

Guide Sheet No. 3

Pump Performance of FRNSW Appliances

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This guide sheet outlines the pump performance of FRNSW appliances.

Reference to the FRNSW 'Guidelines for emergency vehicle access' is also recommended to ensure suitable access to hydrant systems.

FRNSW pumping appliances have varying pumping capacities dependant on the type of pump installed and the efficiency (condition) of the pump. When boosting a hydrant system, FRNSW may use the highest capacity pump available at the scene.

In the metropolitan regions of Sydney, Newcastle and Wollongong, and some large regional cities, a 'Class 3' pumper will be available and will provide a pump capacity of 3,500 litres per minute at 1,000kPa. Every 'Class 3' pumper has four (4) 65mm outlets, four (4) 65mm inlets and a 150mm hard suction inlet (which may be used with bulk water storage) at the rear. A 'Class 3' pumper is usually manned by permanent firefighters.

In all other regional towns and cities, a 'Class 2' pumper will be used and will provide a pump capacity of 2,900 litres per minute at 1,000kPa. Every 'Class 2' pumper has four (4) 65mm outlets, four (4) 65mm inlets and a 125mm hard suction inlet (which may be used with bulk water storage via adaptor) at the rear. A 'Class 2' pumper is usually manned by on-call (retained) firefighters.

To determine whether a 'Class 3' or 'Class 2' pumper is available, contact the FRNSW Structural Fire Safety Unit in writing at: Manager SFSU, Private Locked Bag 12, Greenacre NSW 2190.

The boosted hydrant system will be limited by the pump capacity of the appliance. When a suitable feed supply is available, FRNSW will use all inlets/outlets provided by the booster assembly to maximise performance. FRNSW standard operating procedures specifies the pump's maximum operating output pressure to be no greater than 1,000kPa (refer to Figure 1 below).

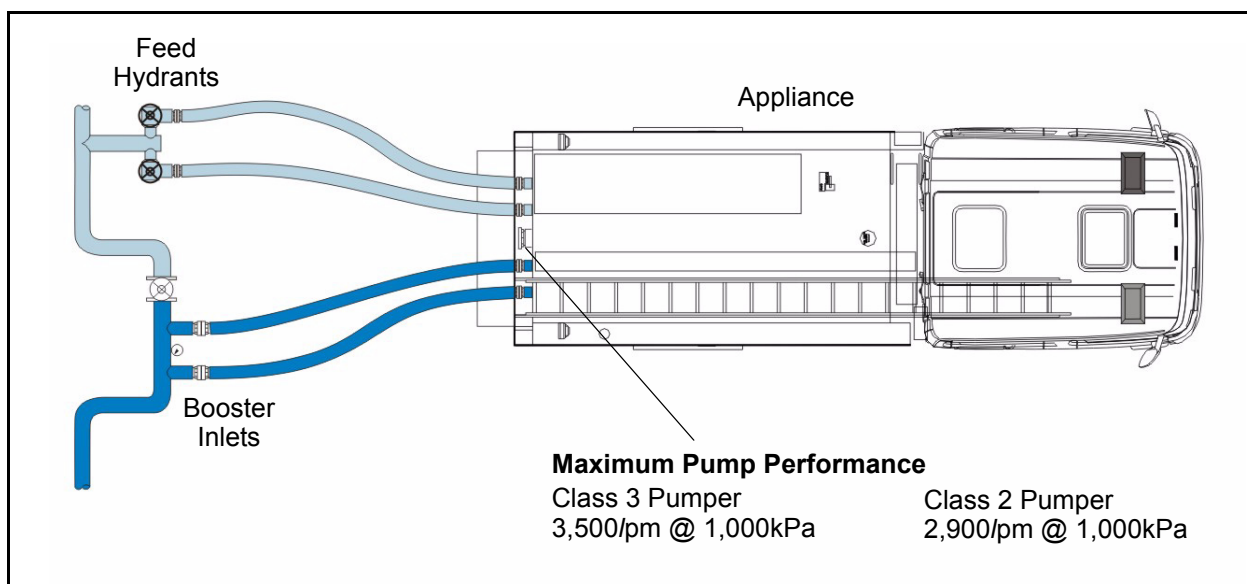


Figure 1 FRNSW pumping performance when boosting a hydrant system

In high rise buildings, the FRNSW appliance will maintain a maximum output pressure of 1,000kPa. Hydraulic engineers should use this hydrant system boost performance when designing the hydrant system of a high rise (refer to Figure 2 below).

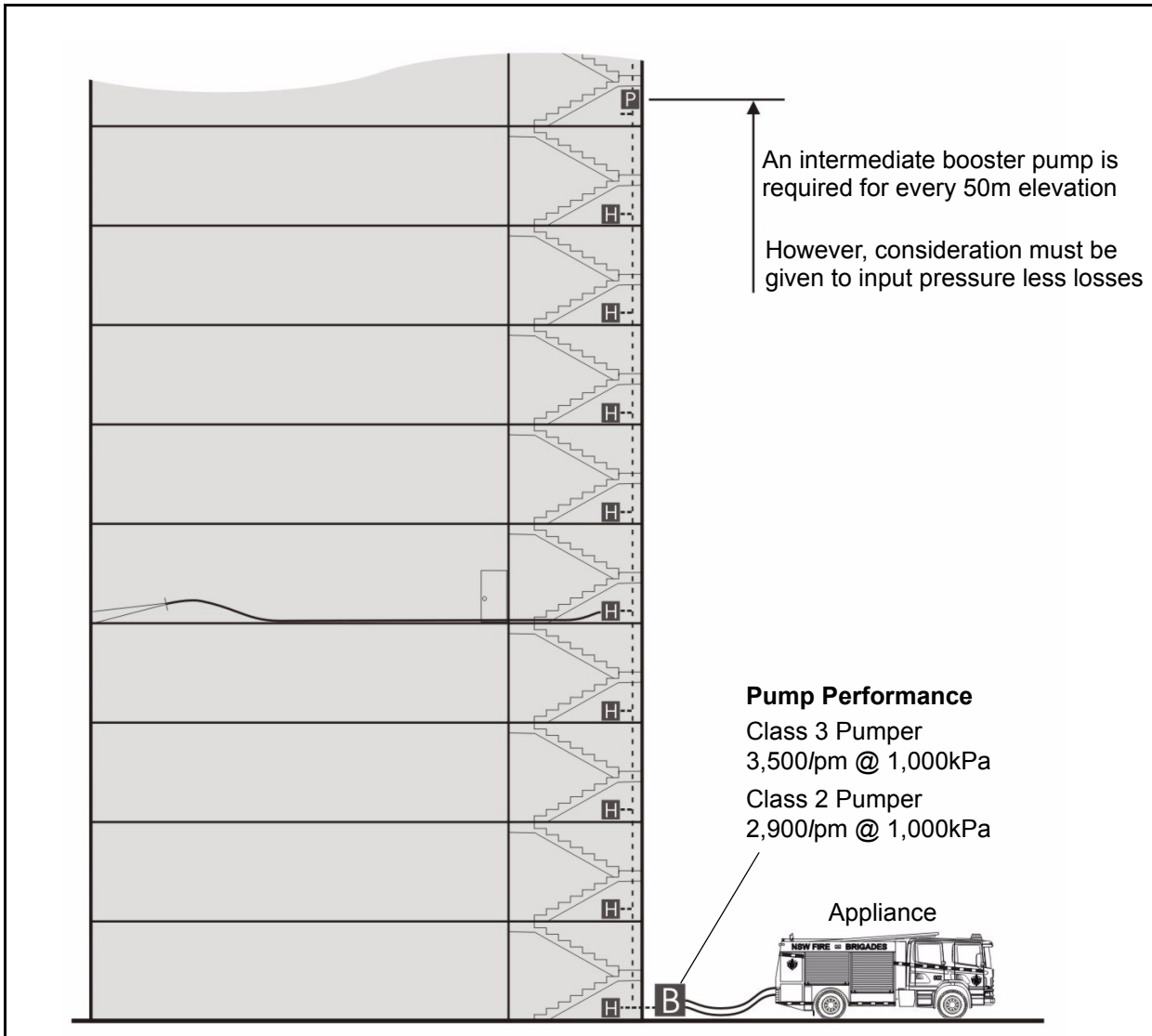


Figure 2 FRNSW pumping performance when boosting a high rise hydrant system