

machine tool products

beakbane 

beakbane

Formed in 1954, with its roots in mechanical leather bellows, Beakbane Limited has grown steadily to establish itself as the UK's leading machinery protection specialist.

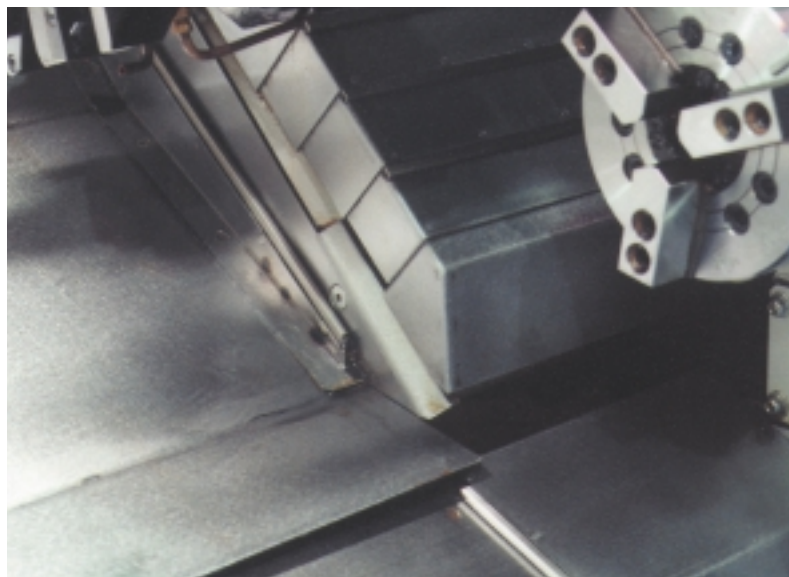
In-house design and manufacture



Using both traditional and high-tech manufacturing skills, we are able to tailor-make solutions for your individual machinery protection needs. We can work in a variety of high-specification materials, produce slideway protection covers in a wide range of sizes and deliver to the most demanding deadlines.

Quality matters at Beakbane

Large or small, all our covers are designed in-house, manufactured to suit their specific application and are Quality Assured to BS EN 9001 certification.



Latest technology machines demand the best possible slideway protection systems

Steel Telescopic Covers

Beakbane Steel Telescopic Covers are designed to protect machine tool slideways and are precision-built for optimum efficiency. Over the last three decades, Beakbane has developed and refined its design know-how and understanding of the requirements of machine tool builders to the point where it is an acknowledged international leader in its field.

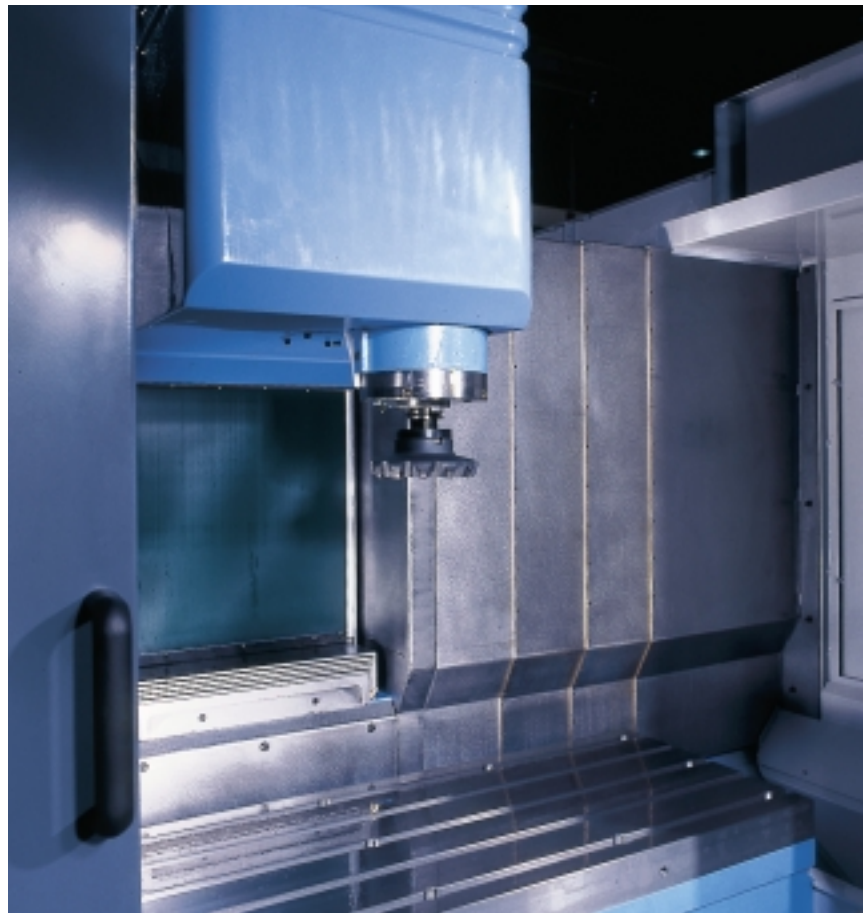
The protection of machine tool slideways is essential if machine tool accuracy is to be maintained, down time reduced, and associated maintenance costs avoided.

By working closely with machine tool builders and adjusting quickly to the demands of the latest technology, Beakbane Telescopic Covers have become an integral part of many machine tool designs. We cannot stress too strongly the importance of the cover requirements being considered at the design stage if maximum efficiency and cost benefits are to be achieved.

Our computerised design programme provides data for the precision manufacture of Beakbane Covers. This ensures instant recall of all information needed for repeat orders: also, as an indication of the precision in our manufacturing procedures, it enables us to replace a damaged 'box' in a cover when required.

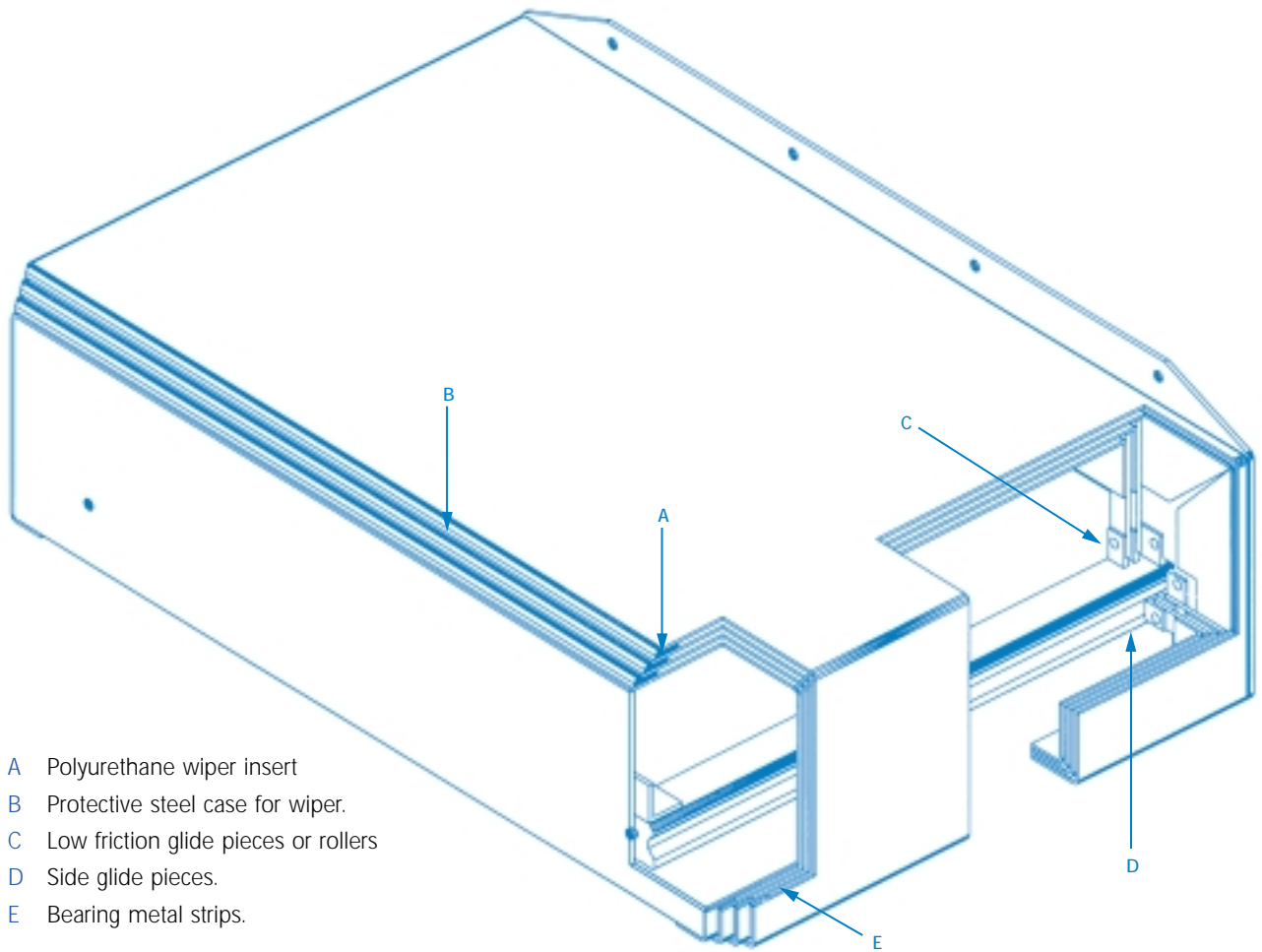
The individual boxes that make up each cover are interlinking, and depending on the box structure can be sufficiently rigid to support the weight of an operator when the cover is stationary.

Wiper seals are fitted, as required, to the leading edge of all boxes with the exception of the smallest. The wiper is pressure loaded so preventing the ingress of swarf and other unwanted foreign bodies. The wiper itself is made from hardwearing polyurethane or nitrile rubber, protected in its own steel case from hot chips and swarf.



Steel telescopic cover fitted to 'x' axis on Yamazaki VTC200B machine

“Our aim is to design and manufacture Telescopic Covers which can be bolted straight on to machines with no additional work whatsoever by our customers.”

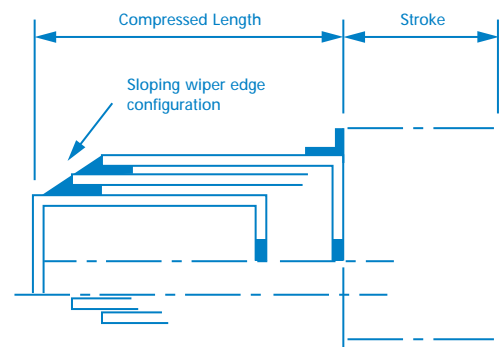


- A Polyurethane wiper insert
- B Protective steel case for wiper.
- C Low friction glide pieces or rollers
- D Side glide pieces.
- E Bearing metal strips.

Technical Data

Beakbane covers have been designed to suit machine strokes of up to 20 metres and bedway widths in excess of 2500mm. They are now regularly designed and manufactured to work at axis speeds of 40 metres per minute. Higher axis speeds of up to 80 metres per minute form part of our continuous development.

In Beakbane Telescopic Covers the boxes run on low friction guide pieces, or on rollers. Clearance is made between the sides of boxes to reduce friction. Sideways movement is accurately controlled by the side glide pieces and the bearing metal strips. When extra sealing is needed, wipers can be fitted on the sides of boxes, but this increases the force required to move the covers.



In marginal cases a slight increase in stroke capability from the given number of boxes may be achieved by utilising a straight wiper edge configuration instead of the standard sloping edge

Concertina Covers

When linear tracks or horizontal/vertical crossways on machine tools need safeguarding against pick-up from dust/lightweight swarf, Beakbane Concertina Covers will give the required protection.

In general Concertina Covers are available for slideway widths up to 2 metres where operating speeds do not exceed 80 metres per minute.

Available in a choice of constructions, both Mk.1 and Mk.2 Covers have proven track records, both types having been designed and developed 'in-house' based on the company's wide range of experience and job knowledge.

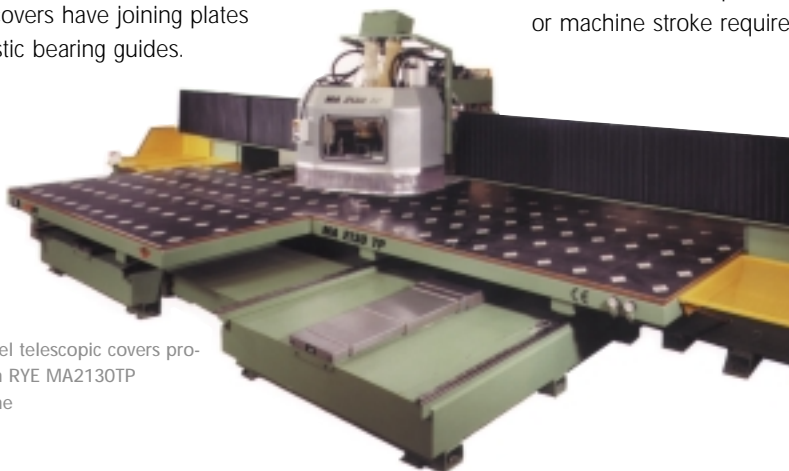
Mk.1 Folded Covers

- Lightweight, stable and easy moving
- For fast or slow moving machines
- High extension/compression ratios
- Minimum restriction on machine capacity
- Economically priced, suitable for normal applications
- For normal use constructed in PVC or polyurethane coated fabric with plastic stiffeners sewn in each fold
- For weld spatter applications synthetic rubber coated natural fibre fabric is the preferred material.

Mk.2 Folded Covers

- Strong sectionally built covers
- Excellent resistance to abrasion, coolants, swarf or fine metal chips in arduous applications
- Tested to one million cycles
- Standard construction is polyurethane coated polyester fabric laminated to polypropylene film, with plastic bearing guides
- Multi-section covers have joining plates fitted with plastic bearing guides.

Mk1 folded and steel telescopic covers protecting slideways on RYE MA2130TP CNC routing machine



Technical Data

Extended : Compressed Guidelines

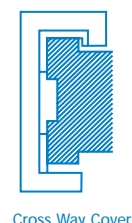
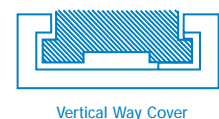
Mk. 1 Covers		Mk. 2 Covers	
Vee depth	Ext'd : Comp'd ratio range*	Vee depth	Ext'd : Comp'd ratio range*
15	4.0 to 6.6 : 1	15	4.3 : 1
20	5.4 to 10.0 : 1	20	5.6 : 1
25	7.2 to 13.3 : 1	25	6.9 : 1
30	9.0 to 16.6 : 1	30	8.1 : 1
35	10.9 to 18.4 : 1	35	9.2 : 1
40	12.7 to 21.5 : 1	40	8.7 : 1
		50	10.7 : 1
		60	12.6 : 1
		70	14.3 : 1

*Beakbane designers will select the materials to suit each application individually. This will have a bearing on the degree of extended : compressed capability for each cover.

To detail your Concertina Cover fully, we need:

- Position of cover on machine.
- Full slideway details.
- Type of protection required.
- Speed of stroke.
- Ambient temperature.
- Extended and compressed lengths, or machine stroke requirement.

Typical Applications



Armoured Aprons

The demand from machine tool and other industries for an economically priced, tough, lightweight armoured apron has been met by Beakbane with its 'Mark 4' design.

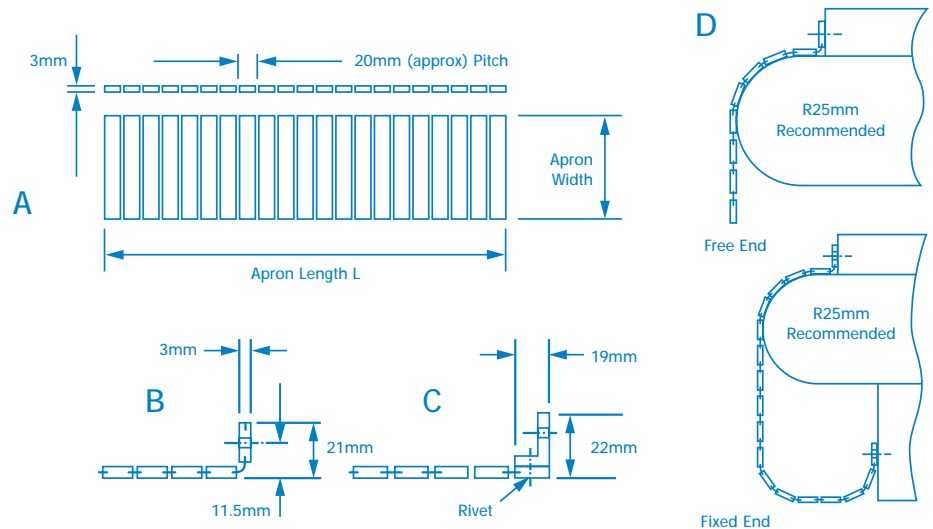
The unique design of the cross-section enables 'linking' to be achieved with a 'hinge' material allowing the apron flexible movement and a long wear life. The materials have good resistance to most of the commonly used lubricants and coolants. If in doubt, consult our technical department who will be pleased to help you.



Armoured apron shown in a typical lathe saddle application

Adapting the Beakbane Aprons to machines is easy:

- They can be attached at either one or both ends
- End fixings can be pre-drilled if required
- Aprons are available up to a maximum width of 950mm
- Available in most lengths to suit requirements.



The following technical data will help you specify Beakbane Armoured Aprons for your machine:

Material	19mm wide x 3mm thick aluminium slats (diagram A)
End Fixings	Type A - simply use an extra slat (diagram B) Type B - 90° extruded aluminium angle (diagram C)

Fixing Holes	Fixing screw holes up to maximum 7mm diameter. Number and centre dimensions to suit
Additional Fixing Requirements	When aprons are draped over the ends of slideways it is recommended that a minimum 25mm radius is provided for ease of operation (diagram D)
Tolerances	Overall length: +20mm / -0mm Squareness: 1.5mm per 300mm length
Ambient Temperature	maximum +60°C - minimum -30°C
Tensile Strength	2.5kgf/cm

Roller Blinds

Beakbane Roller Blinds are the economical solution to the protection problem of slideways where space constraints prevent fitting more comprehensive equipment.

Engineered to high standards, they provide substantial protection in this type of situation. They are also first choice in many other applications, including use as a slot closure device.

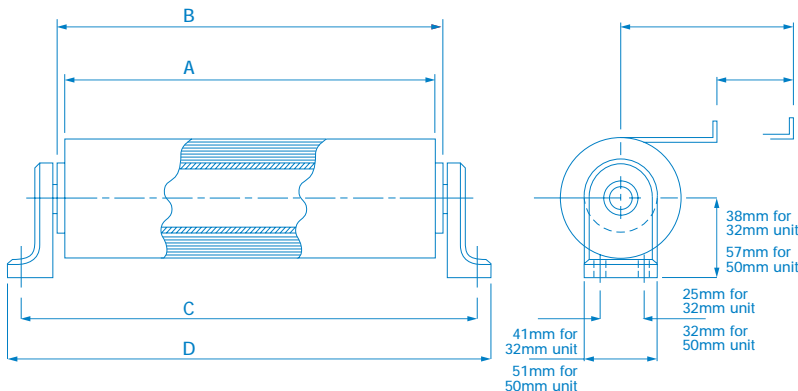
A Beakbane Roller Blind comprises a blind material and metal tube with sealed precision ball races at either end.

Housed inside the tube, and attached at one end, is a high grade helically-wound steel spring. The opposite end is secured to the axle.



A suitable length of blind material is fastened to the outside of the tube and wrapped around it. (Standard blind material is 1mm thick Nitrile Coated Cotton.)

When operating, the forward motion of the machine unrolls the blind material from the tube. As it rotates, sufficient energy is generated and stored in the spring mechanism to recoil the blind during reverse transverse.



All Beakbane Roller Blind units are specially made to customers requirements and can be supplied with or without fixing brackets. They can also be mounted in a canister, giving the added advantage of an integral wiper which cleans the face of the blind during operation.

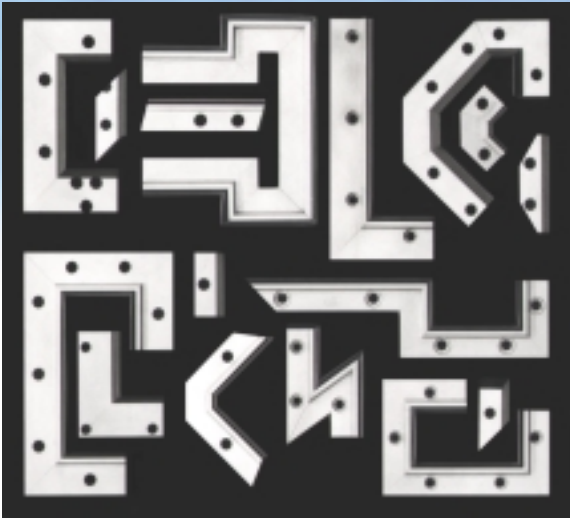
32mm Roller Blind Guidelines

A	B	C	D	E	F
Blind Width	Roller Width	Hole Centres	O/all Width	Stroke	P/L Turns
100	110	160	180	330	0.8
150	160	210	230	590	1.0
200	210	260	280	940	1.0
250	260	310	330	1240	1.5
300	310	360	380	1570	2.0
350	360	410	430	1920	2.5
400	410	460	480	2200	3.0
450	460	510	530	2640	3.5
500	510	560	580	3000	4.0
550	560	610	630	3450	4.5
600	610	660	680	3900	5.0

50mm Roller Blind Guidelines

A	B	C	D	E	F
Blind Width	Roller Width	Hole Centres	O/all Width	Stroke	P/L Turns
150	165	215	235	335	0.5
200	215	265	285	515	0.75
250	265	315	335	675	1.0
300	315	365	385	835	1.25
350	365	415	435	980	1.5
400	415	465	485	1180	1.75
450	465	515	535	1340	2.0
500	515	565	585	1480	2.5
600	615	665	685	1850	3.0
700	715	765	785	2230	3.5
800	815	865	885	2600	4.0
900	915	965	985	3060	4.5
1000	1015	1065	1085	3460	5.0
1100	1115	1165	1185	3860	6.0
1200	1215	1265	1285	4260	6.5
1300	1315	1365	1385	4800	7.0

The tables above provide a basic guideline to approximate width/stroke relationships for roller blind units. They are not representative of a standard range.



Slideway Wipers

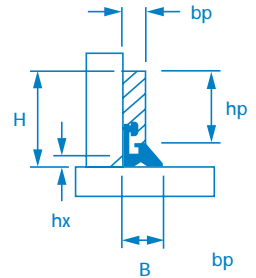
Beakbane Slideway Wipers have been developed in co-operation with the leading machine tool manufacturers for the protection of slideways against the ingress of swarf and for the preservation of machine accuracy. They meet the high demands of industry for both conventional and hydrostatic lubrication systems.

Design Features:

- Solid aluminium casing - no distortion of wiper lip when fitted to machines
- Varying casing heights - can be used to replace other types on the market
- Easily machined casing - for optimum adaptability to customers' requirements
- Fixing holes in aluminium casing only - no countersunk holes required
- Easily replaceable lip - for straight lengths
- Wiper backface seals - specially designed bead on backface ensures a water/oil proof seal between wiper and machine fitting face
- Standard 1m length wipers available from stock
- Custom-made wipers available from customers drawings - details needed of maximum space available, precise slideway dimensions and position of fixing holes in relation to slideway
- Moulded wipers - Beakbane can now offer moulded wipers in a variety of shapes. Ideal where larger quantities are required.

All Beakbane Wipers feature a precision-engineered polyurethane wiping blade:

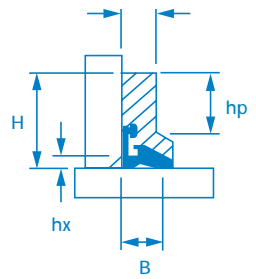
- Resilient with high abrasion resistance
- Will operate effectively in ambient temperatures of up to +100°C
- High flexibility in temperatures of down to -40°C (no material embrittlement)
- Resistant to oil, grease, emulsions and water
- Limited resistance to alkalis, acids and petrol
- High hydrolysis as well as outstanding resistance to oxygen, ozone and UV rays.



Technical Data

BA and BAS Type Wipers

BA Wipers are primarily used for restricted fitting conditions or where a steel telescopic cover, a concertina cover or an armoured apron provides the main protection.



Type	Fitted Dimension H	hp	hx max.	B	bp
BA18	17.5	13.0	3.5	7.5	4.5
BA25	23.5	19.0	3.5	7.5	4.5

BAS Wipers are preferred where direct contact with chips is involved (not hot chips), as the aluminium casing incorporates additional protection of the polyurethane wiping blade.

Type	Fitted Dimension H	hp	hx max.	B	bp
BA18	17.5	11.4	3.5	10.0	7.0
BA25	23.5	17.4	3.5	10.0	7.0

All dimensions in mm

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