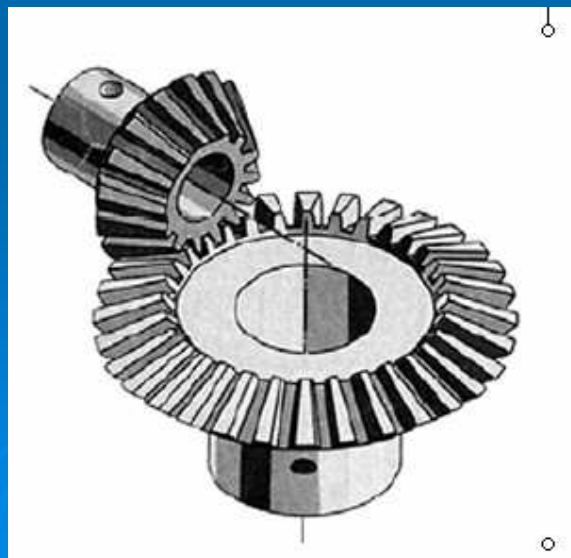
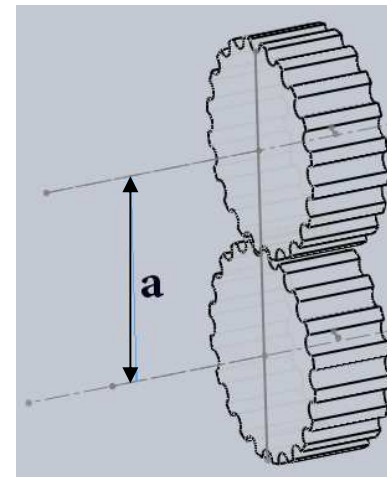
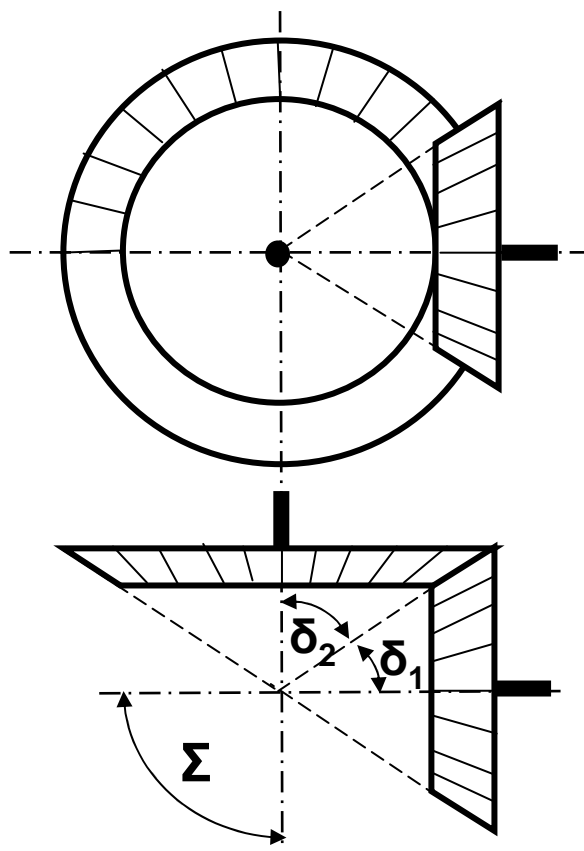


Въпрос № 18

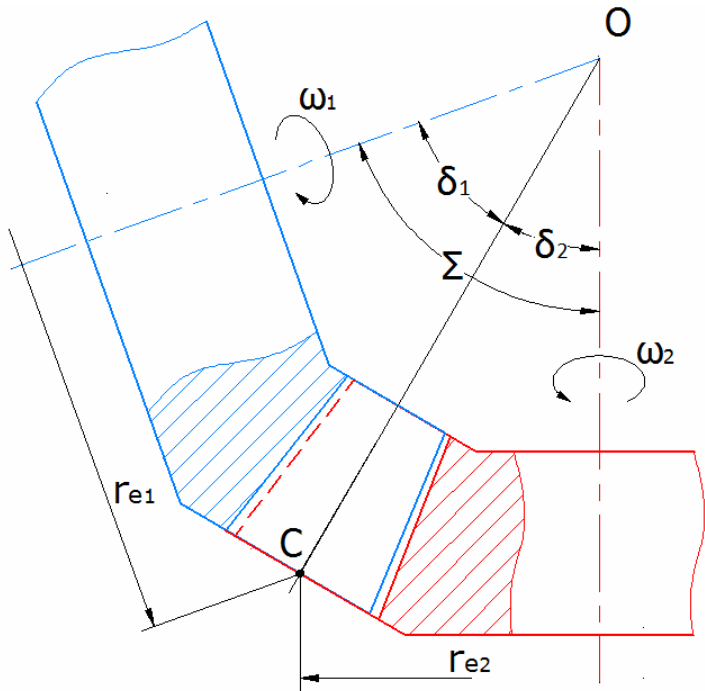
**КОНУСНИ ПРЕДАВКИ С ПРАВИ ЗЪБИ -
ПРЕДАВАТЕЛНО ОТНОШЕНИЕ , ГЕОМЕТРИЧНИ
ЗАВИСИМОСТИ. СИЛИ В ЗАЦЕПВАНЕТО.
ЯКОСТНО ИЗЧИСЛЯВАНЕ.**



Конусни зъбни предавки с прави зъби



Предавателно отношение



$$\delta_1 + \delta_2 = \Sigma$$

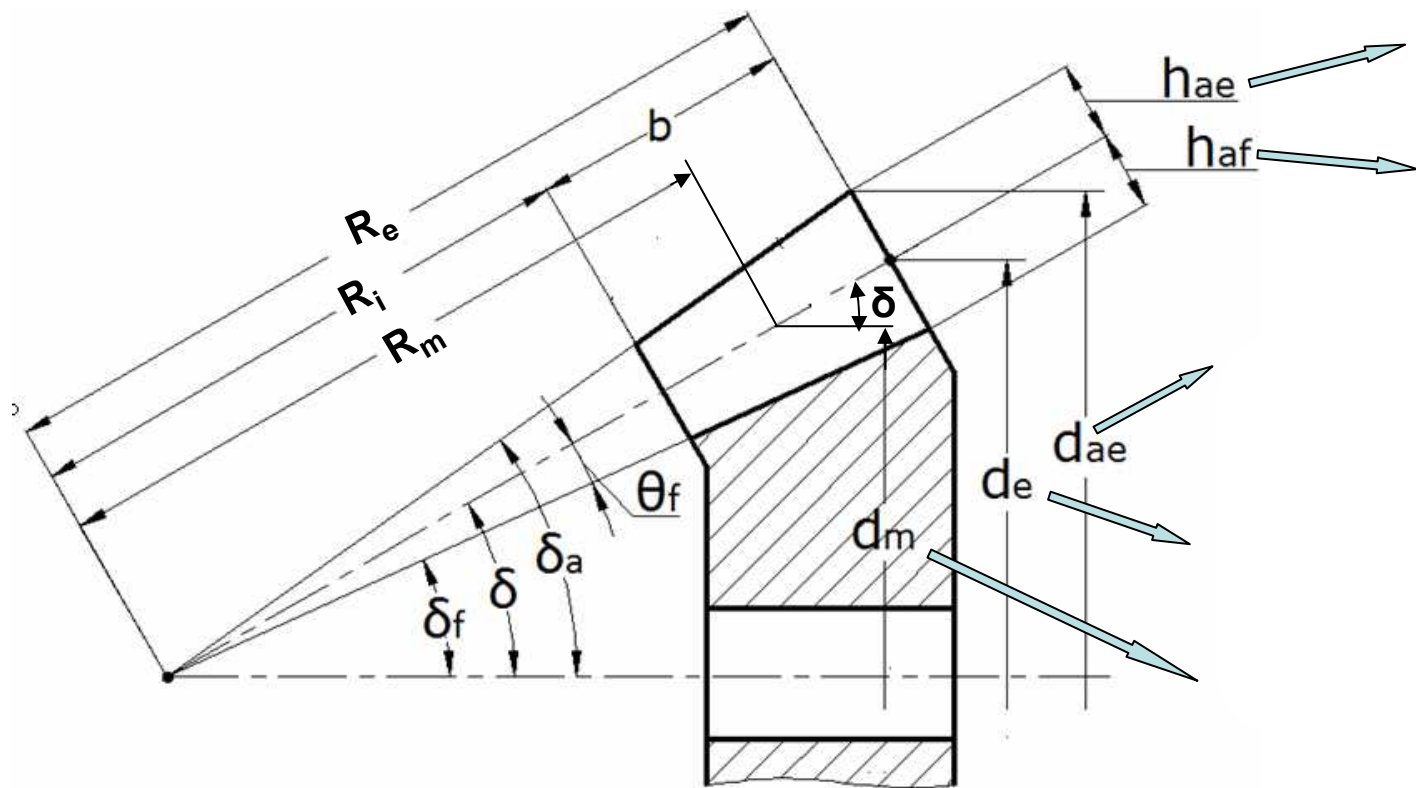
$$\begin{cases} \sin \delta_2 = \sin(\Sigma - \delta_1) = u \sin \delta_1 \\ \sin(\Sigma - \delta_1) = \sin \Sigma \cos \delta_1 - \cos \Sigma \sin \delta_1 = u \sin \delta_1 : \cos \delta_1 \\ \sin \Sigma - \cos \Sigma \operatorname{tg} \delta_1 = u \operatorname{tg} \delta_1 \Rightarrow \operatorname{tg} \delta_1 = \frac{\sin \Sigma}{u + \cos \Sigma} \end{cases}$$

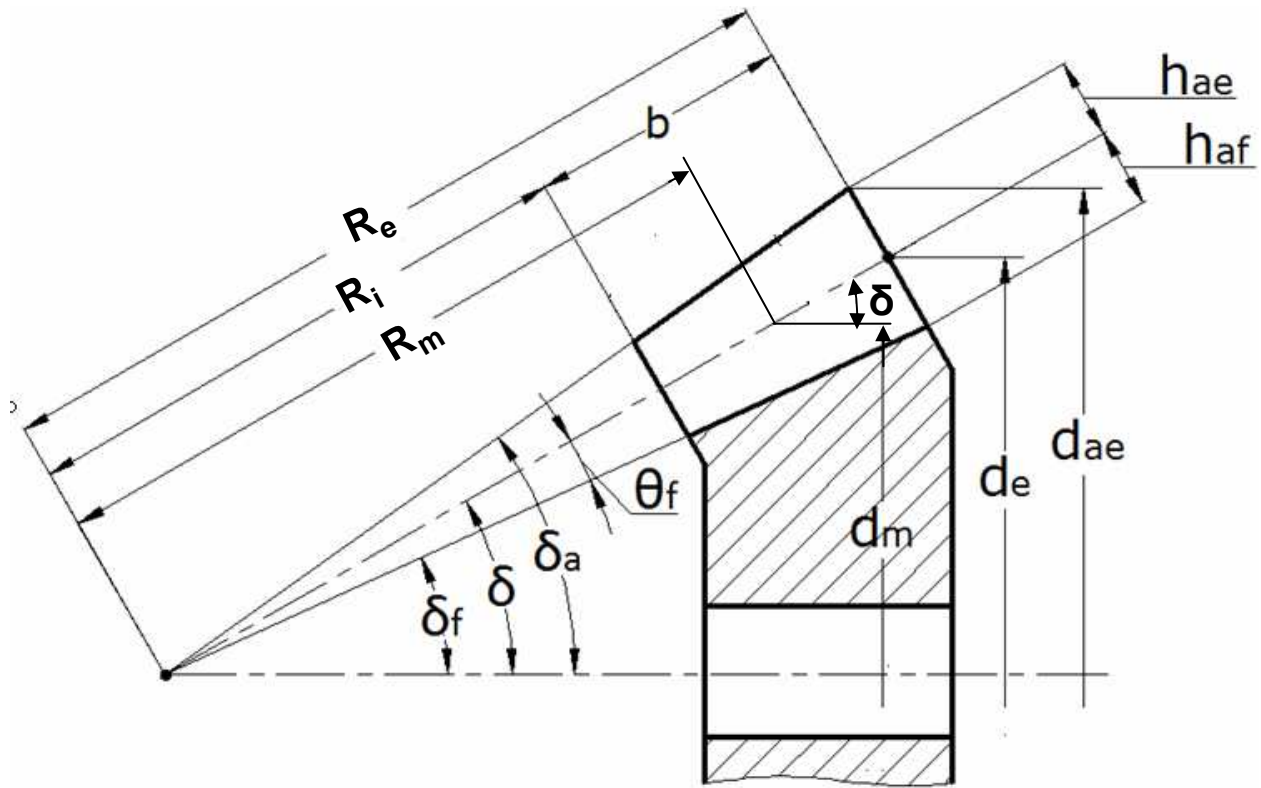
$$\delta_1 = \arctan \left(\frac{\sin \Sigma}{u + \cos \Sigma} \right)$$

$$\begin{cases} \sin \delta_1 = \sin(\Sigma - \delta_2) = \frac{1}{u} \sin \delta_2 \\ \sin(\Sigma - \delta_2) = \sin \Sigma \cos \delta_2 - \cos \Sigma \sin \delta_2 = \frac{1}{u} \sin \delta_2 : \cos \delta_2 \\ \sin \Sigma - \cos \Sigma \operatorname{tg} \delta_2 = \frac{1}{u} \operatorname{tg} \delta_2 \Rightarrow \operatorname{tg} \delta_2 = \frac{\sin \Sigma}{\frac{1}{u} + \cos \Sigma} = \frac{u \sin \Sigma}{1 + u \cos \Sigma} \end{cases}$$

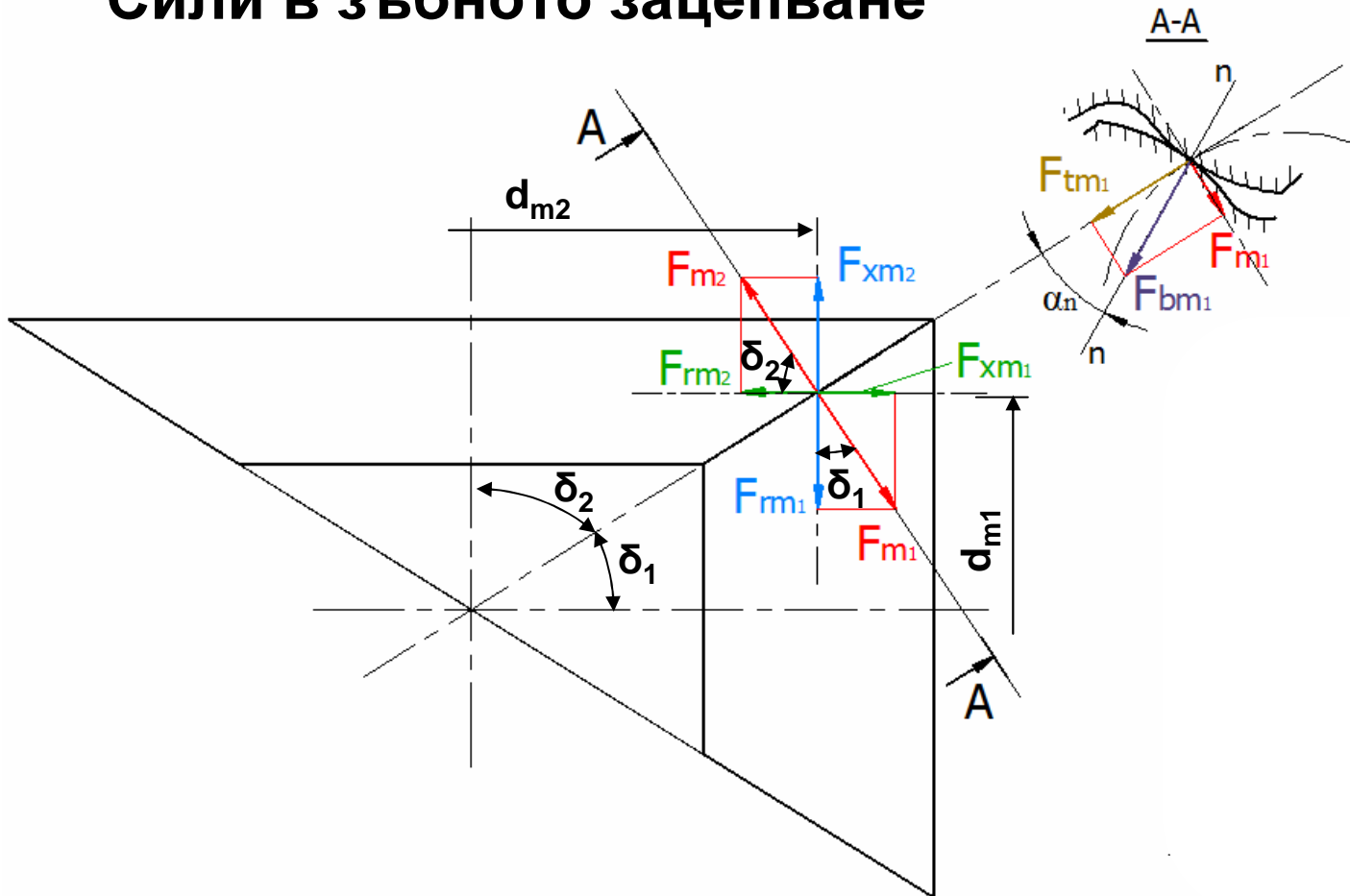
$$\delta_2 = \arctan \left(\frac{u \sin \Sigma}{1 + u \cos \Sigma} \right)$$

Геометричні залежності





Сили в зъбното зацепване



Пресмятане на товароносимост

1. Проверочно изчисление

На огъване

На контактна якост

2. Проектно изчисление

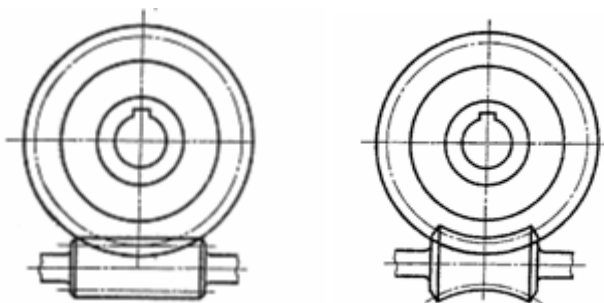
Въпрос №19

**ЧЕРВЯЧНИ ПРЕДАВКИ – ВИДОВЕ ,
КИНЕМАТИЧНИ И ГЕОМЕТРИЧНИ ЗАВИСИМОСТИ.
СИЛИ В ЗАЦЕПВАНЕТО И КПД.
ТОВАРОНОСИМОСТ.**

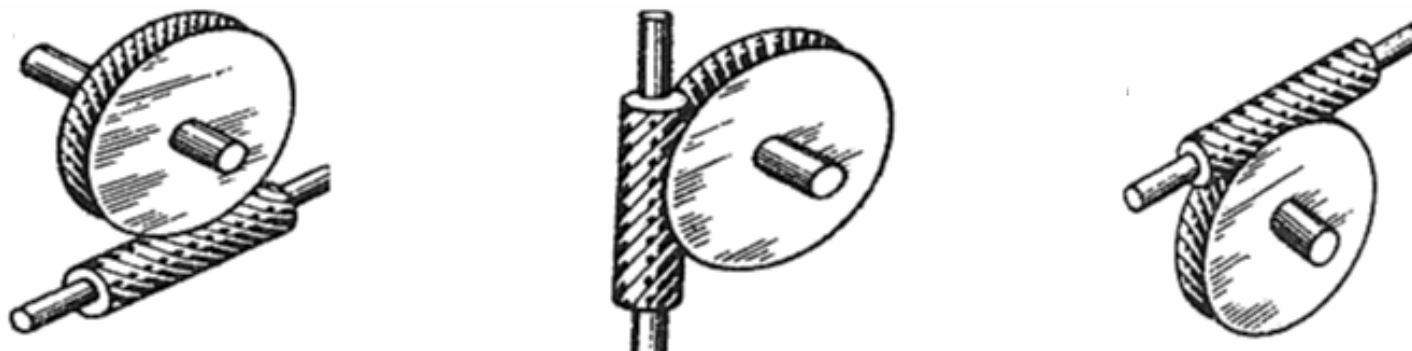


Видове червячни предавки (ЧП)

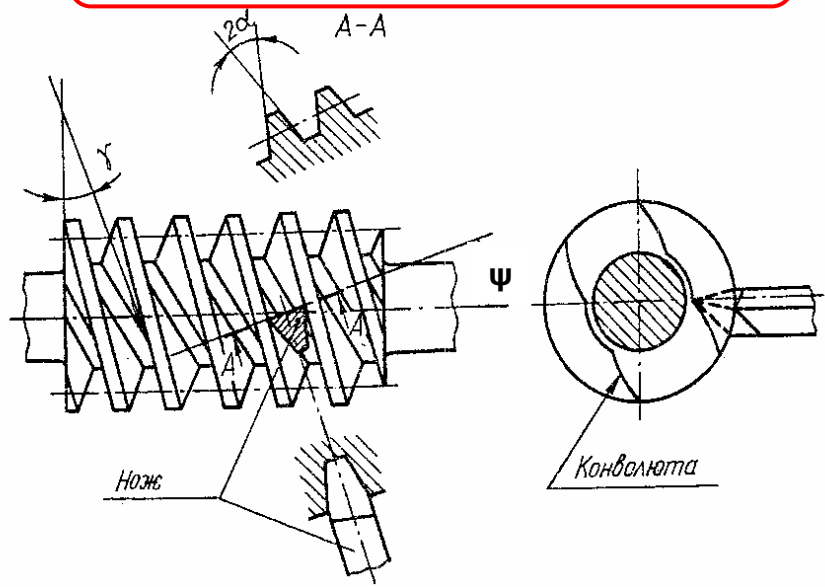
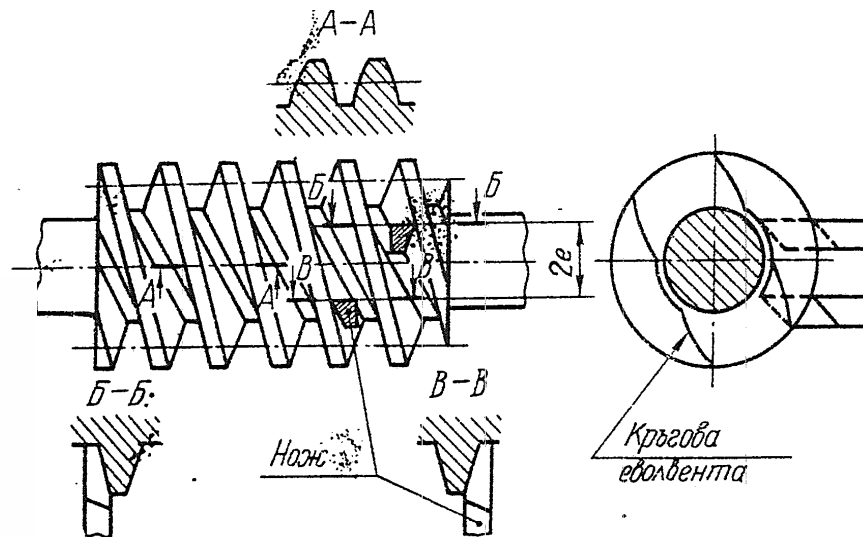
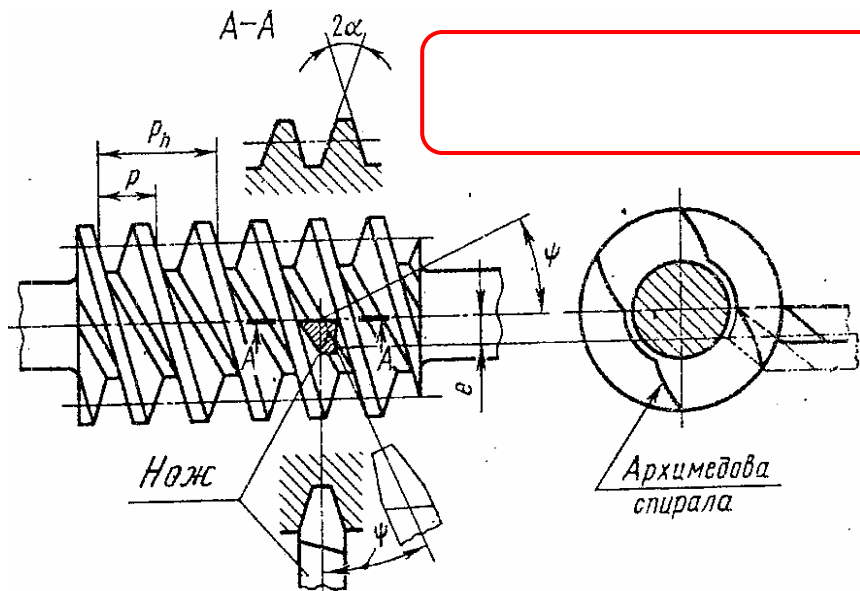
1. Според формата на червяка в осово сечение



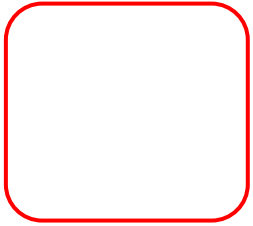
2. Според взаимното разположение на червяка и червячното колело



3. Видове цилиндрични червяци

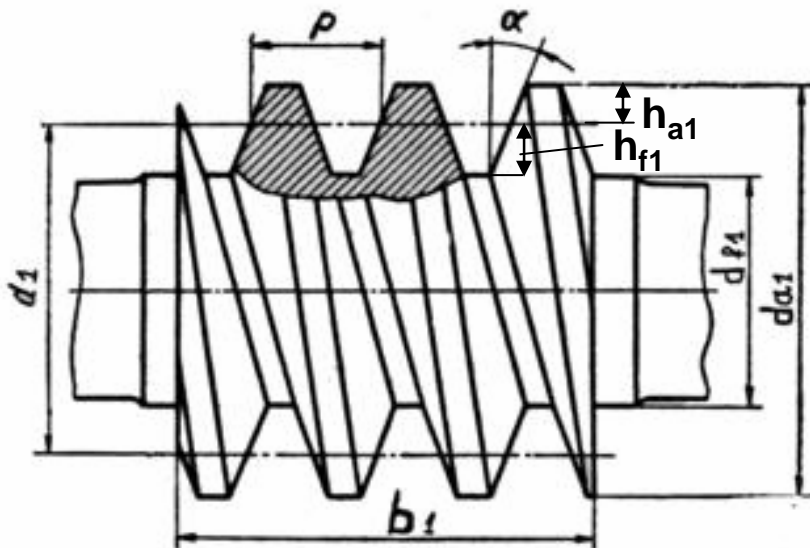


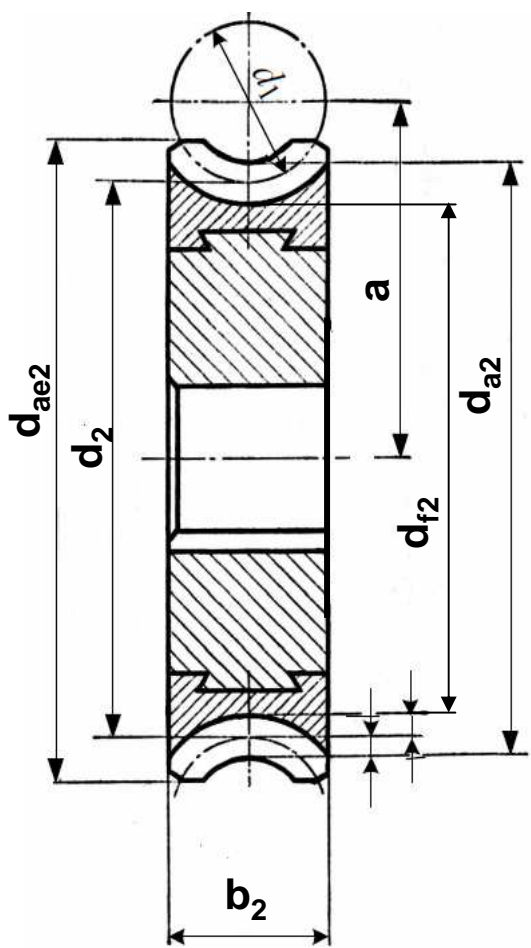
Предавателно отношение



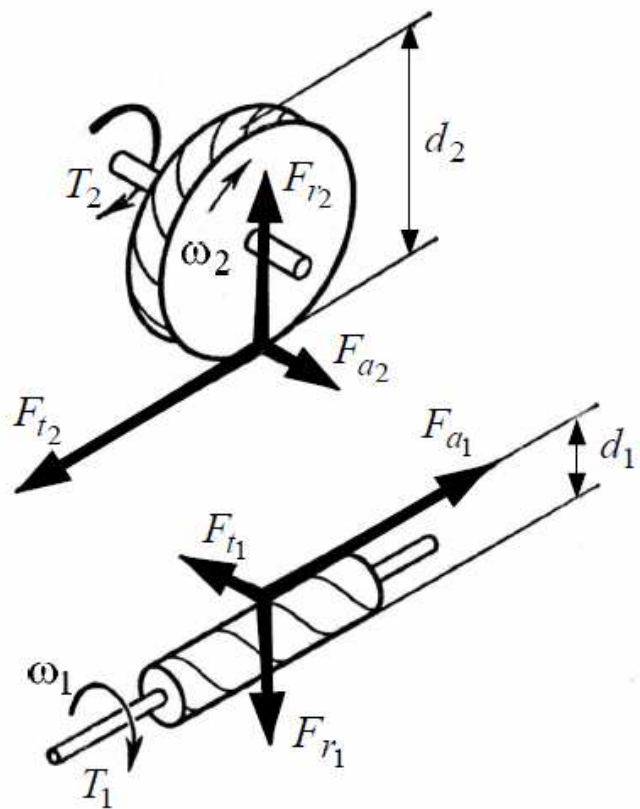
i	<14	$14-30$	>30
z_1	4	2	1

Геометрични зависимости при ЧП с архимедов червяк

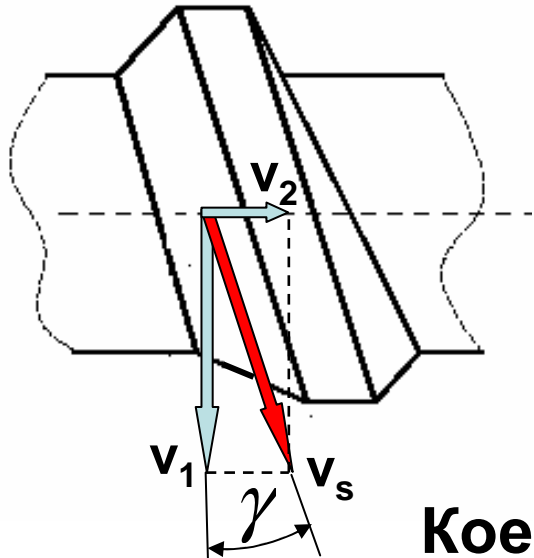




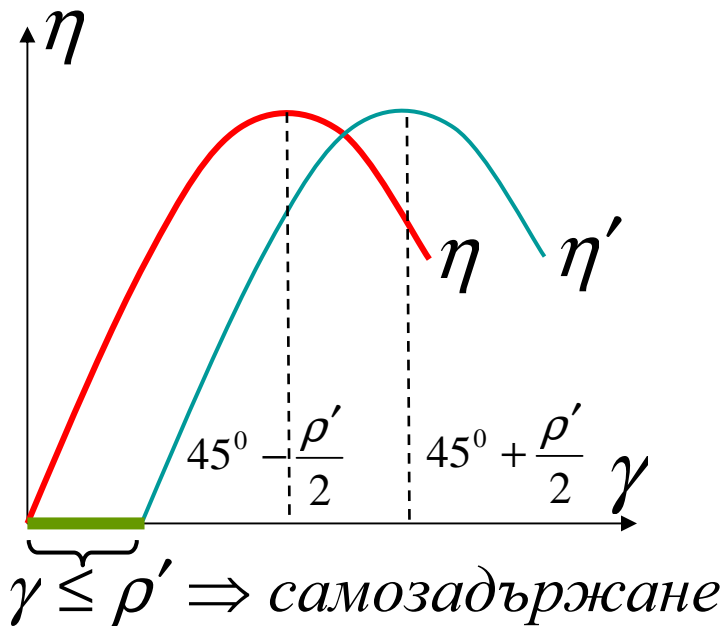
Сили в зацепването

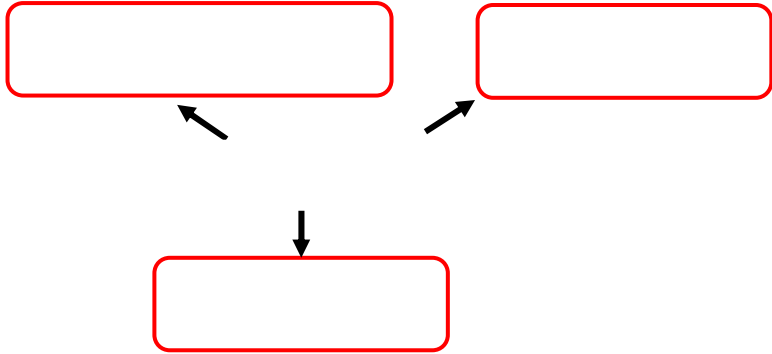


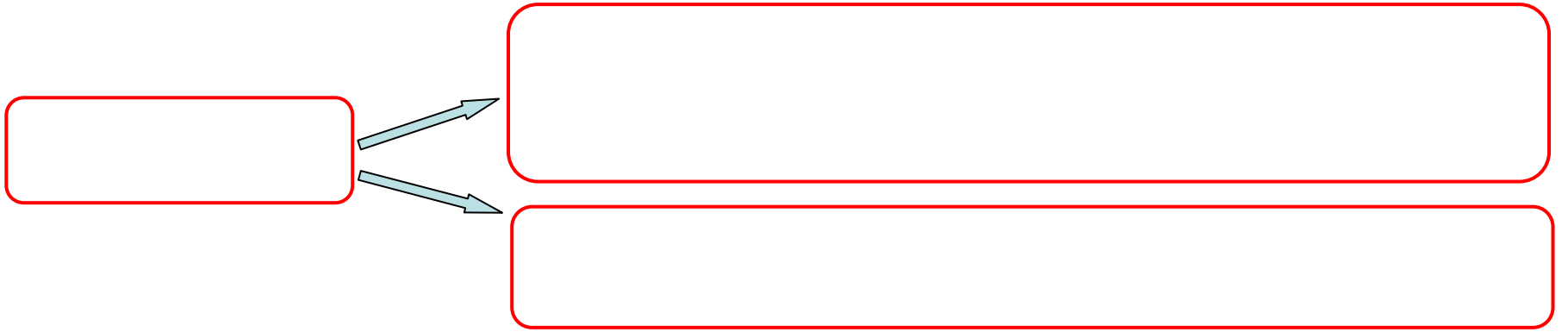
Скорост на плъзгане



Коефициент на полезно действие (η)







Проектно изчисление на ЧП

1. Определя се ориентировъчно междуосовото разстояние a_w

2.

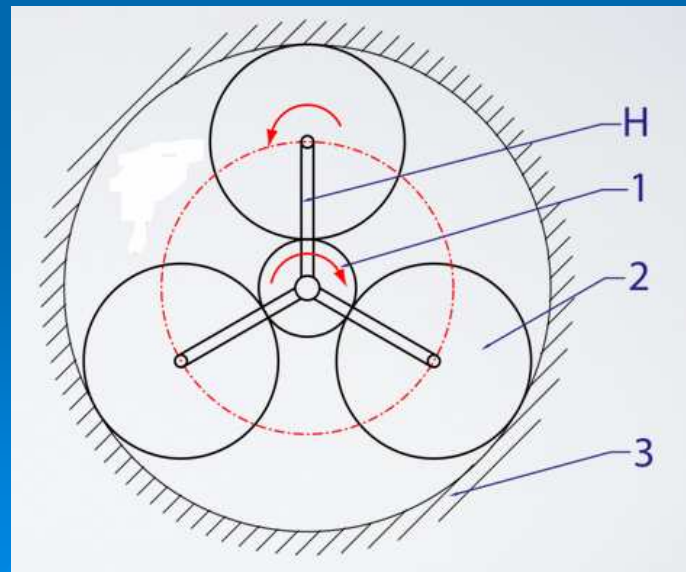
3.

4.

5.

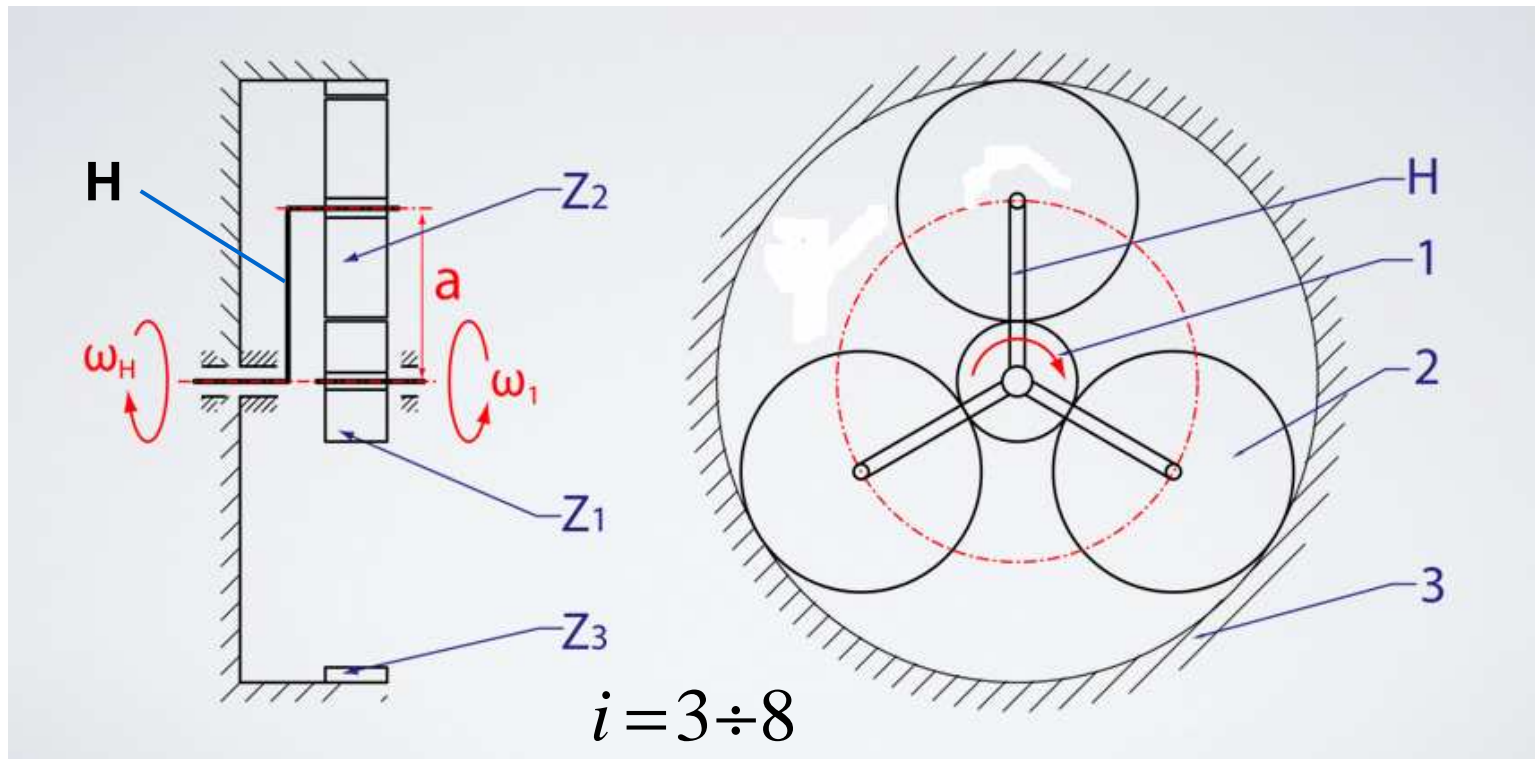
Въпрос №20

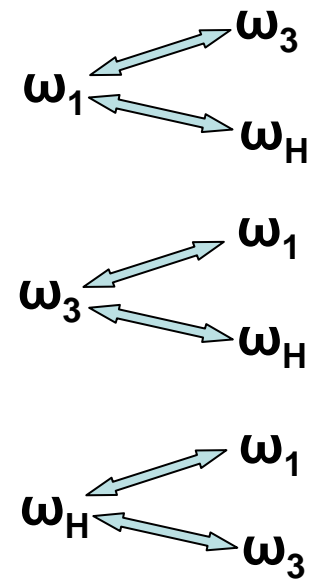
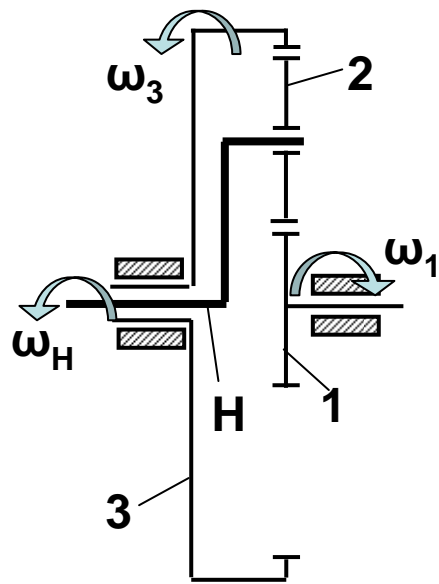
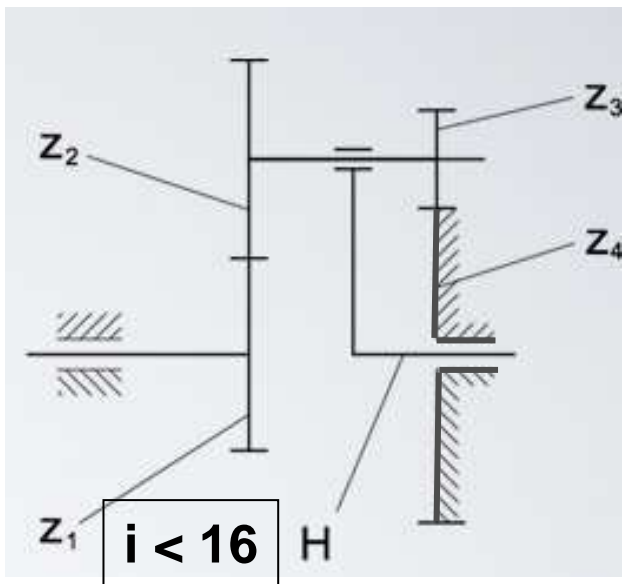
ПЛАНЕТНИ И ВЪЛНОВИ ПРЕДАВКИ – КОНСТРУКЦИЯ , КИНЕМАТИКА , ПРИЛОЖЕНИЯ



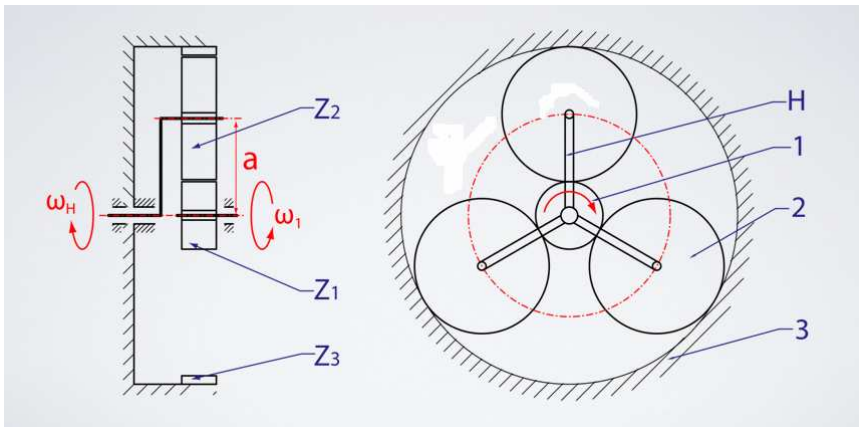
Планетни предавки – предавки съдържащи 3К с подвижни оси

Едноредна планетна предавка





Предавателно отношение



$$i_{13}^{(H)} = \frac{\omega_1 - \omega_H}{\omega_3 - \omega_H} = -\frac{z_2}{z_1} \frac{z_3}{z_2} = -\frac{z_3}{z_1}$$

$$\omega_3 = 0 \Rightarrow \frac{\omega_1 - \omega_H}{-\omega_H} = -\frac{z_3}{z_1} \Rightarrow 1 - \frac{\omega_1}{\omega_H} = -\frac{z_3}{z_1}$$

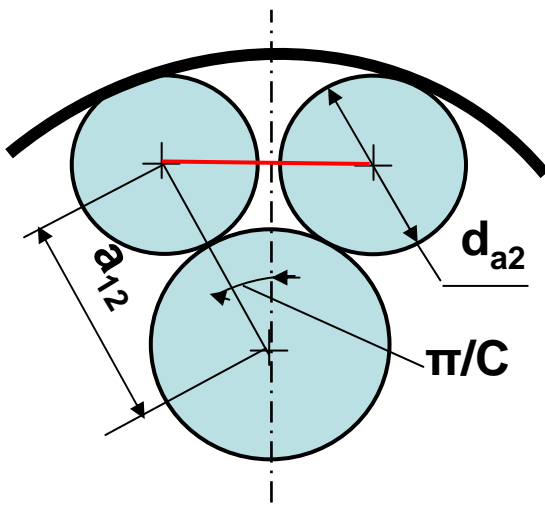
Подбор на броя на зъбите на едноредна планетна предавка

1

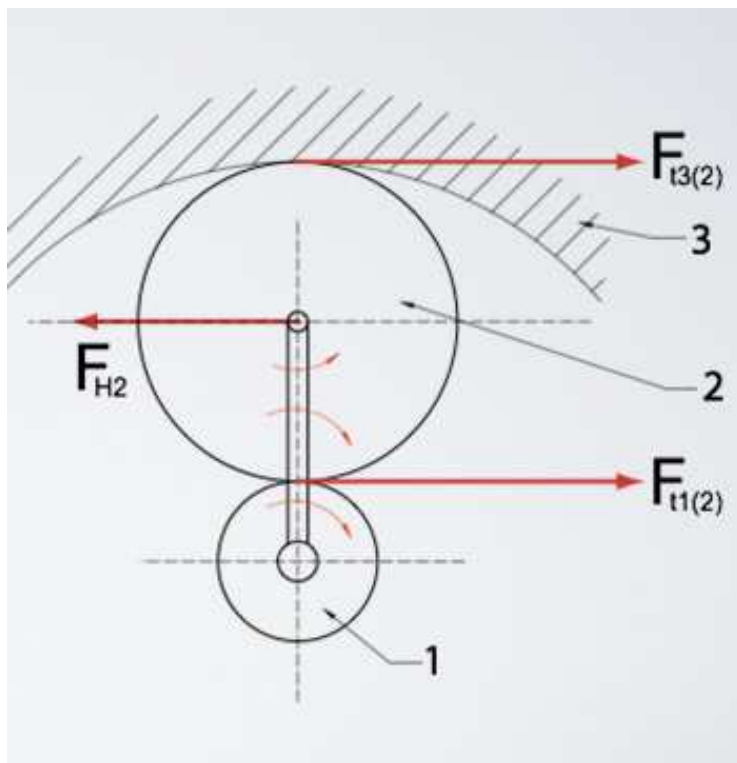
2

3

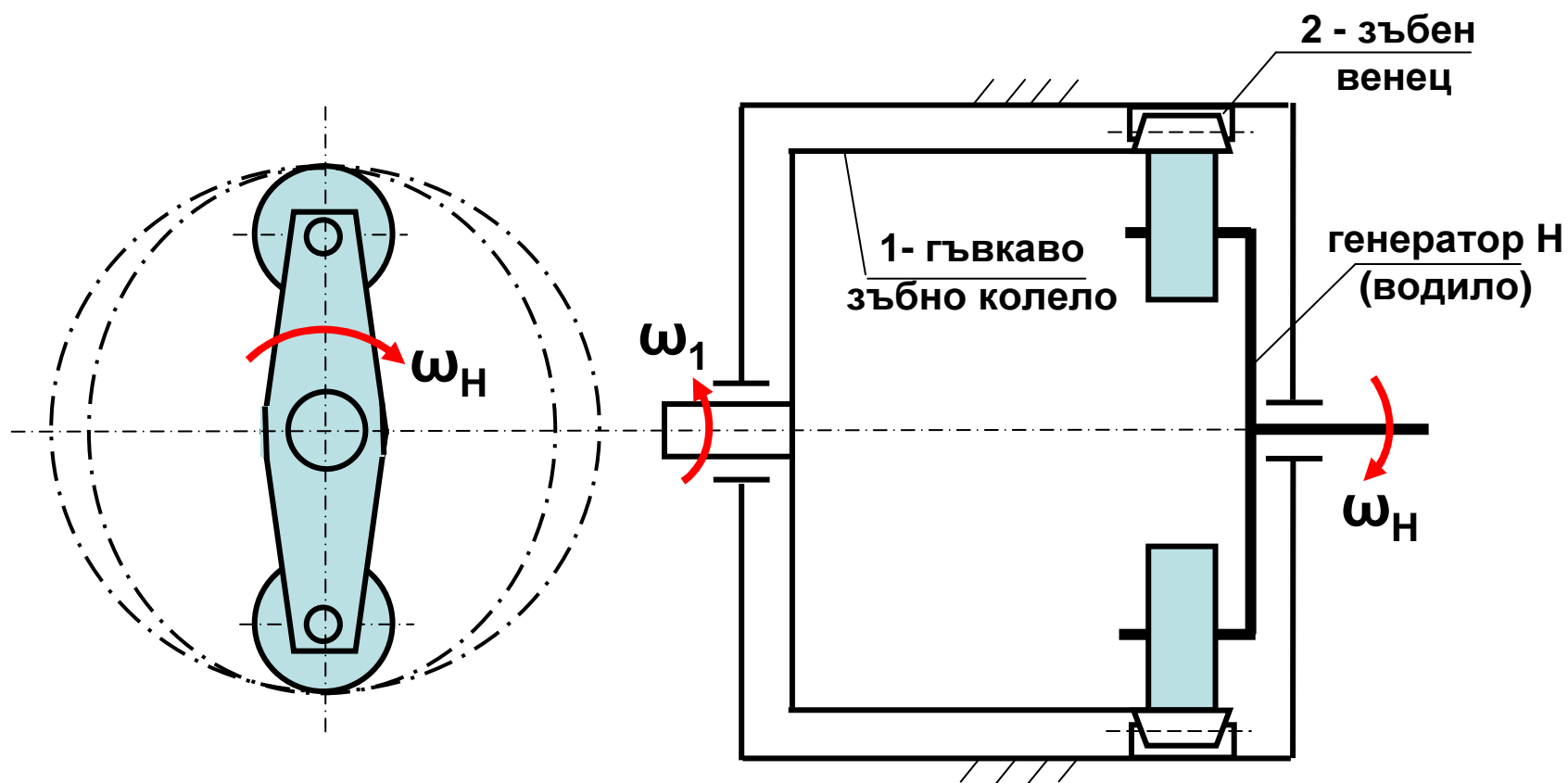
4



Сили в зацепването



Вълнови предавки



Предавателно отношение



