



Power Transmission



# optibelt *OMEGA HL*

The new high power timing belt for extremely high loads over the total range of speeds.

Optibelt developed this belt in the pitches 8M and 14M especially for drives with high torques and intermittent loads like those commonly used in machines. For this application, the design and the material of the timing belt was optimised in such a way so as to achieve the highest possible functional reliability in combination with an optimum efficiency when used for new configurations of a drive.

## optibelt *OMEGA HL*

Section 8M HL – Pitch 8 mm		
Belt-designation	Pitch length [mm]	Number of teeth
352 8M HL	352	44
480 8M HL	480	60
560 8M HL	560	70
600 8M HL	600	75
640 8M HL	640	80
656 8M HL	656	82
680 8M HL	680	85
720 8M HL	720	90
800 8M HL	800	100
880 8M HL	880	110
920 8M HL	920	115
960 8M HL	960	120
1000 8M HL	1000	125
1040 8M HL	1040	130
1080 8M HL	1080	135
1120 8M HL	1120	140
1200 8M HL	1200	150
1280 8M HL	1280	160
1304 8M HL	1304	163
1360 8M HL	1360	170
1424 8M HL	1400	178
1440 8M HL	1440	180
1560 8M HL	1560	195
1600 8M HL	1600	200
1760 8M HL	1760	220
1800 8M HL	1800	225
2000 8M HL	2000	250
2240 8M HL	2240	280
2400 8M HL	2400	300
2600 8M HL	2600	325
2800 8M HL	2800	350

Standard widths: 20 mm, 30 mm, 50 mm, 85 mm

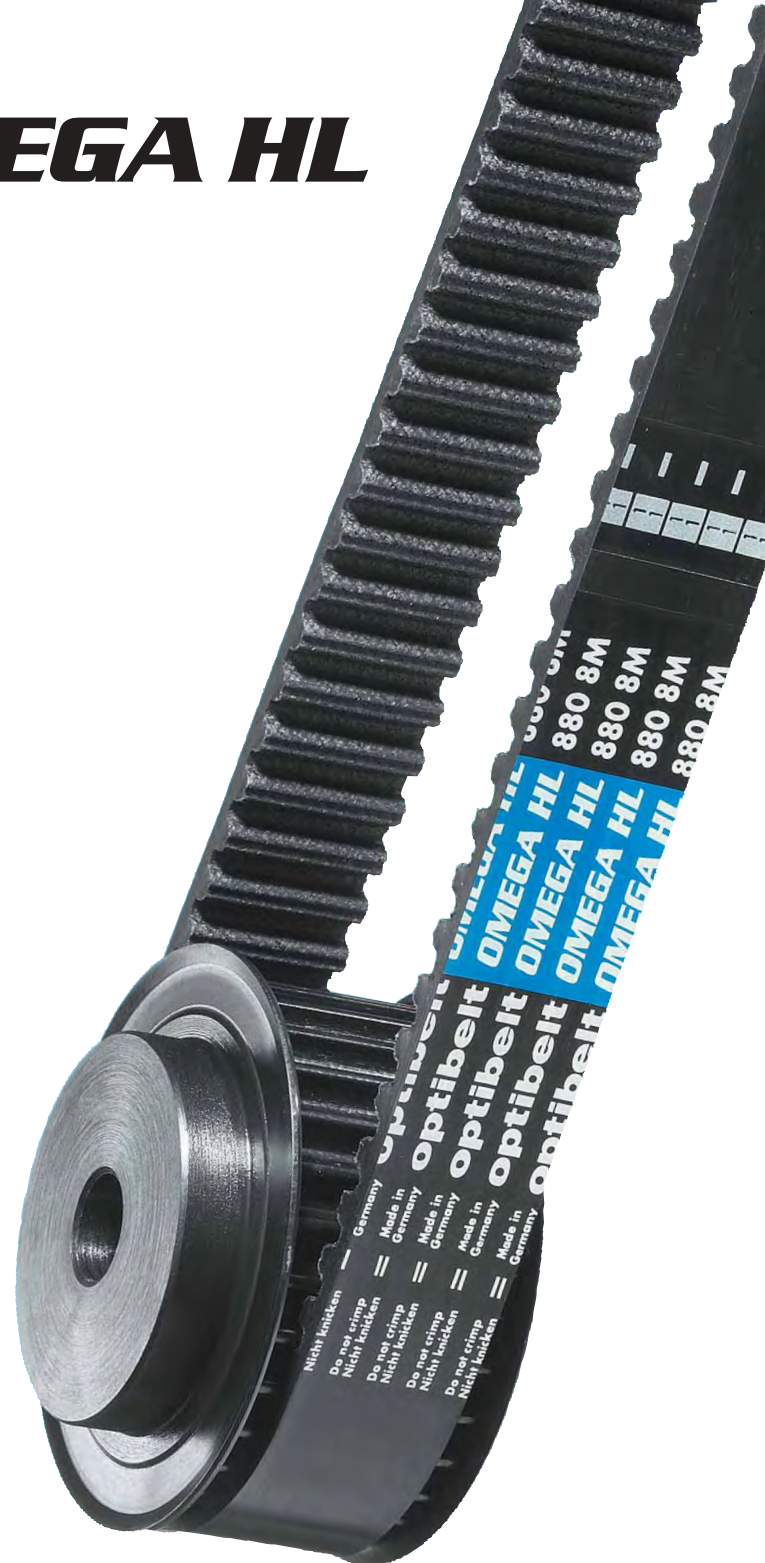
Section 14M HL – Pitch 14 mm		
Belt-designation	Pitch length [mm]	Number of teeth
upon request		

Standard widths: 40 mm, 55 mm, 85 mm, 115 mm, 170 mm

**Ordering example:**

Timing belt: Optibelt OMEGA HL 1200 8M HL 20  
1200 = 1200 mm pitch length  
8M HL = Section and construction  
20 = 20 mm belt width

Further dimensions upon request.



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Power Transmission

NEW!

PRODUCTS & APPLICATIONS



# optibelt *OMEGA HL*

# NEW! optibelt OMEGA HL

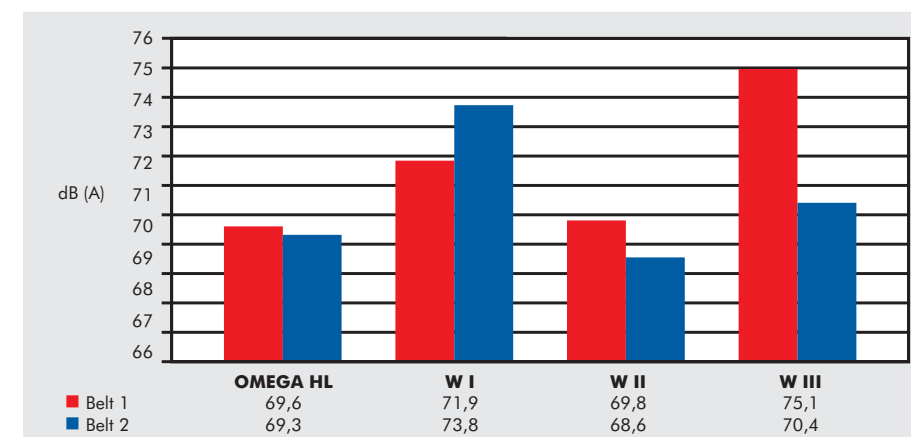
## Advantages

On drives with a low belt speed, Optibelt OMEGA HL timing belts surpass the capacity of Optibelt OMEGA HP by up to 25 %. In addition, the design was optimised so that Optibelt OMEGA HL is much more suitable for shock loaded drives with shock loading. When used for new drive designs in these types of application, Optibelt OMEGA HL achieves the highest possible functional reliability in combination with an optimum efficiency.

- Suitable for high torques
- Highest possible precision, exact synchronicity
- Optimised absorption of shock loading
- Extremely low noise
- System cost savings due to a reduction of the drive volume
- Maintenance free
- Temperature resistant from -30 °C to +100 °C
- Up to 2.5 times the power transmission capability of Optibelt OMEGA

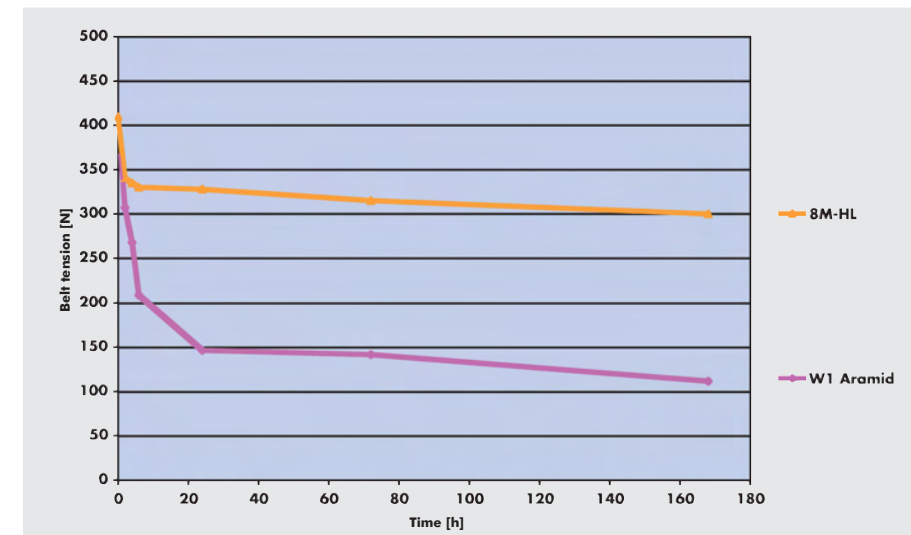
- Lower bearing load
- Optimised wear behaviour

## Noise level



**Specification:** Belt dimension: 1120 8M HL 20  
 Wattage:  $P = 4,8 \text{ kW}$   
 Drive pulleys:  $n_1 = 3000 \text{ min}^{-1}$   
 $z_1 = 22; z_2 = 44$   
 Shaft loading: 600 N

## Belt tension loss



## Areas of application

- Machine drives
- Replacement of chains, depending on the application
- Conveyor systems
- Lumber mills and the paper industry
- Textile machinery
- Garden machinery

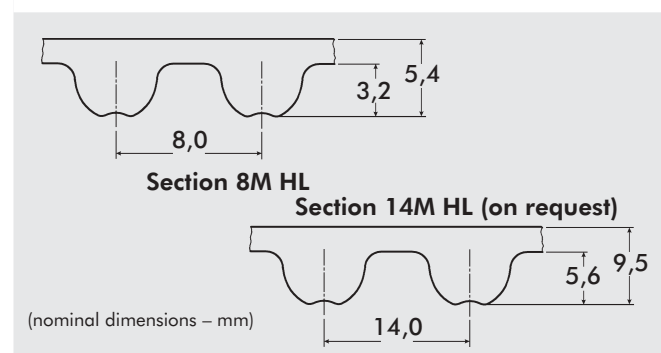
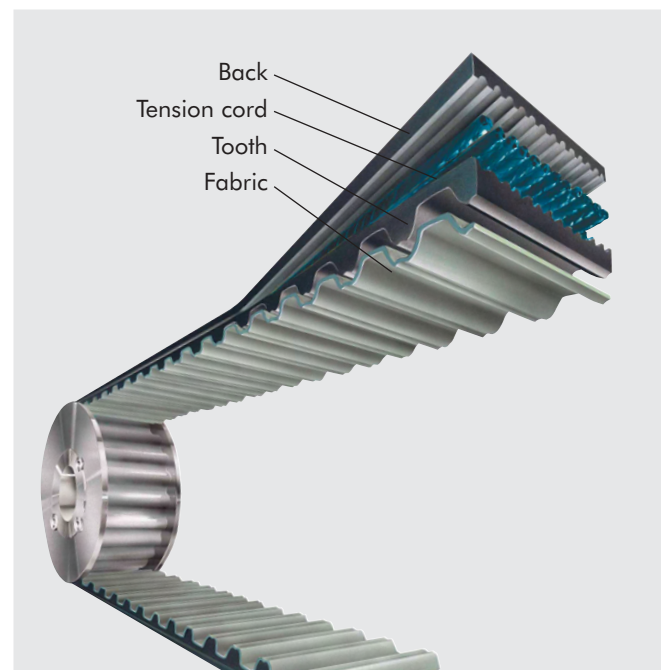
## Timing pulleys

Optibelt OMEGA HL timing belts do not require any special pulleys. The section is tailored to the standard HTD® and RPP® pulleys.

## Structure

**Back:** Like the material of the teeth, the back of the Optibelt OMEGA HL is made of polychloroprene reinforced by aramid fibres. Because of that, an even more abrasion resistant surface is in contact with reverse idler. Additionally this protects the cords against environmental influences.

**Tension cord:** In contrast to the Optibelt OMEGA HP with glass fibre cord, a substantially uprated glass fibre cord is used in Optibelt OMEGA HL. In this way, its capacity can be further increased by up to 25 % and its resistance to shock loading is considerably increased.



## The new high power timing belt for extremely high loads over the total range of speeds

Optibelt developed this belt in the pitches 8M and 14M especially for drives with high torques and intermittent shock loads often found in high performance machinery. For this construction, the design and the material of the timing belt was optimised in such a way so as to achieve the highest possible functional reliability in combination with an optimum efficiency when used for new drive designs.

It is initially available in section 8M.

Optibelt OMEGA, OMEGA HP and OMEGA HL timing belts are tailored to Optibelt ZRS timing pulleys with HTD® or RPP® teeth. For applications using other pulleys, please contact the Optibelt Application Engineering Department. A reinforced glass fibre cord tension cord is used. This innovative material is characterised by a combination of the following important properties:

- Good resistance to shock loads
- Very high dynamic loading capacity
- Elastic stretch and subsequent elongation that is only very small

## Teeth:

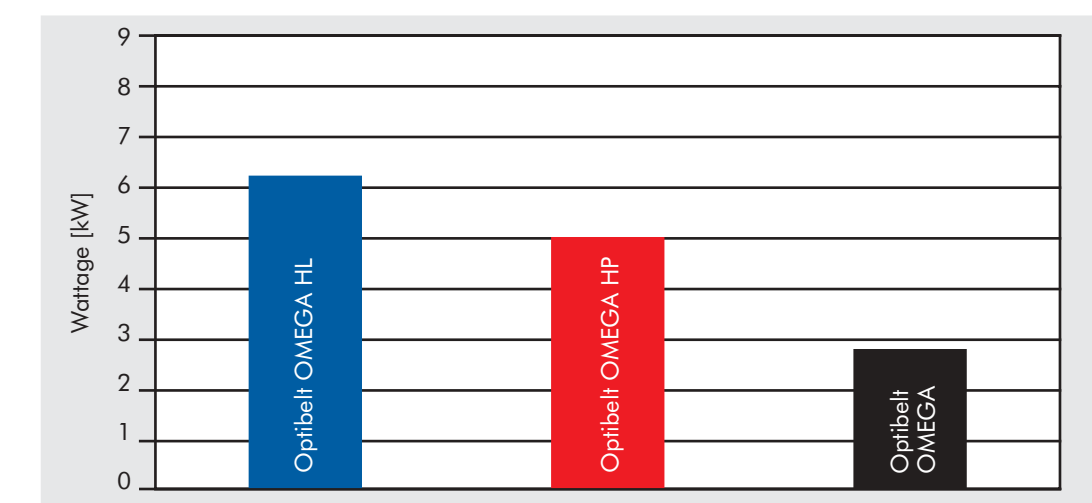
Underneath the fabric on the tooth face, a high strength polychloroprene compound provides a safe power transfer to the tension cord. The tooth hardness which is substantially higher than that of Optibelt OMEGA is achieved by using aramid fibre mixed into the compound. This material ensures in a very high tooth shape stability and an increased shear strength of every individual tooth of Optibelt OMEGA HL.

## Fabric:

The shear strength of the teeth is reinforced by a strong fabric with superior adhesion to the interior compounds. The design of the section of the Optibelt OMEGA and the minimal friction from the fabric ensure a comparatively smooth engagement of the belt tooth into the pulley tooth. In addition, the polyamide fabric used is extremely abrasion resistant.

## The high power timing belt for high torques with both low and high belt speeds

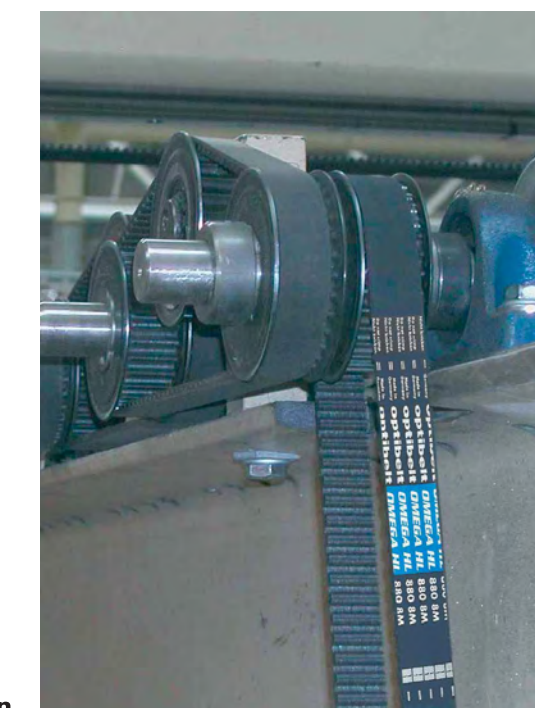
## Wattage comparison



Nowadays, high power drives demand high quality drive belts. Prolonged operating life, increased capacity, reduction of replacement intervals, material savings and system cost savings – all these requirements are fulfilled by the new generation of Optibelt timing belts.

The answer is:

# optibelt OMEGA



= optimised configuration and utilisation of drives

**Optibelt OMEGA HL, the name speaks for itself:**

- O** – Optimised tooth shape
- M** – Made in Germany
- E** – Enormous performance potential
- G** – Generally narrow overall width
- A** – Application variety

**HL** – High load

Optibelt OMEGA HL: the first choice of design engineers

