



In-house development

Own manufacturing

Sole distributor in Germany

Working with distributors worldwide

TAS
SCHÄFER

hydraulic
actuated
products



EP: 0 812 397
EP: 1 666 748

Overview

Hydraulic shrink disc SHS



Standard



Test stand



Wind energy



Naval (with class approvals)



Customized

Hydraulic rigid flange coupling



FKH

Content

Page

Overview	2
Description of function SHS	4
Product data SHS	4
Versions	5
SHS Standard	6
SHS Test stand	8
SHS Marine (with class approvals)	10
SHS Wind energy	11
SHS Customized	12
Product questionnaire SHS	13
Description of function FKH	14
Product data FKH	14
FKH Rigid flange coupling	15
Product questionnaire FKH	16
Further products ...	19

Description of function SHS

Shrink discs of the type SHS

The main function of a shrink disc is the safe connection of a shaft with a hub by means of friction. For example, between a drive shaft and a transmission hollow shaft. The shrink disc generates a backlash-free connection by pressing the hub onto the shaft. This connection is mainly used to transmit torque.

The shrink disc only provides the required forces, and transfers no forces or moments between shaft and hub by itself. It is not in the force flow.

It is installed by sliding the shrink disc onto the hollow shaft and the subsequent tightening of the hydraulic system. By using conical surfaces the inner diameter reduces and the radial pressure is built up. After clamping the SHS will be locked mechanically and the hydraulic pressure will be removed. Due to this simple approach the SHS is suitable for repetitive clamping operations as they occur on a test bench, for example.

Advantages of the SHS:

- application-specific design/customization
- relatively low pressure
- very rapid tightening / loosening, in comparison to the mechanical shrink disc
- mechanically removably, partially mechanically tensionable when hydraulic is not available
- simple design based on 3-parts shrink disc
- maintenance/repairs carried out by customer

To achieve proper operation and to a sufficiently high coefficient of friction, the contact surfaces between shaft and hub must be free of grease, dry and clean. The functional surfaces of the shrink disc are equipped at the factory with lubricant. The contact surfaces between the hub and shrink disc must also be provided with grease before installation.

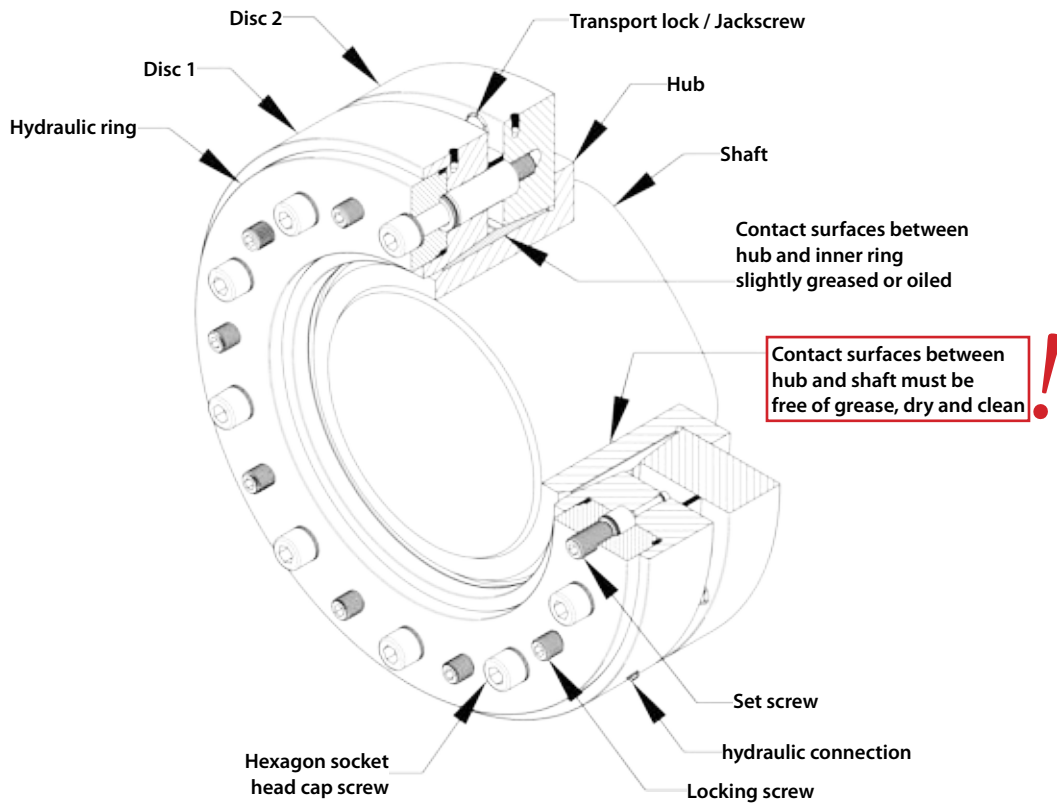
Product data SHS

Data sheets and CAD data

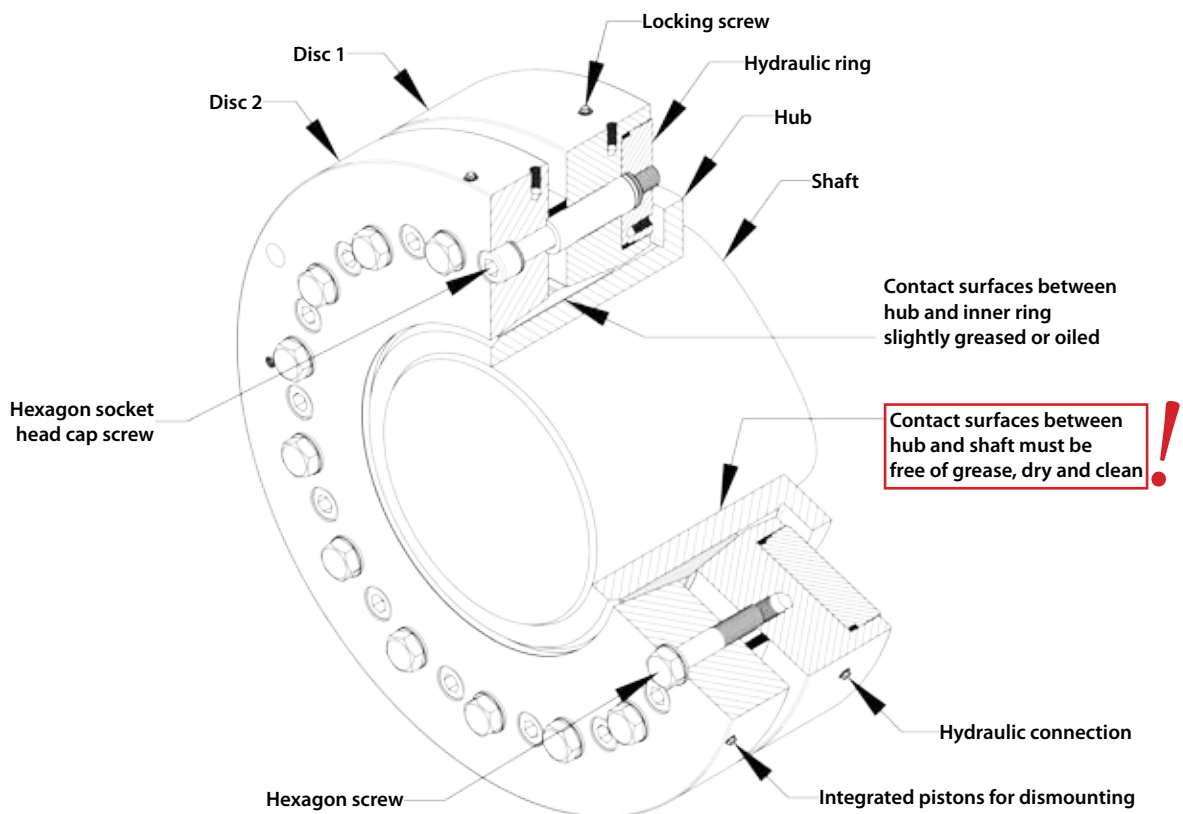
Our hydraulically tensible shrink discs are selected according to customer specifications or been redesigned. For this purpose please fill in the questionnaire (*see page 15*) and send it to info@tas-schaefer.de.

Versions

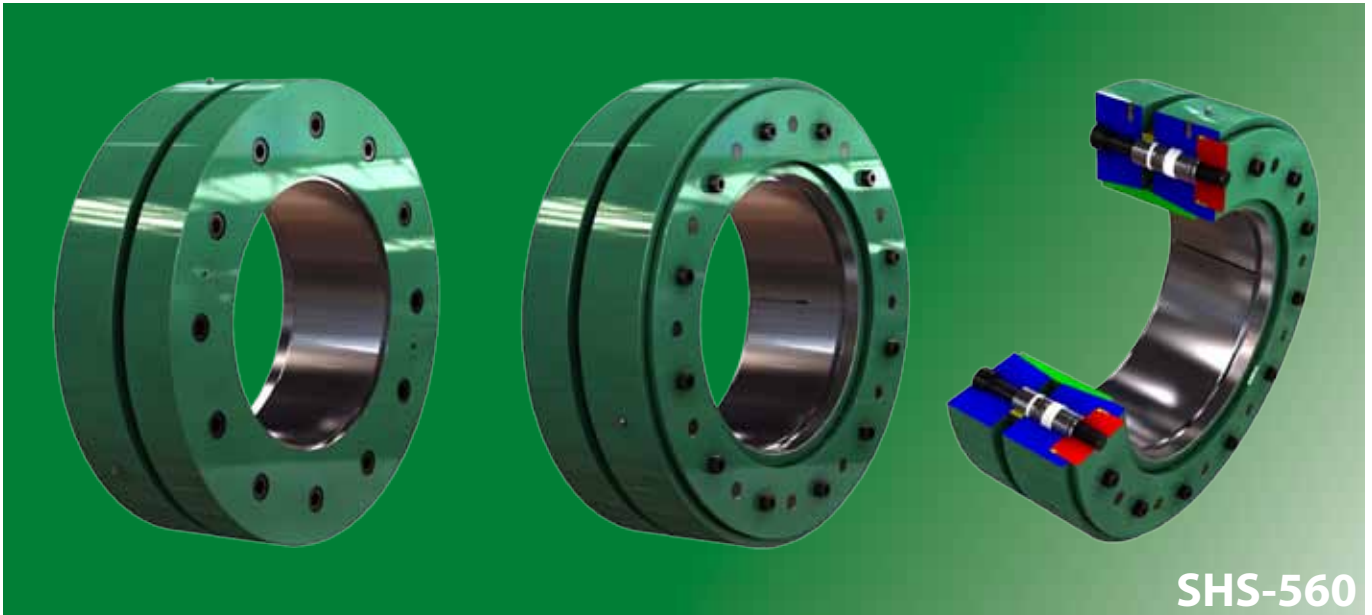
Hydraulics on the front



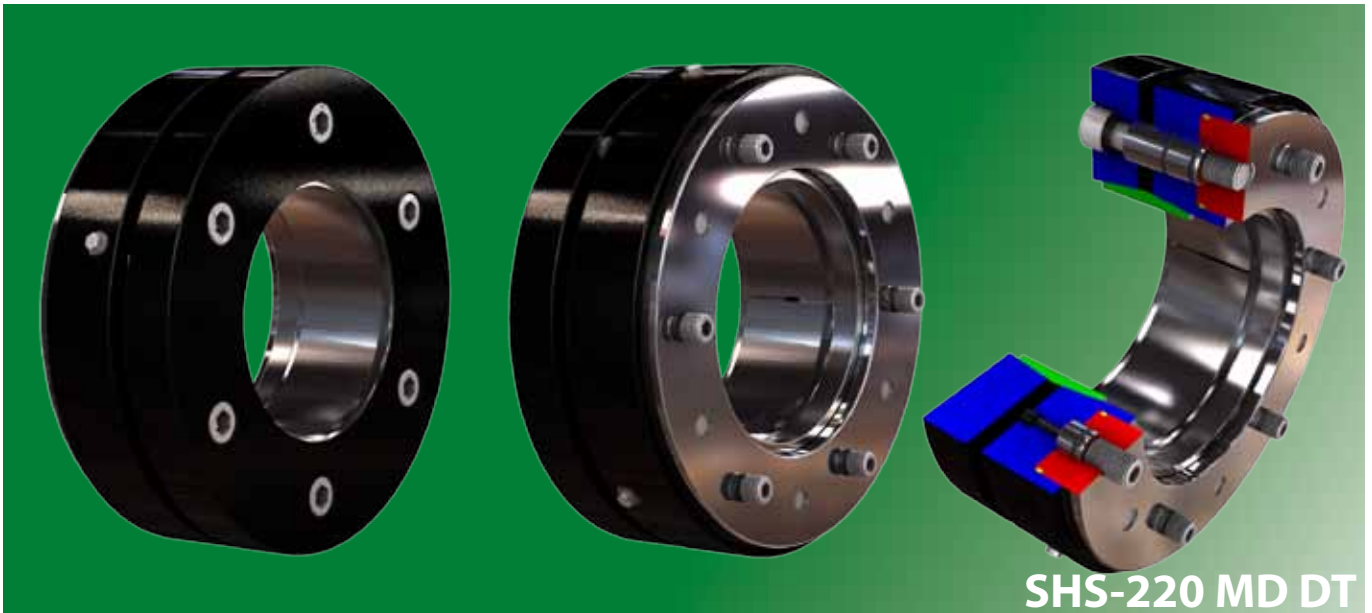
Hydraulics on the back



SHS Standard



SHS-560

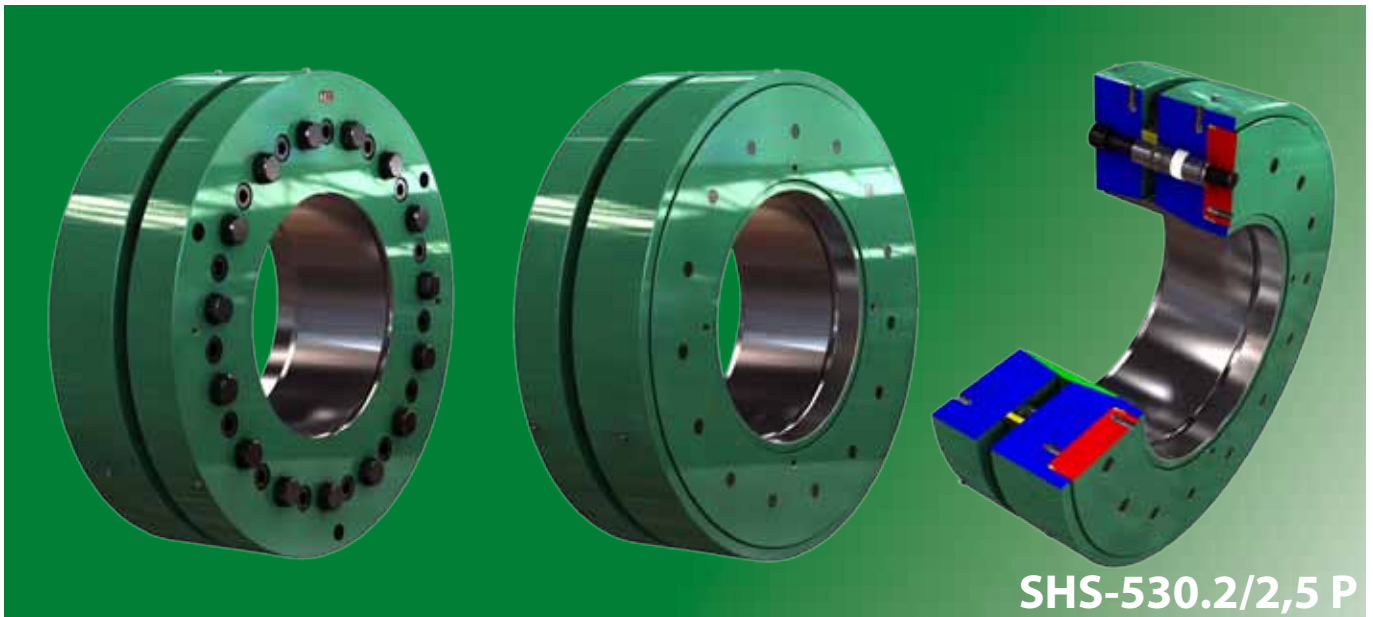


SHS-220 MD DT

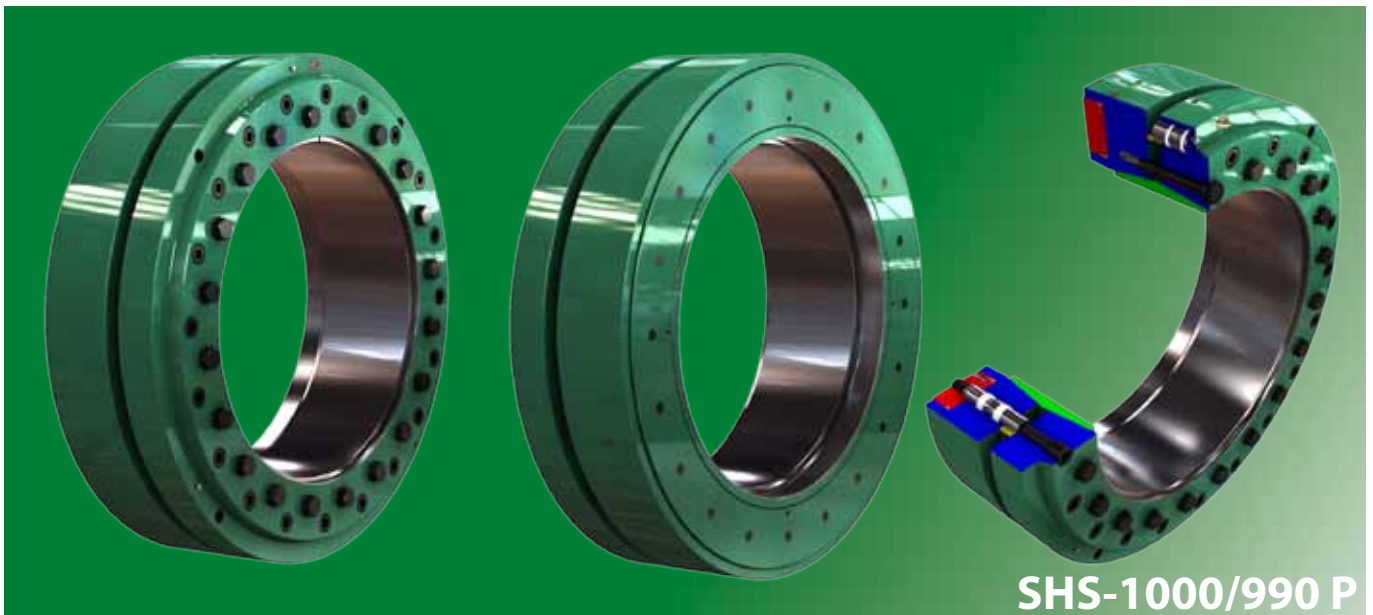
Typical fields of application	Industrial gearboxes Hollow shaft gearboxes Hydraulic motors
Nominal sizes	140 - 1.000 mm
Nominal torques	20 - 10.000 kNm
Pressure range	up to 180 bar
Versions	Hydraulic on the front Bolting on both sides
Features	simple design
Options	improved corrosion protection



SHS Test stand



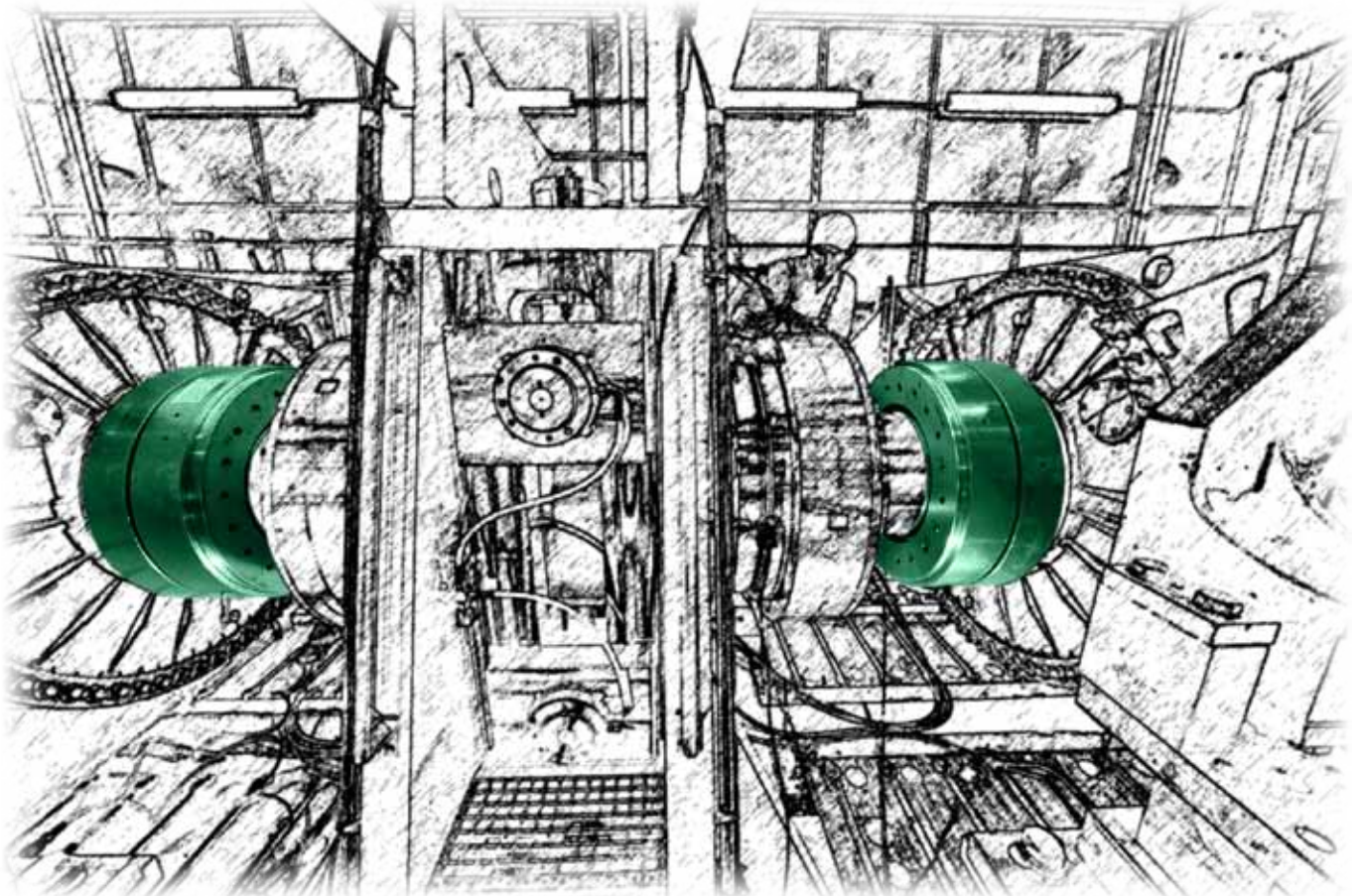
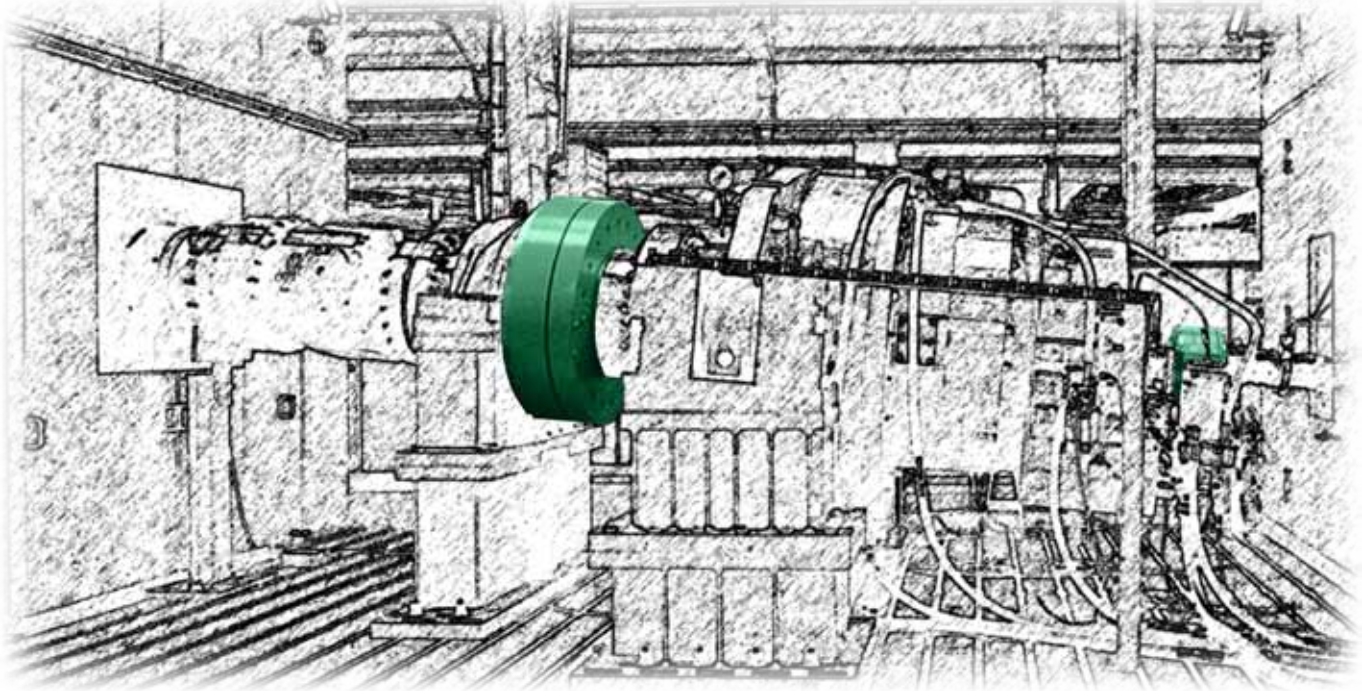
SHS-530.2/2,5 P



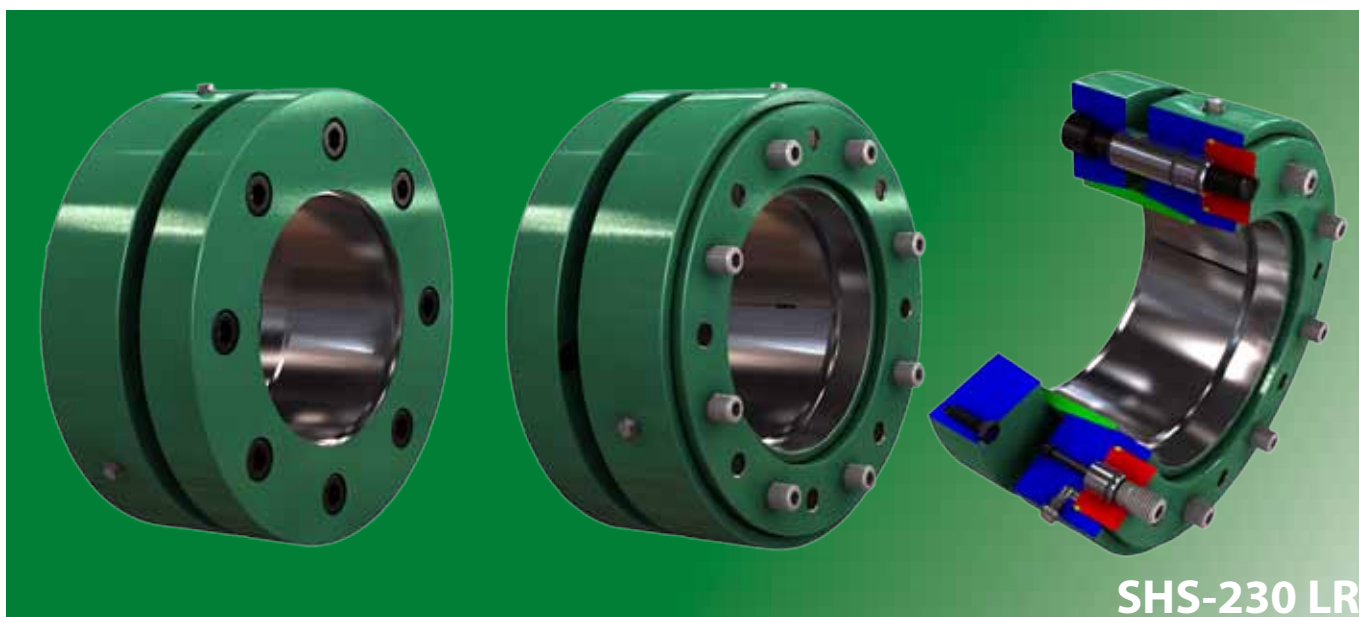
SHS-1000/990 P

Typical fields of application	Gearbox test stands
Nominal sizes	140 - 1.000 mm
Nominal torques	20 - 14.000 kNm
Pressure range	up to 200 bar (up to 400 bar for dismounting)
Versions	Hydraulic on the front or on the back Bolting on both sides or on the front
Features	Optimized for permanent operation reduced wear higher safety simplified handling and maintenance Application specific customization
Options	improved corrosion protection

SHS Test stand



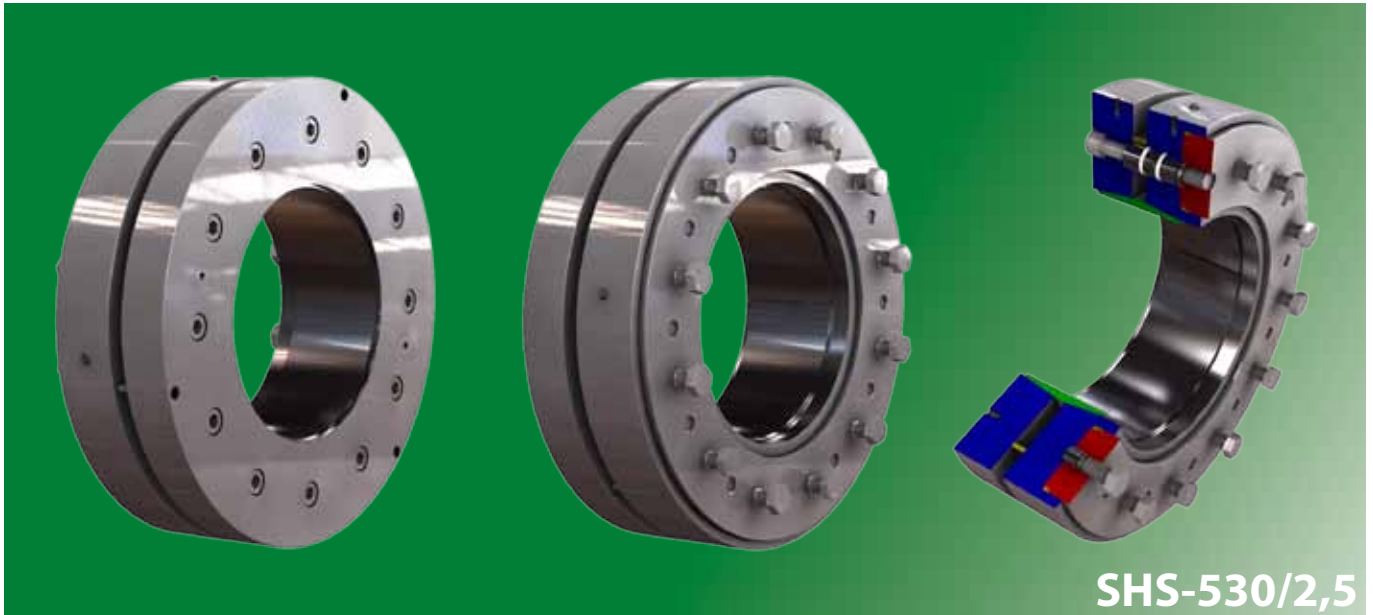
SHS Marine (with class approvals)



SHS-230 LR

Typical fields of application	shafting
Nominal sizes	140 - 800 mm
Nominal torques	14 - 2.800 kNm
Pressure range	up to 200 bar up to 400 bar (dismounting)
Versions	Hydraulic on the front Hydraulic on the back Bolting on both sides Bolting on the front
Features	wide design reduced surface pressure high safety Application specific customization full class approvals
Options	hydraulic dismounting

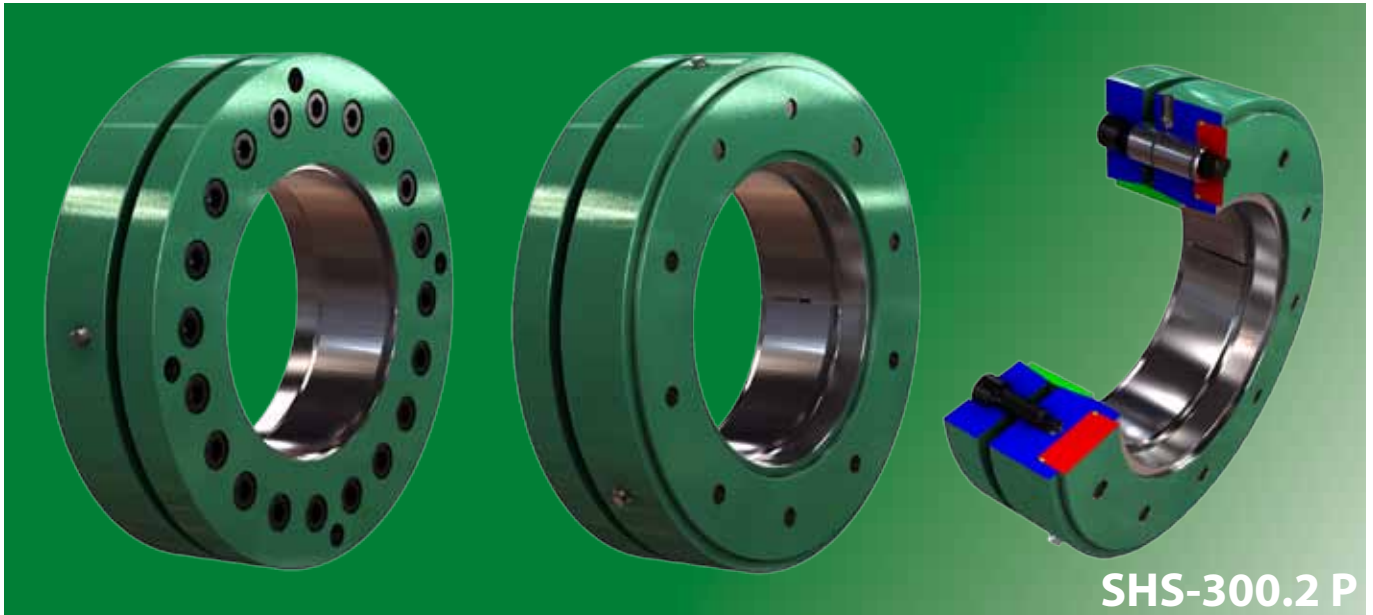
SHS Wind energy



SHS-530/2,5

Typical fields of application	Main rotor shaft Generator shaft
Nominal sizes	140 - 1.000 mm
Nominal torques	20 - 12.000 kNm
Pressure range	up to 200 bar
Versions	Hydraulic on the front Hydraulic on the back Bolting on both sides Bolting on the front
Features	special corrosion protection Application specific customization
Options	-

SHS Customized



SHS-300.2 P



SHS-240.1 MD DT

Typical fields of application

Crusher
Mills
Shredder ... etc.

Nominal sizes

100 - 1.000 mm

Nominal torques

10 - 12.000 kNm

Pressure range

up to 200 bar
up to 400 bar (dismounting)

Versions

Hydraulic on the front or on the back
Bolting on both sides or on the front

Features

Application specific customization

Options

By arrangement and engineering viability

Description of function FKH

Rigid flange couplings of the type FKH

The main function of a hydraulic flange coupling (hereinafter called FKH) is the safe connection of two shafts. For example, between a drive shaft and a transmission shaft. The FKH produces a rigid and backlash-free connection between the shafts. This connection is mainly used to transmit torque, but can also absorb bending moments. The FKH is located in the power flow.

It is installed by sliding the FKH onto the shaft and the subsequent tightening of the hydraulic system. By using conical surfaces the inner diameter reduces and the radial pressure is built up. After clamping the FKH will be locked mechanically and the hydraulic pressure will be removed. Due to this simple approach, the FKH is suitable for repetitive clamping operations.

Advantages of the FKH:

- high transmittable torque and bending moments (high friction)
- application-specific design/customization
- easy mounting and adjustment because of clearance fit
- relatively low pressure (closed system)
- very rapid tightening/loosening
- simple design (single cone)
- short installation length
- also usable for shafts with keyway (should be filled)
- combination of different shaft diameters

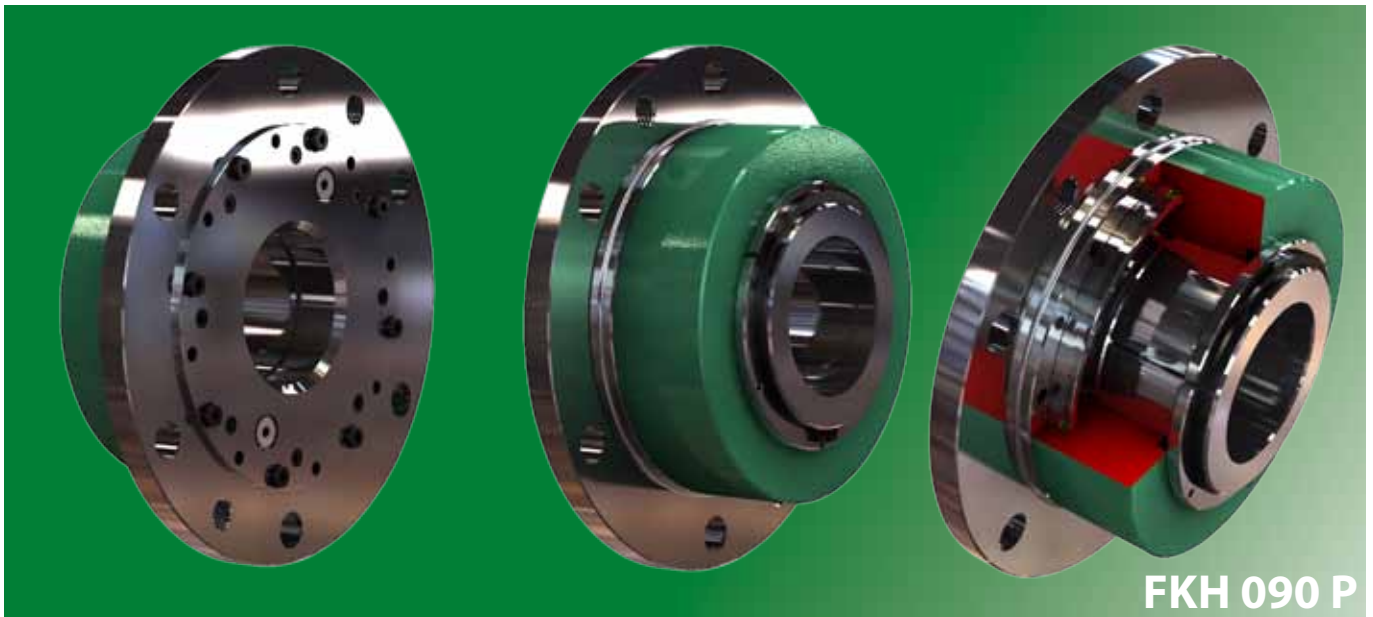
To achieve proper operation and to a sufficiently high coefficient of friction, the contact surfaces between shaft and FKH must be free of grease, dry and clean. The functional surfaces of the FKH are equipped at the factory with lubricant.

Product data FKH

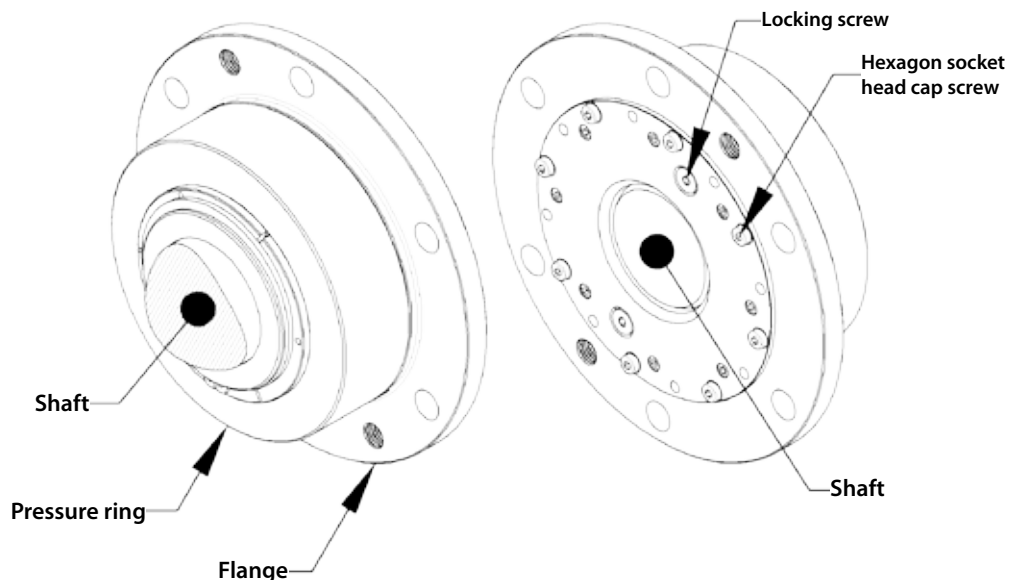
Data sheets and CAD data

Our hydraulically tensible rigid flange couplings are selected according to customer specifications or been redesigned. For this purpose please fill in the questionnaire (see pages 18/19) and send it to info@tas-schaefer.de.

FKH Rigid flange coupling



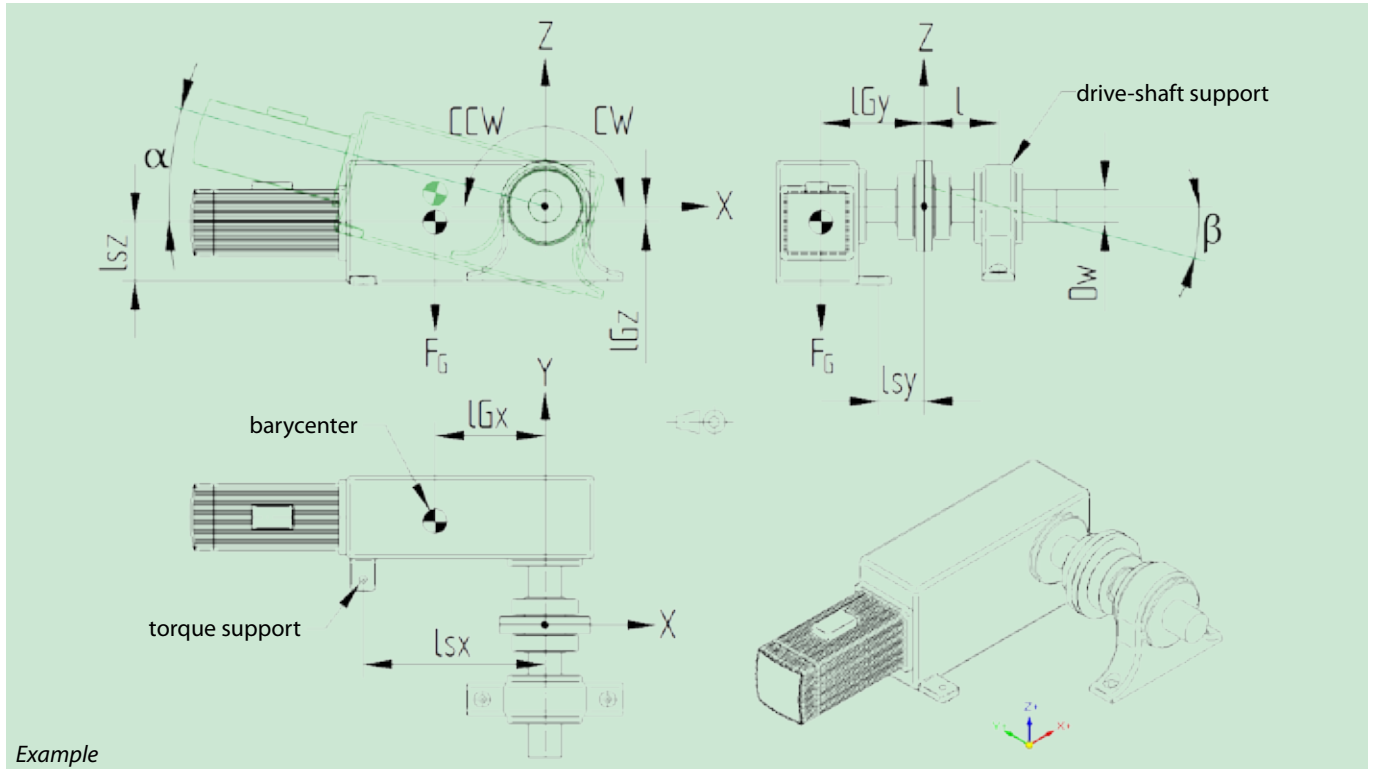
Typical fields of application	Conveyor drives Agitator shaft
Nominal sizes	70 - 500 mm
Nominal torques	6 - 2.500 kNm
Pressure range	up to 400 bar
Versions	standard design heavy design
Features	short installation length high stability tensionable from the shaft side desired shaft stepping closed hydraulic system mechanical lock
Options	improved corrosion protection



Company _____ Date _____
 Address _____
 Reference _____

TAS Schäfer GmbH
 Osterfeldstraße 75
 58300 Wetter (Ruhr)
 Germany

Using a "flying" drive (typical arrangement for conveyor drives), creates bending moment. Information about weight, COG, torque-arm, rotational direction and type of torque support are very important to evaluate the bending loads. All information is needed to do this calculation completely!



Example

Drivetrain mass	F_G [N]	<input type="text"/>		
Shaft extension	l [mm]	<input type="text"/>		
Position of barycenter (COG)	l_{Gx} [mm]	<input type="text"/>	l_{Gy} [mm]	<input type="text"/>
	min.	<input type="text"/>		<input type="text"/>
	max. ⁽¹⁾	<input type="text"/>		<input type="text"/>
Position torque support	l_{sx} [mm]	<input type="text"/>	l_{sy} [mm]	<input type="text"/>
	min.	<input type="text"/>		<input type="text"/>
	max. ⁽¹⁾	<input type="text"/>		<input type="text"/>

⁽¹⁾ only if variable

Direction of rotation:

CW (clockwise)
 CCW (counterclockwise)
 CW/CCW (both directions)

Torque support design:

fixed
 flexible
 variable

Angle of drivetrain α [°] alterable from to

Further details

Rigidity of torque support [N/mm]
 Enabled movement X_{\pm} [mm] Y_{\pm} [mm]
 Shaft bending under load β [minute]
 Max. shaft run-out (manufacturing): radial [mm] angle [minute]

Backstop:

without
 at drive
 not at drive

Brake:

without
 at drive
 not at drive

Examples for torque support mounting

Fixed: stationary (screws, bolts fastening, ...)
 Flexible: freely movable or possible slight movements (rubber bearing, ...)
 Variable: movable in a defined direction (rail system, swinging support, ...)

This form is also available on our website at - www.tas-schaefer.de



Further products from our company

Locking assemblies



TAS 110



TAS 130



TAS 131



TAS 3003



TAS 3006



TAS 3012



TAS 3013



TAS 3015



TAS 3015DK



TAS 3020



TAS 4006



TAS 3014

Shrink disc in two-part design



TAS 3173



TAS 3171, 3181, 3191, 3193

Shaft couplings



TAS W



TAS WK



TAS WLA



TAS WLB



TAS AFS

Flange couplings



TAS FK



TAS FKB



TAS FKBS



TAS FKH



**DISTRIBUIDOR
AUTORIZADO**

MEX (55) 53 63 23 31
QRO (442) 1 95 72 60

MTY (81) 83 54 10 18
ventas@industrialmagza.com

TAS
SCHÄFER

TAS Schäfer GmbH

Osterfeldstraße 75

58300 Wetter (Ruhr)

Telefon: +49 (0) 2335 9781-0

FAX: +49 (0) 2335 72956

E-Mail: info@tas-schaefer.de

Internet: www.tas-schaefer.de