

The Rindex System

Profits and Payoff – quality aspects aside

Summary

Make money on jaws, cutting tools and accessories by increasing manufacturing time.

Rindex Multi-Jaws

Results from increased machining usage

Increase gross margin with **10 %**,
 By ... reducing set-up cost with **95 %**,
 That is ... **38 €** saved per jaw change,
 Resulting in ... Reduced machine Payback time with **5 months**.

Rindex Counterweights

Results from increasing parts / minute

Decrease component cost with up to **70 %**,
 By ... Increasing spindle speed with **up to X3**,
 Resulting in ... **200%** increase gross margin
 As well as ... **using operators time** efficiently

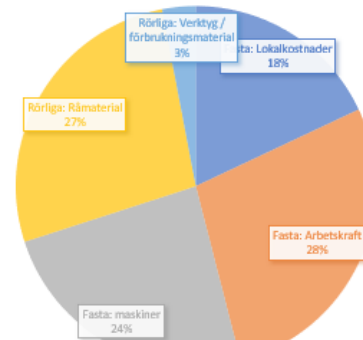
Here is how...according to Sandvik Coromant

Rindex Multi-Jaws

Savings on accessories, like cutting tools, jaws and other consumables, won't save you a dime.

In fact, increasing spending on a quality jaw system with matching cutting tools will have great impact on machine- and labor costs, that amounts to more than 50 % of the total costs.

FÖRDELNING: FASTA OCH RÖRLIGA KOSTNADER



CALCULATIONS BY SANDVIK COROMANT

30% ↓ tool cutting cost = 1% ↓ component cost
50% ↑ machine operating time = 25% ↑ gross margin
50% ↑ metal removal rate = 25% ↓ component cost
50% ↑ Production output = 2 years ↓ payback time/machine

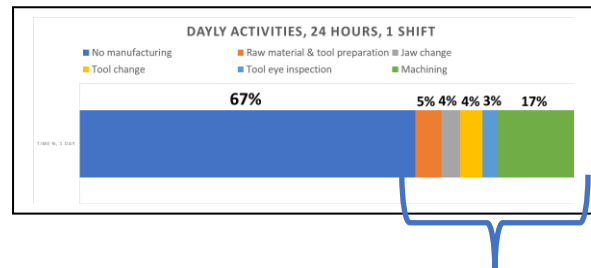
Increased machine operation time and metal removal rate will have huge impact on overall costs.

It is done By making internal set up time external, according to the Lean Six Sigma method.

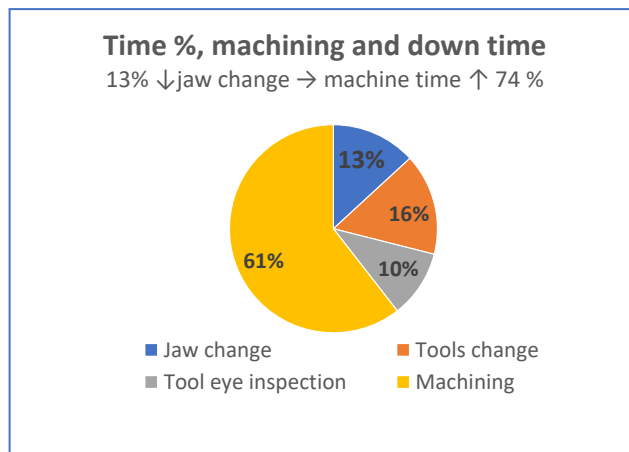
24 Hours in a manufacturing company

When using an 8 hour shift, machine operating time is equal to about 4 hours.

The machine down time of 4 hours is internal set up time, spent on changing raw material, tools, jaws, measuring, etc.



Internal set-up time VS. manufacturing time



By making internal set up time external, we find that:

Rindex Multi-Jaws will increase machine operating time by 21 %, adding 13 % of jaw change time to 61 % machine operation time, which amounts to:

- 10 % increased gross margin
- about 50 €, Every day.
- or 11 500 € per year and machine

Bye Bye Set-up Costs

Minimal set up & change over time

- Base jaws are centered in less than a minute.
- Top jaws can take on 12 different positions.
- Change diameter in 30 seconds.
- Switching hard or soft top jaws done in a minute, if needed.



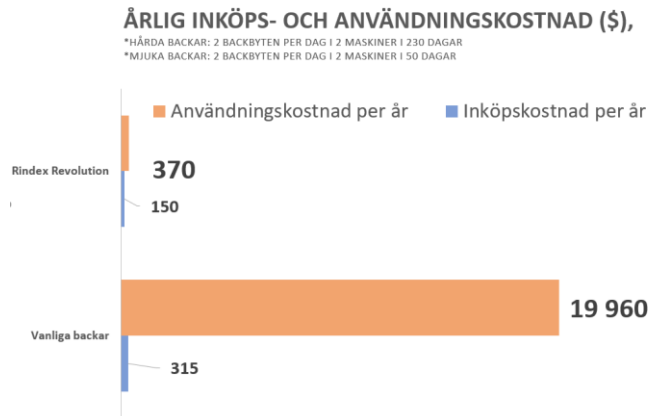
Purchase cost VS. user cost

Using conventional jaws VS. Rindex Multi-Jaws during a year.

- Purchase cost is 1,5 % of the user cost when using conventional jaws.
- **Purchase- and user cost for Rindex Multi-Jaws are only 2,5 % that of conventional jaws.**

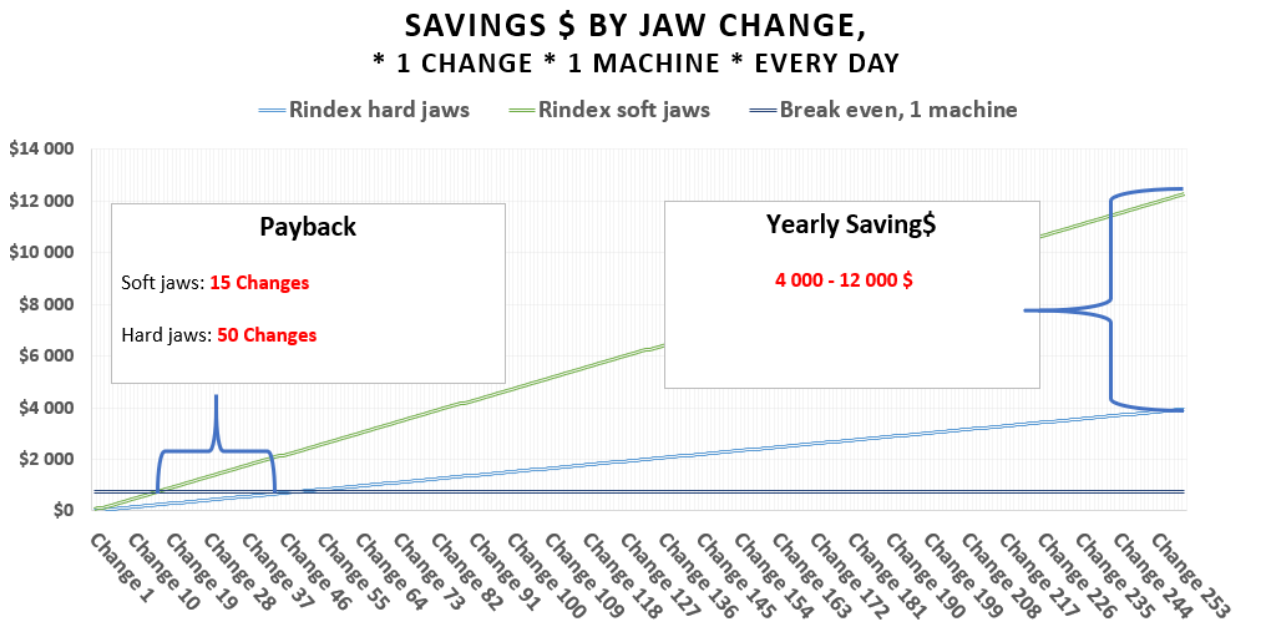
Hard Jaws – in 2 machines with 2 jaw changes per day in 230 days.

Soft jaws - in 2 machines with 2 jaw changes per day in 50 days.



Payback time and Yearly profits

for hard and soft jaws using Rindex Multi-Jaws.



Make your own calculation

With Rindex system mounted on **several machines** where jaw changes are more frequent, you get **exponential returns**. Make your own calculations on www.rindex.com

Operation	Conventional Jaws	Rindex Jaws
Locating jaws	5 min	0
Jaw change	10 min	30 sec
Reboring of jaws	20 min	0
Jaw Change / day	2	2
Number of chucks 8-12"	2	2
Working days / year	230	230
Machine cost/ \$ hour	\$ 80	\$ 80
Total cost	\$ 43 000	\$ 600
Yearly Profit		\$42 400

Make your very own calculation by changing:

- Number of chucks 8-12",
- Number of jaw changes a day
- Machine cost / hour
- Working days per year.

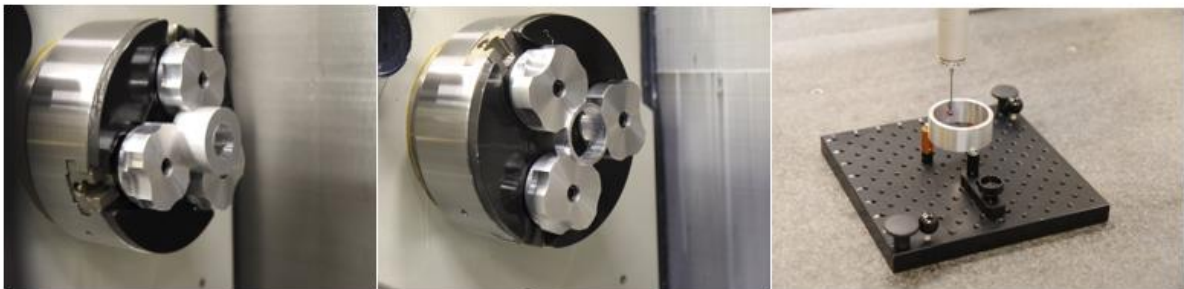
Rindex Counterweights

Speed things up – for faster returns

Saving money on tools, jaws and other accessories leads to higher manufacturing costs, not less. Speed things up for faster returns.

How to do it, and when..

Thin walled and/or sensitive parts need low initial clamping force. Size, weight and location of jaws will greatly reduce clamping forces as spindle speed (RPM) increase.

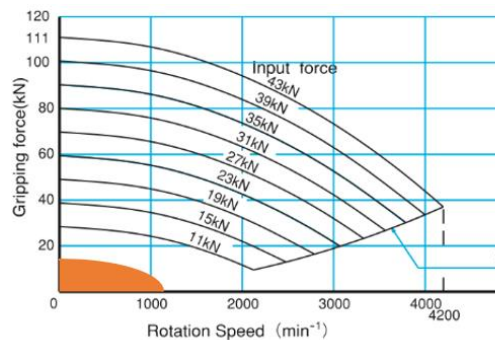


Trade of:

clamping force (kN) VS: spindle speed (RPM)

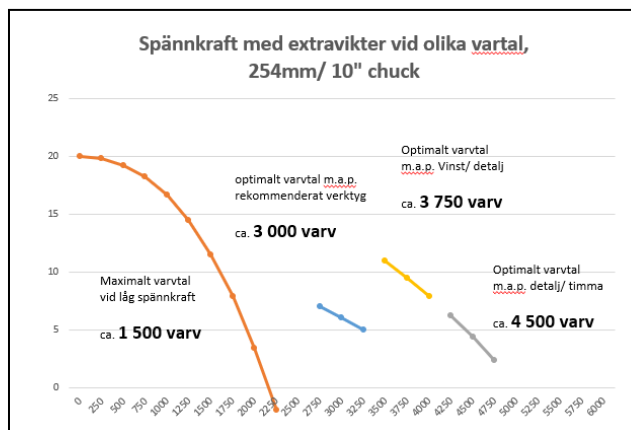
When clamping force is set to 10 kN, the maximal spindle speed is about 1000 RPM.

This effects number of parts/ minute, surface structure and cutting tool life. You will not be able to follow recommendations from your cutting tool provider.



From a Kitagawa instruction manual, chuck size 10" or 254 mm.

Make X3 production in no time, literary.



Counterweights can increase metal removal rate by a factor of 3, or 200%, when applicable.

A 200% increase equals a 70% lower component cost and a **X3 increase in gross margin**.

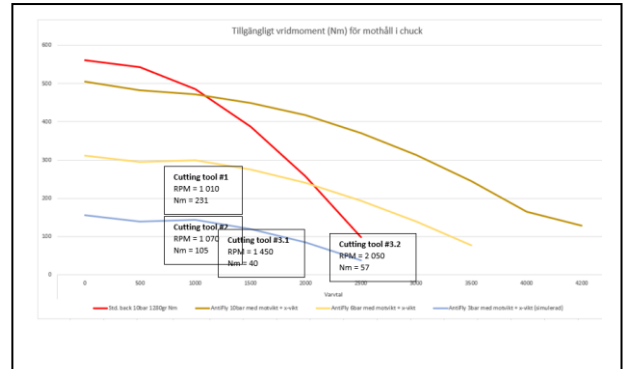
Even if using an average measure of a 50 % increase in metal removal rate over

No more compromises:

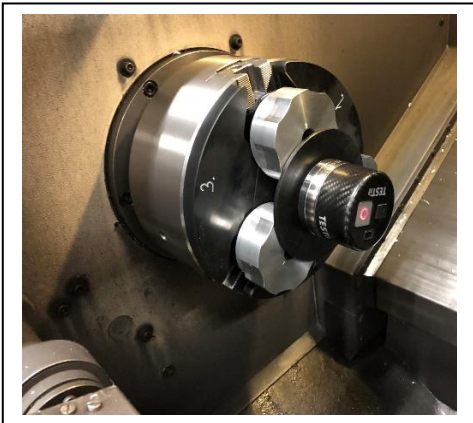
Optimal quality, cost, profit & output.

By flattening the Nm/RPM-curve, you can:

- use the same clamping force for all tools
- choose optimal speed for:
 - highest quality
 - lowest production cost
 - highest profit/ part
 - part/ minute

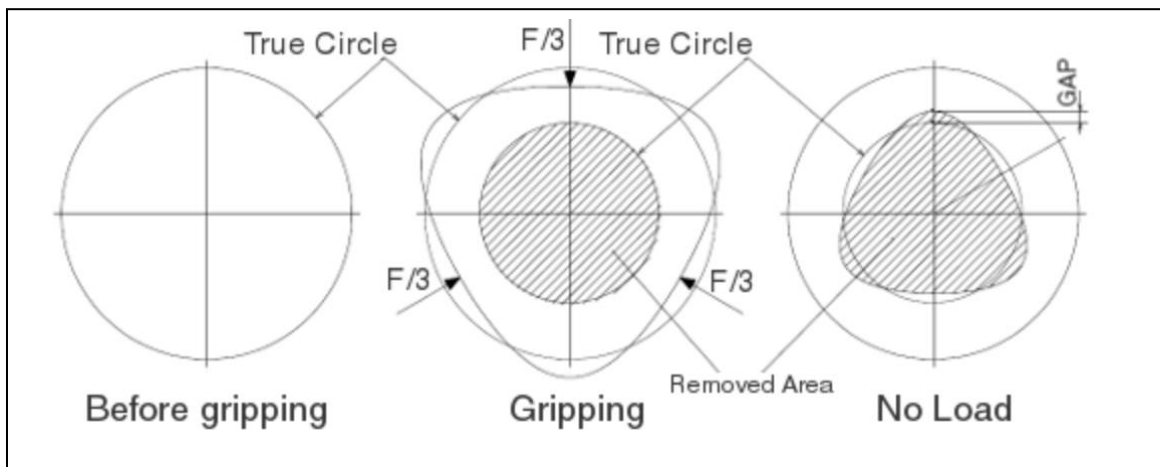


Optimize metal removal rate

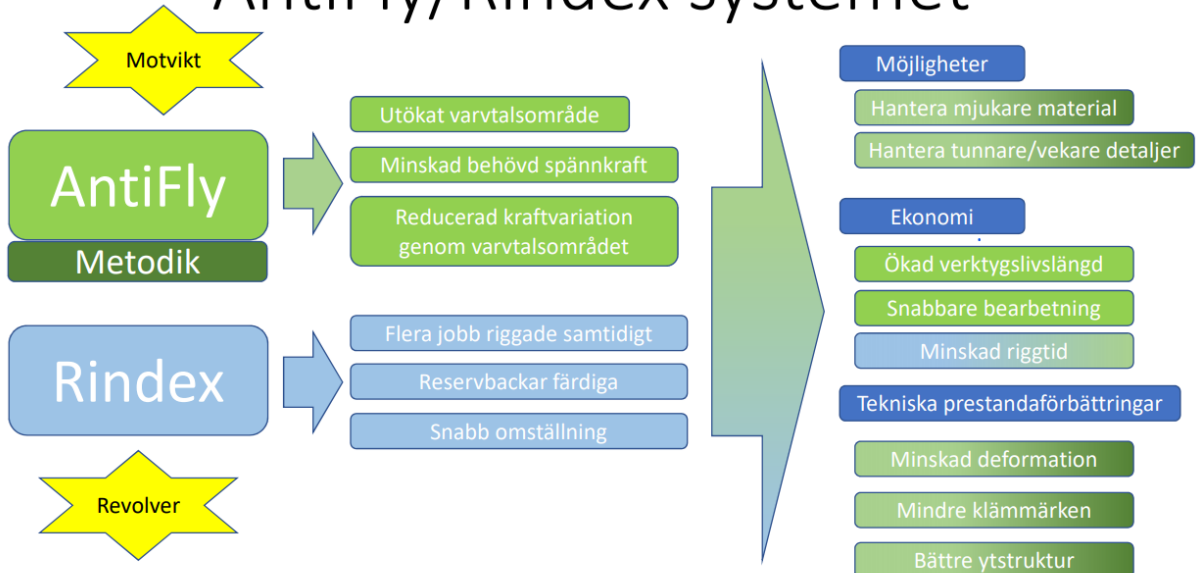


The latest cutting tool technology have made significant impact on metal removal rate. For small to medium size parts, a high spindle speed is often a better alternative to increase metal removal rate than feed and dept.

With higher demand surface finish, regardless of functionality, spindle speed limitations will leave customers dissatisfied. With highest possible RPM and lowest possible clamping force, there will be less disposal and grinding.



AntiFly/Rindex systemet



Källa sandvik

<https://www.sandvik.coromant.com/sv-se/services/manufacturing/pages/default.aspx>

