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DET NORSKE VERITAS
MANAGEMENT SYSTEM
CERTIFICATE



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KOSHA18001



HYOSUNG GOODSPRINGS

PUMPS
& WATER

인라인 펌프

iLP/iLP-V

Vertical In-Line Pump



효성 굿스프링스(주)

본사 (121-804) 서울시 마포구 마포대로 137 KPX빌딩
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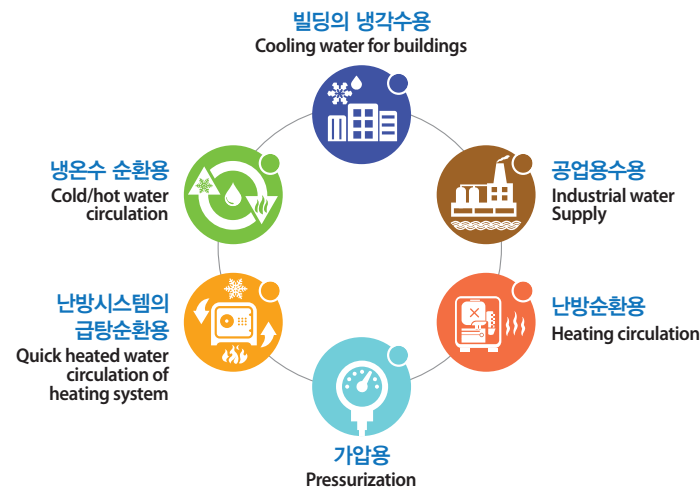
TEL : 82-2-707-7000 FAX : 82-2-3279-8200
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TEL : 82-55-340-4407



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용도 Application



특징 Features

- 소형, 경량화로 효율적인 설치공간 활용, Compact한 구조 및 장기간 동일한 성능과 신뢰성 보장
- 흡입, 토출 배관을 분리하지 않고 분해, 점검이 가능한 Top-Pull-Out 구조 채용
- 펌프와 전동기 축 분할구조로 설계하여 부품의 분해 및 조립 용이
- 배관의 해체없이 회전차 및 메카니칼 씸(Mechanical Seal) 교체 가능
- 축봉장치는 펌프 내부의 유체에 의해 윤활되며 고온, 고압에 운전이 가능한 메카니칼 씸 장착
- 베이스 플레이트를 이용하여 지상설치 가능
- GT(Group Technology)기법을 도입, 부품의 호환성을 극대화시킨 구조
- 전동기 취부가 끼워 맞춤 공차로 취부되므로 축심 일치가 간단해지며 설치, 유지 보수 작업 용이

- Space efficiency due to compact and light-weighted design, assurance of durability in terms of performance and reliability due to compact structure
- Top-Pull-Out structure that allows you to disassemble and check without disassembling Suction and Discharge pipes
- Easy to disassemble and assemble parts due to the design that separates pumps from motor shaft
- Impeller and mechanical seal are replaceable without disassembling the pipe
- The shaft sealing device is lubricated by the fluid within the pump equipped with mechanical seal that can be operated under high-temperature and high-pressure condition
- Ground installable using the base plate
- Part compatibility maximized by introducing GT(Group Technology) methodology
- Simple shaft core alignment and easy installation and maintenance as the motor is tolerance fit

호칭 Model Designation

iLP 200-315 E

펌프 모델명 iLP Model Name	흡, 토출구경 200 Suction and Discharge Diameter [mm]	-	회전차 공칭외경 315 Impeller Nominal Diameter [mm]	효율 향상 기종 E Efficiency improved model
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표준 사양 Standard Specification

취급액	Applicable Liquid	청수 Clean Water (pH 5.8 ~ 8.6) 0 ~ 140℃
최대 허용 압력	Maximum Allowable Pressure	16 bar (Option : 25 bar)
구조 Structure	회전차 Impeller	클로즈형 Closed Type
	축봉타입 Shaft seal	Meachanical Seal (SiC/Carbon)
	축 Shaft	펌프 및 모터 축 분할 Separate pump from motor shaft
회전방향	Rotation Direction	CW (구동기 측에서 펌프를 바라보았을 때) (From the Motor Side to the Pump)
흡, 토출 플랜지	Suction and Discharge Flange	KS B 1511 16K, RF
카플링	Coupling	리지드 카플링 Rigid Coupling GC250 (Option : GCD450, SSC13, etc)
재질 Material	케이싱 Casing	GC200 (Option : CAC406, SSC13, etc)
	회전차 Impeller	GC200 (Option : CAC406, SSC13, etc)
	축 Shaft	STS304 (Option : STS316, etc)
	모터대 Motor stool	GC250
모터 Motor	입력전압 Input Voltage	3-Phase / 380V (Option : 220V, 440V)
	절연등급 Insulation Class	F
	보호등급 Protection Class	IP 55
인버터 운전범위	Inverter Operating Range	30Hz ~ 60Hz

※ GC200, GC250 : Cast Iron / CAC406 : Cast Bronze / GCD450 : Ductile / SSC13 : Stainless Steel Casting
※ STS304, STS316 : Stainless Steel

선택사양 Option

- 접액부 재질(조립단면도의 사양란 참고)
- Rigid Spacer Coupling
- 순환 및 시스템 전용 인버터 부착
- 각종 계기류, Drain/Vent 배관 구성
- 흡토출 플랜지 규격(별도 문의요망)
- Base Plate, 도장사양(요구사항)
- Material of the Liquid Contacting Part (Refer to the Specifications in the Sectional Drawing)
- Rigid Spacer Coupling
- Circulation and system-exclusive inverter
- Instrument, Drain/Vent Piping
- Suction and Discharge Flange Specification (Contact us)
- Base Plate, Painting (Requirement)

인버터 부착형 인라인펌프 iLP-V Inverter Type Inline Pump, iLP-V



주요기능

- 128×64 Graphic의 LCD Display : 한글LCD 화면
- 연동운전 : 5대의 인버터를 통신으로 연결 운전
- 일정압/일정온도 제어, 차압/차온 제어
- 순차 운전
- 정전 후 자동 운전 복귀
- 주 Pump의 교번(교대) 운전
- 고장 Pump Skip
- 갈수 보호운전
- 통신기능 (option)
- 자가 진단

Major Features

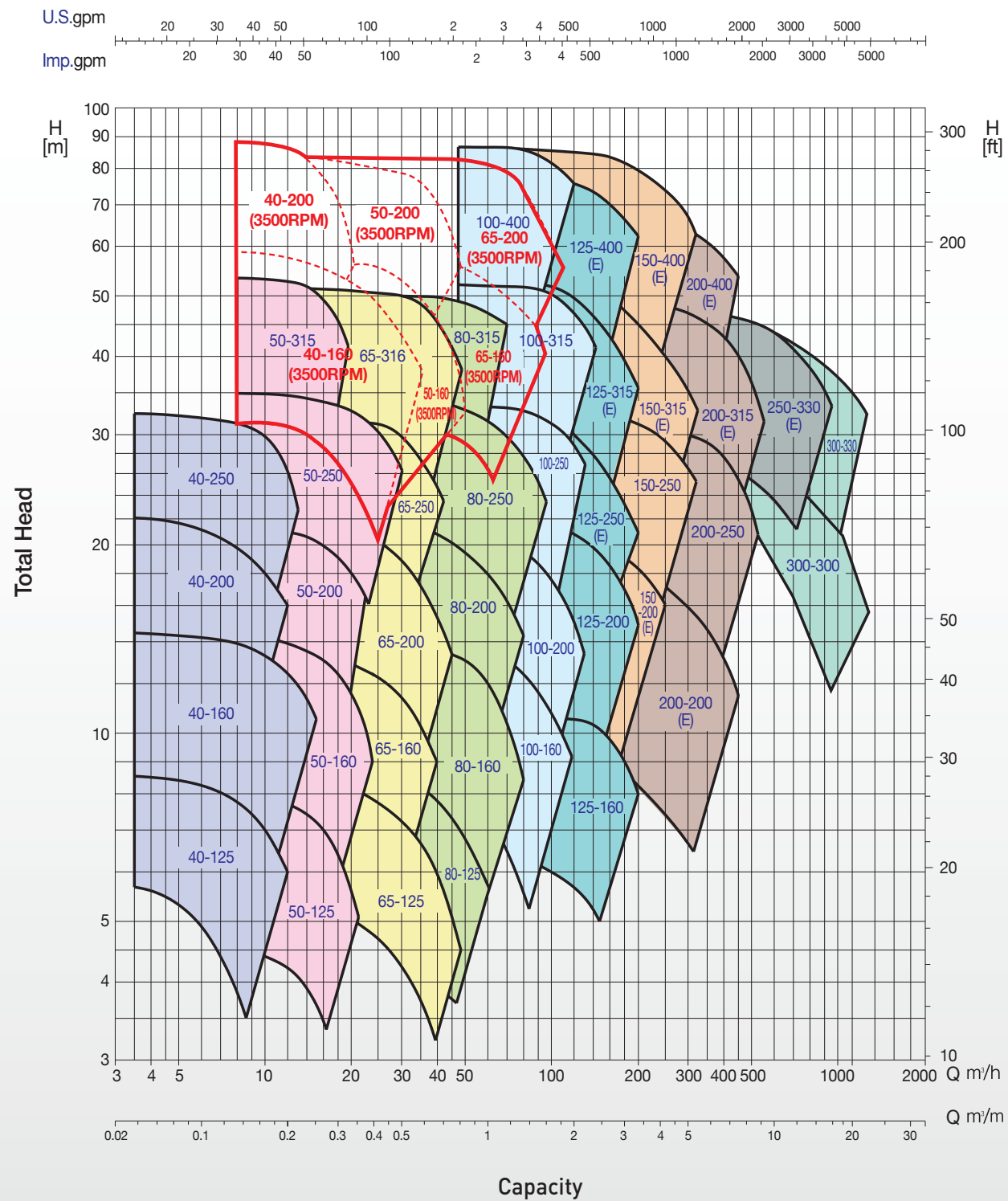
- LCD Display with resolution of 128X64: Korean language LCD screen
- Peristaltic operation: 5 inverters can be connected to each other through communication for peristaltic operation
- Fixed pressure/temperature control, differential pressure/temperature control
- Sequential operation
- Automatic operation return after power failure
- Alternative operation of primary pump
- Skip failed pumps
- Protective operation against shortage of water
- Communication function (optional)
- Self-diagnosis

제어항목 Control Items		내용 Description	Remark
입력사항 Input	입력전압 Input Voltage	3-Phase 342V ~ 528V	
	전압변동범위 Voltage Fluctuation Range	-15 ~ +10% (342V ~ 528V)	
	주파수변동범위 Frequency Fluctuation Range	-5 ~ +5% (47 ~ 63Hz)	
사용 환경 Operating Environment	온도 Temperature	섭씨 -10℃ ~ +40℃	
	상대습도 Relative Humidity	0 ~ 90%	
	진동 Vibration	0.6G (10~60Hz)	
콘트롤사양 Control Specification	콘트롤전원 Control Power	SPWM (Carrier Frequency 2~10Hz)	
	주파수해상도 Frequency Resolution	0.01Hz	
	토크특성 Torque Property	자동, 스타트 Auto, Start 150%(1.0Hz)	
	과부하 Overload	정격전류에 120%에서 1분간 120% of Rated Current, One Minute	
	가속/감속 시간 Acceleration/Deceleration Time	0.1 ~ 3600s / 개별 가속속 4가지 조합 가능 Respective Four Acceleration/Deceleration Combinations	
	V/F RATIO설정 V/F Ratio Setting	사용자 설정 가능 User Configuration	
운전사항 Operating Specification	스톨 방지 레벨 Stall Prevention Level	20~150%, 설정가능 20~150%, Configurable	
	키패드 Keypad	키패드 설정 Keypad Setting	
	주파수설정 Frequency Setting	0 ~ 5V / 0 ~ 10V / 4 ~ 20mA / 0 ~ 20mA	
		주파수 상한 / 하한 설정 Upper Limit/Lower Limit	
		3개의 SKIP 주파수 설정 3 Skip Frequencies	
	다기능 출력 Multifunctional Output	운전 상태 모니터 / 오류정보 표시 및 경고 Operating Status Monitor/ Error Display and Warning	
보호기능 Protection	과전류 Overcurrent	정격 전류의 200% 200% of Rated Current	
	과부하 Overload	정격 전류의 120%(Delay:1분) 120% of Rated Current (Delay: 1minute)	
	모터 과부하 Motor Overload	Thermal Overload Relay	
	과전압 Overvoltage	DC-BUS 330~410V / DC-BUS 660~820V	
	순시 정전 Instantaneous Interruption	Speed Search에 의한 인버터 재가동(0~2초) Restart of the Inverter by Speed Search(0~2 Seconds)	
	과열 Overheating	써미스터 보호 방식 Thermistor Protection	
기타 제어 Other Control		감속 정지 / 자가-정지 / DC브레이크 / Carrier Deceleration Stop/Self-Stop / DC Brake/ Carrier	
		주파수 조절 가능(20KHz) Frequency Control (20KHz)	
통신 방식 Communication		RS-485	

선택도 Selection Chart

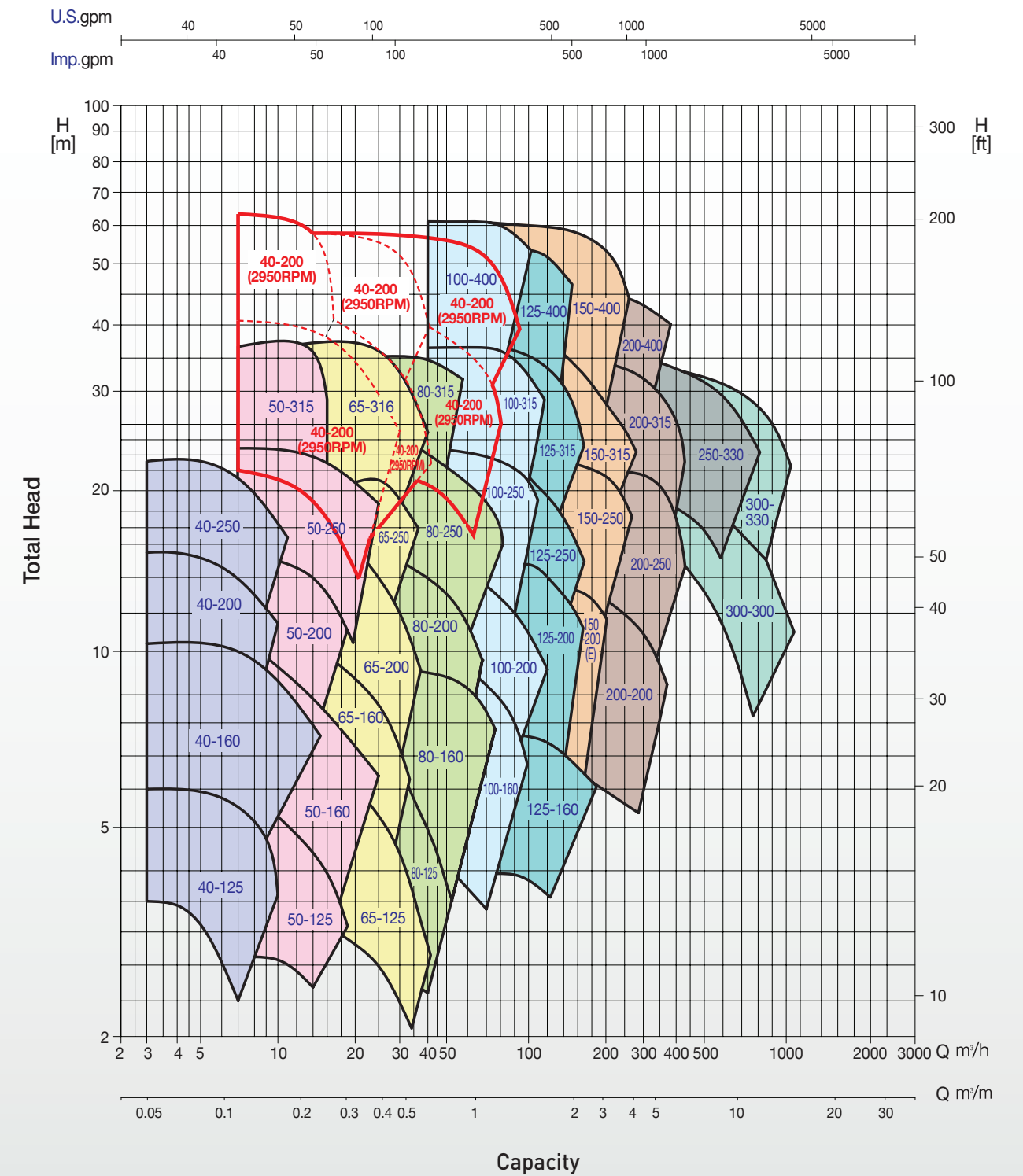
60Hz (1750RPM)

60Hz (3500RPM)



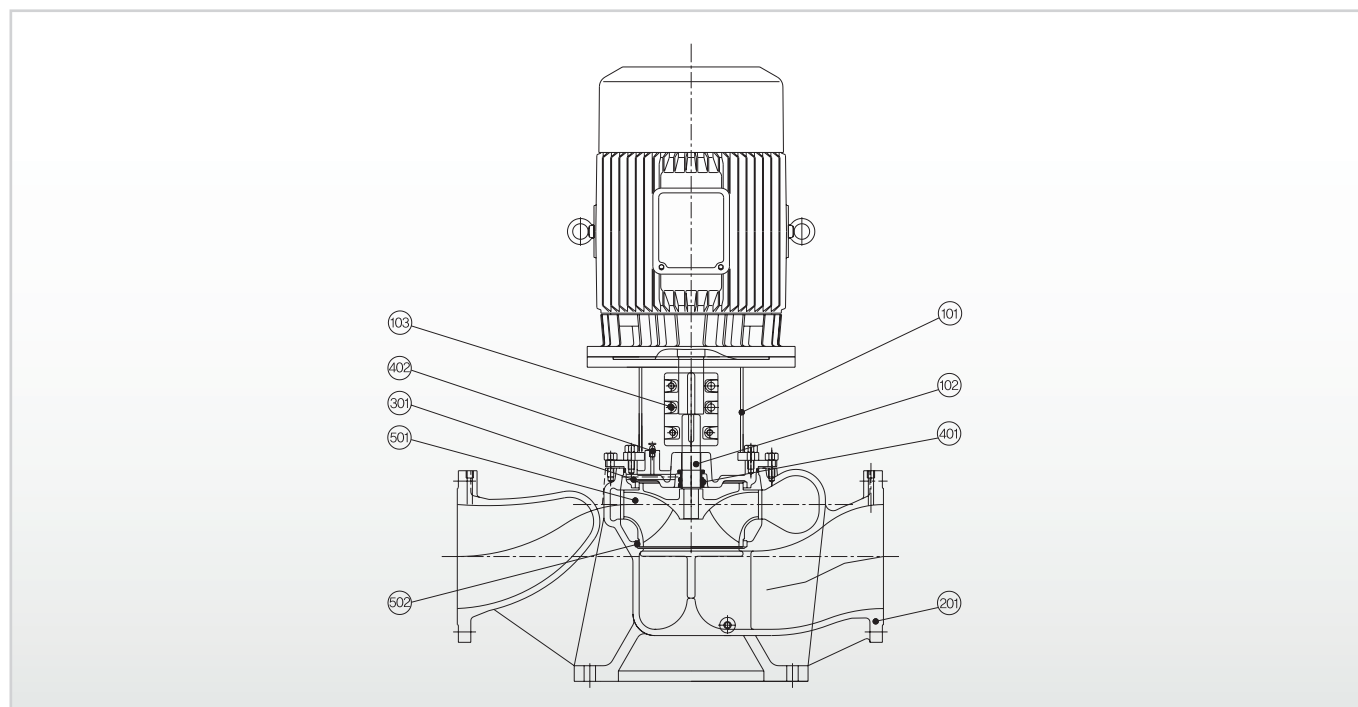
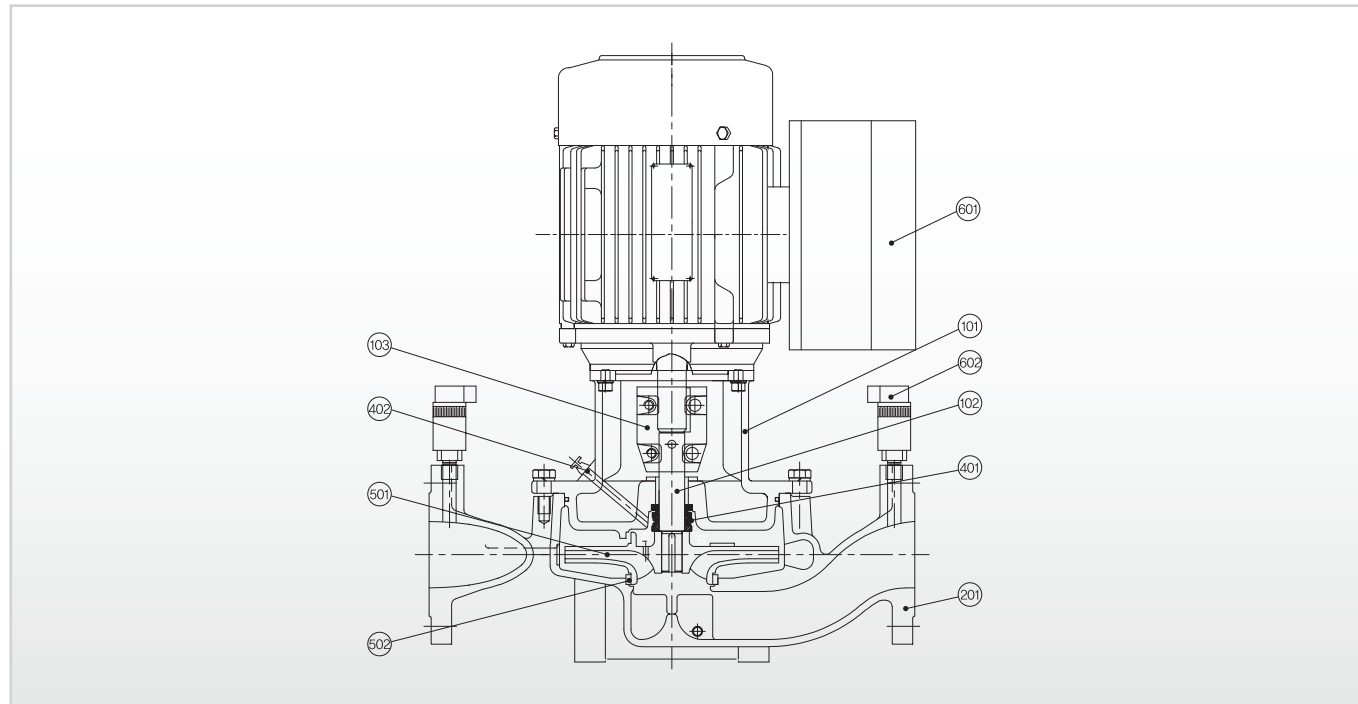
50Hz (1450RPM)

50Hz (3000RPM)

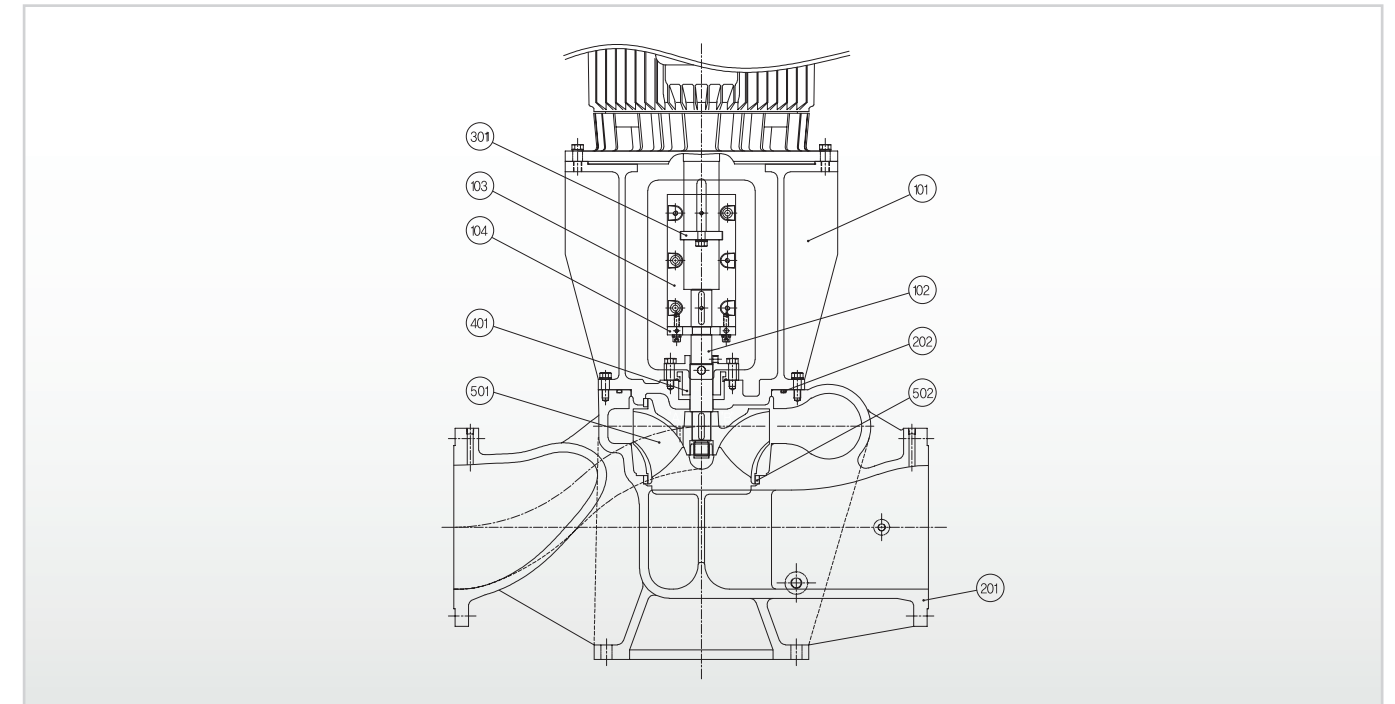


※ 인버터 부착형은 30kW까지 적용 가능. (37kW 이상은 판넬 타입을 권장함)
Up to 30kW is applicable for the one with built-in inverter. (A panel type is recommended for 37kW or above.)

조립 단면도 Sectional Drawing

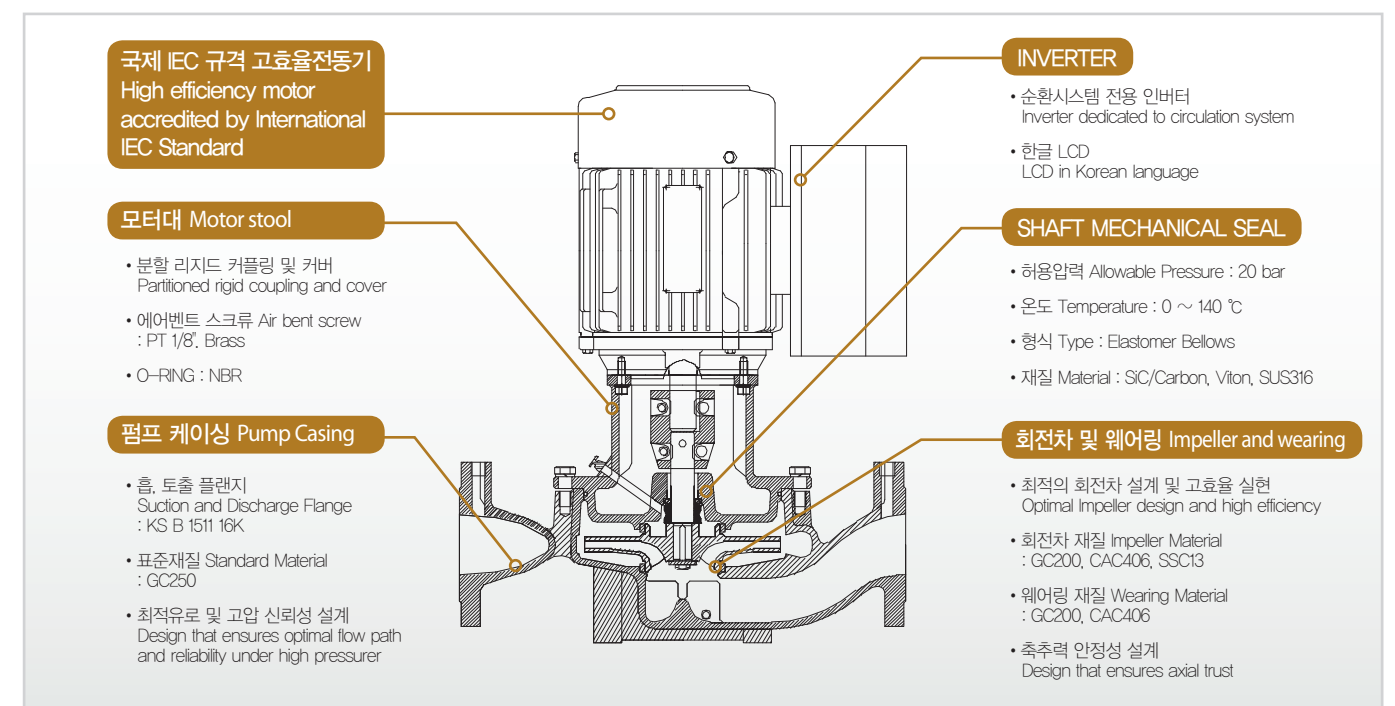


부품번호 Part No.	부품명 Part Name	표준재질 Standard Material	선택사양 Option	부품번호 Part No.	부품명 Part Name	표준재질 Standard Material	선택사양 Option
101	Motor Stool	GC250	—	402	Air Vent	Brass	—
102	Shaft	STS304	STS316	501	Impeller	GC200	CAC406/SSC13
103	Rigid Coupling	GCD450	—	502	Casing Ring	GC200	CAC406/SSC13
201	Casing	GC250	GCD450/SSC13	601	Inverter		
301	Stuffing Housing	GC250	—	602	Pressure Transmeter		
401	Mechanical Seal	SiC/Carbon	—				



부품번호 Part No.	부품명 Part Name	표준재질 Standard Material	선택사양 Option	부품번호 Part No.	부품명 Part Name	표준재질 Standard Material	선택사양 Option
101	Motor Stool	GC250	—	202	O-Ring	NBR	—
102	Shaft	STS304	STS316	301	Support Plate	SM45C	—
103	Rigid Coupling	GCD450	—	401	Mechanical Seal(Cartridge)	SiC/Carbon	—
104	Coupling Plate	STS304	—	501	Impeller	GC200	CAC406/SSC13
201	Casing	GC250	GCD450/SSC13	502	Casing Ring	GC200	CAC406/SSC13

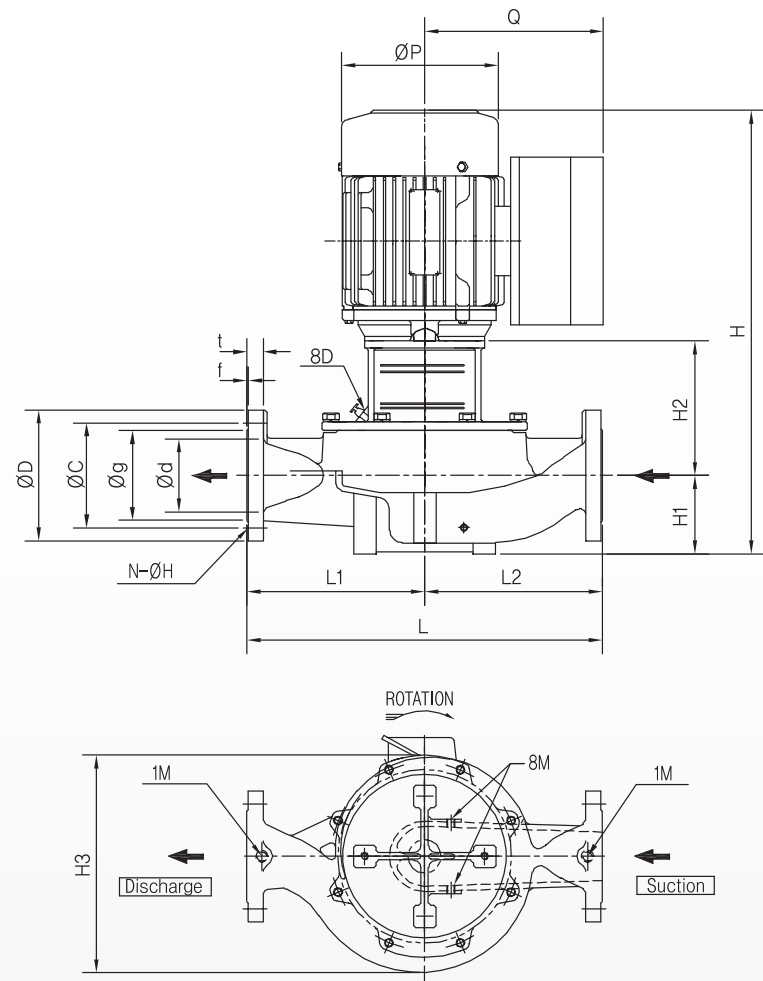
구조 특징 Structural Features



외형도 & 외형 치수표 Outline Drawing & Dimension

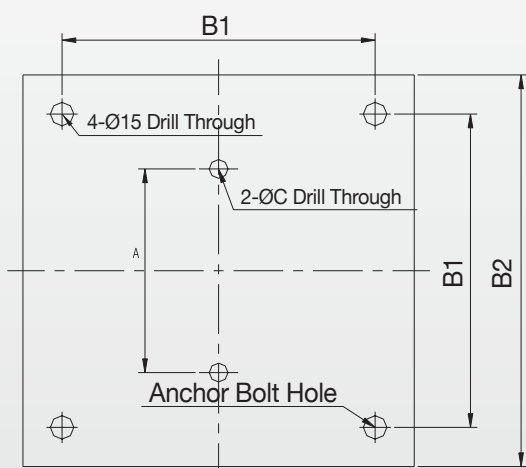
60Hz

[FIGURE 1]

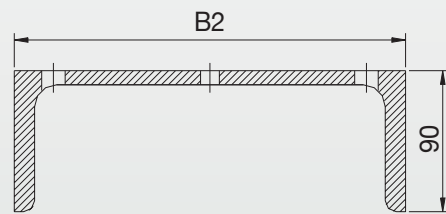


- 1M** Pressure Gauge, PS 1/4"
- 8M** Liquid Drainage, PS 3/8"
- 8D** Air Vent, PT 1/8"

Base Plate (Option)



A(m)	130	160	190	230
중량(kg)	8.7	11.4		

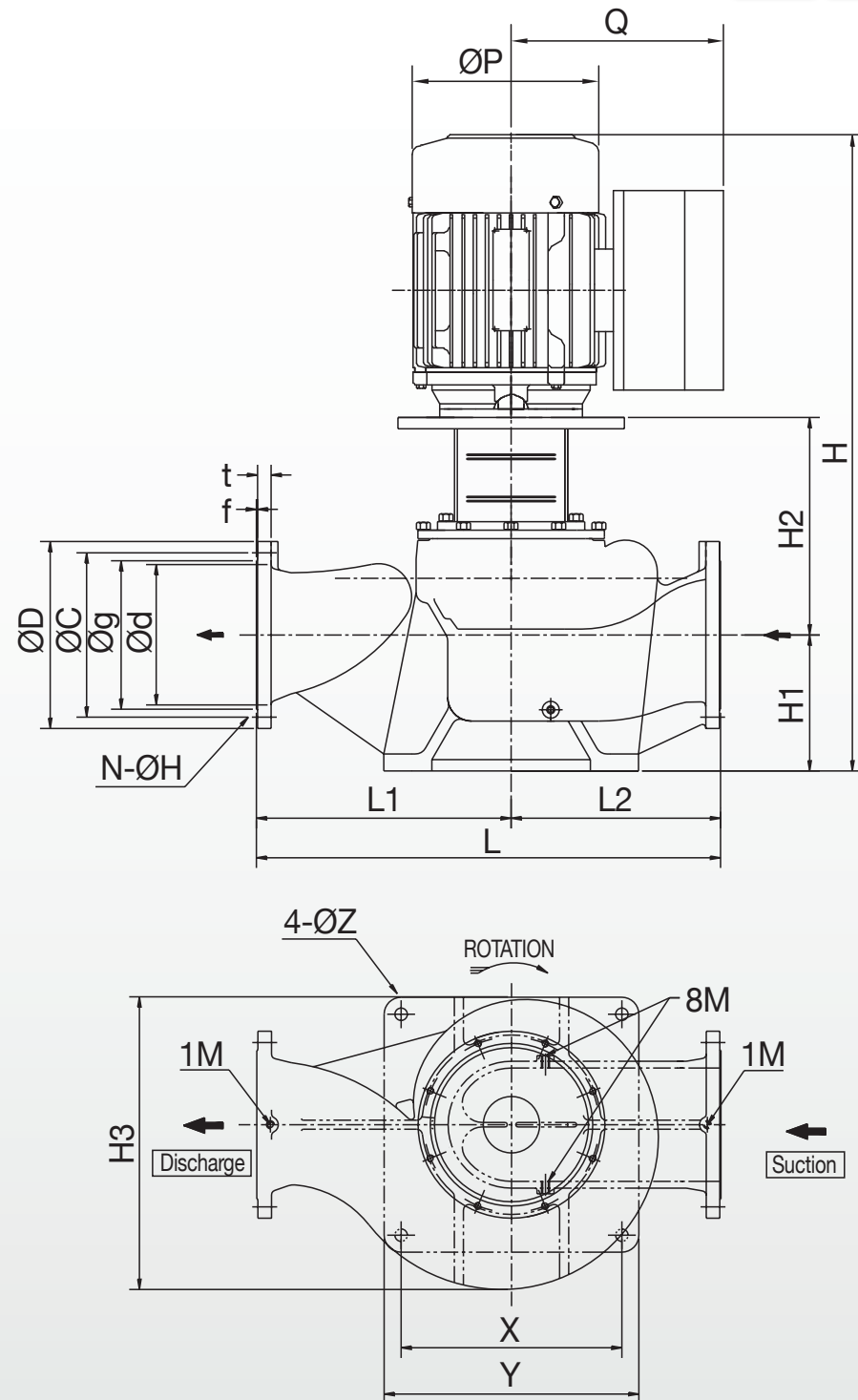


No.	Model	Pole	Power [kW]	Motor Frame	Fig.	Dimension														중량 (kg)	인버터형	
						Ød	H	H1	H2	H3	L	L1	L2	ØP	1M	Base Plate (Option)					Q	중량 (kg)
																A	B1	B2	C			
1	LP40-125	4P	0.75	80M	I	40	462	85	140	205	350	175	175	166	PS1/4"	130	200	250	12	37	245	47
2	LP40-160	4P	0.75	80M	I		462	85	140	234	390	195	195	166	PS1/4"	130	200	250	12	42	245	52
3	LP40-160	4P	1.5	90L	I		508	85	155	234	390	195	195	180	PS1/4"	130	200	250	12	50	252	60
4	LP40-160	2P	5.5	132S	I		677	85	213	300	390	195	195	312	PS1/4"	-	-	-	-	125	318	140
5	LP40-160	2P	7.5	132S	I		677	85	213	300	390	195	195	312	PS1/4"	-	-	-	-	125	318	140
6	LP40-200	4P	0.75	80M	I		462	85	140	274	390	195	195	166	PS1/4"	160	200	250	12	44	245	54
7	LP40-200	4P	1.5	90L	I		508	85	155	274	390	195	195	180	PS1/4"	160	200	250	12	53	252	63
8	LP40-200	2P	5.5	132S	I		678	85	214	300	390	195	195	312	PS1/4"	-	-	-	-	129	318	144
9	LP40-200	2P	7.5	132S	I		678	85	214	300	390	195	195	312	PS1/4"	-	-	-	-	129	318	144
10	LP40-200	2P	11	160M	I		803	85	244	350	390	195	195	368	PS1/4"	-	-	-	-	190	346	210
11	LP40-200	2P	15	160M	I		803	85	244	350	390	195	195	368	PS1/4"	-	-	-	-	190	346	210
12	LP40-200	2P	18.5	160L	I		847	85	244	350	390	195	195	416	PS1/4"	-	-	-	-	198	500	223
13	LP40-250	4P	2.2	100L	I		597	105	180	334	474	237	237	268	PS1/4"	190	250	300	18	83	296	93
14	LP40-250	4P	3.7	100L	I		597	105	180	334	474	237	237	268	PS1/4"	190	250	300	18	90	296	100
15	LP50-125	4P	0.75	80M	I		472	95	140	212	370	185	185	166	PS1/4"	130	200	250	12	38	245	48
16	LP50-160	4P	1.5	90L	I	518	95	155	236	440	220	220	180	PS1/4"	130	200	250	12	54	252	64	
17	LP50-160	2P	5.5	132S	I	687	95	213	300	440	220	220	312	PS1/4"	-	-	-	-	129	318	144	
18	LP50-160	2P	7.5	132S	I	687	95	213	300	440	220	220	312	PS1/4"	-	-	-	-	129	318	144	
19	LP50-160	2P	11	160M	I	812	95	243	350	440	220	220	368	PS1/4"	-	-	-	-	190	346	210	
20	LP50-160	2P	15	160M	I	812	95	243	350	440	220	220	368	PS1/4"	-	-	-	-	190	346	210	
21	LP50-160	2P	18.5	160L	I	856	95	243	350	440	220	220	416	PS1/4"	-	-	-	-	198	500	223	
22	LP50-200	4P	1.5	90L	I	523	95	160	274	440	220	220	180	PS1/4"	160	200	250	12	59	252	69	
23	LP50-200	4P	2.2	100L	I	582	95	180	274	440	220	220	208	PS1/4"	160	200	250	12	67	296	77	
24	LP50-200	2P	11	160M	I	818	95	249	350	440	220	220	368	PS1/4"	-	-	-	-	193	346	213	
25	LP50-200	2P	15	160M	I	818	95	249	350	440	220	220	368	PS1/4"	-	-	-	-	193	346	213	
26	LP50-200	2P	18.5	160L	I	862	95	249	350	440	220	220	416	PS1/4"	-	-	-	-	201	500	226	
27	LP50-250	4P	3.7	100L	I	597	105	180	334	474	237	237	268	PS1/4"	190	250	300	18	95	296	105	
28	LP50-250	4P	5.5	132S	II	694	105	210	334	474	237	237	312	PS1/4"	190	250	300	18	103	318	118	
29	LP50-315	4P	5.5	132S	II	707	105	223	402	524	262	262	312	PS1/4"	230	250	300	18	121	318	136	
30	LP50-315	4P	7.5	132S	II	745	105	223	402	524	262	262	312	PS1/4"	230	250	300	18	131	318	146	
31	LP65-125	4P	0.75	80M	I	492	115	140	238	440	220	220	166	PS1/4"	130	200	250	12	49	245	59	
32	LP65-125	4P	1.5	90L	I	538	115	155	238	440	220	220	180	PS1/4"	130	200	250	12	58	252	68	
33	LP65-160	4P	1.5	90L	I	528	105	155	260	474	237	237	180	PS1/4"	130	200	250	12	58	252	68	
34	LP65-160	4P	2.2	100L	I	592	105	175	260	474	237	237	208	PS1/4"	130	200	250	12	66	296	76	
35	LP65-160	2P	5.5	132S	I	697	105	213	300	474	237	237	312	PS1/4"	-	-	-	-	139	318	154	
36	LP65-160	2P	7.5	132S	I	697	105	213	300	474	237	237	312	PS1/4"	-	-	-	-	139	318	154	
37	LP65-160	2P	11	160M	I	822	105	243	350	474	237	237	368	PS1/4"	-	-	-	-	200	346	220	
38	LP65-160	2P	15	160M	I	822	105	243	350	474	237	237	368	PS1/4"	-	-	-	-	200	346	220	
39	LP65-160	2P	18.5	160L	I	866	105	243	350	474	237	237	416	PS1/4"	-	-	-	-	208	500	233	
40	LP65-200	4P	2.2	100L	I	597	105	180	293	474	237	237	208	PS1/4"	160	200	250	12	73	296	83	
41	LP65-200	4P	3.7	100L	I	597	105	180	293	474	237	237	208	PS1/4"	160	200	250	12	80	296	90	
42	LP65-200	2P	11	160M	I	828	105	249	350	474	237	237	368	PS1/4"	-	-	-	-	200	346	220	
43	LP65-200	2P	15	160M	I	828	105	249	350	474	237	237	368	PS1/4"	-	-	-	-	200	346	220	
44	LP65-200	2P	18.5	160L	I	872	105	249	350	474	237	237	416	PS1/4"	-	-	-	-	208	500	233	
45	LP65-200	2P	22	180M	I	912	105	249	400	474	237	237	416	PS1/4"	-	-	-	-	228	500	253	
46	LP65-250	4P	3.7	100L	I	597	105	180	327	524	262	262	268	PS1/4"	190	250	300	18	100	296	110	
47	LP65-250	4P	5.5	132S	I	607	115	180	327	524	262	262	268	PS1/4"	190	250	300	18	108	318	123	
48	LP65-315	4P	5.5	132S	I	704	115	210	340	524	262	262	312	PS1/4"	190	250	300	18	126	318	141	
49	LP65-315	4P	7.5	132M	I	732	130	223	402	600	300	300	312	PS1/4"	230	250	300	18	136	318	151	
50	LP65-315	4P	11	160M	I	770	130	223	402	600	300	300	312	PS1/4"	230	250	300	18	146	318	161	
51	LP65-315	4P	15	160M	I	869	130	265	402	600	300	300	368	PS1/4"	230	250	300	18	234	346	254	
52	LP65-315	4P	18.5	160L	I	913	130	265	402	600	300	300	368	PS1/4"	230	250	300	18	244	346	264	
53	LP80-125	4P	1.5	90L	I	553	130	155	260	500	250	250	180	PS1/4"	160	200	250	12	62	252	72	
54	LP80-125	4P	2.2	100L	I	617	130	175	260	500	250	250	208	PS1/4"	160	200	250	12	71	296	81	
55	LP80-160	4P	2.2	100L	I	622	130	180	270	524	262	262	268	PS1/4"	160	200	250	12	76	296	86	
56	LP80-160	4P	3.7	100L	I	622	130	180	270	524	262	262	268	PS1/4"	160	200	250	12	83	296	93	
57	LP80-200	4P	3.7	100L	I	622	130	180	300	524	262	262	268	PS1/4"	160	200	250	12	91	296	101	
58	LP80-200	4P	5.5	132S	I	719	130	210	313	524	262	262	312	PS1/4"	160	200	250	12	100	318	115	
59	LP80-200	4P	7.5	132M	I	757	130	210	313	524	262	262	312	PS1/4"	160	200	250	12	109	318	124	
60	LP80-250	4P	5.5	132S	I	734	135	220	350	574	287	287	312	PS1/4"	190	250	300	18	112	318	127	
61	LP80-250	4P	7.5	132M	I	772	135	220	350	574	287	287	312	PS1/4"	190	250	300	18	121	318	136	
62	LP80-250	4P	11	160M	I	874	135	265	360	574	287	287	368	PS1/4"	190	250	300	18	220	346	240	
63	LP80-315	4P	11	160M	I	889	150	265	414	650	325	325	368	PS1/4"	230	250	300	18	232	346	252	
64	LP80-315	4P	15	160L	I	933	150	265	414	650	325	325	368	PS1/4"	230	250						

외형도 & 외형 치수표 Outline Drawing & Dimension

60Hz

[FIGURE II]



- 1M** Pressure Gauge, PS 1/4"
- 8M** Liquid Drainage, PS 3/8"
- 8D** Air Vent, PT 1/8"

No.	Model	Pole	Power [kW]	Motor Frame	Fig.	Dimension												중량 (kg)	인버터형		
						Ød	H	H1	H2	H3	L	L1	L2	ØP	1M	Base Plate (Option)			Q	중량 (kg)	
																X	Y				ØZ
96	ILP100-400	4P	30	180L	Ⅱ	100	1139	240	303	509	800	400	400	390	PS1/4"	390	450	22	402	487	427
97	ILP100-400	4P	37	200L	Ⅱ		1224	240	333	509	800	400	400	430	PS1/4"	390	450	22	528	-	-
98	ILP100-400	4P	45	200L	Ⅱ		1224	240	333	509	800	400	400	430	PS1/4"	390	450	22	528	-	-
99	ILP125-400	4P	37	200L	Ⅱ		1254	240	363	525	800	400	400	430	PS1/4"	390	450	22	544	-	-
100	ILP125-400	4P	45	200L	Ⅱ	125	1254	240	363	525	800	400	400	430	PS1/4"	390	450	22	544	-	-
101	ILP125-400	4P	55	225S	Ⅱ		1280	240	363	525	800	400	400	457	PS1/4"	390	450	22	726	-	-
102	ILP125-400E	4P	37	200L	Ⅱ		1254	240	363	525	800	400	400	430	PS1/4"	390	450	22	544	-	-
103	ILP125-400E	4P	45	200L	Ⅱ		1254	240	363	525	800	400	400	430	PS1/4"	390	450	22	544	-	-
104	ILP125-400E	4P	55	225S	Ⅱ	150	1280	240	363	525	800	400	400	457	PS1/4"	390	450	22	726	-	-
105	ILP150-315	4P	30	180L	Ⅱ		1174	240	378	492	750	375	375	390	PS1/4"	390	450	22	397	487	422
106	ILP150-315	4P	37	200L	Ⅱ		1259	240	408	492	750	375	375	430	PS1/4"	390	450	22	523	-	-
107	ILP150-315	4P	45	200L	Ⅱ		1259	240	408	492	750	375	375	430	PS1/4"	390	450	22	523	-	-
108	ILP150-315E	4P	30	180L	Ⅱ	150	1174	240	378	492	750	375	375	390	PS1/4"	390	450	22	397	487	422
109	ILP150-315E	4P	37	200L	Ⅱ		1259	240	408	492	750	375	375	430	PS1/4"	390	450	22	523	-	-
110	ILP150-315E	4P	45	200L	Ⅱ		1259	240	408	492	750	375	375	430	PS1/4"	390	450	22	523	-	-
111	ILP150-400	4P	55	225S	Ⅱ		1300	240	383	563	800	400	400	457	PS1/4"	390	450	22	740	-	-
112	ILP150-400	4P	75	250S	Ⅱ	150	1419	240	383	563	800	400	400	512	PS1/4"	390	450	22	967	-	-
113	ILP150-400	4P	90	250M	Ⅱ		1457	240	383	563	800	400	400	512	PS1/4"	390	450	22	1192	-	-
114	ILP150-400E	4P	55	225S	Ⅱ		1300	240	383	563	800	400	400	457	PS1/4"	390	450	22	740	-	-
115	ILP150-400E	4P	75	250S	Ⅱ		1419	240	383	563	800	400	400	512	PS1/4"	390	450	22	967	-	-
116	ILP150-400E	4P	90	250M	Ⅱ	200	1457	240	383	563	800	400	400	512	PS1/4"	390	450	22	1192	-	-
117	ILP200-200	4P	15	160L	Ⅱ		1158	240	400	582	850	450	400	368	PS1/4"	390	450	22	368	346	388
118	ILP200-200	4P	18.5	180M	Ⅱ		1177	240	400	582	850	450	400	416	PS1/4"	390	450	22	386	500	411
119	ILP200-200	4P	22	180M	Ⅱ		1177	240	400	582	850	450	400	416	PS1/4"	390	450	22	386	500	411
120	ILP200-200E	4P	15	160L	Ⅱ	200	1158	240	400	582	850	450	400	368	PS1/4"	390	450	22	368	346	388
121	ILP200-200E	4P	18.5	180M	Ⅱ		1177	240	400	582	850	450	400	416	PS1/4"	390	450	22	386	500	411
122	ILP200-200E	4P	22	180M	Ⅱ		1177	240	400	582	850	450	400	416	PS1/4"	390	450	22	386	500	411
123	ILP200-250	4P	30	180L	Ⅱ		1222	240	386	516	820	450	370	390	PS1/4"	390	450	22	386	487	411
124	ILP200-250	4P	37	200L	Ⅱ	200	1307	240	416	521	820	450	370	430	PS1/4"	390	450	22	512	-	-
125	ILP200-250	4P	45	200L	Ⅱ		1307	240	416	521	820	450	370	430	PS1/4"	390	450	22	512	-	-
126	ILP200-315	4P	45	200L	Ⅱ		1359	240	468	540	820	450	370	430	PS1/4"	390	450	22	546	-	-
127	ILP200-315	4P	55	225S	Ⅱ		1385	240	468	574	820	450	370	457	PS1/4"	390	450	22	728	-	-
128	ILP200-315	4P	75	250S	Ⅱ	200	1504	240	468	574	820	450	370	512	PS1/4"	390	450	22	955	-	-
129	ILP200-315E	4P	45	200L	Ⅱ		1359	240	468	540	820	450	370	430	PS1/4"	390	450	22	546	-	-
130	ILP200-315E	4P	55	225S	Ⅱ		1385	240	468	574	820	450	370	457	PS1/4"	390	450	22	728	-	-
131	ILP200-315E	4P	75	250S	Ⅱ		1504	240	468	574	820	450	370	512	PS1/4"	390	450	22	955	-	-
132	ILP200-400	4P	75	250S	Ⅱ	200	1494	240	458	608	850	450	400	512	PS1/4"	390	450	22	1013	-	-
133	ILP200-400	4P	90	250M	Ⅱ		1532	240	458	608	850	450	400	512	PS1/4"	390	450	22	1237	-	-
134	ILP200-400E	4P	75	250S	Ⅱ		1494	240	458	608	850	450	400	512	PS1/4"	390	450	22	1013	-	-
135	ILP200-400E	4P	90	250M	Ⅱ		1532	240	458	608	850	450	400	512	PS1/4"	390	450	22	1237	-	-
136	ILP250-330	4P	75	250S	Ⅱ	250	1666	290	580	723	1050	550	500	512	PS1/4"	390	450	22	1470	-	-
137	ILP250-330	4P	90	250M	Ⅱ		1704	290	580	723	1050	550	500	512	PS1/4"	390	450	22	1530	-	-
138	ILP250-330	4P	110	280S	Ⅱ		1785	290	610	740	1050	550	500	578	PS1/4"	390	450	22	1670	-	-
139	ILP250-330	4P	132	280M	Ⅱ		1836	290	610	740	1050	550	500	578	PS1/4"	390	450	22	1780	-	-
140	ILP250-330E	4P	75	250S	Ⅱ	250	1666	290	580	723	1050	550	500	512	PS1/4"	390	450	22	1470	-	-
141	ILP250-330E	4P	90	250M	Ⅱ		1704	290	580	723	1050	550	500	512	PS1/4"	390	450	22	1530	-	-
142	ILP250-330E	4P	110	280S	Ⅱ		1785	290	610	740	1050	550	500	578	PS1/4"	390	450	22	1670	-	-
143	ILP250-330E	4P	132	280M	Ⅱ		1836	290	610	740	1050	550	500	578	PS1/4"	390	450	22	1780	-	-
144	ILP300-300	4P	55	225S	Ⅱ	300	1930	320	933	720	1150	600	550	457	PT3/8"	460	520	27	1045	-	-
145	ILP300-300	4P	75	250S	Ⅱ		2049	320	933	720	1150	600	550	512	PT3/8"	460	520	27	1190	-	-
146	ILP300-300	4P	90	250M	Ⅱ		2087	320	933	720	1150	600	550	512	PT3/8"	460	520	27	1250	-	-
147	ILP300-330	4P	110	280S	Ⅱ		2091	320	886	814	1150	600	550	578	PT3/8"	460	520	27	1450	-	-
148	ILP300-330	4P	132	280M	Ⅱ	300	2142	320	886	814	1150	600	550	578	PT3/8"	460	520	27	1560	-	-
149	ILP300-330	4P	160	280L	Ⅱ		2293	320	886	814	1150	600	550	578	PT3/8"	460	520	27	1710	-	-