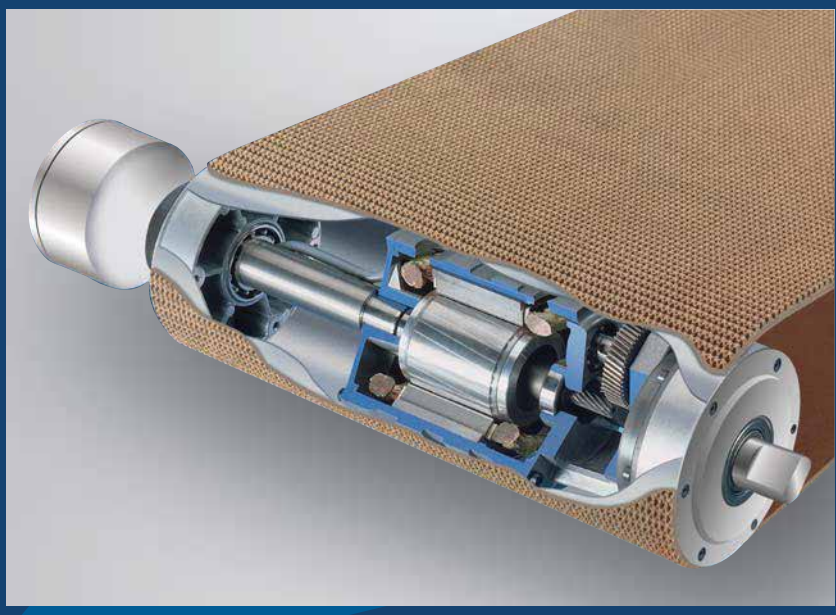
SPARKS
A JSJ Business

DURA•DRIVE PLUS



PRODUCT CATALOG

DURA•DRIVE *PLUS* vs.

Conventional Chain or V-Belt Drive Systems: By Every Important Measure, It's No Comparison

Unlike conventional drive systems, the new DURA-DRIVE *PLUS* motorized pulley has no chains or V-belts to tighten or replace, no sprockets to align, clean or lubricate, no bearings to grease, and doesn't require chain guards that need replacing.

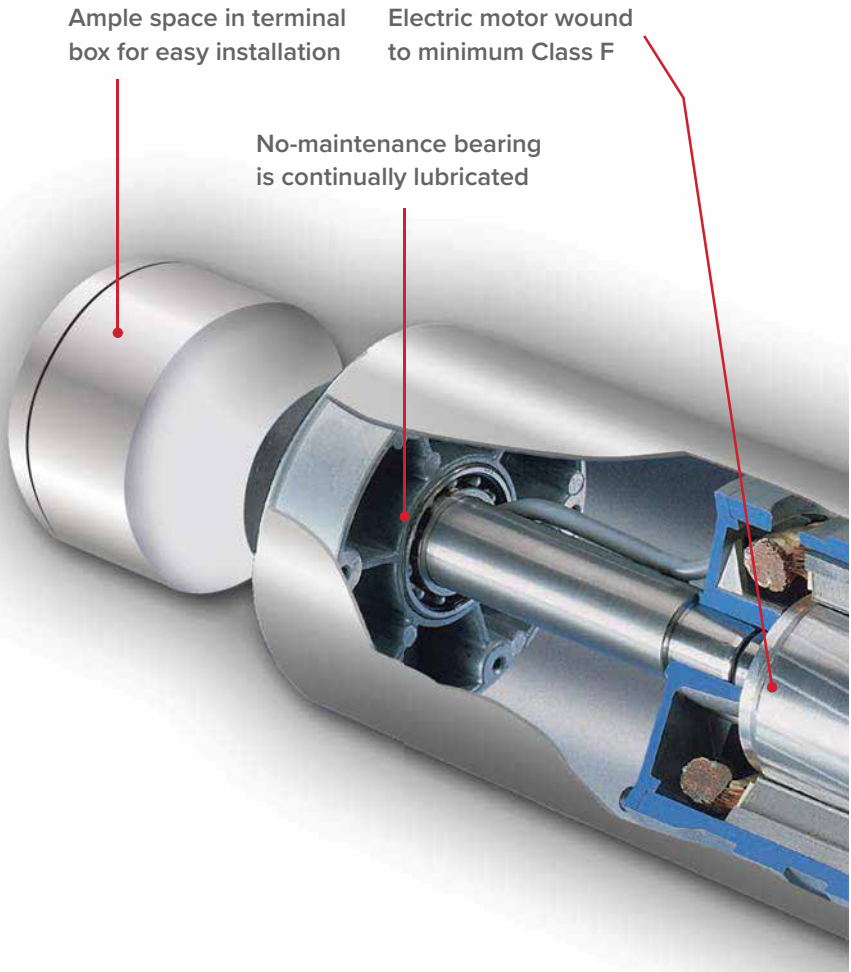
It's a simple - yet small and powerful - one-piece motorized pulley that's guaranteed to power your belt conveyor for years without breakdown. All gearing is made of high-quality alloy steel, not plastic. Just an in-place oil change after 25,000 hours is all that's ever needed. No disassembly required.

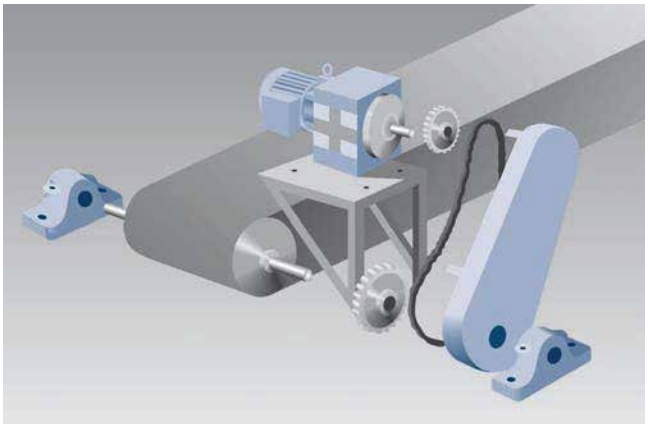
The result: Almost no maintenance or downtime. And that means lower costs and higher productivity.

Compact, safer, & cleaner operation

Unlike bulky conventional drive systems that fit externally on a conveyor, DURA-DRIVE *PLUS* is actually part of the conveyor and much more compact. That means you can fit more conveyor into less floor or overhead space.

Also, all moving parts are enclosed in the steel pulley shell, eliminating hazardous moving parts and pinch points, along with the potential for electric shock from water on motors. DURA-DRIVE *PLUS* is cleaner because there's no external grease or oil from chains, bearings or couplings. As a result, you improve worker safety and more readily comply with OSHA standards.





Conventional drive system

DURA-DRIVE *PLUS* motorized pulley

What is a motorized pulley?

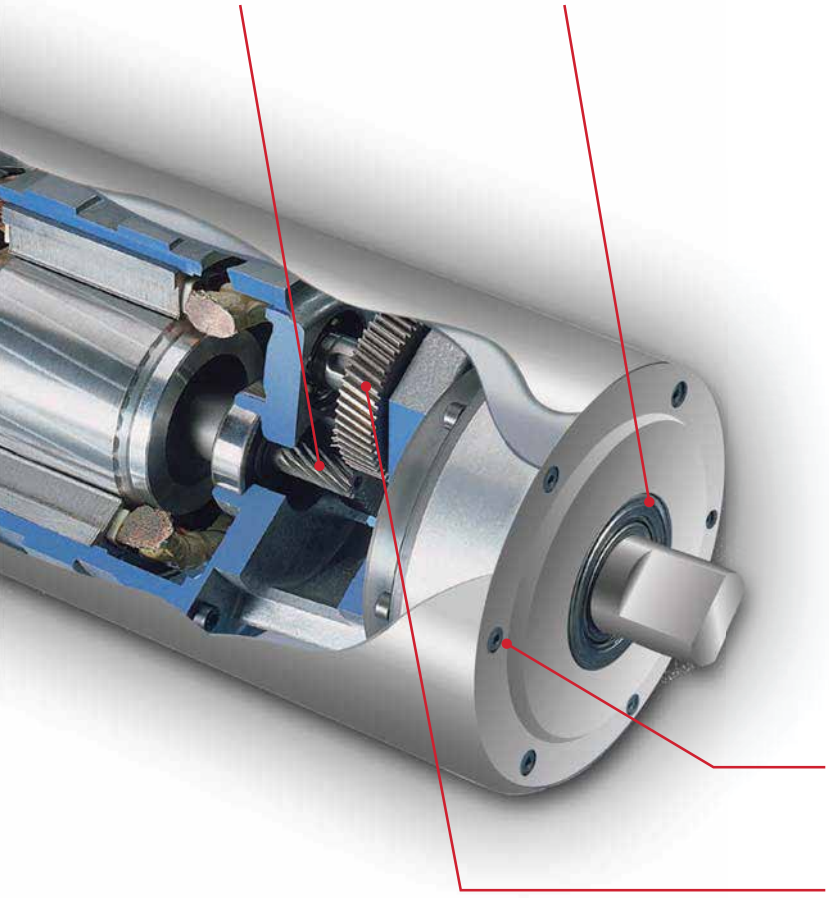
A motorized pulley is a drum motor in which the body rotates around a stationary shaft. The rotating outer “drum” becomes the traction surface which powers the conveyor belt.

Electric power leads pass through the stationary shaft to motor terminals inside the pulley housing. Since the end shaft does not rotate, there is no need for slip rings to deliver electrical power to the motor windings.

The entire internal mechanism, including the motor, gears and bearings, are completely sealed and protected by the outer metal drum. Oil inside the drum continuously lubricates bearings and gears, and removes heat from motor windings.

Parallel gearing system for greater efficiency and quiet operation

Metallic labyrinth sealing to IP66 or IP67 keeps out dirt and water



Optional Bolt-on end cap for easy servicing

Gearing made of high-quality alloy steel with precision-cut helical and hardened polished teeth and gears, honed and ground for low noise.

Quiet operation

DURA-DRIVE *PLUS* operates at a very quiet 57-64 decibels, compared to 76-80 decibels for a typical conventional drive. Quieter operation can help you meet OSHA noise regulations, eliminate the need for costly ear protective devices for workers, and improve your overall work environment.

Simple design means easy specification for new systems, easy installation for existing ones

Because DURA-DRIVE *PLUS* is a one-piece pulley and not 10 or more separate components like a conventional drive, it can be easily specified into new systems and dramatically reduce design time. For existing systems, the pulley comes with two mounting brackets and hardware. Changeover takes less than an hour per drive.

DURA-DRIVE *PLUS*... a cost-effective alternative to conventional drive systems

DURA-DRIVE *PLUS* is priced competitively with conventional systems initially, and is more energy efficient. For example, a conventional system normally transfers only 60-75% of its mechanical efficiency (horsepower) to the belt. DURA-DRIVE *PLUS* transfers 95% of its capacity to the belt – a 20-35% increase.

This savings can translate into a reduction of hundreds of dollars in energy costs – *per drive, per year*. When you add in the reduced maintenance costs – *per drive, per year* – it’s easy to see how DURA-DRIVE *PLUS* motorized pulleys can quickly pay for themselves, in a matter of months.

Other applications for motorized pulleys:

Motorized pulleys can be used for many applications. For example, by machining grooves in the shell or rubber lagging, the motor can be used to drive V-belt and round-belt driven conveyors.

Wheels and sprockets or special profiled lagging can be attached to the shell to drive plastic modular belts or chain conveyors.

3.19 DURA•DRIVE PLUS

The Dura Drive Plus one piece motorized pulley is compact yet powerful. All gearing is made of high quality alloy steel ensuring years without breakdown. The Dura Drive Plus is also low maintenance with an in-place oil change after 40,000 hours. This ensures minimal downtime, which in turn ensures lower cost and higher productivity.

Shaft Seal

The end housings are fitted with custom designed one piece cartridge seals. This provides excellent protection against ingress of dust, grit, water and high-pressure cleanings. The cartridge seals are specially designed to prevent wear to the shafts.

Electric Motor

All Sparks Belting motorized pulleys contain motors tested to UL 1004 – 1:2012 standards with Class F insulation standard (Class H insulation available upon request). The motor is an asynchronous squirrel cage induction type. Class F motors are suitable for most applications with ambient temperatures of +100°F to -10°F. For temperatures above or below, contact Sparks Belting for a recommendation.

Electric motors with windings for special voltages and frequencies are available upon request.

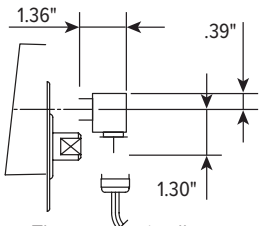
Sparks Belting motorized pulleys are inverter duty motors and can, therefore, have a step-less speed control in combination with static frequency converters in the range from 30 to 70 HZ.

Electrical Connections

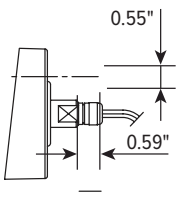
Pulleys in the 3.19” diameter line are not available in dual voltage or with a terminal box electrical connection.

Constructions & Materials

Component	Standard	Options	Not available
Shaft	Mild Steel	Stainless Steel	
Shell	Mild Steel	Stainless Steel	
	Crowned	Hard Chrome	
		Rubber Lagged	
		Flat Face	
		V-Grooves	
		Sprockets	
End Caps	Aluminum	Stainless Steel	Mild Steel, Bolt on
	Pressed/glued		
Sealing Systems	Cartridge Seal		
Electrical Motor	3 Phase Asynchronous	Thermal Overload Protection	Single Phase
			Dual Voltage (face width restrictions)
			Wide Range Voltage
Electrical Connection	Straight Connector and 5.5m cable	Thermo-plastic Elbow Connector and 5.5m cable	Stainless Steel Terminal Box
			Steel Conduit Elbow Connector
Motor Insulation	Class F	Class H	

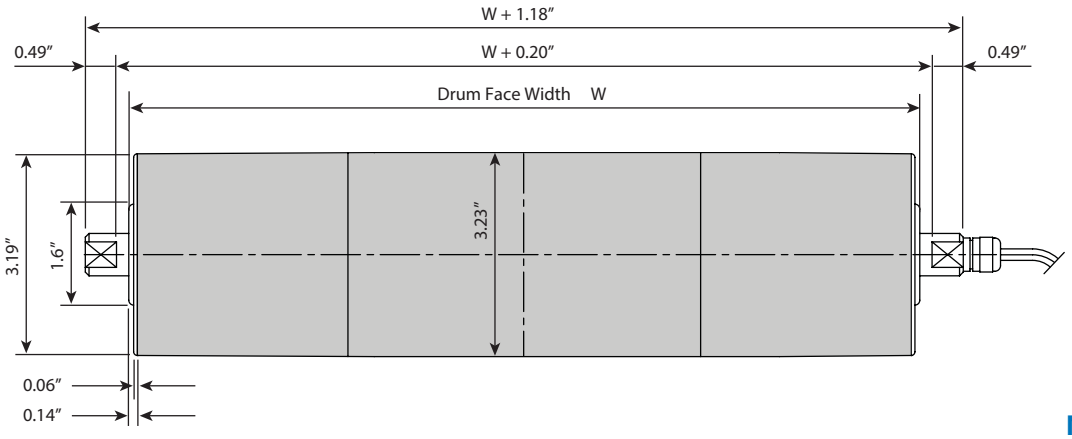


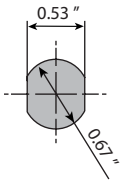
Thermo-plastic elbow connector with 5.5m cable



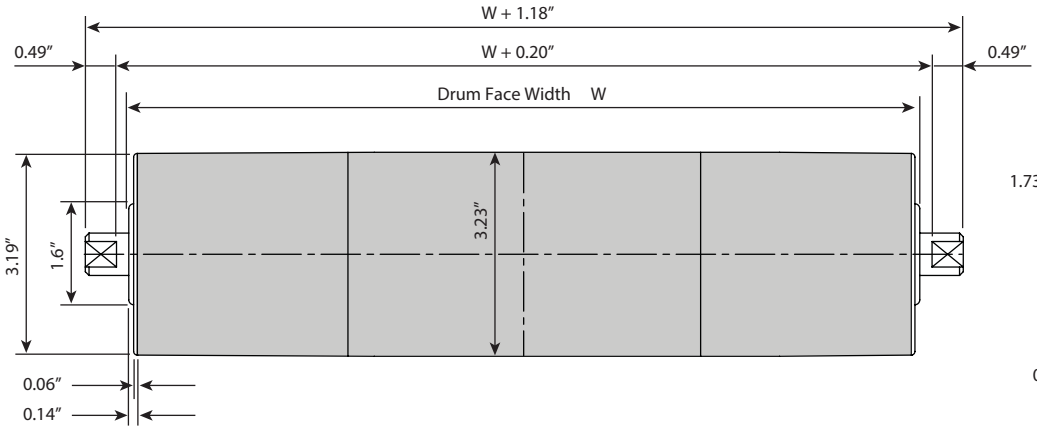
Straight connector and 5.5m cable

Motorized Pulley Dimensions



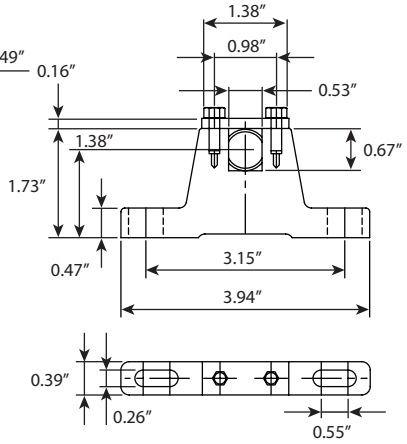


Idler Pulley Dimensions



Mounting Bracket

Material: Cast iron or stainless steel bracket



Performance Specifications

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
0.16	9.84”	38	141	19
		54	89	12
		71	74	10
		94	56	7
		133	40	5
		189	28	4
		236	22	3

Standard Face Widths

11.81” (19 lbs)	13.78” (21 lbs)	15.75” (22 lbs)	17.72” (24 lbs)	19.69” (25 lbs)
21.65” (29 lbs)	23.62” (31 lbs)	25.59” (33 lbs)	27.56” (35 lbs)	29.53” (36 lbs)
31.50” (38 lbs)	33.46” (39 lbs)	35.43” (41 lbs)		

- Maximum face width is 59.50”
- Other face widths are available
- Maximum lagging thickness is 1/8” (8% increase in finished speed)
- V-groove option must be two times the min. face width and groove width
- Same diameter (3.23”) grooved tube is only option
- All units are available in 3-phase single voltage, 230v or 460v
- No vertical mount
- Oversized Drum shell diameters larger than 3.23 are not available.

4.39 DURA•DRIVE PLUS

The Dura Drive Plus one piece motorized pulley is compact yet powerful. All gearing is made of high quality alloy steel ensuring years without breakdown. The Dura Drive Plus is also low maintenance with an in-place oil change after 40,000 hours. This ensures minimal downtime, which in turn ensures lower cost and higher productivity.

Shaft Seal

The end housings are fitted with custom designed one piece cartridge seals. This provides excellent protection against ingress of dust, grit, water and high-pressure cleanings. The cartridge seals are specially designed to prevent wear to the shafts.

Electric Motor

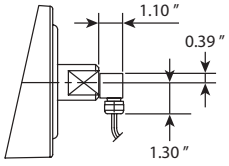
All Sparks Belting motorized pulleys contain motors tested to UL 1004 – 1:2012 standards with Class F insulation standard (Class H insulation available upon request). The motor is an asynchronous squirrel cage induction type. Class F motors are suitable for most applications with ambient temperatures of +100°F to -10°F. For temperatures above or below, contact Sparks Belting for a recommendation.

Electric motors with windings for special voltages and frequencies are available upon request.

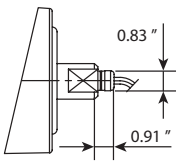
Sparks Belting motorized pulleys are inverter duty motors and can, therefore, have a step-less speed control in combination with static frequency converters in the range from 30 to 70 HZ.

Electrical Connections

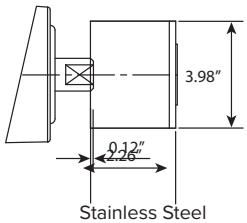
Pulleys fitted with cables are normally supplied for one voltage only. Dual voltage cable is available upon request.



Thermo-plastic elbow connector with 1.5m cable (5.5m cable optional)



Straight brass connector with 1.5m cable (5.5m cable optional)

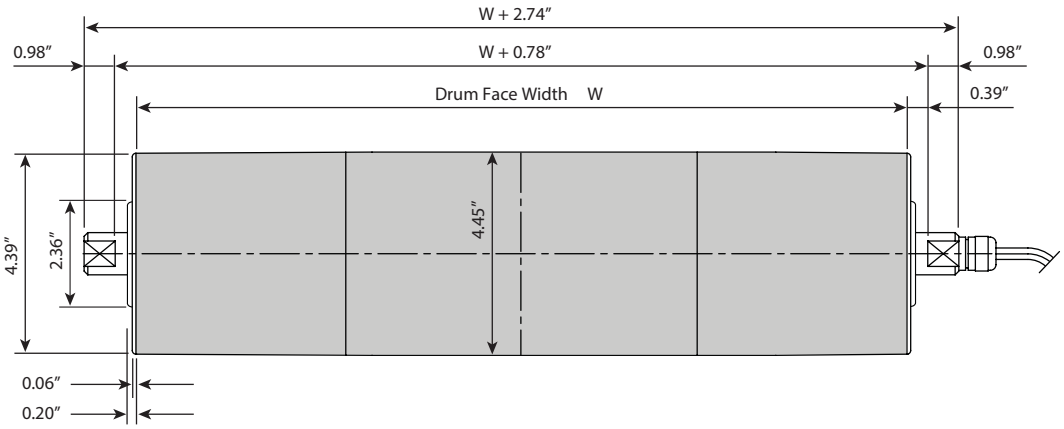


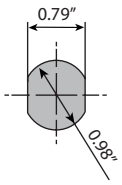
Stainless Steel terminal box

Constructions & Materials

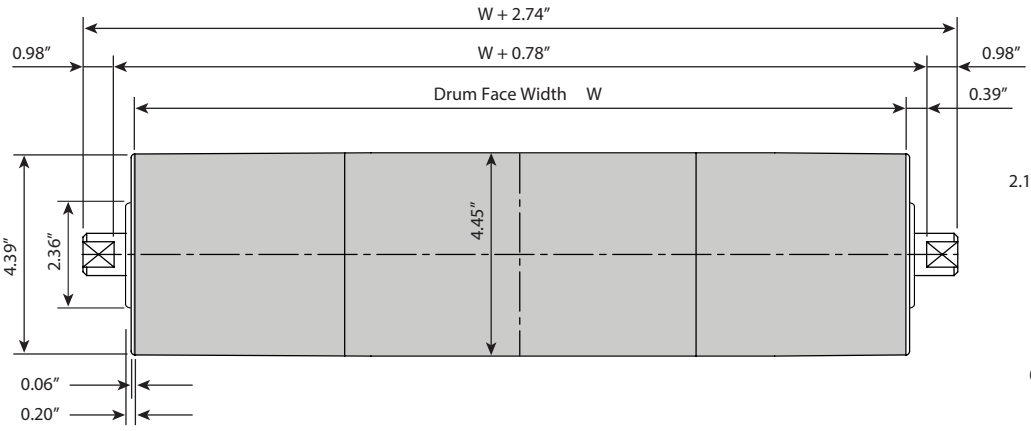
Component	Standard	Options	Not available
Shaft	Mild Steel	Stainless Steel	
Shell	Mild Steel	Stainless Steel	
	Crowned	Rubber Lagged	
		Flat Face	
		V-Grooves	
		Sprockets	
		Hard Chrome	
End Caps	Aluminum	Stainless Steel	Mild Steel
	Pressed/glued	Bolt-on	
Sealing Systems	Cartridge Seal		
Electrical Motor	3 Phase Asynchronous	Dual Voltage	Single Phase
	Thermal Overload Protection		
Electrical Connection	Straight Brass Connector with 1.5m cable (5.5m cable optional)	Thermo-plastic Elbow Connector with 1.5m cable (5.5m cable optional)	
		Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Terminal Box	
Motor Insulation	Class F	Class H	

Motorized Pulley Dimensions



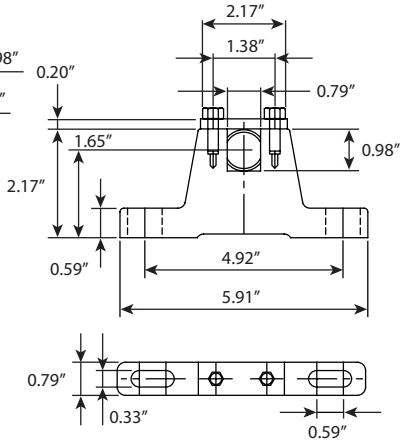


Idler Pulley Dimensions



Mounting Bracket

Material: Cast iron or stainless steel bracket



Performance Specifications

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
0.2	9.84”	47 65 94	140 97 70	26 18 13
0.25	11.81”	29 41	289 186	53 34
0.4	11.81”	47 65 71 94 104	280 198 186 140 124	57 36 34 26 23
0.5	11.81”	104 118 142 189 280 325	151 140 116 87 60 49	28 26 21 16 11 9

Standard Face Widths

9.84” (30 lbs)	11.81” (31 lbs)	13.78” (33 lbs)	15.75” (36 lbs)	17.72” (37 lbs)
19.69” (39 lbs)	21.65” (41 lbs)	23.62” (43 lbs)	25.59” (46 lbs)	27.56” (49 lbs)
29.53” (51 lbs)	31.50” (53 lbs)	33.46” (56 lbs)	35.43” (58 lbs)	37.40” (60 lbs)

- Maximum face width is 59.50”
- Other face widths are available
- Add 1.97” to min. face width for bolt-on end caps
- Maximum lagging thickness is 1/8” (6% increase in finished speed)
- V-groove option must be two times the min. face width
- All motors can be single or dual voltage 230v or 460v 3 phase

5.38 DURA•DRIVE PLUS

The Dura Drive Plus one piece motorized pulley is compact yet powerful. All gearing is made of high quality alloy steel ensuring years without breakdown. The Dura Drive Plus is also low maintenance with an in-place oil change after 40,000 hours. This ensures minimal downtime, which in turn ensures lower cost and higher productivity.

Shaft Seal

The end housings are fitted with custom designed one piece cartridge seals. This provides excellent protection against ingress of dust, grit, water and high-pressure cleanings. The cartridge seals are specially designed to prevent wear to the shafts.

Electric Motor

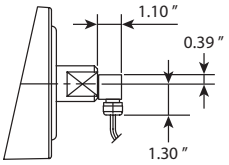
All Sparks Belting motorized pulleys contain motors tested to UL 1004 – 1:2012 standards with Class F insulation standard (Class H insulation available upon request). The motor is an asynchronous squirrel cage induction type. Class F motors are suitable for most applications with ambient temperatures of +100°F to -10°F. For temperatures above or below, contact Sparks Belting for a recommendation.

Electric motors with windings for special voltages and frequencies are available upon request.

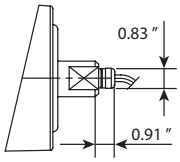
Sparks Belting motorized pulleys are inverter duty motors and can, therefore, have a step- less speed control in combination with static frequency converters in the range from 30 to 70 HZ.

Electrical Connections

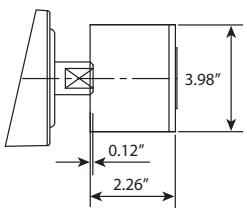
Pulleys fitted with cables are normally supplied for one voltage only. Dual voltage cable is available upon request.



Thermo-plastic elbow connector with 1.5m cable (5.5m cable optional)



Straight brass connector with 1.5m cable (5.5m cable optional)

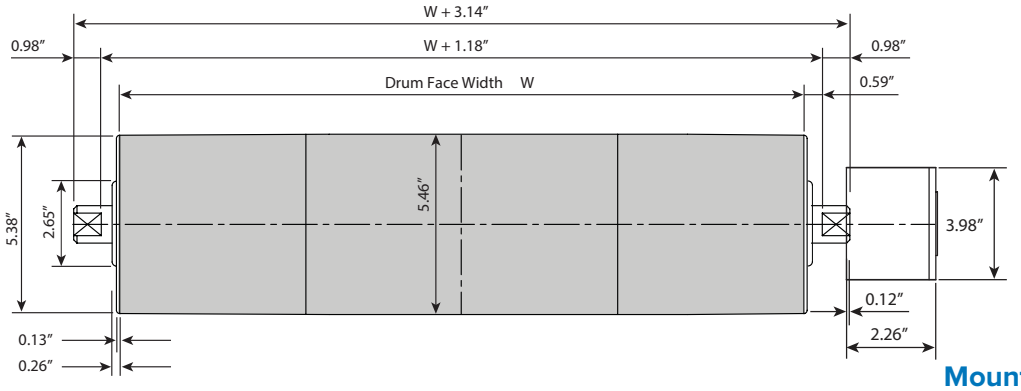


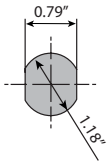
Stainless Steel terminal box

Constructions & Materials

Component	Standard	Options	Not available
Shaft	Mild Steel	Stainless Steel	
Shell	Mild Steel	Stainless Steel	
	Crowned	Rubber Lagged	
		Flat Face	
		V-Grooves	
		Sprockets	
		Hard Chrome	
End Caps	Mild Steel	Stainless Steel	Aluminum
	Pressed/glued	Bolt-on	
Sealing Systems	Cartridge Seal		
Electrical Motor	3 Phase Asynchronous	Dual Voltage	Single Phase
	Thermal Overload Protection		
Electrical Connection	Straight Brass Connector with 1.5m cable (5.5m cable optional)	Thermo-plastic Elbow Connector with 1.5m cable (5.5m cable optional)	
		Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Terminal Box	
Motor Insulation	Class F	Class H	

Motorized Pulley Dimensions

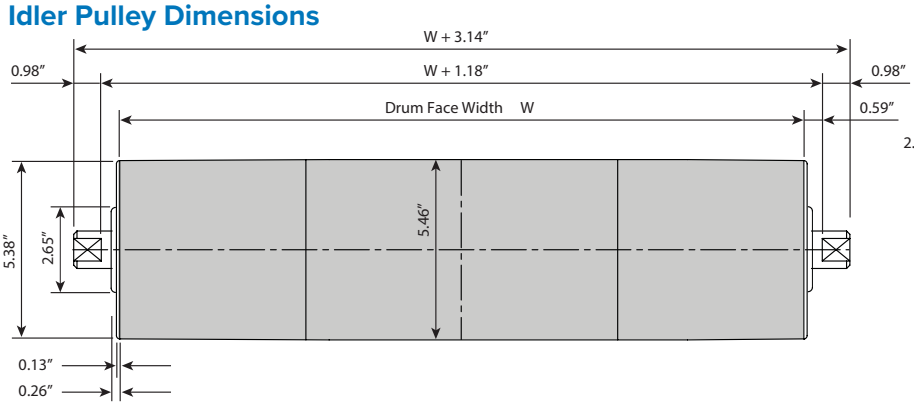


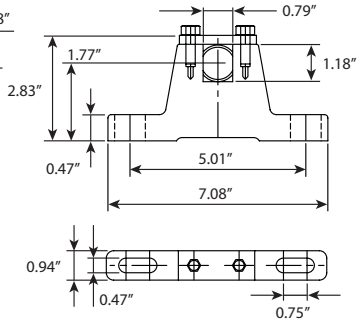


Mounting Bracket

Material: Cast iron or stainless steel bracket

Idler Pulley Dimensions





Performance Specifications

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
0.25	13.78”	19	412	91
0.34	13.78”	26 31 54	422 341 196	93 75 43
0.5	11.81”	38 47 65 85 104 133	434 351 243 185 153 117	98 78 54 41 34 26
0.75	11.81”	85 104 133 175 210 280 295 430	279 225 176 135 113 86 77 54	62 50 39 30 25 19 17 12
1	13.78”	59 85 104 133	545 381 308 240	120 84 68 53

Performance Specifications cont.

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
1.5	13.78”	104 133 189 260	450 354 250 182	99 78 55 40

Standard Face Widths

11.81” (53 lbs)	13.78” (55 lbs)	15.75” (57 lbs)	17.72” (59 lbs)	19.69” (62 lbs)
22.65” (65 lbs)	23.62” (68 lbs)	25.59” (71 lbs)	27.56” (73 lbs)	29.53” (76 lbs)
31.50” (51 lbs)	33.46” (83 lbs)	35.43” (85 lbs)	37.40” (87 lbs)	39.36” (89 lbs)

- Maximum face width is 81”
- Other face widths are available
- Add 1.97” to min. face width for bolt-on end caps
- Maximum lagging thickness is 3/8” (14% increase in finished speed)
- For V-groove tube diameter of 5.45”, length must be 2 times the min. face width
- For V-groove tube diameter of 6.45”, length can be same as min. face length (22% increase in finished speed)
- All motors can be single or dual voltage 230v or 460v 3 phase

6.46 DURA•DRIVE PLUS

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Shaft Seal

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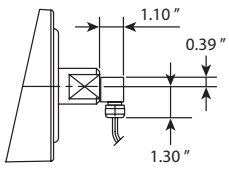
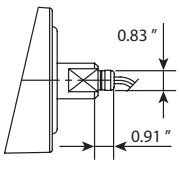
Electrical Connections

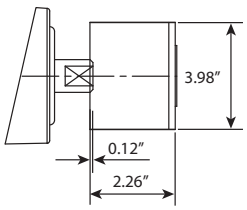
Pulleys fitted with cables are normally supplied for one voltage only. Dual voltage cable is available upon request.



Thermo-plastic elbow connector with 1.5m cable (5.5m cable optional)



Straight brass connector with 1.5m cable (5.5m cable optional)



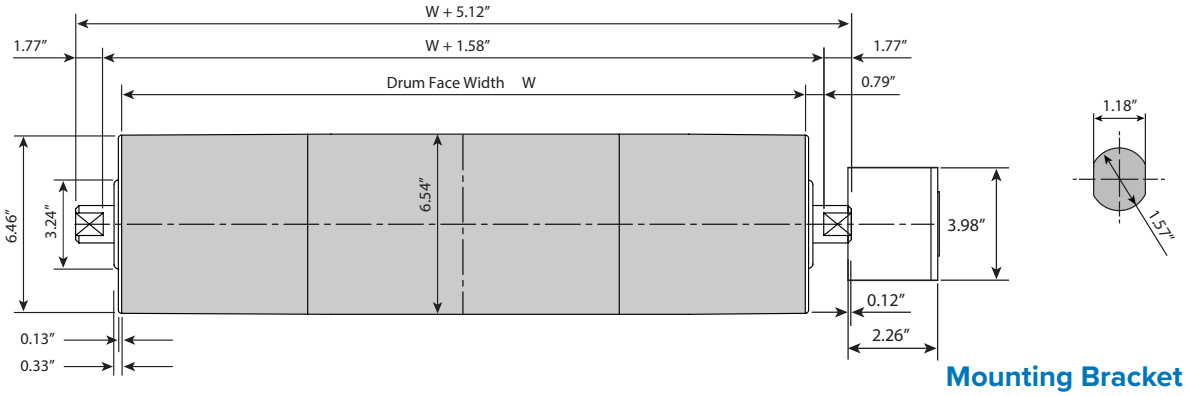
Stainless Steel terminal box

Constructions & Materials

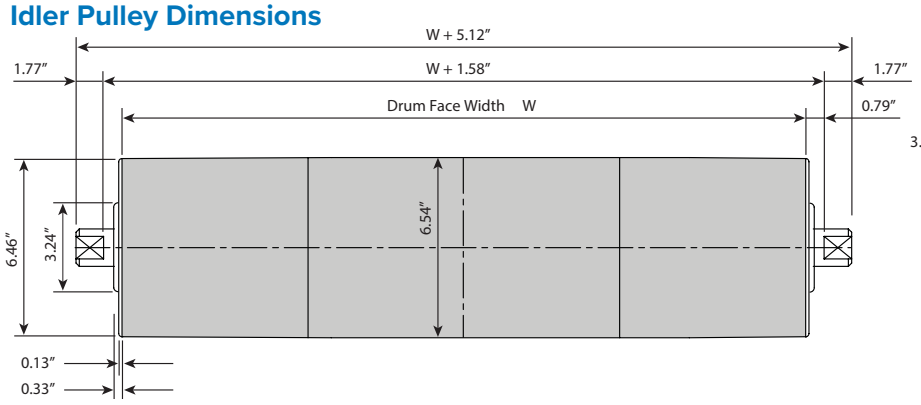
Component	Standard	Options	Not available
Shaft	Mild Steel	Stainless Steel	
Shell	Mild Steel	Stainless Steel	
	Crowned	Rubber Lagged	
		Flat Face	
		V-Grooves	
		Sprockets	
		Hard Chrome	
End Caps	Mild Steel	Stainless Steel	Aluminum
	Pressed/glued	Bolt-on	
Sealing Systems	Cartridge Seal		
Electrical Motor	3 Phase Asynchronous	Dual Voltage	Single Phase
	Thermal Overload Protection		
Electrical Connection	Straight Brass Connector with 1.5m cable (5.5m cable optional)	Thermo-plastic Elbow Connector with 1.5m cable (5.5m cable optional)	
		Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Terminal Box	
Motor Insulation	Class F	Class H	

6.46 DURA•DRIVE PLUS

Motorized Pulley Dimensions

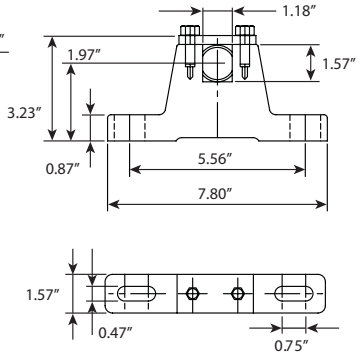


Idler Pulley Dimensions



Mounting Bracket

Material: Cast iron or stainless steel bracket



Performance Specifications

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
0.5	17.72”	21	752	200
0.75	17.72”	31 38	797 650	212 173
0.75	15.75”	47 59 104	526 419 227	140 111 60
1	15.75”	65 74 104 118 149 189 235	488 439 304 266 221 175 140	130 117 81 71 59 47 37
1	17.72”	38	867	231
2	17.72”	104 118 149 189 235	611 539 430 351 280	162 143 114 93 75

Performance Specifications cont.

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
3	17.72”	118 149 205 295 374 472	838 663 468 335 253 200	223 176 124 89 67 53

Standard Face Widths

15.75” (119 lbs)	17.72” (122 lbs)	19.69” (125 lbs)	21.65” (128 lbs)	23.62” (131 lbs)	23.62” (131 lbs)
27.56” (137 lbs)	29.53” (140 lbs)	31.50” (143 lbs)	33.46” (146 lbs)	35.43” (149 lbs)	37.40” (152 lbs)
39.36” (155 lbs)	41.33” (158 lbs)	43.30” (161 lbs)	45.27” (164 lbs)		

- Maximum face width is 96”
- Other face widths are available
- Add 1.97” to min. face width for bolt-on end caps
- Maximum lagging thickness is 3/8” (11% increase in finished speed)
- For V-groove tube diameter of 6.50”, length must be 2 times the min. face width
- For V-groove tube diameter of 7.45”, length can be same as min. face length (17% increase in finished speed)
- All motors can be single or dual voltage 230v or 460v 3 phase

8.48 DURA•DRIVE PLUS

The Dura Drive Plus one piece motorized pulley is compact yet powerful. All gearing is made of high quality alloy steel ensuring years without breakdown. The Dura Drive Plus is also low maintenance with an in-place oil change after 40,000 hours. This ensures minimal downtime, which in turn ensures lower cost and higher productivity.

Shaft Seal

The end housings are fitted with custom designed one piece cartridge seals. This provides excellent protection against ingress of dust, grit, water and high-pressure cleanings. The cartridge seals are specially designed to prevent wear to the shafts.

Electric Motor

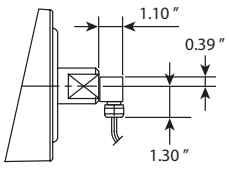
All Sparks Belting motorized pulleys contain motors tested to UL 1004 – 1:2012 standards with Class F insulation standard (Class H insulation available upon request). The motor is an asynchronous squirrel cage induction type. Class F motors are suitable for most applications with ambient temperatures of +100°F to -10°F. For temperatures above or below, contact Sparks Belting for a recommendation.

Electric motors with windings for special voltages and frequencies are available upon request.

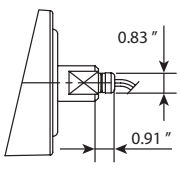
Sparks Belting motorized pulleys are inverter duty motors and can, therefore, have a step- less speed control in combination with static frequency converters in the range from 30 to 70 HZ.

Electrical Connections

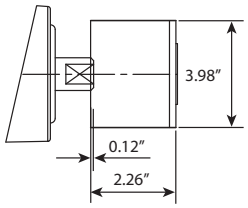
Pulleys fitted with cables are normally supplied for one voltage only. Dual voltage cable is available upon request.



Thermo-plastic elbow connector with 1.5m cable (5.5m cable optional)



Straight brass connector with 1.5m cable (5.5m cable optional)

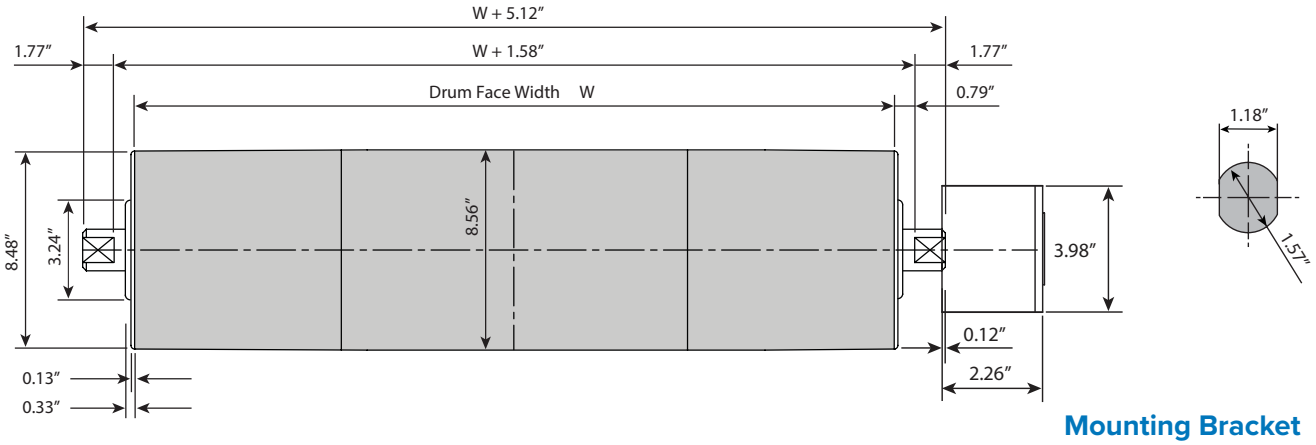


Stainless Steel terminal box

Constructions & Materials

Component	Standard	Options	Not available
Shaft	Mild Steel	Stainless Steel	
Shell	Mild Steel	Stainless Steel	
	Crowned	Rubber Lagged	
		Flat Face	
		V-Grooves	
		Sprockets	
		Hard Chrome	
End Caps	Mild Steel	Stainless Steel	Aluminum
	Pressed/glued	Bolt-on	
Sealing Systems	Cartridge Seal		
Electrical Motor	3 Phase Asynchronous	Dual Voltage	Single Phase
	Thermal Overload Protection		
Electrical Connection	Straight Brass Connector with 1.5m cable (5.5m cable optional)	Thermo-plastic Elbow Connector with 1.5m cable (5.5m cable optional)	
		Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Conduit Elbow Connector with 1.5m cable (5.5m cable optional)	
		Stainless Steel Terminal Box	
Motor Insulation	Class F	Class H	

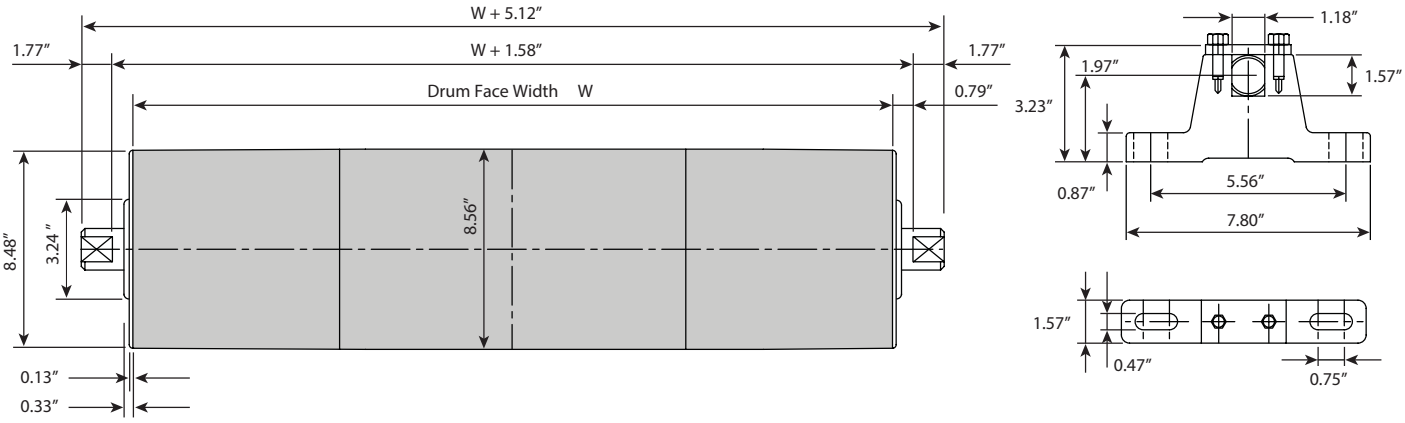
Motorized Pulley Dimensions



Mounting Bracket

Material: Cast iron or stainless steel bracket

Idler Pulley Dimensions



Performance Specifications

HP	Minimum Face Width	FPM (nominal)	Belt Pull (lbs)	Drum Torque (lbs·ft)
1.5	19.69”	47 59 76	1052 838 650	372 296 230
2	19.69”	63 80	997 824	352 291
3	19.69”	92 118 149 189	1075 838 663 523	380 296 234 185
4	19.69”	149 236 295 472	840 559 447 279	296 197 158 99
5.5	19.69”	295 378 472	614 479 384	217 169 136

Standard Face Widths

19.69” (129 lbs)	21.65” (134 lbs)	23.62” (138 lbs)	25.59” (142 lbs)	27.56” (146 lbs)
29.53” (150 lbs)	31.50” (154 lbs)	33.46” (160 lbs)	35.43” (170 lbs)	37.40” (180 lbs)
39.36” (189 lbs)	41.33” (198 lbs)	43.40” (208 lbs)	45.27” (217 lbs)	

- Maximum face width is 108”
- Other face widths are available
- Add 1.97” to min. face width for bolt-on end caps
- Maximum lagging thickness is 3/8” (9% increase in finished speed)
- For V-groove tube diameter of 8.56”, length must be 2 times the min. face width
- For V-groove tube diameter of 9.45”, length can be same as min. face length (12% increase in finished speed)
- All motors can be single or dual voltage 230v or 460v 3 phase

Installation Services

Sparks has a true nationwide footprint that allows us to call on and service any customer in the continuous 48 states. With 75 years in business, we make commitments to our clients like few others in the industry. Bottom line is—

When you need us, we are there.

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A JSJ Business

Contact us!

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