

*Zetor*

# CRYSTAL



A WORKHORSE WITH SIX CYLINDERS  
UNDER THE BONNET



Tractor is Zetor. Since 1946.





SIMPLE TO OPERATE WITH A POWERFUL ENGINE. A ROOMY AND COMFORTABLE CAB WITH MINIMUM NOISE. LOW MAINTENANCE AND OPERATING COSTS. THESE ARE THE ATTRIBUTES THAT MAKE CRYSTAL THE PERFECT TEAMMATE FOR HARD WORK.



## LEGENDARY CRYSTAL

High performance and an angular shape – these are the properties that best encapsulate the tractor model range which fittingly bears the name Crystal.

### ■ PIONEER

Development of a new Unified Range II started at the Brno plant in 1964. The first models of the new range drove off the production line after several years of development in 1969, and were named the Zetor 8011 Crystal. These 80 hp tractors with a four-cylinder engine pioneered an all-new generation of more powerful agricultural machines.

In its launch year, Crystal received several prestigious awards at SIMA, the Paris international agricultural show. The trade fair organizers and target customers appreciated both the unique “crystal” design (created by Otakar Diblík, a designer who was fond of crisp lines) and its technical equipment, which was very modern for the time. The new model range boasted the first safety cab with integrated roll-over stability control, located on silent blocks.

### ■ SIX-CYLINDER ENGINE WITH 4x4

The new Crystal 12011 was introduced in 1975. This was the first six-cylinder model, which was also available in a 4x4 version.

In 1981, ZETOR relocated its production of heavy tractors to the state-owned company ZTS in Martin, Slovakia.





## PERFORMANCE

A balanced combination of six-cylinder engine and overall tractor weight provides you with enough power for heavy workloads.

## ENDURANCE

Come wind or rain, summer or winter, day or night, Zetor Crystal does not wait around for the ideal conditions. It gives maximum performance whenever you need.

## TOTAL COST OF OWNERSHIP

Low consumption, affordable spare parts and fast, high-quality service worldwide. A reliable teammate whose faithful service will always be appreciated.

- SIMPLE, ROBUST TRACTOR WITHOUT COMPLICATED CONTROLS
- POWERFUL SIX-CYLINDER ENGINE WITH HIGH TORQUE
- LONG WHEELBASE AND SPRING-MOUNTED AXLE
- COMFORTABLE DRIVE AND LOW CAB NOISE
- LOW OPERATING COSTS AND AFFORDABLE SPARE PARTS
- FOUR PTO SPEEDS FOR ALL TYPES OF DRIVEN IMPLEMENTS

Crystal tractors are designed to successfully compete against tractors in the medium- and high- performance categories.





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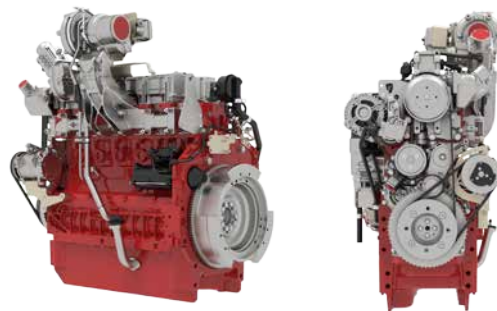
Powerful,  
reliable and  
environmentally  
friendly.

High power is guaranteed by the 144 hp and 163 hp six-cylinder engines. All Crystal engines are based on the proven concept of four-stroke compression ignition, with 24 valves and a common rail injection system.

The robust engine block forms a compact element of the tractor's load-bearing structure, which is able to withstand high loads from mounted implements.

An impressive level of torque rise guarantees engine flexibility and a broad scope of activity in the selected gear, reducing to a minimum the need to shift gears.

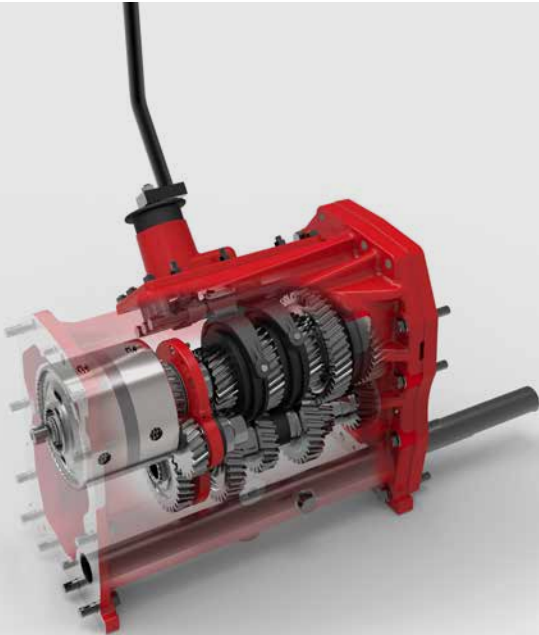
The exhaust gas treatment system using SCR technology not only reduces the amount of emissions released by the tractor, but also leads to significant fuel savings compared to previous engine designs. Protect not just your and your children's health, but also save on running costs.



- PROVEN TECHNOLOGY FROM AN ESTABLISHED MANUFACTURER OF COMPRESSION IGNITION ENGINES
- 6.1-LITRE DISPLACEMENT PROVIDES EXCELLENT POWER AND HIGH EFFICIENCY
- LOW FUEL CONSUMPTION MEANS LONG-TERM SAVINGS
- HIGH QUALITY GUARANTEES LONG SERVICE LIFE
- LOW NOISE LEVEL MAKES DRIVING COMFORTABLE
- ENGINE POWER CHARACTERISTICS TYPICAL FOR SIX-CYLINDER ENGINES ENSURE HIGH TORQUE AT LOW SPEEDS. THIS MEANS IT'S EASY TO GET GOING – EVEN WITH HEAVY IMPLEMENTS



- ENGINES MEET STRINGENT STAGE IIIB EMISSION REQUIREMENTS
- LOW PRODUCTION OF PARTICULATES AND EMISSIONS AS WELL AS LOW FUEL CONSUMPTION THANKS TO COMMON RAIL INJECTION SYSTEM
- MAXIMUM EXHAUST GAS TREATMENT THANKS TO SCR TECHNOLOGY
- AUTONOMOUS OPERATION
- (300-LITRE TANK LASTS THROUGHOUT THE WORKING DAY)



## GEARBOX

## Long service life

The gearbox has been designed with an emphasis on simple operation, a logical gearshift pattern, low losses at high power transmission, and an outstanding service life based on years of testing.

The gearbox has 30 forward and 30 reverse speeds. Tractor operation is aided by a three-stage torque multiplier (PowerShift), hydraulic reverser (PowerShuttle) and the clutch button on the gear lever (PowerClutch).

The pair of wet disk clutches is reliable and guarantees long life. The most commonly used working range offers 14 gears – more than offered by most competitors.

- IN-HOUSE PRODUCTION AND METICULOUS CONTROLS GUARANTEE TOP QUALITY
- HIGH-QUALITY AND DURABLE MATERIALS FOR A LONG SERVICE LIFE
- LARGE VARIETY OF SOLUTIONS OFFERED TO MEET A BROAD RANGE OF NEEDS
- MAINTAINING OPTIMUM ENGINE SPEED TO ENSURE EFFECTIVE POWER
- FOUR INDEPENDENT PTO SPEEDS OFFERED AS STANDARD



## HYDRAULICS

## Performance and accuracy

Two auxiliary cylinders ensure not only uniform tractor load but also a maximum lifting force of 85 kN. A three-part accessory distributor with reverse quick-coupling for waste from the rotary hydraulic engine allows different types of implements to be used. Use of the effective EHR Hitchtronic tillage control system comes as standard.

### ■ HITCHTRONIC

The electro-hydraulic system has the HITCHTRONIC function, a system that provides automatic control of the rear three-point hitch. When using this system, there is no need to set up types of regulation or their required sensitivity. The control system automatically measures current soil resistance and adjusts the three-point hitch accordingly.

The HitchTronic system increases work productivity and reduces fuel consumption by about 5-7%.

- MAXIMUM LIFTING FORCE 85 KN
- EVERYDAY WORK IS SIMPLIFIED THROUGH PRECISE MANAGEMENT OF CONTROL FUNCTIONS
- EXCELLENT OUTER HYDRAULIC CIRCUIT OIL CAPACITY
- SIMPLE SYSTEM GUARANTEES TROUBLE-FREE OPERATION







## Excellent view

The spring-mounted cab and quiet engine are two basic features contributing to a comfortable drive in the new Zetor Crystal. The cab design meets stringent safety standard requirements and also provides roll-over protection. The newly openable roof hatch makes it much easier to work with the front loader.



- SIMPLE AND INTUITIVE TRACTOR CONTROL WITHOUT COMPLICATED SETTINGS
- REDUCED CAB NOISE AND OPENABLE ROOF HATCH FOR PERFECT COMFORT
- GOOD VIEWS IN ALL DIRECTIONS AND OF ALL IMPLEMENTS USED





## AXLE

## Comfortable drive

The spring-mounted front driven axle of Zetor Crystal models consists of two separate, independently suspended half-axles. The FDA features outstanding rigidity and large reserves to take up long-term stress.

Suspension and spring mounting of the wheels is achieved using patented trapezoidal links.

The front driven axle has a 100% hydraulically operated multi-disk differential lock.

- SUPERB DRIVING COMFORT IN ALL CONDITIONS
- HIGH ABSORPTION AND DAMPING CAPACITIES REDUCE VIBRATIONS
- EXCELLENT FEEDBACK FROM THE FRONT WHEELS FOR CONTROLLING MOVEMENT
- PATENTED SUSPENSION AND SPRING MOUNTING OF BOTH WHEELS





**ZETOR CRYSTAL 160**





## DESIGN

The timeless design of ZETOR CRYSTAL tractors builds on the original, legendary CRYSTAL, which was manufactured from 1964 and won passionate admiration from users all over the world.

The new ZETOR CRYSTAL has been inspired by the angular outline of the original CRYSTAL and by the regular geometry of crystal forms. The captivating elegance of the most powerful tractor in the ZETOR portfolio combines a fascination with the rich heritage of the brand with modern trends in product design.





# Only originals give a perfect fit

Respect your tractor's identity

## SPARE PARTS

ZETOR TRACTORS a.s. provides the world-wide sale of original spare parts for both warranty and post-warranty service through its sales networks of representatives. The quality of original spare parts is identical to the quality of parts used to assemble new products.

With Zetor's original service you can be assured of benefitting from all the available improvements and innovations that guarantee the operating and useful properties of your machine are maintained. Each part comes in original packaging with a unique identification number.

Zetor spare parts guarantee high quality at a reasonable price. To maintain a long life, the company recommends using only original spare parts, thereby respecting your tractor's identity.

**For more information, please contact your authorized Zetor dealer.**





# Developed and manufactured in the heart of Europe

More than a million customers can't  
be wrong

ZETOR HAS BEEN MAKING TRACTORS SINCE 1946. IN ITS TIME, IT HAS MANUFACTURED MORE THAN 1.2 MILLION TRACTORS, AND EXPORTED MOST OF THEM TO MORE THAN 90 COUNTRIES OF THE WORLD. ZETOR IS NOW BACK WITH THE LEGENDARY ZETOR CRYSTAL, A MODERN SIX-CYLINDER MACHINE CREATED FOR HARD WORK.

## PRODUCTION

Production of Zetor tractors and engines is concentrated at the heart of Europe. The in-house development and production centre in the Czech Republic helps ensure that the products offered are of the highest quality. They also make it possible to introduce many innovations.

## DEVELOPMENT

The Engineering Department is a longstanding and reliable research, development and testing facility. It is staffed by an expert team of specialists who combine their own know-how with state-of-the-art technologies. The result is a comprehensive solution – starting out from a concept, before progressing to a design and construction, followed by the production of prototypes through to the subsequent laboratory and operating tests of tractors and engines.





MODEL	150	160
ENGINE		
Stage IIIB type	TCD 6.1 L6	
Homologated Power (2000/25/EC) [kW/hp]	106.1/144	120.1/163
Rated Speed [rpm]	2,100	
Number of Cylinders	6	
Number of Valves	24	
Aspiration	Turbocharged	
Fuel Injection System	Common Rail	
Bore/Stroke [mm]	101/126	
Displacement [cm³]	6,057	
Cooling	Viscous fan clutch	
Maximum Torque (2000/25/EC) [Nm]	650	739
Improvement of Torque (2000/25/EC) [%]	38	36
GEARBOX		
Type	5-stage synchro shuttle with automatic 3-stage multiplier	
Reverser	PowerShuttle – under load at 10 kph	
Shifting	Fully synchronized	
Number of Gears (F/R)	30/30	
Speed [kph]	40	
PTO		
Type	Independent, multiplate PTO clutch	
Rear PTO Revolutions	540/540E/1,000/1,000E; independent 540/1.000 (optional)	
Front PTO Revolutions	1,000	
Front PTO	Power transmission up to 90 kW	
HYDRAULICS		
Type	Bosch electro-hydraulic system with Hitchtronic, 2 auxiliary cylinders	
Three-Point Hitch	Category III	
Control	Electronic	
Max. Lifting force [kN]	85	
Operating Pressure [MPa]	20	
Pump Capacity	85	
Outer Circuits Tapping (Quick-coupling)	6+1 (zero)	
Hitches	Modular CBM hitch system	



MODEL	150	160
CAB		
Spring mounting	Fixed / Spring-mounted	
Openable Roof with Hatch	Standard	
Seat	Zetor seat with pneumatic / mechanical springing	
Passenger Seat	Standard with safety belt	
Steering Wheel	Tilting / Telescopic	
Air-Conditioning	Yes	
Noise [dB]	73.2	
OTHER SPECIFICATIONS		
Drive System	4WD	
Front Driven Axle	Fixed / Spring-mounted (optional)	
Steering	Hydrostatic	
Service/Parking Brakes	Service – rear 5-disk brake with automatic connection to front driven axle Parking – mechanically operated service brake mechanism	
Front Brakes	No	
Trailer Brakes	Hydraulic/Pneumatic – single hose, double hose	
Max. Front Ballast [kg]	900	
Max. Rear Wheel Ballast [kg]	472	
Tank Volume [l]	300	
Front Mudguards	Swivel	
Heated Mirrors, Rear Defroster	Yes	
Pre-Wiring for Radio	Yes	
DIMENSIONS		
Operating Weight* [kg]	4,800 – 5,840	
Max. Length [mm]	5,770	
Max. Width [mm]	2,550	
Max. Height [mm]	2,970	
Wheelbase [mm]	2,840	
Front Wheels ** [mm]	540/65R28	
Rear Wheels ** [mm]	650/65R38	

\* Without front and rear ballast

\*\* Recommended wheels

Note: Height depends on wheel size



*Zetor*



**My family.  
My work.  
My Zetor.**



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SUBJECT TO CHANGE. 06/2015



Made in the EU

DEALER: