

Contact Details

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ND Series Mini-pack



Features

- Optimum compact sizes achieved (tank capacity: 20, 30, 45 L)
- Quiet operation with unobtrusive sound realized by using a V series piston pump.

Nomenclature

ND × × × × - × × × - × ×

1 2 3 4 5 6 7

1 Model No.

ND: mini-pack

2 Pump capacity

8: V 8 used (8 cm³/rev)
15: V15 used (14.8 cm³/rev)

3 Pressure adjustment range

9: 0.8 to 3.5 MPa {8 to 35 kgf/cm²}
1: 0.8 to 7 MPa {8 to 70 kgf/cm²}

4 Pump model

No designation: V8A1RX
Y: V15A1Y

5 Tank capacity

2: 20 L
3: 30 L
4: 45 L

6 Motor capacity

00: 0.4 kW, 4-pole
01: 0.75 kW, 4-pole
02: 1.5 kW, 4-pole
03: 2.2 kW, 4-pole

7 Design No.

(The design No. is subject to change.)

40 : 6 Motor capacity is 0.4 kW
50 : Other than above

The design number was changed to 50 due to the motor high efficiency restrictions took effect in April 2015.

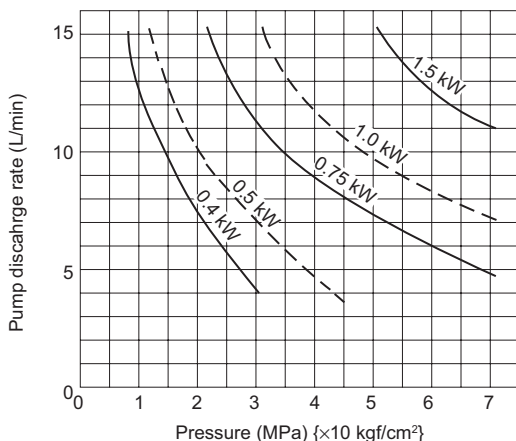
Refer to Page A-8 for details of V series piston pumps incorporated into these units.

Specifications

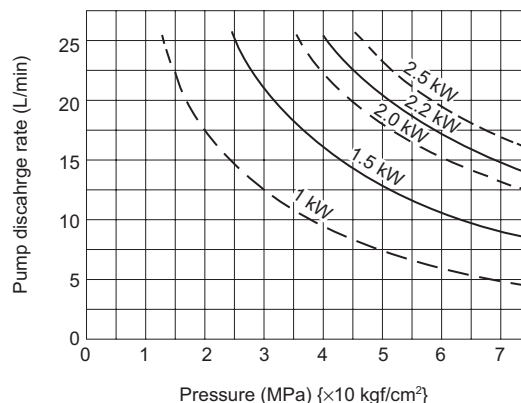
Model code	Pump capacity cm ³ /rev	Motor capacity Output kW (Number of poles: 4)	Tank capacity L	Maximum operating pressure MPa {kgf/cm ² }	Pressure adjustment range MPa {kgf/cm ² }	Discharge rate setting at shipment L/min		Pressure at shipment MPa {kgf/cm ² }	Mass (Fluid excluded) kg
						50 Hz	60 Hz		
ND 89 -200-40	8	0.4	20	3.5 {35}	0.8 to 3.5 {8 to 35}	6	7	3.5 {35}	45
ND 89 -201-50		0.75				11	14		
ND 81 -301-50		30	1.5	7 {70}	0.8 to 7 {8 to 70}	6	7	7 {70}	53
ND 81 -302-50	11					14			
ND159Y-302-50	14.8		2.2	3.5 {35}	0.8 to 3.5 {8 to 35}	21	25	3.5 {35}	60
ND151Y-403-50		7 {35}		0.8 to 7 {8 to 70}	16.6	20	7 {70}	73	

Pressure - Flow rate characteristics

8 series



15 series



Paint color

Munsell code 7.5BG4.5/2

Handling

● Hydraulic fluid, ambient environment

- Use a petroleum-based hydraulic fluid equivalent to ISO VG32 to 46.
Use of hydraulic fluids other than the petroleum-based type (e.g. hydrous/synthetic) is prohibited.
- Operate the unit in an environment where both the following conditions are satisfied: viscosity range from 15 to 400 mm²/s {cSt} and oil temperature from 0 to 60°C.
- Be sure to maintain the water content in the hydraulic fluid at 0.1% maximum by volume.
- Contamination of the hydraulic fluid causes device trouble and reduces the service life, so pay due attention to controlling contamination and ensure that it goes no higher than NAS contamination class 10.
- Use the unit indoors under the following conditions.
Ambient temperature: 0 to 35°C, Ambient humidity: 20 to 90%RH (with no condensation)

● At start

- Fill the pump case with hydraulic fluid through the filler port before starting trial operation, after replacing the pump, or after stopping the unit for 6 months or longer. Use the same hydraulic fluid as for the hydraulic circuit.

	ND 8*	ND15*
Pump case filling volume cm ³	300	500

- After checking that all hydraulic circuits and electrical circuits are ready for operation, set the hydraulic circuit at the load side in the no-load status or connect an unloading circuit before starting the pump.
- When the pump is driven for the first time, turn the power switch to the motor on and off a few times to let the air out of the piping and then run it continuously at full speed. Noise may be observed until the air has been completely removed but this is not abnormal.
- Check that the pump rotates in the direction of the arrow showing the direction of rotation.

● Electric wiring

- Connect the power cable matching the phases at the pump motor and power supply sides as shown below.



Check the direction of rotation of the motor. If the motor would be rotated in the reverse direction, switch the connection between two phases among the three to correct the direction of rotation.

- Be sure to connect the ground terminal.
- Install a no-fuse breaker and an earth leakage breaker on the main power supply. The electrical ratings are as shown in the table below.
- These are premium efficiency products and therefore they tend to have a higher current value than products with the previous design. Pay attention to the design of the power distribution when replacing products of the previous design.

<Motor rating table (rated current)>

Permissible voltage fluctuation: ±10%

Model code	Motor capacity Output kW (Number of poles: 4)	Rated current A			Starting current A		
		AC 200 V (50 Hz)	AC 200 V (60 Hz)	AC 220 V (60 Hz)	AC 200 V (50 Hz)	AC 200 V (60 Hz)	AC 220 V (60 Hz)
ND 89 -200-40	0.4	2.2			11.1	10.7	11.8
ND 89 -201-50	0.75	4.2	3.6		28.0	25.0	28.0
ND 81 -301-50							
ND 81 -302-50	1.5	6.8	6.4	6.0	46.6	41.0	45.1
ND159Y-302-50							
ND151Y-403-50	2.2	10.6	9.4	9.2	96.0	81.0	89.1

● Transportation

Use eye bolts for hoisting to transport the unit.

● Installation

The unit is a stationary type. Fix it on a level location that is free of vibration.

● Auxiliary parts

Contact the Contact Center to procure parts other than the pump itself.

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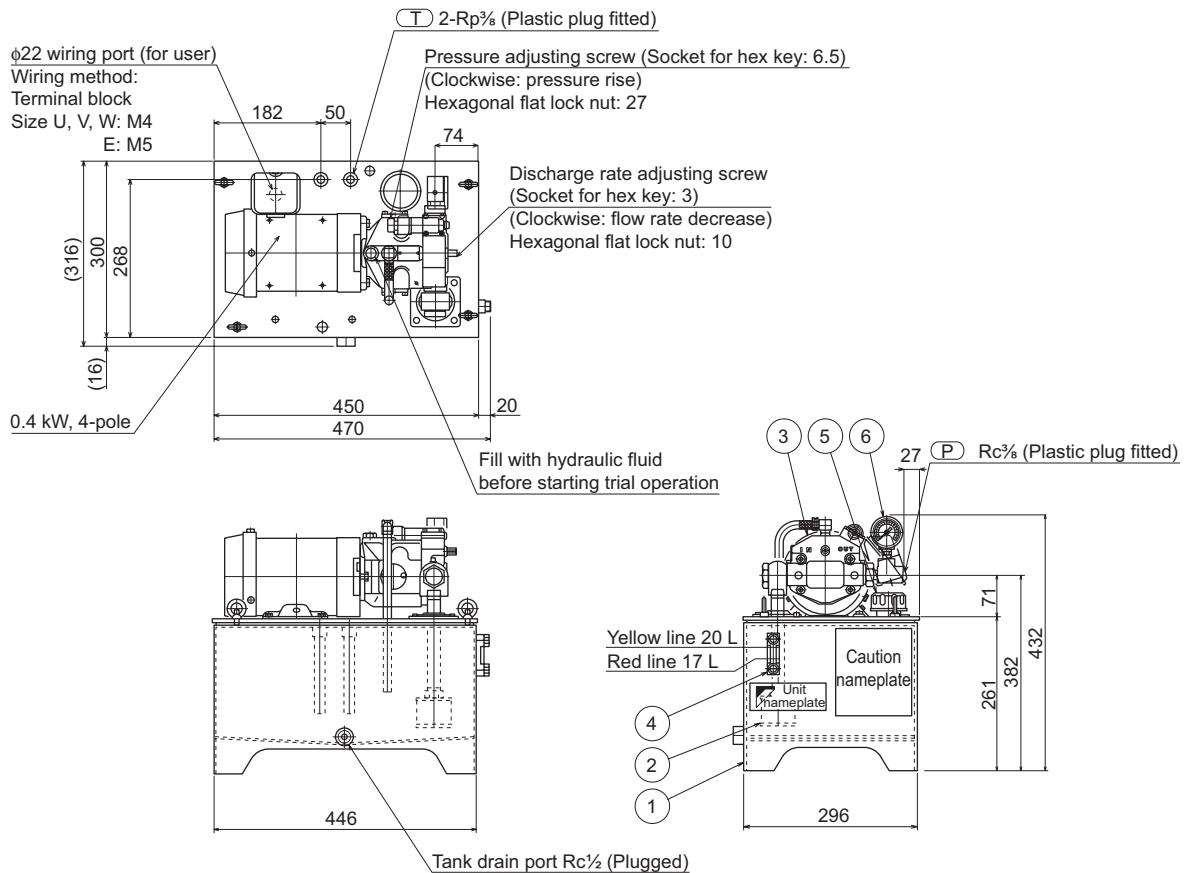
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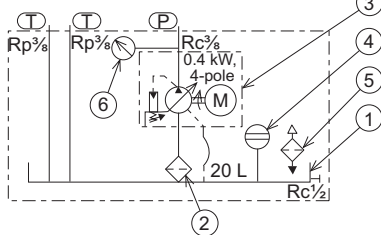
External dimension diagram

ND89-200-40



Hydraulic circuit diagram

Hydraulic circuit diagram



Devices used

Part No.	Name	Part No.	Name
1	20 L fluid tank	4	Oil level gauge
2	Suction strainer	5	Oil filler port with air breather
3	Motor pump	6	Pressure gauge

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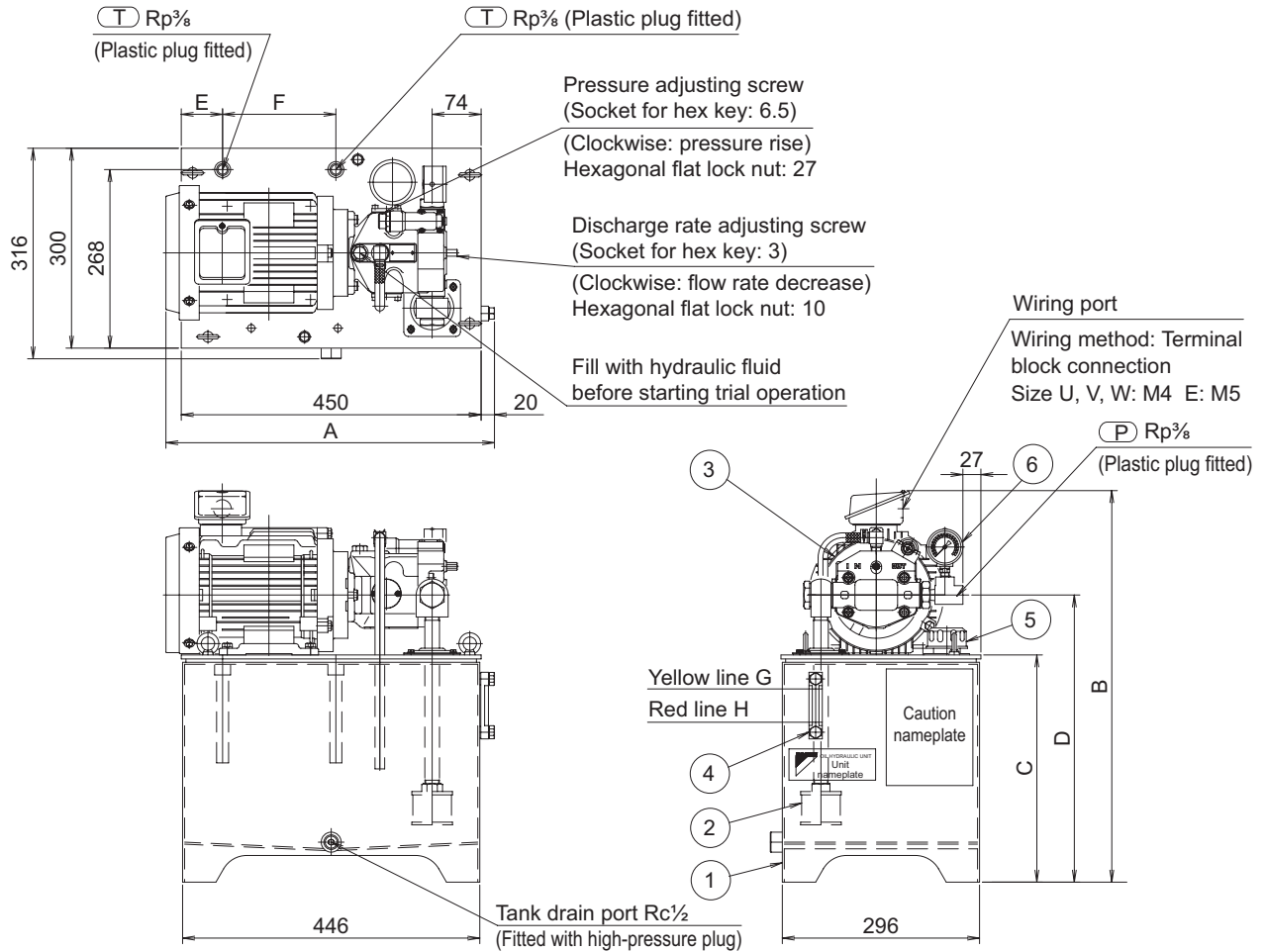
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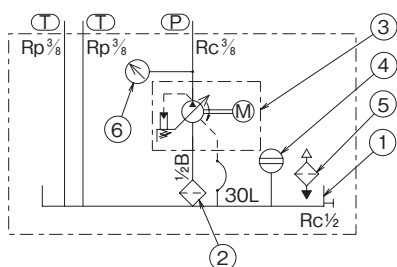
External dimension diagram

ND8*-***-50



Model	Motor	Wiring port	A	B	C	D	E	F	G	H
ND89-201-50	0.75 kW-4P	$\text{G}\frac{3}{4}$	470	461	261	341	62	170	20 L	17 L
ND81-301-50				541					421	30 L
ND81-302-50	1.5 kW-4P	$\phi 27$	493	587	341	431				

Hydraulic circuit diagram



Devices used

Part No.	Name	Part No.	Name
1	Oil tank	4	Oil level gauge
2	Suction strainer	5	Oil filler port with air breather
3	Motor pump	6	Pressure gauge

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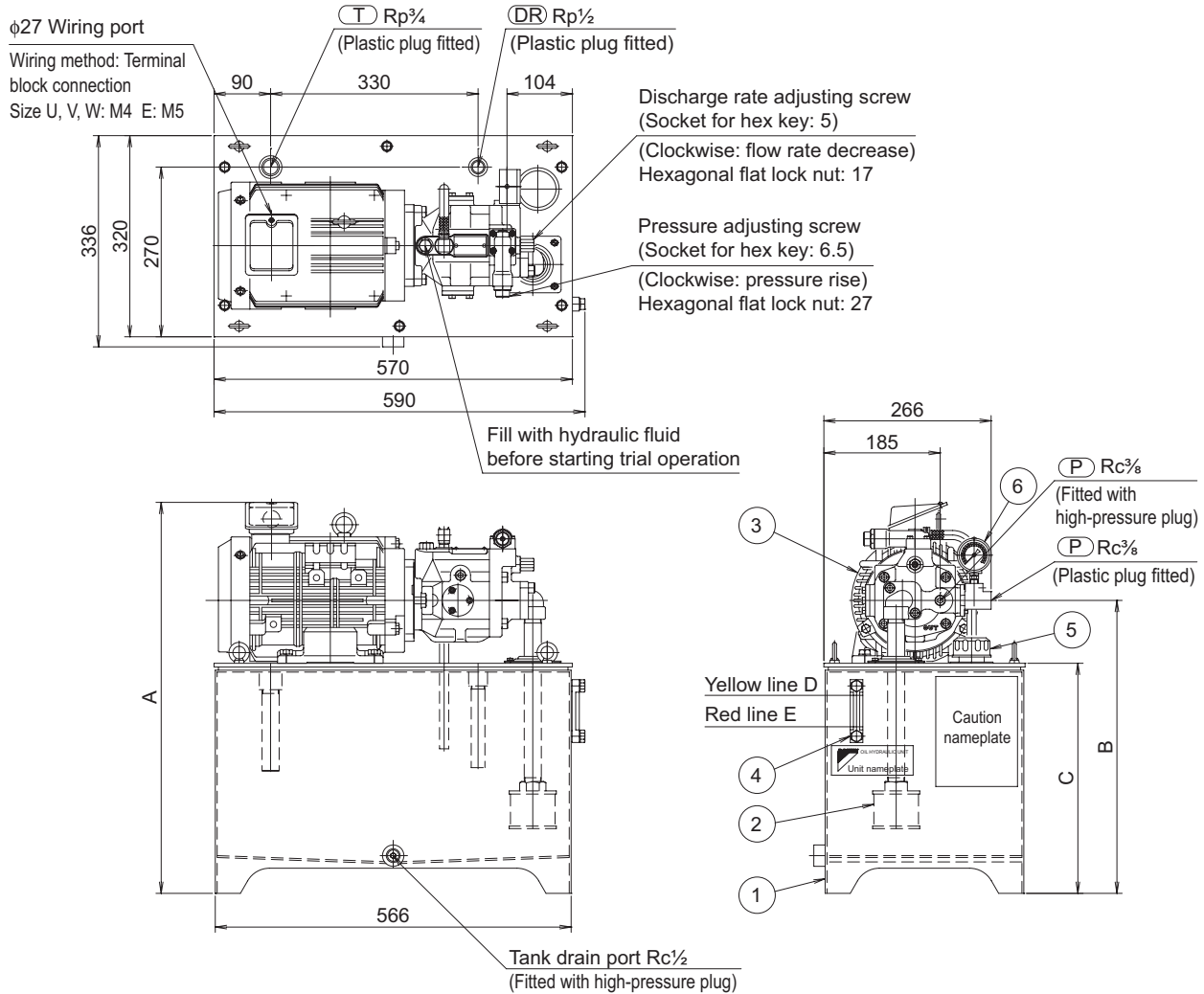
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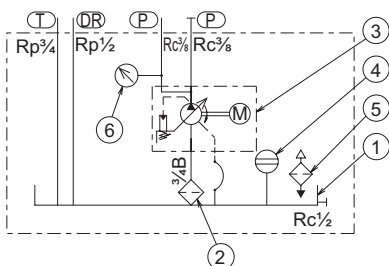
External dimension diagram

ND151Y-403-50



Model	Motor	A	B	C	D	E
ND159Y-302-50	1.5 kW-4P	527	371	281	30 L	21 L
ND151Y-403-50	2.2 kW-4P	622	466	366	45 L	36 L

Hydraulic circuit diagram



Devices used

Part No.	Name	Part No.	Name
1	45 L fluid tank	4	Oil level gauge
2	Suction strainer	5	Oil filler port with air breather
3	Motor pump	6	Pressure gauge