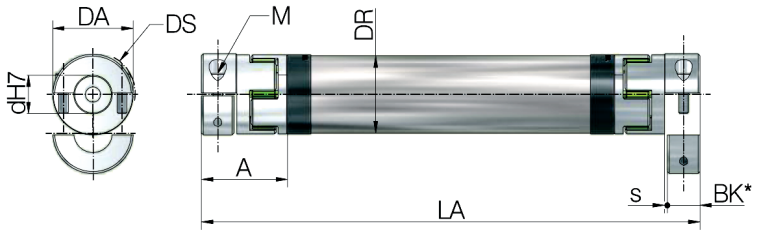
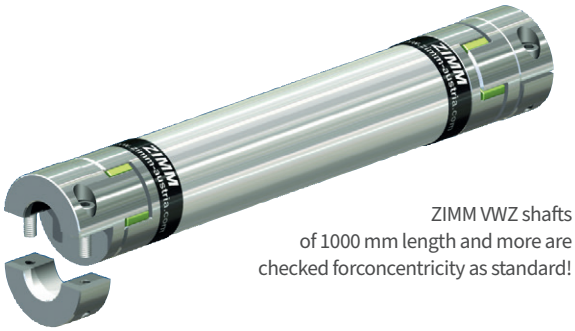
Connecting shaft VWZ

Split shells





ZIMM VWZ shafts
of 1000 mm length and more are
checked forconcentricity as standard!

Standard bores „d“ mm

VWZ-40:	9, 10, 11, 12, 14, 15, 16, 18,19, 20, 22, 24
VWZ-60:	10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32
VWZ-60V:	12, 15, 16, 18, 20, 22, 24, 25, 28, 30, 32, 35
VWZ-80:	16, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45

Other diameters on request

Shafts with split shells

Material:	High-tensile aluminium (stainless steel on request)
Insertion:	Split shells permit easy radial insertion
Moment of inertia:	Low
Drive key:	None. Stepless adjustment facility thanks to the clamp hub. Drive keyway available on request
Other features:	High concentricity and clamping forces

Elastomer star

Features:	Permanently free of play, dampens vibration
Shore hardness:	64D
Colour:	ZIMM-green
Temperature range:	0°C to +70°C reduced to -20°C, to +100°C (Mx0,55)

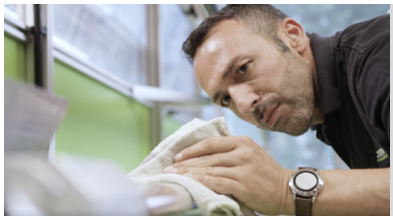
Dimensions & technical data

Code	Dimensions							Clamping screw		Moment of inertia		Torsional stiffness		Weight	
	DA	DS	DR	BK*	s	A	LA min	M	Tightening torque	per coupling	tube/m	per star	per tube/m	both couplings	tube/m
	mm	mm	mm	mm	mm	mm	mm	10,9	Nm	10^{-3}kgm²	10^{-3}kgm²	C_{tdyn} Nm/rad	C_{tdyn} Nm/rad	kg	kg
VWZ-40	42	44,5	40	17	1,5	46	133	M5	8	0,08	0,2	3700	2332	0,36	0,76
VWZ-60	56	57	60	30	2	63	177	M6	15	0,24	0,8	9917	8292	0,94	0,97
VWZ-60V	67	68	60	35	2	73	205	M8	35	0,46	0,8	24417	8292	1,42	0,97
VWZ-80	82	85	80	40	2	84	249	M10	70	2,4	3	33667	29102	2,98	2

**BK = shaft extension clamping length*

Torques

Size	Elastomer star		Maxium transmittable torque by clamp hub depending on the bore diameter																		Coupling type
	Nenndreh-moment Nm	max. Dreh-moment Nm	Ø9 Nm	Ø11 Nm	Ø14 Nm	Ø16 Nm	Ø19 Nm	Ø20 Nm	Ø22 Nm	Ø24 Nm	Ø25 Nm	Ø28 Nm	Ø30 Nm	Ø32 Nm	Ø38 Nm	Ø40 Nm	Ø42 Nm	Ø45 Nm	Ø48 Nm	Ø55 Nm	
VWZ-40	21	42	-	41	52	60	70	74	81	89	-	-	-	-	-	-	-	-	-	-	KUZ-KK-24
VWZ-60	75	150	-	60	76	87	104	109	120	131	136	153	164	175	-	-	-	-	-	-	KUZ-KK-32
VWZ-60V	200	400	-	-	-	120	-	188	206	-	235	-	-	301	-	-	-	-	-	-	KUZ-KK-35
VWZ-80	405	810	-	-	-	325	386	406	447	488	508	568	610	650	772	-	854	915	-	-	KUZ-KK-45



Concentricity test

ZIMM VWZ shafts of 1000 mm length and more are checked for concentricity as standard!

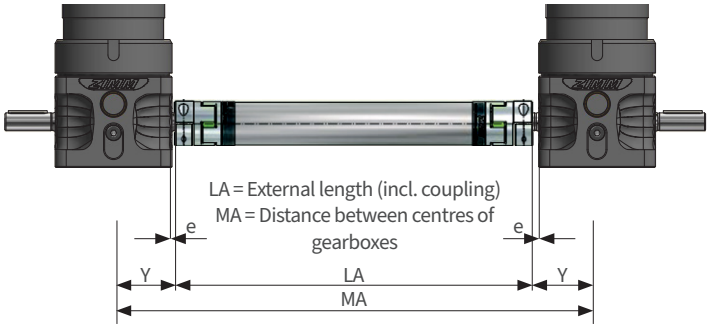
Ordering example:: **VWZ-60-LA 1800-20/25**

Size
Length
Bores of couplings

n=1500 min^{-1} (specify the speed)

ZE Accessories

VWZ length calculation



Length calculation

Screw jack	Connecting shaft	e	Y	A
ZA-25	VWZ-40	28	80,5	46
ZA-25	VWZ-60	15	67,5	63
ZA-25	VWZ-80**	5	57,5	84
ZA-50	VWZ-60	17,5	90	63
ZA-50	VWZ-60V	12,5	85	73
ZA-50	VWZ-80*	7,5	80	84

**can not be fitted with pivot mounts LB **Outer diameter DS > Gearbox height*

Installation of the connecting shaft

By using split shell couplings, the connecting shafts can be mounted after the drive shafts have been installed.
Simply place the connecting shaft on the spigot and fix the couplings with torque wrench according to the table (feather key not required).

Set the screw tightening torque according to the table.

max. permissible offset

Lateral offset (β):

Kr max. 1,5 mm per 100 LI

Angular offset (R):

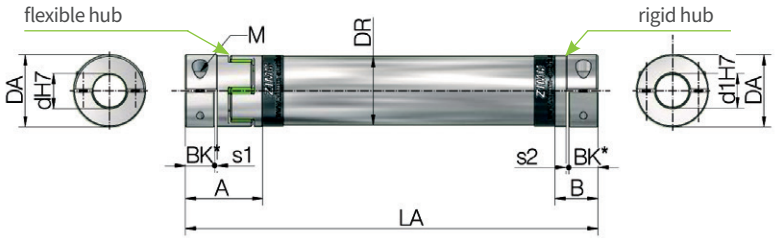
max. 2° (1° per coupling)

Axial offset (A):

ca. +/- 1 to 2 mm

Connecting shaft

for pedestal bearing use | with flexible / rigid hub

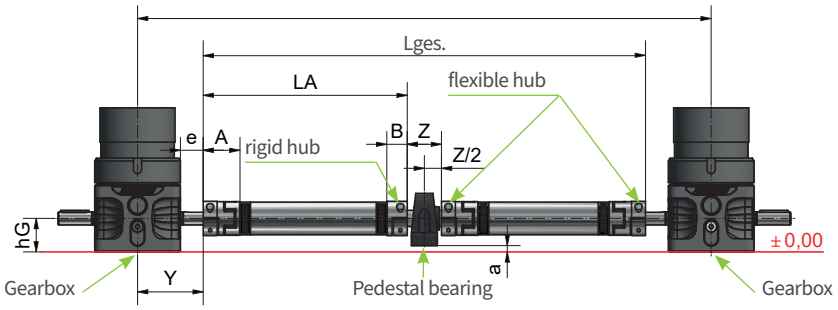


For pedestal bearing

The installation situation is very important when selecting shaft dimensions. For example, the cost of a larger diameter connecting shaft not requiring additional pedestal bearing support can be considerably less than the cost of a smaller connecting shaft requiring costly sub-structures for the additional pedestal bearing. For this version we use the rigid hub version so that no radial misalignment can occur in the pedestal bearing.

Size	A	B	s1	s2	Bk*	d1	LA min
VWZ-40	46	25	2	1,6	17	20	112
VWZ-60	63	40	2	2	30	20	154
VWZ-60V	73	42	2	2	35	30	175
VWZ-80	84	55	2	2	40	30	220

**BK = shaft extension clamping length*



Gearbox	Connecting shaft	e	Y	A	B	Z	Lwz	d1	hG	hL	a
ZA-25	VWZ-40	28	80,5	46	25	42	76	20	41	33,2	7,8
ZA-25	VWZ-60	15	67,5	63	40	42	102	20	41	33,2	7,8
ZA-25	VWZ-80	5	57,5	84	55	50	130	30	41	42,9	-1,9
ZA-50	VWZ-60	17,5	90	63	40	42	102	20	58	33,3	24,7
ZA-50	VWZ-60V	12,5	85	73	42	60	130	30	58	42,9	15,1
ZA-50	VWZ-80*	7,5	80	84	55	50	130	30	58	42,9	15,1

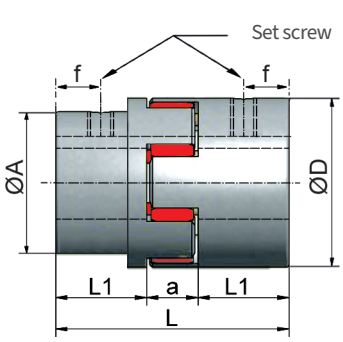
**cannot be fitted with pivot mounts LB*

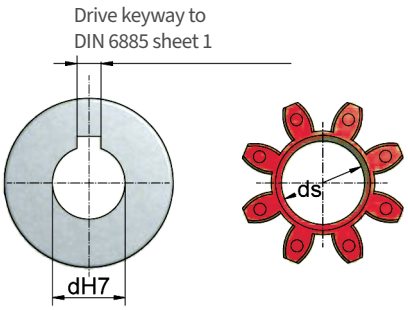
Ordering example:: **VWZ-60-LA1800-25/20S**

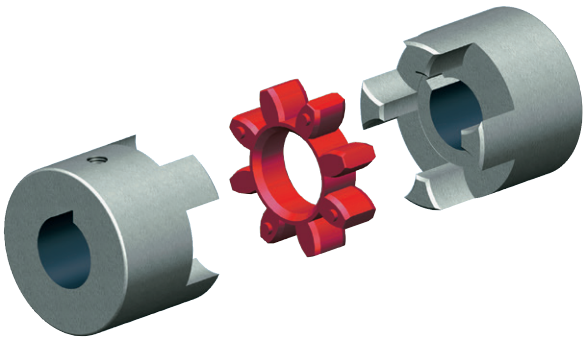
Length
Bore 1st side / 2nd side (S = rigid hub)
n=1500 rpm (specify the speed)

Standard coupling KUZ

Coupling with keyway and set screw







Dimensions

Size	D	A offset hub	L	L1	a	f	ds star	L1 long hub	Set screw	Tightening torque Nm
KUZ-19	34,5	-	51	19	13	9,6	12	-	M6	4,8
KUZ-24	40	-	66	25	16	10	17	40	M5	2
KUZ-28	55	-	78	30	18	10	26	-	M5	2
KUZ-38	65	-	90	35	20	15	29	60	M6	4,8

Technical data

Size	Rated torque Nm	max. torque Nm	max. speed rpm	Shore hardness star	Material*	Weight drilled kg	Torsional stiffness C_{tdyn} Nm/rad	Moment of inertia $10^{-3}kgm^2$
KUZ-19	7,4	7,4	14000	92A	S	0,27	274	0,03
KUZ-24	17	34	14000	98A	S	0,34	2920	0,1
KUZ-28	60	120	10600	98A	S	0,9	9930	0,4
KUZ-38	160	320	8500	98A	S	1,5	26770	1,4

**A = Aluminium, S = Sintered steel, G = Cast iron*

Standard coupling KUZ

Coupling with keyway and set screw

Standard bores „d“ mm

KUZ-19:	U, 11, 14, 16, 19
KUZ-24:	U, 11, 14, 16, 19, 19L, 20, 24
KUZ-28:	U, 14, 16, 19, 20, 24, 25, 28
KUZ-38:	U, 25, 28, 28L, 32, 38

U = *not drilled (KUZ-19 pre-drilled Ø6,3 mm*
L = *long hub*
A = *offset hub*
*** *coupling with set screw, without keyway.*
Other diameters available on request.

Elastomer star

Material: polyurethane
Damping: medium to good damping
Strength: very good long-term strength
Temperature range: -20°C to +70°C
reduced to -30°C, up to +100°C (Mx0,55)

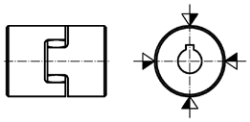
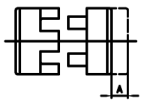
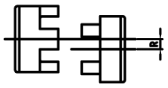
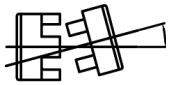
Coupling with keyway and set screw

Material: as shown in the table
Keyway: DIN 6885/1-P9
Other features: Provides rotational resilience and maintenance-free

Permissible assembly errors

Size	A mm	R mm	ß
KUZ-19	0,75	0,4	0,5°
KUZ-24	1,2	0,2	0,9°
KUZ-28	1,4	0,22	0,9°
KUZ-38	1,5	0,25	0,9°

Potential assembly errors (KUZ and KUZ-KK)

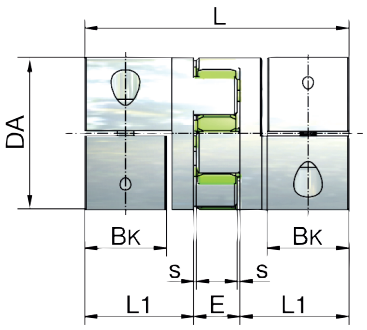
Assembly instruction	Axial displacement A	Axis offset R	Angular error ß
 Check the angle and radial offset using straight edges in two planes	 axial	 lateral	 angular

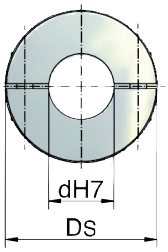
Ordering example: **KUZ-24-20/24**

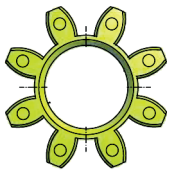
Size
Bore 1st side
bore 2nd side

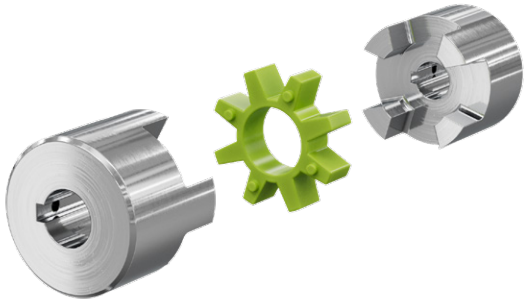
Clamp coupling KUZ-KK

Coupling with split shells









Dimensions

Size	Dimensions							Clamping screw		Moment of inertia	Torsional stiffness C_{tdyn}	Weight
	DA mm	DS mm	L mm	L1 mm	BK* mm	s mm	E mm	M 10,9	Tightening torque Nm	$10^{-3}kgm^2$"	Nm/rad	kg
KUZ-KK-24	42	44,5	66	25	17	1,5	16	M5	8	0,08	3700	0,2
KUZ-KK-32	56	57	98	40	30	2	18	M6	15	0,24	9917	0,55
KUZ-KK-35	67	68	114	47	35	2	20	M8	35	0,51	24417	0,9
KUZ-KK-45	82	85	134	55	40	2	24	M10	70	2,4	33667	1,6

**BK = shaft extension clamping length*

Technical data

Size	Elastomer star		Maximum transmittable torque of clamp hub depending on the bore diameter (clamp force)																	
	Rated torque Nm	max. torque Nm	Ø9 Nm	Ø11 Nm	Ø14 Nm	Ø16 Nm	Ø19 Nm	Ø20 Nm	Ø22 Nm	Ø24 Nm	Ø25 Nm	Ø28 Nm	Ø30 Nm	Ø32 Nm	Ø38 Nm	Ø40 Nm	Ø42 Nm	Ø45 Nm	Ø48 Nm	Ø55 Nm
KUZ-KK-24	21	42	-	41	52	60	70	74	81	89	-	-	-	-	-	-	-	-	-	-
KUZ-KK-32	75	150	-	60	76	87	104	109	120	131	136	153	164	175	-	-	-	-	-	-
KUZ-KK-35	200	400	-	-	-	120	-	188	206	-	235	-	-	301	-	-	-	-	-	-
KUZ-KK-45	405	810	-	-	-	325	386	406	447	488	508	568	610	650	772	-	854	915	-	-

The max. torque is limited either by the star or by the clamping force

Clamp coupling KUZ-KK

Coupling with split shells

Standard bores „d“ mm

KUZ-KK-24:	9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 24
KUZ-KK-32:	10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32
KUZ-KK-35:	12, 15, 16, 18, 20, 22, 24, 25, 28, 30, 32, 35
KUZ-KK-45:	16, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45

Other diameters available on request
Keyway available on request

Coupling with split shells

Material:	High-tensile aluminium
Keyway:	None, stepless adjustment facility thanks to the clamp hub rather than a fitted drive key Keyway available on request
Insertion:	Split shells permit easy radial insertion
Other features:	High concentricity High clamping forces Low moment of inertia

Elastomer star

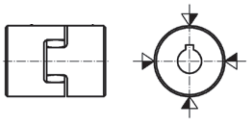
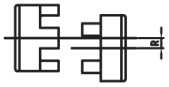
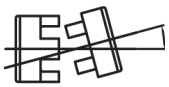
Material:	Polyurethane
Shore-hardness:	64D
Colour::	ZIMM green
Other features::	Permanently free of play, dampens vibration Temperature range: -20°C to +70°C reduced to -30°C, to +100°C (Mx0,55)

Permissible assembly errors

Size	A mm	R mm	ß
KUZ-KK-24	±2	0,08	1°
KUZ-KK-32	±2	0,1	1°
KUZ-KK-35	±2	0,15	1°
KUZ-KK-45	±2	0,12	1°

Figure “Potential assembly errors” see previous page.

Potential assembly errors (KUZ and KUZ-KK)

Assembly instruction	Axial displacement A	Axis offset R	Angular error ß
 Check the angle and radial offset using straight edges in two planes	 axial	 lateral	 angular

Ordering example: **KUZ-KK-32-20/24**

Size
Bore 1st side
Bore 2nd side