

HP-ST/STS (High-Performance Super-Torque Synchronous Belt) HP-HTS (High-Performance High-Torque Synchronous Belt)

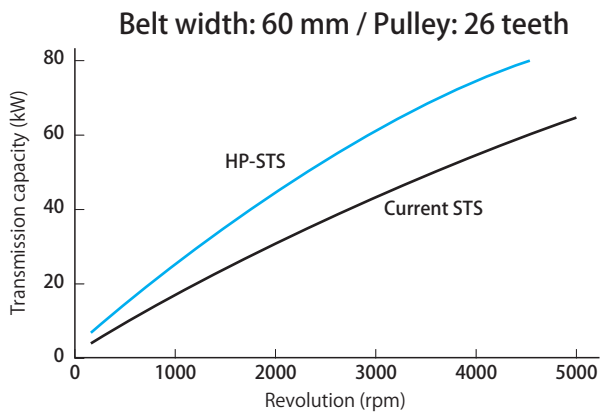
1. HP-ST/STS/HP-HTS Product Introduction

As a result of recent demands for “space-saving” of industrial machinery, we have developed “HP-ST/STS/HP-HTS/heavy duty type belts” utilizing our long-accumulated technology and experience.

Features

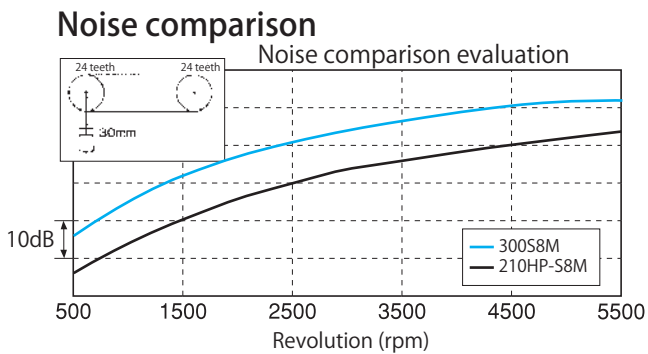
High-torque power transmission

The HP-ST/STS/HP-HTS belts provide higher torque and higher power transmission than normal trapezoidal teeth due to the mesh theory of the unique teeth profiles and have achieved high torque and high power transmission by using high-rigidity components. Although it varies depending on the field, it has a 1.4 to 1.8-fold transmission capacity compared to normal STS/HTS.



Low noise

As the belt width can be narrower than the standard specification, the noise can be reduced.



Miniaturized

The high transmission capacity allows a narrower width and a smaller pulley diameter than the standard specifications, allowing compact designs.

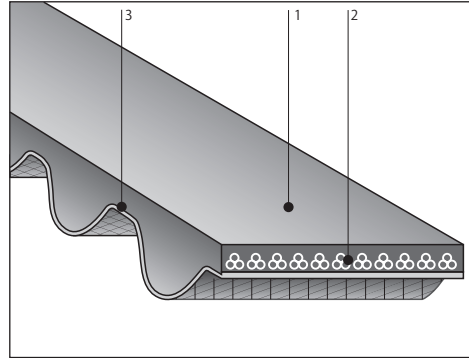
Pulleys used

HP-ST/STS can be used with the standard STS pulleys and TL STS pulleys.

*Manufacturable with the STS standard belt sizes.

HP-HTS can be used with the standard HTS pulleys.

Structure



1. Back face rubber 2. Cord 3. Facing fabric

- **Back face rubber:** Adoption of a synthetic rubber with little tooth deformation and high hardness
- **Cord:** Glass cord taking the dimensional stability and flexibility into consideration
- **Facing fabric:** Low noise is achieved by providing irregularities on the facing fabric surface and with the low frictional factor Type S14M has two layers of facing fabric, further lowering the noise and enhancing the durability. HP-S5M has a clean facing fabric specification.

Tooth profile dimensions and indication method

Belt type	HP-ST/STS	
	Dimension (mm)	Belt indication method
HP-S5M		150 HP-S5M 800 Belt nominal width (15.0mm) Belt type (HP-S5M) Belt nominal length (800mm)
HP-S8M		600 HP-S8M 1000 Belt nominal width (60.0mm) Belt type (HP-S8M) Belt nominal length (1000mm)
HP-S14M		800 HP-S14M 1400 Belt nominal width (80.0mm) Belt type (HP-S14M) Belt nominal length (1400mm)
Belt type	HP-HTS	
	Dimension (mm)	Belt indication method
8M		1000 8M 50 Belt pitch length (1000mm) Belt type (8M) Belt width (50.0mm)

Belt standard widths

Nominal width (S tooth profile)	100	150	200	250	300	400	500	600	800	850	1000	1200
Nominal width (HTS tooth profile)	10	15	20	25	30	40	50	60	80	85	100	120
Width (mm)	10	15	20	25	30	40	50	60	80	85	100	120
HP-S5M	●	●	●	●								
HP-S8M		●		●		●		●				
HP-S14M						●		●	●		●	●
HP-8M			●	●	●	●	●	●		●		

Note: For other belt widths than the above, please contact us.

* For the S tooth profile, the nominal width is ten times the belt width. For the HTS tooth profile, the nominal width is the belt width.

Belt dimensional tolerance

Effective length (Unit: mm)

Length	Tolerance
256 or less	±0.20
Over 256 to 384 or less	±0.23
Over 384 to 512 or less	±0.25
Over 512 to 760 or less	±0.30
Over 760 to 1016 or less	±0.33
Over 1016 to 1272 or less	±0.38
Over 1272 to 1528 or less	±0.41
Over 1528 to 1776 or less	±0.43
Over 1776 to 2032 or less	±0.46
Over 2032 to 2288 or less	±0.48
Over 2288 to 2544 or less	±0.51
Over 2544 to 2792 or less	±0.53
Over 2792 to 3048 or less	±0.56
Over 3048 to 3304 or less	±0.58
Over 3304 to 3560 or less	±0.61
Over 3560 to 3808 or less	±0.64
Over 3808 to 4064 or less	±0.66
Over 4064 to 4320 or less	±0.69
Over 4320 to 4576 or less	±0.71

Note) The effective length tolerance is the tolerance of center distance in length measurement.

Belt width (S5M) (Unit: mm)

Belt width	Tolerance
6 or less	±0.30
Over 6 to 10 or less	±0.40
Over 10 to 20 or less	±0.50
Over 20 to 30 or less	±0.60
Over 30 to 40 or less	±0.70
Over 40 to 60 or less	±0.80

Belt width (S8M/8M • S14M) (Unit: mm)

Belt width	Belt pitch length		
	840 or less	841~1680	1681 or more
Over 10 to 40 or less	+0.80	+0.80	+0.80
	-0.80	-1.20	-1.20
Over 40 to 50 or less	+0.80	+1.20	+1.20
	-1.20	-1.20	-1.60
Over 50 to 75 or less	+1.20	+1.60	+1.60
	-1.60	-1.60	-2.00
Over 75 to 100 or less	+1.60	+1.60	+2.00
	-1.60	-2.00	-2.00
Over 100	+2.40	+2.40	+2.40
	-2.40	-2.80	-3.20

ST5-eco (Super-Torque Synchronous Belt Eco)

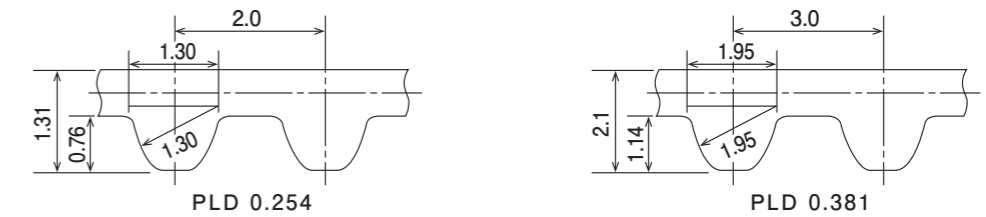
Product Introduction

This synchronous belt is designed considering reduction of environmentally hazardous substances.

The mainstream rubber material that had been used in the previous synchronous belts was chloroprene rubber, which contains chlorine. The ecological specification developed this time is composed of ethylene propylene diene monomer (EPDM), which is gaining attention as an environmentally friendly halogen-free polymer, at all rubber sections including adhesion of the cords.

Product Name and Type Super-Torque Synchronous Belt Eco (ST5-eco)
Type: S2M•S3M

Dimensions



Features

- ① Halogen-free specification (Not containing chlorine)
- ② Excellent ozone resistance
- ③ Excellent cold resistance characteristics

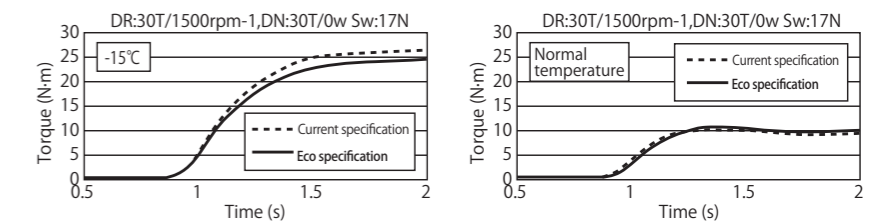
Ozone resistance

Ozone concentration	Crack occurrence time (hrs)		
	Current specification	Eco specification	
10ppm	Condition 1	4	360 or more
	Condition 2	360 or more	360 or more
50pphm	Condition 1	360 or more	360 or more
	Condition 2	360 or more	360 or more

Condition 1 S2M was wound around a 20-tooth pulley and left, and the time of an occurrence of a crack in the back face was checked.

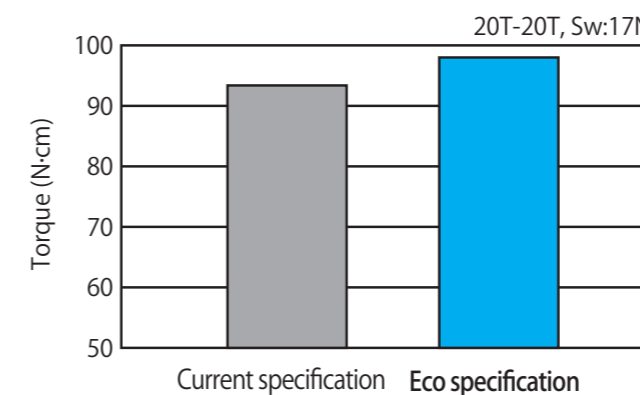
Condition 2 S2M was left in a free condition, and the time of an occurrence of a crack in the back face was checked.

Cold resistance (starting torque)

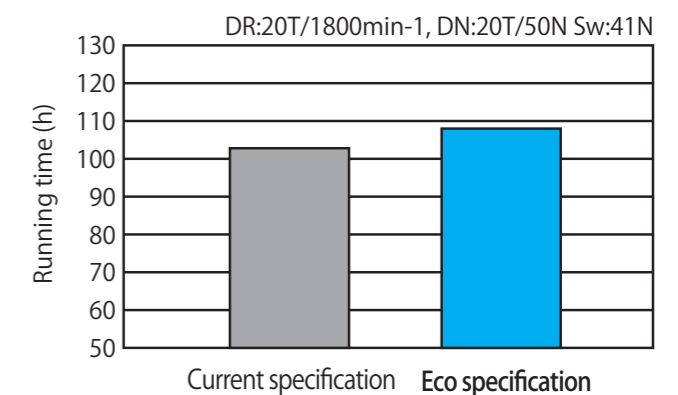


Belt performance

1 Skip torque (Type S2M Width of 4 mm)



2 Load durability (40S2M260)



*Avoid using this belt in conditions in which oil, grease, or the like adheres to the belt.

*For compatible sizes, please contact us.

*For belt design, please contact us.

Belt standard widths

Nominal width (S tooth profile)	100	150	200	250	300	400	500	600	800	850	1000	1200
Nominal width (HTS tooth profile)	10	15	20	25	30	40	50	60	80	85	100	120
Width (mm)	10	15	20	25	30	40	50	60	80	85	100	120
HP-S5M	●	●	●	●								
HP-S8M		●		●		●		●				
HP-S14M						●		●	●		●	●
HP-8M			●	●	●	●	●	●		●		

Note: For other belt widths than the above, please contact us.

* For the S tooth profile, the nominal width is ten times the belt width. For the HTS tooth profile, the nominal width is the belt width.

Belt dimensional tolerance

Effective length

(Unit: mm)

Length	Tolerance
256 or less	±0.20
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Note) The effective length tolerance is the tolerance of center distance in length measurement.

Belt width (S5M)

(Unit: mm)

Belt width	Tolerance
6 or less	±0.30
Over 6 to 10 or less	±0.40
Over 10 to 20 or less	±0.50
Over 20 to 30 or less	±0.60
Over 30 to 40 or less	±0.70
Over 40 to 60 or less	±0.80

Belt width (S8M/8M • S14M)

(Unit: mm)

Belt width	Belt pitch length 840 or less	Belt pitch length 841~1680	Belt pitch length 1681 or more
Over 10 to 40 or less	+0.80 -0.80	+0.80 -1.20	+0.80 -1.20
Over 40 to 50 or less	+0.80 -1.20	+1.20 -1.20	+1.20 -1.60
Over 50 to 75 or less	+1.20 -1.60	+1.60 -1.60	+1.60 -2.00
Over 75 to 100 or less	+1.60 -1.60	+1.60 -2.00	+2.00 -2.00
Over 100	+2.40 -2.40	+2.40 -2.80	+2.40 -3.20