

SITEX® TEETH COUPLINGS



DRIVE  
SOLUTIONS

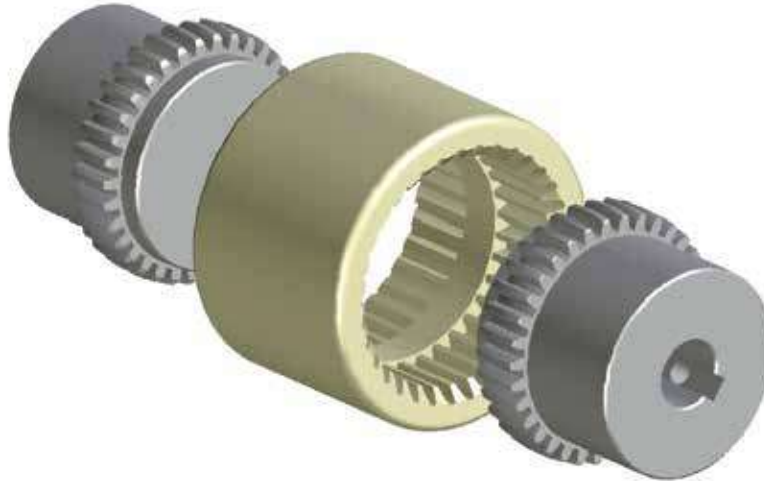
SITEX®  
SITEX® FL



## 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 superpolyamide 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

Size	T <sub>KN</sub> [Nm]	T <sub>Kmax</sub> [Nm]	T <sub>KW</sub> [Nm]	Transmissible power at various speeds [kW]										n <sub>max</sub> [rpm]	W* [kg]	J* [kg·m <sup>2</sup> ]	ΔKa [mm]	ΔKr [mm]	ΔKw [°]
				n = 500 [rpm]		n = 750 [rpm]		n = 1000 [rpm]		n = 1500 [rpm]		n = 3000 [rpm]							
				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	11,70	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	20,40	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	43,30	0,329397	±1	±1,1	±1

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

### SITEX® coupling sizing

SITEX® coupling sizing shown below is carried out according to DIN 740/2. The sizing requires that the maximum moments to be transmitted by the coupling under the various operating conditions be less than the maximum allowable stresses of the coupling itself.

Verification should be conducted on both the nominal torque and the maximum transmissible torque:

#### 1) Verify the nominal torque

The nominal torque to be transmitted multiplied by the temperature coefficient must be less than the nominal torque supportable of the coupling.

$$T_{KN} \geq T_N \cdot S_\theta \quad [\text{Nm}]$$

where the nominal torque of the T<sub>N</sub> motor side is obtained by the formula:

$$T_N = 9550 \frac{P_N}{n} \quad [\text{Nm}]$$

where P<sub>N</sub> is the rated power of the motor in kW and n is the number of revolutions per minute.

#### 2) Peak torque verification.

The maximum torque of the coupling must be greater than the starting torque and multiplied by the temperature coefficients, starting frequency and shock frequency.

$$T_{Kmax} \geq T_S \cdot S_\theta \cdot S_Z \cdot S_U \quad [\text{Nm}]$$

#### 3) Verification of torque with reversals.

In the case of torque with reversals in addition to 1) and 2), it must also be verified that the torque with reversals that can be borne by the T<sub>KW</sub> coupling, is greater than or equal to the T<sub>W</sub> torque variation of the transmission, corrected by the temperature coefficient.

$$T_{KN} \geq T_N \cdot S_\theta \quad [\text{Nm}]$$

In the case of transmissions subject to high torsional vibrations (e.g., piston compressors, internal combustion engines), a calculation of the torsional vibrations themselves should be carried out to ensure proper operation of the coupling. For this purpose, consult our Technical Department.

T <sub>KN</sub>	Coupling nominal torque	Nm
T <sub>Kmax</sub>	Coupling maximum torque	Nm
T <sub>KW</sub>	Torque with reversal transmissible by the coupling	Nm
T <sub>N</sub>	Coppia nominale del motore	Nm
T <sub>S</sub>	Coppia di spunto del motore o coppia d'urto	Nm
T <sub>W</sub>	Coppia con inversioni dell'impianto	Nm
S <sub>θ</sub>	Temperature factor	
S <sub>Z</sub>	Start frequency factor	
S <sub>U</sub>	Motor or driven-side shock factor	

P <sub>N</sub>	Motor nominal torque	kW
n	Number of engine operating revolutions	rpm
W	Weight of the complete coupling with max bore	kg
ΔK <sub>a</sub>	Maximum axial misalignment	mm
ΔK <sub>r</sub>	Maximum radial misalignment	mm
ΔK <sub>w</sub>	Maximum angular misalignment	°
J	Coupling moment of inertia	kgm <sup>2</sup>
n <sub>max</sub>	Maximum rpm	rpm

Shock load safety factor

Shock load type	$S_U$
Light	1,5
Medium	1,8
Hard	2,5

Shock load safety factor

T (°C)	-25 °C / +60 °C	-60 °C / +80 °C	-80 °C / +90 °C
$S_\theta$	1	1,4	1,6

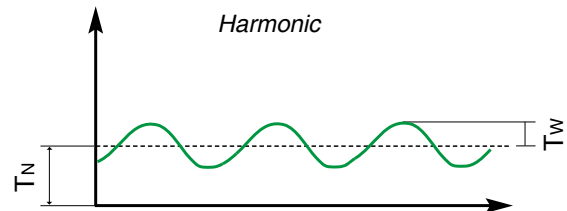
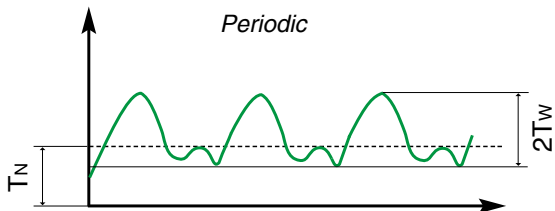
Safety factor for frequency of starting

Starts/h	0 ÷ 100	101 ÷ 200	201 ÷ 400	401 ÷ 800
$S_z$	1	1,2	1,4	1,6

**Hub shaft connection check**

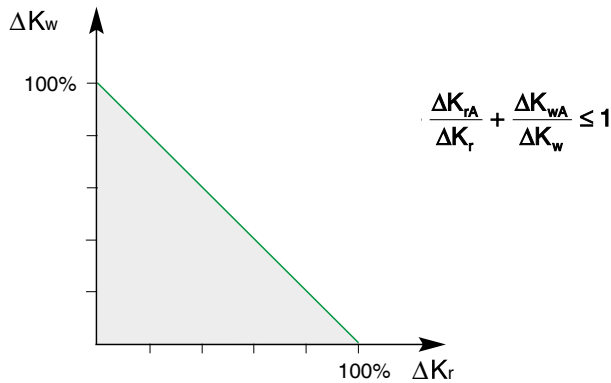
Hub shaft connection must always be checked by the user. It is important to verify the maximum torque in the drive is lower than the torque which the hub shaft connection can bear. In case of keyway connection, it is important to verify the tensile strength of the hub material with the load which the keyway seat must transmit.

**Type of stress**



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

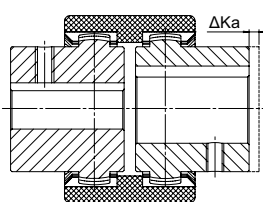
The sum of the admissible value (A) and the respective values shown in the table must be less than or equal to 1.



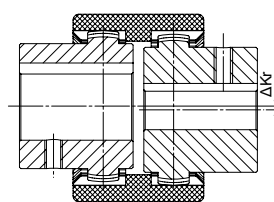
$\Delta K_a$	Maximum axial misalignment	mm
$\Delta K_r$	Maximum radial misalignment	mm
$\Delta K_w$	Maximum angular misalignment	°

**Mounting standards**

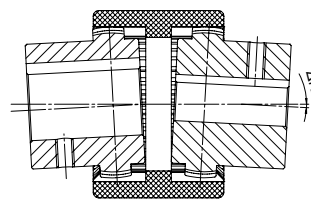
- Attach the two hubs to the shafts, making sure that the inner faces are flush with the respective ends of the shafts.
- Thread the sleeve onto the two half-hubs by adjusting the distance between them (dimension "b") while simultaneously trying to align the as much as possible between the two shafts.
- Secure the two elements to be coupled in place.
- Before rotating the coupling, check that the sleeve is free to move axially.



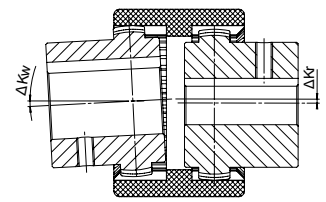
Axial misalignment



Radial misalignment



Angular misalignment



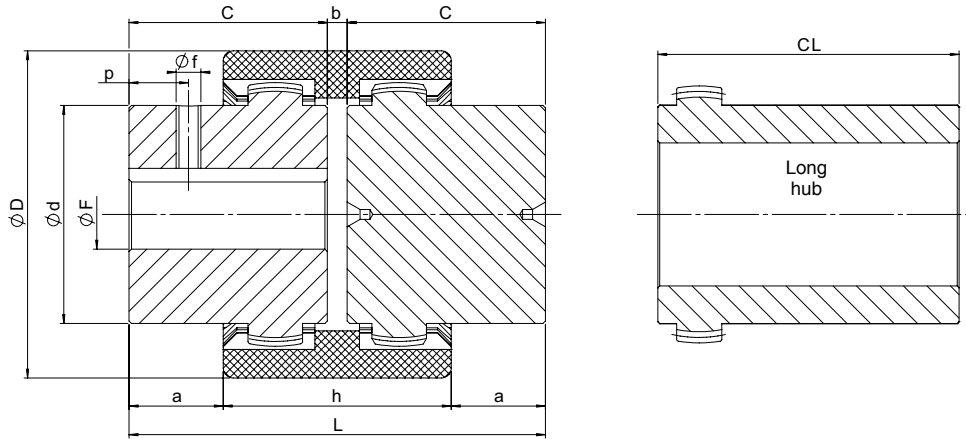
Angular and radial misalignment

$T_N$	Motor nominal torque	Nm
$T_W$	Torque with reversal of the machine	Nm
$S_\theta$	Temperature factor	

$S_z$	Start frequency factor
$S_U$	Motor or driven-side shock factor

## SITEX® 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]	Hub teeth number
			min. [mm]	max. [mm]	UNI keyway and set-screw* [mm]									
14	40	24,5	8	14	8 - 11 - 12 - 14	23	30	4	6,5	37	50	M5	6	20
19	48	30	8	19	11 - 14 - 16 - 18 - 19	25	-	4	8,5	37	54	M5	6	24
24	52	35	11	24	11 - 14 - 19 - 20 - 22 - 24	26	50	4	7,5	41	56	M5	6	28
28	66	43	11	28	11 - 16 - 19 - 20 - 22 - 24 - 25 - 28	40	60	4	18,5	47	84	M8	10	34
32	76	50	14	32	14 - 20 - 22 - 24 - 25 - 28 - 30 - 32	40	60	4	17,5	48	84	M8	10	40
38	83	58	14	38	14 - 19 - 20 - 24 - 28 - 30 - 32 - 38	40	80	4	18	48	84	M8	10	44
42	92	65	14	42	14 - 25 - 28 - 32 - 38 - 42	42	110	4	18,5	51	88	M8	10	50
48	100	68	19	48	18 - 19 - 25 - 32 - 38 - 42 - 48	50	110	4	27	50	104	M8	10	50
65	142	96	19	65	19 - 38 - 42 - 48 - 55 - 60 - 65	70	140	4	35,5	73	144	M10	20	42
80	175	124	-	80	-	90	-	6	46,5	93	186	M10	20	46
100	210	152	36	100	-	110	-	8	63	102	228	M10	20	48
125	270	192	45	125	-	140	-	10	78	134	290	M10	20	62

\* = 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

**Hub** GDM 48 F32

GDM: SITEX® Hub

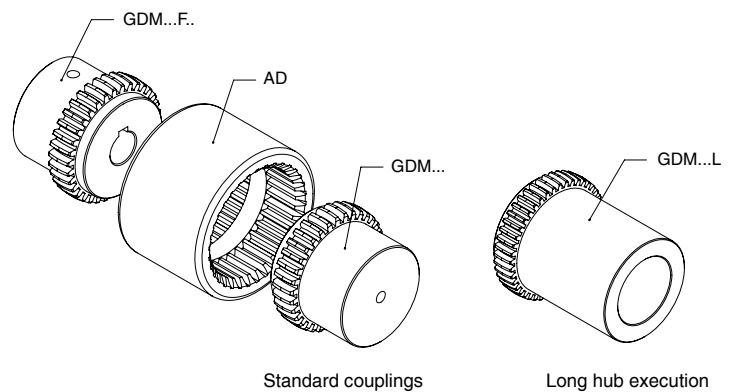
Size

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

**Sleeve** AD 48

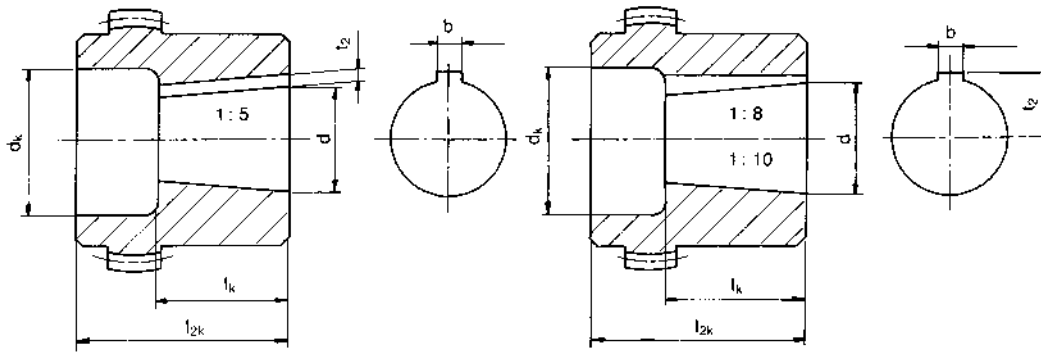
AD: SITEX® sleeve

Size



General purpose - SITEX®

## Tables for SITEX® couplings with taper or splined bores



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

Type	d $\sigma$ + 0,05	b JS9	t <sup>2</sup> +0,1	l <sub>k</sub>	14		19		24		28		32		38		42		48		65	
					d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>
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			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

Type	d $\sigma$ + 0,05	b JS9	t <sup>2</sup> +0,1	l <sub>k</sub>	14		19		24		28		32		38		42		48		65	
					d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>
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

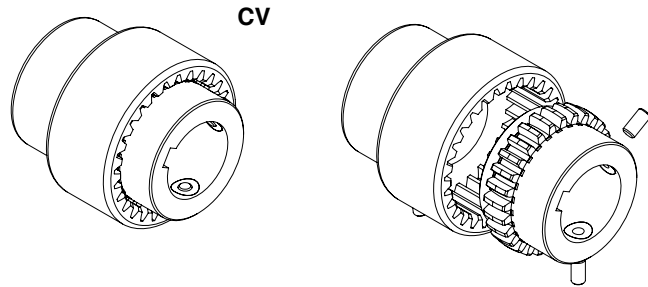
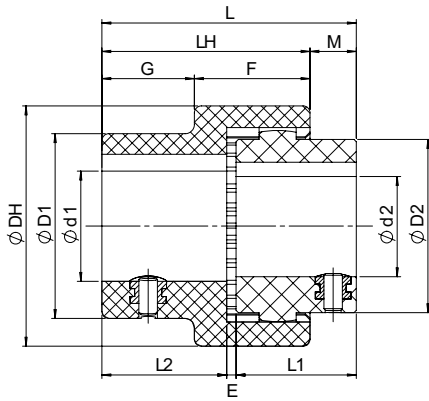
Type	d $\sigma$ + 0,05	b JS9	t <sup>2</sup> +0,1	l <sub>k</sub>	14		19		24		28		32		38		42		48		65	
					d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>	d <sub>k</sub>	l <sub>2k</sub>
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

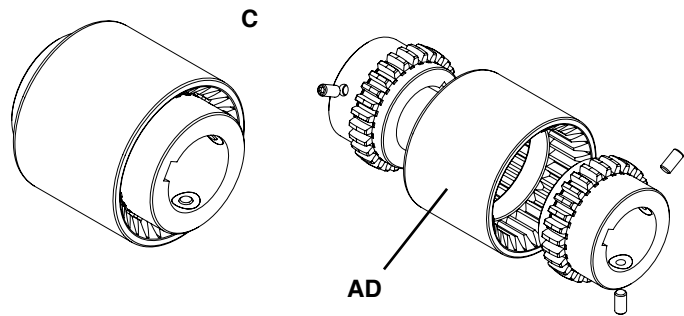
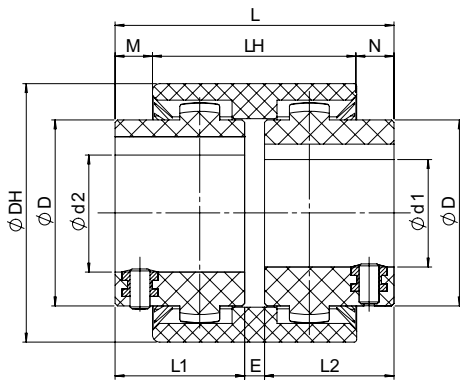
SITEX® Nylex couplings are made of 100% Polyamide. Two executions are available:

- **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.**



Size	GDNV hub			D1 [mm]	GDN hub			D2 [mm]	DH [mm]	L1 [mm]	L2 [mm]	E [mm]	L [mm]	LH [mm]	M [mm]	F [mm]	G [mm]	T <sub>KN</sub> [Nm]	T <sub>KNmax</sub> [Nm]	T <sub>KW</sub> [Nm]	n <sub>max</sub> [rpm]
	d1 [mm]		UNI keyway and set screw [mm]		d2 [mm]		UNI keyway and set screw [mm]														
	min	max			min	max															
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



Size	d1 - d2 [mm]			D [mm]	DH [mm]	L1 [mm]	L2 [mm]	E [mm]	L [mm]	LH [mm]	M [mm]	N [mm]	T <sub>KN</sub> [Nm]	T <sub>KNmax</sub> [Nm]	T <sub>KW</sub> [Nm]	n <sub>max</sub> [rpm]
	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

**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

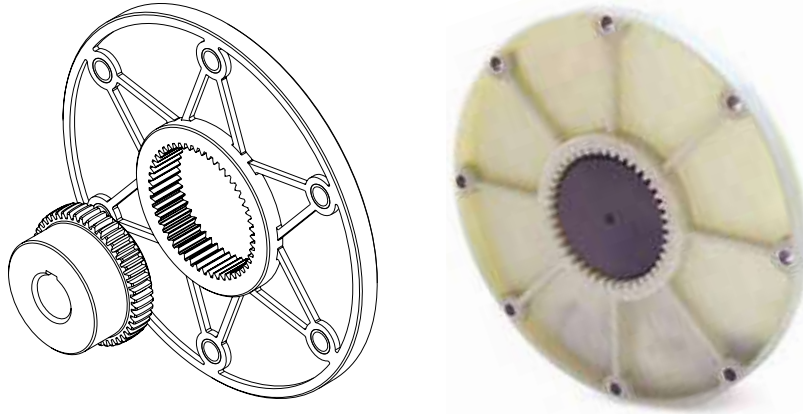
Size \_\_\_\_\_

T <sub>KN</sub>	Coupling nominal torque	Nm
T <sub>KNmax</sub>	Coupling maximum torque	Nm
T <sub>KW</sub>	Torque with reversal transmissible by the coupling	Nm
n <sub>max</sub>	Motor maximum rpm	rpm

General purpose - SITEX® Nylex

## SITEX® FL

The SITEX® FL couplings are designed for optimizing the connections between reciprocating engines and driven equipment such as pumps, compressors, generators, etc. SITEX® FL couplings consist of a steel hub and fiberglass reinforced polyamide flange which offers both mechanical strength and dimensional stability in a variety of temperature ranges. The special teeth allow SITEX® FL couplings to compensate for small misalignments thus avoiding wear. The steel-Polyamide coupling allows maintenance free continuous operation. **Approved according to ATEX Directive.**



### Main characteristics and advantages

**Minimum dimensions:** The entire coupling is usually installed inside an engine housing, minimizing the axial dimensions thus reducing the tools required for installation.

**Axial misalignments:** The hub toothing can move freely axially inside the Polyamide flange avoiding axial forces which may arise on the pump shaft.

**Heat stability:** The special fiberglass reinforced Polyamide flange is designed to operate in internal combustion engine environments without air cooling and up to 140° C.

**Maintenance free:** The SITEX® FL joints are maintenance and lubrication free.

**Quick assembling:** Blind assembly makes installation of the SITEX® FL quick and easy.

**Angular misalignments:** The special teeth allow angular misalignment correction, protecting the bearings against angular forces.

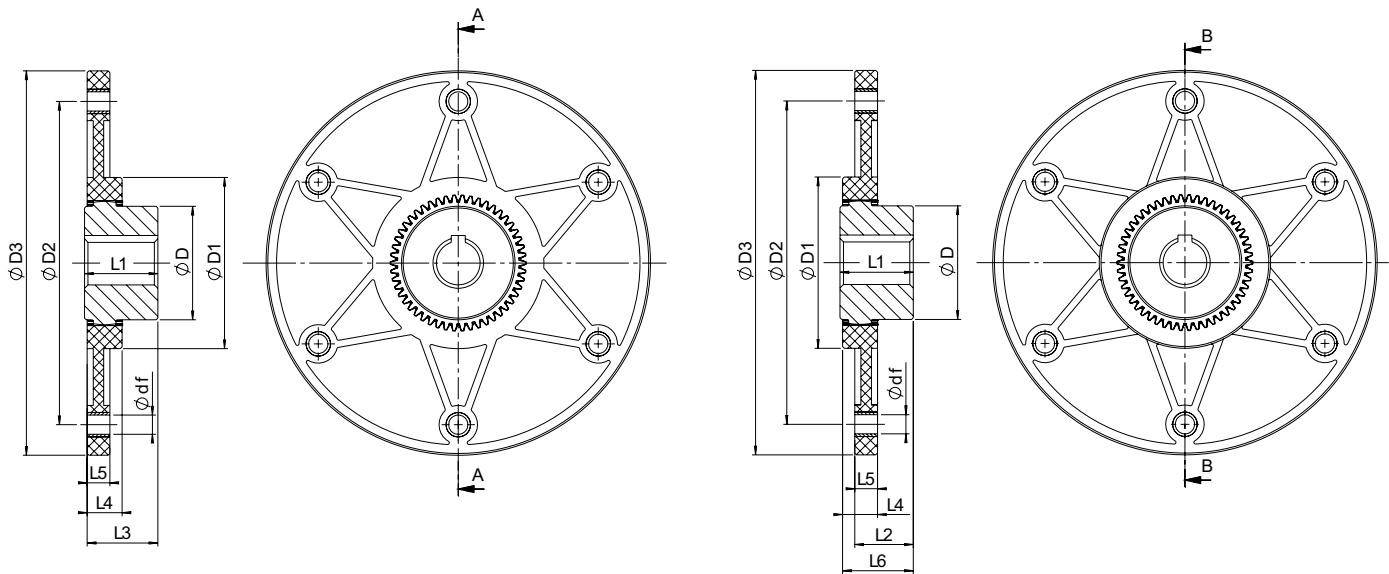
**Stiffness:** The stiffness of the SITEX® FL coupling allow for torsionally vibration-free operation.

**The SITEX® FL couplings are used in connections between the flywheels of the internal combustion engines and: hydro-pumps, rotating pistons, and compressor blades.**

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



Flange dimensions in accordance with SAE J620



SAE flange size	Dimensions [mm]												
	Coupled hub size	Max. bore	D	D1	D2	D3	df x z	L1	L2	L3	L4	L5	L6
GDF 42/48 FL 6 1/2"	42	42	65	100	200,02	215,9	9 x 6	42	33	42	20	13	40
	48	48	68	100	200,02	215,9	9 x 6	50	41	50	20	13	48
	48P	48	68	100	200,02	215,9	9 x 6	50	38	45	20	13	46
GDF 42/48 FL 7 1/2"	42	42	65	100	222,25	241,3	9 x 8	42	33	42	20	13	40
	48	48	68	100	222,25	241,3	9 x 8	50	41	50	20	13	48
	48P	48	68	100	222,25	241,3	9 x 8	50	38	45	20	13	46
GDF 42/48 FL 8"	42	42	65	100	244,47	263,52	11 x 6	42	33	42	20	13	40
	48	48	68	100	244,47	263,52	11 x 6	50	41	50	20	13	48
	48P	48	68	100	244,47	263,52	11 x 6	50	38	45	20	13	46
GDF 42/48 FL 10"	42	42	65	100	295,27	314,32	11 x 8	42	33	42	20	13	40
	48	48	68	100	295,27	314,32	11 x 8	50	41	50	20	13	48
	48P	48	68	100	295,27	314,32	11 x 8	50	38	45	20	13	46
GDF 55 FL 7 1/2"	55	55	85	115	222,25	241,3	9 x 8	50	37	48	24	13	48
GDF 65 FL 8"	65	65	96	132	244,47	263,52	11 x 6	70	60	69	27	21	66
	65P	65	93	132	244,47	263,52	11 x 6	70	60	69	27	21	66
GDF 65 FL 10"	65	65	96	132	295,27	314,32	11 x 8	70	60	69	27	21	66
	65P	65	93	132	295,27	314,32	11 x 8	70	60	69	27	21	66
GDF 65 FL 11 1/2"	65	65	96	132	333,37	352,42	11 x 8	70	60	69	27	21	66
	65P	65	93	132	333,37	352,42	11 x 8	70	60	69	27	21	66
GDF 80 FL 11 1/2"	80	80	124	170	333,37	352,42	11 x 8	90	78	87	30	21	87

48P and 65P are for hubs with over-sized toothed disc.

**Hub** **GDM 48 F32**

GDM: SITEX® hub

Size

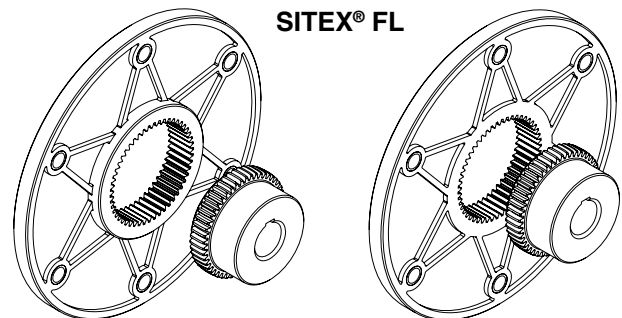
L: long hub execution  
F...: bore diameter

**Flange** **GDF 65 FL11-1/2**

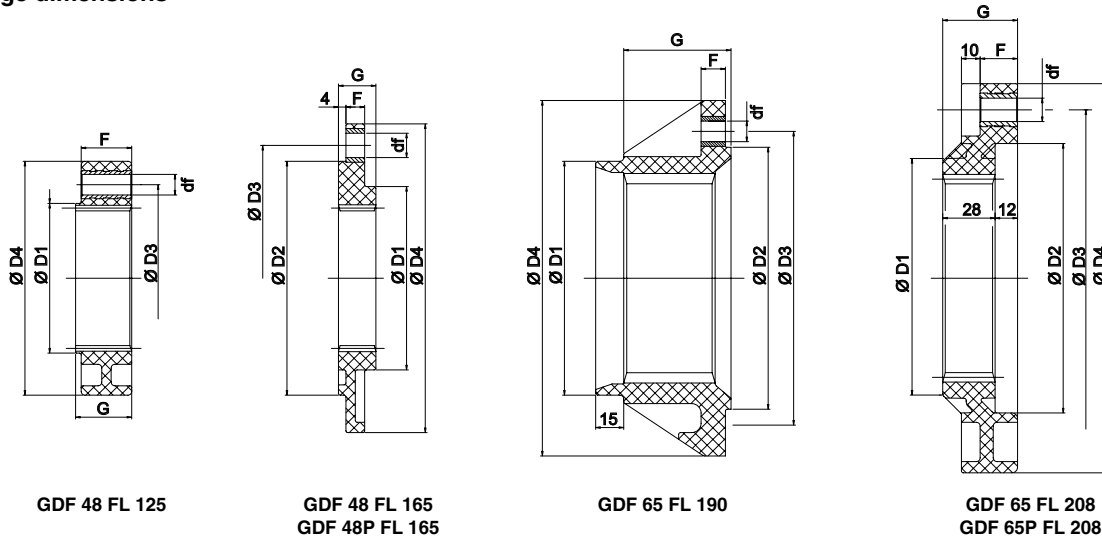
GDF: SITEX® FL Flange

Size

SAE flange size



### Special flange dimensions

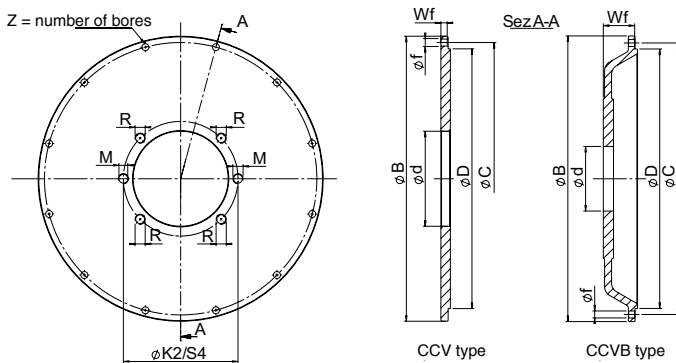


Special flange size	Dimensions [mm]								
	Coupled hub size	Max. bore	D1	D2	D3	D4	F	G	df x z*
GDF 42/48 FL 125	42	42	80	-	100	125	27	30	11 x 3
	48	48	80	-	100	125	27	30	11 x 3
	48P	48	80	-	100	125	27	30	11 x 3
GDF 42/48 FL 165	42	42	98	125	142	165	10	20	13 x 6
	48	48	98	125	142	165	10	20	13 x 6
	48P	48	98	125	142	165	10	20	13 x 6
GDF 65 FL 190	65	65	125	140	160	190	13	57	11 x 6
GDF 65 FL 208	65	65	125	144	180	208	20	40	18 x 8
GDF 65P FL 208	65P	65	125	144	180	208	20	40	18 x 8

\* z = number of bushes.

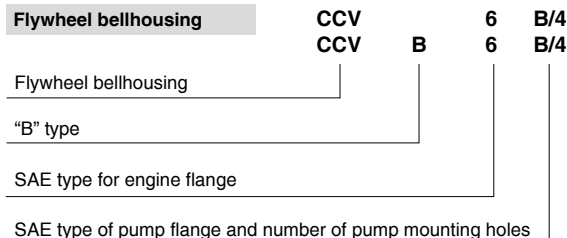
### Flywheel bellhousing

The dimensions of the flywheel bell housing plates are in accordance with SAE 617.



SAE - Flywheel bellhousing							
SAE type	D [mm]	B [mm]	C [mm]	Number of holes Z	f [mm]	CCV Wf	CCVB Wf
SAE 6	266,7	308	285,8	8	11	10,5	-
SAE 5	314,32	356	333,4	8	11	10,5	25
SAE 4	361,95	403	381	12	11	10,5	35
							50
SAE 3	409,58	451	428,6	12	11	10,5	50
SAE 2	447,68	489	466,7	12	11	14	-

Pump assembly SAE dimensions							
SAE Pump	Center bore d [mm]	Pump mounting holes					
		n. 2 holes			n. 4 holes		
		K2	M	5/16"	S4	R	
AA	50,8	82,6	M8	5/16"	-	-	-
A	82,55	106,4	M10	3/8"	104,6	M10	3/8"
B	101,6	146	M12	1/2"	127	M12	1/2"
C	127	181	M16	5/8"	162	M12	1/2"
D	152,4	228,6	M16	5/8"	228,6	M16	5/8"



## Technical characteristics

Size	Misalignment			Coppia			Weight / Moment of inertia						Dynamic torsional rigidity +60 °C dampening factor [Ψ] = 0,4 [Nm/rad]				
	Axial [mm]	Angular [°]	Radial [mm]	Nominal T <sub>KN</sub> [Nm]	Max T <sub>Kmax</sub> [Nm]	Reversible T <sub>KW</sub> [Nm]	Hub		SITEX® FL SAE flange					0,25 T <sub>KN</sub>	0,50 T <sub>KN</sub>	0,75 T <sub>KN</sub>	1,00 T <sub>KN</sub>
									6-1/2"	7-1/2"	8"	10"	11-1/2"				
42	2	1°	0,2	240	600	120	Kg	0,68	0,39	0,455	0,565	0,8	-	33 x 10 <sup>3</sup>	78 x 10 <sup>3</sup>	110 x 10 <sup>3</sup>	130 x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,0006	0,003	0,004	0,006	0,011	-				
48	2	1°	0,2	250	620	125	Kg	0,75	0,4	0,52	0,5	0,75	-	33 x 10 <sup>3</sup>	78 x 10 <sup>3</sup>	110 x 10 <sup>3</sup>	130 x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,0007	0,003	0,004	0,006	0,011	-				
48 P	1	1°	0,2	310	780	155	Kg	0,85	0,4	0,52	0,5	0,75	-	38 x 10 <sup>3</sup>	88 x 10 <sup>3</sup>	125 x 10 <sup>3</sup>	148 x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,0007	0,003	0,004	0,006	0,011	-				
55	1	1°	0,2	500	1250	250	Kg	1,4	-	0,45	-	-	-	50 x 10 <sup>3</sup>	140 x 10 <sup>3</sup>	175 x 10 <sup>3</sup>	200x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,0019	-	0,0035	-	-	-				
65	2	1°	0,3	660	1650	330	Kg	2,4	-	-	0,8	0,93	1,08	58 x 10 <sup>3</sup>	142 x 10 <sup>3</sup>	205 x 10 <sup>3</sup>	250 x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,005	-	-	0,009	0,015	0,023				
65 P	1	1°	0,2	800	1950	400	Kg	2,45	-	-	0,8	0,93	1,08	76 x 10 <sup>3</sup>	185 x 10 <sup>3</sup>	270 x 10 <sup>3</sup>	330 x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,005	-	-	0,009	0,015	0,023				
80	2	1°	0,3	1300	3100	650	Kg	5,1	-	-	-	-	1,13	190 x 10 <sup>3</sup>	420 x 10 <sup>3</sup>	590 x 10 <sup>3</sup>	710 x 10 <sup>3</sup>
							Kgm <sup>2</sup>	0,015	-	-	-	-	0,023				

### Selection

For a proper sizing a safety factor  $k = 1,3 - 1,6$  must be considered in accordance to the application. Or, the coupling nominal torque must be greater than or equal to the engine torque multiplied by  $k$ :

$$T_{KN} \geq T_N \cdot k \cdot S_\theta$$

T<sub>KN</sub> = coupling nominal torque

T<sub>N</sub> = engine side torque

k = safety factor selected in accordance with the use

S<sub>θ</sub> = temperature factor

Temperature factor

T (°C)	-25 °C / +60 °C	-60 °C / +80 °C	-80 °C / +90 °C
S <sub>θ</sub>	1	1,2	1,4

### Applications

### k factor

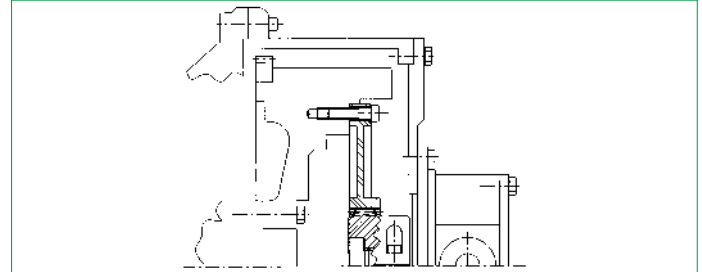
Tandem rollers	1,6
Asphalt processing machines	1,4
Agricultural machines	1,4
Fork lift trucks	1,6
Concrete Mixer	1,3
Self-propelled cranes	1,4
Excavators	1,4
Farm tractors	1,4
Road working machines	1,4

### Assembly

The versatility of the SITEX® FL couplings allows for numerous assembly options with different hub lengths giving consumers the ability to obtain the suitable dimension for every application.

1) Center the flange on the fly-wheel in correspondence to the seat and tighten the mounting screws DIN 912 – 8.8 class in accordance with the torque values shown in the table:

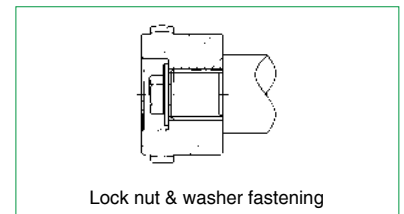
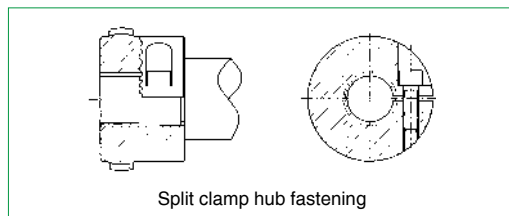
Screw	Ms
M8	25 Nm
M10	86 Nm
M12	355 Nm



2) Center the fly-wheel cover plate in relation to the seat on the engine bellhousing. Tighten the screws.

3) Install the toothed hub onto the pump shaft. For split clamp hub, tighten in accordance with the torques shown in the table.

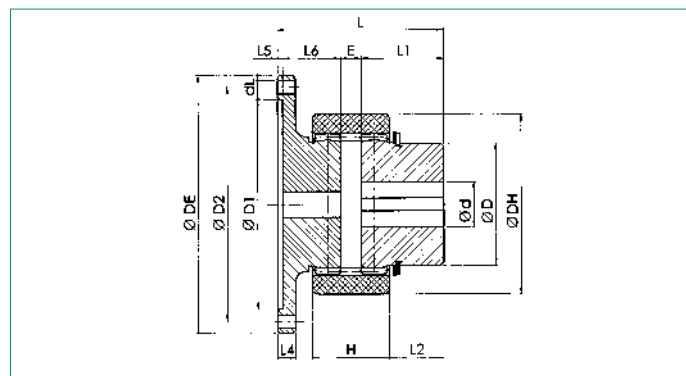
Couplings	Screw	Ms
42 - 48	M10	49 Nm
65	M12	86 Nm
80	M16	355 Nm



4) Move the pump-hub assembly through the fly-wheel cover plate and up to the stop. Tighten the screws.

### FLD execution

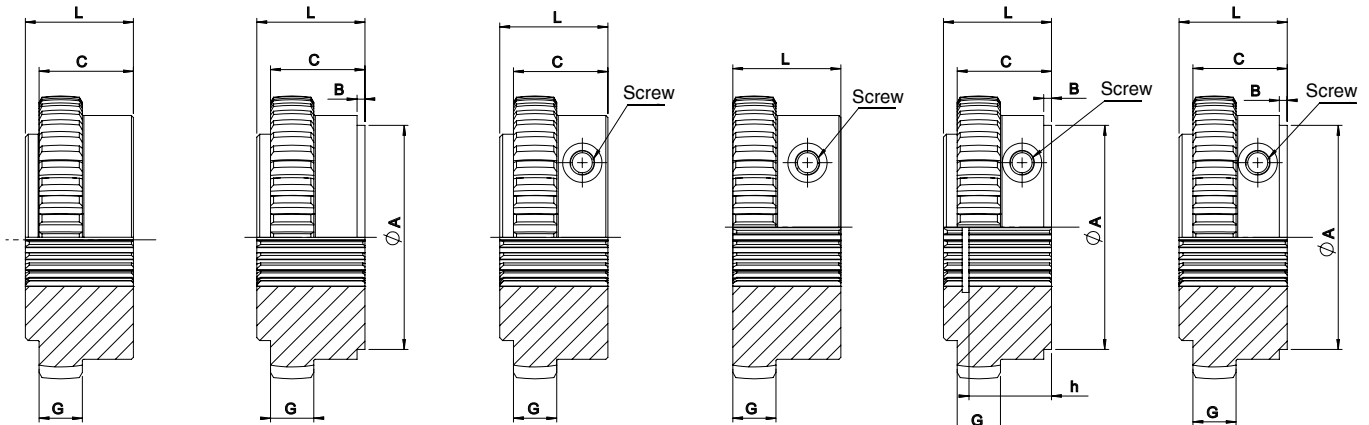
The SITEX® FLD couplings are designed for applications which combine with engine pulleys. These couplings allow for belt replacement without pump disassembly. The operating temperature range is from -25 °C to 100 °C.



Size	T <sub>KN</sub> [Nm]	T <sub>Kmax</sub> [Nm]	T <sub>KW</sub> [Nm]	d <sub>max</sub> [mm]	L5 [mm]	L1 [mm]	L4 [mm]	L6 [mm]	E [mm]	L [mm]	H [mm]	L2 [mm]	D [mm]	DH [mm]
28 FLD	45	90	23	26	4	35,5	10	28,5	13	81	39	22,5	42	70
32 FLD	60	120	30	30	4	35,5	12	28,5	13	81	40	21,5	48	84
42 FLD	140	280	70	42	5	37,5	13	30,5	13	86	43	22,5	63	100
65 FLD	380	780	190	65	5	64	16	44	16	129	60	42	95	140
80 FLD	700	1400	350	80	6	83	20	53	20	162	69	58,5	120	175

T<sub>KN</sub> = Nominal Coupling torque - T<sub>Kmax</sub> = Max Coupling torque - T<sub>KW</sub> = Max reversal torque

# Splined bore hub



**Fig.1** Splined bore hub  
**Fig.2** Splined bore hub  
**Fig.3** Clamping hub with splined bore  
**Fig.4** Clamping hub with splined bore  
**Fig.5** Clamping hub with splined bore and seeger-ring seating  
**Fig.6** Clamping hub with splined bore

Hub	Splines DIN 5480									
	Fig.	Splines type	A [mm]	B [mm]	C [mm]	G [mm]	h [mm]	L [mm]	Screw	Ms [Nm]
42	1	25 x 1.25 x 18	-	-	37	13	-	42	-	-
	3	25 x 1.25 x 18	-	-	37	13	-	42	M10	49
	6	30 x 2 x 14	60	6	37	13	-	42	M10	49
48	2	30 x 2 x 14	60	6	45	13	-	50	-	-
	6	30 x 2 x 14	60	6	45	13	-	50	M10	49
65	2	35 x 2 x 16	60	6	49	20	-	55	-	-
	6	35 x 2 x 16	60	6	54	20	-	60	M12	86
	2	40 x 2 x 18	78	6	49	20	-	55	-	-
	6	40 x 2 x 18	78	6	54	20	-	60	M12	86
	6	45 x 2 x 21	78	6	49	20	-	55	M12	86
80	3	50 x 2 x 24	-	-	49	25	-	55	M16	295

Hub	Splines SAE J498											
	Fig.	Splines type	Tooth	DP	A [mm]	B [mm]	C [mm]	h [mm]	G [mm]	L [mm]	Screw	Ms [Nm]
42	3	PH-S 5/8"	9	16/32	-	-	37	-	13	42	M10	49
	4	PI-S 3/4"	11	16/32	-	-	-	-	13	42	M10	49
	6	PB-S 7/8"	13	16/32	60	3	37	-	13	42	M10	49
	5	PB-BS 1"	15	16/32	50	6	37	27	13	42	M10	49
48	5	PA-S 1 3/8"	21	16/32	52	7	45	45	13	50	M10	49
65	5	PA-S 1 3/8"	21	16/32	52	5	49	48	20	55	M12	86
	5	PC-S 1 1/4"	14	12/24	52	5	49	44	20	55	M12	86
80	3	PE 1 3/4"	27	16/32	-	-	49	-	25	55	M16	295

Ms= clamp screws tightening torque  
 Other splined bores and executions are available upon request.

## SITEX® FL coupling selection

### Motor side

Engine nominal power [kW]

Number of rotations at nominal power [rpm]

SAE dimension of the engine housing

Engine max torque [Nm]

Number of rotations [rpm]

Engine flywheel dimension

### Driven side

Type of the pump shaft (specify splined type, diameter and length)

Type of the pump flange