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**API GRAVITY  
 & DENSITY  
 CALCULATORS**

**BULLETIN 100  
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# API GRAVITY AND DENSITY CALCULATORS

## API GRAVITY CALCULATOR GTP-3012-1A

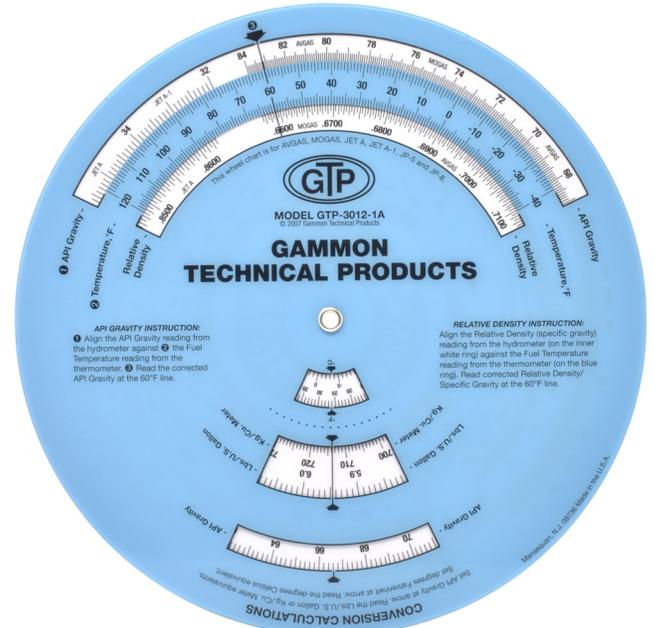
Corrects API hydrometer readings at any temperature (°F) to API degrees at 60°F.

Corrects relative density hydrometer readings at any temperature (°F) to relative density at 60°F

Converts API gravity to relative density\*

Converts API gravity to metric density (kg/m<sup>3</sup>)

Converts API gravity to weight (lbs/gal)



## DENSITY CALCULATOR GTP-2727EF

Converts density readings taken with a hydrometer to corrected density at 15°C

Separate scales for 3 different types of fuel:

- Kerosene (Jet A, Jet A-1, JP 5, JP 8)
- Wide Cut (JP 4, Jet B)
- Avgas

Scales read in kg/m<sup>3</sup>

\* "Relative density" is now the accepted term for "specific gravity."

### INSTRUCTIONS FOR API CALCULATOR GTP-3012-1A

1. Rotate the disk until the observed hydrometer reading ( $^{\circ}\text{API}$ ) is aligned with observed temperature ( $^{\circ}\text{F}$ ).
2. Read the corrected  $^{\circ}\text{API}$  at the  $60^{\circ}\text{F}$  arrow.

**NOTE:** If a relative density or specific gravity hydrometer is used, set the hydrometer reading opposite the observed temperature. Then read the corrected relative density at the  $60^{\circ}\text{F}$  arrow.



### INSTRUCTIONS FOR DENSITY CALCULATOR GTP-2727EF

1. Rotate the disk until the observed hydrometer reading is aligned with observed temperature.
2. Read the corrected density at the  $15^{\circ}\text{C}$  arrow.

*This circle represents the actual diameter of both calculators.*

#### **NOTE ON GTP-3012-1A**

Results obtained with this calculator in the API gravity range from 48 to 51 (or a correction that goes through this range) cannot be compared to the printed tables because we have avoided error created by this transition zone (see Volume X of Petroleum Measurement Tables (D1250-80/IP200), pages X-73 to X-79). For jet fuels, we extended the curve upward using the original equation without entering the transition zone. For avgas, we extended the gasoline curve downward in the same manner. From a technical standpoint, our scales will yield more accurate results than the printed tables.

#### **NOTE ON GTP-2727EF**

Results obtained with this calculator in the density range from 770 to 784  $\text{kg}/\text{m}^3$  (or a correction that goes through this range) cannot be compared to the printed tables because we have avoided error created by this transition zone (see Volume X of Petroleum Measurement Tables (D1250-80/IP200), pages X-73 to X-79). For jet fuels, we extended the curve upward using the original equation without entering the transition zone. For avgas, we extended the gasoline curve downward in the same manner. From a technical standpoint, our scales will yield more accurate results than the printed tables.