

Founded in 1915- over 100 years of experience in steel fabrication

Comprehensive quality system

Personalised service

Custom manufacture

Mild Steel and Stainless Steel

Other Abattoir Equipment Available

Various Slides & Gambrels

Dressing Rollers (Trolleys)

Hooks

Bleed Rollers

Chains

"S" Hooks

Nylon Inserts

Branding and numbering

Various trucking hooks, smokehouse trolleys, bacon hangers

General steel and stainless steel fabrication

3 Waverley Avenue, Edwardstown South Australia 5039 Telephone +61 (0)8 8276 3644 flightabattoir.com.au sales@flightme.com.au

The Benefits of Experience.

With over 100 years of experience in the steel fabrication business Flight has the resources, the "know how" and the commitment to ensure that your specific hardware requirements will be met.

Having been a supplier to the meat industry for over 40 years, we have developed a great deal of specialised knowledge and have refined our products and manufacturing methods to ensure that you will receive the best value from your purchases.

In addition to Australia and the South Pacific we have exported equipment to Europe, Asia, North America, Africa and the Middle East.



Flight Bros can assist with the supply of equipment used in Abattoirs such as Meat Slides, Dressing Rollers, Bleed Rollers, Gambrels and Legging Chains.

We also offer a repair service and maintenance for items such as Dressing & Bleeder Rollers. Alternatively wheel and axle combinations can be supplied to facilitate your own on-site maintenance.

Our background in specialised engineering fabrication means that we can manufacture custom products to your specification, or assist in the development of specialised equipment for your unique application. We can manufacture in stainless steel or mild steel.

If you can't find what you want in our catalogue just let us know and we will work with you to come up with a solution to match your needs.

For more information on Flight please have a look at our website **www.flightabattoir.com.au**.





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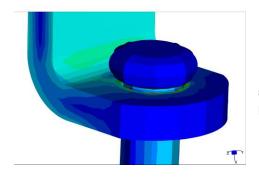
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Design and Manufacture

We understand that your individual requirements may be different from others in the industry and accordingly, in addition to the standard components listed in the following catalogue, Flight Bros can manufacture components to your specific requirements.

We use specialised 3D CAD software for drawing and our professionally qualified engineering staff utilise the latest structural engineering computer programs and finite element analysis packages when assessing loads and when undertaking specialised design work. We also have extensive testing facilities that can be used in conjunction with theoretical design work to prove new designs.



Utilising Finite Element Analysis we are able to assess areas of stress given particular forces and loads

Quality

Flight Bros Pty Ltd has high internal standards in relation to quality of manufacture, quality of service and quality of advice.

Our quality system is based on international standards and is further refined to reflect the unique nature of our customers and the industries we serve.

We have maintained and developed the documented, formal quality system since 1993.







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"D" Body Slides

Various hook combinations available with this slide

Part No	Body	Hook	Notes	Weight	Rated Capacity	Drawing	Photo
FBA D1	25mm x 5mm MS	10mm HDW	Sheared Hook	0.264kg	100kg	115 115 35 H 60	
FBA D3	25mm x 5mm MS	10mm HDW	Sheared Hook	0.275kg	120kg	115	
FBA D6	25mm x 5mm MS	10mm MS	Sheared Hook	0.400kg	40kg	115	





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"E" Body Slides

Various hook combinations available with this slide

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Part No	Body	Hook	Notes	Weight	Rated Capacity	Drawing	Photo
FBA E1	25mm x 8mm MS	10mm HDW	Sheared Hook	0.414kg	100kg	137 137 35 N 60	
FBA E3	25mm x 8mm MS	10mm HDW	Sheared Hook	0.430kg	120kg	137	
FBA E6	25mm x 8mm MS	10mm MS	Sheared Hook	0.550kg	40kg	137	





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"J" Body Slides

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Part No	Body	Hook	Notes	Weight	Rated Capacity	Drawing	Photo
FBA J9	32mm x 8mm MS	12mm MS	Pointed Hook	0.674kg	160kg	137	
FBA J10	32mm x 8mm MS	12mm MS	Sheared Hook	0.670kg	160kg	137	
FBA J11	32mm x 8mm MS	14mm MS	Sheared Hook	0.790kg	240kg	137	





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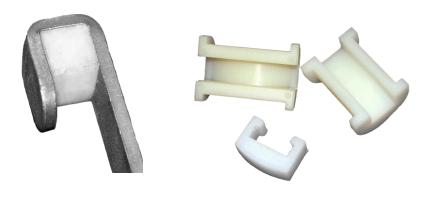
Special Purpose Slides

Various hook combinations available with this slide

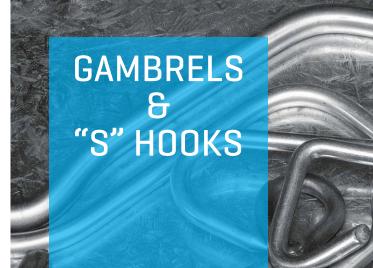
Part No	Body	Hook	Notes	Weight	Rated Capacity	Drawing Y	Photo
FBA 12	32mm x 8mm MS	10mm HDW	Supplied complete with gambrel	_	40kg	157	
FBA J12	32mm x 8mm MS	12mm MS	Bleed Hook	0.770kg	70kg	137	

For certain custom made slides we are able to provide nylon inserts of various designs.

These inserts can assist in the ease of sliding on the rails









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Gambrels

Various gambrels can be made to order from mild or stainless steel

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Part No	Material	Notes	Weight	Rated Capacity	Drawing/Photo	
FBA 3	10mm MS	Sheared Ends	0.175kg	50kg		
					255	
FBA 12G/only	10mm MS	Sheared Ends	0.320kg	40kg		

			237
A0193	6.35mm 145mm long 0.070 HDW Sheared Ends	kg 25kg	
A0191	6.35mm S/S 145mm long 0.070 Sheared Ends	kg 15kg	
A0194	8.0mm HDW 200mm long 0.125 Sheared Ends	kg 45kg	
A0190	8.0mm S/S 200mm long 0.125 Sheared Ends	kg 20kg	

Various shapes and sizes as well as machined points also available





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Dressing Rollers (Trolleys)

We understand that every abattoir has different systems and hardware requirements. Accordingly we will manufacture rollers to your specific dimensions and requirements

Part No	Body Material	Hook Material	Comments	Weight	Rated Capacity	Drawing/Photo
A6018	50x12mm MS	20mm MS Sheared End Optional machined point available	Assembled with FBA 25Z wheel & FBA 28S axle	4.55kg	380kg	170
A6019	50 x 12mm MS	20mm Sheared End Optional machined point available	Assembled with FBA 25Z wheel & FBA 28S axle	3.99kg	420kg	157

Our FBA 25Z roller wheel is the industry standard. Manufactured from "SG" (spheroid graphite) iron which is malleable and hard wearing. Wheels are individually machined to ensure concentricity of the rolling surface with the axle. Matched with our FBA 28S 3/4" grade 431 stainless axle it will provide ease of rolling over a long life. The oil hole incorporated into the axle provides an easy method of lubrication.

FBA 25Z	"SG" iron	Cast wheel	1.1kg
FBA 28S	³/₄" Grade 431 SS	Axle with oil hole	0.17kg







Construction

Flight Abattoir Equipment

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General steel and stainless steel fabrication

Bleed Roller

Cast Body • Machined wheel with bearings and

Specifications

oonotraction	grease nipple • High Strength Axle Bolt				
Rated Capacity	1200 kg • 4 times safety factor				
Design Standard	Standard AS3777-1990 • Shank Hooks and Large Eye Hooks				
Overall Length	480mm (260mm from rolling surface to inside of hook)				
Width	117mm				
Weight	9.6 kilograms				
Body	Cast Austempered Ductile Iron (ADI) Grade 1 • Min Tensile Strength 850 MPa • Min Yield strength 550MPa • Min Elongation at Fracture 10%				
Wheel	Machined Mild Steel • 100mm Rolling Diameter • 2 x RMS-8 Deep Groove Ball Bearings • H78 Grease Nipple (use Tecalemit HF4100 Grease Gun Attachment)				
Axle	"Brighton Best" 1" x 3" Socket Head Shoulder Screw 3/4" UNC				
Finish	Zinc Plated for protection in storage and transport. (Not designed to be a permanent protective coating and will wear quickly in use)				
	Maintenance Instructions				

The following procedures relate to the maintenance and testing of Flight Bleed Rollers only and are not relevant to any other bleed roller Flight Bleed Rollers are designed for long life and low maintenance. The effects of fatigue have been

considered in the design, however a visual check should be undertaken on a regular basis to ensure that they have not suffered any damage through rough handling, mistreatment or excessive wear. The cast body should be disposed of if the wear is 10% or greater in any dimension.

Before each use suitably trained personnel should visually inspect the bleed rollers for nicks or other damage to the roller. The wheel/bearings should also be checked for excessive slack. The bearing should be greased (using the grease nipple) to ensure smooth operation of the wheels and long life of the bearings. If faults are found with the cast body, it should be further tested by proof loading the bleeder to twice the SWL and monitoring the deflection as the load is applied. Any non-linear response to the application of the

load indicates that there is potentially a problem with the bleed roller and it should be replaced. There should be no permanent deformation of the Bleed Roller.

If there is excessive slack in the wheel/bearing they should be replaced using only the parts specified. Ensure the axle nut is tightened to the correct torque.





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Other Equipment

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Part No	Body	Hook	Notes	Weight	Rated Capacity	Drawing / Photo
FBA 44 Trucking Roller	40mm x 10mm MS	14mm MS	Grease Nipple for ease of Iubrication	1.40kg	200kg	130
A8080	3/16" Grade	304 S/S	10 Prong Bacon Hanger			
Legging Chains	Rated Capa		tagged with ons include d links			
Shackle Assemblies			-			-
Trucking Hooks	Manufacture	ed from m	ild or stainle:	ss steel.		69





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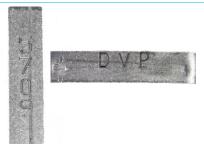
Stainless Steel Smokehouse trolley



Transducer Holes



Stamping and numbering







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Notes on Rated Capacity

The following approach was used for establishing the Rated Capacity for the abattoir products:

- 1. A Finite Element Analysis (FEA) model was created in order to determine areas of stress concentration and establish the theoretical loads for yielding. The 3-D models of the products assessed have taken into consideration the relevant parameters of the material used, load distribution and support and restraint condition and were analysed using a static non-linear manner.
- 2. Testing of a reasonable number of samples of various batches to validate the results from FEA and determine the failure load. The testing was conducted using random samples from various batches of each product using a combination of static tests with calibrated weights and incremental loading in the Universal Testing Machine. All samples tested exhibited the same behaviour under loading: gradual release of the load after severe and visible deformation without fracturing or cracking.
- 3. Statistical interpretation of the test results. Load and deformation data obtained from testing was reviewed for consistency and a Rated Capacity for each product was established. For each product the Rated Capacity selected ensures minimal permanent deformation under loading as well as suitable Safety Factors against failure.

Customer's Responsibilities

Please note the following comments. It is your responsibility to ensure that the components are used in the manner in which are intended and they are maintained properly during service.

- 1. The Rated Capacity allows for the additional forces due to handling under load for most products. However, where there are significant forces added to the weight of the beast [like hide pulling operation for instance] the sum of all applied forces shall not exceed the Rated Capacity.
- 2. Like any man made object the abattoir products are subject to tear and wear and fatigue. In time and subject to the number of cycles and the severity of the operating environment, the loss of material in critical areas will reduce the Rated Capacity. The user of the abattoir products is best suited to set up an inspection programme. As a minimum it is recommended that any product that presents cracks, visible deformation and / or loss of material be immediately discarded.
- 3. The reforming or welding of any product that has been overloaded or exhibits visible permanent deformation or cracks will void the Rated Capacity for that product.

