

# TYPE 1800 2G

## Hydraulic Servo Governor

The Regulateurs Europa 1800 series governor is designed specifically for medium and slow speed diesel engines.

This governor is a centrifugal flyweight design with a two-stage, high stiffness, backlash free, hydraulic servomechanism, providing the best possible control on engines that have a fuel pump control system with high stiction forces.

A booster unit can be supplied for application where minimal starting air consumption is required.



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### FEATURES

- Proven design
- Special 2 stage servomechanism to give best possible control on pumps with large stiction forces
- One module with 2 different work outputs all within the same frame size
- Externally adjustable droop control
- Speed setting options by lever, dial, synchronising motor or pneumatic
- Self contained oil supply
- Droop adjustment
- Common base mounting
- Output shaft both sides.

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### SPECIFICATION

#### Variable Speed Applications

Normal operating speed range -  
200 to 1200 r/min.

#### Constant Speed Applications

Governor drive speed range at rated  
engine speed - 900 - 1200 r/min

#### Output Shaft Movement

40° (Maximum) with 24° or greater to  
be used from No Load to Full Load.

#### Oil Supply

Self contained 0.94 imp gall (4.25 litres)

#### Oil Cooler

60ft lbf Work output.  
Required only when operating in an  
ambient temperature in excess of 40°C.  
80 ft lbf Work output.  
Supplied as standard.

#### Weight

(Basic Governor - speed setting model)  
114 lb. (52 kg)

#### Power to Drive Governor

(at 1000 r/min. Governor Drive Speed)  
60 ft lbf Work output - 0.50 hp (0.37 kW)  
Input Torque 2.62 lbf ft (3.54 Nm.)  
80 ft lbf Work output - 0.75 hp (0.56kW)  
Input Torque 3.5 lbf ft (4.74 Nm.)

#### Output Shaft Dimensions

$\frac{7}{8}$  in. nominal diameter, 48 SAE Serrations,  
Standard both sides of governor

#### Drive Shaft Dimensions

1  $\frac{1}{8}$  in. nominal diameter, 48 SAE  
serrations, standard.  
Alternative  $\frac{5}{8}$  in. nominal diameter with  
 $\frac{3}{16}$  in. x  $\frac{3}{16}$  in. key.

#### Base Dimensions

7  $\frac{3}{4}$  in. square with four fixing holes  
14.0 mm diameter at 6  $\frac{3}{4}$  in. centres.

#### Rotation

Either clockwise or counter clockwise.

#### Speed Droop

Adjustable by External Dial from  
0-100 rev./min for 60% of the shaft travel.

#### Stabilisation

Hydraulic system having non-linear  
characteristic giving high temporary  
droop at the set point for stability.

The degree of damping introduced by  
the stabilisation system is adjustable  
(after the removal of a cover) to suit the  
application and incorporates a unique  
reset cut off feature.

#### Speed Setting Options

**Lever** - (normally supplied by engine  
builder) On projecting speed setting shaft,  
1/2 in. nominal diameter 36 SAE serrations.  
**Dial** - Multi-turn knob giving fine and  
coarse indication.  
**Synchronising Motor** - 24,110 and 220/240  
volts ac/dc.  
Nominal rate of change of speed 0.25%  
per second.

#### Pneumatic - Standard Pressure Ranges

3-15lbf/in<sup>2</sup> (0.21 - 1.03 bar)  
5-45 lbf/in<sup>2</sup> (0.34 - 3.10 bar)  
5-90 lbf/in<sup>2</sup> (0.34 - 6.20 bar)  
10-60 lbf/in<sup>2</sup> (0.69 - 4.14 bar)

**Speed Indication** - Up to three  
microswitches to give indication of  
selected speeds.

#### Shutdown Options

**Manual** - By pushbutton  
**Electric Solenoid** - Energise to run or  
to stop operating voltages 24,110 and  
200 volts d.c.  
**Pneumatic** - Pressurised to run or to  
stop Standard pressure range  
50-150 lbf/in<sup>2</sup> (3.4-10.3 bar).  
**Low Oil Pressure** - Responds to low oil  
pressure of prime mover. Two adjustable  
ranges 25-50 lbf/in<sup>2</sup> (1.75-3.4 bar) &  
40.5-81.2 lbf/in<sup>2</sup> (2.75-5.5 bar).

#### Fuel Limitation Options

**Manual** - External dial adjustable over  
the full range of governor output.

#### Boost Pressure -

Standard Pressure Ranges  
0-20 lbf/in (0-1.38 bar)  
0-30 lbf/in (0-2.07 bar)  
0-45 lbf/in (0-3.10 bar)

**Set Speed** - Limitation of governor  
output via internal linkage acting from  
the speed setting mechanism.

**Actual Speed** - By reduction of set speed  
for marine propulsion prime movers with  
fixed pitch propellers or suction dredger  
pump drive.

#### Load Control Options

Hydraulic - A spool valve controls an oil  
flow to and from the governor dependent  
upon the deviation from a predetermined  
speed/governor position characteristic  
may be adjusted by the supply pressure  
regulator within the governor self  
contained system or from an external  
source.

**NOTE:** The load control and fuel limit  
characteristics may be controlled by more  
than one variable, e.g. speed setting and  
boost pressure. The mechanism is so  
arranged that the engine will be controlled  
in a stable manner even if turbocharger  
failure occurs.

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