

Energy-saving variable pump unit

# Inverter drive NSP series

Add inverter drive to energy-saving NSP series.  
Get even better energy savings from existing models!

Introducing our 26 cm<sup>3</sup>/rev  
type inverter drive model!



# Even greater energy savings with inverter drive

## ◆ Even greater energy savings

Adding an inverter drive to the NSP series reduces energy consumption by approximately 60% compared to standard units.

## ◆ Hydraulic fluid temperature is kept at room temperature + 1.5 °C

Room/hydraulic fluid temperatures	Standard Unit	Inverter drive NSP unit
Tank capacity (ℓ)	60	20
Room temperature (°C)	23.2	
Temperature of hydraulic fluid in tank (°C)	51.2	24.7
Hydraulic fluid temperature increase (°C)	<b>28.0</b> →	<b>1.5</b>

- NSP-20E-22V1A4-12
- 6.0 MPa maintained in standby

## ◆ Quite operation at only 53 dB (A)

- NSP-20E-22V1A4-12
- 6.0 MPa maintained in standby
- 4-directional average
- Standard unit sound level: 64 dB (A)

## ◆ Easy Operation

Starts up as soon as the power is turned on. Absolutely no outside instructions or delicate electrical adjustments needed because the pump's RPMs are controlled automatically in response to the load.

## ◆ Operates with the inverter removed also

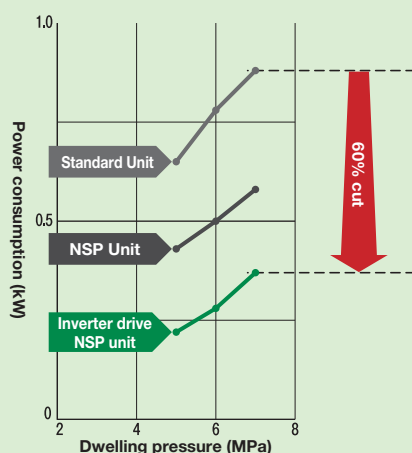
Can operate as an NSP unit just by switching out the wiring in case of emergencies.

## ◆ Inverter drive function can be installed separately later

If you are already using an NSP unit, you can add the inverter drive function by installing the inverter control box kit, which is sold separately.

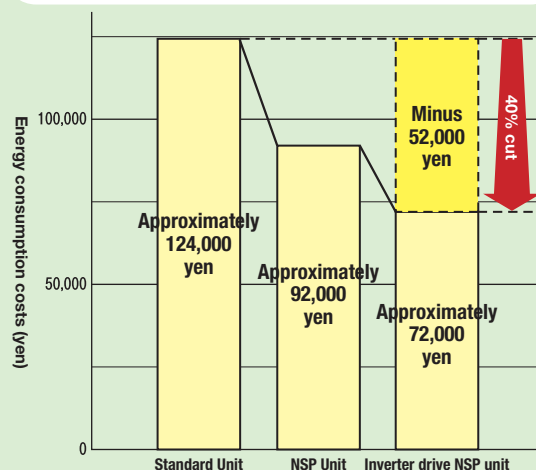
## More new ways to save energy

### 60% Energy Savings Compared to Standard Model



Power consumption during pressure maintenance  
Model: NSP-20E-22V1A4-12  
Comparison of standard NSP units with the same specifications

### Save approximately 40% on annual energy consumption



Note: Discharging: 5 hours/day  
Dwelling: 17 hours/day  
Annual operating time: 8000 hours, 15 yen/kWh

**Adding the inverter drive to the NSP series energy-saving unit reduces energy consumption by approximately 60% compared to the standard unit (during pressure standby, based on in-house comparison). It's great for jobs that need to maintain pressure in standby for long periods.**

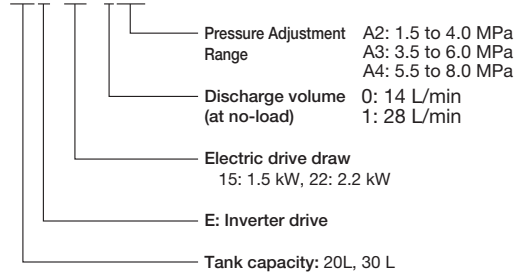
## Specifications

1. Power supply Current rating	3 $\phi$ AC 200 to 220 V, 50/60 Hz 9.7 A/1.5 kW, 13.4 A/2.2 kW 22.4 A/3.7 kW	
2. Pressure adjustment range	8 & 16 cm <sup>3</sup> /rev series A2: 1.5 to 4.0 MPa A3: 3.5 to 6.0 MPa A4: 5.5 to 8.0 MPa	26 cm <sup>3</sup> /rev series A2: 2.0 to 4.0 MPa A3: 3.5 to 6.0 MPa A4: 5.5 to 7.0 MPa
3. Discharge volume (at no-load)	0A*: 14 L/min, 1A*: 28L/min 2A*: 46 L/min	
4. Hydraulic fluid	Standard mineral oil hydraulic fluid (ISO VG 32 equivalent)	
5. Hydraulic fluid temperature	10 to 60°C	
6. Color	Munsell No. 5B6/3 (NACHI color)	
7. Ambient temperature/humidity	10 to 35°C/20 to 85% RH (without condensation) (Avoid exposure to water-soluble cutting fluid mist)	

## Model number format

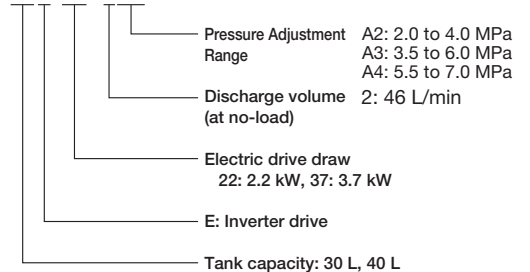
### 8 & 16 cm<sup>3</sup>/rev series

#### NSP-20E-15V0A2-12

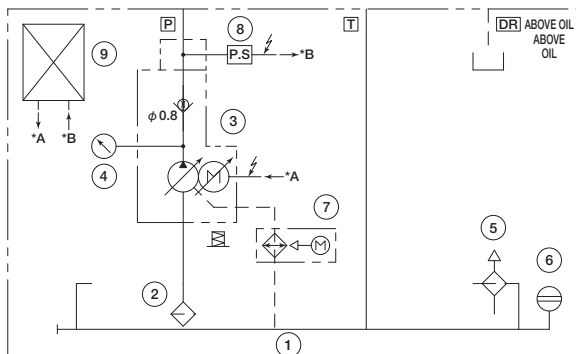


### 26 cm<sup>3</sup>/rev series

#### NSP-30E-22V2A2-12



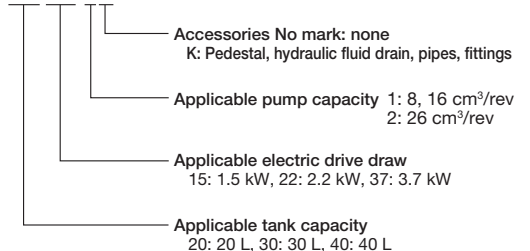
## Hydraulic circuit diagram



Number	Part Name
1	Oil tank
2	Suction strainer
3	Unipump
4	Pressure gauge
5	Hydraulic fluid input/air breather
6	Hydraulic fluid gauge
7	Cooling fan
8	Pressure sensor
9	Inverter control box

## Inverter control box kit specifications

### EBK-20-22-1K-10

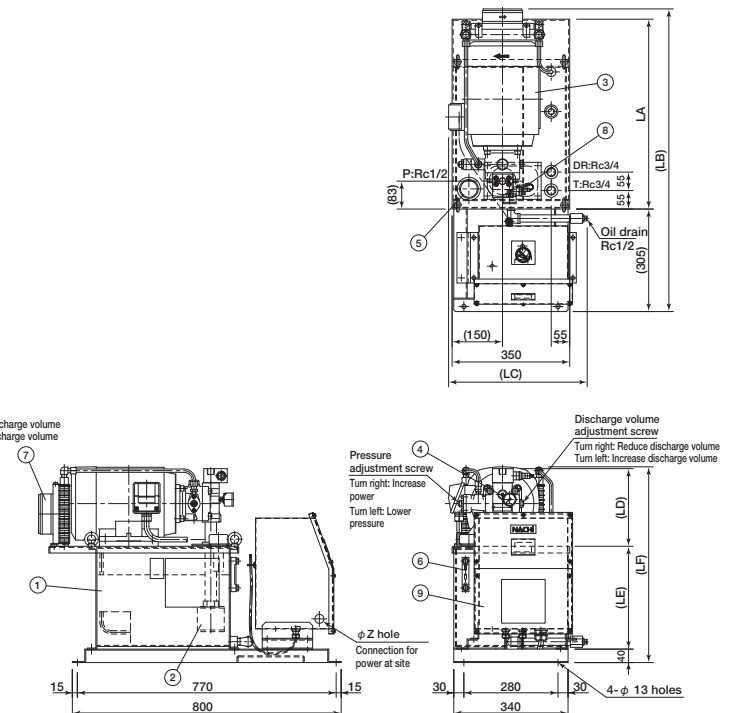
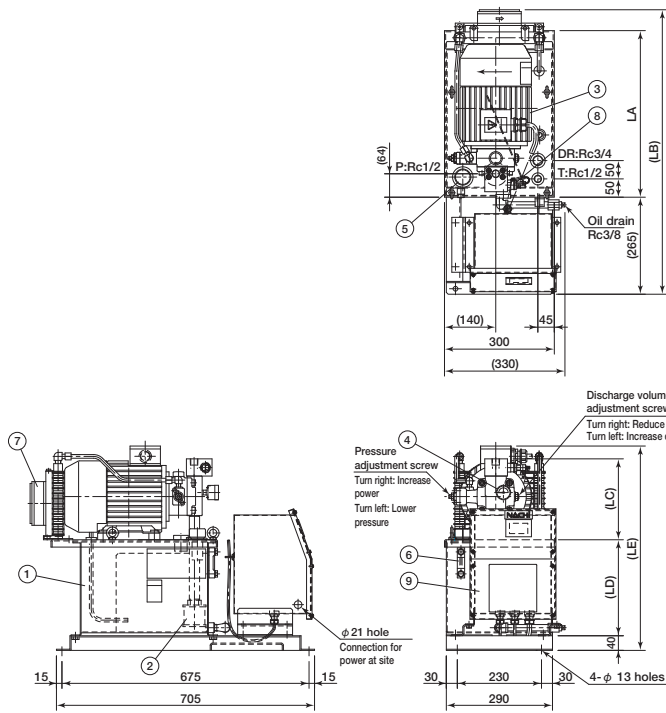




**Dimension drawings**

**8 & 16 cm<sup>3</sup>/rev series**

**26 cm<sup>3</sup>/rev series**



Type	LA	LB	LC	LD	LE	Approximate weight (excluding hydraulic fluid)
NSP-20E-15V*A*-12	425	750	211	262	545	65 kg
NSP-20E-22V1A*-12	455	780	221		564	71 kg
NSP-30E-15V*A*-12	425	750	211	364	647	70 kg
NSP-30E-22V1A*-12	455	780	221		666	76 kg

Type	LA	LB	LC	LD	LE	LF	Z	Approximate weight (excluding hydraulic fluid)
NSP-30E-22V2A*-12	545	885	405	224	306	582	21	84 kg
NSP-30E-37V2A*-12	565	900	415	236			27	96 kg
NSP-40E-22V2A*-12	545	885	405	224	385	661	21	89 kg
NSP-40E-37V2A*-12	565	900	415	236			27	101 kg



**Warnings**

- Starting and stopping the inverter by turning on/off the primary power (circuit breaker) significantly reduces the service life of the inverter. It should not be done more than once in an hour.  
Contact us if your application requires frequent starting/stopping.
- Do not adjust the inverter's parameters. Do not adjust any switches except the pressure settings switch.
- Use a 2-meter long flexible 1/2-inch hose rated for 14 MPa for the line between the hydraulic unit's P port (discharge port) and the external manifold (or actuator).
- Set the maximum peak pressure (set pressure + surge pressure) to within 14 MPa for the 8 and 16 cm<sup>3</sup>/rev series, and to within 13 MPa for the 26 cm<sup>3</sup>/rev series.  
Install a relief valve to cut surges in the circuit if the maximum peak pressure exceeds these figures.
- Contact us if excess leakage in the external hydraulic circuit limits energy saving efficiency.

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