

## Technical characteristics

### **Sinking equipment. Roadheader П110-04**

#### **Roadheader application**

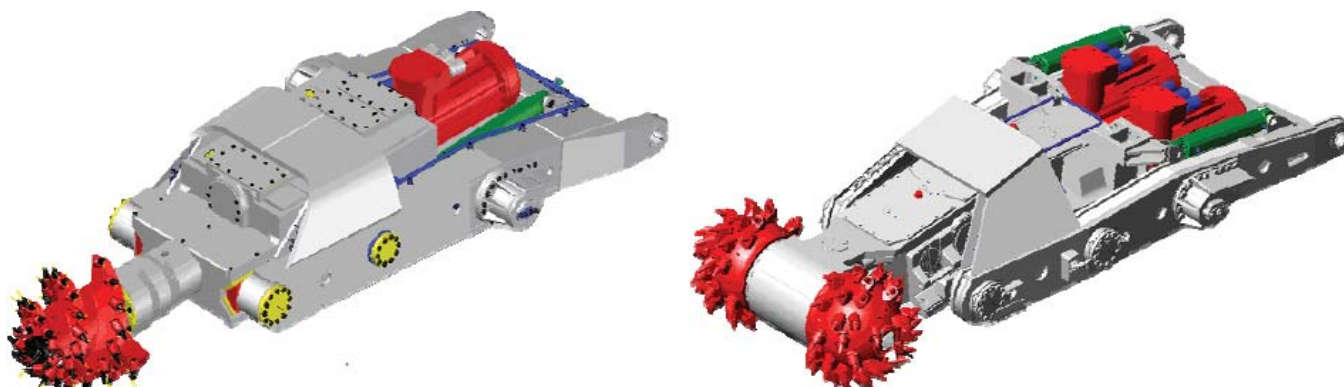
П110-04 roadheader is meant for rocks unloading, handling and transportation of broken mass to the place of loading during mining development of arched, trapezoid and rectangular forms of sections from 10 m<sup>2</sup> (finished) up to 30 m<sup>2</sup> (overall) with inclination angle  $\pm 12^\circ$  relatively to coal, rocks or mixed open pit with max. strength limit of rocks at uniaxial compression  $\sigma_{\text{comp}} = 120\text{MPa}$  ( $f = 8$ ) and abrasive ability up to 18mg, in mines dangerous because of the gas (methane) or dust.

- Maximum unification with П110-01 roadheader using operating member with axial cutting head.
- Minimum breaking of coal-cutting with stone while workings delineation.

The roadheader П110-04 is the self-propelled crawler-tracked machine with the boom-shaped operating member with the axial cutting head, the loading element in the form of gathering arms or spinners on the support-and-lifting table, the central chain-and-flight conveyor with the lifting-and-turning boom, the hydraulic and electrical system, the dust suppression system and control facilities. The roadheader performs breaking and loading of the rock mass and transporting it within its limits to gate-type vehicles. П110-04 roadheader is made based on the basic model of П110-01 serial roadheader. It differs from it by operating member design. Operating member is made with one motor with longitudinal axial cutting head, allowing to work in roadways with inclined roof, where the coal layer angle determines geometry of cross section, reducing coal-cutting with stone of the roof rocks.

Operating mechanisms of П110-04 and П110-01 roadheaders are interchangeable. All the rest units are completely standardized with the П110-01 roadheader.

П110-04 roadheader allows to implement at one base the module (changeable) operating members with different type of cutting head location – axial and cross types. Such arrangement allows to have in mines one roadheader with different modules instead of some roadheaders with different capabilities.



The newly-created design of the operating member allows to expand the scope of the roadheader application in relation to the ensuring of the workings sinking with the inclined roof in the mines, where the angle of the coal-seam occurrence determines the geometry of the cross section, to exclude the additional excavation of the chopped off rocks during arch and anchor bolting of the worked out space.

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Parameter name	Value
Upper limit of ultimate strength of broken rocks at uniaxial compression, MPa	120
Cutting technical performance, m <sup>3</sup> /min	0,3...1,8
Maximum boom span, m	
- over the width	6,8
- over the height	5,0
Minimum height of rectangular section roadway, passed by the roadheader, m	2,6
Overall dimensions in transport position, not more, mm	
length:	
- with conveyor turning section	13400
- without conveyor turning section	11400
width over the housing	2550
height:	
- over the operating member	2000
Operating member electrical motor power, kW:	
- nominal	110
- in the mode S2 (60 min)	132
Summarized nominal rated power of installed electrical motors, kW	195
Working pressure of hydraulic system fluid in pumping mains, MPa	16...18
Nominal pressure of mains supply, V	1140/660
Movement speed, m/min:	
- during loading	1,8
- during driving	6,0
Weight, t	51