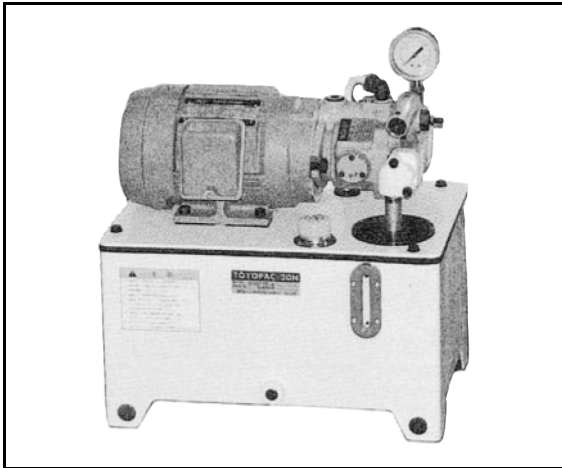
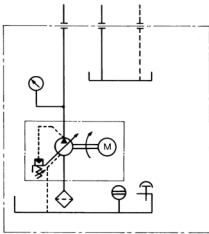


# TOYOPAC N SERIES (TP\*N)

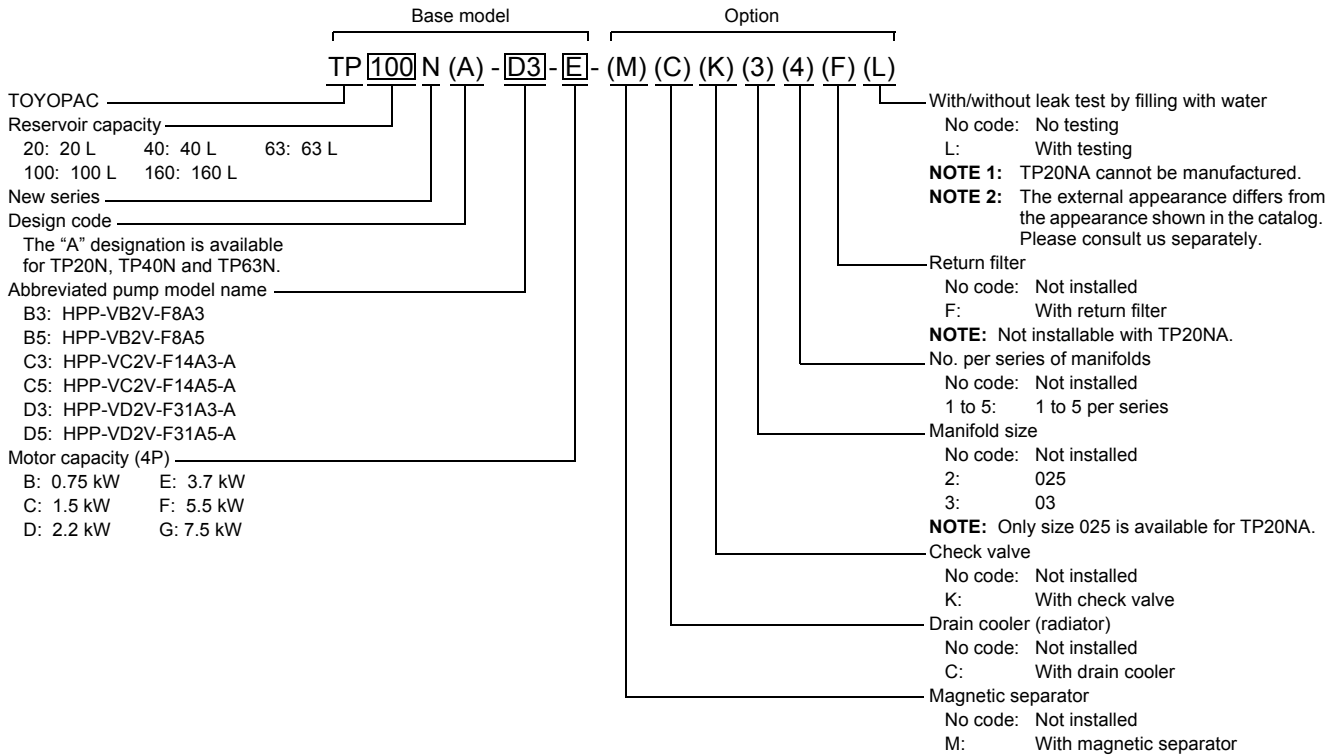


## HYDRAULIC CIRCUIT



- Eyebolts of a motor are provided for hoisting the motor itself. Do not use them when hoisting the hydraulic power unit. If you do, there is a danger that the hydraulic power unit will be damaged or fall.
- Always ground the hydraulic power unit. Failure to ground it will cause electrocution or fire. You are recommended to install an earth leakage breaker to prevent electric shock accidents and fire with certainty.
- When starting the hydraulic power unit, fill the inside of the pump with hydraulic fluid by supplying fluid through the oil filler port. Failure to do so may cause the pump to fail.
- The water content of the hydraulic fluid must be 0.1% or less. Water in the hydraulic fluid causes hydraulic power unit failure.
- Use petroleum base fluid (equivalent to ISO VG22 or VG46) within the specified fluid temperature range (VG22: 0 to 60°C, VG46: 6 to 65°C). Using hydraulic fluid outside the specified temperature range may cause failure of the hydraulic power unit and deterioration of the fluid. Fire-resistant fluid (water-glycol, w/o emulsion, ester phosphate) cannot be used. When replacing the fluid, use fluid of the same brand.
- Control the contamination level of fluid to achieve better than Class 12 of NAS1638. Using contaminated fluid will shorten the service life of the hydraulic devices and damage them.
- When installing a check valve at the pump discharge side, use one that has cracking pressure of 0.005 MPa (Model: HK3-EFT005-03-06).
- Manifold mounting holes are provided in the base model. A special stay is necessary for mounting a manifold.
- The direction of rotation of the pump must be clockwise when viewed from the motor fan side.
- Clean the interior of the reservoir after hoisting the cover in the case of TP20NA, TP40NA and TP63NA. With TP100N and TP160N, clean the interior of the reservoir through the cleanout hole.
- On TP20A, the return filter and size 03 manifold are not mounted.
- The exterior coating is Munsell No. 10.0 GY9.0/1. Note that the pump, the motor, the radiator, the oil level gauge, the pressure gauge and the oil filler port/breather are coated with the manufacturer's standard color.

## MODEL DESIGNATION



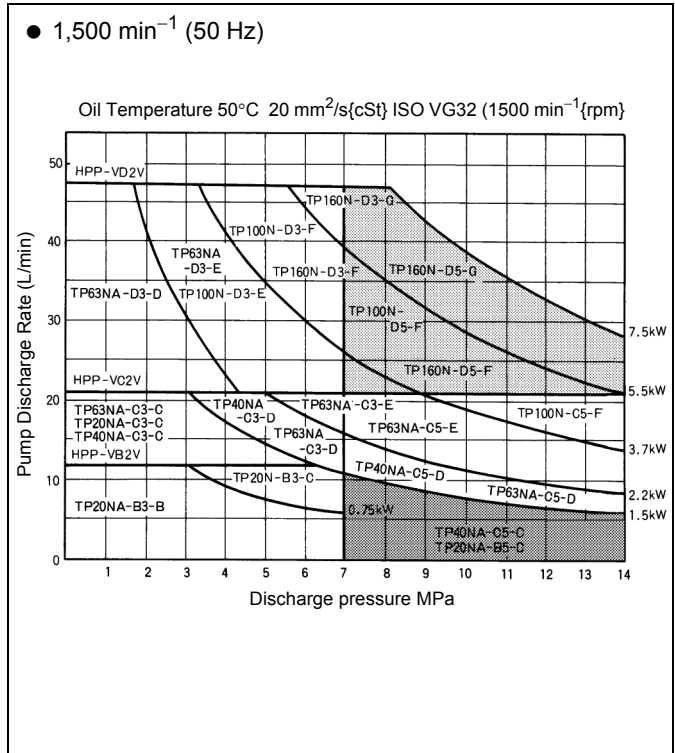
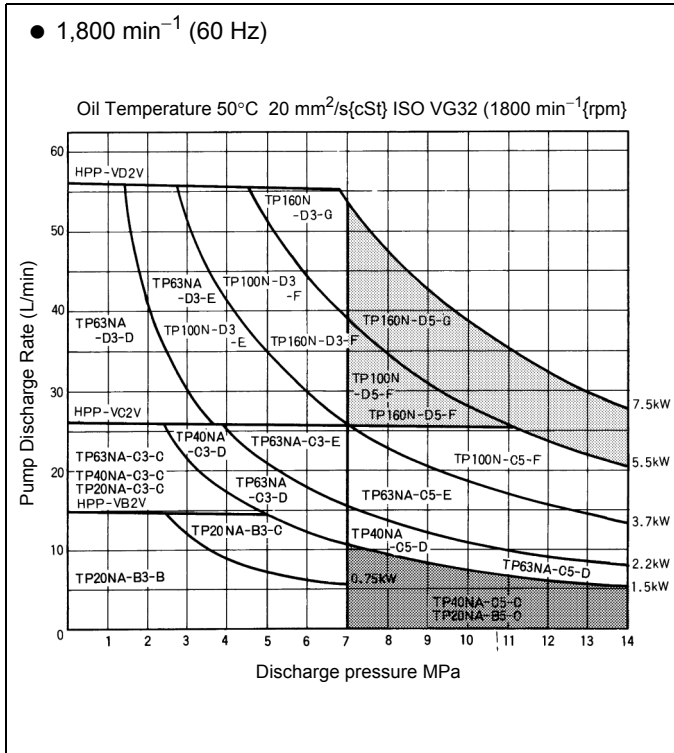
# SPECIFICATIONS

\*1: Value at 1,800 min<sup>-1</sup> \*2: Value at 1,500 min<sup>-1</sup> \*3: Fluid is not included.

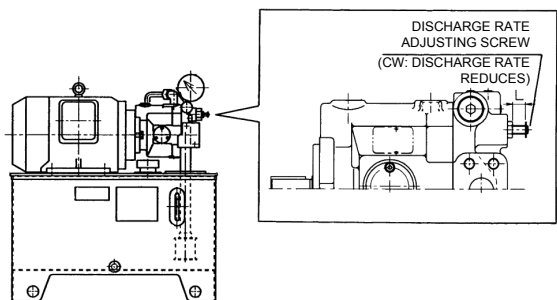
Base Model	Motor Capacity	Reservoir Capacity (L)	Discharge Rate Adjustment Range (L/min)		Max. Operating Pressure (MPa)	Pressure Adjustment Range (MPa)	Voltage	Mass* <sup>3</sup> (kg)					
			*1 50 Hz	*2 60 Hz									
TP20NA-B3-B	0.75 kW 4P	20	4 to 12	4 to 14	7	1 to 7	200 VAC 50/60 Hz 220 VAC 60 Hz	50					
TP20NA-B3-C	1.5 kW 4P							14	3 to 14	60			
TP20NA-B5-C										60			
TP20NA-C3-C	40	5 to 21	5 to 26	7	1 to 7	80							
TP40NA-C3-C						2.2 kW 4P		14	3 to 14	90			
TP40NA-C3-D										90			
TP40NA-C5-C						80							
TP40NA-C5-D				2.2 kW 4P	14	3 to 14		90					
TP63NA-C3-C				1.5 kW 4P				63	5 to 21	5 to 26	7	1 to 7	90
TP63NA-C3-D				2.2 kW 4P									95
TP63NA-C3-E				3.7 kW 4P									
TP63NA-G5-D	2.2 kW 4P	14	3 to 14	95									
TP63NA-C5-E	3.7 kW 4P			105									
TP63NA-D3-D	2.2 kW 4P	12 to 47	12 to 56	7	1 to 7	115							
TP63NA-D3-E	3.7 kW 4P					115							
TP100N-C5-F	5.5 kW 4P					100		5 to 21	5 to 24	14	3 to 14	155	
TP100N-D3-E	3.7 kW 4P	12 to 47	12 to 56	7	1 to 7							145	
TP100N-D3-F	5.5 kW 4P											14	3 to 14
TP100N-D5-F		165											
TP160N-D3-F	5.5 kW 4P	160	12 to 47	12 to 56	7	1 to 7		180					
TP160N-D3-G	7.5 kW 4P							14	3 to 14	190			
TP160N-D5-F	5.5 kW 4P									14	3 to 14	180	
TP160N-D5-G	7.5 kW 4P				190								

**NOTE:** If special voltage is required, please consult us.

## MODEL SELECTION CHART



## ADJUSTING THE DISCHARGE RATE USING THE PUMP DISCHARGE RATE ADJUSTING SCREW

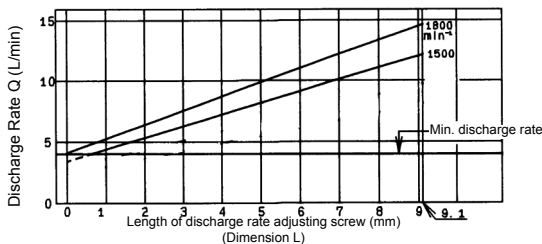


Adjust or set the discharge rate using the discharge rate adjusting screw; set the discharge rate using the length of the screw (dimension L) in the figure in the left as the reference. The relationship between dimension L and discharge rate Q is shown in the graphs below.

- The minimum discharge rate must be larger than the value indicated below, regardless of the speed of rotation.  
 Pump model HPP-VB2V: 4 L/min  
 Pump model HPP-VC2V: 5 L/min  
 Pump model HPP-VD2V: 12 L/min

Conditions: Fluid: ISO VG32, Fluid temperature: 50°C (20 mm<sup>2</sup>/s {cSt}) Discharge rate: NL 0.5 MPa {5 kgf/cm<sup>2</sup>}

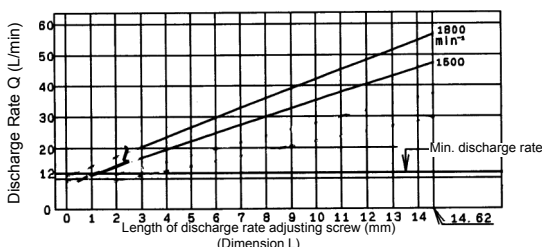
### • HPP-VB2V-F8A\*



### • HPP-VC2V-F14A\*-A



### • HPP-VD2V-F31A\*-A



## OPTIONS

A wide variety of options is available for TOYOPAC N series hydraulic power units. They are briefly explained below.

- M: Magnetic separator  
 Installed at the bottom in the reservoir and attracts and collects fine iron particles in the hydraulic fluid to reduce wear of hydraulic devices.
- C: Drain cooler (radiator)  
 Used when the fluid temperature exceeds 60°C. Since this is a drain cooler (radiator), no power supply is required. Determine whether the drain cooler is necessary or not by referring to the Fluid Temperature Rise Chart in the EXTERNAL DIMENSIONS (BASE MODEL).
- K: Check valve  
 Used to prevent reversal of pump rotation (cracking pressure: 0.005 MPa).
- 2\*: Manifold for size 025 3\*: Manifold for size 03  
**NOTE 1:** A reservoir of 20 L capacity can use only the manifold for size 025.  
**NOTE 2:** The manifold model designation is HMD\*-025-03T2 for size 025 and HMD\*-03-04T2 for size 03.
- F: Return filter  
 Used to avoid failure of the hydraulic power unit due to contaminated fluid, thus prolonging the service life of hydraulic devices.  
 (Paper element with filtering accuracy of 10 μm, with indicator)

## OPTION SELECTION TABLE

This table shows the selectable options for each TOYOPAC N series pump.

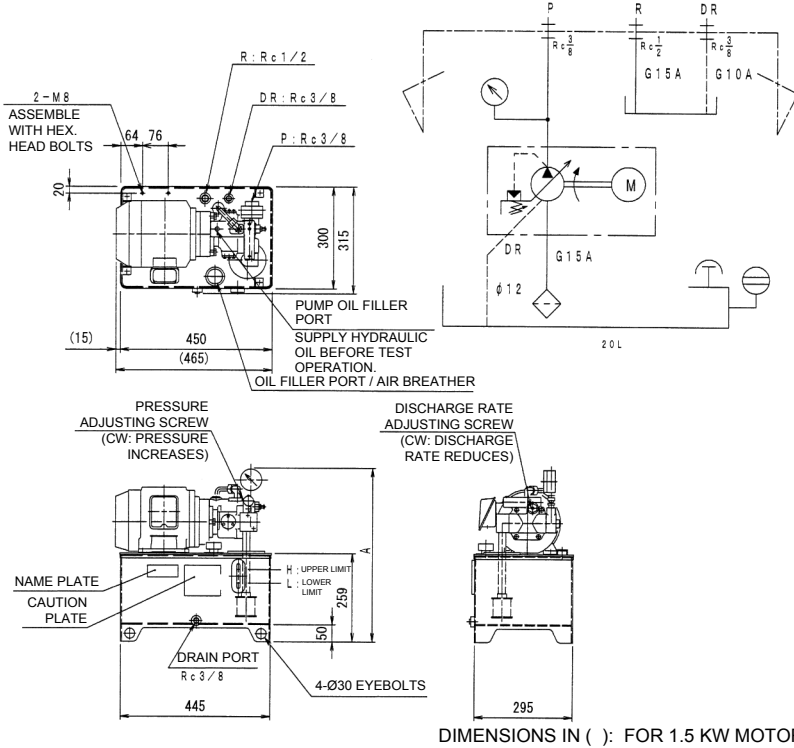
Option		Model	TOYOPAC 20NA	TOYOPAC 40NA	TOYOPAC 63NA	TOYOPAC 100N	TOYOPAC 160N
M	Magnetic separator	Small	○	○	○	○	—
		Large	—	—	—	—	○
C	Drain cooler (radiator)		○	○	○	○	○
K	Check valve	For HPP-VB2V	○	—	—	—	—
		For HPP-VC2V	○	○	○	○	—
		For HPP-VD2V	—	—	○	○	○
2*	Manifold for size 025	1 to 2 per series	1 to 4 per series	1 to 5 per series	1 to 5 per series	1 to 5 per series	
3*	Manifold for size 03	—	1 to 3 per series	1 to 4 per series	1 to 5 per series	1 to 5 per series	
F	Return filter		—	○	○	○	○

**NOTE 1:** When the manifold is mounted, a check valve is installed.

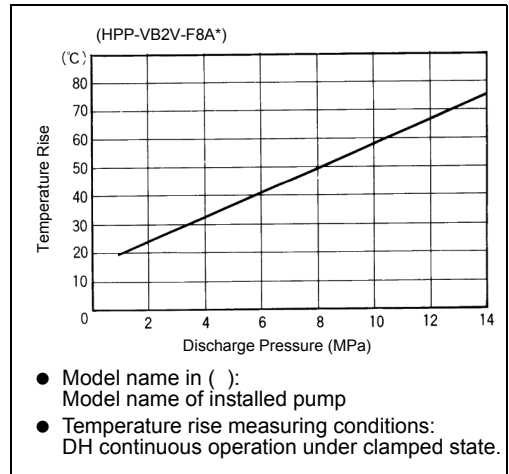
**NOTE 2:** Symbol "\*" indicates the No. per series of manifolds.

## EXTERNAL DIMENSIONS (BASE MODELS)

### ● TP20NA-B\*\*



- Fluid Temperature Rise Chart (Fluid Temperature = Room Temperature + Temperature Rise)

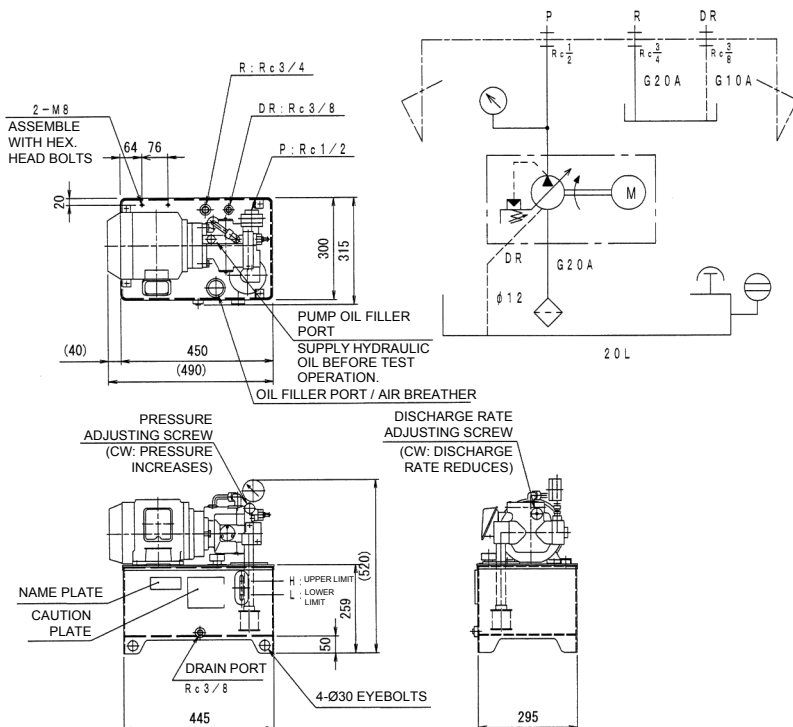


### ● Dimension Table

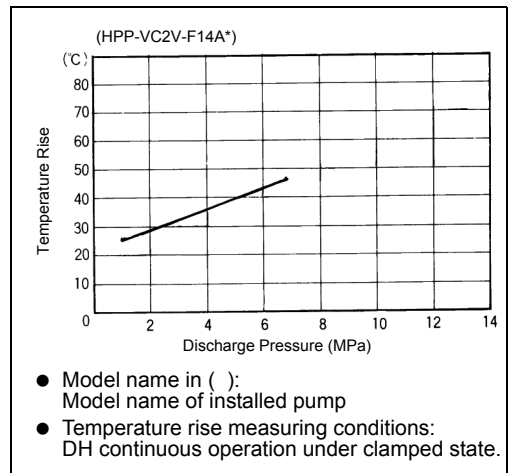
(Unit: mm)

Motor Capacity (kW)	A
0.75	505
1.5	515

### ● TP20NA-C3-C

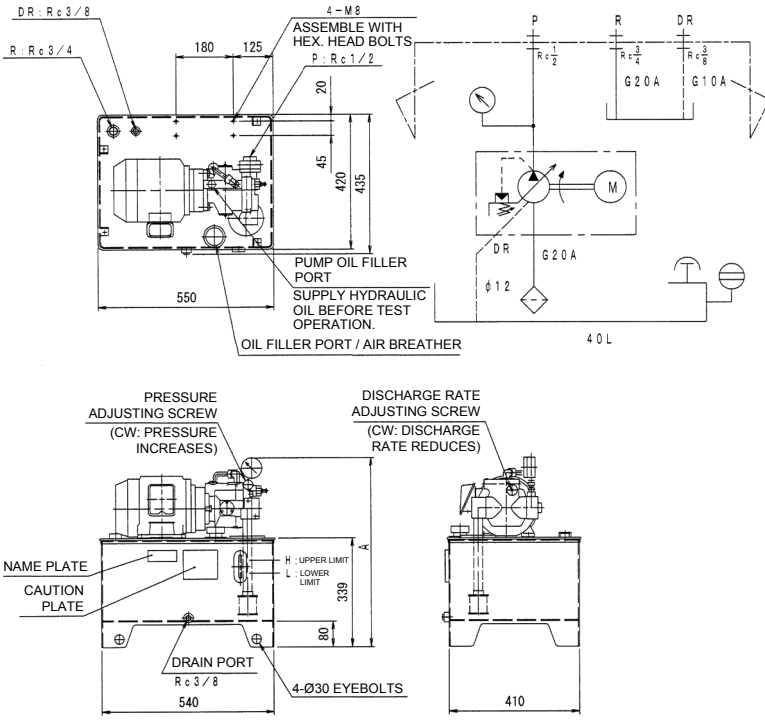


- Fluid Temperature Rise Chart (Fluid Temperature = Room Temperature + Temperature Rise)

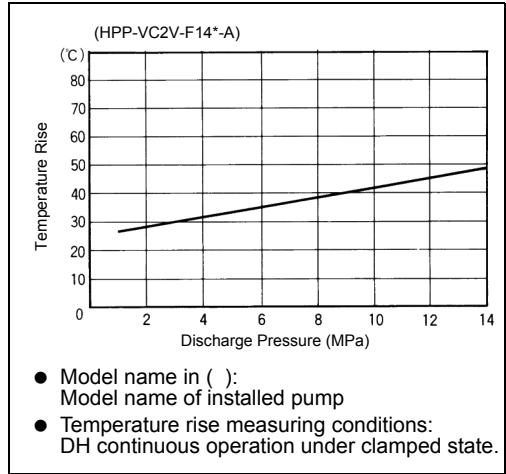


**EXTERNAL DIMENSIONS (BASE MODELS)**

● TP40NA-C\*-\*



● Fluid Temperature Rise Chart  
(Fluid Temperature = Room Temperature + Temperature Rise)

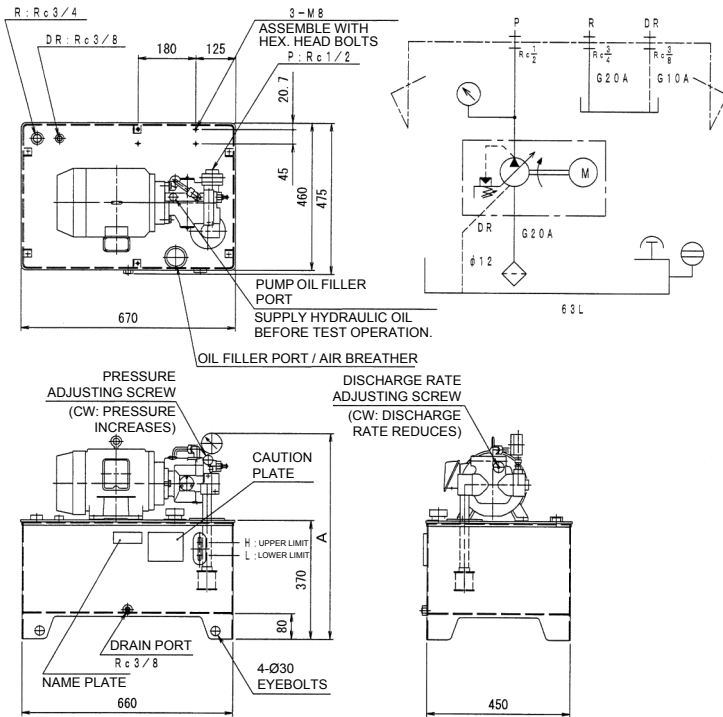


● Dimension Table

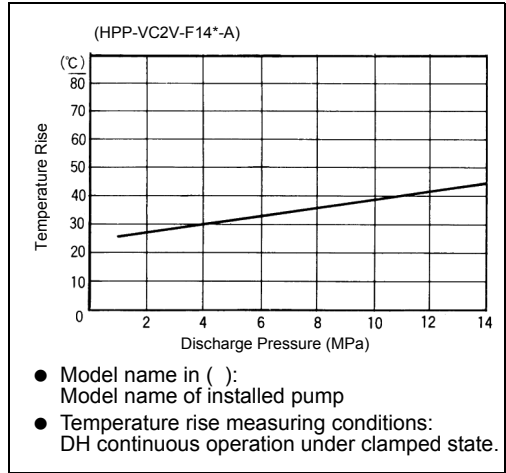
(Unit: mm)

Motor Capacity (kW)	A
1.5	600
2.2	610

● TP63NA-C\*-\*



● Fluid Temperature Rise Chart  
(Fluid Temperature = Room Temperature + Temperature Rise)



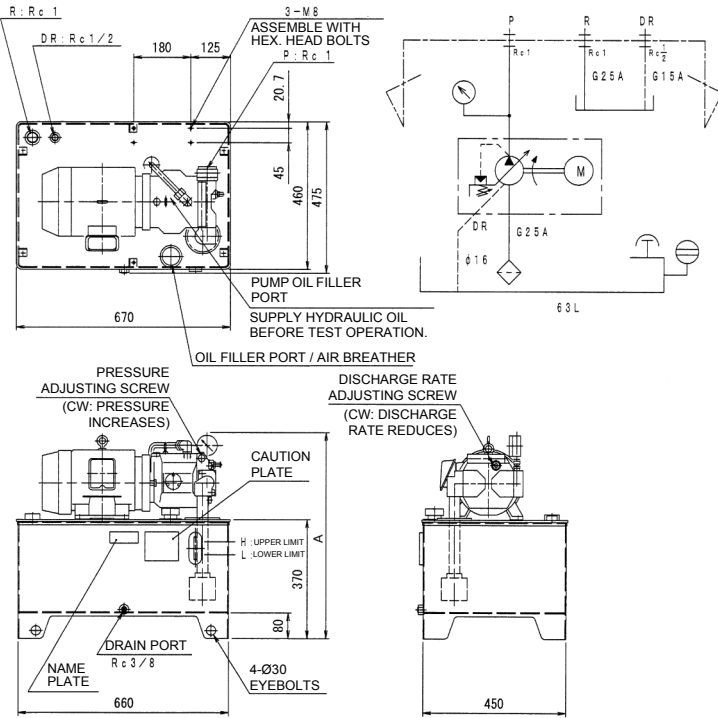
● Dimension Table

(Unit: mm)

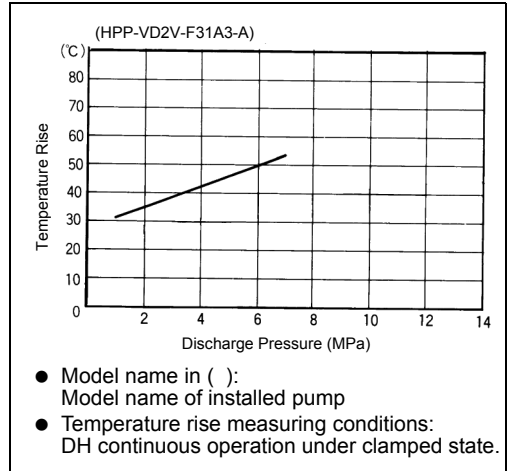
Motor Capacity (kW)	A
1.5	630
2.2	640
3.7	650

## EXTERNAL DIMENSIONS (BASE MODELS)

### ● TP63NA-D3-\*



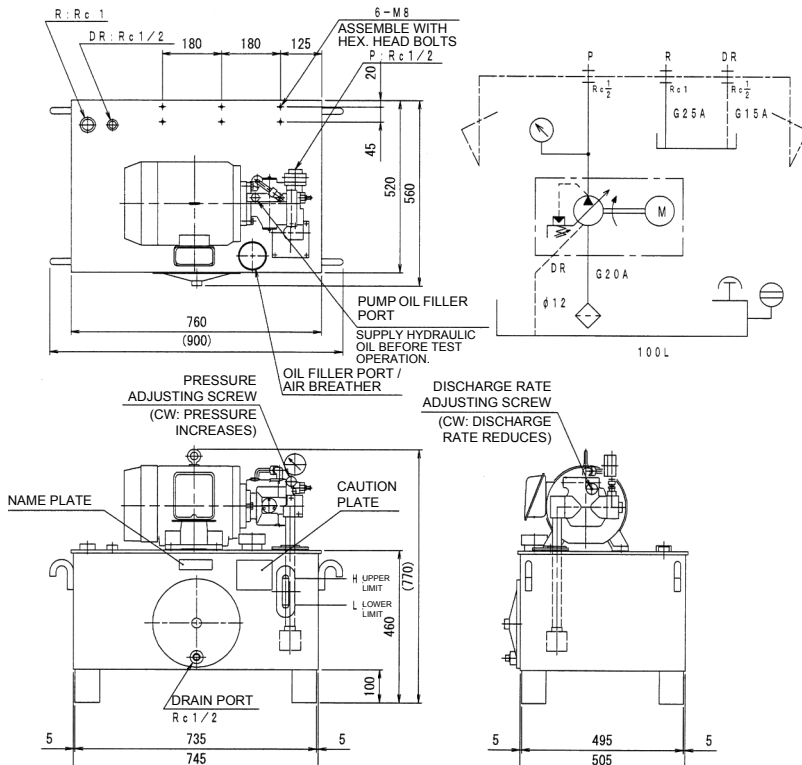
- Fluid Temperature Rise Chart (Fluid Temperature = Room Temperature + Temperature Rise)



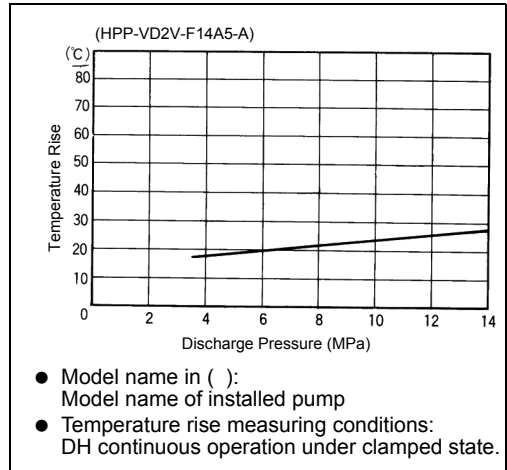
- Dimension Table (Unit: mm)

Motor Capacity (kW)	A
2.2	640
3.7	650

### ● TP100N-C5-F

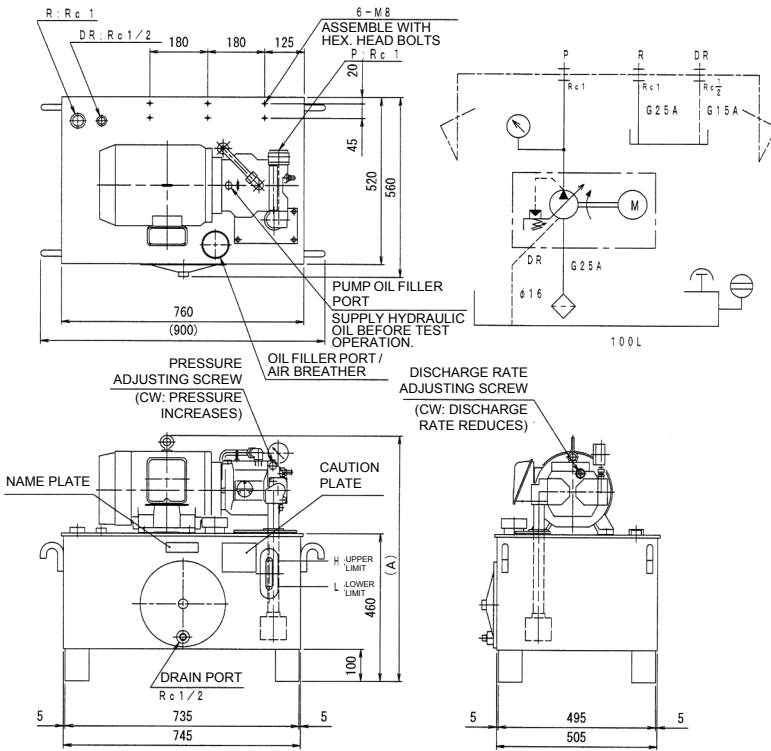


- Fluid Temperature Rise Chart (Fluid Temperature = Room Temperature + Temperature Rise)

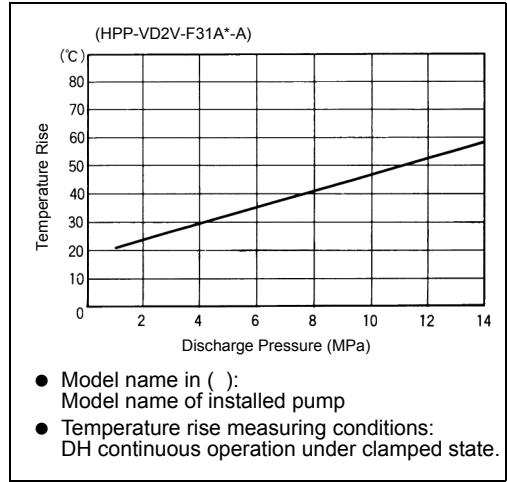


## EXTERNAL DIMENSIONS (BASE MODELS)

### ● TP100N-D\*-\*



### ● Fluid Temperature Rise Chart (Fluid Temperature = Room Temperature + Temperature Rise)

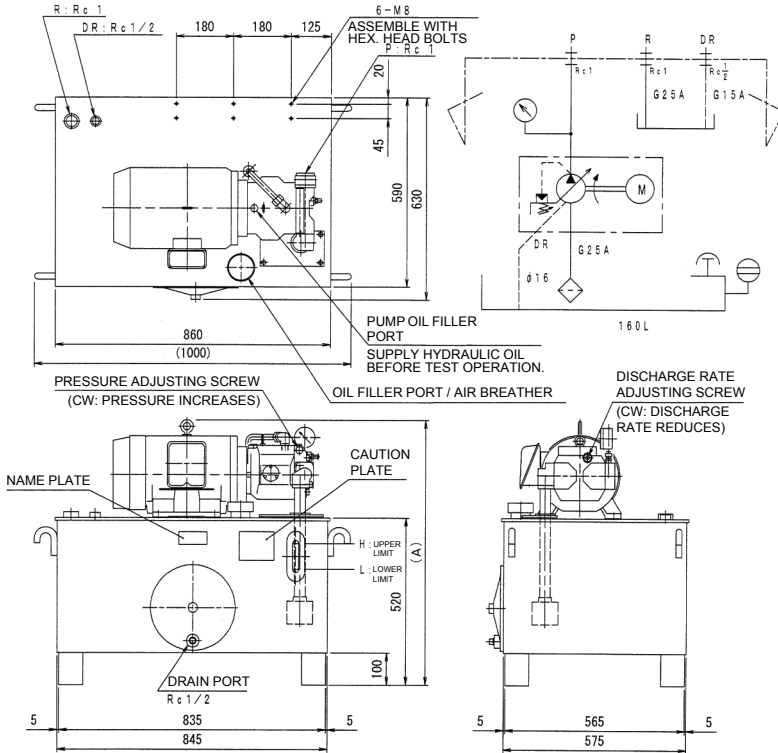


### ● Dimension Table

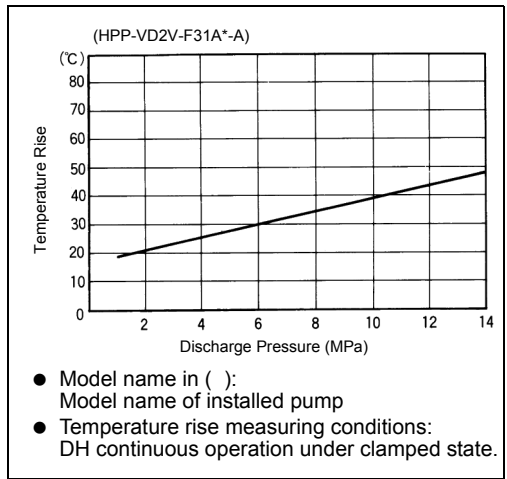
(Unit: mm)

Motor Capacity (kW)	A	B
3.7	276	736
5.5	322	782

### ● TP160N-D\*-\*

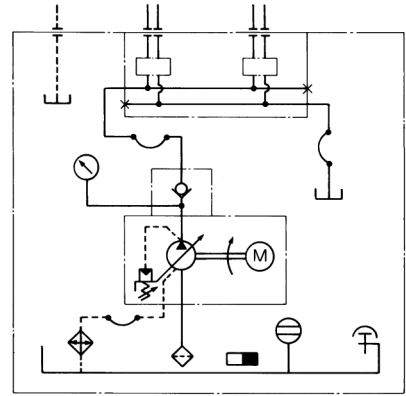
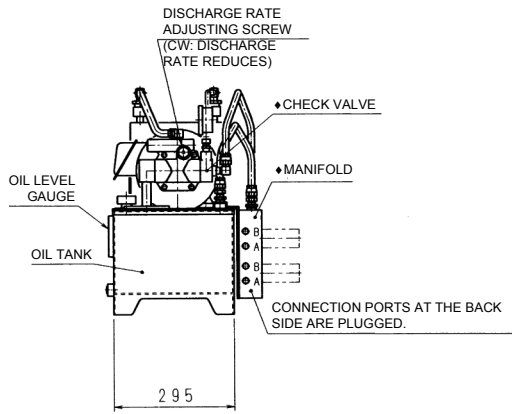
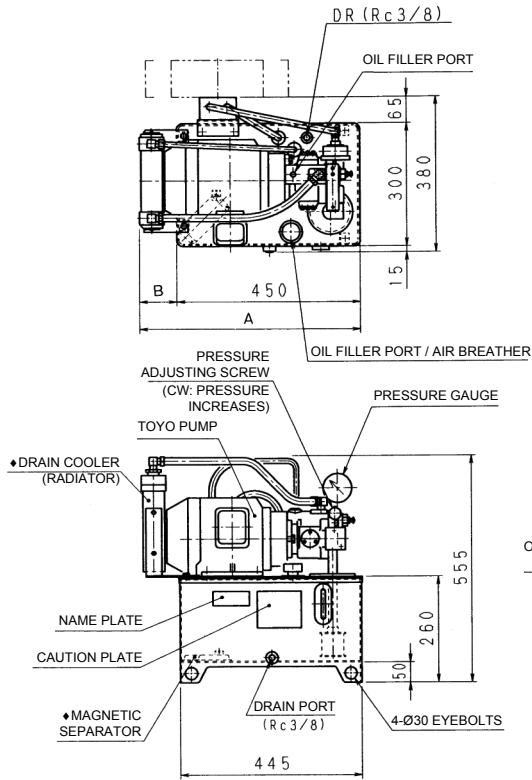


### ● Fluid Temperature Rise Chart (Fluid Temperature = Room Temperature + Temperature Rise)

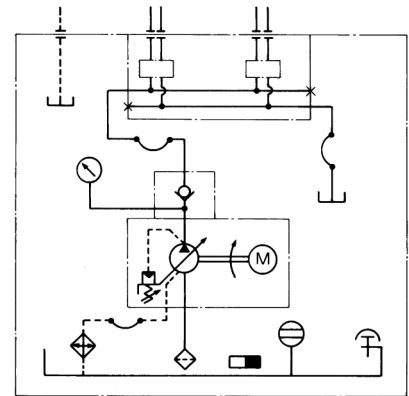
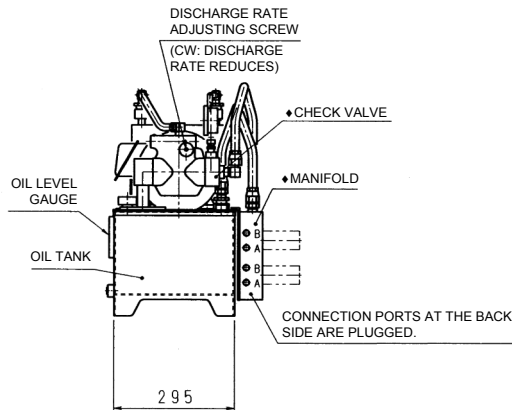
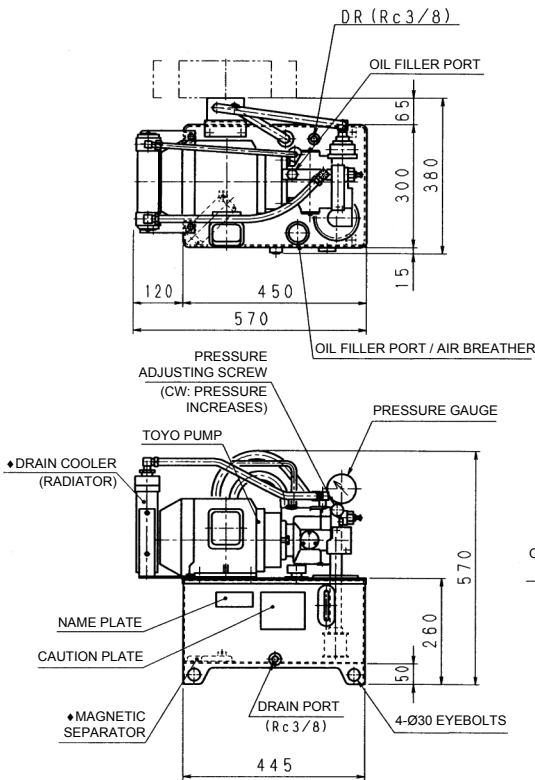


**EXTERNAL DIMENSIONS OF HYDRAULIC POWER UNIT WITH OPTIONS**  
 (◆: ALL OPTIONS ARE INSTALLED)

● TP20NA-B\*-\*-MCK22



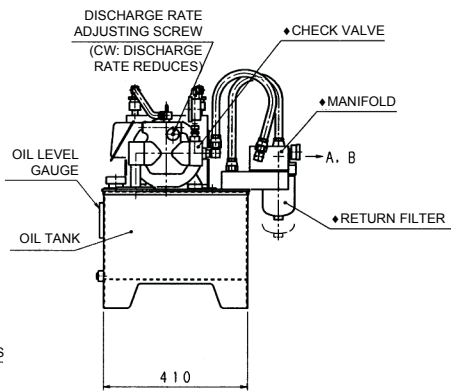
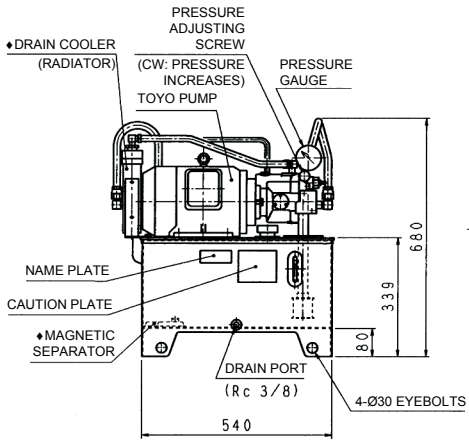
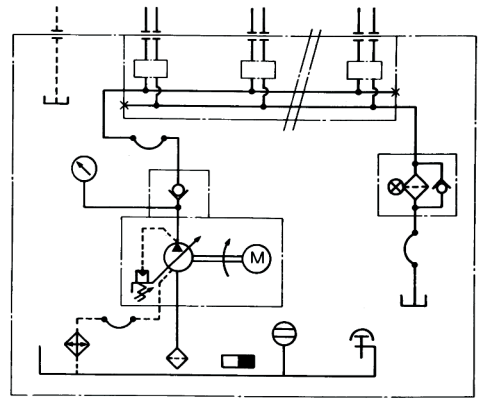
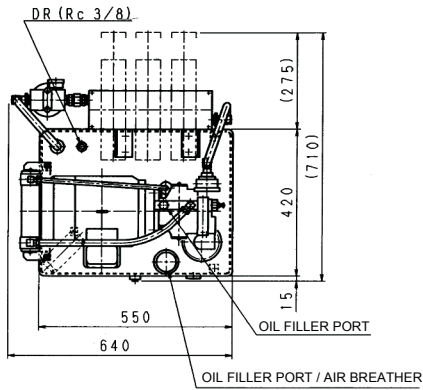
● TP20NA-C3-C-MCK22



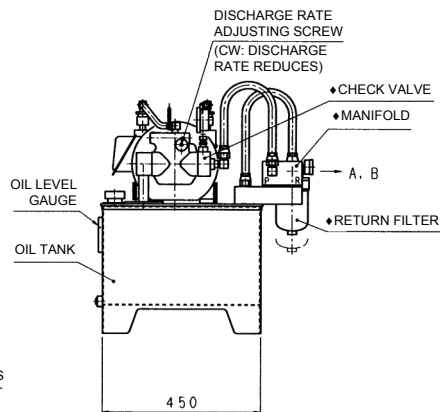
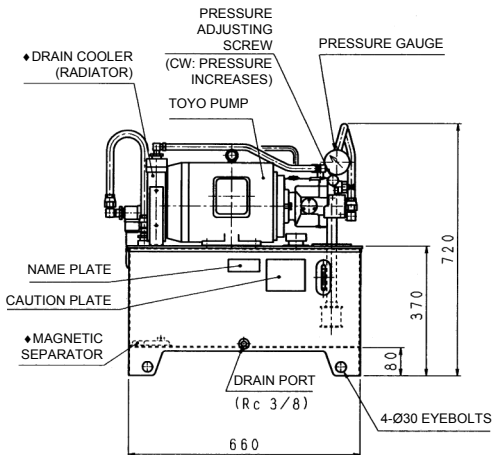
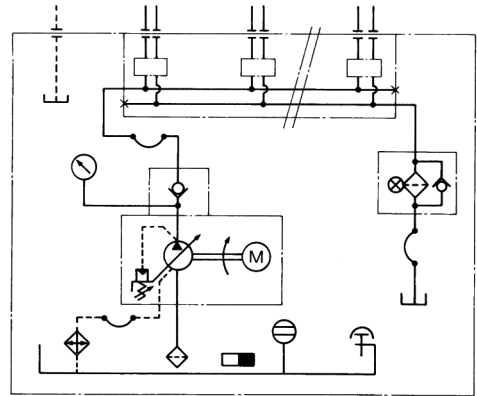
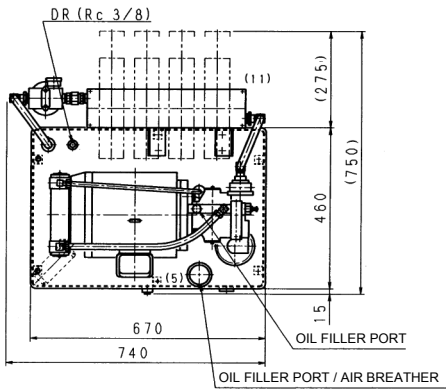


**EXTERNAL DIMENSIONS OF HYDRAULIC POWER UNIT WITH OPTIONS**  
 (◆: ALL OPTIONS ARE INSTALLED)

● TP40NA-C\*-MCK33F<TP40N-C\*-MCK24F>

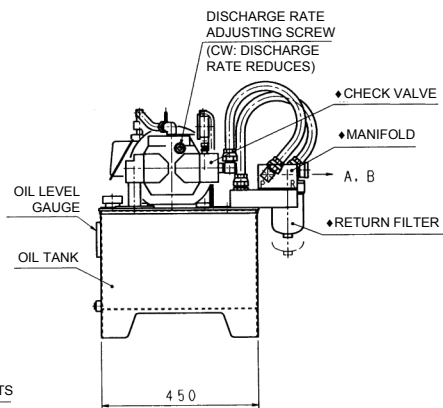
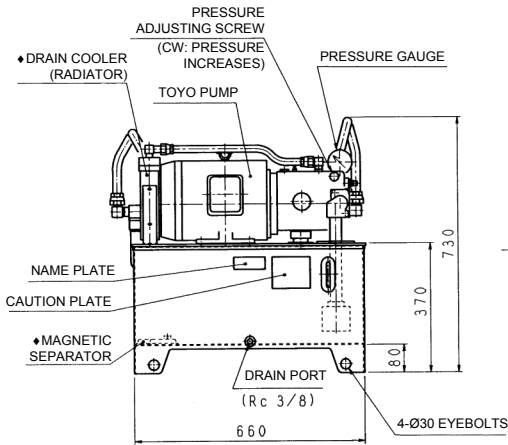
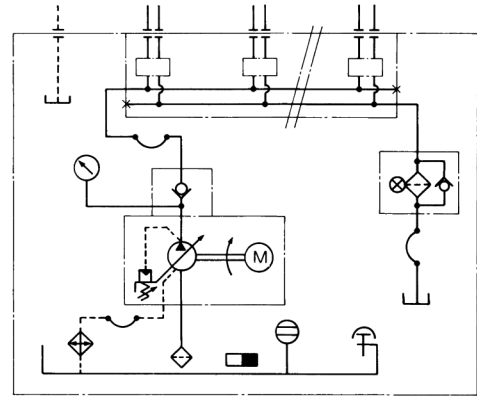
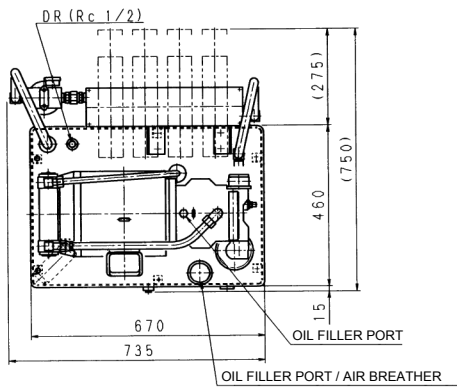


● TP63NA-C\*-MCK34F<TP63N-C\*-MCK25F>

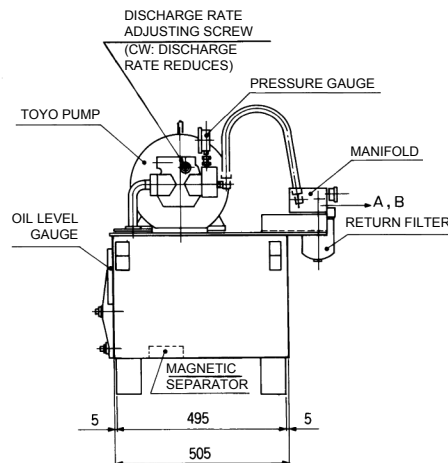
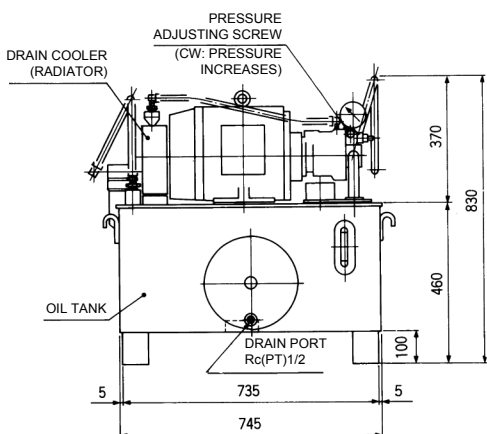
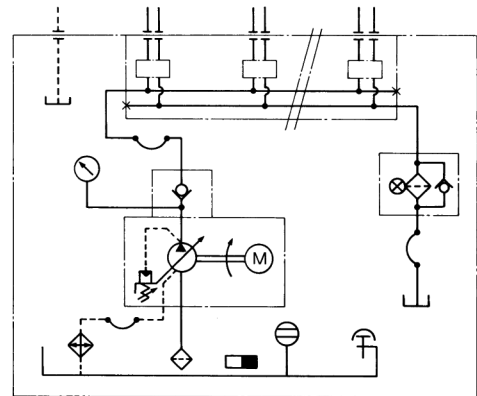
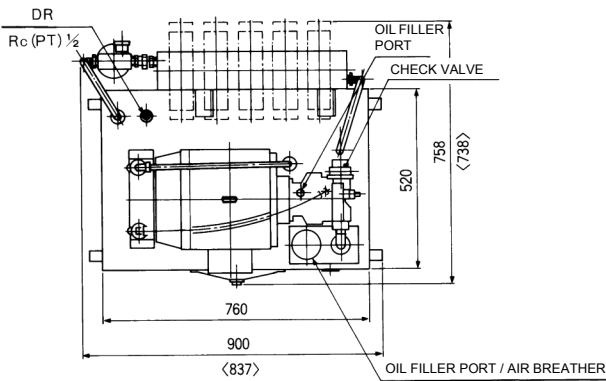


**EXTERNAL DIMENSIONS OF HYDRAULIC POWER UNIT WITH OPTIONS**  
 (◆: ALL OPTIONS ARE INSTALLED)

● TP63NA-D3-\*MCK34F<TP63N-D3-\*MCK25F>

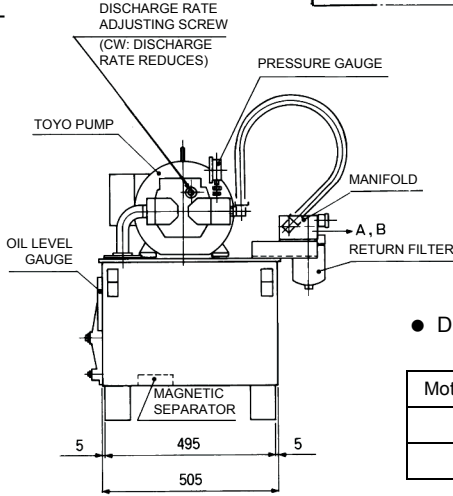
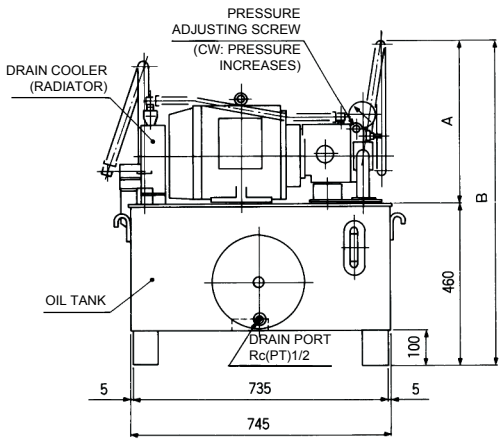
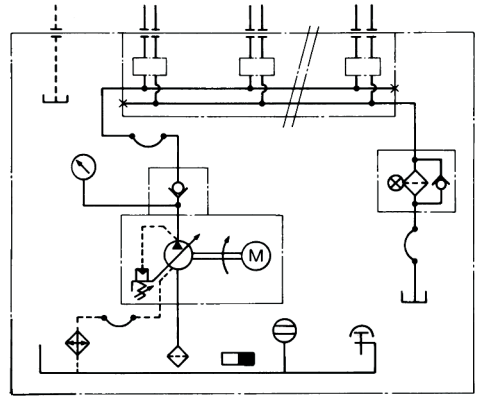
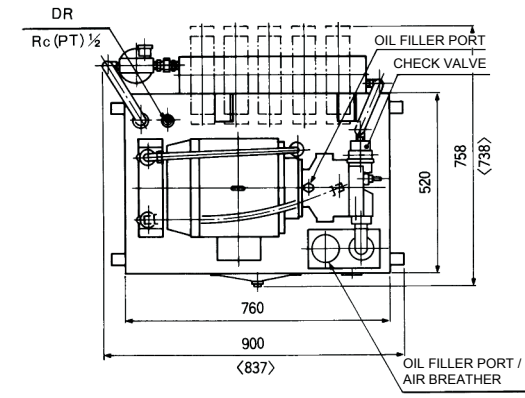


● TP100N-C5-F-MCK35F<TP100N-C5-F-MCK25F>



**EXTERNAL DIMENSIONS OF HYDRAULIC POWER UNIT WITH OPTIONS**  
 (◆: ALL OPTIONS ARE INSTALLED)

● TP100N-D\*-MCK35F<TP100N-D\*-MCK25F>



● Dimension Table (Unit: mm)

Motor Capacity (kW)	A	B
3.7	450	910
5.5	470	930

● TP160N-D\*-MCK35F<TP160N-D\*-MCK25F>

