



# **GATES INDUSTRIAL POWER TRANSMISSION**

**A COMPREHENSIVE PRODUCT RANGE**

**05/2018**



**DRIVEN BY POSSIBILITY™**





OUR VISION

**“CONTINUALLY PUSH  
THE BOUNDARIES OF  
MATERIALS SCIENCE TO  
ADVANCE THE WAY THE  
WORLD MOVES.”**





## GATES. DRIVEN BY POSSIBILITY.

**If it runs, we can help it run better. Gates is a global leader in power transmission and fluid power products and services. We serve customers across industries, bringing relentless innovation, and uncompromising quality to every product we make. Our reputation is built on over a century of experience, but everything we do is geared towards powering the future.**

### Power Transmission Division

In 1917, John Gates revolutionized industrial machinery with the world's first rubber V-Belt, and began the legacy of advanced design that defines The Gates Corporation. In 1946, Gates invented the first toothed timing belt, known as the synchronous belt. In 1979, we created the multi-ribbed belt that changed automotive transmission as we know it. Continuous innovation isn't just what we do. It's who we are. Trust the leaders in research, design, material science, and the manufacturing of the best power transmission solutions in the world - only with Gates.

## ENGINEERED TO EXCEED EXPECTATIONS.

The Gates brand is a promise. A promise that all of our products have been manufactured to the highest possible standards. In nearly every corner of industry and nearly every working environment imaginable, when a part has to do the job it was designed for, it has to be Gates.

## WHERE OTHERS SEE THE UNKNOWN, WE SEE POSSIBILITY.

Change is a part of the Gates DNA. We never stand still, but are always looking for ways to meet emerging challenges head-on with solutions that accelerate our partners' growth and development.

## COMMITTED TO YOUR BUSINESS.

In every engagement, we work tirelessly to listen to our partners and to develop solutions for their challenges that change their business for the better. Our greatest achievement is their success.



## 1. V-belts

1	PREDATOR®	6
2	QUAD-POWER® 4	7
3	SUPER HC®	8
4	SUPER HC® MN	9
5	TRI-POWER®	10
6	HI-POWER®	11
7	DELTA RANGE	12
8	PREDATOR® POWERBAND®	14
9	QUAD-POWER® 4 POWERBAND®	15
10	SUPER HC® & HI-POWER® POWERBAND®	16
11	HI-POWER® DUBL-V	17
12	MULTI-SPEED®	18
13	POWERATED®	19
14	POLYFLEX®	20
15	POLYFLEX® JB™	21
16	MICRO-V®	22

## 2. Synchronous belts

17	POLY CHAIN® CARBON™ VOLT®	25
18	MINI POLY CHAIN® GT CARBON™ 8MGT	26
19	POLY CHAIN® GT CARBON™ 5MGT	27
20	POLY CHAIN® GT CARBON™ EXTENDED LENGTH	28
21	POLY CHAIN® GT CARBON™ HIGH TEMPERATURE	29
22	POLY CHAIN® GT2	30
23	POWERGRIP® GTX	31
24	POWERGRIP® GT3 2MGT, 3MGT & 5MGT	32
25	POWERGRIP® GT3 8MGT & 14MGT	33
26	POWERGRIP® HTD® 3M & 5M	34
27	POWERGRIP® HTD® 8M, 14M & 20M	35
28	POWERGRIP®	36
29	TWIN POWER	37
30	LONG LENGTH	38
31	POWERPAINT™	40

## 3. Polyurethane belts

32	SYNCHRO-POWER®	42
33	CUSTOMIZED POLYURETHANE BELTS	43
34	SUPER FLEX	44
35	LINEAR BELTS	45
36	WIDE BELTS	46
37	FLAT BELTS	47

## 4. Metal Parts

38	SPROCKETS POLY CHAIN GT 8MGT & 14MGT	49
39	SPROCKETS POLY CHAIN® 5MGT/POWERGRIP® 5MGT	50
40	SPROCKETS POLY CHAIN® GT STAINLESS STEEL 8MGT	51
41	IDLER SPROCKETS POLY CHAIN® GT 8MGT & 14MGT	52
42	IDLER BRACKETS	53
43	FLAT IDLER PULLEYS	54

## 5. Preventive Maintenance Tools

44	V-BELT PULLEY GAUGES	56
45	INDUSTRIAL BELT LENGTH FINDER	57
46	SINGLE / DOUBLE BARREL TENSION TESTER	58
47	SONIC TENSION METER 508C	59
48	SONIC TENSION METER 308C	60
49	LASER AT-1	61



# 1. V-BELTS



DRIVEN BY POSSIBILITY™



Gates Predator V-belts are the markets leading heavy duty V-belts. Unique in their extreme robustness and high load carrying capability they are unrivalled. They are excellent problem solvers that perform well in harsh environments and in extremely demanding applications where standard V-belts have performance issues. The Predator belt difference is in the construction: they have the highest power density of any V-belt and virtually zero stretch because of the use of high strength, high modulus aramid tensile cords.

## CONSTRUCTION

- Aramid tensile cords provide extraordinary strength, durability and virtually zero stretch.
- Double fabric cover offers extreme abrasion and wear resistance.
- Specially treated extra tough cover withstands slip and shear forces at peak loads without generating excessive heat and resists penetration by foreign materials.
- Improved rubber compounds provide superb oil and heat resistance.
- Non-rubber Bare back surfaced cover allows momentary slippage due to excessive overloads without damaging the belt.

## BENEFITS

- At least 40% higher power ratings than standard construction V-belts.
- No need for constant belt re-tensioning: less maintenance, less downtime.
- Excellent problem solver.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- Available on demand in Matched sets. Contact Customer Service for details.
- REACH and RoHS 2 compliant.
- Temperature range: -30 °C to +60 °C.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (datum length - mm)
SPBP/5VP	16	13	1500 - 8000
SPCP	22	18	2000 - 10600
8VP	26	23	4064 - 9017

PREDATOR® SPBP & SPCP also available in PowerBand® version p. 14.

### Ordering code

SPBP3350  
SPB - Section  
P - Predator version  
3350 - Datum length (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable silver marking indicating the belt type and white marking indicating the belt dimensions.





By using innovative minimal-stretch cord technology, Gates Quad-Power 4 bandless V-belts are free of maintenance. Unlike conventional belts, the Quad-Power® 4 V-belt does not suffer from severe tension decay in the first hours after installation. So no run-in period nor any re-tensioning are required. This new generation of **SERVICE FREE EPDM** belts are designed to extend product life time eliminating costly downtime for re-tensioning, repair and replacement.

## CONSTRUCTION

- Minimal-elongation polyester tensile cords allow for stable tension over the entire lifetime.
- Blue adhesion layer for an extra strong bonding of the tensile cords and the rubber compound.
- Optimized notch form for reduced bending stress and improved efficiency.
- New generation EPDM rubber compound to ensure a long service life and a wear-resistant belt under extreme temperatures.

## BENEFITS

- Energy efficiencies up to 98%.
- Less downtime.
- Fewer replacements.
- Higher performance.
- Wider temperature range.
- Halogen-free belt.
- A clear branding for ease of identification.
- Perfect fit on standard ISO/DIN V-pulleys and 3VX/5VX for RMA pulley grooves.
- REACH and RoHS 2 compliant.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- **Match** system: all sizes meet Gates **UNISET** tolerances, they can be installed without matching.
- Temperature range: -50 °C to +130 °C.



### Ordering code

XPZ600  
XPZ - Section  
600 - Datum length (mm)

3VX238  
3VX - Section  
238 - Effective length (inch 23.8)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable blue marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (datum length - mm)
XPZ/3VX	10	8	600 - 3550
XPA	13	10	690 - 4000
XPB/5VX	16	13	1000 - 5070
XPC	22	18	1900 - 5000

Quad-Power® 4 XPZ, XPA & XPB also available in PowerBand® version p. 15.



The Gates Super HC® V-belt combines the strength of a wrapped belt construction with the economies of a narrow section V-belt. It transmits more power in a given space and allows more compact drive design than classical section V-belts. In short, it offers you more power and considerably reduces the space needed. This significantly cuts the overall drive cost. Super HC® V-belts also have exclusive Gates construction features for longer life on your drives!

## CONSTRUCTION

- Arched top, concave sidewalls and rounded corners provide uniform tensile loading and uniform pulley sidewall contact for excellent belt service and reduced pulley wear.
- The Flex-Weave oil and heat resistant cover protects the belt.
- The vulcanised Flex-bonded tensile cords provide superior resistance to tensile and flexing forces, fatigue and shock loads.
- The belt will not catch fire from heat buildup, even with severe slippage.

## BENEFITS

- Excellent performance/cost ratio
- More compact design compared to classical section V-belts.
- Cost and space savings by reducing size of pulleys, bearings, guards and mounts.
- Improved belt life reducing expensive maintenance time..
- **Match** system: all sizes meet Gates **UNISER** tolerances, they can be installed without matching.
- REACH and RoHS 2 compliant.
- Temperature range: -30 °C to +60 °C.

Sections and nominal dimensions			
Section	Width (mm)	Height (mm)	Length range (datum length - mm)
SPZ/3V	10	8	487 – 3750
SPA	13	10	732 – 5000
SPB/5V	16	13	1250 – 8000
SPC	22	18	2000 - 16500

SPB, SPC also available in PowerBand® version p. 16 or aramid cord construction p. 6.

### Ordering code

SPZ1060/3V420  
 SPZ - Section  
 1060 - Datum length (mm)  
 3V - Section  
 420 - Effective length (42.0 inch)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex®Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable yellow marking indicating the belt type and white marking indicating the belt dimensions.





**Super HC<sup>®</sup> MN V-belts put more power where high speeds, high speed ratios or small pulley diameters are required, offering significant benefits over classical section V-belts. Developed through specialised research, Super HC<sup>®</sup> MN is highly recommended for use on all industrial heavy-duty, narrow section V-belt drives. With an increased transmission efficiency this belt allows for a more compact and highly economical drive design. Super HC<sup>®</sup> MN belts are available up to 4750 mm ISO datum lengths.**

## CONSTRUCTION

- MN = Moulded Notches reduce and evenly distribute thermal and bending stresses. The moulded notch pattern also reduces noise.
- Precision-ground straight sidewalls give a uniform wedging action and ensure the belt fits correctly in the pulley grooves.
- Back idlers can be used.
- Flex-bonded tensile cords are vulcanised as one solid unit making the belt highly resistant to tensile and flexing forces, fatigue and shock loads.
- Elastomeric compound protects the belt against heat, ozone and sunlight.
- Even with severe slippage, the belt will not catch fire from heat build-up.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.

## BENEFITS

- Excellent performance/cost ratio.
- More compact design compared to classical section V-belts.
- Cost and space savings by reducing size of pulleys, bearings, guards and mounts.
- Improved belt life reducing expensive maintenance time.
- **Match** system: all sizes meet Gates **UNISER** tolerances, they can be installed without matching.
- REACH and RoHS 2 compliant.
- Temperature range: -30 °C to +60 °C.



### Ordering code

SPZ560MN  
SPZ - Section  
560 - Datum length (mm)  
MN - Moulded notch

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex<sup>®</sup> Pro<sup>™</sup> Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable yellow marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (datum length - mm)
SPZ-MN	10	8	560 – 3550
SPA-MN	13	10	732 – 4000
SPB-MN	16	13	1250 – 4750
SPC-MN	22	18	2000 - 4750

Gates Tri-Power® V-belt is built for superior performance on heavy duty drives of classical crosssection. The raw edge construction and special notch design makes the Tri-Power® belt especially suited for drives requiring small diameter pulleys and back idlers. The ethylene EPDM compound allows the belt to handle extreme temperatures up to +120 °C.

## CONSTRUCTION

- This is a classical section/profile construction.
- Static conductive to ISO and RMA standards for use in explosive environments.
- Flex Bonded tensile cords for resistance to bending stress and separation.
- Cross oriented fiber loaded rubber compound for flexibility and stability.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.

## BENEFITS

- Notched construction to allow bending around small pulley diameters.
- **Match** system: all sizes meet Gates **UNISSET** tolerances, they can be installed without matching.
- Raw edge, molded notch construction saves up to 3% on energy costs over wrapped belts.
- Improved flexibility for increased performance on small pulley diameters.
- REACH and RoHS 2 compliant.
- Temperature range: -50 °C to +120 °C.



### Ordering code

AX39  
AX - Section  
39 - Inside length (inch)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable red marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (effective length - mm)
AX	13	8	585 - 4445
BX	17	11	610 - 9221
CX	22	14	1397 - 9246



The wrapped classical section Hi-Power V-belt has a long reputation for reliability on agricultural and industrial applications. The arched top of the Hi-Power belt provides superior strength to prevent “dishing” and distortion of the tensile section. The cords are properly aligned, each of them carrying its full share of the load.

## CONSTRUCTION

- Arched top, concave sidewalls and rounded corners provide uniform tensile loading and uniform pulley sidewall contact for excellent belt service life and reduced pulley wear.
- The Flex Weave oil and heat resistant cover protects the belt core from the toughest environments.
- The vulcanized Flex-bonded tensile cords provide superior resistance to tensile and flexing forces, fatigue and shock loads.
- High-quality rubber compound protects the belt against heat, ozone and sunlight.
- The belt will not catch fire from heat buildup, even with severe slippage.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (datum length - mm)
Z	10	6	425 - 2500
A	13	8	457 - 5000
B	17	11	650 - 11960
C	22	14	1080 - 10795
D	32	19	2500 - 16850
E	38	25	4650 - 15330

B, C & D sections also available in PowerBand® version p. 16.

## BENEFITS

- Excellent performance/cost ratio.
- Reliability and efficiency.
- Long belt life reducing replacement and maintenance costs.
- **Match** system: all sizes meet Gates **UNISET** tolerances, they can be installed without matching.
- REACH and RoHS 2 compliant.
- Temperature range: -30 °C to +60 °C.

### Ordering code

Z19  
Z - Section  
19 - Inside length (inch)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable red marking indicating the belt type and white marking indicating the belt dimensions.

With Gates you are fully equipped to run strong, whatever you need. Besides our wide range of premium belts, we now also offer you Gates Delta standard V-belts. These standard V-belts stand for a sharp price and performance in combination with trusted Gates quality. They provide the cost-effective solution for all your standard industry drives. Gates Delta belts are made to run.

### CONSTRUCTION

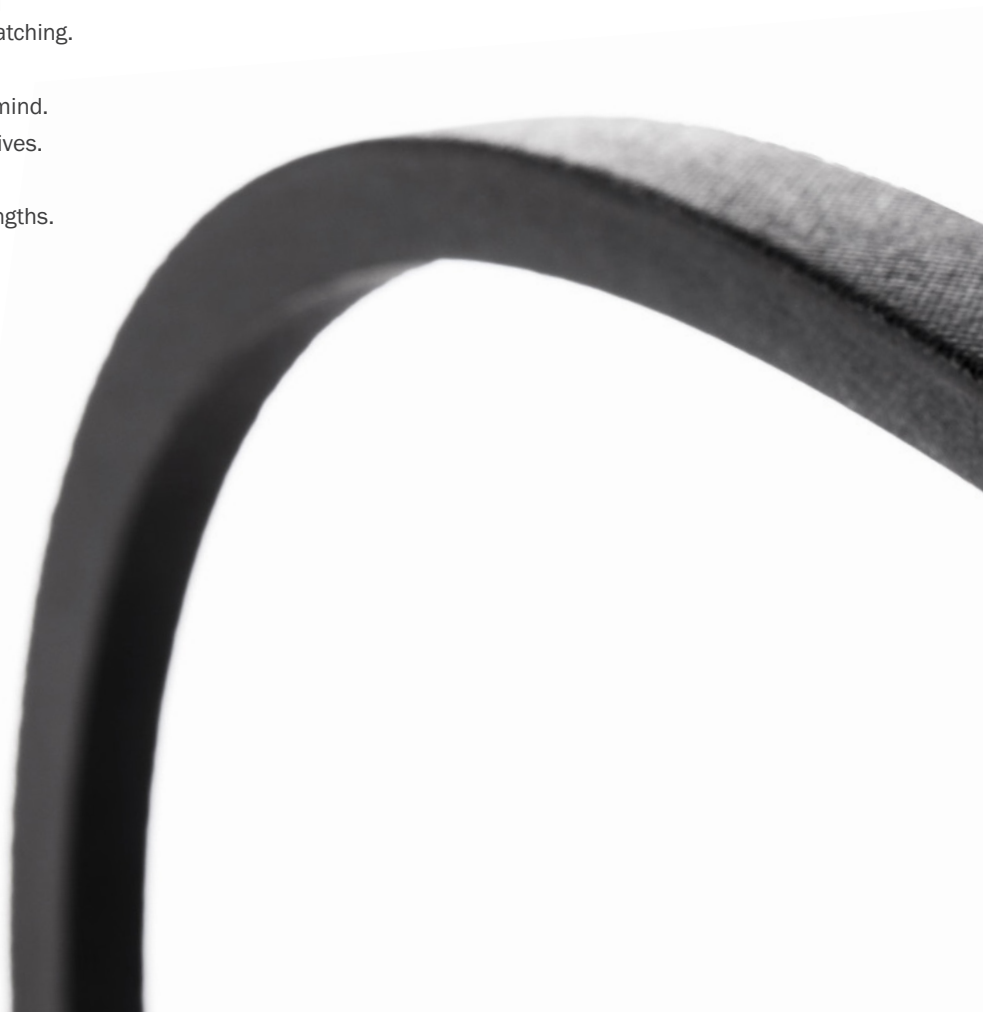
- Quality rubber belt body.
- High-strength polyester tensile cords providing resistance to flexing forces, fatigue and shock loads.
- Oil-resistant flip band offering good grip and protection against abrasion.
- Good belt flexibility, stability and smooth running operation guaranteed.
- **Match** system: all sizes meet Gates **UNISET** tolerances, they can be installed without matching.

### BENEFITS

- Made by Gates.  
Delta is a 100% Gates brand.
- Made in Europe.  
Trusted quality, 100% made in our own Gates European factories.
- Made to deliver.  
Two V-belt profiles in a complete size range available at sharp prices.

### PRODUCT FEATURES

- **Match** system: all sizes meet Gates **UNISET** tolerances, they can be installed without matching.
- Excellent price/performance ratio.
- Trusted Gates quality that equals peace of mind.
- Made to run in all your standard industry drives.
- REACH and RoHS 2 compliant.
- Available in all popular sections and belt lengths.
- Specified to operate in a temperature range from -30 °C to +70 °C.





### DELTA CLASSIC™

Delta Classic™ V-belts have a classical V-shaped profile and are built for a reliable and durable performance on all industry standard classical section drives used in compressors, pumps, aggregates, alternators, saw, milling, and processing machines. Just to name a few.

Ordering code
C262DELTA C - Section 62 - Inside length (inch) DELTA - Product name
Identification
Durable green marking indicating the belt type and white marking indicating the belt dimensions.

Sections and nominal dimensions			
Section	Width (mm)	Height (mm)	Length range (inside length - mm)
Z	10	6	400 – 1803
A	13	8	425 – 5000
B	17	11	660 – 7110
C	22	14	1092 – 8532
D	32	19	2000 – 15240
E	38	25	3748 - 13918

### DELTA NARROW™

Delta Narrow™ V-belts have a narrow section profile, making them the perfect option for all industry standard drives commonly referred to as narrow or deep wedge.

Ordering code
SPA732DELTA SPA - Section 732 - Datum length (mm) DELTA - Product name
Identification
Durable orange marking indicating the belt type and white marking indicating the belt dimensions.

Sections and nominal dimensions			
Section	Width (mm)	Height (mm)	Length range (datum length - mm)
SPZ	10	8	562 – 3550
SPA	13	10	732 – 4500
SPB	16	13	1250 – 8000
SPC	22	18	2000 – 11200

Gates' Predator® PowerBand® belt design offers a solution for drives where single belts vibrate, turn over or jump off the pulleys. It consists of several V-belts joined together by a permanent, high-strength tie band allowing the belts to work together as one unit. The Predator® Powerband® belt is especially designed for demanding applications and harsh environments and offers a high resistance to vibration. Predator® Powerband® are available in SPBP, SPCP, 5VP/15JP and 8VP section.

## CONSTRUCTION

- Narrow cross-sections
- Strong tie band joins the back of all belts.
- Flex bonded aramid tensile cords.
- Double layer bare back fabric cover.
- Fibre-loaded compound for improved belt stability.
- Gates curves provide full contact with pulley grooves for uniform loading of cords, uniform wear and increased belt life.
- The belt will not catch fire from heat build-up, even with severe slippage.

## BENEFITS

- At least 40% higher power ratings than standard construction V-belts.
- No need for constant belt re-tensioning.
- Aramid tensile cords easily handle shock loads.
- Less maintenance, less downtime.
- Excellent problem solver.
- Feature a multiple layer tie band that provides excellent lateral rigidity to prevent belts from turning over or from coming off the drive.
- Predator® PowerBand® belts are static conductive (ISO 1813) (except for 8VP) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- Available on demand in matched sets. Contact Customer Service for details.
- REACH and RoHS 2 compliant
- Temperature range: -30 °C to +60 °C.

### Ordering code

SPBP3350/3  
 SPB - Section  
 P – Predator version  
 3350 - Datum length (mm)  
 3 - Number of ribs

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable silver marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Rib spacing/ Pitch (mm)	Available number of ribs	Length range (datum length - mm)
SPBP	16	13	19.0	2 ÷ 16	2120 – 8000
SPCP	22	18	25.5	2 ÷ 12	3000 – 11200
5VP/15JP	16	13	17.5	2 ÷ 16	1400 – 9000 effective length - mm
8VP/25JP	26	23	28.6	2 ÷ 12	2540 - 15240 effective length - mm



Gates PowerBand® belts are engineered for drives that are subject to pulsating loads, shock loads or extreme vibrations. By joining several Quad-Power® 4 V-belts together the Quad-Power® 4 PowerBand® offers a maintenance-free solution for drives where single belts vibrate, turn over or jump off the pulleys. It comes with all of the advantages of the single belt: this SERVICE FREE EPDM belts are designed to extend product life time eliminating costly downtime for re-tensioning, repair and replacement. Furthermore these belts offer a broad temperature operating range.

## CONSTRUCTION

- Minimal-elongation polyester tensile cords allow for stable tension over the entire lifetime.
- PowerBand® construction is built as one solid unit, controlling the belt-to-belt distance and preventing sideways bending. This provides excellent resistance against vibrations and shock loads.
- Flat back construction reduces noise when used with a back side idler or tensioner.

## BENEFITS

- Service-free PowerBand® V-belt with high stability on the toughest drives.
- Halogen-free belt.
- Perfect fit on standard ISO/DIN (for XPZ/XPA/XPB) or RMA (for 3VX/5VX) V-pulleys.
- Manufactured to DIN7753, ISO4184, RMA IP-22.
- Savings in drive space and weight thanks to high transmission efficiency.
- High stability and smooth running on the toughest drives.
- Important design economies possible.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- RoHS 2 and REACH compliant.
- **Match** system: all sizes meet Gates **UNISSET** tolerances, they can be installed without matching.
- Temperature range: -50° to +130° C.

### Ordering code

XPB2500/2  
XPB - Section  
2500 - Datum length (mm)  
2 - Number of ribs

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable blue marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Standard numbers of ribs				Rib spacing/ Pitch (mm)	Width (mm)	Height (mm)	Length range (datum length - mm)
	2	3	4	5				
XPZ	x	x	x		12.0	10	8	800 – 3550
XPA	x	x			15.0	13	10	800 – 4000
XPB	x	x			19.0	16	13	1250 – 4750
3VX*	x	x	x	x	10.3	10	8	635 - 3555 effective length - mm
5VX*	x	x	x	x	17.5	13	10	1270 - 5080 effective length - mm

\*Branded as Super HC® PowerBand®

**Gates Super HC® PowerBand® and Hi-Power® PowerBand® offer a solution for drives where single belts vibrate, turn over or jump off the pulleys. They consist of several V-belts joined together by a permanent, highstrength tie band offering a tougher more stable solution compared to a single belt.**

## CONSTRUCTION

- Strong band controls belt-to-belt distance and prevents sideways bending.
- Flex-bonded tensile cords are vulcanized as one solid unit making the belt highly resistant to tensile and flexing forces, fatigue and shock loads.
- Super HC® PowerBand® is available in SPB, SPC, 3V(9J), 5V(15J) and 8V(25J) sections.
- Hi-Power® PowerBand® B, C and D sections are available on request.
- Concave sides and arched top.
- Flex-Weave® cover protects the belt core from the toughest environments.
- Elastomeric compound protects the belt against heat, ozone and sunlight.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU-ATEX.

## BENEFITS

- Better resistance to vibrations.
- High stability and smooth running on the toughest drives.
- Important design economies possible.
- Savings in drive space and weight due to high transmission efficiency.
- Available on demand in Matched sets. Contact Customer Service for details.
- REACH and RoHS 2 compliant.
- Temperature range: -30 °C to +60 °C.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Rib spacing/ Pitch mm	Available number of ribs	Length range (datum length - mm)
<b>Super HC® PowerBand®</b>					
SPB	16	13	19.00	2 ÷ 16	2120 – 8000
SPC	22	18	25.50	2 ÷ 12	3000 – 11200
3V/9J	10	8	10.30	2 ÷ 30	1400 – 3550 effective length - mm
5V/15J	16	13	17.50	2 ÷ 16	1400 – 9000 effective length - mm
8V/25J	26	23	28.60	2 ÷ 12	2540 - 15240 effective length - mm
<b>Hi-Power® PowerBand®</b>					
B	7	10	19.05	2 ÷ 12	935 – 8009 effective length - mm
C	22	12	25.40	2 ÷ 12	1598 – 10688 effective length - mm
D	32	19	36.53	2 ÷ 8	3132 - 16784 effective length - mm

### Ordering code

SPB2500/3  
 SPB - Section  
 2500 - Datum length (mm)  
 3 - Number of ribs

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable yellow marking (Super HC)/  
 Durable red marking (Hi Power) indicating.



Gates' Hi-Power® Dubl-V belt is characterised by a double-V profile. It uses flex-bonded tensile cords, which are highly resistant to flexing forces, and a protective Flex-Weave® cover. It is the ideal solution for "serpentine" drives (drives with counter rotating shafts) where power is transmitted from both the top and the bottom of the belts. This belt is designed with a unique recessed top and bottom to maintain sidewall contact, while remaining flexible for drives that require power transmission from both sides of the belt. Suitable for all industrial serpentine applications requiring rotation reversal on some driven shafts.

## CONSTRUCTION

- Gates curves provide proper cord support and full contact with the sheave-groove for uniform loading, uniform wear, and increased belt life.
- Flex-Bonded cords are strongly bonded to the body of the belt resulting in equal load distribution and the absorption of bending stress without cord deterioration.
- The Flex-Weave® cover is a patented construction for longer cover life, providing extended protection to the core of the belt from oil, dirt, and heat.
- Classical cross-section.

## BENEFITS

- Power transmission from both sides of the belt.
- Premium performance.
- Suitable for dirty/dusty environments.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- **Match** system: all sizes meet Gates **UNISSET** tolerances, they can be installed without matching. (Hi-Power® Dubl-V DD not included in UNISSET tolerances).
- Temperature range: -30 °C to +60 °C.



### Ordering code

AA51  
AA - Section (double)  
51 - Inside length (inch)

NOTE: For correct design and tensioning of the belt please consult with our application engineering team.

### Identification

Durable white marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (effective length - mm)
AA	13	10	1350 - 3290
BB	17	14	940 - 7635
CC	22	18	1980 - 10690
DD	32	25	6875 - 9160



Gates Multi-Speed™ belt provides top performance on variable speed drives. It adjusts itself to the pulley groove without difficulty, providing a wide range of speeds and speed ratios. In addition to the standard Multi-Speed™ belt line, special sizes (top width, thickness and angle) are available on request.

## CONSTRUCTION

- Engineered notch contour increases flexibility. The notches ensure maximum heat dispersion, considerably decreasing running temperatures.
- Strong transverse rigidity offers high resistance to distortion of the belt in the pulley. This results in even load distribution and wear reduction.
- Uniform composition and thickness of the undercord ensure smooth and silent running.
- Combination of these construction features gives maximum speed adjustment.

## BENEFITS

- Maximum range of speed changes.
- High load-carrying capacity.
- Smooth machine operation.
- Exceptionally long belt life.
- Temperature range: -30 °C up to +60 °C.

Sections and nominal dimensions

	Reference	Top width (mm)	Thickness (mm)	Angle (°)	Length range (inside length - mm)
Gates special size	13	13	6	26	600-900
	23	23	8	26	525-1500
	28	28	9	26	650-1600
	37	37	10	28	800-2240
	47	47	13	28	1000-2240
	Reference	Top width (mm)	Thickness (mm)	Angle (°)	Length range (datum length - mm)
ISO R1604 sizes	W16	17	6	24	630-1000
	W20	21	7	26	630-1250
	W25	26	8	26	710-1600
	W31.5	33	10	26	900-2000
	W40	42	13	28	1120-2500
	W50	52	16	28	1400-3150
	W63	65	20	30	1800-3150

### Ordering code

W16-630  
 W16 - Section  
 630 - Datum length (mm)

23X8-600  
 23 - Section  
 8 - Thickness (mm)  
 600 - Inside length (mm)

NOTE: For correct design and tensioning of the belt please consult with our application engineering team.

### Identification

Durable white marking indicating the belt type and white marking indicating the belt dimensions.



**Powerated® V-belt is recommended for heavy-duty drives and clutching applications. It meets the requirements of high power, clutching ability, heavy shock load absorption and back idler driven lawn and garden equipment.**

## CONSTRUCTION

- Aramid tensile cords combine limited stretch with extraordinary strength and durability.
- Low cord positioning in thin profile gives extreme flexibility.
- Distinct green color bareback low friction wrapping provide smooth clutching operation.
- Fabric reinforcement on the bottom ensures high crack resistance if back idler is used.

## BENEFITS

- Smooth clutching and disengaging.
- Length stability.
- Special shock resistance.
- Special bending and crack resist.
- Temperature range: -30 °C up to +60 °C.



Sections and nominal dimensions			
Section	Width (inch)	Height (inch)	Length range (outside length - mm)
3L	3/8	7/32	406 - 1549
4L	1/2	5/16	432 - 2972
5L	21/32	3/8	635 - 2515

### Ordering code

3L16  
 3L - Section  
 16 - Outside length (inch)

NOTE: For correct design and tensioning of the belt please consult with our application engineering team.

### Identification

Durable black marking indicating the belt type and black marking indicating the belt dimensions.



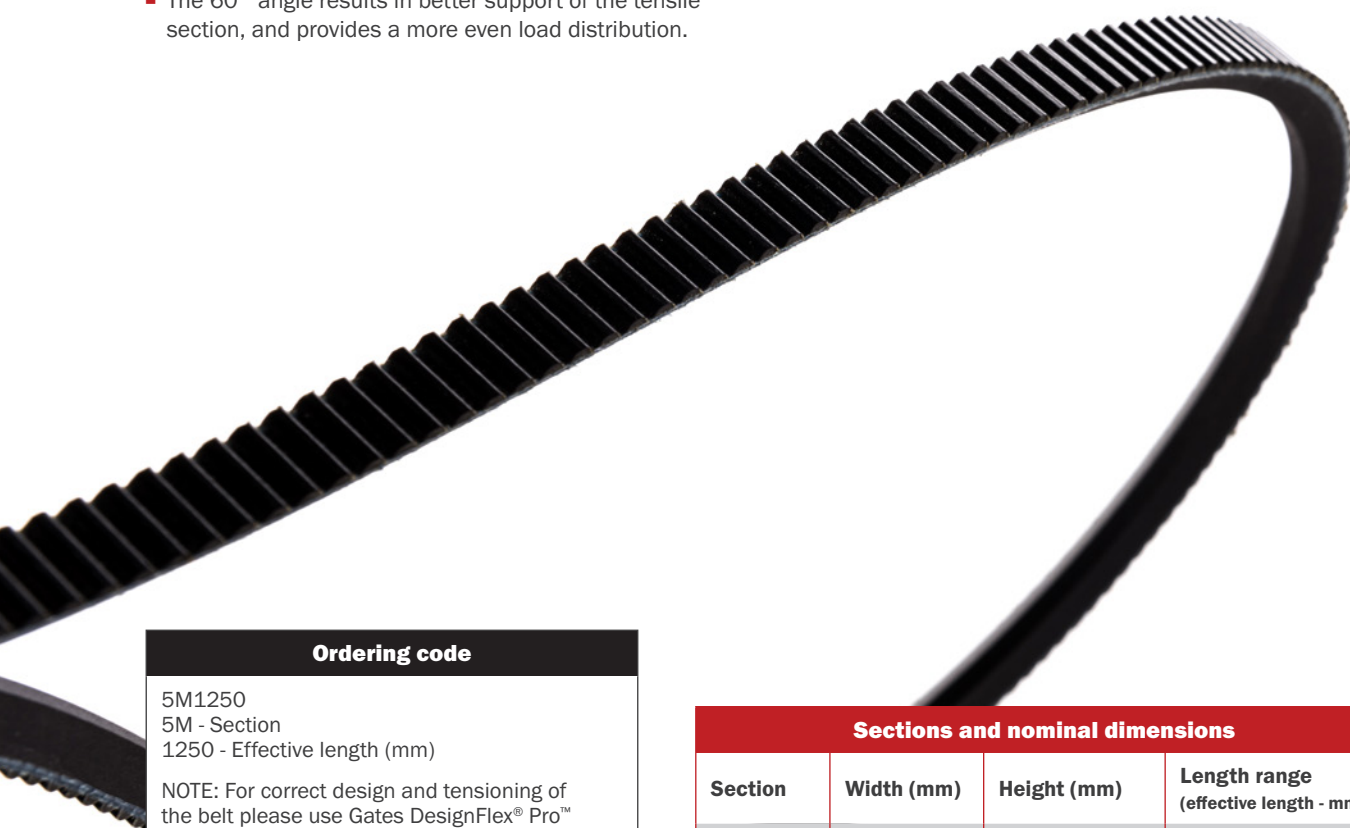
This compact and strong belt with nominal top width from 3 mm to 11 mm transmits more power and allows high speed ratios. Polyflex® is suited for extremely small diameter pulleys and very compact drives with high rotational speeds. Ideal for use on machines and machine tools requiring high performance and smooth operation in limited space such as bench type milling machines, lathe drives, woodworking and metalworking machine spindle drives, computer peripheral equipment, small blowers, etc.

## CONSTRUCTION

- High modulus, new formulated polyurethane compound, superior to conventional belt materials, offers high fatigue and wear resistance and a high friction coefficient. It also improves adhesion to the tensile cords.
- Polyurethane is extremely resistant to heat, chemicals and oil.
- Uniformity throughout Polyflex® is ensured because the polyurethane compound is not layered but cast without overlaps for smooth running and low vibration.
- Ribbed top provides lateral rigidity without increasing bending stresses.
- The 60° angle results in better support of the tensile section, and provides a more even load distribution.

## BENEFITS

- Design freedom and space savings which are not possible with conventional rubber construction belts.
- Low maintenance cost as belt needs less re-tensioning.
- Long belt life on compact drives.
- Available on demand as Matched sets. Contact Customer Service for details.
- Temperature range: -54 °C up to +85 °C.



### Ordering code

5M1250  
 5M - Section  
 1250 - Effective length (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and white marking indicating the belt dimensions.

### Sections and nominal dimensions

Section	Width (mm)	Height (mm)	Length range (effective length - mm)
3M	3	2.28	180 - 750
5M	5	3.30	280 - 1850
7M	7	5.33	500 - 2300
11M	11	6.85	710 - 2300

Polyflex® JB™ is synonymous with high power density in small spaces. Developed by Gates and produced to patented manufacturing processes, these belts provide more load-carrying capacity at higher speeds to small multiple V-belt precision drives. This results in significant cost savings and improved design freedom. Polyflex® JB™ belts are recommended for use on bench type milling machines, lathe drives, woodworking and metalworking machine spindle drives, computer peripheral equipment, small blowers, etc. They are available in 3M-JB, 5M-JB, 7M-JB and 11M-JB sections.

## CONSTRUCTION

- JB = Joined Belt construction improves stability.
- Ribs relieve bending stress on small pulleys and provide lateral rigidity.
- The 60° angle provides more undercord support to the tensile section and distributes the load more evenly.
- Small cross-section meets special application needs such as high shaft speeds, small drive package size and smooth running requirements.
- High modulus polyurethane compound with a high friction coefficient.
- The precise casting method eliminates overlaps and layers.
- Excellent adhesion of tensile cords and polyurethane compound leads to high fatigue resistance and long belt life.
- Extra toughness. The polyurethane compound resists fatigue, wear and ozone.

## BENEFITS

- Long belt life on small pulleys and compact drives.
- Greater shaft speeds, up to 30,000 rpm.
- High performance and smooth running for precision applications.
- Cost savings and design freedom.
- Avoids vibrations when subjected to shock loads.
- Available on demand in Matched sets. Contact Customer Service for details.
- Available on demand in MTQ (MTQ=Machine Tool Quality) execution (Except on 3M-JB). Contact Customer Service for details.
- Temperature range: -54 °C up to +85 °C.

Sections and nominal dimensions								
Section	Standard numbers of ribs				Width (mm)	Height (mm)	Pitch (mm)	Length range (effective length - mm)
	2	3	4	5				
3M-JB	x	x			3	2.28	3.35	175 - 750
5M-JB	x	x	x	x	5	3.30	5.30	280 - 1500
7M-JB	x	x	x	x	7	5.33	8.50	490 - 2293
11M-JB	x	x			11	7.06	13.20	692 - 2282

Other number of ribs available on request. For detailed info, please contact your Gates representative.

### Ordering code

5M280/3  
 5M - Section  
 280 - Effective length (mm)  
 3 - Number of ribs (joined belt)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and white marking indicating the belt dimensions.



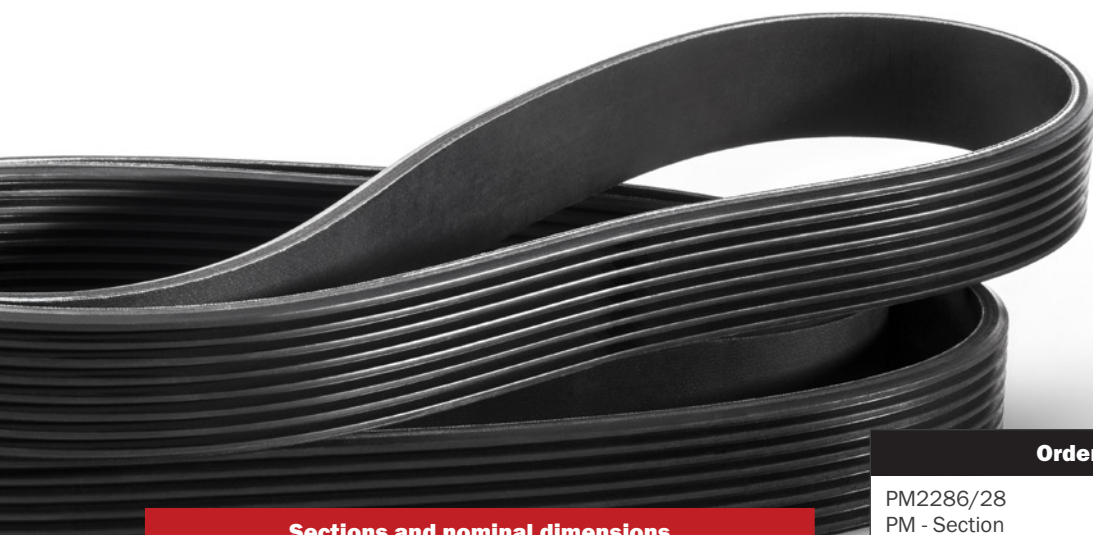
Gates Micro-V® belts ensure outstanding performance on any industrial multi-ribbed drive. They cover a multitude of industrial applications and are suitable for industrial drives in washing machines, textile machines, vacuum cleaners, lawn mowers, machine tools, medical equipment and many more. The full line of Micro-V® belt products includes slabs in several widths as well as single belts in PJ, PK, PL and PM sections in order to perfectly match customer requirements. Both slabs and belts can be manufactured in a great variety of number of ribs.

## CONSTRUCTION

- Truncated ribs ensure flexibility, reduce heat build-up and improve rib crack resistance. They also enhance load-carrying capacity on small diameter pulleys.
- Can be installed on grooved DriveR and flat DriveN pulley.
- High modulus, low stretch polyester tensile member provides superior resistance to fatigue and shock loads.
- All elastomeric rubber compound provides oil and heat resistance.
- Belts will operate in standard pulleys provided the pulleys are manufactured to the DIN 7867 or ISO 9982 standard for the specific cross-section.
- Specially formulated fibre reinforced undercord that improves belt stability.

## BENEFITS

- Extremely smooth and cool running.
- Very high power capacity per rib.
- Long life due to extra load-carrying capacity.
- Improved performance on back idlers.
- Smaller drive package.
- Tolerant of pulley groove debris.
- Static conductive (ISO 1813) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX (except PK profile).
- Temperature range:
  - 30 °C to +60 °C (PJ, PL, PM)
  - 50 °C to +120 °C (PK) (EPDM compound)



**Sections and nominal dimensions**

Section	Height (mm)	Rib spacing/ Pitch (mm)	Length range (effective length - mm)
PJ	3.5	2.34	356 - 2489
PK	4.45	3.56	630 - 2490
PL	9.5	4.70	954 - 3696
PM	16.5	9.40	2286 - 9931

### Ordering code

PM2286/28  
 PM - Section  
 2286 - Effective length (mm)  
 28 - number of ribs

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable yellow marking indicating the belt type and white marking indicating the belt dimensions.



# 2. **SYNCHRONOUS BELTS**



**DRIVEN BY POSSIBILITY™**





## A UNIQUE ALTERNATIVE TO ROLLER CHAIN

Our Poly Chain® family of belts offers you the most advanced synchronous belt technology on the market. Upon its introduction more than 30 years ago, this synchronous belt already set the standard for long and reliable service.

The unique construction makes all Poly Chain® belts extremely tough and virtually immune to abrasion and chemical attack. Since Poly Chain® belts do not require re-tensioning or lubrication they make an excellent alternative to roller chains. Furthermore, they offer a much cleaner and more compact drive solution but at the same or higher power capacity.

## BENEFITS

- Substantial savings in space and weight.
- Maintenance-free.
- Outlasts roller chain up to 4 to 1.
- Lower noise levels even at high transport speed.
- Inside and back idlers can be used.

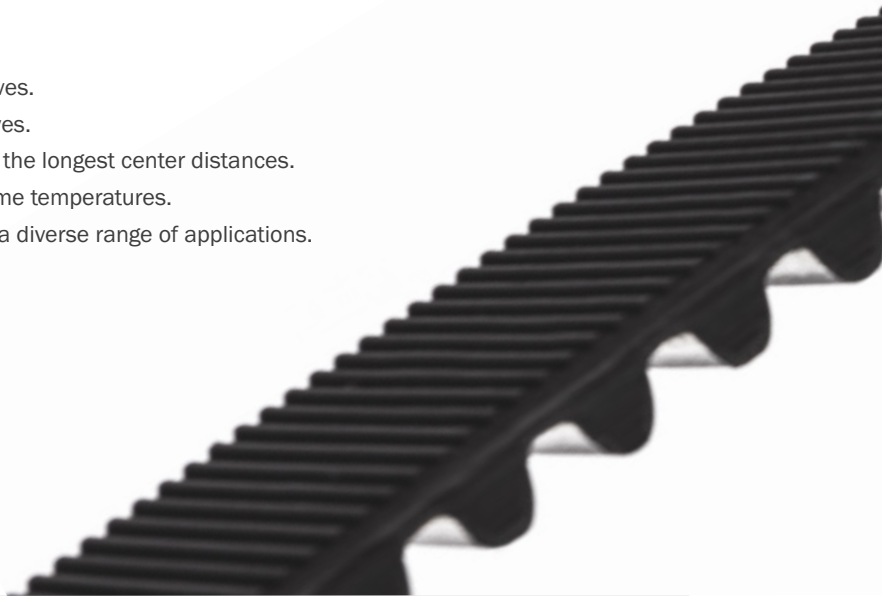
## MAKE THE SWITCH TO POLY CHAIN BELTS

Poly Chain® belt drives have already been successfully installed and used in a wide variety of applications resulting in large cost-savings and capacity improvements every single time. The following industries are ideal for this maintenance-free technology:

- Industrial equipment (mining, construction, food & beverage, wood, paper, pulp and textile).
- Vehicles and engines (motorcycles and other motor vehicles).
- Lift and handling equipment.
- Machine tools.
- Agricultural and forestry equipment (combines, debarkers, saws).

## DISCOVER THE ENTIRE FAMILY

- Poly Chain® Carbon™ Volt® – for ATEX environments.
- Mini Poly Chain® GT Carbon™ 8MGT – for conveyor drives.
- Poly Chain® GT Carbon™ 5MGT – for very compact drives.
- Poly Chain® GT Carbon™ Extended Length Range – for the longest center distances.
- Poly Chain® GT Carbon™ High Temperature – for extreme temperatures.
- Poly Chain® GT2 8MGT & 14MGT – problem-solver in a diverse range of applications.





### THE POWER YOU WANT, THE SAFETY YOU NEVER HAD

Antistatic power transmission belts are a must in ATEX environments. To ensure the highest safety standards, their capacity to safely dissipate static electricity should meet the required levels over the lifetime of the belt - and not only when new. The Poly Chain® Carbon™ Volt® belt is the only belt in the market that meets the ISO 9563 standard over the complete lifespan of the belt. Its patented static-conductive jacket construction transfers static electricity safely to carbon tensile cords, away from the driven side of the application – making it your safest and strongest option for applications in ATEX environments.

### CONSTRUCTION

- Static conductive (ISO 9563) and can as such be used in the conditions described in the directive 2014/34/EU- ATEX.
- Chemically resistant polyurethane compound that ensures optimum adhesion with the carbon tensile cords.
- Carbon fibre reinforcement for high strength and length stability.
- Nylon fabric facing that acts as a wear resistant surface, protecting the teeth and keeping frictional losses to a minimum.
- Curvilinear tooth profile for improved stress distribution and higher overall loading.

### BENEFITS

- Maintains static conductivity over belt lifetime.
- 400% greater capacity than HTD belts.
- 5% energy savings over V-belts.
- 99% efficiency for life of the drive.
- Reduced maintenance and downtime.
- Reduce weight and overhung loads.
- Inert to most acids, chemicals and water.
- Standard widths of 12, 21, 36, 62 mm (8MGT) and 20, 37, 68, 90, 125 mm (14MGT). Other widths available on request.
- On demand available in PowerPainT™ construction, to eliminate paint contamination risk (see p. 40).
- Temperature range: -54 °C to + 85 °C.
- Perfect fit on Poly Chain® GT profile pulleys.

#### Ordering code

14MGTV-1890-37  
14MGT - Pitch 14 mm  
V - Carbon™ Volt® version  
1890 - Pitch length (mm)  
37 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

#### Identification

Durable white marking indicating the belt type and belt dimensions.

#### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8MGT	8.0	3.4	5.9	640 - 4480
14MGT	14.0	6.0	10.2	994 - 4410

For Poly Chain® GT 8MGT and 14MGT sprocket range refer to p. 49, 51, 52, 53.



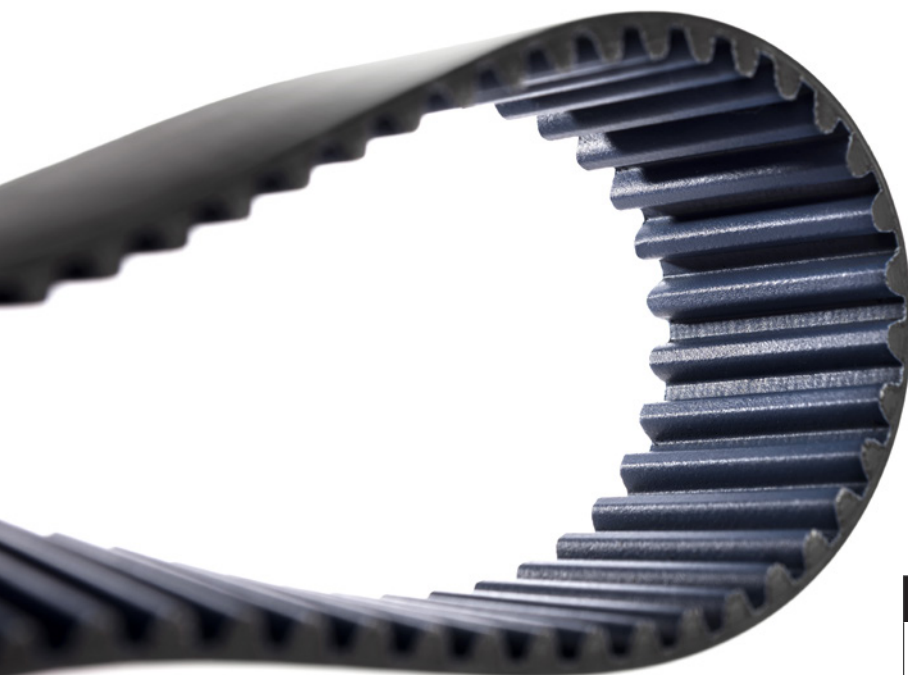
This compact polyurethane synchronous belt opens up new opportunities in the design of conveyor drives and is an alternative to roller chains. Poly Chain® GT Carbon™ does not require lubrication or tensioning and is characterised by low noise levels even at high transport speeds. The special construction is highly resistant to aggressive influences such as dust, oil and chemicals.

## CONSTRUCTION

- Teeth and body are made of a lightweight polyurethane compound, specially blended for adhesion to the cords and fabric.
- The carbon fibre tensile cords provide extraordinary power carrying capacity.
- Flex fatigue life of carbon is exceptional, and its high impact strength withstands shocks and surge loading.
- Standard widths of 11.2, 12, 21, 36, 62 mm. Other widths available on request.

## BENEFITS

- Cut maintenance and downtime.
- Carbon cords easily handle shock loads.
- Functions on fixed center drives
- No lubrication required.
- Smooth running roller conveyor.
- Inert to most acids, chemicals and water.
- No need for constant re-tensioning.
- On demand available in PowerPain™ construction, to eliminate paint contamination risk (see p. 40).
- Temperature range: -54 °C to + 85 °C.
- Perfect fit on Poly Chain® GT profile pulleys.



### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8MGT	8.0	3.4	5.9	248 - 608

For Poly Chain® GT 8MGT sprocket range refer to p. 49.

### Ordering code

8MC-352-11.2  
 8M - Pitch 8 mm  
 C - Carbon tensile member  
 352 - Pitch length (mm)  
 11.2 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.





Gates Poly Chain® GT® Carbon™ 5MGT uses the original construction which is designed for optimum performance on high torque, low speed drives. Poly Chain® GT® Carbon™ 5MGT belts are ideally suited for use in machine tool, roller chain, small conveyors and compact drives where space is a problem. 5MGT Poly Chain® GT® belts are now available in Gates Carbon construction. This new construction provides the highest capacity and accuracy combination possible in a compact drive.

## CONSTRUCTION

- Durable high temperature polyurethane construction resists chemicals, oil, pollutants and abrasion.
- Gates patented curvilinear tooth profile provides high shear strength and improved load carrying capacity.
- Nylon tooth facing reduces friction and eliminates the need for lubrication.
- Robust carbon tensile cord combines minimal stretch with extraordinary strength while absorbing shock and surge loads.
- Standard widths of 9, 15, 25 mm. Other widths available on request.

## BENEFITS

- Poly Chain performance on compact drives.
- High efficiency and accuracy positive drive.
- Maintenance free.
- Cut maintenance and downtime.
- Carbon cords easily handle shock loads.
- No lubrication required.
- Inert to most acids, chemicals and water.
- No need for constant re-tensioning.
- Temperature Range: -54 °C to + 85 °C.
- Compatible with PowerGrip® GT 5MR sprockets.



### Ordering code

5MGTC-425-15  
 5MGT - Pitch 5 mm  
 C - Carbon tensile member  
 425 - Pitch length (mm)  
 15 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
5MGT	5.0	1.93	3.81	300 - 815

For Poly Chain® GT 5MGT sprocket range refer to p. 50.

Gates Poly Chain® GT® Carbon™ belts are renowned for high performance with no maintenance. Now Gates introduces a Poly Chain® solution that can handle longer center distances than ever before. The unique manufacturing process allows longer Poly Chain® endless belts that deliver high load carrying capabilities. In the past large and heavy roller chains were the only option for long center distance drives. Now there is an alternative that requires less maintenance, less replacements resulting in less downtime and cleaner operation. The Extended Length process is applied to belt lengths in 14M pitch over 4410 mm.

## CONSTRUCTION

- Durable polyurethane construction resists chemicals, oil, pollutants and abrasion.
- Gates patented curvilinear tooth profile provides high shear strength and improved load carrying capacity.
- Nylon tooth facing reduces friction and eliminates the need for lubrication.
- Robust carbon tensile cord combines minimal stretch with extraordinary strength while absorbing shock and surge loads.
- Standard widths of 37, 68, 90, 125 mm. Other widths or other lengths are available on request.

## BENEFITS

- Long length.
- High power density.
- Lubrication free.
- Maintenance free.
- Stretch free.
- Long belt and sprocket life.
- 97% less weight.
- Temperature range: -54 °C - +85 °C.
- Perfect fit on Poly Chain® GT profile pulleys.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
14MGT	14.0	6.0	10.2	4578 - 9660

For Poly Chain® GT 14MGT sprocket range refer to p. 49.  
Other lengths are available on request.  
Please consult with your sales representative.

### Ordering code

14MGTC-4956-37  
14MGT - Pitch 14 mm  
C - Carbon tensile member  
4956 - Pitch length (mm)  
37 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.

The Poly Chain® GT Carbon™ belts have a specially designed polyurethane compound that provides superb heat resistance. It enables the belt to remain fully operational under extreme temperatures up to 120 °C and even up to 140 °C during shorter periods.

## CONSTRUCTION

- Durable polyurethane construction resists chemicals, oil, pollutants and abrasion.
- Gates patented curvilinear tooth profile provides high shear strength and improved load carrying capacity.
- Nylon tooth facing reduces friction and eliminates the need for lubrication.
- Robust carbon tensile cord combines minimal stretch with extraordinary strength while absorbing shock and surge loads.
- Standard widths of 12, 21, 36, 62 mm (8MGT); and 20, 37, 68, 90, 125 mm (14MGT). Other widths or other lengths are available on request.

## BENEFITS

- Extended temperature range.
- Substantially increased power ratings.
- High efficiency and accuracy positive drive.
- Maintenance free.
- Cut maintenance and downtime.
- Carbon cords easily handle shock loads.
- No lubrication required.
- Inert to most acids, chemicals and water.
- No need for constant re-tensioning.
- Temperature Range: up to + 120 °C.
- Available on Made-To-Order basis. Contact Customer Service for details.
- Perfect fit on Poly Chain® GT profile pulleys



### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8MGT	8.0	3.4	5.9	640 - 2000
14MGT	14.0	6.0	10.2	994 - 2000

For Poly Chain® GT 8MGT and 14MGT sprocket range refer to p. 49, 51, 52, 53.

### Ordering code

8MGTC-1280-21-HT  
 8MGT - Pitch 8 mm  
 C - Carbon tensile member  
 1280 - Pitch length (mm)  
 21 - Belt width (mm)  
 HT - High Temperature construction

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.



Poly Chain® GT2 has been designed for optimum performance on high torque, low speed drives in any industrial application. This lightweight belt features increased power ratings of up to 40% higher than previous constructions while maintaining the same long service life. Poly Chain® GT2 operates on Poly Chain® GT pulleys. These belts make an excellent alternative to roller chains, requiring neither re-tensioning nor lubrication. Space-saving, weight-saving and money-saving, Poly Chain® GT2 drives offer a long and reliable service life.

## CONSTRUCTION

- Teeth and body are made of a lightweight polyurethane compound, specially blended for adhesion to the cords and fabric. This uniquely formulated polyurethane makes the belt tough and virtually immune to abrasion and chemicals.
- The aramid tensile cords provide extraordinary power-carrying capacity.
- Flex fatigue life of aramid is exceptional, and its high impact strength withstands shocks and surge loading.
- The fabric covering the teeth is highly resistant to oil, chemicals, pollutants, corrosion and abrasion. It is exceptionally durable and remains fully operational.
- The fabric facing reduces friction with the pulley, thereby minimising temperature build-up.
- Standard widths of 12, 21, 36, 62 mm (8MGT); and 20, 37, 68, 90, 125 mm (14MGT).

## BENEFITS

- Substantially increased power rating.
- High efficiency positive drive.
- Maintenance-free: no lubrication or re-tensioning needed.
- Savings in space, weight and money.
- Temperatures range: -54 °C to +85 °C.
- Perfect fit on Poly Chain® GT profile pulleys.
- On demand available in PowerPaint™ construction, to eliminate paint contamination risk (see p. 40).

### Ordering code

8MGT-640-12  
8MGT - Pitch 8 mm  
640 - Pitch length (mm)  
12 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

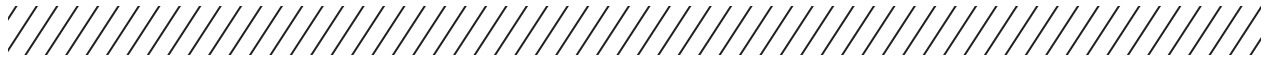
### Identification

Durable white marking indicating the belt type and belt dimensions.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8MGT	8.0	3.4	5.9	640 - 4480
14MGT	14.0	6.0	10.2	994 - 4410

For Poly Chain® GT 8MGT and 14MGT sprocket range refer to p. 49, 51, 52, 53.



**PowerGrip® GTX is the newest premium rubber synchronous belt in the Gates belt range. Available in 8M and 14M pitches, this belt is the optimum choice for high-performance, high-torque conditions and quiet operation. Whether it is for a new drive design or for a replacement, PowerGrip® GTX is the reliable choice.**

## CONSTRUCTION

- High-strength, low-elongation fibre glass tensile cords for extreme shock load resistance.
- Quiet-running and maintenance-free.
- Compact, light-weight, economic.
- Static conductive (ISO 9563) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- Standard available in widths of 20, 30, 40, 50, 65, 85 mm (8M) and 20, 40, 55, 85, 115, 170 mm (14M). Other widths available on request.
- On demand available in PowerPainT™ construction, to eliminate paint contamination risk (see p. 40).

## BENEFITS

- Easy replacement and upgrade of existing HTD®/GT3 type applications.
- Reduced overall drive package.
- Increased power capacity of 40% over PowerGrip® GT3.
- Reliable operation and trouble-free service, extending the useful life of your system.
- Substantial reduction of your day-to-day operational costs by eliminating downtime and maximising productivity.
- Temperature range: -30 °C to + 100 °C.
- Ideal alternative for other high-strength rubber synchronous belts.
- Improve reliability and productivity every time you install Gates PowerGrip® GTX.
- Perfect fit on HTD® profile pulleys.

### Ordering code

2400-8MX-20  
2400 - Pitch length (mm)  
8MX - Pitch 8 mm  
20 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8MX	8.0	3.4	5.6	264 - 4400
14MX	14.0	6.0	10.0	784 - 4578



This technically advanced belt covers a very wide range of industrial applications. The PowerGrip® GT3 belt transmits up to 50% more power than the previous generations of PowerGrip® belts. This entire belt range is suited both for new drive designs as well as for replacements on existing drives without any adaptation of the system. The 2MGT, 3MGT and 5MGT pitches are ideal for compact drives on hand tools, business machines, domestic appliances, high precision servomotor drives and multiaxis applications.

## CONSTRUCTION

- Technically advanced compound with fibre glass tensile cord.
- Elastomeric backing protects the cords from environmental pollution and frictional wear.
- Helically wound fibre glass tensile member gives enormous strength, flex life and elongation resistance.
- Low friction nylon facing protects the tooth surface against wear.
- Precision-formed and accurately spaced elastomeric teeth.
- 5MGT pitch is on demand available in PowerPaint™ construction, to eliminate paint contamination risk (see p. 40).
- Standard widths of 3, 6, 9 mm (2MGT); 6, 9, 15 mm (3MGT); and 9, 15, 25 mm (5MGT). Other widths available on request.

## BENEFITS

- Substantially increased power ratings.
- Compact drives and less weight.
- High positioning accuracy.
- Improved tooth jump resistance.
- Reduced noise levels.
- Cost-effective, long-lasting and virtually maintenance-free.
- Temperature range: -30 °C to + 100 °C.
- Compatible with and used on GT type pulleys.



### Ordering code

285-5MGT3-9  
 285 - Pitch length (mm)  
 5MGT3 - Pitch 5 mm  
 9 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

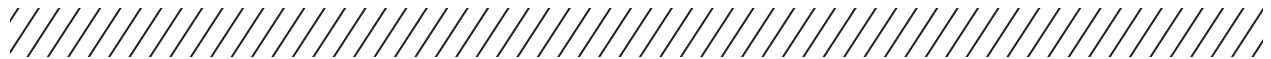
### Identification

Durable white marking indicating the belt type and belt dimensions.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
2MGT	2.0	0.71	1.52	74 - 1830
3MGT	3.0	1.12	2.41	105 - 1692
5MGT	5.0	1.92	3.81	200 - 2440





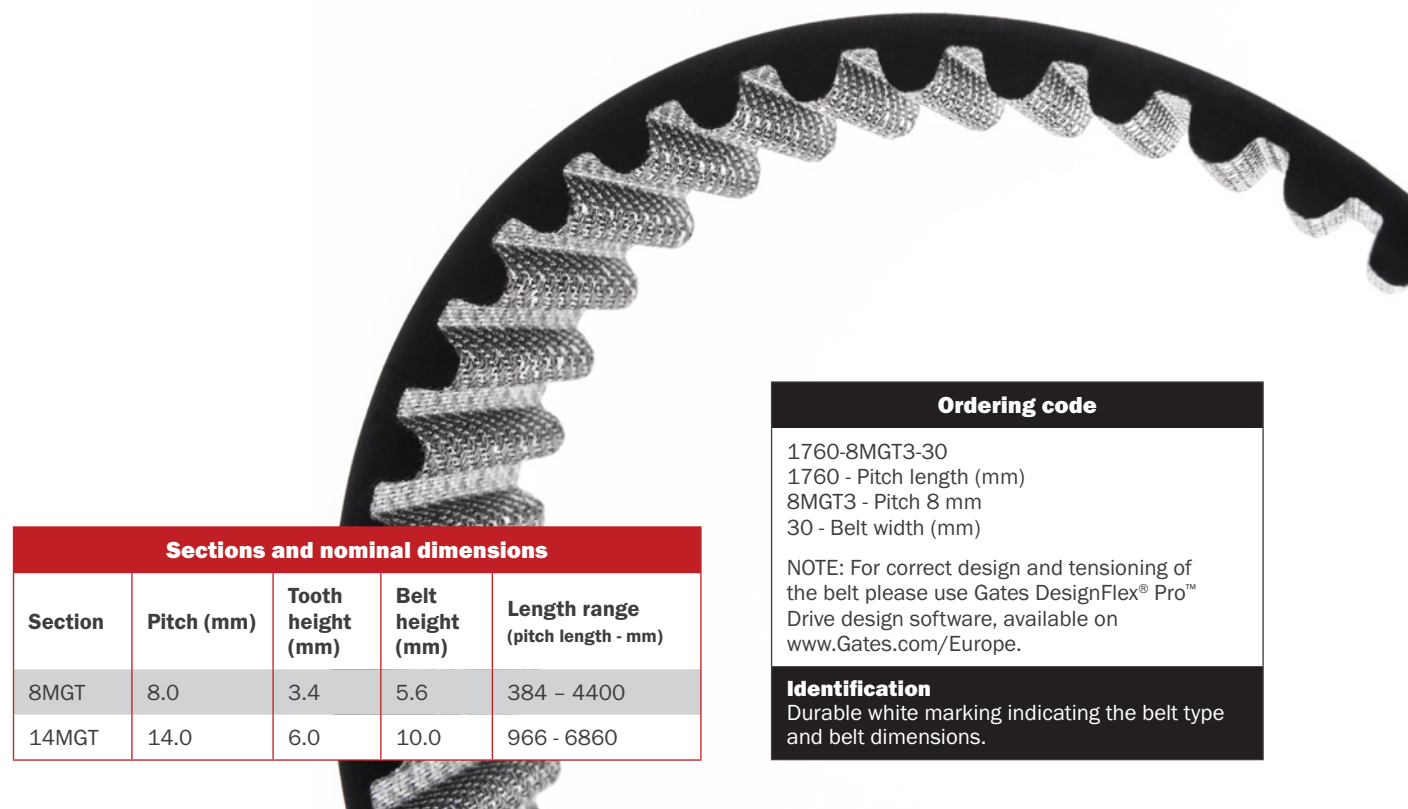
**PowerGrip® GT3 is made of a highly advanced combination of materials. This technically advanced belt covers a very wide range of industrial applications. This synchronous belt transmits up to 30% more power than previous generation belts (PowerGrip® GT2). This entire belt range is suited both for new drive designs as for replacements on existing drives without any adaptation of the system. The 8MGT and 14MGT pitches are the optimum choice for high performance drives in the machine tool, paper and textile industries where durability and low maintenance are required.**

## CONSTRUCTION

- Technically advanced compound with fibre glass tensile cord, elastomeric teeth and backing and nylon facing.
- Elastomeric backing protects the cords from environmental pollution and frictional wear.
- Helically wound fibre glass tensile member gives enormous strength, flex life and elongation resistance.
- Low friction nylon facing protects the tooth surface against wear.
- Precision-formed and accurately spaced elastomeric teeth.
- Silicone-free and therefore suited for painting processes.
- Standard widths of 20, 30, 50, 85 mm (8MGT); 40, 55, 85, 115, 170 mm (14MGT). Other widths available on request.

## BENEFITS

- Substantially increased power ratings: up to 30% more than previous constructions.
- Reduced maintenance costs thanks to longer service life.
- Compact, light-weight and cost-effective drives.
- High tooth jump resistance.
- No lubrication needed.
- Static conductive (ISO 9563) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- On demand available in PowerPaint™ construction, to eliminate paint contamination risk (see p. 40).
- Temperature range: -30 °C to + 100 °C.
- Perfect fit on HTD® profile pulleys



**Sections and nominal dimensions**

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8MGT	8.0	3.4	5.6	384 - 4400
14MGT	14.0	6.0	10.0	966 - 6860

### Ordering code

1760-8MGT3-30  
 1760 - Pitch length (mm)  
 8MGT3 - Pitch 8 mm  
 30 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.



The HTD® curvilinear tooth form ensures an optimised load distribution leading to high power transmission in low speed and high torque applications. PowerGrip® HTD® 3M and 5M belts are suitable for domestic appliances, office machines, electric hand tools and for applications in the processing and chemical industry.

## CONSTRUCTION

- Special curvilinear tooth design improves stress distribution and allows higher overall loading.
- Precisely formed and accurately spaced elastomeric teeth ensure smooth engagement with the pulley grooves.
- Durable elastomeric backing protects the belt against environmental pollution as well as frictional wear if power is transmitted from the back of the belt.
- Tough nylon facing protects the tooth surface.
- Fibre glass tensile cords.
- Belts conform to ISO13050:2014.
- Standard widths of 6, 9, 15 mm (3M); 9, 15, 25 mm (5M). Other widths available on request.

## BENEFITS

- 3M and 5M PowerGrip® HTD® are designed for speeds up to 20,000 rpm and capacities up to 10kW.
- The optimized tooth form permits high loads to be transmitted, even in small pitches.
- Peripheral speed up to 80 m/s.
- Efficiencies up to 99%.
- Compact design.
- 25% improved tooth jump resistance vs. PowerGrip®.
- Long service life and maintenance-free.
- Temperature range: -30 °C to + 100 °C.
- Perfect fit on HTD® profile pulleys



### Ordering code

280-5M-15  
 280 - Pitch length (mm)  
 5M - Pitch 5 mm  
 15 - Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
3M	3.0	1.2	2.4	105 - 1926
5M	5.0	2.1	3.8	120 - 2350



The curvilinear PowerGrip® HTD® tooth geometry eliminates stress concentration at tooth roots and allows higher power capacity and longer life. PowerGrip® HTD® 8M, 14M and 20M belts are used in high performance drives in the machine tool, paper and textile industries where durability and low maintenance are required.

## CONSTRUCTION

- Special curvilinear tooth form improves stress distribution and allows higher overall loading.
- Precisely formed and accurately spaced elastomeric teeth ensure correct positioning in the pulley grooves.
- Tough nylon facing protects the tooth surfaces.
- Fibre glass tensile member provides the required strength combined with excellent flex life and high resistance to elongation.
- Durable elastomeric backing protects against environmental pollution as well as frictional wear if power is transmitted from the back of the belt.
- Belts conform to ISO13050:2014.
- Standard widths of 20, 30, 50, 85 mm (8M); 40, 55, 85, 115, 170 mm (14M); 115, 170, 230, 290, 340 mm (20M). Other widths available on request.

## BENEFITS

- Load capacities up to 1,000 kW.
- No slippage. PowerGrip® HTD® belt teeth mesh smoothly with pulley grooves, reducing speed variations.
- Wide speed range.
- Economical operation. No lubrication needed, no need for adjustment due to stretch and wear.
- High mechanical efficiency. The belt construction minimizes heat build-up and, since friction is not required to transmit the load, belt tensions are reduced.
- Constant driven speeds.
- Long trouble-free service life (because of excellent abrasion resistance) in many applications where metal components like chains and gears wear out in a matter of months.
- PowerGrip® HTD® 14M: static conductive (ISO 9563) and can as such be used in the conditions described in the Directive 2014/34/EU- ATEX.
- Temperature range: -30 °C to + 100 °C.
- Perfect fit on HTD® profile pulleys.

### Ordering code

480-8M-20  
480 - Pitch length (mm)  
8M - Pitch 8 mm  
20 - Belt width (mm)

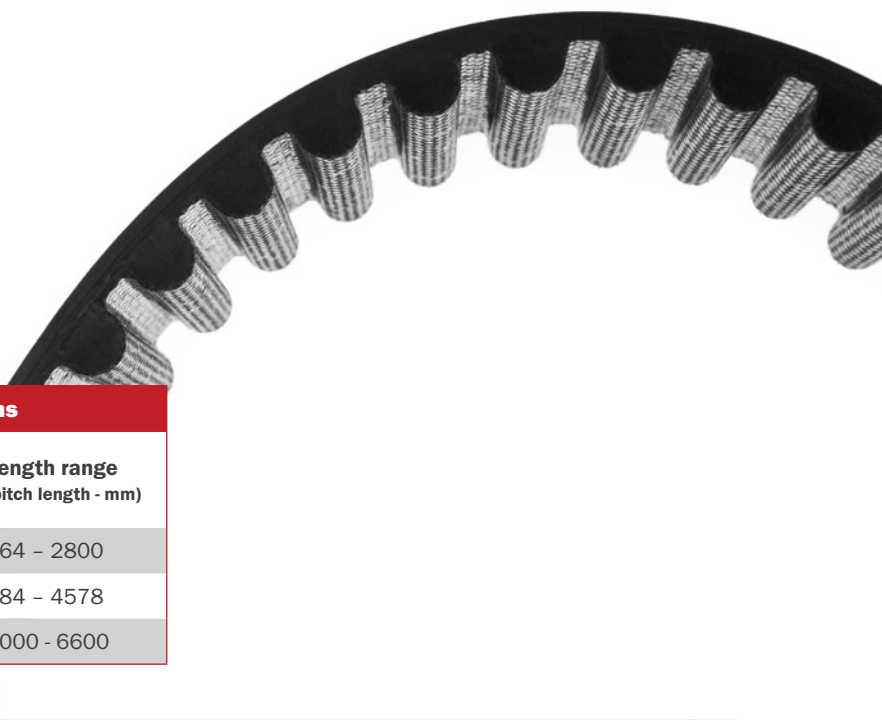
NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.

### Sections and nominal dimensions

Section	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
8M	8.0	3.4	5.6	264 - 2800
14M	14.0	6.1	10.0	784 - 4578
20M	20.0	8.4	13.2	2000 - 6600





**Gates classical synchronous PowerGrip® belt offers a maintenance-free and economical alternative to conventional drives such as chains and gears. Its application range extends from minimum drives (computer printers) to heavy-duty machinery (oil pumps, etc).**

## CONSTRUCTION

- Trapezoidal tooth form.
- Precisely formed and accurately spaced elastomeric teeth ensure correct engagement with the pulley grooves.
- Fibre glass tensile cords.
- Nylon fabric cover protects the tooth surfaces.
- Standard widths per belt pitch in mm and belt width code:
  - MXL: 3.2 mm (code 012), 4.8 mm (code 019), 6.4 mm (code 025)
  - XL: 6.4 mm (code 025), 7.9 mm (code 031), 9.5 mm (code 037)
  - L: 12.7 mm (code 050), 19.1 mm (code 075), 25.4 mm (code 100)
  - H: 19.1 mm (code 075), 25.4 mm (code 100), 38.1 mm (code 150), 50.8 mm (code 200), 76.2 mm (code 300)
  - XH/XXH: 50.8 mm (code 200), 76.2 mm (code 300), 101.6 mm (code 400), 127 mm (code 500)
- Other widths available on request.
- Belts conform to ISO19347:2015.

## BENEFITS

- Power transmission of up to 150 kW and speeds of up to 10,000 rpm.
- Peripheral speed up to 80 m/s.
- Positive slip-proof engagement.
- Constant angular velocity.
- Efficiencies up to 99%.
- Low bearing load because of freedom of high tension.
- Maintenance-free continuity of operation.
- Wide range of load capacities and speed ratios.
- Compact design.
- Economical operation.
- Temperature range: -30 °C to + 100 °C.



**Sections and nominal dimensions**

Section	Pitch (inch)	Pitch (mm)	Tooth height (mm)	Belt height (mm)	Length range (pitch length - mm)
MXL	2/25 (0.080")	2.032	0.51	1.14	73 – 592
XL	1/5 (0.200")	5.08	1.27	2.3	116 – 1956
L	3/8 (0.375")	9.525	1.91	3.5	314 – 1676
H	1/2 (0.500")	12.7	2.29	4.0	609 – 4318
XH	7/8 (0.875")	22.225	6.36	11.4	1289 – 4445
XXH	1.1/4 (1.250")	31.75	9.53	15.2	1778 – 4572

### Ordering code

507-XH-200  
 507 - Pitch length in 1/10 inch  
 XH - Pitch 7/8" (22.225 mm)  
 200 - Belt width 2.0" (50.8 mm)

288-MXL-019  
 288 - Pitch length in 1/100 inch  
 MXL - Pitch 0.08" (2.032 mm)  
 019 - Belt width 0.19" (4.8 mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### Identification

Durable white marking indicating the belt type and belt dimensions.



Due to its double and directly opposite teeth, Twin Power® synchronous belts ensure high loading capacity on contra-rotating drives and ensure smooth running and high flexibility. They are available with the classical trapezoidal tooth profile and also with the unique GT tooth profile. A Twin Power® GT2 belt has twice the power rating of a Twin Power® HTD® belt. It is characterised by extraordinary load-carrying power and high tooth jump resistance ensuring a positive non-slip drive. In addition, the belt runs at very low noise. Twin Power® is available in PowerGrip® GT2 8MGT and 14MGT, HTD® 5M and PowerGrip® XL, L and H pitches.

## CONSTRUCTION

- Similar in construction to PowerGrip® classical synchronous and PowerGrip® GT2 belts: strong fibre glass tensile member precision-formed elastomeric teeth and body.
- Wear resistant nylon fabric on both tooth sides.
- Standard widths per belt pitch in mm and belt width code:
  - Twin Power® PowerGrip® GT2
    - 8MGT: 20, 30, 50, 85 mm
    - 14MGT: 40, 55, 85, 115, 170 mm
  - Twin Power® PowerGrip® HTD®
    - 5M: 9, 15, 25 mm
  - Twin Power® PowerGrip®:
    - XL: 6.4 mm (code 025), 7.9 mm (code 031), 9.5 mm (code 037)
    - L: 12.7 mm (code 050), 19.1 mm (code 075), 25.4 mm (code 100)
    - H: 19.1 mm (code 075), 25.4 mm (code 100), 38.1 mm (code 150), 50.8 mm (code 200), 76.2 mm (code 300)
    - Other widths available on request.

## BENEFITS

- High loading capacity.
- Twin Power® can transmit up to 100% of its maximum rated load from either side of the belt; alternatively, it can transmit a load on both sides - provided the sum of the loads does not exceed the maximum capacity.
- Non-slip positive drive.
- Running at low noise.
- Free of lubrication and maintenance.
- Temperature range: -30 °C to + 100 °C.



Ordering code
TP-1120-8MGT2-20 TP - Twin Power 1120 - Pitch length (mm) 8MGT2 - Pitch 8 mm 20 - Belt width (mm)
NOTE: For correct design and tensioning of the belt please consult with our application engineering team.
Identification
Durable white marking indicating the belt type and belt dimensions.

Sections and nominal dimensions				
Section	Pitch	Web gauge (mm)	Tooth height (mm)	Length range (pitch length - mm)
TWIN POWER® POWERGRIP® GT2				
8MGT	8.0 mm	2.00	3.40	480 - 4960
14MGT	14.0 mm	3.70	5.82	1610 - 6860
TWIN POWER® POWERGRIP® HTD®				
5M	5.0 mm	1.5	2.1	425 - 2525
TWIN POWER® POWERGRIP®				
XL	1/5" (0.200")	0.508	1.27	381 - 894
L	3/8" (0.375")	0.762	1.91	514 - 1676
H	1/2" (0.500")	1.372	2.29	609 - 4318



A comprehensive range of open-ended belts which can be easily cut to the required length. Long Length open-end synchronous belts are especially suited for linear movements (automated doors, warehouse conveyors and elevators), accurate positioning (machine tools, x-y co-ordinate machines) and reversal drives (computers, printers and office equipment).

## CONSTRUCTION

### POWERGRIP® GT - 2MR, 3MR, 5MR AND 8MR PITCHES

### POWERGRIP® HTD® - 3M, 5M, 8M AND 14M PITCHES

### POWERGRIP® - MXL, XL, L AND H PITCHES

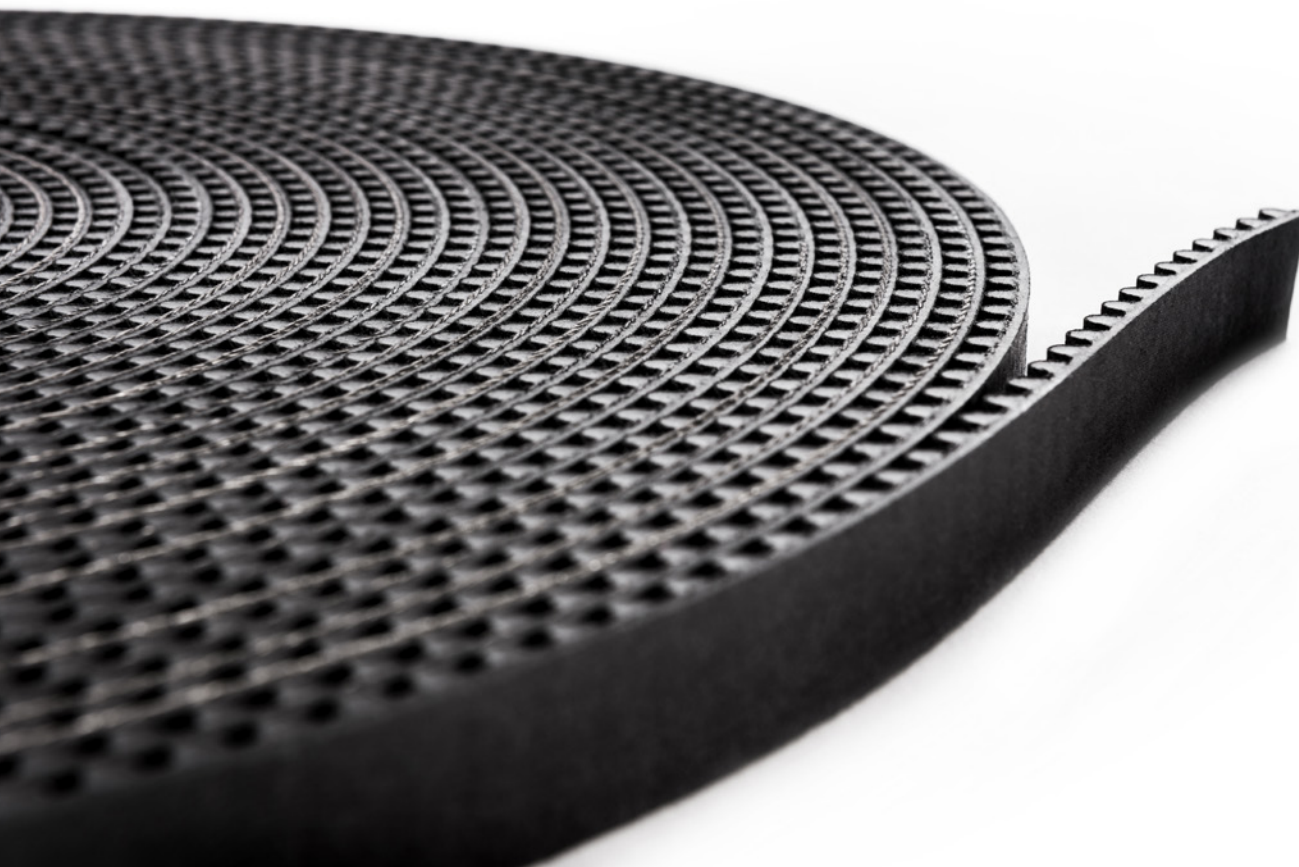
- Fibre glass or steel tensile cords.
- Rubber teeth and backing.
- Nylon facing.

### POLY CHAIN® GT CARBON™ 8MGT AND 14MGT PITCHES

- Carbon tensile cord.
- Polyurethane teeth and backing.
- Fabric reinforced teeth.
- On demand available in PowerPainT™ construction, to eliminate paint contamination risk (see p. 40).
- Other roll lengths and belt widths, available on request. Please contact your customer service representative.

## BENEFITS

- High positioning accuracy, making the belt ideally suited for applications with repetitive movements.
- Length stability due to the use of high modulus tensile members.
- Easy to attach with clamping fixtures.
- Maintenance-free: no re-tensioning required, no lubrication needed.
- Temperature range: -30 °C to + 100 °C (PowerGrip®) and -54 °C to +85 °C (Poly Chain®).







Sections and nominal dimensions							
POLY CHAIN® GT CARBON™							
Section	Pitch (mm)		Tooth height (mm)	Belt height (mm)	Length on roll (m)	Width (mm)	
8MGT	8.00		3.40	5.90	30	12, 21, 36	
14MGT	14.00		6.00	10.20	30	20, 37	
POWERGRIP® GT							
Section	Pitch (mm)		Tooth height (mm)	Belt height (mm)	Length on roll (m)	Width (mm)	
						Fiber glass	Steel
2MR	2.00		0.71	1.52	/	3, 6, 9	/
3MR	3.00		1.12	2.41	30	6, 9, 15	/
5MR	5.00		1.92	3.81	30	6, 10, 15, 25	6, 10, 15, 25
8MR	8.00		3.34	5.60	30	10, 15, 20, 30, 50	10, 15, 20, 30, 50
POWERGRIP® HTD®							
Section	Pitch (mm)		Tooth height (mm)	Belt height (mm)	Length on roll (m)	Width (mm)	
						Fiber glass	Steel
3M	3.00		1.10	2.40	30	6, 9, 15	/
5M	5.00		2.10	3.80	30	6, 10, 15, 25	6, 10, 15, 25
8M	8.00		3.40	6.00	30	10, 15, 20, 30, 50, 85	10, 15, 20, 30, 50, 85
14M	14.00		6.00	10.00	30	25, 40, 55, 85, 115	25, 40, 55, 85, 115
POWERGRIP®							
Section	Pitch		Tooth height (mm)	Belt height (mm)	Length on roll (m)	Width (code)	
	(inch)	(mm)				Fiber glass	Steel
MXL	2/25	2.032	0.51	1.14	/	019, 025, 050	/
XL	1/5	5.080	1.27	2.30	30	025, 031, 037, 050	/
L	3/8	9.525	1.91	3.60	30	037, 050, 075, 100	/
H	1/2	12.7	2.29	4.30	30	050, 075, 100, 150, 200, 300	050, 075, 100, 150, 200, 300

Other roll lengths are available on demand. Please consult with your sales representative.

Ordering code
5M-6-30m-ST 5M - Pitch 5 mm 6 - Belt width (mm) 30m - Length on roll (m) ST - Steel (material of tensile cords)
NOTE: For correct design and tensioning of the belt please consult the product application engineering team.
Identification
Durable white marking indicating the belt type and belt dimensions.

Gates' PowerPaint™ synchronous belt is specifically developed for use in painting areas, as found in the automotive and white goods industries where contamination of the painted product, from whatever source, is unacceptable. PowerPaint™ ensures excellent performance on skid and roller conveyor systems and eliminates the risk of product contamination.

## CONSTRUCTION

- Precision-formed elastomeric teeth with curvilinear profile improve stress distribution and provide high power capacity.
- Accurately spaced teeth provide high positioning accuracy and optimum efficiency.
- Tough tensile cords ensure excellent flex life and high resistance to elongation.

Available in:

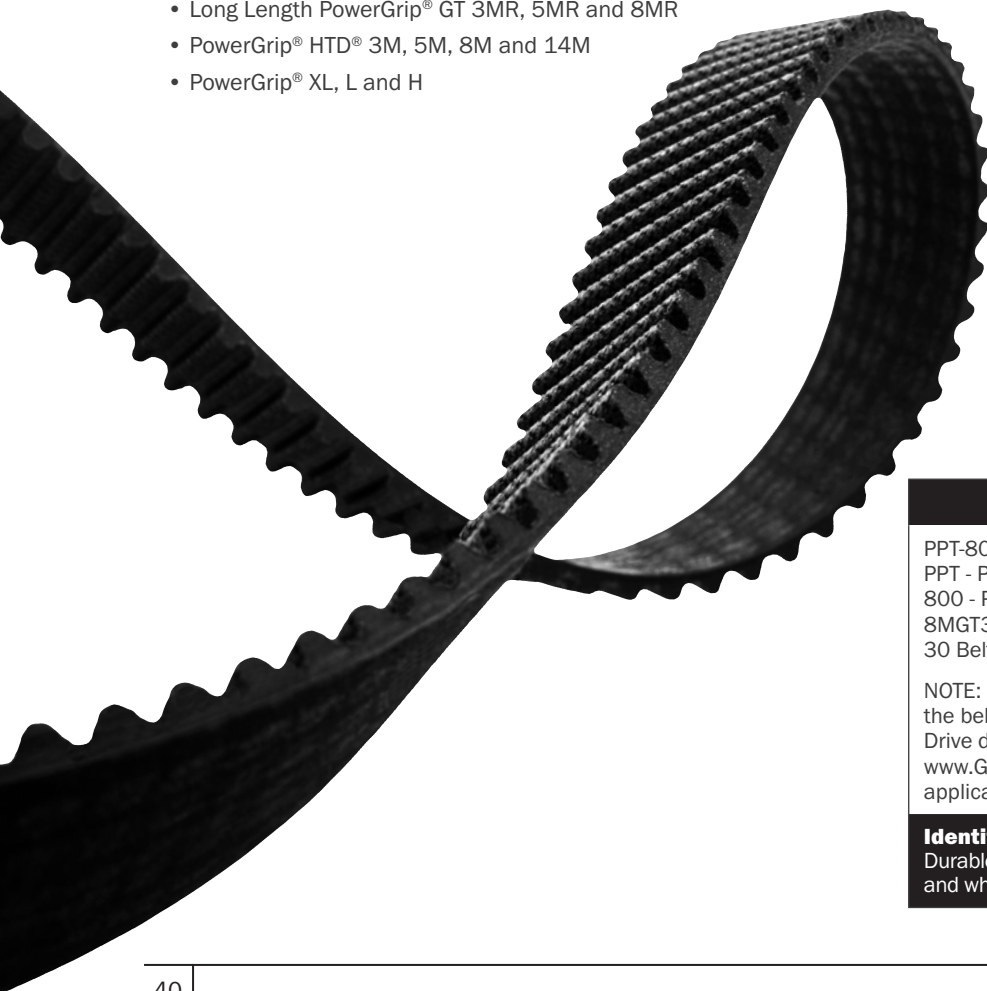
- Poly Chain® GT Carbon™ Volt® 8MGT and 14MGT
- Mini Poly Chain® GT Carbon™ 8MGT
- Poly Chain® GT2 8MGT and 14MGT
- PowerGrip® GTX 8MGT and 14MGT
- PowerGrip® GT3 5MGT, 8MGT and 14MGT
- PowerGrip® HTD® 3M, 5M, 8M and 14M

Long Length:

- Long Length PowerGrip® GT 3MR, 5MR and 8MR
- PowerGrip® HTD® 3M, 5M, 8M and 14M
- PowerGrip® XL, L and H

## BENEFITS

- No paint contamination risk.
- Runs well on fixed centre distance drives without elongation and offers long service life.
- Identical performance, drive characteristics as standard product.
- Temperature range: -30 °C to + 100 °C (PowerGrip®) and -54 °C to +85 °C (Poly Chain®).



### Ordering code

PPT-800-8MGT3-30  
 PPT - PowerPaint™  
 800 - Pitch length (mm)  
 8MGT3 - Pitch 8 mm (PowerGrip® GT3)  
 30 Belt width (mm)

NOTE: For correct design and tensioning of the belt please use Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe) or consult the product application engineering team.

### Identification

Durable yellow marking indicating the belt type and white marking indicating the belt dimensions.



# 3. **POLYURETHANE BELTS**



**DRIVEN BY POSSIBILITY™**



Gates Synchro-Power® polyurethane belts are designed for long lasting and energy-efficient performance on both power transmission and linear applications. They are built in endless and open-end versions in various sizes, constructions and tooth designs handling a wide range of loads, speeds and applications. Polyurethane is extremely wear and fatigue resistant and at the same time highly flexible. They are available up to 380 mm width and can easily be recognised by their blue colour.

## CONSTRUCTION

- Abrasion-resistant polyurethane body offers clean running systems without accumulation of debris.
- Synchro-Power® **endless belts and sleeves for Power Transmission** are manufactured as truly endless synchronous belts with no joint. Pitch lengths available up to 2,250 mm.
- Synchro-Power® **open-end belts for Linear drives** (rolls) are manufactured as open-end extruded belts. Roll lengths available up to 100 m.
- Standard product suited for -5 °C up to +70 °C. For applications outside this range, please consult your Gates representative.

## BENEFITS

- Exceptional rigidity, reduced tooth flexing and exceptional stability in the overall system.
- Wide range of tooth profiles meeting all application requirements.
- Clean, quiet and smooth-running operation.
- No lubrication required.
- Broad application range: automatic assembly operations, horizontal and vertical doors, printing applications, conveying equipment, textile industry, packaging machinery ... and many more.



### Ordering code: Endless Synchro-Power®

T10-440-50  
T10 - Pitch T10 (10 mm)  
440 - Pitch length (mm)  
50 - Belt width (mm)

#### Identification

Durable white marking indicating the belt type and dimensions

### Ordering code: Open-end Synchro-Power®

PU-T10-50-100M-AR-NB  
PU - Polyurethane  
T10 - Pitch T10 (10 mm)  
50 - Belt width (mm)  
100M - Roll length (m)  
AR - Aramid tensile cords  
NB - Nylon back

Please refer to the Gates Price List for specifics on stock availability.

#### Identification

Durable black marking indicating the belt type and dimensions

Gates' standard Synchro-Power® product range covers a multitude of applications. If your process requires a belt design that meets very specific application needs, Gates offers you a variety of customised polyurethane belt products next to the standard belt range. These polyurethane belt products, tailor-made to fulfil your most challenging requirements, meet the same quality levels as their standard counterparts. Our applications engineers can work with you to design any belt catering to your specific needs in various applications. Nearly every belt type can be customised by adding backings, profiles or special machining. This makes them the perfect supplement to the Gates' standard Synchro-Power® product offering.



The extensive product range and technical data can be found on [www.gates.com/europe/pu](http://www.gates.com/europe/pu). Information of other options and special constructions can be obtained on request from the Gates customer experience team in Pfungstadt (+49 06157 9727 0 or [sales-pfungstadt@gates.com](mailto:sales-pfungstadt@gates.com)).



The SUPER Flex™ truly endless belt programme combines the durability of Gates quality products with a reliable partnership, making it the number one choice for polyurethane synchronous belts. You can be confident in the SUPER Flex™ reliability, for high power transmission drives as well as heavy load conveying applications.

## CONSTRUCTION

- Extensive range of sizes, widths, and any length between 1.5 and 22.5 m.
- Helically wound steel cords. Different steel cord options available: standard, high strength, high flexible or stainless steel.
- Different PU grades available for special requirements, such as food applications.

## BENEFITS

- High flexibility, exceptional strength and stiffness.
- More than 30 different backing materials.
- Over 3,000 designs for welded profiles.
- Engineering support for customised designs – unique labelling/branding options available.
- More info on [www.gatessuperflex.com](http://www.gatessuperflex.com).







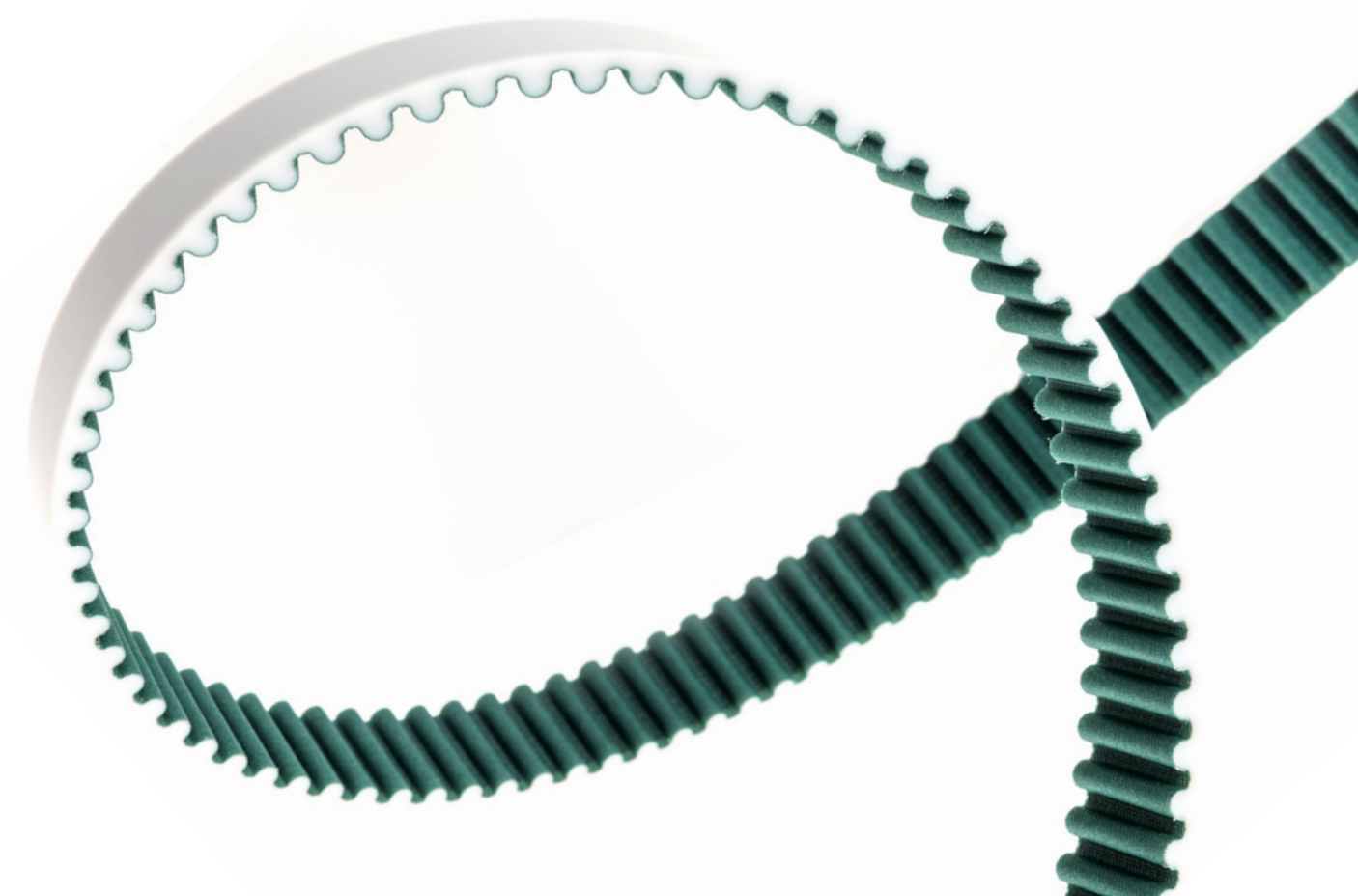
Linear belts are available in rolls up to 100m, as endless welded belts and as open-end belts cut to required lengths. These belts are designed for a wide variety of loads, from micro-positioning to high-load and dynamic linear movements. Therefore this type of belt is especially fit for applications in conveyors, linear actuators, synchronous transport, assembly lines, and many more. Endless welded belts can be equipped with a wide variety of backings. In addition, it's also possible to add welded profiles for various transportation applications.

## CONSTRUCTION

- Variety of tooth pitch, cord types, PU resins and coatings available.
- Endless welded and open-end rolls in various sizes, constructions and tooth designs.

## BENEFITS

- Comprehensive range of possible configurations.
- Self-tracking belts, utilising V-guides to eliminate any lateral movement.
- Unique surface characteristics available (grinded edges, surfaces to tight tolerances, punching or machining holes and slots to CNC machining of three dimensional contours).
- More than 30 different backing materials (high/low coefficient of friction, chemical resistance and static conductivity).
- Over 3,000 profiles for thermal bonding (special dimensions and tolerances on request).





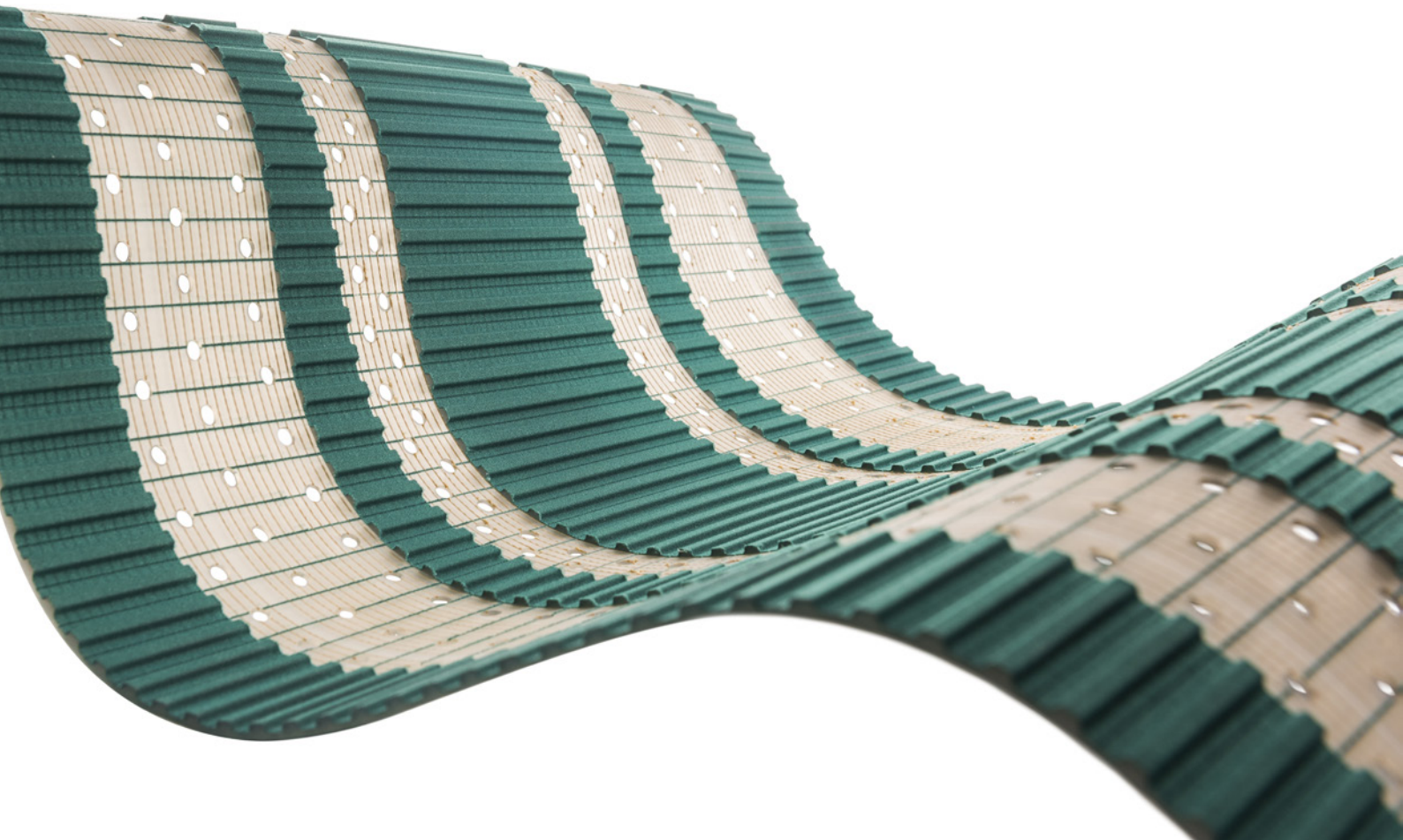
Gates wide timing belts are commonly used in applications demanding exact product positioning and conveyed products require additional width. Supplementary to flat conveyor belts, Gates wide belts offer synchronous conveying at start-stop-applications or when precise synchronisation is required. These belts are often used as process conveyor belts, when a process occurs on the product, while it is transported.

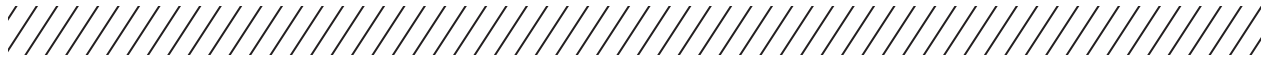
### CONSTRUCTION

- Widths up to 450mm.
- Parallel construction of high strength aramid cords.
- High-strength polyurethane belt construction.

### BENEFITS

- Alternative to plastic modular chains and flat belting.
- Accurate positioning of conveying goods.
- Uniform stress distribution because of the parallel tension members.
- Easy to clean and cut resistant.





Gates linear extruded flat belts offer the combination of various tensile members and several urethane grades. This makes these belts suited for a wide variety of applications, mainly in lifting and pulling equipment. The product line offers belt types ranging from small sizes accommodating small pulleys to high-load belts with extreme tensile strength and stiffness thanks to extra strong steel reinforcement.

### CONSTRUCTION

- Open-end belts.
- Used in combination with Gates patented Fix-Flat clamping.
- For motion control applications in which one belt end is anchored.

### BENEFITS

- Smooth, vibration free operation.
- High strength combined with low elongation.
- Sealed belt edges result in no cord fraying.
- Easy belt guide with flanged pulleys or guiding rails.
- No re-tensioning required.





# 4. METAL PARTS



DRIVEN BY POSSIBILITY™



Poly Chain® GT® sprockets use the tooth profile designed and developed by Gates and function with Gates Poly Chain® GT® belts in all existing constructions. These sprockets are statically balanced to make sure the entire belt drive is as safe as possible. Furthermore, they are manufactured, specified and tested to perfectly support the full power capabilities of the Gates Poly Chain® belt product range. Belts and sprockets used together get the best out of your belt drive: maximal performance, prolonged antistatic properties and optimal lifetime.

## BENEFITS

- Precisely manufactured and statically balanced to ISO 1940 (1973) to class G16.
- Exact sprocket design produces positive, press fit to shaft.
- Smaller, narrower sprockets save shaft space, keep the load closer to the bearing and extend life of reducer.
- Keep overhung load below manufacturers recommendation.
- Specifically designed to transmit power only with the corresponding Gates Poly Chain® belt product line.
- The tooth profile of the sprocket is designed and developed by Gates to operate with Gates Poly Chain® GT Carbon™ Volt®; Poly Chain® GT Carbon™ and Poly Chain® GT2.



Sprocket range	
8MGT	22 to 192 grooves Suited for standard belt widths of 12, 21, 36, 62 mm
14MGT	28 to 192 grooves Suited for standard belt widths of 20, 37, 68, 90, 125 mm

Ordering code
14M-28S-20 14M - Pitch 14 mm 28S - Number of teeth 20 - suited for belt width (mm)
NOTE: For correct design and tensioning of the belt please consult with our application engineering team.
Identification
Durable punched markings indicating the sprocket dimensions.



Use with 5MGT Poly Chain® GT® or PowerGrip® GT® 5MGT belts.

## CONSTRUCTION

- Smaller diameter sprockets are flanged.
- Constructions are Pilot Bore or suit a taper bush.

## BENEFITS

- Precise sprocket design produces positive, press fit to shaft.
- Smaller, narrower sprockets save shaft space, keep the load closer to bearing and extend life of reducer.
- Sprockets are precisely manufactured and statically balanced.



Sprocket range	
Plain bore system	18 to 50 grooves Suited for standard belt widths of 9, 15, 25 mm
Taperbush system	36 to 90 grooves Suited for standard belt widths of 9, 15, 25 mm

Ordering code
5M-36S-25 5M - Pitch 5 mm 36S - number of teeth 25 - suited for belt width (mm)
5M-20S-25-PB 5M - Pitch 5 mm 20S - number of teeth 25 - suited for belt width (mm) PB - Plain bore



Stainless steel Poly Chain® GT® sprockets are ideal for the food and beverage industry or where non-corrosive sprockets are needed to prevent rust and allow for washdown. Poly Chain® GT® sprockets operate with Gates Poly Chain® Carbon™ VOLT® belts and all previous constructions.

## BENEFITS

- Cost effective alternative to stainless steel roller chain drives.
- Taper-Lock® bushings save shaft space allowing load to be closer to bearing.
- Can be used with rim speeds up to 40m/s.
- Drive can be washed down without affecting the sprockets or belt.



Sprocket range	
Taperbush system	28 to 50 grooves Suited for standard belt widths of 12, 21 mm

Ordering code
8M-28S-12SS 8M - Pitch 8 mm 28S - Number of teeth 12 - suited for belt width (mm) SS - Stainless Steel



Idlers can be used to take up extra belt length and provide adjustment for tensioning belt drives. Idler pulleys and sprockets can alter belt paths and clear obstructions.

CONSTRUCTION

- Gates Idler Sprockets contain sealed ball bearings and an integral shaft for mounting to our adjustable idler brackets.

BENEFITS

- Range for Poly Chain® GT® Carbon™ Volt® belts.
- Lubrication and maintenance are not required.



Idler sprocket range	
8MGT	32 grooves - suited for standard belt widths of 12, 21 mm 36 grooves - suited for standard belt widths of 36, 62 mm
14MGT	30 grooves - suited for standard belt width of 20, 37 mm 34 grooves - suited for standard belt widths of 68, 90, 125 mm

Ordering code
IDLER-SPROCKET-8M-32S-21 IDLER-SPROCKET - grooved inside idler 8M - Pitch 8 mm 32S - number of teeth 21 - suited for belt width (mm)

Belt drives with fixed, or limited adjustment, centre distances require an alternative way to tension it. Gates idler brackets can be used to tension a belt from the inside or backside using the appropriate attachments.

### CONSTRUCTION

- Gates adjustable idler brackets are designed to be highly versatile, with two different means of adjustment.
- Adjustment can be made by pivoting the base flange about the bracket pivot point along the adjustment slot, or by pivoting the idler bracket arm on the base flange.

### BENEFITS

- Double-adjustable (base and arm).
- Designed to accept Gates Idler Sprockets, Idler Bushings and Flat Idler Pulleys.
- Available with nickel plating for increased corrosion resistance.
- Ideal for conveyor drives with fixed centre distances.
- Idler brackets are pre-programmed in Gates Design IQ drive design software.



#### Ordering code

Comes in 2 versions:  
BRACKET 10 and BRACKET 20





Idlers can be used to take up extra belt length and provide adjustment for tensioning belt drives. Idler pulleys and sprockets can alter belt paths and clear obstructions.

CONSTRUCTION

- Flat Idler Pulleys contain sealed ball bearings and an integral shaft for mounting to our adjustable idler brackets.

BENEFITS

- Lubrication and maintenance are not required.
- Suitable for a range of synchronous and V-belts.



Flat Idler Pulleys range	
Diameter: 108 mm/4.25"	Available in pulley width of 32, 51, 76, 102 mm Suited for 8M pitch synchronous belts
Diameter: 165 mm/6.50"	Available in pulley width of 44, 70, 108, 146, 190 mm Suited for 14M pitch synchronous belts

Ordering code
IDLER-FLAT-6.50x1.75 IDLER-FLAT - flat outside inside idler 6.5 - outside diameter 6.5" / 165 mm 1.75 - pulley width 1.75" / 44 mm



# **5. PREVENTIVE MAINTENANCE TOOLS**



**DRIVEN BY POSSIBILITY™**



## 44 V-BELT PULLEY GAUGES



Helps to identify worn V-belt sheaves and damaged V-belts. Gates colour coded V-belt and pulley gauges provide a simple solution for detecting worn pulleys and identifying V-belt cross sections. The pulley wear gauges fit standard industrial grooves, identifying excessive wear before it leads to premature belt failure.

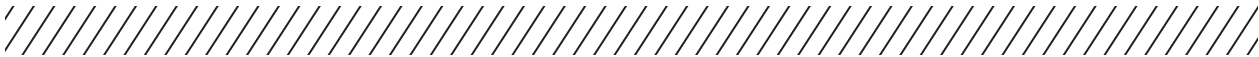


### Ordering code

PN 9997-49580



45 INDUSTRIAL BELT LENGTH FINDER



The length measuring instrument can be used for V-belt, Micro-V and timing belts. The inside length can be measured in a range from 600 mm to 4100 mm. Gates belt measurer can be mounted on your wall to easily find the inside length of a V-belt. When used in conjunction with our belt and pulley gauges belt identification is simple.



Ordering code
PN 7401-10001

## 46 SINGLE / DOUBLE BARREL TENSION TESTER



Gates has two deflection tension testing tools for servicing of belt drives. The single barrel (15kg) and the double barrel (30kg) tester can be used to accurately measure the tension of individual or joined belts upon installation or during maintenance. Using the tension tester ensures that correct tension is maintained and is repeatable. This will yield not only a longer service life but a predictable one, enabling scheduled replacement rather than breakdown replacement.



### Ordering code

Single Barrel Tension tester:  
PN 7401-00076

Double Barrel Tension tester:  
PN 7401-00075

Correct belt installation tension is essential for optimum performance and reliability of multi-ribbed, V-belt and synchronous belt drives. The 508C sonic tension meter ensures simple and extremely accurate tension measurement by analysing sound waves from the belt through the sensor. It processes the input signals and displays the accurate tension measurement digitally. Gates' tension meter is user-friendly: it is compact, computerised and stores data for repetitive use. Gates' sonic tension meter measures belt tension accurately every time. It is supplied with a handy instruction manual.

## TECHNICAL CHARACTERISTICS

- Suitable for multi-ribbed belts, V-belts and synchronous belts.
- CE approved.
- RoHS 2 complaint: the device complies with the European Directive (2002/95/EC) on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- Batteries: 2 x AAA.
- Measurement range: 10 Hz to 5,000 Hz.
- Measured accuracy:  $\pm 1\%$ .
- LCD screen backlight.
- Double display possible (Newton and/or Hz).
- Flexible flat sensor (standard included - PN 7420-00205).
- Stores weight, width and span constants for up to forty different drive systems.
- Auto gain adjustment function automatically eliminates background noise.
- Cord sensor and inductive sensor available on request.
- Compact model (H 160 mm x D 26 mm x W 59 mm).
- Use and storage temperature range:  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  (free from condensation).

## OPTIONAL ACCESSORIES

- CORD SENSOR (PN 7420-00206)  
The cord sensor is recommended for measuring tensions at a distance from the tension meter.
- INDUCTIVE SENSOR (PN 7420-00212)  
The inductive sensor is recommended for measurement particularly in noisy or windy environments. A steel clip to the back of the belt is required to measure the vibration frequency.
- PACKAGE OFFERING (PN 7420-10508)  
Sonic 508C + Inductive sensor + Magnets.

### Ordering code

PN 7420-00508



**IMPORTANT NOTE!: GATES SONIC TENSION METER SHOULD NOT BE USED IN EXPLOSIVE RISK AREAS.**



The correct tension of a belt in a drive – whether it's a V-belt, a V-ribbed belt or a synchronous belt – is crucial. Looking for a tension measuring device that is easy to handle and extremely accurate? Use the Gates Sonic tension meter 308C. This fully electronic measuring device analyses sound waves from the belt through the sensor. It processes the input signals and displays the accurate tension measurement digitally. The perfect output for correct belt installation tension, which is essential for the optimum performance and reliability of your V-, V-ribbed and synchronous belt drives. Belt pretension data can be determined by using Gates DesignFlex® Pro™ Drive design software, available on [www.Gates.com/Europe](http://www.Gates.com/Europe).

### WHY CHOOSE THE 308C?

- User-friendly device:
  - One button operation.
  - CE approved.
  - Clear LCD screen.
  - Compact model (H 135 mm x D 30 mm x W 50 mm).
  - Low weight (150 gram).
- Accurate measurement:
  - Frequency display in Hertz
  - Measurement range: 10 Hz - 350 Hz.
  - Cord sensor.
  - Double microphone automatically eliminates background noise.
  - Measured accuracy:  $\pm 1$  Hz from 0 to 100 Hz, 1% > 100 Hz.
- Secure & safe operation:
  - Battery: 6LR61 (autonomy: 50 hours).
  - To save energy, the device shuts off automatically after two minutes of inactivity.
  - CE approved.
  - Reach and RoHS 2 compliant: the device complies with the European Directive (2002/95/EC) on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

#### Ordering code

PN 7420-00100



**IMPORTANT NOTE!:** GATES SONIC TENSION METER SHOULD NOT BE USED IN EXPLOSIVE RISK AREAS.

A fast and accurate method to measure misalignment is offered by Gates' unique laser alignment device, **LASER AT-1**. Mounted in a few seconds, the laser line projected onto the targets allows you to quickly ascertain and correct misalignment. It identifies parallel as well as angular misalignment between the pulleys and is suitable for pulley diameters of 60 mm and larger. It can be used on both horizontally and vertically mounted machines.

### TECHNICAL CHARACTERISTICS

- Suitable for multi-ribbed belts, V-belts and synchronous belts.
- CE approved.
- RoHS 2 compliant: the device complies with the European Directive (2002/95/EC) on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- Pulley diameters:  $\geq 60$  mm.
- Laser class 2.
- Temperature range:  $-10^{\circ}\text{C}$  up to  $+50^{\circ}\text{C}$ .
- Targets: 2 pieces magnet targets with adjustable centre line (PN 7401-10012).



#### Ordering code

AT-1: PN 7401-10010

Target: PN 7401-10012

**IMPORTANT NOTE!: GATES LASER AT-1 SHOULD NOT BE USED IN EXPLOSIVE RISK AREAS.**



# 6. **SUPPORT SERVICES**



**DRIVEN BY POSSIBILITY™**



Every day, design engineers, maintenance people, equipment manufacturers and their customers around the world rely on Gates to keep them running smoothly, safely and reliably. Whether driven by people, equipment or technology, Gates provides a wide range of services to optimise belt drive performance and deliver the best value to customers in return for their investment in Gates' products.

## DESIGNFLEX® PRO™: GATES DRIVE DESIGN SOFTWARE

Gates puts forward two fast and easy resources for selecting and maintaining belt drive systems. DesignFlex® Pro™ and Design IQ™, online drive design and engineering tools, assist designers in quickly selecting optimum drive solutions. With the Gates multilingual DesignFlex® Pro™ programme, you can design a drive in minutes, and get every possible drive solution that fits your design parameters. What's more, you can print, e-mail and create a PDF of the design specifications. Design IQ™ provides a blank slate for designing multipoint and complex serpentine belt drives. Utilising a specific Gates product that you have identified, as well as your drive specifications, the software will calculate belt tension, shaft load, belt length and more.

## GATES COST SAVING PROGRAMME

Gates' technical and commercial teams are available to perform plant surveys on customers' premises: Gates' distributors and application engineers conduct performance evaluations and develop a maintenance recommendation plan for energy cost savings. They evaluate current belt drive efficiencies using DesignFlex® Pro™ and the Gates Cost Saving Calculation Tool to develop a preventive maintenance programme maximising the life of all belt drives in your facility. The energy saving calculations are based on the best information available and represent the typical saving that can be expected from correctly installed drive systems.

## GATES E-COMMERCE WEBSITE

By going online, registered Gates distributors can find the most current product information, enter orders 24 hours/day and track orders at any time. Gates electronic price lists can be consulted from the e-commerce website [www.gates-online.com](http://www.gates-online.com). To request free printed copies of the price list available in several languages, just contact your Gates representative.

## GATES LITERATURE AND WEBSITE

Please consult our website at [www.gates.com/europe/pti](http://www.gates.com/europe/pti) for specific and updated information on all Gates industrial belt products and our list of available literature. Industrial Power Transmission brochures and leaflets can be downloaded there. Distributors may link up with the Gates European site to supply visitors with updated information on the European Gates organisation.

## GATES MANUFACTURING AND DISTRIBUTION IN EUROPE

Gates Power Transmission Industrial has product dedicated production sites in Germany, Poland, Scotland, France and Spain. Distribution is handled from one central warehouse in Ghent (Belgium).

Every effort has been made to ensure the accuracy and comprehensiveness of the information given in this catalogue. However, Gates cannot be held responsible if its products are used in special or exceptional circumstances without prior consultation with and clearance from a Gates representative.

This issue is released May 2018 and supersedes all previous versions of this catalogue. If your catalogue is more than 2 years old, please consult a Gates representative to check whether you have the latest version.





**DRIVEN BY POSSIBILITY™**

**CUSTOMER EXPERIENCE TEAM**

Korte Keppestraat 21/51  
B-9320 EREMBODEGEM  
Tel. +32 53 76 27 11  
Mail: [inforequest@gates.com](mailto:inforequest@gates.com)

The manufacturers reserve the right to amend details where necessary.  
E2/20211 - © Gates Corporation 2018 - Printed in Belgium - 05/18.



MIX  
Paper

FSC FSC® C010426