

INDEX



**Production of spiral bevel gears
from the bar**

One step ahead.

Bevel gear cutting

Production of bevel gears on turning/milling centers from INDEX

Turn your INDEX R200 or INDEX R300 turning/milling center into a gear cutting machine. With this technology you can produce spiral bevel gears from the bar completely in one setup (front and rear end machining).

The proven R series platform, which combines two five-axis machines in one, is an ideal base for bevel gear cutting due to its excellent static, dynamic and thermal properties.

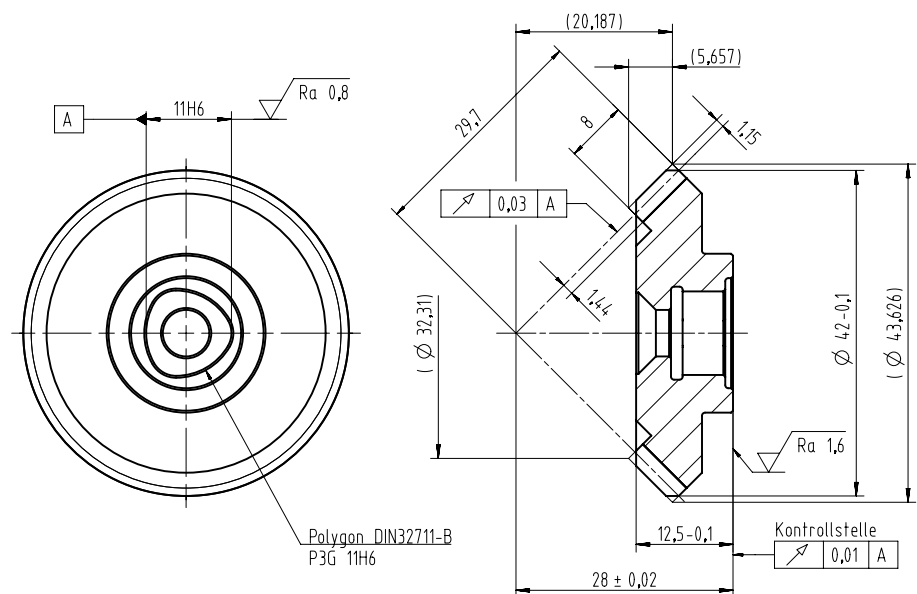
Part of our technology package is a special control cycle. Using this cycle, you enter the relevant machine data and correction data for the toothing.

The tools used are special INDEX cutter heads with carbide inserts. Where you have previously required a special gear cutting machine, you can now use a flexible turning/milling center for production of your bevel gears with a minimum of manpower.



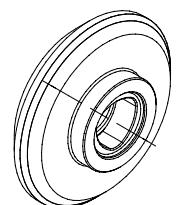
Machining steps

- Outer rough and finish turning
- Facing
- Undercutting
- Drilling
- Milling spiral gears
- Deburring teeth
- Polygon milling & chamfering
- Complete off-the-bar machining in one production run



Example:

- Material: 1.7131 (16MnCr5)
- No. of teeth: 23
- Module: 1.15
- Cycle time (TG): approx. 3 min
- Tooth cutting time: 30 s
- Cutting rate v_c : 180 m/min



Tool

- INDEX cutter heads with module-dependent indexable inserts
- Axial and radial adjustability
- Internal coolant supply possible:
Oil or emulsion

Up to 6 cutting edges for:

- maximum tool life
- optimum cutting performance
- top quality



Software

- Easy programming by parameters
- Input of parameter and correction data via cycle directly on the machine control
- On request, calculation of parameter data by INDEX

Programm	KEGELRAD		AUTO		Normalbetrieb	
	1_3151136.MPF KAN1				Programm abgebrochen	14:11:38
☒ Kanal RESET					SKP	

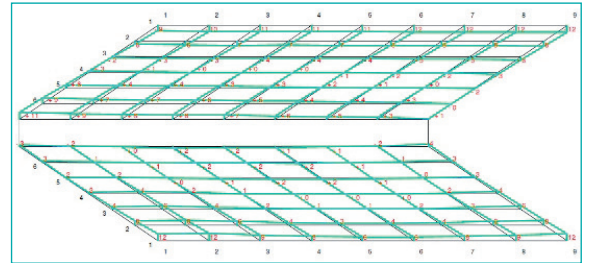
Spiralkegelrad fräsen L175				Anfangswinkel Werkstück	
Ablauftyp	TYP	11			
Einbaumaß	EINB	0.0000	Korrektur	0.0000	Istwert 0.0000
Maschinendistanz	MD	19.7700	Korrektur	0.0000	Istwert 19.7700
Hilfswinkel	DAM	35.2040	Korrektur	0.0000	Istwert 35.2040
Exzentrizität	EXZ	3.9620	Korrektur	-0.0860	Istwert 3.8760
Teilkegelwinkel	TKWI	46.6370	Korrektur	0.0000	Istwert 46.6370
Tauchweg	HG	1.2870	Korrektur	0.0000	Istwert 1.2870
Zähnezahl Werkstk.	ZWST	18	Zähnezahl Planrad	ZP	24.7588
Zahnkopfhöhe	HK	1.0500	Teilkegellänge innen	RI	14.6300
Wälzanfangsstellung	LAMA	125.5000	Wälzendestellung	LAME	66.7000
Wälzvorschub in		Minuten	Wälzvorschub	VFWA	3.1000
Tauchvorschub	VFTA	1.0000	Gangzahl Fräser	GANG	1.0000
Drehzahl Fräser	DZ	860	Drehrichtung Fräser	DR	Links
Winkelversatz	WIWZ	0.0000	Anfangswinkel	AWI	0.0000

Wait Koordinat.	WZWST Messen	Abnehme Handhab.	Elektron. Kopplungen	Maschinen Zyklen	Rüsten
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Quality



- Achievable accuracy up to IT5
- DIN 3965/86
- Module range: 0.6 - 4.0 mm
- Deburring on the machine



Quality certification including topographic measuring

Technology available for the following machines:
INDEX R200 and R300



INDEX-Werke GmbH & Co. KG
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