

Spherical Mount

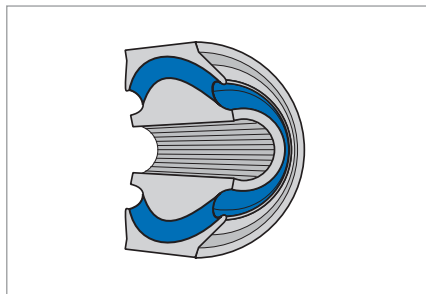


Fig. 1 Spherical Mount

Product description

Spherical mounts, as the name suggests, are spherical bushes capable of absorbing axial, radial and torsional movements and cardanic deflections.

Product advantages

- Maintenance-free articulation
- Reduced settling under radial load
- Increased cardanic loading
- Allowing twist in all directions
- RoHS-compliant.

Application

Spherical mounts are ideal vibration-control components for articulations that are subjected to twisting in all directions. The mounts are primarily used in bearings, brake levers and steering gears in buses and trucks as well as in reaction-support links in industrial applications.

Material

Standard material	Hardness
Natural rubber NR 11, NR 13	50, 60, 65, 70 Shore A

Operating conditions

Radial forces	1200 N ... 46000 N	Maximum permissible force
Axial forces	1600 N ... 20000 N	Maximum permissible force
Max. temperature	up to + 60 °C, transient up to +80 °C	
Min. temperature	up to -45 °C	

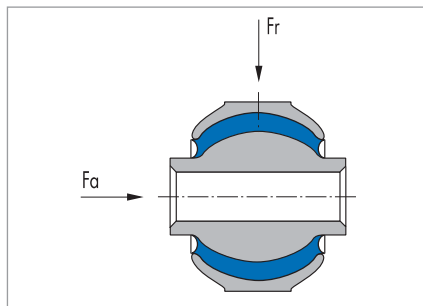


Fig. 2 Primary load directions

Spherical mounts are generally stiffer in the radial direction than in the axial direction and permit angular deflections of 4°–9° for all three spatial axes.

Design notes

This component consists of an inner ball and an outer spherical shell; the joining element is a vulcanised elastomer insert between ball and shell.

Spherical mounts have a preloaded rubber element, so, as is the case with Ultra Bushes, the mount can be calibrated (see the description of Ultra Bushes) for extended durability.

Fitting & installation

- As a rule, spherical mounts are designed for press fitting of the outer metal part and have a threaded fastener on the inner metal part
- Alternatively, the inner metal ball can be designed to push onto a stud for preloading against a collar or for press-fitting on a stud

- Individual components permit slight adjustment to allow for in-situ planar or angular offset
- If possible, utilise the entire cylindrical surface of the outer sleeve as the bearing surface for spherical mounts
- If the inner stud has threaded ends, ensure full-surface contact of the flats in the threaded fastener
- If the inner sleeve is thin, if possible, utilise the entire cylindrical inner face of the inner-sleeve bore as the bearing surface of the spherical mount
- Always apply installation and removal press-fit forces uniformly to the end faces of the precision sleeves.

Article list

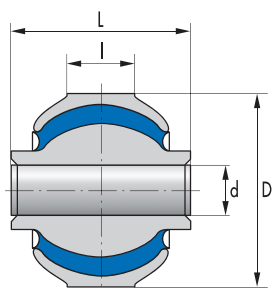


Fig. 3 Spherical Mounts 054 18 096, 054 18 070, 054 18 191

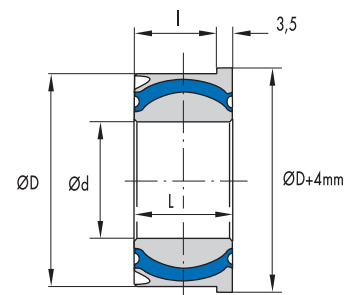


Fig. 4 Spherical Mount 054 18 163

Nominal maxima			Stiffness			Nominal maxima			Stiffness			Nominal maxima			Stiffness			Inside Ø		Outside Ø	
Radial			Axial			Torsion			Cardanic												
$F_{r \max}$	$S_{r \max}$	C_r	$F_{a \max}$	$S_{a \max}$	C_a	$M_{t \max}$	$\varphi_{t \max}$	c_t	$M_{k \max}$	$\varphi_{k \max}$	c_k	d	Tol.	D	Tol.						
[N]	[mm]	[N/mm]	[N]	[mm]	[N/mm]	[Nm]	[°]	[Nm/°]	[Nm]	[°]	[Nm/°]	[mm]		[mm]							
1200	0,6	2000	3600	1,5	2400	25	7,0	0	25	4,0	10	16	H9	45,0	u6						
18700	0,8	23380	11300	2,0	5650	75	9,0	10	80	4,0	20	16	H8	65,0	r8						
20500	0,6	34170	4100	1,1	3730	108	4,5	20	70	4,5	20	20	H8	75,0	r8						
46000	0,7	65710	20000	1,2	16670	266	8,0	30	160	4,0	40	30	H8	90,0	r8						
28000	0,7	40000	4800	1,5	3200	440	5,0	90	280	5,0	60	53	H7	100,0	r8						
35000	0,7	50000	6000	1,5	4000	550	5,0	110	330	5,0	70	53	H7	100,0	r8						
25000	0,8	31250	1600	4,0	400	140	6,0	20	120	3,0	40	-	-	66,67	p7						
25000	0,3	75760	4000	4,0	1000	45	6,0	10	100	3,0	30	-	-	66,67	p7						
25000	0,3	75760	4000	4,0	1000	45	6,0	10	100	3,0	30	-	-	66,67	p7						

● Available from stock ○ On request: Tool is available, delivery at short notice

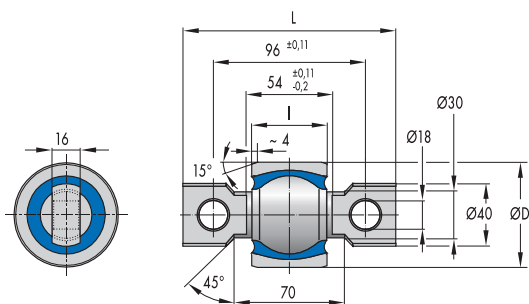


Fig. 5 Spherical Mount 054 18 710

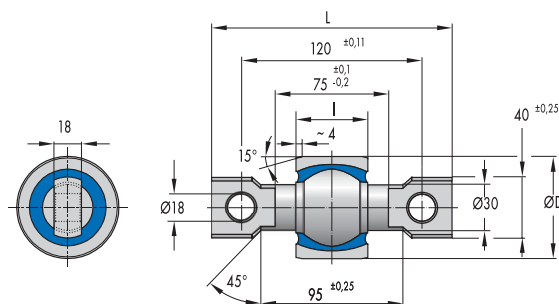


Fig. 5 Spherical Mount 054 18 732

	Length of inside component		Length of outside component		Product No.	Material	Corrosion protection	Article No.	
	L	Tol.	I	Tol.					
	[mm]	[mm]	[mm]	[mm]					
	42	-0,10	35,0	±0,3	5418 036	60 NR 11	Slightly oiled	90721	●
	60	-0,20	32,0	±0,3	5418 068	60 NR 11	Slightly oiled	92525	●
	50	±0,20	46,0	+1,0	5418 191	65 NR 11	Slightly oiled	93644	●
	76	-0,20	45,0	±0,3	5418 070	60 NR 11	Slightly oiled	92041	●
	50	-0,20	46,5/50,0	±0,3	5418 163	65 NR 13	Slightly oiled	93418	●
	50	-0,20	46,5/50,0	±0,3	5418 163	70 NR 11	Slightly oiled	93643	●
	135	±0,30	47,6	±0,3	5418 710	50 NR 11	Slightly oiled	465259	○
	135	±0,30	47,6	±0,3	5418 711	65 NR 13	Fe//Zn8//C	462023	○
	160	±0,25	47,6	±0,3	5418 732	65 NR 13	Fe//Zn8//C	479059	○