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Material Handling



河南省平原矿山机械有限公司

HENAN PINGYUAN MINING MACHINERY CO., LTD



Material handling equipment made by our factory include various conveyor belt (including new steeply inclined conveyor, mobile conveyor, fixed conveyor), bucket elevator, screw conveyor, en masse conveyor, reversible belt conveyor with hopper, plate conveyor etc. It has cooperated with a couple of advanced colleges & institutes for long-term technical coordination and has taken design, manufacturing, installation and testing of various standard and non-standard transportation systems .

They are widely used in various fields such as metallurgy, mine, coal, harbor, power station, building materials, grain, chemical, light industry and petroleum etc.

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Belt Conveyor.....3

The conveyors consist of standard parts, which are advanced and simple in structure, easy to maintain. They are widely used in mining, metallurgical and coal industry to transfer sandy or lump materials, or packaged materials. According to different transferring equipment, the transfer system can be one independently or multi-conveyors or combined with other transfer equipments. The belt conveyor can be installed horizontally or aslope to meet the needs of different transfer lines.

En masse conveyors.....6

En masse conveyors use skeletal or solid flights mounted at intervals on a cable or chain power driven within a closely fitting casing. Designed for bulk materials that must be enclosed to prevent leakage or explosion, the conveyors can operate in horizontal, vertical, or inclined positions.

Screw conveyor.....7

Screw conveyors are designed to have material loaded into them by a controlled feed, receiving a uniform and continuous amount of product. We specialize in building heavy duty units for particular applications, designing each unit to meet specific requirements

Elevator.....8

Elevator equipment produced by us include bucket elevator and chain slat elevator,It is a vertical continuing lifting equipment,which was used to vertically upgrade various materials, such as cement, coal, sand, grain, wood, ores, Coke, silicates, alumina - magnesia sand, refractories, fertilizers, chemicals, etc.).

According to the needs of the production process, combine with Feeder, belt conveyors, screw conveyor, and other forms of transportation equipment , can be transformed into different process and formation of the various transport systems.

Introduction

DT II belt conveyor is a revamp product in place of that of TD75 and DX, which has been taken into use since 1994.

DT Fixing conveyor belt Model DT II is a kind of general products, which could be widely used on each line such as metallurgy, mine, coal, port, power station, building material, chemical industry, light industry and petroleum etc.

Transportation system combined with single or several machines is used to transport various loose materials and finished products with density 500-2500KG/m³

Belt width series (mm) : 500、650、800、1000、1200、1400、1600、1800、2000、2200、2400。



DT II belt conveyor

Technical parameter

Belt width Capacity of Transportation speed	500	650	800	1000	1200	1400	1600	1800	2000	2200	2400
0.8	69	127	198	324							
1.0	87	159	248	405	593	825					
1.25	108	198	310	507	742	1032					
1.60	139	254	397	649	951	1321					
2.00	174	318	496	811	1188	1652	2186	2795	3470		
2.50	217	397	620	1014	1486	2065	2733	3494	4338		
3.15			871	1278	1872	2602	3444	4403	5466	6843	8289
4.00				1622	2377	3304	4373	5591	6941	8690	10526
4.50					2674	3718	4920	6291	7808	9776	11842
5.00					2971	4130	5466	6989	8676	10863	13158
5.60							6122	7829	9717	12166	14737
6.50								9083	11277	14120	17104

Application

According to the requirements ,it can make horizontal or slant transportation by itself or combine with other conveyors .

It has following features:big conveying capacity, reasonable construction,low cost,strong popularity,convenient maintenance,stable property and reliable running,used widely in metallurgy,mine,building ,transportation, light & textile, hydropower and harbour industries and departments and used to convey scattered and block materials .

TD75



Roller form	Transmission speed(m/s)	Belt width(mm)					
		500	650	800	1000	1200	1400
		Capacity(T/h)					
Trough idler	0.8	78	130	--	--	--	--
	1.0	97	164	278	435	655	891
	1.25	122	206	348	544	821	1115
	1.6	156	264	445	696	1048	1427
	2.0	191	323	546	853	1284	1748
	2.5	232	391	664	1033	1556	2118
	3.15	--	--	824	1233	1858	2528
	4.0	--	--	--	--	2202	2996
Flat idler	0.8	41	67	118	--	--	--
	1.0	52	88	147	230	345	469
	1.25	66	110	184	288	432	588
	1.6	84	142	236	368	558	753
	2.0	103	174	289	451	677	922
	2.5	125	211	350	546	821	1117

Steeply Inclined Conveyor

Introduction

This machine is a continuously conveying equipment for general purpose materials in bulk and adopted belt with waviness sides and diaphragm plate . it is specially using for big inclined angle conveying .

It is widely using for coal , chemical industry ,building materials ,metallurgy ,electric power ,light industry ,grain , port ,shipping ,ect . Specific gravity of bulk materials is 0.5-2.5 t/m³ can be conveyed , working temperature is from -15 °C to 140 °C .Conveying materials which have special requirement ,such as high temperature ,materials containing acid , alkali ,oil substance or organic solvent should be conveyed using special conveyor belt.

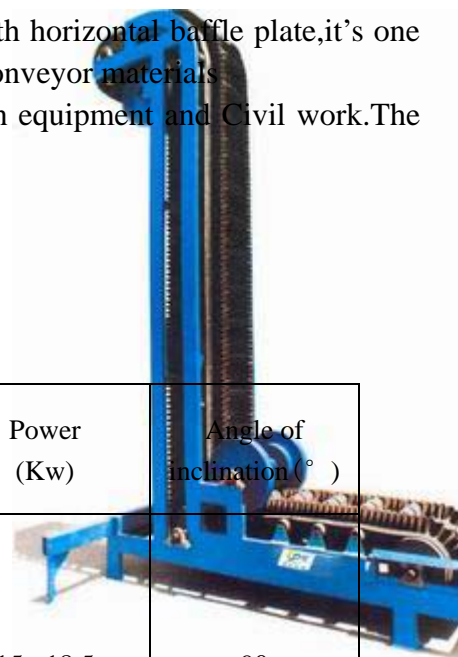
DJB



Belt width(mm)	500			650			800			1000			1200			1400(1600)			
Side height(mm)	80	120	160	80	120	160	120	160	200	160	200	240	200	240	300	200	240	300	400
Horizontal Baffle plate distance(mm)	75	110	150	75	110	150	110	150	180	150	180	220	180	220	280	180	220	280	360
Belt speed(m/s)	0.8 1.0 1.25 1.6 2.0 2.5 3.15 4.0																		
Diameter of driving pulley (mm)	400、500			400、500、630			500、630、800			630、800、1000			630、800、1000、1250			800、1000、1250、1400			
Diameter of bend pulley (mm)	400			400、500			400、500、630			500、630、800			500、630、800、1000			630、800、1000、1250			
Nominal inclination	0-30° 30° 40° 45° 50° 55° 60° 65° 70° 75° 80° 85° 90°																		
Inclination allowed	0-90°																		

Introduction

DJ-JB vertical belt conveyor produced by our factory adopt wave-side belt with horizontal baffle plate, it's one of the most effective ways of elevating materials in a confined space and could conveyor materials vertically. The structure is compact and cover little area, saving the investment in equipment and Civil work. The belt width could be 1600mm most.



Belt width (mm)	Height of side way (mm)	Distance between baffles (mm)	Capacity Qv(m ³ /h)	Max materials size and belt speed(sec)	Power (Kw)	Angle of inclination (°)
500	80	126	11	1.0/50	15~18.5	90
		252	-			
	100	126	16	1.0/55		
		252	-			
	120	126	24	1.0/60		
			252			
378		-				
650	100	126	23	1.25/55	1.5~22	90
		252	--			
	120	126	34	1.25/60		
		252	--			
		378	--			
	160	252	25	1.25/80		
378			-			
800	120	126	46	1.25/60	2.2~45	90
		252	--			
		378	--			
	160	252	34	1.25/80		
		378	-			
	200	252	55	1.25/100		
378			36			
504		-				
1000	160	252	45	1.25/80	4.0~75	90
		378	-			
	200	252	75	1.25/100		
		378	48			
		504	-			
	240	252	111	1.25/140		
378			73			
504		-				

Mobile Belt Conveyor

Introduction

This series of Belt Conveyors are suitable for horizontal conveying of grain and similar granulated materials.

All our belt conveyors have heavy duty transmission, and vary in size and length and have maximum conveying capacity of 300 ton/hour and maximum conveying length of about 50 meters.

The conveyor is installed with pneumatic-tire wheels, which can reduce the resistance of its movement. It is easier to be moved because of being driven by motorized pulley at the tail of the conveyor. And it is easier to be raised or lowered by the use of telescopic undercarriage. The frame of the conveyor is made of steel tubes in order to form the whole machine to be in reasonable structure, meanwhile moving portably and operating with low noise.

Model	Belt width (mm)	Belt length (mm)	Belt speed (m/s)	Capacity (m ³ /h)
DY50	500	10 15 20	1.6	160
DY65	650	10 15 20	1.6	220
DY80	800	10 15 20	1.6	260
DY45	500	10 15 20	1.6	120



En masse conveyor

Introduction

Each application is unique with its own special capacity requirements, location specifications, materials to be handled, environmental needs, service requirements, clean out solutions and much more.... Accessories include: stainless steel, painted or galvanized construction, knee sections, inclined operation, rail or roller return, special inlets and discharge gates, transitions, reversing operation, motion, alignment and bearing sensors, support structures, and various types of drives.

Type	MS12	MS16	MS20	MS25	MS32	MS40	MS50	MS63
Machine slot width(mm)	120	160	200	250	320	400	500	630
Loading depth(mm)	120	160	200	250	320	400	500	630
Capacity(m ³ /h)	7-12	11-25	17-39	23-54	48-88	67-124	105-192	166-300
Maximum transport distance(m)	50	50	50	50	50	50	50	50
Chain scraper								
Type	DT	DT	DT	DT(S30)	S30	Z30	Z30	Z30
Allowable load(KN)	15	17	26	35(45)	45	75	100	2×75
Weight(kg/m)	5.5	5.62	7.2	12.2(15.63)	15.63	23.24	25.34	47.6
Speed(m/s)	0.16-0.32	0.16-0.32	0.16-0.32	0.16-0.32	0.2-0.32	0.2-0.32	0.25-0.32	0.25-0.32

Screw Conveyor

Introduction

Screw conveyor is a constant conveying equipment which uses screw rotating to push the materials, used in conveying flour, grain, cement, fertilizer, clinker, sand, stone, powdered coal and nut coal etc, not fit for conveying deteriorated, high viscosity, condensing materials because valid circulation section in the chasis is small.

Screw conveyor can be arranged into vertical or inclined conveying forms (inclined angle of GX less than 20 degree and inclined angle of LS less than 15 degree) and should be ordered specially of two-way conveying. Working circumstance temperature: (GX) from below 20 centigrade degree to 50 centigrade degree, (LS) from below 20 centigrade degree to 40 centigrade degree, conveying materials temperature: less than 200 centigrade (GX), below 20 centigrade degree to 80 centigrade degree (LS).

The construction: head, middle, tail. There are several different lengths for each parts, (GX) from 3 m to 70m, (LS single driving) from 3.5m to 40m

GX type

Model	GX150	GX200	GX250	GX300	GX400	GX500	GX600
Diameter D(mm)	150	200	250	300	400	500	600
N/n (Kw/r.p.m)	0.013	0.030	0.060	0.100	0.250	0.480	0.850
Cantiliver load P (Kg)	210	370	580	800	1500	2400	3500
Rotation speed	N=20 30 35 45 60 75 90 120 150 190r/min						

LS type

Type	LS100	LS160	LS200	LS250	LS315	LS400	LS500	LS630	LS800	LS1000
Diameter of screw (mm)	100	160	200	250	315	400	500	630	800	1000
Speed(rpm)	71-140	56-112	50-100	45-90	45-90	36-71	32-63	25-50	20-40	16-32
Capacity(m ³ /h)	1.1-2.2	3.1-7	6.31-7-3	11-22	11-22	31-62	50-98	77-140	126-200	140-280

Remark: The filling factor in the sheet is 0.45, when choosing type, it is according to material and then filling factor.



Lifting Equipment

Bucket elevator

This series of production is suitable for transporting bulk goods vertically, such as coal sand, cement, broken stone and so on. The shape dimension of crossing-section is little, layout of conveying system is compact, lifting height is large, leak tightness is good.

Series of bucket elevator						
Type Parameter	D	HL	PL	ZL	TD	TH
Construction character	Adopt rubber belt as traction compont	Forged circular chain as traction compont	Plate type bush roller chain as traction compont	Molten chain as traction compont	Rubber belt as traction compont	Circular chain as traction compont
Suitable material for transporting	Mealy, granular, little nubby bulk material, such as coal, broken stone, cement and so on.	Mealy, granular, little nubby bulk material, such as soft coal, broken stone, cement and so on.	Bulk, large Specific gravity, such as hard coal, ore,	Mealy, Bulk Such as cement, coal, Lime, broken stone	Mealy, granular, little nubby bulk material, such as coal, broken stone, cement and so on.	Mealy, granular, little nubby bulk material, such as coal, broken stone, cement and so on.
Applicable temperature	Temperature should be under 60 °C. 150°C is permitted if adopt heat-proof rubber	Allow to transport high-temperature material	Temperature of material should be under 250 °C	Temperature of material should be under 300°C	Temperature should be under 60 °C . 200 °C is permitted if adopt heat-proof rubber	Temperature of material should be under 250°C
Type	D160 D250 D350 D450	HL300 HL400	PL250 PL350 PL450	ZL25 ZL35 ZL45 ZL60	TD160 TD250 TD350 TD450	TH169 TH250 TH350 TH450
Lifting height(m)	4-100	4.5-100	5-100	8-100	4-100	4.5-100
Capacity m ³ /h	3.1-180	16-152	22-300	55-480	3.1-188	6-152

Chain Slat Elevator

It is an excellent machine to lift bulk cargo because of its reliability, large conveying capacity, energy saving, lower cost operation and less maintenance. This elevator has been used to lift large quantity of cement to build Cement Factory and, some are the large-scaled cement factories newly built in China with their main equipment imported from foreign countries. This kind of elevators is also widely used by transferring warehouses that store bulk cargo in foreign countries. Our company has successfully developed and manufactured NE Chain Slat Elevator, which has overcome the defects of small lifting capacity, low lifting height and high failure frequency and energy consumption of old ones. The new products made by our company has raised their operation ratio and increased economical efficiency. At present, this kind of elevators has been widely used in the fields of grain, cement, coal, chemical and power industries and in the fields of building transferring warehouses for storing grain and bulk cargo etc



Type	Capacity m ³ /h	chain pitch (mm)	Chain speed m/s	Volume of bucket m ³	Width of bucket mm	Weight of locomotor part Kg/m	Max size of material (mm)				
							10%	25%	50%	75%	100%
NE16	16	125	0.3~0.5	0.0027	250	29	65	50	40	30	25
NE30	30	152.4	0.3~0.5	0.0078	300	35	90	75	58	47	40
NE40	40	125	0.3~0.5	0.0085	300	51	65	50	40	30	25
NE50	60	152.4	0.3~0.5	0.0151	300	64	90	75	58	47	40
NE100	110	200	0.3~0.5	0.0364	400	89	130	105	80	65	55
NE150	170	200	0.3~0.5	0.055	600	112	130	105	80	65	55
NE200	210	250	0.3~0.5	0.091	600	134	170	135	100	85	70
NE300	320	250	0.3~0.5	0.132	900	188	170	135	100	85	70
NE400	400	300	0.3~0.5	0.218	900	205	205	165	125	105	90
NE500	470	300	0.3~0.5	0.260	900	223	240	190	145	120	100
NE600	600	350	0.3~0.5	0.301	1200	274	240	190	145	120	100
NE800	800	350	0.3~0.5	0.502	1200	313	275	220	165	135	110