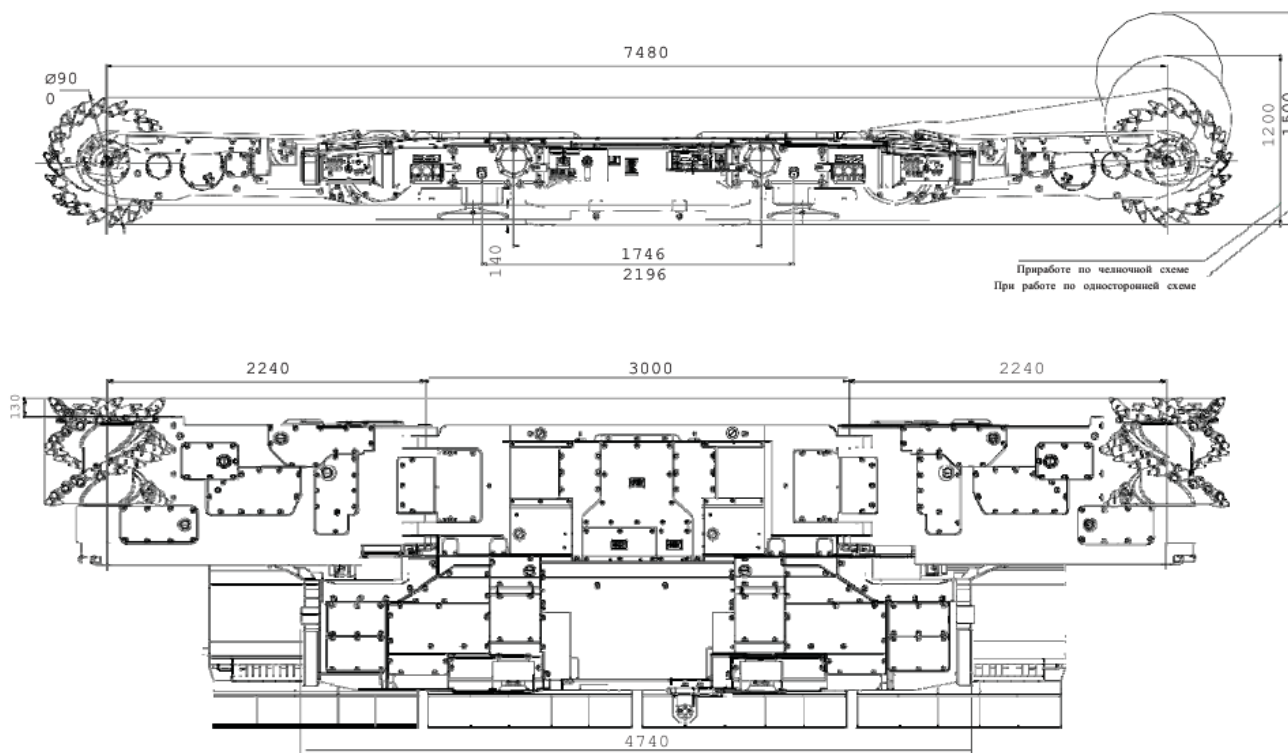


Technical characteristics

Sinking equipment Machines for coal extraction and conveying

NARROW-WEB SHEARER YKH-400

The shearer is designed for mechanized coal mining as part of stopping complexes 1МКДД, 1МКД90, 1МКД80 in stopes of gently and steeply sloping seams with the capacity of 0.85-1,5 m advancing to the seams strike with dip angles of up to 35°, as well as to the rise and the dip with angles of up to 10° with the coal cuttability up to 360 kN/m.



Applicability of the shearer in regards to the seam roof stability and other factors should be determined by the applicability of the mechanized complexes, which include the shearer.

The shearer is used in mines including those which are hazardous by gas and dust. When working on the seams that are threatened or dangerous due to sudden emissions of coal and gas, the coal extraction should be carried out with the current predication of the outburst hazard in accordance with the “Instructions for the safe work conduct on the seams hazardous by sudden emissions of coal, rock and gas”, Moscow, 1989.

According to clause 8.3.1 of the above mentioned “Instructions ...” the shearer has the remote control design.

Type of climatic modification of the Y5 shearer in accordance with GOST 15150-69.

The shearer provides:

- mechanized coal extraction along the entire seam thickness and the length of the stope without preliminary preparation of stabiles when arranging the face conveyor drives on the gateway or with minimum longwall dimensions for the length of the drives;
- extraction of the seam with dirt bands and streaks with the strength of up to 6 units on the scale of prof. Protodyakonov with the total thickness of up to 12% of the extracting seam thickness;
- shuttle extraction or extraction according to the unidirectional scheme with the retreating shearer stroke;
- mechanized coal loading together with the clean-up colter of the face conveyor, excluding hand cleanup of the seam floor.

Technical characteristics

Parameter name	Value
Limits of the operating member height regulation from the conveyor supporting surface, mm: lower, not more than	800
upper, not less than	1500
Applicability according to the coal cuttability, kN/m, not more than	360
Total normal rated power of electric drive, kW, not less than:	420
including operating member drive, not less than	2x180
feeding drive, not less than	2x30
Nominal rated voltage, V: operating member drive	1140
feeding drive	660
Type of operating member: screw adjustable with spark-protecting irrigation	
Diameter of the operating member, mm	800
Web width, mm	630, 700, 800
Value of operating member lowering below the supporting surface of the chain-and-flight conveyor, mm, not less than	100
Value of the operating member extension, mm, not less than	700
Type of feeding mechanism: integrated electrical feeding system with frequency control of speed	
Maximum feeding speed, m/min, not less than	10
Feeding drive tractive force at feeding speed up to 10 m/min, kN, not less than	200
Productivity, t/min, not less than: with coal cuttability 120 kN/m	10,0
with coal cuttability 240 kN/m	7,0
with coal cuttability 360 kN/m	4,0
Main dimensions, mm: body length	4500
body height	620
length over screw axes	7480
Body height in the area of the lining from the chain-and-flight conveyor supporting surface	520
Shearer mass without spare parts, tools and accessories, t, not more than	20,5

INDICATORS OF ECONOMIC
MATERIAL USE

Specific energy consumption, kWh/t, not more than with coal cuttability 120 kN/m	0,7
with coal cuttability 240 kN/m	1,0
with coal cuttability 360 kN/m	1,0
Specific mass, kg/th. t with coal cuttability 120 kN/m	29,2
with coal cuttability 240 kN/m	35,0
with coal cuttability 360 kN/m	43,7

RELIABILITY INDICATORS

80% time between overhaul, ths. t, not less than with coal cuttability 120 kN/m	700
with coal cuttability 240 kN/m	600
with coal cuttability 360 kN/m	500
Combined maintenance man hours per operating hour per year, man.h/y, not more than	3000
Specific recovery time, not more than	0,05
Mean time between failures, h	32