Product Specification **36010**
(Revision L, 06/2019)

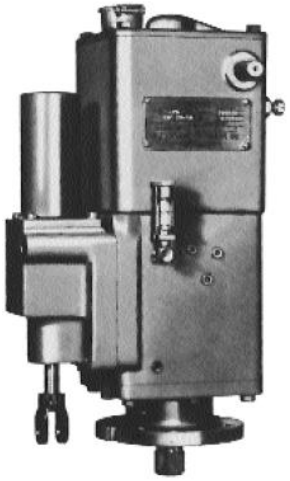
PG Dial and Lever Governors

Applications

Woodward PG Dial and Lever governors control the speed of diesel, gas, and dual-fuel engines in a variety of fields. Their applications include engines driving pumps, compressors, alternators, variable speed dc generators, marine propulsion units, and paper machines.

Besides controlling speed, PG governors can also limit load and shut down the engine when the lubricating oil pressure fails.

Woodward customizes each PG governor to meet the needs of the engine and the application.



PG Lever

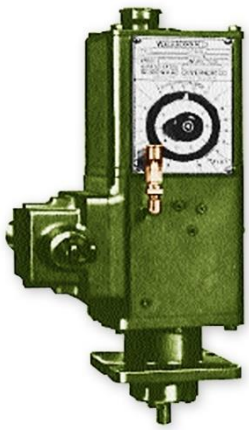
Description

Each PG governor contains the following elements:

- An oil pump, storage area for pressurized oil, and a relief valve to limit maximum oil pressure.
- A centrifugal flyweight head/pilot valve assembly to control oil flow to and from the governor power cylinder assembly.
- A power cylinder assembly (servomotor) to reposition the engine fuel rack. This can be either a spring-loaded or differential assembly.
- A compensating system to stabilize the governing system.
- Speed-setting adjustments.

Standard Features

- Lever or dial speed adjustment.
- Spring-driven, oil-damped ballhead to filter low frequency torsional vibrations at the governor drive.



PG Dial

Optional Features

- Speed adjusting motor.
- Electric, oil, water, or pneumatic shutdown.
- Wide speed range.
- Governor oil cooler (for external mounting).
- Preloaded buffer springs for smoother control of two-cycle spark-ignition engines.
- Remotely mounted servomotor to simplify connection to fuel control.
- Servomotors with 16, 23, 33, 39, and 79 N·m (12, 17, 24, 29, and 58 lb-ft) (2/3 usable) are available in linear and rotary outputs.
- Overspeed test device to override governor speed setting. This permits testing of the engine overspeed trip by allowing the engine to run above rated speed.

- Lever or dial speed adjustment
- Spring-driven, oil-damped ballhead which filters frequency torsional vibrations
- Optional speed adjusting motor
- Electric, oil, water, or pneumatic shutdown
- Wide speed range available
- Some configurations are available compliant with applicable CE Directives—ATEX, Pressure Equipment, and Machinery

Specifications

Construction

Weight	Approximately 36 kg (80 lb)
Case and Pump Housing	Cast iron
Internal Parts	Aluminum, mild or case-hardened steel, and stainless steel
Dial Speed Setting Cover	Cast aluminum
Lever Speed Setting Cover	Sand cast aluminum

Mounting

Configuration	Vertical
Base	The round base and serrated shaft shown in dimension drawings are standard. Other bases, such as ones having UG-8 or UG-40 mounting dimensions and drive shaft, are available.
Drive Shaft	Either serrated or with keyway and key to carry a gear
Power Requirement	Drive power for different types of PG governors will vary depending upon speed, internal pump pressure, pump volumetric displacement, pump efficiency, and oil viscosity. Contact Woodard if further information is required.

Output

Fuel Control	Piston type with a 25 mm (1-inch) travel is standard. Two-thirds of the travel should be used between no load and full load with some overtravel at each end of the stroke; linkage should permit complete shutdown.

Control Characteristics

Speed Range	The common speed range is 150–1000 rpm with 800–1000 rpm being the recommended range for constant speed service. A wide speed range of 200–1600 rpm is available.
Operating Temperature	Continuous operating temperature is 60 to 93 °C (140 to 200 °F). [Contact Woodward Industrial Controls when working beyond these limits; the hydraulic fluid pour point must be below the lowest expected starting temperature.]
Work Capacity	16 N·m (12 lb-ft) is standard. A maximum of 11 N·m (8 lb-ft) may be used to move the fuel control linkage over the full range of governor travel.

Hydraulic System

Oil	SAE 10–50 oil depending on governor operating temperature
Self-contained Sump	Approximately 1.4 L (1.5 qt)
Viscosity	Should be 100–200 SUS under normal operating conditions

IMPORTANT **Speeds in excess of 1000 rpm are available but require single-direction rotation. Oil coolers may also be required. Please consult Woodward Industrial Controls.**

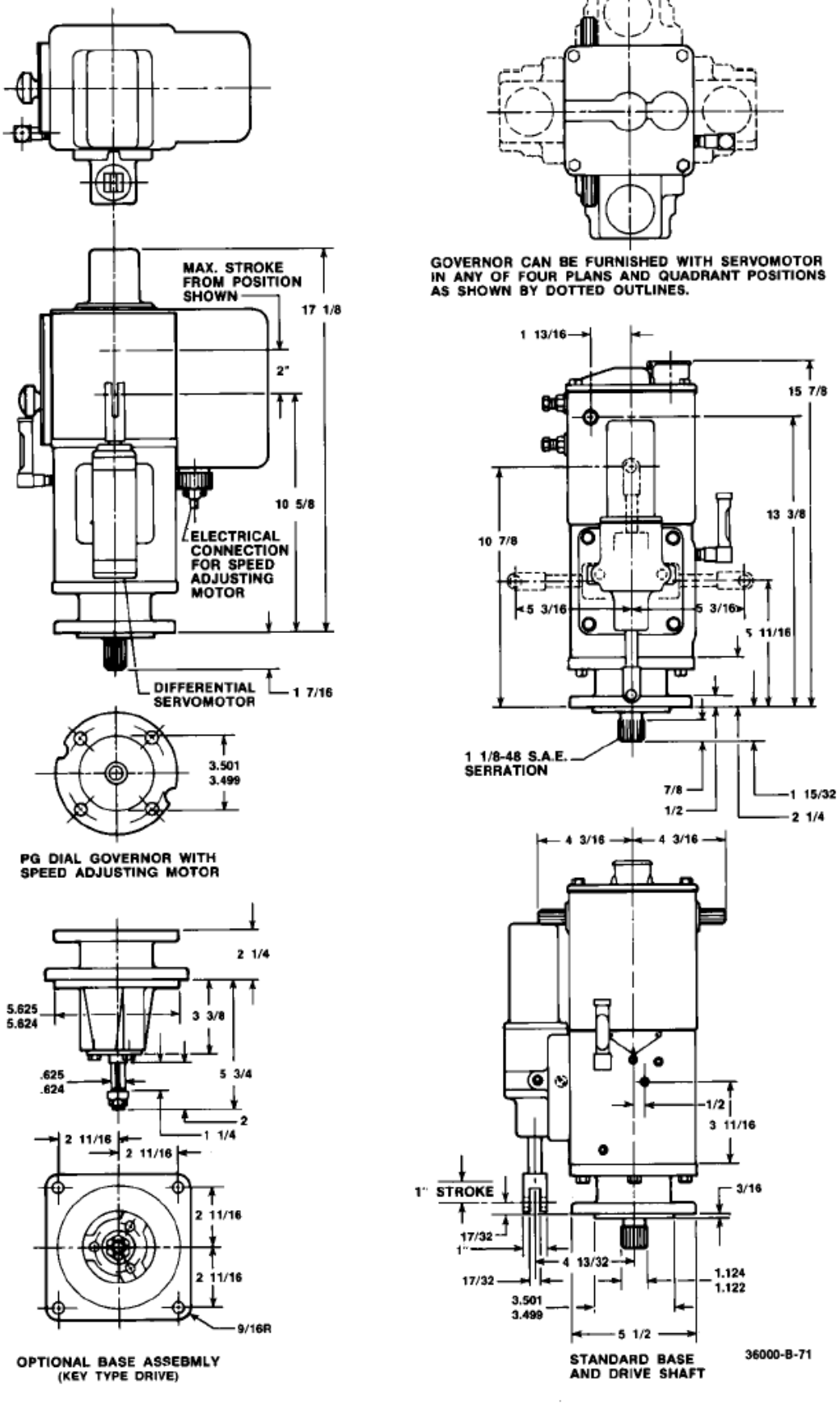
Regulatory Compliance

European Compliance for CE Marking:
These listings are limited only to those units bearing the CE Marking.

ATEX – Potentially Explosive Atmospheres Directive:	Declared to 94/9/EEC COUNCIL DIRECTIVE of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres. Zone 1, Category 2, Group II G, c II T3

Other European and International Compliance:
Compliance with the following European Directives or standards does not qualify this product for application of the CE Marking:

Machinery Directive:	Compliant as a component with 98/37/EC COUNCIL DIRECTIVE of 23 July 1998 on the approximation of the laws of the Member States relating to machinery.
Pressure Equipment Directive:	Compliant as “SEP” per Article 3.3 to Pressure Equipment Directive 97/23/EC of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment.



Outline Drawings
(Do not use for construction)

PO Box 1519, Fort Collins CO, USA 80522-1519
1041 Woodward Way, Fort Collins CO 80524, USA
Tel.: +1 (970) 482-5811
Email and Website—www.woodward.com

Woodward has company-owned plants, subsidiaries, and branches, as well as authorized distributors and other authorized service and sales facilities throughout the world. Complete address / phone / fax / email information for all locations is available on our website.

For more information contact: