

Propulsing of a roller

Power supply

Driving mech.

Tool

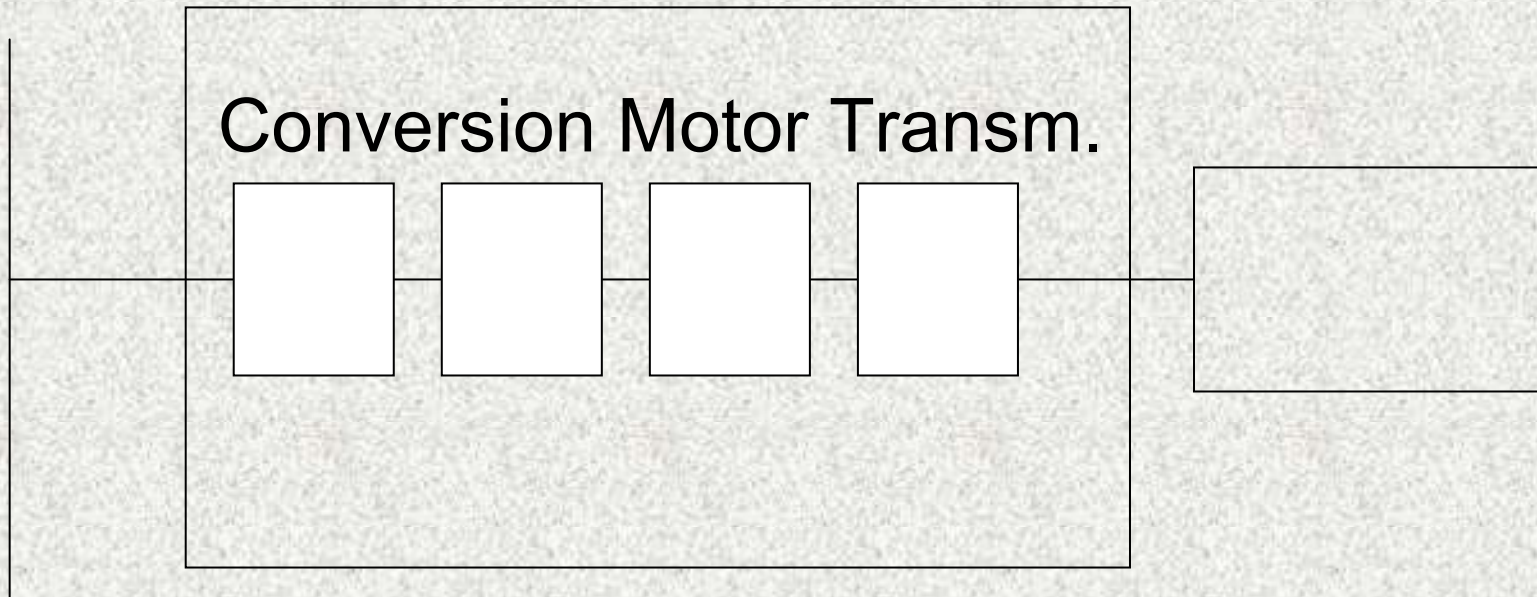


Propulsion

Supply

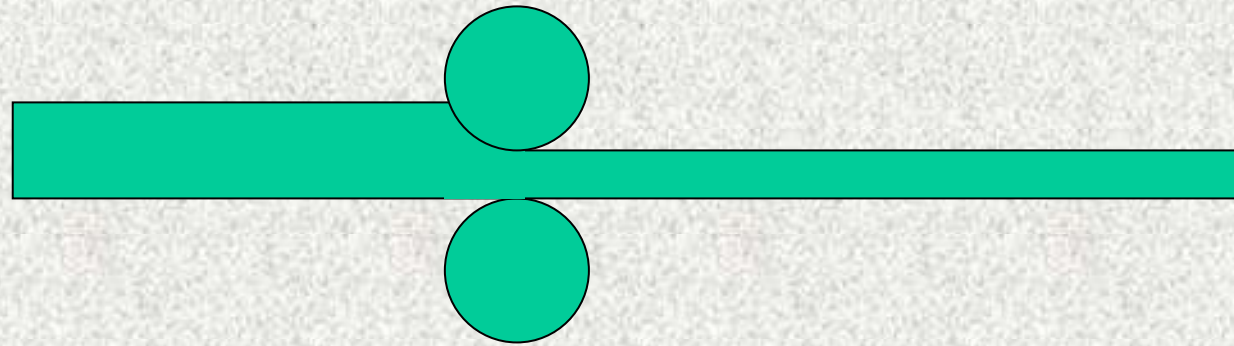
Driving mech.

Tool



Tool

Roller

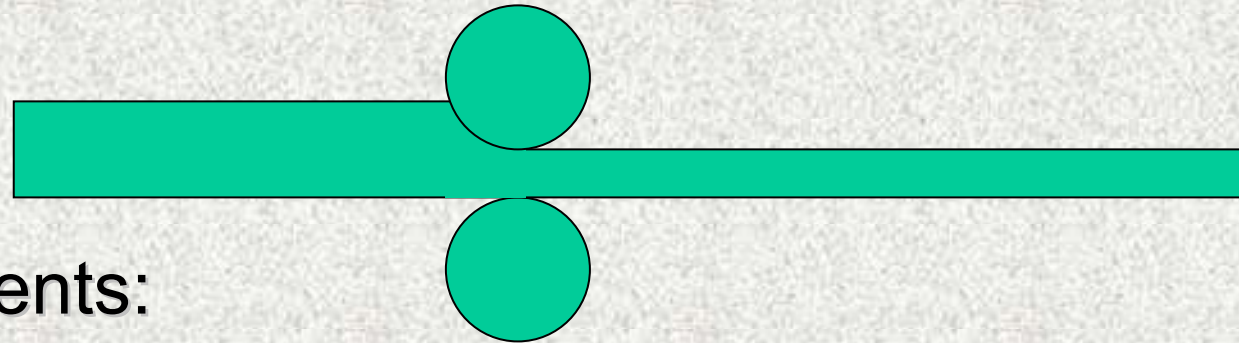


Requirements:

- momentum
- number of revolutions

Tool

Roller



Requirements:

- Momentum
- Number of revolutions

Additional requirements:

- Adjustable number of revolutions
- Coöperation

Possibilities

Electronical regulator of electric motors

- Direct-current motor + regulator
- Alternating-current motor + regulator

Regulator of the transmission (hydraulic transmission);

- rotary-current motor + transmission regulator

Conditions when making choices

Fixed costs:

- investment
- lifespan

Variable costs:

- energy = efficiency + $\cos \theta$
- maintenance
- dependability

Total efficiency propulsion:

Total efficiency = $n1 \times n2 \times n3 \times n4 \times n5$

n1 = efficiency supply

n2 = efficiency conversion

n3 = efficiency motor

n4 = efficiency transmission

n5 = efficiency tool (can be discussed)

Yield efficiency improvement

Energy consumption	5000 MWh
Energy savings	5%
Energy savings	250 MWh/year
Energy price	€ 0,10 /kWh
Financial saving	€ 25.000,00 /year
Maximum pay back time	5 year
Total investment max.	€ 125.000,00