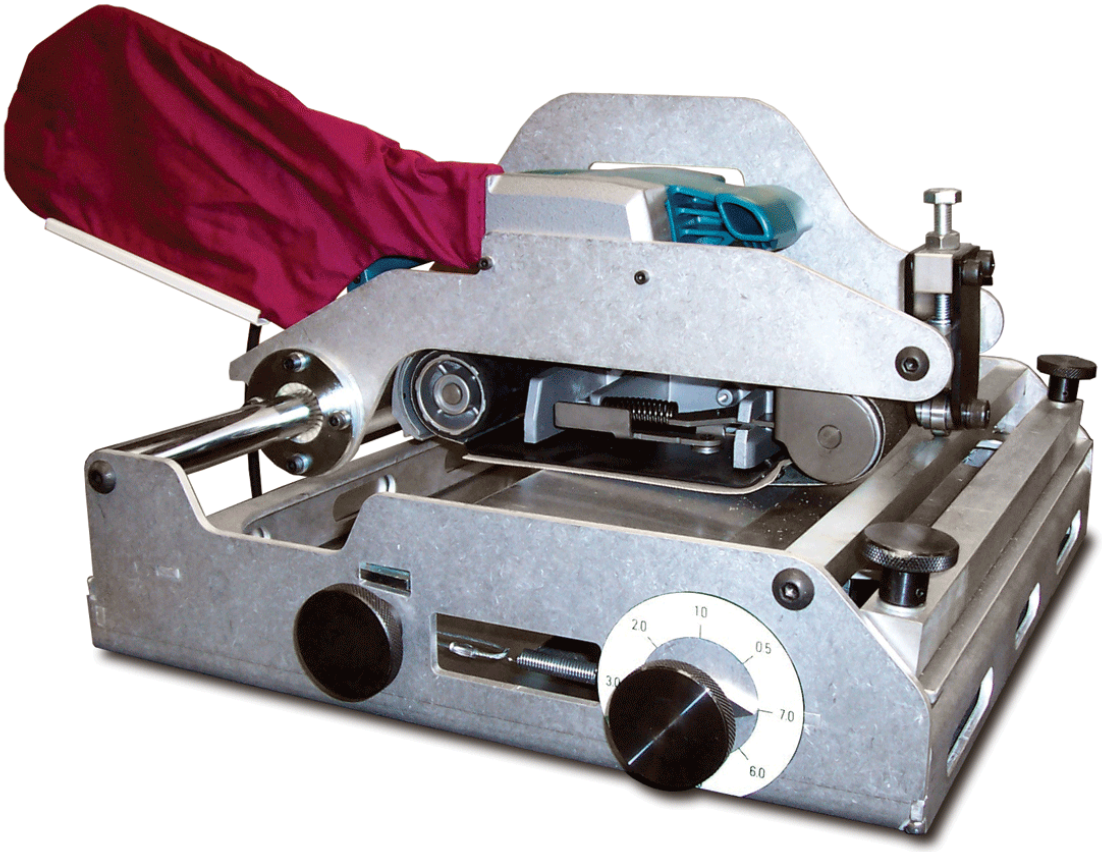
NITTA CORPORATION OF AMERICA

S-300R Belt Skiver

User Manual



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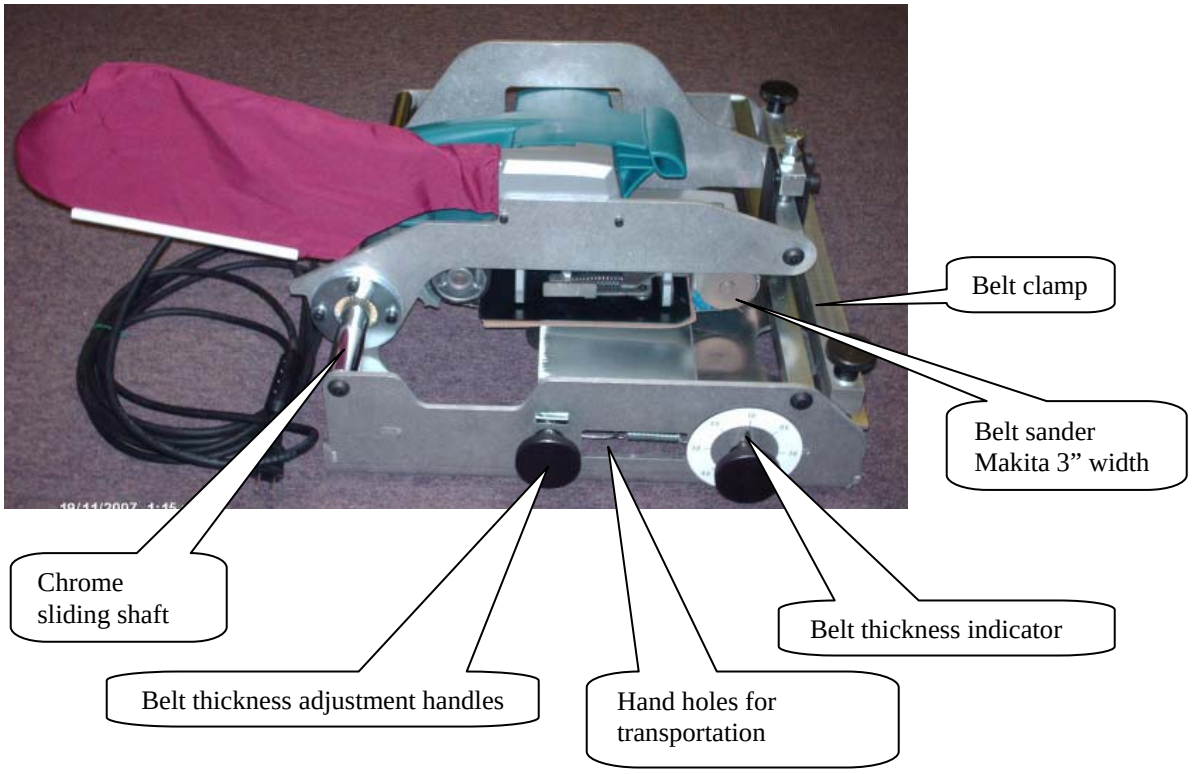
1.1 General Overview

This manual covers the basics of the S-300R Belt Skiver, a special purpose portable skiving machine for preparation of endless belts between 0.5mm~7mm thickness, up to 12" wide. It uses a standard Makita 3" belt sander for the grinding operation.

The machine features a belt thickness adjuster with visual indicator, a screw clamp for work holding, a removable dust tray, and a replaceable 4-sided "Skive edge" plate.



Electrical Requirements	120V	7.8A	50-60 Hz	400 m/min.

For items pertaining to the Makita sander, please refer to the attached Makita manual. Additional information regarding the Makita sander can be found on Makita's website at **www.makita.com** under Tools / Woodworking / Belt Sanders, Item 9924DB.

1.2 Safety Precautions

This machine is classified as special purpose industrial equipment, and not intended for household use. It is imperative that all personnel operating and maintaining the equipment have the proper training on the fundamentals of industrial equipment as well as specifics covered in this manual. Training should include instructions on the potential hazards of entanglement in the machinery caused by items such as long hair, loose clothing, and jewelry. A copy of this manual must be available at all times to operators.

Always unplug equipment before making any adjustments or changing belts.

Never leave trigger lock on the belt sander in the engaged position, as this may result in unexpected operation and increase the risk of personal injury.

Maintain good housekeeping practices by cleaning up belt debris, and other materials around linear slide and deck.

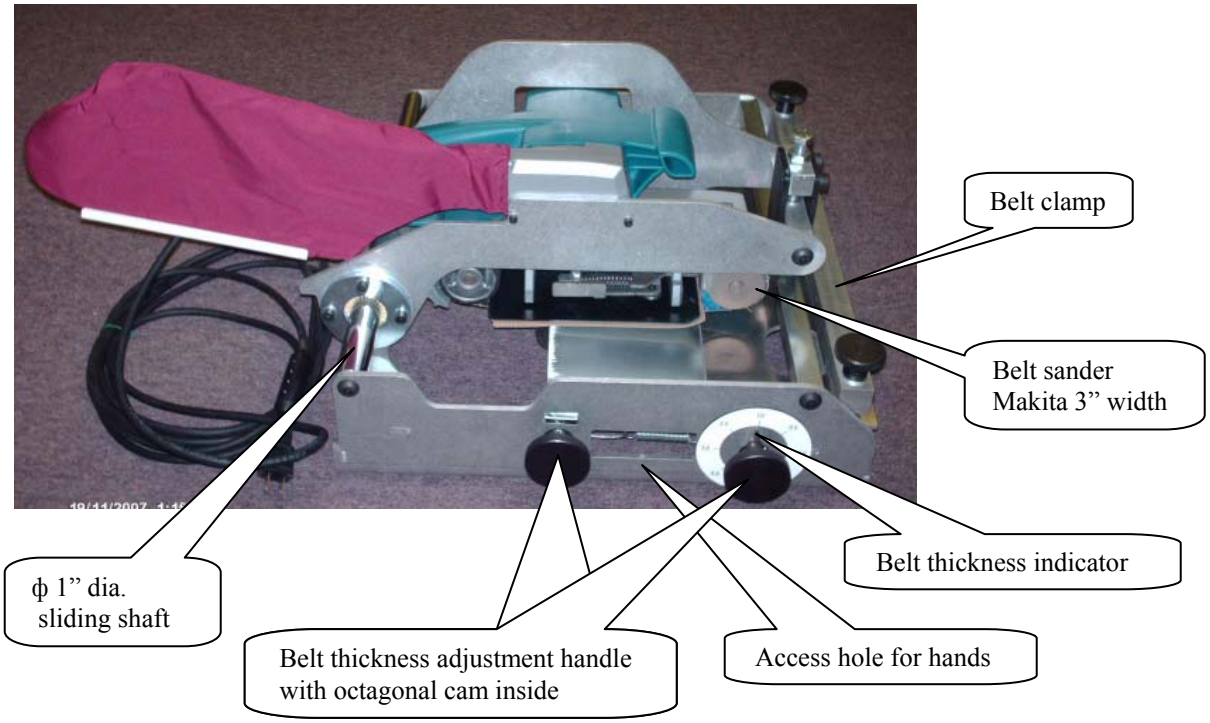
2.1 Maintenance Procedures

Precautions in the design of this system ensure maximum safety during the operation of machinery. Only authorized, experienced personnel should perform any maintenance work on this equipment.

The personnel operating and maintaining the equipment must follow plant safety, operating procedures for the equipment, and emergency procedures to minimize the chance of injury.

Any changes or modifications to NITTA's equipment without the consultation and written permission of NITTA could cause serious damage to the equipment and will automatically void all warranties and liabilities.

Equipment maintenance consists of inspection, ensuring tightness of fittings and components, replacement of worn components and cleaning to ensure smooth operation of linear slide.



2.2 Sanding Paper Requirements

Silica carbide sanding papers are required for proper performance:

- **50 Grit** – light duty and thinner belts
- **36 Grit** – medium duty
- **24 Grit** – heavy duty and thicker belts

2.3 Monthly Maintenance

- Maintain good housekeeping practices by cleaning up belt debris, and other materials from the linear slide and table areas.
- All guards have been placed to provide protection against hazardous moving parts. Replace any guards removed for maintenance work.
- The steel skive edge is considered a consumable item and will require replacement periodically. The skive edge bar is symmetrical in shape, and can be rotated to offer 4 edges before requiring replacement. Remove the 4 flat head bolts mounting the plate and rotate 90 degrees to new edge. Repeat as required.

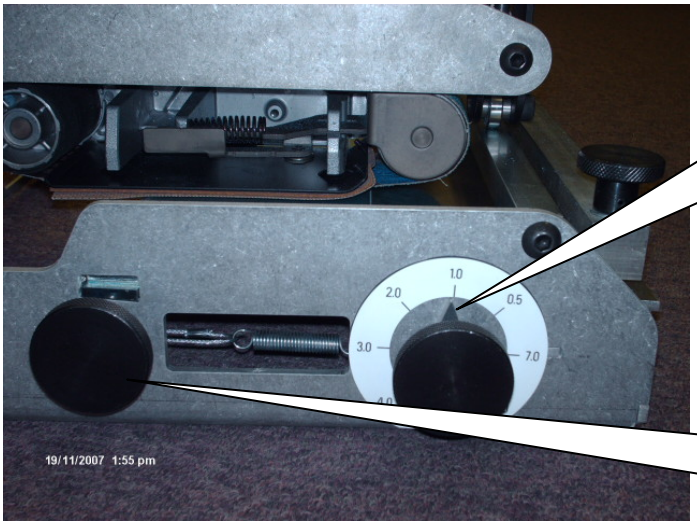
2.4 Annual Maintenance

- This equipment does not require scheduled annual maintenance, beyond visual inspection for loose or worn components.
- Replace damaged parts as necessary.

2.5 Lubrication Points

- This equipment does not require lubrication.

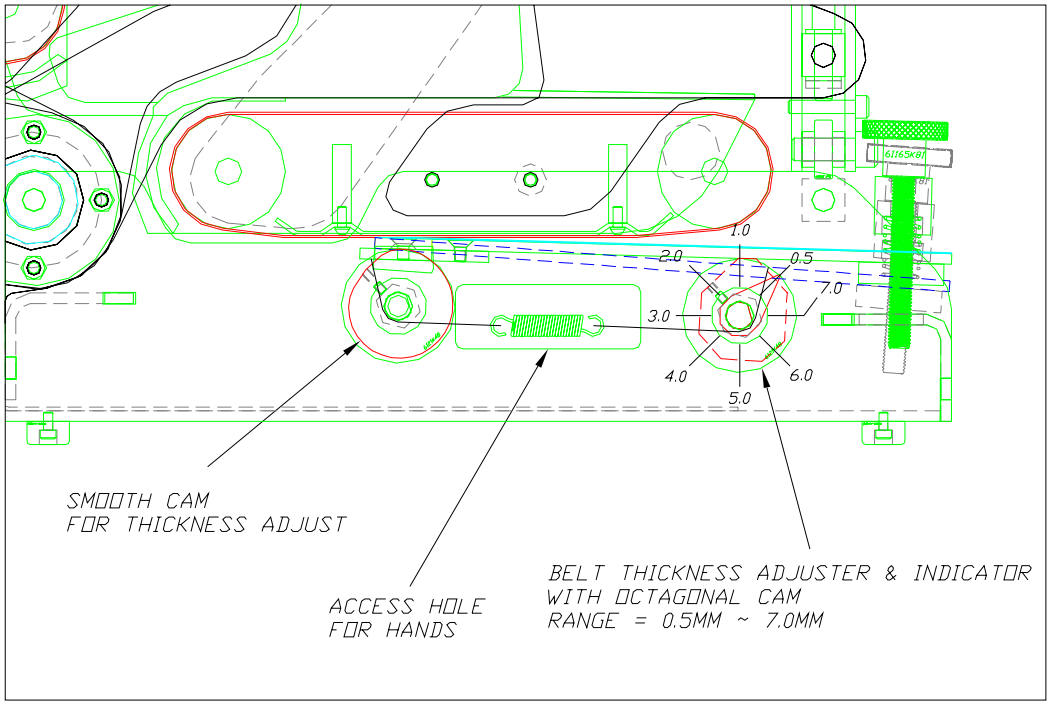
2.6 Belt Thickness Adjustment



Belt thickness indicator; loosen clamp knob on left side of machine before rotating RH knob to desired position. Numbers on frame correspond to overall belt thickness

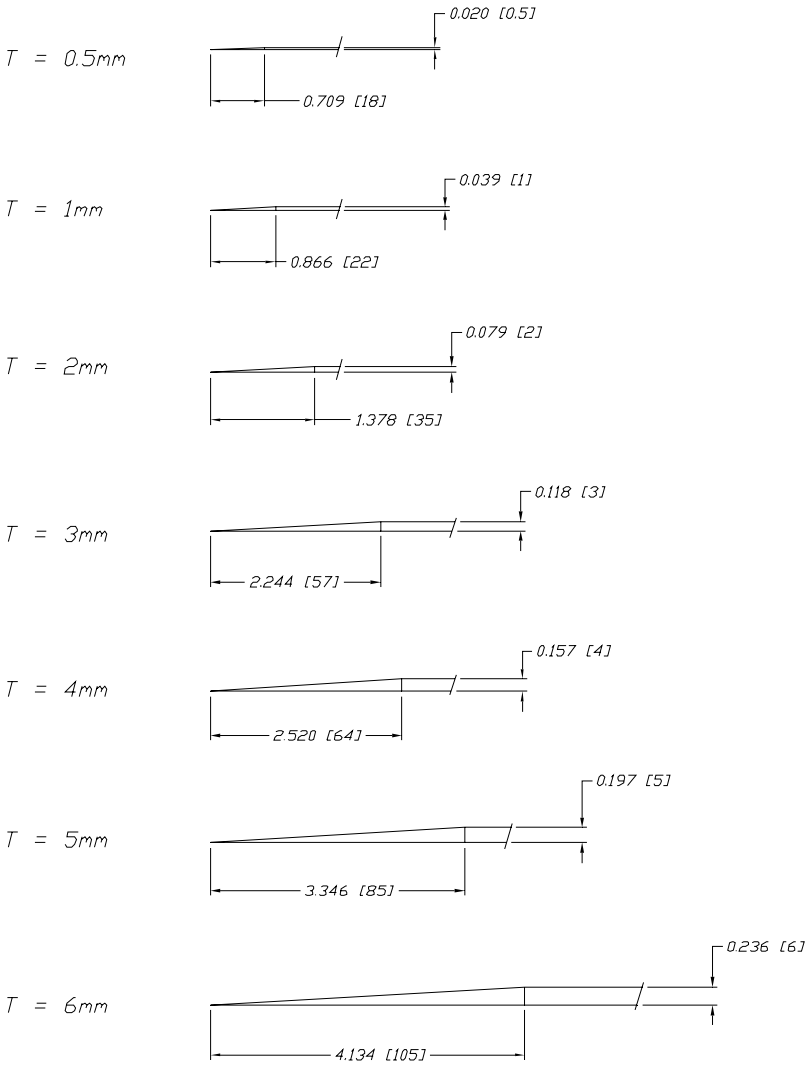
Loosen this side knob first then rotate Left Hand side knob until belt just touches steel skive bar with the sander in working position.

For best results, always make sure the steel skive edge bar has a square corner. If corner is worn, rotate skive bar to fresh edge, or replace as required.



2.7 Skiving Length According to Belt Thickness

Measurements below shown in inches (mm in parentheses)



2.8 Slide Lock Feature

Fluted rim screw for locking – do not over tighten. Snug tight is adequate for holding unit during transportation.

3.0 COMMERCIAL PARTS LIST

3.1 S-300R Belt Skiver Commercial Parts List

DET	QTY	DESCRIPTION	CATALOG NUMBER	SUPPLIER
101	1	BELT SANDER, 76X610MM	9924DB	MAKITA
102	2	PLAIN BRG., ø1"IDXø1 5/8"ODX2 1/4"LG	2570K4	McMASTERCARR
103	2	KNOB WITH BLIND HOLE, ø1/2"	6121K48	McMASTERCARR
104	2	KNOB WITH THREAD STUD, M10X1.5x44mm	61165K83	McMASTERCARR
105	2	KNOB WITH THREAD STUD, M10X1.5x76mm	61165K81	McMASTERCARR
106	1	FLUTED RIM SCREW, M5X0.8PX16MM LG.	62935K12	McMASTERCARR
107	2	EXT. SPRING, ø.048"WIREX3/8"ODX8.3LB/IN	9654K365	McMASTERCARR
108	1	WIRE ROPE, 7X7X1/16" WIREX50FT LG.	3450T24	McMASTERCARR
109	2	COMP. SPRING, ø.055WIREX.66"ODX1"L. LC 055HJ 04M		LEE SPRING
110	1	BEARING, 10mmIDX26mmODX8mmW	6000ZZ 2RD	KML
111	1	COTTER PIN FOR ø1/8"DIA X 1" LG	98338A180	McMASTERCARR
112	4	CRIMP SLEEVE	3896T31	McMASTERCARR

4.0 RECOMMENDED PARTS

4.1 S-300R Belt Skiver Spare Parts

This list contains all major commercial items used on this equipment. We recommend the customer review this list to determine what parts may already be stocked.

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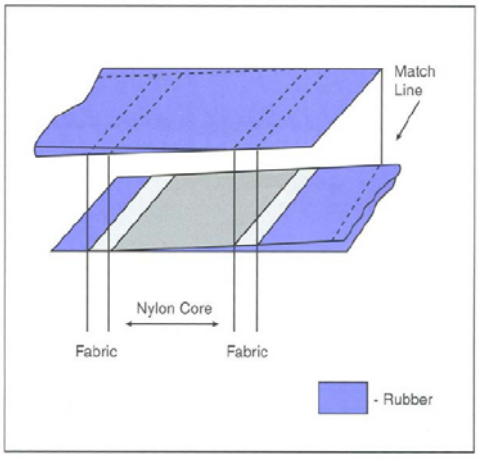
Quantities are to be used as a suggestion only.

5.0 ENDLESS PROCEDURES – POLYBELT

Skiving: You may use any type of skiving machine to skive Nitta Poly flat drive belts. Regardless of the type used: disc, drum or band sander, or a very sharp rotary knife skiver; you must carefully skive both belt ends with equal length and angle skives. A square 90° splice is satisfactory. An angle of 30° (60° from the belt edge) is commonly used if a diagonal splice is preferred. However, the angle of the splice is often dictated by the width of the belt, the length of the skive and the platen size of the belt press being used.

After skiving, if necessary, carefully trim the feathered ends of the belt. Be careful not to trim back so far that ends are blunt. For a smooth, quiet running splice, the ends should be tapered to a fine edge.

Matching: Before applying the Nitta bonding solutions, the skived ends of the belt should be matched so that the skived faces of the nylon cores mate perfectly across the face of the belt and the edges of the belt are square with no "dog leg". When sure that the splice is matched and square, draw a line across the belt at the feathered end of the top skive. This will allow you to quickly and surely match the belt ends after applying bonding solutions and eliminate the possibility of mixing the two solutions.



Cleaning: Before applying the bonding solutions, be sure that the skived areas are free of any dirt, grease or oil by cleaning with perchlorethylene, tricholorethylene or alcohol. Allow to dry thoroughly before applying bonding solutions.

Joint Belts Without Rubber Covers: Types SG, TAIR, TTA, and KSG belts use only Polybond A solution. Do not use excessive amounts of solutions. Too much causes a weak bond.

Belts Without Rubber Covers: Trim off any feathered edge of the cover. With a brush or spatula, apply a very thin uniform coating of Polybond A solution over the entire surface of both skived belt ends. Allow to dry for approximately 3 minutes (+/- due to heat and humidity) and place in belt press at 212° F ~ 230°F for indicated time.

Belt Types With Rubber Covers: With a brush or spatula, apply a thin uniform coating of Polybond A solution to only the nylon core and the fabric layer of both belt ends. Care must be taken not to spread any of the A solution on the rubber surfaces. Allow to dry for approximately 3 minutes (+/- due to heat and humidity). Using a separate brush, apply a thin even coating of Polybond E to rubber surface only of both skived ends of the belt. Immediately after applying the Polybond E solution place belt ends in press. Match belt ends using match-line, clamp ends and tighten press. If using a preheated press, allow belt to remain in press for time indicated in preceding pages. If starting from a cold press, allow enough additional time for the press to reach pressing temperature. After the indicated press time, the press should be disconnected or turned off and the belt allowed to cool in the press until it reaches room temperature. If desired, the belt may be removed from the press while still hot, however, extreme care must be taken that the splice is not subject to bending, twisting or tension. The splice may be cooled by using ¼" steel plates clamped to each side of splice or by a fan. DO NOT USE WATER. After the belt is cool, any rough edges should be sanded smooth.

Solutions: After use, the Polybond A solution should be tightly resealed and stored in a cool dark area. Any remaining Polybond E solution should be discarded, once exposed to air it loses ifs effectiveness.

Belt Press: It is advisable to clean any residue from the press while still hot. Use a spatula or putty knife.

6.0 SKIVE LENGTHS AND SPLICING CONDITIONS

Belt Type Cover	Nylon Type	Pressure	Splicing Solutions Polybond Type Nylon	Rubber	Press Temperature (Deg F)	(Deg C)	Press Time (min)	Approx. Skive Length (mm)
TTA	250	25 psi	A	A	194-212	90-100	10	15
TAIR	350	25 psi	A	A	194-212	90-100	15	19
SG	500	25 psi	A	A	194-212	90-100	15	25
KSG	750	25 psi	A	A	212-230	100-110	15	28
KCS	1000	25 psi	A	A	212-230	110-100	15	29
LA SGLA	250	25 psi	A	E	194-212	90-100	15	22
	350	25 psi	A	E	194-212	90-100	15	25
	500	25 psi	A	E	212-230	100-110	20	29
	750	25 psi	A	E	212-230	100-110	20	41
	1000	25 psi	A	E	212-230	100-110	30	44
	1500	25 psi	A	E	212-230	100-110	30	54
	2000	25 psi	A	E	212-230	100-110	30	64
TFL	6S	25 psi	A	E	212-230	100-110	30	41
	7S	25 psi	A	E	212-230	100-110	30	43
	10S	25 psi	A	E	212-230	100-110	30	45
	15S	25 psi	A	E	212-230	100-110	30	54
	18S	25 psi	A	E	212-230	100-110	30	64
	3SH	25 psi	A	E	212-230	100-110	20	40
TFM	15S	25 psi	A	E	212-230	100-110	30	85
MA	250	25 psi	A	E	212-230	100-110	20	35
	350	25 psi	A	E	212-230	100-110	20	38
	500	25 psi	A	E	212-230	100-110	20	41
	750	25 psi	A	E	212-230	100-110	30	44
	1000	25 psi	A	E	212-230	100-110	30	51
	1500	25 psi	A	E	212-230	100-110	30	60
	2000	25 psi	A	E	212-230	100-110	30	67
HA	500	25 psi	A	E	212-230	100-110	30	57
	750	25 psi	A	E	212-230	100-110	30	57
	1000	25 psi	A	E	212-230	100-110	30	64
	1500	25 psi	A	E	212-230	100-110	30	73
	2000	25 psi	A	E	212-230	100-110	30	80
XH	500-3	25 psi	A	E	212-230	100-110	30	57
	500-4	25 psi	A	E	212-230	100-110	30	57
	500-5	25 psi	A	E	212-230	100-110	30	57
	500-6	25 psi	A	E	212-230	100-110	30	73
	750-6	25 psi	A	E	212-230	100-110	30	76
MH	3000	25 psi	A	E	212-230	100-110	30	98
	4000	25 psi	A	E	212-230	100-110	30	133

*Note: 25psi= 200kPa

For a specific belt type's conditions and instructions, please contact your sales rep or Nitta's technical department. Please contact Nitta with any questions.