

SELECTION OF BELT CLEANERS

As a result of the long-term product development, our range of belt cleaners is wide and versatile. Our product range provides suitable solutions to different kinds of conditions. The cleaners are divided into three main groups based on its working position. According to the belts operating position, the cleaners are divided into three main groups:

CLEANERS ON THE DIRTY SIDE OF THE BELT

These are ordinary belt cleaners. The product range includes carving, rubbing and rotating belt cleaners. Correct cleaner selection is an important factor when thinking of safety, reliability and general economics of the conveyor.

CLEANERS ON THE RETURN BELT

These ploughing or wiping return belt cleaners take off the material occasionally dropped onto the clean side of the belt. Thus the undesirable material is prevented from being conveyed between the belt and pulley.

PULLEY CLEANERS

The continuous keeping of belt clean is important for the centering and steady travel of the belt. Pulley cleaners protect the belt against damage.

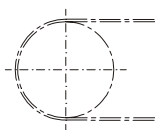
ECONOMY

Presented below is a comparison of how the selection of belt cleaners influence maintenance costs during a period of 3 years. Investment, maintenance and spare parts costs are included in the comparison.

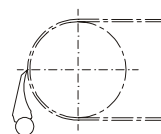
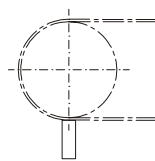
Selection of the cleaners is of great importance to the safety and economics of the conveyor. Correct selection of cleaners adds working safety, reduces cleaning costs and leads to considerable economical savings, with less production breaks and accidents.

When selecting cleaners, materials conveyed and climatic conditions must be taken into consideration. Long term economics should also be considered. In the enclosed comparisons, the economics of different type of cleaners are compared. The target is to keep the floor under the conveyor clean from dirt and scraps. The data provided has been collected from on-site field tests.

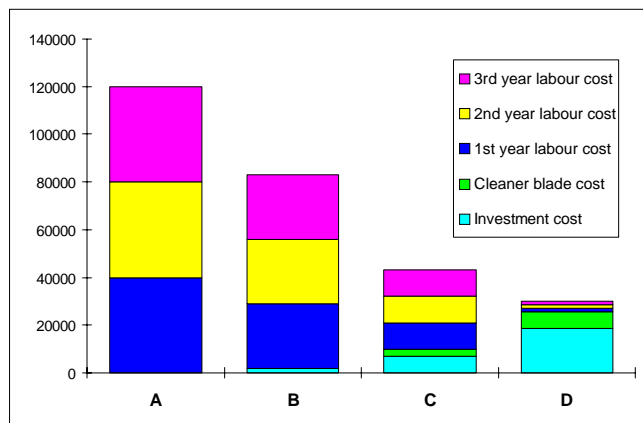
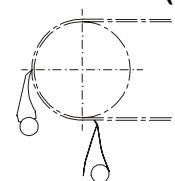
Without cleaners (A)



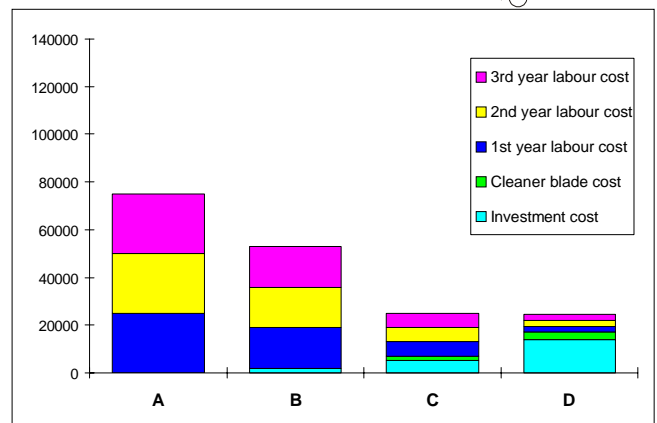
Conventional cleaners (B)



Precleaner + fine cleaner (D)

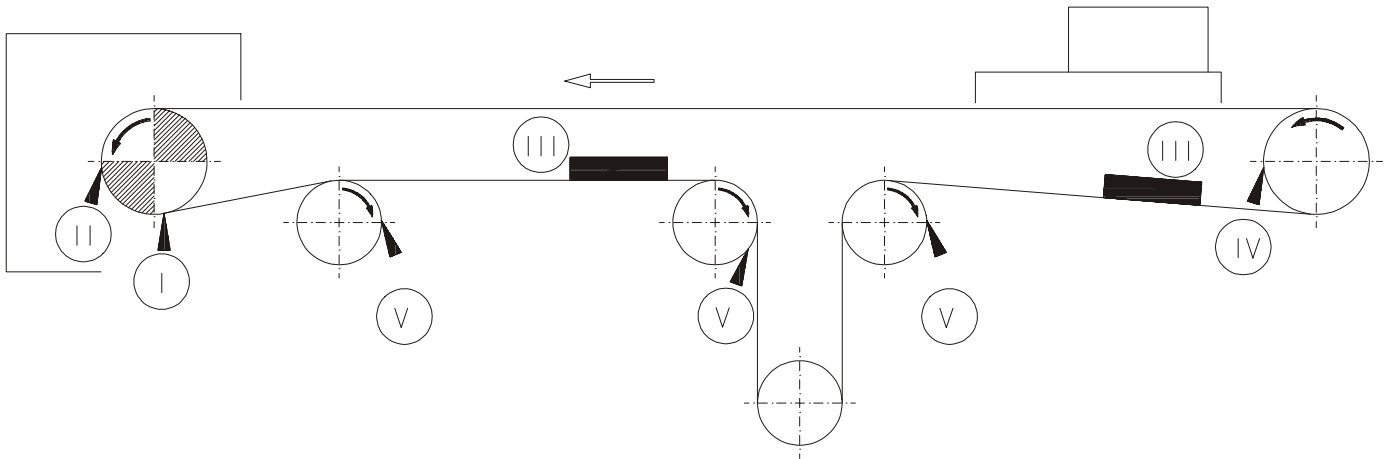


Example 1: Material: Cement
Capacity: 400 m³/h (700 t/h)
Scrap: 0,008%



Example 2: Material: Moist limestone
Capacity: 22 m³/h
Scrap: 0,1%

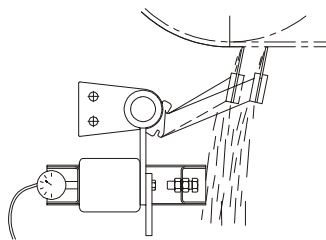
LOCATION OF THE BELT CLEANERS ON THE CONVEYOR



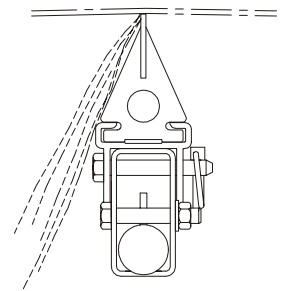
I RUBBING AND ROTATING CLEANERS

Rubbing cleaners are used alone or to increase the efficiency of the carving cleaners.

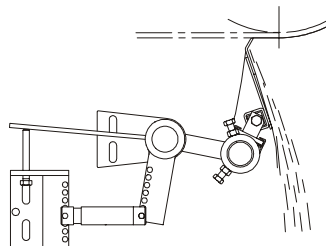
MAX6 is a rubbing type cleaner equipped with support arms and an air spring where several metal blades press against the belt and follow the belt contour smoothly. Blade alternatives are; stainless (R), hardmetal (K) or ceramic (S). These are highly recommended for the cleaning of dry, pulverized or granular materials.



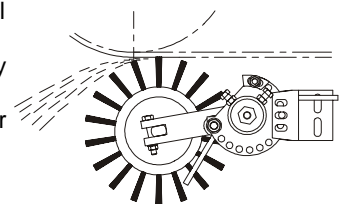
MAX7 is a bar type multiblade cleaner. The support bar is easily fixed to the steel frames of the conveyor. The blades are fixed to the bar by means of an elastic joint. The wearable part alternatives are; stainless (R), hard metal (K), ceramic (S) or polyethylene (M). MAX7 is recommended as a general cleaner for all kinds of material and operates properly with conveyors of 2-direction drives, too.



HHP is a dragging type cleaner. Due to its narrow construction, materials are not allowed to be carried over the cleaner and is suitable for all kinds of materials in all kinds of conditions. Metallic blade frames can also be equipped with a patented heating system which increases the efficiency of the cleaning result in sub-zero conditions. Recommended for the use on all materials in all conditions.



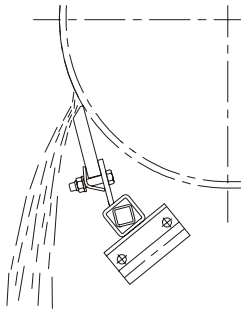
MOTOMAX is a belt brush with bristles composed of polypropylene (P), polyamide (N), polyurethane (U) or steel (T). As it is a self-adjusting, the brush is reliable and easy to maintain. The brush is used on nipper or rib belts for which the carving or ribbing cleaners are not always suitable. It is also possible to use the brush on smooth surface belts.



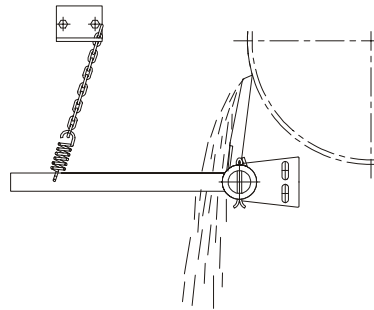
II CARVING CLEANERS

The carving cleaner is one of the most popular cleaner types. ROXON's range of carving cleaners is wide and contains a suitable solution for every situation.

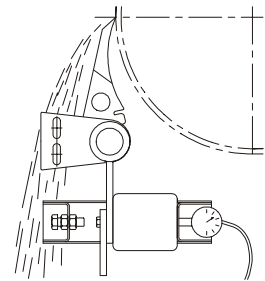
BEP15 is an economical and reliable universal cleaner with a wide operating area. The cleaner unit is the same width as the belt and is produced from either pure polyurethane (U) or polyurethane filled with aluminium (A) or polyethylene (M). Recommended for use in easy conditions and with low cleaning demands.



BEP31 is a multiblade cleaner with a very wide operating area. It is easy to maintain due to the easy replacing of wearable parts. Wearable parts comprise of either polyurethane (U), polyurethane filled with aluminium oxide (A) or ceramic (S). Recommended for use in more difficult and demanding conditions.



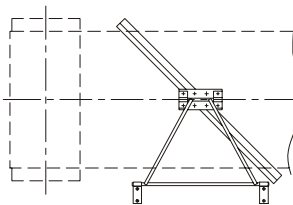
MAX3 is a reliable carving multiblade cleaner which meets the highest demands related to maintenance and cleaning efficiency. The wearable part of the polyurethane blades are easy to replace. Material comprises of either pure polyurethane (U) or polyurethane filled with aluminium oxide (A) or ceramic (S). Recommended for use in difficult conditions when the cleaning demands are high.



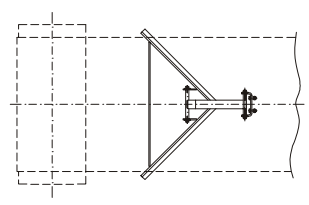
III CLEANERS ON THE RETURN BELT

Belt wipers clean off the material and foreign objects dropped onto the return belt. This protects both the tension- and tail pulleys and the belt from damages.

MR 1 is a heavy duty belt wiper which moves wiped materials to one side of the belt. As a wearable part, either polyethylene (M) or more wear resistance polyurethane (U) can be selected depending on conditions. Polyurethane is also available filled with aluminium oxide (A). The operation area of MR 1 is very wide and is suitable for all types of conveyors in all kinds of conditions.



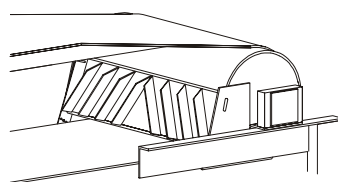
MR 2 is a ploughing type cleaner for the return belt. As a wearable part, either polyethylene (M) or more wear resistance polyurethane (U) can be selected, depending on the conditions. Polyurethane is also available filled with aluminium oxide (A). Due to the elastic fastening, it follows the belt contour closely. MR 2 is suitable for all types of conveyors in all kinds of conditions.



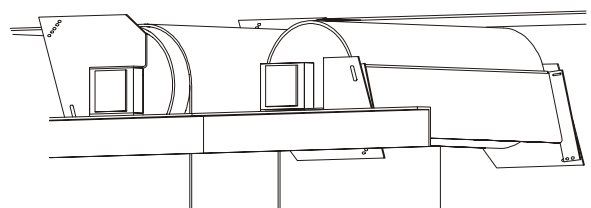
IV and V PULLEY CLEANERS

Pulley cleaners clean the pulleys and keep them clean of dirt. Thus dirt cannot guide the belt sideways.

MS1, MS3 and MS5 rib type construction moves the dirt which covers the pulley and the return belt over the belt edge. Is used by the bending points of the belt conveyor, on tail pulleys when the cleaners drop the loosened material onto the return belt.



MS2, MS4 and MS6 are pulley cleaners with smooth blade. They are used on the pulleys bending the belt, when the loosened material does not drop onto the return belt. They are suitable for almost all conditions and for all kind of conveyors.



Most of ROXON's cleaners are suitable for almost all conveyors and in all conditions. Selection of the cleaner depends especially on the conveyed material, conditions and demand on the cleaning results. The table below gives guide lines when selecting cleaners.

We at ROXON can also select cleaners for you if needed.

Table 1: Selection of the cleaner

0 = non-suitable, 1= suitable, 2 = excellent suitability

Operati-on area	Cleaner type	Wearable part	Suitability for different materials																
			Abrasive, dry				Sticky			Wood based materials									
			PELLETS	APATIT	ORE	GRAVEL	COAL	CONCEN-TRATES			BARK	WOOD CHIPS	PEAT	WOOD LOGS					
I	Carving cleaners	BEP15	POLYETHENE	0	0	0	0	0	0				1	1	1	1			
			PUR	1	1	2	2	2	2				2	2	2	2			
			PUR+Al ₂ O ₃	1	1	2	2	2	2				2	2	2	2			
		BEP31	PUR	1	1	2	2	2	2				2	2	2	2			
			CERAMIC	2	2	2	2	2	2				1	1	1	1			
			PUR+Al ₂ O ₃	2	2	2	2	2	2				2	2	2	2			
	MAX3	PUR	1	1	2	2	2	2				2	2	2	2				
		CERAMIC	2	2	2	2	2	2				1	1	1	1				
		PUR+Al ₂ O ₃	2	2	2	2	2	2				2	2	2	2				
II	Ribbing	MAX6	STAINLESS	1	1	2	2	2	1				1	2	2	1			
			HARD METAL	2	2	2	2	2	2				1	2	2	1			
			CERAMIC	2	2	2	2	2	2				1	2	2	1			
		MAX7	STAINLESS	2	2	2	2	2	2				1	2	2	1			
			POLYETHENE	0	0	0	0	0	0				2	2	2	2			
			CERAMIC	2	2	2	2	2	2				1	1	1	1			
		HHP	HARD METAL	2	2	2	2	2	2				1	2	2	1			
			STAINLESS	1	1	2	2	2	1				2	2	2	2			
			HARD METAL	2	2	2	2	2	2				2	2	2	2			
	Brushes	MOTOMAX	POLYPROPHEEN	0	1	1	1	1	1				2	2	2	2			
			POLYAMID	0	1	1	1	1	1				2	2	2	2			
			STEEL	1	2	1	1	1	1				2	2	2	2			
			PUR	2	2	2	2	2	2				2	2	2	2			
			III	Return belt cleaner	MR1	POLYETHENE	0	0	0	0	0	0				2	2	2	2
						PUR	2	2	2	2	2	2				2	2	2	2
PUR+Al ₂ O ₃	2	2				2	2	2	2				2	2	2	2			
MR2	POLYETHENE	0			0	0	0	0	0				2	2	2	2			
	PUR	2			2	2	2	2	2				2	2	2	2			
	PUR+Al ₂ O ₃	2			2	2	2	2	2				2	2	2	2			
IV	Pulley cleaners	MS1																	
		MS3	2	2	2	2	2	2				2	2	2	2				
		MS5																	
V	Pulley cleaners	MS2																	
		MS4	2	2	2	2	2	2				2	2	2	2				
		MS6																	

PROPERTIES OF THE CLEANERS

In the table below is a collection of the main properties of the cleaner types located on the dirt side of the belt. (Operation areas I, II and III).

Table 2: Properties

Cleaner type		Multiblade cleaner	Automatic tension	Air spring tensioning	Gas spring tensioning	Belt power tensioning	Inspection hatch extra	Heating as extra	Suitable for pattern belt	Suitable for 2-way conveyor
Carving cleaners	BEP15									
	BEP31	X	X							
	MAX3	X	X	X			X			
Rubbing cleaners	MAX6	X	X	X						
	MAX7	X	X			X	X			X
	HHP	X	X		X		X	X		X
Brushes	MOTOMAX		X		X		X	X		

COST COMPARING OF THE BLADES

Wear resistance of the blades is very depend on the material and conditions. In the table below, the relative wear resistance and price friction of the cleaners, is shown.

Table 3: Relative wear resistance and price

Cleaner type	Wearable part	Wear resistance	Price
Carving and return belt cleaners	POLYETHENE	2	2
	PUR	10	4
	PUR + Al ₂ O ₃	20	7
Rubbing cleaners	STAINLESS	3	3
	HARD METAL	7	4
	POLYETHENE	1	1
Brushes	CERAMIC	10	7
	POLYPROPHEEN	1	1
	POLYAMID	0.8	1.1
	STEEL	3	2
	PUR	5	3

We reserve the right for modifications without prior notice.