



- ▶ Turn-mill center
INDEX G420
- ▶ Linde Pohony
Czechia

INDEX G420 Gear components for premium forklifts



Gear components for premium forklifts

Owing to their high rigidity and excellent damping properties, INDEX machines are the ideal solution for complete machining of complex workpieces including the integration of gear teeth. The Czech Linde Pohony plant found this to decommission their existing INDEX G400 machines, after 20 years of service, and invest in six new INDEX G420s. This is expected to become a great success. The new turn-mill centers should already be amortized within three years.

Linde Pohony in Český Krumlov (Czech Republic) has manufactured vital components for hydrostatic forklift axles on INDEX G400 machines for twenty years. In 2018, time had come to upgrade the existing machinery to the latest state of the art. Petr Vitásek, Head of Production and Technology, and his team tested various offers and decided once again to go for INDEX. In 2020, the plant's production received six INDEX G420 turn-mill centers.

Why INDEX? Satisfaction with the previous generation of machines argued in favor of the lathe manufacturer. Petr Vitásek mentions other important criteria: "Few suppliers were able to offer a machining center that is equipped with two turning spindles, two turrets, as well as a

powerful motorized milling spindle that perfectly masters the Power skiving technology. This gives us decisive advantages, particularly since we are able to achieve complete machining with the new INDEX G420 machines. Before, we had to use a lathe, a milling machine, and a gear cutting machine."

This investment allowed Linde Pohony to increase the productivity of its machines and at the same time save space in the production hall and thus increase the productivity per unit area. Miroslav Vařečka, Head of Production Engineering, points out another advantage: "We can use our turn-mill centers not only for shaft production, but also for other tasks, such as manufacturing transmission housings." >

They praise the great collaboration: (From left to right) Michal Kaláč, Sales Representative Galika CZ; Miroslav Vařečka, Head of Metal Cutting Technologies, Pavel Špachman, Technology Expert, Petr Vitásek, Production and Technical Manager at Linde Drives, and Marc Müller, INDEX Sales Manager for Eastern Europe.





The machining team at Linde Pohony is pleased to be working with the new INDEX G420 turn-mill centers. Among other things, they praise the high precision, the fast tool change, and not least the excellent user-friendliness.

Power skiving without complex programming

A major argument for choosing the INDEX G420 turn-mill centers was the option for manufacturing gears using the Power skiving process, and also being able to use it in serial production. Technology Expert Pavel Špachman is aware of how demanding the machining operation is: "Power skiving is definitely a complex technology—especially in terms of machine performance, precise spindle synchronization, and vibration damping. The very precise and powerful INDEX G420 machines are perfectly able to cope with these requirements. And the fact that they do so without complex programming was of utmost importance to us." A special INDEX Power skiving cycle and user-prompted input screens for workpiece, tool, process, and correction data ensure easy operation.

Production Manager Vařečka mentions dry machining as a further advantage: "Compared to the former machining technique, it is no longer necessary to clean off any oil residues on the workpieces, which implies time and financial savings."

Automation for greater productivity

Shortly after commissioning, Linde Pohony had already reached high productivity in the machining of gear components. Management decided that the time had come to automate the turn-mill centers. The production team wanted to transfer loading and unloading, washing, and insertion of the workpieces in transport containers to a robot. The aim was to further shorten cycle times and making the operating staff's work easier.

Since INDEX machines are prepared at the factory for the integration of robots, automating them wasn't difficult. In the mean time, the first two machines have been automated, and two more are to follow soon.

Collaboration and on-site support

The Technical Director at Linde Pohony, Petr Vitásek, explicitly praises the constructive collaboration with INDEX: "Over the past two years since we received the G420 machines, we were able to clearly see that our proposals for improvement were listened to in Esslingen and for the most part implemented."



More customer success stories online:
www.index-group.com/success

Vitásek and his coworkers also appreciate the local Czech sales and service subsidiary, Galiky. They not only supply the local market with INDEX machines, it also handles consulting and services, including maintenance and spare parts supply. Galika representative Michal Kaláč adds that “We have also conducted training for operators, technology experts, and maintenance staff in Český Krumlov, and we’ve provided technical support at the start of production.”

Investment paid off

In the mean time, all six INDEX G420 turn-mill centers are working at capacity. They are run in three-shift operation, 16-17 shifts per week, and produce up to 130,000 shafts for hydrostatic axles per year.

According to the managers responsible, the acquisition was worthwhile in any event. They expect to amortize the investment, for which the business also received EU funding, within about three years. X



Our new INDEX G420 machines enable us to perform complete machining instead of producing sequentially on individual lathes, milling machines, and gear cutting machines as was the case until now. This not only implies increased productivity, but also saves space.

Petr Vitásek is Head of Production and Technology at Linde Drives



Photo: Linde

Linde Pohony specializes in driving and steering axles for forklifts

The company Linde Pohony s.r.o. was founded in April 1997, in Aschaffenburg, Germany, as a subsidiary of Linde Material Handling, Germany. The site in Český Krumlov, Czech Republic, produces electric and hydrostatic driving and steering axles. Its production capacity places Linde Pohony among the worldwide leading manufacturers of similar drive units.

Linde Pohony s.r.o.
Tovární 118, 38101 Český Krumlov, Czech Republic
➤ www.linde-pohony.cz