



COOLANT PUMPS

Immersion pumps
Multi-stage Immersion pumps
Self priming pumps
High pressure pumps
Flex pumps



A-RYUNG MACHINERY IND. CO., LTD.



KS49001:2001/ISO9001:2000



Quality Policy

Thoroughness
of Customer
Contentment



Korean Standards Association

CERTIFICATE OF APPROVAL

ARYUNG MACHINERY IND. Co., Ltd.
881-1, Daejeon-daero, Daejeon, Korea

Korean Standards Association hereby certifies that the Quality Management System of the above organization has been assessed and found to be in accordance with the requirements of the quality standard and scope of certification detailed below:

SCOPE OF CERTIFICATION
(UNSC-0155)

ISO 9001:2000

K.S.A. 9001:2001/2000/9001:2000

SCOPE OF CERTIFICATION

DESIGN, DEVELOPMENT, PRODUCTION, SALES AND SERVICE OF COOKING PUMP AND CIRCULATOR PUMP

14 November 2004

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Certificate of Approval

Excellent Machine, M...

Product: Lubricate Pump
Company: A-Ryung Ma
881-1, Daejeon-daero
Daejeon, Korea

Valid Thru: June 18, 20...

June 18, 2008

Agency for Technology and Standards
Ministry of Commerce, Industry & Energy
Republic of Korea

Certificate of Approval

Product: Lubricate Pump

Company: A-Ryung Ma

Representative: Chun Sa

Assessment Standard: K...

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Coolant pumps

- ❖ Immersion pumps
- ❖ Multi-stage Immersion pumps
- ❖ Self priming pumps
- ❖ High pressure pumps
- ❖ Flex pumps

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ACP Series

제품의 특징

■반영구적인 수명

- Motor부 : 전폐형 3상 유도전동기로 절삭유 Pump 전용 Motor로 설계되어 있으며 Aluminum Frame를 사용하여 방열효과가 높아 Motor에 무리가 없어 반영구적으로 사용이 가능하다.
- Pump부 : 부식, 마모 등에 견디는 기계적 성질이 우수하며 소음 및 진동이 거의 없다.

■우수한 성능

- 다양한 절삭유 Pump 연구경험을 토대로 Pumping 기능을 최대로 발휘할 수 있도록 설계되어 있어 Pump의 성능이 크게 향상되었다.

■고속회전용 축봉장치

- 자흡식 Pump의 축봉장치로 고속회전용 Mechanical Seal을 사용하여 내구성을 향상시켰다.

■유면 상·하한선 표시

- 침수식 ACP-F, HF type은 Pump body에 유면 상한선과 하한선을 표시하여 Tank 내의 유면 유지에 도움이 되도록 배려하였다.

■회전방향 표시 및 점검창 부착

- Motor 상부에 회전방향을 확인할 수 있도록 스티커 또는 투명 회전방향 점검창을 부착하였다.

■Half-permanent life

- Motor part: This type is completely closed 3 phases motor and designed special cutting oil usage. The frame is made aluminum material, so it can easily dispersed the motor heat. The motor is used for half permanent because of no overload to the motor.
- Pump part: The abrasion & erosion can be protected by designing mechanical superiority, also there is no noise and vibration.

■Quality performance

- The pumping capability is improved by testing various cutting oil applications and experience.

■High speed mechanical seal

- The endurance is increased by using mechanical seal for high speed usage to apply to the self immersion pump.

■Marking high and low limitation of liquid

- Immersion type ACP-F, HF is marked high & low line of the filling oil on the pump body.

■Rotating direction& checking window attached;

- Up side of motor, it has a mark to rotate direction of motor with the sticker or direction window.

How to calculate head loss by pipe connections

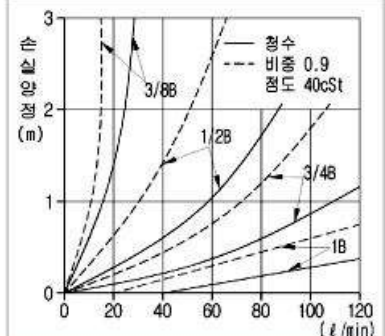
배관 LINE의 양정손실 계산방법

- 원심 Pump의 배관 Line에서 일어나는 양정 손실을 정확히 산출하기란 대단히 복잡하고 어려운 일이다. 그러나 실제 배관에서의 손실 양정은 예상외로 크기 때문에 손실양정은 필히 고려하지 않으면 안된다.

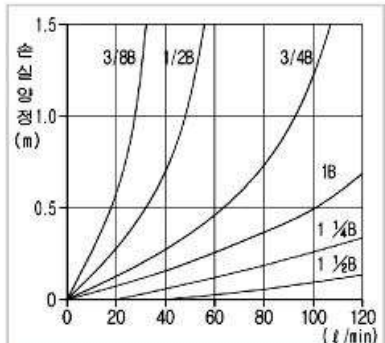
- Pump 선정시 아래선도에 의하여 구해진 총 손실양정을 실제양정에 합산하여 총 양정을 구한 다음 총 양정 Pump 성능곡선의 교점을 찾아내 실제 토출량을 구할 수 있다. 그러나 이런 값들은 오일의 종류, 점도, 온도, Pipe 내경 표면의 거칠기, Pipe의 형상, Valve의 종류 등에 따라 다소 변화된다. 우측의 도표는 산출된 값에 경험 값을 보정하여 작성된 도표이다.

- It is very difficult and complicate to figure out the friction loss in pipe, but the friction loss is so serious that the loss have to be absolutely considered.

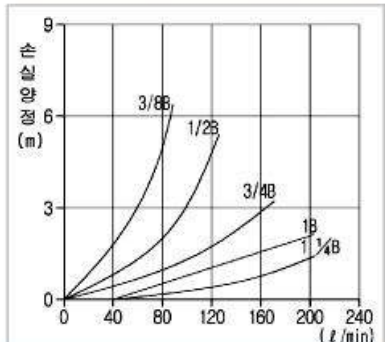
- When you select a pump, we have to add the total loss head(referring curve)and actual head by the curve, and then find out the actual discharge volume by the crossing point of performance curve. But the value of discharge volume is different from the oil degree, viscosity, temperature, roughness inside pipe, pipe shape and valve items. The right side graph is adjusted theoretical value considering practical value.



Loss head by pipe friction
파이프 1m당 손실양정



Loss head by elbow
엘보에 의한 손실양정



Loss head by outlet
토출구에 의한 손실양정

ACP Series

COMPARATIVE BY TYPE OF COOLANT PUMP 형식별 비교

Division	Self-priming 자흡식	Immersion 침수식	Multi-stage Immersion 다단 침수식
Main usage 주용도	Cutting, Cooling. 절삭, 냉각.	Cutting, Cooling. 절삭, 냉각.	High speed Cutting, Cooling, High speed drilling. 고속절삭, 냉각, 세척, 고속 드릴링.
Suction method 흡입방식	Need oil priming because it is self-priming type. 자흡식이므로 오일마중이 필요하다.	Need not oil priming because the pump part is in the tank. Pump부가 Tank내에 잠김으로 오일마중이 필요 없다.	Need not oil priming because the pump part is in the tank. Pump부가 Tank내에 잠김으로 오일마중이 필요 없다.
Installation 설치	It can be installed the tank separately and easy to select the location of the pump installation. Tank와 별도 설치가 가능하며 설치장소의 선정이 용이하다.	Installed on the top of tank and it is so compact that it is proper to fit small area. Tank 상부에 설치되며 외관이 콤팩트하여 설치공간의 제약을 적게 받는다.	Installed on the top of tank and it is so compact that it is proper to fit small area. Tank 상부에 설치되며 외관이 콤팩트하여 설치공간의 제약을 적게 받는다.
Piping 배관	Need the piping both inlet and outlet. Be careful to be mixed the air in inlet side. 흡입, 토출측 모두 배관이 필요하다. 흡입측관에는 Air 혼입이 되지 않도록 하여야 한다.	The pump part is immersed and no need of input pipe. The pump body keeps the low oil limitation level to protect air mixture. Pump부가 Tank내에 잠김으로 흡입관이 필요치 않으며 Air 혼입이 없도록 Pump Body의 유면 하한선까지는 유면이 유지되어야 한다.	No need inlet pipe because the pump part immerses. It is possible to lengthen inlet pipe. The oil should be filled at least to the 1st impeller of the bottom casing stage. Pump부가 Tank내에 잠김으로 흡입관이 필요치 않으며, 흡입 연장배관설치가 가능하다. 펌프가 정지 후 재 운전될 시에도 최저유면은 Casing 맨 아랫단의 임펠라 첫단 까지를 유지해야 한다.
Mechanical seal 축봉장치	Should be avoid pump idling because the mechanical seal is used. The input filter installed if the tank is filled with much micro dust. Mechanical Seal을 사용하고 있으므로 공회전을 시켜서는 안되며, 미세한 분진이 다량 혼합되어 있는 액체용에는 흡입 Filter를 설치하여야 한다.	As the mechanical seal is not installed, there is no harm with idling pump and no trouble with mixing micro dust in tank. 축봉장치가 없으므로 공회전을 시켜도 펌프에 무리가 없으며, 미세한 이물질이 혼입되어도 펌프의 성능에 영향을 미치지 않는다.	Should be avoid pump idling because the mechanical seal is used. The input filter installed if the tank is filled with much micro dust. Mechanical Seal을 사용하고 있으므로 공회전을 시켜서는 안되며, 미세한 분진이 다량 혼합되어 있는 액체용에는 흡입 Filter를 설치하여야 한다.
Characteristics 특징	The motor and pump is closed, the oil temperature can be affected by motor operation. Motor와 Pump부가 근접되어 있으므로 Motor에 의한 유온상승에 영향을 줄 수 있다.	The motor and pump is separated, the oil temperature is not affected by motor. Motor부와 Pump부가 격리되어 있어 유온상승에 큰 영향이 없다.	The motor and pump is separated, the oil temperature is not affected by motor. Motor부와 Pump부가 격리되어 있어 유온상승에 큰 영향이 없다.

Motor (Free voltage)

This standard motor is used fan cooling system and the dimension is applied general standard.

이 펌프는 Fan cooling 방식으로 된 표준 Motor를 사용하고 있으며, 주요 규격(Dimension)은 일반표준에 따라 제작 되었다.

Enclosure class 보호등급 : IP55
Insulation class 절연계급 : F
Standard voltage 표준전압 : 50Hz
3ø 200-230/380-415V
Standard voltage 표준전압 : 60Hz
3ø 220-240/380-440V

The specific voltage and motor can be produced by user's order.

The standard starting panel should be connected when using 3ø motor.

기타 비표준 사용전압 및 고효율 Motor도 주문에 의해 제작이 가능하다.

3ø Motor에는 반드시 규격에 맞는 기동조작반이 연결 되어야 한다.

ACP-F, HF Series

Operating instructions 사용시 유의사항

■ Tank의 적정 유면은 펌프 몸체의 가이드 측면에 표시되어있는 상, 하한선까지를 유지해야 하며 최고유면이 Tank 상판을 기준으로 20mm이하로 유지하는 것이 좋다. (표 1 참조)

유면이 상한선 이상이 되면 Tank 상판틈새로 유체가 비산될 수 있으며 하한선 이하가 되면 공기의 혼입으로 소음이 발생하고, Tank 바닥에 침적되어있는 이물질이 유입되어 펌프의 성능을 저하시킨다.

■ 점도에 따라 유량의 변화가 매우 심하며 점도가 너무 높으면 Motor가 과열되어 소손될 수 있으므로 절삭유의 점도는 32cSt이하에서 사용해야한다.

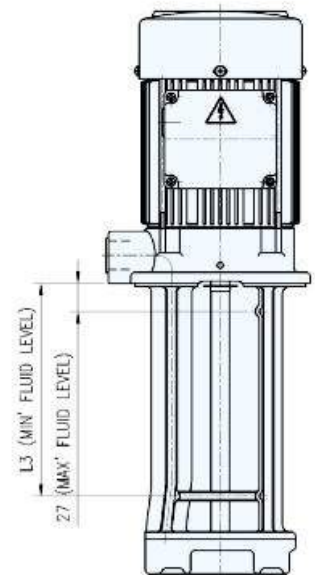
■ 이 펌프는 양정이 낮으므로 Check valve를 설치하면 관 저항에 의해 토출이 되지 않을 수 있으므로 유의해야한다.

■ The liquid should be filled the up and down limit line indicated the pump body side. But that the maximum level of liquid keeps below 20mm from tank top (refer drawing #1)is better.

If the liquid is over the maximum limit line, it happens the liquid dispersion. Reversely, the minimum liquid causes noise by air mixing or low performance of sucking particles from under tank.

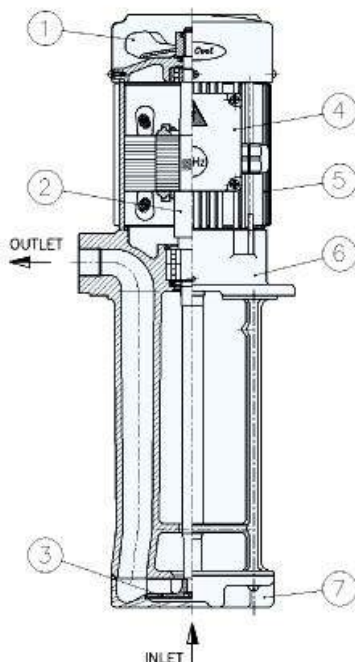
■ The discharging volume is sharply changeable by the viscosity. If the viscosity is high, the motor increases heat. So the viscosity of cutting oil keeps under 32 cSt.

■ This pump is low head so that it can't discharge due to pipe resistance when the check valve is installed.



(표1 Refer drawing #1)

Suctional drawing 부품도



No	name
1	Fan
2	Shaft
3	Impeller
4	Terminal box
5	Motor
6	Pump body
7	Casing

ACP - 400 - HF - 18

Motor out-put
출력(W)

Immersion type
F : Standard
일반형
HF: Pressure type
양정형 침수식

Depth of immersion(Only HF type)
침수깊이(HF type에만 적용)
18 : 180mm
25 : 250mm
28 : 280mm

ACP-F Series



■ ACP-F Type은 침수식 펌프로서 별도의 오일마중이 필요치 않고, Mechanical-seal이 적용되지 않아 공회전에 의한 고장발생이 없으며, 외관이 콤팩트하여 범용 공작기계에 널리 사용 된다.

■ ACP-F type is a submerged pump and the pump part is submerged in tank. The pump part is installed on the tank, so the extra oil priming work is not necessary. As the result, it has little trouble by idle working because it have no mechanical seal. It has little restrictions in the installation place, additionally, it is so compact that it is widely used in the general machine tools.

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 양정 PS	Immersion depth 침수깊이 L mm	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
						Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
★ ACP-60F	25	2	3/8"	153	6.5	0.06	50	200 380 415	0.40 0.24 0.22
★ ACP-60F	30	2	3/8"	153	6.5	0.06	60	220 380 440	0.45 0.26 0.25
★ ACP-100F	35	2	3/8"	158	7.0	0.1	50	200 380 415	0.50 0.29 0.27
★ ACP-100F	45	2	3/8"	158	7.0	0.1	60	220 380 440	0.55 0.32 0.31
★ ACP-180F	75	3	1/2"	180	10.5	0.18	50	200 380 415	1.00 0.58 0.56
★ ACP-180F	90	3	1/2"	180	10.5	0.18	60	220 380 440	1.10 0.64 0.60
★ ACP-250F	120	4	3/4"	258	14.0	0.25	50	200 380 415	1.50 0.87 0.82
★ ACP-250F	150	4	3/4"	258	14.0	0.25	60	220 380 440	1.60 0.93 0.88
★ ACP-400F	140	5	1"	280	18.5	0.4	50	200 380 415	2.60 1.50 1.40
★ ACP-400F	200	5	1"	280	18.5	0.4	60	220 380 440	2.70 1.60 1.50

The model indicated ★ mark can use coolant with the oil. (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

· Enclosure class 보호등급, IP55

· Insulation class : F
절연계급

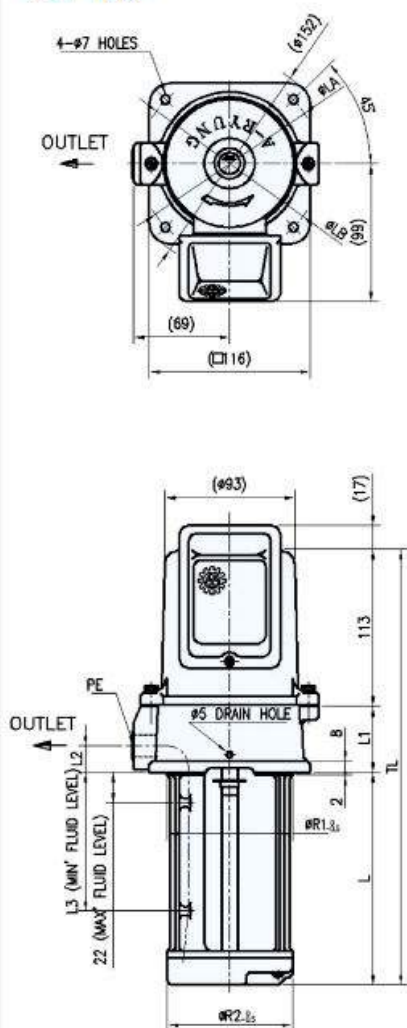
Coolant pumps

Immersion Type

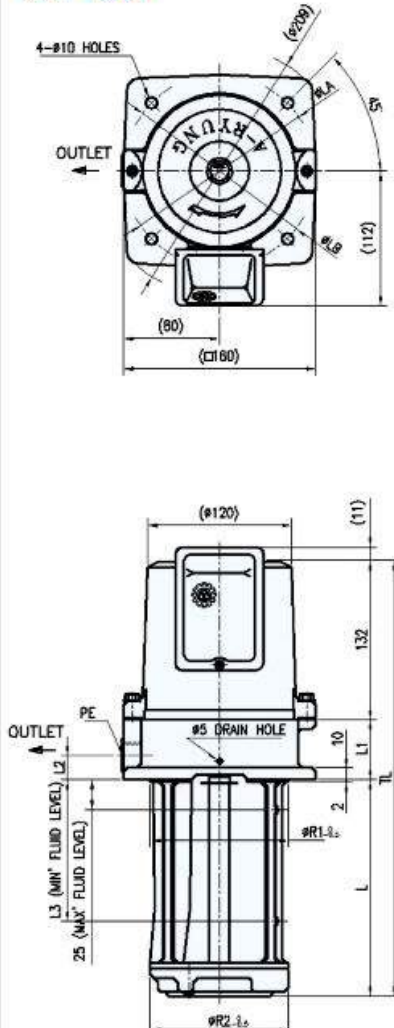
ACP-F Series

External dimensions 외형도

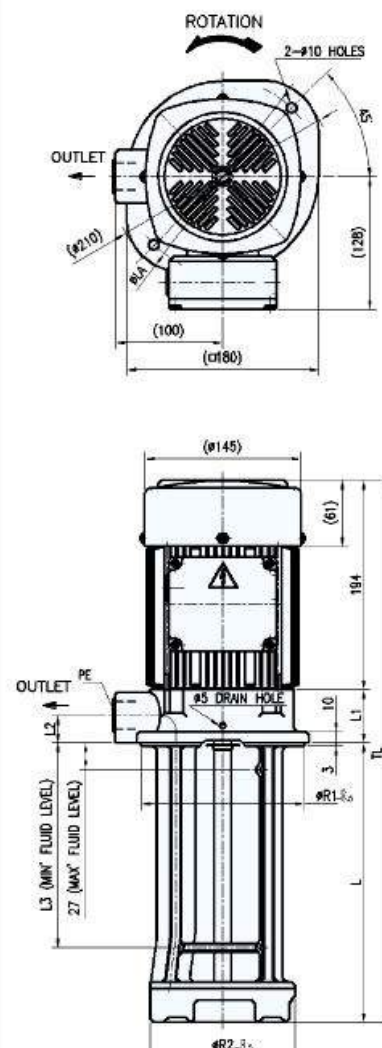
ACP-60F
ACP-100F



ACP-180F
ACP-250F



ACP-400F



Type	L1	L2	L3	L	ØR1	ØR2	ØLA	ØLB	TL	PE
ACP-60F	48	19	100	153	90	90	132 (130)	130 (130)	314	PS3/8"
ACP-100F	48	19	100	158	90	90	132 (130)	134 (130)	319	PS3/8"
ACP-180F	50	20	118	180	115	115	160 (160)	134 (160)	362	PS1/2"
ACP-250F	63	25	165	258	134	134	160 (160)	170 (160)	453	PS3/4"
ACP-400F	59	30	210	280	152	146	180 (180)	-	533	PS 1"

※ About ØLA and ØLB in the above table, the value in the parenthesis is applied only to domestic (korea) use.
위 표의 ØLA, LB의 ()안의 치수는 국내사용 규격입니다.

Applications 적용

available fluid 사용유체
Water/Coolant
Cutting oils
Grinding oils
Viscosity 점도
1~32cSt
Temperature 사용온도
80℃ 이하

Material 재질

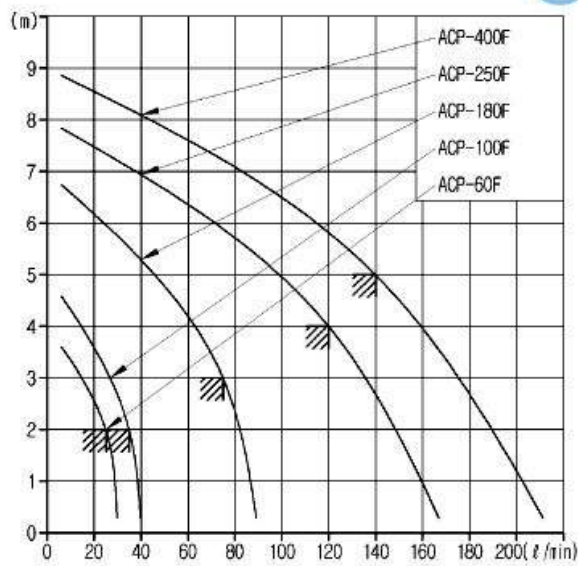
Motor frame : ALDC
Pump body : Cast iron
Casing : Cast iron
Impeller : Powder steel
Shaft : steel

ACP-F Series

Performance range 성능곡선

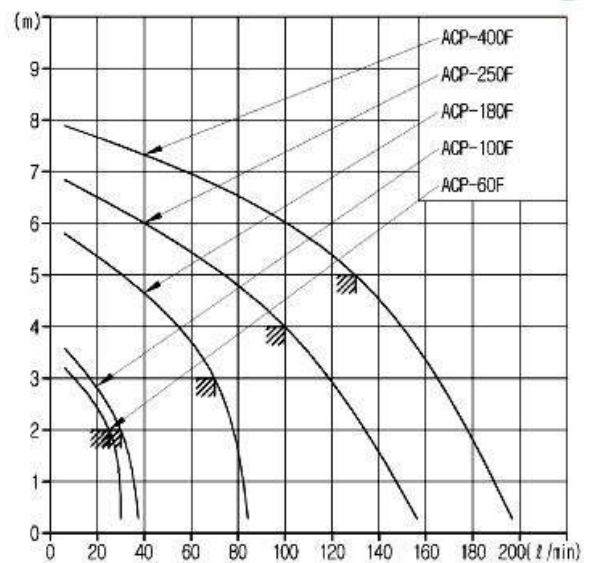
Solubility in water 수용성

50Hz

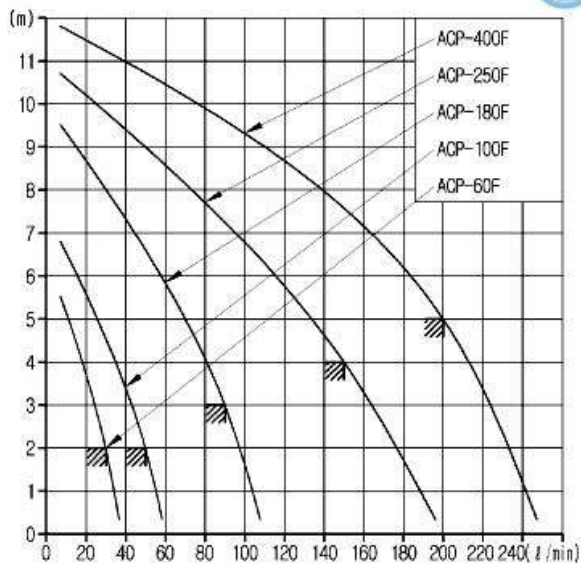


Unsolubility in water 비수용성

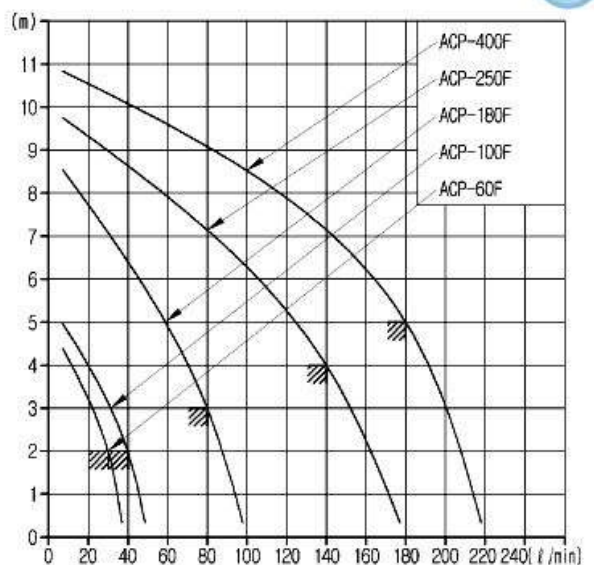
50Hz



60Hz



60Hz



*Above data is tested in the viscosity 2cSt and oil temperature 20℃.

위 Data는 유온 20℃, 점도 2cSt 에서 작성 되었다.

*Above data is tested in the viscosity 32cSt and oil temperature 40℃.

위 Data는 유온 40℃, 점도 32cSt 에서 작성 되었다.

ACP-HF Series



■ ACP-HF Type은 ACP-F Type보다 다소 양정이 요구되는 공작기계에 사용되는 침수식 펌프로써 별도의 오일마중이 필요치 않고, Mechanical -seal이 적용되지 않아 공회전에 의한 고장발생이 없으며, 외관이 콤팩트하여 범용 공작기계에 널리 사용 된다.

■ This type is used when needs higher lift-up than F type, it has little trouble by idle working because it have no mechanical seal. It has little restrictions in the installation place, additionally it is so compact that it is widely used in the general machine and tools.

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 토출구 PS	Immersion depth 침수깊이 L mm	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
						Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
★ ACP-180HF18	20	8	1/2"	180	10.9	0.18	50	200	1.40
★ ACP-180HF25	20	8	1/2"	250	11.8			380	0.81
								415	0.75
★ ACP-180HF18	20	12	1/2"	180	10.9	0.18	60	220	1.50
★ ACP-180HF25	20	12	1/2"	250	11.8			380	0.87
								440	0.82
★ ACP-250HF18	20	9	3/4"	180	12.0	0.25	50	200	1.60
★ ACP-250HF25	20	9	3/4"	250	13.0			380	0.93
								415	0.85
★ ACP-250HF18	20	13	3/4"	180	12.0	0.25	60	220	1.70
★ ACP-250HF25	20	13	3/4"	250	13.0			380	0.98
								440	0.92
★ ACP-400HF18	40	10	1"	180	18.0	0.4	50	200	2.6
★ ACP-400HF28	40	10	1"	280	19.1			380	1.5
								415	1.4
★ ACP-400HF18	40	15	1"	180	18.0	0.4	60	220	2.7
★ ACP-400HF28	40	15	1"	280	19.1			380	1.6
								440	1.5
ACP-600HF18	60	10	1"	180	19.0	0.6	50	200	3.0
ACP-600HF28	60	10	1"	280	20.0			380	1.7
								415	1.6
ACP-600HF18	60	15	1"	180	19.0	0.6	60	220	3.2
ACP-600HF28	60	15	1"	280	20.0			380	1.9
								440	1.7

The model indicated ★ mark can use coolant with the oil, (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

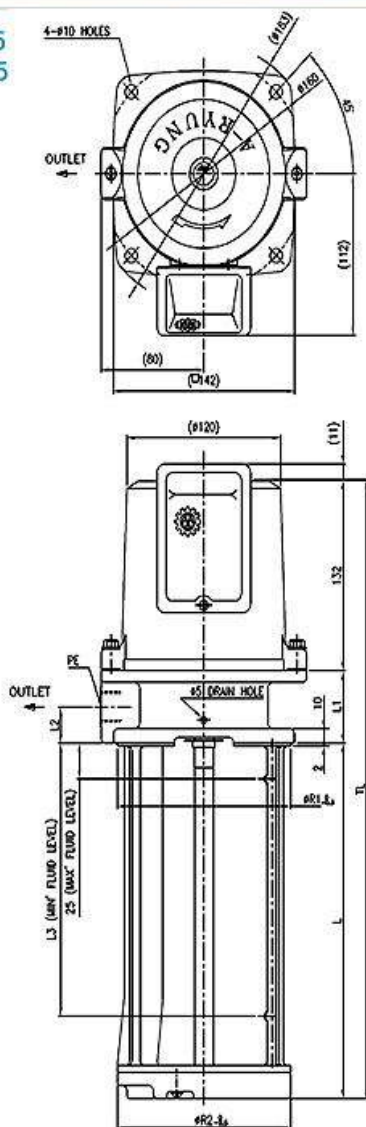
· Enclosure class 보호등급, IP55

· Insulation class : F
절연계급

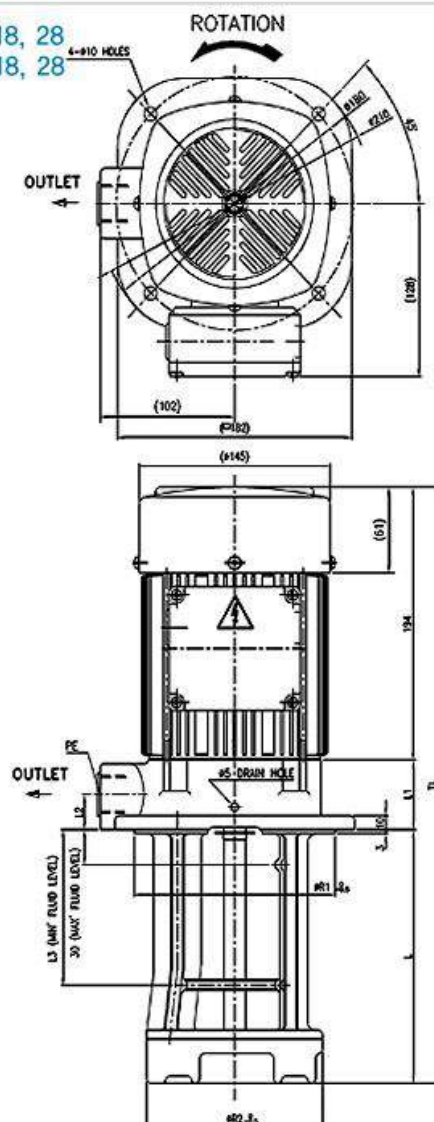
ACP-HF Series

External dimensions 외형도

ACP-180HF18, 25
ACP-250HF18, 25



ACP-400HF18, 28
ACP-600HF18, 28



Type	L1	L2	L3	L	ØR1	ØR2	TL	PE
ACP-180HF18	50	25	120	180	134	134	362	PS 1/2"
ACP-180HF25	50	25	190	250	134	134	432	PS 1/2"
ACP-250HF18	50	25	120	180	134	134	362	PS 3/4"
ACP-250HF25	50	25	190	250	134	134	432	PS 3/4"
ACP-400HF18	59	30	123	180	152	146	433	PS 1"
ACP-400HF28	59	30	223	280	152	146	533	PS 1"
ACP-600HF18	59	30	123	180	152	146	433	PS 1"
ACP-600HF28	59	30	223	280	152	146	533	PS 1"

Applications 적용

Type of fluid 사용유체

Water/Coolant

Cutting oils

Grinding oils

Viscosity 점도

1~32cSt

Temperature 사용온도

80℃ 이하

Material 재질

Motor frame : ALDC

Pump body : Cast iron

Casing : Cast iron

Impeller : Bronze

Shaft : steel

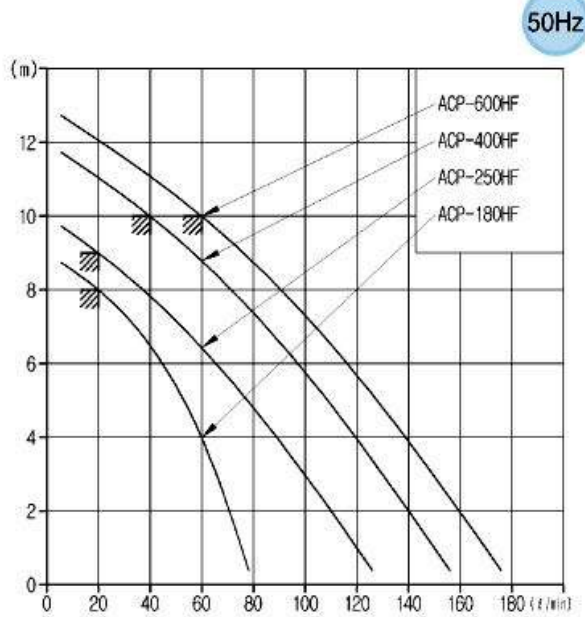
Coolant pumps

Immersion Type

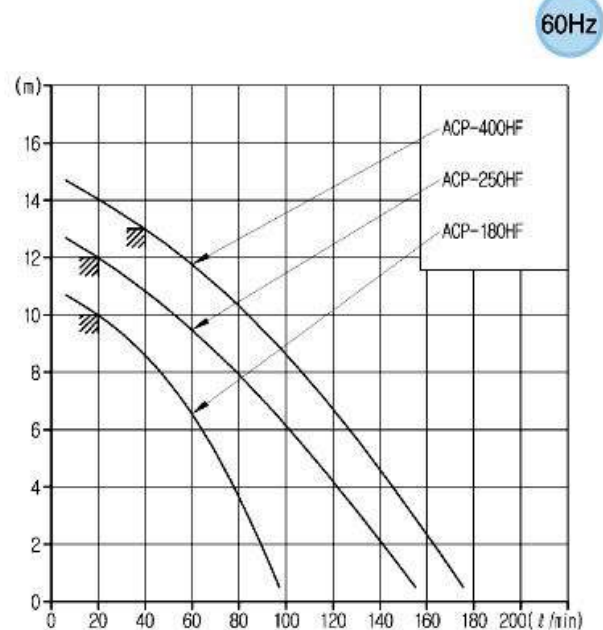
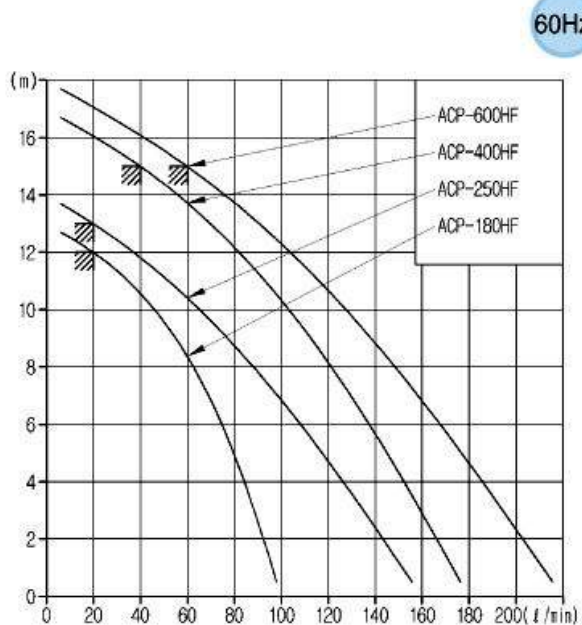
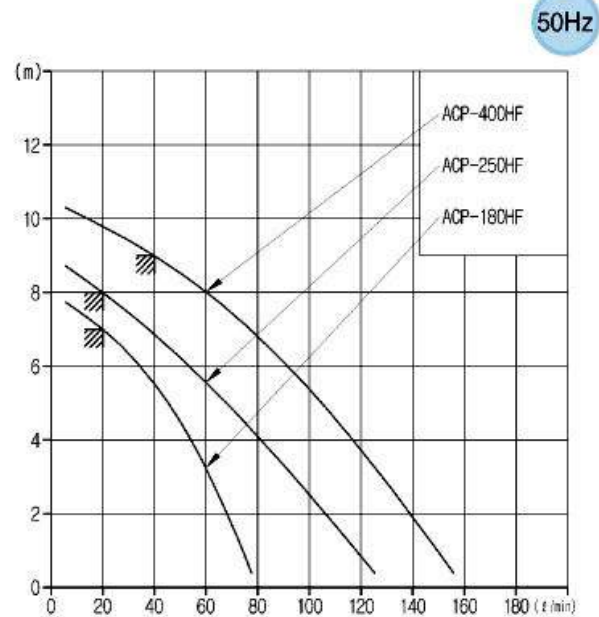
ACP-HF Series

Performance range 성능곡선

Solubility in water 수용성



Unsolubility in water 비수용성



*Above data is tested in the viscosity 2cSt and oil temperature 20℃.

위 Data는 유온 20℃, 점도 2cSt에서 작성되었다.

*Above data is tested in the viscosity 32cSt and oil temperature 40℃.

위 Data는 유온 40℃, 점도 32cSt에서 작성되었다.

ACP-MF, BMF Series

Operating instructions 사용시 유의사항

■ 다단 펌프는 흡입부가 펌프하부에 설치되어 있으므로 Casing의 밑면과 Tank 지면사이 일정간격을 유지해야 한다.(40mm)

■ 이 펌프에는 축봉장치(Mechanical-seal)가 내장되어 있어 펌프가 침수되지 않은 상태에서 공회전을 시키게 되면 축봉장치가 파손되어 사용할 수 없게 되므로 초기 설치시에 각별히 유의해야한다.
(공회전 30초 이내)

■ Tank의 최고 유면의 상한선은 Tank 상판보다 20mm 이하이며, 최저유면의 하한선은 Casing 의 맨 아랫단 윗부분까지를 유지해야 한다. (표 2 참조)

■ MF, BMF type은 흡입연장 배관을 설치할 수 있다. 단, 흡입연장 배관을 설치했다라도 펌프가 정지 후 재 운전될 시에도 최저유면은 Casing 맨 아랫단의 임펠라 첫단 까지를 유지해야 한다.

■ 점도에 따라 유량의 변화가 매우 심하며 점도가 너무 높으면 Motor가 과열되어 소손될 수 있으므로 절삭유의 점도는 75cSt이하에서 사용해야한다.

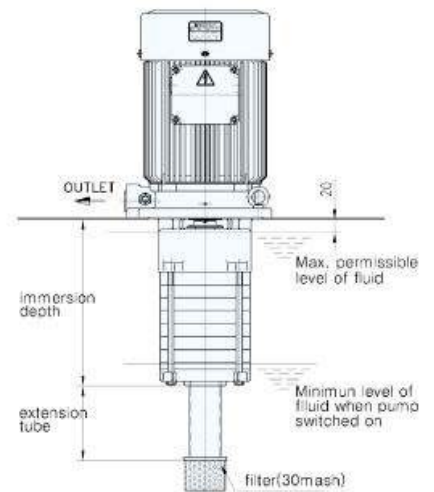
■ The inlet of multistage pump is installed at pump bottom, so between the casing bottom and the tank keeps the distance at least 40mm.

■ This pump has a mechanical seal. Be careful not to operate in the condition of idle working without pump submerged. If not, the seal can be easily broken.
(idle time; within 30 seconds)

■ The maximum level of liquid in tank is below 20mm from tank top. The minimum level keeps the top of the bottom casing, (refer the drawing #2)

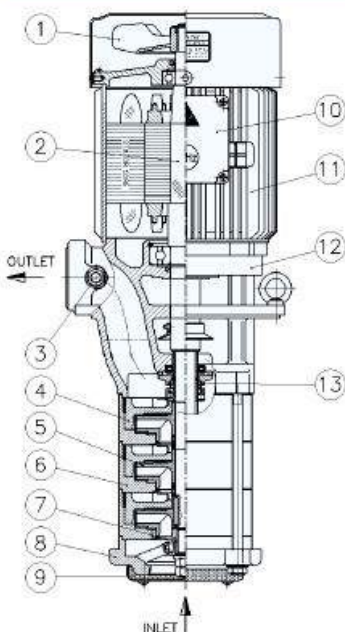
■ The MF, BMF type can enlarge the suction pipe. But even the extension pipe is attached, the minimum liquid level should keep the top of the bottom casing.

■ The discharging volume is sharply changeable by the viscosity. If the viscosity is higher, the motor increases heat. So the viscosity of cutting oil keeps under 32 cSt.



(표 2 Refer the drawing #2)

Suctional drawing 부품도



No	name
1	Fan
2	Shaft
3	Air vent
4	Guide vane
5	Impeller
6	Casing
7	Bushing
8	Casing cover
9	Suction filter
10	Terminal box
11	motor
12	Pump body
13	Mechanical seal

ACP - 900 - MF - F

Motor out-put 출력(W)	ACP
Pump division 펌프구분 MF : Standard 일반형 BMF: Large-liquid 대유량형	900 - MF
Piping method 배관방식 No mark : Screw 나사식 F : Flange 후렌지식	F

ACP-MF Series



■ ACP-MF Type은 대유량 다단 원심펌프로써 많은 유량을 필요로 하는 고정밀, 고기능의 대형기계에 주로 사용되며 가공물을 냉각시켜 표면조도를 향상시키고 절삭된 칩을 분산시켜 흘러내리게 하거나 세척하는데 매우 적합하다.

■ 모터와 펌프부사이 일정 간격을 유지하여 모터에서 발생한 열이 펌프에 직접 전달되지 않도록 설계되어 유온상승의 영향을 주지 않는다.

■ 특수 제작된 메카니컬실이 내장되어 내구성이 우수하다.

■ This type is multistage centrifugal pump and used high quantity flowing of oil for the large machine with higher precise and efficiency. It is proper to make at working parts surface slick by flowing down and washing the chips by cooling fluid.

■ As the motor is separated from pump part, the high temperature of motor does not transfer directly to the pump, so the oil temperature can keep constantly.

■ The special mechanical seal improves pump life.

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 토출구 PS	In-let 흡입구 PS	Immersion depth 침수깊이 L mm	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
							Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
★ ACP-900MF	180 (50-260)	10	1 1/4"	2 1/2"	252	30	0.9	50	200 380 415	4.3 2.4 2.1
★ ACP-900MF	165 (50-280)	15	1 1/4"	2 1/2"	252	30		60	220 380 440	5.2 3.0 2.6
★ ACP-1500MF	260 (50-325)	10	1 1/2"	2 1/2"	274	38	1.5	50	200 380 415	6.9 4.0 3.8
★ ACP-1500MF	260 (50-400)	20	1 1/2"	2 1/2"	274	38		60	220 380 440	7.6 4.4 4.3
★ ACP-2200MF	300 (50-340)	10	1 1/2"	2 1/2"	274	42	2.2	50	200 380 415	10.0 5.8 5.6
★ ACP-2200MF	325 (50-410)	20	1 1/2"	2 1/2"	274	42		60	220 380 440	11.0 6.4 6.1
★ ACP-3700MF	350 (50-390)	10	1 1/2"	2 1/2"	344	49	3.7	50	200 380 415	15.0 8.7 8.4
★ ACP-3700MF	380 (50-420)	20	1 1/2"	2 1/2"	344	49		60	220 380 440	16.0 9.3 9.0

The model indicated ★ mark can use coolant with the oil, (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

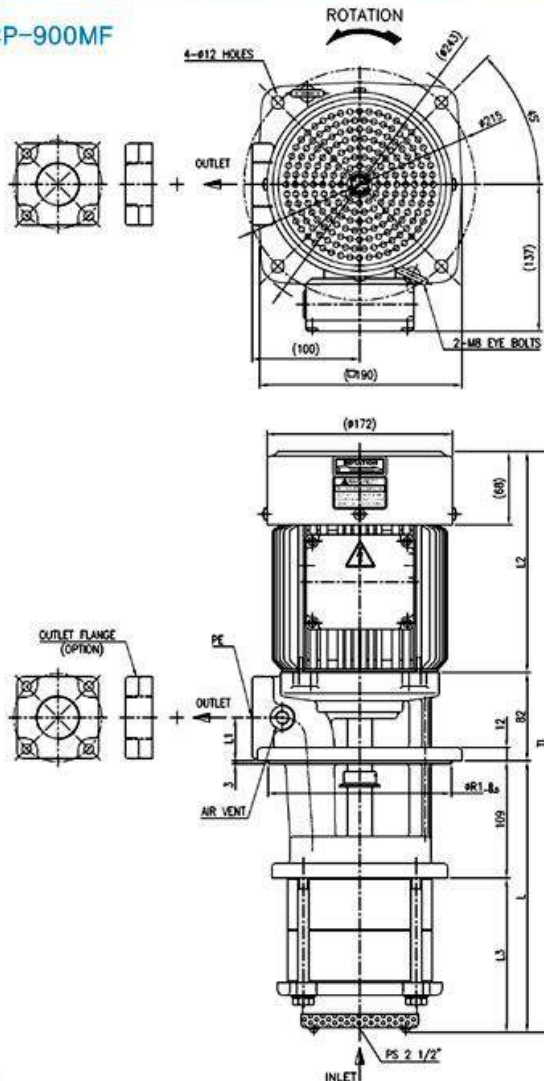
· Enclosure class : IP55
보호등급

· Insulation class :F
절연계급

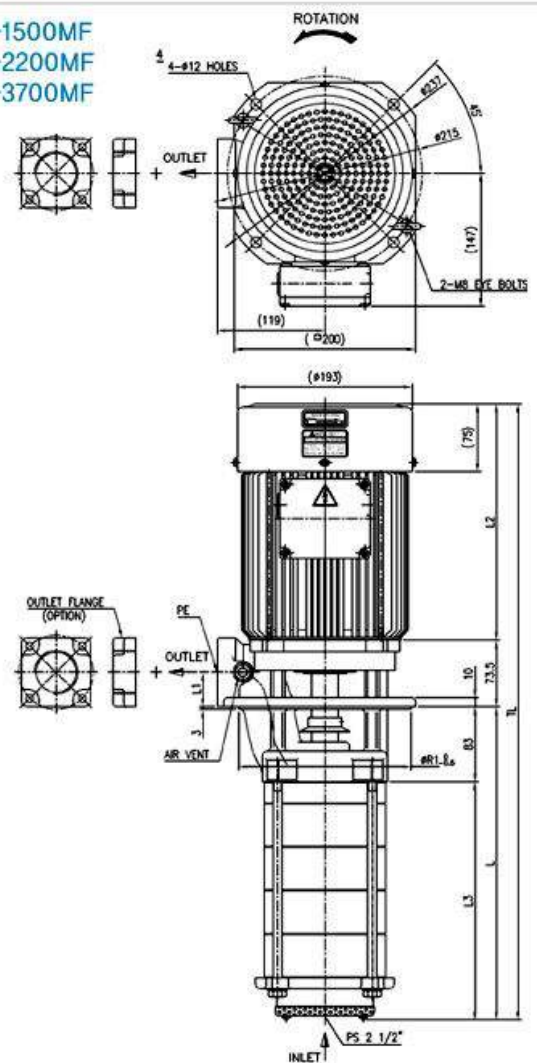
ACP-MF Series

External dimensions 외형도

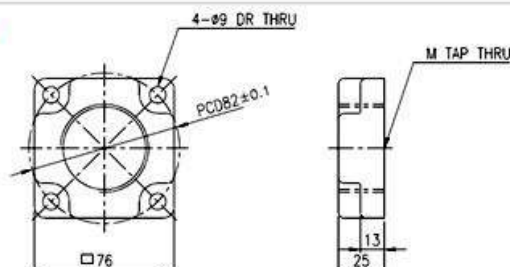
ACP-900MF



ACP-1500MF
ACP-2200MF
ACP-3700MF



Out-let Flange(Optional)



Type	M
ACP-900MF	PS 1 1/4"
ACP-1500MF	PS 1 1/2"
ACP-2200MF	PS 1 1/2"
ACP-3700MF	PS 1 1/2"

Type	L1	L2	L3	L	ØR1	TL	PE
ACP-900MF	40	205	143	252	170	540	PS 1 1/4"
ACP-1500MF	38	214	191	274	180	565	PS 1 1/2"
ACP-2200MF	38	231	191	274	180	580	PS 1 1/2"
ACP-3700MF	38	266	263	348	180	690	PS 1 1/2"

Applications 적용

Type of fluid 사용유체
Water/Coolant
Cutting oils
Grinding oils
Viscosity 점도
1~32cSt
Temperature 사용온도
80℃이하

Material 재질

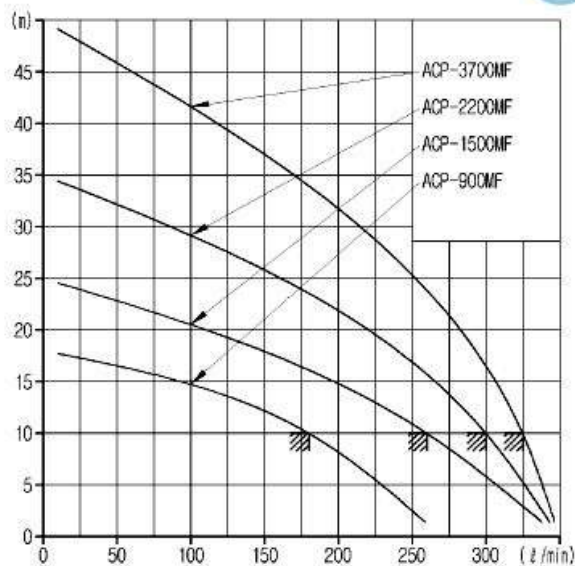
Motor frame : ALDC
Pump body : Cast iron
Casing : Cast iron
Impeller : Cast iron
Shaft : steel
Stainless steel

ACP-MF Series

Performance range 성능곡선

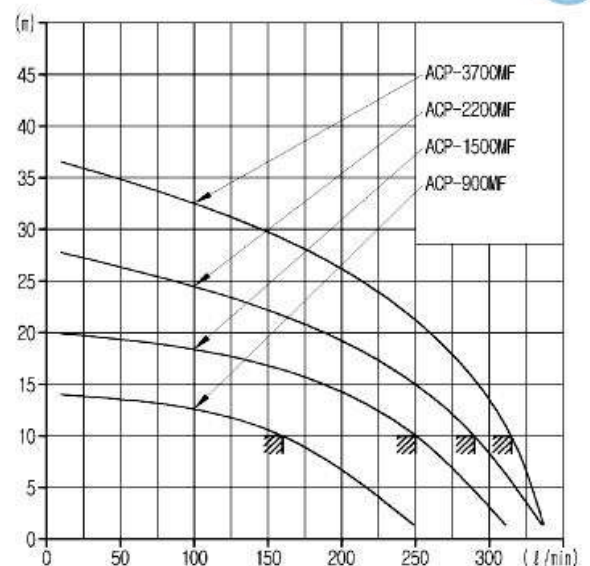
Solubility in water 수용성

50Hz

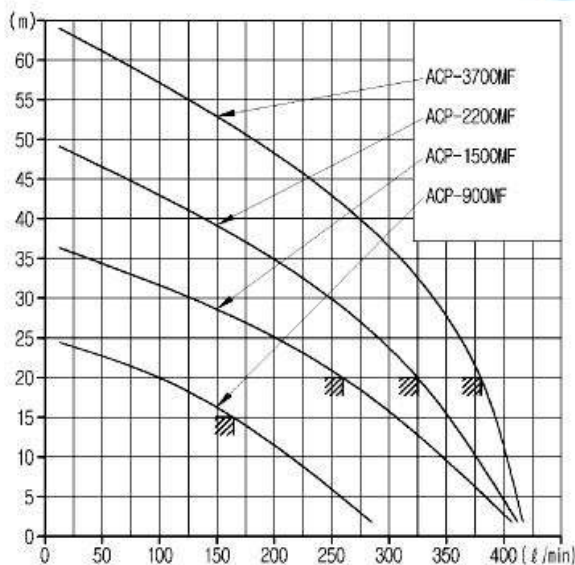


Unsolubility in water 비수용성

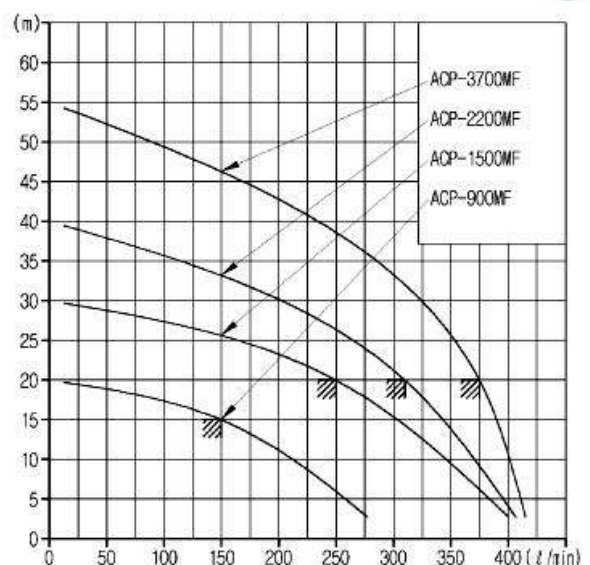
50Hz



60Hz



60Hz



*Above data is tested in the viscosity 2cSt and oil temperature 20℃.

위 Data는 유온 20℃, 점도 2cSt 에서 작성 되었다.

*Above data is tested in the viscosity 32cSt and oil temperature 40℃.

위 Data는 유온 40℃, 점도 32cSt 에서 작성 되었다.

ACP-BMF Series



■ ACP-BMF Type은 대유량 다단 원심펌프로써 많은 유량을 필요로 하는 고정밀, 고기능의 대형기계에 주로 사용되며 가공물을 냉각시켜 표면조도를 향상시키고 절삭된 칩을 분산시켜 흘러내리게 하거나 세척하는데 매우 적합하다.

■ 모터와 펌프부분사이 일정간격을 유지하여 모터에서 발생된 열이 펌프에 직접 전달되지 않도록 설계되어 유온상승이 영향을 주지 않는다.

■ 특수 제작된 메카니컬실이 내장되어 내구성이 우수하다.

■ This type is multistage centrifugal pump and used high quantity flowing of oil for the large machine with high precise and efficiency. It is proper to make working part surface slick by flowing down and washing the chips with cooling fluid.

■ As the motor is separated from pump part, the high temperature of motor does not transfer directly to the pump, so the oil temperature keeps constantly.

■ The special mechanical seal improves endurance of pump life.

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 토출구 PS	In-let 흡입구 PS	Immersion depth 침수깊이 L mm	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
							Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
★ ACP-1500BMF	300 (50-460)	10	2'	2 1/2'	239	45.5	1.5	50	200 380 415	6.9 4.0 3.8
★ ACP-1500BMF	400 (50-600)	12	2'	2 1/2'	239	45.5		60	220 380 440	7.6 4.4 4.3
ACP-2200BMF	400 (50-500)	10	2'	2 1/2'	239	46.5	2.2	50	200 380 415	10.0 5.8 5.6
ACP-2200BMF	400 (50-600)	20	2'	2 1/2'	239	46.5		60	220 380 440	11.0 6.4 6.1
★ ACP-3700BMF	450 (50-500)	10	2'	2 1/2'	345	50.0	3.7	50	200 380 415	15.0 8.7 8.4
★ ACP-3700BMF	500 (50-600)	20		2 1/2'	345	50.0		60	220 380 440	16.0 9.3 9.0
★ ACP-5500BMF	480 (50-500)	10	2'	2 1/2'	345	57.0	5.5	50	200 380 415	17.5 10.1 9.5
★ ACP-5500BMF	550 (50-600)	20	2'	2 1/2'	345	57.0		60	220 380 440	25.0 14.4 13.0

The model indicated ★ mark can use coolant with the oil, (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

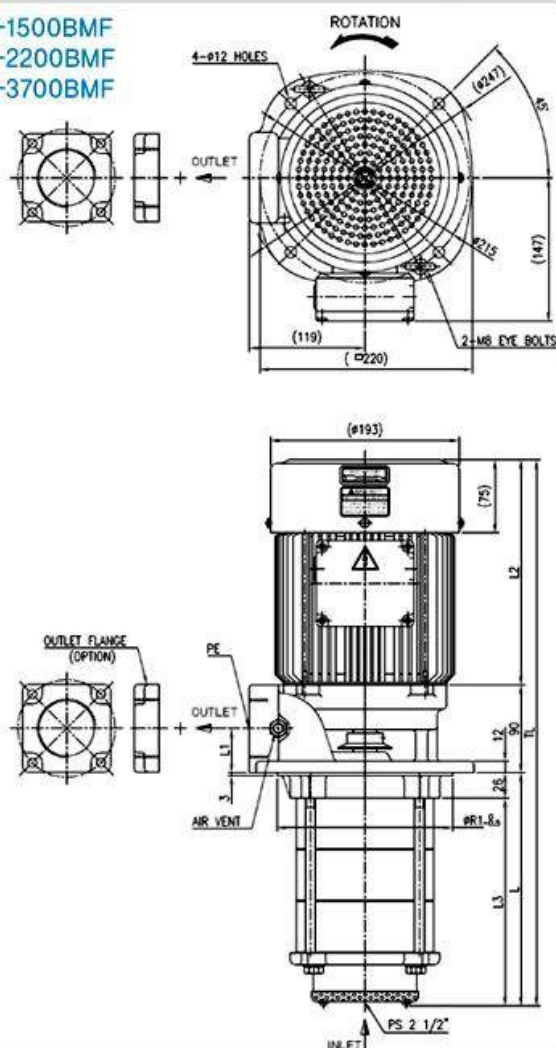
· Enclosure class : IP55
보호등급

· Insulation class : F
절연계급

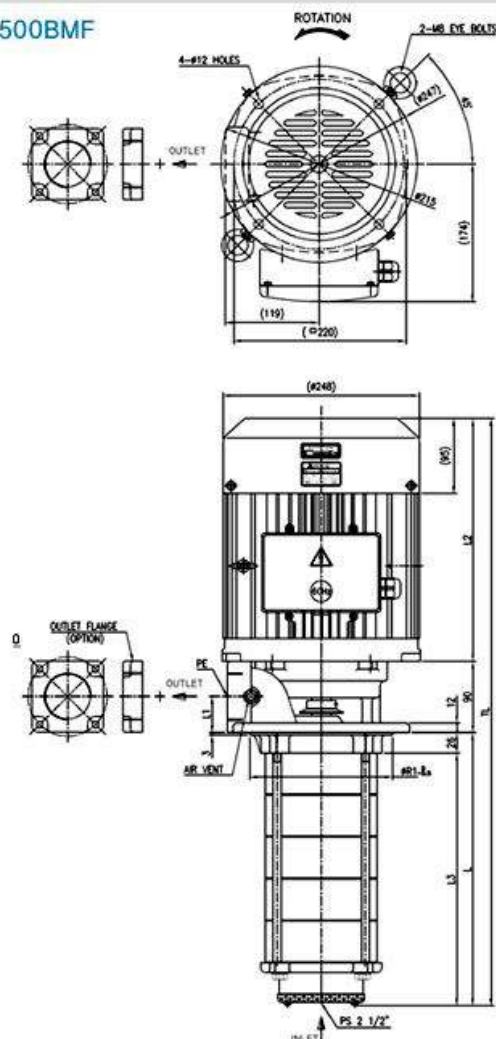
ACP-BMF Series

External dimensions 외형도

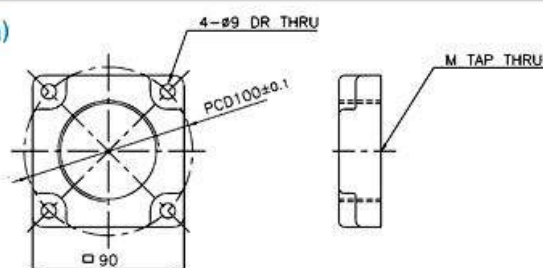
ACP-1500BMF
ACP-2200BMF
ACP-3700BMF



ACP-5500BMF



Out-let Flange(Optional)



Type	M
ACP-1500BMF	PS 2"
ACP-2200BMF	PS 2"
ACP-3700BMF	PS 2"
ACP-5500BMF	PS 2"

Type	L1	L2	L3	L	TL	ØR1	PE
ACP-1500BMF	45	214	213	239	545	180	PS 2"
ACP-2200BMF	45	231	213	239	560	180	PS 2"
ACP-3700BMF	45	266	319	345	700	180	PS 2"
ACP-5500BMF	45	307	319	345	745	180	PS 2"

Applications 적용

Type of fluid 사용유체
Water/Coolant
Cutting oils
Grinding oils
Viscosity 점도
1~32cSt
Temperature 사용온도
80℃이하

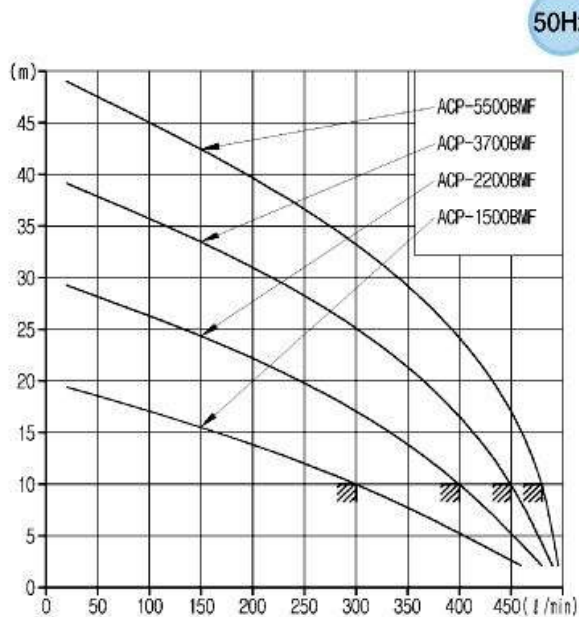
Material 재질

Motor frame : ALDC
Pump body : Cast iron
Casing : Cast iron
Impeller : Cast iron
Shaft : stainless steel

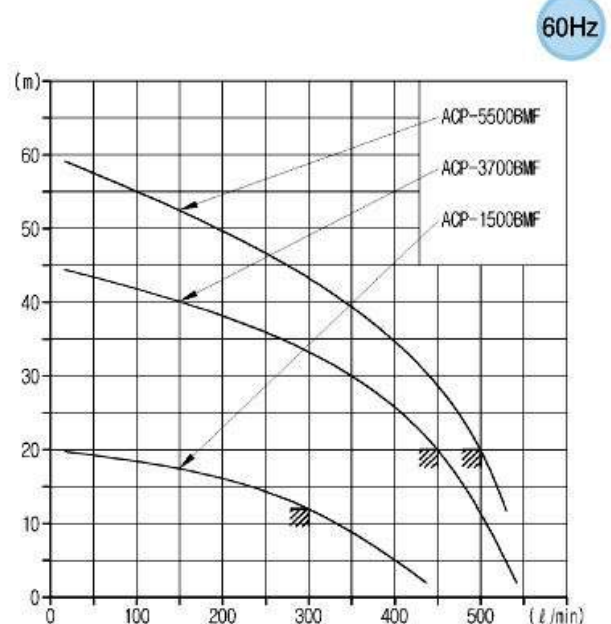
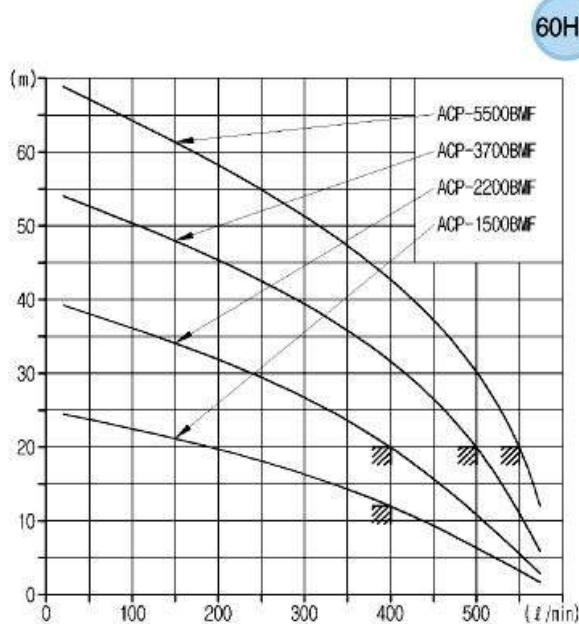
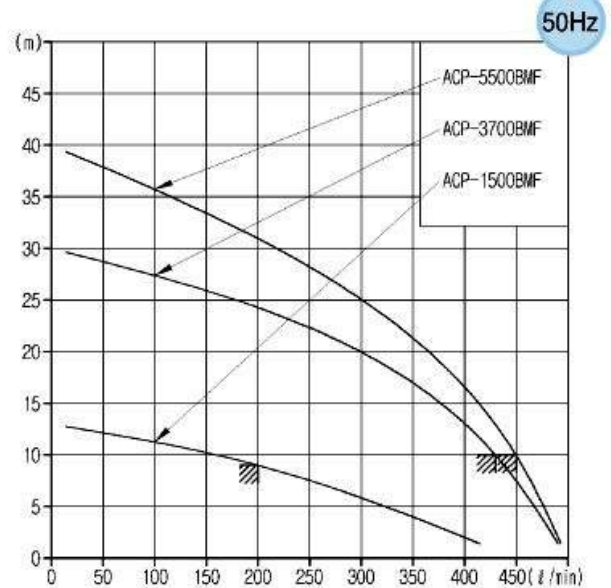
ACP-BMF Series

Performance range 성능곡선

Solubility in water 수용성



Unsolubility in water 비수용성



*Above data is tested in the viscosity 2cSt and oil temperature 20℃.

위 Data는 유온 20℃, 점도 2cSt 에서 작성 되었다.

*Above data is tested in the viscosity 32cSt and oil temperature 40℃.

위 Data는 유온 40℃, 점도 32cSt 에서 작성 되었다.

ACP-HMFS, HMFC Series

Operating instructions 사용시 유의사항

■ 다단 펌프는 흡입부가 펌프하부에 설치되어 있으므로 흡입부와 Tank 지면사이는 일정 간격을 유지해야 한다.(40mm)

■ 이 펌프에는 축봉장치(Mechanical-seal)가 내장되어 있어 펌프가 침수되지 않은 상태에서 공회전을 시키게 되면 축봉장치가 파손되어 사용할 수 없게 되므로 초기 설치시에 각별히 유의해야 한다.(공회전 30초 이내)

■ 자흡식 펌프(Horizontal type)는 설치후 처음 기동시 및 장기간 정지 후 다시 운전을 할때는 반드시 절삭액 마중을 실시해야한다.

■ Tank의 최고 유면의 상한선은 Tank 상판보다 20mm 이하이며, 최저유면의 하한선은-
침수식 (Vertical type) : Casing 맨 아랫단 임펠라 첫 단까지, 자흡식 (Horizontal type) : 흡입관 끝에서 위로 20mm 이상 유지해야한다.

■ HMFS type은 흡입연장 배관을 설치할 수 있다. 단, 흡입연장 배관을 설치했다라도 펌프가 정지후 재 운전될 시에도 최저유면은 Casing 맨 아랫단의 임펠라 첫단 까지를 유지해야 한다.

■ 자흡식 펌프의 흡입배관 길이는 0.7m이하가 되게 설치할것. (Horizontal type)

■ 점도에 따라 유량의 변화가 매우 심하며 점도가 너무 높으면 Motor가 과열되어 소손될 수 있으므로 절삭유의 점도는 32cSt 이하에서 사용해야한다.

■ The inlet of multistage pump is installed at pump bottom, so between the casing bottom and the tank keeps the distance at least 40mm.

■ This pump has a mechanical seal. Be careful not to operate in the condition of idle working without pump submerged. If not, the seal can be easily broken. (idle time; within 30 seconds)

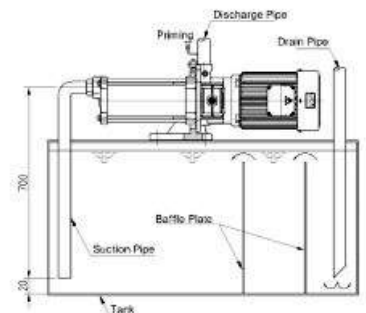
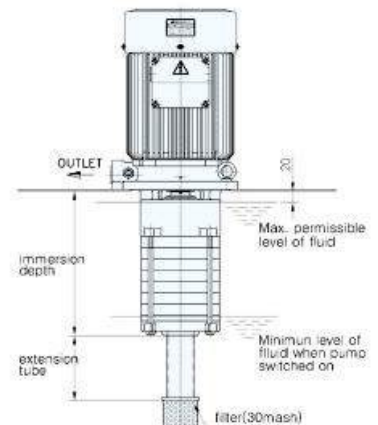
■ The horizontal self submerged type have to be filled the liquid for the first operation or the reoperation after long idle time.

■ The maximum level of liquid in tank is below 20mm from tank top. In case of vertical type, the minimum level keeps the top of the bottom casing, in horizontal type keeps over 20mm from the bottom of inlet.

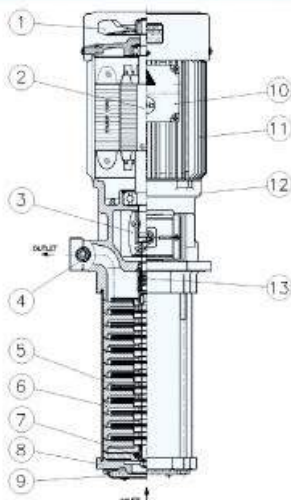
■ The HMFS type can attach the suction pipe. But even it makes the extension of pipe, the minimum liquid level should keep the top of the bottom casing.

■ The inlet length of self submerged pump should be installed below 0.7m.(horizontal type)

■ The discharging volume is sharply changeable by the viscosity. If the viscosity is higher, the motor increases heat. So the viscosity of cutting oil keeps under 32 cSt.



Suctional drawing 부품도



No	name
1	Fan
2	Shaft
3	Coupling
4	Air vent
5	Impeller
6	Casing
7	Bushing
8	Casing cover
9	Suction filter
10	Terminal box
11	motor
12	Pump body
13	Mechanical seal

ACP - 1500 - HMFS - 70 - V

Motor out-put(W)
출력

Pump division
펌프구분
HMFS : Pressure type
양정형

HMFC : High- Pressure type
고양정형

Delivery Head(m)
양정

Installing method(Only HMFC type)
부착방식(HMFC type에만 해당됨)
V : Vertical
H : Horizontal

ACP-HMFS Series



■ ACP-HMFS Type은 양정형 다단 원심펌프로서 높은 압력을 필요로 하는 고정밀, 고기능의 기계에 주로 사용되며 가공물을 냉각시켜 표면조도를 향상 시키고 절삭된 칩을 분산시켜 흘러 내리게 하거나 세척 하는데 매우 적합하다.

■ 모터와 펌프부분사이 일정간격을 유지하여 모터에서 발생된 열이 펌프에 직접 전달되지 않도록 설계되어 유온상승이 영향을 주지 않는다.

■ 특수 제작된 메카니컬실이 내장 되어 내구성이 우수하다.

■ This type is multistage high head pump and used high quantity flowing of oil for the large machine with high precise and efficiency. It is proper to make working surface slick flowing down and washing the chips by cooling fluid.

■ As the motor is separated from pump part, the high temperature of motor does not transfer directly to pump, so the oil temperature keeps constantly.

■ The special mechanical seal improves pump life

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 토출구 PS	In-let 흡입구 PS	Immersion depth 침수깊이 L mm	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
							Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
★ ACP-900HMFS30 ACP-900HMFS45	30 30	20 30	3/4"	1 1/2"	170	26.0 26.0	0.9	50	200 380 415	4.3 2.4 2.1
★ ACP-900HMFS30 ACP-900HMFS45	30 30	30 45	3/4"	1 1/2"	170	26.0 26.0	0.9	60	220 380 440	5.2 3.0 2.6
★ ACP-1500HMFS60 ACP-1500HMFS70	30 30	40 55	3/4"	1 1/2"	183	30.0 30.0	1.5	50	200 380 415	6.9 4.0 3.8
★ ACP-1500HMFS60 ACP-1500HMFS70	30 30	60 70	3/4"	1 1/2"	183	30.0 30.0	1.5	60	220 380 440	7.6 4.4 4.3
★ ACP-2200HMFS85 ACP-2200HMFS100	30 30	65 75	3/4"	1 1/2"	244	37.0 37.0	2.2	50	200 380 415	10.0 5.8 5.6
★ ACP-2200HMFS85 ACP-2200HMFS100	30 30	85 100	3/4"	1 1/2"	244	37.0 37.0	2.2	60	220 380 440	11.0 6.4 6.1
★ ACP-3700HMFS115 ★ ACP-3700HMFS130 ACP-3700HMFS145	30 30 30	90 100 110	3/4"	1 1/2"	322	47.0 47.0 47.0	3.7	50	200 380 415	15.0 8.7 8.4
★ ACP-3700HMFS115 ★ ACP-3700HMFS130 ACP-3700HMFS145	30 30 30	115 130 145	3/4"	1 1/2"	322	47.0 47.0 47.0	3.7	60	220 380 440	16.0 9.3 9.0

The model indicated ★ mark can use coolant with the oil, (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

· Enclosure class : IP55
보호등급

· Insulation class : F
절연계급

Coolant pumps

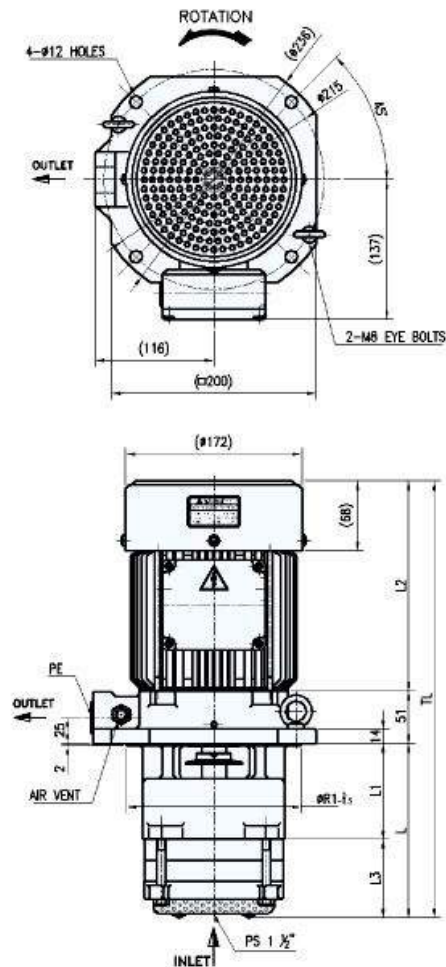
High pressure

Multi-stage Centrifugal Immersion type

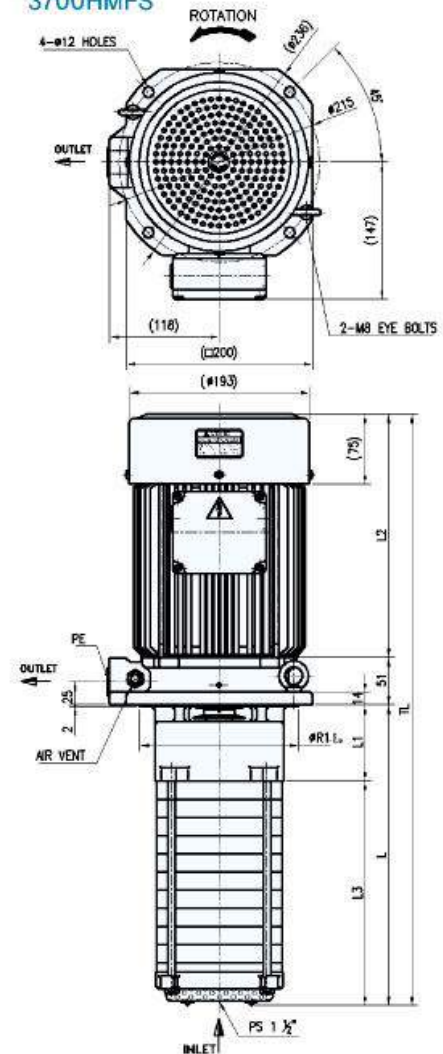
ACP-HMFS Series

External dimensions 외형도

ACP-900HMFS



ACP- 1500HMFS
2200HMFS
3700HMFS



Type	L1	L2	L3	L	TL	ØR1	PE
ACP- 900HMFS	93	205	77	170	426	170	PS 3/4"
ACP-1500HMFS	89	214	94	183	448	170	PS 3/4"
ACP-2200HMFS	81	231	163	244	526	170	PS 3/4"
ACP-3700HMFS	81	266	241	322	700	170	PS 3/4"

Applications 적용

Type of fluid 사용유체
Water/Coolant
Cutting oils
Grinding oils
Viscosity 점도
1~32cSt
Temperature 사용온도
80℃이하

Material 재질

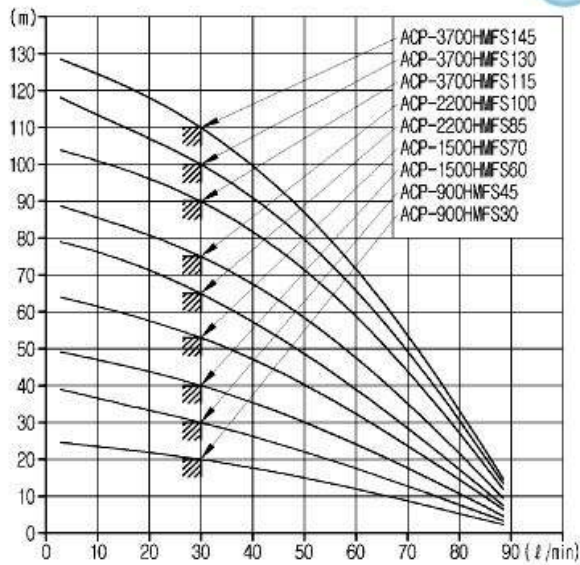
Motor frame : ALDC
Pump body : Cast iron
Casing : Cast iron
Impeller : Stainless steel
Shaft : steel

ACP-HMFS Series

Performance range 성능곡선

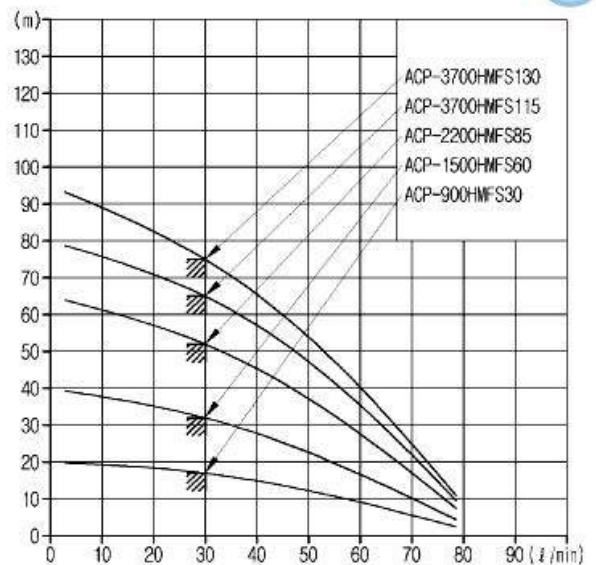
Solubility in water 수용성

50Hz

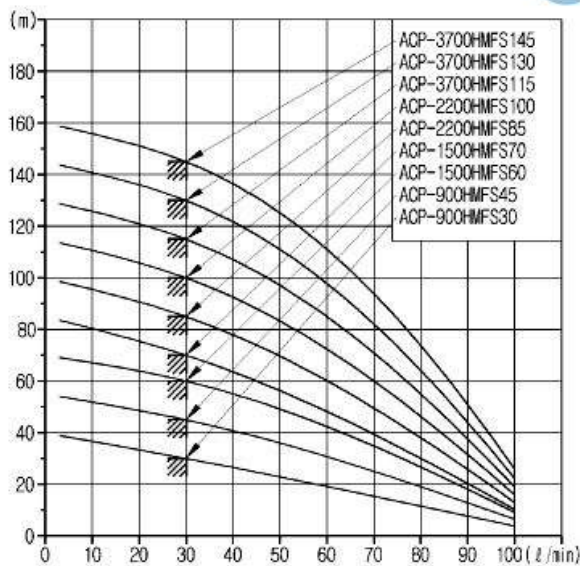


Unsolubility in water 비수용성

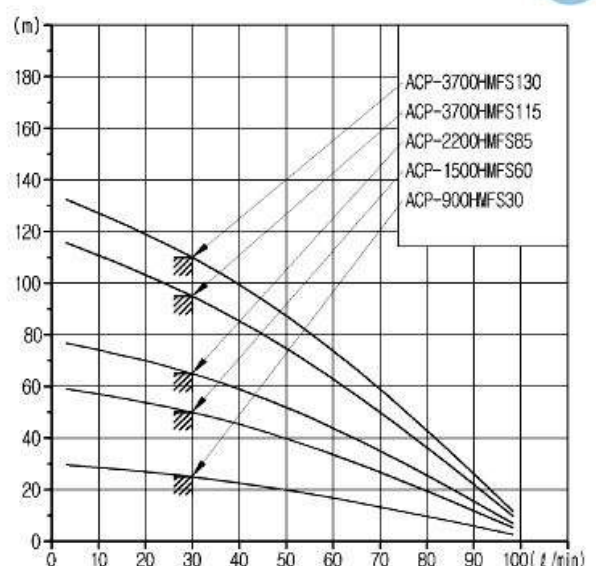
50Hz



60Hz



60Hz



*Above data is tested in the viscosity 2cSt and oil temperature 20℃.

위 Data는 유온 20℃, 점도 2cSt 에서 작성 되었다.

*Above data is tested in the viscosity 32cSt and oil temperature 40℃.

위 Data는 유온 40℃, 점도 32cSt 에서 작성 되었다.

ACP-HMFC Series



■ ACP-HMFC Type은 양정형 다단 원심 펌프로서 높은 압력 필요로 하는 고정밀, 고기능의 기계에 주로 사용되며 가공물을 냉각시켜 표면조도를 향상시키고 절삭된 칩을 분산시켜 흘러내리게 하거나 세척하는데 매우 적합하다.

■ 모터와 펌프부분사이 일정간격을 유지하여 모터에서 발생한 열이 펌프에 직접 전달되지 않도록 설계되어 유온상승의 영향을 주지 않는다.

■ 특수 제작된 메카니컬실이 내장되어 내구성이 우수하다.

■ This type is multistage and used high quantity flowing of oil for the large machine with high precise and efficiency. It is proper to make working surface slick flowing down and washing the chips by cooling fluid.

■ As the motor is separated from pump part, the high temperature of motor does not transfer directly to pump, so oil temperature keeps constantly.

■ The special mechanical seal improves pump life.

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 토출구 PS	In-let 흡입구 PS	Immersion depth 침수깊이 L mm	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
							Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
ACP-3700HMFC180V ACP-3700HMFC200V	20 20	125 135	3/4" 3/4"	1 1/2" 1 1/2"	320 320	49.0 49.0	3.7	50	200 380 415	15.0 8.7 8.4
ACP-3700HMFC180V ACP-3700HMFC200V	20 20	180 200	3/4" 3/4"	1 1/2" 1 1/2"	320 320	49.0 49.0			220 380 440	16.0 9.3 9.0
★ ACP-5500HMFC200V ★ ACP-5500HMFC220V ACP-5500HMFC240V ACP-5500HMFC260V ACP-5500HMFC280V	20 20 20 20 20	145 155 165 175 185	3/4" 3/4" 3/4" 3/4" 3/4"	1 1/2" 1 1/2" 1 1/2" 1 1/2" 1 1/2"	348 348 407 407 446	54.0 54.0 56.0 56.0 57.0	5.5	50	200 380 415	17.5 10.1 9.5
★ ACP-5500HMFC200V ★ ACP-5500HMFC220V ACP-5500HMFC240V ACP-5500HMFC260V ACP-5500HMFC280V	20 20 20 20 20	200 220 240 260 280	3/4" 3/4" 3/4" 3/4" 3/4"	1 1/2" 1 1/2" 1 1/2" 1 1/2" 1 1/2"	348 348 407 407 446	54.0 54.0 56.0 56.0 57.0			220 380 440	25.0 14.4 13.0

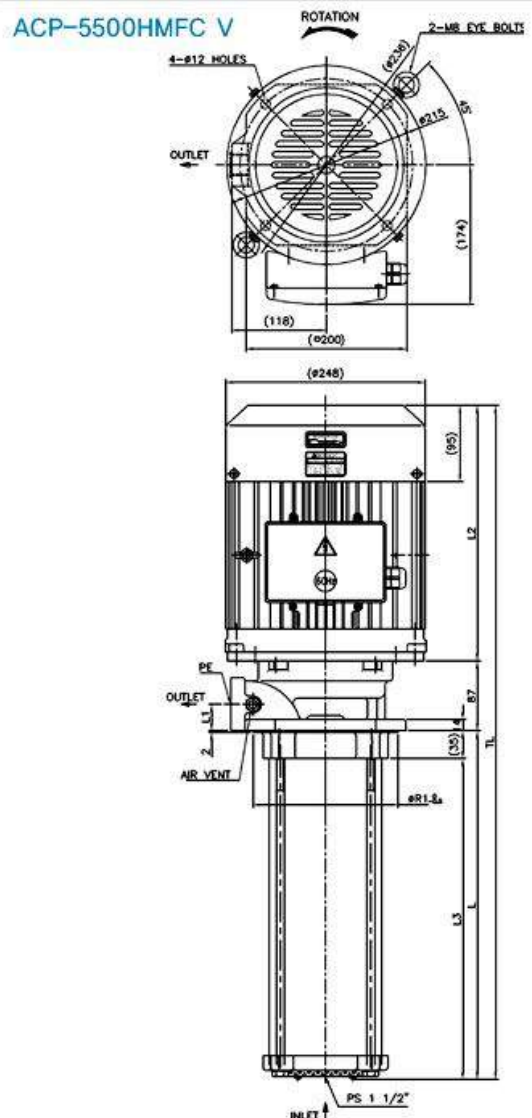
The model indicated ★ mark can use coolant with the oil. (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

· Enclosure class : IP55
보호등급

· Insulation class : F
절연계급

External dimensions 외형도



Type	L1	L2	L3	L	TL	ØR1	PE
ACP-3700HMFC 180V	33	261	288	323	671	180	PS 3/4"
ACP-3700HMFC 200V	33	261	288	323	671	180	PS 3/4"
ACP-5500HMFC 200V	33	318	360	395	800	180	PS 3/4"
ACP-5500HMFC 220V	33	318	360	395	800	180	PS 3/4"
ACP-5500HMFC 240V	33	318	360	395	800	180	PS 3/4"
ACP-5500HMFC 260V	33	318	399	434	839	180	PS 3/4"
ACP-5500HMFC 280V	33	318	399	434	839	180	PS 3/4"

Motor frame : A

Pump body : Cast iron

Casing : Cast iron

Casing : Cast iron
Impeller : Stainless steel

Impeller : Stainless steel
Casing : steel

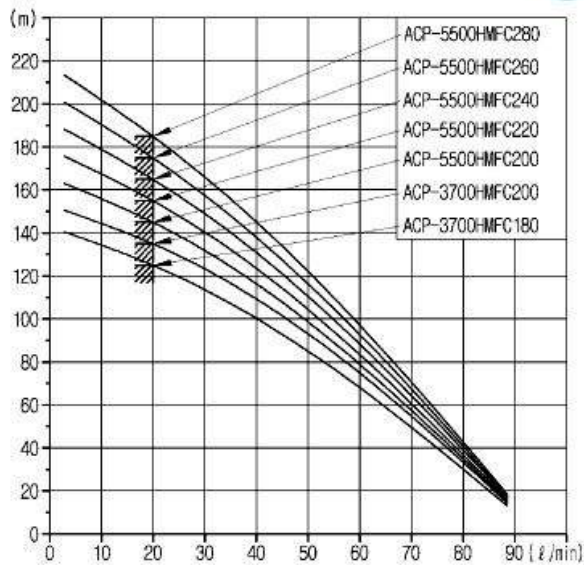
Shaft : steel

ACP-HMFC Series

Performance range 성능곡선

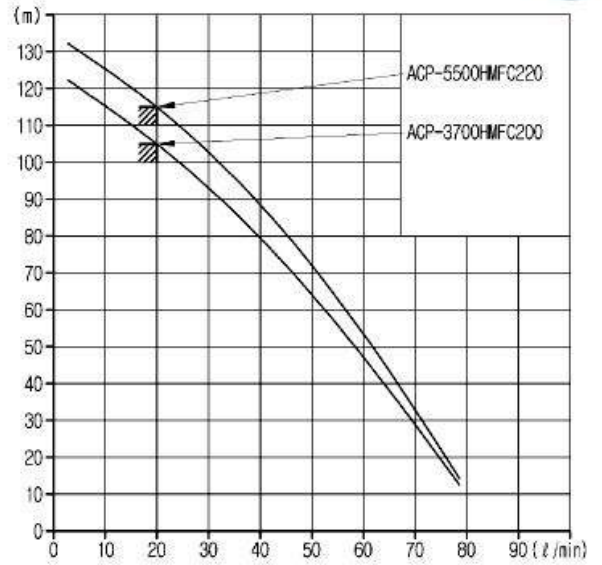
Solubility in water 수용성

50Hz

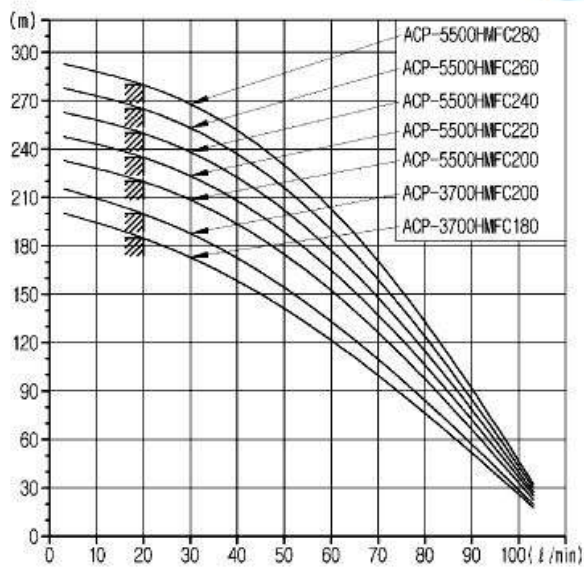


Unsolubility in water 비수용성

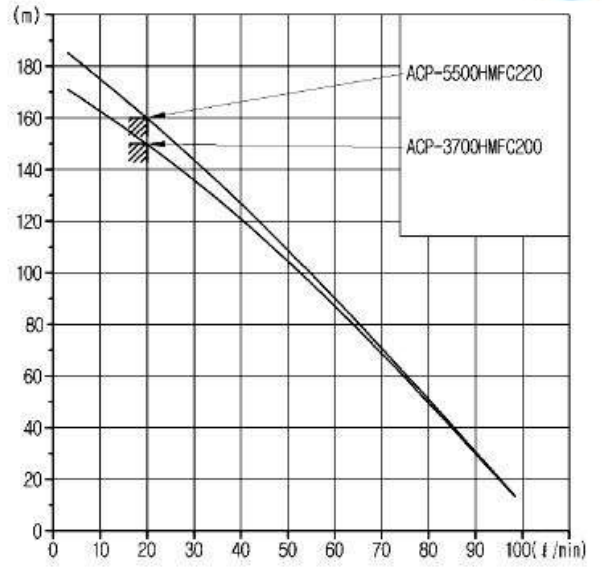
50Hz



60Hz



60Hz



*Above data is tested in the viscosity 2cSt and oil temperature 20℃.

위 Data는 유온 20℃, 점도 2cSt 에서 작성 되었다.

*Above data is tested in the viscosity 32cSt and oil temperature 40℃.

위 Data는 유온 40℃, 점도 32cSt 에서 작성 되었다.

ACP-A Series

Operating instructions 사용시 유의사항

■ 자흡식 펌프로서 설치후 처음 기동시 및 장기간정지 후 다시운전을 하실때는 반드시 절삭액 마중을 실시해야한다.

■ 이 펌프에는 축봉장치(Mechanical-seal)가 내장되어 있어 절삭액 마중을 하지 않은 상태에서 공회전을 시키게 되면 축봉장치가 파손되어 사용할 수 없게 되므로 초기 설치시에 각별히 유의해야한다. (공회전 30초 이내)

■ Tank의 최고 유면은 Tank 상판을 기준으로 20mm이하를 유지해야하며 최저유면은 흡입배관 하단에서 위로 약 20mm 이상을 유지해야한다.

■ Tank 바닥면에서 흡입배관까지의 거리는 40mm 이상을 유지하는 것이적당하며 그 이하가 되면 절삭된 칩가루 등 Tank 바닥에 침적되어있는 이물질이 유입되어 펌프의 성능저하 및 고장의 원인이 된다.

■ 펌프의 흡입배관 길이는 0.6m이하가 되게 설치할것.

■ 점도에 따라 유량의 변화가 매우 심하며 점도가 너무 높으면 Motor가 과열되어 소손될 수 있으므로 절삭유의 점도는 32cSt이하에서 사용해야한다.

■ This is a kind of self submerged pump, it have to be filled the liquid for the first operation or the reoperation after long idle time.

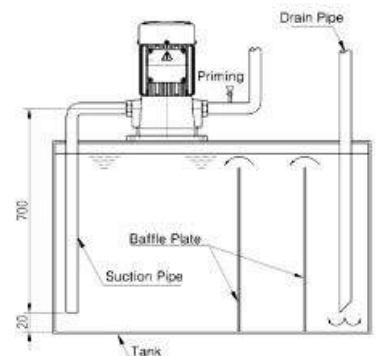
■ This pump has a mechanical seal. Be careful not to operate in the condition of idle working without pump submerged. If not, the seal can be easily broken. (idle time; within 30 seconds)

■ The maximum level of liquid in tank is under 20mm from tank top. The minimum level of liquid keeps over 20mm from the bottom of inlet.

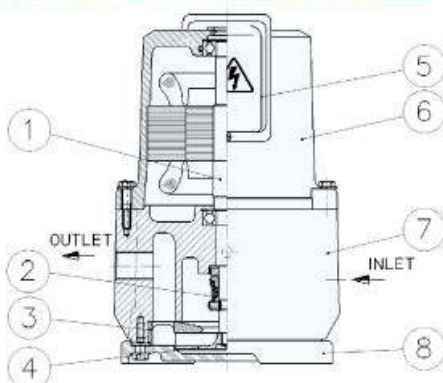
■ The proper distance between tank bottom and suction pipe is over 40mm. If the depth is below, the shortage of liquid causes low performance of sucking chips mounted in tank bottom.

■ The length of inlet should be set under 0.6m.

■ The discharging volume is sharply changeable by the viscosity. If the viscosity is higher, the motor increases heat. So the viscosity of cutting oil keeps under 32 cSt.



Suctional drawing 부품도



No	name
1	Shaft
2	Mechanical seal
3	Spiral casing
4	Impeller
5	Terminal box
6	Motor
7	Pump body
8	Base

ACP - 401 - A

Motor out-put(W)
출력

Pump division

ACP-A Series



■ ACP-A Type은 자흡식 펌프로 설치공간의 제약을 적게 받으며 외관이 콤팩트하여 범용 공작기계에 널리 사용 된다.

■ 이 펌프는 처음 운전을 할 때 토출구측에 절삭유를 부어넣어 자흡실이 완전히 충만된 상태에서 작동 시킬것.

■ 메커니칼실을 채용하고 있으므로 장시간 공회전을 삼가할것.(30초 이내)

■ This type is a self-suction pump, and it has little restriction to install in small space. This type is used general machine.

■ For the first operation of pump, the oil should be completely filled in the self suction room.

■ Do not operate the pump after too long idle time because it causes mechanical seal damage. (idle time; within 30 seconds)

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Out-let 토출구 PS	Net weight 중량 kg	Phase 3Ø, Poles 2P, Free voltage			
					Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
ACP-61A	20	2	3/8"	7.3	0.06	50	200 380 415	0.40 0.24 0.22
ACP-61A	25	2	3/8"	7.3		60	220 380 440	0.40 0.24 0.22
ACP-101A	30	2	3/8"	7.6	0.1	50	200 380 415	0.50 0.29 0.27
ACP-101A	36	2	3/8"	7.6		60	220 380 440	0.50 0.29 0.27
★ACP-181A	53	3	1/2"	12.0	0.18	50	200 380 415	1.00 0.58 0.56
★ACP-181A	70	3	1/2"	12.0		60	220 380 440	1.10 0.64 0.60
★ACP-251A	85	4	3/4"	12.6	0.25	50	200 380 415	1.50 0.87 0.82
★ACP-251A	120	4	3/4"	12.6		60	220 380 440	1.60 0.93 0.88
★ACP-401A	125	5	1"	14.5	0.4	50	200 380 415	2.60 1.50 1.40
★ACP-401A	170	5	1"	14.5		60	220 380 440	2.70 1.60 1.50
★ACP-901A	190	6	1 1/2"	32.0	0.9	50	200 380 415	4.3 2.4 2.1
★ACP-901A	230	6	1 1/2"	32.0		60	220 380 440	5.2 3.0 2.6

The model indicated ★ mark can use coolant with the oil, (below 32 cSt)

★표시가 되어있는 모델은 유용성 절삭유 사용이 가능함.(32cSt 이하)

· Enclosure class 보호등급, IP55

· Insulation class : F
절연계급

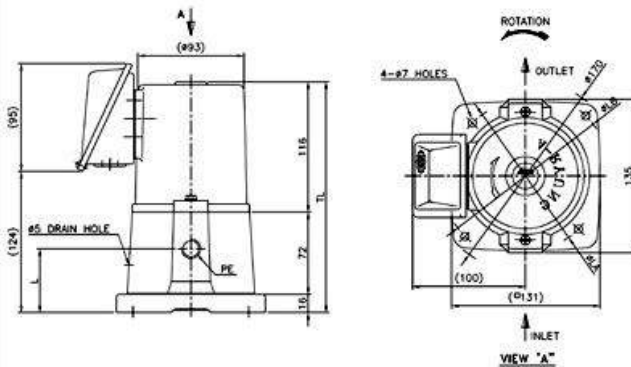
Coolant pumps

Self-priming Type

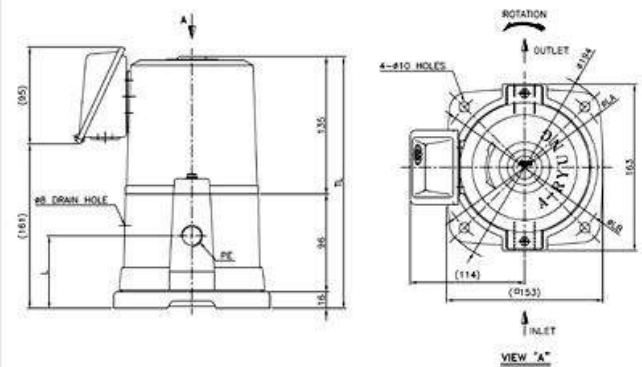
ACP-A Series

External dimensions 외형도

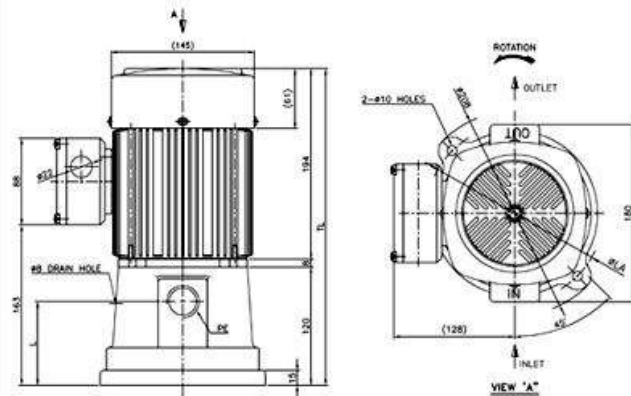
ACP-61A, 101A



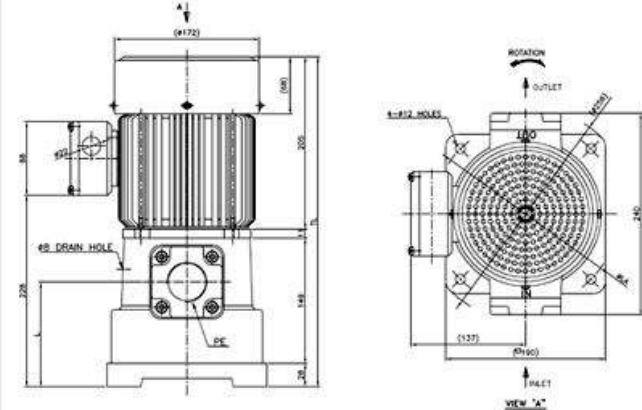
ACP-181A, 251A



ACP-401A



ACP-901A



Type	L	TL	ØLA	ØLB	PE
ACP-61A	56	203	132 (132)	130 (150)	2-PS 3/8"
ACP-101A	56	203	132 (132)	150 (150)	2-PS 3/8"
ACP-181A	71	247	160 (167)	164 (170)	2-PS 1/2"
ACP-251A	71	247	160 (167)	170 (170)	2-PS 3/4"
ACP-401A	85	322	180 (180)	-	2-PS 1"
ACP-901A	125	393	220 (220)	-	2-PS 1 1/2"

※ About ØLA and ØLB in the above table, the value in the parenthesis is applied only to domestic (korea) use.
위 표의 ØLA, LB의 ()안의 치수는 국내사용 규격입니다.

Applications 적용

Type of fluid 사용유체
Water/Coolant
Cutting oils
Grinding oils
Viscosity 점도
1~32cSt
Temperature 사용온도
80℃ 이하

Material 재질

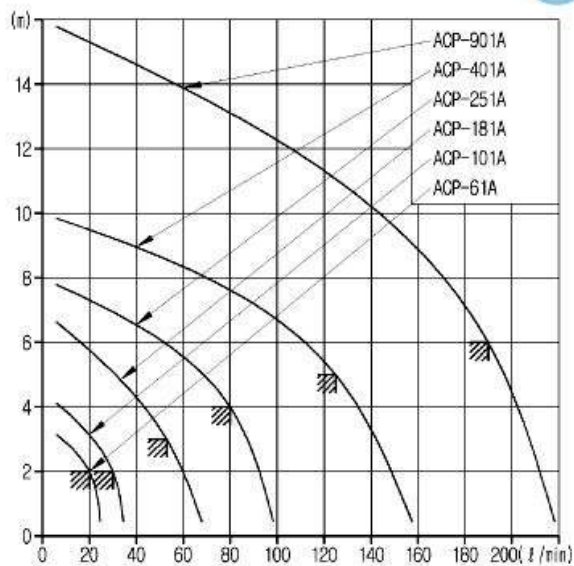
Motor frame : ALDC
Pump body : Cast iron
Casing : Cast iron
Impeller : Powder steel
Shaft : steel
Mechanical-seal : Ceramic/Carbon

ACP-A Series

Performance range 성능곡선

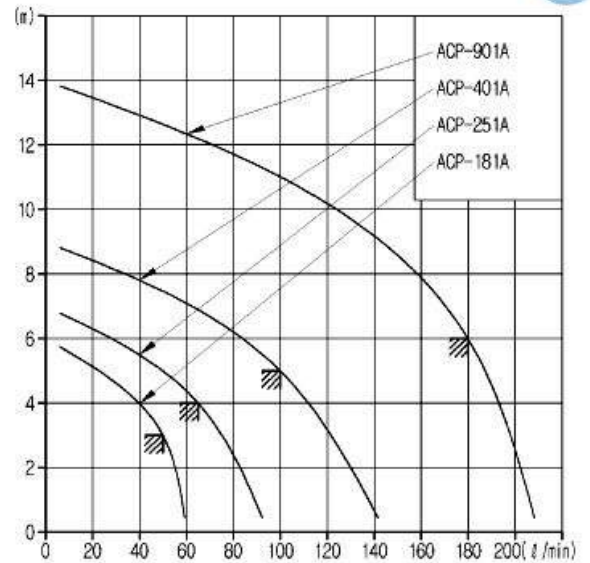
Solubility in water 수용성

50Hz

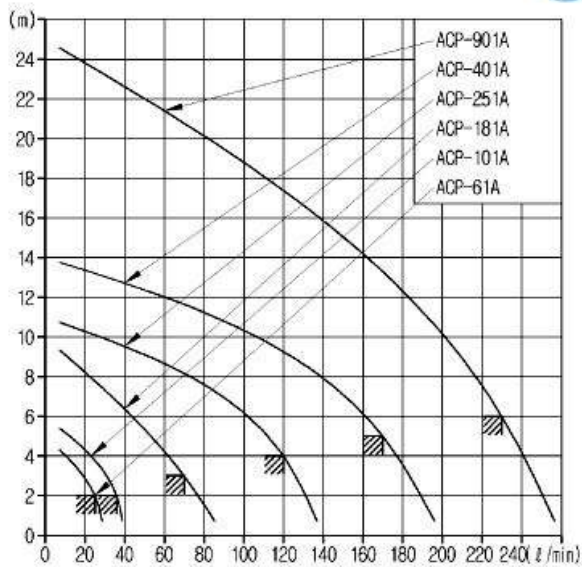


Unsolubility in water 비수용성

50Hz

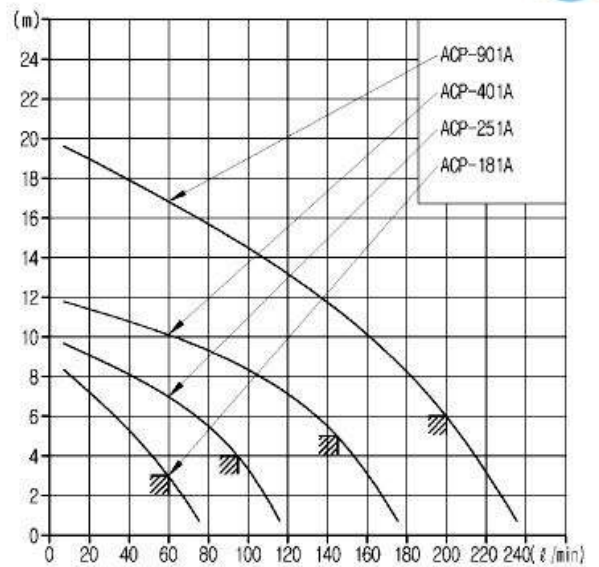


60Hz



*Above data is tested in the viscosity 2cSt and oil temperature 20℃. 위 Data는 유온 20℃, 점도 2cSt 에서 작성 되었다.

60Hz



*Above data is tested in the viscosity 32cSt and oil temperature 40℃. 위 Data는 유온 40℃, 점도 32cSt 에서 작성 되었다.

AMFP-X Series



AMFP - 32X

Pump division

- Flex pump는 용적식 원심펌프의 일종으로 자흡 능력이 우수하여 흡입구측으로 공기가 유입되어도 무 리없이 토출이 가능하다.
- 자흡력이 강하여 Coolant tank 내부의 절삭칩 및 고형물, 슬러지 등의 이송에 매우 적합하다.
- 임펠라의 재질이 특수고무로 되어 있어 내마모성 이 좋으며 비교적 교환 주기가 길다.
- 메커니칼실을 채용하고 있으므로 장시간 공회전을 삼가할것.(30초 이내)
- 운전시 회전방향에 유의할것.

- This type is accumulated and centrifugal pump. It have excellent self priming ability and possible to pump, even the air is contained in inlet.
- This type is proper to transfer the cutting chips, solids and sludges in the coolant tank because of high self priming ability.
- The impeller material is made special rubber so have good endurance and its changing time can relatively prolong.
- The long idle makes mechanical seal to damage(within 30 sec.)
- Be careful the rotating direction when the motor starts operation.

Type	Discharge volume 유량 ℓ/min	Total head 양정 m	Suction hight 흡입양정 m	In/Out-let 흡/토출구 PS	Net weight 중량 kg	Phase 3Ø, Poles 6P			
						Motor Out-put 출력 kW	Fre- quency 주파수 Hz	Rated voltage 전압 V	Current 전류 A
AMFP-32X	104	25	3	1 1/4"	26.0	0.75	50	200 380 415	4.0 2.3 2.0
AMFP-32X	125	25	4	1 1/4"	26.0	0.75	60	220 380 440	4.4 2.5 2.2
AMFP-50X	166	30	3	2"	49.0	1.5	50	200 380 415	6.2 3.6 3.0
AMFP-50X	200	30	4	2"	49.0	1.5	60	220 380 440	6.8 3.9 3.4

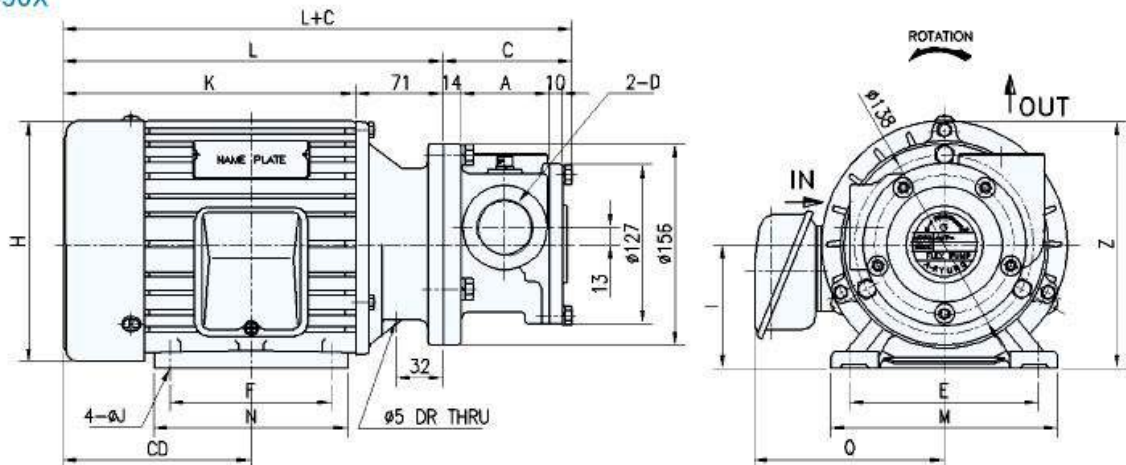
· Enclosure class : IP44
보호등급

· Insulation class : E,
절연등급

AMFP-X Series

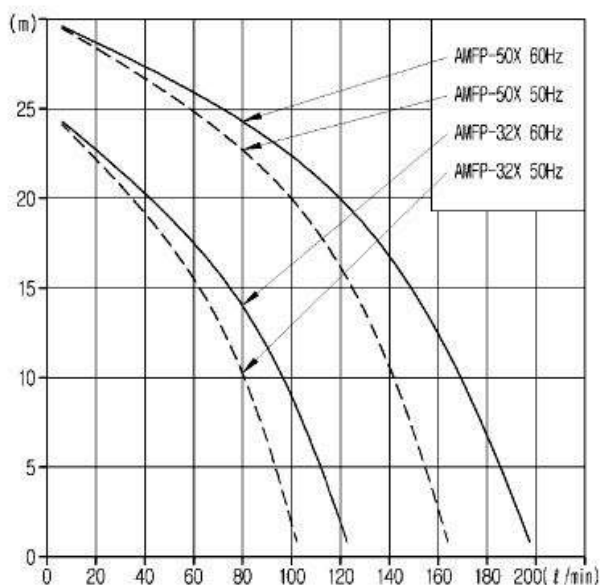
External dimensions 외형도

AMFP-32X
50X



Type	E	F	H	I	J	K	L	M	N	Q	CD	Z	A	C	D
AMFP-32X	140	125	195	90	10.5	226	297	173	156.5	166	112	190	68	99.5	PS 1 1/4"
AMFP-50X	160	140	208	100	12	235	306	200	174	168	165	208	95	126.5	PS 2"

Performance range 성능곡선



Applications 적용

Type of fluid 사용유체
Water/Coolant
Cutting oils
Grinding oils
Viscosity 점도
1~45cSt
Temperature 사용온도
80℃ 이하

Material 재질

Motor frame : ALDC
Pump body : Cast iron
Casing : Cast iron
Impeller : Rubber (NBR)
Shaft : steel
Mechanical-seal : Ceramic/Carbon

Suction filters

ASF-L, HL Series



ASF - 60L

Filter division

■ Suction filter은 침수식 펌프와 조합하여 사용 하므로 펌프의 수명을 연장하고 절삭 작업시 정밀도를 유지 할수 있다.

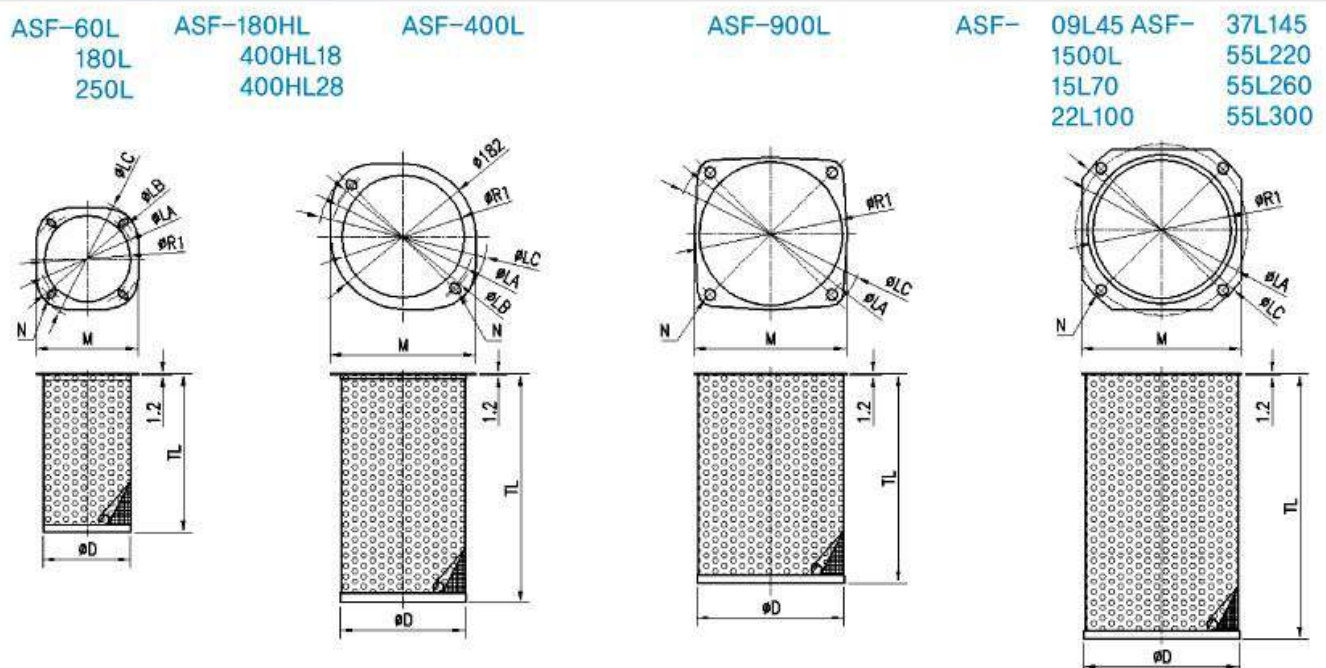
■ 설치 및 분리가 용이하여 Filter의 교환이나 청소가 간편하다.

■ The suction filter is used combining with immersion pump, it improves long life of pump and keeps operating with precision.

■ It is easy to install and separate the filter and also it is simple to change and to keep clean the filter.

Type	ØD	ØR1	TL	ØLA	ØLB	ØLC	M	N	Application model 적용 모델
ASF-60L	100	92	164	130	134	150	114	4-ø 9	ACP-60F / 100F
ASF-180L	125	117	186	134	170	203	158	4-ø 12	ACP-180F
ASF-250L	144	136	263	160	170	203	158	4-ø 12	ACP-250F, 180HF25, 250HF25
ASF-400L	156	154	286	180	186	210	182	4-ø 12	ACP-400F
ASF-180HL18	144	136	186	160	-	180	142	4-ø 12	ACP-180HF18, 250HF18
ASF-400HL18	156	154	186	180	186	210	177	4-ø 12	ACP-400HF18, 600HF18
ASF-400HL28	156	154	286	180	186	210	177	4-ø 12	ACP-400HF28, 600HF28
ASF-900L	184	180	262	215	-	243	190	4-ø 14	ACP-900MF
ASF-09L45	194	186	189	215	-	236	200	4-ø 14	ACP-900HMFS30 / 45
ASF-1500L	194	186	285	215	-	236	200	4-ø 14	ACP-1500MF / 2200MF
ASF-15L70	194	186	202	215	-	236	200	4-ø 14	ACP-1500HMFS60 / 70
ASF-22L100	194	186	248	215	-	236	200	4-ø 14	ACP-2200HMFS85 / 100, 1500BMF, 2200BMF
ASF-37L145	194	186	331	215	-	236	200	4-ø 14	ACP-3700HMFS130 / 145, 3700HMFC180V / 200V
ASF-55L220	194	186	448	215	-	236	200	4-ø 14	ACP-3700MF, 3700BMF, 5500BMF, 5500HMFC200V / 220V
ASF-55L260	194	186	507	215	-	236	200	4-ø 14	ACP-5500HMFC240V / 260V
ASF-55L300	194	186	546	215	-	236	200	4-ø 14	ACP-5500HMFC280V / 300V

External dimensions 외형도



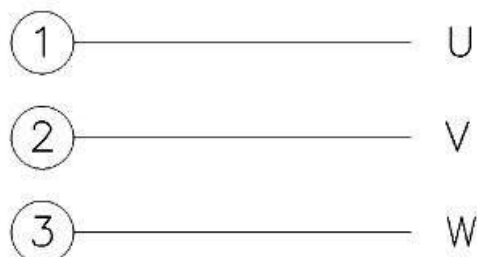
Material 재질 : Steel SB41
Finishing 도금 : Plating of Zn 아연도금

20Mesh : F, HF, HMFS, HMFC
14Mesh : MF, BMF

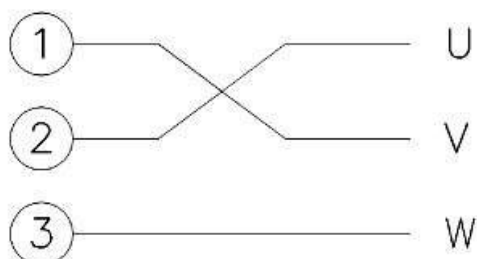
Terminal connection 결선도

Single voltage

Right Direction

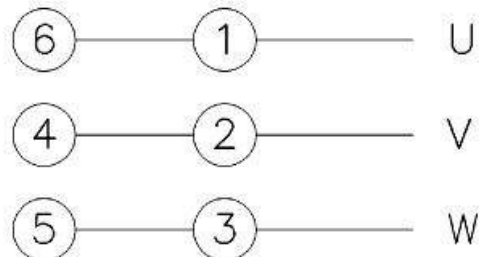


Reverse Direction

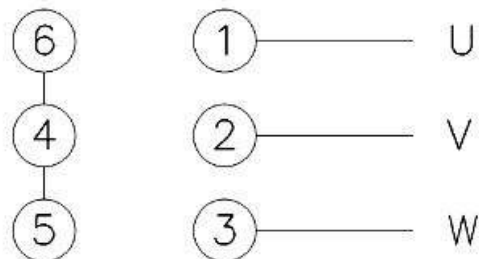


Dual voltage

Low Voltage (200V, 220V)

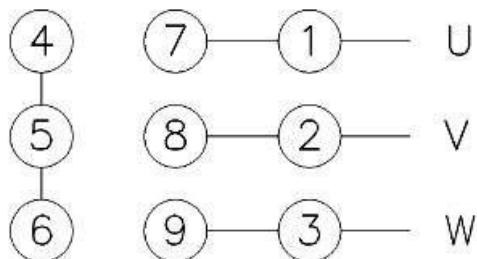


High voltage (380V)

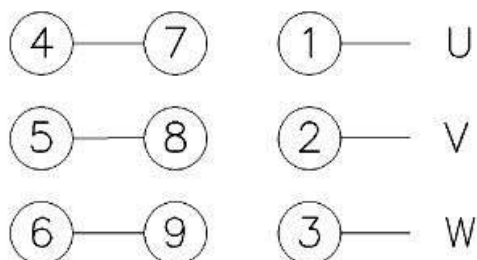


Double voltage

Low Voltage (200V, 220V)

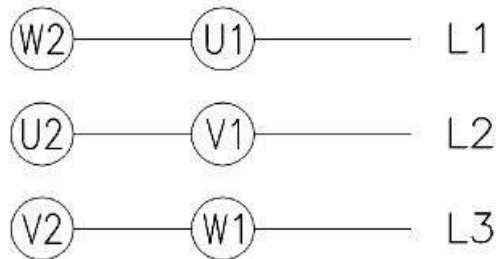


High voltage (415V, 440V)

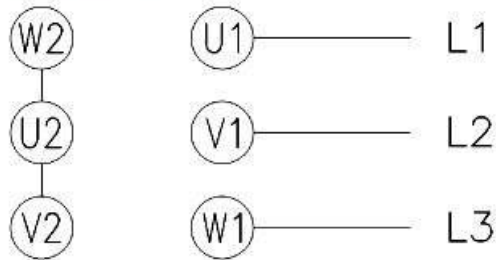


Free voltage

Low Voltage (200V~240V)



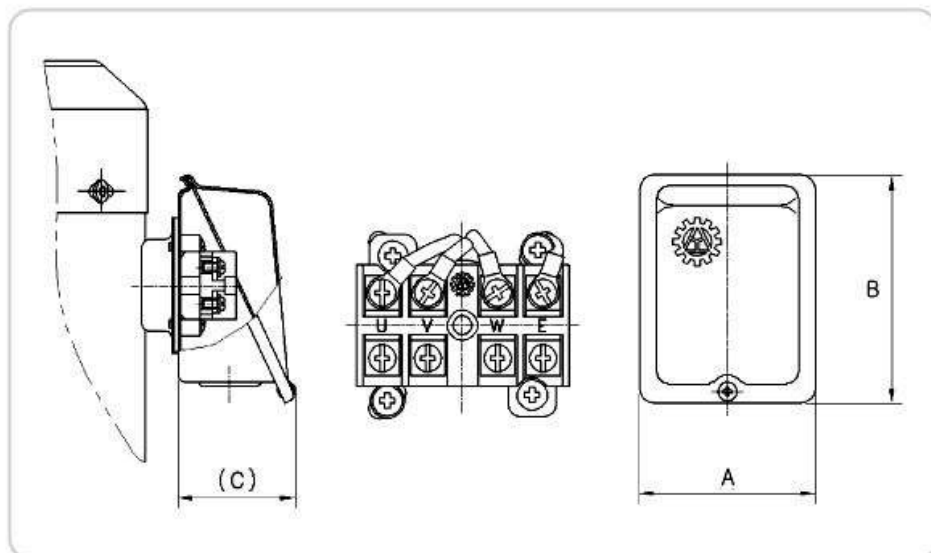
High voltage (380V~440V)



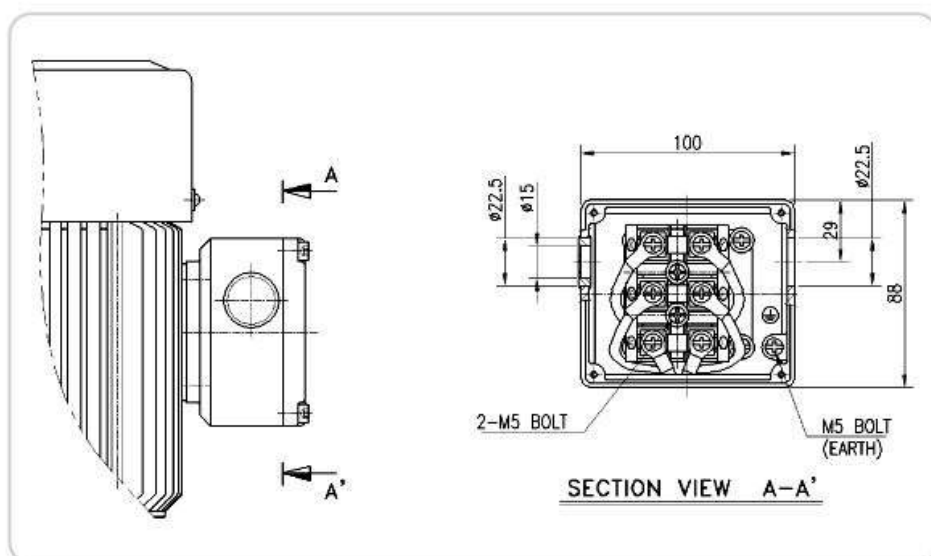
External figure of terminal box 단자박스

60W, 100W, 180W, 250W

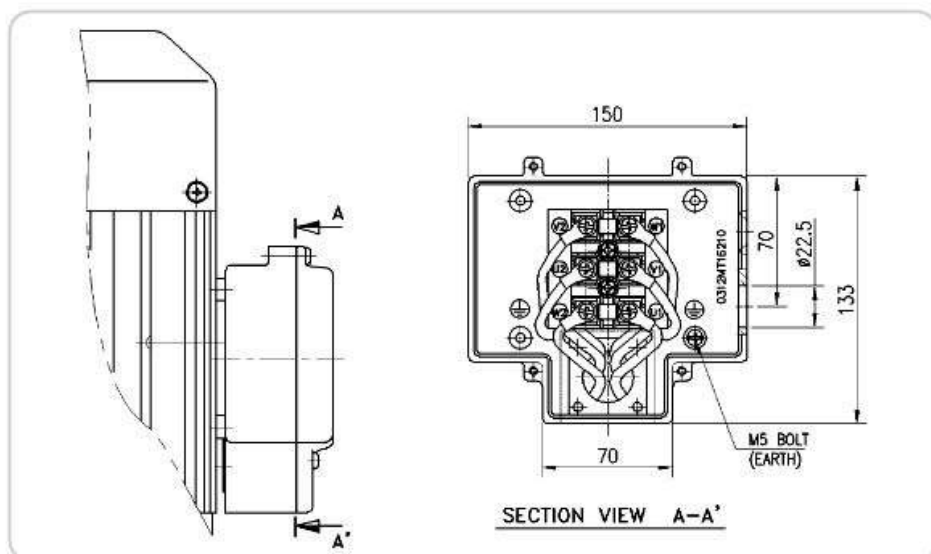
Type	A	B	C
60W, 100W	64	92	40
180W, 250W	73	103	48



400W, 600W, 0.9kW
1.5kW, 2.2kW



3.7kW, 5.5kW, 7.5kW, 11.0kW



Company History

(View of factory)



1976.	5	아룽기공(주) 설립	Established as A-RYUNG Machinery Industry Co. Ltd.
1980.	4	상공부지정 Oil pump 전문화 업체 지정 (No.79-118)	Designated technical manufacturer of oil pump by the Ministry of Trade and Industry.
1982.	2	근대화 실현계획 승인업체지정 (중소기업진흥공단 No.81-208)	Designated as an 'Approved Company of Systematization of Small & Medium Industry' by the Ministry of Trade and Industry.
1982.	5	우수중소기업 대통령표창 수상 (No. 54709)	Awarded the Korea Presidential Citation for an 'Excellent Small & Medium Enterprise.
1987.	9	국산기계개발 우수업체선정 부총리상 수상 (No.87-104호)	Awarded 'Excellent company for domestic machine development' by the Deputy Prime Minister.
1992.	12	자율세정 공로패 수상 (국세청)	Awarded 'Self-Control company for National Tax' by National Tax Office.
1993.	5	해외시장 수출 산업상 수상 (대한무역진흥공사)	Awarded an 'Export Industry Prize for Overseas Market' by the Korea Trade Center. (KOTRA)
1996.	11	'CE' 유럽안전규격 인증 (TÜV Rheinland)	Authorized Conformity 'EC' declaration by TÜV Rheinland.
1999.	6	'EM' 기계류, 부품소재 우수품질규격 인증 (한국기술표준원 No.1999-039호)	Obtaining Certification for EM Machinery, Spare parts by Korea Technique Standard Association.
1999.	11	ISO 9001 품질경영시스템 인증 (KSA)	Obtaining the ISO 9001 Certification by the KSA-QA supported by IQ-NET.
2000.	10	'CSA-c-us' 미국 및 캐나다 안전규격 인증 (CSA INTERNATIONAL)	Obtained the CSA-c-us mark, American-Canadian Safety Standard" by CSA INTERNATIONAL.
2000.	11	수출공로 산업자원부장관상 표창 (No.47955)	Awarded 'The prize of Export-developing Company' by Ministry of Trade and Industry.
2003.	11	무역진흥 경제발전 공로 산자부장관 표창 수상 (No.54163)	Awarded 'Prize of Trade Promotion and Industrial Development' from Ministry of Trade and Industry.
2003.	12	수출공로 전라남도지사 표창 (No.1421)	Awarded 'Prize of excellent Exporter' by Jeonnam Province.
2004.	1	부품,소재 신뢰성 인증(기술표준원 No.2004-6호)	Obtained 'Certificate of quality reliance of parts and components' by Technology Standard Office in Ministry of Trade and Industry.
2004.	11	중국현지 법인 설립 '아룽기공(대련)유한공사'	Opened China office in Dalian named "A-Ryung Dalian Co. Ltd."
2005.	6	공장증축 및 개축, 구조 개선사업 완료	Added building of factory and developing factory structure.
2005.	12	"공작기계발전" 공로 국무총리상 표창 (No.133740호)	Awarded "Honor of machine development" by The Prime Minister.



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