



**M30 | M30-G**

**M35 | M35-G**

**M40 | M40-G | M50**

**M60 | M60-G | M65**

**M80 | M80-G**

**M80X | M80X-G**

**M85 | M85-G**

**M100 | M120 | M150**

**M200**

[ DE ] [ EN ] [ FR ] [ IT ] [ ES ] [ BR ] [ RU ]  
[ CN ] [ JP ] [ CZ ] [ PL ] [ TR ] [ KR ] [ HR ] [ HU ]

**CLAMP ONCE - MACHINE COMPLETE**



M30



M35



M40



M50



M60



M65



M80 | M80X | M85



M100 | M120 | M150



M200

### Why use several different machines if one can do the whole job?

Combining all machining and measuring operations in one single MILLTURN by WFL will raise the efficiency of your production enormously. This is an investment that pays off in virtually no time.

## One-hit machining of complex chuck and shaft parts



## Machines with counter spindle



M30-G



M35-G



M40-G



M60-G



M80-G | M80X-G | M85-G

### Genial - Multifunctional

An enormous technology spectrum is covered by the possibility of interpolating the NC-axis B, C, X, Y, Z. Which makes complete machining by turning, drilling, milling, deep hole drilling, OD- and ID-splining, turn-milling and many more operations without manual interventions a reality.



## M30 MILLTURN M30-G MILLTURN

### Technical data

		M30	M30-G left // right
Nominal center distance	mm	2000	1800(1680)
Swing - $\varnothing$ over Top slide	mm	520	520
Max. Turning- $\varnothing$ between centers	mm	520	-
Max. power, Turning spindle 40% (100%) duty cycle	kW	33(29)	33(29)//33(29)
Max. torque, Turning spindle 40% (100%) duty cycle	Nm	630(550)	630(550)// 630(550)
Max. spindle speed, Turning spindle	min <sup>-1</sup>	4000	4000/4000
Max. power, Milling spindle 40% (100%) duty cycle	kW	20(15)	20(15)
Max. torque, Milling spindle 40% (100%) duty cycle	Nm	250(190)/165(125)/125(95)	250(190)/165(125)/125(95)
Max. spindle speed, Milling spindle	min <sup>-1</sup>	6000/9000/12000	6000/9000/12000
Max. pressure of coolant through spindle	bar	80	80
Swiveling angle B - axis	degree	-110...+110	-110...+110
Travel Y - axis	mm	250(-100...+150)	250(-100...+150)
Travel X - axis	mm	600(-20...+580)	600(-20...+580)
Tailstock	type	Mechatronic	-
Tool magazine	number	40/80	40/80
Control SIEMENS	type	SINUMERIK 840D sl	SINUMERIK 840D sl

## M35 | M35-G MILLTURN



### M35 MILLTURN M35-G MILLTURN

#### Technical data

		M35	M35-G left // right
Nominal center distance	mm	2000	1800(1680)
Swing - $\varnothing$ over Top slide	mm	520	520
Max. Turning- $\varnothing$ between centers	mm	520	-
Max. power, Turning spindle 40% (100%) duty cycle	kW	33(29)/54(37)	33(29)/54(37)//33(29)
Max. torque, Turning spindle 40% (100%) duty cycle	Nm	630(550)/1600(1100)	630(550)/1600(1100)// 630(550)
Max. spindle speed, Turning spindle	min <sup>-1</sup>	4000/3300	4000/3300/4000
Max. power, Milling spindle 40% (100%) duty cycle	kW	20(15)	20(15)
Max. torque, Milling spindle 40% (100%) duty cycle	Nm	250(190)/165(125)/125(95)	250(190)/165(125)/125(95)
Max. spindle speed, Milling spindle	min <sup>-1</sup>	6000/9000/12000	6000/9000/12000
Max. pressure of coolant through spindle	bar	80	80
Swiveling angle B - axis	degree	-110...+110	-110...+110
Travel Y - axis	mm	250(-100...+150)	250(-100...+150)
Travel X - axis	mm	600(-20...+580)	600(-20...+580)
Tailstock	type	Mechatronic	-
Tool magazine	number	40/80	40/80
Control SIEMENS	type	SINUMERIK 840D sl	SINUMERIK 840D sl



## M40 | M40-G | M50 MILLTURN



### M40 MILLTURN M40-G MILLTURN M50 MILLTURN

#### Technical data

		M40	M40-G left // right	M50
Nominal center distance	mm	1000/2000/3000/4500	1000*/2000/3000	2000/3000/4500
Swing - ø over Top slide	mm	520	520	670
Max. Turning - ø between centers	mm	520	520	670
Max. power, Turning spindle 40% (100%) duty cycle	kW	33(29)/54(37)	33(29)/54(37)//33(29)	54(37)
Max. torque, Turning spindle 40% (100%) duty cycle	Nm	630(550)/2000(1400)	630(550)/2000(1400)//630(550)	2000(1400)
Max. spindle speed, Turning spindle	min <sup>-1</sup>	4000/3300	4000/3300//4000	3300
Max. power, Milling spindle 40% (100%) duty cycle	kW	20(15)	20(15)	20(15)
Max. torque, Milling spindle 40% (100%) duty cycle	Nm	250(190)/165(125)/125(95)	250(190)/165(125)/125(95)	250(190)/165(125)/125(95)
Max. spindle speed, Milling spindle	min <sup>-1</sup>	6000/9000/12000	6000/9000/12000	6000/9000/12000
Max. pressure of coolant through spindle	bar	80	80	80
Swiveling angle B - axis	degree	-110...+110	-110...+110	-110...+110
Travel Y - axis	mm	250(-100...+150)	250(-100...+150)	400(-175...+225)
Travel X - axis	mm	600(-20...+580)	600(-20...+580)	800(-20...+780)
Tailstock	type	Mechatronic	-	Mechatronic
Tool magazine	number	50/100	50/100	50/100
Control SIEMENS	type	SINUMERIK 840D sl	SINUMERIK 840D sl	SINUMERIK 840D sl

\*) without bottom turret

## M60 | M60-G | M65 MILLTURN



### M60 MILLTURN M60-G MILLTURN M65 MILLTURN

#### Technical data

		M60	M60-G left // right	M65
Nominal center distance	mm	1000/2000/3000/4500	2000/3000	1000/2000/3000/4500
Swing - $\varnothing$ over Top slide	mm	690	690	830
Swing - $\varnothing$ over Bottom slide	mm	480	480	640
Max. Turning- $\varnothing$ between centers	mm	690(610)	-	830(760)
Max. power, Turning spindle 100% duty cycle	kW	40/60	40/60/40	40/60
Max. torque, Turning spindle 100% duty cycle	Nm	1830/2748	1830/2748//1830	2318/2748
Max. spindle speed, Turning spindle	min <sup>-1</sup>	3300/2600	3300/2600/3300	2600/2600
Max. power, Milling spindle 100% duty cycle	kW	30	25	30
Max. torque, Milling spindle 100% duty cycle	Nm	315	300	315
Max. spindle speed, Milling spindle	min <sup>-1</sup>	6000	4000	6000
Max. pressure of coolant through spindle	bar	80	80	80
Swiveling angle B - axis	degree	-110...+90	-110...+90	-110...+90
Travel Y - axis	mm	300(-125...+175)	300(-125...+175)	600(-200...+400)
Travel Y - axis (option)	mm	600(-125...+475)	-	-
Travel X - axis	mm	720(-20...+700)	700(-30...+670)	720(-20...+700)
Tailstock, quill - $\varnothing$	mm	140	-	180
Tool magazine	number	40/80/120	40/80/120	40/80/120
Control SIEMENS	type	SINUMERIK 840D sl	SINUMERIK 840D sl	SINUMERIK 840D sl

## M80 | M80-G MILLTURN



## M80 MILLTURN M80-G MILLTURN

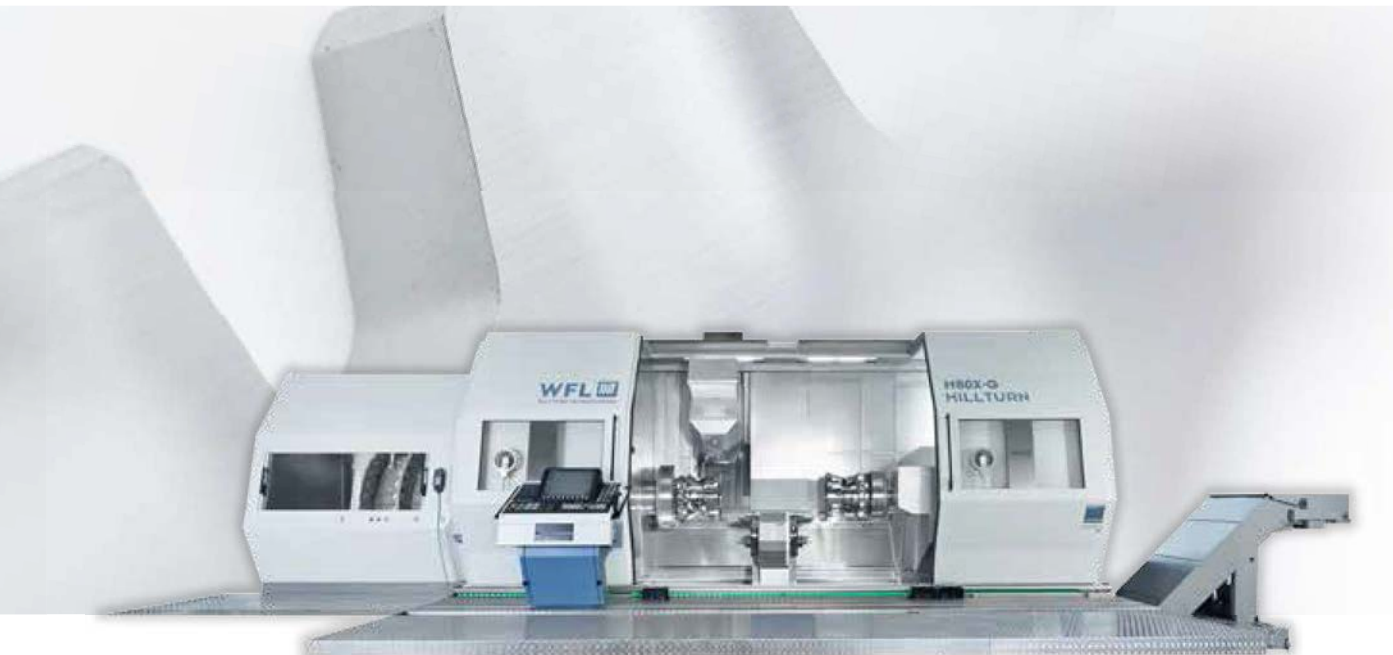
### Technical data

		M80		M80-G	
				left // right	
Nominal center distance	mm	1000/2000/3000/4500/6000		-/2000/3000/4500/6000	
Swing - $\varnothing$ over Top slide	mm	1000		1000	
Max. Turning- $\varnothing$ between centers	mm	1000/1000/1000/1000/980		-/1000/1000/1000/980	
Max. power, Turning spindle 40% (100%) duty cycle	kW	56(40)/80(60)		56(40)/80(60)//60(40)/90(60)	
Max. torque, Turning spindle 40% (100%) duty cycle	Nm	3420(2440)/5860(4400)		3420(2440)/5860(4400)//3000(2000)/4800(3200)	
Max. spindle speed, Turning spindle	min <sup>-1</sup>	2400/1600		2400/1600//2400/1600	
Max. power, Milling spindle 40% (100%) duty cycle	kW	58(45)		58(45)	
Max. torque, Milling spindle 40% (100%) duty cycle	Nm	640(500)/400(310)		640(500)/400(310)	
Max. spindle speed, Milling spindle	min <sup>-1</sup>	5000/8000		5000/8000	
Max. pressure of coolant through spindle	bar	80		80	
Swiveling angle B - axis	degree	220(-110...+110)		220(-110...+110)	
Travel Y - axis	mm	650(-300...+350)		650(-300...+350)	
Travel X - axis	mm	900(-20...+880)		900(-20...+880)	
Tailstock	type	Mechatronic		-	
Tool magazine	number	36/72/108/200 *		36/72/108/200 *	
Control SIEMENS	type	SINUMERIK 840D sl		SINUMERIK 840D sl	

\*) larger on request



## M80X | M80X-G MILLTURN



### M80X MILLTURN M80X-G MILLTURN

#### Technical data

		M80X	M80X-G left // right
Nominal center distance	mm	1000/2000/3000/4500/6000	-/2000/3000/4500/6000
Swing - ø over Top slide	mm	1000	1000
Max. Turning- ø between centers	mm	1000/1000/1000/1000/980	-/1000/1000/1000/980
Max. power, Turning spindle 40% (100%) duty cycle	kW	56(40)/80(60)	56(40)/80(60)//60(40)/90(60)
Max. torque, Turning spindle 40% (100%) duty cycle	Nm	3420(2440)/5860(4400)	3420(2440)/5860(4400)//3000(2000)/4800(3200)
Max. spindle speed, Turning spindle	min <sup>-1</sup>	2400/1600	2400/1600//2400/1600
Max. power, Milling spindle 40% (100%) duty cycle	kW	58(45)	58(45)
Max. torque, Milling spindle 40% (100%) duty cycle	Nm	640(500)/400(310)	640(500)/400(310)
Max. spindle speed, Milling spindle	min <sup>-1</sup>	5000/8000	5000/8000
Max. pressure of coolant through spindle	bar	80	80
Swiveling angle B - axis	degree	220(-110...+110)	220(-110...+110)
Travel Y - axis	mm	650(-300...+350)	650(-300...+350)
Travel X - axis	mm	1050(-20...+1030)	1050(-20...+1030)
Tailstock	type	Mechatronic	-
Tool magazine	number	36/72/108/200 *	36/72/108/200 *
Control SIEMENS	type	SINUMERIK 840D sl	SINUMERIK 840D sl

\*) larger on request

## M85 | M85-G MILLTURN



## M85 MILLTURN M85-G MILLTURN

### Technical data

		M85	M85-G left // right
Nominal center distance	mm	1000/2000/3000/4500/6000	-/2000/3000/4500/6000
Swing - $\varnothing$ over Top slide	mm	1100	1100
Max. Turning- $\varnothing$ between centers	mm	1100/1100/1100/1100/1080	-/1100/1100/1100/1080
Max. power, Turning spindle 40% (100%) duty cycle	kW	56(40)/80(60)	56(40)/80(60)//60(40)/90(60)
Max. torque, Turning spindle 40% (100%) duty cycle	Nm	3420(2440)/5860(4400)	3420(2440)/5860(4400)//3000(2000)/4800(3200)
Max. spindle speed, Turning spindle	min <sup>-1</sup>	2400/1600	2400/1600//2400/1600
Max. power, Milling spindle 40% (100%) duty cycle	kW	58(45)	58(45)
Max. torque, Milling spindle 40% (100%) duty cycle	Nm	640(500)/400(310)	640(500)/400(310)
Max. spindle speed, Milling spindle	min <sup>-1</sup>	5000/8000	5000/8000
Max. pressure of coolant through spindle	bar	80	80
Swiveling angle B - axis	degree	220(-110...+110)	220(-110...+110)
Travel Y - axis	mm	650(-350...+300)	650(-350...+300)
Travel X - axis	mm	1050(-20...+1030)	1050(-20...+1030)
Tailstock	type	Mechatronic	-
Tool magazine	number	36/72/108/200 *	36/72/108/200 *
Control SIEMENS	type	SINUMERIK 840D sl	SINUMERIK 840D sl

\*) larger on request

## M100 | M120 | M150 MILLTURN



### M100 MILLTURN M120 MILLTURN M150 MILLTURN

#### Technical data

		M100	M120	M150
Nominal center distance	mm	2000/3000/5000/6500/8000/*	2000/3000/5000/6500/8000/*	2000/3000/5000/6500/8000/*
Swing - $\varnothing$ over Top slide	mm	900	1140	1480
Swing - $\varnothing$ over bed	mm	980/940/920/880/860	1220/1180/1160/1120/1100	1560/1520/1500/1460/1440
Max. power, Turning spindle 60% (100%) duty cycle	kW	71(60)//126(100)	71(60)//126(100)	71(60)//126(100)
Max. torque, Turning spindle 60% duty cycle	Nm	5290/8400//7800/12400	5290/8400//7800/12400	5290/8400//7800/12400
Max. torque, Turning spindle 100% duty cycle	Nm	4470/7100//6200/9860	4470/7100//6200/9860	4470/7100//6200/9860
Max. spindle speed, Turning spindle	min <sup>-1</sup>	1600/1000//1600/1000	1600/1000//1600/1000	1600/1000//1600/1000
Max. power, Milling spindle 100% duty cycle	kW	30/55	30/55	55
Max. torque, Milling spindle 100% duty cycle	Nm	315/730	315/730	730
Max. spindle speed, Milling spindle	min <sup>-1</sup>	6000/3200	6000/3200	3200
Max. pressure of coolant through spindle	bar	80	80	80
Swiveling angle B - axis	degree	-110...+90	-110...+90	-110...+90
Travel Y - axis, 30kW	mm	600(-200...+400)	600(-250...+350)	-
Travel Y - axis, 55kW	mm	500(-200...+300)	650(-300...+350)	800(-450...+350)
Travel X - axis	mm	920(-20...+900)	1120(-20...+1100)	1120(-20...+1100)
Tailstock, quill - $\varnothing$	mm	180	180/300	300
Tool magazine	number	36/72/108 *	36/72/108 *	36/72/108 *
Control Siemens	type	SINUMERIK 840D sl	SINUMERIK 840D sl	SINUMERIK 840D sl

\*) larger on request

## M200 MILLTURN



## M200 MILLTURN

### Technical data

### M200

Nominal center distance	mm	5000/6500/8000/10000/12000/14000/ *
Swing - ø over Top slide	mm	2000
Max. Turning- ø between centers	mm	2000
Max. power, Turning spindle 100% duty cycle	kW	100/120/160
Max. torque, Turning spindle 100% duty cycle	Nm	9800/40000/80000
Max. spindle speed, Turning spindle	min <sup>-1</sup>	1000/500/350
Max. power, Milling spindle 100% duty cycle	kW	80
Max. torque, Milling spindle 100% duty cycle	Nm	1800
Max. spindle speed, Milling spindle	min <sup>-1</sup>	3500
Max. pressure of coolant through spindle	bar	80 *
Swiveling angle B - axis	degree	220(-110...+110)
Travel Y - axis	mm	1400(-800...+600)
Travel X - axis	mm	2100(-20...+2080)
Tailstock, quill - ø	mm	300/500
Tool magazine	number	30/60/90/ *
Control SIEMENS	type	SINUMERIK 840D sl

\*) larger on request

# Technologies by WFL



Turning



5-axis milling



Turn-milling



In-process measuring



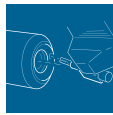
Shaping of gear teeth (Flanx-Spline)



Milling of gear teeth (Flanx-LM)



Drilling



Drilling + ID boring



Gun drilling



Cam milling



B-axis turning



Milling



Hobbing of gear teeth (Flanx-Hob)



Special tool heads



Grinding + fine machining



Milling of crankshaft pins



CNC special contour bar



WFL system boring bar



ID machining tool



CNC facing head







The Sinumerik 840D sl is tailored for the machining operations and features not only highest possible processing power and exceptionally userfriendly programming but also perfect compatibility with all established CAD-CAM-systems. An Ethernet connection allows the transfer of NC-programs, technology data, measuring logs, tool data and magazine occupation at any time.



Process monitoring



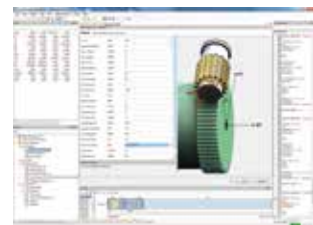
Tool management



Tool offset



Temperature compensation



Millturn PRO program editor

## CrashGuard Studio

### For the programmer



Programming with 3D simulation software  
for verification of NC programs  
on the PC



Visualisation of all programming steps (incl. WFL/  
customer cycles) for error detection at an early stage

Improved quality of NC programs with respect to  
efficiency and machine safety

Shorter set-up times on the machine,  
thanks to prior simulation

The machine operator receives a collision tested,  
finished program

Easy to programme, thanks to the  
Millturn PRO program editor

All 3D geometry data (tools, clamping devices  
and workpieces) can be used for both  
CrashGuard and CrashGuard Studio  
The two systems complement each other!

## CrashGuard

### For the operator



Software for real time collision prevention,  
integrated in the interpolator  
of the CNC system



Effective protection against collisions in  
automatic and manual operation

Collision-free operation even after program  
interruptions and manual intervention

At any time, the CNC system is aware of current  
positions of axes and speeds, PLC signals are also  
taken into account

Current settings of the control such as zero offsets,  
coordinate transformation, etc. are taken into account

„Reaction time“ = 0 !!! (breaking distances are taken  
into account in the NC interpolator in advance, so that  
the result is not just near real time, but real time!)

All 3D geometry data (tools, clamping devices  
and workpieces) can be used for both  
CrashGuard and CrashGuard Studio  
The two systems complement each other!

## WFL cycles

Programming made easy  
with WFL program modules

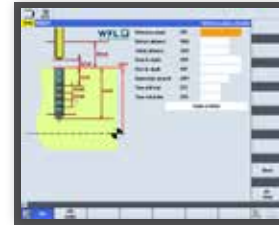


**WFL cycles are designed to suit all types of technologies and are completely flexible!**

WFL cycle support covers a wide range of standard and special technologies thereby making the programming of machining cycles for both complex and simple workpieces manageable in next to no time. Even advanced CAD/CAM systems cannot map the full functionality of MILLTURN machines when it comes to complex machining tasks. Conversely, the same CAD/CAM systems often prove too laborious for simple operations or create disproportionate data volumes for certain operations.

Shop floor solutions do not constitute a satisfactory alternative either – they only cater for a limited technological range and don't make the grade in the flexibility stakes. WFL solves the problem by offering an unbeatable range of cycles for all conceivable types of applications including in-process measuring.

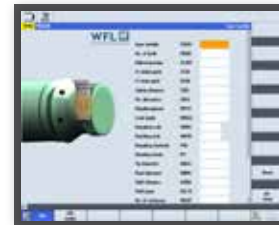
## WFL cycle selection



Deep-hole boring



Two-point difference check



Gear hobbing



Milling of crankshaft pins



ID spline shaping

## Flanx – Gear cutting solutions by WFL

### Cycles for the simple machining of external and internal gear teeth



**FLANX**<sup>®</sup>  
THE TOOTH PROFILER

- Flanx-Hob (for hobbing external gear teeth)
- Flanx-Spline (for shaping external and internal gear teeth)
- Flanx-Plus (Flanx-Hob and Flanx-Spline as a cycle package)
- Flanx-LM (for milling of large gear teeth with standard milling tools)
- InvoMilling™ by Sandvik Coromant (for milling external gear teeth)

## Cranx – WFL cycles for crankshaft machining

### Cycles with graphic support for easy programming

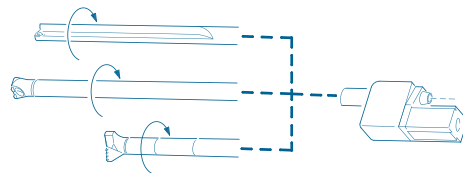


**crANx**  
THE CRANKSHAFT PROFILER

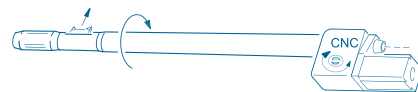
- Cranx-Basic (basic cycle package)
- Cranx-Advanced (extended cycle package)
- Cranx-Plus (complete cycle package)

## The prismatic tool system

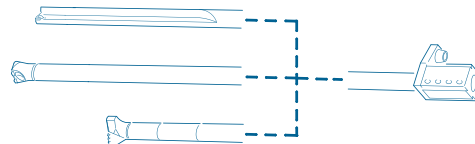
- Deep-hole drilling tool rotating, with coolant supply



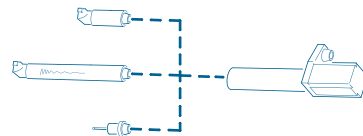
- CNC special contour bar rotating, with radius adjustment (seat pocket machining)



- Deep-hole drilling tool for centric bores



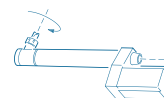
- WFL system boring bar automatic head change



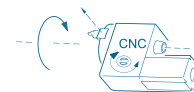
- Boring bar single-piece, vibration damped



- ID machining tool driven



- CNC facing head rotating, with radius adjustment



- CNC special contour boring bar with radius adjustment (bottle boring)







Aerospace



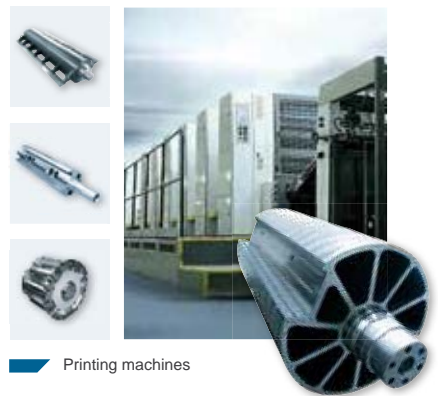
Oil & gas



Hydraulics & pneumatics



Automotive



Printing machines



Engineering



Energy



Crankshafts



Plastic machines



Pioneering solutions for ultimate energy efficiency



**Resource-optimised  
design**



**Efficient operation  
over the entire life of  
the machine**



**Sturdy and  
sustainable**

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