Wirth roadheader T3.20

Used heavy-duty boom-type roadheading machine

The Wirth T3 series comprises powerful road-headers, specifically designed for mining and tunneling in medium to hard rock with a strength of up to 150 MPa, in conjunction with the New Austrian Tunneling Method (NATM). The telescope boom allows for easy sumping into the cutting face and offers high flexibility during the cutting cycle The Wirth T 3.20, with a cutting height of 7.9 m, a cutting width of 9.5 m and the capacity to operate from a single central position with out moving, is unmatched. Combined with its manoeuvrability and high tramming speed, this machine has proven capable of sustained high performance. It also permits a further 1.3 m to be cut below the level of the crawler tracks. The telescopic boom and radio remote control are standard features of the Wirth T3 series.

Technical data for the Wirth roadheader T3.20 (Machine 638)

General

Total weight	Approx. 130 t
Overall machine length	23500 mm
Machine height (without operator's cabin)	approx. 4000 mm
Machine width	4670 mm
Cutting height max. (without/with telescopic boom)	7230 / 7880 mm
Cutting width max. (without/with telescopic boom)	8100 / 9480 mm
Cutting cross section (min./max.)	20 / 72 m²
Undercut max. (without/with telescopic boom)	-540 / -1200 mm
Total installed power	469.5 kW
Cooling system	Water cooling (circulation)

Loading arrangement

Loading system	Star-wheel loader
Width of the loader	4000 mm
Loading star drive	Hydraulical
Installed power	2 x 21 kW
Speed of star-wheel loader	24 rpm

Cutting unit (longitudinal cutting head)

Installed power	300 kW
Nominal speed	1480 rpm
Cutting head speed	18.3 / 36.9 rpm
Max. peripheral velocity	1.15 / 2.32 m/s

Undercarriage

Size	B8
Axle spacing	3830 mm
Track plate width	1000 mm
Crawler drive	Planetary gearbox with hydraulic motor
Gearbox ratio	i = 246.1 : 1
Crawler speed	0 – 17.5 m/min
Average ground pressure	0.16 MPa

Conveyor

Type	Twin outboard armoured scraper chain conveyor
Conveyor drive	Electric
Installed conveyor capacity	45 kW
Rated speed of conveyor motor	1 470 rpm
Transmission gear ratio	i = 29.1 : 1
Conveyor chain speed	1.00 m/s
Conveyor cross section	740 mm x 480 mm

Hydraulics

Hydraulic fluid	Mineral oil
Tank volume	1200 l
Total volume	1400 l
Max. operating pressure	240 bar
Cooling method for hydraulic fluid	Air (2 heat exchangers)
Installed pump drive capacity	110 kW
Drive of cooling water pump	Hydraulic

Electrical

Voltage / frequency	1000 V / 50 Hz ± 5%
Type of acoustic and monitoring equipment	Not flameproof (as per VDE 0100/0113)
Cutter motor max.	300 kW
Power station	110 kW
Conveyor motor	45 kW
Belt conveyor motor	10 kW
Lighting	3 x 0.5 kW
Total installed power	469.5 kW

Auxiliary equipment

- Bridge belt conveyor
- Front and rear lifting cylinders
- Radio remote control
- Water spraying system
- Cable reel
- Soft starter for cutter head drive

The machine and all ancillary equipment is designed and fabricated in accordance with EN12111.

Machine history (#638)

Manufactured	2007
Operation in Brisbane	2007 – 2009
Overhaul	2010
Operation in Brisbane	2010
Overhaul and storage in Madrid region, Spain	2012 - 2013

Machine condition

Condition	Good
Working hours cutter motor	573 h
Working hours hydraulic motor	819 h