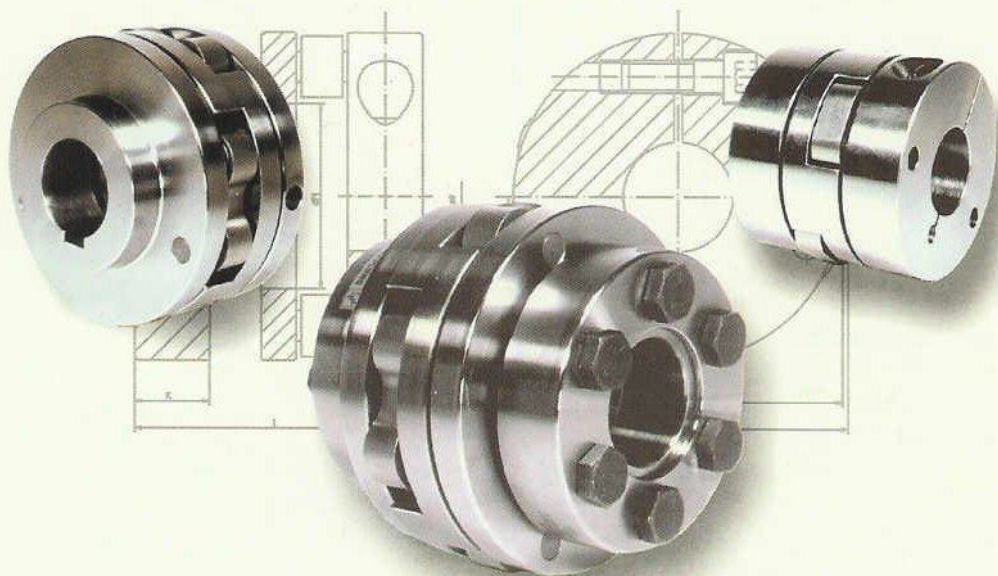


SCHMIDT-KUPPLUNG GmbH



# SEMIFLEX®



C O U P L I N G S



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## BASIC INFORMATION



# Semiflex®

## APPLICATION

Semiflex® couplings are torsionally stiff machine components for transmitting torque from one shaft to another whose alignment can not be guaranteed, due to manufacturing tolerances, assembly procedures, wear, or operational specifics.

All types of shaft misalignments are accommodated via the proven Semiflex® function principle.

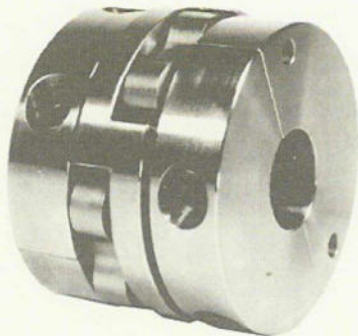
## TECHNICAL FEATURES and BENEFITS TO THE USER

### Constant Angular Velocity

Two groups of links are arranged 90° to each other. Since each pair of links remains internally parallel, the connected shafts remain totally synchronized. Angular velocity remains constant, regardless of misalignment.

### No Side Loads

Shaft misalignment is compensated via pivoting movement of parallel links. No side loads are induced and shaft bearings are not exposed to radial stress.



### Torsionally Stiff

The all-metal Semiflex® is torsionally very stiff and is hence suitable for use in the demanding drive applications in mechanical equipment.

### Compact Design

The Semiflex® requires very little axial space. Correctly choosing the design and hubs can reduce the required space even further. A DBSE of 2 mm or lower is possible without loss of coupling performance; misalignment compensation capacity is undiminished.



The modular construction consists of three basic coupling designs, which are available with various shaft connections. Given the many possible variations of the independently chosen shaft connections for each side of the coupling we can almost offer solutions from our standard program.

Because of the modular construction of the Semiflex®, we can also realize customer specials quickly and economically.

### Large Misalignment Capacity

### Easy Installation

### Modular Construction







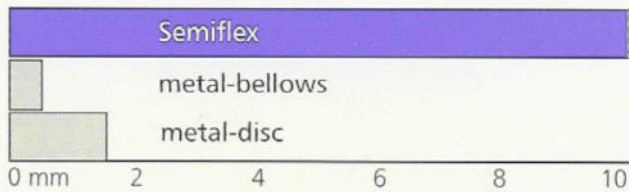
### Alternative Application

The unique design of the Semiflex® permits a further application. The Semiflex® can be used to connect shafts that are offset by design, regardless whether the offset is fixed or variable, such as roll drives.

### No Added Problems

An important factor in applying a torsionally-stiff flexible coupling is not just the torque carrying capacity, but also the bearing protection provided. Regardless of the care taken in manufacturing and assembly, in practice shaft misalignments are usually evident. These misalignments are compensated for by a coupling system.

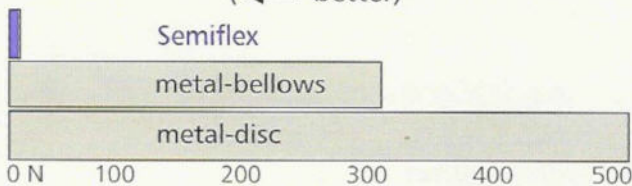
misalignment capacity in reserve  
(better →) \*



Limited compensation for shaft misalignment is offered by for example metal-bellows and steel-disc couplings. These types of couplings provide limited bearing protection. There is an inverse relationship: the more shaft misalignment the less bearing protection.

The Semiflex® uniquely offers a way out. Misalignment compensation itself generates no side loads. Hence misalignment compensation does not induce stress on the bearings.

radial load  
(← better) \*

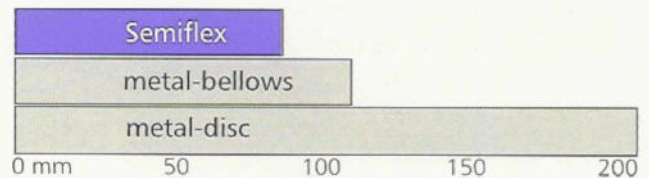


Due to wear and settling during operation the actual misalignments encountered in an application are usually much larger than the original design values. Due to large performance reserves, the Semiflex® offers a high degree of security over the lifetime of an application.

### Design Advantage

Another notable feature of the Semiflex® is axial compactness. For other couplings, there is a relationship between coupling function and length. As the length of the coupling is reduced, it loses the ability to compensate misalignment. The Semiflex® offers the customer the opportunity to build short without therefore being subject to limitations on performance. For some models there is no extra axial space needed at all.

coupling length \*



In cases where length is critical, the Semiflex® can be delivered without hubs and incorporated into existing customer parts.

The models presented in this catalog offer for most all cases both technically good and economical solutions. On top of that we have a variety of proven application and industry specific solutions and can gladly provide custom solutions for your power transmission needs.

\* Application data  $T_N = 300 \text{ Nm}$ ,  $n_N = 1500/\text{min.}$ ,  $\Delta W_r = 0,1 \text{ mm}$

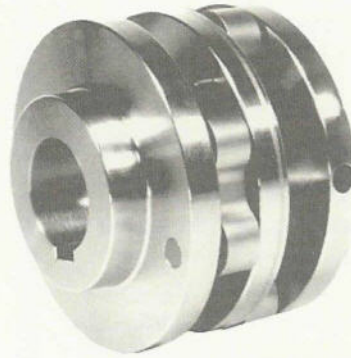




# NFB

Our cost-saving standard version

For shaft diameters up to 200 mm  
Up to 100,000 Nm  
Performance data page 8  
6 hub types available pages 9-11



# NKB

Our compact standard version

For shaft diameters up to 130 mm  
Up to 7,000 Nm  
Performance data page 12  
6 hub types available pages 13-15



# AKL

Our aluminium version

For shaft diameters up to 40 mm  
Up to 300 Nm  
Performance data page 16  
Coupling dimensions page 17



**KL**

**Clamp Hub**

Zero-backlash hub mounting  
NFB page 10  
NKB page 14  
AKL page 16



**SD**

**Split Hub**

Zero-backlash hub mounting  
Drop-out installation  
NFB page 10  
NKB page 14



**A2**

**Standard Hub**

Form-fit version  
NFB page 9  
NKB page 13



**A3**

**Internal Hub**

Form-fit version  
Space saving  
NFB page 9  
NKB page 13



**SP**

**For Locking Assembly**

Zero-backlash hub mounting  
Drop-out installation  
NFB page 11  
NKB page 15



**A1**

**For Flange Mounting**

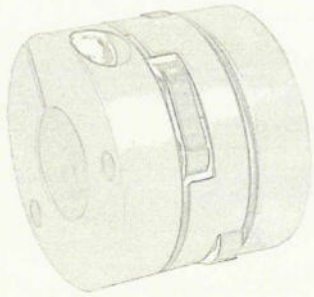
Drop-out installation  
NFB page 11  
NKB page 15







## SELECTION PROCEDURE



### Information required

All information refers to operational conditions:

- Operating life
- Service factor (see table)
- Continuous torque:  $T_N$
- Peak torque:  $T_s$
- RPM:  $n_N$
- Axial misalignment:  $\Delta W_a$
- Radial misalignment:  $\Delta W_r$
- Angular misalignment:  $\Delta W_w$
- Shaft diameter
- Space limitation

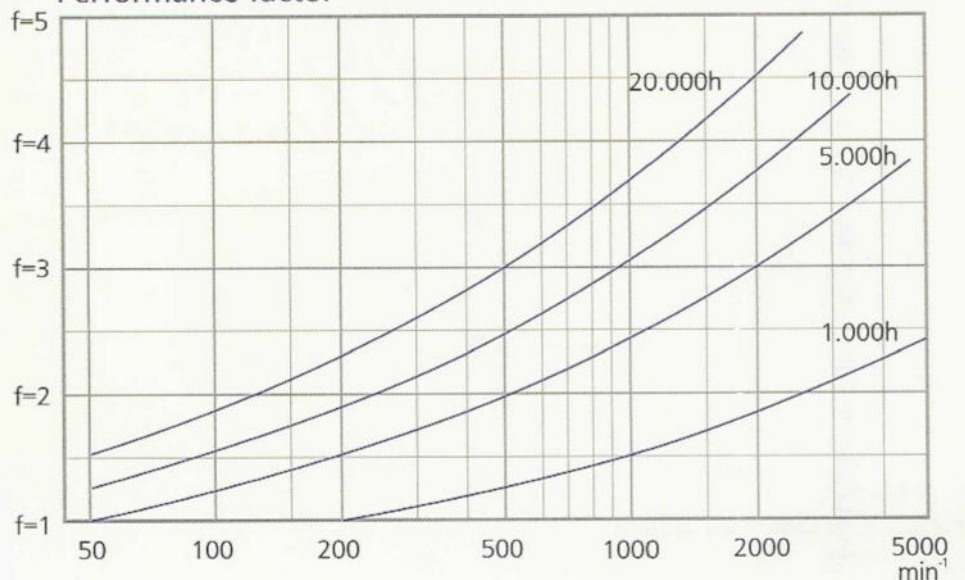
### Service factors

Load	Service factor
uniform	1,0
light shocks	1,5
medium shocks	2,0
heavy shocks	2,5

### Selection

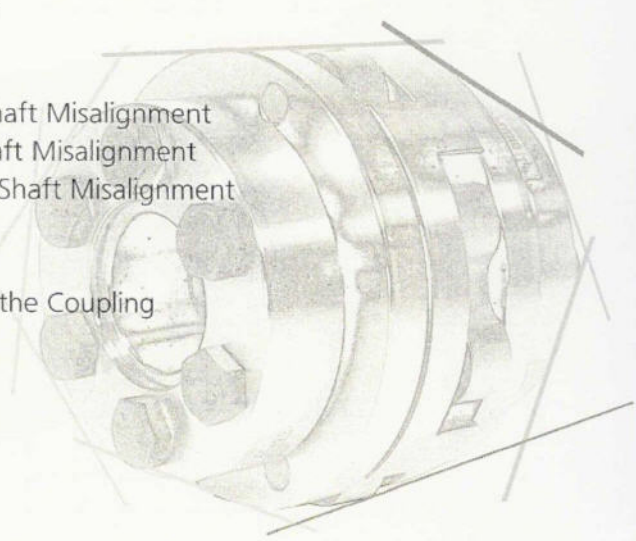
1. Determine the performance and service factors.
2. Calculate the design torque:
 
$$T_N \times \text{performance factor} \times \text{service factor}$$
3. Choose a coupling so that:
  - Design torque < continuous rated torque  $T_{KN}$
  - RPM:  $n_N < n_{max}$
  - Radial misalignment:  $\Delta W_r < \Delta K_r$
  - Angular misalignment:  $\Delta W_w < \Delta K_w$
  - $\Delta W_r / \Delta K_r + \Delta W_w / \Delta K_w < 1$
  - Axial misalignment:  $\Delta W_a < \Delta K_a$
4. Check to be sure that the coupling fits the required dimensions such as available space envelope and bore sizes.
5. If the coupling size and type meet the torque, misalignment, and space envelope criteria, selection of a Semiflex® is complete.
6. If no Semiflex® coupling is found that meets these criteria, consult the factory. We will work with you to meet your needs.

### Performance factor



## LEGEND

$T_{KN}$	Continuous Torque Rating of the Coupling	Nm
$T_{Kmax}$	Maximum Torque Capacity of the Coupling	Nm
$n_{max}$	Maximum Speed of the Coupling	1/min
$\Delta K_r$	Maximum Radial Misalignment Capacity of the Coupling	mm
$\Delta K_a$	Maximum Axial Misalignment Capacity of the Coupling	mm
$\Delta K_w$	Maximum Angular Misalignment Capacity of the Coupling	°
$C_T$	Torsional Stiffness of the Coupling	kNm/rad
$J$	Moment of Inertia of the Coupling	kg cm <sup>2</sup>
$m$	Weight of the Coupling	kg
$T_N$	Continuous Torque	Nm
$T_S$	Peak Torque	Nm
$n_N$	Shaft RPM	1/min
$\Delta W_r$	Maximum Radial Shaft Misalignment	mm
$\Delta W_a$	Maximum Axial Shaft Misalignment	mm
$\Delta W_w$	Maximum Angular Shaft Misalignment	°
$\emptyset E$	Coupling Diameter	mm
$\emptyset E_R$	Swing Diameter of the Coupling	mm
$H$	Disc Thickness	mm
$L$	Coupling Length	mm
$\emptyset P$	Hub Diameter	mm
$K$	Total Hub Length	mm
$N$	Hub Length	mm
$\emptyset d$	Bore Diameter	mm
$\emptyset F$	Bolt Circle Diameter	mm
$Gew$	Number of Threaded Bores × Bolt Size	
$S_k$	Clamp-Hub Screw	
$M_A$	Tightening Torque of the Clamp-Hub Screw	Nm
$\emptyset d_M$	Center-Bore Diameter of the Middle Disc	mm

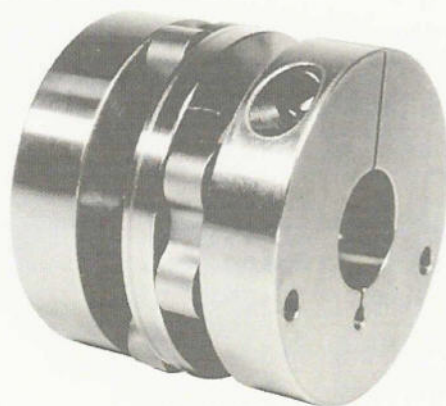






## PERFORMANCE

- The cost saving standard version
- Proven technology
- Precision designed
- Transmits constant angular velocity and torque in every possible misalignment
- Very large misalignment capacity
- No side loads on shafts
- Torsionally stiff
- Absorbs radial vibration
- Space saving



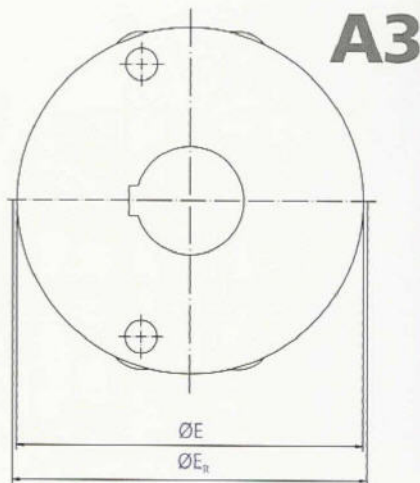
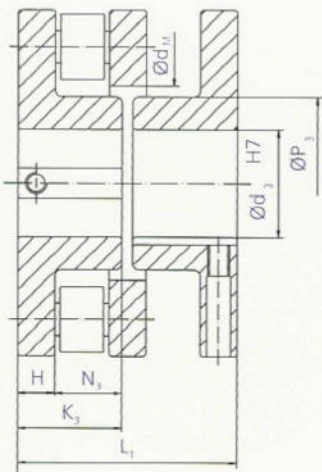
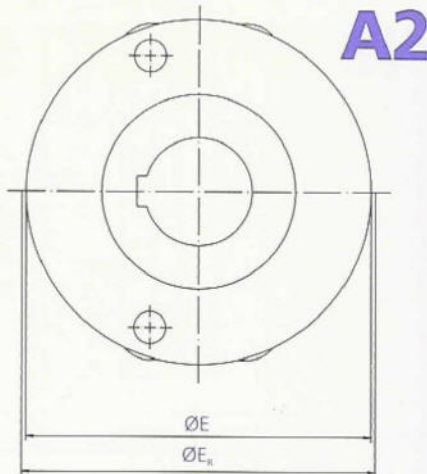
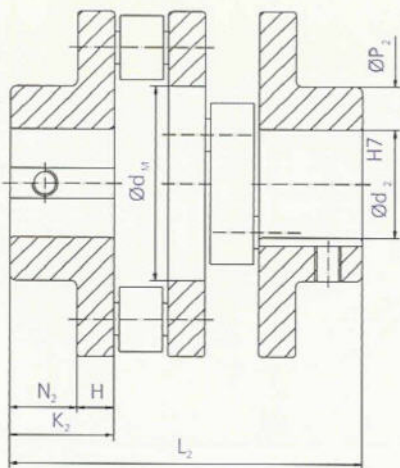
**NFB**

	T <sub>KN</sub> Nm	T <sub>K max</sub> Nm	n <sub>max</sub> 1/min	ΔK <sub>r</sub> mm	ΔK <sub>a</sub> mm	ΔK <sub>w</sub> °	C <sub>T</sub> kNm/rad	J kg cm <sup>2</sup>	m kg
4.5/2	44	71	5.000	1,0	1	1	8	1	0,4
4.7/2	69	112	4.200	1,0	1	1	13	5	0,6
7.9/2	230	460	2.900	1,6	1	1	53	20	1,6
7.10/2	265	530	2.700	1,6	1	1	61	31	2
7.12/2	316	635	2.500	3,0	1	1	73	64	2,9
10.10/2	437	920	2.300	2,4	1	1	105	45	3,3
10.12/2	575	1.220	2.100	2,4	1	1	140	90	4,3
10.14/2	725	1.530	2.000	2,4	1	1	175	165	5,8
10.16/2	828	1.755	1.900	4,0	1	1	201	271	7,1
13.14/2	1.120	2.730	1.700	3,0	1	0,8	313	249	9,1
13.16/2	1.370	3.340	1.600	3,0	1	0,8	383	401	11
13.18/2	1.580	3.845	1.500	4,0	1	0,8	441	656	14
16.16/2	2.010	4.915	1.500	3,2	1	0,65	563	484	14
16.18/2	2.390	5.855	1.400	3,2	1	0,65	671	795	17
16.20/2	2.700	6.600	1.300	4,4	1	0,5	756	1.214	21
20.20/2	4.220	11.300	1.200	4,0	2	0,5	1.295	1.339	23
20.25/2	5.620	15.050	1.100	5,4	2	0,5	1.725	3.209	34
20.30/2	7.040	18.840	1.000	6,6	2	0,3	2.159	6.238	42



# SEMIFLEX

## DIMENSIONS



- The Semiflex® series NFB is available in A2 version: standard hubs with keyway.

- Form-fit version

- Please note the maximum bore  $\text{Ød}_2$ .

- Both can be freely combined with other series NFB hub versions.

- When the version A2 is too long, the Semiflex® series NFB is also available in version A3: Internal hubs with keyway.

- Form-fit version

- Please note the maximum bore  $\text{Ød}_3$ .

**NFB**

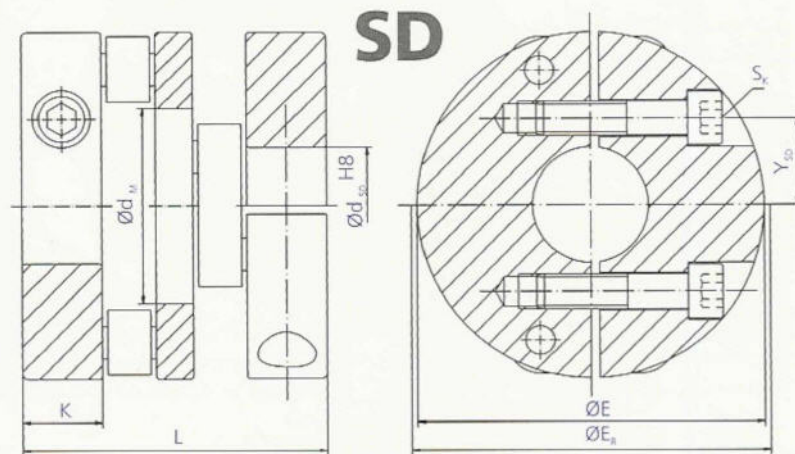
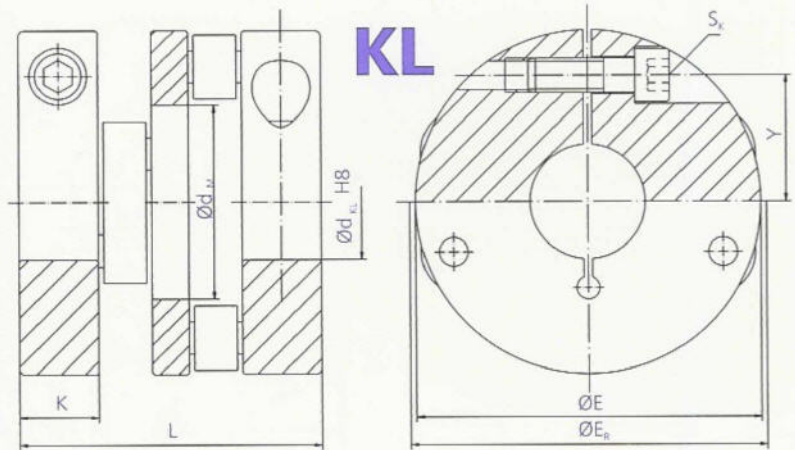
	ØE	ØER	H	L <sub>2</sub>	ØP <sub>2</sub>	K <sub>2</sub>	N <sub>2</sub>	Ød <sub>2</sub> max	L <sub>3</sub>	ØP <sub>3</sub>	K <sub>3</sub>	N <sub>3</sub>	Ød <sub>3</sub> max	Ød <sub>M</sub>
4.5/2	50	52	8	60	50	16	8	25	-	-	-	-	-	22
4.7/2	70	72	8	68	70	20	12	40	44	39	20	12	25	42
7.9/2	90	94	12,5	104	56	27,5	15	40	74	40	27,5	15	25	50
7.10/2	100	104	12,5	104	65	27,5	15	50	74	50	27,5	15	35	55
7.12/2	120	124	12,5	104	70	27,5	15	50	74	63	27,5	15	45	70
10.10/2	100	100	17	143	53	38	21	32	-	-	-	-	-	40
10.12/2	120	120	17	143	70	38	21	45	101	45	38	21	30	60
10.14/2	140	140	17	149	85	41	24	55	101	65	41	24	45	70
10.16/2	160	160	17	163	90	48	31	60	101	80	48	31	60	90
13.14/2	140	143	26	162	77	40	14	45	-	-	-	-	-	55
13.16/2	158	163	26	170	90	44	18	60	134	60	44	18	40	70
13.18/2	180	183	26	182	90	50	24	60	134	80	50	24	60	90
16.16/2	158	163	31	185	85	46	15	55	-	-	-	-	-	70
16.18/2	180	183	31	195	90	51	20	60	155	80	51	20	60	90
16.20/2	200	203	31	205	95	56	25	65	155	95	56	25	70	105
20.20/2	200	200	33	236	110	53	20	70	-	-	-	-	-	100
20.25/2	250	250	33	266	120	68	35	80	196	120	68	35	90	140
20.30/2	300	300	33	322	160	96	63	100	196	160	96	63	120	190



# SEMIFLEX

## DIMENSIONS

- The Semiflex® series NFB is available in KL version: Clamp hubs (optional keyway.)
- Press-fit version
- Easy installation
- Please note the maximum bore  $\varnothing d_{KL}$ .
- Both can be freely combined with other series NFB hub versions.
- The Semiflex® series NFB is available in SD version: split hub (optional keyway.)
- Press-fit version
- Drop-out installation
- Please note the maximum bore  $\varnothing d_{SD}$ .

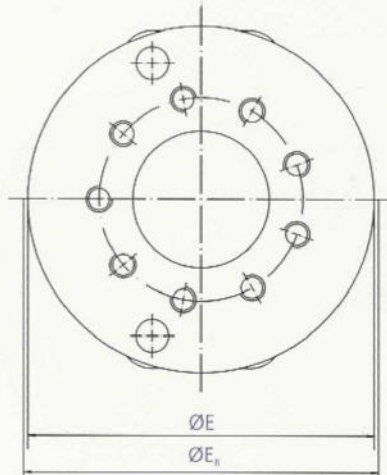
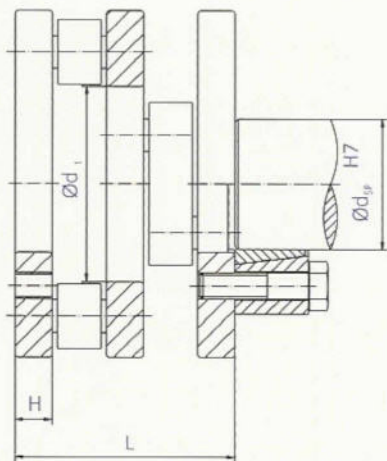


NFB	ØE	ØE <sub>R</sub>	L	K	Ød <sub>KL</sub> max	Ød <sub>SD</sub> max	S <sub>K</sub>	MA Nm	Ød <sub>M</sub>	Y	Y <sub>SD</sub>
4.5/2	50	52	60	16	22	-	M6	15	22	17,5	-
4.7/2	70	72	68	20	35	25	M8	36	42	24,5	18
7.9/2	90	94	104	27,5	44	30	M10	72	50	30	22
7.10/2	100	104	104	27,5	50	35	M12	125	55	34	25
7.12/2	120	124	104	27,5	70	45	M12	125	70	44	30
10.10/2	100	100	143	38	45	-	M12	145	40	32	-
10.12/2	120	120	143	38	60	35	M12	145	60	40	24

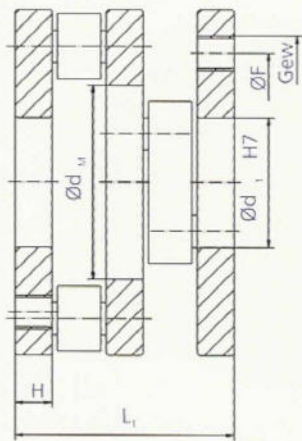




## DIMENSIONS



### SP



### A1

- The Semiflex® series NFB is available in SP version: for locking assemblies.
- Press-fit version
- Drop-out installation
- Please note the maximum bore  $\text{Ød}_{sp}$ .
- Both can be freely combined with other series NFB hub versions.

- The Semiflex® series NFB is available in A1 version: for flange mounting.
- Drop-out installation
- Please note the maximum bore  $\text{Ød}_1$ .

### NFB

	$\text{ØE}$	$\text{ØE}_R$	H	$L_i$	$\text{Ød}_{sp}$ max	$\text{Ød}_1$	$\text{ØF}$	Gew	$\text{Ød}_M$
4.5/2	50	52	8	44	25	22	35	3×M6	22
4.7/2	70	72	8	44	35	25	56	3×M6	42
7.9/2	90	94	12,5	74	35	45	70	3×M10	50
7.10/2	100	104	12,5	74	40	45	70	3×M10	55
7.12/2	120	124	12,5	74	60	50	98	3×M10	70
10.10/2	100	100	17	101	55	40	70	3×M16	40
10.12/2	120	120	17	101	55	50	90	3×M16	60
10.14/2	140	140	17	101	70	50	110	3×M16	70
10.16/2	160	160	17	101	80	60	120	3×M16	90
13.14/2	140	143	26	134	55	55	100	3×M20	55
13.16/2	158	163	26	134	60	60	120	3×M20	70
13.18/2	180	183	26	134	70	70	140	3×M20	90
16.16/2	158	163	31	155	70	60	115	5×M20	70
16.18/2	180	183	31	155	80	70	135	5×M20	90
16.20/2	200	203	31	155	90	80	150	5×M20	105
20.20/2	200	200	33	196	80	80	150	5×M24	100
20.25/2	250	250	33	196	110	100	200	5×M24	140
20.30/2	300	300	33	196	125	160	250	5×M24	190





# SEMIFLEX

## PERFORMANCE

- The compact standard version
- Proven technology
- Precision designed
- Transmits constant angular velocity and torque in every possible misalignment
- Large misalignment capacity
- No side loads on shafts or bearings
- Torsionally stiff
- Absorbs radial vibration
- Super space saving
- Maintenance free



**NKB**

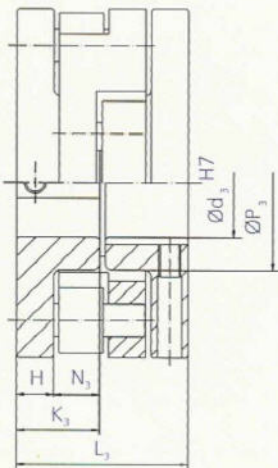
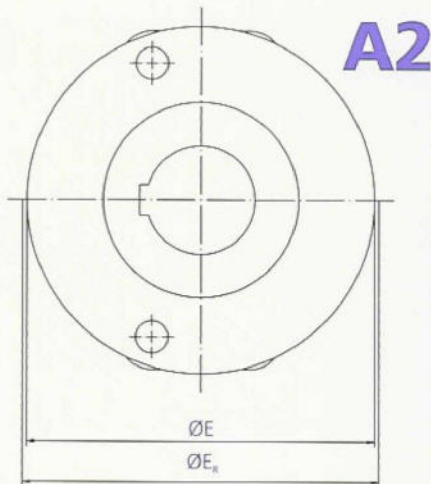
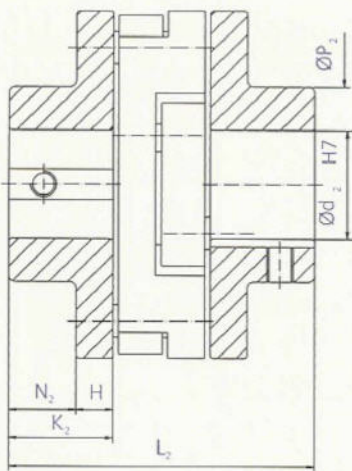
	$T_{KN}$ Nm	$T_{Kmax}$ Nm	$n_{max}$ 1/min	$\Delta K_r$ mm	$\Delta K_a$ mm	$\Delta K_w$ °	$C_T$ kNm/rad	$J$ kg cm <sup>2</sup>	$m$ kg
4.7/2	69	112	3.400	1,0	1	1	13	5	0,7
7.9/2	230	460	2.300	1,6	1	1	53	22	1,8
7.10/2	265	530	2.200	1,6	1	1	61	34	2,2
7.12/2	316	635	2.000	3,0	1	1	73	68	3,1
10.12/2	575	1.220	1.700	2,4	1	1	140	99	4,8
10.14/2	725	1.530	1.600	2,4	1	1	175	187	6,5
10.16/2	828	1.755	1.500	4,0	1	1	201	292	7,6
13.16/2	1.370	3.340	1.300	3,0	1	0,8	383	434	12
13.18/2	1.580	3.845	1.200	4,0	1	0,8	441	703	15
16.18/2	2.390	5.855	1.100	3,2	1	0,65	671	851	18
16.20/2	2.700	6.600	1.000	4,4	1	0,5	756	1.299	22
20.25/2	5.620	15.050	900	5,4	2	0,5	1.725	3.499	37
20.30/2	7.040	18.840	800	6,6	2	0,3	2.159	7.064	47





# SEMIFLEX

## DIMENSIONS



- The Semiflex® series NKB is available in A2 version: standard Hubs with keyway.

- Form-fit version

- Please note the maximum bore  $\text{Ød}_2$ .

- Both can be freely combined with other series NKB hub versions.

- When the version A2 is too long, the Semiflex® series NKB is also available in version A3: Internal hubs with keyway.

- Form-fit version

- Please note the maximum bore  $\text{Ød}_3$ .

**NKB**

	ØE	ØE <sub>R</sub>	H	L <sub>2</sub>	ØP	K	N	Ød <sub>2</sub> max	L <sub>3</sub>	ØP <sub>3</sub>	K <sub>3</sub>	N <sub>3</sub>	Ød <sub>3</sub> max	Ød <sub>M</sub>
4.7/2	70	72	8	59	70	20	12	40	-	39	20	12	25	42
7.9/2	90	94	12,5	88	56	27,5	15	40	58	40	27,5	15	25	46
7.10/2	100	104	12,5	88	65	27,5	15	50	58	50	27,5	15	35	55
7.12/2	120	124	12,5	88	70	27,5	15	50	58	63	27,5	15	45	70
10.12/2	120	120	17	120,5	70	38	21	45	78,5	45	38	21	30	50
10.14/2	140	140	17	126,5	85	41	24	55	-	65	41	24	45	70
10.16/2	160	160	17	140,5	90	48	31	60	-	80	48	31	60	90
13.16/2	158	163	26	146	90	44	18	60	110	60	44	18	40	70
13.18/2	180	183	26	158	90	50	24	60	110	80	50	24	60	92
16.18/2	180	183	31	167	90	51	20	60	127	80	51	20	60	90
16.20/2	200	203	31	177	95	56	25	65	127	95	56	25	70	105
20.25/2	250	250	33	222	120	68	35	80	152	120	68	35	90	140
20.30/2	300	300	33	278	160	96	63	100	-	160	96	63	120	190

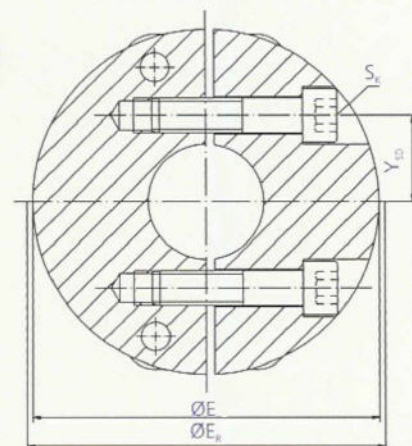
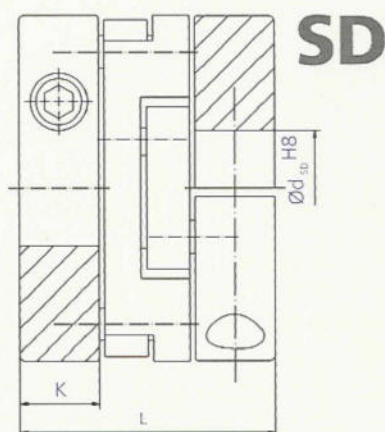
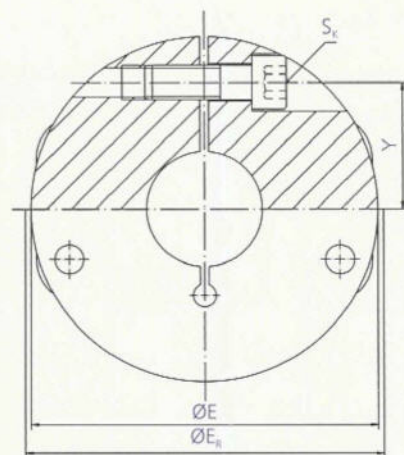
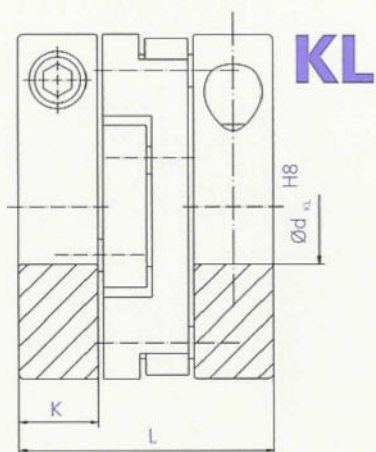




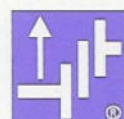
# SEMIFLEX

## DIMENSIONS

- The Semiflex® series NKB is available in KL version: Clamp hubs (optional keyway.)
- Press-fit version
- Easy installation
- Please note the maximum bore  $\varnothing d_{KL}$ .
- Both can be freely combined with other series NKB hub versions.
- The Semiflex® series NKB is available in SD version: split hub (optional keyway.)
- Press-fit version
- Drop-out installation
- Please note the maximum bore  $\varnothing d_{SD}$ .

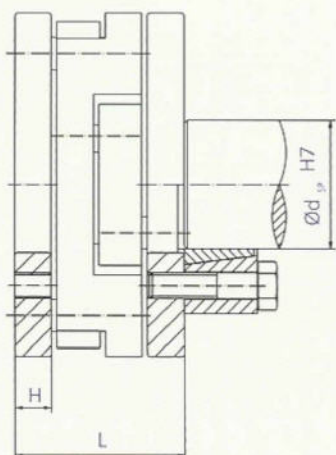


NKB	ØE	ØE <sub>R</sub>	L	K	Ød <sub>KL</sub> max	Ød <sub>SD</sub> max	S <sub>K</sub>	M <sub>A</sub> Nm	Ød <sub>M</sub>	Y	Y <sub>SD</sub>
4.7/2	70	72	59	20	35	25	M8	36	42	24,5	18
7.9/2	90	94	88	27,5	44	30	M10	72	46	30	22
7.10/2	100	104	88	27,5	50	35	M12	125	55	34	25
7.12/2	120	124	88	27,5	70	45	M12	125	70	44	30
10.12/2	120	120	120,5	38	60	35	M12	145	50	40	24

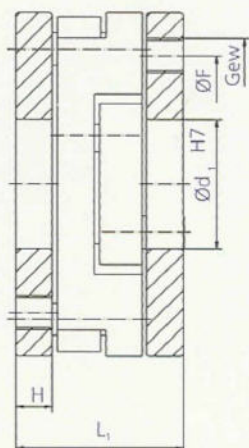
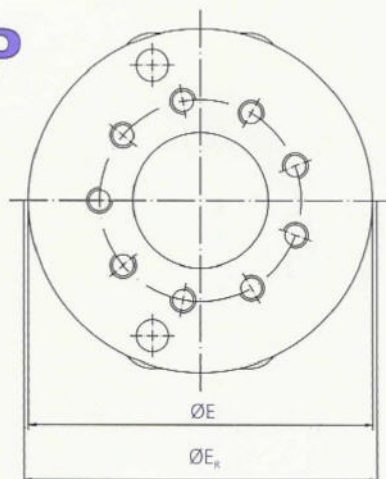




## DIMENSIONS



**SP**



**A1**



- The Semiflex® series NKB is available in SP version: for locking assemblies.
- Press-fit version
- Drop-out installation
- Please note the maximum bore  $\varnothing d_{sp}$ .
- Both can be freely combined with other series NKB hub versions.
- The Semiflex® series NKB is available in A1 version: for flange mounting.
- Drop-out installation
- Please note the maximum bore  $\varnothing d_1$ .

**NKB**

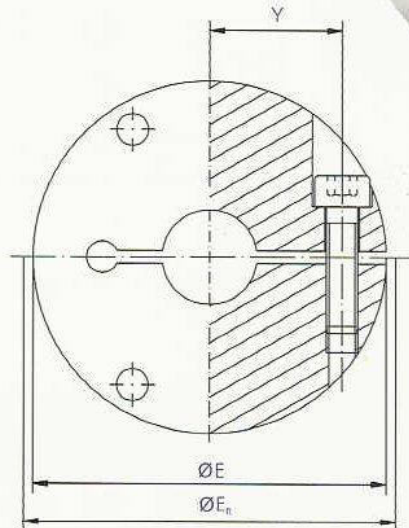
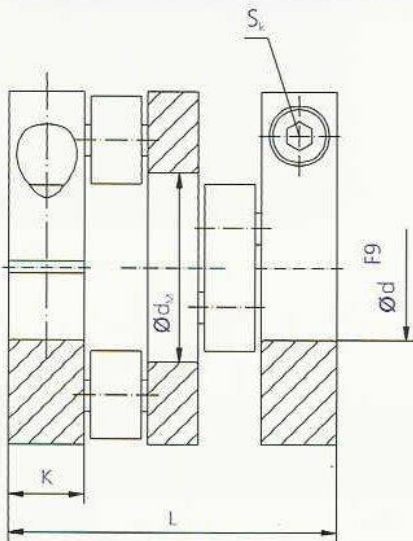
	$\varnothing E$	$\varnothing E_r$	H	$L_1$	$\varnothing d_{sp}$ max	$\varnothing d_1$	$\varnothing F$	Gew	$\varnothing d_M$
4.7/2	70	72	8	35	35	25	56	3×M6	42
7.9/2	90	94	12,5	58	35	45	70	3×M10	46
7.10/2	100	104	12,5	58	40	45	70	3×M10	55
7.12/2	120	124	12,5	58	60	50	98	3×M10	70
10.12/2	120	120	17	78,5	55	50	90	3×M16	50
10.14/2	140	140	17	78,5	70	50	110	3×M16	70
10.16/2	160	160	17	78,5	80	60	120	3×M16	90
13.16/2	158	163	26	110	60	60	120	3×M20	70
13.18/2	180	183	26	110	70	70	140	3×M20	92
16.18/2	180	183	31	127	80	70	135	5×M20	90
16.20/2	200	203	31	127	90	80	150	5×M20	105
20.25/2	250	250	33	152	110	100	200	5×M24	140
20.30/2	300	300	33	152	125	160	250	5×M24	190





## PERFORMANCE

- The aluminum version
- Light weight and low moment of inertia
- Proven technology
- Precision designed
- Transmits constant angular velocity and torque in every possible misalignment
- Large misalignment capacity
- No side loads on shafts or bearings
- Torsionally stiff
- Absorbs radial vibration
- Space saving
- Maintenance free



**AKL 22 + 23**

**AKL**

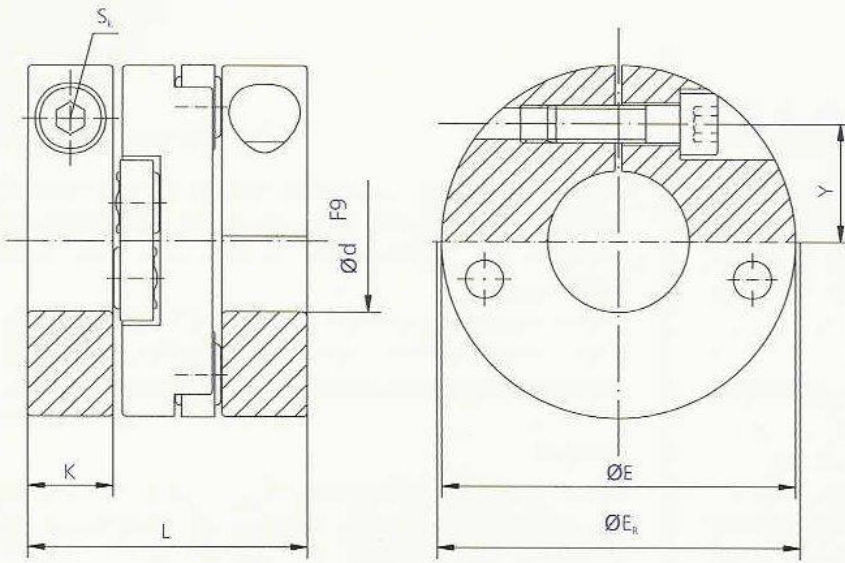
	T <sub>K</sub> Nm	T <sub>K</sub> max Nm	n <sub>max</sub> 1/min	ΔK <sub>r</sub> mm	ΔK <sub>a</sub> mm	ΔK <sub>w</sub> °	C <sub>T</sub> kNm/rad	J kg cm <sup>2</sup>	m kg
22	40	80	2.500	1,2	0,5	1	9	1.180	0,26
23	40	80	2.500	1,2	0,5	1	9	1.350	0,29
30	180	300	5.000	1,5	0,5	0,5	34	4.792	0,59
31	180	300	5.000	1,5	0,5	0,5	34	5.035	0,63





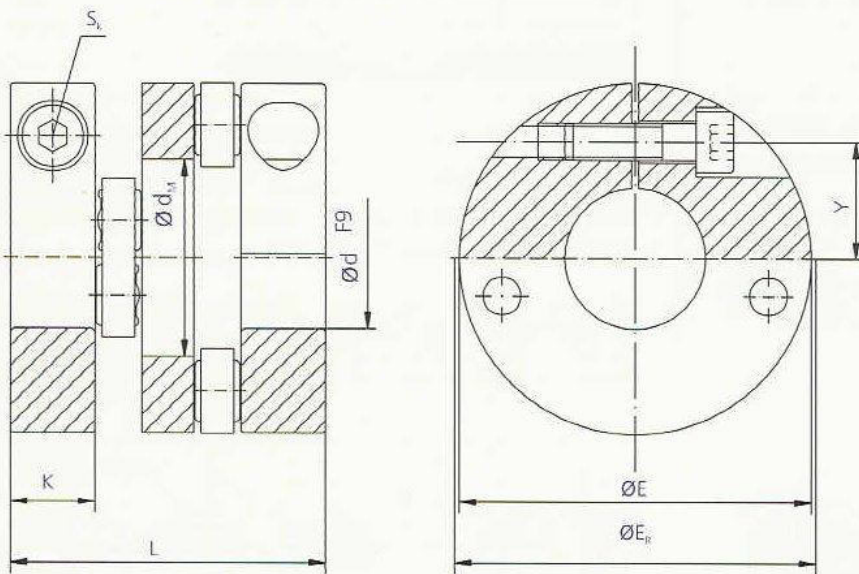
# SEMIFLEX

## DIMENSIONS



### AKL 30

- The Semiflex® series AKL is available with clamp hubs (optional keyway.)
- Press-fit version
- Easy installation
- Please note the maximum bore  $\text{Ød}$ .
- Order example:  
AKL 31 Ø20N Ø25



### AKL 31

AKL	ØE	ØE <sub>r</sub>	L	K	Ød max	Ød <sub>NUT</sub> max	S <sub>k</sub>	M <sub>A</sub> Nm	Ød <sub>M</sub>	Y
22	56	61,5	52	12	34	30	M5	6	25	21
23	56	61,5	58	15	30	25	M6	8	25	19,3
30	74,5	77	59	18	40	35	M8	24	32	25
31	74,5	77	67	18	40	35	M8	24	40	25





### ORDERING PROCEDURE

1. Use the selection procedure to choose a coupling.  
Examples: NKB 7.9/2, NFB 10.12/2
2. Specify bore size and hub design.

#### Hub Designs

- A1: for Flange Mounting.** Bolt size and bolt circle are found in the dimensions table.
- A2: Standard Hub** with keyway DIN 6885/1. Specify bore size. Note the maximum value in the dimension table  $\varnothing d_2$ .  
Example: A2 $\varnothing$ 40N
- A3: Inverted Hub** with keyway DIN 6885/1. Specify bore size. Note the maximum value in the dimension table  $\varnothing d_3$ .  
Example: A3 $\varnothing$ 32N
- KL: Clamp Hub** (optional keyway DIN 6885/1). Specify bore size. Note the maximum value in the dimension table  $\varnothing d_{KL}$ .  
Example: KL $\varnothing$ 20, KL $\varnothing$ 20N
- SD: Split Hub** (optional keyway DIN 6885/1). Specify bore size. Note the maximum value in the dimension table  $\varnothing d_{SD}$ .  
Example: SD $\varnothing$ 45, SD $\varnothing$ 45N
- SP: for Locking Assembly.** Specify bore size. Note the maximum value in the dimension table  $\varnothing d_{SP}$ .  
Example: SP $\varnothing$ 32

#### Order Examples

- NFB 7.12/2 A1 A3 $\varnothing$ 25N
- NFB 7.12/2 A2 $\varnothing$ 38N SD $\varnothing$ 40N
- NKB 7.12/2 KL $\varnothing$ 38 KL $\varnothing$ 40N
- NKB 7.12/2 SP $\varnothing$ 30 SP $\varnothing$ 40

### General

If the standard couplings listed in the catalog do not meet your requirements, consult the factory. We will work with you to meet your needs.

Many factors influence a coupling's operating life. The influence of torque, RPM and misalignment are discussed in the following.

#### Torque

The maximum torque  $T_{KN}$  should not be exceeded. The design torque is calculated as follows:

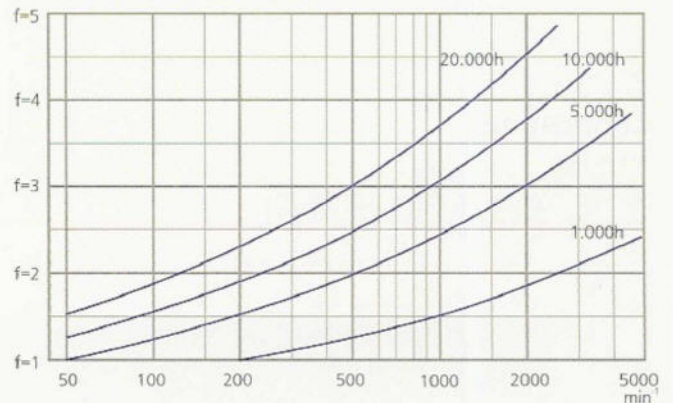
$$T_N \times \text{Performance factor} \times \text{Service factor}$$

#### Service factors

Load	Service factor
uniform	1,0
light shocks	1,5
medium shocks	2,0
heavy shocks	2,5

The torque carrying capacity decreases as radial misalignment and speed increase. For complex applications consult the factory.

#### Performance factor



#### RPM

Due to the design of the coupling, higher speeds lead to higher stress on the coupling. The maximum speed should not be exceeded.







### Radial misalignment

The radial misalignment has a complex effect on the operating life, the torque carrying capacity and the maximum speed for the coupling.

The misalignment  $\Delta K_r$  should not be exceeded under normal conditions. At rest or at relatively slow speeds the coupling can accommodate a radial misalignment of up to  $5 \times \Delta K_r$ .

Example: A roll drive operates with a radial misalignment of 0.5mm. The shafts must be separated by 10mm in emergency or to be cleaned.

If the catalog values do not fit your application, consult the factory. We can design a coupling that will.

### Axial misalignment

The axial space available for the coupling must be at least the coupling length L. The capacity to compensate for thermal expansion and assembly tolerances is given by the value  $\Delta K_a$ . An operating length close to L is beneficial. The coupling is axially free. This can be used when an axial assembly is advantageous.

### Angular misalignment

Angular misalignment has an effect on the operating life of the coupling. The angular misalignment must always remain within the values given.

### Lubrication

Semiflex® couplings are delivered from the factory ready for operation and lubricated for life.

Environmental contamination can have a negative effect on the lubrication. Dirt, fibers and such should be kept away from the coupling. When necessary special seals are available.

The couplings are designed for operating temperatures of up to 120°C. For higher temperatures consult the factory, special seals and lubrication are necessary.

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Failure, improper selection, or improper use of these products can cause malfunctions in connected equipment. Malfunctions in connected equipment can cause failure in these products.

Information in this catalog provides product options for further investigation by users having technical expertise. The user must analyze all aspects of the application and review the information regarding the product in the current product catalog. Due to the variety of applications for these products and the diversity of operating conditions that may prevail, the user, through its own analysis and testing, is solely responsible for making the final selection of these products and assuring that all performance, safety and warning requirements relevant to the application are met.

The specifications, availability and pricing of products described in this catalog are subject to change without notice.

