

# Pulleys and Rollers

for straightening and levelling,  
reducing, calibrating  
and transporting

## Areas of use:

- Stretch reducing rollers
- Planetary skew rollers
- Sizing rollers
- Detaching and smoothing rollers
- Elongating rollers
- Pressure rollers
- Working rollers
- Plug rollers
- Grooved rollers
- Straightening rollers
- Reeler rollers

## Design:

### Chilled cast:

Precast grooves. The boundary structure is pearlitic-cementitious. The transition consists of a pearlitic matrix with embedded cementite and lamellar graphite, passing over into a pearlitic structure with embedded graphite veins.

### Spheroidal (ductile) graphite cast iron:

Without or on request with precast grooves.

The advantage of rollers made using this method compared to chilled cast rollers is a higher ultimate strength and resistance to wear. Due to these properties, these rollers/pulleys are very robust and can withstand the roughest production conditions for top quality fabrication standards.

The rollers/pulleys are machined ready for installation, stress-free annealed and their sections are finish turned or pre-turned on a lathe.



**We make rollers of the Highest Quality**

**Our product range:**

Diameter: 100 mm ... 900 mm

Length: 100 mm ... 550 mm

Weight: 10 kg ... 900 kg

Section or pass to customer's requirements!

Different dimensions and weights available on request.  
The material qualities are given in the quality grade lists.



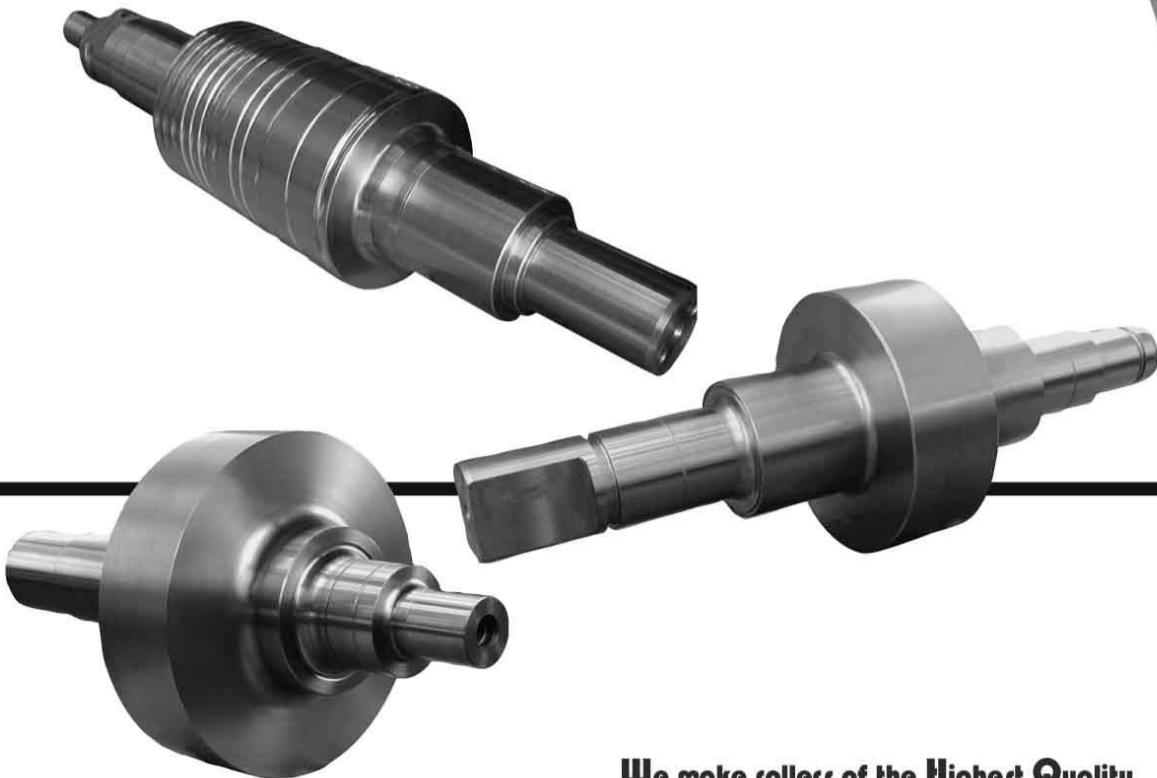
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# Metallurgical rollers

**Areas of use:** Rollers for the manufacture of light section steel, wire, round steel bars, and spindle sections.

**Design:** Rollers are manufactured using gravity die casting up to an individual weight of approx. 6000 kg. Chill casting rollers and cast iron rollers with spheroidal graphite in alloyed and unalloyed quality are a considerable pillar of our product range. The rollers are machined in the pivot ready for installation, the roller barrels rough-turned or if required with pre-turned or pre-cast grooves.



**We make rollers of the Highest Quality**

**Our product range:**

Diameter: 200 mm ... 800 mm  
Barrel length: 400 mm ... 2000 mm  
Weight: 200 kg ... 6000 kg

Different dimensions and weights available on request.  
The material qualities are given in the quality grade lists.



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# Hole matrices (dies) / hole pot inserts for tube manufacture

**Area of use:** In perforating presses for the manufacture of seamless precision steel tubes.

**Design:** Hole matrices (dies) and hole pot inserts are subjected to high thermal and mechanical stresses. The spheroidal graphite iron qualities guarantee the long tool lives required by the user, combined with consistent quality over the whole period of their use.



**We make rollers of the Highest Quality**



**Our product range:**

External diameter: 250 - 350 mm,  
cylindrical and conical  
Length: 600 mm ... 1400 mm  
Weight: 100 kg ... 1000 kg

Different dimensions and weights available on request.  
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# Roller sleeves cylindrical or conical working surfaces

- Areas of use:**
- For smoothing and finishing rollers
  - Cement industry
  - Ceramic industry
  - Coal pulverizing mills
  - Brickworks
  - Feed rollers
  - Woven wire cloth manufacture

**Design:** Gravity die casting in chilled cast iron or spheroidal graphite iron quality.  
This gives the roller sleeves a very hard and wear resistant surface with adjacent transition zone to the grey layer.  
The roller sleeves are finished all over ready for installation, or only pre-machined if the customer wishes.



**We make rollers of the Highest Quality**



**Our product range:**

Cylindrical roller sleeves:

Diameter: 400 mm ... 1200 mm  
Length: 300 mm ... 1500 mm  
Weight: 200 kg ... 4500 kg

Conical roller sleeves:

Diameter: 600/400 mm ... 1200/1000 mm  
Length: 200 mm ... 400 mm  
Weight: 250 kg ... 1000 kg

Feed rollers:

Diameter: 300 mm ... 600 mm  
Length: 300 mm ... 1000 mm  
Weight: 100 kg ... 1000 kg

Different dimensions and weights available on request.  
The material qualities are given in the quality grade lists.

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# Cast iron grades

## Parameters

## Areas of use

### Quality grades and areas of use

Designation	HV	LD	Shore C	Areas of use
<b>1. Unalloyed clear chill casting</b>				
GHK-475	445-505	678-712	59-65	Hydraulic pistons Rollers for finishing stands with low bore depths, hydraulic pistons and roller sleeves
GHK-500	480-520	700-724	63-67	
GHK-350 (S)	325-375	588-628	45-51	Milling plant rollers, self-roughening
GHK-470 (G)	440-500	674-712	59-64	Milling plant rollers, smooth
GHK-510 (R)	460-580	688-755	61-72	Milling plant rollers, corrugated
GHK-520	500-540	712-735	64-68	Roller sleeves for chocolate refiner rotary graters, hydraulic pistons, roller sheaths, dosing rollers for foil rolling mills, dye friction rollers
GHK-530	500-580	712-755	64-72	
<b>2. Alloyed clear chill casting</b>				
GHK-CrNi 350	320-380	584-632	45-52	Mild hard steel rollers for light section steel lines
GHK-CrNi 520	500-540	712-735	64-68	Rollers sleeves for chocolate refiner rotary graters, hydraulic pistons, roller sheaths, dosing rollers for foil rolling mills, dye friction rollers
GHK-CrNi 540	520-580	723-745	66-70	Rollers for intermediate roller stands and finishing stands with small and medium-sized bores, in wire and small section steel trains, rollers with strength requirements in small section and finishing trains, stretch reducing rollers, sizing rollers with low fire crack tendency.
GHK-CrNi 580	550-610	740-770	69-74	
GHK-CrNiMo 475	450-500	681-712	59-64	Rollers, crushing roller shells, roller bodies with top wear resistance properties, roller sleeves for ordinary ceramics, rollers for the soap industry.
GHK-CrNiMo 500w	480-530	700-729	63-67	
GHK-CrNiMo 540w	520-570	724-750	67-71	
GHK-CrNiMo 550w	530-580	729-755	67-72	
GHK-CrNiMo 600w	580-650	755-788	72-77	

### Quality grades and areas of use

Designation	HV	LD	Shore C	Areas of use
<b>3. NiMoCu-alloyed pearlitic spheroidal graphite iron</b>				
GHG-NiMoCu 390	270-330	539-592	38-46	Hole matrice (dies) for seamless tube rolling mills
GHG-NiMoCu 310	270-340	539-600	38-47	
GHG-NiMoCu 375	350-400	609-646	48-54	
<b>4. Ni/NiMo-alloyed pearlitic spheroidal graphite iron</b>				
GHG-Ni 390	360-410	617-654	49-55	Rollers for blooming trains with optimum bending strength and low fire crack tendency
GHG-Ni 430	410-460	654-688	55-61	
GHG-Ni 440	420-470	661-697	56-66	
GHG-NiMo 340	320-360	584-617	45-49	Rollers for cogging down and intermediate roller stands in section, lightweight steel section and wire trains with high bending strength and good wear resistance properties.
GHG-NiMo 360	340-380	600-632	47-52	
GHG-NiMo 380	360-400	617-646	49-54	
GHG-NiMo 400	375-425	628-664	51-57	Rollers for intermediate roller stands in light- weight steel section and wire trains with good wear resistance properties
GHG-NiMo 440	420-460	661-688	56-60	
GHG-NiMo 460w	440-480	674-700	58-63	
<b>5. CrNi-alloyed pearlitic spheroidal graphite iron</b>				
GHG-CrNi 360	340-380	600-632	47-52	Rollers for cogging down stands of lightweight steel section trains, rollers for intermediate roller stands of lightweight steel section and wire trains with good wear resistance proper- ties and optimum strength, detaching rollers for pipe works, rollers with optimum wear resistance properties for finishing stands in section, lightweight steel section and wire trains, running rollers for rotary drum type kilns
GHG-CrNi 380	360-400	617-646	49-54	
GHG-CrNi 400	380-430	632-668	52-57	
GHG-CrNi 430	400-460	646-688	54-61	
GHG-CrNi 460w	430-490	668-706	57-63	
GHG-CrNi 480w	460-500	688-712	60-64	
GHG-CrNi 510w	480-530	700-729	63-67	
<b>6. CrNiMo-alloyed pearlitic/carbide spheroidal graphite iron</b>				
GHG-CrNiMo 340	320-360	584-617	45-49	Rollers for cogging down stands of lightweight steel section, wire and narrow hoop trains
GHG-CrNiMo 370	350-390	609-639	48-53	
GHG-CrNiMo 390	370-410	624-654	51-55	Rollers for dual and trio stands of blooming trains with low bored depth, weak fire crack tendency in section and wire trains
GHG-CrNiMo 410	390-430	639-668	53-57	
GHG-CrNiMo 425	400-450	646-681	54-59	

### Quality grades and areas of use

Designation	HV	LD	ShoreC	Areas of use
zu. 6.				
GHG-CrNiMo 440	420-460	661-688	56-61	Rollers for "Danieli" blooming stands, Rollers for section and wire trains with medium bore depth, low fire crack tendency, and indefinite hard- ening process progression, reeler rollers and detaching rollers for the tube industry
GHG-CrNiMo 470w	450-490	681-706	59-63	
GHG-CrNiMo 480w	460-500	688-712	60-64	Rollers for the finishing stands of light- weight steel section, wire and narrow hoop trains, sizing rollers, stretch reducing rollers, roller sleeves for ordinary ceramics, edger rollers for narrow hoop trains
GHG-CrNiMo 500w	480-530	700-729	63-67	Roller discs for "Kock's" stands
GHG-CrNiMo 520w	500-540	712-734	64-68	
GHG-CrNiMo 550w	530-570	729-750	67-71	Roller sleeves for ordinary ceramics
GHG-CrNiMo 580w	560-600	745-765	70-73	
GHG-CrNiMo 620w	600-640	765-783	73-76	
<b>7. NiMo-CrNiMo-alloyed acicular spheroidal graphite iron</b>				
GHG-AC-NiMo 300w	280-320	548-584	39-45	Rollers for the blooming trains of section, lightweight steel section, hoop and wire trains with low fire crack tendency due to pearlite free structure
GHG-AC-NiMo 320w	300-340	566-600	42-47	
GHG-AC-NiMo 340w	320-360	584-617	47-52	
GHG-AC-NiMo 380w	360-400	617-647	50-54	Rollers in intermediate roller stands for medium and heavy section trains, roller sleeves, ring rollers for large sections, running rollers for rotary drum type kilns, rollers in intermediate roller stands for flat steel, lightweight steel section and wire trains, rollers for cogging down stands in strip trains and Danieli stands, PSW rollers
GHG-AC-NiMo 400w	380-420	632-661	52-56	
GHG-AC-NiMo 420w	400-440	646-674	54-58	
GHG-AC-NiMo 440w	420-460	661-688	56-61	
GHG-AC-NiMo 470w	440-500	674-712	58-64	
GHG-AC-NiMo 500w	480-520	700-723	62-66	Rollers for finishing stands in lightweight steel section and wire trains, rollers in levelling machines and reducing works, sizing rollers, ring roller for "Danieli" stands
GHG-AC-NiMo 530w	510-550	718-740	65-70	
GHG-AC-CrNiMo 550w	530-570	729-750	66-70	Rollers for sizing rolling mills and for final stands of "Danieli" rolling trains
GHG-AC-CrNiMo 590w	570-610	750-770	70-74	

# Cast iron grades

## Parameters

## Areas of use

### Quality grades and areas of use

Designation	HV	LD	Shore C	Areas of use
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#### 8. CrNi-alloyed chilled composite casting with spheroidal graphite iron

GHK-V-CrNiMo 525	500-550	712-740	65-69	— Rollers in finishing stands in narrow hoop trains and wire trains with high bending strength
GHK-V-CrNiMo 575	550-600	740-765	69-73	
GHK-V-CrNiMo 640	620-660	774-792	75-79	

#### 9. CrNi-alloyed indefinite chill casting

GHK-IC-CrNiMo 410w	390-430	639-668	53-57	— Rollers for intermediate roller stands and finishing stands in medium-sized and light section steel trains with large profile cross-sections, rollers for the food and feedstuffs industry
GHK-IC-CrNiMo 450w	430-470	668-694	57-62	
GHK-IC-CrNiMo 520w	500-540	712-734	64-68	
GHK-IC-CrNiMo 550w	530-570	729-750	67-71	

#### 10. Spheroidal graphite iron to DIN

Nodular graphite iron 70 to DIN 1963, Part 1			220-280 HB	— Rotationally symmetrical full and hollow cylinders for special areas of application e.g. ram pistons
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#### 11. Ni-hard

On request