

## 2000 Series Pumps

### Applications

The 2000 Series pumping systems are available in two sizes. The smaller system 2245 has 61 L/min (16 gal[US]/min) flow capacity and can supply oil up to 14 238 N·m (10 500 lb-ft) governors. This system replaces the following 20 Series Woodward pumps: Sizes 21, 22, 23.5, and 24.5 pumps. The larger system 2275 has 155 L/min (41 gal[US]/min) flow capacity and can supply oil up to 56 952 N·m (42 000 lb-ft) governors. This system replaces Woodward 20 Series pumps: Sizes 25, 26, 27, and 27.5 pumps. Adjustable blade turbines or penstock valves may be operated from the pump by using a pump of sufficient capacity.

### Description

Woodward 2000 Series pumping systems are complete, self-contained units designed to supply oil pressure from 1241 to 1379 kPa (180–200 psi) for hydraulic governors.

### Specifications

#### Cleanliness Control System

Maintains system cleanliness from ISO 16/13 to ISO 18/15

#### ASME Tank Rating

Manufactured and tested to ASME Section 8, Division 1 of the code

#### Ambient Temperature Range

10 to 43 °C (50 to 110 °F)

#### ASME Safety Rating

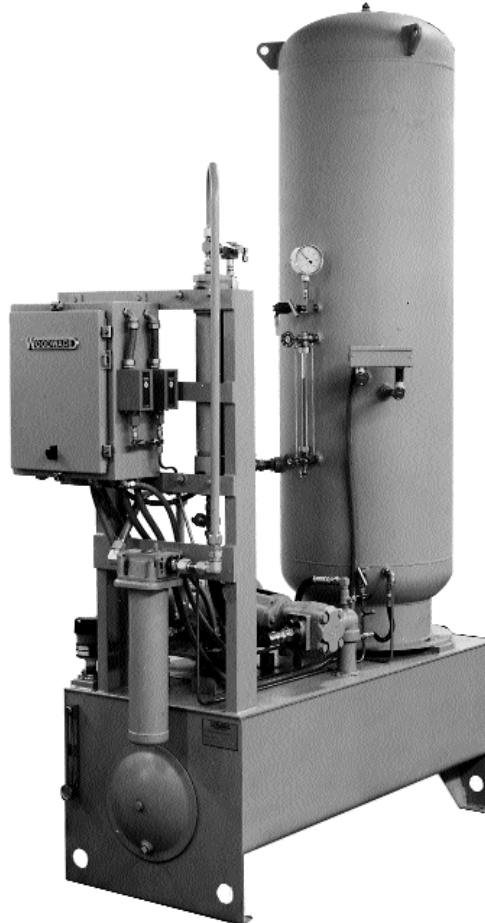
The ASME certified air safety will blow at or below 2137 kPa (310 psi)

#### Oil Safety

Factory set to operate at 1724 kPa (250 psi)

#### Switches

- Oil Sump Float Switch: Rated at 0.13 A @ 125 Vdc
- Oil Temperature Switch: 4 A @ 125 Vdc
- Pressure Switch: 0.5 A @ 123 Vdc



- Cleanliness control system
- ASME certified pressure tank and air safety
- Oil safety
- 2 oil sump level switches
- Oil temperature switch
- 2 pressure switches
- Pressure tank float valve
- Sump air breathers
- Oil sump thermometer
- Air charging capability
- Manual air blowoff valve
- Magnet trap in sump
- Options:
  - –Air admission system
  - –Automatic air release system
  - –Dirty oil filter switch

**Pressure Tank Float Valve**

Maximum flow: 1249 L/min (330 gal/min)  
Maximum pressure: 2758 kPa (400 psi)

**Sump Air Breather**

3 micron filter elements and water-removing desiccants

**Oil Sump Thermometer**

Reads from -18 to 104 °C (0 to 220 °F)

**Air Charging Capability**

1.5 hours for complete tank charge

**Automatic Air Release System (optional)**

1–10 seconds per release

**Automatic Air Admission System (optional)**

Makes up for air loss up to 38 mm (1.5") per day

**Dirty Filter Detection (optional)**

Switch trips at 186 kPa (27 psi)

Contact rating is 5 A for 125/250 Vac

**2245 Pump Specifications****Dimensions**

Width: 686 mm (27")  
Length: 1219 mm (48")  
Height (sump): 533 mm (21")  
Height (sump and pressure tank): 1803 mm (71")

**Weight (including normal oil levels)**

680 kg (1500 lb)

**Motor**

3.7 kW (5 hp); 230/460 Vac; 60 Hz; 1750 rpm

**Pump**

61 L/min (16 gal/min) gear pump

**Sump Oil Capacity:**

227 L (60 gal[US])

**Pressure Tank Capacity**

With 14 238 N·m (10 500 lb-ft) governor (11.6 L/0.41 ft³ servo), the pressure tank has 3.5 servos of usable oil from normal pressure 1379 kPa (200 psi) down to float valve closed pressure 862 kPa (125 psi)

Nominal sump filling volume: 114 L (30 gal)

**2275 Pump Specifications****Dimensions**

Width: 686 mm (27")  
Length: 1524 mm (60")  
Height (sump): 622 mm (24.5")  
Height (sump and pressure tank): 2794 mm (110")

**Weight (including normal oil levels)**

1134 kg (2500 lb)

**Motor**

7.5 kW (10 hp); 230/460 Vac; 60 Hz; 1750 rpm

**Pump**

155 L/min (41 gal/min) gear pump

**Sump Oil Capacity**

378 L (100 gal[US])

**Pressure Tank Capacity**

With 56 952 N·m (42 000 lb-ft) governor (45.6 L/1.61 ft³ servo), the pressure tank has 3.5 servos of usable oil from normal pressure 1379 kPa (200 psi) down to float valve closed pressure 862 kPa (125 psi)

Nominal sump filling volume: 322 L (85 gal)



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