

# SAF INTRA RANGE

THE NEW STANDARD  
FOR SUSPENSION  
SYSTEMS

SAF INTRADISC *plus*  
INTEGRAL

SAF INTRADRUM



## OPTIMUM LIGHTWEIGHT CONSTRUCTION FOR UNCOMPROMISING SAFETY

Significant payload increases can be achieved through weight saving on your vehicle combinations. SAF can offer you this by utilizing the latest manufacturing techniques, modern materials and innovative designs.

### SAF INTRA SUSPENSION OFFERS THE TRANSPORT INDUSTRY:

- The lightest disc brake combination on the market but also offers further reductions with the use of aluminium hangers.
- SAF combines the highest level of manufacturing expertise with extensive "real world" testing in Australian conditions to offer a solution for weight sensitive transport requirements. With a 6 year / 1 million kilometre warranty we've got you covered.

### SAF - PREMIUM QUALITY WHEN COMPROMISES CANNOT BE ACCEPTED!

- SAF Intra range of products utilizes the highest technical standards of construction to meet the uncompromising demands of the modern transport operator.

### AVAILABLE FOR DUAL TYRES IN BOTH DISC BRAKE AND DRUM BRAKE

- 19.5" and 22.5" tyres - disc brake
- 22.5" tyres - drum brake

#### SAF INTRADISC plus INTEGRAL DUAL TYRES

One of the lightest suspension systems on the road



SAF-HOLLAND Group

# 1 MILLION

### STANDARD WARRANTY

Shock absorbers	1 million km / 6 yr	✓
Wheel bearing	1 million km / 6 yr	✓
Pivot bushing	1 million km / 6 yr	✓

*According to SAF-HOLLAND Warranty Conditions\* (available at [www.safholland.com.au](http://www.safholland.com.au))*

The narrow foot print of the steel hanger bracket saves weight and allows easy installation. No top plate is required for mounting to trailer frame.

The shock absorber offers 9t static load capacity, giving peace of mind. Shock absorbers designed specifically to operate on an inclined position.

Quick and simple adjustment of the axle alignment provided by pivot bolt assembly with simple eccentric movement.

Compact single unit preset hub and bearing design. Unique bearing system comprising of two sealed bearings mounted back to back on a parallel spindle delivers extra long-life.

\*(500,000 km or 3 years for off-road application)



# KM OR 6 YEAR WARRANTY\*



ALSO AVAILABLE IN DRUM BRAKE

Aluminium hanger bracket option available for additional weight savings.

Lightweight Wabco or Knorr-Bremse caliper.



The suspension arm and axle beam form an inseparable and maintenance-free unit. This eliminates the need for U-bolts, clamping plates, axles seats and nuts, etc. The whole construction is extremely robust, yet nevertheless exceptionally light.

Composite airbag piston for extended life and reduced weight.

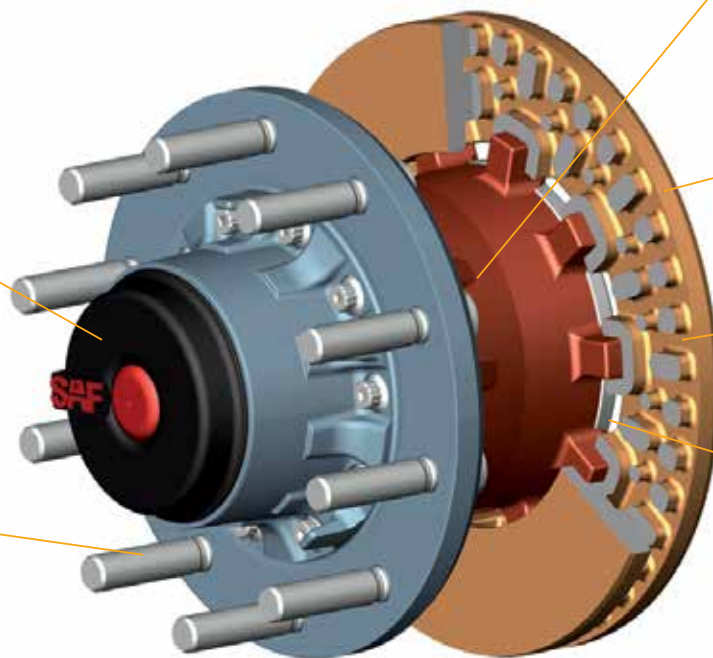
Long-term value retention and functional reliability thanks to the high-quality KTL coating providing optimum corrosion protection is standard for all models.

# SAF DISC BRAKE AXLE *plus INTEGRAL*

**INTRA "INTERGAL" PATENTED DISC BRAKE TECHNOLOGY AVAILABLE IN BOTH 19.5" AND 22.5" FOR DUAL TYRES**

Maintenance-free Hub Unit is delivered pre-set and lubricated for 1 million kilometres (backed with 1,000,000 km or 6 year warranty - on road)

Selective long-term corrosion protection also on wheel bolts and nuts



Significantly reduced heat transmission thanks to small contact surfaces between *INTEGRAL* disc and wheel flange

Unique patent technology SAF lightweight

Unique conical ventilation channels provide the brake disc with maximum internal ventilation

10 ventilation channels under the brake disc to maximise rotor cooling

## Conventional disc



Increased potential for generating rotor cracks due to "umbrella effect"

## *INTEGRAL* DISC



Radial expansion significantly reduces the potential for rotor cracks!

## **PATENTED *INTEGRAL* DISC**

**The unique design of the SAF Integral rotor increases brake rotor and pad life, and also your safety.**

How does this work? When the brakes are applied to a standard one piece rotor, the generated heat tends to expand the material of the rotor surface to the side with the greatest mass, this bows the rotor into what is known as the "umbrella effect" shape. This results in uneven contact between the pads and rotor and creates "hot spots" on the rotor surface. The difference in temperatures between the rotor hot spots and the surrounding material can cause rotor cracks, or worse still failures.

SAF's unique patented Integral disc rotor is cast in two pieces, a splined adaptor ring and the rotor face itself. An absolute clearance free connection is achieved without fusing the two parts together totally eliminating the umbrella effect. This leaves the rotor face to expand radially and thus ensuring 100% pad contact with your rotors at all times. Hot spots are eliminated due to even heat distribution through the whole disc providing longer pad life, more reliable rotors, reduced maintenance costs and increased peace of mind for you.

# SAF DRUM BRAKE AXLE

## NEW DRUM BRAKE AXLE TECHNOLOGY

Offering security from the very first kilometre and for years to come, irrespective of the desired trailer type or manufacturer, SAF-HOLLAND has designed exceptionally reliable components to meet all your demands. Tailored to suit Australian conditions, SAF Drum Brake Axle is perfect for any application.

## SAF DRUM BRAKE AXLE WILL OFFER YOU OUTSTANDING STRENGTHS

### PREMIUM CLASS

with 420 x 180mm SNK drum brake 9 tonne axles with 22.5" wheels to suit dual tyres.

The INTRA suspension systems offer security because we attach the greatest importance to the quality of the brakes. SAF-HOLLAND ensures that you drive a safe and cost efficient air suspension system.

That means exceptional reliability, with outstanding performance in just about any transport application.

Brake linings machined in pairs to provide maximum drum contact and longer brake life.

Maintenance-free Hub Unit is delivered pre-set and lubricated for 1,000,000 kms (backed with 1,000,000 km or 6 year warranty - on road)

Spherical mounting ensures shoes follow the drum expansion minimising the fade effect and extending service life.

Full contact of the wheel rim



Brake shoes disassemble with a single push

ABS / EBS preparation as standard

Selective long-term corrosion protection of hub, wheel bolts, nuts and fixings

## SAF DRUM BRAKES

The major benefits of a well designed and sophisticated mechanical brake system



Precise cam roller guide



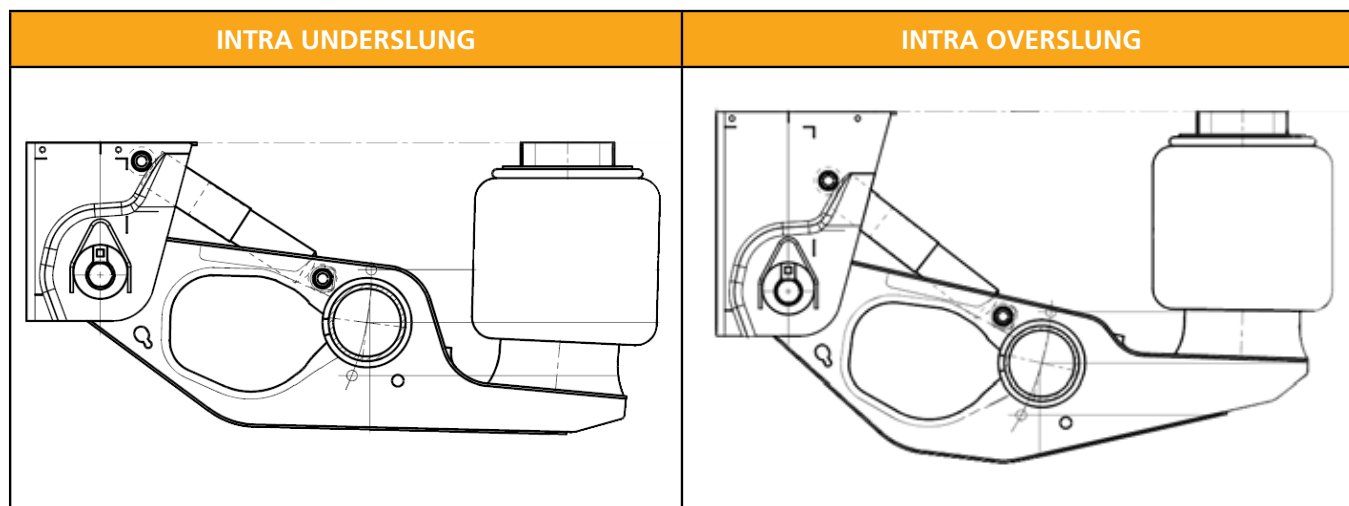
The ball joint advantage with SAF spherical bearing



Brake lining change within seconds

# INTRA RANGE - TECHNICAL INFORMATION

The Intra range comprises overslung and underslung configurations, as illustrated below.



MODEL	NOMINAL RIDE HT	RIDE HEIGHT RANGE	HANGER PIVOT HT	AIR SPRING PED. HT	CD - CUSTOM DESIGN			
					33	42	33	42
					INTRADISC INTEGRAL WEIGHT (KG) (WITH 300MM AIR SPRING)*	INTRADISC INTEGRAL WEIGHT (KG) (WITH 350MM AIR SPRING)*	INTRADRUM WEIGHT (KG) (WITH 300MM AIR SPRING)*	INTRADRUM WEIGHT (KG) (WITH 350MM AIR SPRING)*
INTRA UNDERSLUNG	250 mm	230-270 mm	200 mm	5 mm	<b>381</b>	392	<b>427</b>	438
	280 mm	260-300 mm	200 mm	50 mm	<b>383</b>	394	<b>429</b>	440
	300 mm	280-320 mm	250 mm	50 mm	<b>385</b>	396	<b>431</b>	442
	330 mm	310-350 mm	250 mm	100 mm	<b>387</b>	398	<b>433</b>	444
INTRA OVERSLUNG	355 mm	335-375 mm	200 mm	5 mm	<b>390</b>	401	<b>430</b>	441
	375 mm	355-395 mm	250 mm	5 mm	<b>393</b>	404	<b>433</b>	444
	400 mm	385-425 mm	250 mm	50 mm	<b>396</b>	407	<b>436</b>	447
	425 mm	405-455 mm	300 mm	50 mm	<b>399</b>	410	<b>439</b>	450
	475 mm	455-495 mm	350 mm	100 mm	<b>405</b>	416	<b>445</b>	456

**NOTE:**

Rating 9 tonne axle loadings.

\*Brake boosters and RF shock absorbers available on request.

**NOTE:**

All weights include wheel nuts and auto slack adjusters. Brake chamber weights are not included. For manual slack adjusters take off 2kg per axle.

## THE HANGER BRACKET



SAF standard steel hangers come with a narrow 90mm footprint allowing mounting directly to the trailer. This avoids any requirement for top plates reducing weight. An optional aluminium hanger is available especially designed for aluminium chassis trailers. This eliminates the need for steel subframes offering massive potential for weight savings depending on trailer design.

## THE SAF SHOCK ABSORBER



Mounting the shock absorber inside both the hanger bracket and the suspension arm, eliminates the need for additional frame attachments and offers superior protection from shock absorber damage (e.g flying debris). Exactly matched to the suspension system, the SAF **high performance** shock absorber provides optimum dampening for Australian road conditions. Also available as "Road Friendly" - certification number RF2002.

## THE SAF 3D BUSH



These long life bearing duty pivot bushes are pressed into the suspension arm, the unique 3D pivot bush, developed by SAF, absorbs the wheels, side tilt and braking forces. This not only relieves the load on your trailer frame, but also significantly increases the handling and roll stability.

## SINGLE-SIDE LIFT



Suitable for all ride heights adds as little as 30 kgs simple retrofit installation if required.

## ABS/EBS SENSING



The pole ring and sensor holder are fitted standard and pre-installed. This allows for simple sensor retro-fitment when required on all SAF Intra range of axles.

## SAF FUNCTIONAL SUSPENSION ARM



SAF's unique INTRA suspension design means the disc brake booster is mounted inside the trailing arm. This provides superior protection against brake booster damage from foreign items of the road.



SAF 's history begins in 1881 in a village forge in Germany with the invention of a new plough. The family business soon starts building steel axles for agricultural vehicles, and under the name Otto Sauer Achsenfabrik (SAF) develops into one of the leading manufacturers of trailer axles and suspension systems in Europe.

A safety coupling between plough and horse team can be found at the beginning of Holland's history. The Safety Release Clevis Company was founded in South Dakota, USA , in 1910. After its move to Holland, Michigan, the company emerges as one of the largest supplier companies to the commercial vehicles industry under the name The Holland Hitch Company.

The merger of the two companies to form SAF-HOLLAND in 2006 creates one of the leading global suppliers of high-quality components and services for the commercial vehicle industry. Alongside axle and suspension systems for trailers and semi-trailers, the product range also includes kingpins and landing gear as well as fifth wheels for tractors, air suspensions, coupling products and numerous other components for buses and trucks.

Today SAF-HOLLAND is represented on all continents and distributes its products and services worldwide under the brand names SAF and HOLLAND. It can boast of an extensive distribution network with global service and dealer locations.

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## HIGH QUALITY COMPONENTS FOR THE COMMERCIAL VEHICLE INDUSTRY



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