











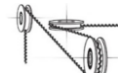



Product lineup

Specifications and Comparison of properties

Legend : 5=Highest, 1=Lowest applicability

Category	Item	Type	Specification(Trial)		1to1 Torque response	High-speed rotation	Push/Pull	Compression	Flexibility	Feature
			OD(mm)	ID(mm)						
Hollow cable	Torque coil	 3layer 2layer flat auger*	0.36-6.00	0.18-3.20	5	5	3	2	4	bi-directional (3 layers) or unidirectional (2 layers) rotation *Archimedes screw with spiral wire
	Torque Hypotube		0.20-1.10	0.10-0.70	5	2	5	5	1	high breaking strength and elongation resistance
	ACT ONE	 standard flat ultra thin auger*	0.21-4.52	0.13-3.20	4	3	4	3	3	well balanced properties *Archimedes screw with spiral wire
	Wire coil	 round flat	0.10-3.50	~1.80	1	1	2	4	5	high flexibility and compression resistance
Cable	Drive Cable	 2-6layer	0.41-6.00	-	5	5	5	4	2	Optimized for high speed rotation and power transmission
	Torque rope	 1x3,1x7, 1x12,1x19	0.30-3.00	-	4	3	5	4	3	1:1 torque transmission at hand-speed rotation
	Wire rope	 1x7,1x19 7x7,7x19 7x7x7, etc.	0.09-3.00	-	1	1	5	4	3	High breaking strength and elongation resistance
Coating	Outer coating	 Extrusion Dip coat Spray	Floropolymer Nylon, etc.	To add lubricity, ablation resistance or biocompatible sealing to cable						
	Inner tube		Floropolymer	Inner coating applied to a hollow cable						
	Precoating		PTFE	Coating for both inner and outer of hollow cable without losing the property of the cable						
Assembly	Machining & Assembly	 Laser welding, Grinding Tube assembly	Variety of welding and machining available for assembly or additional mechanical property							
	End termination	 Ball, Eye, Loop, etc.	For the end of a cable or used for intermediate attaching.							
Power transmission	Synchromesh wire rope	 AWS40 -AWS120	1.10-3.40	-	Synchronous round belt, ideal for linear-motion system drawn in 3-dimensional.					
	Cable rack	 CL0.8S / H	W3.0 x H3.6	-	With stainless cable core, ideal when the Rack needs to be flexible and high-force movement required.					

Machining & Assembly

Processing on surface



Swaging process

We can decrease O. D. without both I. D. change and decrease of stiffness by beating surface of rope. It improves the anti-elongation



Flat-grinding process

We can perform Flat-grinding on surface of rope in whole length . It improves flexibility of rope without changing I. D..



Auger

We can set additional filar on rope. This structure adds the transportation function to rope.



Marking process

We can put marking to make clear the its position of the wire rope.

End treatment



Electric discharge method

This method makes individual filars avoid being crushed by cutting with nipper.



End treatment by laser

We can unite individual filars into one end by laser welding.



Plasma welding

We can make hemisphere shape at the end of rope. It improves both safety and sliding performance.



L-grinding process

We can perform high precision grinding process to make L-shaped end of rope. This shape helps to connect rope to other materials.

Assembly



Laser welding

We can weld different kind of materials by laser welding.



Solder welding

We can weld different kind of materials by soldering.

End termination

Eyelets, threaded screws, or balls may be crimped, laser welded, soldered, pressed, caulked, or swaged onto the ends of stainless steel cables to optimize mechanical performance and comply with space requirements. Asahi Intecc engineers carefully review both initial tension and initial cable elongation, and wire rope elongation after bending several cycles as well as the break load to help clients select the correct terminal and stainless cable configuration.

Eye end



Mainly used in connection to a pin or a screw.

Wire rope stake eyes can be bent to any specified angle.



Caulking is possible without removing the coating, even with coated wire rope.

Loop end



Mainly used in connection to a pin.

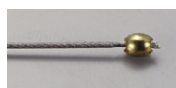
Used for many applications as loop can be sized to suit specific need.



*With a thimble

Used in cables with loops when wear is a concern. Provides wear resistance, greater strength and keeps shape of loop open.

Ball end



Ball can be swaged on in either the end or the middle of an assembly. Mainly used in connection to a slit.

Threaded Studs end



Used in application which need to make fine adjustment to the length.

Flat end



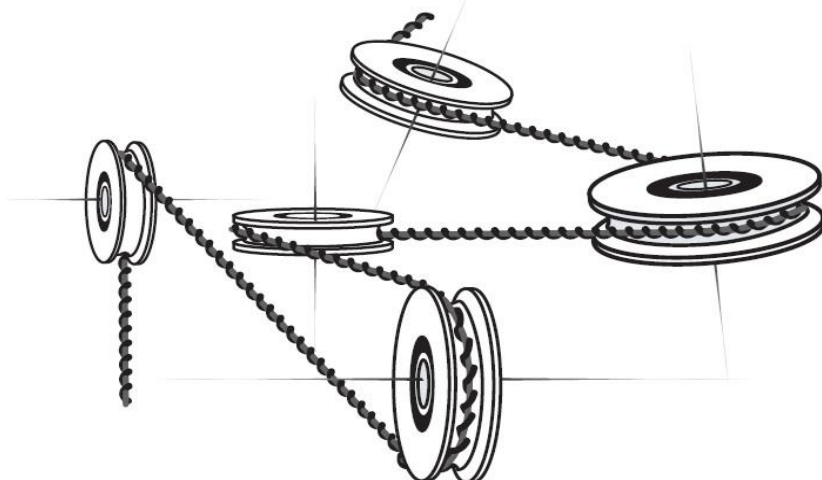
Flat can be swaged on in the middle of an assembly. Mainly used for intermediate attaching.

Stop end

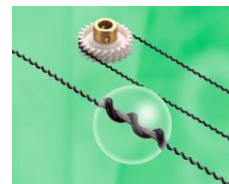


Stop can be swaged on in either the end or the middle of an assembly. Mainly used in application which permit rotation.

Synchronous Round Belt



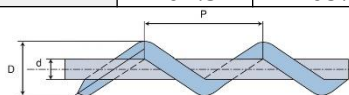
Actual Product image



Synchronous round belt (Product name: Synchromesh wire rope) incorporates two core technology - coating and wire twisting. Its round design allows the wire rope to draw in 3-dimensional, makes it easy to design a linear-motion system instead of Belt drive or Rack and pinion, especially in limited space application. The helical construction contributes to excellent low noise operation works with the exclusive

Specifications

Model		AWS40	AWS60	AWS80	AWS100	AWS120	
O.D.	(D: see the figure below)	1.10	1.60	2.20	2.80	3.40	(mm)
Tangential Force	Max.	17.7	27.5	51.0	72.6	101.0	(N)
	Avg.	3.9	9.8	17.7	25.5	36.3	
	number to inter-meshed teeth	10	8	8	7	7	
Min. bend radius		4.3	7.0	7.0	9.0	11.5	(mm)
Min. pulley diameter		12.3	18.0	18.0	23.0	28.0	(mm)
Pitch	(P: see below)	2.03	2.82 - 3.05	3.53 - 3.81	4.23 - 5.08	6.35	(mm)
Core diameter	(d: see below)	0.45	0.60	0.80	1.00	1.20	(mm)
Breaking load		107.3	169.0	329.2	529.4	782.9	(N)



Applications

Home appliance, Office Printer, Automotive

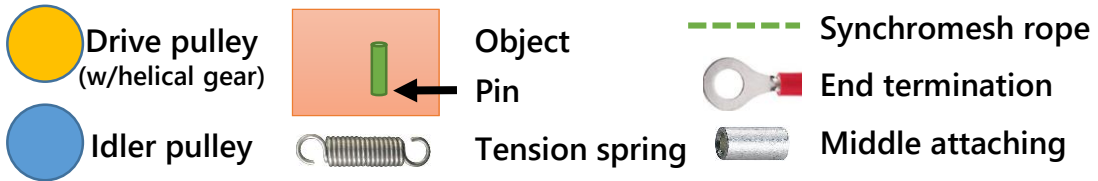
Actual example

Air conditioner with self cleaning function

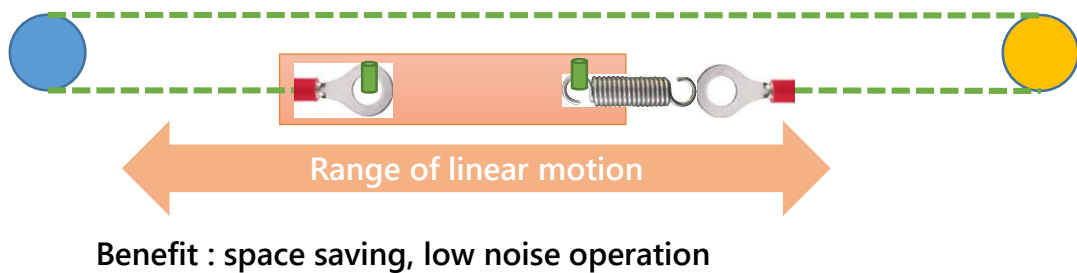


Example of linear motion system

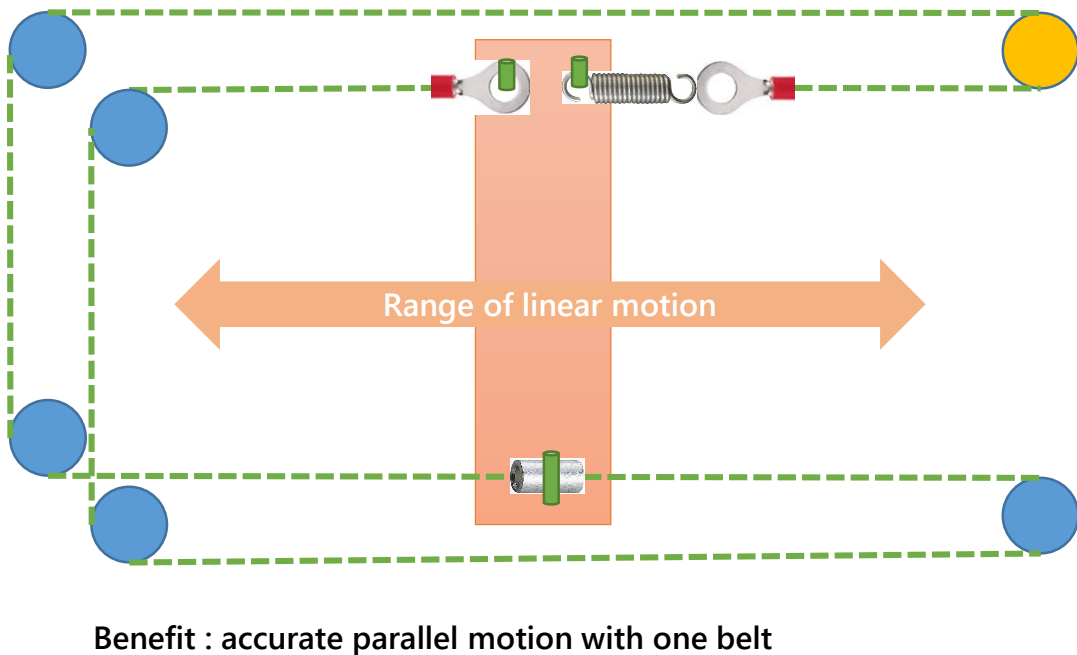
Components need for motion system



Case 1 : simple linear motion

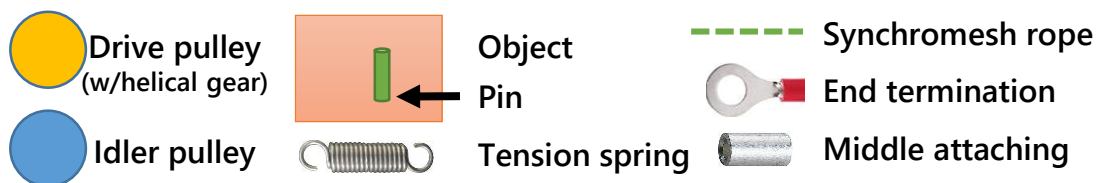


Case 2 : parallel linear motion

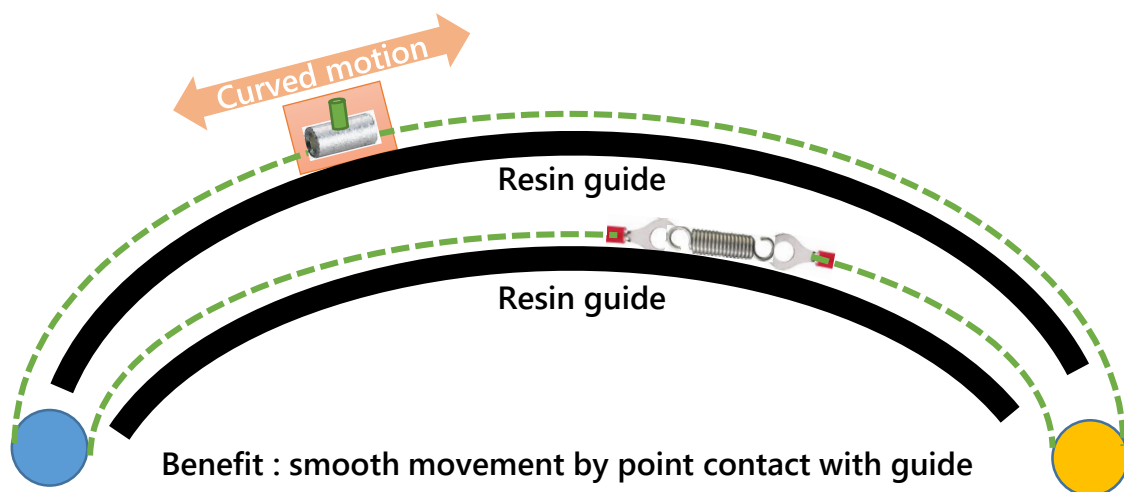


Example of linear motion system

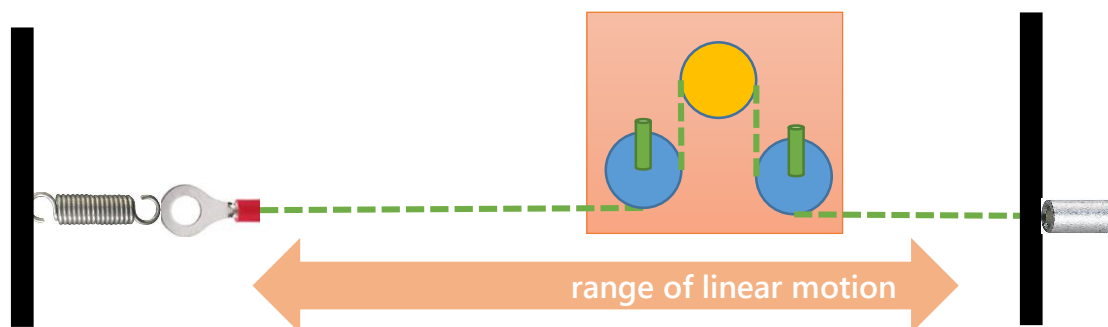
Components need for motion system



Case 3 : Curved motion



Case 4 : Linear motion between fixed point



FAQ

Q1 : Endless rope available?

A : No. Synchro mesh rope is for linear motion only, not for rotational motion.

Q2 : Can we use a general pulley?

A : Yes, for idler pulley. But special one needs for drive pulley.

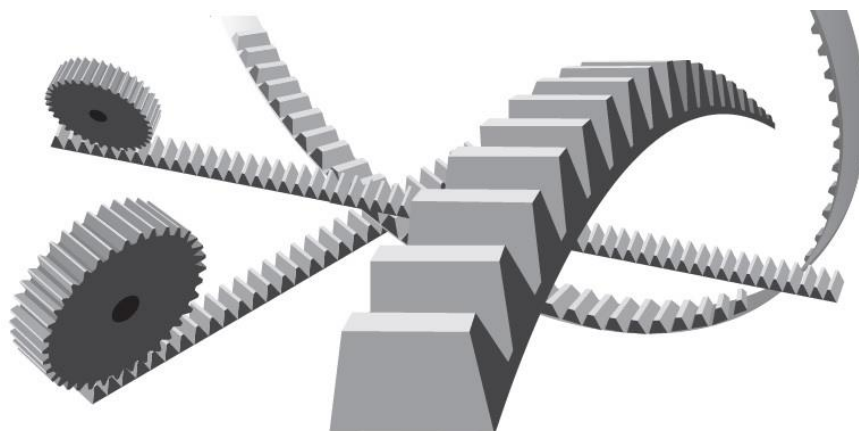
Q3 : How to make specific synchro mesh rope?

A : Provided with specific length and end terminated, designed for your application.

Q4 : Durability of wire rope?

A : In case of Avg. tangential force, it will be around up to 25k times of reciprocation.

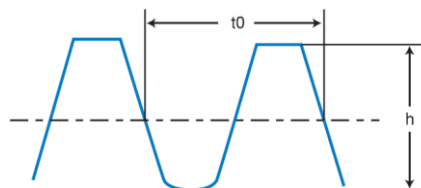
Flexible Rack



Flexible Rack (Product name: Cable Rack) is a resin coating wire rope with stainless steel cable core, withstanding bending up to R30mm. They are used as flexible Rack and Pinion drive system, ideal when the rack section needs to be flexible and high-force movement required, with excellent low-noise operation.

Specifications

Model	CL0.8S	CL0.8H	
Size	W 3.0 x H 3.6		(mm)
Breaking load of Gear rack (pinion with 60 teeth)	200 and up		(N)
Minimum bending radius	R30	R60	(mm)
Construction of cable core	7x7	1x7	
Tooth dimension (as shown to the right)	t0 h	2.5±0.1 1.6	(mm)
Materials	cable core teeth	SUS304 Nylon 12	
Operating temperature range	- 30 ~ 80°C		(°C)
Chemical resistance	good		

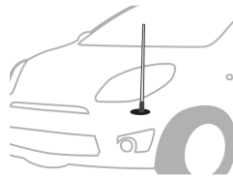


Applications

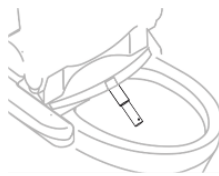
Home appliance, Automotive, general industrial machinery

Actual example

corner positioning pole



Nozzle of electric toilet seat



Can be used as rack and pinion drive

