

SITEX® teeth couplings

Description

SITEX® couplings consist of two toothed hubs which are connected with one internally toothed sleeve. The hubs are made of steel and the teeth, which are both profiled and section crowned, are

milled. The sleeve is manufactured from stabilized 6.6 super-polyamide resin.

Note: It is possible to have aligned keyways upon inquiry.



Features

SITEX® couplings are members of the elastic coupling family range. Sitex couplings are well suited for applications with axial, radial, and angular displacement of the connected shafts. The double cardanic action eliminates the imposition of loads on the shafts which results from radial and axial misalignment. The torsional rigidity of the sleeve prevents angular speed variation.

The combination of steel hubs with Polyamide sleeve makes the coupling maintenance and lubrication free.

The particular toothed profile prevents contact of tooth edges with the sleeve, ensuring long life of the coupling.

Performance

Mounting can be in both the horizontal and vertical planes. Installation is simple and quick, which lowers installation costs. The coupling is suitable for operating in temperatures ranging from - 25 °C to + 90 °C.

For short intervals, temperatures of + 125 °C can be tolerated. Components of the coupling are resistant to all types of lubricants and hydraulic fluids.

ATEX Directive 2014/34/EU 

It is possible to ask for specific certification for use in hazardous area according to ATEX Directive 2014/34/EU.

SITEX® couplings are available with specific mounting/operating instruction manual and conformity.

For information, please contact our technical office.



SITEX® coupling selection

Selection according to torque

The maximum starting torque of the driver or driven machine must not exceed the maximum torque capacity of SITEX®. With uniform loading and well aligned shafts, SITEX® can be

operated at all torques up to the maximum. In case of irregular torque, consider that the SITEX® coupling can bear peak loads up to 3 times the nominal torque indicated.

Technical characteristics

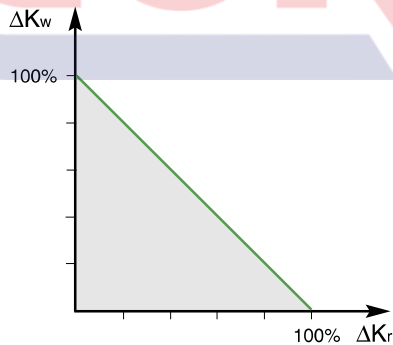
Size	T _{KN} [Nm]	T _{Kmax} [Nm]	T _{Kw} [Nm]	[kW]										n _{max} [min ⁻¹]	W* [kg]	J* [kg.m ²]	ΔK _a [mm]	ΔK _r [mm]	ΔK _w [°]
				n = 500 [min ⁻¹]		n = 750 [min ⁻¹]		n = 1000 [min ⁻¹]		n = 1500 [min ⁻¹]		n = 3000 [min ⁻¹]							
				std	max	std	max	std	max	std	max	std	max						
14	10	30	5	0,5	1,6	0,8	2,4	1,0	3,1	1,6	4,7	3,1	9,4	14,000	0,18	0,000026	±1	±0,3	+1
19	16	48	8	0,8	2,5	1,3	3,8	1,7	5,0	2,5	7,5	5,0	15,1	11.800	0,24	0,000054	±1	±0,3	±1
24	21	63	10,5	1,1	3,3	1,6	4,9	2,2	6,6	3,3	9,9	6,6	19,8	10.500	0,30	0,000088	±1	±0,3	±1
28	45	135	22,5	2,4	7,1	3,5	10,6	4,7	14,1	7,1	21,2	14,1	42,4	8.500	0,73	0,000312	±1	±0,4	±1
32	60	180	30	3,1	9,4	4,7	14,1	6,3	18,8	9,4	28,3	18,8	56,5	7.600	0,99	0,000572	±1	±0,4	±1
38	81	243	40,5	4,2	12,7	6,4	19,1	8,5	25,4	12,7	38,2	25,4	76,3	6.700	1,20	0,000877	±1	±0,4	±1
42	100	300	50	5,2	15,7	7,9	23,6	10,5	31,4	15,7	47,1	31,4	94,2	6.000	1,62	0,001467	±1	±0,4	±1
48	142	426	71	7,4	22,4	11,2	33,6	14,9	44,8	22,3	67,1	44,6	134,3	5.580	1,79	0,001869	±1	±0,4	±1
65	380	1140	190	19,9	59,7	29,8	89,5	39,8	119,4	59,7	179,1	119,4	358,1	4.000	5,28	0,010542	±1	±0,6	±1
80	700	2100	350	36,6	109,9	55,0	164,9	73,3	219,9	109,9	329,8	219,9	659,7	3.100	11,7	0,036774	±1	±0,7	±1
100	1210	3630	605	63,4	190,1	95,0	285,1	126,7	380,1	190,1	570,2	380,1	1140,3	3.000	20,4	0,095742	±1	±0,8	±1
125	2500	7500	1250	130,9	392,7	196,3	589,0	261,8	785,3	392,7	1178,0	-	-	2.100	43,3	0,329397	±1	±1,1	±1

*= Values are for complete couplings, max bore diameter, only.

The values shown in the table for radial and angular misalignment, must be adjusted in cases where they are simultaneously acting on the coupling.

The sum of the admissible value (A) and the respective values shown in the table must be lower or equal to 1.

$$\frac{\Delta K_{rA}}{\Delta K_r} + \frac{\Delta K_{wA}}{\Delta K_w} \leq 1$$

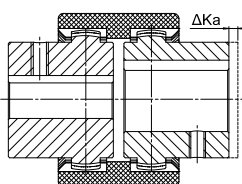


T _{KN}	Coupling nominal torque	Nm
T _{Kmax}	Coupling maximum torque	Nm
W	Weight	kg
J	Coupling moment of inertia	kgm ²
ΔK _a	Maximum axial misalignment	mm
ΔK _r	Maximum radial misalignment	mm
ΔK _w	Maximum angular misalignment	°
n _{max}	Maximum rpm	min ⁻¹

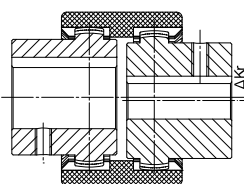
Mounting instructions

- Attach the hubs to the shafts, taking care to align the inner surfaces with the corresponding shaft ends.
- Insert the sleeve on the two hubs adjusting the distance (dimension "b") of the same ones trying at the same time to align the two shafts as much as possible.

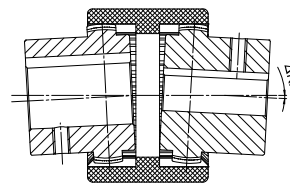
- Tighten into position the two elements to be coupled.
- Before rotating the coupling, be sure the sleeve is free to move axially.



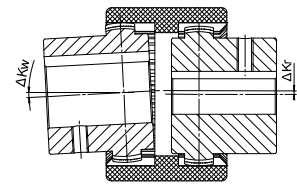
axial misalignment



radial misalignment



angular misalignment



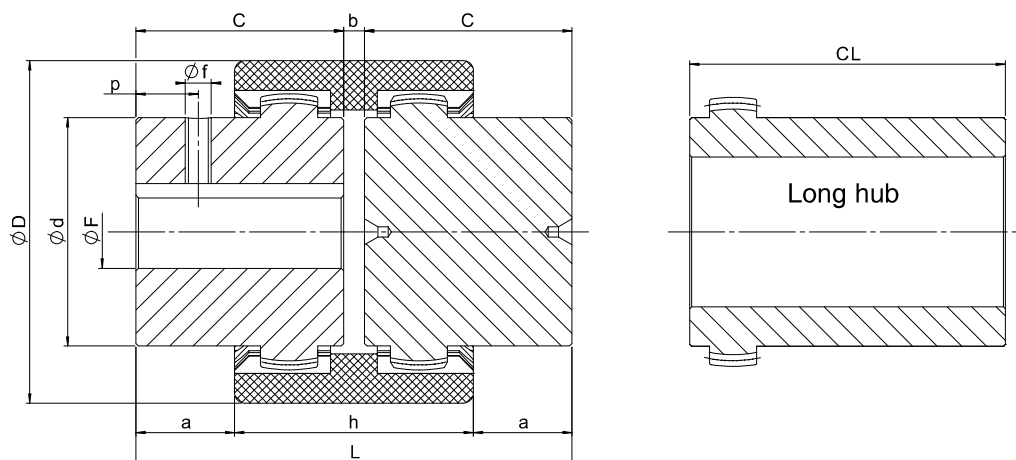
both angular and radial misalignment

Dimensional characteristics

Due to compact dimensions and excellent performances, SITEX® couplings may be used in a wide range of applications. Couplings are available from stock, both the standard and the "long" hub execution, which entirely covers the motor shaft.

SITEX® hubs are available with certain stock bores as listed below. The standard solid hub has a pilot center concentric to the hub OD and can be bored to specific needs.

Approved according to ATEX Directive.



Size	D [mm]	d [mm]	F (H7)			C [mm]	CL [mm]	b [mm]	a [mm]	h [mm]	L [mm]	f [mm]	p [mm]
			min	max	UNI keyway and set-screw* [mm]								
14	40	24,5	8	14	11 - 14	23	30	4	6,5	37	50	M5	6
19	48	30	8	19	11 - 14 - 19	25	-	4	8,5	37	54	M5	6
24	52	35	11	24	14 - 19 - 20 - 22 - 24	26	50	4	7,5	41	56	M5	6
28	66	43	11	28	16 - 19 - 22 - 24 - 28	40	60	4	18,5	47	84	M8	10
32	76	50	14	32	22 - 24 - 28 - 32	40	60	4	17,5	48	84	M8	10
38	83	58	14	38	24 - 28 - 32 - 38	40	80	4	18	48	84	M8	10
42	92	65	14	42	25 - 28 - 32 - 38 - 42	42	110	4	18,5	51	88	M8	10
48	100	68	19	48	32 - 38 - 42 - 48	50	110	4	27	50	104	M8	10
65	142	96	19	65	38 - 42 - 48 - 55 - 60	70	140	4	35,5	73	144	M10	20
80	175	124	-	80	-	90	-	6	46,5	93	186	M10	20
100	210	152	36	100	-	110	-	8	63	102	228	M10	20
125	270	192	45	125	-	140	-	10	78	134	290	M10	20

* = Up to size 24, set-screw is 180° from keyway; from size 28 set-screw is set onto the keyway.
Keyway according to DIN 6885 sheet 1 - JS9

Order form

Hub **GDM 48 F32**

GDM: SITEX® hub

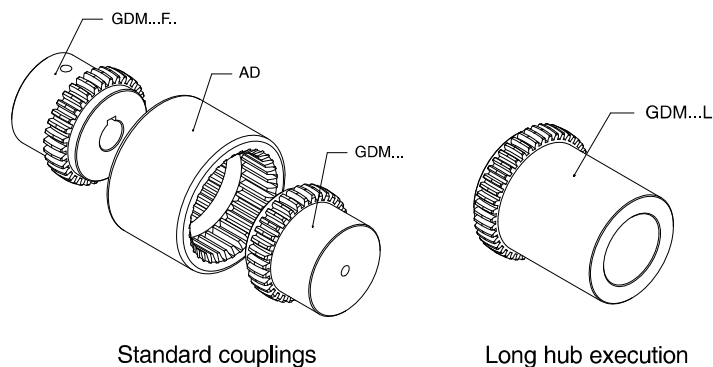
Size

L: long hub execution
F...: bore diameter

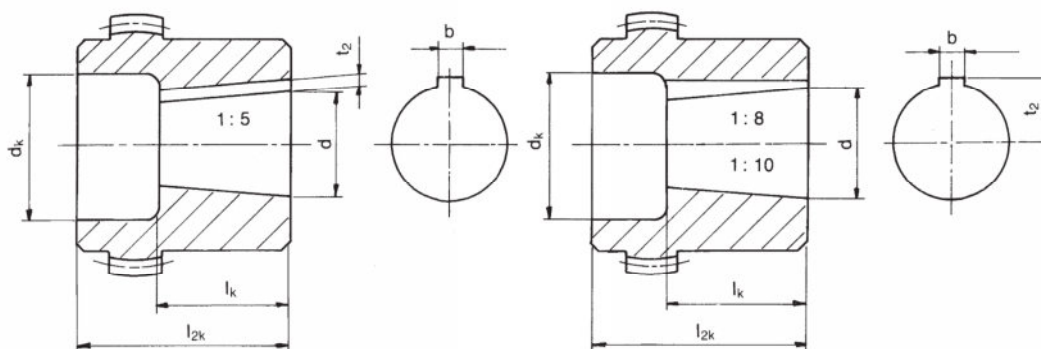
Sleeve **AD 48**

AD: SITEX® sleeve

Size



Tables for SITEX® couplings with taper or splined bores



Taper 1 : 5 for
BOSCH - BUCHER - LEDUC - DÜSTERLOH

Size	dø + 0,05	b ^{JS9}	t ² +0,1	l _k	14		19		24		28		32		38		42		48		65	
					d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}
a1	9,85	2	1	11,5	18	23	22	25	24	26	35	26	36	26	45	26						
a2	16,85	3	1,8	18,5			25	30	28	30	35	40	36	40	45	40	45	42	45	42	45	50
a3	19,85	4	2,2	21,5					28	36	35	40	36	40	45	40	45	42	45	42	45	50
a4	21,95	3	1,8	21,5					30	26	32	40	32	40	42	40	45	42				
a5	24,85	5	2,9	26,5							35	40	36	40	45	40	45	42	45	42	55	50
a6	29,85	6	2,6	31,5											45	55	45	55	45	55	55	55
a7	34,85	6	2,6	36,5															52	60	55	60
a8	39,85	6	2,6	41,5															52	60	65	70

Taper 1 : 8 for
ATOS - CASAPPA - GARBE LAHMEYER - JOTTI & STROZZI - MARZOCCHI - SALAMI - SAUER-FLUID

Size	dø + 0,05	b ^{JS9}	t ² +0,1	l _k	14		19		24		28		32		38		42		48		65	
					d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}
b1	9,7	2,4	6	17	18	26	19	25	24	26	35	30	36	30	36	30						
b2	11,6	3	7,1	16,5	18	23			26	26	32	30										
b3	13	2,4	7,3	21					26	30	32	30			32	30						
b4	14	3	8,5	17,5	20	23	24	30	24	30	32	30	36	40								
b5	14,3	3,2	8,5	19,5																		
b6	17,287	3,2	9,6	24					28	35	32	40	36	40	42	40	45	42	45	42	45	50
b7	17,287	4	10,3	24					28	35	32	40	36	40	42	40	45	42	45	42	45	50
b8	17,287	3	9,7	24					28	35					42	40			45	42		
b9	22,002	3,99	12,4	28							32	40	36	40	42	40	45	42	45	42	55	50
b10	25,463	4,78	15,1	36							34	50	36	50	42	50	45	50	45	50	55	62
b11	25,463	5	15,5	36							34	50					45	50	45	50	55	62
b12	27	4,78	15,3	32,5											42	50						
b13	28,45	6	15,1	38,5											42	60	45	60				
b14	33,176	6,38	18,8	44											44	60	45	60	45	60	55	62
b15	33,176	7	18,8	44													45	60			55	62
b16	43,057	7,95	3,378	51																		
b17	41,15	8	3,1	42															48	60	55	60

Taper 1 : 10 for
PARKER HANNIFIN NMF - TEVES

Size	d ø + 0,05	b ^{JS9}	t ² +0,1	l _k	014		19		24		28		32		38		42		48		65	
					d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}	d _k	l _{2k}
c1	19,95	5	12,1	32							35	50			42	50	45	50	45	50		
c2	24,95	6	14,1	45									36	55			45	60	45	60	55	60
c3	29,75	8	17	50													54	60	54	60	55	70

SITEX® Nylex

SITEX® Nylex couplings are made of 100% Polyamide.

Two executions are available:

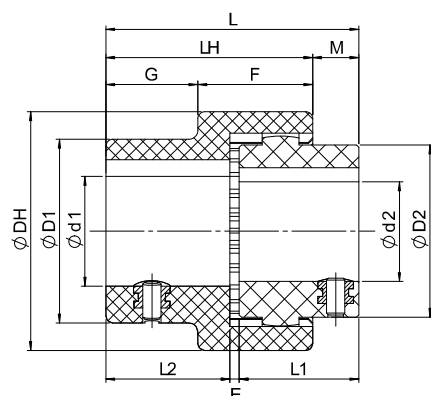
- **CV**: in 2 parts (1 hub and one sleeve including the hub);
- **C**: in 3 parts (2 hubs and one sleeve).

Designed for light applications, low cost and available with finished bore keyway and thread for set screw.

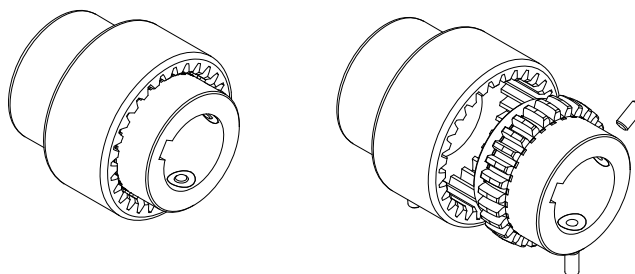
Temperature range: -25 °C ÷ +90 °C.

Compliant with ATEX Directive.

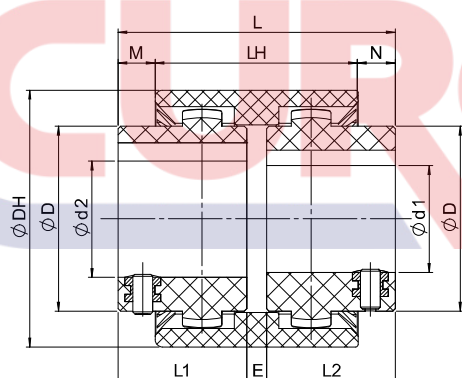
Note: It is possible to have aligned keyways upon inquiry.



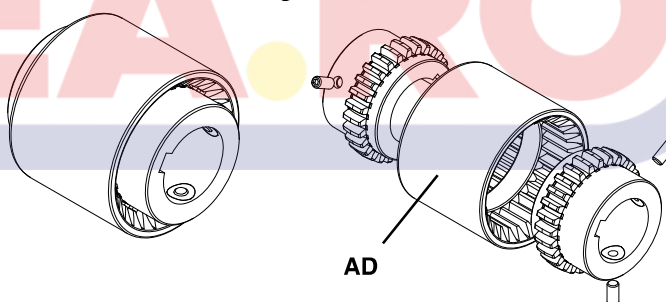
CV



Size	d1 [mm]			D1 [mm]	d2 [mm]			D2 [mm]	DH [mm]	L1 [mm]	L2 [mm]	E [mm]	L [mm]	LH [mm]	M [mm]	F [mm]	G [mm]	TKN [Nm]	TKmax [Nm]	TKW [Nm]	nmax [min ⁻¹]
	min	max	UNI keyway and set screw [mm]		min	max	UNI keyway and set screw [mm]														
14	6	14	14	25	6	14	7-9-10-11-12-14	26	40	23	23	2	48	40	8	23	17	5	10	2,5	6.000
19	14	19	18-19	31,5	14	19	14-17-19	40	48	25	25	2	52	42	9	23	19	8	16	4	6.000
24	10	24	19-20-24	37,5	10	24	10-14-16-19-20-24	40	52	26	26	2	54	45	10	25	20	12	24	6	6.000



C



Taglia	d1-d2 [mm]			D [mm]	DH [mm]	L1 [mm]	L2 [mm]	E [mm]	L [mm]	LH [mm]	M [mm]	N [mm]	TKN [Nm]	TKmax [Nm]	TKW [Nm]	nmax [min ⁻¹]
	min	max	UNI keyway and set screw [mm]													
14	6	14	7-9-10-11-12-14	25	40	23	23	4	50	37	6,5	6,5	5	10	2,5	6.000
19	14	19	14-17-19	31,5	48	25	25	4	54	37	8,5	8,5	8	16	4	6.000
24	10	24	10-14-16-19-20-24	37,5	52	26	26	4	56	41	7,5	7,5	12	24	6	6.000

Order form

Hub

GDN 14 F14

GDN: SITEX® NYLEX hub
GDNV: SITEX® NYLEX sleeve hub

Size

F...: bore diameter

"C" execution sleeve

AD 24

AD: SITEX® NYLEX sleeve

Size

T _{KN}	Coupling nominal torque	Nm
T _{Kmax}	Coupling maximum torque	Nm
T _{KW}	Torque with reversal transmissible by the coupling	Nm
n _{max}	Maximum rpm	min ⁻¹