

ABSTRACT

TWO-STAGE DISPENSING UNIT

A dispensing unit includes a main housing having a main chamber, a
5 reciprocating piston, a nozzle, and an adjuster assembly. The adjuster assembly includes
an adjuster housing having an adjuster chamber co-axial with the main chamber. The
adjuster assembly further includes an actuator disposed in the adjuster chamber and
axially movable within the adjuster chamber. The actuator is configured to engage the
reciprocating piston assembly and to drive the downward movement of the reciprocating
10 piston assembly. The reciprocating piston assembly includes a first piston portion having
a lower end configured to pressurize fluid within an orifice of the nozzle and a second
piston portion that is separate from the first piston portion and having an upper end
configured to engage the actuator. The first piston portion is configured to move a first
distance and the second piston portion is configured to move a second distance.

15 [Figure 4]