MITSUBOSHI LINE-UP OF POWER TRANSMISSION PRODUCTS

MAXSTAR WEDGE

To give attentive consideration to both humanity and nature.



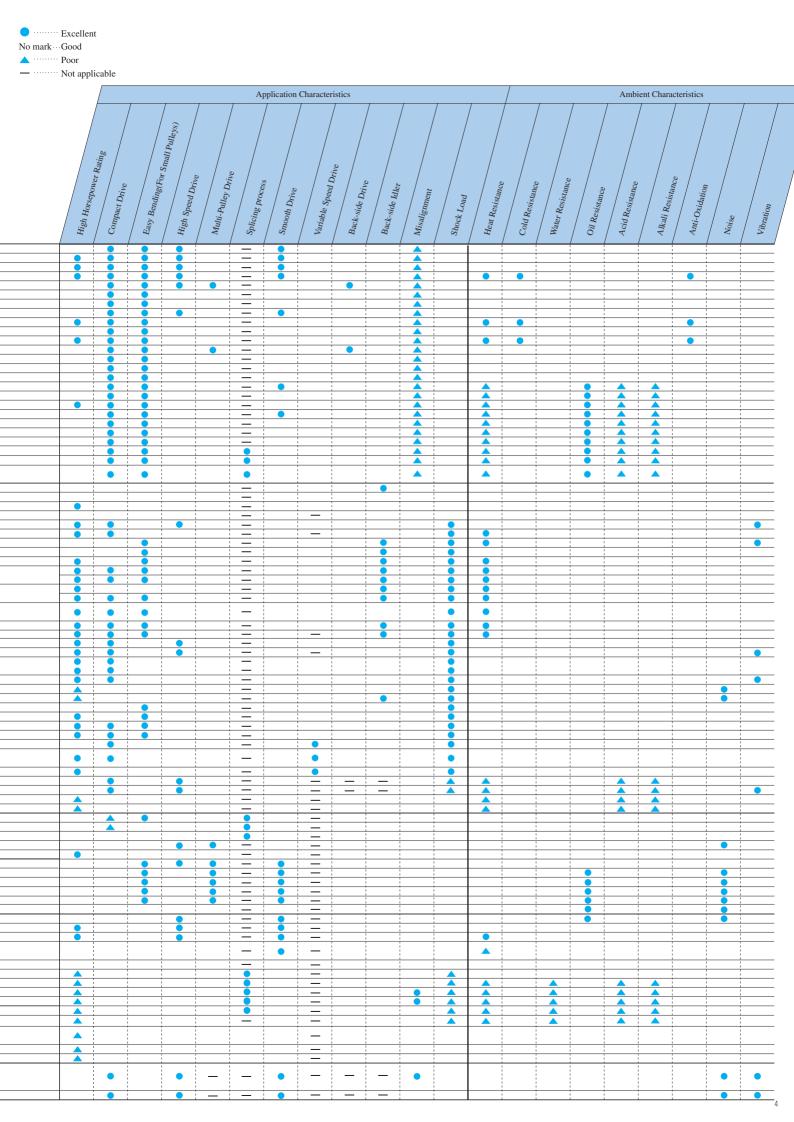




References for Selecting Power Transmission Products

Line-up of MITSUBOSHI Power Transmission Products

| Drive classification | | | Description | | | Performance | Mitsuboshi's full line-up products | | Picture's |
|----------------------|----------------------|---|--|--|-------------------------------------|--|---|--|------------|
| | | Application fields | Materials Profiles | | Profiles | characteristics | Brand name | Sections | No |
| Positive | | OA,Home appliance | | | | High power rating Heat resistance | Super Torque GN Super Torque G | \$1.5M, \$2M, \$3M, \$5M \$8M, \$14M | 2 |
| | | Industrial | | | | Bending flexbility | H Series | H8M, H14M | 3 |
| | Synchronous belts | Automotive | | | | | MFTG | S8M, MY, MR, XY, XR | 63 |
| | | Industrial | | Roun | Round tooth | Multiple-shaft drive | Super Torque G(Double sided timing belt) | DS3M, DS5M, DS8M, DS14M | 10A |
| | | musuiai | | | | Long span drive Synchronous conveyer | Super Torque G(Open lengths) Super Torque G(Joined type) | S2M, S3M, S5M, S8M, S14M S8M, S14M | 6 7 |
| | | OA,Printer carriage drive | Rubber | Trapezoidal tooth | Accurate positioning | STARMAX G | ST1.5, ST55, ST64, ST80, ST83, ST2.0, ST111 | 36 | |
| | | Industrial | | | High torque drive | Mega Torque G | MTS5M, MTS8M, MTS14M | 5A | |
| | | Automotive | | | | Synchronous drive Heat resistance | TIMING BELT G MFTG | MXL, XXL, XL, L, H, XH, XXH ZA, ZAS, ZB, ZBS | 4 64 |
| | | Automotive | - | | Multiple-shaft drive | Super Torque G(Double sided timing belt) | DMXL, DXL, DL, DH | 10B | |
| | | Industrial OA,Printer carriage drive OA,Home appliance | | | Long span drive | Super Torque G(Open lengths) | MXL, XL, L, H | 6 | |
| lrive | | | | | Synchronous drive | Super Torque G(Joined type) | L, H, XH, XXH | 7 | |
| | | | | | Accurate positioning Clean drive | STARMAX G Super Torque U | T80, T83, T111 S2M, S3M | 36 34 | |
| | | Industrial | | | Long span drive | Super Torque U(Open lengths) | S2M, S3M | | |
| | | Industrial | m | Trapezoidal tooth | | High torque drive | Mega Torque U | MTS8M | 5B |
| | | OA,Home appliance | Thermo-setting Polyurethane Thermo-plastic | | | Accurate positioning | STARMAX U | ST83, ST111 | 37 |
| | | | | | | Accurate positioning Clean drive | STARMAX U TIMING BELT U | T80, T83, T111 T80, T5, T10, XL, L | 37 |
| | | Home appliance | | | | Multiple-shaft drive | TIMING BELT U(Double sided timing belt) | DT5, DT10 | 9 |
| | | Industrial | | | | Long span drive | TIMING BELT U(Open lengths) | T80, XL, L | - |
| | | | | | | Long span drive | | S5M, S8M | 8 |
| | | Industrial | Polyurethane | | | Synchronous conveyor | Free Span Timing Belt | T5, T10, AT5, AT10, XL, L, H | 8 |
| | | | | Less thickness | | Light duty, Compact drive | FHP | 3L, 4L, 5L | 47 |
| | | OA, Home appliance Industrial | | Standard | | Versatility | Standard V | K, M, A, B, C, D, E | 11 |
| | | | | | | High power rating | Red V | | 11 |
| | V-belts | | | | | Anti-vibration | Multi V | RA, RB, RC, RD | 12 |
| | | | | Narrow | | High power rating Anti-vibration | Maxstar Wedge, Narrow V Multi Maxstar Wedge | 3V, 5V, 8V, SPZ, SPA, SPB, SPC R3V, R5V, R8V | 15 16 |
| Frictional drive | | | | | | Bending resistance | Standard L | K3 V, K3 V, K6 V | 10 |
| | | Agricultural | | Less thickness | | Heat and bending resistance | Orange L Gold L | | |
| | | | | | | Heat and bending resistance | | | |
| | | | | | | Heat and bending resistance, High power rating | Super Gold 1000 | LA, LB, LC | 50B |
| | | | | | | Heat and bending resistance, | | | |
| | | | | | | Anti-vibration | AG Series | | 51 |
| | | | | Stand | lard | Heat resistance, | AG Series | A, B, C | 51 |
| | | | | | | High power rating High power rating | Orange Cogged L | | |
| | | | D 11 | | Cogged (Less thickness) | Less shrinkage | Super Orange Cogged L | LA, LB, LC | 53 54 |
| | | Industrial | - Rubber | | Cogged | | VX | AX, BX, CX | 13 |
| | | | | edge | Raw (Standard) | | Multi VX | RAX, RBX, RCX | 14 |
| | | | | Cogged (Narrow) Standard | High power rating | Maxstar Wedge Supreme, Narrow rawedge cogged V | 3VX, 5VX, SPZX, SPAX, SPBX, SPCX | 17 | |
| | | | | | | Multi Maxstar Wedge Supreme | R3VX, R5VX | 18 | |
| | | Home appliance | | | lard | Prevention of Rubber dust, | Bare back V | M, A, B, C | 55 |
| | | Agricultural | | Less | thickness | clutching | | LA, LB, LC | 55 |
| | | Automotive For motor cycle Industrial | | Raw | Plain Multi-ply | Abrasion resistance Low noise | REMF MPMF | HM, A, B, BC, MA HM, A, B, MA | 65 66 |
| | | | | edge | Cogged | Abrasion & bending resistance | RECMF | HM, A, B, BC, C, CD, MA | 67 |
| | | | | | Wide angle cogged | For Diesel engine compact car | WFC | A, B | 70 |
| | | | | Raw edge cogged | | Lateral pressure resistance | RCVS · Super VS | Top width10mm~120mm | 27, 28, 69 |
| | | | | (Variable speed) | | Lateral pressure resistance & High power rating | DCVS | Top width20mm~120mm | 29 |
| | | Agricultural | | Wrapped(variable speed) | | High power rating | AGVS | HI, HJ, HK, HL, HM, HN | 61 |
| | | | | | | High speed, Compact drive | Polymax | 3M, 5M, 7M, 11M | 23 |
| | | Home appliance, Agricultural Industrial | Thermo-setting | Wide | angie | High speed, Anti-vibration | Multi Polymax | R5M,R 7M, R11M | 24 |
| | | | Polyurethane | Cogge | ed | Light duty, Clean drive | Polyurethane M | M MR MR L DMR DMR L | 42 |
| | | | | Flat with round edge | | Field splicing | Polyurethane MB Port,Harbour,Special Port | MB, MB-L, DMB, DMB-L P, H, SP | 43 30, 59 |
| | | Industrial Elevating machine(Agricultural) Industrial For Compress | | Flat wi | th cut edge | Bending resistance | Echo,Pioneer | EC, P | 30, 59 |
| | | | Rubber | Flat wi | th V guided | Anti-lateral vibration | Dryflex | AA, O, OW, TN | 60 |
| | | | | | th tension | High speed drive High strength | Flexstar Super Flexstar | FL, FM, FH, FLEG, FLG, FLE, FMG, FHG FU, FW, FY | 20 21 |
| | Flat belts | 1 of Compress | | membe | er | riigii su cligui | Super Plexstai | J8GA, J8GE, J8H, J8HB, J6H, J6HB, J3H, J3HB | 38 |
| | | ATM Automatic ticket machine | | Flat wi | th fabric | Stable drive, Compact | | JL, JLB, JL3 | 38 |
| | | | Mirable urethane | | | drive, Maintenance free | Flexstar "J" Series | JN, J2N | 38 |
| | | | Thermo-setting | Flat | | | | JU, JLU2, JLU5, JLU6 UG | 38 38 |
| | | Elevating machine(FA) | Polyurethane Flat with tensi | | h tension member | er Low strength | Free Span Flat Belt | F20, F20D | 22 |
| | V ribbed belts | OA, Home appliance Industrial | | | | Bending resistance, | Ribstar G(Bare back) | HB | 39 |
| | | | Rubber | | | High power rating, High speed drive | Ribstar G | J, PK, L | 19 |
| | | Automotive | Thermo-setties | Thermo-setting Polyurethane | | Bending resistance, | | РК | 68 |
| | | OA, Home appliance Industrial | | | | High speed drive | Ribstar U | HB, JT, JBT | 41 |
| | Round belts | Industrial | Rubber | Hexagon | | Multishaft drive | Double V belt | $AA \cdot BB \cdot CC$ | 52 |
| | | Agricultural Industrial | Kubber | Perforated standad V Round rope V-rope Hexagon rope Round seemless | | Adjustable length | Perforated V rope | M, A, B, C | 56 |
| | | | Thermo-Plastic Polyurethane | | | Light duty, Hot melt joint | Star rope Super Star rope | | 26 |
| | | | | | | Hot melt joint | Prene V rope | Φ2~Φ10, Φ12, Φ15 M, A, B | 26 26 |
| | | | | | | Hot melt joint | Prene Double V rope | AA, BB | 36 |
| | | | | | | Light duty, Clean drive | Injection roud belt | Φ3, Φ4, Φ5, Φ6 | |
| | Special belts | Agricultural (Harvesting machine Vegitable) | | V-with sponge rubber | | Protection of products | V belt facing sponge rubber on the | LA, LB, LC | |
| | | | Rubber | | | - | back side | | 67 |
| | | Agricultural (Feeding machine for straw) | | stand | ard | Adjustable length Adjustable length | V belt with lugs V rope with lugs | A, B, C A, B | 57 58 |
| | | | | | | | | n, o | 50 |
| Direct 1rive | Coupling | Industrial Agricultural | Cast iron | Flexible direct | | Anti-misalignment | Hyper flex | MT, MH | 73 |
| | | - | drive | | | Shock absorption | | | |
| ve | | OA, Precision machines | Alminun | | | Nice damping capacity | Chemi-Chan | HAS | 74 |



INDUSTRIAL BELTS

Positive Drive



S8M · S14M



Timing belt with round shape tooth profile which provides high power transmission. Expands timing belt application fields. Replaces conventional chain and gear drives.

- Wider application ranges with higher power
- Under upplication rain transmission capacity.
 Longer service life.
- Lower noise level.
 Cost saving.



S1.5M · S2M · S3M · S5M

Timing belt 2) SUPER TORQUE GN

Small tooth pitch belt with advantages of Super Torque G. Suitable for smoother drive applications.

- Flexible belt permits smaller pulley diameters. Noiseless and longer service life by smooth engagement between pulley and belt.
 Higher torque transmission by small size belt.
 Assures higher positioning accuracy.

Timing belt 3) "H" SERIES

Round-shape belt tooth enables the distribution of the load stress uniformly over the entire belt tooth. Since the belt tooth engages with the pulley groove without any interference, stress concentration at the root of the belt tooth can be eliminated.

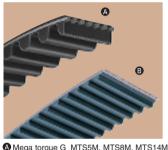


 $MXL \cdot XXL \cdot XL \cdot L \cdot H \cdot XH \cdot XXH$

Timing belt 4) TIMING BELT G

Suitable for synchronous drives. Removes disadvatages of chain and gear drives.

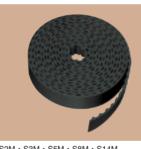
- High power transmission capacity with higher Lower noise generation as compared with chain
- No maintenance required.
- Lightweight, thin and flexible characteristics allow space saving drive design.
- The ambient temperature range for operation of the standard belt is -30 to +90°C. Static conductive.



Timing belt (A) 5) Mega Torque G & U The power rating is about 2 times as

high as rubber timing belt(Same profile pitch), when using the same pulley.

- · Compact design.
- High power transmission..Lower Noise.



S2M • S3M • S5M • S8M • S14M $MXL \cdot XL \cdot L \cdot H$

Timing belt

6) LONGSIZE, OPEN END BELT Suitable for long center-distance, synchronous, back and forth drives.

- Permits larger degree of freedom in belt drive design.
- Suitable for slipless, synchronous materials Suitable for supress, synthesis and handling applications.Suitable for long center-distance, light duty
- synchronous drives.

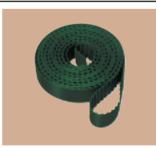


 $S8M \cdot S14M$ L · H · XH · XXH

B Mega torque U MTS8N

Timing belt 7) LONGSIZE, ENDLESS BELT Recommended for long center distance drives.

- Suitable for slipless, synchronous material
- handling applications.Suitable for long center-distance, light duty synchronous drives.



T5 · T10 · XL · L · H · S5M · S8M AT5 · AT10

Timing belt 8) FREE-SPAN, OPEN END BELT

Thermoplastic polyurethane belt suitable for long center-distance, synchronous back and forth drives.

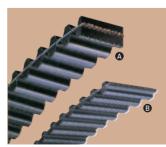
• Long belts (up to 100m) are available. • Felt or urethane attachments can be made on

back face of belt.lubrication-free, clean drives.

Timing belt 9) DOUBLE SIDED TG (Polyurethane)

Polyurethane belt with teeth on both fases. Recommended for positive, multi-pulley drives.

- Suitable for slipless, positive multi-pulley drives.
- Since special tooth profiles with different tooth pitches can be molded on back face, a wide
- variety of multi-pulley drives can be designed. Lighter than chains and gears. Suitable for high speed drives. Suitable for high speed drives. Space saving.



DS3M · DS5M · DS8M · DS14M (Bound tooth profile) B DMXL · DXL · DL · DH (Trapezoid tooth profile)

Timing belt

10) DOUBLE SIDED TG (Rubber)

Provided with symmetrical teeth on both sides, this belt is suitable for positive, multi-pulley drives.

- Recommended for slipless, positive multi-pulley drives.
 - Lighter than chains snd gears. Suitable for high speed drives. Space saving.
 - Maintenance free.

DT5 • DT10

Frictional Drive



 $(K) M \cdot A \cdot B \cdot C \cdot D \cdot E$

Conventional V-belt/RED V-belt 11) STANDARD V-belt / RED V-belt Most widely used power transmission belt. Economical and easily obtained

for replacements. • "SET FREE" provides assured belt length

High power capacity Red V-belts are heat & oil resistance, plus static conductive.



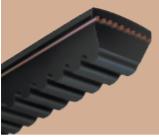
 $BA \cdot BB \cdot BC \cdot BD \cdot BE$

Conventional V-belt

12) MULTI V Multiple strands of standard/Red V-

belts are inseparably joined, providing transverse rigidity.

- Suitable for compressors, crushers and other tough machines where belt whip, turn-over is caused by pulsating shock load.
 Useful for material handling applications by
- using back faces of the belts.



 $AX \cdot BX \cdot CX$

Conventional rawedge cogged V-belt 13) VX

Rawedge cogged V-belt designed for industrial use.

- High capacity power transmission with space Saving.
 Cogged profile yields greater belt flexibility and
- Suitable for heavy duty, high speed drives.
 High power transmission efficiency saves energy.



RAX · RBX · RCX

Conventional rawedge cogged V-belt 14) MULTI VX

Consists of VX type V-belts joined with tie band.

- Offers stable, vibration-free drives under
- Others stable, vibration-free drives under pulsating shock loads.
 Cogged construction assures use of smaller pulley diameters than conventional V-belt drives.
 Suitable for vertical shaft drives such as mixers,
- agitators without belt jumping off the pulley.



Maxstar Wedge ······3V · 5V · 8V Narrow V······SPZ · SPA · SPB · SPC

Narrow V-belt 15) MAXSTAR WEDGE, NARROW V

Offers high power transmission capacity with specially designed narrow topwidth profile.

- · Permits space saving drive designs and lower
- energy consumption.
 High speed drives up to 40 m/sec.
 Designed as "SET FREE" to allow multi-strand
- drives. Wedge pulleys with bushings offer easy
- installation

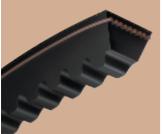


R3V • R5V • R8V

Narrow V-belt **16) MULTI-MAXSTAR WEDGE** Consists of MAXSTAR WEDGE Vbelts joined with tie band.

• Does not turn over or run off the pulley even

- under heavily pulsating load conditions.
 Offers stable driving even in long center
- distance drive application.Applicable to vertical shaft drives with out belt running off the pulley.



Narrow V-belt

17) MAXSTAR WEDGE SUPREME NARROW RAW EDGE COGGED V BELT

V-belt.

- Permits economical and space saving drive design.

Maxstar Wedge Supreme------3VX • 5VX Maxstar Wedge Supremerities VA SVA Narrow Rawedge cogged V······SPZX • SPAX SPBX • SPCX



- Combines advantages of both wedge belt and rawedge cogged belt. High power transmission capacity belt.



B3VX · B5VX

Narrow rawedge cogged V-belt **18) MULTI-MAXSTAR WEDGE** SUPREME

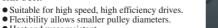
Consists of MAXSTAR WEDGE SUPREME V-belts joined with tie band.

- High power transmission belt that resolves the problems such as belt turning-over and belt running-off the pulley raised by multi-strand
- Offers stable operation even under pulsating high shock load condition.

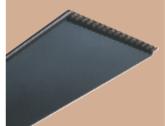


V-ribbed belt 19) RIBSTAR G Combines high power transmission

capacity of V-belt and flexibility of flat belt.



• Heat and wear resistant. Minimizes belt vibration and provides space saving drive design.



FL · FM · FH · FLEG · FLG · FLE · FMG · FHG

High tension flat belt 20) FLEXSTAR

Its high power transmission capacity allows space saving drive design and reduces maintenance cost.

- High speed drive up to 60 m/sec. is possible
- Heat and oil resistant. Also static conductive.
- Smaller belt stretch reduces belt retensioning intervals. Also allows low-cost belt drives.

J·K·L

INDUSTRIAL BELTS

Frictional Drive



FU · FW · FY

High cord tension flat belt **21) SUPER FLEXSTAR** Suitable for compress. Three types are available. FU for low pressure, FW for high pressure, FY for oil resistance.

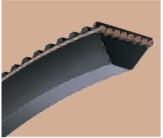
Abrasion resistance, high strength.
Use for conveyer application except compressed.



F20.F20D

Thermoplastic polyurethane Flat belt 22) FREE-SPAN FLAT BELT

This flat belt is applicable to conveying of light weight products and lifting up and down of elevating machine. Steel wire cords provide low stretch and few variation of length corresponding to change in temperature and humidity.



3M • 5M • 7M • 11M

Wide angle polyurethane V-belt 23) POLYMAX 60° angle series wide angle belt.

- Suitable for high speed, smooth drives with
- Allows space saving drive design.
- Smaller belt stretch and shrinkage offer maintenance-free operation.
- Long service life with weather resistance.



R5M • R7M • R11M

Wide angle polyurethane V-belt 24) MULTI POLYMAX

Back faces of POLYMAX V-belts are joined with poly-amide fabric and polyurethane.

• Stable running.

Stable running.
High-speed drives with reduced vibration.
Smaller stretch offers maintenance-free operation.



 $M \cdot A \cdot B \cdot C$

Standard V-belt 25) Perforated V-belt

Open-ended V-belting with joint holes can be abjusted to required length simply with splicing bracket.

- Recommended for temporary use when the
- existing V-belt has to be replaced urgently.Permits easy belt replacement without requring machine disassembly
- Belt length for multi-strand drive can be adjusted easily.
- Can be used for material handing purposes with multi-strand drive
- Suitable for trial running of machines.



Prene rope

26) STAR ROPE (Ф2-Ф15) /Prene V (M · A · B) / Prene HEXAGON (AA · BB) / SUPER STAR ROPE (Φ2-Φ15)

Open-end polyurethane belting.

- Suitable for complicated drives such as
- multi-pulley drives, multi-directional drives, etc.Easily joined by hot melt method. Required
- belt length can be easily obtained.
 Abrasion, oil and weather resistant.



Rawedge cogged variable speed belt 27) RCVS Specially designed for variable speed

applications.

- Flexible and side pressure resistant.
 Heat, oil, chemical and abrasion resistant.
- · Longer service life with higher flexibility.



Rawedge cogged variable speed belt 28) SUPER VS

High efficiency, precision, long-life belt designed for variable speed applications.

- Smaller stretch and high flexibility characteristics allow space saving belt drive design.
- Permits accurate and smooth speed change. Oil, heat and side wall pressure resistant

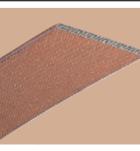


Top width 20~120mm

Double cogged variable speed belt 29) DCVS Belt designed for high-horsepower

applications or compact drives. • High power transmission capacity with higher

side wall pressure resistance. · Oil, heat and abrasion resistant.



Flat belt 30) SPECIAL PORT/PORT/ HARBOR

Strong belt consisting of best quality cotton fabric.

• Resistant to frequent bendings with minmum

Resistant to frequent behang stretch and shrinkage.
Heat, water and oil resistant.

 $P \cdot H \cdot SP$

OFFICE AUTOMATION & HOME APPLIANCE MACHINERY BELTS

Positive Drive

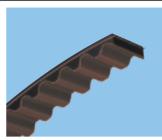


S1.5M · S2M · S3M · S5M

Timing belt **31) SUPER TORQUE GN**

Consisting of round shape tooth profile, this belt is best suited to high precision, smooth drives for computers, OA equipment, etc.

- Flexible belt permits smaller pulley diameters.
 Smooth for noiseless engagement with pulleys.
- Useful for lower shaft load drives.
 Larger torque can be transmitted by smaller size helt



S2M • S3M • S5M • ST80 • ST83 • ST111 MXL · XL · T83 · T111 · XXL

Timing belt

32) BARE BACK

No rubber coated on tooth fabric to reduce dust and noise. Suitable for use in clean environments.

- Since almost abrasion rubber powder comes off during operation, drive units and peripheral areas.
 Since pulleys are almost free from rubber dust,
- smooth engagement with pulleys can be obtained.
- Lower friction coefficient offers noiseless operation.
- Suitable for OA, FA equipment, household electric and other precision machines



 $MXL \cdot XL \cdot L$

Timing belt 33) TIMING BELT G

Synchronous drive belt that resolves the problems raised by chain and gear drives.

Shorter tooth pitch belts are suitable for precision devices and information apparatuses.

- · Light-weight, thin and flexible belt permits
- Offers high efficiency, high speed drives.
 Lower noise as compared to chain and gear
- drives. Maintenance-free.



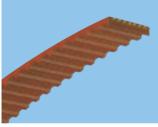
S1.5M · S2M · S3M

Timing belt 34) SUPER TORQUE U

Consisting of round shape tooth profile and polyurethane, this belt is suitable for clean drive and OA equipments etc.

• Flexible belt permits smaller pulley diameters.

- Smooth for noiseless engagements with pulleys.
 This belt has fine appearance and does not stain peripheral devices.
 The most suitable is for high precision and light
- duty power transmission.



T80

Timing belt 35) TIMING BELT U

Polyurethane belt suitable for use in clean environments.

- Best suited to high precision, light duty power transmissions
- Suitable for paper feeding, since this belt has a fine appearance and does not stain peripheral devices
- Since no rubber powder comes off, clean transmissions can be obtained.
- · Special belt configurations are available on request.



T80 · T83 · T111 ST55 • ST64 • ST80 • ST83 • ST111 ST1.5 • ST2.0

Timing belt 36) STARMAX G

Since the ST profiles are designed for smooth meshing by reduing interference between belt and pulley at meshing and have almost zero backlash, these belts are suitable for use in accurate positioning.

- Flexible belt permits smaller pulley diameter.
 Larger torque can be transmitted by smaller size belt
- Suitable for printer carriage drive.



ST83 · ST111

Timing belt 37) STARMAX U

Since the ST profiles are designed for smooth meshing by reducing interference between belt and pulley at meshing and have almost zero backlash, these belts are suitable for use in accurate positioning.

- Dust free, clean drive.
 Flexible belt permits smaller pulley diameter.
 Suitable for printer carriage drive.

Frictional Drive



.18GA • .18GE • .18H • .18HB • .16H • .16HB J3H • J3HB • JL • JLB • JN • J2N

High efficient flat belt 38) FLEXSTAR " J"SERIES

Suitable for ATM, automatic ticket machine and exchanging machine. The thickness of the belt will be supplied up to 0.65mm.Two type low modulus spec. (JL,JLB) and high modulus spec.(J8GA, J8GE, J8H, J8HB, J6H, J6HB, J3H, J3HB)-are available.

- Abrasion resistance, heat resistance, oil resistance anti-oxidation.
- · Easy to installation because of flexibility.



V-ribbed belt 39) RIBSTAR G Combines advantages of both V-belt

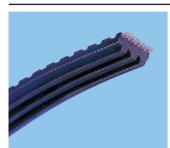
and flat belt.

- Suitable for large speed ratio drives.
 Flexibility allows smaller pulley diameters.
 Suitable for drives with larger speed ratios.
- · Heat and abrasion resistant.



OFFICE AUTOMATION & HOME APPLIANCE MACHINERY BELTS

Frictional Drive

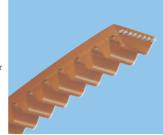


HB · JT · JBT

V-ribbed belt 41) RIBSTAR U

Polyurethane belt with advantages of both flat belt and V-belt.

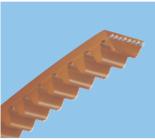
- Since nylon cord is used as tensile member, this belt is flexible and can be used with small diameter pulleys (20 mm min.). Less bending fatigue.
 Offers smoother rotation with minimum
 - vibration
- Suitable for high speed drives.
- Abrasion, oil and ozone resistance.



Light duty V-belt **42) POLYURETHANE V**

Transparent polyurethane belt with tension member of strong, low stretch synthetic cords. Minimizes rubber dust generation.

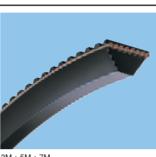
- Wear resistance. Minimizes rubber dust. Offers clean drives
- Oil resistance.
- Highly abrasion resistance in spite of higher coefficient of friction.



Single cogged type (MB)

Light duty V-belt **43) POLYURETHANE MB** Small size, light duty transparent polyurethane belt.

- Higher flexibility allows smaller pulley
- Higher hersion resistance offers clean drives.Oil resistance.



3M • 5M • 7M

Wide angle V-belt 44) POLYMAX 60[°] angle series wide angle Polyurethane V belt.

- Suitable for high speed, smooth operations with minimum vibration.
 Allows space saving drives design.
 Lower stretch provides maintenance-free
- Weather resistance and long service life.



Conventional V-belt 45) STANDARD V Most widely used power transmission belt. Economical, and easily available for replacement.



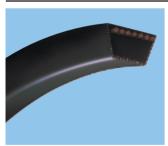
 $M \cdot A \cdot B$

Conventional V-belt 46) BARE BACK V Minimum quantity of rubber is at-

tached to belt surface.

• Rubber abrasion is minimized. Keeps machines and peripheral areas clean.

 $M \cdot A \cdot B$



Less Thickness V-belt 47) FHP

Light duty V-belt with reduced thickness.

- Highly flexible. Suitable for back side idler applications.
- Allows smaller pulley diameters compared to drives with standard V-belts.

3L • 4L • 5L

AGRICULTURAL BELTS

Frictional Drive

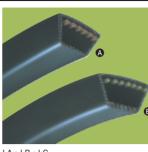


M · A · B · C · D

Conventional V-belt 49) Standard V

Generally used in agricutural machinery. (Use other type belts under tough drive conditions.)

Economical, Available in various sizes.
Designed as "SET FREE" to permit multiple belt drives without matched set.

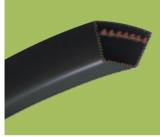


LA · LB · LC

Less Thickness V-belt 50) NEW ORANGE (A) / SUPER GOLD 1000®

Developed specially for agricultural applications.

- Highly flexible. Suitable for small pulley/ Resistant to heavy shock load of agricultural
- machinery.
 Resistant under higher temperature conditions in
- agricultural machinery.



 $A \cdot B \cdot C \cdot D$ LA · LB · LC

Conventional · Less Thickness V-belt. 51) AG SERIES

This belt meets special quality reguirements for agricultural machinery.

• Meets most reguirements, such as shock resistance, flexibility, reverse bending capability

requirements.

Belt quality grades of AGI through AG10 can be selected so as to fulfill various functional



52) DOUBLE V-BELT

Both bottom and top faces can be used for power transmission. Best suited to multi-pulley drives.Highly flexible.



IA · IB · IC

Less Thickness rawedge cogged belt 53) ORANGE COG

Rawedge cogged belts developed for agricultural machinery applications.

- Less heat generation. Heat and crack resistant.
- Suitable for drives with back side idler.
 Excellent flexibility permits space saving design with smaller pulley diameter.



Less Thickness rawedge cogged belt 54) SUPER ORANGE COG Rawedge cogged ORANGE belt was further improved for agricultural machinery applications.

• Minimizes belt stretch. • Resistant to side pressure. Has high power transmission capacity.

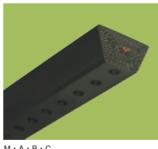


LA · LB · LC

Less Thickness V-belt 55) BARE BACK V

This belt was developed for effective functioning of belt type clutches used in agricultural machinery.

- Low coefficient of friction belt surface
- guarantees smooth belt clutching.Lower friction coefficient on belt sides prevents sudden start.



Μ·Α·Β·С

Conventional V-belt 56) PERFORATED V-BELT

Open end belt can be jointed to be necessary lenght easily with splicing metal.

- Useful for urgent v-belt replacement
- (for temporary use.)Allows easy belt replacement without machine disassembly.
- Belt length can be easily adjusted.
 Useful for material handling purposes with
- Economical belt inventory.



Special V-belt

57) V-BELT WITH LUGS Back side of belt is configured with necessary shapes of projections.

• Useful for feeding and discharging straw in such agricultural machinery as combine, binder, grain thresher, harvester, etc.



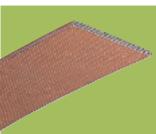
Special V-rope 58) V-ROPE WITH LUGS V-belting with joint holes with projections on the back face.

• A-type open end V-belt is usually used for base belt

AGRICULTURAL BELTS

Frictional Drive

P · H · SP



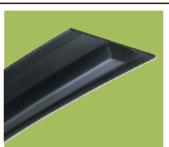
HARBOR/ECHO/PIONEER/ STICK BAND

Flat belt

Strong flat belt consisting of best quality cotton fabric.

59)SPECIAL PORT/PORT/

• Has excellent flexibility with minimum stretch Has excellent nextonity with in and shrinkage.
Heat, water and oil resistance.



 $AA \cdot O \cdot OW \cdot TN$

Flat belt for lifter 60) DRYFLEX/FLAT BELT WITH V-SHAPED ATTACHMENT.

The DRYFLEX is mounted with buckets and used for lifter in dryer, rice cleaning machine, rice huller, etc.

• Lower stretch/shrinkage extends belt retensioning interval and reduces take-up stroke.

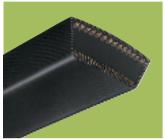
Rawedge cogged variable speed belt

High power transmisson capacity, raw-edge cogged variable speed belt for

Excellent side wall pressure resistance provides longer service life.

large agricultural machinery.

62) RCVS



 $\mathsf{HI} \cdot \mathsf{HJ} \cdot \mathsf{HK} \cdot \mathsf{HL} \cdot \mathsf{HM} \cdot \mathsf{HN}$

Wrapped variable speed belt 61) AGVS

Wrapped belt developed as a variable speed belt for large agricultural machinery.

- Resistant to shock loads and vibration.
 High abrasion resistance provides longer service
- life.



Top width : 10~100nm

AUTOMOTIVE BELTS

Positive Drive



S8M · MY · MR · XY · XR

Timing belt 63) MFTG(Round tooth) Timing belt for driving Over Head

Camshaft in automotive engine. Installed inside engine compartment as an important functional component.

- Tension member is the secret of the belt's strength and resistance to elongation.
- Heat,oil and abrasion resistance
- Smooth engagement of belt with pulley allows high speed operation.



 $ZA \cdot ZAS \cdot ZB \cdot ZBS$

Timing belt

64) MFTG(Trapezoidal tooth)

OHC drive timing belt that overcomes severe operating condition in engine compartment.

- High tensile strenghth gives remarkably small belt stretch.
- Heat,oil and abrasion resistance.
 Permits lightweight drive design with lower noise as compared to chain drives.

Frictional Drive

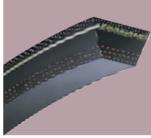


 $HM \cdot MA \cdot A \cdot B \cdot BC$

Rawedge V-belt 65) REMF

Fabric free side face, flexible belt developed for automotive applications. • Mainly used for driving fans, alternators and airconditoners.

- · Heat and oil resistant.
- Large gripping capacity reduces belt slip.High power transmission capacity belt.



 $HM \cdot MA \cdot A \cdot B$

Rawedge V-belt

66) MPMF

Laminated fabric construction provides smooth and noiseless drives.

- Large gripping capacity reduces belt slip.
 Smaller stretch reduces belt noise.
- Abrasion, shock, bending and crack resistance extends belt service life.
- Also heat resistance.

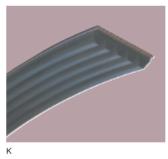


 $HM \cdot MA \cdot A \cdot B \cdot BC \cdot C \cdot CD$

Rawedge V-belt 67) RAWEDGE COGGED V-BELT (RECMF)

Mainly used belt for heavy trucks and buses because of its longer service life.

- Excellent flexibility permits smaller pulley diameters and reduces energy consumption caused by bending.Performance remains unchanged even in
- high-speed operations.Heat and oil resistant provides longer service
- life.
- Smaller stretch offers maintenance free operation.



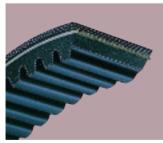
V-ribbed belt 68) RIBSTAR G

V-ribbed belt that combines the high power transmission capacity of V-belt and the flexibility of flat belt. Specially designed to fulfill various functional requirements as automotive belt, such as lower energy consumption and longer service life .

- Have higher power transmission capacity.
 Flexibility allows multi-pulley drives.
 Allows high speed drives with smaller pulley
- diameters.
- Heat and abrastion resistance.
 Minimized belt stretch.

Wide angle flat cogged 70) WFC

Wider angle(52') as compared with standard. Cogged profile allows improvement of bending fatigue resistance.



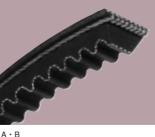
Top width:10-100mm

Rawedge cogged variable speed belt 69) RCVS

Variable speed belt for use in motorcycles, snowmobiles and golf carts.

• Excellent flexibility and side wall pressure resis-Excellent including and solv wan pressure resistance allow smaller pulley diameters.
Excellent in heat, oil and abrastion resistance.
Flexible characteristics provides longer service

life.





POWER TRANSMISSION PRODUCTS

Pulleys



71) BUSHING PULLEY Applicable to MAXSTAR WEDGE V-belt. Apprication of MAAS IAR WEDGE V-belt. Easily assembled/disassembled with a spanner. •Damage to shaft can be avoided. This extends shaft life. •No bore finish is required while installation. •Pulley position can be adjusted easily. Centering is also simple.



72) TIMING PULLEY

Efficient power transmission by timing belt can only be attained by smooth engagement between a high precision belt and accurately Finished by hub-cutter, the pulleys assure desirable power

transmission.Optional requirements in material, shape and finishing are available on request.

Coupling



73) HYPER FLEX COUPLING

Two types-MT and MH-are available. The MT type utilizes compressive stress in elastic rubber.
MT type: • Smaller sized offers larger torque transmission capacity. General purpose coupling.
• Can be installed easily. Maintenance free.
• Oil and abrasion resistant polyurethane elastic spiders are also available as stock.
MH type: • Large flexibility damps impact loads.
• Applicable as torque limiters.



74) CHEMI-CHAN

Since the coupling prevent the oscilation of servo motor and up the gain, accuracy in positioning will be improved.

Non backlash.
Suitable for X-Y table with ball screw and semi-conductor production eqipment.



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