2}	0.18 {1.8}	0.14 {1.4}	50
			KB2-405A1.5	1.5	0.16	30	0.29 {3.0}	0.35 {3.6}	0.22 {2.2}	0.17 {1.7}	53
			KB2-405A2.2	2.2	0.16	44	0.43 {4.4}	0.51 {5.2}	0.32 {3.3}	0.25 {2.5}	50
			KB2-405A3.7	3.7	0.165	65	0.64 {6.5}	0.73 {7.4}	0.49 {5.0}	0.34 {3.5}	54
			KB2-405A5.5	5.5	0.19	80	0.78 {8.0}	0.92 {9.4}	0.59 {6.0}	0.44 {4.5}	57
40	50		KB2-505A1.5 (※1)	1.5	0.22	22	0.22 {2.2}	0.29 {3.0}	0.15 {1.5}	0.12 {1.2}	50
			KB2-505A2.2	2.2	0.25	32	0.31 {3.2}	0.44 {4.5}	0.24 {2.4}	0.20 {2.0}	51
			KB2-505A3.7	3.7	0.24	48	0.47 {4.8}	0.59 {6.0}	0.32 {3.3}	0.27 {2.8}	55
			KB2-505A5.5	5.5	0.25	65	0.64 {6.5}	0.74 {7.6}	0.43 {4.4}	0.34 {3.5}	58
50	65		KB2-655A3.7	3.7	0.37	32	0.31 {3.2}	0.41 {4.2}	0.23 {2.3}	0.17 {1.7}	56
			KB2-655A5.5	5.5	0.325	48	0.47 {4.8}	0.56 {5.7}	0.29 {3.0}	0.25 {2.5}	60
			KB2-655A7.5	7.5	0.375	60	0.59 {6.0}	0.68 {6.9}	0.43 {4.4}	0.31 {3.2}	62
40	32	Alter-nate/ Parallel	KB2-325P0.4S (※1)	0.4×2 (※2)	0.12	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	47
			KB2-325P0.4T (※1)	0.4×2	0.12	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	45
			KB2-325P0.75S2	0.75×2(※2)	0.12	32	0.31 {3.2}	0.39 {4.0}	0.22 {2.2}	0.17 {1.7}	54
			KB2-325P0.75	0.75×2	0.12	32	0.31 {3.2}	0.39 {4.0}	0.22 {2.2}	0.17 {1.7}	52
			KB2-325LP1.1	1.1×2	0.12	44	0.43 {4.4}	0.52 {5.3}	0.29 {3.0}	0.25 {2.5}	51
			KB2-325P1.1	1.1×2	0.13	53	0.52 {5.3}	0.65 {6.6}	0.36 {3.7}	0.29 {3.0}	53
50	40		KB2-405P0.75 (※1)	0.75×2	0.32	16	0.16 {1.6}	0.24 {2.4}	0.12 {1.2}	0.088{0.9}	49
			KB2-405P1.1	1.1×2	0.34	25	0.25 {2.5}	0.31 {3.2}	0.18 {1.8}	0.14 {1.4}	52
			KB2-405P1.5	1.5×2	0.32	30	0.29 {3.0}	0.35 {3.6}	0.22 {2.2}	0.17 {1.7}	55
			KB2-405P2.2	2.2×2	0.32	44	0.43 {4.4}	0.51 {5.2}	0.32 {3.3}	0.25 {2.5}	52
			KB2-405P3.7	3.7×2	0.33	65	0.64 {6.5}	0.73 {7.4}	0.49 {5.0}	0.34 {3.5}	56
			KB2-405P5.5	5.5×2	0.38	80	0.78 {8.0}	0.92 {9.4}	0.59 {6.0}	0.44 {4.5}	60
65	50		KB2-505P1.5 (※1)	1.5×2	0.44	22	0.22 {2.2}	0.29 {3.0}	0.15 {1.5}	0.12 {1.2}	53
			KB2-505P2.2	2.2×2	0.5	32	0.31 {3.2}	0.44 {4.5}	0.24 {2.4}	0.20 {2.0}	54
			KB2-505P3.7	3.7×2	0.48	48	0.47 {4.8}	0.59 {6.0}	0.32 {3.3}	0.27 {2.8}	57
			KB2-505P5.5	5.5×2	0.5	65	0.64 {6.5}	0.74 {7.6}	0.43 {4.4}	0.34 {3.5}	61
80	65		KB2-655P3.7	3.7×2	0.74	32	0.31 {3.2}	0.41 {4.2}	0.23 {2.3}	0.17 {1.7}	58
			KB2-655P5.5	5.5×2	0.65	48	0.47 {4.8}	0.56 {5.7}	0.29 {3.0}	0.25 {2.5}	62
			KB2-655P7.5	7.5×2	0.75	60	0.59 {6.0}	0.68 {6.9}	0.43 {4.4}	0.31 {3.2}	64

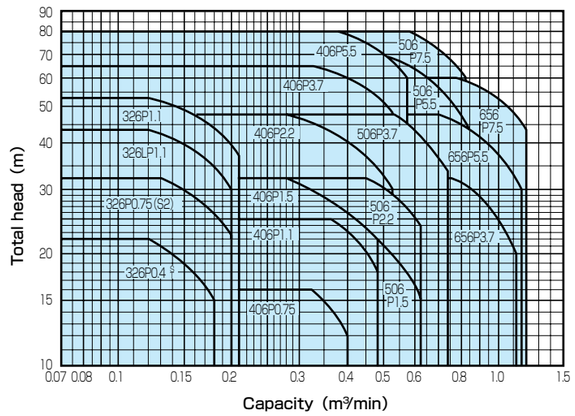
※1 Positive suction only ※2 Single phase 200V ※3 Lowest adjustable starting pressure

60Hz SELECTION

●SINGLE OR ALTERNATE OPERATION



●ALTERNATE/PARALLEL OPERATION

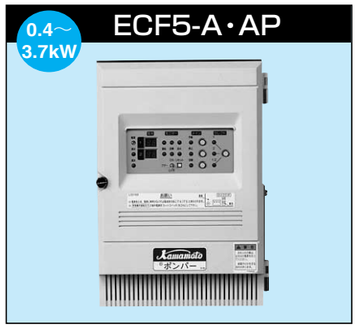


■SPECIFICATIONS <Applicable for Negative and Positive suction>

Unit bore	Suction bore	Operation	Model	Motor	Performance				ON adjust-※3 able range	Accumulator	Noise
					Capacity	Total head	ON pressure	OFF pressure			
mm	mm			kW	m /min	m	MPa{kgf/cm²}	MPa{kgf/cm²}	MPa{kgf/cm²}	MPa{kgf/cm²}	dB(A)
40	32	Single	KB2-326S0.4S (※1)	0.4 (※2)	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	47
			KB2-326S0.4T (※1)	0.4	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	43
			KB2-326S0.75	0.75	0.065	32	0.31 {3.2}	0.40 {4.1}	0.22 {2.2}	0.17 {1.7}	50
			KB2-326LS1.1	1.1	0.06	44	0.43 {4.4}	0.53 {5.4}	0.29 {3.0}	0.25 {2.5}	50
			KB2-326S1.1	1.1	0.06	53	0.52 {5.3}	0.61 {6.2}	0.36 {3.7}	0.29 {3.0}	52
40	40		KB2-406S1.5	1.5	0.14	32	0.31 {3.2}	0.38 {3.9}	0.22 {2.2}	0.17 {1.7}	52
			KB2-406S2.2	2.2	0.14	48	0.47 {4.8}	0.57 {5.8}	0.29 {3.0}	0.25 {2.5}	52
40	50		KB2-406S3.7	3.7	0.16	65	0.64 {6.5}	0.75 {7.6}	0.43 {4.4}	0.34 {3.5}	56
			KB2-506S2.2	2.2	0.225	32	0.31 {3.2}	0.39 {4.0}	0.24 {2.4}	0.20 {2.0}	54
			KB2-506S3.7	3.7	0.265	48	0.47 {4.8}	0.59 {6.0}	0.32 {3.3}	0.27 {2.8}	56
40	32	Alter-nate	KB2-326A0.4S (※1)	0.4 (※2)	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	47
			KB2-326A0.4T (※1)	0.4	0.06	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	43
			KB2-326A0.75S2	0.75 (※2)	0.065	32	0.31 {3.2}	0.40 {4.1}	0.22 {2.2}	0.17 {1.7}	54
			KB2-326A0.75	0.75	0.065	32	0.31 {3.2}	0.40 {4.1}	0.22 {2.2}	0.17 {1.7}	50
			KB2-326LA1.1	1.1	0.06	44	0.43 {4.4}	0.53 {5.4}	0.29 {3.0}	0.25 {2.5}	50
			KB2-326A1.1	1.1	0.06	53	0.52 {5.3}	0.61 {6.2}	0.36 {3.7}	0.29 {3.0}	52
40	40		KB2-406A0.75 (※1)	0.75	0.16	16	0.16 {1.6}	0.24 {2.4}	0.12 {1.2}	0.088{0.9}	47
			KB2-406A1.1	1.1	0.18	25	0.25 {2.5}	0.33 {3.4}	0.18 {1.8}	0.14 {1.4}	50
			KB2-406A1.5	1.5	0.14	32	0.31 {3.2}	0.38 {3.9}	0.22 {2.2}	0.17 {1.7}	52
			KB2-406A2.2	2.2	0.14	48	0.47 {4.8}	0.57 {5.8}	0.29 {3.0}	0.25 {2.5}	52
			KB2-406A3.7	3.7	0.16	65	0.64 {6.5}	0.75 {7.6}	0.43 {4.4}	0.34 {3.5}	56
			KB2-406A5.5	5.5	0.19	80	0.78 {8.0}	0.92 {9.4}	0.59 {6.0}	0.44 {4.5}	60
40	50		KB2-506A1.5 (※1)	1.5	0.24	22	0.22 {2.2}	0.29 {3.0}	0.15 {1.5}	0.12 {1.2}	50
			KB2-506A2.2	2.2	0.225	32	0.31 {3.2}	0.39 {4.0}	0.24 {2.4}	0.20 {2.0}	54
			KB2-506A3.7	3.7	0.265	48	0.47 {4.8}	0.59 {6.0}	0.32 {3.3}	0.27 {2.8}	56
			KB2-506A5.5	5.5	0.24	70	0.69 {7.0}	0.79 {8.1}	0.43 {4.4}	0.39 {4.0}	60
			KB2-506A7.5	7.5	0.28	80	0.78 {8.0}	0.92 {9.4}	0.59 {6.0}	0.44 {4.5}	64
50	65		KB2-656A3.7	3.7	0.38	32	0.31 {3.2}	0.42 {4.3}	0.23 {2.3}	0.17 {1.7}	56
			KB2-656A5.5	5.5	0.35	48	0.47 {4.8}	0.55 {5.6}	0.29 {3.0}	0.25 {2.5}	61
			KB2-656A7.5	7.5	0.38	60	0.59 {6.0}	0.68 {6.9}	0.43 {4.4}	0.30 {3.2}	64
40	32	Alter-nate/ Parallel	KB2-326P0.4S (※1)	0.4×2 (※2)	0.12	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	49
			KB2-326P0.4T (※1)	0.4×2	0.12	22	0.22 {2.2}	0.28 {2.9}	0.15 {1.5}	0.12 {1.2}	46
			KB2-326P0.75S2	0.75×2(※2)	0.13	32	0.31 {3.2}	0.40 {4.1}	0.22 {2.2}	0.17 {1.7}	57
			KB2-326P0.75	0.75×2	0.13	32	0.31 {3.2}	0.40 {4.1}	0.22 {2.2}	0.17 {1.7}	53
			KB2-326LP1.1	1.1×2	0.12	44	0.43 {4.4}	0.53 {5.4}	0.29 {3.0}	0.25 {2.5}	52
			KB2-326P1.1	1.1×2	0.12	53	0.52 {5.3}	0.61 {6.2}	0.36 {3.7}	0.29 {3.0}	55
50	40		KB2-406P0.75 (※1)	0.75×2	0.32	16	0.16 {1.6}	0.24 {2.4}	0.12 {1.2}	0.088{0.9}	50
			KB2-406P1.1	1.1×2	0.36	25	0.25 {2.5}	0.33 {3.4}	0.18 {1.8}	0.14 {1.4}	53
			KB2-406P1.5	1.5×2	0.28	32	0.31 {3.2}	0.38 {3.9}	0.22 {2.2}	0.17 {1.7}	55
			KB2-406P2.2	2.2×2	0.28	48	0.47 {4.8}	0.57 {5.8}	0.29 {3.0}	0.25 {2.5}	55
			KB2-406P3.7	3.7×2	0.32	65	0.64 {6.5}	0.75 {7.6}	0.43 {4.4}	0.39 {3.5}	59
			KB2-406P5.5	5.5×2	0.38	80	0.78 {8.0}	0.92 {9.4}	0.59 {6.0}	0.44 {4.5}	62
65	50		KB2-506P1.5 (※1)	1.5×2	0.48	22	0.22 {2.2}	0.29 {3.0}	0.15 {1.5}	0.12 {1.2}	53
			KB2-506P2.2	2.2×2	0.45	32	0.31 {3.2}	0.39 {4.0}	0.24 {2.4}	0.20 {2.0}	57
			KB2-506P3.7	3.7×2	0.53	48	0.47 {4.8}	0.59 {6.0}	0.32 {3.3}	0.27 {2.8}	59
			KB2-506P5.5	5.5×2	0.48	70	0.69 {7.0}	0.79 {8.1}	0.43 {4.4}	0.39 {4.0}	63
			KB2-506P7.5	7.5×2	0.56	80	0.78 {8.0}	0.92 {9.4}	0.59 {6.0}	0.44 {4.5}	66
80	65		KB2-656P3.7	3.7×2	0.76	32	0.31 {3.2}	0.42 {4.3}	0.23 {2.3}	0.17 {1.7}	59
			KB2-656P5.5	5.5×2	0.7	48	0.47 {4.8}	0.55 {5.6}	0.29 {3.0}	0.25 {2.5}	64
			KB2-656P7.5	7.5×2	0.76	60	0.59 {6.0}	0.68 {6.9}	0.43 {4.4}	0.30 {3.2}	66

※1 Positive suction only ※2 Single phase 200V ※3 Lowest adjustable starting pressure

CONTROL PANEL 〈TYPE:ECF5〉

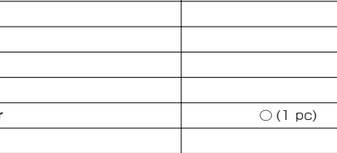


■SPECIFICATIONS

Type		ECF5	ECF5-A	ECF5-AP
Operation		Single of 1 pump	Alternate of 2 pumps	Alternate/Parallel of 2 pumps
Materials		Steel (1.0t)	Box:Steel (1.2t) Door:Resin (2.0t)	
Colour		Gray		
Installation site		Indoor		
Ambient temperature		-5～40℃		
Hummidity		Below 90%Rh		
Assorted equipment	Magnetic contactor	○ (1 pc)	○ (2 pcs)	
	Main select switch	○ (Manual-Stop-Auto)		
	Motor protection	○ (Thermal relay)	○ (Software based on amperage)	
	Select switch for respective pump	——	○ (No.1-No.2-No.1&2)	
	Ammeter	——	○ (For respective pump)	
	Floatless switch	——	○ (For 4 pole)	
	Alarm buzzer	——	○	
Function	Trouble detect	——	○	
	Automtic switch over to another pump	——	○	
	No discharge detect	——	○	
	Auto adjust of ON-OFF frequency	——	○	
	Auto adjust of parallel operation ON-OFF	——	○	
	Re-try of defect pump	——	○	
Display lamp	Power supply	○ (White)	○ (Red)	
	Operation mode (Auto-Stop-Manu)	——	○ (Red) × 3pc	
	Pump selection (No.1,2 or 1&2)	——	○ (Red) × 3pc	
	Operation	——	○ (Red) × 2pc	
	Trouble	——	○ (Orange) × 2pc	
	Discharging	——	○ (Red) × 2pc	
	Reservoir full	——	○ (Orange)	
	Reservoir empty	——	○ (Orange)	
External signal (No volt)	Operation	——	○	
	Trouble	——	○	
	Reservoir full	——	○	
	Reservoir empty	——	○	

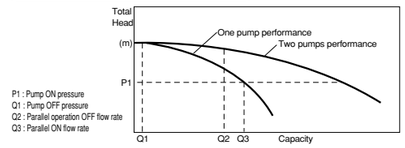
Optional accessory upon request : Residual current circuit breaker, Phase advance condenser and Volt meter.

GUIDE TO SELECTION TABLE



❶ Total head : Main pump performance less friction loss of valve
❷ Suction condition on the selection chart and table :
Positive suction series : 0m
Negative suction series : -4m
❸ ON pressure is adjustable within(A).
In the case of positive suction(0～0.5kg/cm), additional pressure is obtainable.

OPERATION MECHANISM



■ALTERNATE OPERATION

❶ The pump is stopping at pressure(P) in the left figure.
❷ When water is consumed and pressure drops to P1, the pump starts.
❸ When the flow rate is more than Q1, a pump continues operation.
❹ When the flow rate becomes less than Q1, a pump stops operation.
❺ Two pumps repeat(1)～(4) alternately.

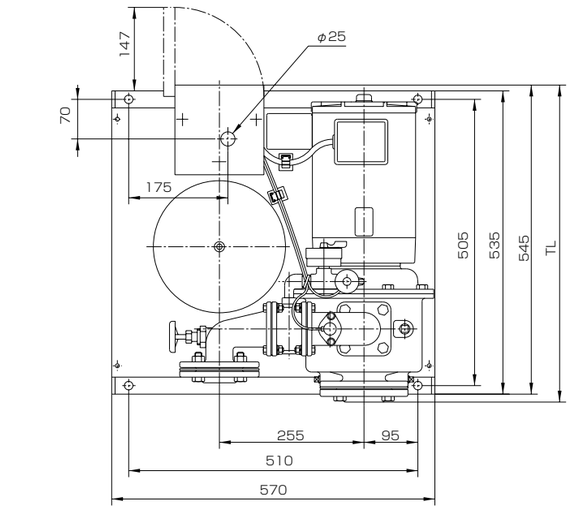
■ALTERNATE/PARALLEL OPERATION

❶ When the flow rate is less than Q3, operation mechanism is same as ALTERNATE OPERATION.
❷ If the flow rate reaches to Q3 during operation of one pump, the pressure becomes to P1 and parallel operation by two pumps starts.
❸ If the flow rate becomes less than Q2 during two pumps parallel operation,the first pump stops and the other pump continues operation.
❹ When the flow rate is more than Q3, two pumps repeat(2)～(3) operation.

DIMENSIONS

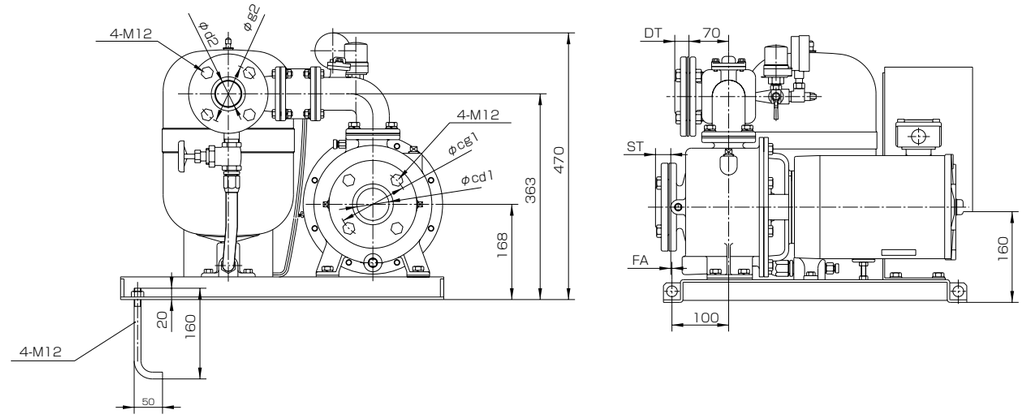
●SINGLE OPERATION （1 pump）

Unit=mm



●Flange

Unit bore	Suction bore	Operation	d1	d2	g1	g2	ST	DT
mm	mm							
40	32	Single	PT1¼	PT1½	100	105	25	25
40	40		PT1½	PT1½	105	105	25	25
40	50		PT2	PT1½	120	105	27	25



Hz	Unit bore	Suction bore	Operation	Model	Motor kW	Combination FA	Combination TL	Weight kg
50	40	32	1 pump	KB2-325S0.4S	0.4	−28	—	57
				KB2-325S0.4T	0.4	−28	—	55
				KB2-325S0.75	0.75	−28	—	61
				KB2-325LS1.1	1.1	2	561	67
				KB2-325S1.1	1.1	5	564	68
	40	40		KB2-405S1.5	1.5	−40	—	70
				KB2-405S2.2	2.2	2	561	72
	40	50		KB2-505S2.2	2.2	2	563	73
				KB2-505S3.7	3.7	2	563	83

Note : FA is distance from foundation hole to pump flange face.

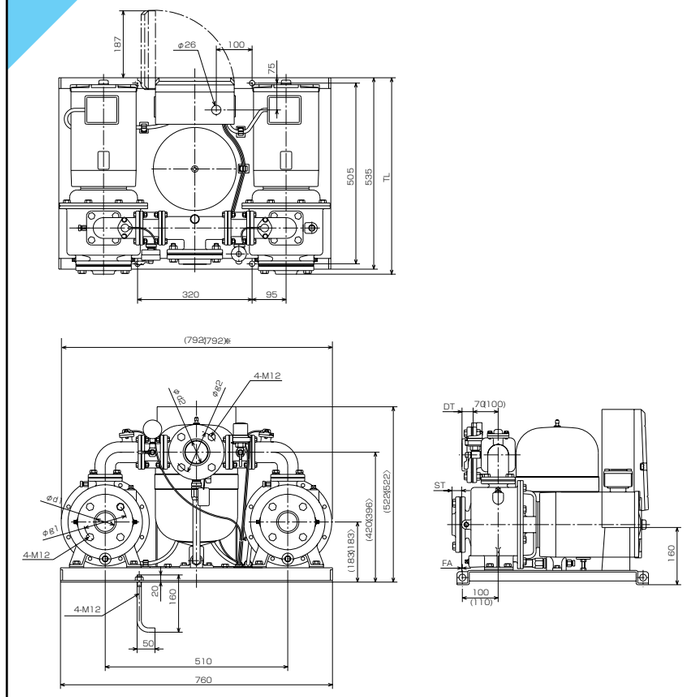
Hz	Unit bore	Suction bore	Operation	Model	Motor kW	Combination FA	Combination TL	Weight kg
60	40	32	1 pump	KB2-326S0.4S	0.4	−28	—	57
				KB2-326S0.4T	0.4	−28	—	55
				KB2-326S0.75	0.75	−28	—	61
				KB2-326LS1.1	1.1	2	561	67
				KB2-326S1.1	1.1	2	561	67
	40	40		KB2-406S1.5	1.5	−40	—	70
				KB2-406S2.2	2.2	2	561	72
				KB2-406S3.7	3.7	2	561	82
	40	50		KB2-506S2.2	2.2	−40	—	72
				KB2-506S3.7	3.7	2	563	83

DIMENSIONS

●ALTERNATE AND ALTERNATE/PARALLEL OPERATION (2 pumps)

0.4～3.7kW

Unit=mm



●Flange

Unit bore	Suction bore	Operation	d1	d2	g1	g2	ST	DT
mm	mm							
40	32	Alternate	PT1¼	PT1½	100	105	25	25
40	40		PT1½	PT1½	105	105	25	25
40	50		PT2	PT1½	120	105	27	25
50	65		PT2½	PT2	140	120	31	27
40	32	Alternate/ Parallel	PT1¼	PT1½	100	105	25	25
50	40		PT1½	PT2	105	120	25	27
65	50		PT2	PT2½	120	140	27	31
80	65		PT2½	PT3	140	150	31	33

Note1 : ( ) is 65mm bore pumps.
Note2 : 〈 〉is KB2-405A3.7
Note3 : ※Pumps other than 65mm pumps and KB405A3.7 are less than 760mm.

Hz	Unit bore	Suction bore	Operation	Model	Motor	Combination		Weight
	mm	mm			kW	FA	TL	kg
50	40	32	2 pumps Alternate	KB2-325A0.4S	0.4	−28	—	93
				KB2-325A0.4T	0.4	−28	—	89
				KB2-325A0.75(S2)	0.75	−28	—	101(100)
				KB2-325LA1.1	1.1	2	551	112
				KB2-325A1.1	1.1	5	554	113
	40	40		KB2-405A0.75	0.75	−40	—	102
				KB2-405A1.1	1.1	−40	—	112
				KB2-405A1.5	1.5	−40	—	118
				KB2-405A2.2	2.2	2	551	121
				KB2-405A3.7	3.7	−3	564	167
	40	50		KB2-505A1.5	1.5	−40	—	127
				KB2-505A2.2	2.2	2	553	130
				KB2-505A3.7	3.7	2	563	150
	50	65		KB2-655A3.7	3.7	−10	548	173
	40	32	2 pumps Alter-nate/ Parallel	KB2-325P0.4S	0.4×2	−28	—	93
				KB2-325P0.4T	0.4×2	−28	—	89
				KB2-325P0.75(S2)	0.75×2	−28	—	101(100)
				KB2-325LP1.1	1.1×2	2	551	112
				KB2-325P1.1	1.1×2	5	554	113
	50	40		KB2-405P0.75	0.75×2	−40	—	103
				KB2-405P1.1	1.1×2	−40	—	113
				KB2-405P1.5	1.5×2	−40	—	119
				KB2-405P2.2	2.2×2	2	551	122
				KB2-405P3.7	3.7×2	−3	564	168
	65	50		KB2-505P1.5	1.5×2	−40	—	129
				KB2-505P2.2	2.2×2	2	553	132
				KB2-505P3.7	3.7×2	2	563	152
	80	65		KB2-655P3.7	3.7×2	−10	548	175

Hz	Unit bore	Suction bore	Operation	Model	Motor	Combination		Weight
	mm	mm			kW	FA	TL	kg
60	40	32	2 pumps Alternate	KB2-326A0.4S	0.4	−28	—	93
				KB2-326A0.4T	0.4	−28	—	89
				KB2-326A0.75(S2)	0.75	−28	—	101(100)
				KB2-326LA1.1	1.1	2	551	112
				KB2-326A1.1	1.1	2	551	112
	40	40		KB2-406A0.75	0.75	−40	—	102
				KB2-406A1.1	1.1	−40	—	112
				KB2-406A1.5	1.5	−40	—	118
				KB2-406A2.2	2.2	2	551	121
				KB2-406A3.7	3.7	2	561	141
	40	50		KB2-506A1.5	1.5	−40	—	127
				KB2-506A2.2	2.2	−40	—	129
				KB2-506A3.7	3.7	2	563	150
	50	65		KB2-656A3.7	3.7	−10	548	173
	40	32	2 pumps Alter-nate/ Parallel	KB2-326P0.4S	0.4×2	−28	—	93
				KB2-326P0.4T	0.4×2	−28	—	89
				KB2-326P0.75(S2)	0.75×2	−28	—	101(100)
				KB2-326LP1.1	1.1×2	2	551	112
				KB2-326P1.1	1.1×2	2	551	112
	50	40		KB2-406P0.75	0.75×2	−40	—	103
				KB2-406P1.1	1.1×2	−40	—	113
				KB2-406P1.5	1.5×2	−40	—	119
				KB2-406P2.2	2.2×2	2	551	122
				KB2-406P3.7	3.7×2	2	561	142
	65	50		KB2-506P1.5	1.5×2	−40	—	129
				KB2-506P2.2	2.2×2	−40	—	131
				KB2-506P3.7	3.7×2	2	563	152
	80	65		KB2-656P3.7	3.7×2	−10	548	175

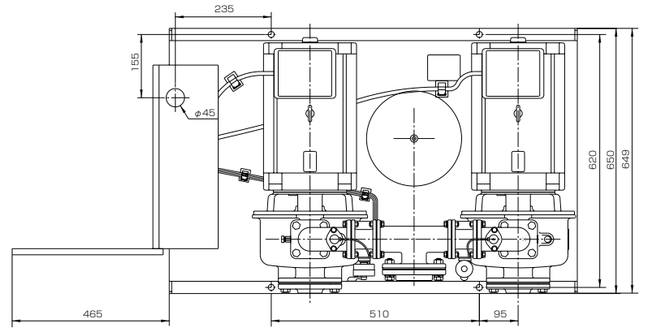
Note : FA is distance from foundation hole to pump flange face.

DIMENSIONS

●ALTERNATE AND ALTERNATE/PARALLEL OPERATION (2 pumps)

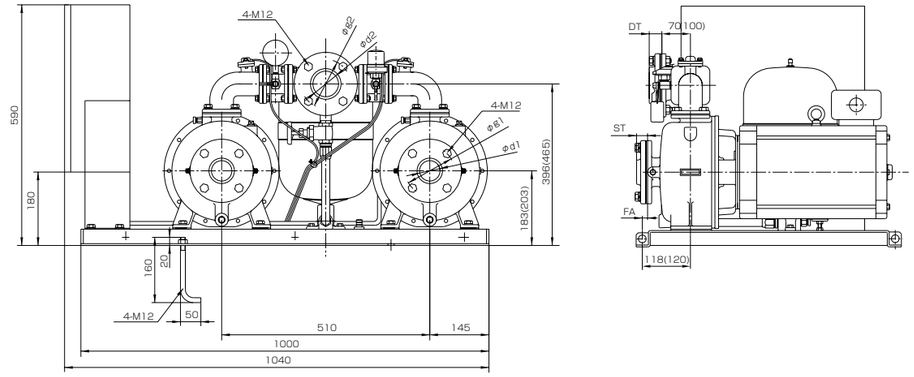
5.5～7.5kW

Unit=mm



●Flange

Unit bore	Suction bore	Operation	d1	d2	g1	g2	ST	DT
mm	mm							
40	40	Alternate	PT1½	PT1½	105	105	25	25
40	50		PT2	PT1½	120	105	27	25
50	65		PT2½	PT2	140	120	31	27
50	40	Alternate/ Parallel	PT1½	PT2	105	120	25	27
65	50		PT2	PT2½	120	140	27	31
80	65		PT2½	PT3	140	150	31	33



Note : ( ) is 65mm bore pumps.

Hz	Unit bore	Suction bore	Operation	Model	Motor	Combination	Weight
	mm	mm			kW	FA	kg
50	40	40	2 pumps Alternate	KB2-405A5.5	5.5	13	186
	40	50		KB2-505A5.5	5.5	13	185
	50	65		KB2-655A5.5	5.5	20	191
				KB2-655A7.5	7.5	20	255
	50	40	2 pumps Alter-nate/ Parallel	KB2-405P5.5	5.5×2	13	187
	65	50		KB2-505P5.5	5.5×2	13	186
	80	65		KB2-655P5.5	5.5×2	20	192
				KB2-655P7.5	7.5×2	20	256

Note : FA is distance from foundation hole to pump flange face.

Hz	Unit bore	Suction bore	Operation	Model	Motor	Combination	Weight
	mm	mm			kW	FA	kg
60	40	40	2 pumps Alternate	KB2-406A5.5	5.5	13	183
	40	50		KB2-506A5.5	5.5	13	185
				KB2-506A7.5	7.5	13	249
	50	65		KB2-656A5.5	5.5	20	191
				KB2-656A7.5	7.5	20	255
	50	40	2 pumps Alter-nate/ Parallel	KB2-406P5.5	5.5×2	13	184
	65	50		KB2-506P5.5	5.5×2	13	186
				KB2-506P7.5	7.5×2	13	250
	80	65		KB2-656P5.5	5.5×2	20	192
				KB2-656P7.5	7.5×2	20	256

PUMP DATA

50Hz

Unit bore mm	Suction bore mm	Model	Impeller material	Applicable pump cover	Mechanical seal (※2)	Pressure sensor	Applicable Vibration isolator
40	32	KB2-325S0.4S	Resin	No.28 No.38	φ16 EA103-16J	PSR-2.2K	Ask factory
		KB2-325S0.4T	〃			PSR-2.2K	〃
		KB2-325S0.75	Resin (※1)		φ20 EA560-20J	PSR-3.2K	〃
		KB2-325LS1.1	〃			PSR-2.2K	〃
		KB2-325S1.1	〃			PSR-4.4K	〃
40	40	KB2-405S1.5	〃			PSR-3.0K	〃
		KB2-405S2.2	〃			PSR-4.4K	〃
40	50	KB2-505S2.2	〃			PSR-3.0K	〃
		KB2-505S3.7	〃			PSR-4.8K	〃
40	32	KB2-325□0.4S	Resin	No.26 BSP No.36 BSP	φ16 EA103-16J	PSR-2.2K	BK-820
		KB2-325□0.4T	〃			PSR-2.2K	〃
		KB2-325□0.75S2	〃		φ20 EA560-20J	PSR-3.2K	〃
		KB2-325□LA1.1	Resin (※1)			PSR-5.3K	〃
		KB2-325□S1.1	〃			PSR-4.4K	〃
40	40	KB2-405□0.75	Resin			PSR-1.6K	〃
		KB2-405□1.1	Resin (※1)			PSR-2.5K	〃
		KB2-405□1.5	〃			PSR-3.0K	〃
		KB2-405□2.2	〃			PSR-4.4K	〃
		KB2-405□3.7	〃			PSR-6.5K	〃
		KB2-405□5.5	CAC406 (BC6)	No.45 (S)	φ25 EA560-25J	PSR-8.0K	BK-1060
40	50	KB2-505□1.5	Resin (※1)	No.26 BSP No.36 BSP	φ20 EA560-20J	PSR-2.0K	BK-820
		KB2-505□2.2	〃			PSR-3.0K	〃
		KB2-505□3.7	〃			PSR-4.8K	〃
		KB2-505□5.5	CAC406 (BC6)	No.45 (S)	φ25 EA560-25J	PSR-6.5K	BK-1060
50	65	KB2-655□3.7	CAC406 (BC6)	No.26 BSP No.36 BSP	φ20 EA560-20J	PSR-3.2K	BK-820
		KB2-655□5.5	CAC406 (BC6)	No.45 (S)	φ25 EA560-25J	PSR-4.8K	BK-1060
		KB2-655□7.5	CAC406 (BC6)			PSR-5.5K	〃

※1 BC inpeller is available upon requeit
※2 Ceramics × Carbon

60Hz

Unit bore mm	Suction bore mm	Model	Impeller material	Applicable pump cover	Mechanical seal (※2)	Pressure sensor	Applicable Vibration isolator
40	32	KB2-326S0.4S	Resin	No.28 No.38	φ16 EA103-16J	PSR-2.2K	Ask factory
		KB2-326S0.4T	〃			PSR-2.2K	〃
		KB2-326S0.75	〃		φ20 EA560-20J	PSR-3.2K	〃
		KB2-326LS1.1	Resin (※1)			PSR-5.3K	〃
		KB2-326S1.1	〃			PSR-4.4K	〃
40	40	KB2-406S1.5	〃			PSR-3.2K	〃
		KB2-406S2.2	〃			PSR-4.4K	〃
		KB2-406S3.5	〃			PSR-6.5K	〃
40	50	KB2-506S2.2	〃			PSR-3.2K	〃
		KB2-506S3.7	〃			PSR-4.8K	〃
40	32	KB2-326□0.4S	Resin	No.26 BSP No.36 BSP	φ16 EA103-16J	PSR-2.2K	BK-820
		KB2-326□0.4T	〃			PSR-2.2K	〃
		KB2-326□0.75S2	〃		φ20 EA560-20J	PSR-3.2K	〃
		KB2-326□LA1.1	Resin (※1)			PSR-5.3K	〃
		KB2-326□S1.1	〃			PSR-4.4K	〃
40	40	KB2-406□0.75	Resin			PSR-1.6K	〃
		KB2-406□1.1	Resin (※1)			PSR-2.5K	〃
		KB2-406□1.5	〃			PSR-3.2K	〃
		KB2-406□2.2	〃			PSR-4.4K	〃
		KB2-406□3.7	〃			PSR-6.5K	〃
		KB2-406□5.5	CAC406 (BC6)	No.45 (S)	φ25 EA560-25J	PSR-8.0K	BK-1060
40	50	KB2-506□1.5	Resin (※1)	No.26 BSP No.36 BSP	φ20 EA560-20J	PSR-2.2K	BK-820
		KB2-506□2.2	〃			PSR-3.2K	〃
		KB2-506□3.7	〃			PSR-4.8K	〃
		KB2-506□5.5	CAC406 (BC6)	No.45 (S)	φ25 EA560-25J	PSR-7.0K	BK-1060
		KB2-506□7.5	CAC406 (BC6)			PSR-8.0K	〃
50	65	KB2-656□3.7	CAC406 (BC6)	No.26 BSP No.36 BSP	φ20 EA560-20J	PSR-3.2K	BK-820
		KB2-656□5.5	CAC406 (BC6)	No.45 (S)	φ25 EA560-25J	PSR-4.8K	BK-1060
		KB2-656□7.5	CAC406 (BC6)			PSR-5.5K	〃

※1 BC inpeller is available upon requeit
※2 Ceramics × Carbon

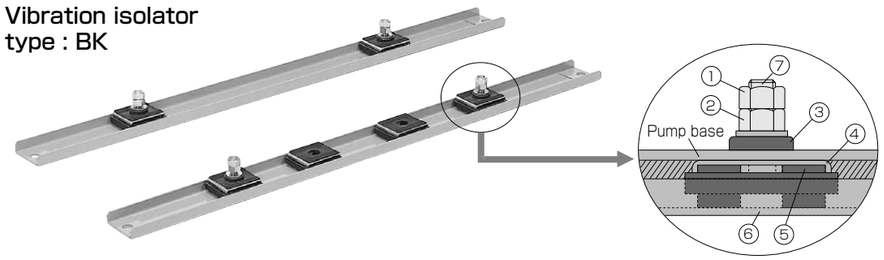
MOTOR DATA & OPTIONAL EQUIPMENT

Motor data

Hz	Output	Rated value				Starting		Method	Insulation	Bearing	
		Current	Speed	Efficiency	Power Factor	Current	Torque			Inboard	Outboard
	kW	A	min^{-1}	%	%	A	%				
50	0.4S	7.7	2685	67.2	98.4	24	80	DOL	E	6304 ZZC3	6303 ZZC3
	0.4T	2.2	2850	76.6	77.2	12	295		F	6304 ZZC3	6203 ZZC3
	0.75	3.4	2795	80.2	85.7	22	390			6305 ZZC3	6303 ZZC3
	1.1	5.1	2860	80.9	83.5	46	530			6306 ZZC3	6303 ZZC3
	1.5	6.5	2850	85	86.6	44.7	354			6306 ZZC3	6303 ZZC3
	2.2	9.0	2880	85.1	88.1	69.1	325			6307 ZZC3	6206 ZZC3
	3.7	14.3	2885	87.7	88.1	119.1	372			6307 ZZC3	6206 ZZC3
	5.5	21	2910	87.0	89.8	164.0	318			6309 ZZC3	6207 ZZC3
	7.5	28.3	2930	87.8	88.5	167.7	140			6310 ZZC3	6207 ZZC3
60	0.4S	7.7	3230	63.9	97.1	21.5	90	DOL	E	6304 ZZC3	6303 ZZC3
	0.4T	2.2	3410	74.9	77.9	10.5	230		F	6304 ZZC3	6203 ZZC3
	0.75S	6.5	3345	72.4	99.5	24	55		B	6306 ZZC3	6303 ZZC3
	0.75T	3.35	3360	79.4	89.4	20	320		F	6305 ZZC3	6303 ZZC3
	1.1	4.8	3440	82.7	88.9	43	475			6306 ZZC3	6303 ZZC3
	1.5	6.3	3420	84.6	91.8	40.4	296			6306 ZZC3	6303 ZZC3
	2.2	9.0	3455	83.9	92.3	60.6	269			6307 ZZC3	6206 ZZC3
	3.7	14.3	3460	87.4	92.7	110.2	362			6307 ZZC3	6206 ZZC3
	5.5	21	3490	86.8	93.6	144.9	277			6309 ZZC3	6207 ZZC3
	7.5	28.3	3515	87.8	90.5	144.0	126			6310 ZZC3	6207 ZZC3

Optional equipment

Vibration isolator type : BK



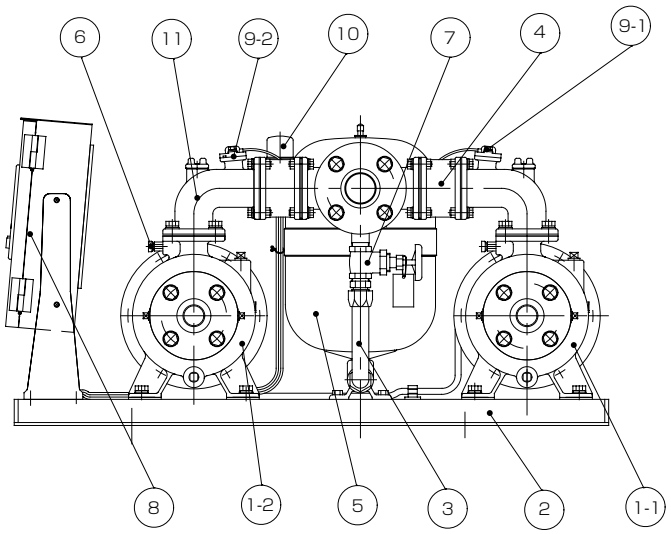
NO.	Name
1	Nut
2	Plain washer
3	Rubber pad
4	Spacer
5	Isolator
6	Frame
7	Bolt

Isolation efficiency	More than 80%
Stopper	By stainless steel (SUS304 for JIS G4303) made bolt of M12 to withstand horizontal earthquake gravitational acceleration of 1G and vertical earthquake gravitational acceleration of 0.5G

Pump cover

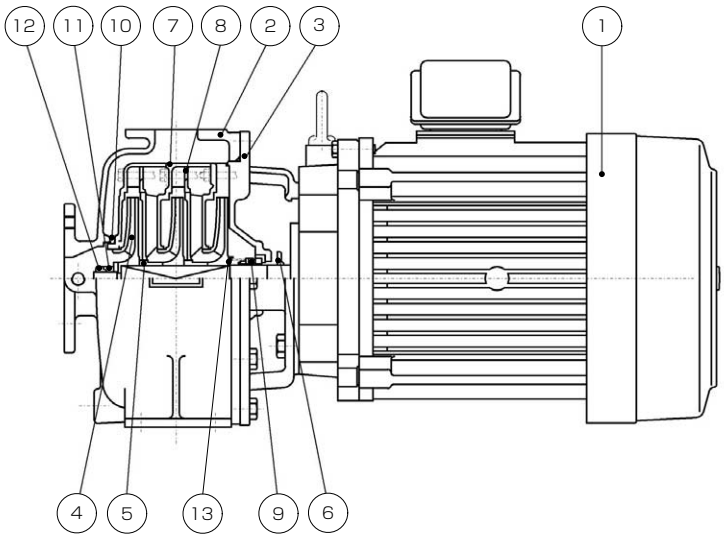
Local assembling type
Material : SPCC (JIS G3141) with gray colour polyester powder painting or SUS304 (JIS G4303) without painting.

Product configulation



NO.	Name	Note
1-1	Pump	No.1
1-2	Pump	No.2
2	Base plate	
3	Flexible tube	SUS304
4	Check valve	SCS13 (JIS G5121) impact relief type
5	Accumulator	20ℓ
6	Air vent	SUS304
7	Sluice valve	BC6 (JIS H5120)
8	Control panel	Type ECF5
9-1	Flow sensor	For No.1 pump
9-2	Flow sensor	For No.2 pump
10	Pressure sensor	
11	Connecting elbow	SCS13 (JIS G5121)

Main pump parts list



NO.	Name	Material
1	Motor	
2	Casing	SCS13 (JIS G5121)
3	Casing cover	SCS13 (JIS G5121)
4	Impeller	Resin or BC6 (JIS H5120)
5	Sleeve	BC6 (JIS H 5120)
6	Deflector	Rubber (NBR)
7	Guide vane	Resin or BC6 (JIS H5120)
8	Seperator	Resin or BC6 (JIS H5120)
9	Mechanical seal	
10	O ring	Rubber (NBR)
11	Impeller nut	SUS304
12	Plain washer	SUS304
13	Spring stopper	SUS304

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