

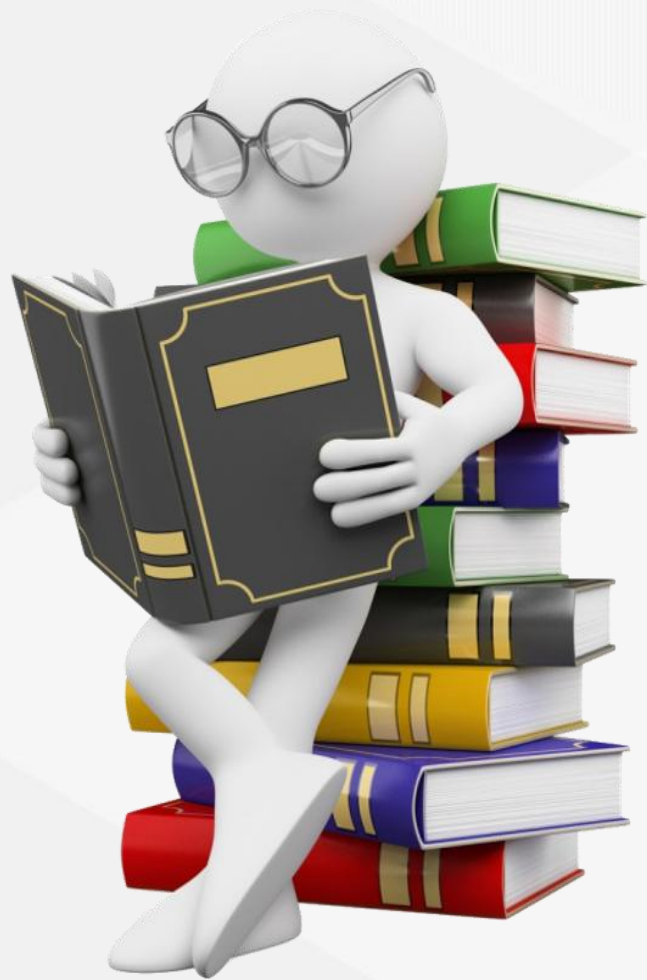
# 反击型水轮机的泄水部件

主讲老师

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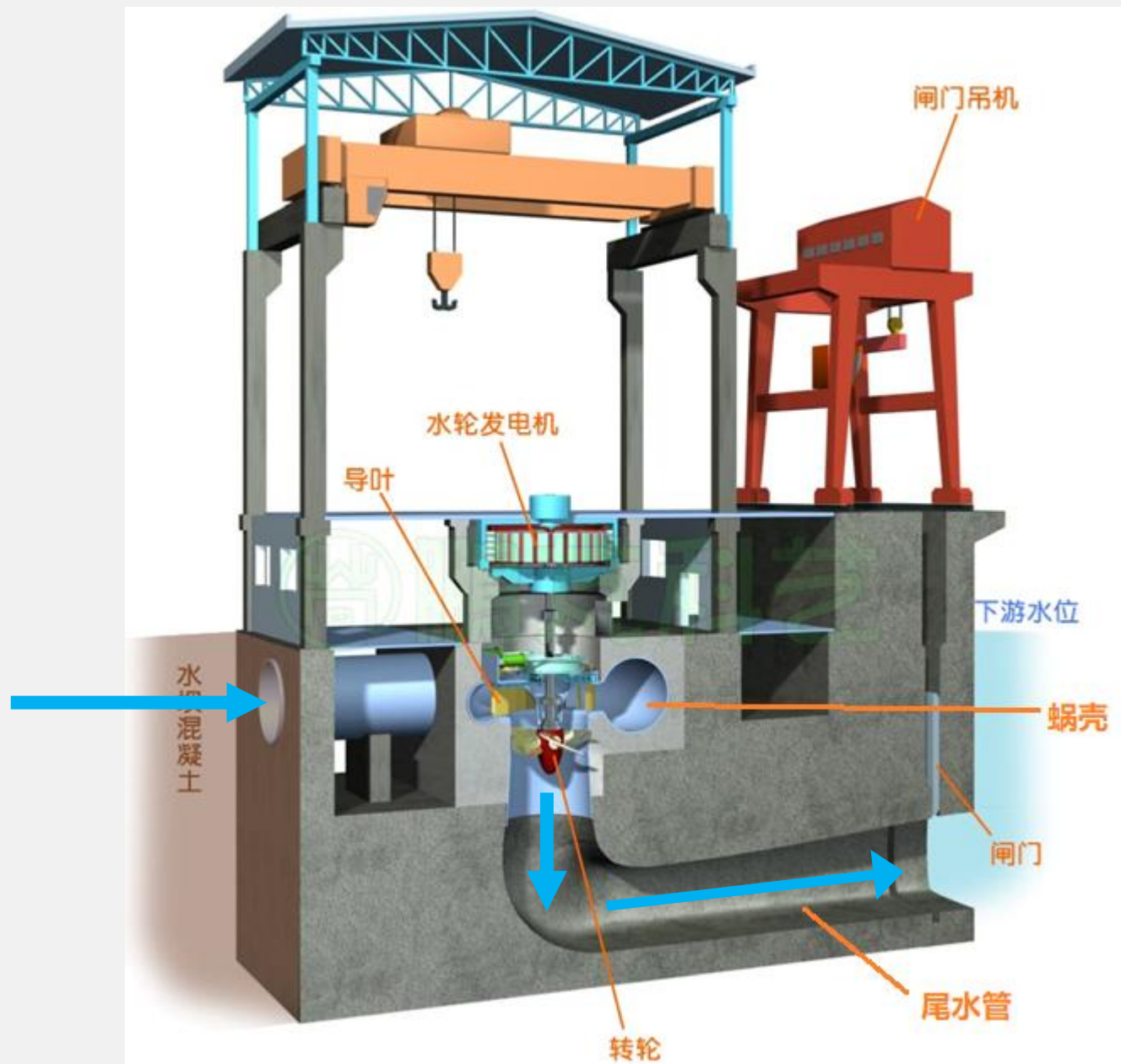
**尾水管的作用**

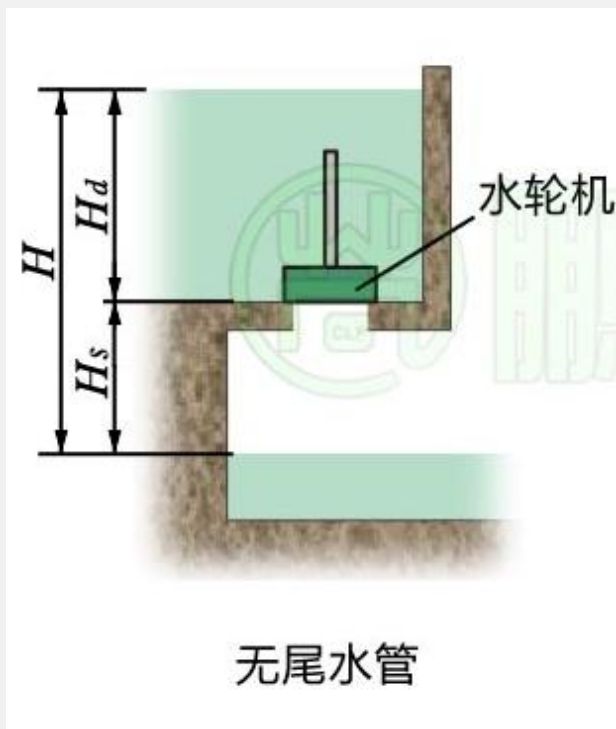


**尾水管的类型**

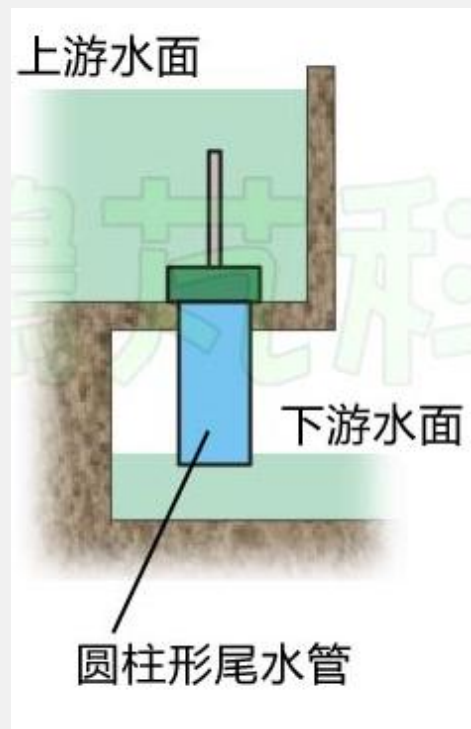


# 尾水管的作用

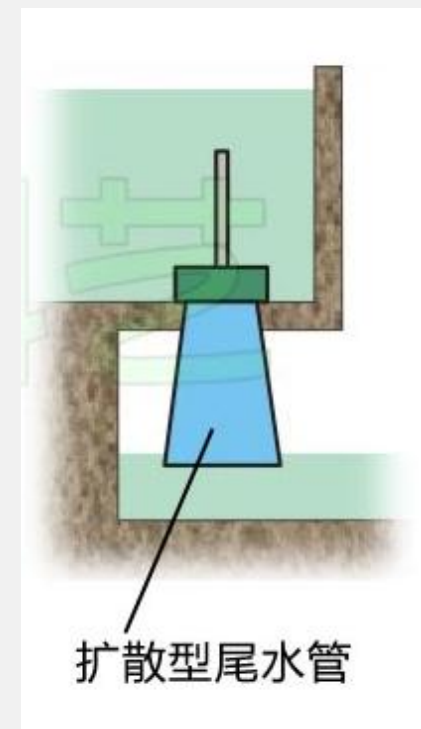




$$\Delta E' = H_d - \frac{v_2^2}{2g}$$



$$\Delta E'' = (H_d + H_s) - \left( \frac{v_2^2}{2g} + h_w \right)$$



$$\Delta E''' = (H_d + H_s) - \left( \frac{v_5^2}{2g} + h_w \right)$$

## 作用一

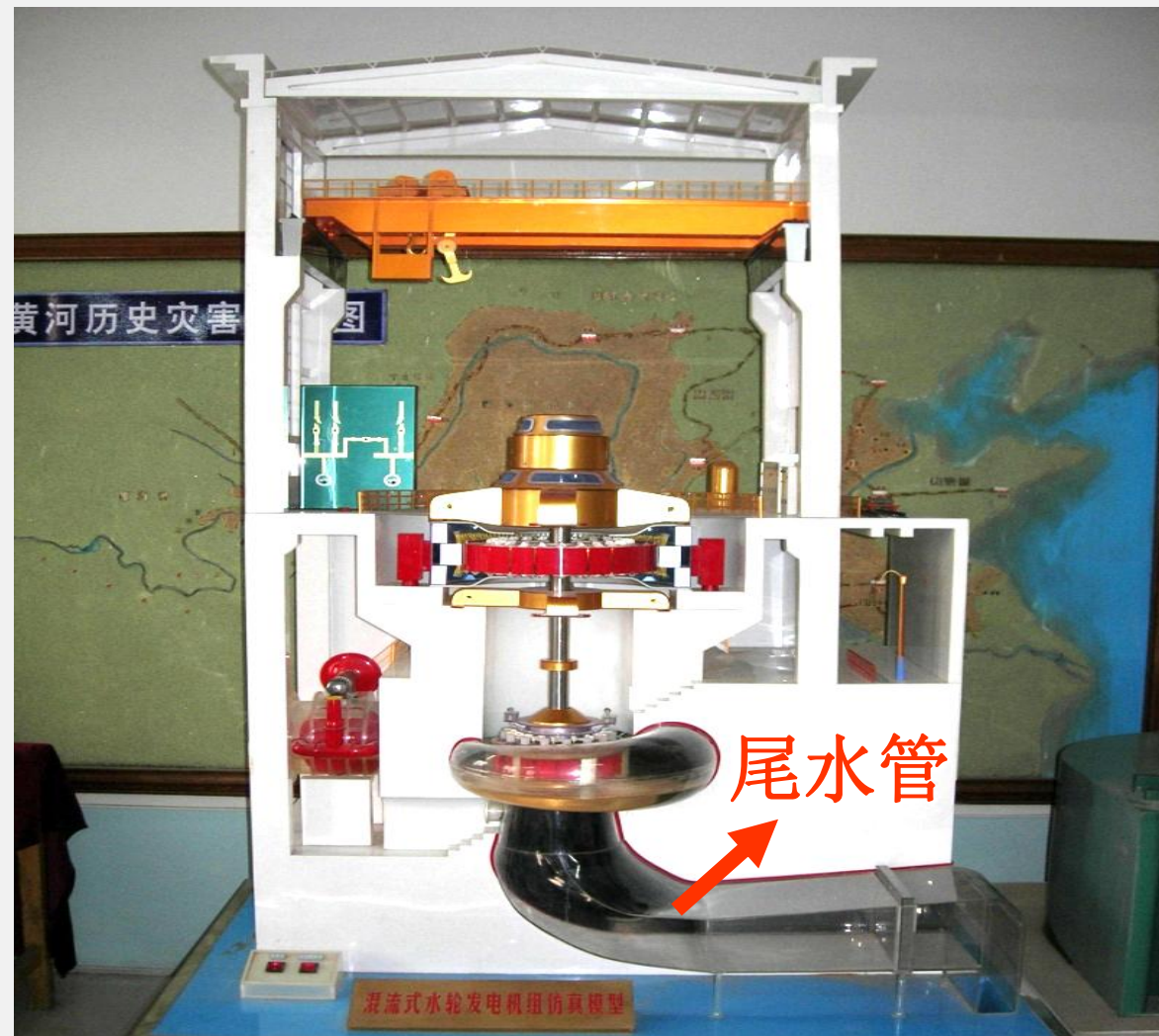
将通过水轮机的水流泄向下游；

## 作用二

转轮装置在下游水位之上时，能利用转轮出口与下游水位之间的势能；

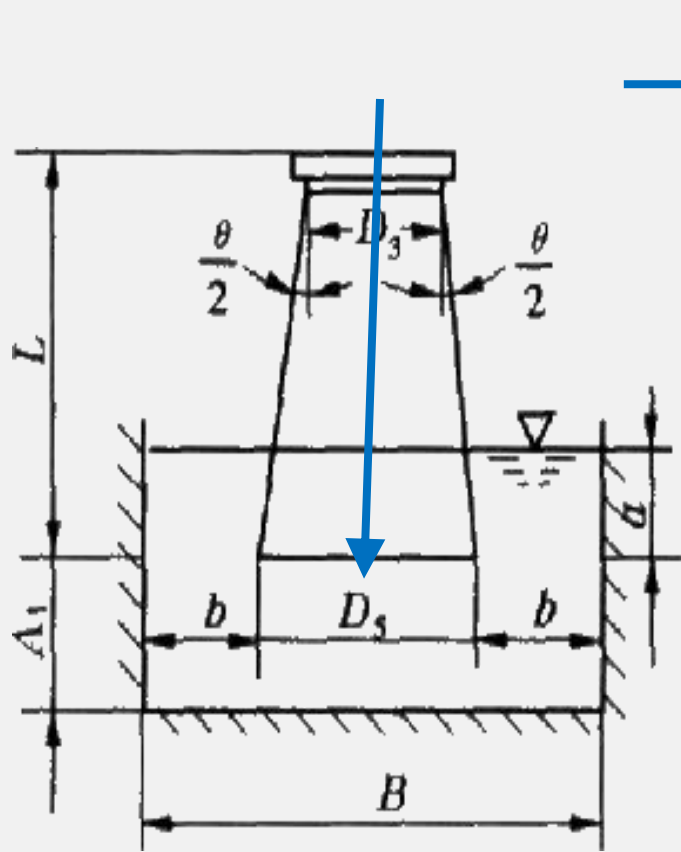
## 作用三

回收利用转轮出口的大部分动能。

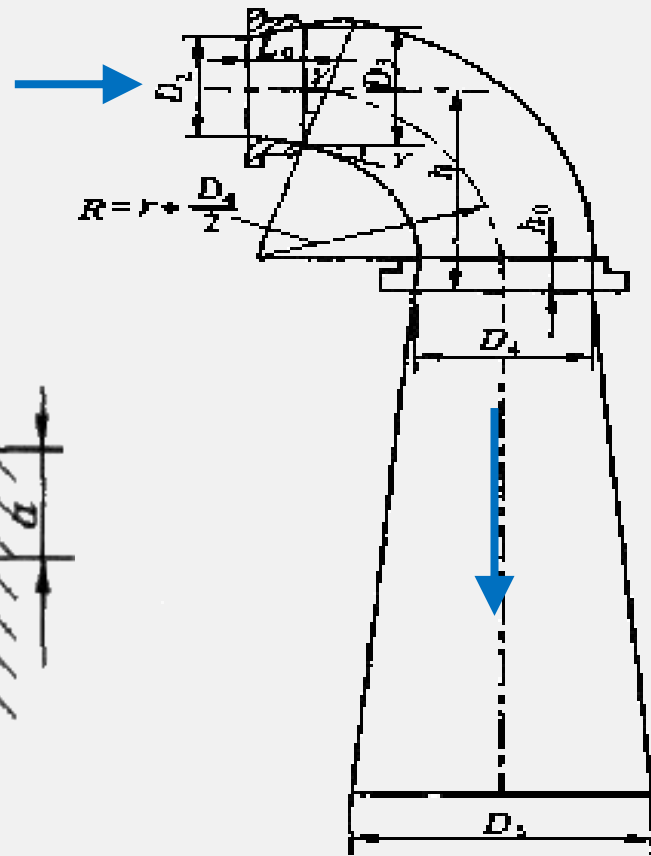




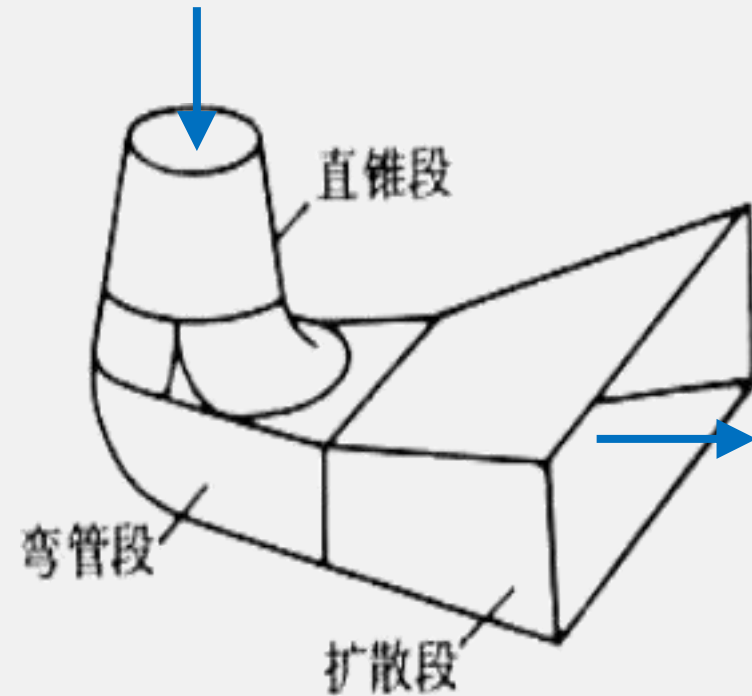
# 尾水管的类型



直锥形



弯管直锥形



弯曲型

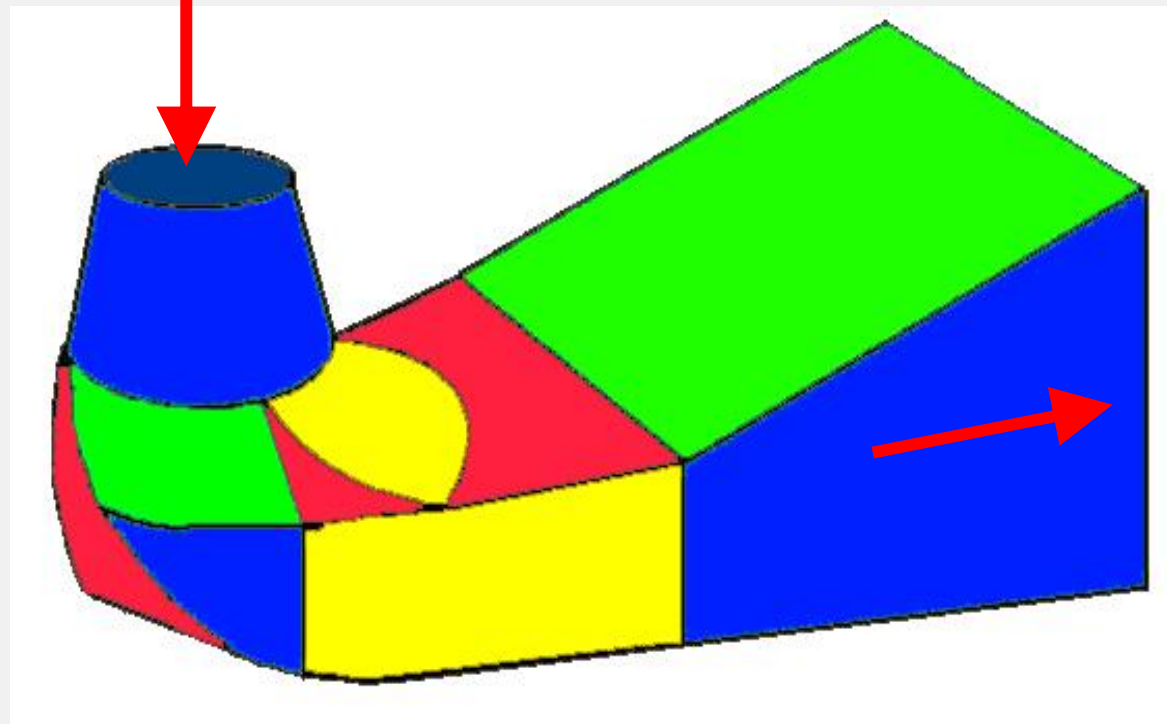


## 弯曲形

▶ 直锥段

▶ 弯管段

▶ 水平扩散段



## 弯曲形



直锥段



弯管段



水平扩散段

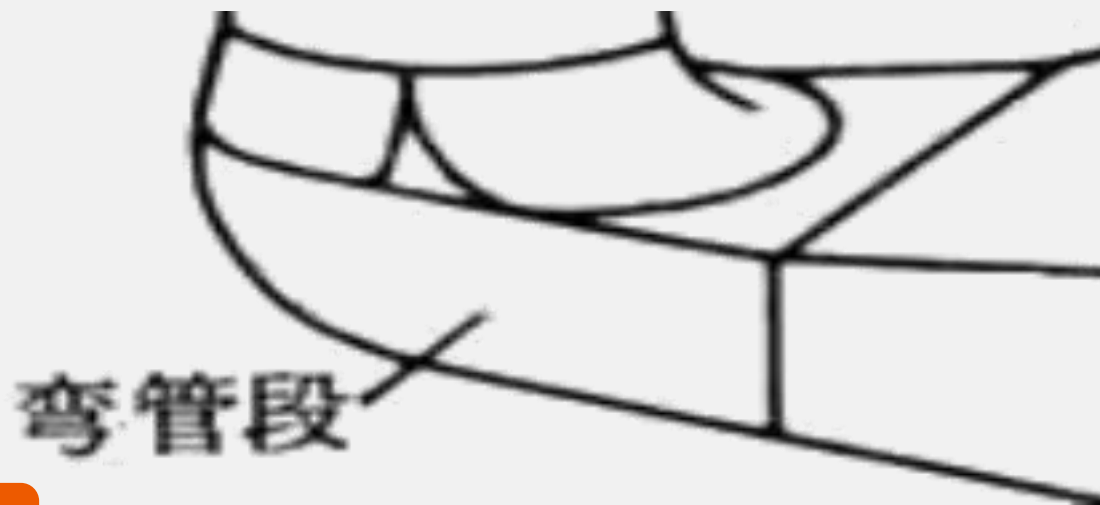


## 弯曲形

▶ 直锥管

▶ 弯管段

▶ 水平扩散段

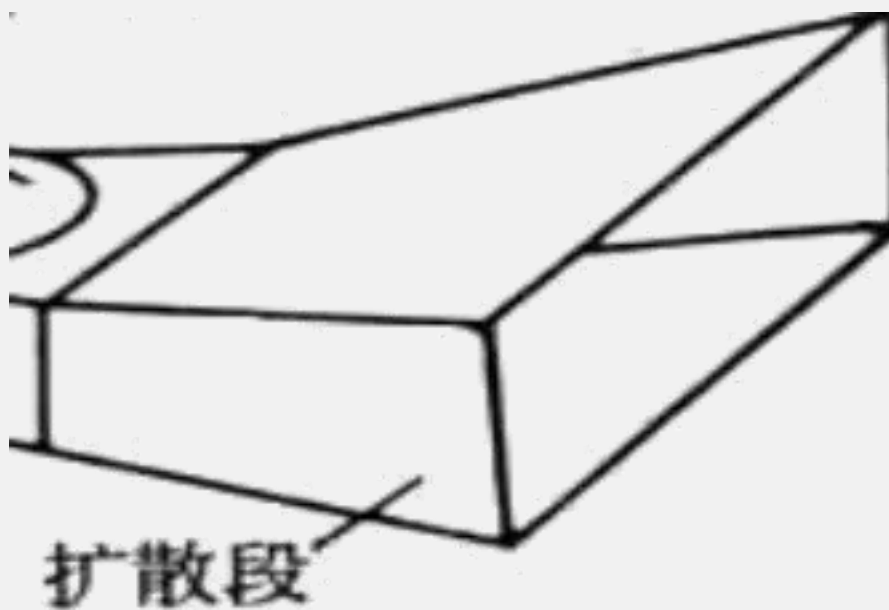


## 弯曲形

▶ 直锥管

▶ 弯管段

▶ 水平扩散段

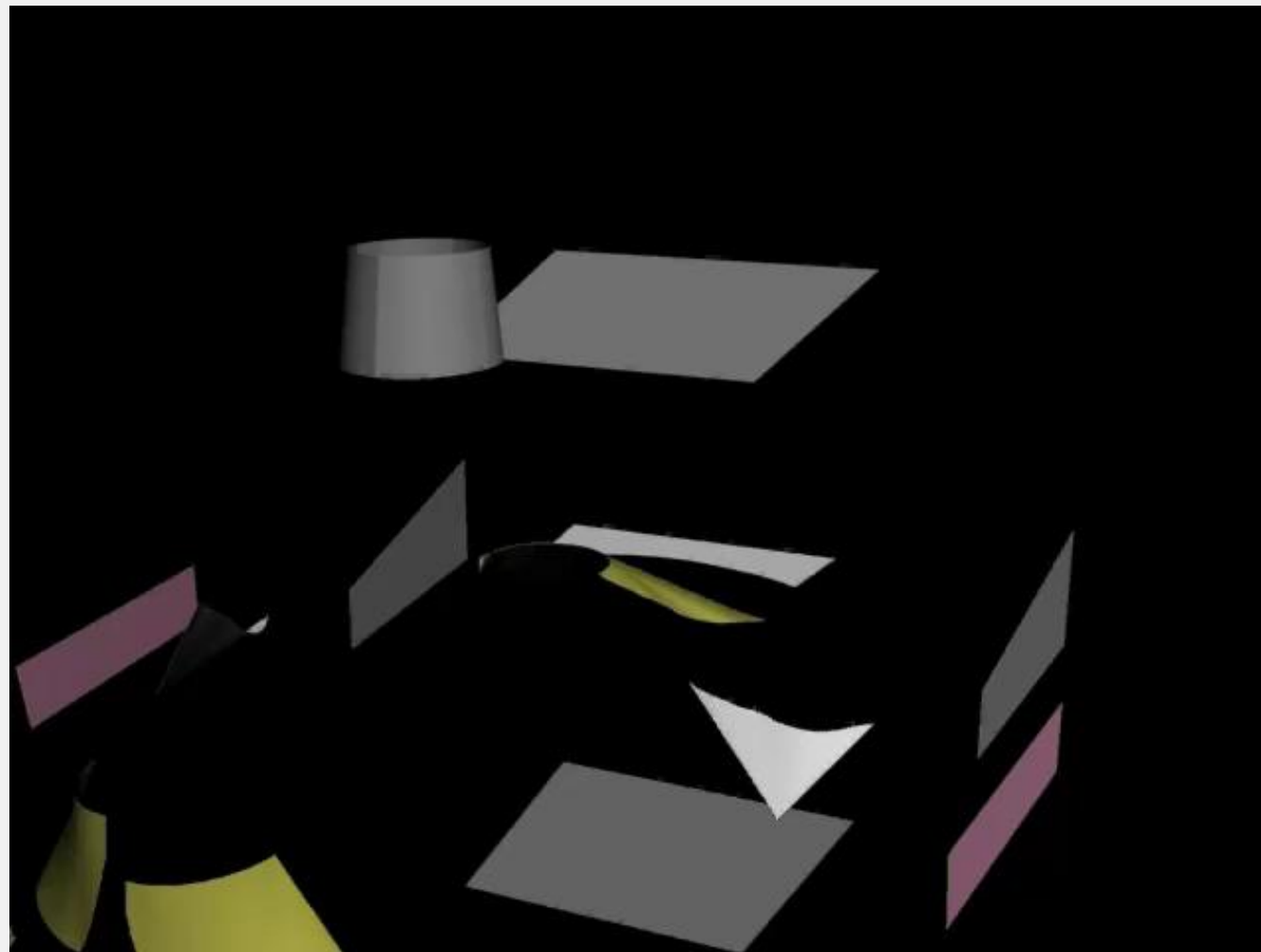


## 弯曲形

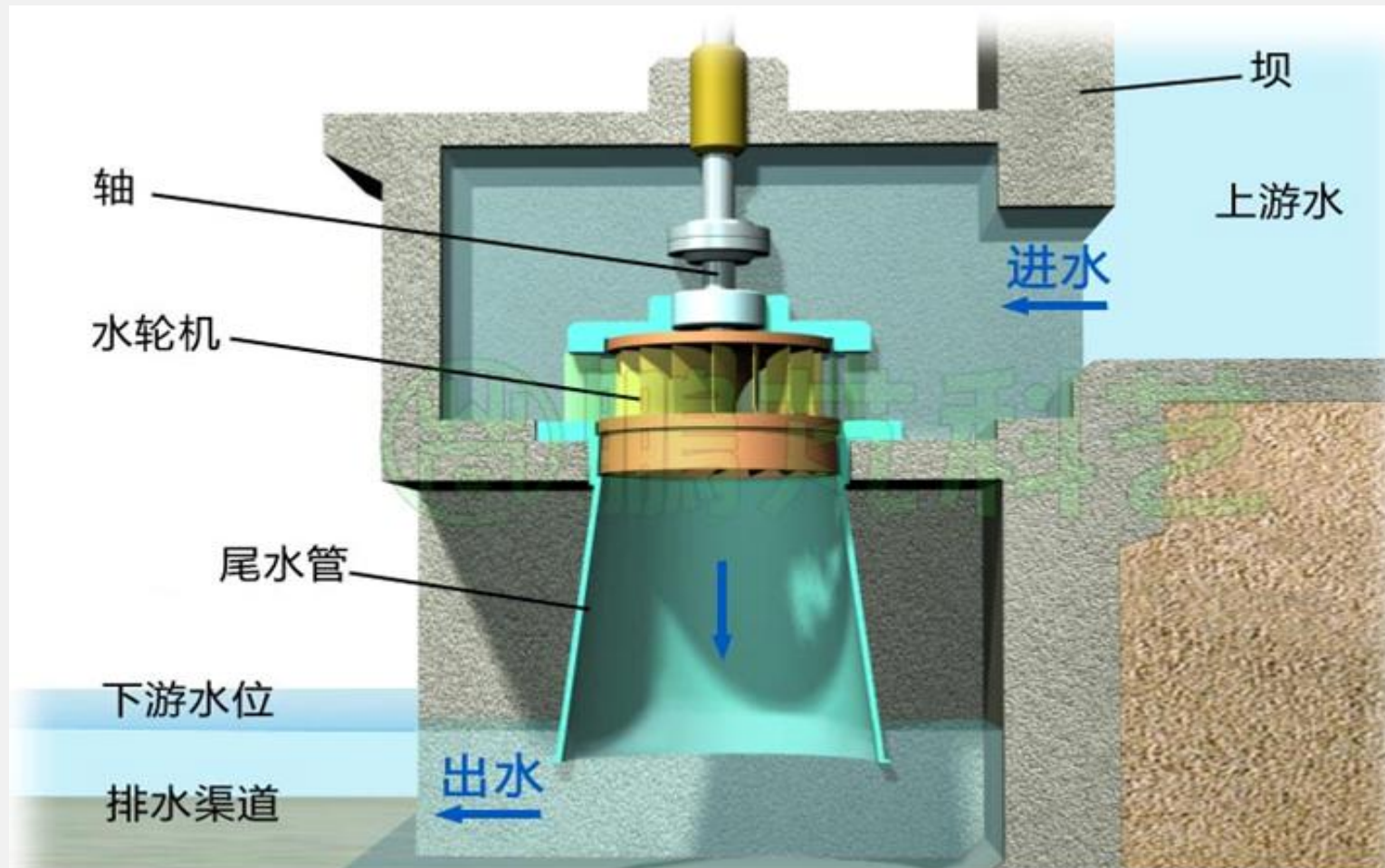
▶ 直锥管

▶ 弯管段

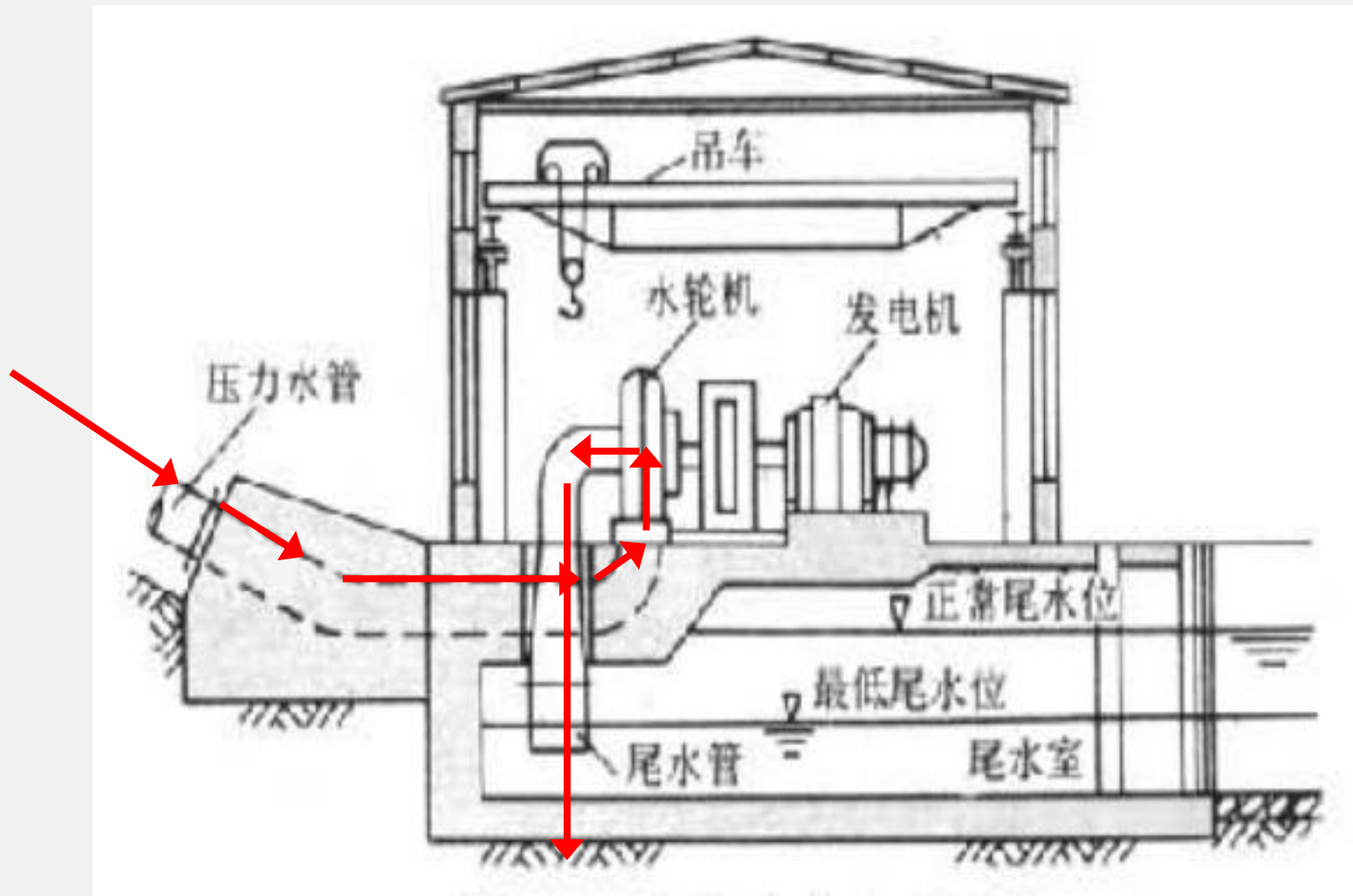
▶ 水平扩散段



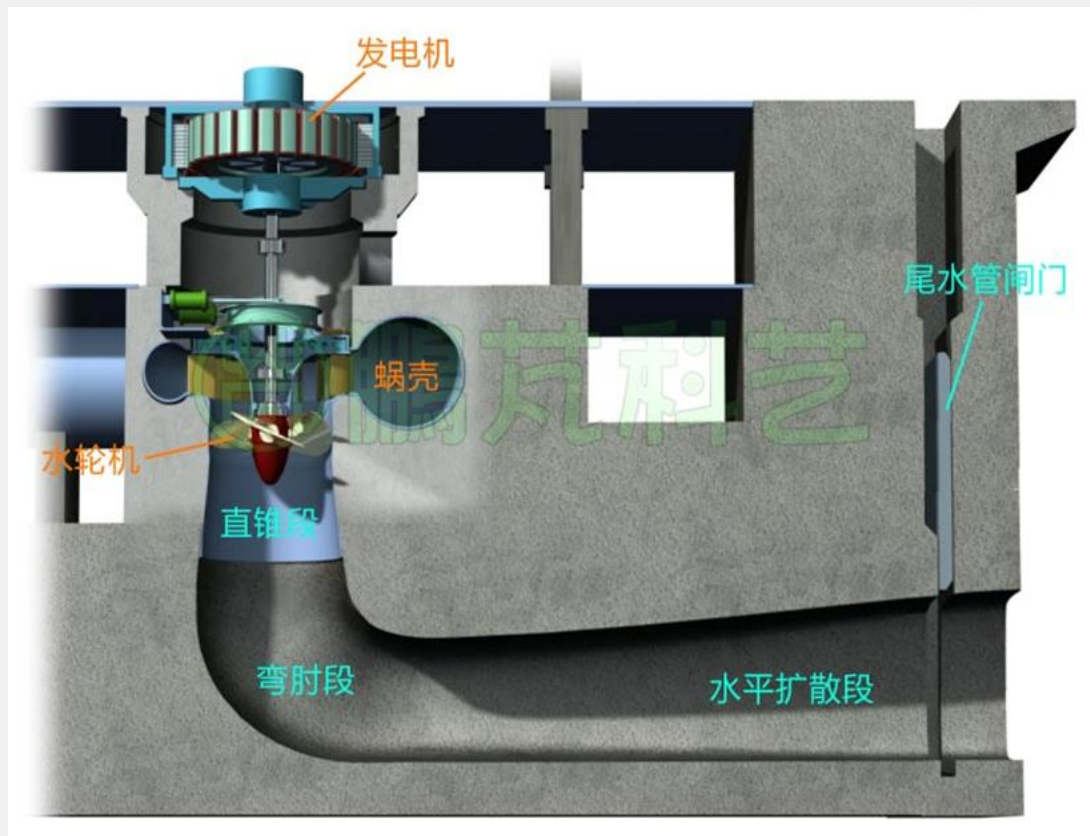
### 直锥形



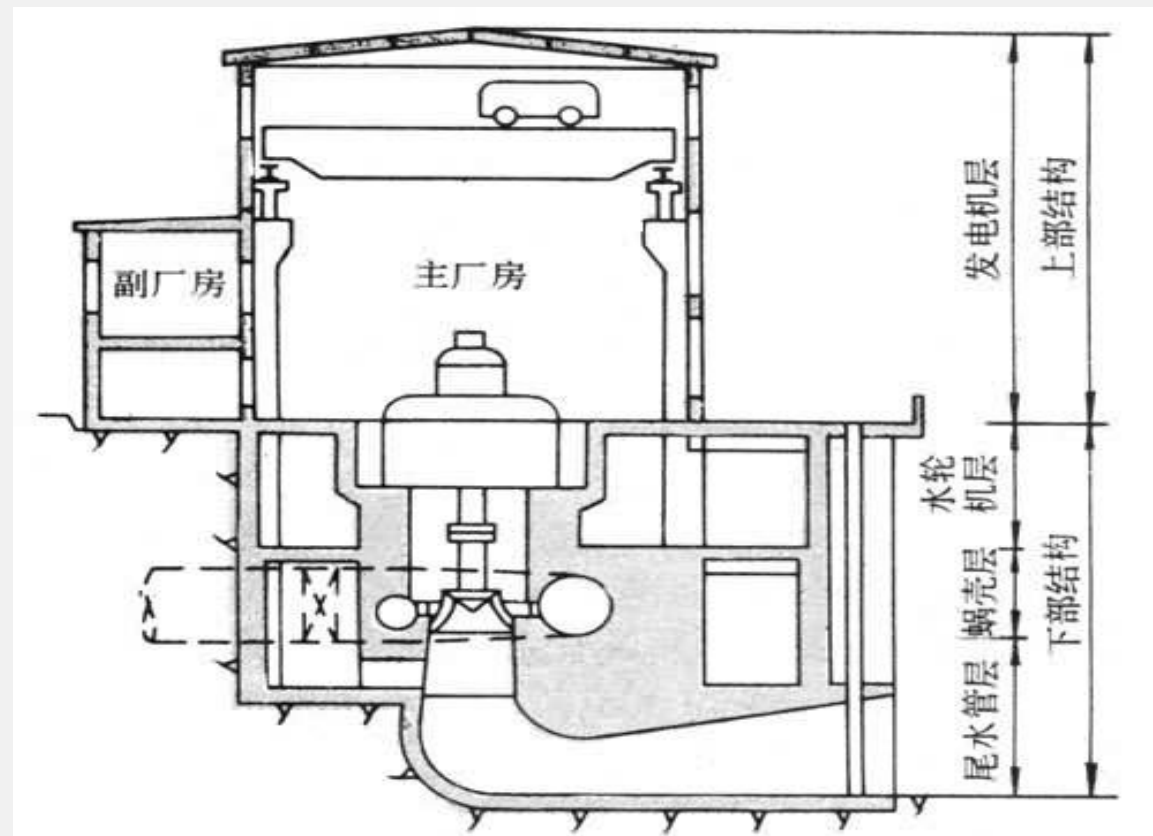
弯管直锥形



弯曲形

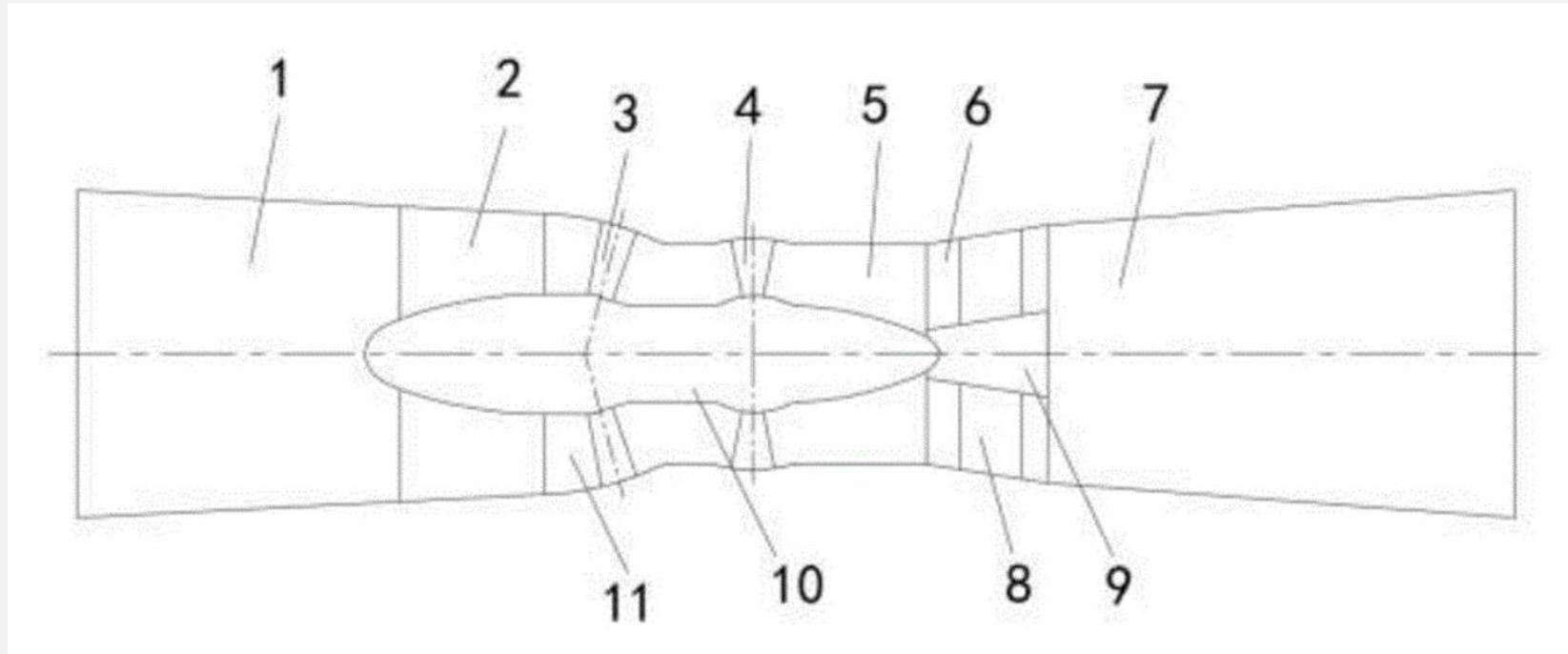


弯曲形





## 创新精神



双向贯流式水轮机研发的新型尾水管，解决了现有技术中存在的正向工况下尾水管产生压力脉动引起机组振动、反向工况下叶轮叶片受损严重与进水无环量的问题。

# 祝您学习愉快

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