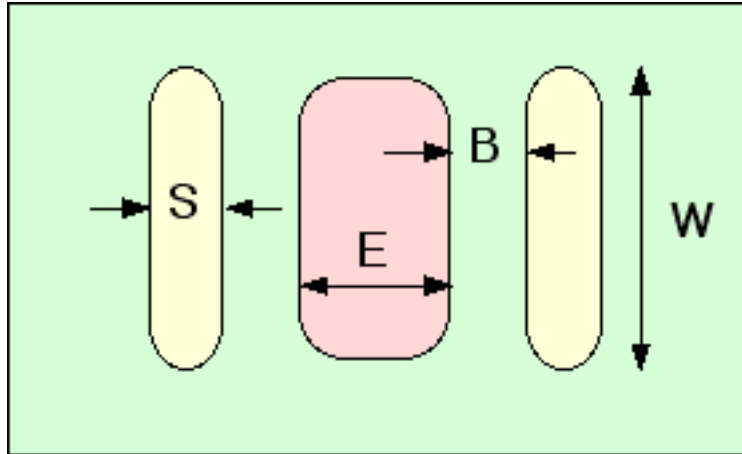


## Estimation of sizes of ports for Slide Valve Cylinders.



The illustration above shows the top of a steam cylinder with the ports from the steam chest. The sizes of these may be calculated from the bore of the cylinder which they feed.

The Diameter of the bore of the cylinder is "D".

The gape of the steam inlet port is "S".

The gape of the exhaust port is "E".

The blanking distance between the ports is "B".

The width of the ports is "W".

[slow loco]  
[fast loco]

$$S=(D / 10)$$

$$E=(D / 4)$$

$$B=(D / 10)$$

$$W=(D * 0.75)$$

$$W=(D * 0.875)$$

**AS A GUIDE:** the total area of the exhaust port should be between 2 to 2.5 times the area of one of the steam ports.

### Worked Example:

The bore of the cylinder is 20mm

The gape of the steam inlet port

The gape of the exhaust port

The blanking distance between the ports

The width of the ports

[slow loco]  
[fast loco]

$$(20/10)$$

$$(20/4)$$

$$(20/10)$$

$$(20/0.75)$$

$$(20/0.875)$$

$$D=20$$

$$S=2$$

$$E=5$$

$$B=2$$

$$W=15$$

$$W=17.5$$