

STRUCTURAL ENGINEERING

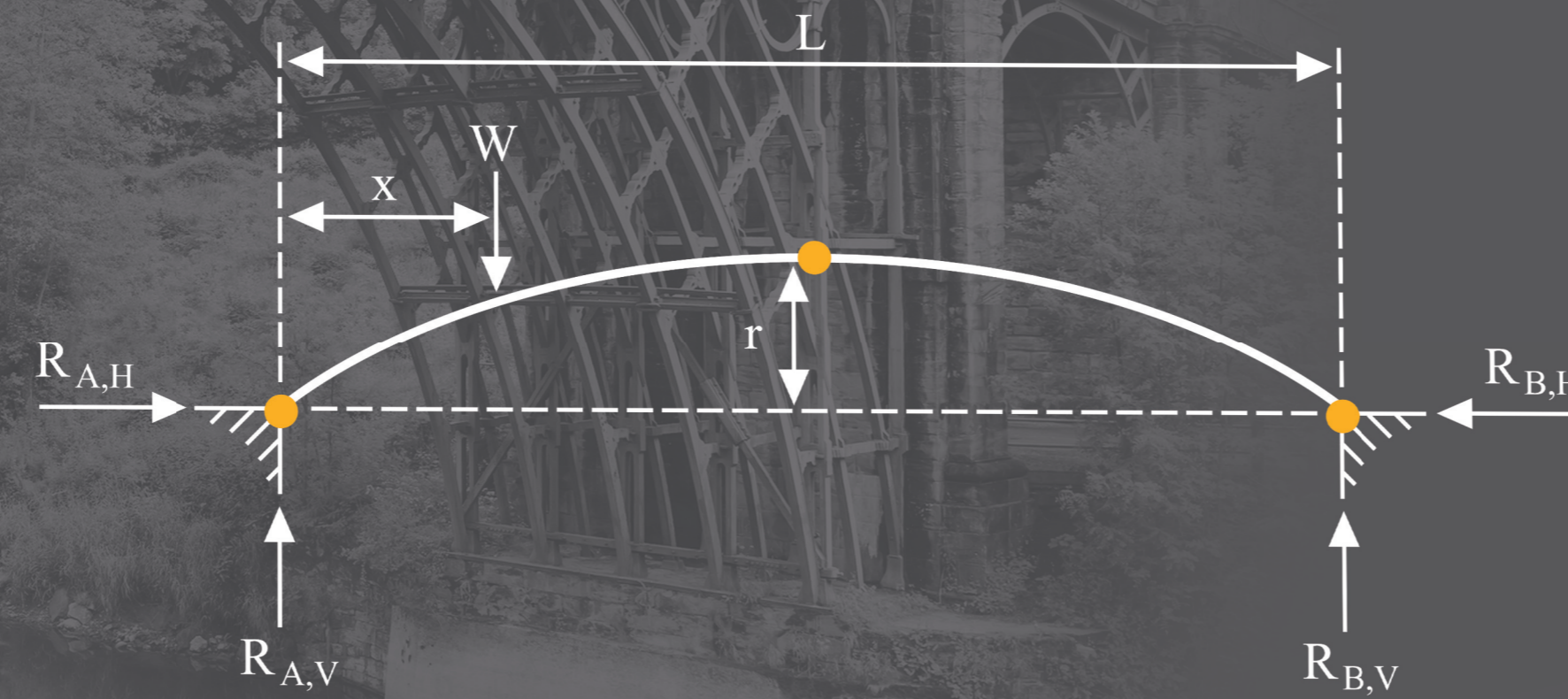


TECEQUIPMENT



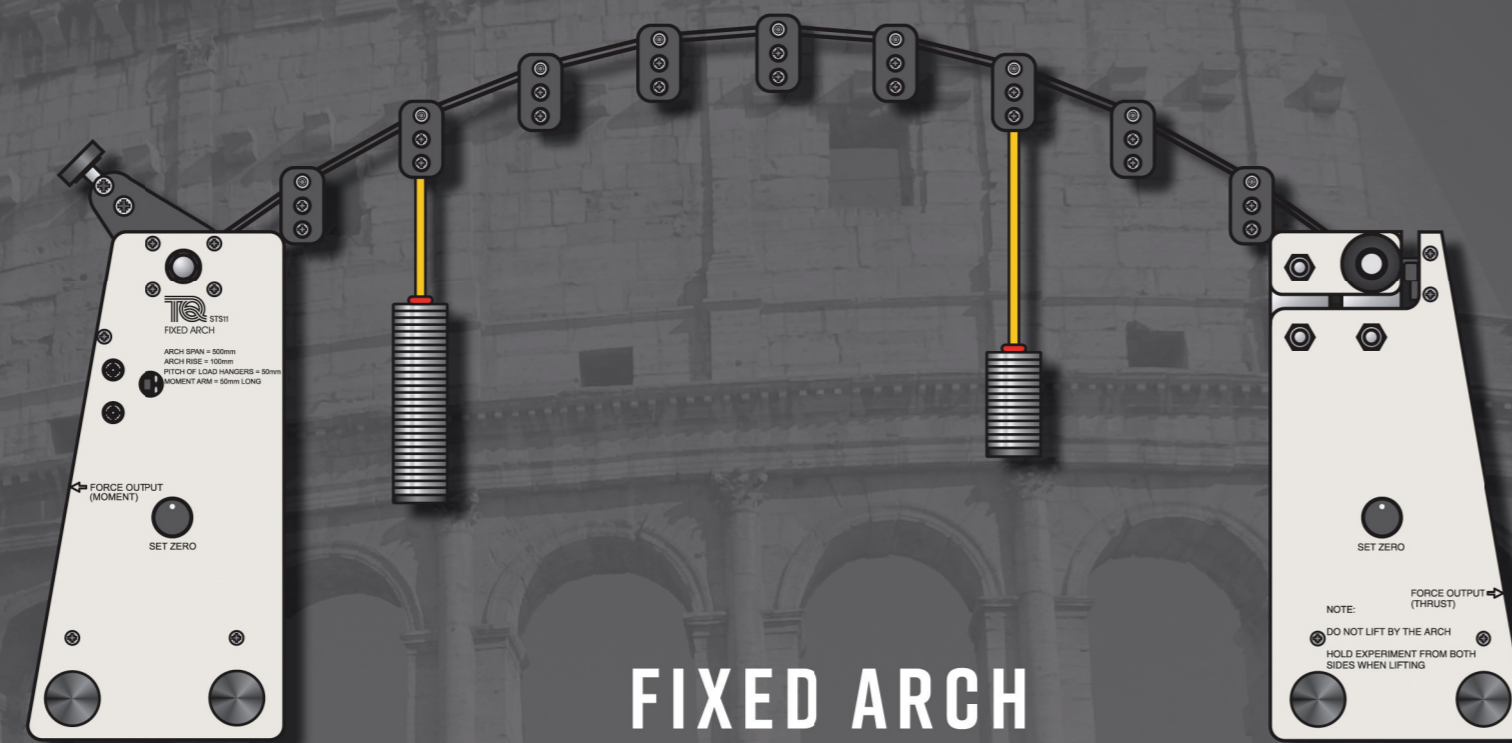
THREE-PINNED ARCH
(STS9)

Statically determinate thrust forces can be found through static equilibrium. Suitable when abutments can move, i.e. in soft ground.



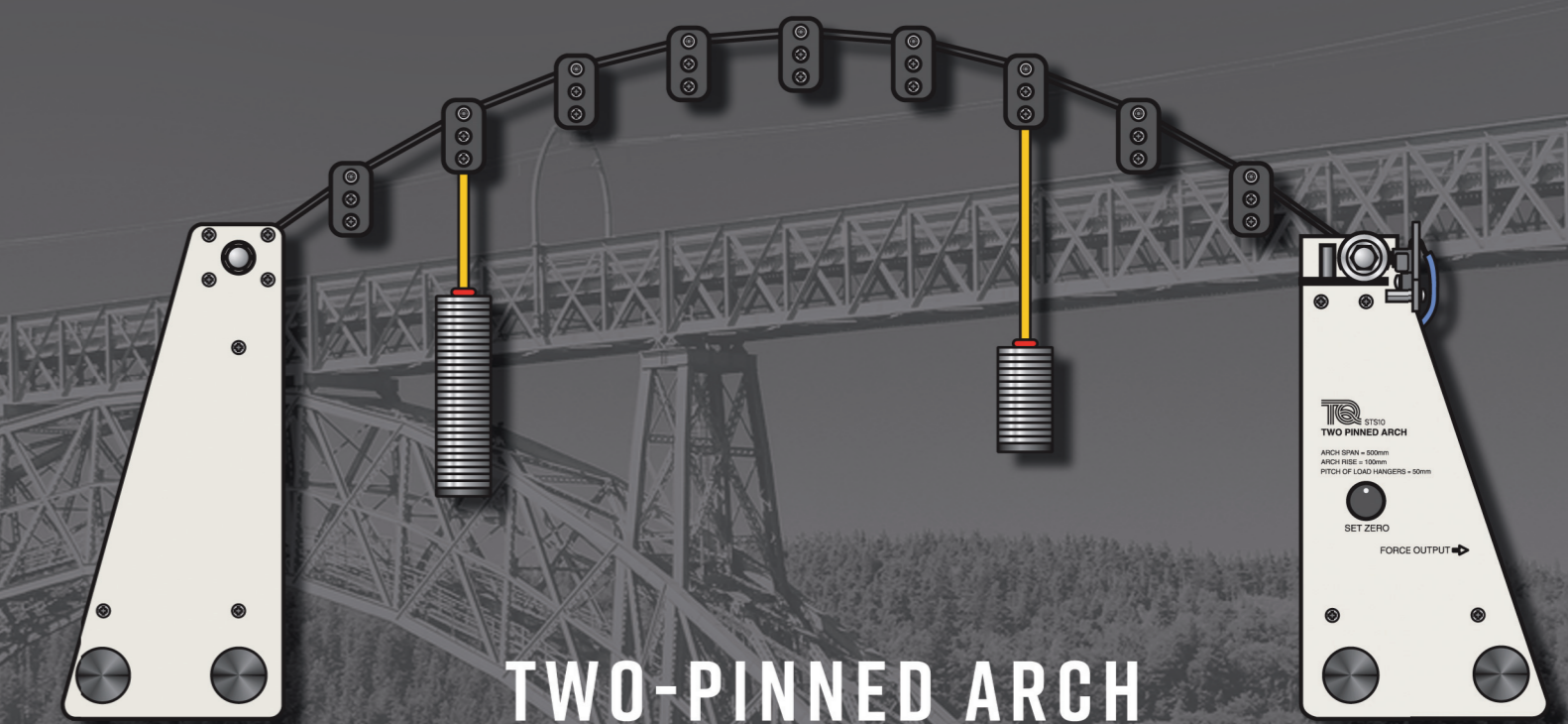
$$\text{Secant assumption: } H_B = \frac{5Wx}{8rL^3} (L^3 + x^3 - 2Lx^2)$$

- where:
- H_B = The horizontal reaction at B (N)
 - W = Load (N)
 - L = Span of the arch (m)
 - x = Distance from left-hand side (m)
 - r = Rise of the arch (m)

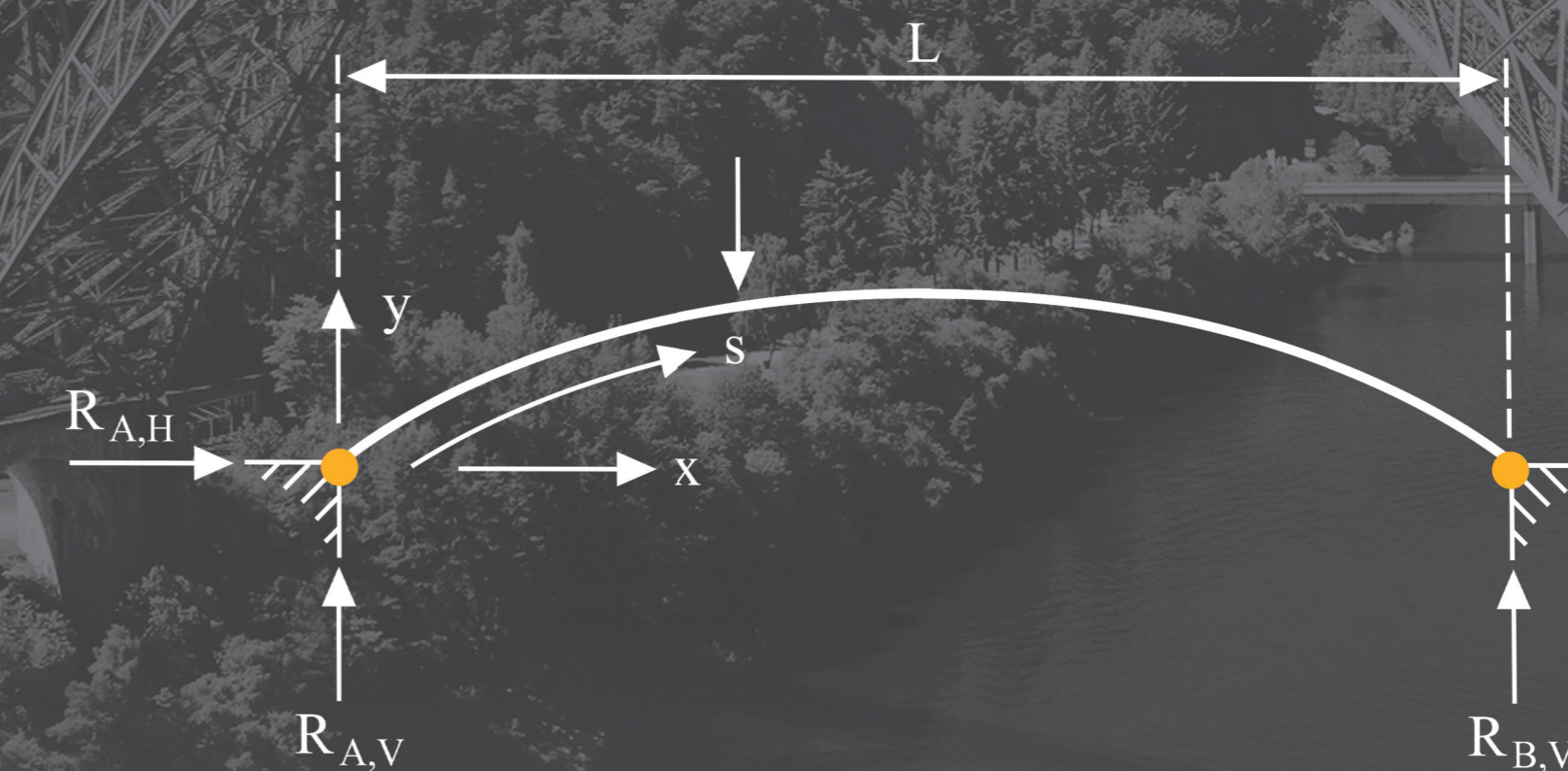


FIXED ARCH
(STS11)

Statically determinate in three degrees. Thrust forces can be found using the secant assumption. Suitable only when abutments cannot move, i.e. in hard ground.



TWO-PINNED ARCH
(STS10)



Statically determinate in one degree. Thrust forces can be found using the secant assumption. Suitable only when abutments cannot move, i.e. in hard ground.

