



HALS

HANSUNG AUTOMATIC LUBRICATION SYSTEM

PUMP



HALS
|주| 한성정공

HALS

the Global Leader

미래를 위한 책임있는 노력과 투자 ! - 한성정공의 약속입니다.

(주)한성정공은 1985년 설립 30여년간의 전통과 노하우로 산업기계 및 공작기계용 윤활 급유 장치를 전문 제작, 판매하고 있습니다. 국내 최초 공작기계용 자동 윤활 펌프 및 고압 정밀 윤활 시스템을 개발하였고, 호환성과 실용성이 우수한 냉각용 절삭유 펌프들은 공작기계 제품의 핵심적인 역할을 하고 있습니다. 공작기계 뿐만 아니라 산업기계까지 폭 넓은 사용이 가능한 로터 펌프 및 그리스펌프를 개발 · 판매하고 있습니다.

(주)한성정공의 공작기계용 윤활급유 시스템은 국내시장의 80%이상을 석권하고 있으며, 업계 최초로 기술 선진국인 일본으로 수출하고 있습니다.

또한, 100% 국산화의 실현으로 연간 200여억원의 수입 대체 효과를 내고 있는 윤활 급유장치 전문 업체입니다.

전사원이 한 가족이라는 공동체 의식 속에서 국내뿐만 아니라, 세계시장에서도 최고의 제품을 생산하기 위하여 항상 혼신의 노력을 다하는 기업이 되겠습니다.



It's the history ! – Keeping with the artisanship of HALS !

1996.08 : CE인증
 1997.03 : 국제청장표창 수상
 1997.11 : 국무총리표창 수상(1997우수자본재개발, HMGP-303)
 1998.03 : 1998경기유망중소기업 선정
 1999.03 : EM인증(국립기술품질원)
 1999.09 : ISO9001 인증
 2001.11 : 국무총리표창 수상(해외무역진흥)
 2004.10 : 산업부장관표창 수상(2004우수자본재개발, Rotor Pump)
 2004.11 : 100만불 수출탑 수상
 2005.05 : 벤처기업 인증(중소기업청)
 2006.10 : ISO14001 인증
 2007.09 : 싱글PPM 인증(Oil Pump Type)
 2008.08 : 기업부설연구소 설립
 2008.10 : 싱글PPM 인증(Coolant Pump Type)
 2009.06 : INNOBIZ 인증(중소기업청)
 2011.09 : 대통령표창 수상(2011우수자본재개발유공, 정량급유시스템)
 2012.06 : 윤활급유펌프 특허 등록(제10-1158837)
 2012.07 : 오일압력감지 스위치 특허 등록(제10-1165945호)
 2012.08 : 정량밸브일체형원터치니플 특허 등록(제10-1173616호)
 2012.11 : 300만불 수출탑 수상
 2014.02 : NRTL 인증(윤활펌프)
 2014.08 : NRTL 인증(Rotor Pump)
 2015.10 : 쿨런트 펌프 수출(Fanuc, 삼성전자 베트남 공장)
 2005.05 : 벤처기업 인증(중소기업청)
 2017.07 : 수출유망중소기업 지정(중소기업청)
 2017.11 : NRTL 인증 (Coolnat Pump 15종)

1996.08 : CE Certified
 1997.03 : Awarded the Citation of Commissioner of the National Tax Service
 1997.11 : Awarded the Prime Minister's Citation
 1998.03 : Designated as a Prominent Company of 1998Gyeonggi Province
 1999.03 : EM Certified(National Institution of Technology and Quality)
 1999.09 : ISO9001 Certified
 2001.11 : Awarded the Prime Minister's Citation
 2004.10 : Awarded the Minister's Citation(Ministry of Commerce, Industry and Energy)
 2004.11 : Awarded the Export Tower of One Million Dollar
 2005.05 : Designated as a Venture Company(Korean Small & Medium Business Administration)
 2006.10 : ISO14001 Certified
 2007.09 : Single PPM Certified(Oil Pump Type)
 2008.08 : Certified Research Institute
 2008.10 : Single PPM Certified(Coolant Pump Type)
 2009.06 : Designated as a INNOBIZ Company(Korean Small & Medium Business Administration)
 2011.09 : Awarded the Presidential Citation
 2012.06 : Register a Patent for Lubrication Pump(Reg. No. 101158837)
 2012.07 : Register a Patent for Oil pressure switch(Reg. No. 101165945)
 2012.08 : Register a Patent for One-Touch Nipple(Reg. No. 101173616)
 2012.11 : Awarded the Export Tower of Three Million Dollars
 2014.02 : NRTL Certified(Lubrication Pump)
 2014.08 : NRTL Certified(Rotor Pump)
 2015.10 : Export Coolant Pump to FANUC (for SAMSUNG Vietnam Factory)
 2005.05 : Designated as a Venture Company(Korean Small & Medium Business Administration)
 2017.07 : Designated as a Promising Export Firm(Small & Medium Business Administration)
 2017.11 : NRTL Certified (15 Models of Coolnat Pump)

정량급유펜프

HMGP-303
HMGP-303S
HMGP-303M
HMGP-205S



- ▶ 중앙집중 윤활장치는 펌프로부터 압송된 윤활제는 정량밸브를 작동시켜 각각의 윤활급 유점에 정해진 급유량(0.01~0.6cc/st)을 정확히 공급하는 시스템
- ▶ 소형에서 대형공작기계 및 정밀기계 등 폭 넓게 사용되는 윤활 시스템
- ▶ The concentrated lubricating system manipulates fixed valve with lubricant delivered from a pump in order to supply precisely fixed quantity oil(0.01~0.6cc/st) to each lubricant fuelling point.
- ▶ A lubricating system widely used from small to large machine tools and fixed instruments.

Applicant Area

MCT, CNC, catapult,
machines exclusive for medium,
large and extremely sensitive cutting process, etc.

PUMP SPEC.	MODEL NAME	HMG-303	HMG-303S	HMG-303M	HMG-205S	
	PUMP TYPE	Gear pump				
	DISCHARGE PRESSURE	17kg/cm ²			15~30kg/cm ²	
	PRESSURE GAUGE	0~35kg/cm ²				
	USING OIL	32~1300(cSt)				
	FILTER	80 Mesh				
	TANK CAPACITY	4Liter	4Liter	2Liter	5Liter	
	DISCHARGE AMOUNT	150cc/min			300cc/min	
	FLOAT S/W	Contact type : A contact (NO)				
		ON at low level				
PRESSURE S/W	N/A	Contact type : A contact (NO)				
		Operation pressure : 12±1 bar ON				
OIL SUPPLY CONTROL DEVICE	Built-in	External control				
MOTOR SPEC.	OUTPUT	57W			60W	
	PHASE	1 ∅				
	VOLTAGE	110V		200 / 220V	110V	200 / 220V
	CURRENT	1.54A		0.77A	1.20A	0.6A
	FREQUENCY	50/60Hz				

비례급유펜프

HMGP-105
HMGP-105D
HMGP-205C
HMGP-6N



- ▶ **중심집중 윤활장치**는 펌프로부터 압송된 윤활제의 흐름에 저항을 주어 토출량을 억제하여 윤활급유점에 급유량을 분배 급유하는 시스템
- ▶ 공작기계 뿐만 아니라 산업기계 전반에 사용되는 대표적인 윤활 시스템
- ▶ The concentrated lubricating system gives resistance to lubricant sent from a pump in order to control discharged amount, distribute and supply quantity of oil to lubricant fuelling point.
- ▶ A representative lubricating system that is used not only for machine tool but also in industry machines in general.

Applicant Area

NC lathe, catapult, printing machine, milling machine, grinder, press, textile machine, escalator, various industrial machines

PUMP SPEC.	MODEL NAME	HMGP-105N	HMGP-105D	HMGP-205C	HMGP-6N
	PUMP TYPE	Gear pump			
	DISCHARGE PRESSURE	8kg/cm ²		5~10kg/cm ²	16kg/cm ²
	USING OIL	32~800(cSt)		32~220(cSt)	32~800(cSt)
	FILTER	80 Mesh			
	TANK CAPACITY	2Liter		5Liter	4Liter
	DISCHARGE AMOUNT	3~30/ 4~80cc		100cc/min	4~113cc
	INTERVAL TIME	3~30/ 30~120min		Constant	1~120min/1~60min/2~32Hr
	FLOAT S/W	-	Contact type : A contact (NO)		
	-	ON at low level			
OIL WARNING	Order specification	-	Output at point of contact	Buzzer / Lamp	
MOTOR SPEC.	OUTPUT	36W			
	PHASE	1 ∅			
	VOLTAGE	110V		200 / 220V	
	CURRENT	0.85A		0.44A	
	FREQUENCY	50/60Hz			

정량그유밸브
정량그유밸브

VALVE TYPE	METERED QUANTITY (cc/st.)								LUB. POINT
HMV	0.03	0.05	0.1	0.16	0.2	0.3	0.4		2,3,5,6,8,10
340	0.03	0.06	0.1	0.16					2, 3, 5
350			0.1		0.2		0.4	0.6	
HMLV			0.1		0.2	0.3	0.4	0.6	
Operating Pressure					10kg/cm ²				
Reset Pressure					3kg/cm ²				

GREASE PUMP



- ▶ 그리스 펌프 및 탈압기능의 복합화로 콤팩트 및 경량화
- ▶ 정량식 분배변과 조합하여 다수의 윤활개소에 그리스를 정시, 정량 공급
- ▶ 카트리지로 교환으로 편리하게 재충전 함으로써, 경제적이고 깨끗한 환경 유지
- ▶ 외부 PLC 제어 방식 또는 내부 PCB 제어 방식 선택 사용 (외부 PLC가 없는 장치에도 사용 가능)
- ▶ Compact and lightweight design with built-in depressurization features for the supply of quantitative grease
- ▶ This grease pump is assembled with the metering valve and discharges the quantity of grease on time.
- ▶ Easy to replace cartridge to recharge grease, maintaining a clean environment
- ▶ Select external PLC control or internal PCB control (Using on devices that do not have external PLC)

HGP-10MG Series

PUMP SPEC.	MODEL	HGP-10LMG	HGP-10HMG
	PUMP TYPE	Piston	
	DIS. PRESSURE(kg/cm ²)	50	80
	DIS. AMOUNT(cc/min)	7	
	OPERATION SELECTION	PLC or PCB (1~15Hr) Control	
	INTERVAL TIME	More than 10 minutes	
	CARTRIDGE VOL. (ml)	700	
	USING GREASE	#000,00,0	
	POWER CONSUMPTION	24W	
	VOLTAGE (V)	DC 24V	
	CURRENT (A)	0.8A	

* -10℃~45℃ 온도범위 이외로 사용시에는 사전 문의 바랍니다.



- ▶ HGP-16 type은 감속모터 구동 Grease Pump로 종래의 대형 Pump의 사용상 문제점을 대폭 보완한 제품으로 소형이며 강력한 Controller 내장식 Grease Pump
- ▶ 소형 경량으로 가격이 저렴
- ▶ HGP-16E type은 종래의 HGP-□와 동일한 펌프구조를 갖고 있으나, 조절방법을 내장형 Controller를 통한 방법이 아닌 외부장치 조절방법을 채택하여 제작된 펌프로써 사용자의 선택의 폭을 넓게 하였다.



- ▶ HGP-16type is a reduction motor-driven grease pump that supplements the problems of existing large pumps, and is a compact and powerful controller-equipped grease pump.
- ▶ It is compact, lightweight and affordable.
- ▶ HGP-16E type has the same pump structure as the traditional HGP-□, but uses an external control method rather than an internal controller to increase the user's range of choices.

HGP-16 Series

PUMP SPEC.	MODEL	HGP-16(S)	HGP-16E	HGP-40E	HGP-60E
	PUMP TYPE	Piston			
	DIS. PRESSURE(kg/cm ²)	120	160	100	100
	DIS. AMOUNT(cc/min)	16	16	40	60
	USING PRESSURE(kg/cm ²)	60			
	INTERVAL	1~32Hr	External control		
	DISCHARGE TIME	10~120SEC			
	TANK CAPACITY	2Liter			
	USING GREASE	#000~#1			

MOTOR SPEC.										
MOTOR SPEC.	MODEL	HGP-16(S)		HGP-16E		HGP-40E		HGP-60E		
	OUTPUT	100W		25W		25W		40W		
	PHASE	1 ϕ								
	VOLTAGE(V)	110	220	110	220	110	220	110	220	
	CURRENT(A)	3	1.5	0.6	0.3	0.6	0.3	0.9	0.45	



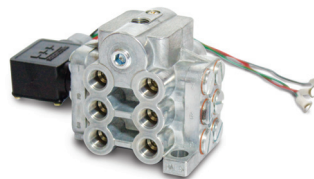
- ▶ HGP-□ type은 압축공기의 공급으로 작동하여 연속으로 그리스를 토출하는 Pump
- ▶ Pump의 제어는 공기의 회로를 개폐하여 임의로 조작이 가능
- ▶ 공급되는 공기압에 의하여 Pump의 토출량과 토출압력이 변하는 Air Drive Pump
- ▶ HGP-□ type is operated by a supply of compressed air, and is a continuous grease discharge pump.
- ▶ The pump can be arbitrarily controlled by opening and closing the air passage.
- ▶ An air drive pump that can change the discharge quantity and discharge pressure by controlling the pressure of the supplied air.

HGP-720 Series

MODEL	HGP-720	HGP-950	HGP-1200
PUMP TYPE	Piston		
OPERATING PROCESS	Air drive		
DISCHARGE AMOUNT(cc/st)	0.4	0.53	0.67
DISCHARGE PRESSURE(kg/cm ²)	Max. 200	Max. 112.5	Max. 72
AIR PRESSURE	7 ~ 8kg/cm ²		
TANK CAPACITY	2Liter		
USING GREASE	#000~#1		



- ▶ 강제급유식 수동 그리스펌프인 MG-10은 그리스 윤활유의 집중급유방식을 채택하여 급유량의 적절한 계획을 수립할 수 있고 급유 비용의 절감 및 기계 정지시간의 절약으로 생산성의 향상을 기대
- ▶ 주입 시에 발생할 수 있는 위험요소를 제거하여 보다 안전한 급유관리를 할 수 있음
- ▶ MG-10, the forced oil supply manual grease pump, adopts a concentrated lubricating oil supply method to allow suitable planning of oil supply quantities, and increases productivity through reduced oil supply costs and machine stoppage time.
- ▶ The elimination of risks that can happen during grease injections allows safer management of oil supply.



- ▶ HU-R type 분배변은 연속적으로 작동되는 Piston에 의하여 가압유를 각각의 토출구에 정해진 양을 자동적으로 공급하고 Grease의 운동이 가능하면 계속해서 작동할 수 있는 분배변
- ▶ 분배변은 독립적으로 작동하고 토출은 토출구에 따라서 2~8, 10, 12구까지 되어있음
- ▶ HU-RL type 분배변은 지시봉(Indicator)에 Limit S/W를 부착하여 분배변의 작동유무를 감지
- ▶ The HU-R type distributor automatically supplies fixed quantities of pressurized oil to each discharge outlet through the continuously operating piston, and can operate continuously with grease movement.
- ▶ The distributor operated independently, and the discharge varies between 2~8, 10, 12 according to the discharge outlet.
- ▶ The HU-RL type distributor's operation can be detected by attaching a limit S/W to the Indicator.

MG-10

PUMP TYPE	Piston	SIZE OF OUTLET	PT 1/8"
DIS. PRESSURE	Max. 130kg/cm ²	USING GREASE	#000~#1
DISCHARGE AMOUNT	1.0cc/st	TANK CAPACITY	600cc

HU-R(L)

MODEL	HU-R(L)	
NUMBER OF OUTLET	2~8, 10, 12	
DISCHARGE AMOUNT	0.3cc/stroke	
DIS. PRESSURE	Min. 15kg/cm ² , Max. 150kg/cm ²	
MATERIAL	Al	Zn



- ▶ 펌프와 모터가 일체형으로 된 소형의 자흡식 펌프로 흡입부에 파이프를 연결하여 사용유를 흡입 토출하는 형식의 펌프
- ▶ 연삭기, 선반, 세척기, 방전기, 기타 선삭 및 절삭 가공 전용기에 사용되는 펌프
- ▶ 소형, 경량으로 설치공간의 제약이 적고 시공이 간단
- ▶ A single-unit small self-priming pump that combines a pump and a motor. A pipe is connected to the suction part to suck in and discharge oil.
- ▶ A pump used for grinders, lathe, washer, electricity dischargers, and other turning and cutting process machines.
- ▶ The small, lightweight design means less installation limitations and easy operations.

HCP-S

Specification Type	MOTOR						PUMP		
	OUTPUT (W)	FREQUENCY (Hz)	VOLTAGE (V)	CURRENT (A)	PHASE	POLES	TOTAL HEAD (m)	DIS. VOL (ℓ/min)	PIPE SIZE (PT)
HCP-60S	60	50	200 380	0.42 0.24	3	2	2	20	3/8"
		60	200/220 380	0.45 0.26				25	
HCP-100S	100	50	200 380	0.51 0.3	3	2	2	30	3/8"
		60	200/220 380	0.55 0.32				36	
HCP-180S	180	50	200 380	0.93 0.53	3	2	3	58	1/2"
		60	200/220 380	1.0 0.57				70	
HCP-250S	250	50	200 380	1.4 0.8	3	2	4	95	3/4"
		60	200/220 380	1.5 0.86				130	
HCP-400S	400	50	200 380	2.4 1.4	3	2	5	140	1"
		60	200/220 380	2.5 1.5				200	



- ▶ 펌프부가 탱크내 침수되어 구동하는 펌프로 별도의 기름마중없이 전원 연결후 바로 사용이 가능한 펌프
- ▶ MCT, CNC, 기타 선삭 및 절삭 가공전용기에 사용 되는 대표적인 절삭유 펌프
- ▶ The pump operates with the pump section immersed inside the tank, and can be used straightaway after connecting power, without the need for oil priming.
- ▶ It is the most suitable cutting fluid pump used for MCT, CNC, and other turning and cutting processing machines.

HCP-F

Specification Type	MOTOR						PUMP		
	OUTPUT (W)	FREQUENCY (Hz)	VOLTAGE (V)	CURRENT (A)	PHASE	POLES	TOTAL HEAD (m)	DIS. VOL (ℓ/min)	PIPE SIZE (PT)
HCP-60F	60	50	200 380	0.42 0.24	3	2	2	25	3/8"
		60	200/220 380	0.45 0.26				32	
HCP-100F	100	50	200 380	0.51 0.3	3	2	2	37	3/8"
		60	200/220 380	0.55 0.32				47	
HCP-180F	180	50	200 380	0.93 0.53	3	2	3	75	1/2"
		60	200/220 380	1.0 0.57				90	
HCP-250F	250	50	200 380	1.4 0.8	3	2	4	125	3/4"
		60	200/220 380	1.5 0.86				150	
HCP-400F	400	50	200 380	2.4 1.4	3	2	5	160	1"
		60	200/220 380	2.5 1.5				200	
HCP-418F HCP-419F	400	50	200 380	2.4 1.4	3	2	12	40	1"
		60	200/220 380	2.5 1.5					



- ▶ 침수식 다단펌프로 MOTOR출력에 따라 최고 28bar까지의 압력 토출이 가능한 고압 절삭유 펌프
- ▶ 대형, 정밀 공작기계에 주로 사용되며, 침수식 Vertical과 자흡식 Horizontal 형태로 제작되어 광범위한 부분에 적용이 가능
- ▶ HCP-EHMF TYPE은 고효율 모터 장착 펌프로 효율의 극대화로 우수한 절전 및 높은 경제성을 갖고 있음
- ▶ A high-pressure cutting-fluid submerged pump, capable of up to 28bar pressure discharge, depending on the motor output.
- ▶ It is used mainly in large, precision machine tools. It can be applied to a wide range of parts, due to its vertical submerged and horizontal self-priming structure.
- ▶ HCP-EHMF TYPE is a pump installed with high-efficiency motor which has excellent power saving and high economic feasibility due to maximization of efficiency.

HCP-(E)HMF(S) / HCP-(E)MF(S)

Specification Type	MOTOR						PUMP		
	OUTPUT (W)	FREQUENCY (Hz)	VOLTAGE (V)	CURRENT (A)	PHASE	POLES	TOTAL HEAD (m)	DIS. VOL (ℓ/min)	PIPE SIZE (PT)
HCP-1100EHMF(S)	1100	50	220 380	4.3 2.5	3	2	30	30	3/4"
		60		5.1 3.0			45		
HCP-1800EHMF(S)	1800	50	220 380	6.5 3.8	3	2	50	30	3/4"
		60		7.0 4.1			70		
HCP-2500EHMF(S)	2500	50	220 380	8.7 5.2	3	2	70	30	3/4"
		60		9.7 5.6			100		
HCP-4000EHMF(S)	4000	50	220 380	14.4 8.2	3	2	90	30	3/4"
		60	220 380	15.6 8.9			130		
HCP-1100EMF(S)	1100	50	220 380	4.2 2.5	3	2	6.5	200	1 1/4" (1 1/2")
		60	220 380	4.8 2.8			10		
HCP-1800EMF(S)	1800	50	220 380	6.6 3.8	3	2	20	100	1 1/2"
		60	220 380	7.0 4.1			30		
HCP-2500EMF(S)	2500	50	220 380	8.7 5.2	3	2	30	100	1 1/2"
		60	220 380	9.7 5.6			45		
HCP-4000EMF(S)	4000	50	220 380	14.4 8.2	3	2	50	100	1 1/2"
		60	220 380	15.6 8.9			70		



HTOP-A

HMTP-MA

- ▶ GEROTOR 펌프로 공작기계 및 산업기계 윤활유 공급용으로 사용되는 펌프
- ▶ 외접기어 펌프에 비하여 소형이며, 모터 구동부와 연결하여 펌프 구동을 시킬 수 있음
- ▶ 사용환경에 따라 HORIZONTAL형과 VERTICAL형으로 구분
- ▶ An internal gear pump used to provide lubricating oil to machine tools and industrial machines.
- ▶ It is small compared to external gear pumps, and can be connected to motor drive parts to operate the pump.
- ▶ It is separated into a horizontal type or a vertical type according to the operation environment.

HTOP-A(VB) / HMTP-3M-MA(VB)

PUMP TYPE		1500rpm(50Hz)		1800rpm(60Hz)	
		DISCHARGE AMOUNT (l/min)	PRESSURE (kg/cm ²)	DISCHARGE AMOUNT (l/min)	PRESSURE (kg/cm ²)
HMTP-11MA(VB)		2.2	5.0	2.7	5.0
HMTP-12MA(VB)		3.7	5.0	4.5	5.0
HMTP-13MA(VB)		6.7	5.0	8.1	5.0

OUTPUT (W)		FREQUENCY (Hz)	VOLTAGE (V)	CURRENT (A)	R.P.M	PHASE	POLES
Motor	75W	50	200	0.56	1390	3	4
			380	0.32	1390		
		60	200	0.51	1660		
			220	0.52	1690		
	100W	50	380	0.28	1690	3	4
			200	0.65	1430		
		60	380	0.4	1430		
			200	0.6	1720		
	200W	50	220	0.6	1730	3	4
			380	0.3	1730		
		60	200	1.3	1430		
			380	0.9	1430		
	200W	50	200	1.1	1690	3	4
			220	1.1	1710		
		60	380	0.6	1710		
			380	0.6	1710		



HTP-type

HMTP-type

- ▶ GEROTOR 펌프 구조로 MOTOR 동력원 연결을 통하여 펌프 사용이 가능
- ▶ 각종공작기계 고압의 절삭유 펌프 뿐만 아니라 오일 순환 펌프 등 산업기계 전반의 사용이 가능한 제품
- ▶ 모터와 펌프는 COUPLING 연결방식으로 간단한 펌프 교체만으로 다양한 성능범위를 얻을 수 있음
- ▶ 모터의 출력에 따라 다양한 성능 범위를 만족 시킬 수 있음
- ▶ An internal gear pump structure that can operate the pump with a motor power supply.
- ▶ Not only can this product be used for various machine tools and high-pressure cutting-fluid pumps, but it can also be used for general industrial machines including oil circulation pumps.
- ▶ The motor and the pump are connected in a coupling. A simple change of the pump can provide a wide range of performance.
- ▶ A wide range of performance can be fulfilled according to motor output.

HTP-(HA/HB)(VB/VD) / HMTP-3M-HA(VB/VD)(F)-(E)

PUMP TYPE		1500rpm(50Hz)				1800rpm(60Hz)			
		DISCHARGE AMOUNT (l/min)	PRESSURE (kg/cm ²)			DISCHARGE AMOUNT (l/min)	PRESSURE (kg/cm ²)		
HMTP-204HA(VB/VD)		6.3	21.5	30.0	30.0	7.5	16.0	30.0	30.0
HMTP-206HA(VB/VD)		9.0	10.5	25.0	25.0	10.8	7.0	23.5	25.0
HMTP-208HA(VB/VD)		12.6	7.0	23.0	25.0	15.1	4.0	17.5	25.0
HMTP-210HA(VB/VD)		15.3	4.5	15.5	25.0	18.3	2.5	11.5	25.0
HMTP-212HA(VB/VD)		18.0	3.5	13.5	20.0	21.6	-	8.5	20.0
HMTP-216HA(VB/VD)		24.3	2.0	8.5	20.0	29.1	-	5.5	19.5
HMTP-220HA(VB/VD)		29.7	-	5.5	15.5	35.6	-	3.5	14.0

OUTPUT (W)		FREQUENCY (Hz)	VOLTAGE (V)	CURRENT (A)	R.P.M	PHASE	POLES
Motor	400W	50	200	2.4	1420	3	4
			380	1.3	1420		
		60	200	2.2	1700		
			220	2.2	1720		
	750W	50	380	1.2	1720	3	4
			200	3.5	1430		
		60	380	1.9	1440		
			200	3.4	1710		
	1500W	50	220	3.4	1730	3	4
			380	1.8	1730		
		60	200	6.9	1430		
			380	3.4	1430		
	1500W	50	200	6.6	1720	3	4
			220	6.6	1730		
		60	380	3.2	1730		
			380	3.2	1730		

OIL COOLER



- ▶ HMT-3M-MA(VB)펌프와 FAN COOLER를 조합한 COOLER UNIT
- ▶ 공작기계 오일 COOLER장치로 사용되며, 7~14LITER의 소형 탱크로 제작 되어 설치공간의 제약이 적음
- ▶ 설치와 구동이 간단하여 소형공작기계 뿐만 아니라 산업기계 활용이 가능
- ▶ A cooler unit made by combining the HMT-3M-MA(VB) pump and a fan cooler.
- ▶ It is used as an oil cooler for machine tools. The use of small 7 ~ 14 liter tank eliminates installation limitations.
- ▶ It is easy to install and operate, and can be used not only for small machine tools, but for industrial machines.

PUMP TYPE		1500rpm(50Hz)		1800rpm(60Hz)	
		DISCHARGE AMOUNT (l/min)	PRESSURE (kg/cm ²)	DISCHARGE AMOUNT (l/min)	PRESSURE (kg/cm ²)
HMT-11MA(VB)		2.2	5.0	2.7	5.0
HMT-12MA(VB)		3.7	5.0	4.5	5.0
HMT-13MA(VB)		6.7	5.0	8.1	5.0

MOTOR OUTPUT(W)	FREQUENCY(Hz)	VOLTAGE(V)	CURRENT(A)	R.P.M	PHASE	POLES
75W	50	200	0.56	1390	3	4
		380	0.32	1390		
	60	200	0.51	1660		
		220	0.52	1690		
100W	50	380	0.28	1690	3	4
		200	0.65	1430		
	60	380	0.4	1430		
		200	0.6	1720		
200W	50	220	0.6	1730	3	4
		380	0.3	1730		
	60	200	1.3	1430		
		380	0.9	1430		
200W	50	200	1.1	1690	3	4
		220	1.1	1710		
	60	380	0.6	1710		
		380	0.6	1710		

Hansung Precision promises !

You to make responsible efforts and Investment for the Future !

Hansung Precision Co., Ltd. was established in 1985, and with an accumulation of 30 years of know-how, is currently producing and supplying lubrication systems for industrial machines and machine tools.

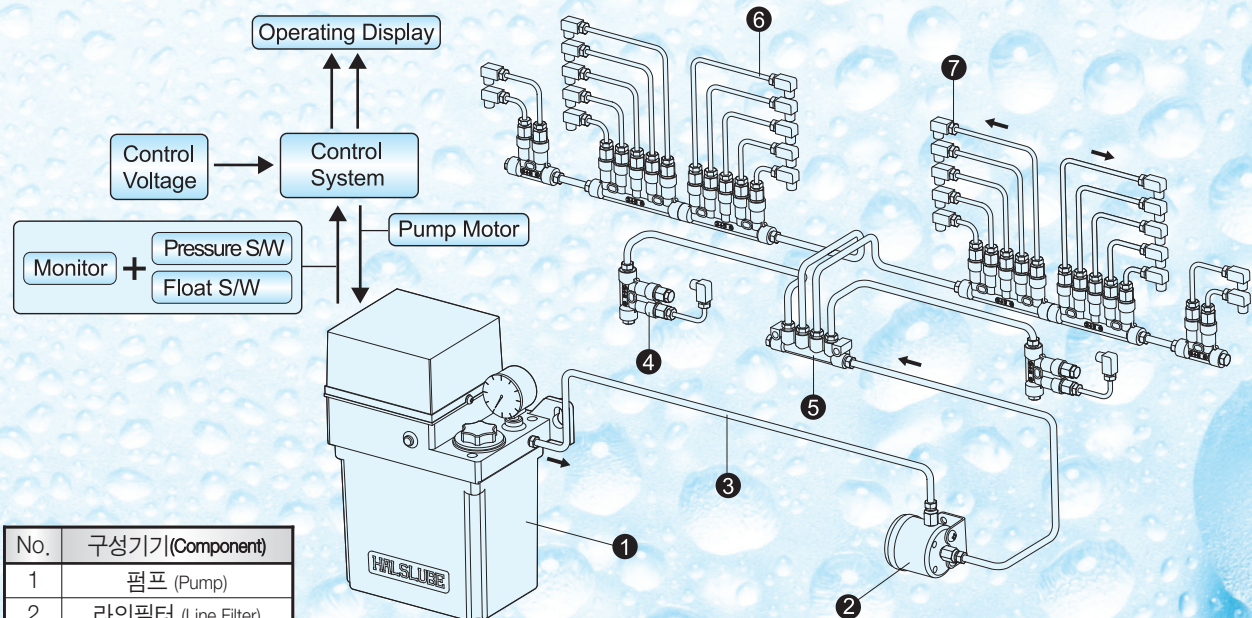
Hansung Precision was the first domestic company to produce an automatic lubrication pump and a high-pressure precision lubrication system. Our highly compatible and practical cooling cutting oil pumps play central roles in machine tool products. We have also developed and are supplying rotor pumps and grease pumps that can be used not only in machine tools, but in a wide range of industrial machines.

Hansung Precision Co., Ltd.'s lubrication system for machine tools account for more than 80% of the domestic market, and is the industry's first exporter to the technological leader, Japan. Moreover, Hansung Precision is a lubrication system specialist that has achieved a 100% domestic production, creating an import replacement effect worth 20 billion KRW.

We at Hansung Precision work with a sense of community that binds us as family, and we will continue to strive in our efforts to produce the best products not only in the domestic market, but also in overseas markets.



정량급유시스템 Fixed Quantity Oil Supply System



No.	구성기기(Component)
1	펌프 (Pump)
2	라인필터 (Line Filter)
3	주배관 (Main Pipe)
4	정량밸브 (Fixed Quantity Valve)
5	분배변 (Distributor)
6	가지배관 (Oil Supply Pipes)
7	급유점 (Oil Supply Spot)

집중 윤활 장치는 펌프로부터 압송된 윤활제가 Piston 작동 정량식 밸브 내의 piston을 작동시키고, 각 밸브의 정해진 급유량 (0.01~1.0cc/st)을 정확히 공급하는 장치이다.

밸브는 펌프의 토출 압력으로 직접 작동하므로, 20m의 원거리와 50개소 정도의 급유소 까지 사용이 가능하다. 소형기계에서 대형기계까지 폭 넓게 사용되어 지는 시스템이다.

The concentrated lubricating system uses the lubricating oil from the pump to operate the piston and the piston inside the valve, and delivers the precise quantity of oil supplied(0.01~1.0cc/st) to each valve. The valve is automatically operated by the pump discharge pressure, and can be used for long distances of up to 20m and for 50 separate oil supply sites. A system used widely from small machines to large machines.

윤활방식 Lubrication Type	피스톤 정량 급유방식 Piston fixed quantity oil supply method
배관방식 Piping	Main pipe : $\phi 6$ Oil supply pipe : $\phi 4$
윤활제 Lubricant	32~1300cSt
펌프 Pump	HMGP-303 series HMGP-205S HMGP-6MA
탱크용량 Capacity of Tank	사출품 2, 4, 5 Liter Resin tank 2,4,5Liter STEEL탱크 6Liter 이상(주문제작가능) Metal Tank more than 6Liter (Can be custom built to order)
Control방식 Method of Control	내부제어 HMGP-303 Internal control HMGP-303 외부제어 HMGP-303S, 303M, 205S, 6MA External control HMGP-303S, 303M, 205S, 6MA
적용밸브 Application Valve	HMV series 정량밸브 HMV series Fixed Quantity Valve



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