

The image features three detailed line drawings of ball joints, rendered in white against a dark blue background. One ball joint is positioned in the upper left, another in the center, and a third, larger one in the lower right. Each drawing shows the intricate geometry of the ball joint, including the ball, the yoke, and the mounting surfaces.

the **precision** benchmark

# Ball Joints

A solid red square is located to the left of the company name.

**CARL  
HIRSCH  
MANN** 

EN1937

## Performance-Line and High-Performance-Line Ball Joints

### LATEST INNOVATION OF CARL HIRSCHMANN

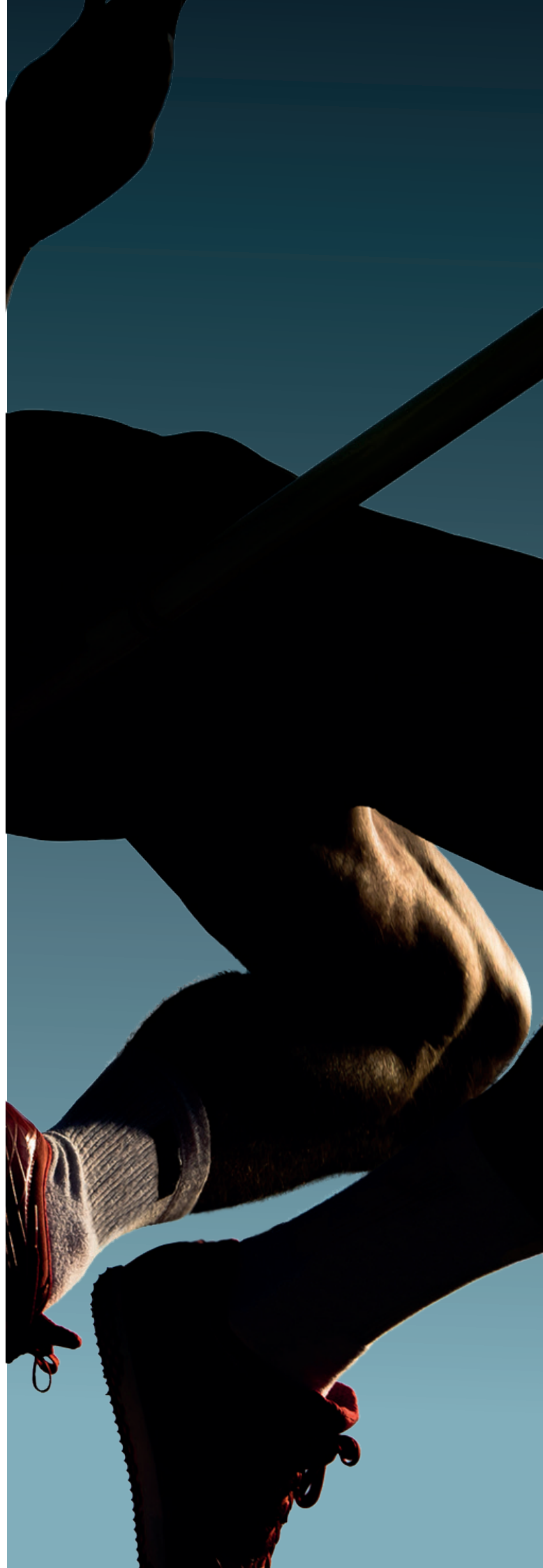
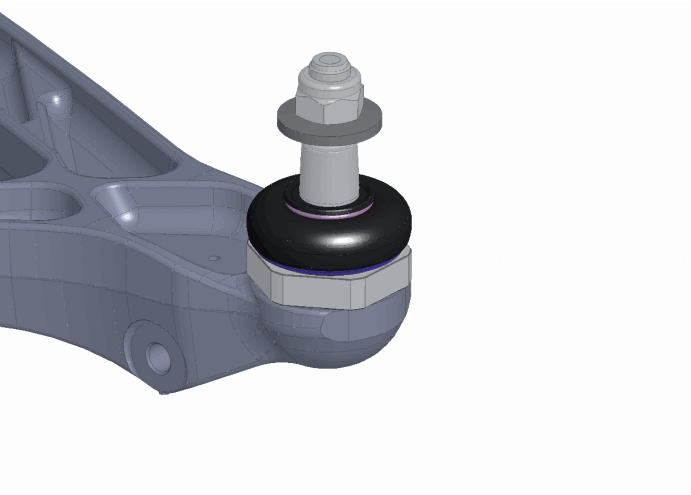
Standard ball joints for race cars, GT street cars, special vehicles (i.a. armored vehicles) and automotive lightweight constructions.

The bearing technology convinces with high axial load transmissions and compact design. Available ex stock are four standard sizes (see table) in two versions:

performance-line and high-performance-line.

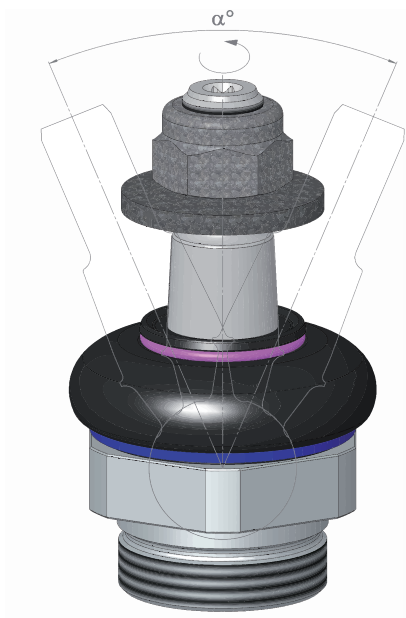
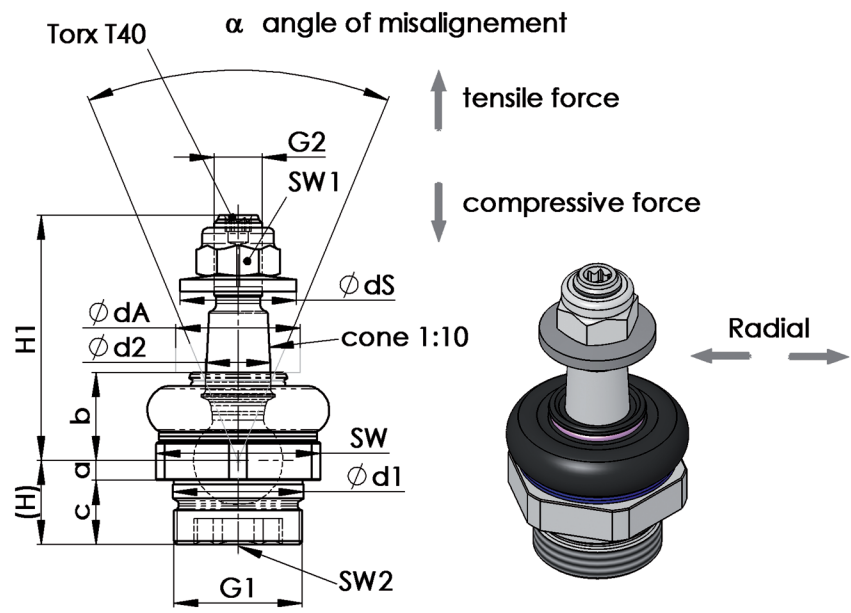
Depending on application, dimensions of space and parameters of load transmission requested ball joint can be selected. Customized solutions can also be realized.

For special applications "high-performance-line" with different material conditions is offered. Here ball joint has less weight at same performance. Most common application of sealed bearings is in chassis components. Since 2010 they are used for example in wishbones and already proven in production.



## Ball Joints overview

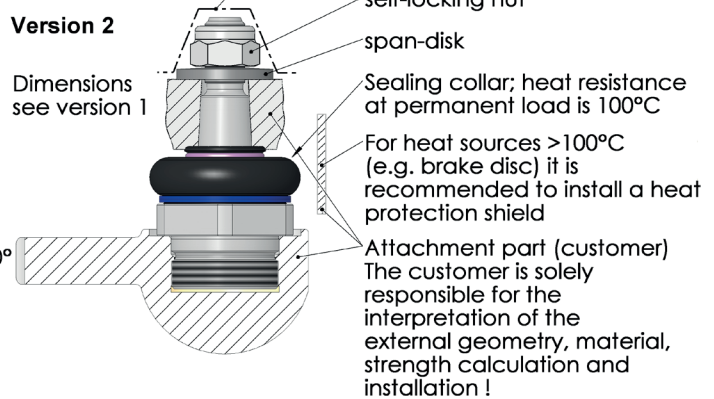
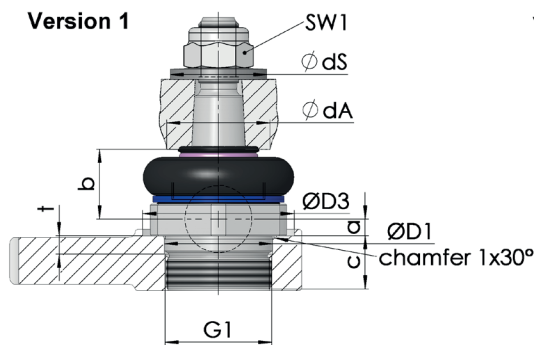
SIZE			12	14	16	18
a			5	5	5	7
b			21	25,5	26	27
c			16	16	18	18
Ød1	-0,02 -0,03		32,5	36,5	42,5	42,5
Ød2			16,1	19,1	20,1	22,15
ØdA	min.		26	31	33	35
ØdS			29	35	35	39
G1	Thread		M32×1,5	M36×1,5	M42×1,5	M42×1,5
G2	Thread		M12×1,5	M14×1,5	M14×1,5	M16×1,5
H			21	21	23	25
H1			61	68	75	80
SW AF	Width across flats hexagon head ball joint		41	46	50	55
SW1	Hexagon head nut		19	22	22	24
SW2	Internal hexagon ball joint		19	19	24	24
α°			45	45	40	40
Max. static bearing capacity	Radial Co,ra performance	kN	11,2	13,5	17	24,5
	Radial Co,ra high performance	kN	20,7	24,7	31,5	45,5
	Tension axial Co,ax	kN	17,5	28,5	37,5	40
	Pressure axial Co,ax	kN	73,5	92	113	154
Max. tightening torque	Hexagon head ball joint	Nm	110	200	300	330
Max. tightening torque property class 10.9	Journal with nut	Nm	42	80	105	125



# Overview- installation versions

SIZE	12	14	16	18
a	5	5	5	7
b	21	25,5	26	27
c	16	16	18	18
t	5,5	5,5	6,5	6,5
ØD1 ±0,02	32,5	36,5	42,5	42,5
ØD3 ±0,2	45,5	50,5	55,5	59,5
ØdS	29	35	35	39
min. ØdA contact surface R <sub>z</sub> 10	26	31	33	35
G1 Thread DIN13-6H	M32 × 1,5	M36 × 1,5	M42 × 1,5	M42 × 1,5
SW1	19	22	22	24

## Installation variants



**Installation recommendation !**  
 In order to achieve the best possible corrosion protection, the nut with the protruding thread as well as the components should be completely covered with protective wax Pfinder AP14/4 after assembly.

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