

JIS

JAPANESE INDUSTRIAL STANDARD

Power Sprayers

Ⓒ JIS B 9113—1989

Translated and Published

by

Japanese Standards Association

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Power Sprayers

B 9113-1989

1. Scope

This Japanese Industrial Standard specifies the reciprocating pump type power sprayers (hereafter referred to as the "sprayers") for agricultural use and epidemic prevention use. However, prime movers are not included.

Remark: The units and numerical values given in { } in this Standard are based on the traditional unit and are appended for informative reference.

2. Performances

2.1 Volumetric Efficiency and Pump Efficiency The efficiency of the sprayer at the marked normal pressure and the marked speed of rotation shall be as specified in the following:

- (1) For Marked Capacity (¹) 6 l/min or Over The volumetric efficiency shall be 93 % or over and the pump efficiency shall be 63 % or over.

Further, the volumetric efficiency and pump efficiency shall be obtained from the following formula:

$$\eta_v = \frac{V_n}{V_0} \times 100$$

$$\eta_p = 2.96 \times 10^{-6} \times \frac{V_n P}{B} \times 100$$

$$\{\eta_p = \frac{V_n P}{450 B} \times 100\}$$

where, η_v : volumetric efficiency (%)

η_p : pump efficiency (%)

V_0 : calculated delivery volume at marked speed of rotation (l/min)

$$V_0 = \frac{\pi}{4} D^2 L n_i n$$

D : pump cylinder diameter (cm)

L : actual stroke length (cm)

n_i : marked speed of rotation (min⁻¹) (rpm)

n : number of cylinders of pump

Applicable Standards and Reference Standard: See page 6.