

MINERAL AGGREGATES WASHING AND SORTING PLANT

Model I.A.M.C. Moldagremin, Roman, type 30

Description and work technological process

IV.4	SAND CLASSIFIER	<ul style="list-style-type: none">- 2 pieces, placed under the VIBRATORY SIEVE- they take over the sand (0÷4mm)- they are equipped with an inbuilt twisted axe, that has the role of taking the washed sand to the conveyor belt, which will bring it to the sand deposit- in the sand classifier box, the sand gets washed with water pumped from Siret river- the used, dirty water, resulting from the washing process gets in the decanter, through the water outlet pipe- the twisted shaft is powered by an electric motor with P=11kw and 750 rot/min, via a gear reduction unit, type ACK6.
IV.5	ACK 6 GEAR REDUCTION UNIT	<ul style="list-style-type: none">- overall dimensions: 9440x2900x2300mm- mass =3800kg
V.	SORTED AGGREGATES TRANSPORT FROM SIEVE TO DEPOSIT	<ul style="list-style-type: none">- from the vibratory sieve and from the sand classifier to the SORTED AGGREGATES DEPOSIT, the transport is conducted on the conveyor belts, the sorts getting in the specified partitions for each type- transports to deposit sort :0÷4mm; the dimensions of the conveyor belt, which is made of rubber, are: L=70m, width = 500 mm- is powered by an electric motor with P=11kw,n=750, via a gear reduction unit- transports to deposit sort :4÷8mm; the dimensions of the conveyor belt, which is made of rubber , are: L=49m, width = 500 mm,- is powered by an electric motor with P=11kw,n=750, via a gear reduction unit- transports to deposit sort:8÷16m; the dimensions of the conveyor belt, which is made of rubber, are: L=40m, width = 500 mm;- is powered by an electric motor with P=11kw,n=750, via a gear reduction unit- transports to deposit sort: 16÷31,5m; the dimensions of the conveyor belt, which is made of rubber, are:: L=55m, width = 500 mm,- is powered by an electric motor with P=11kw,n=750, via a gear reduction unit

VI.	SORTED AGGREGATES DEPOSIT	<ul style="list-style-type: none"> - in front of every sort there is a cradle, mounted in the holes placed in the aggregate deposit platform - the holes communicate with an underground tunnel, on which there is a horizontal conveyer belt, which transports the fallen sorts through the cradles to another external conveyer belt, afferent to the silos. - the cradles are equipped with guillotine valves, manually powered
VII.	SORTED AGGREGATES TRANSPORT FROM DEPOSIT TO SILOS	<ul style="list-style-type: none"> - to silos, with the external conveyer belt tilted at a maximum of 17° - the transport is conducted selectively, on each sort, for each silos - the unloading is conducted in solos, selectively, on sorts, through manually powered cradles.
VII.1	<p>UNDERGROUND CONVEYOR BELT (feeding) With 2 sectors: - one horizontal and one tilted - the rubber band is the same, the welded support construction has different shapes</p>	<ul style="list-style-type: none"> - located in the tunnel situated under the sorted aggregates deposit - transports all types of sorted aggregates to silos - the rubber rug is pulled by a drive drum, which in turn is powered by an electric motor, through a gear reduction unit and a transmission system with two belts 17x11. - the planetary gear is mounted directly on the drive drum. - the rubber rug returns to the other end of the conveyer, on the return-tail drum. After the rubber rug has been glued, this drum is pulled back by the stretching bolts, obtaining, in this way, the proper stretching of the rug. On the route, the rug is placed on the rollers; the distance between rollers is ~1 m. - the belt is equipped with return rollers - the 650mm conveyer belt is used, especially, as a feeding conveyer belt L~135m - transport speed: 1,5-2,1 m/s - powered by an electric motor with P=7,5kw/1500 - the max. angle of inclination is 17 degrees from horizontal belt <p>sectors</p> <p>one horizontal, internal, in the tunnel</p> <p>and</p> <p>one tilted, located in the exterior of the tunnel, situated under the sorted aggregates deposit</p> <ul style="list-style-type: none"> - transports all types of sorted aggregates, being a continuation of the horizontal conveyer belt from the tunnel. - all aggregates are then transported by an external conveyer belt, having a maximum inclination degree of 17° from the horizontal belt, which will bring them to the silos.

VII.2	BANDA TRANSPORTOARE EXTERIOARA EXTERNAL CONVEYOR BELT (to silos)	<ul style="list-style-type: none"> - tilted, located at the exterior - takes over and transports all types of sorted aggregates, from the underground conveyor belt to the silos - its dimensions are : L=~100m, width = 750 mm, made of rubber - the rubber rug is pulled by a drive drum, which in turn is powered by an electric motor, through a gear reduction unit and a transmission system with two belts 17x11. - the planetary gear is mounted directly on the drive drum. - the rubber rug returns to the other end of the conveyor, via the return-tail drum. - the belt is equipped with return rollers - transport speed: 1,5-2,1 m/s -motor: 7,5kw/1500 - the max. angle of inclination is 17 degrees from horizontal belt
VIII	DECANTER	<ul style="list-style-type: none"> - the water resulted from the aggregates washing process gets into the sand classifier box, from where it then gets directed to the mud storage and drying platform and in the decanter. 1. <u>Mud Deposit and Dehydration Platform</u> from the sorting plant: <ul style="list-style-type: none"> - located downstream from the sorting plant; it is a concrete platform; - the mud is evacuated with machinery 2. <u>The actual decanter</u> is formed of 2 compartments, divided by a triangular threshold; the filtered water is drained through a duct of D_n=300mm.
XI.	SILOS	<ul style="list-style-type: none"> - adjacent to the soring Plant, they contain the aggregates, each sort

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