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HALS

HANSUNG AUTOMATIC LUBRICATION SYSTEM
Products & Technical Information Collection



HALS

|주| 한성정공

Hansung Precision promises !

We will do responsible efforts and Investments for the Future !

Hansung Precision Co., Ltd., established in 1985 and accumulated technology & know-how for over 30 years, is specialized in oil & grease lubrication pump for industrial machinery including machine tools and coolant pump for machine tools.

Hansung Precision Co., Ltd. using "HALS" brand, was the first Korean company produced centralized automatic lubrication pump and high-pressure precision lubrication system.

Since export of automatic lubrication pump to Japan and Taiwan for the first time in Korea in the early 1990s,

Hansung Precision Co., Ltd. has been exporting lubrication pumps and coolant pumps to a lot of countries including Japan.

HALS centralized lubrication pumps, coolant pumps, rotor pumps and grease pumps, which are highly compatible and reliable, work a key function not only in machine tools but also in the other industrial machines.

HALS lubrication system for machine tools account for more than 80% of Korean domestic market.

HALS

It's the history !

Keeping with the artisanship of HALS !

1985.08 : 한성정공 설립

~

1996.08 : 고압정밀윤활시스템 개발 (국내 최초)

1997.03 : 국제청정표창 수상

1997.11 : 국무총리표창 수상 (우수자본재개발유공)

1999.03 : EM인증(국립기술품질원)

1999.09 : ISO9001 인증

2001.11 : 국무총리표창 수상(해외무역진흥)

2004.10 : 산업부장관표창 수상(우수자본재개발유공)

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 (우수자본재개발유공)

2012.06 : 윤활급유펌프 특허 등록

2012.07 : 오일압력감지 스위치 특허 등록

2012.08 : 정량밸브일체형원터치니플 특허 등록

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)

2017.03 : Main-Biz 인증(중소기업청)

2017.11 : NRTL 인증(Coolant Pump 15종)

2018.04 : 전동식 정량 그리스펌프 개발

2018.06 : INNOBIZ 인증(중소벤처기업부)

2018.08 : 그리스 펌프용 정량밸브 디자인 등록

2018.09 : 산업포장 수훈 (우수자본재개발유공)

2018.09 : 윤활유주입기 디자인 등록

2018.12 : 윤활유용 펌프 장치 특허 등록

2019.03 : 글로벌 IP스타기업 선정(특허청)

2019.04 : 글로벌 강소기업 선정(중소벤처기업부, 인천광역시)

2019.04 : 글로벌 선도기업 선정(한국산업단지공단)

2019.09 : 수출유망중소기업 지정(중소벤처기업부)

1985.08 Established HANSUNG PRECISION COMPANY

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1996.08 : Develop a high pressure precision lubrication system for the first time in Korea

1997.03 : Awarded the Director of the National Tax Service Prize

1997.11 : Awarded the Prime Minister Citation of Korea

1999.03 : EM certification (The National Institute of Quality and Technology)

1999.09 : Certify ISO9001

2001.11 : Awarded the Prime Minister Citation of Korea

2004.10 : Awarded the Minister of Commerce, Industry and Energy Citation

2004.11 : Awarded one million dollar export tower

2005.05 : Designated as a "Venture business company" (SMBA)

2006.10 : Certify ISO 14001:2004

2007.09 : Certify Single PPM for oil pump

2008.08 : Established a company affiliated research institute

2008.10 : Certify Single PPM for coolant pump

2009.06 : Designated as an "INNO-BIZ Company" by SMBA

2011.09 : Awarded the Presidential Citation of Korea

2012.06 : Registration of patent (Lubricant oil pump)

2012.07 : Registration of patent (Oil pressure detector switch)

2012.08 : Registration of patent (Quantitative valve integrated one-touch nipple)

2012.11 : Awarded three million dollars export tower

2014.02 : Certify NRTL (LUBE PUMP)

2014.08 : Certify NRTL (COOLANT PUMP, HMF, MF TYPE PUMP, ROTOR PUMP)

2015.10 : Export Coolant Pump 45,000 sets to FANUC(for SAMSUNG Vietnam Factory)

2017.03 : Designated as a Main-Biz Company (Small & Medium Business Administration)

2017.11 : Certify NRTL (15 Models of Coolant Pump)

2018.04 : Develop an Electric Grease Lubricating Pump

2018.06 : Designated as an INNO-BIZ Company (Ministry of SMEs and Startups)

2018.08 : Registration of a Design (Metering Valve for Grease Lubrication Pump)

2018.09 : Awarded the Industrial Service Medal of Korea

2018.09 : Registration of a design (Grease Lubrication Pump)

2018.12 : Registration of a Patent (Electric grease lubricating pump)

2019.03 : Designated as a "Global IP-Star Company" (Korean Intellectual Property Office)

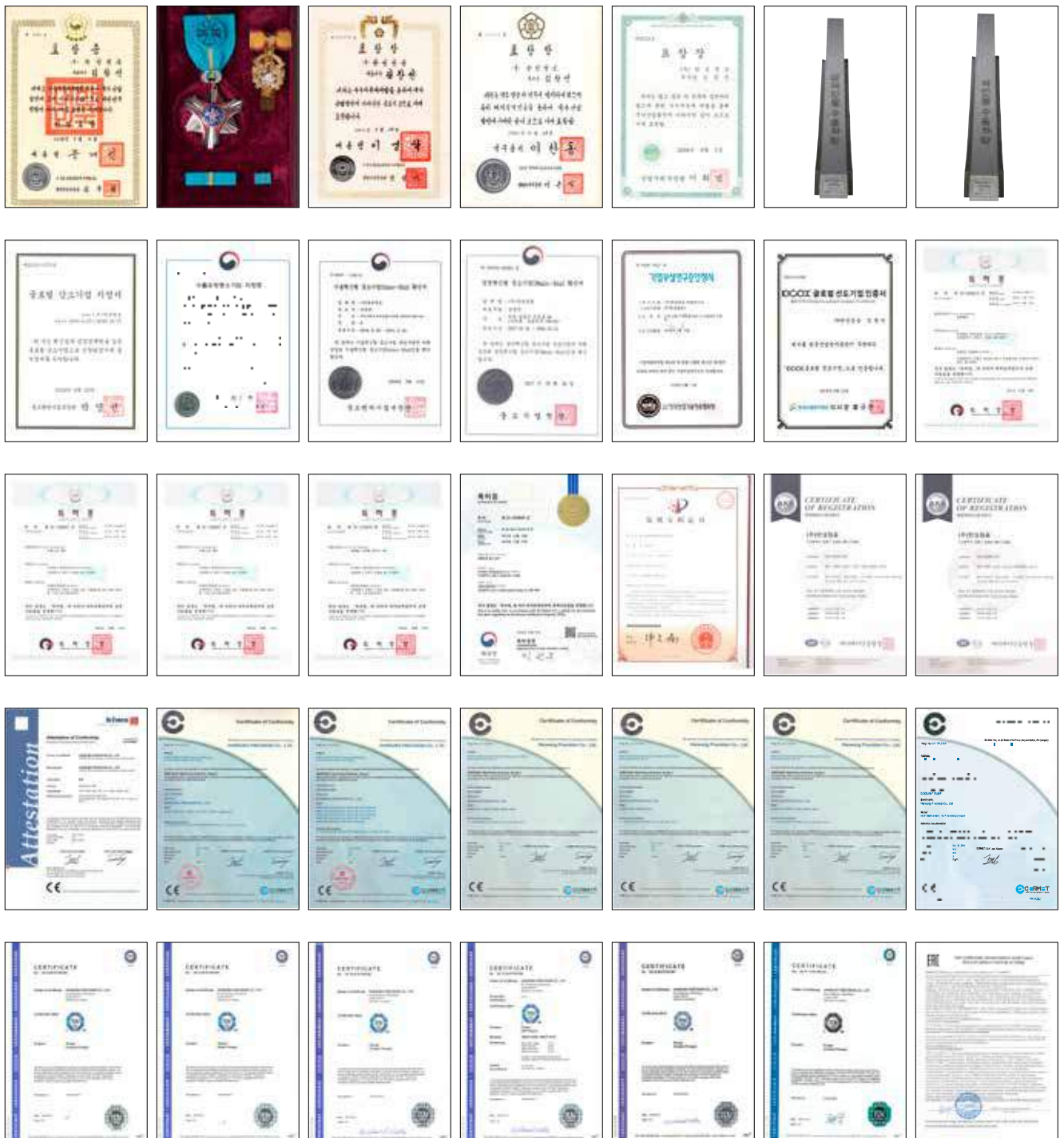
2019.04 : Designated as a "Small Giant Company" (Ministry of SMEs and Startups)

2019.04 : Designated as a "KICOX Global Leading Company" (Korea Industrial Complex Corporation)

2019.07 : Designated as a "Promising Export Firm" (Ministry of SMEs and Startups)

the Global Leader

To the World Best Technology & Quality



HANSUNG AUTOMATIC LUBRICATION SYSTEM

Grease PUMP HALS

GREASE PUMP

ROTOR PUMP

COOLANT PUMP

LUBE PUMP

Grease pump series

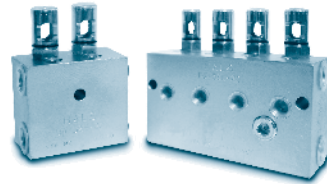
Two Line System



HGP-16 Series



HM



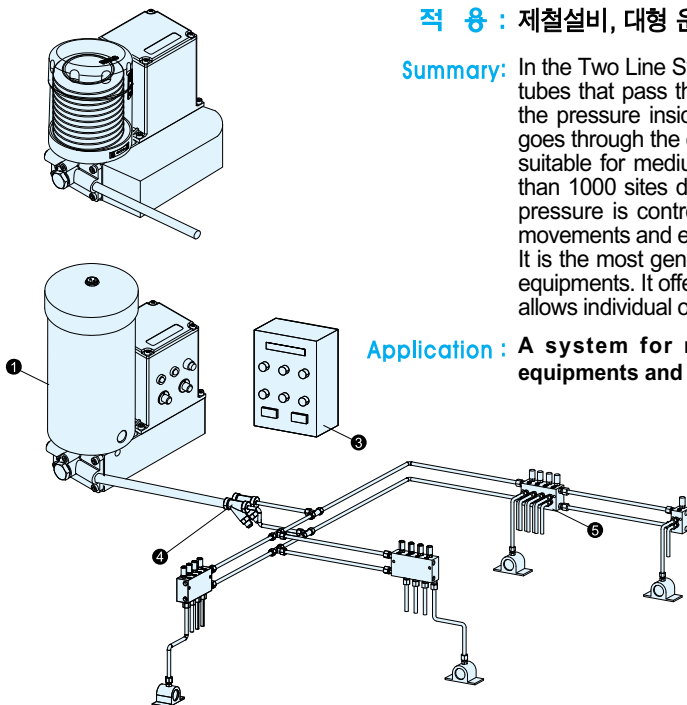
DV, DW

개요 : TWO LINE 급유 시스템은 현대의 운전펌프에서 절환밸브를 통과한 2개의 급유 주관중 1개의 주관 그리스가 모든 분배변을 통하여 급유가 완료되면 주관내 압력이 상승하고 설정한 압력에서 절환밸브를 통하여 다른 주관으로 공급이 자동변경되는 시스템이다. 주로 중·대형 급유시스템에 적합하고, 펌프 및 분배변의 선택에 따라 최대 1000개이상의 윤활급유가 가능하다. 펌프 절환밸브를 통하여 작동압력을 조절하기 때문에 동작이 확실하고 보수점검이 용이하다. 중·대형의 산업설비에 가장 보편화된 집중 윤활 시스템이다. 설치 후 주유개소의 추가 및 제거가 용이하며, 개별적 급유가 가능하다.

적용 : 제철설비, 대형 운반 하역기기 등 많은 수의 급유개소의 시스템

Summary : In the Two Line System, once grease from 1 main tube from the 2 main oil supply tubes that pass the change over valve is supplied oil through all the distributors, the pressure inside the main tube rises, and at the preset pressure, the supply goes through the change over valve to other main tubes automatically. It is mostly suitable for medium/large oil supply systems, and is capable of oil supply more than 1000 sites depending on the pump and distributor selection. The operating pressure is controlled with a pump change over valve, which ensures precise movements and easier repairs and maintenance. It is the most general concentrated lubricating system for medium/large industrial equipments. It offers easy addition/removal of oil supply sites after installation, and allows individual oil supply.

Application : A system for multiple fueling sites such as iron manufacture equipments and large load transportation machines.



Number	Part Name
1	펌프 (pump)
2	절환밸브 (change over valve)
3	배전반 (electricity control board)
4	여과기 (strainer)
5	분배변 (distributor)

Single Line System



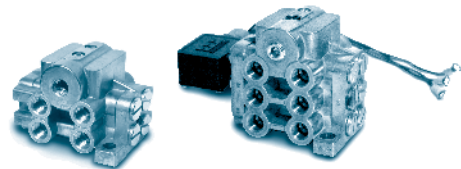
MG-10



HGP-10 MG Series



HGP-720 series



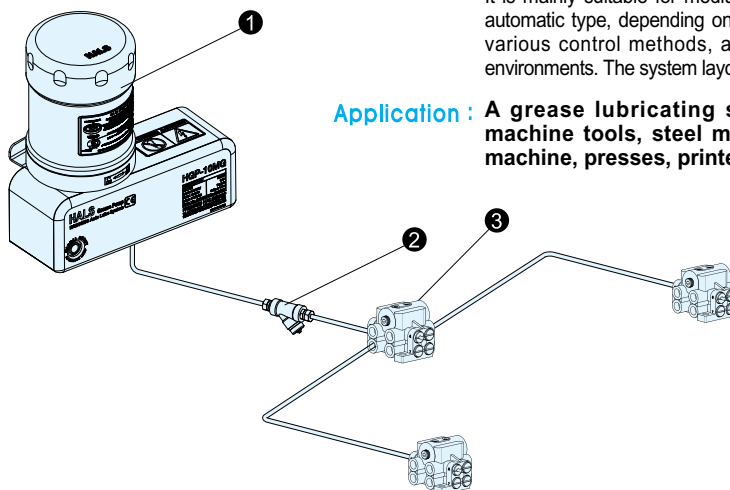
HU-R

개 요 : SINGLE LINE 급유 시스템은 한대의 운전펌프에서 하나의 공급 주관을 통하여 각각의 급유 개소에 분배변의 가지관을 부착하여 사용하는 급유 시스템이다.
시스템의 구성이 간단하고, 주관이 하나만 존재하기 때문에 설치 비용이 저렴하다.
주로 중 · 소규모의 급유시스템에 적합하고, 펌프의 종류에 따라 수동방식, 전동방식으로 나누어진다. 다양한 제어방식을 이용하여 급유장치를 모니터링 할 수도 있기 때문에 사용자의 환경에 따라 적합한 사양을 선택할 수 있다.
SYSTEM LAYOUT이 단순하며, 설치 비용이 저렴하다.

적 용 : 대형공작기계, 철강 · 제강 설비, 주조기, 압연기, 사출기, 프레스, 인쇄기, 자동화라인 등 광범위한 그리스 유회 시스템

Summary: The Single Line oil supply system uses one drive pump and one main supply tube, and attaches distributor tubes to each oil supply site. The system's formation is very simple, and because there is only one main tube, installation is cheap.
It is mainly suitable for medium/small oil supply systems, and is classified in to a manual or automatic type, depending on the pump type. The oil supply system can be monitored using various control methods, and therefore users can choose specifications to suit their environments. The system layout is simple, and installation is cheap.

Application : A grease lubricating system for a wide range of use including large machine tools, steel manufacture equipments, casters, rollers, injection machine, presses, printers, automated lines, etc.



Number	Part Name
1	펌프 (pump)
2	여과기 (strainer)
3	분배변 (distributor)

Manual Pump

수동펌프

Model

HM -

Blank: Manual Switch / A: Automatic Switch

1: 7cc/st

2: 3,5cc/st

2: 2Liter

4: 4Liter

S: Single Line / M: Dual Line

Feature

HM 펌프는 소형 수동 그리스 펌프로서 급유 빈도가 자동펌프에 비하여 적은 경우에 사용되며, 윤활급 유소가 비교적 적은 시스템에 적용된다. 최고 토출압력은 토출량에 따라 100kg/cm²와 210kg/cm² 두가지로 나누어지며, 탱크의 용량도 2Liter와 4Liter로 구분된다. 토출부 블록의 교체로 SINGLE LINE과 TWO LINE 적용시 절환변 부착이 가능하다. 작동방법이 간단하여 고장이 적고, 유지보수가 용이하다.

The HM pump is a compact manual grease pump, and is used to supply smaller discharge quantities compared to automatic pumps, and is applied to systems with relatively small lubricating oil supplies. The maximum discharge pressure is divided into 100kg/cm² or 210kg/cm² depending on the quantity of discharge, and the tank is separated into a 2liter or a 4liter. Exchange of the discharge part's block allows attachments of switching sides when applying single line and two line. The simple operation method means less breakdowns, and easier repairs and maintenance.

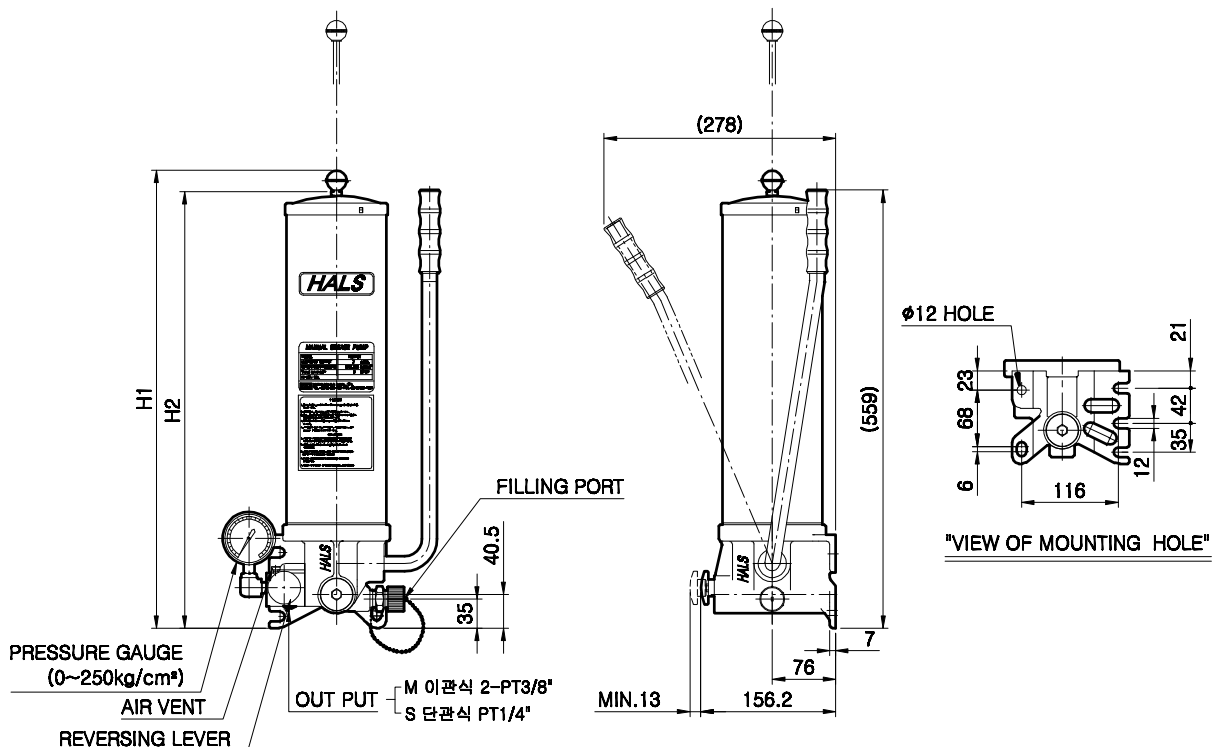
Pump Spec.

TYPE	HM□-21	HM□-41	HM□-22	HM□-42
DISCHARGE AMOUNT (cc/st)	7		3.5	
MAX. DISCHARGE PRESSURE (kg/cm ²)	100		210	
TANK CAPACITY(Liter)	2	4	2	4
WEIGHT(kg)	8	9	8	9

Dimension

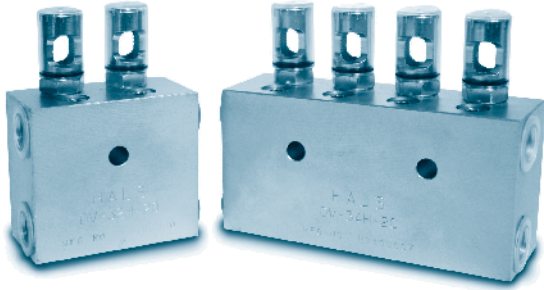
MODEL		H1		H2
		MIN.	MAX.	
HM□-21	HM□-22	350.5	526.5	324.2
HM□-41	HM□-42	550.5	726.5	524.2

External Figure



Distributor

DV형 분배 밸브



Model

DV - H - 20

Number of Outlet
Valve Type

Feature

- DV형 분배밸브는 TWO LINE SYSTEM에서 사용
- 윤활제는 주 배관으로 공급되어 송출압력에 의하여 각각의 급유소에 적절히 공급
- 분배구의 작동은 지시봉의 상하 동작으로 확인이 가능
- 윤활제 공급량은 조절나사를 이용하여 원하는 량만큼 조절이 가능
 - 정확한 량의 윤활제 공급이 가능한 정밀 윤활 공급장치
 - 견고하고 우수한 내구성
 - 최대 21MPa에서도 사용이 가능한 광범위한 범위의 윤활과 신뢰성이 우수
- DV Type distributors are two line system distributors.
- Lubricant is supplied appropriately to each lubricating point by the pressure of lubricant transferred in turn from main supply line.
- Operation of distributing valve is checked by indicator.
- Amount of grease can be adjusted as desired by the adjusting screw.
 - Accurate lubrication sliding unit is finished in high precision, which enables accurate weighing and lubricating.
 - Robust and highly durable.
 - Maximum working pressure 21MPa application of high pressure improves reliability of lubrication and enables lubrication in a broad range.

Specification

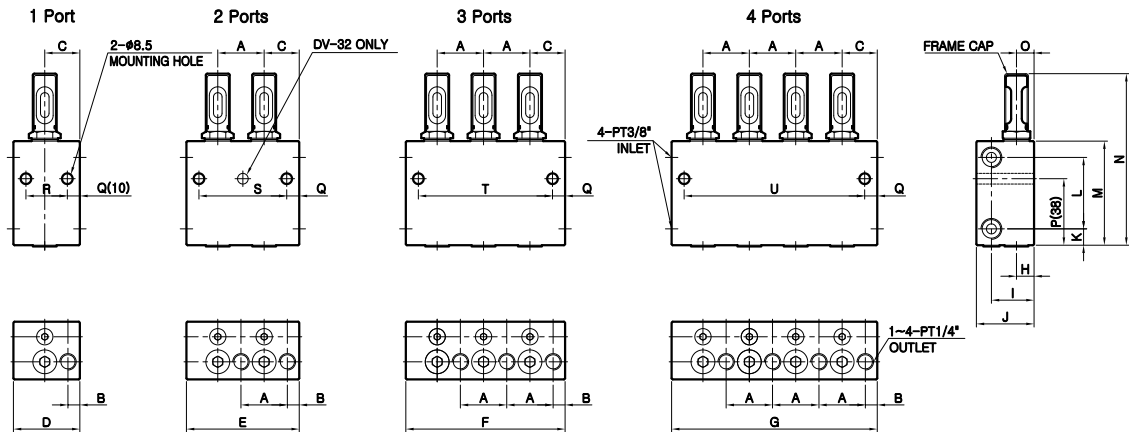
Distributor Size	30	40	50	60
MAX. DISCHARGE PRESSURE (MPa)	21			
APPLICABLE GREASE	Centralized Lubrication Grease NLGI Consistency Number #0~#2			
MIN. DISCHARGE PRESSURE (MPa)	1	1	1	1
DISCHARGE VOLUME (cm ³ /stroke MAX)	1.2	2.5	5	14
DISCHARGE VOLUME (cm ³ /stroke MIN)	0.2	0.6	1.2	3
ADJUSTING AMOUNT PER ROTATION OF ADJUSTING SCREW (cm ³)	0.06	0.10	0.15	0.68
ASSEMBLY BOLT SIZE	M8 x 60	M8 x 60	M8 x 65	M8 x 75
USING TEMPERATURE	Standard:-20~100℃, High:-40~200℃			

※ 주의 : 에용 밸브로 사용하는 경우, 10 MPa 이하의 압력을 설정합니다. (When using the valve for oil, set the pressure below 10MPa.)

Weight Spec.

Type	DV-31	DV-32	DV-33	DV-34	DV-41	DV-42	DV-43	DV-44	DV-51	DV-52	DV-53	DV-54	DV-61	DV-62
Weight(kg)	0.8	1.4	1.8	2.3	1.0	1.9	2.7	3.2	1.4	2.4	3.5	4.6	2.4	4.2

External Figure



Dimension

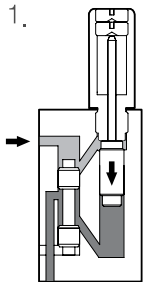
Type	Size(mm)																				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
DV-31, 32, 33, 34	29	8	22.5	44	73	102	131	11	27	38	11	42	64	104	11	41*	36.5*	24	-	29	58
DV-41, 42, 43, 44	31	9.5	25	50	81	112	143	11	29	40	11	54	76	125	11	48	10	30	61	92	123
DV-51, 52, 53, 54	37	9.5	28	53	90	127	164	14	34	45	13	57	83	138	14	53	10	33	70	107	144
DV-61, 62	46	10	33	62	108	-	-	29	45	57	16	57	89	149	20	56	10	42	88	-	-

※ 주의 : - DV-31 타입은 *로 표시된 치수가 다릅니다. 치수도면의 ()안 치수를 참조하십시오.
 - 그림과 같이 DV-32의 장착구멍은 한 곳에 있습니다.
 - 각 분배 밸브의 프레임은 먼지 보호용 프레임 캡이 장착되어 있습니다.

※ Caution : - As for DV-31 type, the dimension marked with * is different, See the dimension () in the dimension drawing.
 - As for DV-32 type, mounting hole is at one position as shown.
 - The frame of each distributor is equippen with frame cap for dust control,

Operating Principles

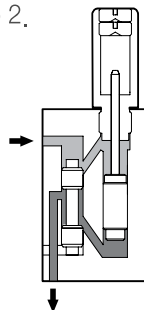
Step 1.



밸브를 통하여 압입된 윤활제는 PILOT PISTON을 누르고, MAIN PISTON으로 압력이 전달되어 하강하게 된다.

The lubricating oil entered through the valve presses the PILOT PISTON, and the pressure is passed onto the MAIN PISTON which moves down.

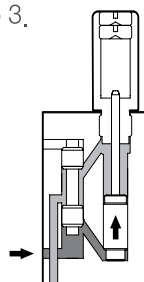
Step 2.



MAIN PISTON 하강하게 되며 공간에 존재하는 윤활제를 가압하여 토출하게 된다.

When the MAIN PISTON moves down, it exerts pressure on the lubricating oil, and discharges the oil.

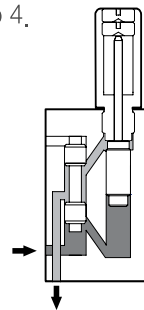
Step 3.



밸브를 통하여 압입된 윤활제로는 PILOT PISTON 상승하고, MAIN PISTON으로 압력이 전달되어 상승하게 된다.

The lubricating oil entered through the valve raised the PILOT PISTON, and the pressure is passed onto the MAIN PISTON which moves up.

Step 4.

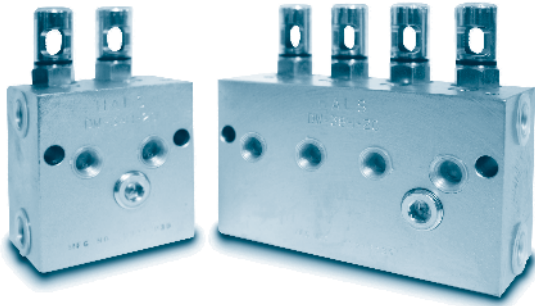


MAIN PISTON 상승하게 되며 공간에 존재하는 윤활제를 가압하여 토출하게 된다.

When the MAIN PISTON rises, it exerts pressure on the lubricating oil, and discharges the oil.

Distributor

DW형 분배 밸브



Model

DW - H - 20

Number of Outlet
Valve Type

Feature

- DW형 분배변은 TWO LINE SYSTEM에서 사용
- 이중 토출형으로 토출구 수가 2배로 제작되어 공간 절약이 가능
 - 토출구 수가 2배로 설치 및 배관 작업을 단순화 함
 - 최대 21MPa에서도 사용이 가능한 광범위한 범위의 윤활과 신뢰성이 우수
 - DW-30, 40, 50 형 전체 밸브의 설치 치수가 동일하여 변경이 용이함
 - 견고하고 우수한 내구성
- DW Type distributors are two line system distributors.
- The ports are doubled in number from single discharging type (1 port/element) to dual discharging type (2 ports/element) for saving space.
 - Distributing valves can be reduced half in number with reference to required number of lubricating ports, which simplifies installation and piping.
 - Maximum working pressure 21MPa application of high pressure improves reliability of lubrication and enables lubrication in a broad range.
 - DW-30, 40, and 50 type all have the same installation dimension, so that distributing valve can be connected with each other and size can be changed easily.
 - Robust and highly endurable.

Specification

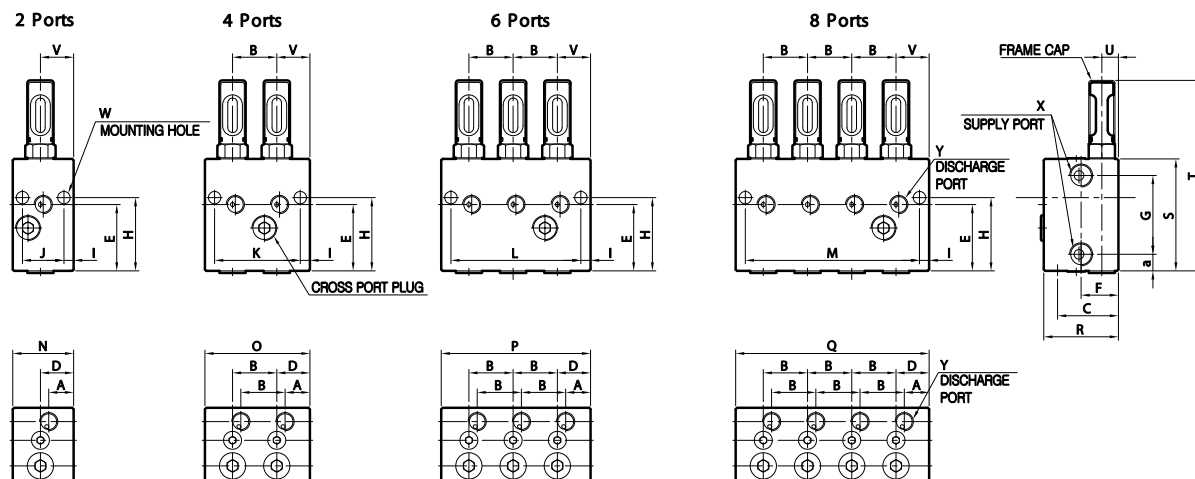
Distributor Size	20	30	40	50
MAX. DISCHARGE PRESSURE (MPa)	21			
APPLICABLE GREASE	Centralized Lubrication Grease NLGI Consistency Number #0~#2			
MIN. DISCHARGE PRESSURE (MPa)	1.2	1	1	1
DISCHARGE VOLUME (cm³/stroke MAX)	0.6	1.2	2.5	5.0
DISCHARGE VOLUME (cm³/stroke MIN)	0.15	0.2	0.6	1.2
ADJUSTING AMOUNT PER ROTATION OF ADJUSTING SCREW (cm³)	0.04	0.06	0.10	0.15
ASSEMBLY BOLT SIZE	M8 x 60L	M8 x 75L		
USING TEMPERATURE	Standard:-20~100℃, High:-40~200℃			

※ 주의 : 에용 밸브로 사용하는 경우, 10 MPa 이하의 압력을 설정합니다. (When using the valve for oil, set the pressure below 10MPa.)

Weight Spec.

Type	DW-22	DW-24	DW-26	DW-28	DW-32, 42, 52	DW-34, 44, 54	DW-36, 46, 56	DW-38, 48, 58
Weight(kg)	0.5	0.8	1.1	1.4	1.4	2.4	3.4	4.4

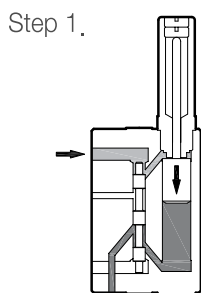
External Figure



Dimension

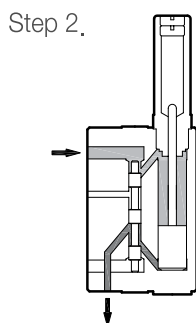
Type	Size(mm)																									
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	a	X	Y
DW-22, 24, 26, 28	18	17	32.5	18	33	21	37	34	6	24	41	58	75	36	53	70	87	40	54	81	8	18	7	9	Rc 1/4	Rc 1/8
DW-32, 34, 36, 38	18	32	44	22	47	27	57	52	7	30	62	94	126	44	76	108	140	54	79	120	12	24	9	11	Rc 3/8	Rc 1/4
DW-42, 44, 46, 48																				127						
DW-52, 54, 56, 58																				137						

Operating Principles



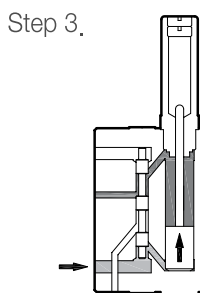
상부의 공급관이 압력이 가해져,
파일럿 피스톤이 아래로 밀려 윤활
유를 아래로 밀어내 메인 피스톤은
도면상의 공간으로 이동합니다.

Pressure is applied to the pipe line in the upper part, causing pilot piston to be pushed down to push down lubricant oil, causing main piston to move to the space in the diagram.



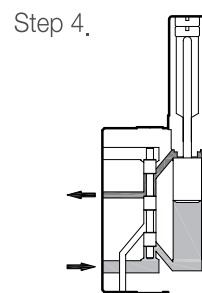
메인 피스톤이 아래의 공간으로 내려오면서 아래의 공간의 윤활유가 파일럿 피스톤의 작은 구멍 관을 통해 토출관으로 토출됩니다.

As main piston comes down to the space below, the lubricant oil in the lower space is discharged through a discharge hole in a small pipe in the pilot piston.



그런다음, 아래의 공급관에 압력이
가해져, 파일럿 피스톤이 밀려 올라
가며, 윤활유를 위쪽으로 밀어내 메인
피스톤은 도면상의 공간으로 이동합니다.

Then, pressure is applied to the supply pipe below, moving pulling up the pilot piston, moving the lubricant oil out and main piston moves along the space in the diagram.



메인 피스톤이 상부의 공간으로 올라오면서, 상부 공간의 윤활유가 파일럿 피스톤의 작은 구멍 관을 통해 토출관으로 토출됩니다.

Main piston comes up in the space above and lubricant oil in the upper part is discharged through a discharge hole through a small pipe in the pilot piston.

Metering Cartridge Grease Pump

정량식 카트리지 그리스 펌프

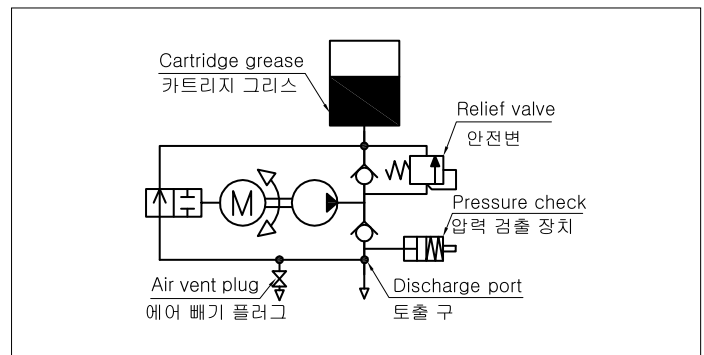


Model

HGP - 10 - **MG**

- 무기호 : 그리스 없음, Non-Grease
- 000 : 전용 그리스
- 00, 0, 1 : 일반 그리스
- LMG : 토출 압력 50kg/cm²
- HMG : 토출 압력 80kg/cm²
- 10 : Pump Design Series
- Hansung Grease Pump

Circuit Diagram



Feature

- 그리스 펌핑 및 탈압 기능의 복합화로 콤팩트 및 경량화
- 정량식 분배변과 조합하여 다수의 윤활개소에 그리스를 정시, 정량 공급
- 카트리지 교환으로 편리하게 재충전 함으로써, 경제적이고 깨끗한 환경 유지
- LM Guide, Ball Screw 윤활에 최적화된 탈압형 정량식 펌프
- 지정된 그리스 (NLGI Grade 000, 00, 0, 1) 사용
- 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
- A grease pump that is designed to be excellent at lubrication points, such as the LM guide and ball screw
- Designated grease (NLGI Grade 000, 00, 0, 1) using pump

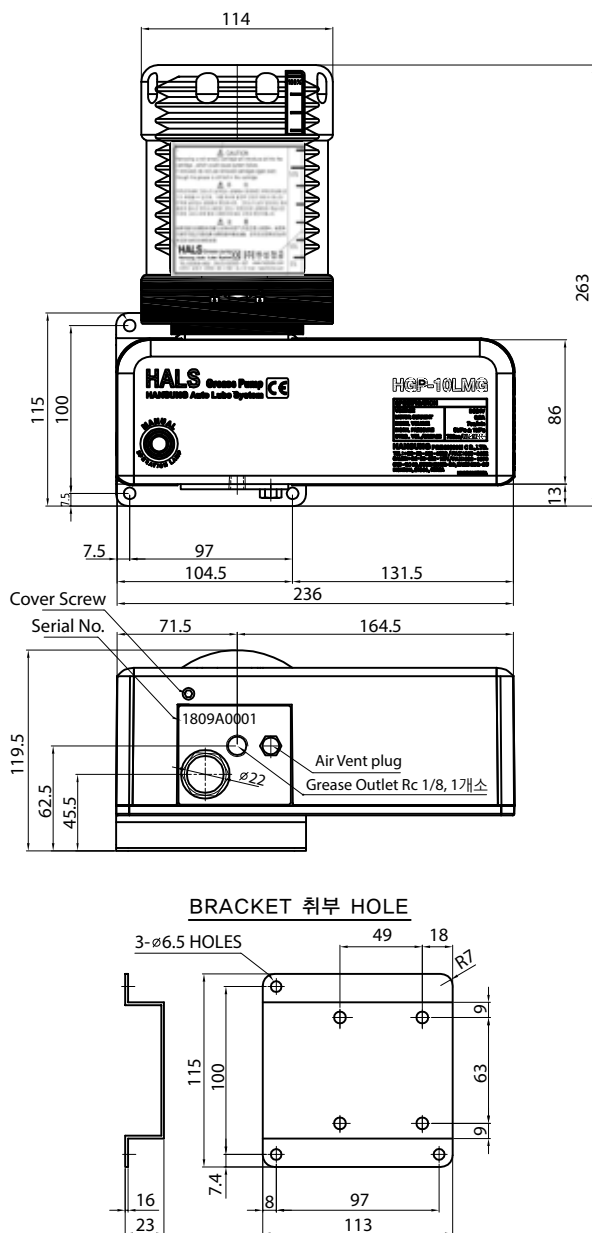
Specification

MOTOR SPECIFICATION		GREASE SPECIFICATION		PUMP SPECIFICATION	
Out Put 출력	8W	Cartridge Vol. (ml) 카트리지 용량	700	Operating Temperature 사용 온도	-10℃ ~ +45℃
RPM 회전수	6500	Constancy (NLGI Grade) 점도 등급	전용 000	Discharging Pressure (kg/cm2) 토출 압력	HMG:80, LMG:50
Voltage(V) 전압	DC 24V		일반 00, 0, 1	Discharging Volume (cc/min) 토출 유량	7
Current(A) 전류	0.8A	Worked Penetration 25℃ 혼화 조도 (NLGI 000~1)	310~475	Power Consumption 소비 전력	24W
		Density (g/cm2,15℃) 밀도 (NLGI 기준)	0.89	Interval Time 최소 휴지시간	More than 10 minutes
				Discharging Port 토출 구경	PT1/8"
				Weight (Kg) 중량	2.5

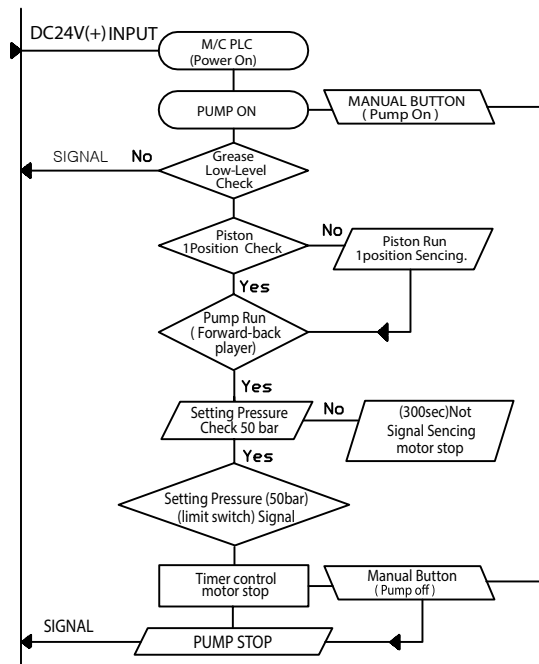
※ 전원 220V/110V Option 사양임

※ -10℃ ~ +45℃ 온도범위 이외로 사용시에는 사전 문의를 요청드립니다.

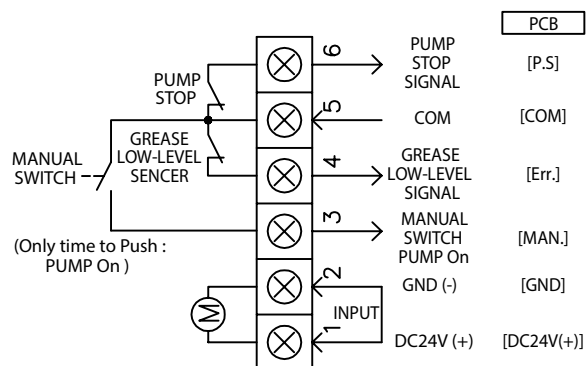
External Figure



HGP-10 □ MG Operation flow chart



HGP-10 □ MG Connector



HCG

Cartridge Exclusive Grease

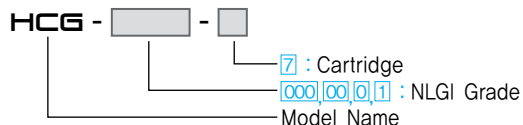
카트리지 전용 그리스



Feature

- 고품질 범용 그리스 / 고품질 극압, 고하중 그리스
- 탁월한 마모 방지성, 수분 저항성을 지님
- 소량으로 지속, 안정적인 윤활효과가 있음

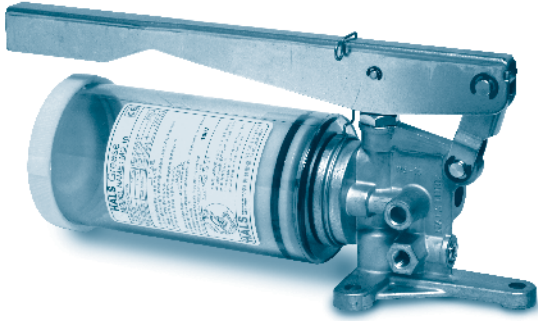
Model



- HCG model is a high-quality universal grease. It can be used even during extreme pressure, heavy duty.
- It is and has excellent abrasion resistance, also has water resistance.
- HCG grease has a low-capacity lubricating effect for a long time

Manual Pump

수동펌프



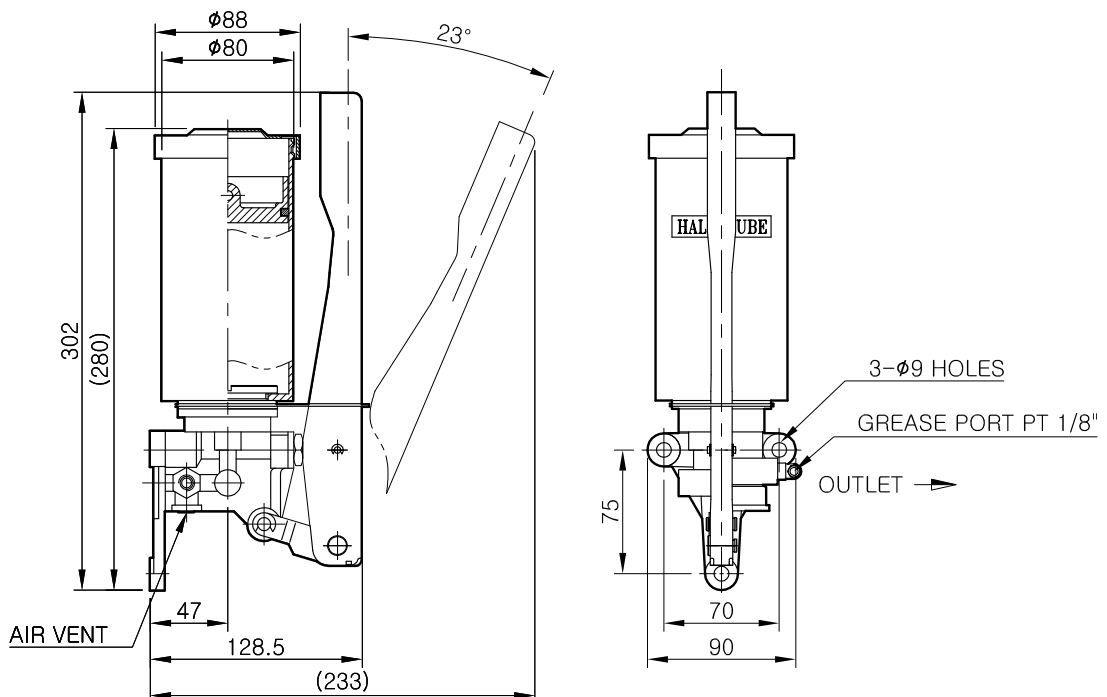
Pump Spec.

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

Packing Spec.

PACKING SIZE (cm)		32(W) x 10(L) x 14(D)
WEIGHT (kg)	PUMP	3
	PACKING	4

External Figure



Model

MG -

10: 1.0cc/st

Feature

강제급유식 수동 그리스펌프인 MG-10은 그리스 윤활유의 집중급유방식을 채택하여 급유량의 적절한 계획을 수립할 수 있고 급유비용의 절감 및 기계 정지시간의 절약으로 생산성의 향상을 기대할 수 있다. 그리스 주입시에 발생할 수 있는 위험요소를 제거하여 보다 안전한 급유관리를 할 수 있다.

- ▶ 급유량의 적절한 계획을 수립할 수 있으며 HU-R형 그리스 분배기를 사용하여 순차 급유가 가능하다.
- ▶ 기계 및 베어링의 수명을 연장할 수 있다.
- ▶ 오염된 그리스의 혼입을 방지할 수 있다.
- ▶ Grease 토출이 이루어지지 않을 경우 Air Vent Screw(-)를 열어 Body 내 Air를 제거한 후 재작동시킨다.

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.

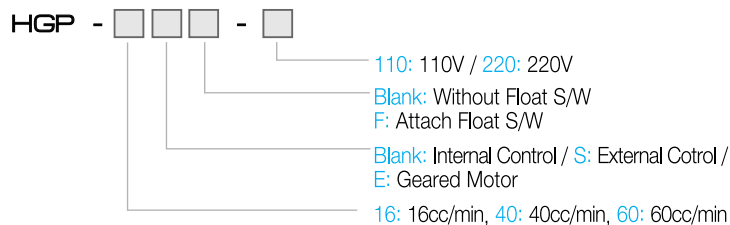
- ▶ It allows suitable planning of oil supply quantities, and the use of a HU-R type grease spray allows multi-stage oil supply.
- ▶ It can extend the lifespan of machines and bearings.
- ▶ It can prevent the entry of contaminated grease.
- ▶ If there is no grease discharge, unscrew the air vent screw(-) and remove the air inside the body.

Compact Electric Grease Pump Type

소형전동 그리스펌프



Model



Feature

HGP-16 type은 감속모터 구동 Grease Pump로 종래의 대형 Pump의 사용상 문제 점을 대폭 보완한 제품으로 소형이며 강력한 Controller 내장식 Grease Pump이다.

- ▶ 소형 경량으로 가격이 저렴하다.
- ▶ Controller 내장식 Grease Pump이다.(HGP-□(S))
- ▶ 반드시 순차식 분배변 조합으로 사용한다.
- ▶ Two Line 시스템 적용시는 절환 밸브를 조합하여 사용한다.
- ※ 토출이 이루어지지 않을 경우 Air Vent Plug의 Plug를 열어 공기를 제거하여 주십시오.
- ※ Grease Level Switch는 주문사양.
- ※ HGP-16(S)는 외부제어를 요할 경우의 제품으로 주문사양임.

HGP-□E- 외부제어용

HGP-16E type은 종래의 HGP-□와 동일한 펌프구조를 갖고 있으나, 조절 방법을 내장형 Controller를 통한 방법이 아닌 외부장치 조절방법을 채택 하여 제작된 펌프로서 사용자의 선택의 폭을 넓게 하였다.

HGP-16 type 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.
- ▶ A controller-equipped grease pump.(HGP-□(S))
- ▶ It has to used with a multi-stage distributor combination.
- ▶ For use in two line systems, it is used in conjunction with change over valves.
- ※ If there is no discharge, remove air by opening the air vent plug's plug.
- ※ Grease level switch is an order specification.
- ※ HGP-16(S) is an order specification used for external control.

HGP-□E-)for external control

HGP-16 Etype 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.

Tank Spec.

Type	HGP-□	HGP-□C
TANK CAPACITY	2Liter	200, 500, 800cc
WEIGHT	5kg	4.5kg
USING GREASE	#000~#1	
NUMBER OF OUTLET	24	

Packing Spec.

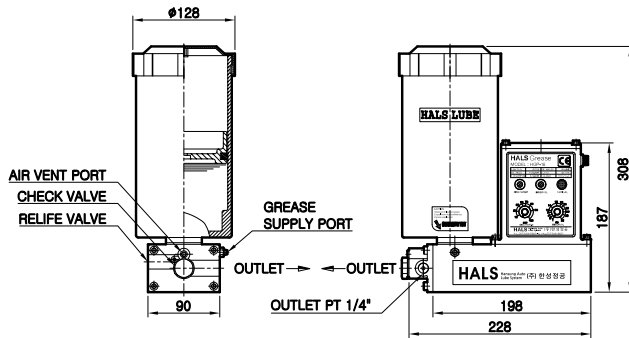
PACKING SIZE (cm)		25(W) x 17(L) x 37(D)
WEIGHT (kg)	PUMP	5
	PACKING	6

Pump Spec.

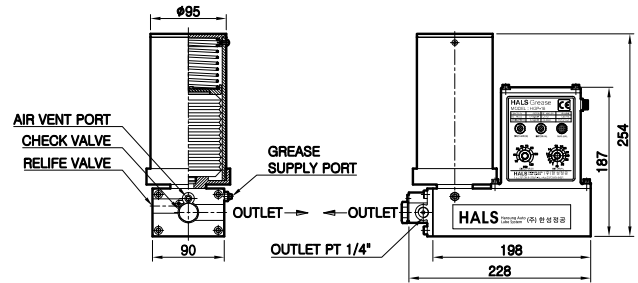
PUMP SPEC.						
MODEL	HGP-16(S)		HGP-16E		HGP-40E	
PUMP TYPE	PISTON					
DIS. PRESSURE(kg/cm²)	120		160		100	
DIS. AMOUNT(cc/min)	16		16		40	
USING PRESSURE(kg/cm²)	60					
INTERVAL	1~32Hr		External control			
DISCHARGE TIME	10~120SEC					
MOTOR SPEC.						
OUTPUT	100W		25W		25W	
PHASE	1 Ø		1 Ø		1 Ø	
VOLTAGE (V)	110	220	110	220	110	220
CURRENT (A)	3	1.5	0.6	0.3	0.6	0.3

External Figure

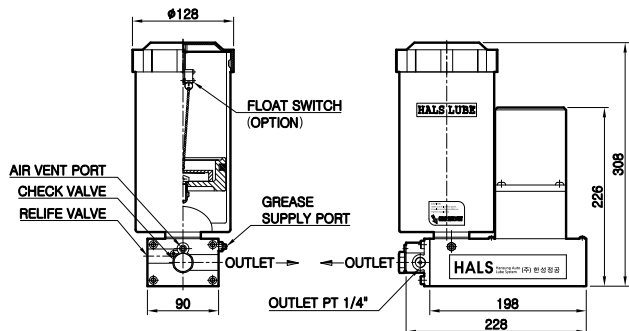
HGP-□(S)



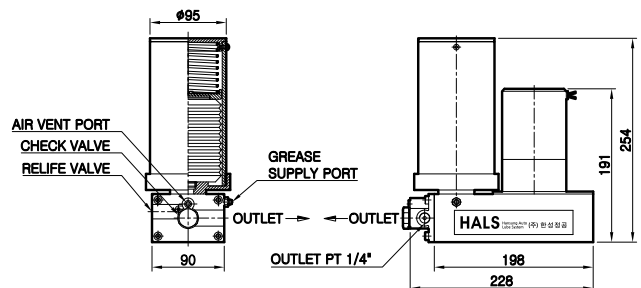
HGP-□C



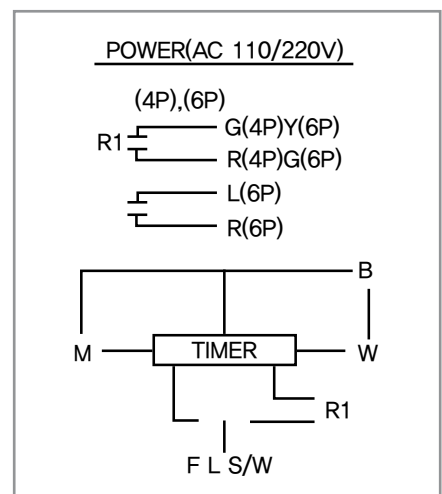
HGP-□E



HGP-□EC



Power	W(white), B(black) - 2P, 4P, 6P
Wires	G(green), R(red) - 4P
	Y(yellow), G(green), L(blue), R(red) - 6P
Normal power & grease [(G,R - 4P), (Y,G - 6P)] : N . O connector 전원 및 Grease가 정상 상태일 [(G,R - 4P)(Y,G - 6P)] : N . O connector	



Air Drive Pump Type

에어 구동펌프



Model

HGP - □ □

Blank: Without Float S/W
F: Attach Float S/W

720: 72cc/min
950: 95cc/min
1200: 120cc/min

Feature

HGP-□ type은 압축공기의 공급으로 작동하여 연속으로 그리스를 토출하는 Pump이다. Pump의 제어는 공기의 회로를 개폐하여 임의로 조작이 가능하다. 공급되는 공기압에 의하여 Pump의 토출량과 토출압력이 변하는 Air Drive Pump이다.

- ▶ 고압이송으로 원거리 급유에 적합하다.
- ▶ 반드시 순차식 분배변 조합으로 사용한다.
- ▶ 명시한 분당 토출량은 공급 압축공기의 압력이 5kg/cm² 이상이어야 한다.
- ※ 토출이 이루어지지 않을 경우 Air Vent Port의 Plug를 열어 공기를 제거하여 주십시오.
- ※ Grease Level Switch는 주문사양. (HGP-□ F type)

HGP-□C형은 별도의 그리스 충전없이 분해 조립이 간단한 CARTRIDGE형 GREASE 부착하여 그리스 충전시 발생하는 이물질이나 공기 혼입등을 막을 수 있다.

Pump Spec.

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	2 LITER		
USING GREASE	#000~#1		

Packing Spec.

PACKING SIZE (cm)		25(W) x 16(L) x 33(D)
WEIGHT (kg)	PUMP	3
	PACKING	4

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.

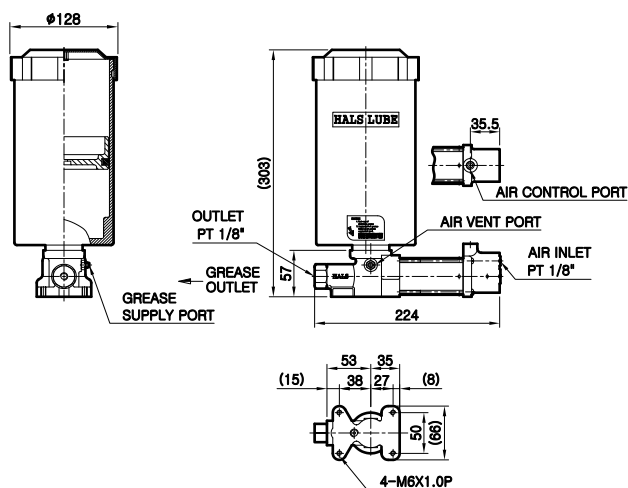
- ▶ It offers high-pressure deliveries suitable for long-distance oil supply.
- ▶ It has to be used with a multi-stage distributor combination.
- ▶ The mentioned discharge per minute requires more than 5kg/cm² pressure in the supplied compressed air.

※ If there is no discharge, remove air by opening the Air Vent Plug's Plug.
※ Grease level switch is an order specification. (HGP-□ F type)

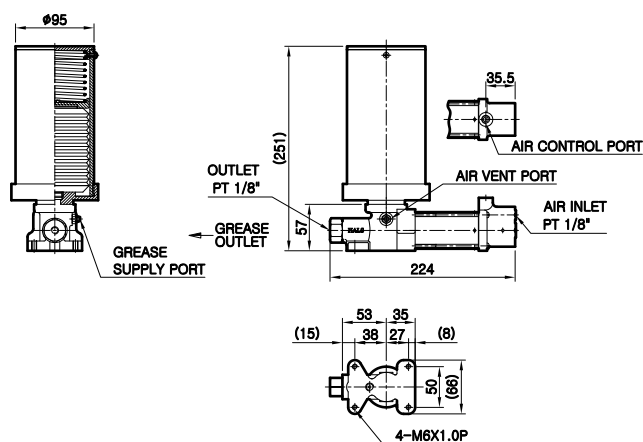
HGP-□C uses cartridge type grease, which does not require grease filling, is easy to disassemble and assemble, and prevents the entry of foreign substances and air that usually occurs during fillings.

External Figure

HGP-□

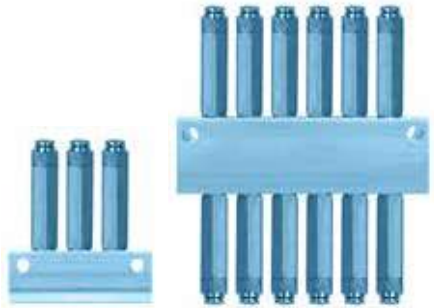


HGP-□C



Grease Metering Valve

그리스 정량 밸브



Feature

- HGMV valve는 용적식 급유 방식의 고신뢰성 밸브
- 전용 분배구 사용으로 자유로운 조합이 가능 (1구 ~16구 가능)
- HGMV series is positive displacement injector valve with high reliability.
- It is available for various combination because it is using exclusive distributor. (Can be used 1~16 ports)

METERING GREASE VALVE SPECIFICATION								
HMGC CODE NO.		3	5	10	20	30	50	100
HMGC (OneTouch)	Discharging Volume (cc/st) 토출 유량	0.03	0.05	0.1	0.2	0.3	0.5	1.0
Operating Pressure (kg/cm2) 작동 압력		25						
Reset Pressure (kg/cm2) 복귀 압력		15						

External Figure

Model

HGMV - -

(HMG) Code No.
(HVA) PORT Single S, Double D
(HVA) PORT 수량 (Number of outlet)
Hansung Grease Metering Valve Assy

※ 주문방법

▶ 5구 사용 예 : 왼쪽부터 0.1-0.03-0.3-0.05-0.2(cc)가 필요한 경우

⇒ 주문번호 HGMV-5S-10330520

※ How to order

► When you need 0.1–0.03–0.3–0.05–0.2(cc) from left while using five port ⇨ **Order number HGMV-5S-10330520**

Metering Grease Valve Model (Olney Valve)

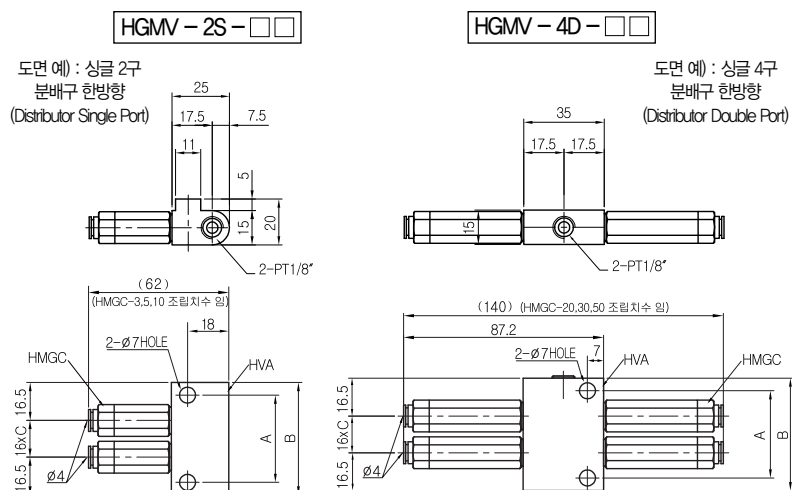
HMS ③ -

- Model Code No.
- One Touch Type
- Metering Valve Model Name

Grease Distributor Model (Only Distributor)

HVA - ☐ ☐ ☐

- S: Single (port 한방향)
- D: Double (port 양방향)
- Single Port수: 1~12
- Single Port수: 2~16
- Distributor Model Name



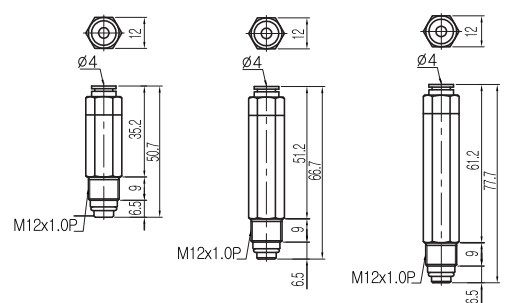
HGMV	DIMENSION											
싱글 밸브 수량	1	2	3	4	5	6	7	8	9	10	11	12
더블 밸브 수량	2	4	6	8	10	12	14	16	—	—	—	—
A	22	38	54	70	86	102	118	134	150	166	182	198
B	33	49	65	81	97	113	129	145	161	177	193	209
C	0	1	2	3	4	5	6	7	8	9	10	11

정량 급유식 그리스 밸브
(Port, Double Single 동일함)
Metering Grease Valve
HMGC Model

MODEL			
Vol.(cc/st.)	0.03	0.05	0.1
Marking	003	005	01
Code No.	3	5	10

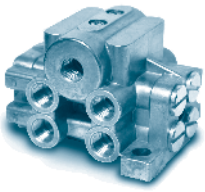
MODEL				
Vol.(cc/st.)	0.2	0.05	0.5	0.1
Marking	02	03	05	10
Code No.	20	30	50	100

HMGC-3,5,10	HMGC-20,30,50	HMGC-100
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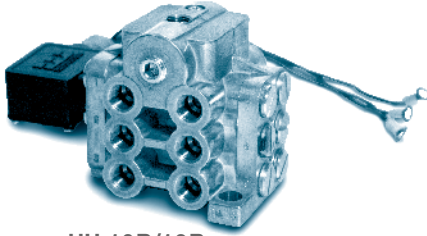


Sequential Distributor

순차적 분배변

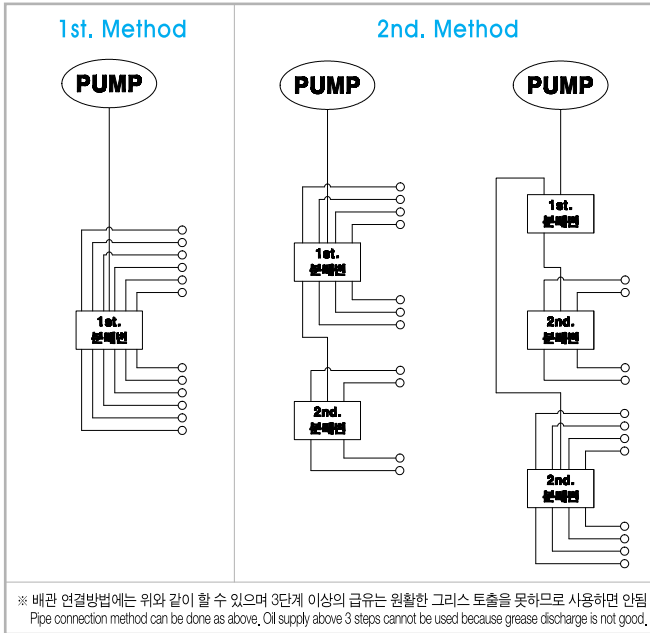


HU-2~8R



HU-10R/12R

Oil Supply Method



Pump Spec.

MODEL	HU-R(L)	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	
Operating Grease(NLGI Grade)	000,00,0,1,2	

Model

HU - R

Blank: Without Limit S/W
L: Attach Limit S/W
Numer of Outlet

Feature

HU-R type 분배변은 연속적으로 작동되는 Piston에 의하여 가압유를 각각의 토출구에 정해진 양을 자동적으로 공급하고 Grease의 운동이 가능하면 계속해서 작동할 수 있는 분배변이다. 분배변은 독립적으로 작동하고 토출은 토출구에 따라서 2~8, 10, 12구까지 되어 있다.
HU-RL type 분배변은 지시봉(Indicator)에 Limit S/W를 부착하여 분배변의 작동유무를 감지할 수 있다.

- ▶ 배관조립시 토출구가 남았을 경우 절대로 Plug를 사용하여 막지 말아야 한다.
- ▶ 불필요한 토출구는 보조금구(Attachment)를 사용하여 배관하여야 한다.
(단, Attachment 연결 배관의 토출량은 2배가 된다.)
- ▶ 분배변은 1 Cycle 작동을 완료하면서 지시봉(indicator)이 전/후진을 하여 어느 한 배관이라도 막히게 되면 분배변이 작동하지 않으므로 이상유무의 육안식별이 가능하다.

※ 주의 : 비누계 성분의 Grease는 사용하지 마십시오.

The HU-R type distributor automatically supplies fixed quantities of pressurized oil to each discharge outlet trough 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.

- ▶ When assembling the pipes, if there are extra discharge outlets, never block them with a plug.
- ▶ Unnecessary discharge outlets need to be piped using the attachments. (But, the pipe connected with attachments will have double the discharge quantity.)
- ▶ Once the distributor has completed 1 cycle, the Indicator moves forward/backward if any pipe is blocked, and does not operate, to allow visual discrimination of any problems.

※ Warning: Do not use soap-based grease.

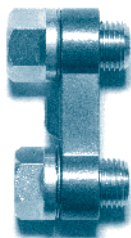
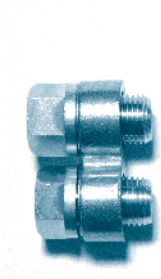
Packing Spec.

PACKING SIZE (cm)		13(W) x 8(L) x 8(D)
WEIGHT (kg)	DISTRIBUTOR	1
	PACKING	1

HUA 16/26 series

Sequential Distributor Supplementary Connecting Outlet

순차적 분배변 보조 연결구



Model

HUA-16 : 중심거리 (16) 세로용 (Center distance (16) for Vertical)

HUA-26 : 중심거리 (26) 가로용 (Center distance (26) for Horizontal)

Feature

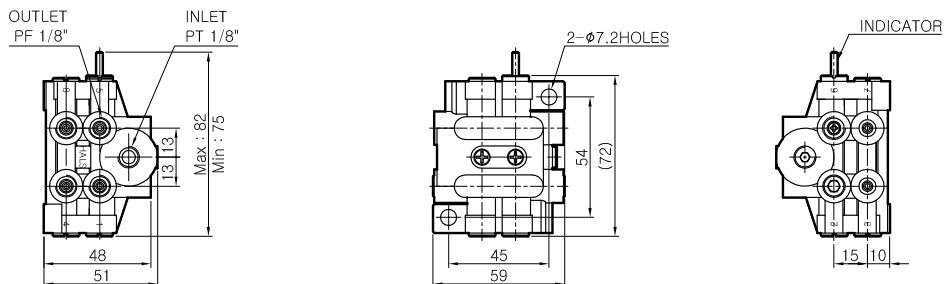
HU-R Grease 분배변 사용 배관 조립시 주유구의 수를 줄일 때 또는 필요한 부분의 주유량을 두 배로 할 때 사용하는 보조연결구이다.

This is a supplementary connecting outlet used when assembling pipes using HU-R grease distributor, reducing the number of oil supply outlets or doubling the oil supply quantities in necessary areas.

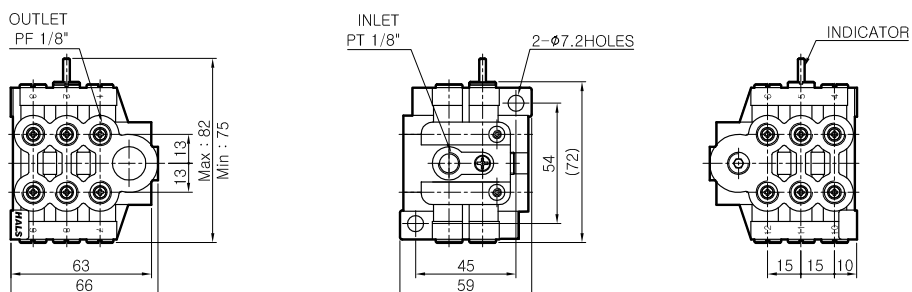
External Figure

HU-□R Type

HU-2~8R

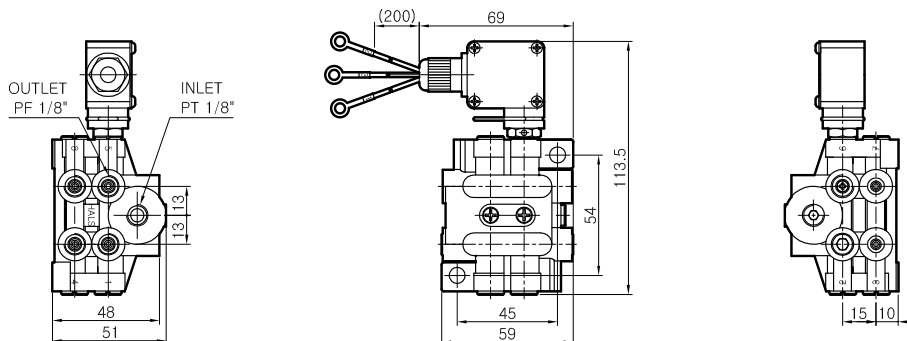


HU-10, 12R

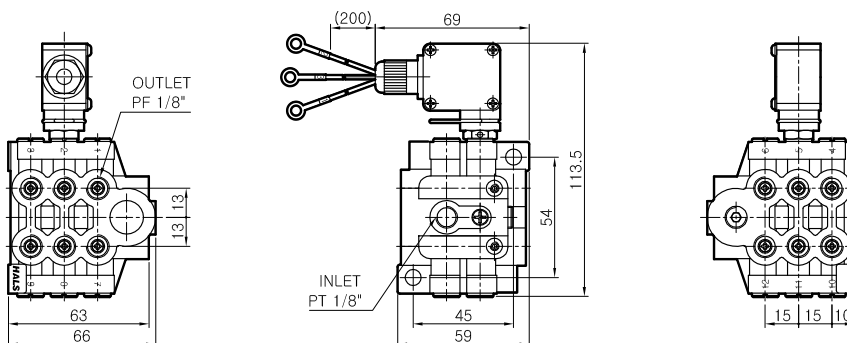


HU-□RL Type

HU-2~8RL

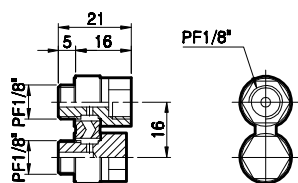


HU-10, 12RL

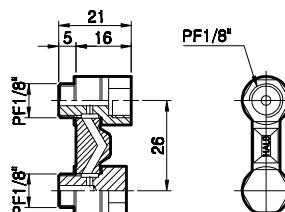


External Figure

HUA-16



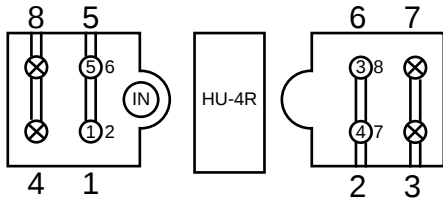
HUA-26



U-R TYPE Distributor operation Manual

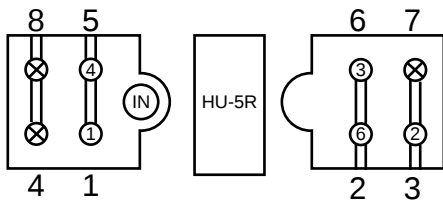
Operation Flow chart

HU-4R



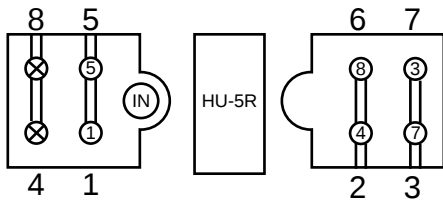
비율 : 1 : 1 : 1 : 1 (동일토출)

HU-6R



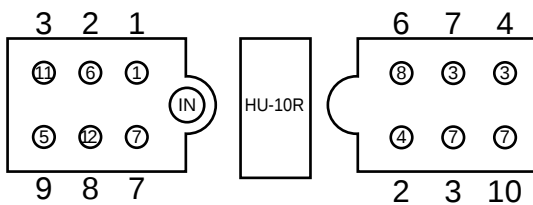
비율 : 1 : 1 : 1 : 1 : 1 : 1 (동일토출)

HU-8R



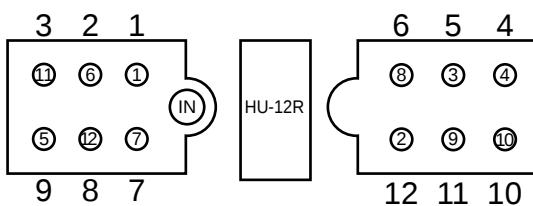
비율 1:1:1:1:1:1:1:1 (동일토출)

HU-10R



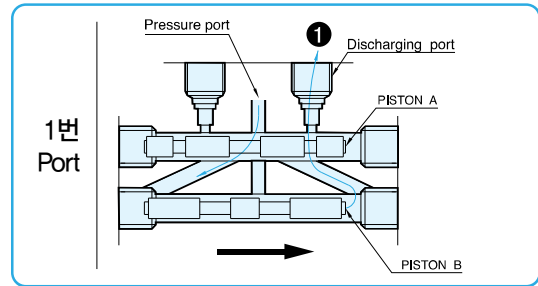
비율:1:1:1:1:1:2:1:1:1:1:1:2 (⑥, ⑩ Port 2회토출)

HU-12R

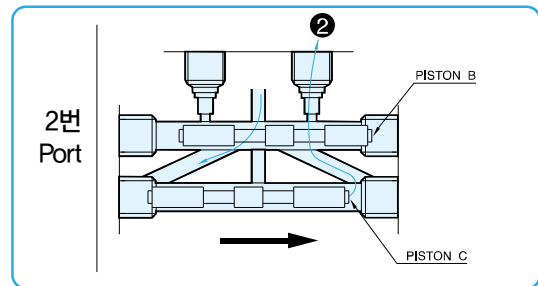


비율:1:1:1:1:1:1:1:1:1:1:1:1 (동일토출)

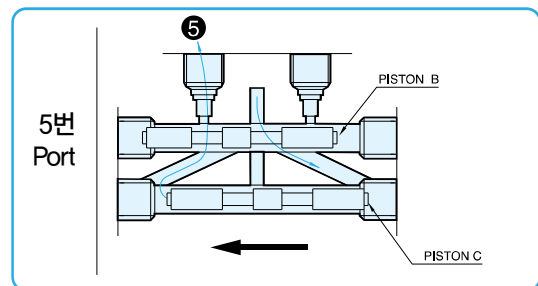
Performance Property



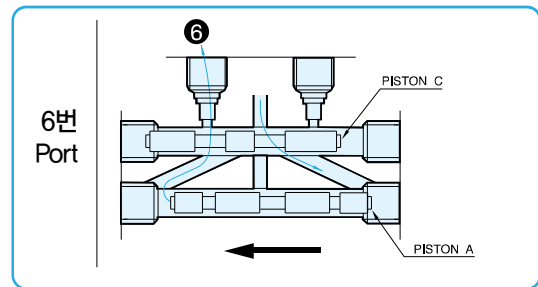
가압구로부터 가압된 Grease는 Piston A의 틈을 통과하여 Piston B의 좌측을 밀어낸다. Piston B가 오른쪽으로 이동하여 Piston B 우측의 Grease는 Piston A의 틈을 통과하여 토출구 ①을 통하여 외부로 토출된다.



앞에서의 Piston B가 우측으로 이동한 후에 가압구로부터 Grease는 Piston B의 틈을 통과하여 Piston C의 좌측으로 밀어낸다. Piston C가 오른쪽으로 이동하고 Piston C 우측의 Grease는 Piston B의 틈을 통과하여 토출구 ②를 통하여 외부로 토출된다.



Piston B가 좌측으로 이동한 후 가압구로부터 Grease는 Piston B의 틈을 통과하여 Piston C의 우측을 밀어낸다. Piston C가 좌측으로 이동하여 Piston C의 좌측 Grease는 Piston B의 틈을 통과하여 토출구 ⑤를 통하여 외부로 토출된다.



Piston C가 좌측으로 이동한 후 가압구로부터 Grease는 Piston C의 틈을 통과하여 Piston A의 우측을 밀어낸다. Piston A가 좌측으로 이동하여 Piston A의 좌측 Grease는 Piston C의 틈을 통과하여 토출구 ⑥를 통하여 외부로 토출된다.

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HMGP-105C	13
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HU-12RL	15
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