

About S&F GmbH

The family-owned company established in 1990 supplies screening machines and conveying systems around the world to meet the specific requirements of different industries and customers. The company takes pride in its excellent, personal service and in the expertise of its employees. All machines are extensively tested and optimised at S&F for the various tasks.

The result: *bespoke, long-lasting and service-friendly solutions.*

- **Screening machines and systems**
- **Separating and screening plants**
- **Dosing and conveying plants**
- **Project planning**
- **Assembly and spare part service**



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Belt conveyors

MFB / FFB / TFB / GFB Series

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S&F belt conveyors convey and transport piece goods and bulk materials of all kinds. Belt conveyors can be used universally, are low-maintenance and best suited to bulk material transport with high conveying capacities. Various designs – such as troughed belt conveyors, flat belt conveyors and sliding belt conveyors – ensure optimum conveying results for different applications and material properties. As standard, belt conveyors are available in belt widths of 400 to 1,600 mm, offer size-dependent conveyor lengths of a maximum of 100 m and throughput capacities of up to 2,000 m³/h.

Function description:

Belt conveyors are piece goods and bulk material conveyors arranged horizontally to inclined for the continuous conveying and discharge. Belt conveyors are available in portable, mobile and stationary designs. The drive and tail pulleys guide the infinitely revolving rubber belt of the belt conveyor. The belt serves as a bearing and pulling component. Depending on the design, the rubber belt runs on bearing rollers (support rollers) or slides on an underlayer. The belt conveyor structure is used for holding the support rollers or the sliding table.

Force is transmitted by means of friction locking between the belt and pulley

The conveying movement is performed through the friction locking of the belt on the drive pulley. The belt conveyor is driven by a drum or gear motor. The tensioning of the rubber belt occurs by means of a clamping mechanism on the tail/tensioning pulley. The material is fed to the diverting station by a feeding device to cushion the impact during feeding. The conveyed material is usually ejected through the drive station in a transfer chute to further belt conveyors, other transport systems or collection containers.

Belt conveyors in various designs for many applications and materials

Depending on the conveyed material, incline conveyor belts are used for ascending installations or for incline conveying. Belt conveyors can optionally be enhanced with scraping and cleaning equipment, monitoring equipment and other accessories.

Depending on the application and purpose of use, we offer belt conveyors in various designs:

- **Troughed belt conveyors** with 2- or 3-part troughed support roller station (troughing: 20–30°) for high conveying capacities, long conveying distances and light to heavy piece goods and bulk materials.
- **Sliding belt conveyors** with sliding belt support or in a trough design for light piece goods with few powdery components.
- **Flat belt conveyors** with flatly arranged support rollers (1-part) and lateral sealing for light to medium-weight piece goods and bulk material.

Application areas:

S&F belt conveyors are used in the wood industry (sawmills / the sawmill industry, paper and pulp industry, forestry), the recycling industry (waste wood processing plants, waste wood operations facilities, recycling plants), the chemicals industry (fertilizer industry), the building materials industry (stone and earth industry, cement industry, concrete industry, quarries, gravel pits), the animal feed industry, the agriculture and many more sectors.

Materials to be conveyed:

Belt conveyors convey and transport almost all piece goods and bulk materials, such as wood chips, pellets, sawdust and wood shavings, biomass, bark, waste wood, commercial waste, refuse-derived fuel, sand and gravel, earth, rubble, grain, fruit and many other materials.

Advantages of S&F belt conveyors:

- **High conveying capacity** due to many belt widths to choose from and high conveying speeds, irrespective of the conveyor length.
- **Gentle product conveying** due to even material flow and the slow running.
- **Maintenance and repair-friendly** due to the simple and service-friendly structure and the low number of wear parts.
- **Low noise** due to energy-efficient and low-noise drive system and the use of high-quality materials and components.
- **Operationally safe and reliable** – due to the generous dimensioning of the drives, belt conveyors are suitable nearly for all piece goods and bulk materials.
- **Flexibly deployable** for different tasks and materials; can be used as a portable, mobile and stationary model due to the simple structure.
- **Favourable price-performance ratio** due to simple mechanical structure and long service life of the installed components.
- **Low power requirements** thanks to the use of energy-saving, high-efficiency motors.
- **Long conveying distances possible** due to variable modular system.
- **Can be integrated in existing plant systems** by means of customer-specific special solutions.

Accessories and options:

- Feed hopper
- Reversible design
- Mobile design
- Chassis with adjustable ejection height
- V- and H-supports
- Drive pulley with friction lining, rubberised
- Cover hoods
- Dedusting nozzles
- Ejection hood
- Side plates with sealing
- Permanent magnetic head roller as drive pulley
- Drum motor
- Bumper rollers or impact bar station in the feed area
- Scraping and cleaning systems (internal and external belt scrapers, brush)
- Special materials
- Special paint
- Inspection and safety equipment
 - Speed control
 - Misalignment monitor
 - Material flow monitor
 - Cable-pull emergency-stop switch

Technical data:

Machine model	Troughed belt conveyor MFB model	Flat belt conveyor FFB model	Sliding belt conveyor GFB / TFB model
Belt width [mm]	400 / 500 / 650 / 800 / 1,000 / 1,200 / 1,600 (additional belt widths possible)	400 / 500 / 650 / 800 / 1,000 / 1,200	400 / 500 / 650 / 800 / 1,000 / 1,200
Centre distance (belt length) [m]	up to 100	up to 50	up to 20
Frame height [mm]	260 – 900	260 – 550	300 – 550
Frame width [mm]	500 – 2,050	500 – 1,600	500 – 1,600
Trough height [mm]	-	-	150 – 500
Belt conveyor structure	Round pipe frame / rectangular pipe frame / profile steel		
Belt conveyor structure material	S235JR (1.0037 / St 37)		
Pulley diameter [mm]	Ø 160 – 520 **	Ø 160 – 520 **	Ø 160 – 420 **
Support roller diameter [mm]	Ø 60 / Ø 89 / Ø 108 **	Ø 60 / Ø 89 / Ø 108 **	-
Belt material	Rubber belt, smooth (standard, sliding belt, heat and oil-resistant) / rubber incline conveyor belt / profiled belt	Rubber belt, smooth (standard, sliding belt, heat and oil-resistant) / super grip profiled belt / rubber incline conveyor belt / profiled belt	Rubber sliding belt, smooth / rubber incline conveyor belt / profiled belt
Drive type	Worm gear motor / helical-bevel geared motor / drum motor		
Drive output [kW]	up to 18.5 **		
Conveying speed [m/s]	up to 3.0 **	up to 2.0 **	up to 2.0 **
Incline angle [°]	0 – 30	0 – 20	0 – 20
Conveying capacity (material-dependent) [m ³ /h] *	up to 2,000	up to 300	up to 300
Belt support	2/3-part troughed support roller station (20–30°)	Flatly arranged (1-part) support roller station (0°)	Sliding

Theoretical conveying capacity:

Theoretical conveying capacity in m ³ /h with a belt speed of v = 1 m/s and fill level of 100%			
Belt width [mm]	Flat Sliding / 1-part troughed [m ³ /h]	Troughed 20° 2-part troughed [m ³ /h]	Troughed 30° 3-part troughed [m ³ /h]
400	~ 23 *	~ 46 *	-
500	~ 38 *	~ 75 *	~ 87 *
650	~ 69 *	~ 133 *	~ 156 *
800	~ 108 *	-	~ 245 *
1,000	~ 173 *	-	~ 394 *
1,200	~ 255 *	-	~ 578 *
1,400	~ 352 *	-	~ 798 *
1,600	~ 464 *	-	~ 1,053 *

* The performance data depends on the material properties of the conveyed material (bulk weight, grain size, material moisture), belt width, the conveying speed, machine inclination, etc. Conveying capacity decreases when conveying is inclined upwards.

** dependent on size

Subject to technical amendments. | All approximate specifications. | Excerpt from our model list.

Additional models upon request. | Version: 03/2019

Correction factors for upward conveying							
Incline angle [°]	5	10	15	20	23	25	30
Correction factor	0.98	0.95	0.89	0.81	0.73	0.68	0.56

