

# Welcome to Rolla-V, the home of Press Brake Tooling...



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We are Rolla-V, the leading designers and manufacturers of specialist Press Brake Tools in the world.

Our state-of-the-art facilities reflect the tradition of generations of engineering in the industrial heart of the United Kingdom.

Based in the West Midlands, at the hub of the motorway network, it's easy to visit for a demonstration or to view your tools in action prior to delivery.

With over 80 years of experience, Rolla-V supplies the most comprehensive range of Press Brake Tools available today.

**We are also the home of the revolutionary patented Rolla-V.**

We supply Press Brake Tools, from stock, for every make of Press Brake in the world including Amada, Trumpf, Bystonic, Safan, LVD Adira, Durma and Bakal.

Most of our products are available for immediate dispatch, enabling you to tackle any project, of any size with complete confidence.

We have full CNC Press Brake testing facilities and also supply guillotine blades and a comprehensive range of auxiliary equipment.

With continued investment and an unrivalled reputation for quality and service, Rolla-V is the global centre of excellence for Press Brake Tools and bending technology.



We designed and patented the revolutionary Rolla-V over fourteen years ago.

Since then, Rolla-V has become a favourite of every Press Brake manufacturer in the world, and won Innovative Product of the Year.

Rolla-V is now sold by all major press brake tooling companies.

**Rolla-V provides the definitive answer if you need to:**

- Bend stainless steel, aluminium (or any aesthetic materials) with little or no marking
- Bend small flanges
- Bend near to a hole or slot without distortion
- Avoid tool contamination
- Prevent secondary expensive and unnecessary rework.



# Technical Specification

NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

## The Rolla-V range of tools

Rolla-V dies are available to suit any manufacturers machine.

Several fixed sizes are offered as well as adjustable models which are ideal for heavy plate or large radius work. Appropriate insert materials are used to suit the typical applications for each size of Rolla-V tool, although custom materials may be available on request.

Custom sizes and widths are also available for specific applications – please call us to find out more.

### Application

**RVP (models 1, 2 & 3) are; 60mm clamping widths**

Suitable for Amada, Atlantic, Adira, Bystronic Euro, Beyeler Euro-B, CR Electronic, Durmazlar, Ermaskan, Gasparini, Guifil, Haco, Promecam

**RVS (models 1, 2) are 14mm tang**

Suitable for Amada style single V holder

**RVT (models 1, 2 & 3) are 12.7mm/13.0mm tang**

Suitable for Bystronic, Hammerle, Beyeler, Edwards, Safan, SMD, Trumpf

**RVT90 (models 1, 2 & 3) are 12.7mm offset tang**

Suitable for LVD with offset tang

**RVM (models 2.5, 3 & 4)**

Universal clamping width base or tang – all styles are available – suitable for any machine brand

**If you can't see your machine type listed here we can provide advice and make custom fittings to your specification – please call us**

### Rolla-V Materials

Inserts	Models 1, 2 & 2.5	thru' hardened to HRC44
	Model 3	thru' hardened to HRC33 + surface hardened to HRC55
	Model RVM4	thru' hardened to HRC33 + surface hardened to HRC55
	Model V4	thru' hardened to HRC55

Body	all models	42CrMo4 tensile strength 1100-1200M/mm <sup>2</sup> surface hardened to HRC55
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Non-standard insert materials and HRC values are available for specific applications – please call us

## Rolla-V Advantages

■ Highly precision ground	■ Fewer tool changes
■ Modular	■ Bends laser cut sheets with no tool damage
■ Avoid traditional bending marks	■ Ideal for radius bending
■ Minimal marking	■ Exact inside radius
■ Extremely short flanges possible	■ Adjustable Rolla-V sizes
■ No tool material cross contamination	■ Ideal for tapered or feathered edges
■ Bend close to holes & cut-outs with no deformation	■ Bends up to 30mm thick material (subject to model selected)

## Application and Technical Data

	maximum load capacity (t/m)	material thickness (mm)	minimum bend angle (degrees)	tonnage required (t)	minimum outside flange(mm)	max outside radius
<b>Model 1 - fixed style</b>	100	0.7	40.0	5.0	3.0	3.0
	100	1.1	35.0	13.0	3.9	2.6
	100	1.5	35.0	27.0	4.2	2.2
<i>Max recommended thickness 1.5 mm (2.0 mm thickness may be possible)</i>						
<b>Model 2 - fixed style</b>	150	2.0	59.0	21.0	8.5	6.0
	150	3.0	47.0	55.0	9.3	5.0
	150	3.2	47.0	65.0	9.3	4.8
<i>Max recommended thickness 3.0 mm (4.0 mm thickness may be possible)</i>						
<b>Model 2.5 - fixed style</b>	250	2.0	46.0	10.0	18.6	13.2
	250	4.0	46.0	47.0	18.6	12.0
	250	6.0	55.0	127.0	18.6	9.8
<i>Max recommended thickness 6.3 mm</i>						
<b>Model 3 - fixed style</b>	250	2.0	68.0	7.0	22.5	13.9
	250	4.0	47.0	34.0	22.5	11.9
	250	6.0	50.0	90.0	22.5	9.9
<i>Max recommended thickness 6.3 mm (8.0 mm thickness may be possible)</i>						
<b>Model 4 - fixed style</b>	300	6.0	78.0	26.0	56.6	36.4
	300	8.0	76.0	50.0	56.6	36.4
	300	12.0	73.0	129.0	56.6	36.4
<i>Max recommended thickness 16.0 mm</i>						
<b>Adjustable models</b>				Adjustables usually used for bending thick materials or for bending large radii - because specific material specs vary we do not provide detailed bend data. Flaring or hole distortion is much reduced, but is influenced by material specification. Radius work is greatly effected by spring-back of the specific material being bent. Minimum flange sizes are greatly effected by the squareness of the component edge.		
<b>RVPV3</b>	39mm - 94mm	250				
<b>RVHD3</b>	39mm - 118mm	350				
<b>RVPV4</b>	69mm - 180mm	300				
<b>RVHD4</b>	70mm - 220mm	350				

#### Notes:

It is **NOT POSSIBLE** to maintain values A & B & C simultaneously.

These values are for **guideline only** and assume a tensile strength 420N/mm<sup>2</sup>.

If these values are very close to your requirement a test bend may be appropriate.

Practical testing may give more favourable results than shown in columns A, B and C.

Please call to discuss specific applications. All specifications are subject to change without notice.



# Model 1 Generation 7

## FIXED ROLLA-V RANGE

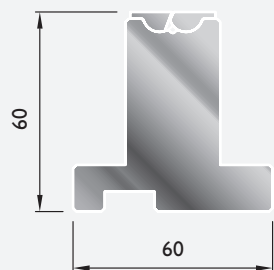
NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

### Model 1

- Castellated inserts
- Standard lengths 500mm, 100mm and 440mm segmented
- Segmented 440mm lengths includes 200mm, 100mm, 50mm, 30mm, 25mm, 20mm, 15mm
- Segmented 'Upgrade Kit' available – segments at 25mm, 40mm and 45mm

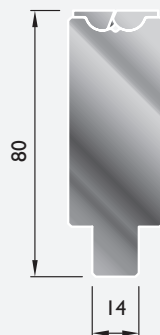
	maximum load capacity (t/m)	material thickness (mm)	minimum bend angle (degrees)	tonnage required (t)	minimum outside flange(mm)	max outside radius
<b>Model 1 - fixed style</b>	100	0.7	40.0	5.0	3.0	3.0
<i>Max recommended thickness 1.5 mm (2.0 mm thickness may be possible)</i>	100	1.1	35.0	13.0	3.9	2.6
	100	1.5	35.0	27.0	4.2	2.2

### RVP60-1



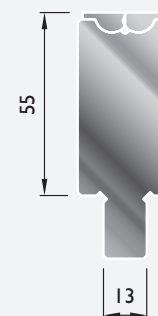
500mm	.....6.9kg
440mm Segmented	.....6.1kg
100mm	.....1.4kg

### RVS80-1

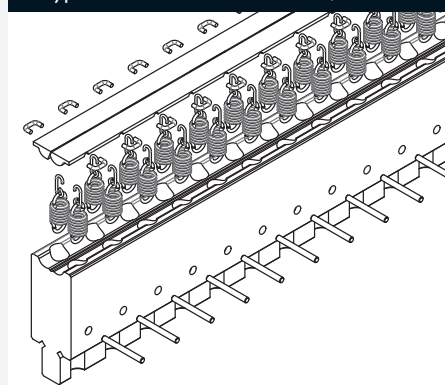


500mm	.....6.3kg
440mm Segmented	.....5.8kg
100mm	.....1.3kg

### RVT55-1

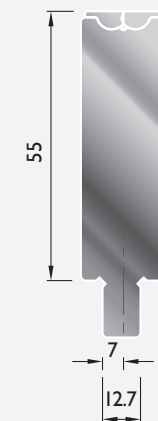


Typical construction for Models 1, 2 and 2.5



500mm	.....5.5kg
440mm Segmented	.....5kg
100mm	.....1.1kg

### RVT90-1



500mm	.....8.5kg
440mm Segmented	.....7.8kg
100mm	.....1.7kg

### RVT100-1



500mm	.....9.4kg
440mm Segmented	.....8.6kg
100mm	.....1.8kg



# Model 2 Generation 2

## FIXED ROLLA-V RANGE

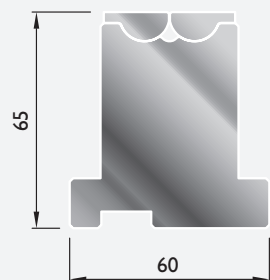
NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

### Model 2

- Standard lengths 500mm, 100mm and 450mm segmented
- Segmented 450mm lengths includes 200mm, 100mm, 40mm, 35mm, 30mm, 25mm, 20mm
- Segmented 'Upgrade Kit' available – segments at 25mm, 45mm and 50mm

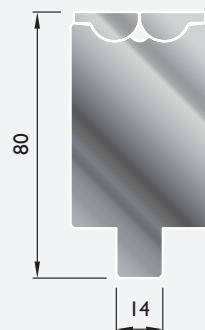
	maximum load capacity (t/m)	material thickness (mm)	minimum bend angle (degrees)	tonnage required (t)	minimum outside flange(mm)	max outside radius
<b>Model 2 - fixed style</b>	150	2.0	59.0	21.0	8.5	6.0
<i>Max recommended thickness 3.0 mm (4.0 mm thickness may be possible)</i>	150	3.0	47.0	55.0	9.3	5.0
	150	3.2	47.0	65.0	9.3	4.8

### RVP65-2



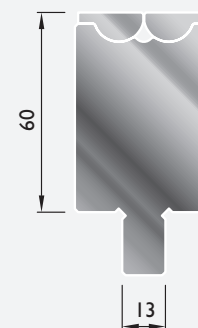
500mm	.....7.9kg
450mm Segmented	.....7.4kg
100mm	.....1.6kg

### RVS80-2



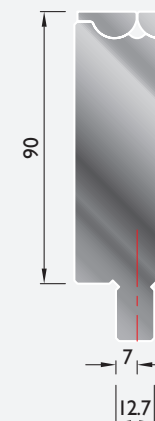
500mm	.....8.3kg
450mm Segmented	.....7.8kg
100mm	.....1.7kg

### RVT60-2



500mm	.....7.9kg
450mm Segmented	.....7.4kg
100mm	.....1.6kg

### RVT90-2

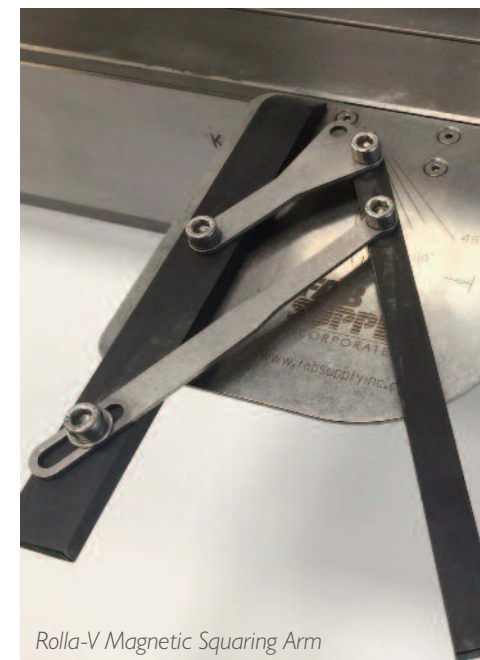


500mm	.....11.3kg
450mm Segmented	.....10.6kg
100mm	.....2.2kg

### RVT100-2



500mm	.....12.4kg
450mm Segmented	.....11.7kg
100mm	.....2.5kg



Rolla-V Magnetic Squaring Arm





# Model 2.5 Generation 1

## FIXED ROLLA-V RANGE

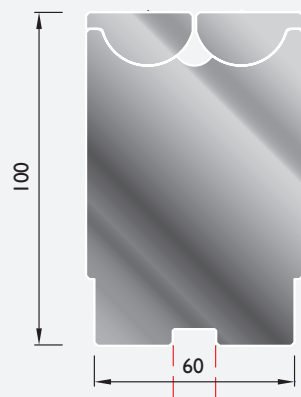
NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

### Model 2.5

- Standard lengths 500mm, 100mm and 470mm segmented
- Segmented 470mm lengths include 200mm, 100mm, 50mm, 45mm, 40mm, 35mm
- Segmented 'Upgrade Kit' available – segments at 25mm, 25mm and 30mm

	maximum load capacity (t/m)	material thickness (mm)	minimum bend angle (degrees)	tonnage required (t)	minimum outside flange(mm)	max outside radius
<b>Model 2.5 - fixed style</b>	250	2.0	46.0	10.0	18.6	13.2
	250	4.0	46.0	47.0	18.6	12.0
<i>Max recommended thickness 6.3 mm</i>	250	6.0	55.0	127.0	18.6	9.8

### RVM-2.5 Available with any base or tang fitting



500mm .....	22.0kg
470mm Segmented .....	21.0kg
100mm .....	4.4kg



# On-site demonstrations

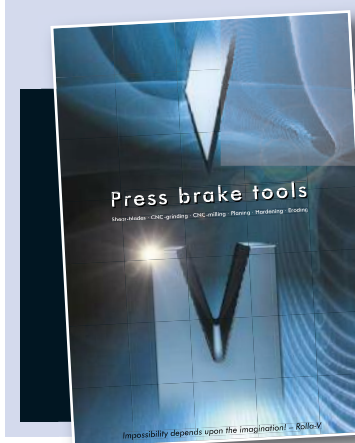
We are proud to demonstrate our products, so please let us know if you want to see them in action.

We will visit you at your earliest convenience to demonstrate our fantastic tooling range in person.

You will be able to test our tools on site and find out exactly how our range can work for you.

To arrange a personalised on-site demonstration for your business, please call us today on

**0845 500 1900**



The Rolla-V Catalogue presents the most comprehensive range of press brake tools in the UK

The latest edition of our catalogue is available to download on our website.

To request a free printed copy of a catalogue please call **0845 500 1900** or send an email to [info@rolla-v.com](mailto:info@rolla-v.com).



# Model 3 Generation 2

## FIXED ROLLA-V RANGE

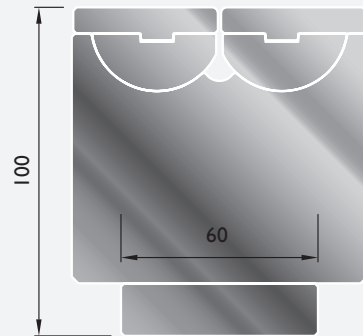
NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

### Model 3

- Standard lengths 500mm, 100mm and 455mm segmented
- Segmented 455mm lengths includes 200mm, 100mm, 60mm, 50mm, 45mm
- RVM70-3 Tang sizes 60mm, 13mm, 12.7mm, 12.7mm offset

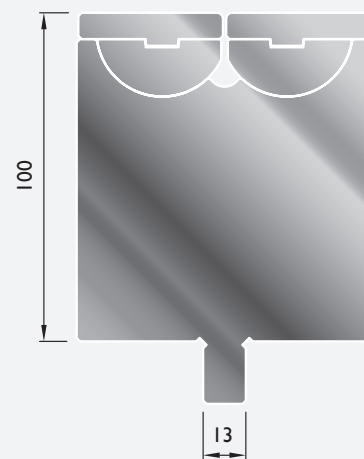
	maximum load capacity (t/m)	material thickness (mm)	minimum bend angle (degrees)	tonnage required (t)	minimum outside flange(mm)	max outside radius
<b>Model 3 - fixed style</b>	250	2.0	68.0	7.0	22.5	13.9
Max recommended thickness 6.3 mm	250	4.0	47.0	34.0	22.5	11.9
(8.0 mm thickness may be possible)	250	6.0	50.0	90.0	22.5	9.9

### RVP100-3



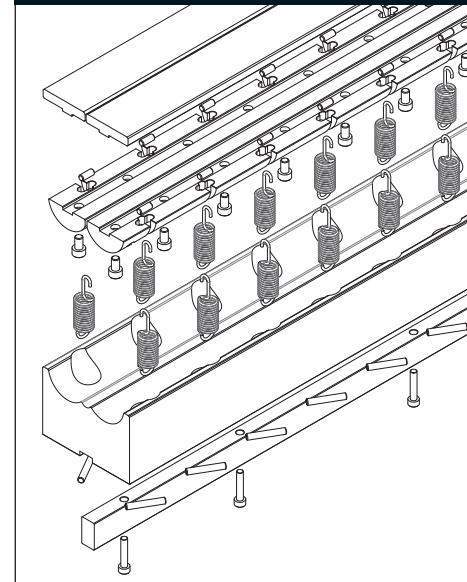
500mm	.....28.8kg
455mm Segmented	.....26.2kg
100mm	.....5.8kg

### RVT100-3

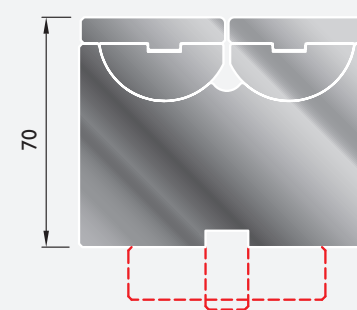


500mm	.....30.9kg
455mm Segmented	.....28.5kg
100mm	.....6.2kg

Typical construction for Models 3 and 4



### RVM70-3 Available with any base or tang fitting



500mm	.....20.6kg
440mm Segmented	.....18.7kg
100mm	.....4.2kg



# Model 4 Generation 2

## FIXED ROLLA-V RANGE

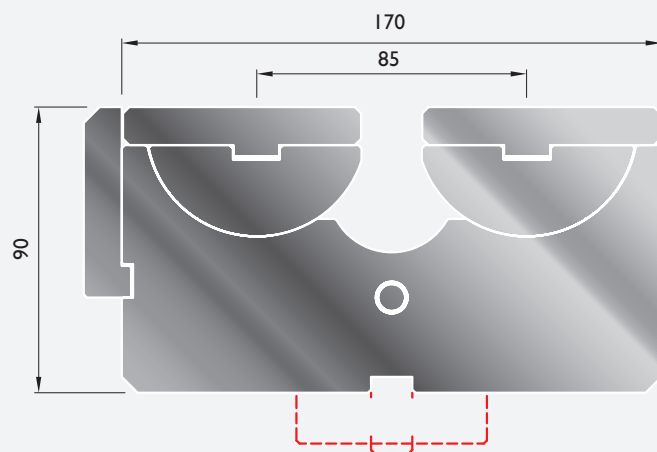
NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

### Model 4

- Tang fittings available to suit all manufacturers machines
- Standard lengths 500mm and 200mm
- Tang sizes 60mm, 13mm, 12.7mm, 12.7mm offset

	maximum load capacity (t/m)	material thickness (mm)	minimum bend angle (degrees)	tonnage required (t)	minimum outside flange(mm)	max outside radius
Model 4 - fixed style	300	6.0	78.0	26.0	56.6	36.4
	300	8.0	76.0	50.0	56.6	36.4
Max recommended thickness 16.0 mm	300	12.0	73.0	129.0	56.6	36.4

### RVM90-4 Available with any base or tang fitting



500mm .....	56.6kg
200mm .....	22.7kg

# Other Rolla-V applications

## Other Rolla-V applications

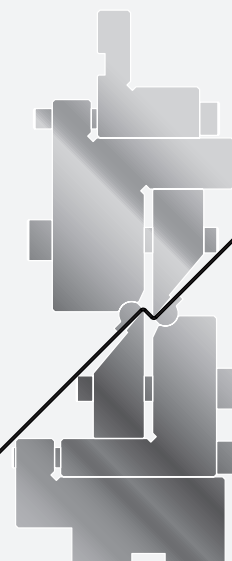
- Minimise safety edge marking using Rolla-V Hemming Tool
- Minimise Joggle Form marking
- Contact us if you have special applications



### Hemming Tool



### Adjustable Joggle



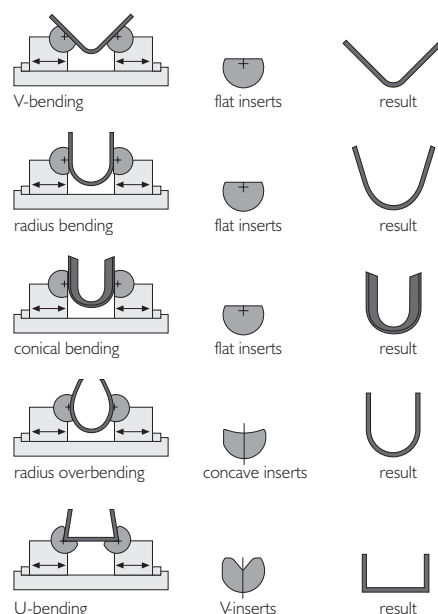
# Adjustable Rolla-V range

NON-STANDARD LENGTHS ARE AVAILABLE TO ORDER ON ALL MODELS

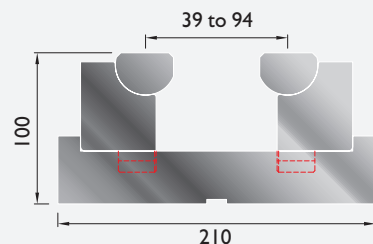
## Adjustable Rolla-V range

- Insert with through hardened plate or nitride hardened surface
- Standard lengths 500mm and 200mm
- Non-standard lengths available to order
- These tools are usually used for bending thicker materials or making large radius components
- Specific material specifications vary greatly so it is not feasible to provide detailed data
- eg, minimum flange sizes are greatly affected by squareness of component edge
- eg, flaring or hole distortion is much reduced with these tools, but is influenced by specific material type
- eg, radius work is greatly affected by spring-back of specific material and flange sizes
- Please call us to discuss specific applications

## Examples of use

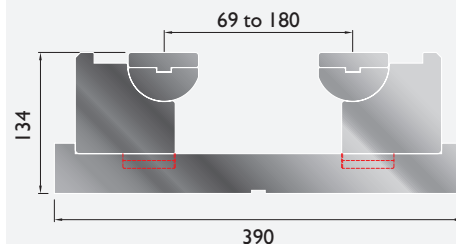


### RVPV3



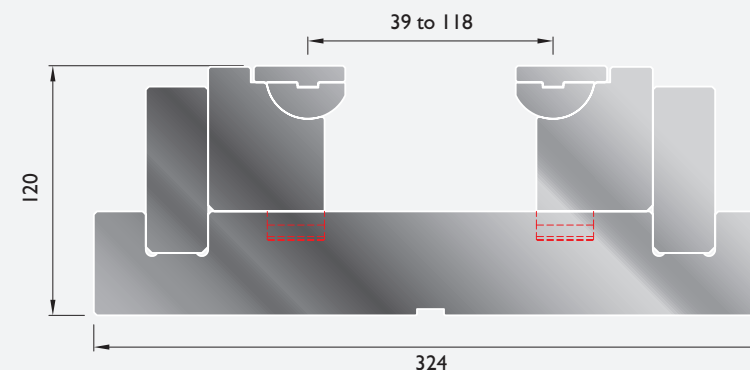
500mm	.....50kg
200mm	.....20kg

### RVPV4



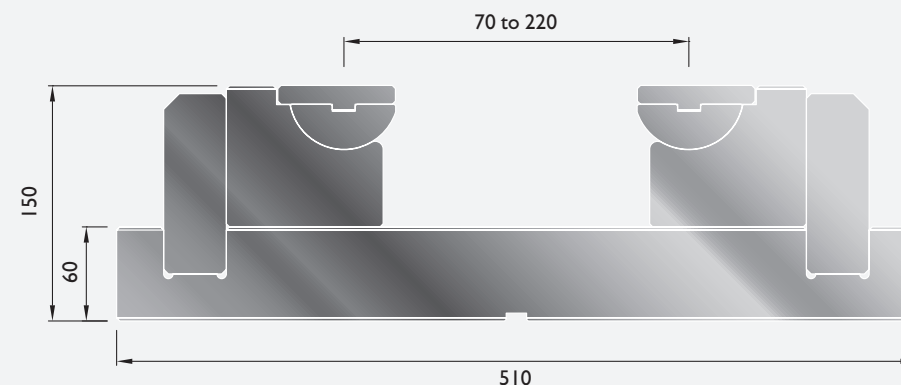
500mm	.....130kg
200mm	.....52kg

### RVHD3



500mm	.....98kg
200mm	.....39kg

### RVHD4



500mm	.....200kg
200mm	.....80kg



# Calculations

These formulae are for guideline purposes only – they will provide a good indicator of what tonnage or flange size or maximum outside radius is possible for a specific bend.

Our experience shows that whilst these calculations provide theoretical values, in practice it is usually possible to obtain a more favourable result.

We would recommend that if your requirement is close to the calculated value, a test bend using your material and tooling may be advisable to confirm what result is actually possible.

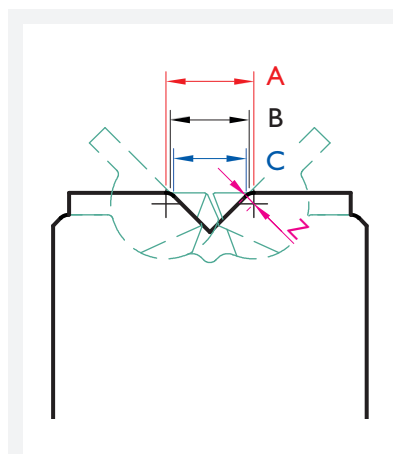
## Key

**Dimension A** Rotor centre distance (Equivalent V when flat)

**Dimension B** Equivalent V-width for calculating flange sizes

**Dimension C** Equivalent V-width for calculating tonnages

**Dimension Z** Equivalent V-width for calculating tonnages



	A (mm)	B (mm)	C (mm)	Z (mm)
Model 1	8.00	7.17	6.59	1.00
Model 2	15.00	13.92	13.16	1.30
Model 2.5	28.00	26.34	25.17	2.00
Model 3	38.00	33.44	30.22	5.50
Model 4	85.00	80.03	76.51	6.00

We suggest using Rm values as indicated here

**Aluminium Rm** 200 - 300 N/mm<sup>2</sup>

**Mild Steel Rm** 370 - 450 N/mm<sup>2</sup>

**Stainless Rm** 650 - 700 N/mm<sup>2</sup>

## Force (tonnage) calculation

$$\text{Force (Kn/m)} = \frac{R_m \times T^2}{C} \times \left(1 + \frac{4 \times T}{C}\right)$$

Aluminium: Rm = 200-300 N/mm<sup>2</sup>

Mild Steel: Rm = 370-450 N/mm<sup>2</sup>

Stainless: Rm = 650-700 N/mm<sup>2</sup>

### Example:

Bend force calculation example:

2mm Aluminium in a Model 2

$$\text{Force (Kn/m)} = \frac{300 \times 2^2}{13.16} \times \left(1 + \frac{4 \times 2}{13.16}\right)$$

$$91.185 \times 1.6079 = 146.62 \text{Kn/m}$$

Bending force = **146.62Kn/m**

## Min flange calculation

$$\text{Min flange (MF)} = \sqrt{(B^2/2)}$$

### Example:

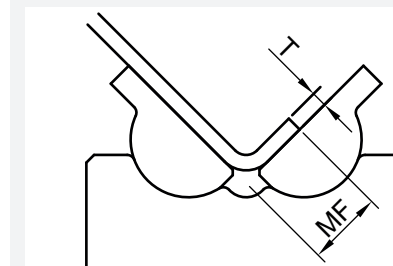
Min flange calculation example:

Model 1

$$\text{Min flange (MF)} = \sqrt{(7.17^2/2)}$$

$$\sqrt{25.704} = 5.07$$

Min flange = **5.07mm**



## Max outside radius calculation

$$\text{Rule 1) Max ER} = \sqrt{(C^2/2)} - (T + Z)$$

$$\text{Rule 2) IF ER IS} > B/2.2, \text{ER} = B/2.2$$

Note: You must calculate both Rule 1 and Rule 2 values. If Rule 2 is of greater value than Rule 1 then Rule 2 overrides Rule 1. If however Rule 1 is **SMALLER** than Rule 2 then Rule 1 overrides Rule 2.

### Example:

3mm Material in Model 2.5

$$\text{Rule 1 ER} = \sqrt{(25.17^2/2)} - (3 + 2)$$

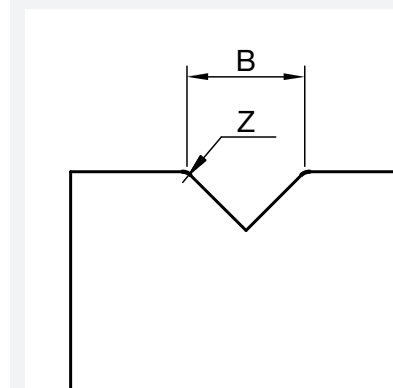
$$17.8 - 5 = 12.8$$

$$\text{Rule 2} = 26.34 / 2.2 = 11.97$$

12.8 (Rule 1) is greater than 11.97 (Rule 2) therefore Max ER = **11.97mm**

## General input on machine

Equivalent V construction for graphical machine controllers



To simulate the Rola-V on a machine graphical input, use a v-width of **B** and v-corner radius of **Z**.

