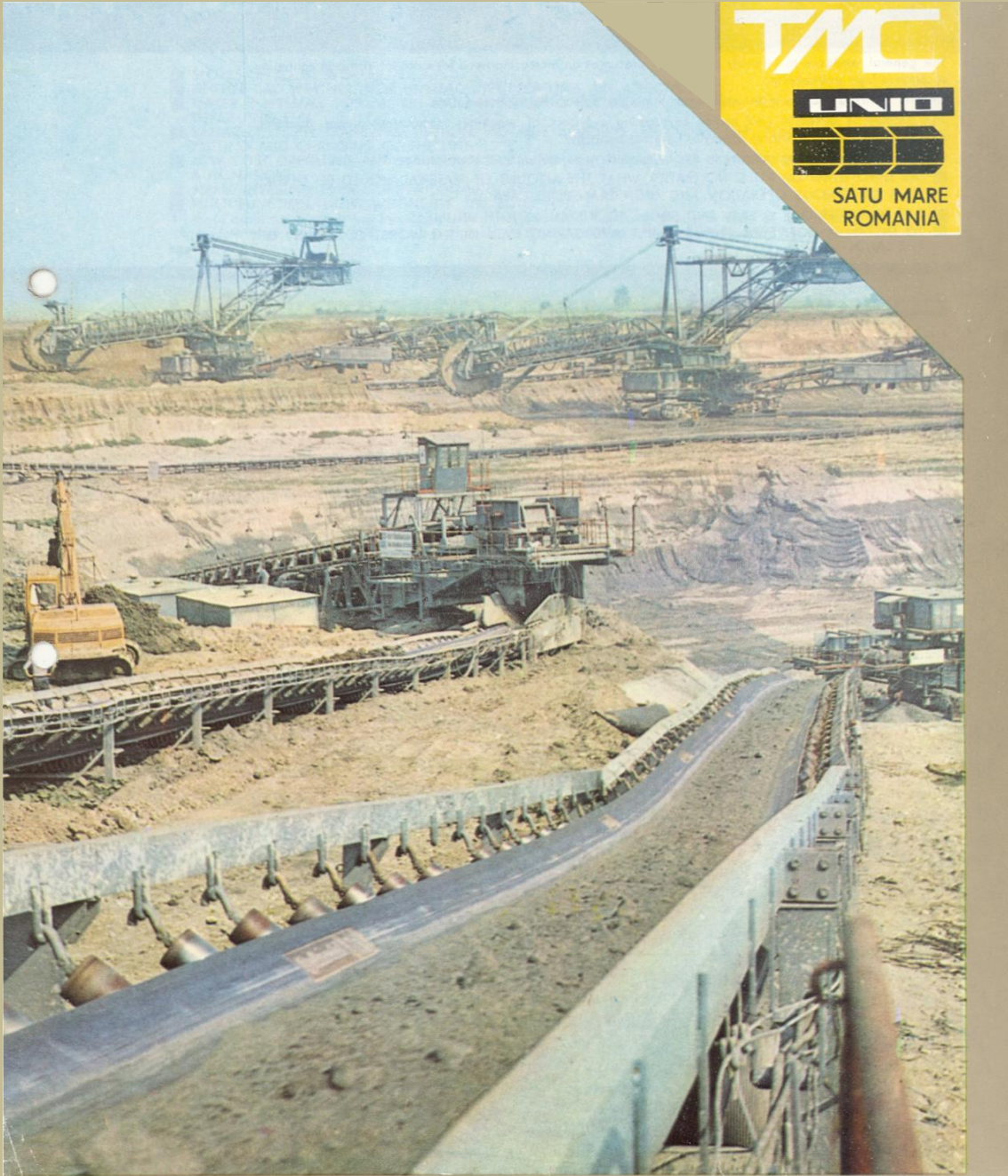




SINCE 19  
Satu Mare, Romania

# BELT CONVEYERS designed for coal mining





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# BELT CONVEYERS OF GREAT CAPACITY

## Designed for surface coal mining

The general tendency to intensify production presumes an increasing need for material transport continuity to achieve high profitability.

Thus it is first importance to implement continuity safety, that is : automation.

This problem is solved in coal mining by creating a system of machines comprising dipper dredgers, dumpers and steady or flitting conveyers of great capacity.

Using conveyers of great capacity in this system offers a great number of advantages:

- NO THROTTUNG OF ATTLLE, NO MATTER WHAT THE AMOUNT OF MATERIAL WOULD BE, THANKS TO A CONTINUOS OPERATION AND HIGH TRANSPORT CAPACITY
- THE CONVEYER LINE IS EASY AND SIMPLE TO INSTALL, LENGTH UNLIMITED
- TO INSTALL A CONVEYER LINE IS SIMPLE AND SAVING EVEN IN THE WORST CONDITION OF THE LAND
- SLOPES UP TO 20 DEGREES
- NEITHER BAD WEATHER, NOR UNSTEAD TEMPERATURES ARE AFFECTING
- MAKES IT POSSIBLE TO DEAL ON MANY LINES OR OTHER EQUPEMENTS (HEAPING OF STERIL, DEPOSITING, ETC)
- VARIABLE LENGTH TRANSVERSE MOTION, MOVABLE LOADING AND RUN OFF POINTS, EASY FLITTING AND CHANGING OF THE LINE
- LOW COST OPERATING AND MAINTENANCE DUE TO A HIGH TRANSPORT CAPACITY, SAFETY AND AUTOMATION
- SMALL INVESTMENTS IN COMPARISON WITH THE RESULTS GAINED
- MULTI-FUNCTION, LIGHT WEIGHT OF THE EQUPEMENT

All these advantages are joined by reliability and unit standards, offering the possibility of re-use on a large scale of the running and returning stations, of the line elements needing a relatively low range of spare parts.

### CONSTRUCTION AND OPERATING

Constructed of assemblies that are solid, simple and safe in functioning, the great capacity conveyer lines accomplish the waste and coal evacuation from pits with the help of the strongest and most flexible transporting part : the rubber belt with steel insertion.

Conveyers of great capacity may be used both in adequate construction of flitting (transversal motion) together with the equipment aimed for excavating and heaping in pits and in stationary construction. The fitting conveyers are usually built up by one drive station, transversally movable by tracks, one returning station on pontoons, either with or without drive, and the belt line built up of flitting sections with garland rollers aimed for rubber belt support. The section support and flitting traversers constitute the sub-structure of the rails used used in flitting and are completed with intermediate traversers and the rails serve also as a rolling way, either for belt rider and and of the supply belt support carriage of the heaping machine, or for the carriage with take over table, in case of the front excavating belts. The stationary conveyers are regulary built up of a stationary drive station (on concrete foundation) or on pontoons, one stationary return station and of the belt line formed by stationary sections with garland rollers for rubber belt support.



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Both the flitting and stationary drive station are built up of 1-4 drive groups driving drums, mechanical tensioning device, belt cleaning device, electrical setting cabinet, cabinet and foot bridge, for operating supervision mounted on a sectioned metallic frame placed on the moving mechanism.

Each of the belt drive groups are built up of an electric motor, resilient coupling with dogs, brake with two blocks and electro-hydraulic hoist, tapered cylindrical reducer with hollow shaft exit, mounted on a common framework. The drums driven on one or both ends are provided with a rubber coating to offer a high adherence necessary in driven power transmission.

The rubber belt tensioning is usually carried out at the driving station and it is assured at the necessary values with the help of an electric trolley multiplied by one or more pulley batteries.

The belt tension is indicated by a hydraulic tensiometric dose.

Both the flitting and the stationary station are built up of a metallic frame supported by two pontoons, the return drum the take over zone and funnel, protected against wear either by manganese steel armour or rubber. In the take over zone the impact rollers are mounted in the framework suspended by coil springs. The return drum can be either free or provided with driving in one or both parts, with groups, similar to those at the drive station.





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Material loading and overtaking is usually made at the return station. This does not mean that there is no possibility of material loading-overtaking at other points of the belt with the help of fixed overtaking tables and in any other part on the line, as well, with carriages with overtaking tables (with or without their on drive of travel).

Material run of the belt is not exclusively accomplished over the drive station but – according to necessities – it may run off in other points of the line as well, through belt rider moving longitudinally, with or without drive.

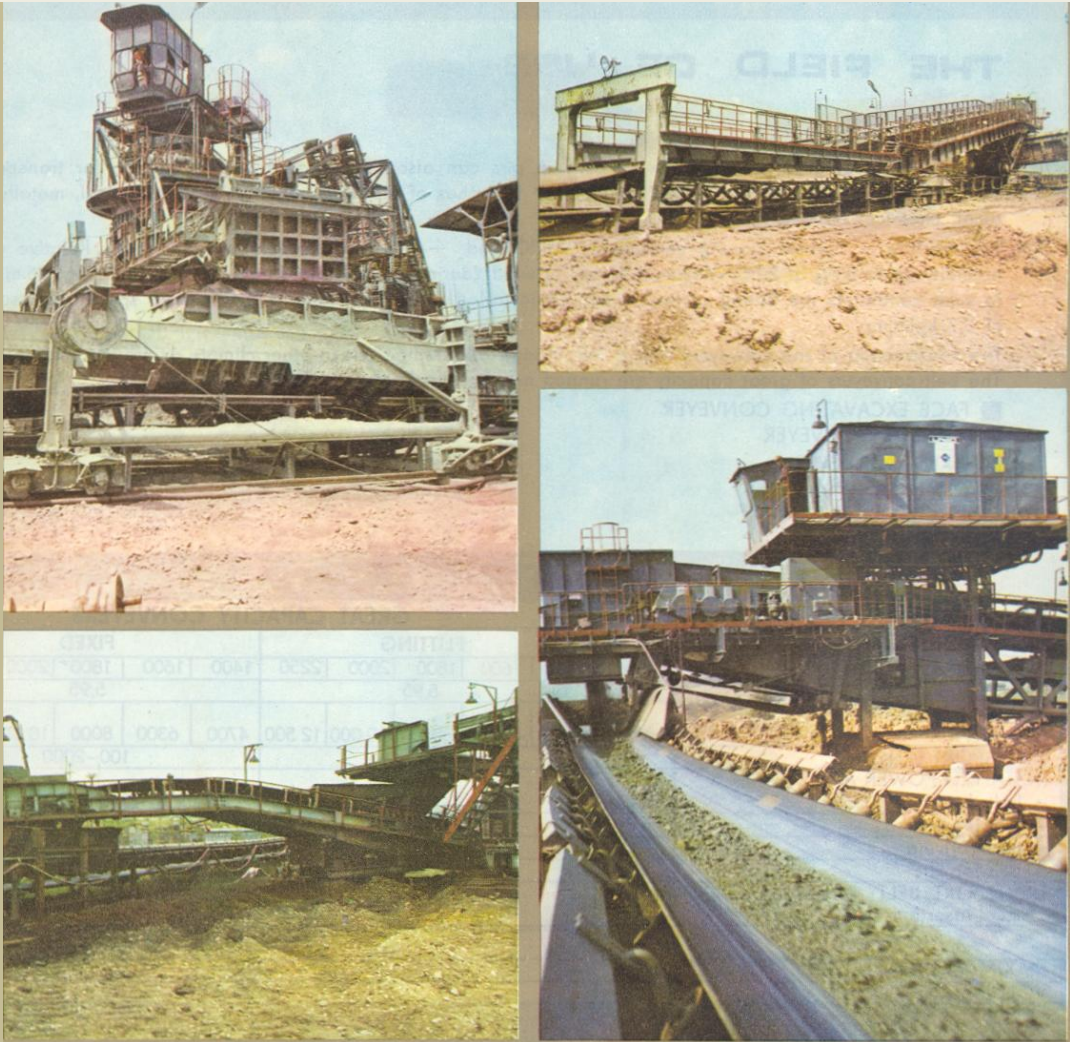
Material run off can also be accomplished through successive distribution on more belts, either through swingable – movable belts, or through distribution bridge and carriage.

To assure a belt correct functioning without decentration and slippings due to a nonfitted tensioning, as well as for either starting in cascades, each conveyer is provided on the line with oblique running alarm and speed supervisor.

Belt line control and supervision is made from a control post.

The conveyers are dispatched with electrical drive, control and automation setting on the whole line and in the electrical cabinets mounted on the drive stations or on the ground.

The setting permits interblocked running of the conveyers in the line, as well as individual running of each conveyer in case of necessity.





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## THE FIELD OF USE

Belt conveyers of great capacity used mostly in pits can also be operated on the surface for transport of wraks on long distances as well as in order branches of industry construction, energetical, metallurgical, chemical etc.

Temperature in normal running conditions : -25°C and +40°C air temperature in shade. Relative air humidity up tu 80% at 20°C. maximum speed of wind (during operation) 20m/s (during stationing) 35m/s. In such conditions the flitting conveyers can be installed where sail permits a minimum specific pressure of 0.7 kgf/cmp.

The construction of conveyers with a few fitting allows their use in other climate or ground conditions.

The belt conveyers of great capacity are runned mostly in technological lines of pits, as follows :

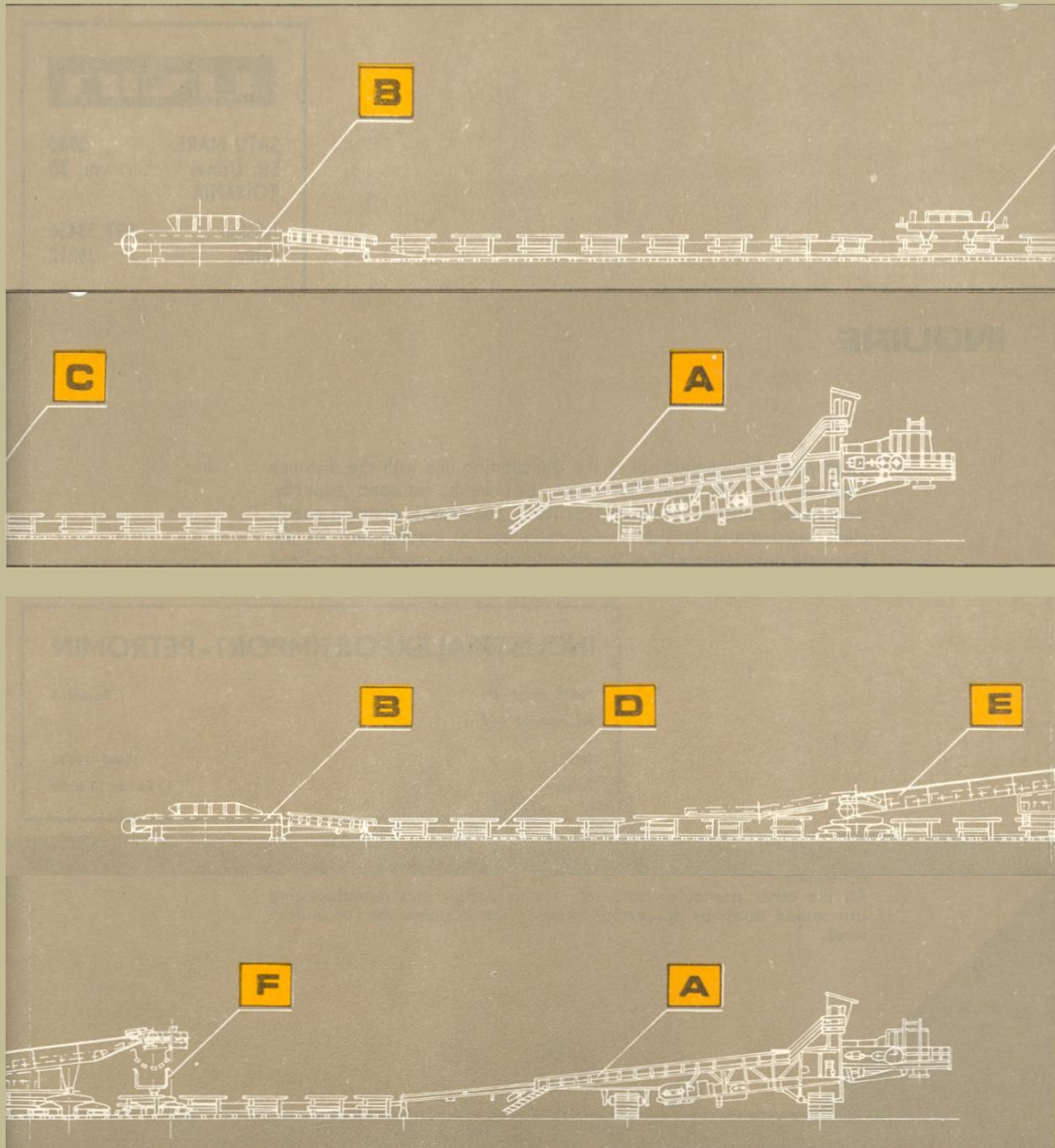
- FACE EXCAVATING CONVEYERS
- JOINING CONVEYER
- FIXED CONVEYER
- HEAP CONVEYER

## TECHNICAL CHARACTERISTICS

CHARACTERISTIC DENOMINATION	U/M	GREAT CAPACITY CONVEYERS									
		FLITTING					FIXED				
BELT WIDTH	mm	1400	1600	1800	2000	2250	1400	1600	1000	2000	2250
BELT SPPED	m/s	5.95					5.95				
MAXIMAL TRANSPORT CAPACITY	m <sup>3</sup> /h	4700	6300	8000	10000	12500	4700	6300	8000	10000	12500
TRANSPORT LENGTH	m	100-2000					100-2000				
INSTALLED POWER AT :	kW	(1-6)X630					(1-6)X630				
- belt driving	kW	(1-6)X630					(1-6)X630				
- belt tensioning	kW	20 or 30					20 or 30				
- track driving	kW	2 X 30					-				
- belt for dirt	kW	11					11				
TRANSPORT BELT : rubber belt with steel insertion	Resistence class	ST 1250 ; 1600 ; 2000; 2500; 3150; 4000									
TRANSPORTED MATERIAL											
MAXIMAL GRANULOSITY	mm	8000									
VOLUMETRIC DENSITY	t/m <sup>3</sup>	Up to 2 t									

## INQUIRE

SPECIFYING : the longitudinal of the transporting line with the distance between axis and level differences, belt width, transport capacity, transported material characteristics (kind, coarseness, aeration coefficient, temperature, humidity) connection level at loading and run off, complete description of the line operating, climate conditions and soil resistance. All the other particular date referring to design and manufacturing are settled down by agreement between the customer and manufacturer.

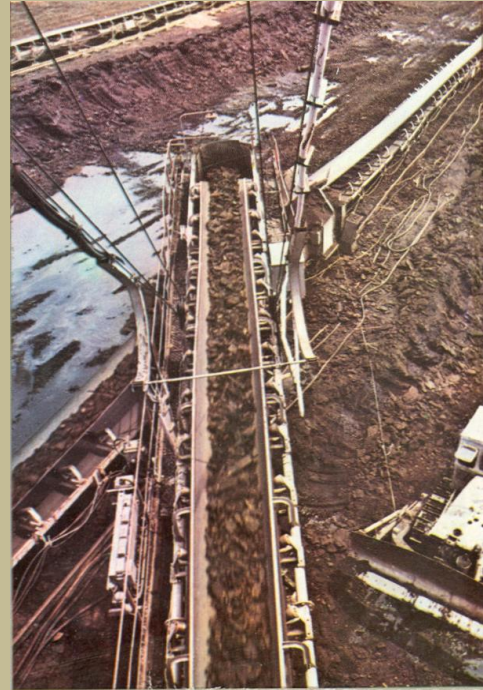


- A** FLITTING DRIVE STATION ON TRACKS
- B** RETURN STATION ON PONTOONS, WITH TAKE OVER TABLE
- C** BELT CARRIAGE WITH TAKE OVER TABLE
- D** FLITTING SECTION
- E** BELT RIDER
- F** SUPPORT CARRIAGE FOR THE FEED BELT OF THE DUMPER



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**RELIABLE**  
**EFFICIENT**  
**PRODUCTIVE**



**UNIO SA · 35 , Lucian Blaga Blvd. · 440227 Satu Mare**

T: +40 261 766120 E-mail: [marketing@unio.ro](mailto:marketing@unio.ro)

F: +40 261 761735 Site: [www.unio.ro](http://www.unio.ro)