

Function	Flexible Screw Conveyor	Aeroflow® Aero Mechanical Conveyor	Cableflow® Tubular Cable Drag Conveyor	Chainflow® Tubular Chain Drag Conveyor	Dynaflow® Tubular Chain Drag Conveyor
APPLICATION SUITABILITY					
Price	<ul style="list-style-type: none"> Almost always less costly than an AMC, rigid screw or pneumatic conveyor 	<ul style="list-style-type: none"> More expensive than Flexible Screw Conveyors but not when considering conveying rates greater than 161 ft³/hr (15m³/h) 	<ul style="list-style-type: none"> Similar to Aero Mechanical Conveyor pricing 	<ul style="list-style-type: none"> Mid-range capital cost 	<ul style="list-style-type: none"> High initial capital cost Low energy consumption Very low maintenance Payback relatively short
Layout Constraints (Single Conveyor)	<ul style="list-style-type: none"> Typically up to 39 ft (12 m) but depends on product density & screw speed Multiple units can span greater distances One bend only 	<ul style="list-style-type: none"> PC3 Up to 65 ft (20m) PC4 & PC5 Up to 82 ft (25m) Only 90° corners Multiple units can be directly connected w/o venting Length limit is absolute due to end coupling strength 	<ul style="list-style-type: none"> Maximum total length including return leg 400 ft (120m) 200 ft out & 200 ft return (60m out & 60m return) Longer distances require multiple units feeding each other 	<ul style="list-style-type: none"> Maximum total length 500 ft (152m) including return leg 250 ft out & 250 ft return (76m out & 76m return) Longer distances require multiple units feeding each other 	<ul style="list-style-type: none"> Maximum total length including return leg 400 ft (120m) 200 ft out & 200 ft return (60m out & 60m return) Longer distances require multiple units feeding each other
Maintenance	<ul style="list-style-type: none"> Low maintenance Wear only a consideration with abrasive products or if tube is excessively bent Recommended minimum bend radii should be observed 	<ul style="list-style-type: none"> Moderate - Cable must be tensioned periodically & replaced every 2,000 - 6,000 hours of operation Cable tensioning is important Over tensioning will cause sudden cable failure 	<ul style="list-style-type: none"> Moderate - Cable must be tensioned periodically & replaced every 2,000 - 6,000 hours of operation Cable tensioning is important Over tensioning will cause sudden cable failure 	<ul style="list-style-type: none"> Periodic only Very low maintenance 	<ul style="list-style-type: none"> Periodic only Very low maintenance
Installation Costs	<ul style="list-style-type: none"> Low 	<ul style="list-style-type: none"> Medium - Layout-dependent 	<ul style="list-style-type: none"> Medium - Layout-dependent 	<ul style="list-style-type: none"> Medium - Layout-dependent 	<ul style="list-style-type: none"> High
Energy Consumption	<ul style="list-style-type: none"> Medium energy consumption 	<ul style="list-style-type: none"> Low energy consumption 	<ul style="list-style-type: none"> Low energy consumption 	<ul style="list-style-type: none"> Low energy consumption 	<ul style="list-style-type: none"> Medium energy consumption
Dust Control/Air Displacement	<ul style="list-style-type: none"> Conveyor is mechanically dust tight No systems filters required 	<ul style="list-style-type: none"> Air is not displaced at the discharge point although some venting is required when discharging into a holding vessel Conveyor is mechanically dust tight Can be nitrogen purged 	<ul style="list-style-type: none"> Mechanically dust tight, enclosed loop system No systems filters required 	<ul style="list-style-type: none"> Mechanically dust tight, enclosed loop system No systems filters required 	<ul style="list-style-type: none"> Mechanically dust tight, enclosed loop system No systems filters required
Residual Material	<ul style="list-style-type: none"> Not 100% self-emptying Can easily be emptied by running in reverse 	<ul style="list-style-type: none"> Near zero residual material 	<ul style="list-style-type: none"> Low Deposits 	<ul style="list-style-type: none"> Low Deposits 	<ul style="list-style-type: none"> Low Deposits
Degradation	<ul style="list-style-type: none"> Less than might be expected Moderate shear stresses produced by screw against tube Degradation tends not to be a problem with most granular products like sugar 	<ul style="list-style-type: none"> Very low shear Can be used with extremely fragile materials such as tobacco, coffee beans, pelletized fertilizer, etc. 	<ul style="list-style-type: none"> Gentle conveying especially suited for fragile products (cereals, nuts, coffee beans, etc.) Low velocity - 140 ft/min (43m/min) with high pocket fill 	<ul style="list-style-type: none"> Gentle conveying especially suited for fragile products (cereals, nuts, coffee beans, etc.) 	<ul style="list-style-type: none"> Very low conveying speed up to 50 ft/min (15m/min) Low abrasion gentle conveying
Fragile Products	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Ideal for fragile materials 	<ul style="list-style-type: none"> Ideal for fragile materials 	<ul style="list-style-type: none"> Ideal for fragile materials
Maintaining Blends	<ul style="list-style-type: none"> Depends on densities & material characteristics of materials in blend 	<ul style="list-style-type: none"> Ideal for maintaining blends 	<ul style="list-style-type: none"> Ideal for maintaining blends 	<ul style="list-style-type: none"> Ideal for maintaining blends 	<ul style="list-style-type: none"> Ideal for maintaining blends
Hygroscopic Materials	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Not suitable 	<ul style="list-style-type: none"> Application dependent Conveyor must be empty on startup 	<ul style="list-style-type: none"> Suitable
Moist Materials	<ul style="list-style-type: none"> Not suitable 	<ul style="list-style-type: none"> Suitable 	<ul style="list-style-type: none"> Suitable 	<ul style="list-style-type: none"> Application dependent Conveyor must be empty on start up 	<ul style="list-style-type: none"> Suitable
Cohesive Materials	<ul style="list-style-type: none"> Recommend material test Proscrow 	<ul style="list-style-type: none"> Excellent 	<ul style="list-style-type: none"> Not suitable 	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Suitable
Hot Materials	<ul style="list-style-type: none"> Very good With steel tubes handles material temps up to 300°F (149°C) 	<ul style="list-style-type: none"> Very good Handles material temps up to 300°F (149°C) 	<ul style="list-style-type: none"> Good Handles material temps up to 180°F (82°C) 	<ul style="list-style-type: none"> Good Handles material temps up to 180°F (82°C) 	<ul style="list-style-type: none"> Excellent Handles material temps up to 420°F (216°C)
Sludge Slurries	<ul style="list-style-type: none"> Not suitable 	<ul style="list-style-type: none"> Not suitable 	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Recommend material test 	<ul style="list-style-type: none"> Excellent
Fine Particles	<ul style="list-style-type: none"> Very fine particles that fluidize readily may require a flat spiral In some cases, a center core may also be needed 	<ul style="list-style-type: none"> Very fine particles, including sub-micron, are easily fluidized, though capacity may be reduced by as much as 50% Avoid particles that are wedge shaped (i.e. limestone) 	<ul style="list-style-type: none"> Good on dry granules Ideal for cereals, nuts, coffee beans 	<ul style="list-style-type: none"> Good on fine non-smearing powders/granules Ideal for cereals, nuts, coffee beans, food ingredients, pet food, animal feed, a wide variety of chemicals, plastics & more 	<ul style="list-style-type: none"> Fine particles are suitable for conveying, however, powders such as cement & TiO₂ should be avoided due to product build up & higher drag factors
Running Empty	<ul style="list-style-type: none"> Cannot be run empty for extended periods without excessive noise & wear 	<ul style="list-style-type: none"> Can be run empty for extended periods 	<ul style="list-style-type: none"> Can be run empty for extended periods 	<ul style="list-style-type: none"> Can be run empty for extended periods 	<ul style="list-style-type: none"> Can be run empty for extended periods
Starting & Stopping	<ul style="list-style-type: none"> Can be started & stopped under load 	<ul style="list-style-type: none"> Cannot be stopped with material in the tubes because the solids will fall out of the air stream & settle to the lowest point 	<ul style="list-style-type: none"> Can be started & stopped under load 	<ul style="list-style-type: none"> Can be started & stopped under load 	<ul style="list-style-type: none"> Can be started & stopped under load

Please note that these are general application guidelines.
Consult your Spiroflow engineer for an expert analysis of your application.

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CONFIGURATIONS					
	<ul style="list-style-type: none"> • Straight incline, no bends • Incline with 0-90° bend • Incline Feeding a Horizontal Conveyor • Horizontal • Horizontal with Multiple Outlets • Horizontal Inline Twin Screws 	<ul style="list-style-type: none"> • Horizontal – Vertical • Vertical – Horizontal • Horizontal – Vertical – Horizontal • 2 Linked Conveyors (1 Vertical, 1 Horizontal) • Horizontal Distribution • Mobile 	<p>Because cable drag conveyors operate in 3 planes, they can be laid out in an infinite number of variations.</p> <p>Some common configurations include but aren't limited to:</p> <ul style="list-style-type: none"> • Parallel Run • Golf Club Loop • Square Loop with Goose Neck • Bulb Loop • Parallel 'C' • Parallel 'Z' • Bulk Loop with Goose Neck 	<p>Because cable drag conveyors operate in 3 planes, they can be laid out in an infinite number of variations.</p> <p>Some common configurations include but aren't limited to:</p> <ul style="list-style-type: none"> • Parallel Run • Golf Club Loop • Square Loop with Goose Neck • Bulb Loop • Parallel 'C' • Parallel 'Z' • Bulk Loop with Goose Neck 	<p>Because cable drag conveyors operate in 3 planes, they can be laid out in an infinite number of variations.</p> <p>Some common configurations include but aren't limited to:</p> <ul style="list-style-type: none"> • Parallel Run • Golf Club Loop • Square Loop with Goose Neck • Bulb Loop • Parallel 'C' • Parallel 'Z' • Bulk Loop with Goose Neck
SPECIFICATIONS					
<p>Speed & Capacity</p> <p>Note: Speeds & capacities depend on product behavior, flow characteristics, bulk density of material and layout including length & elevation.</p>	<p>USA FSC</p> <p>Models 214, 258, 318, 412, 658 & 834</p> <ul style="list-style-type: none"> • FSC214 - Tube O/D: 2¼" • FSC258 - Tube O/D: 2⅝" • FSC318 - Tube O/D: 3⅞" • FSC412 - Tube O/D: 4½" • FSC658 - Tube O/D: 6⅝" • FSC834 - Tube O/D: 8¾" <p>UK/Europe</p> <p>FSC Models 37, 44, 55, 67, 80, 90, 120, 146 & 196</p> <ul style="list-style-type: none"> • FSC37 - Tube I/D x O/D: 37 x 43mm • FSC44 - Tube I/D x O/D: 44 x 51mm • FSC55 - Tube I/D x O/D: 55 x 63mm • FSC67 - Tube I/D x O/D: 67 x 80mm • FSC80 - Tube I/D x O/D: 80 x 90mm • FSC90 - Tube I/D x O/D: 90x100mm • FSC120-Tube I/D xO/D:120x136mm • FSC146-Tube I/D xO/D:146x158mm • FSC196-TubeI/D xO/D:196x222mm <ul style="list-style-type: none"> • Spiral speed is up to 1150 RPM (60HZ), 1450 RPM (50 HZ) depending on the size of the conveyor • Capacity typically up to: 29 ft³/min (0.82m³/min) • Variable conveying rates 	<p>US AMC Models PC3, PC4, PC5</p> <ul style="list-style-type: none"> • PC3 <ul style="list-style-type: none"> ○ Tube Size (OD): 3" (75mm) ○ Cable Speed: Up to 750 ft/min ○ Capacity typically up to: 9 ft³/min (0.25m³/min) • PC4 <ul style="list-style-type: none"> ○ Tube Size (OD): 4" (100mm) ○ Cable Speed: Up to 1,000 ft/min ○ Capacity typically up to: 18 ft³/min (0.5m³/min) • PC5 <ul style="list-style-type: none"> ○ Tube Size (OD): 5" (125mm) ○ Cable Speed: Up to 1,200 ft/min (366m/min) ○ Capacity typically up to: 36 ft³/min (1.0m³/min) • No variable conveying rates 	<p>Models CF3, CF4, CF5</p> <ul style="list-style-type: none"> • CF3 - Tube Size: 3" (75mm) • CF4 - Tube Size: 4" (100mm) • CF5 - Tube Size: 5" (125mm) <ul style="list-style-type: none"> • Speed typically up to 140 ft/min (43m/min) • Capacity typically up to: 3": 4.5 ft³/min (0.11m³/min) 4": 8.5 ft³/min (0.24m³/min) 5": 11 ft³/min (0.31m³/min) • Variable conveying rates 	<p>Model CH4</p> <ul style="list-style-type: none"> • CH4 - 4" (100mm) size <ul style="list-style-type: none"> • Speed typically up to 100 ft/min (30m/min) • Capacity typically up to 6.2 ft³/min (0.18m³/min) • Variable conveying rates 	<p>Models DF3, DF4, DF6, DF8</p> <ul style="list-style-type: none"> • DF3 - 3" (75mm) • DF4 - 4" (100mm) • DF6 - 6" (150mm) • DF8 - 8" (200mm) <ul style="list-style-type: none"> • Speed typically up to 50 ft/min (15m/min) • Capacity typically up to 10 ft³/min (0.28m³/min) • Variable conveying rates
<p>Standard Materials of Construction & Components</p>	<ul style="list-style-type: none"> • Tubes: Food grade UHMWPE • Spirals: Carbon Steel (Mild Steel) OR Upgrade to Stainless Steel 	<ul style="list-style-type: none"> • Tubes: 304 stainless steel • Cable: Carbon Steel (Mild Steel) • Discs: USDA Accepted Polyurethane • Manual inlet baffle • Manual cable tensioner 	<ul style="list-style-type: none"> • Tubes: 304 Stainless Steel • Cable: 304 Stainless Steel • Discs: USDA Accepted Polyurethane • Drive assembly • Auto cable tensioner • Sweeps at standard angles of 90° 	<ul style="list-style-type: none"> • Tubes: 304 Stainless Steel • Cable: 304 Stainless Steel • Discs: UHMWPE • Drive assembly • Auto chain tensioner • Sweeps at standard angles of 90° • Material feed inlet • Material discharge outlet 	<ul style="list-style-type: none"> • Structural Schedule 40 Pipe: Carbon Steel (Mild Steel) • Chain: Sealed pin chain w black neoprene or white nitrile seals OR Link & pin chain with steel washers OR Dropped forged chain • Discs: UHMWPE • Flanges: Carbon Steel (Mild Steel) • Drive Assembly • Manual chain tensioner
<p>Electrical & Pneumatic Requirements</p>	<ul style="list-style-type: none"> • Motor Americas: 2 – 7.5 HP UK/Europe: .55 – 7.5 kW 	<ul style="list-style-type: none"> • 2- 7.5 HP (0.55 – 7.5 kW) Motor • 60-80 psi 	<ul style="list-style-type: none"> • 3 - 5 HP (2.2 - 3.7 kW) Motor • 60-80 psi 	<ul style="list-style-type: none"> • 3 - 7.5 HP (2.2 - 5.6 kW) Motor • 60-80 psi 	<ul style="list-style-type: none"> • 2 - 20 HP (1.5 - 14.9 kW) Motor • 60-80 psi
<p>Inlets, Outlets & Feeding</p>	<ul style="list-style-type: none"> • Multiple inlets & outlets • Conveyor designed to be run fully charged & can be run with a full head of material in a hopper • Vibration, air fluidizers or agitators can be fitted to assist with poor flowing products • Inlets can be fitted w/ baffles, lids, hoppers, agitators, etc. Custom designs available. 	<ul style="list-style-type: none"> • Multiple inlets & outlets • Must be stream fed • Inlets can be fitted with baffles, lids, hoppers, agitators, etc. Custom designs available. 	<ul style="list-style-type: none"> • Multiple inlets & outlets • Can be metered or flood fed, product dependent • Inlets can be fitted with baffles, lids, hoppers, agitators, etc. Custom designs available. 	<ul style="list-style-type: none"> • Multiple inlets & outlets • Can be metered or flood fed, product dependent • Inlets can be fitted with baffles, lids, hoppers, agitators, etc. Custom designs available. 	<ul style="list-style-type: none"> • Multiple inlets & outlets • Can be metered or flood fed, product dependent • Inlets can be fitted with baffles, lids, hoppers, agitators, etc. Custom designs available.

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OPTIONS					
Equipment Options	<ul style="list-style-type: none"> Tubes: <ul style="list-style-type: none"> Food Grade Blue Carbon Steel (Mild Steel) 304 Stainless Steel Anti-static UHMWPE Rubber Rhinoveyor Metal Detectible Spirals: <ul style="list-style-type: none"> 304 Stainless steel spirals Polished spirals Spiral Profiles <ul style="list-style-type: none"> Round Flat Bevelled With Center Core Double wound Flexible discharge hose Right angle gear reducer Drive motor wash down Mobile base Integral bag dump hoppers Controls 	<ul style="list-style-type: none"> Tubes: 316 Stainless Steel Cable: 304 or 316 Stainless Steel Discs: Hytrel for high temperature applications Corner sprockets Inlet base support Hinged access cover Electric or pneumatic inlet vibration Extended capacity chute Dust hood Splash guard Pneumatic inlet baffle Rotation sensor Level indicators Auto cable tensioner Mobile base Controls Inlet Chute with Aeration Device 	<ul style="list-style-type: none"> Tubes: 316 Stainless Steel Cable: 316 Stainless Steel Sanitary finish Inlet support base Corner sprockets (90° Idler Housing) Hinged access covers Hinged inlet chute access covers Inlet vibration - electric or pneumatic Tube mounted inlets Tube mounted outlets Tube valve with chute (Pneumatically actuated inline discharge valve) Extended capacity chute <ul style="list-style-type: none"> Dust hood Splash Guard Lid Manual or pneumatic inlet baffle Rotation sensor Air purge Chain vibrator Level probes – NEMA 4 or 7 (ATEX) Mobile base Controls (with or without VFD) Wash gate & drain Sight glass XP switch Static grounding 90° sweeps Sweeps at custom angles 	<ul style="list-style-type: none"> Tubes: 316 Stainless Steel Chain: 316 Stainless Steel Sanitary finish Inlet support base Corner sprockets (90° Idler Housing) Hinged access covers Hinged inlet chute access covers Inlet vibration - electric or pneumatic Tube mounted inlets Tube mounted outlets Tube valve with chute (Pneumatically actuated inline discharge valve) Extended capacity chute <ul style="list-style-type: none"> Dust hood Splash Guard Lid Manual or pneumatic inlet baffle Rotation sensor (recommended) Air purge Chain vibrator Level probes – NEMA 4/7 (ATEX) Mobile base Controls (with or without VFD) Drain Sight glass XP switch Static grounding 90° sweeps Sweeps at custom angles 	<ul style="list-style-type: none"> Structural Schedule 40 Pipe: <ul style="list-style-type: none"> 304 Stainless Steel 316 Stainless Steel Chain <ul style="list-style-type: none"> Sealed Pin with High Temperature Silicone Seals & Steel Flights Drop Forged Chain with Cast Iron Flights Flanges: Stainless Steel Flanged discharge hopper Air actuated discharge gate Inspection port Chain vibrator Controls
Explosion Proof Options	<ul style="list-style-type: none"> Static grounding (Earthing) Explosion proof motor Anti-static tubing Purged control panels NEMA 4 or 7 Hazardous area control panels 	<ul style="list-style-type: none"> Static grounding (Earthing) Explosion proof motor Purged control panels NEMA 4 or 7 Hazardous area control panels 	<ul style="list-style-type: none"> Static grounding (Earthing) Explosion proof motor Purged control panels NEMA 4 or 7 Hazardous area control panels 	<ul style="list-style-type: none"> Static grounding (Earthing) Explosion proof motor Purged control panels NEMA 4 or 7 (ATEX) Hazardous area control panels 	<ul style="list-style-type: none"> Static grounding (Earthing) Explosion proof motor Purged control panels NEMA 4 or 7 (ATEX) Hazardous area control panels
Hygienic Design Options	<ul style="list-style-type: none"> Hygienic materials of construction available Drop out inlet for quick clean Sanitary seal standoff Quick-release tube connections UL Certification 	<ul style="list-style-type: none"> Hygienic materials of construction available Hinged housing covers Air purge in housings 	<ul style="list-style-type: none"> Hygienic materials of construction available Sanitary finish Air purge in housings Spray nozzles in housings 	<ul style="list-style-type: none"> Hygienic materials of construction available Air purge in housings 	<ul style="list-style-type: none"> Not designed for hygienic applications
CLEANABILITY					
Cleanability Options For Non-Sanitary Applications	<ul style="list-style-type: none"> Can be easily cleaned – spiral can be reversed backward into a receptacle Complete strip down in a few minutes Quick release & hygienic fittings are available as options along with reverse facilities to aid clean down 	<ul style="list-style-type: none"> Can be cleaned by dry scouring (running an abrasive product) or air purging Scavenged dust is directed out through discharge outlet Can be also wet washed/CIP Cable can be removed for cleaning/drying remotely Wash gate & drain 	<ul style="list-style-type: none"> Can be cleaned by dry scouring (running an abrasive product) or air purging Scavenged dust is directed out through discharge outlet Can also be wet washed/CIP Rope can be removed for cleaning/drying remotely Wash gate & drain 	<ul style="list-style-type: none"> Can be cleaned by dry scouring (running an abrasive product) or air purging Scavenged dust is directed out through discharge outlet Can also be wet washed/CIP Chain can be removed for cleaning/drying remotely Drain 	<ul style="list-style-type: none"> Can be CIP cleaned using cleaning media
Cleanability Options For Sanitary Applications	<ul style="list-style-type: none"> USDA 3-A designs available The screw can be removed Smooth surfaces can be cleaned & visually inspected Quick release & hygienic fittings are available as options along with reverse facilities to aid clean down 	<ul style="list-style-type: none"> Cable can be removed for cleaning/drying remotely 	<ul style="list-style-type: none"> Cable can be removed for cleaning/drying remotely 	<ul style="list-style-type: none"> Chain can be removed for cleaning/drying remotely 	<ul style="list-style-type: none"> NOT APPLICABLE