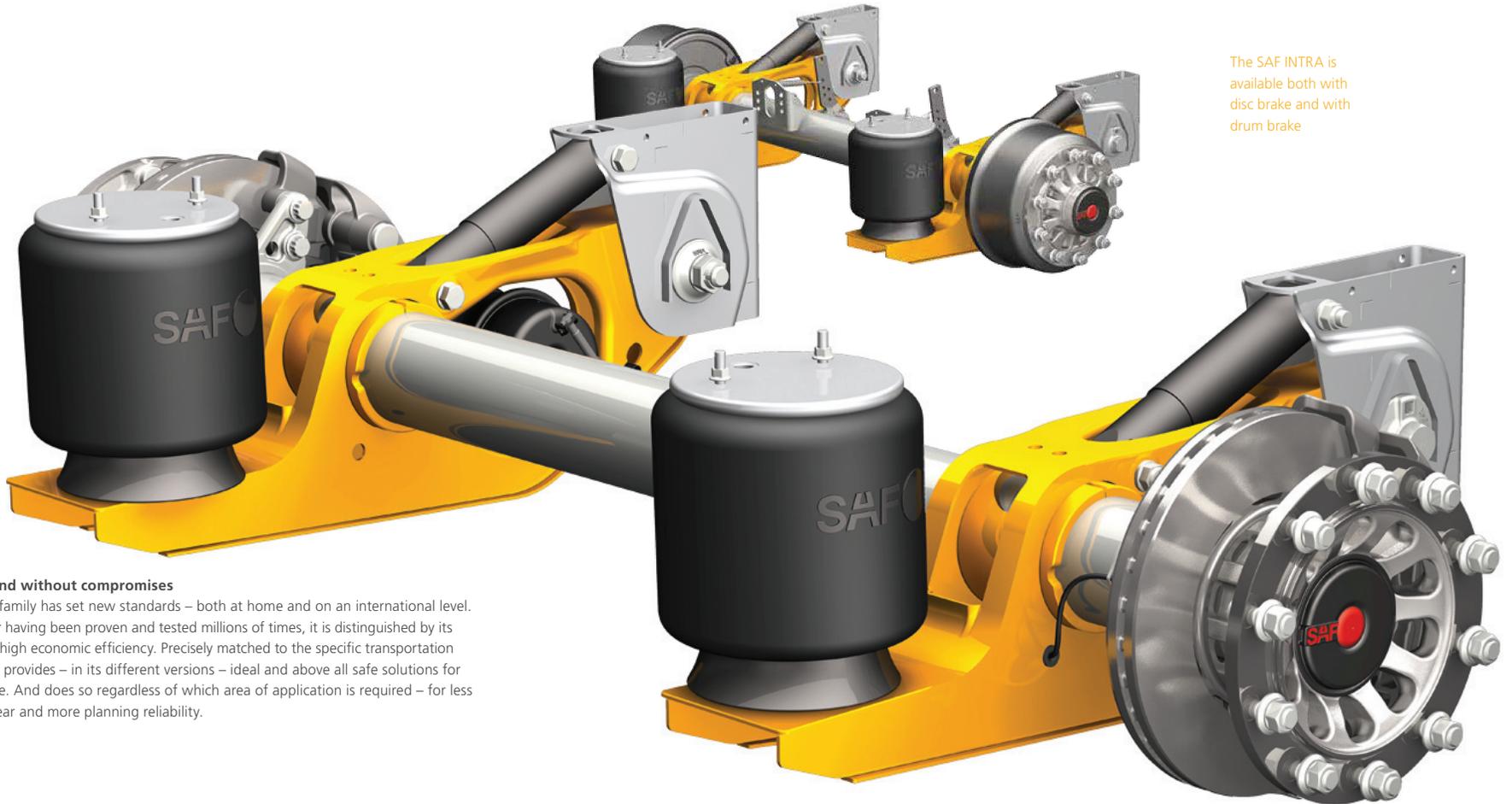


# THE INTRA FAMILY



The SAF INTRA is available both with disc brake and with drum brake

### Efficient and without compromises

The INTRA family has set new standards – both at home and on an international level. Today, after having been proven and tested millions of times, it is distinguished by its particularly high economic efficiency. Precisely matched to the specific transportation task, INTRA provides – in its different versions – ideal and above all safe solutions for the 9t range. And does so regardless of which area of application is required – for less wear and tear and more planning reliability.

# ONE UNIT – MANY VARIANTS AND APPLICATIONS ...

Especially protected due to its position in the functional suspension arm: the shock absorber



Long-term conservation of value and functional safety through sophisticated cathodic dip coating with optimum corrosion protection down to the last detail

The patented SAFE-GUARD-DESIGN of the functional suspension arm protects the brake cylinder reliably from damage

Functional suspension arm and axle tube form an inseparable and maintenance-free unit. This eliminates the need for U-bolts, clamping plates and nuts. The entire design is extremely robust and yet very lightweight

# SAF INTRADISC PLUS INTEGRAL

Proven over decades in the trailer area: The special design principle of the SAF INTRADISC plus INTEGRAL protects the material and significantly improves the service life of the brake disc.

Unlike conventional brake discs, the SAF INTEGRAL is a two-piece brake disc. It is manufactured in composite casting from different, specially matched materials and thus achieves a significantly higher economic efficiency in the trailer area.

The unique design principle prolongs the service life of the pads and the disc and, at the same time, achieves:

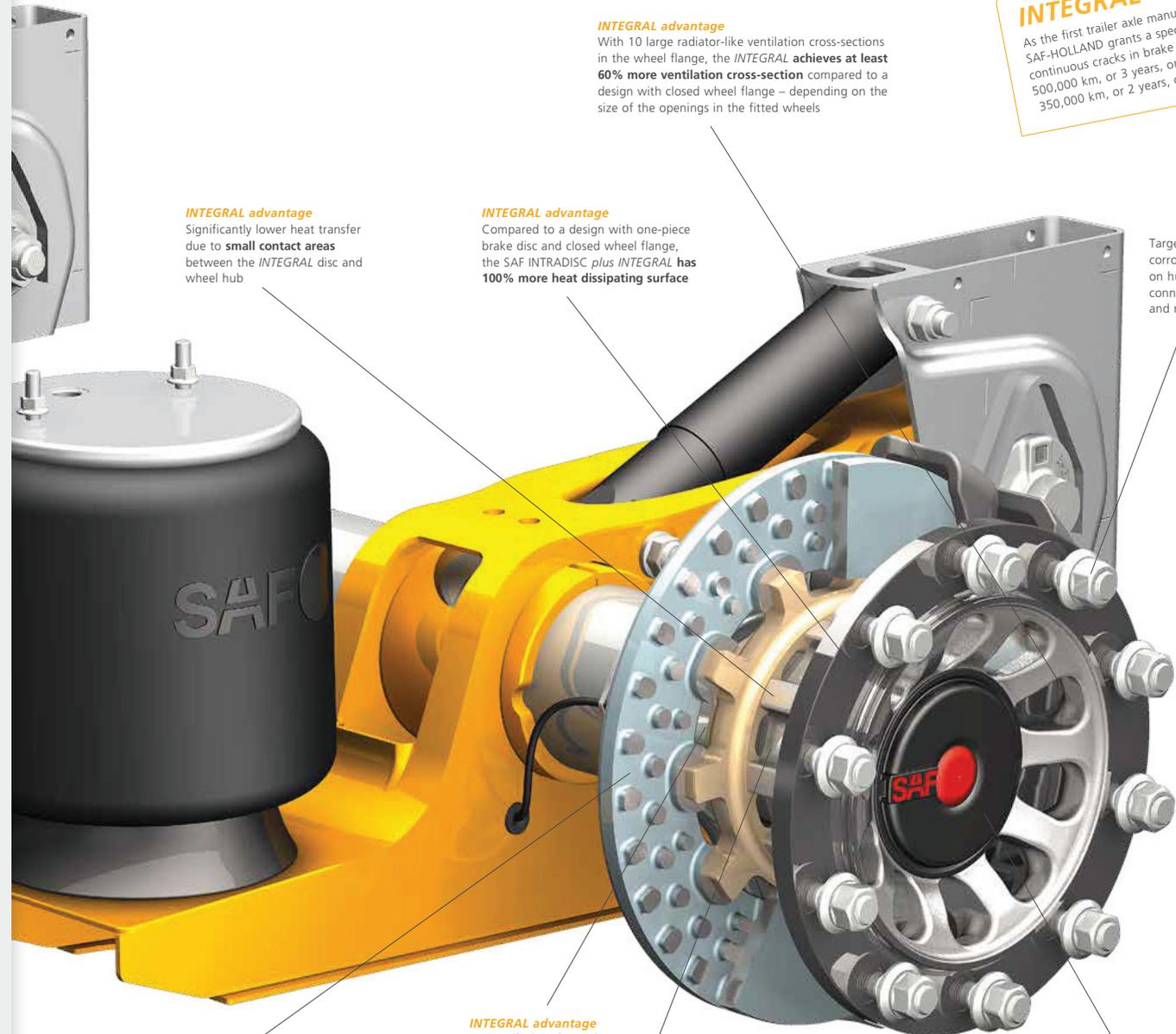
- more km – less wear
- more planning reliability
- more efficiency
- more economic efficiency

## SAF-HOLLAND PATENT



The INTEGRAL disc is cast onto a splined adapter ring and bolted to the wheel hub. The connection between the adapter ring and the brake disc has absolutely no play – without the two parts being fused together. This is the advantage: By composite casting of disc and adapter, the disc can expand radially and contract again during cooling down.

The dreaded hot spots in conventional brake discs, which can result in stresses in the material and possible cracks, up to the failure of the disc, are avoided – and: Since the braking surfaces stay absolutely flat in every operating state, the pads last far longer.



### INTEGRAL advantage

With 10 large radiator-like ventilation cross-sections in the wheel flange, the INTEGRAL achieves at least **60% more ventilation cross-section** compared to a design with closed wheel flange – depending on the size of the openings in the fitted wheels

### INTEGRAL advantage

Significantly lower heat transfer due to **small contact areas** between the INTEGRAL disc and wheel hub

### INTEGRAL advantage

Compared to a design with one-piece brake disc and closed wheel flange, the SAF INTRADISC plus INTEGRAL has **100% more heat dissipating surface**

## INTEGRAL GUARANTEE

As the first trailer axle manufacturer in the world, SAF-HOLLAND grants a special guarantee against continuous cracks in brake discs in trailers. 500,000 km, or 3 years, on the 22.5" disc. 350,000 km, or 2 years, on the 19.5" disc.

Targeted long-term corrosion protection also on hub caps and screw connections, wheel bolts and nuts

### INTEGRAL advantage

**Conical ventilation channels** in the brake disc for maximum interior ventilation

**INTEGRAL advantage**  
**10 ventilation channels** under the brake disc

**INTEGRAL advantage**  
**10 additional ventilation channels** under the adapter ring

The SAF hub unit is a compact hub and bearings unit. It is fully factory-adjusted and encapsulated. The SAF hub unit is maintenance-free

# OPTIMONS

ABS SENSING

SAF TWO-SIDE AXLE LIFT

SAF ONE-SIDE AXLE LIFT

SAF KILOMETRE COUNTER

SAF TIRE PILOT

BRAKE CYLINDERS

SAF UP TRAIN LOADING SYSTEM

PAD WEAR SENSING

SAF PROTECTOR SHEET

SAF PC PREMIUM COATED

SAF REINFORCED AIR SPRINGS

## OPTIONS FOR THE AXLES

PRODUCT	SAF ABS SENSING	SAF TWO-SIDE AXLE LIFT	SAF ONE-SIDE AXLE LIFT
DESCRIPTION >	<ul style="list-style-type: none"> <li>- exciter ring and sensor holder (as standard/pre-assembled)</li> <li>- can be activated using simple and reliable plug connections</li> </ul>	<ul style="list-style-type: none"> <li>- for 22.5" wheels</li> <li>- only weighs approx. 21 kg per axle</li> <li>- very simple retrofit</li> </ul>	<ul style="list-style-type: none"> <li>- specifically for low ride heights</li> <li>- only weighs approx. 30 kg</li> <li>- very simple retrofit</li> </ul>
AXLE v			
SAF INTRADISC PLUS INTEGRAL	X	X	X
SAF INTRADISC AIRVENT	X	X	X
SAF INTRADRUM	X	X	X
SAF INTRA CD DRUM	X	X	X
SAF INTRA CD DISC	X	X	X
SAF INTRA CD TRAK	X	-	-
SAF INTRA MEGA	X	X	X
SAF INTRA SELF-STEERING AXLE	X	-	X

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PRODUCT	SAF HUBODOMETER	SAF TIRE PILOT	SAF BRAKE CHAMBERS	SAF UP TRAIN LOADING SYSTEM
DESCRIPTION >	<ul style="list-style-type: none"> <li>- measures the exact mileage of trailers</li> <li>- simple retrofit</li> <li>- quick and reliable mounting</li> </ul>	<ul style="list-style-type: none"> <li>- tyre-inflating system for trailers and semi-trailers</li> <li>- monitoring and preservation of the set tire pressure in the trailer</li> </ul>	<ul style="list-style-type: none"> <li>- complete surface coating</li> <li>- high-quality internal components</li> <li>- fully integrated air connections</li> </ul>	<ul style="list-style-type: none"> <li>- one of the lightest train loading suspension on the market</li> <li>- springs not clamped during rail loading</li> </ul>
AXLE v				
SAF INTRADISC PLUS INTEGRAL	X	X	X	X
SAF INTRADISC AIRVENT	X	X	X	X
SAF INTRADRUM	X	X	X	X
SAF INTRA CD DRUM	X	X	X	on request
SAF INTRA CD DISC	X	X	X	on request
SAF INTRA CD TRAK	X	-	X	-
SAF INTRA MEGA	X	X	X	X
SAF INTRA SELF-STEERING AXLE	X	X	X	X

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PRODUCT	SAF PAD WEAR SENSING	SAF PROTECTOR SHEET	SAF PC PREMIUM COATED	SAF REINFORCED AIR SPRINGS
DESCRIPTION >	<ul style="list-style-type: none"> <li>- simple retrofit</li> <li>- can be connected to the Trailer EBS or to a separate control and display unit</li> </ul>	<ul style="list-style-type: none"> <li>- protects the brake disc against stone chipping and other foreign objects</li> </ul>	<ul style="list-style-type: none"> <li>- with our new 3-layer coating protection with up to 50 % Zinc content</li> <li>- very high corrosion protection</li> </ul>	<ul style="list-style-type: none"> <li>- with steel plungers for extreme loads</li> </ul>
AXLE v				
SAF INTRADISC PLUS INTEGRAL	X	X	X	X
SAF INTRADISC AIRVENT	X	X	X	X
SAF INTRADRUM	-	standard	-	X
SAF INTRA CD DRUM	-	standard	-	X
SAF INTRA CD DISC	X	X	X	X
SAF INTRA CD TRAK	X	X	-	X
SAF INTRA MEGA	X	X	X	X
SAF INTRA SELF-STEERING AXLE	X	X	-	X

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TRAILER AXLES AND  
SUSPENSION SYSTEMS



COUPLING AND LIFTING  
TECHNOLOGIES



SUSPENSIONS FOR  
TRUCKS AND BUSES



SUSPENSIONS AND COMPONENTS  
FOR COMMERCIAL VEHICLES



V. ORLANDI

COUPLING AND LIFTING  
TECHNOLOGIES



TRAILER AXLES AND  
SUSPENSIONS SYSTEMS