



BLDC Automatic Control Metering Pumps





Brushless DC Motor Driven BLDC AUTOMATIC CONTROL METERING PUMPS

- It is possible to do stable & accurate control in proportion to Input Signal because Motor RPM is controlled by PID.
- Save energy cost by high efficiency operation.
- It is optimally designed for Metering Pumps in order that it make high torque at low RPM.
- It can be remotely controlled by simple connection.
- It is simple installation as all-in one structure.

■ Model Code (Example)

· There are two ways to indicate Model Code for BLDC Motor Driven Metering Pumps.

I .

KDV

 -

A

 -

Series Name

Option

A : BLDC M/C UNIT

KD : Diaphragm Metering Pumps
KH : Hydraulic Diaphragm Metering Pumps
BKH : Hydraulic Bypass Metering Pumps
KP : Plunger Metering Pumps
CKP : Adjustable Crank Plunger Metering Pumps

II .

PKD

 - /

2

Series Name

Remote control type of discharge capacity

PKD : Diaphragm Type Smoothy Metering Pumps
PKP : Plunger Type Smoothy Metering Pumps

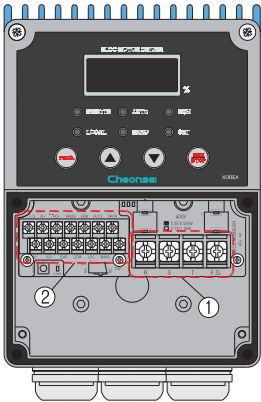
2 : BLDC M/C UNIT (AUTO)
3 : BLDC M/C UNIT (MANU)

■ Specification of Motor & Driver

Output		0.25kW	0.55kW	0.75kW	1.5kW	2.2kW
Voltage	220V Class	1ø , 3ø AC200~240V 50/60Hz		3ø AC200~240V 50/60Hz		-
	400v Class	3ø AC380~480V 50/60Hz				
Motor	Type	Brushless DC Motor(Sensored SPM)				
	Enclosure	TENV *				TEFC **
	Pole	8 Class				
	Insulation	F				
Protection Class		IP66				
Weight		5.2	10	13.5	15.5	17

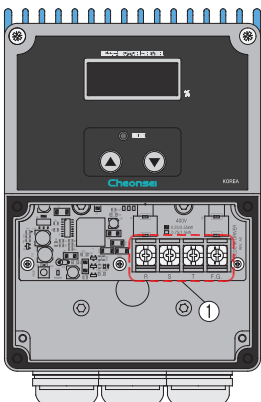
* Totally Enclosed, Non-Ventilated
** Totally Enclosed, Fan-Cooled

Power Wiring



② ①

〈 For Auto Operation 〉



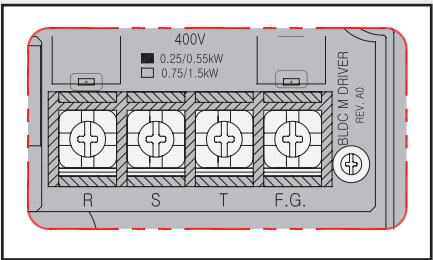
①

〈 For Manual Operation 〉

① Power Terminal Block
② Control Terminal Block

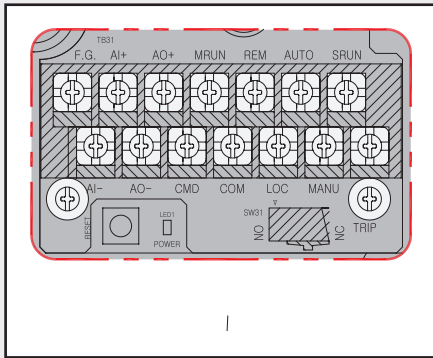
※ BLDC Driver only for manual operation has no Control-Terminal Block.

● Power Terminal Block



Terminal Name	Specification for Connection
R	200V Class : 1ø /3ø AC200~240V 50/60Hz (0.75~1.5kW are only for 3ø)
S	
T	400V Class : 3ø AC380~480V 50/60Hz
F.G.	Ground

● Control Terminal Block



Function	Terminal Nama	Specification
Control Signal	F.G.	Ground
	AI+	Analog Input +
	AI-	Analog Input -
	AO+	Analog Output +
	AO-	Analog Output -
	CMD	Operation Commend (Power)
	MRUN	Operation Commend (NPN Base)
Status Output	COM	Status output of COMMON
	REM	Status output of REMOTE Operation
	LOC	Status output of LOCAL Operation
	AUTO	Status output of AUTO Operation
	MANU	Status output of MANU Operation
	RUN	Status output of RUN
	TRIP	Status output of TRIP

■ Specification of Pumps

● KD Series

Model Code KDV-A		Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)		
21	H	25	10	0.25		
61		60				
12		120				
22		260				
52		520				
82		840				
13		1020				
23		2040	8			
33	L	3480	5		0.55	
43		4100				
73		7440	3			
53		5800	5			
63		6550	4			
33	H	3480	10	0.75		
73		7440	7			
43		4400	8			
63		6600	7			
93	M	9100	5			1.5
14	N	11800	4			
14	M	13800	5			
14	H	10800	7			
14	G	16000	5	0.75		
24	L	22000	3			
24	S	28000				
24	H	22000	7		1.5	
34		32000	5			
54	L	54000	3			

● KH Series

Model Code KHV1-A	Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
51	50	30	0.25
12	100		
32	360		
72	720	20	
13	1100		
23	2200		0.55
33	3400		
63	6800		
33H	3400	20	0.75
63H	6800	14	
14	10500	8	
24	21000	4	

● KP Series

Model Code KPV-A		Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
061	L	13	160	0.25
062		26		
121		55		
122		110		
161		100		
162		205	100	
221		195	104	
222		400	52	
301		350	56	
302		740	28	
061	M	20	200	0.55
062		40		
121		85	225	
122		170		
161		160	160	
162		320		
221		305	85	
222		615		
301		540	90	
302		1120	45	
401		1020	50	
402		2050	25	
501		1575	32	
502		3260	16	

● BKH Series

Model Code BKH-A	Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
101	35	110	0.25
102	90	100	
103	150	90	
104	205	80	
151	105	70	
152	265	50	
153	420	40	
154	570	35	
221	290	32	
222	640	23	
223	950	19	
224	1250	16	
321	660	15	
322	1360	11	
323	2050	9	
324	2700	8	
101	65	120	0.55
102	130		
103	240		
104	350		
151	180		
152	385		
153	620		
154	880		
221	460		
222	930		
223	1400		
224	1950		
321	1000		
322	2050		
323	3050		
324	4100		
421	1800		
422	3600		
423	5400		
424	7200		

Model Code BKH-A	Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
151	200	130	0.75
152	430	120	
153	700	95	
154	950	85	
221	530	80	
222	1100	55	
223	1650	45	
224	2250	40	
321	1200	36	
322	2500	26	
323	3750	21	
324	5000	18	
421	2150	21	
422	4400	15	
423	6600	12	
424	8700	11	
551	3700	13	1.5
552	7500	9	
553	11300	7	
554	15300	6	
221	630	130	
222	1450	95	
223	2300	80	
321	1650	65	
322	3400	45	
323	5100	38	
421	2900	36	
422	5900	26	
423	8700	22	
551	5000	22	
552	10200	15	
553	15500	13	
701	8400	14	
702	17000	10	
703	25800	8	

● PKD Series

Model Code PKD	Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
500	50	10	0.55
121	120		
241	240		
521	520		
102	1040		
212	2100		
412	4100	8	0.75
702	7000	5	
143	14900	3	
113	11200	7	
203	20700	5	1.5
243	24000	7	
333	33000	5	1.5
423	42000		
613	61000	3	2.2
813	81000		

● PKP Series

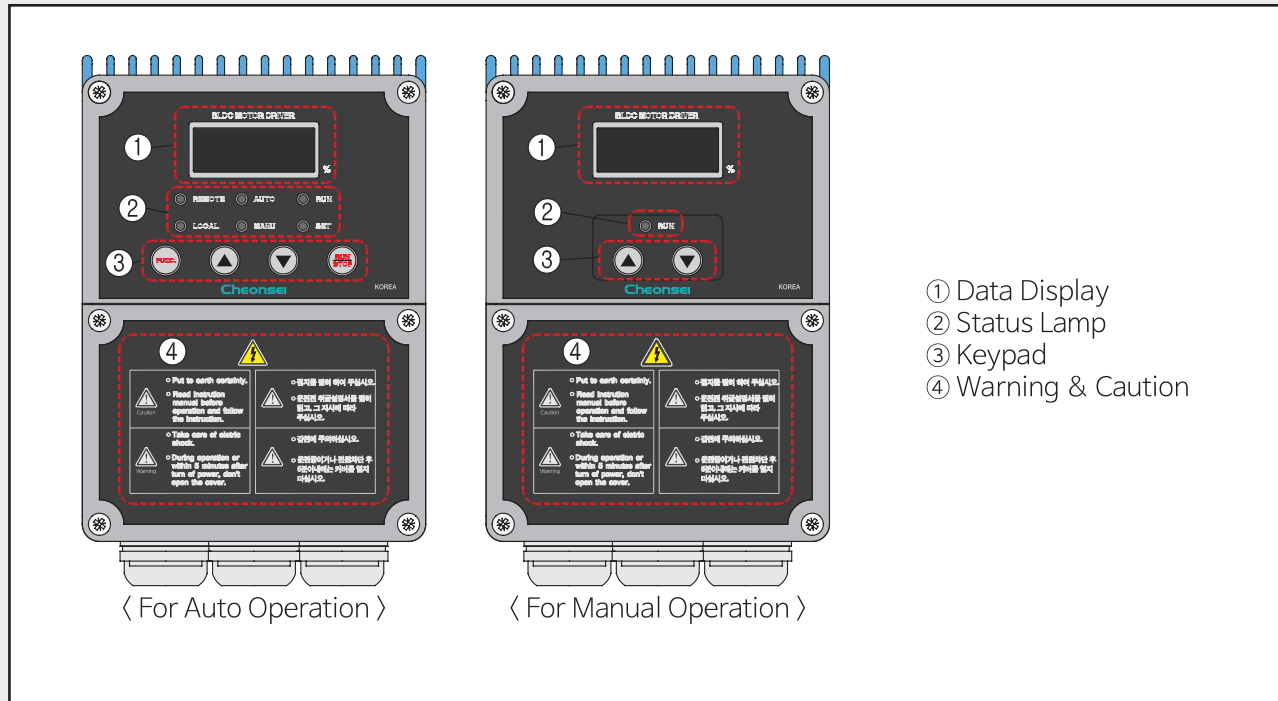
Model Code PKP	Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
061	26	160	0.55
062	52		
121	110		
122	220		
161	200		
162	410		
221	390	104	0.75
222	800	52	
301	700	56	
302	1480	28	
061	60	200	
121	255	225	
161	480	160	
221	920	123	
301	1660	68	
401	3070	38	
501	4835	24	

● CKP Series

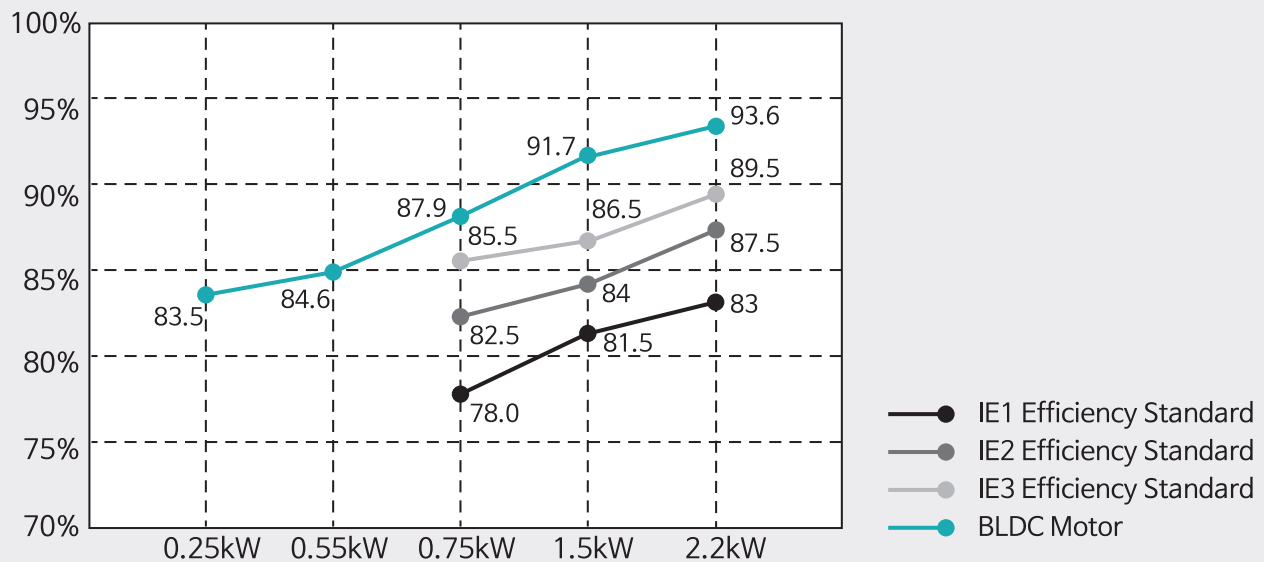
Model Code CKP1-A	Max. Capacity (mL/min)	Max. Discharge Pressure (bar)	Motor (kW)
162	445	350	1.5
163	560		
164	745	270	
222	860	225	
223	1090	185	
224	1440	145	
302	1620	120	
303	2050	100	
304	2700	78	
402	2900	68	
403	3650	55	
404	4850	42	
502	4550	44	
503	5700	36	
504	7550	28	
602	6600	30	
603	8250	25	
604	11000	19	

※ The above specifications and design could be changed for improvement without prior notice.

■ Functions



■ Efficiency Standard Grade of BLDC Motor



- The value of between IE1 and IE3 is a efficiency value of 4 Pole/60Hz motor under IEC60034-30 standard.
- The BLDC Motor is not a regulated item for High Efficiency.
- Save energy cost since it is possible to do High performance & high efficiency operation as BLDC(Brushless DC) Motor is Synchronous Motor in which permanent magnet is embedded.