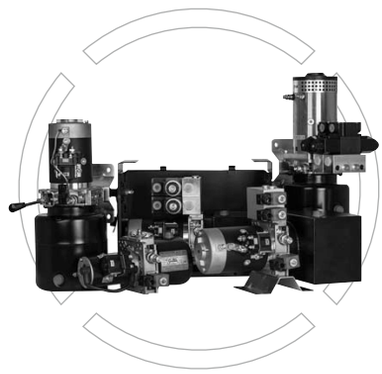
Compact Power Unit

DC powerpacks



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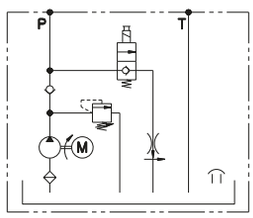
Hydraulic Power Pack Application

We offer a wide range of AC and DC powered Hydraulic power Packs to serve your hydraulic needs. Some of applications used for our AC- powered Hydraulic Power Packs include Car lifts such as 2 post or 4 post lifts, scissor lifts, and wheel alignment scissor lifts. Our industrial applications can be found in dock levelers, elevators, table lifts, parking systems, recycling can presses and shop equipment. Our DC Power Packs can used as hydraulic power solutions for wing body trucks, man lifts, truck, machinery and material handling equipment such as stackers, pallet trucks and telescopic conveyor belts. Our PTO Power Packs can used as farm machinery.

AC power packs for car lifts	AC power packs for industrial lifts and machinery
	
DC Power Packs	**PTO Power Packs**
	

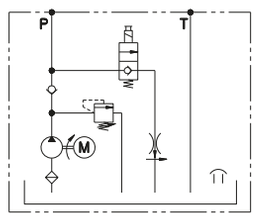
AC Power Packs/Car Lifts

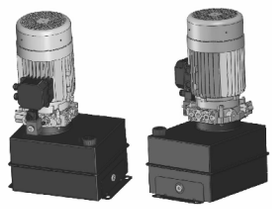
2Post Lift



· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

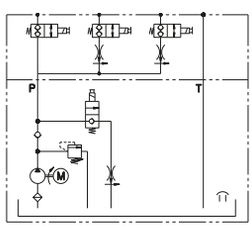
Scissor Lift

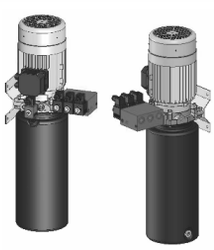




· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

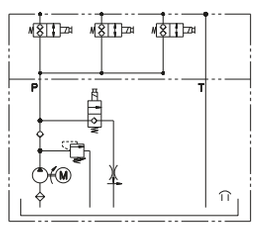
4Post Lift





· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE : Available in
various combinations.

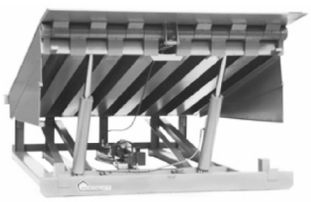
Wheel Alignment Scissor Lift

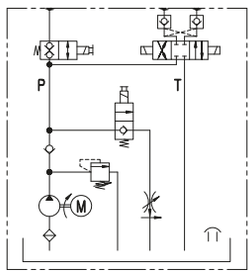


· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

AC Power Packs/Industrial Lifts

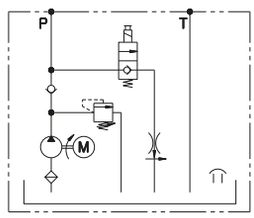
Dock Leveler





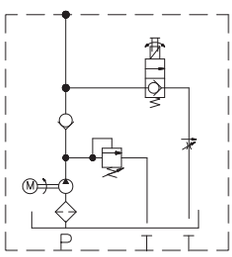
· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

Elevator



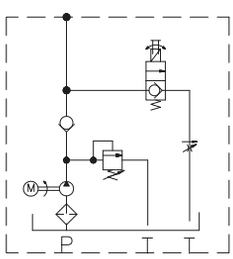
· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

Table Lift



· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE : Available in
various combinations.

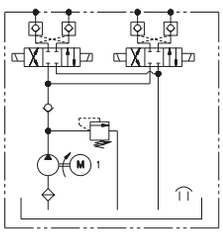
Parking System

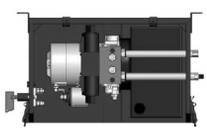


· MOTOR: AC 0.2Kw~ 4Kw
1Φ/3Φ, 60Hz/50Hz
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

DC Powerpacks

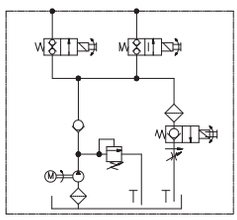
Wing Body Truck





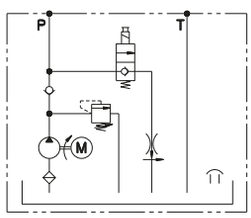
· MOTOR: DC12V/ DC24V
0.8Kw~2.2Kw
· PUMP: 0.5cc~10cc
· TANK: 1.3l~ 60l
· VALVE: Available in
various combinations.

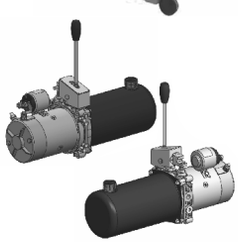
Tail Lift



· MOTOR: DC12V/ DC24V
0.8Kw~2.2Kw
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

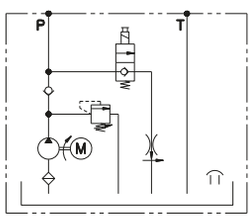
Stacker





· MOTOR: DC12V/ DC24V
0.8Kw~2.2Kw
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

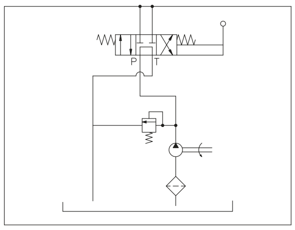
Man Lift



· MOTOR: DC12V/ DC24V
0.8Kw~2.2Kw
· PUMP: 0.5cc~10cc
· TANK: 1.3l~60l
· VALVE: Available in
various combinations.

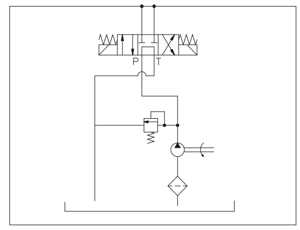
PTO Powerpacks

Farm Machinery



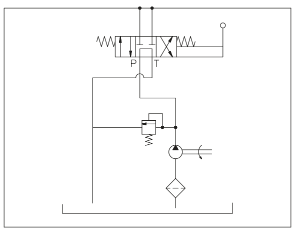
- PACK PRESSURE: 200bar
- FLOW: 3.5~10.2L/min
- OPERATING RPM: 1760rpm
- MOUNTING TYPE: Horizontal

Farm Machinery



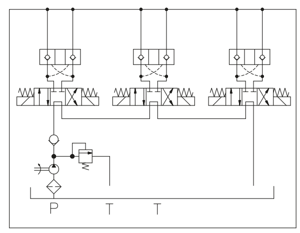
- PACK PRESSURE: 200bar
- FLOW: 3.5~10.2L/min
- OPERATING RPM: 1760rpm
- MOUNTING TYPE: Horizontal

Farm Machinery



- PACK PRESSURE: 200bar
- FLOW: 3.5~10.2L/min
- OPERATING RPM: 1760rpm
- MOUNTING TYPE: Horizontal

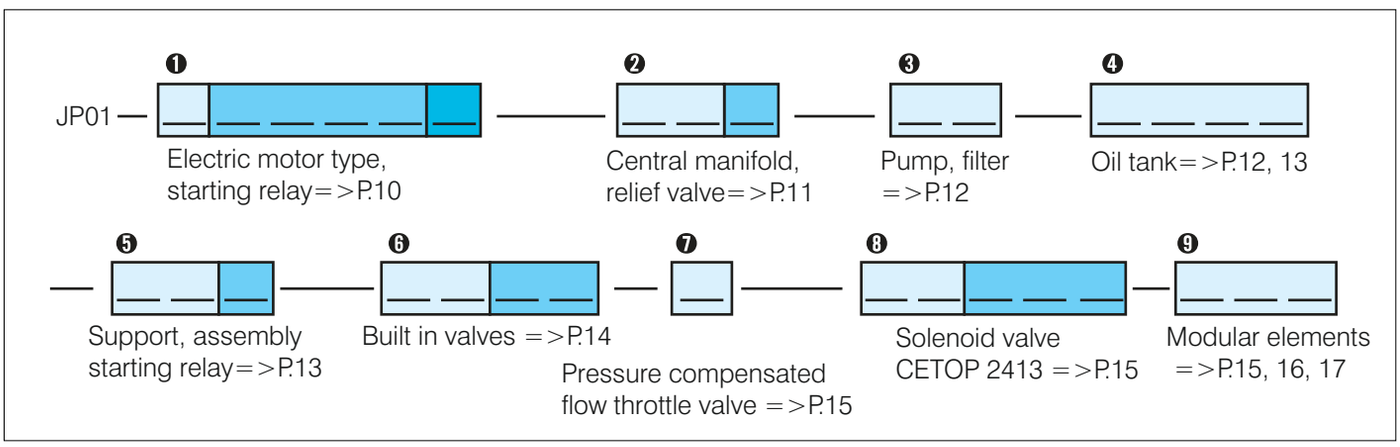
Farm Machinery

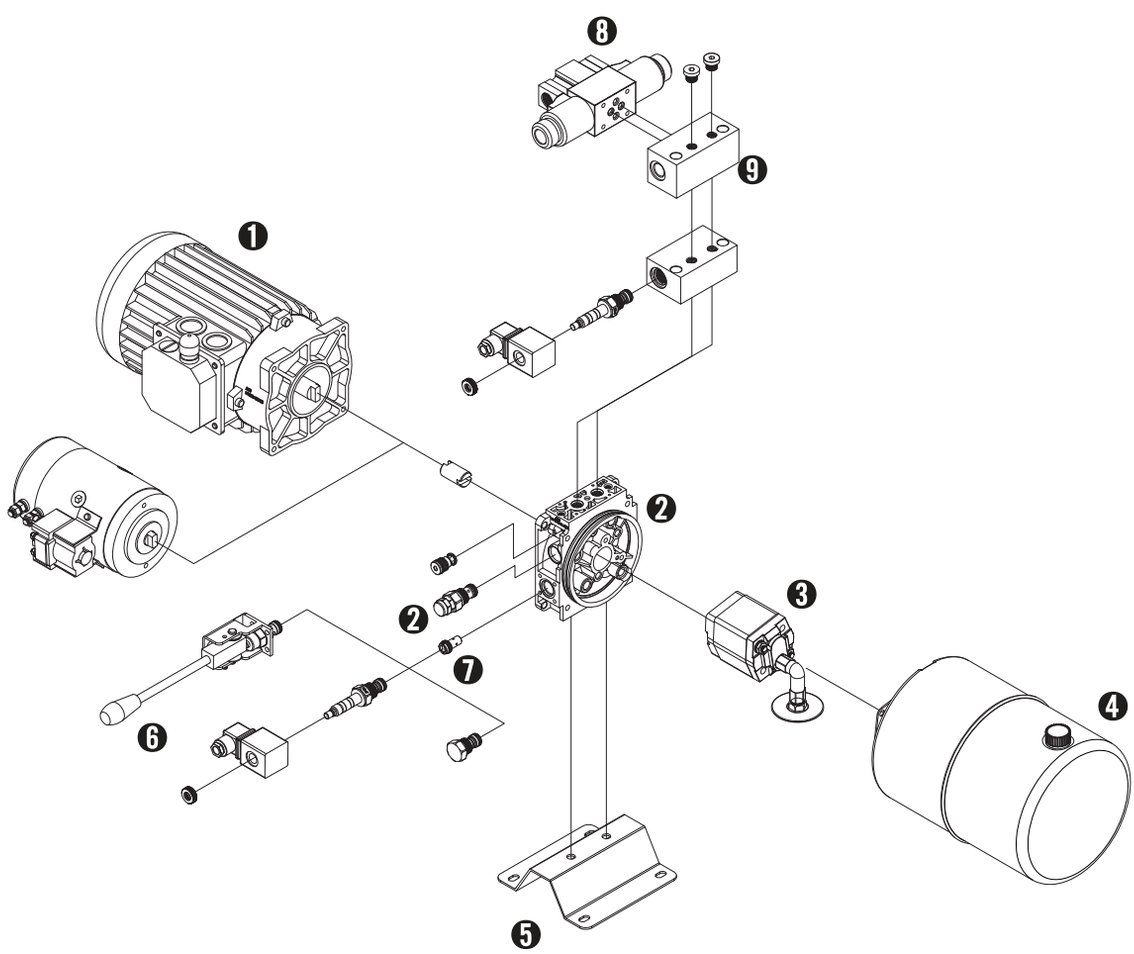


- PACK PRESSURE: 200bar
- FLOW: 3.5~10.2L/min
- OPERATING RPM: 1760rpm
- MOUNTING TYPE: Horizontal
- VALVE: Available in various combinations.

Ordering System

With an order code system, each power pack can be tailored to specific job applications and requirements by offering a wide range of hydraulic pump sizes hydraulic motors, oil tank shapes, and valves. We also offer the option for horizontally or vertically mounted power packs.





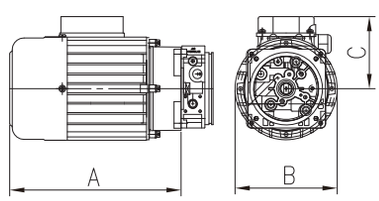
Electric Motor

- **Electric Motor, Starting Relay** ❶

Code	0	1	2	3	4
Type	Without motor	Direct current motor	AC three phase motor	AC single phase motor	Explosion proof motor

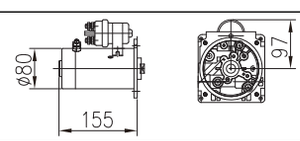
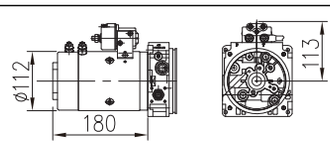
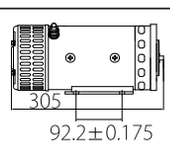
AC Motor - 4 Poles

Code		Frame	Kw	A mm	ØB mm	C mm
1 Phase	3Phase					
S401	T401		0.18	195	122	99
S402	T402	71	0.25	219	130	109
S403	T403		0.37	219	138	109
S404	T404	80	0.55	233	155	122
S405	T405		0.75	233	155	122
S406	T406	90	1.1	252	175	129
S407	T407		1.5	276	175	129
S408	T408		2.2	285	175	129
S409	T409	100	3.0	285	175	129
S410	T410	112	4.0	325	220	160



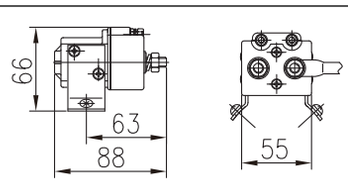
AC 3 phase 50Hz 230/400V 1400RPM B14
AC 3 phase 60Hz 220/380V 1700RPM B14
AC 1 phase 50Hz 230/400V 1400RPM B14
AC 1 phase 60Hz 220/380V 1700RPM B14

DC Motor for Intermittent duty

Code	V Volt	W Watt	S3 (%) S2 (min)	Protection	Drawing
C108	12	800	"5% 1min"	IP54	 2800rpm
C208	24	800	"5% 1min"	IP54	
C116	12	1600	"10% 2min"	IP54	 2800rpm
C222	24	2200	"10% 2min"	IP54	
C230	24	3000	"28% 16min"	IP54	 2800rpm

Starting Relay

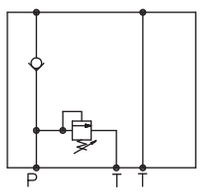
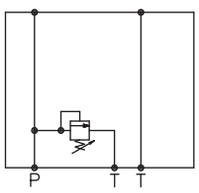
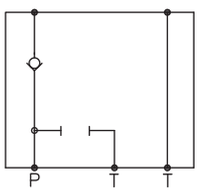
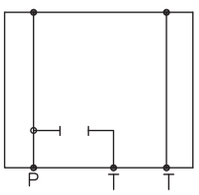
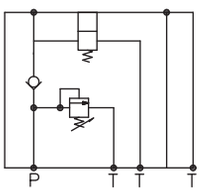
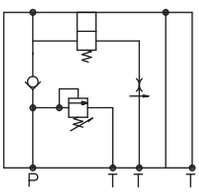
Code	V Volt	Nominal current	Short time maximum current
A	Without		
B	12	200A	500A
C	24	200A	500A



Central Manifold - Relief Valve Pressure Range

- **Central Manifold - Relief Valve Pressure Range** ❷

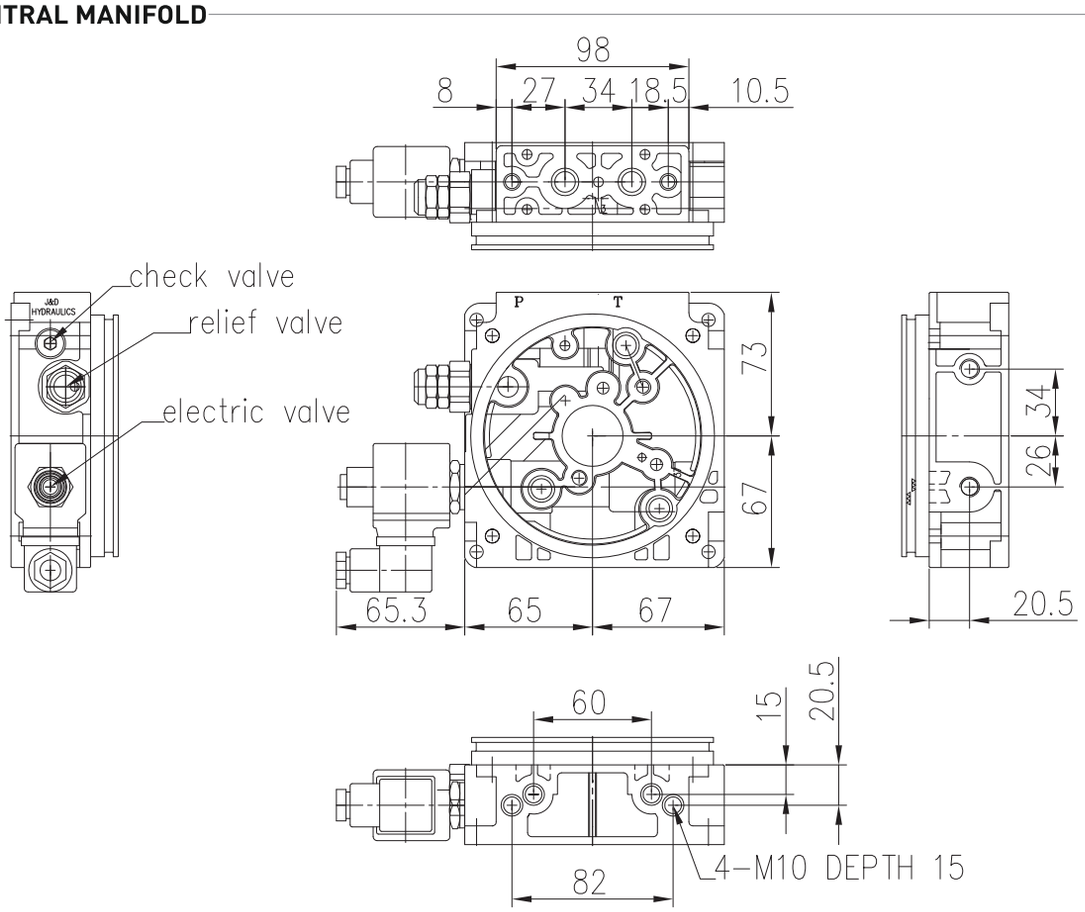
Central Manifold

CODE					
C1	C2	C3	C4	C5	C6
					

RELIEF VALVE SPRING

CODE	X	Y	Z
Pressure range	5~50 bar	30~120 bar	80~250 bar

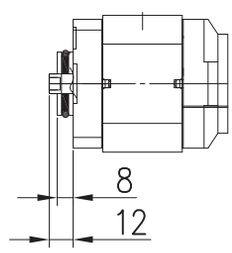
CENTRAL MANIFOLD



Standard Gear Pump, 90 Micron Suction Filter

STANDARD GEAR PUMP, 90 MICRON SUCTION FILTER ❸ ___ ___

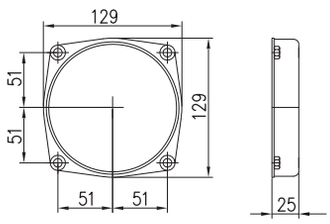
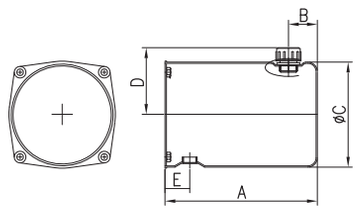
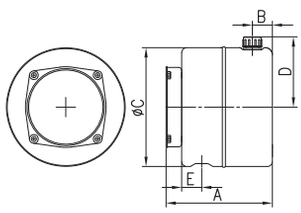
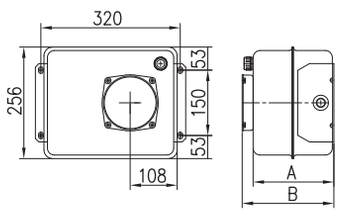
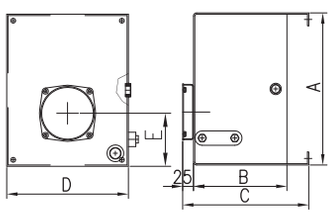
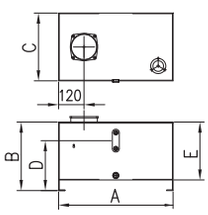
Code	Displacement (cc/rev)	Liter/min (1400rpm)	Liter/min (1700rpm)	Liter/min (2800rpm)	Max operating pressure (bar)	Pack pressure (bar)
05	0.5	0.7	0.9	1.4	240	250
08	0.8	1.1	1.4	2.2	240	250
11	1.1	1.5	1.9	3.1	240	250
16	1.6	2.2	2.7	4.5	240	250
21	2.1	2.9	3.6	5.9	240	250
27	2.7	3.8	4.6	7.6	240	250
32	3.2	4.5	5.4	9.0	230	240
37	3.7	5.2	6.3	10.4	230	240
48	4.8	6.7	8.2	13.4	230	240
58	5.8	8.1	9.9	16.2	200	210
68	6.8	9.5	11.6	19.0	180	200
79	7.9	11.1	13.4	22.1	150	180
98	9.8	13.7	16.7	27.4	150	180



OIL TANK ❹ ___ ___ ___ ___

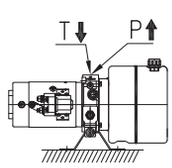
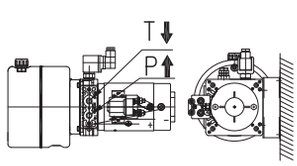
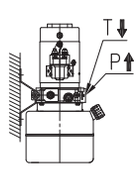
Code	Volume (Liter)	A	B	C	D	E	F	pos
T000	Flange							①
T007	0.7	110	35	126	85	30		②
T010	1	133	35	126	85	30		②
T018	2	178	148	126	85	-		②
T025	3	265	60	126	85	30		②
T040	4	160	32	190	117	-		③
T050	5	220	32	190	117	32		③
T070	7	283	32	190	117	32		③
T080	8	324	32	190	117	32		③
T110	11	453	32	190	117	32		③
S120	12	181	205					④
S150	15	231	205					④
S200	20	380	200	230	280	122		⑤
S250	25	380	250	280	280	122		⑤
S300	30	380	290		280	122		⑤
S450	45	540	269	346	320	122		⑤
S600	60	540	360	437	320	122		⑤
R450	45	430	330	355	350	90		⑤
R600	60	540	410	320	285	360		⑤

Flange and Mountings

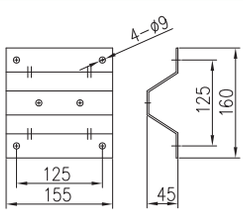
① Flange	② 1 Liter/1.8 Liter/2 Liter
	
③ 5 Liter/7 Liter/8 Liter/11 Liter	④ 12 Liter/15 Liter
	
⑤ 20 Liter/30 Liter/45 Liter/60 Liter	⑥ 45 Liter/60 Liter
	

MOUNTING POSITION / SUPPORT ❺

MOUNTING POSITION

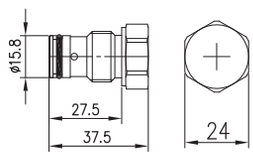
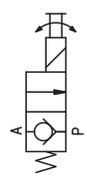
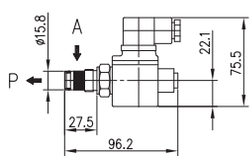
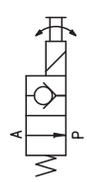
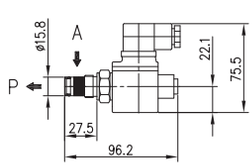
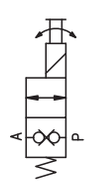
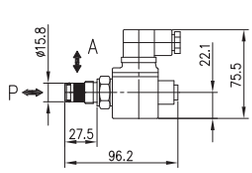
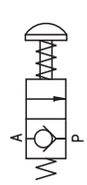
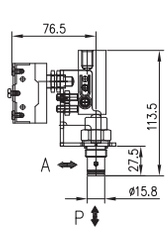
CODE		
01	02	03
		

SUPPORT

G	WITH	
N	WITH OUT	

Solenoid Cartridge Valve

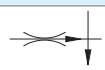
SOLENOID CARTRIDGE VALVE

Code	Description		
EP	Plug for double acting		
EC	Electric valve : Nor. Close Max working Pressure : 300 bar Flow : 25 L/min		
EO	Electric valve : Nor. Open Max working Pressure : 300 bar Flow : 25 L/min		
ED	Electric valve : Double. Check Nor. Close with Emergency Max working Pressure : 300 bar Flow : 25 L/min		
DD	Manual valve : Normal. Close Max working Pressure : 300 bar Flow : 25 L/min		

CODE	01	02	03	04	05	06	07	08
Solenoid	without	DC12V	DC24V	AC110V 50Hz	AC110V 60Hz	AC220V 50Hz	AC220V 60Hz	AC220V RAC

Solenoid Cartridge Valve

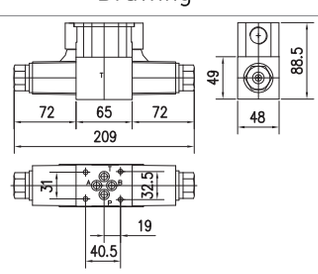
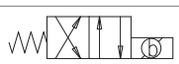
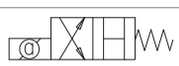
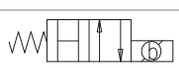
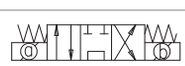
PRESSURE COMPENSATED FLOW THROTTLE VALVE ❼ ___

CODE	X	A	B	C	D	E	F	G	H	I	Diagram	Drawing
Flow-rate L/Min	without	2	3	4	5	6	7	8	9	10		

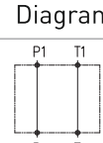
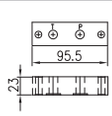
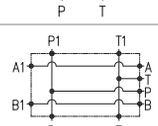
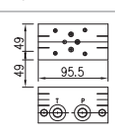
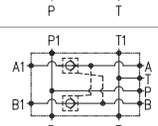
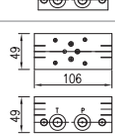
SOLENOID VALVES CETOP 2143 ❽ ___ ___ ___ ___ ___

CODE	01	02	03	06	07	08
Solenoid	without	DC12V	DC24V	AC220V 50Hz	AC220V 60Hz	AC220V RAC

___ ___ ___

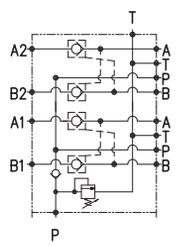
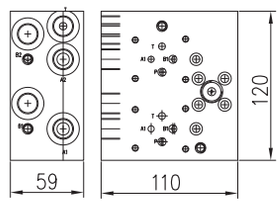
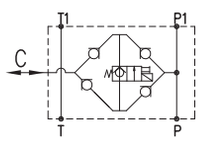
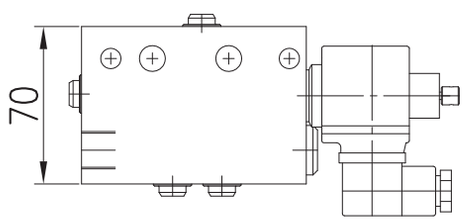
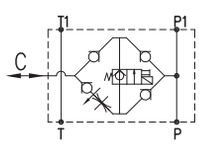
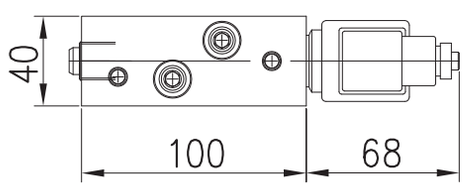
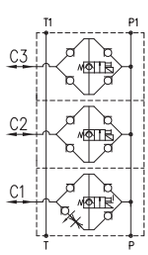
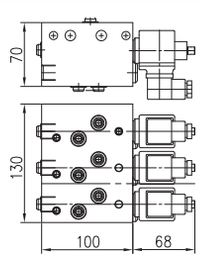
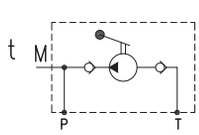
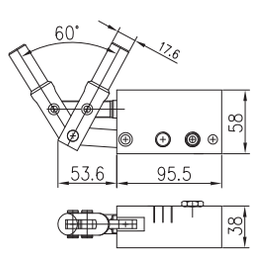
CODE	Diagram	CODE	Diagram	Drawing
E02		E06		
E11		E07		
E03		E08		
E04		E10		

MODULAR ELEMENTS- CIRCUIT DIAGRAMS ❾ ___ ___ ___

CODE	Description	Diagram	Drawing
J01	Spacing element		
J03	Element for solenoid-valves CETOP2143 Parallel connection		
J04	Element for solenoid-valves CETOP2143 With pilot operated Check valve on A and B		

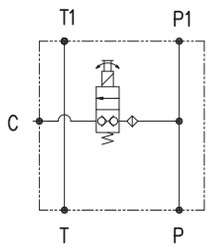
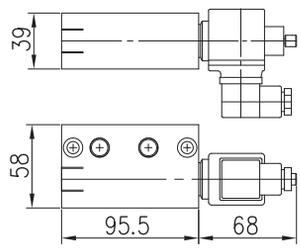
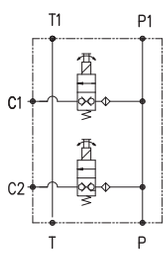
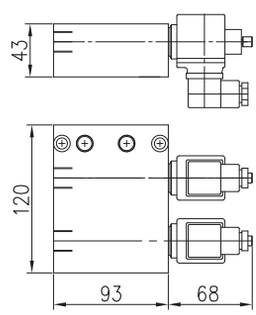
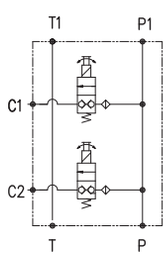
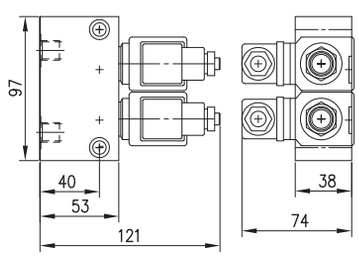
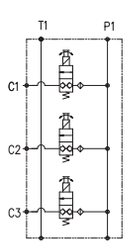
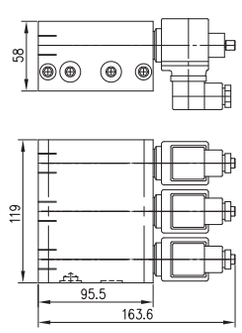
Modular Elements - Circuit Diagrams

MODULAR ELEMENTS- CIRCUIT DIAGRAMS

CODE	Description	Diagram	Drawing
J06	Element for solenoid -valves CETOP2143 with pilot operated check valve on A and B		
J20	Element for CE1 NC solenoid valve With double locking		
J21	Element for CE1 NC solenoid valve With double locking And flow regulator		
J22	J20= 2 CAVITY J21= 1 CAVITY		
JHP	Single acting hand -operated pump element		

Modular Elements - Circuit Diagrams

MODULAR ELEMENTS- CIRCUIT DIAGRAMS

CODE	Description	Diagram	Drawing
D10	Element for double check cartridge solenoid valve		
D20	Element for two way cartridge solenoid valve -double check (2 CAVITY)		
D2B	Element for two way cartridge solenoid valve -double check (2 CAVITY)		
D30	Element for two way cartridge solenoid valve -double check (3 CAVITY)		

Pump Motor Unit

PMU (Pump Motor Unit) PUMP

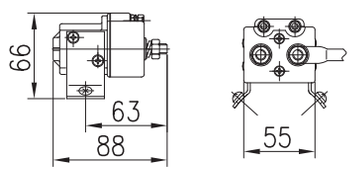
P ___ ___ ___ ___ ___ ___ ___

___ ___ ___ ___ **DC MOTOR FOR INTERMITTENT DUTY**

CODE	C108	C208	C116	C222	C230
V (volt)	12	24	12	24	24
W (watt)	800	800	1600	2200	3000
S3(%) S2(min)	5% 1min	5% 1min	10% 2min	10% 2min	28% 16min
Protection	IP54	IP54	IP54	IP54	IP20

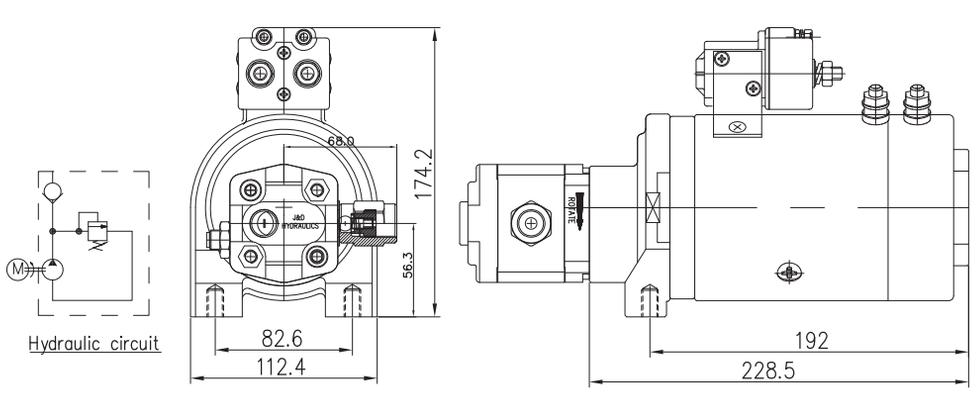
___ **STARTING RELAY**

CODE	V volt	Nominal -current	Short-time -maximum current
A	Without		
B	12	200A	500A
C	24	200A	500A



___ ___ **Pump**

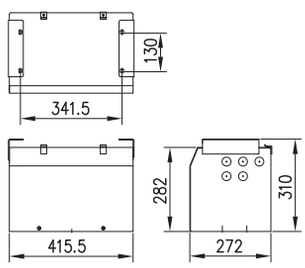
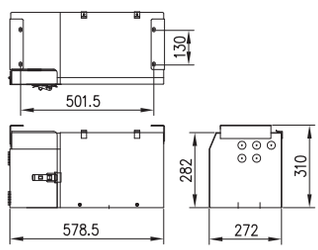
CODE	Displacement (cc/rev)	Liter/min (28000rpm)	Max operating pressure(bar)	Pack pressure (bar)
05	0.5	1.4	240	250
08	0.8	2.2	240	250
11	1.1	3.1	240	250
16	1.6	4.5	210	230
21	2.1	5.9	210	230
27	2.7	7.6	180	200
32	3.2	9.0	180	200
37	3.7	10.4	150	180
48	4.8	13.4	150	180



Box Type Power Pack

BOX TYPE POWER PACK

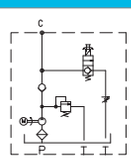
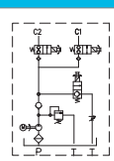
BOX & OIL TANK

CODE	
B1	B2
Oil tank capacity : 5 Liter	Oil tank capacity : 5 Liter
	

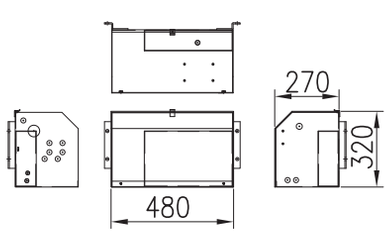
DC MOTOR

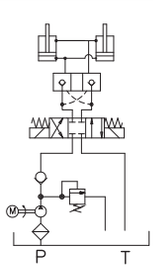
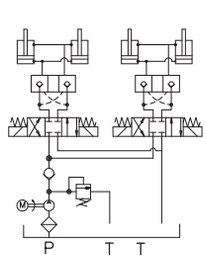
CODE	Motor	Pump /rev	Throttle -valve
JB108	DC12V 800W	0.5CC	4L/Min
JB116	DC12V 1600W	1.6CC	8L/Min
JB208	DC24V 800W	0.5CC	4L/Min
JB222	DC24V 2200W	2.1CC	8L/Min

DIAGRAM

CODE	
S1	S2
	

WING BODY TYPE

CODE	Motor	Pump/rev	Valve	Block	Oil tank	Drawing
JW108	DC12V 800W	0.5CC	E06	J04	6L	
JW116	DC12V 1600W	1.6CC	E06	J04	6L	
JW208	DC24V 800W	0.5CC	E06	J04	6L	
JW222	DC24V 2200W	2.1CC	E06	J04	6L	

CODE	
D1	D2
	

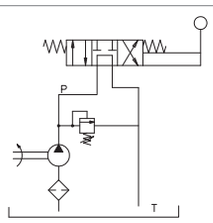
MVP Series pump

MVP-Series pump ---------- MVP

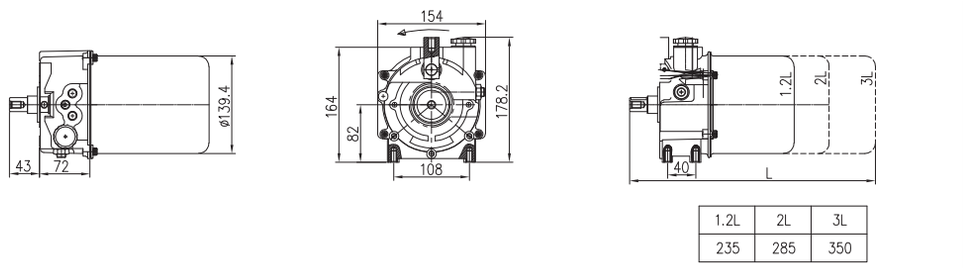
CODE	PUMP (CC/rec)
01	1.6
03	3.2
05	5.0

CODE	OIL TANK (Liter)
01	1.2
02	2.0
05	5.0

CODE	ROTATION
RH	Clockwise
LH	Counter Clockwise



HYDRAULIC CIRCUIT



1.2L	2L	3L
235	285	350

1.Pack Pressure : 200kgf/ cm²
2.Flow : 3.5~10.2 L/min(700~2050r.p.m)
3.r.p.m : Operating 1760 r.p.m
4.Operating Temperature : -20℃~+120℃
5.Working Oil : ISO VG46
6.Mounting Type : Horizontal

AVPD Series pump

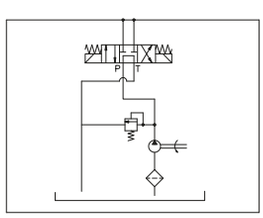
AVPD- Series Pump ---------- AVPD

CODE	PUMP (CC/rec)
01	1.6
03	3.2
05	5.0

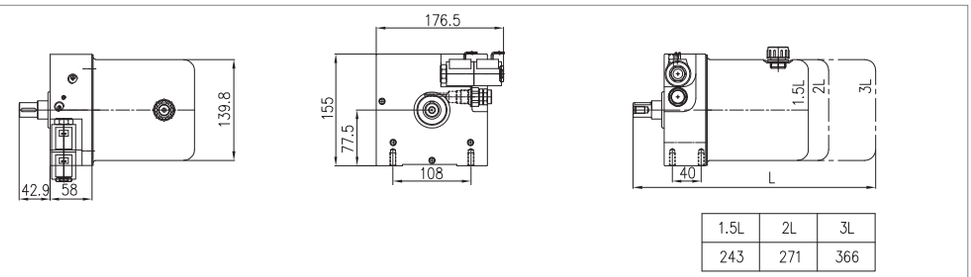
CODE	OIL TANK (Liter)
01	1.5
02	2.0
05	3.0

CODE	ROTATION
RH	Clockwise
LH	Counter Clockwise

CODE	ROTATION
RH	Clockwise
LH	Counter Clockwise



HYDRAULIC CIRCUIT



1.5L	2L	3L
243	271	366

1.Pack Pressure : 200kgf/ cm²
2.Flow : 3.5~10.2 L/min(700~2050r.p.m)
3.r.p.m : Operating 1760 r.p.m
4.Operating Temperature : -20℃~+60℃
5.Working Oil : ISO VG46
6.Mounting Type : Horizontal

Standard Gear Pump, 90 Micron Suction Filter

AVPH- series pump ---------- AVPH

CODE	PUMP (CC/rec)
11	1.1
16	1.6
21	2.1
27	2.7
37	3.7
48	4.8

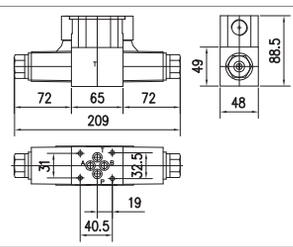
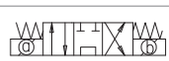
CODE	OIL TANK (Liter)
T010	1.0
T018	2.0
T018	3.0

CODE	ROTATION
RH	Clockwise
LH	Counter Clockwise

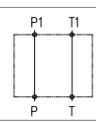
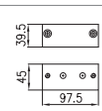
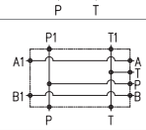
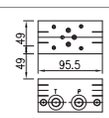
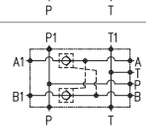
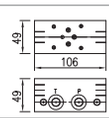
VALVE VOLTAGE

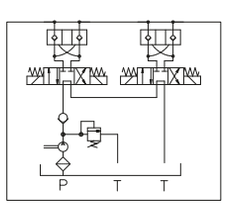
CODE	01	02	03	06	07
Solenoid	without	DC12V	DC24V	AC220V 50Hz	AC220V 60Hz

SOLENOIDE VALVE CETOP 2143

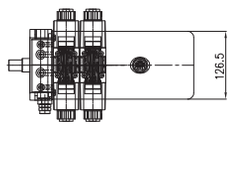
CODE	Diagram	CODE	Diagram	Drawing
E02		E06		
E11		E07		
E03		E08		
E04		E10		

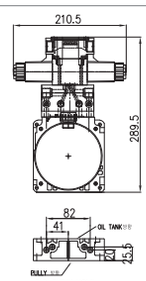
MODULAR ELEMENTS

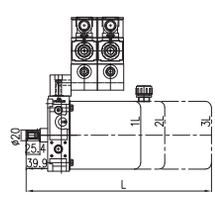
CODE	Description	Diagram	Drawing
J02	Spacing element		
J03	Element for solenoid-valves CETOP2143 Parallel connection		
J04	Element for solenoid-valves CETOP2143 With pilot operated Check valve on A and B		



HYDRAULIC CIRCUIT





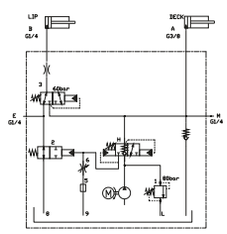
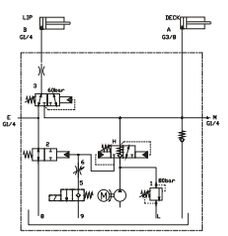
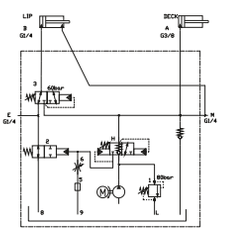
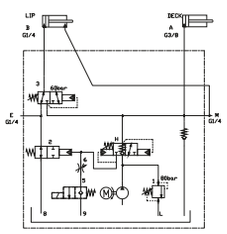


1L	2L	3L
213.5	258.5	345.5

Standard Gear Pump, 90 Micron Suction Filter

DOCK LEVELER POWER PACK ---------- DP ____ ____ ____ ____ ____ ____

____ **HYDRAULIC CIRCUIT DIAGRAM**

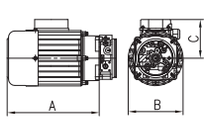
CODE			
A	B	C	D
			
Single acting cylinder Without emergency valve type	Single acting cylinder Emergency valve type	Double acting cylinder Without emergency valve type	Double acting cylinder Emergency valve type

____ **EMERGENCY VALVE VOLTAGE**

CODE	01	02	03	06	07	08
Solenoid	without	DC12V	DC24V	AC220V 50Hz	AC220V 60Hz	AC220V RAC

____ **AC MOTOR - 4 POLES**

CODE		Frame	Kw	A mm	øB mm	C mm
1Phase	3Phase					
S405	T405	80	0.75	233	155	122
S407	T407	90	1.5	276	175	129



AC 3phase 50Hz 230/400V 1400RPM B14
AC 3phase 60Hz 220/380V 1700RPM B14
AC 1phase 50Hz 230/400V 1400RPM B14
AC 1phase 60Hz 220/380V 1700RPM B14

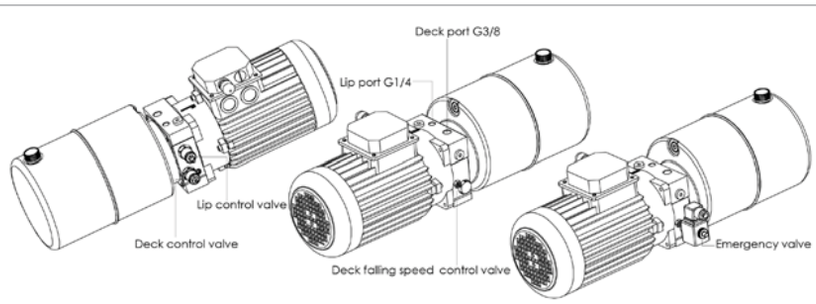
____ **GEAR PUMP**

CODE	Displacement (cc/rev)	Liter/min (1400rpm)	Liter/min (1700rpm)
21	2.1	2.9	3.6
27	2.7	3.8	4.6
32	3.2	4.5	5.4
37	3.7	5.2	6.3

____ **OIL TANK**

CODE	Volume (Liter)
T050	5
T070	7
T080	8

DOCK LEVELER



OUTER CONFIGURATION

Directions

Installation

- Fix power pack at the place where it is intended using a tap in the stand or the main block of power pack. It is recommended to install it in the ground with no vibration.
- Make sure the direction of the installation (horizontal or vertical).
- Avoid installing it in the place with moisture or dust as it is designed only for indoor use. Otherwise, take appropriate waterproof and dustproof measures by attaching a cover on it.
- Connect power in accordance with the specification. At this time, make sure to use wires suitable to the capacity of the motor in use.
- Install hydraulic pipe. Be careful to install the hydraulic pipe to prevent from twisting and bending sharply, which gives adverse effect in the operation.

Operation

- Fill the tank with hydraulic oil for initial operation. In this case, It is recommended to fill the hydraulic oil up to 80% of the capacity of the tank.
- Check the proper connection of power and then start operating At the time of the initial operation. it may cause a delay in starting the operation of a hydraulic cylinder or other hydraulic equipment for the time needed hydraulic oil to be filled in hydraulic pipe.
- Let the cylinder forward to the end. At the time that the cylinder stops in the middle without forwarding to the end, replenish with oil.
- Replenish the tank with hydraulic oil up to 80% of the capacity of the tank by checking the amount of hydraulic oil remaining in the tank after moving the cylinder back to its original place after system is completely operated.

Maintenance

- Check the condition of the wire connection regularly.
- Check the leakage of the oil in the system regularly. In case that the line oil is found near the oil inlet, is is deemed as normal. There is no problem in the system.
- Check the amount of the hydraulic oil regularly and replenish it when is is considered insufficient.
- Replace the entire hydraulic oil on a timely fashion based on the frequency of use.

Precautions

- Use only the power with rating as indicated. It may cause serious risk such as the critical damage to the electrical components like motor, solenoid valve etc. or fire in case that the power other than indicated is applied.
- The motor used in DC power pack is a short time rated one except for a special case. Contact us for hours of use of the motor.
- Keep the temperature of the hydraulic oil not exceeding 60°C, it may cause the possible damage to a pump, valve etc. In this case take an appropriate measure to decrease the temperature.
- Use the oil with viscosity of 32-46 (cSt) at 40°C and replace it with new one on a timely fashion based on the frequency of use. Contact us for the replacement time.
- The range of operation temperature
  -when using normal hydraulic oil: -15°C-60°C
- Do not disassemble the power pack at random. It may cause a serious problem in the operation.

The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract.

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