

【Operation Guide】

BELT Design Program

V-belt

Thank you for using our belt design program.
If you have any questions, please contact us.
*Go to the homepage by clicking "Help" in each tab.

mitsubishi BELTING LTD.

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Detailed design procedures and notes are included in the program flow.

Please prepare the conditions of use

1. Program flow



Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Motor load	0.50kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

Extract conditions

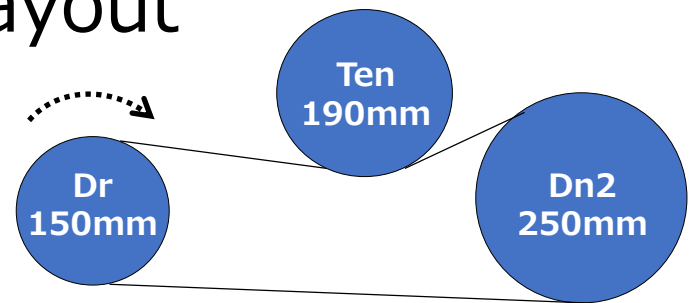


Request for belt design

Application data sheet

Purpose						
Model Name						
Drawing	available	not available	availability: yes / no (Date:)			
Specification of Belt						
Belt Size						
Number of Belts	pcs.					
Annual Quantity	pcs./year					
Operating Conditions	Type of Prime Mover	Power		HP		lb-in maximum torque
	Speed	Drive		rpm	Driven	rpm
	Pulley datum diameter	Drive		inch	Driven	inch
	Center distance		±		inch	Speed ratio
	Operational Hours per day		hrs./day		Idler Pulley:	
Other Special Conditions						
Ambient Conditions						

Layout



X-Y Coordinate system
 (Clockwise at the base of Dr position)
 Dr : 0,0
 →Ten : 250, 130
 →Dn2 : 500,0

Other Information	
Information for designing	
Information for price	

Start screen

1. Program flow



MITSUBOSHI Language (言語) • Japanese (日本語) ○ English (英語)

BELT Design Program

V-belt 

Timing Belt 

RIBSTAR™ G
V-ribbed Belt 

FREESPAN™ Belt
Long-Span TPU Timing Belt 

[Area of the machine to install the belt]
(ベルト入手地域)

- Japan
- North America
- Europe
- Other

JIS

※In other area, choose a corresponding industrial standard.
※FREESPAN Belt: Japanese customers: Please select "Japan"
Customers in other areas: Please select "Other"

[Unit of measurement]
(単位)

- mm ↔ in
- N ↔ lb



設計検討プログラムの内容はお断りなく変更する場合があります。(Contents of belt design program are subject to change without notice.)

1. Program flow

Input tab



V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design



Area: North America
 Grade: Classical V-belts
 Type: B

*Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span mm	G.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Service factor: 1.6 Reference

Load input method: Actual load Rated power

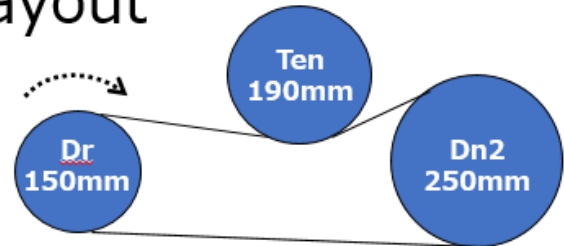
Transmission Power: kW

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm		100.0					
Use rate %							
Velocity m/s							
No.							
1	<input checked="" type="checkbox"/>	0.5					
2	<input type="checkbox"/>						
3	<input checked="" type="checkbox"/>						
4	<input type="checkbox"/>						
5	<input type="checkbox"/>						

Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Motor load	0.50kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

Layout



X-Y Coordinate system
 (Clockwise at the base of Dr position)
 Dr : 0,0
 →Ten : 250, 130
 →Dn2 : 500,0

👉 Detailed procedures & notes
 3-2),3):P.16~18

1. Program flow

Input tab



V-belt Design Program

MITSUBOSHI

Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Classical V-belts
 Type: B
 *Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

Manual

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Draw Layout *Layout is drawn temporarily.

Service factor: 1.6 Reference

Load input method: Actual load Rated power

Transmission Power: kW

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm		100.0					
Use rate %							
Velocity m/s							
No. 1	<input checked="" type="checkbox"/>	0.5					
2	<input type="checkbox"/>						
3	<input checked="" type="checkbox"/>						
4	<input type="checkbox"/>						
5	<input type="checkbox"/>						

Clear Calculation =>

Layout is drawn

👉 Detailed procedures & notes 3-2),3):P.16~18

1. Program flow

Input tab



V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design



Area: North America
 Grade: Classical V-belts
 Type: B
 *Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

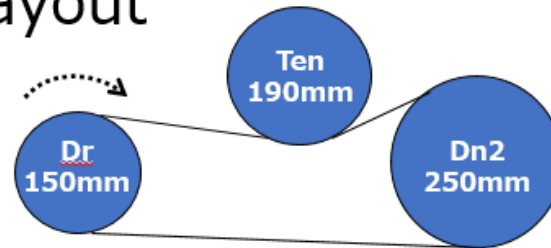
Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Motor load	0.50kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

Layout



X-Y Coordinate system
 (Clockwise at the base of Dr position)
 Dr : 0,0
 →Ten : 250, 130
 →Dn2 : 500,0

Service factor: 1.6 Reference

Load input method: Actual load Rated power

Transmission Power: kW

		With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev.	rpm		100.0					
Use rate	%							
Velocity	m/s							
No.		<input checked="" type="checkbox"/>	0.5					
		<input type="checkbox"/>						
		<input checked="" type="checkbox"/>						
		<input type="checkbox"/>						
		<input type="checkbox"/>						

👉 Detailed procedures & notes 3-4):P.19-20

1. Program flow

Input tab



V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design



Area: North America

Grade: Classical V-belts

Type: B

*Input drive pulley into No.1 and others follow clockwise.

Rotation: Clockwise

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Motor load	0.50kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

Service factor: 1.6

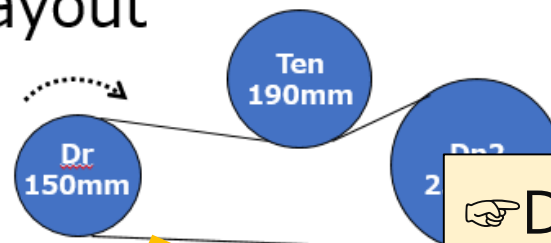
Reference

Load input method: Actual load Rated power

Transmission Power: kW

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm		100.0					
Use rate %							
Velocity m/s							
No.		0.5					
1	<input checked="" type="checkbox"/>						
2	<input type="checkbox"/>						
3	<input checked="" type="checkbox"/>						
4	<input type="checkbox"/>						
5	<input type="checkbox"/>						

Layout



X-Y Coordinate system
(Clockwise at the base of Dr position)

Dr : 0,0
→Ten : 250, 130
→Dn2 : 500,0

Detailed procedures & notes
3-5),6):P.21-23

Clear

Recommendation tab

1. Program flow



V-belt Design Program

Input Recommendation Adjustments Results Products Info

- Select a favorable condition by clicking the table.
 - Data of Adjustments and Details will be changed to the selected condition.
 - Go to Adjustments or Details using a tab or a button.
 - Click the heading of the table to change order.

*Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Motor load	0.50kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

Grade	Type	Belt length mm	Number of belts	Dr pulley mm	m/s	mm/min
Classical V-belts	B	1,608.49	2.00	150.00		

☞ Detailed procedures & notes
4:P.24

Normal procedure

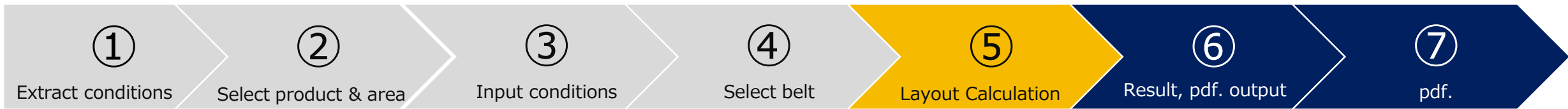
Confirmation of estimated results

Go to Adjustments =>

Go to Details =>>

Adjustment tab

1. Program flow



V-belt Design Program

Input Recommendation **Adjustments** Results Products Info Layout Design

Target belt length mm 1600.20

Calculated belt length mm 1608.49

Make even

- B-61
- B-62
- B-63**
- B-64

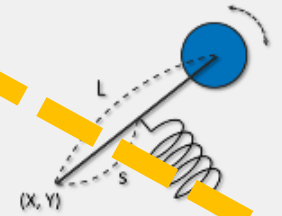
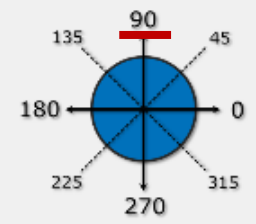
Linear movement

Pulley No.	2
Direction	90.00

Rotational movement

Rotation Clockwise

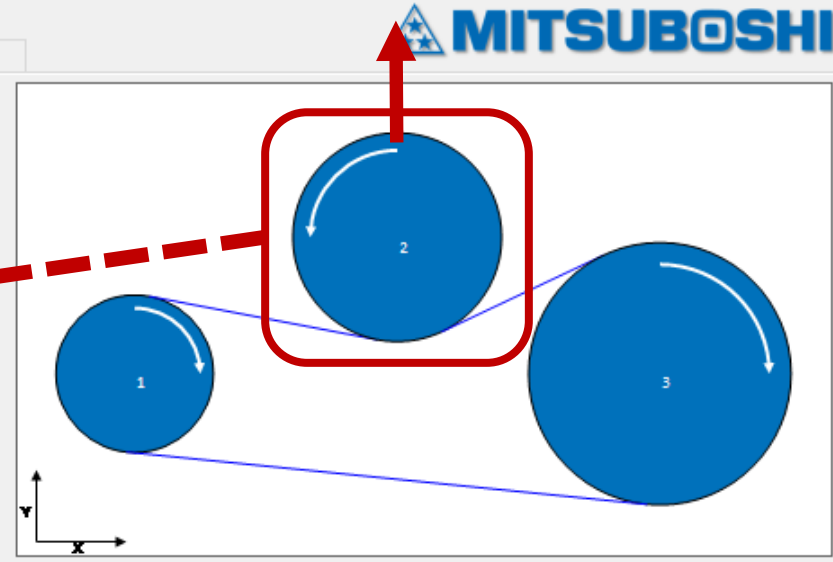
Pulley No.	
X coord. of arm pivot mm	
Y coord. of arm pivot mm	
Arm length : L mm	



Spring calculation

Distance between spring and arm pivot : s mm	
Belt tension N	
Angle between arm and tension force	
Angle between arm and spring force	
Force by belt tension N	
Spring force N	

Right angle pull force



*Please ensure that no interference between pulleys or belts.
If interfering, please change the layout.

Linear movement

- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button (require to enter the target belt length, moving shaft No., and moving direction).

Detailed procedures & notes
5:P.25-28

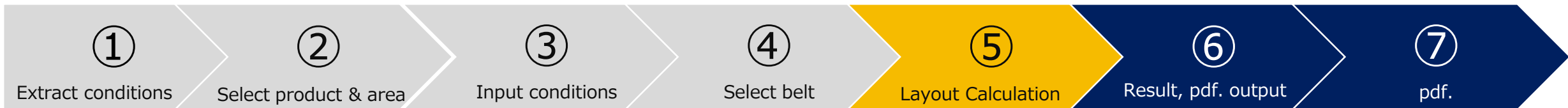
- Click on the Idler Pulley to change spring angle.
Click on the "Right angle pull force" button to apply.

Adjust Undo Reset

Go to Details =>

1. Program flow

Adjustment tab



V-belt Design Program



Input Recommendation Adjustments Results Products Info Layout Design

Target belt length mm 1600.20

Calculated belt length mm 1600.20

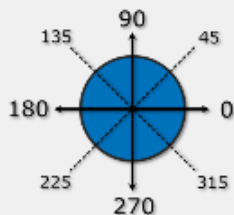
Belts list

Even!!

B-62
B-63
B-64

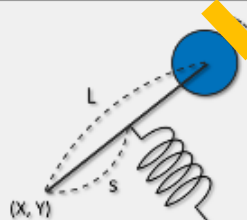
Linear movement

Pulley No.	2
Direction	90.00



Rotational movement

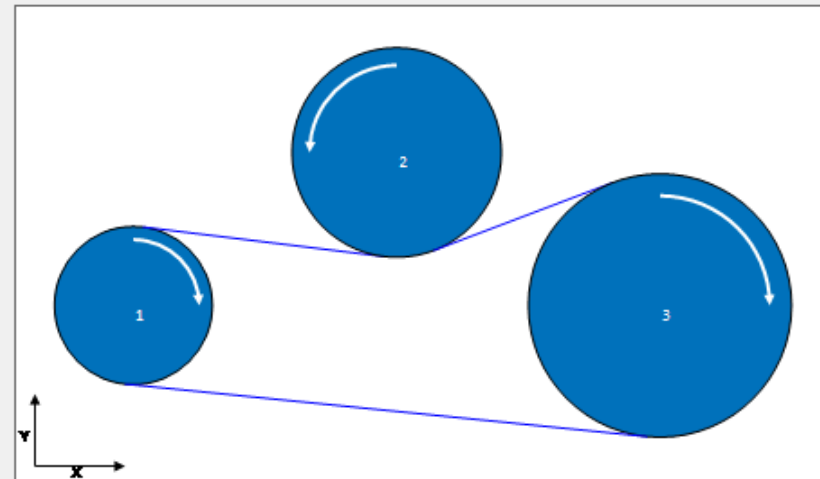
Rotation	Clockwise
Pulley No.	
X coord. of arm pivot	mm
Y coord. of arm pivot	mm
Arm length : L	mm



Spring calculation

Distance between spring and arm pivot : s	mm	
Belt tension	N	
Angle between arm and tension force		
Angle between arm and spring force		
Force by belt tension	N	
Spring force	N	

Right angle pull force



*Please ensure that no interference between pulleys or belts.
If interfering, please change the layout.

Linear movement

- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button

Detailed procedures & notes
5:P.25-28

Spring calculation

- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

Test

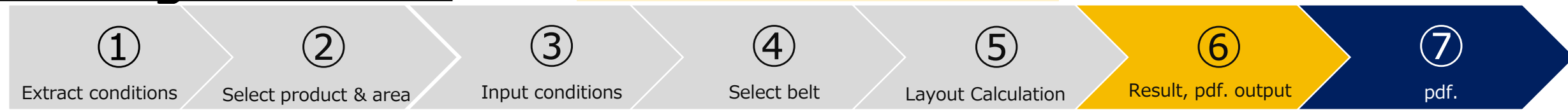
Undo

Reset

Go to Details =>

1. Program flow

Results tab



V-belt Design Program

MITSUBOSHI

Input Recommendation Adjustments **Results** Products Info Layout Design

Area: North America
Grade: Classical V-belts
Type: B
Rotation: Clockwise

Layout: *Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00	181.23	230.55	289.11
2	250.00	145.20	Outside	190.00	-27.74	182.23	289.11
3	500.00	0.00	Inside	250.00	206.52		

Any number of belts can be set

Check result

Grade: Classical V-belts
Belt size: B-63
Number of belts: 2
Belt length: 1600.20 mm

Create PDF

		D1	D2	D3
Revolution	rpm	100.0	75.4	60.0
Trans. power	kW	0.50		
Design power	kW	0.80		
Span tension	N	-	-	-
Number of belts		2	0	2
Minimum static tension	N/pcs	364	364	364

Service factor: 1.6
Safety factor: 2.34

For functionally and durability confirmation, please evaluate with actual model to be installed.

Load input method: Rated power

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev.	rpm	100.0					
Use rate	%						
Velocity	m/s	0.79					
No.		0.50					

Detailed procedures & notes 6:P.29

Tension setting method is selectable

Any number of belts can be set

Check result

Grade: Classical V-belts
Belt size: B-63
Number of belts: 2
Belt length: 1600.20 mm

Create PDF

Detailed procedures & notes 6:P.29

Results tab

1. Program flow



V-belt Design Program

MITSUBOSHI

Input Recommendation Adjustments **Results** Products Info Layout Design

Area: North America
 Grade: Classical V-belts
 Type: B
 Rotation: Clockwise

Layout: *Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	O.D. mm
1	0.00	0.00	Inside	150.00	181.23	230.55	289.11
2	250.00	145.20	Outside	190.00	-27.74	182.23	289.11
3	500.00	0.00	Inside	250.00			
4							
5							

Output setting dialog box:

Paper size: A4
 Language: English
 Customer: O△□ Ltd.
 Title: Design study for crusher machine
 Doc. number: 12345678

Buttons: Back, Clear, **Create PDF**

Service factor: 1.6
 Safety factor: 2.34
 Transmission Power: [kW]

For functionally and durable actual model to be installed

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm		100.0					
Use rate %							
Velocity m/s		0.79					
No.		0.50					
1	<input checked="" type="checkbox"/>						
2	<input type="checkbox"/>						
3	<input checked="" type="checkbox"/>						
4	<input type="checkbox"/>						

Load input method: Rated power

	D1	D2	D3
Span tension			
Number of belts	2	0	2
Minimum static tension N/pcs	364	364	364
Install tension N/pcs	546	546	546
Re-install tension N/pcs	430	430	430
Deflection length			
Deflection load (Initial)			
Deflection load (Retention)			
Deflection load (Minimum)			
Evolutionary (Initial fitting)			

Buttons: Create PDF

👉 Detailed procedures & notes 6:P.30

1. Program flow



○△□ Ltd.

Design study for crusher machine

DocNo. 12345678
 Date. 12-Dec-22
 Signature _____
 Signature _____

Details [Calculated]

No.	Revolution rpm	Transmission power kW	Design power kW	Basic power rating kW	Add. power for speed ratio kW	Velocity 0.79 m/s		Centrifugal tension 0.12 N/pcs		Number of belts	Span tension N/pcs
						Arc of contact corr. factor	Belt length corr. factor	Correction power rating kW			
1	100.0	0.50	0.80	0.58	0.05	1.00	0.93	0.58	1.37	-	
2	75.4	-	-	-	-	-	0.93	-	1.37	-	
3	60.0	-	-	0.76	0.03	1.00	0.93	0.73	1.37	-	

Service factor conditions

Service factor 1.6
 Heavy duty with high shock loading
 Max. power ≤ rated power
 Running time - 10hrs/day
 Frequent start and stop of machine
 Belt slack side, inside of belt 1 pcs

Tension

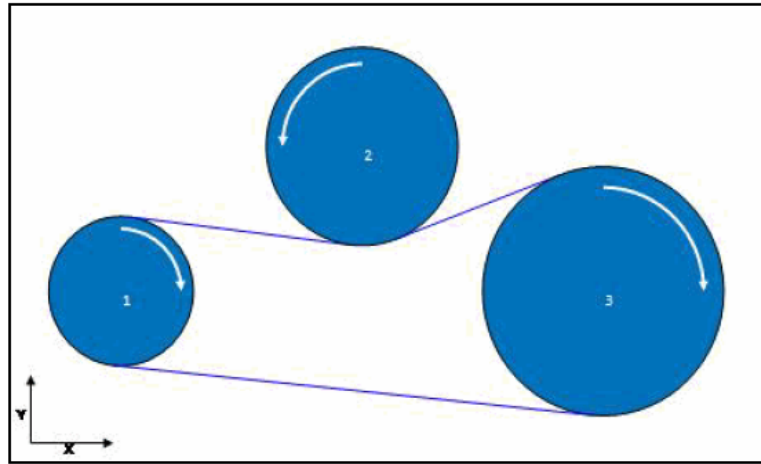
No.	Deflection length mm	Deflection load			Frequency			Shaft load	
		Initial fitting N/pcs	Retensioning N/pcs	Minimum N/pcs	Initial fitting Hz	Retensioning Hz	Minimum Hz	Static N	Dynamic N
1	3.7	35.3	30.8	24.0	113	105	92	2182	2053
2	2.9	35.3	30.8	24.0	143	133	117	523	163
3	8.0	35.3	30.8	24.0	52	49	43	2124	1999

The value of frequency should be used for only Mitsubishi tension meter.

Please evaluate the functionality and durability of the product on the actual equipment.

Summary

Area North America
 Grade Classical V-belts
 Type B
 Belt size B-63
 Number of belts 2
 Belt length 1600.20 mm
 Minimum static tension 364 N/pcs
 Install tension 546 N/pcs
 Re-install tension 473 N/pcs
 Safety factor 2.34



*Please ensure that no interference between pulleys or belts.
 If interfering, please change the layout.

Layout

No.	X coord. mm	Y coord. mm	Pulley dia. mm	Arc of contact	Span L. mm	C.D. mm
1	0.00	0.00	150.00	181.23	230.55	289.11
2	250.00	145.20	190.00	-27.74	182.23	289.11
3	500.00	0.00	250.00	206.52	497.49	500.00

2. Tab description



• The design study proceeds in the order ①-④.

⑤ : Belt lineup can be checked.

Ⓐ : Layout design can be performed separately from timing belt design study.

3-1) Input tab : Input procedure

V-belt Design Program

Input Recommendation Adjustments Results Products

Area: North America
 Grade: Auto
 Type: Auto

1

*Input drive pulley into No.1 and others follow clockwise.

Rotation: Clockwise

2

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1			Inside				
2			Inside				
3			Inside				
4			Inside				
5			Inside				

3

5

Service factor

Reference

Load input method

 Actual load

 Rated power

6

Transmission Power

kW

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm							
Use rate %							
Velocity m/s							
No.							
1	<input type="checkbox"/>						
2	<input type="checkbox"/>						
3	<input type="checkbox"/>						
4	<input type="checkbox"/>						
5	<input type="checkbox"/>						

7

Click the button 4 to draw a layout diagram.
 Click the button 8 to go to the next tab.



4

Draw Layout

*Layout is drawn temporarily.

8

Clear

Calculation =>

3-2) Input tab : Select belt type

V-belt Design Program



Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Classical V-belts **1**
 Type: B

*Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

Manual

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	G.D. mm
1			Inside				
2			Inside				

Area: North America
 Grade: Classical V-belts
 Type: B

Grade : Select automatic/requested belt grade
 Type : Select automatic/requested belt type
 *Area : Pre-selected on the start screen [see P. 3]

Load input method Actual load Rated power

Transmission Power kW

		With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev.	rpm							
Use rate	%							
Velocity	m/s							
No.	1	<input type="checkbox"/>						
	2	<input type="checkbox"/>						
	3	<input type="checkbox"/>						
	4	<input type="checkbox"/>						
	5	<input type="checkbox"/>						

Clear

Calculation =>

3-3) Input tab : Draw layout

<Layout drawing procedure>

- ② Select pulley rotation direction → ③ Input layout conditions
→ ④ Display layout diagram

Input required in the white condition field.

Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
Grade: Classical V-belts
Type: B

Manual

*Input drive pulley into No.1 and others follow clockwise.
Rotation: Clockwise

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm

Draw Layout *Layout is drawn temporarily.

Input each coordinate clockwise with drive pulley as No.1.

- ▶ Input XY coordinates of all axes.
- ▶ Select pulley position (inside or outside).
- ▶ Input the pulley pitch diameter.

*For DIN/RMA (ARPM), enter the pulley diameter (standard V-belt: datum diameter) according to each standard.

3-3) Input tab : Draw layout

Applications: Power transmission

③ Input each coordinate clockwise with the drive pulley as No.1 → ④ Click "Draw Layout" to draw.

V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Classical V-belts
 Type: B

Rotation: Clockwise

②

Manual

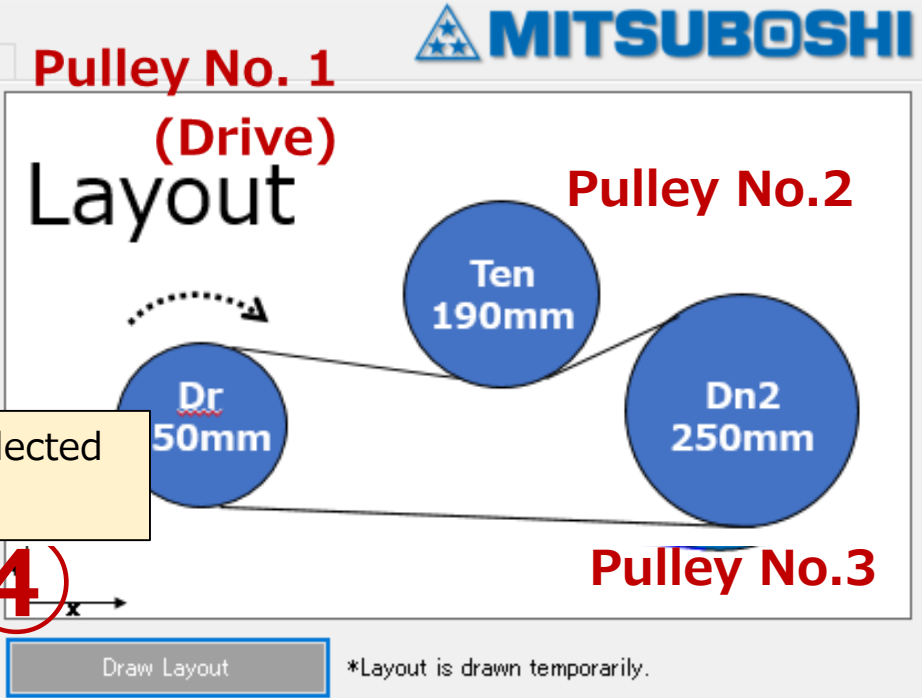
*Input drive pulley into No.1 and others follow clockwise.

Layout

No.	X coord mm	Y coord mm		
1	0.00	0.00	Inside	150.00
③	250.00	130.00	Outside	150.00
3	500.00	0.00	Inside	250.00
4			Inside	
5			Inside	

Coordinate Input Example

← When pulley position "outside" is selected : Input pulley outer diameter.



Backside idler pulley diameter is less than 190mm. Layout change is recommended to prevent reduction of belt life. → Change to 190mm tension pulley dia.

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm
1	0.00	0.00	Inside	150.00
2	250.00	130.00	Outside	190.00
3	500.00	0.00	Inside	250.00

- Pulley position of each axis can be switched between inside and outside by pressing the "Inside/Outside" button.
- Pulley dia.: Input more than the minimum pulley pitch diameter.

*For DIN/RMA (ARPM), enter the pulley diameter (standard V-belt: datum diameter) according to each standard.

The arrangement of the pulley (Inside/Outside) is switched by clicking the table.

3-4) Input tab : Service factor

V-belt Design Program

Input		Recommendation	Adjustments	Results		
Area	North America					
Grade	Classical V-belts		*Input drive pulley into No.1 and			
Type	B		Rotation	Clockwise		
Layout						
No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm
1			Inside			
2						
3						
4						
5			Inside			

Service Factor Calculation

1. Application

Light duty with constant loading

Medium duty with moderate load change

Heavy duty with frequent load change

Heavy duty with high shock loading

Select the factors from the below lists. If the application machine is not found in the table, select the similar torque machinery.

2. Driving unit

- Motors that can output rated power such as induction motors
- DC motor(Shunt)
- 2 or higher cylinder engine

- Motor that can output more than the rated power, such as servo motors
- DC motor(Series coil)
- 1-cylinder engine

3. Running time

Periodic - 5hrs/day
 Normal - 10hrs/day
 Continuous - 24hrs/day

5. Number of idlers

Service factor

Back Clear Set

• ⑤ Service factor (required): Manual input or selected by "service factor reference input"

⑤

Service factor Reference

"Set" to return to the original input tab

Load input method Actual load Rated power

Transmission Power

3-4) Input tab : Service factor reference input

Service Factor Calculation

1. Application

Agitator for liquid

Light duty with moderate load change

Medium duty with moderate load change

Heavy duty with frequent load change

Heavy duty with high shock loading

Generator
Washing machine
Machine tool
Punching machine
Pressing machine
Shearing machine
Printing machine
Positive displacement rotary pump
Screen(rotary, vibrating)
Bucket elevator
Exciter
Piston compressor
Conveyor(bucket, screw)
Hammer mill
Mill for paper machinery
Beater
Piston pump
Roots blower
Crusher
Woodworking machinery
Textile machinery
Crusher(jaw, gyratory, roll)
Mill(ball, rod)
Hoist(heavy load)
Rubber equipment(calendar, mill, extruder)

1. Select the machine to be used
 *If there is no applicable machine, select a similar machine.

Select the factors from the below lists.
 If the application machine is not found in the table, select the similar torque machinery.

2. Driving unit

- Motors that can output rated power such as induction motors
 - DC motor(Shunt)
 - 2 or higher cylinder engine

- Motor that can output more than the rated power, such as servo motors
 - DC motor(Series coil)
 - 1-cylinder engine

2. Select driving unit (motor)

3. Running time

Periodic - 5hrs/day

Normal - 10hrs/day

Continuous - 24hrs/day

3. Select operating hrs/day

4. Environmental conditions

Frequent start and stop of machine

Hard to contact maintenance checkup

Dusty environment

High temperature

Oil or water splashing

4. Select the environment of use
 *Multiple selections possible

5. Number of idlers

Belt slack side, inside of belt

Belt slack side, outside of belt

Belt tight side, inside of belt

Belt tight side, outside of belt

0

5. Select the number of idlers
 No idlers: No need to check
 Forward/reverse operation: All are counted on the "belt tight side".

Service factor

"Set"

Back

Clear

Set

3-5) Input tab : Transmission power unit selection

V-belt Design Program



Input Recommendation Adjustments Results Products Info Layout Design

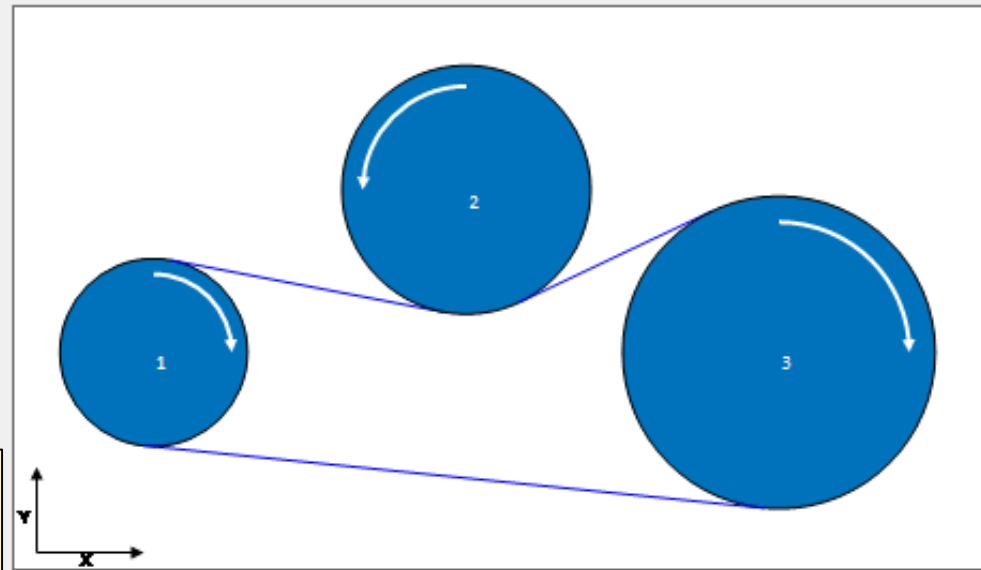
Area: North America
 Grade: Classical V-belts
 Type: B

*Input drive pulley into No.1 and others follow clockwise.

Rotation: Clockwise

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			



Select motor load/actual load in design method
 → ⑥ Select the unit of load

Draw Layout

*Layout is drawn temporarily.

Service factor: 1.6

Load input method: Actual load

Rated power

Transmission Power: kW

⑥

- kW
- kW
- W
- HP
- PS
- Nm
- Ncm
- lb-in
- lb-ft

3-6) Input tab : Input conditions

Load input method: Rated (motor) load

⑦ Input conditions → ⑧ Press "Calculation" to go to the next tab.



V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Classical V-belts
 Type: B

Rotation: Clockwise

Manual

*Input drive pulley into No.1 and others follow clockwise.

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00		150.00			

• Axis No. 1: Load shaft
 • If no load is applied by the idler, remove from "With load" column.

Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Motor load	0.50kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

Service factor: 1.6

Load input method: Actual load **Rated power**

Transmission Power: kW

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm		100.0					
Use rate %							
Velocity m/s							
No.		0.50					
1	<input checked="" type="checkbox"/>						
2	<input type="checkbox"/>						
3	<input checked="" type="checkbox"/>						
4	<input type="checkbox"/>						
5	<input type="checkbox"/>						

*When using servo motors, design study at maximum torque.

Clear **⑧** Calculation =>

3-6) Input tab : Input conditions

Load input method: Actual load

⑦ Input conditions → ⑧ Press "Calculation" to go to the next tab.

V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Classical V-belts
 Type: B
 *Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Service factor: 1.6 Reference

Load input method: Actual load Rated power

Transmission Power: kW

	With load	Con.1	Con.2	Co
Dr pulley rev. rpm		100.0		
Use rate %				
Velocity m/s				
No.		0.45		
		0.45		

Conditions [Application data]

Application	Equipment and Applications	Crusher
Belt	Area	North America
	Grade	Classical V-belts
	Type	B
Load	Type of motor	Induction motors
	Actual load	0.45kW
	Dr pulley rev.	100rpm
Frequency of use	Running Time	10h/Day

- Enter the actual load on the load axis.
- Input "0" for idler.

⑧

Clear Calculation =>

4. Recommendation tab (Belt selection list)

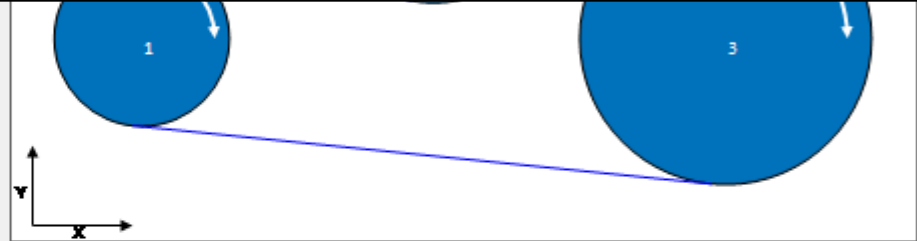
V-belt Design Program



Input Recommendation Adjustments Results Products Info Layout Design

Grade / Type "Auto" : ⑨ Select a belt from the list. (Press line)
 Grade / Type "Specified" : Only the specified belt is displayed in ⑨
 (no need to press the line).

- Select a favorable condition by clicking the table.
Data of Adjustments and Details will be changed to the selected condition.
- Go to Adjustments or Details using a tab or a button.
- Click the heading of the table to change order.



*Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

⑨

Grade	Type	Belt length mm	Number of belts	Dr pulley dia. mm	Velocity m/s	Minimum static tension N/pcs
MAXSTAR POWER RED Narrow	SPA	1,653.46	2.00	150.00	0.79	364
Narrow V-belts	SPA	1,653.46	2.00	150.00	0.79	364
Classical V-belts	B	1,608.49	2.00	150.00	0.79	365
TRIPLEX Classical	AX	1,620.70	2.00	150.00	0.79	365
TRIPLEX Narrow Cogged V-belts	SPZX	1,652.98	2.00	150.00	0.79	364
MAXSTAR WEDGE SUPREME	3VX	1,652.02	2.00	150.00	0.78	367

⑩ Proceed to layout adjustment (normal procedure)
 ⑪ Proceed to the result screen (Confirmation of approximate results)

⑩ Go to Adjustments =>

⑪ Go to Details =>>

5. Adjustment tab (Linear movement)

V-belt Design Program

MITSUBISHI

Input Recommendation Adjustments Results Products Info Layout Design

A Target belt length mm 1600.20

B Calculated belt length mm 1608.49

A

Belts list

- B-59
- B-60
- B-61
- B-62
- B-63**
- B-64

12

Linear movement

Pulley No. 2

Direction 90

90

135 45

180 0

225 270 315

Target belt length (A):

- ▶ Standard belt length close to the calculated belt length (manual input possible)
- ▶ Select a belt from the standard belts list that is close to the calculated belt length (automatic setting)

Calculated belt length(B): Calculated value from input conditions

Example) Adjust the calculated belt length 1608.49mm to the target belt length 1600.20mm (B-63).

→ **12** Move pulley No. 2 in the direction of 90°.

Enter "Pulley No.: 2" and "Direction: 90"

Rotational movement

- Click on the Idler Pulley to move tension arm position.
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

Spring calculation

- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

Adjust

Undo

Reset

Go to Details =>

5. Adjustment tab (Linear movement)

Screen after adjustment

V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design

A Target belt length mm 1600.20

B Calculated belt length mm 1600.20

Belts list

- B-61
- B-62
- B-63
- B-64

Even!!

Linear movement

Rotational movement

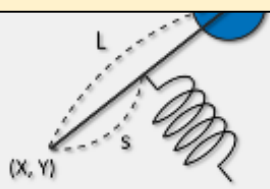
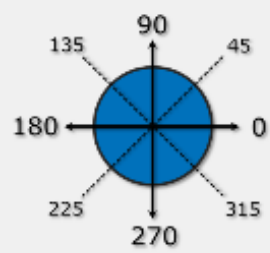
Pulley No. 2

Direction 90.00

Rotation Clockwise

Match between target and calculated belt length (A=B)

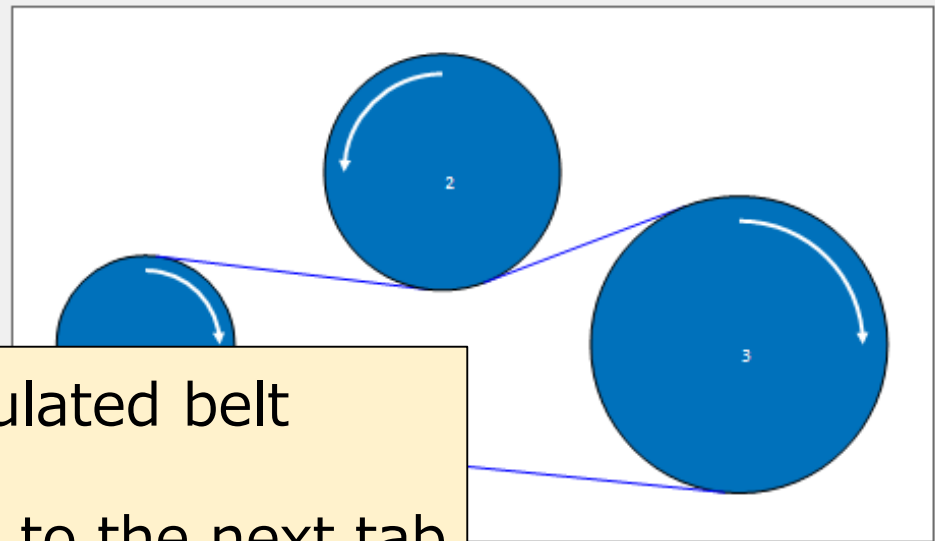
→ 14 Click "Go to Details" to go to the next tab.



Spring calculation

Distance between spring and arm pivot : s	mm	
Belt tension	N	
Angle between arm and tension force		
Angle between arm and spring force		
Force by belt tension	N	
Spring force	N	

Right angle pull force



Linear movement

- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length, moving shaft No., and moving direction).

Rotational movement

- Click on the Idler Pulley to move tension arm position.
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

Spring calculation

- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

Adjust Undo Reset

14 Go to Details =>

5. Adjustment tab (Rotational movement)

V-belt Design Program

Input Recommendation Adjustments Results Products Info

A Target belt length mm 1600.20

B Calculated belt length mm 1608.49

A

Belts list

- B-59
- B-60
- B-61
- B-62
- B-63**
- B-64

Linear movement

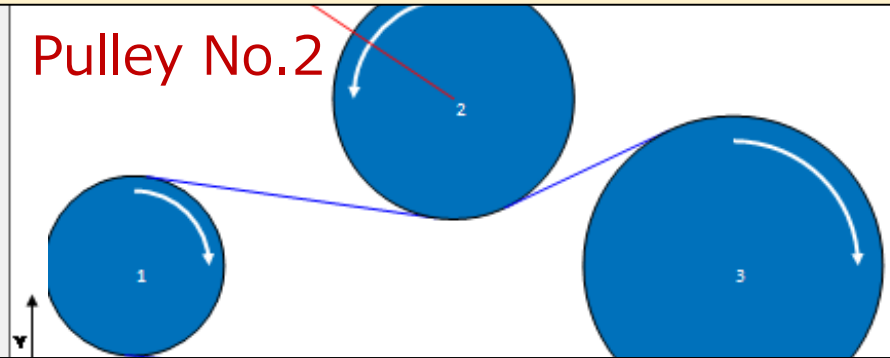
Pulley No.	
Direction	

12

Rotational movement

Rotation	Clockwise	▼
Pulley No.		2
X coord. of arm pivot	mm	100.00
Y coord. of arm pivot	mm	250.00
Arm length : L	mm	200.00

12 Input the moving axis and arm information to adjust to the target belt length.
 → **13** Click "Adjust" to adjust the layout.



- Target belt length (A) : → Refer to P25
- Calculated belt length(B) : → Refer to P25

- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length, moving shaft No., and moving direction).

Rotational movement

- Click on the Idler Pulley to move tension arm position.
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

Spring calculation

- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

13

Adjust Undo Reset

Go to Details =>

Example) Adjust the calculated belt length 1608.49mm to the target belt length 1600.20mm (B-63).
 → **12** Input arm information and move pulley No. 2. Enter "Pulley No. 2," "Arm fulcrum coordinates = (100,250)" and "arm length = 200mm."

5. Adjustment tab (Rotational movement)

Screen after adjustment

V-belt Design Program

Input Recommendation **Adjustments** Results Products Info Layout Design

A Target belt length mm 1600.20

B Calculated belt length mm 1600.20

Belts list

- B-61
- B-62
- B-63**
- B-64

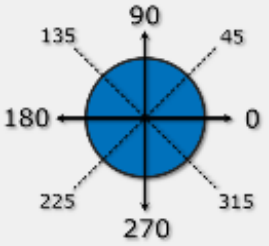
Even!!

Linear movement

Pulley No.	
Direction	

Rotational movement

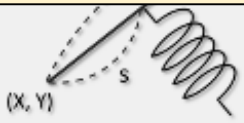
Rotation	Clockwise
Pulley No.	2
Speed of movement	100.00



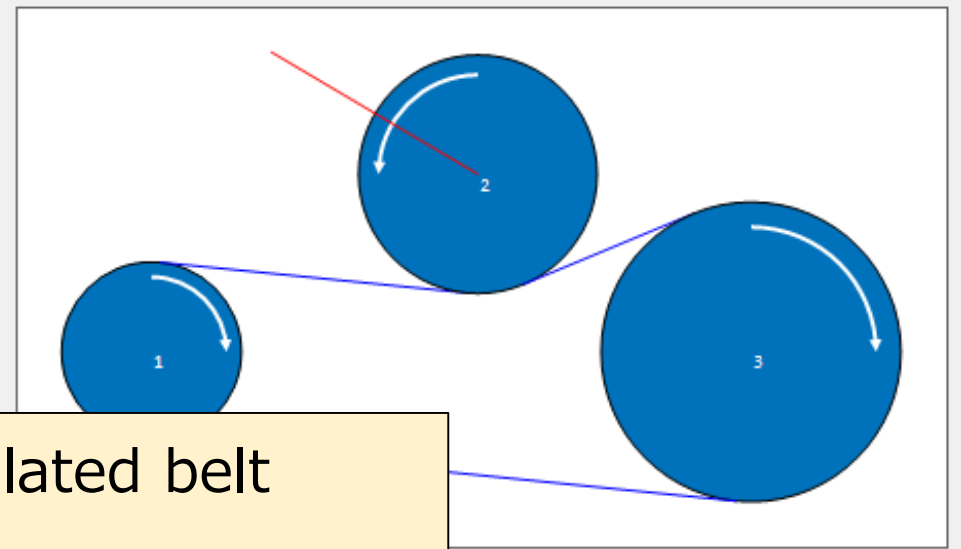
Match between target and calculated belt length (A=B)
 → ⑭ Click "Go to Details" to go to the next tab.

Spring calculation

Distance between spring and arm pivot : s	mm	
Belt tension	N	
Angle between arm and tension force		
Angle between arm and spring force		
Force by belt tension	N	
Spring force	N	



Right angle pull force



in pulleys or belts.

- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length, moving shaft No., and moving direction).

- Rotational movement
- Click on the Idler Pulley to move tension arm position.
 - Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

- Spring calculation
- Click on the Idler Pulley to change spring angle.
 - Click on the "Right angle pull force" button to apply.

Adjust Undo Reset

14 Go to Details =>

6. Results tab (Selection results)

Output pdf. with selected results
→ 15 Click "Create PDF"

V-belt Design Program



Input Recommendation Adjustments **Results** Products Info Layout Design

Area North America
Grade Classical V-belts
Type B

Rotation Clockwise

Displays "selected belt (automatic)," "Number of belts", "safety factor with selected belt and number," and "belt length".

*Can be recalculated with any Tension setting method

*Can be recalculated with any width

- Calculated
- Initial tension without spring
- Calculated with spring
- Initial tension with spring

Initial tension N

Spring No.

Number of belts

Service factor 1.6
Safety factor 2.34

For functionally and durability confirmation, please evaluate with actual model to be installed.

Grade Classical V-belts
Belt size B-63
 Number of belts 2
 Belt length 1600.20 mm

15

	With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev. rpm		100.0					
Use rate %							
Velocity m/s		0.79					
No. 1	<input checked="" type="checkbox"/>	0.50					

		D1	D2	D3
Revolution rpm		100.0	75.4	60.0
Trans. power kW		0.50		
Design power kW		0.80		
Span tension N		-	-	-
Number of belts		2	0	2
Minimum static tension N/pcs		366	366	366
Install tension N/pcs		549	549	549
Re-install tension N/pcs		476	476	476
Deflection length mm		4.1	2.5	8.0
Deflection load (Initial fitting) N/pcs		35.6	35.6	35.6
		31.0	31.0	31.0
		24.1	24.1	24.1
		10.0	17.1	5.0

*Click each tab to switch to the selected tab and review.

6. Results tab (pdf. creation)

V-belt Design Program



Input Recommendation Adjustments **Results** Products Info Layout Design

Area: North America
 Grade: Classical V-belts
 Type: B

15 Click "Create PDF" to display the print preparation screen.
 → **16** Select "Paper size", "Language", and enter various conditions.
 → **17** Click "Create PDF"

Layout *Please en

No.	X coord mm	Y coord mm	
1	0.00	0.00	Inside
2	272.15	148.19	Outside
3	500.00	0.00	Inside
4			
5			

Calculated
 Initial tension without spring
 Calculated with spring
 Initial tension with spring

Initial tension
 Spring No.

Service factor: 1.6
 Safety factor: 2.34
 Transmission Power [kW]

For functionally a actual model to b

16

Paper size: A4
 Language: English

Customer: ○△□ Ltd.
 Title: Design study for crusher machine
 Doc. number: 12345678

17

Buttons: Back, Clear, **Create PDF**

15

Create PDF

	With load	Con.1	Con.
Dr pulley rev. rpm		100.0	
Use rate %			
Velocity m/s		0.79	
No.	1	0.50	
	2		
	3		
	4		

		D2	D3
		75.4	60.0
		-	-
		0	2
Minimum static tension	N/pcs	366	366
Install tension	N/pcs	549	549
Re-install tension	N/pcs	476	476
Deflection length	mm	4.1	8.0
Deflection load (Initial fitting)	N/pcs	35.6	35.6
Deflection load (Retensioning)	N/pcs	31.0	31.0
Deflection load (Minimum)	N/pcs	24.1	24.1
Expansion (Initial fitting)	mm	109	171

7. Supplementary explanation : Procedure for selecting an area

Depending on the area or industrial standard, the following will change

- ▶ The type of belt that can be selected (calculated)
- ▶ The industrial standard to which it conforms (pulleys, belt length definition, etc.)
- ▶ Belt list to be selected

Start
screen



Japan



JIS

Europe



DIN

North America



RMA
(ARPM)

Other



Selectable
[JIS, DIN or RMA(ARPM)]

7. Supplementary explanation : Input condition re-entry procedure

V-belt Design Program



Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Auto
 Type: Auto

*Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Service factor: 1.6 Reference

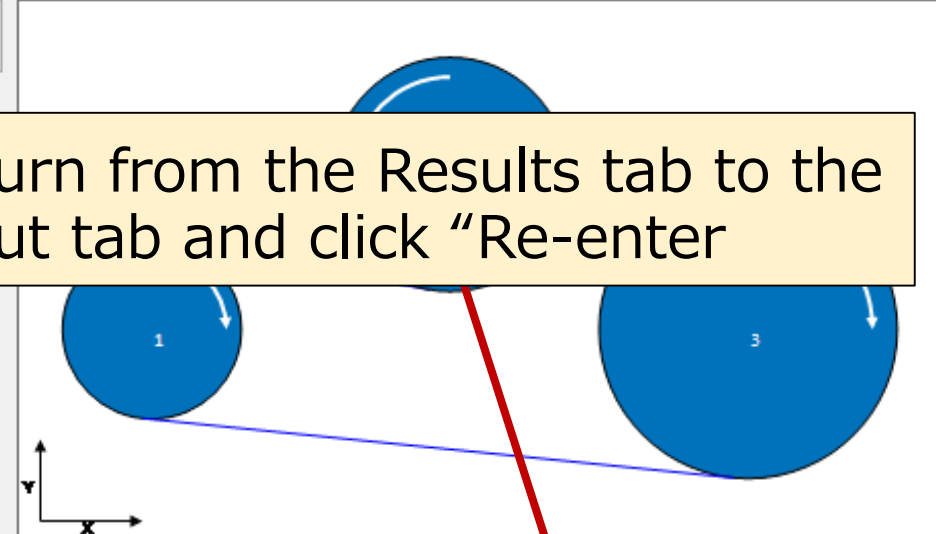
Load input method: Actual load Rated power

Transmission Power: kW

		With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev.	rpm		100.0					
Use rate	%							
Velocity	m/s							
No.			0.50					
	1	<input checked="" type="checkbox"/>						
	2	<input type="checkbox"/>						
	3	<input checked="" type="checkbox"/>						
	4	<input type="checkbox"/>						
	5	<input type="checkbox"/>						

Manual

Return from the Results tab to the Input tab and click "Re-enter"



Draw Layout *Layout is drawn temporarily.

Clear Re-enter

7. Supplementary explanation : Input condition re-entry procedure

V-belt Design Program



Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
 Grade: Auto
 Type: Auto
 *Input drive pulley into No.1 and others follow clockwise.
 Rotation: Clockwise

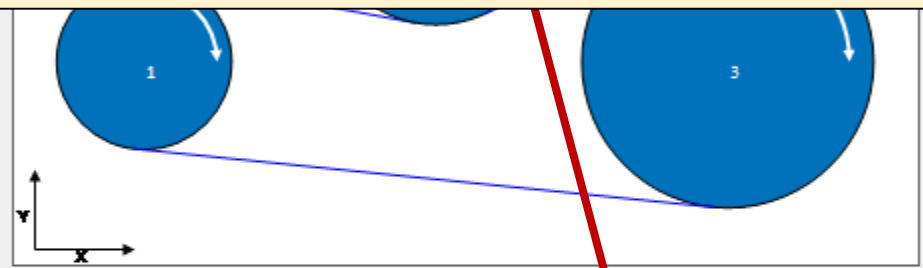
Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	C.D. mm
1	0.00	0.00	Inside	150.00			
2	250.00	130.00	Outside	190.00			
3	500.00	0.00	Inside	250.00			
4			Inside				
5			Inside				

Service factor: 1.6 Reference
 Load input method: Actual load Rated power
 Transmission Power: kW

		With load	Con.1	Con.2	Con.3	Con.4	Con.5	Con.6
Dr pulley rev.	rpm		100.0					
Use rate	%							
Velocity	m/s							
No.		<input checked="" type="checkbox"/>	0.50					
		<input type="checkbox"/>						
		<input checked="" type="checkbox"/>						
		<input type="checkbox"/>						
		<input type="checkbox"/>						

After "Re-enter" is clicked, the initial review state is restored.
 *The following steps are repeated.



Draw Layout *Layout is drawn temporarily.

Clear Calculation =>

7. Supplementary explanation : Spring calculation

V-belt Design Program

Input	Recommendation	Adjustments	Results	Products Info	Layout Design
-------	----------------	-------------	---------	---------------	---------------

Target belt length mm 1600.20

Calculated belt length mm 1608.49

Belts list

- B-59
- B-60
- B-61
- B-62
- B-63
- B-64

Linear movement

Pulley No.	
Direction	

Rotational movement

Rotation	Clockwise	▼
Pulley No.		2
X coord. of arm pivot	mm	100.00
Y coord. of arm pivot	mm	250.00
Arm length : L	mm	200.00

Spring calculation

s	Distance between spring and arm pivot : s	mm	100.00
	Belt tension	N	250.00
α	Angle between arm and tension force		44.06
β	Angle between arm and spring force		90.00
	Force by belt tension	N	154.92
	Spring force	N	206.97

Right angle pull force

*Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

- Enter the target tooth number, select "Rotational movement" as the layout adjustment method, and enter the arm information [Refer to p. 26].
- Select , enter "Distance between spring and arm pivot" and "Belt tension", and click "Right angle pull force".

7. Supplementary explanation : File function

The screenshot shows the V-belt Design Program interface. The title bar displays "V-belt Design Program" and "Mitsubishi Belting Ltd.". The "File(F)" menu is open, showing options: Open(O), Save(S), Save as(A), Return to Start(R), and Exit(E). The "Return to Start(R)" option is highlighted. Below the menu, a list of tabs is visible: "Adjustments", "Results", "Products Info", and "Layout Design". A dropdown menu is also visible, showing options: B-62, B-63 (highlighted), and B-64.

- Click "File(F)" on each tab to go to each screen.
*Input conditions are initialized.


- After completing the review, click on the tab "File(F)" → "Save As(A)" to save the file format.













- Re-load by "File(F)" and "Open(O)" in the input tab.
*The application and design method are automatically switched according to the file to be read.

8. Products information : Belt tab

V-belt Design Program

Input Recommendation Adjustments Results **Products Info** Layout Design




Narrow V-belts		Wrapped V-belts	Raw Edge Cogged V-belts
 <p>Narrow V-belts</p>	<p>SUPER WEDGE II</p> <p>SUPER WEDGE V-belts II are for heavier duty compared to Maxstar Wedge V-belts with common size.</p>		<p>MAXSTAR POWER EP-X</p> <p>MAXSTAR POWER EP-X is high transmission capacity, super heat resistant, and highly durable V-belt with EPDM rubber. RoHS and REACH compliant, and its electrostatic properties conform to ISO1813.</p> <p>【BELT Type】</p> <ul style="list-style-type: none"> • WEDGE Type : 3VX, 5VX • Narrow Cogged Type: SPZX, SPAX, SPBX, SPCX • Classical Type : AX, BX, CX <p> PDF</p> 
	<p>MAXSTAR WEDGE V-belts</p> <p>MAXSTAR WEDGE V-belts have greater wedge effect and grip power due to narrower width compared to Classical V-belts.</p>		<p>MAXSTAR WEDGE SUPREME</p> <p>MAXSTAR WEDGE SUPREME is narrow V-belt made of chloroprene rubber conforming to ARPM standards. High transmission capacity and narrow width enable compact system design and narrower width.</p> 
	<p>MAXSTAR POWER RED Narrow</p> <p>MAXSTAR POWER RED Narrow V-belts are for heavier duty compared to Narrow V-belts with common size.</p>		<p>TRIPLEX Narrow Cogged V-belts</p> <p>TRIPLEX Narrow Cogged V-belts are narrow V-belt made of chloroprene rubber conforming to DIN standards.</p> 
	<p>Narrow V-belts</p> <p>Narrow V-Belts has high transmission horsepower which conforms to DIN</p>		<p>TRIPLEX Classical</p> <p>TRIPLEX Classical V-belts have stronger grip and possible to be used in lower tension compared to Wrapped V-belts.</p> 
<p>Classical V-belts</p>  <p>Classical V-belts</p>	<p>Classical V-belts</p> <p>Classical V-belts are the most widely used power transmission belts. Economical and easily obtained for replacement.</p>		

⑤ : You can check our belt lineup.

9. Layout design tab

V-belt Design Program

 **MITSUBISHI**

Input Recommendation Adjustments Results Products Info **Layout Design**

Area: North America
 Grade: Classical V-belts
 Type: A

Belt Size:

Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	O.D. mm
1							
2							
3							
4							

(A) : Layout design can be performed separately from design studies.

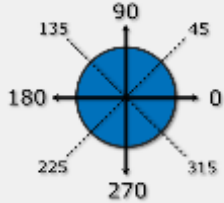
Target belt length mm:

Calculated belt length mm:

Belts list:

Linear movement

Pulley No.	<input type="text"/>
Direction	<input type="text"/>



Rotational movement

Rotation	Clockwise
Pulley No.	<input type="text"/>
X coord. of arm pivot mm	<input type="text"/>
Y coord. of arm pivot mm	<input type="text"/>
Arm length : L mm	<input type="text"/>

Spring calculation

Distance between spring and arm pivot : s mm	<input type="text"/>
Belt tension N	<input type="text"/>

Angle between arm and tension force	<input type="text"/>
Angle between arm and spring force	<input type="text"/>
Force by belt tension N	<input type="text"/>
Spring force N	<input type="text"/>

*Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

Linear movement

- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length, moving shaft No., and moving direction).

Rotational movement

- Click on the Idler Pulley to move tension arm position.
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

Spring calculation

- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

9. Layout design tab

① Select Grade / Type

Grade : Select the belt grade

Type : Select the belt type

*Area : Pre-selected on the start screen
[see P. 3]

② Input layout conditions

Input the following at each pulley.

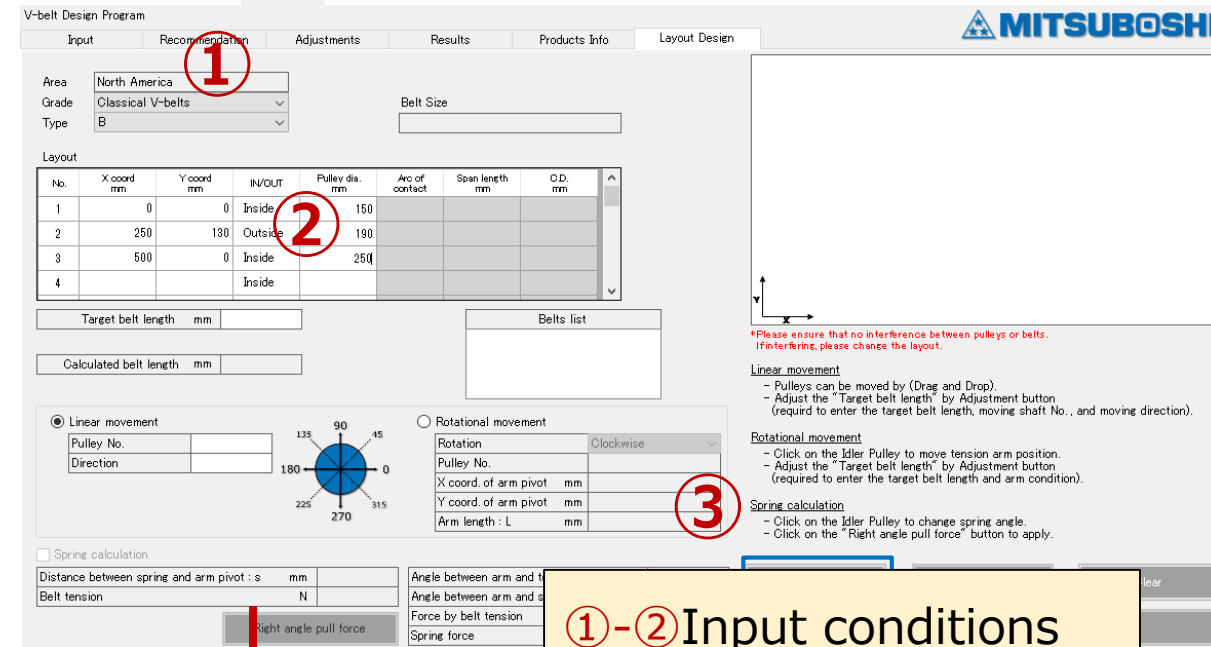
Set the drive pulley as No.1 and input clockwise!

- Pulley XY coordinate
- Pulley position (select inside or outside)
- Pulley diameter (mm)

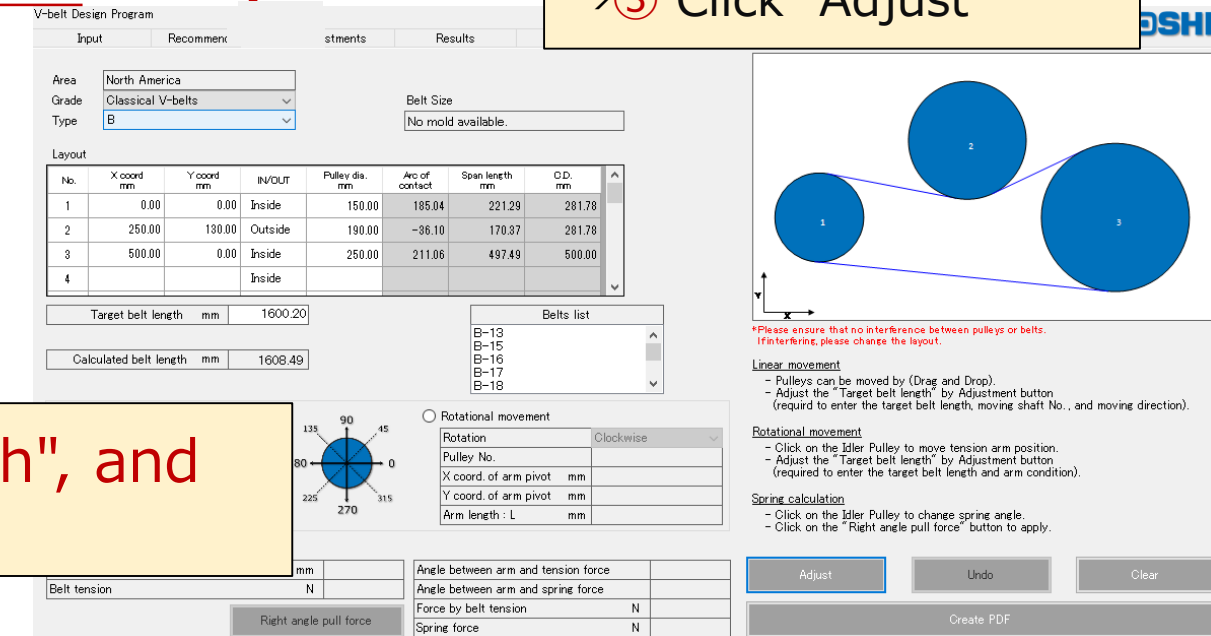
*For DIN/RMA (ARPM), enter the pulley diameter (standard V-belt: datum diameter) according to each standard.

③ Click "Adjust"

"Layout diagram", "Calculated belt length", and "belts list" are displayed.



①-② Input conditions
→ ③ Click "Adjust"



9. Layout design tab

⑤ Select belt size

- Select a belt size from the standard belt list and click.
- ⇒ This will be reflected in the target belt length.

⑥ Select and execute movement method

- Same as for layout adjustment during design study. [See p.25-28]
- Select the movement method and press "Move" button.

* To correct the error, click on "Undo".

* To erase or review the data, click on "Clear".

V-belt Design Program

Input Recommendation vents Results Products Info Layout Design

Area: North America
Grade: Classical V-belts
Type: B
Belt Size: No mold available.

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	O.D. mm
1	0.00	0.00	Inside	150.00	185.04	221.29	281.78
2	250.00	130.00	Outside	190.00	-36.10	170.37	281.78
3	500.00	0.00	Inside	250.00	211.06	497.49	500.00
4			Inside				

Layout Design Diagram: Three pulleys (1, 2, 3) connected by a belt. Pulley 1 is at (0,0), Pulley 2 is at (250,130), and Pulley 3 is at (500,0).

Target belt length mm: 1600.20
Calculated belt length mm: 1608.49

Belts list: B-60, B-61, B-62, B-63, B-64

Linear movement (selected):
Pulley No.:
Direction:
Spring calculation:
Distance between spring and arm pivot: s mm
Belt tension: N
Right angle pull force

Rotational movement:
Rotation: Clockwise
Pulley No.:
X coord. of arm pivot mm
Y coord. of arm pivot mm
Arm length: L mm

Angle between arm and tension force
Angle between arm and spring force
Force by belt tension: N
Spring force: N

Adjust Undo Clear

Create PDF

*Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

Linear movement:
- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length, moving shaft No., and moving direction).

Rotational movement:
- Click on the Idler Pulley to move tension arm position.
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

Spring calculation:
- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

④⑤ Input conditions

Target belt length	mm	1600.20
Calculated belt length	mm	1608.49

Belts list

B-60
B-61
B-62
B-63
B-64

9. Layout design tab

⑦ Create PDF file

Crick "Create PDF"

V-belt Design Program

Input Recommendation Adjustments Results Products Info Layout Design

Area: North America
Grade: Classical V-belts
Type: B
Belt Size: B-63

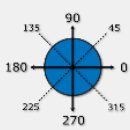
Layout

No.	X coord mm	Y coord mm	IN/OUT	Pulley dia. mm	Arc of contact	Span length mm	O.D. mm
1	0.00	0.00	Inside	150.00	181.23	230.55	289.11
2	250.00	145.20	Outside	190.00	-27.74	182.23	289.11
3	500.00	0.00	Inside	250.00	206.52	497.49	500.00
4			Inside				

Target belt length mm: 1600.20
Calculated belt length mm: 1600.20

Belts list: B-60, B-61, B-62, B-63, B-64

Linear movement
Pulley No.: 2
Direction: 90.00



Rotational movement
Rotation: Clockwise
Pulley No.:
X coord. of arm pivot mm:
Y coord. of arm pivot mm:
Arm length: L mm:

Spring calculation
Distance between spring and arm pivot: s mm:
Belt tension N:

Angle between arm and tension force:
Angle between arm and spring force:
Force by belt tension N:
Spring force N:

Adjust Undo Clear

Create PDF

*Please ensure that no interference between pulleys or belts. If interfering, please change the layout.

Linear movement
- Pulleys can be moved by (Drag and Drop).
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length, moving shaft No., and moving direction).

Rotational movement
- Click on the Idler Pulley to move tension arm position.
- Adjust the "Target belt length" by Adjustment button (required to enter the target belt length and arm condition).

Spring calculation
- Click on the Idler Pulley to change spring angle.
- Click on the "Right angle pull force" button to apply.

⑥ Crick "Create PDF"

* Layout calculation results cannot be automatically reflected in the design study (① Input tab). It is necessary to input the coordinates after layout calculation into the Input tab (①) individually.