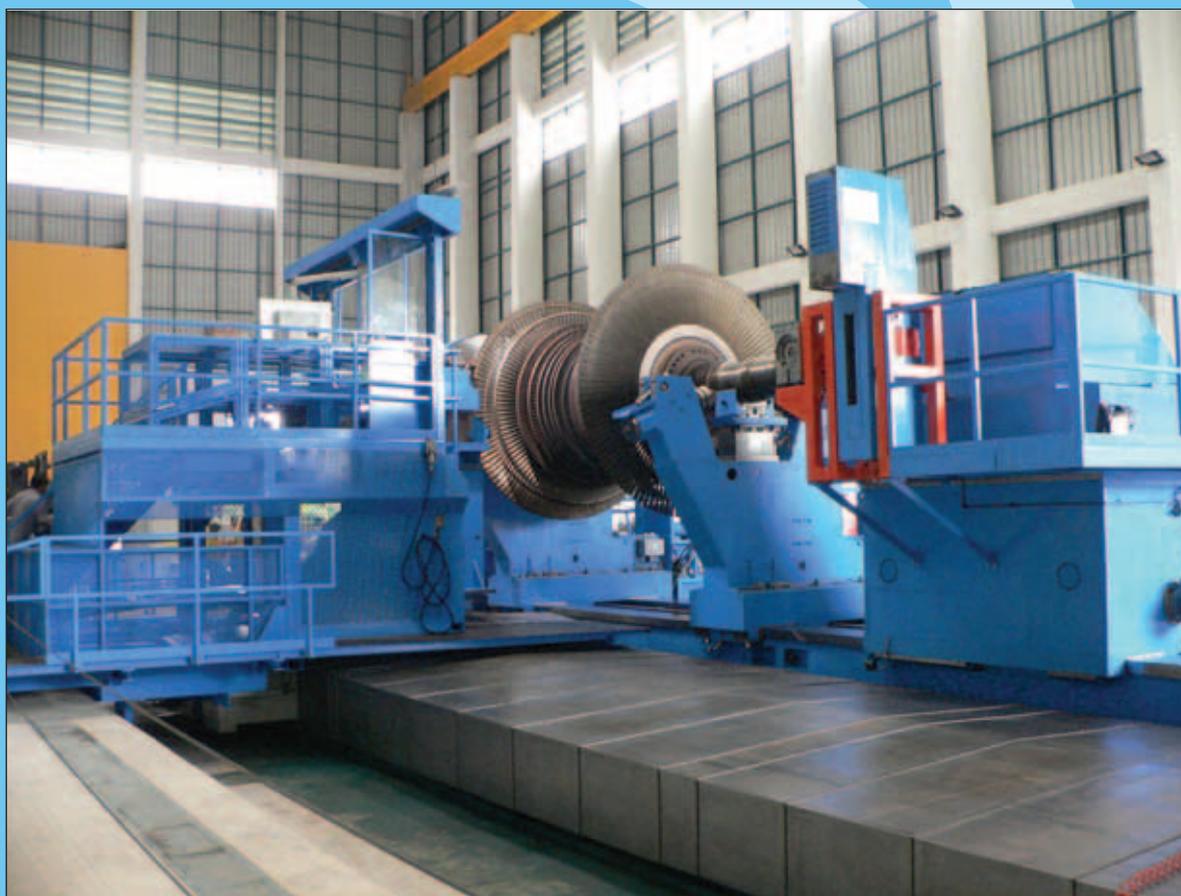
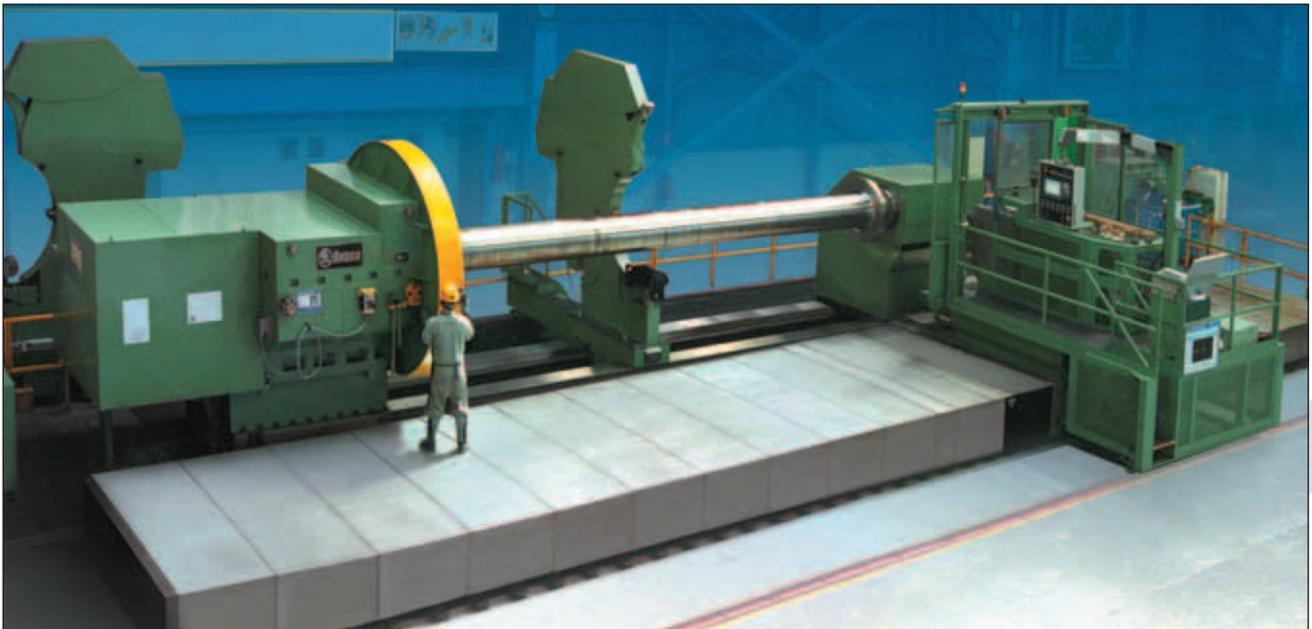


UNIVERSAL CENTRE LATHES ŠKODA SR



TRADITION AND EXPERIENCE

The ŠKODA machine tools of different types and design have been present in the world market since the 1920s. Škoda Works actually started this product line in 1911. Among the machine tools designed and manufactured by the Works are many of unique concept, high precision and outstanding operational reliability. Centre lathes had ranked among the basic types of machine manufactured by Škoda Works from the very beginning. The present ŠKODA SR type series of heavy-duty horizontal centre lathes are machines of modern design intended for efficient and precise manufacturing of axial workpieces.



DESCRIPTION

- The machine is placed on a concrete foundation making possible precise positioning of individual machine parts and retention of reaction forces from moving parts and cutting forces.
- The lathe bed of grey cast iron including four or five guideways is fitted onto the foundation block by means of anchoring bolts allowing for bed levelling in both horizontal and vertical directions. The guideways for tailstock and steadies are lined with hardened bars; the saddle guideways are protected by telescopic covers.
- The headstock body is a grey-iron casting with the spindle mounted in roller bearings or a combination of radial hydrostatic and axial roller bearings. The temperature-stabilised spindle is powered by an controlled AC drive. The gearbox includes gears wheels in constant engagement and a hydraulic system of speed step changing. Attached to the headstock is a removable faceplate with 4 or 8 independently controlled clamping jaws.
- The carriage can traverse along the tailstock and steadies. The longitudinal feed mechanism is facilitated by two preloaded pinions, feed in the in the crosswise direction by means of a ball screw in combination with pre-stressed nut. The carriage and cross slide use a combination of hydrostatic and rolling-contact mounting. The guideways are lined with plastic material.
- The tailstock traverses along the two rear guideways. The quill is provided with elastic seating in axial direction compensating temperature dilatations and indication of the axial force on the tip. The quill extension speed is variable.
- The machine control system is fitted taking into account the customer preference (SINUMERIK 840D, FANUC).
- The machine control panel is located on the carriage platform.
- The machining sector can be provided with a cover.

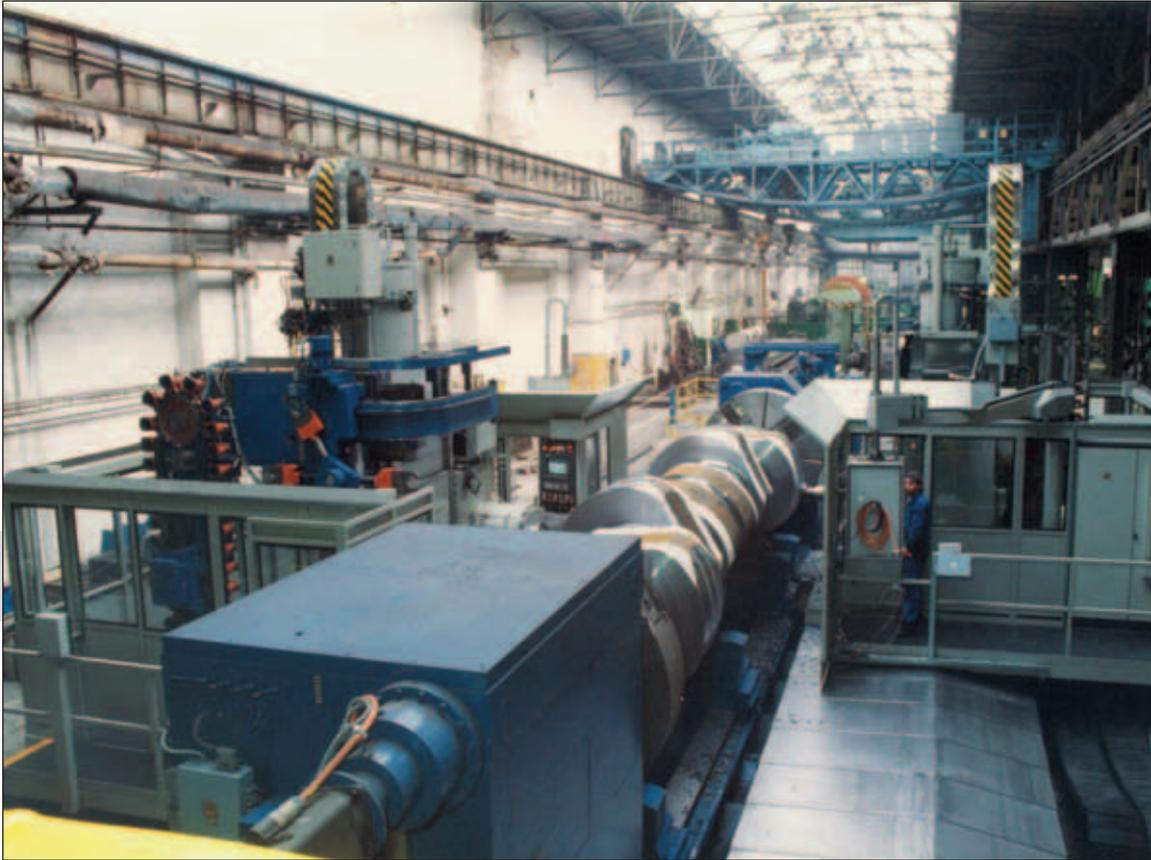


TECHNOLOGICAL CAPABILITIES

The ŠKODA SR type-series lathes are intended for axial part machining using various cutting techniques and NC system for automation of particular technological and workpiece-handling operations. If equipped with the necessary accessories, the lathe may:

- work external workpiece surfaces using the full power of the main drive during rough machining and attain high geometric precision during the finish-machining operations;
- work internal workpiece surfaces using boring bars including damper;
- perform efficient grinding of external surfaces;
- grind internal surfaces;
- mill external cylindrical surfaces using the orthogonal method;
- perform milling and boring operations both in the workpiece axis or under any other angle;
- cut threads of any lead parameters;
- using special outer turning equipment, to turn crank journals on crankshafts.

Workstations including ŠKODA SR lathes meet the requirements of the EU (CE) and similar regulations applicable in non-European territories (UL, CSA and others).

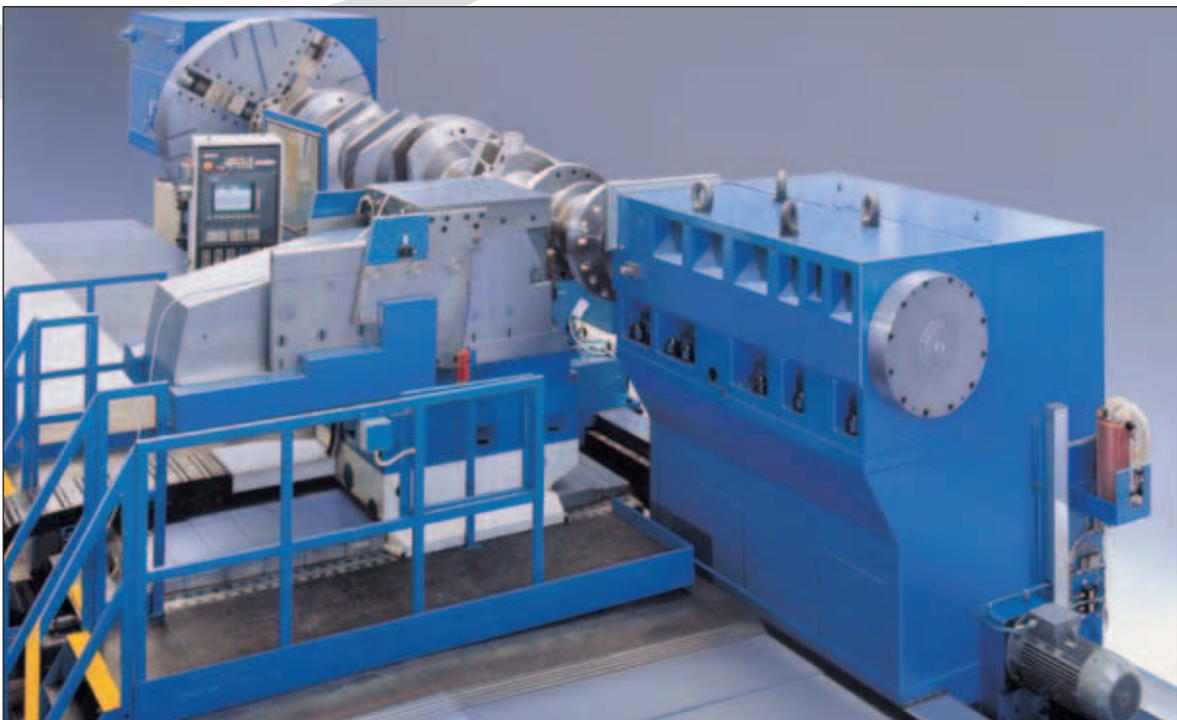


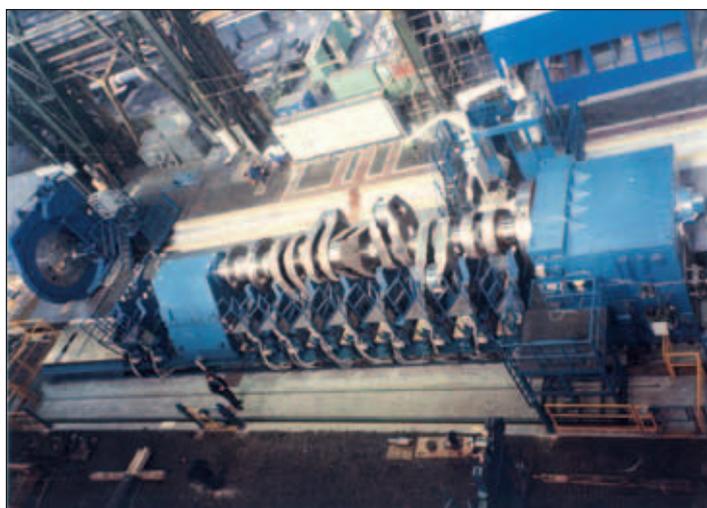
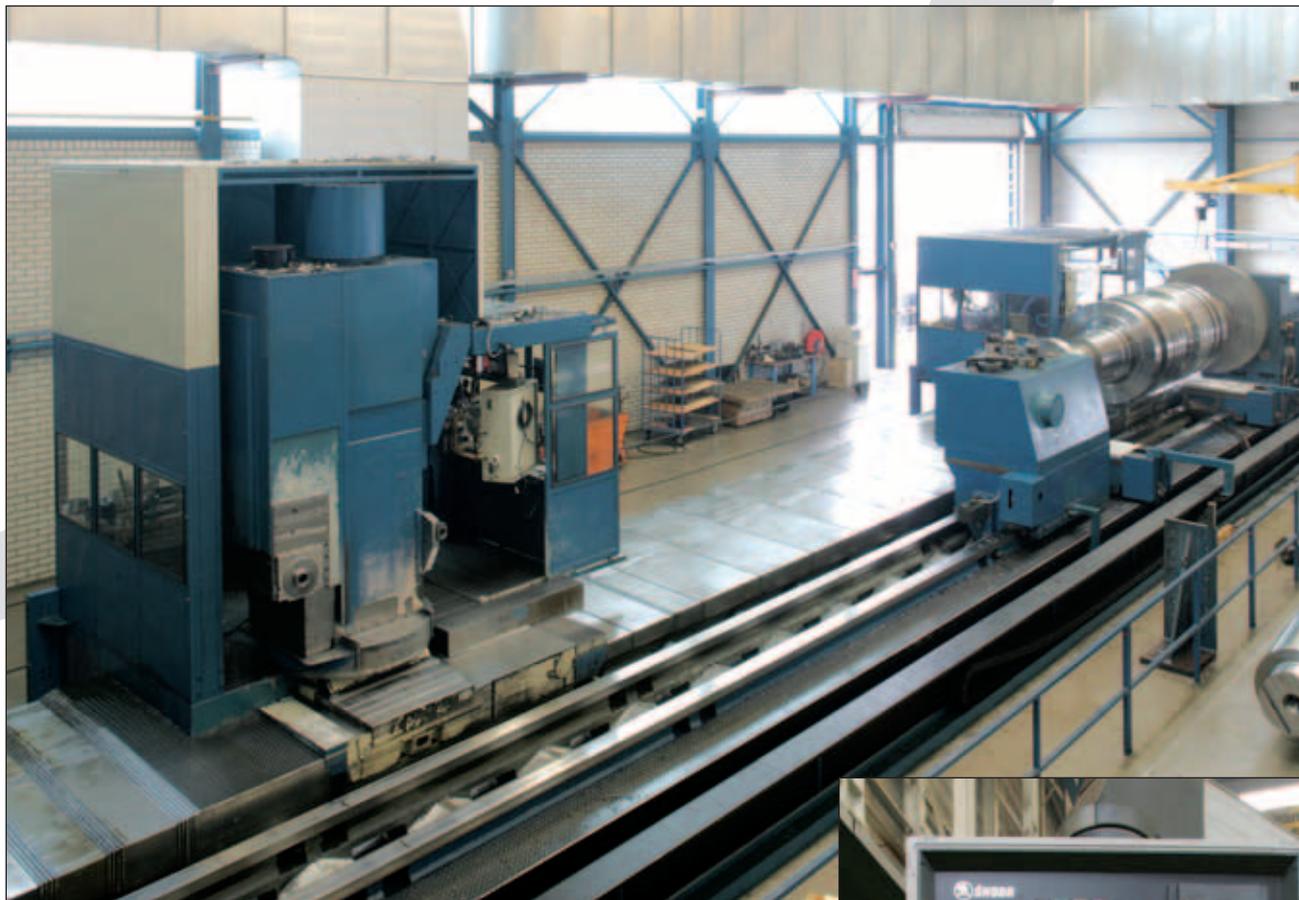
EFFICIENT CRANKSHAFT MACHINING

The machine design allows for great versatility in setting-up the desired machine configuration.

Examples:

- Special workstation set up to facilitate efficient machining of heavy forged crankshafts for four-stroke naval Diesel engines using the method of rotational milling.
- Special workstation for machining built-up crankshafts for two-stroke naval Diesel engines. This workstation includes two carriages where carriage 1 carries carries lamella type tool holder and is used for machining the axial journals while carriage 2 carries a cross-slide with outer turning equipment attached used for machining the crank journals. The lathe is further equipped with special work steadies the number of which depends on the number of cranks.





Machina type	SR1	SR2	SR3	SR4	SR5
Parameter	100/130/150	130/160/200	200/250/300	300/330/360	360/420/520
Unit.					
Swing over saddle	1000/1300/1500	1300/1600/2000	2000/2500/3000	3000/3300/3600	3600/4200/5200
Swing over bed	1250/1550/1750	1700/2000/2400	2500/3000/3600	3000/3900/4200	3600/4200/5200
Centres-above-bed distance	780/930/1100	950/1100/1300	1450/1700/1950	1950/2100/2250	1850/2150/2600
Distance between centres	3000 - 20000	4000 - 20000	4000 - 20000	4000 - 20000	10000 - 30000
Weight of workpiece clamped between centres, no steadies	25	25/56	25/56/100/160	56/100/160/250	56/100/160/250/350
Aggregate guideway field width	1550	2500	3150	4300	5140
Guideway height	710	750	900	800	800
Number of guideways	5	4	4	4	4
Traverse in X and Z axes	0 - 6000				
Cross-slide traverse	800	1000	1250	1600	1750/2200
Displacement force in X and Z axes	60	160	160	160	160
Headstock type	25	56	100	160	250
Weight of workpiece between centres	25	56	100	160	250
Diameter in front bearing	340	400	630	710	800
Clamping plate diameter	1000/1250	1600/2000	1600/2000	2000/2200	2500/4400
Spindle speed range	1 - 700	1 - 400	1 - 250	1 - 200	1 - 120
Maximum torque	25/35	60/90/140	60/90/140	270	270
Power	60/100	60/100/140/200	60/100/140/200	200	200
Number of mechanical gear ratios	3	3	3	3	2
C axis					
Spindle speed range	0,004 - 5				
Maximum torque	25	60/90	60/90	150	150
Tailstock type	25	56	100	160	250
Quill diameter	280	320	450	560	850
Quill extension	250	250	250	250	250

ŠKODA SR

ACCESSORIES

Use of various additional equipment and machine accessories may extend the technological capabilities of the lathe and increase labour productivity. Among the standard accessories are:

- Second carriage
- Lamella type carriage
- Automated turret heads
- Boring bars
- Grinding equipment for both external and internal workpiece surfaces
- Milling equipment
- Steadies of different types
- Probes for tool and workpiece measurement
- Devices for machine and tool protection
- Chip conveyors and tool-cooling equipment



TECHNICAL ADVANTAGES

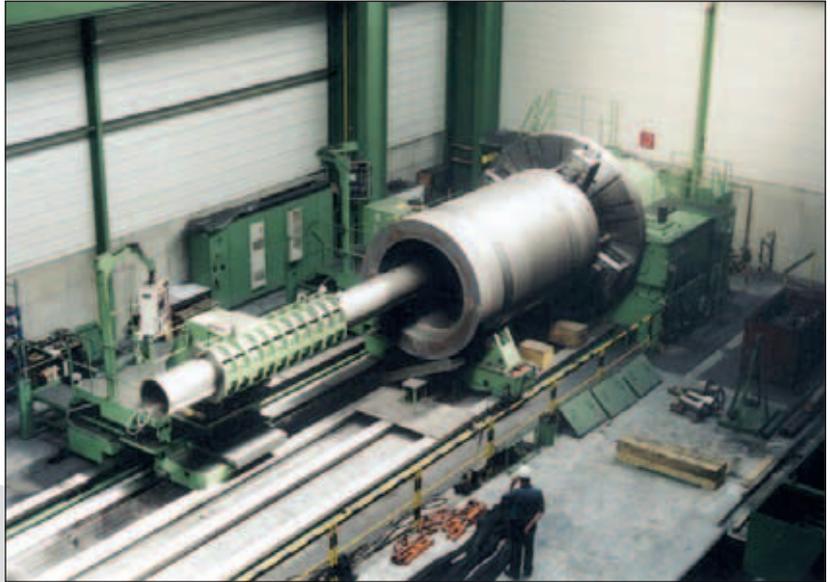
- The modular design solution of the ŠKODA SR lathes making possible setting-up of the machine configuration best suited to the intended technological purposes
- Wide range of accessories
- Use of the C axis for indexing purposes or machining with respect to movements in other axes
- Parking the saddle behind the tailstock when using automated measurement system including sensors and gauges fitted onto the machine spindle
- Application of mechanical, hydraulic and electric component parts with verified technical parameters and high operational reliability supplied by leading world manufacturers
- Automated self-diagnostic system including interface for remote data processing
- Electric accessories with optional power-supply voltages and frequencies



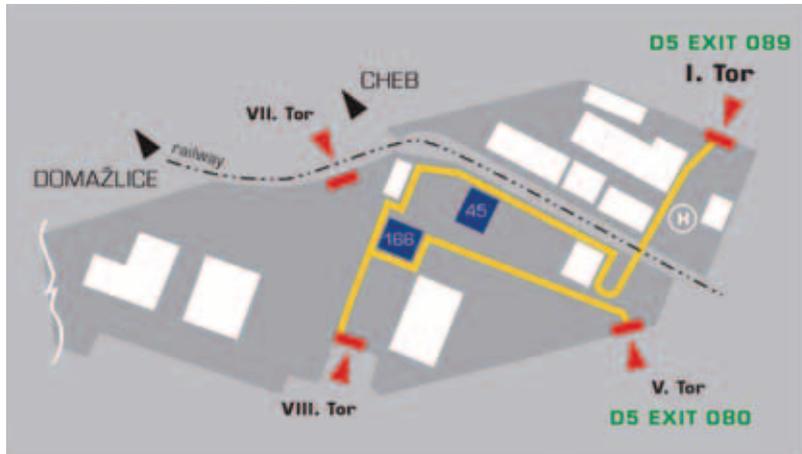


FLEXIBLE RESPONSE TO CUSTOMER REQUIREMENTS

The company experts are ready to provide assistance to the customers in setting up their work stations to best meet the operational requirements and/or specifying technological operation for the machining of particular workpieces. You can rely on the expertise and rich experience of our engineers who will help you resolve complex technological problems and identify the optimum solutions ensuring high labour productivity at minimum investment costs. The design concept of the ŠKODA products makes possible to set up workstations ranging from universal solutions consisting of basic machine configuration to complex workstations for specific technological operations.







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