

## Equipment list (excerpt)

CNC-machining	QTY	Category	Technical data
CNC-turning machines	9	sliding head leathes	from Ø10 up to Ø32 und lenght up to 400mm
	45	vertical turning machines, 2- and 4-axis	from Ø10 up to Ø300 und length up to 800mm
	242	horizontal turning machines, 2- and 4-axis	from Ø10 up to Ø700 und lenght up to 1000mm
CNC-machining center		horizontal and vertical	
	4	3-axis machining	workspace X500mm Y500mm Z500mm
	6	4-axis machining	workspace X500mm Y500mm Z500mm
CNC- gear machining	7	5-axis machining	workspace X880mm Y630mm Z630mm
	10	CNC-hobbing machines (horizontal and vertical)	up to Ø250, module 6 and length up to 400mm
	5	CNC-spline rolling machines	up to Ø70, module 2,5 and length up to 600mm
	6	CNC-shaping machines	up to Ø400, module 6 and length up to 600mm
	1	CNC- whirling machines	up to Ø200, module 10 and length up to 600mm
	5	CNC-gear grinding machines	up to Ø360, module 6 and legth up to 600mm
	2	CNC-profile grinding machines	up to Ø400, module 10 and length up to 1000mm
CNC-grinding machines	1	CNC-worm grinding machine	up to Ø300, module 9 and legth up to 1000mm
	17	external cylindrical-	from Ø10 up to Ø200 and legth up to 1500mm
	3	internal cylindrical-	from Ø10 up to Ø300 and legth up to 250mm
	7	centerless-	from Ø10 up to Ø100 and legth up to 500mm
CNC-deep hole drilling machines	2	surface-	1500 x 600 mm
	12	2- to 6-spindels	from Ø5 up to Ø35 and legth up to 450mm
CNC-sawing machines	6		up to Ø400 mm

Special technology	QTY	Description
Hardening machines	6	Induction hardening machines
	1	Vacuum hardening (heat treatment) machines
	1	Cementing and hardening
Industrial cleaning technique equipment	1	Continuous washers for presswork (production)
	8	Single chamber washers
	7	More chamber washers (ultra sound)
Welding	3	Welding electrodes
	2	Gaseous shield (MIG)
Straightening	6	Automatic straightening press
	3	Manual straightening press

Measuring Equipment	QTY	Description	Measuring extent
3D co-ordinate measuring device	2	3D co-ordinate measuring device	X1200mm Y2500mm Z1000mm
	5	3D co-ordinate measuring device	X700mm Y1000mm Z660mm
	2	3D co-ordinate measuring device	X700mm Y600mm Z600mm
	2	3D co-ordinate measuring device	X500mm Y400mm Z400mm
Optical measuring device	13	Optical measuring device	up to 120 x 870mm diameter
Measuring centre for gearing	3	Measuring centre for gearing	up to 400 x 550mm diameter
Roughness gage	17	Roughness gage	
Contour measuring instrument	3	Contour measuring instrument	200mm
Formtester	3	Formtester	
Horizontal CNC Measuring instrument for shafts	2	Horizontal CNC Measuring instrument for shafts	up to 110 x 700mm diameter