

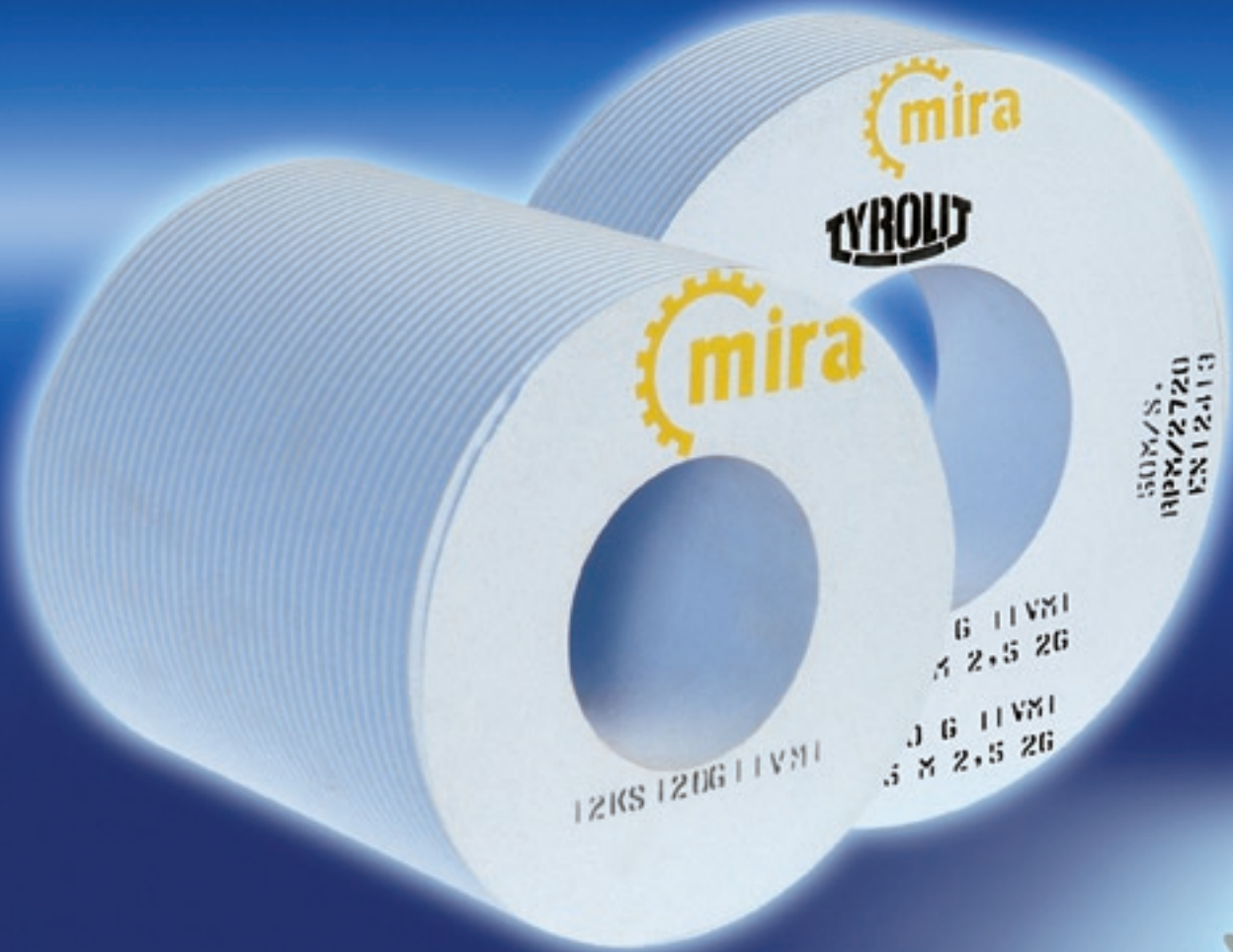
## ***MIRA***

A Winning System  
for gear manufacturing

Incorporates TYROLIT's comprehensive  
competence for

- Gear Grinding
- Gear Honing

**TYROLIT**



MULTI AND SINGLE  
PROFILE WHEELS  
for gear grinding

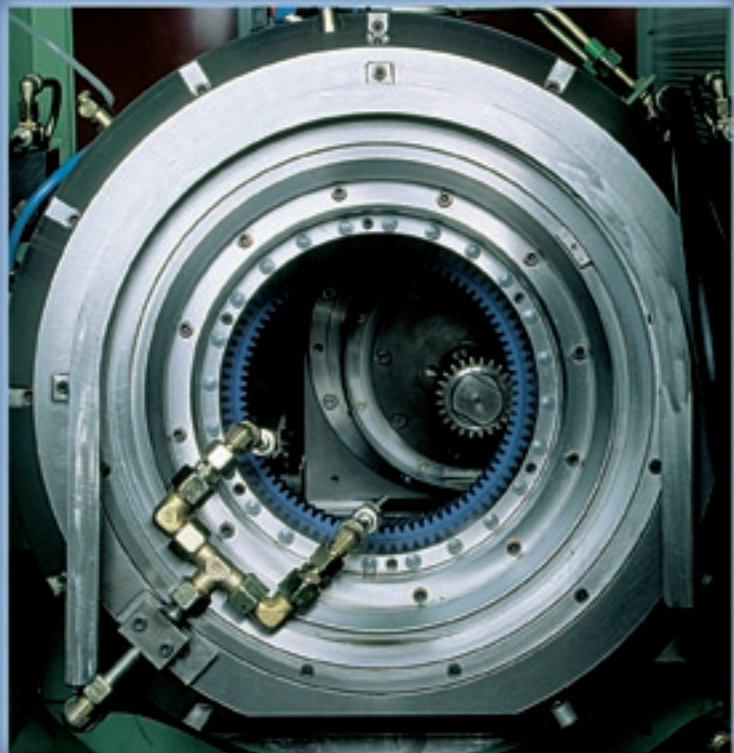




GEAR HONING TOOLS



HIGH  
PERFORMANCE  
GEAR HONING -  
PRÄWEMA PROCESS



# MULTI PROFILE GEAR GRINDING WHEELS



Outer Diameter mm	Width mm	Bore mm	e.g. type of machine
300	125	160	Reishauer RZ 400
350	62, 84, 104	160	Reishauer RZ 362
400	84, 104	160	Reishauer RZ 820
220	84, 104, 150	76,2	Samputensili S400GT
195	200	90	Liebherr LCS 280

Modul range  $m = 0,5$  to  $8$ , 1 to 7 starts

SPECIFICATION EXAMPLES				
6 KS	90	C	4	VM2
6 KS	120	C	4	VM2
12 KS	90	G	11	VM1
12 KS	120	G	11	VM1
12 KS	90	G	8	VM1/63
12 KS	120	G	8	VM1/63

Special and sintered aluminum oxide abrasives are combined with our innovative VM bonding system resulting in superior profile stability, a reduction in stress on the workpiece, increased dressing cycles and shortened grinding times.

Minimized diamond dressing tool wear is a distinctive feature of **TYROLIT MIRA** grinding wheels.

**Non-profiled and precisely pre-profiled grinding wheels for continuous generating grinding are available (e.g. Reishauer RZ 400, RZ 362, Samputensili S400GT).**

Grinding wheel for Reishauer machines RZP and RZF



Outer Diameter mm	Width mm	Bore mm	z.B.: type of machine
400	25 ... 80	203,2	RZP od. RZF

SPECIFICATION EXAMPLES			
6KS	120	C5	VM4
12KS	1002	C3	VM1
12KS	120	F11	VM1

Precisely pre-profiled grinding wheel

**All wheels can be shipped from our factory with or without pre-profiling within 10 days.**

# SINGLE PROFILE GEAR GRINDING WHEELS

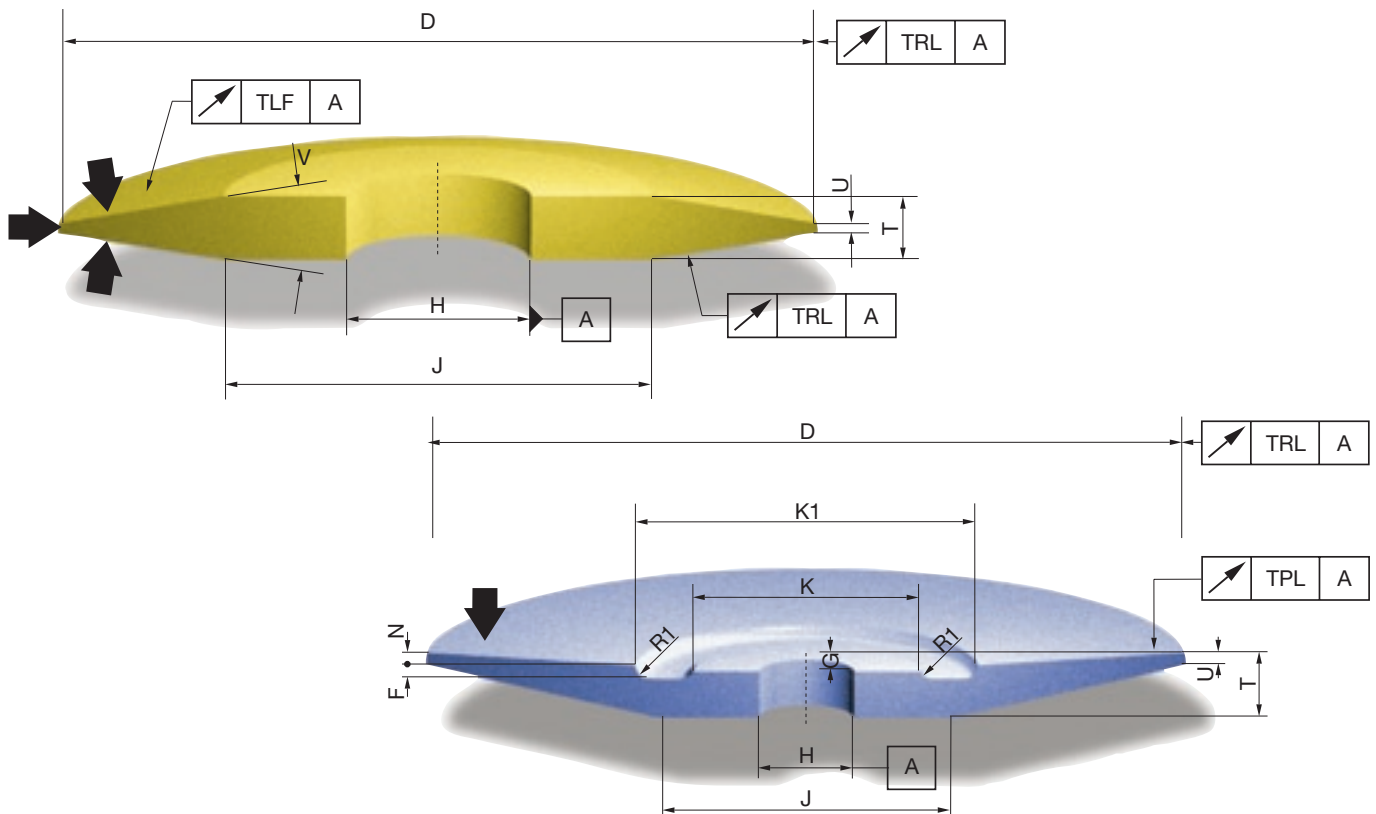


Systems Höfler, Niles, Kapp, Pfauter, Gleason-Pfauter, Pfauter-Kapp, Samputensili, Reform und Opal.

Outer Diameter mm	Width mm	Bore mm
400 ... 80	60 ... 10	160 ... 20

SPECIFICATION EXAMPLES				
4KS	80	D	9	VM5
8KS	70	E	11	VM4
12KS	120	F	11	VM1

With the single index generating grinding method, it's possible to machine one flank by means of a single flank cut or both flanks simultaneously by means of a dual flank cut. The form grinding method requires the grinding wheel to be precisely dressed with CNC continuous path control.



All wheels can be shipped from our factory within 10 days.

# DRESSING TOOLS

Only a perfectly profiled master tool is capable of achieving the high precision geometry and surface quality required for gear grinding and honing.

## Diamond dressing master gears for grinding wheel and honing ring profiling operations



Double reversed plated diamond dressing master gear

The desired lead and profile modifications on the workpiece are reproduced on the diamond dressing master gear. Due to optimized design and production processes, contact areas, exact geometry and long life of the component are achieved. Extremely complicated gear geometries including topological profiles are realized on topological gear grinding machines.

TYROLIT diamond dressing master gears are using both positive and double reversed plating processes.

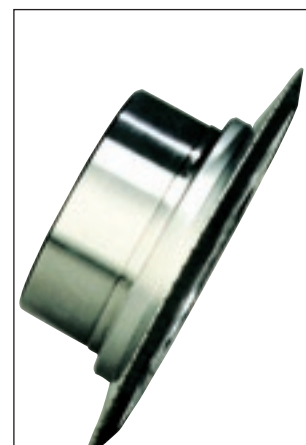


Positive plated diamond dressing master gears



Diamond dressing ring to control the tooth depth of internal honing rings

## Diamond discs for dressing multi profile grinding wheels



The gear grinding wheel is profiled with a rotary diamond dressing tool. TYROLIT offers gear dressers for all common dressing systems. Rotary diamond dressers are produced with a single layer of diamond using a positive plating process.

Profile modifications such as a chamfer and tip relief are integrated in the dressing tool.

# HONING RINGS

from TYROLIT - HAUG

Highly precise gears and high stock removal rates are just some of the benefits of TYROLIT tools for gear honing e.g. Prävema, Fässler, Gleason-Hurt, Pfauter and Reishauer.

As the gear is honed in the hardened state, the contact area and profile quality are improved. This translates into a noise reduction of the whole transmission while in operation.

Depending on the application requirements, internal and external honing rings can be used. In connection with the Reifix™ centering clamping system, the initial dressing infeed is drastically reduced. This increases the overall life of the honing tool and thus reduces cost per piece.

**TYROLIT and HAUG honing rings are available for process optimization as a complete system including the diamond dressing master gear.**

The product range includes:

- **Aluminum oxide-rings**

Selected aluminum oxides are embedded in an epoxy bond

- **Sintered aluminum oxide-rings**

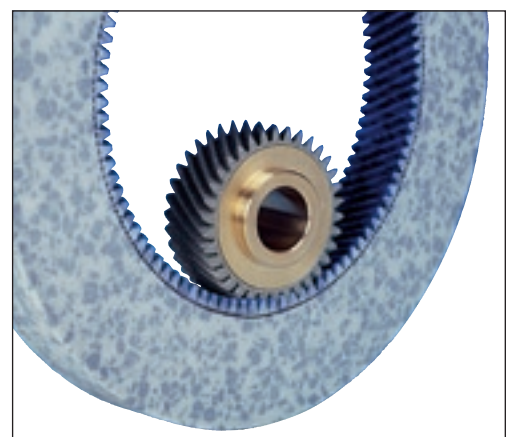
Sintered aluminum oxides are embedded in an epoxy bond

- **Compound-rings**

Vitrified bonded conglomerates are embedded in an epoxy matrix. This patented TYROLIT product combines the outstanding chip removal properties of the vitrified bonded grinding tool with the dampening properties of the epoxy matrix.

- **Vitrified-bonded rings**

Selected aluminum oxides are embedded in a special vitrified bond. These honing rings, especially developed for the Prävema High Performance Gear Honing process, allow a stock removal rate up to 0,09 mm per flank.



Vitrified bonded ring for Prävema High Performance Gear Honing

Compound ring for power honing

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